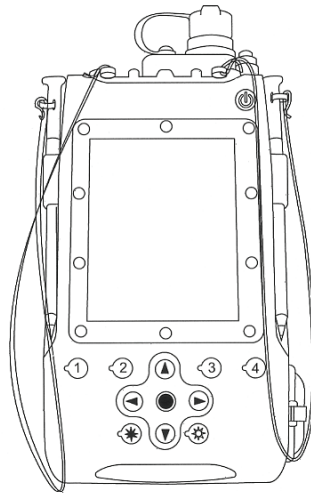


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## \*TM 11-5810-410-13&P

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**Technical Manual  
Operators and Field Maintenance Manual  
Including Repair Parts and Special Tools List  
For  
Transfer Unit, Cryptographic Key  
AN/PYQ-10 (C)  
Simple Key Loader (SKL)  
SKL UAS Version 4.0  
(NSN 5810-01-517-3587) (EIC: N/A)**



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**HEADQUARTERS, DEPARTMENT OF THE ARMY  
1 SEPTEMBER 2007**

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**5 SAFETY STEPS TO FOLLOW IF SOMEONE IS THE VICTIM OF ELECTRICAL SHOCK.**

**1 DO NOT TRY TO PULL OR GRAB THE INDIVIDUAL.**

**2 IF POSSIBLE, TURN OFF THE ELECTRICAL POWER.**

**3 IF YOU CANNOT TURN OFF THE ELECTRICAL POWER, PULL, PUSH, OR LIFT THE PERSON TO SAFETY USING A WOODEN POLE OR A ROPE OR SOME OTHER INSULATING MATERIAL.**

**4 SEND FOR HELP AS SOON AS POSSIBLE.**

**5 AFTER THE INJURED PERSON IS FREE OF CONTACT WITH THE SOURCE OF ELECTRICAL SHOCK, MOVE THE PERSON A SHORT DISTANCE AWAY AND IMMEDIATELY START ARTIFICIAL RESUSCITATION.**

**General handling guidelines for Valence Technology Lithium-ion Polymer Cells**

**WARNING**

- Do not expose the cell to extreme heat.
- Do not disassemble or modify the cell.
- Do not use soldering methods when connecting to the cell leads.
- Do not puncture the cell or in any way breach the cell packaging.
- Do not use a cell that appears to be damaged or deformed is discolored or appears to have defects in the heat seal areas.
- Keep the cells dry and away from water.
- Avoid placing cells on metal surfaces. Avoid external short-circuiting of cell leads in general.
- Do not fold, bend, or apply excessive pressure to the main body of the cell (inside the sealed areas).
- If heat seal flanges are to be folded, do so in a manner that mechanical pressure is not transmitted to internal components. It is recommended that Valence engineering be consulted in the event that any alteration of the edge fold is considered.
- The edge of the heat seal flange is electrically conductive (see Application Note, VT-AN-004).
- Avoid installation or placement of cells in such a manner that this edge could come in contact with other cell terminals, printed circuit boards or other conductive surfaces in general. 60°C can be used to extend cycle life at the elevated temperatures.
- Do not use the battery pack in combination with primary battery pack (such as a dry-cell battery pack) or battery packs of different capacities or brands. Otherwise, the battery pack can be over-discharged during use or overcharged during recharging, abnormal chemical reactions may occur, possibly leading to acid leakage, overheating, smoke emission, bursting and /or ignition. In the event the batteries are swallowed, consult a doctor.
- If recharging operation fails to complete even when a specified recharging time has elapsed, immediately stop further recharging. Otherwise, acid leakage, overheating, smoke emission, bursting, and/or ignition can occur.
- Do not place the battery into a microwave oven or pressurized container. Rapid heating or disrupted sealing can lead to acid leakage, overheating, smoke emission, bursting, and/or ignition.
- If the battery pack leaks or gives off a bad odor, remove it from any exposed flame. Otherwise, the leaking electrolyte can catch fire, and the battery pack may emit smoke, burst, or ignite.
- If the battery pack gives off an odor, generates heat, becomes discolored or deformed, or in any way appears abnormal during use, recharging or storage, immediately remove it from the equipment or battery pack charger and stop using it. Otherwise, the problematic battery pack can develop acid leakage, overheating, smoke emission, bursting, and/or ignition.

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**WARNING**

**Do not be misled by the term "low voltage". Potentials as low as 50 volts may cause death under adverse conditions.**

- For Artificial Respiration, refer to FM 4-25.11, First Aid for Soldiers.
- Review the precautions in TB 385-4, Safety Requirements for Maintenance of Electrical and Electronic Equipment before attempting repairs or service of electronic equipment.

**CAUTION**

- Do not use or subject the battery pack to intense sunlight or hot temperature such as in a vehicle in hot weather. Do not use or leave battery near a heat source, such as fire or a heater (192°F). Otherwise, acid leakage, overheating, smoke emission, bursting, and/or ignition can occur. Also, its guaranteed performance will be lost and/or its service will be shortened.
- The battery pack incorporates built-in safety devices. Do not use in a location where static electricity (greater than the manufacturer's guarantee) may be present. Otherwise, the safety devices can be damaged possibly leading to acid leakage, overheating, smoke emission, bursting and or ignition.
- The guaranteed recharging temperature range is 0 to 40°C. A recharging operation outside this range can lead to acid leakage and/or overheating of the battery pack, and may cause damage to it.
- If acid leaking from the battery pack contacts your skin or clothing, immediately flush it thoroughly with running water. Otherwise, skin inflammation can occur.
- If you find rust, a bad odor, overheating, and/or other irregularities when using the battery pack for the first time, return it to your supplier or vendor.

**General Safety Information for the AA Alkaline Battery**

**WARNING**

- Always handle batteries carefully.
- Do not drop, puncture, disassemble, mutilate, or incinerate batteries.
- Touching both terminals of a battery with a metal object will short circuit the battery, which could cause an explosion or a fire. Do not carry batteries loosely if the contacts may touch coins, keys, and other metal objects (such as in pockets or bags).
- Do not heat the batteries to try to rejuvenate their charge.
- Batteries may leak electrolytes that may cause irritation to the skin and eyes. Should this occur, irritated areas should be flushed thoroughly with water.



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TECHNICAL MANUAL

OPERATOR'S AND FIELD MAINTENANCE MANUAL  
INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST  
FOR THE  
TRANSFER UNIT, CRYPTOGRAPHIC KEY  
AN/PYQ-10 (C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0  
(NSN 5810-01-517-3587) (EIC: N/A)

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### **HOW TO USE THIS MANUAL**

Spend a few minutes and look through this Technical Manual. This manual contains the hardware description and the instructions to use the system software for the Simple Key Loader (SKL). It also provides maintenance procedures and a repair parts and special tools list. This book, along with the manuals that are referenced, includes all the necessary information to effectively utilize and maintain the SKL.

**TABLE OF CONTENTS** Refer to the Table of Contents to locate information. The Table of Contents lists each Work Package, showing subject, and page numbers.

**ABBREVIATIONS** For the sake of brevity, this manual makes use of abbreviations. Abbreviations are identified with the complete meaning at the first use and frequently thereafter. If you need a meaning of an abbreviation, it may be found in the Glossary located at the rear of this manual.

The following is an overview of the information contained in each chapter and rear material in this Technical Manual:

- Chapter 1 contains general information, equipment description and data, and principles of operation.
- Chapter 2 contains a description and use of the operator controls and indicators, operation under usual conditions, and operation under unusual conditions.

- Chapter 3 contains troubleshooting procedures.
- Chapter 4 contains PMCS and maintenance procedures.
- Chapter 5 contains instructions for the receipt of equipment, installation, and checkout. It also contains maintenance instructions.
- Chapter 6 contains the Repair Parts and Special Tools List (RPSTL).
- Chapter 7 lists References that are called out in this Technical Manual, the Maintenance Allocation Chart (MAC), Components of End Item List (COEI) and Basic Issue Items (BII), Additional Authorization List (AAL), and Expendable Supplies and Materials List.
- Glossary contains a list of abbreviations/acronyms and definitions of words used in this Technical Manual.
- Index contains a complete listing of the Information and Procedure paragraphs in this Technical Manual.

Throughout this technical manual, Warnings, Cautions, and Notes are posted to alert the reader to special provisions and provide additional information concerning the operation of the SKL, the software that is being used, or general operational practices.

#### **WARNING**

**Warnings denote conditions, practices, or procedures that could lead to personal injury or loss of life.**

#### **CAUTION**

**Cautions warn about conditions, practices, or procedures that could damage or destroy equipment or create a potential security problem.**

#### **NOTE**

**Notes are used to draw attention to information of importance, special interest, or information that aids job performance.**

There are certain conventions used throughout this Technical Manual. These conventions are standard and help the user to understand the procedures to be followed in a clear and concise manner. These conventions are listed below:



**TIP:** This symbol represents a glowing light bulb. Whenever this is shown in the manual it indicates an operational TIP that will make a procedure easier to accomplish.

#### **Tap**

Tap and release the Inductive Stylus once.

#### **Double-Tap**

Tap on the selection twice in rapid succession with the Inductive Stylus.

**Select**

Indicates a menu selection or dialog box selection. Tap or double-tap the Inductive Stylus to select an item.

**Highlight**

Tap on a selection with the Inductive Stylus that will change the background of the selected item to reverse video.

**Bolded Word(s)**

Bolded Word(s) are either selections on a menu or button titles that should be selected or tapped to complete an action in the technical manual.

**Un-bolded Button(s)/Selections**

These are descriptive only. The user may select these at their discretion.

CHAPTER 1  
INTRODUCTION  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0



OPERATOR MAINTENANCE  
GENERAL INFORMATION  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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**OPERATOR MAINTENANCE  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0**

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**GENERAL INFORMATION**

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**SCOPE**

This Technical Manual (TM) describes the hardware portion of the Transfer Unit, Cryptographic Key AN/PYQ-10 (C), also referred to as the Simple Key Loader (SKL), and the required procedures to effectively utilize the SKL's software packages. It also defines the care and maintenance procedures that the user should follow to maintain the SKL in proper operating condition.

**Applicability**

This Technical Manual will be used by all Army users employing the Simple Key Loader and is applicable to all personnel within the active Army, Army Reserve (USAR), and Army National Guard (ARNG).

**Equipment Components**

The AN/PYQ-10 (C) is a self-contained item that consists of a hand-held mini-computer or Personal Digital Assistant (PDA). This small computer contains all the functions of a desktop computer but with the added features of portability on the battlefield and the ruggedness to withstand the rigors of combat.

**Purpose Of Equipment**

The Simple Key Loader is a replacement item for the Army's Data Transfer Device (DTD) that is currently fielded to the U.S. Army. It will provide all the functions currently resident in the DTD along with new features that make management of Communications Security (COMSEC) key, Electronic Protection (EP) data, and Signal Operating Instructions (SOI) quicker and easier for the soldier on the battlefield.

**Security Information**

The Simple Key Loader (SKL) is a Controlled Cryptographic Item (CCI) because of the KOV-21 Information Security (INFOSEC) card imbedded in it. When classified database information is resident in the SKL, the SKL takes on the classification of the data. The SKL is considered unclassified when no database or key is present in the device or the database or key is unclassified. Refer to DA PAM 25-380-2, Security Procedures for Controlled Cryptographic Items, for CCI safeguarding, and handling procedures. Refer to AR 25-2, Information Assurance, for safeguarding the SKL when classified information is stored in the SKL.

**MAINTENANCE FORMS, RECORDS, AND REPORTS**

**Reports of Maintenance and Unsatisfactory Equipment**

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 750-8, The Army Maintenance Management System (TAMMS) and as contained in Maintenance Management Updates.

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### **Reporting of Item and Packing Discrepancies**

Fill out and forward Special Form (SF) 364, Report of Discrepancy, as prescribed in Army Regulation (AR) 735-11-2, Reporting of Item, and Packaging Discrepancies.

### **Transportation Discrepancy Report**

Fill out and forward SF 361, Transportation Discrepancy Report, as prescribed in Federal Property Management Regulation (FPMR), Code of Federal Regulations, Title 41, Chapter 101, Public Contracts and Property Management.

### **REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)**

If your SKL needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. Put it on an SF 368, (Product Quality Deficiency Report). Mail it to: Director, U.S. Army Communications Security Logistics Activity ATTN: SELCL-IA-CS, Fort Huachuca, AZ, 85613-7041. We'll send you a reply.

### **CORROSION PREVENTION AND CONTROL (CPC)**

It is important that any corrosion problems with SKL components are reported so that the problem can be corrected and improvements can be made to prevent the problem in future components. While corrosion is typically associated with the rusting of metals, it can also include deterioration of other materials, such as rubber and plastic. Unusual cracking, softening, swelling, or breaking of these materials may be a corrosion problem. If you find a corrosion problem, it can be reported using SF 368. The use of keywords such as corrosion, rust, deterioration, or cracking will help ensure the information is identified as a CPC problem. Submit the form to the address specified in DA PAM 750-8.

### **DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE**

Destruction of Army electronics materiel to prevent enemy use shall be accomplished in accordance with Technical Manual (TM) 750-244-2, Procedures for Destruction of Electronic Materiel to Prevent Enemy Use. Destruction will be by any means that will render the equipment unusable and un-repairable. Destruction should be sufficiently thorough to result in the least likelihood of reconstruction of the logic circuits.

### **PREPARATION FOR STORAGE AND SHIPMENT**

Before placing equipment into administrative storage, operational checks will be performed and necessary repairs made. Remove batteries prior to storage. When removing equipment from administrative storage, an operational check will be performed to assure operational readiness.

#### **Repackaging**

Repackage the equipment using the original packaging materials in the reverse order of the original unpacking procedures. If the original packaging materials are not available, the equipment shall be repackaged in a fast pack container conforming to PPP-B-1672. If fast pack containers are not available, or the equipment is too large to fit in a fast pack, substitute packaging materials may be selected from those items listed in SB 746-1, Packaging Army General Supplies. If more than one item is being shipped, a quantity of the repackaged items shall be over-packed within a close-fitting box.

#### **Marking for Shipment and Storage**

All repackaged items shall be marked in accordance with MIL-STD-129, Marking for Shipment and Storage.

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## WARRANTY INFORMATION

A Warranty Service Contract has been awarded to Turtle Mountain Communications, Inc (TMCI) to support warranty repair or replacement services required for the AN/PYQ-10 (C). Details of the warranty services are provided in Technical Bulletin (TB) 11-5810-410-24, Warranty Program for Transfer Unit, Cryptographic Key AN/PYQ-10 (C).

## NOMENCLATURE CROSS-REFERENCE LIST

Table 1, *Nomenclature Cross-Reference List* provides common and official nomenclatures/names for equipment described in this manual. Official nomenclature/names must be used when completing report forms.

**Table 1. Nomenclature Cross-Reference List.**

<b>Common Name</b>	<b>Official Nomenclature</b>
Simple Key Loader	AN/PYQ-10 (C)
ACES Workstation	AN/GYK-33D
LCMS Workstation	AN/GYK-49 (V)3
Data Transfer Device (DTD)	AN/CYZ-10 (V)3

## ABBREVIATIONS/ACRONYMS AND DEFINITIONS

Refer to the Glossary for a list of abbreviations, acronyms, and definitions of terms useful to the SKL operator.

## END OF WORK PACKAGE

OPERATOR MAINTENANCE  
EQUIPMENT DESCRIPTION AND DATA  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

**OPERATOR MAINTENANCE  
 FOR  
 TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
 SIMPLE KEY LOADER (SKL)  
 SKL UAS VERSION 4.0**

**EQUIPMENT DESCRIPTION AND DATA**

**EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES**

The purpose of the Simple Key Loader is to replace the Data Transfer Device (DTD) that is currently fielded to support the Electronic Key Management System (EKMS) architecture. The SKL will significantly enhance the ability of the user to utilize and distribute electronic key material, EP material, and SOI information. The SKL is backward compatible with existing End Cryptographic Units (ECUs) and forward compatible with future equipment. The SKL provides for the receipt, display, transmission, preparation, storage, and accountability of key material (to include Black Key Packages), EP material, and SOI information.

**Description Of The SKL**

The Simple Key Loader has been designed around the concept of the Personal Digital Assistant (PDA) devices that are used today by the general public. The SKL however has been ruggedized to withstand battlefield conditions. The SKL is a handheld digital computer running a Windows CE.Net operating system hosting the Core Library and SKL User Application Software (UAS) programs that interface with the Local COMSEC Management Software (LCMS) and Automated Communications Engineering Software (ACES) Workstations, and ECUs on the battlefield. The technical characteristics of the SKL are provided in Table 1, *SKL Technical Characteristics*.

**Table 1. SKL Technical Characteristics.**

ITEM	DESCRIPTION
• Computer	SKL
◆ Processor	32-bit Intel® XScale CPU (400MHz)
◆ Operating System	WindowsCE.Net
◆ Memory <ul style="list-style-type: none"> <li>o Storage RAM</li> <li>o Working RAM</li> <li>o ROM</li> </ul>	64MB of SDRAM 64MB of SDRAM 64MB of Flash Memory
◆ User Input	Dual, High Resolution Inductive Sensor Stylus Input Pens 4 User Buttons 4 Directional and 1 "Enter" Button 2 Screen Brightness Control Buttons Power On/Off Button Recessed "Zeroize" Button
• Display	VGA, 65K Color Transflective HR-TFT LCD Display, 3.5" Diagonal LED Backlit, Manual Brightness Control, Color Mapping for NVG use Extended Operating Temperature LCD Display Module.
◆ Resolution	240x320 pixels, 8 bit color per pixel
◆ Graphics	2-D Accelerator for high speed image manipulation

**Table 1. SKL Technical Characteristics. (continued)**

ITEM	DESCRIPTION
<ul style="list-style-type: none"> <li>● Power Supply                             <ul style="list-style-type: none"> <li>◆ Lithium-Ion Polymer Cell (Primary means of power.)</li> </ul> </li> </ul>	Main Battery is a Waterproof, Quick-change 7.4V, with the following capacities: <ul style="list-style-type: none"> <li>● Standard Capacity Battery Pack: 3680mAh @ 7.4V</li> <li>● High Capacity Battery Pack: 6600mAh @ 7.4V</li> <li>● AA Battery Pack Capacity: 2850mAh @ 12V</li> </ul> Li-Ion "Smart" Battery Pack Fuel Gauge monitors temperature and battery voltage dynamically to output remaining capacity percentage on Windows CE.Net Taskbar.
<ul style="list-style-type: none"> <li>o Battery Operating Time</li> <li>o Data Holding Time</li> </ul>	<ul style="list-style-type: none"> <li>● *High Capacity Battery &gt; 60 operational hrs.</li> <li>● *Standard Capacity Battery &gt; 33 operational hrs.</li> <li>● **High Capacity Battery &gt; 60 days</li> <li>● **Standard Capacity Battery &gt; 45 days</li> </ul> *Exact duration depends on the specific activity the operator is performing. **Assumes SKL is not powered up or utilized in any way during this time frame.
o Recharging Time	>2 hrs
◆ Battery Eliminator (Additional Authorized Item, but not issued as part of the SKL)	The Battery Eliminator eliminates the need for batteries for prolonged stationary use or during times when the batteries are being recharged.
◆ AA Alkaline Batteries (Additional means of powering the SKL.)	SKL can use 8 AA quick-change Alkaline batteries that fit into an AA battery case.
o Battery Operating Time	> 20 operational hours.
● Environmentals:	
◆ Non-Op Temp Range	-26 to 160 °F
◆ Op Temp	-22 to 160 °F
◆ Non-Op Humidity Range	5% to 100%
◆ Op Humidity Range	10% to 100%
● Card Slots	1ea PCMCIA Type II card slot.
● PCMCIA Card Indicator	Right-Angle "power on" indicator prism that reduces visual signature for night use.
● SKL Case	33% Glass Fiber Composite Housing/Access Port, TPR Overmold. Transparent CIK Access Door.
● LCD Protection	Hardened Polycarbonate Lens sealed and isolated from LCD Display for greater protection against high impact sub-munitions.
● Contents Security	Recessed and door protected Zeroize button triggers passive zeroization of all key material.

**LOCATION AND DESCRIPTION OF MAJOR COMPONENTS**

The SKL has three major components. They are the SKL, Battery, and Battery Pack Charger. These components are shown in Figures 1 through 3 below.

The SKL contains the Operating System (OS) software, Core Library software, SKL User Application Software (UAS), and the SKL Database. It also houses the KOV-21 INFOSEC card which is CCI. This card along with the Crypto Ignition Key (CIK) provides the protection for the data stored in the SKL.

The Lithium Ion Battery comes in two (2) different sizes. The first is the Standard Battery and the second is the High Capacity Battery. These two batteries provide the primary power for the SKL and its software programs as well as the KOV-21 card. The operating time for each battery is listed in Table 1 above.

The Battery Pack Charger Assembly provides the means to re-charge the batteries when they require charging.

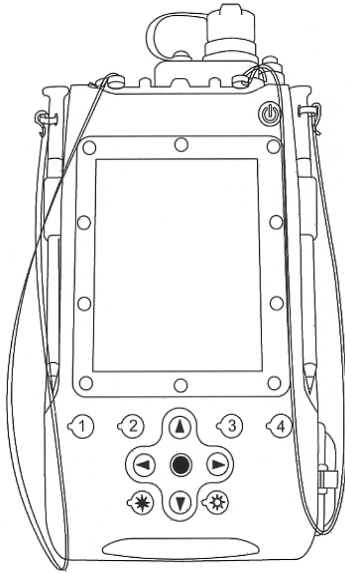


Figure 1. SKL.

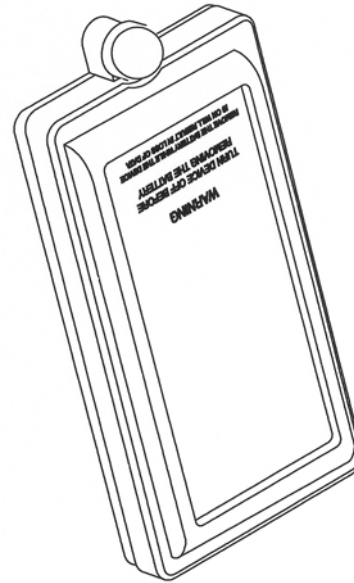


Figure 2. Lithium Ion Battery Pack.

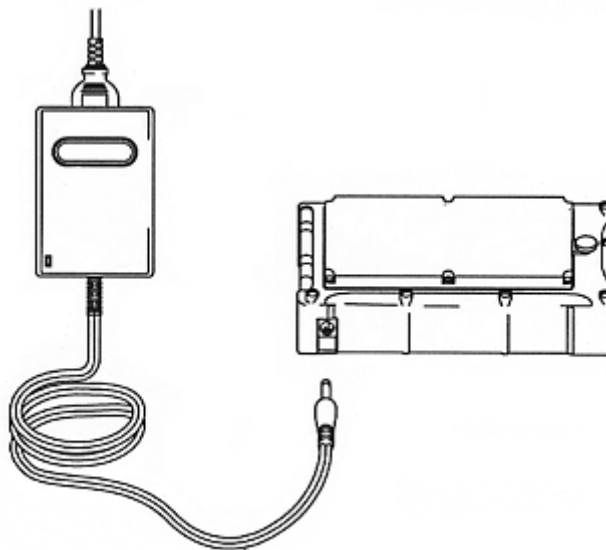


Figure 3. Battery Charger Assembly.

#### EQUIPMENT DATA

The following table lists the dimensions and weights of the SKL.

**Table 2. Dimensions and Weights.**

Size	7.4" x 3.75" x 1.5"
Weight	18.25oz without battery, 27.4oz with Li-Ion battery

**END OF WORK PACKAGE**



OPERATOR MAINTENANCE  
THEORY OF OPERATION  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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**OPERATOR MAINTENANCE  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0**

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**THEORY OF OPERATION**

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**EKMS OVERVIEW**

The SKL was designed as a replacement for the DTD that is currently fielded to the Department of Defense components. A limited understanding of the EKMS operational environment is helpful in understanding the operation of the SKL. The components of the EKMS include:

- EKMS Tier 0** The National Security Agency (NSA) Central Facility provides for production, management, and distribution of specialized electronic cryptographic key and associated materials.
- EKMS Tier 1** Tier 1 facilities serve as focal points for the production, management, and distribution of service-unique electronic cryptographic key and materials. Tier 1 facilities also provide an interface between the Central Facility and service EKMS Tier 2 elements and facilitate interoperability for joint operations at the theater and strategic levels.
- EKMS Tier 2** Tier 2 or LCMS Workstations perform generation, management, and distribution of electronic keying material to include Black Key Packages. The LCMS Workstation works in conjunction with the ACES Workstation and SKL to distribute electronic keying material to those networks with electronically keyed Communications Security (COMSEC) equipment.
- Automated Communications Engineering Software (ACES) Workstations** The ACES Workstation integrates cryptonet planning, Electronic Protection (EP) distribution, and Signal Operating Instructions (SOI) generation, management, and distribution. The ACES Workstation V1.8 will accept Black Key Packages from the LCMS Workstation and send the network planning information to the SKL to automate cryptonet control operations for networks with electronically keyed COMSEC equipment.
- EKMS Tier 3** Tier 3 or the Simple Key Loader device integrates the functions of COMSEC Key management, control, distribution, EP management, SOI management, Benign Fill, and Black Key Packages into one comprehensive mobile system. The SKL will interface with the ACES and LCMS Workstations to receive its database information and then interface with End Cryptographic Units (ECUs) to upload the required keying material and data to those units.

**EKMS INFORMATION FLOW**

The flow of information in the EKMS architecture is straightforward. Depicted in Figure 1, *EKMS Sub-Tier 1 Information Flow*, the ACES Workstation builds the communication plan based on information received from the G3/S3. Toward the end of the communication plan build, the ACES Workstation operator requires some keying information from the LCMS Workstation. The LCMS Workstation operator generates short titles and keys based on information provided by the ACES Workstation operator. When the short titles are generated, they are provided to the ACES Workstation to complete the communications plan. Now the communications plan data can be downloaded to the SKL. Once the SKL has the plan data, it can request electronic keys from the LCMS Workstation that will then marry up to the

short titles in the communications plan. The SKL can then load the End Cryptographic Units with electronic keys based on the communication plan.

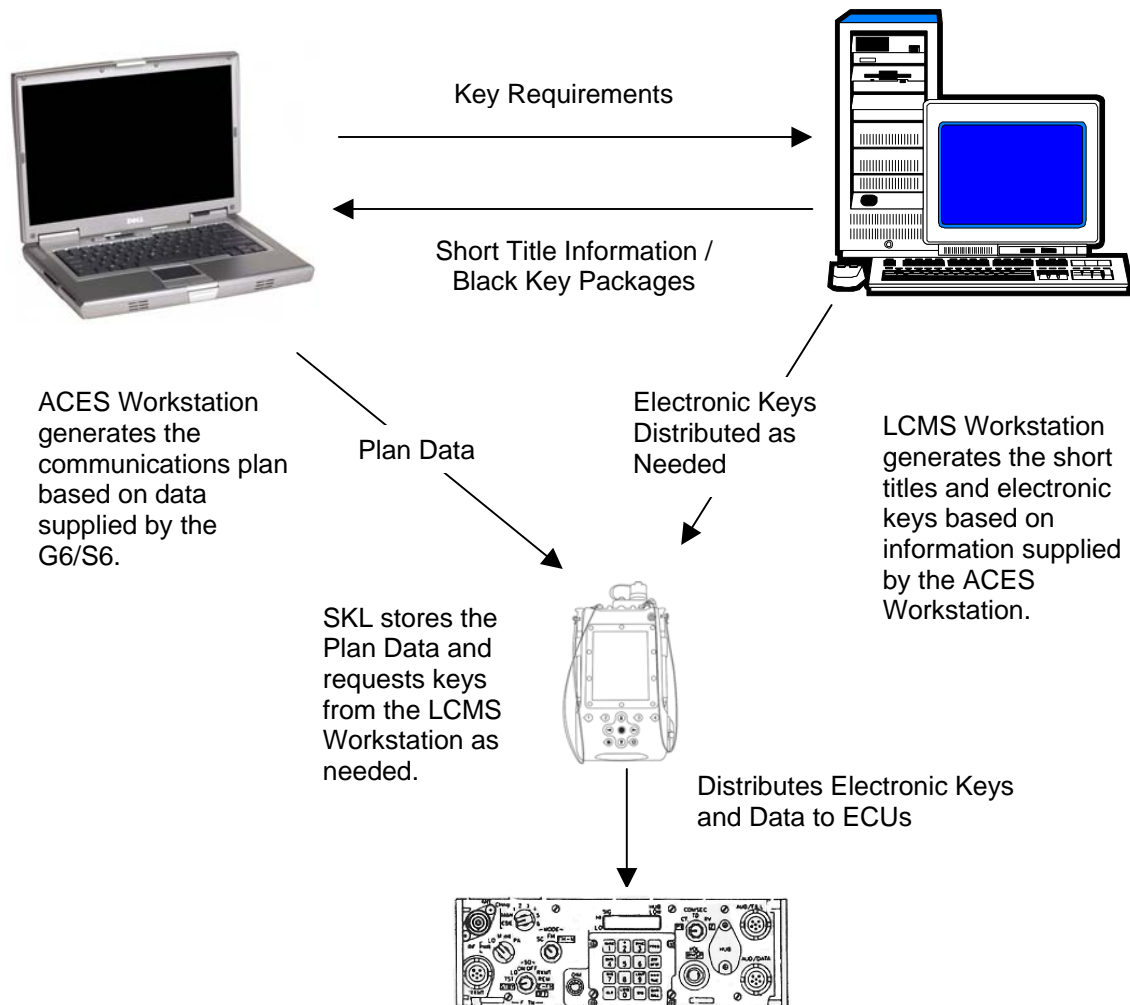


Figure 1. EKMS Sub-Tier 1 Information Flow.

## SKL ARCHITECTURE OVERVIEW

The hardware platform that hosts the SKL software (including the Secure Library) is a vendor-supplied ruggedized Personal Digital Assistant (PDA) device equipped with a KOV-21 Personal Computer Memory Card International Association (PCMCIA) card. There is no hard drive in the SKL. All programs are stored in non-volatile Flash Memory. The SKL memory is divided into the following three physical types:

- **Flash Memory (64MB, Non-Volatile Memory):** The Flash Memory contains the Bootloader and Operating System (OS) images as well as application and support software. The contents of Flash Memory are not deleted during loss of power or zeroization. The Flash Memory has two partitions: a binary partition to allow for system start-up, and a File Allocation Table (FAT)-based file system where updateable software is stored.
- **Storage Memory (64MB SDRAM):** The Storage Memory is battery-backed volatile Synchronous Dynamic Random Access Memory (SDRAM). Power remains applied to Storage Memory unless the battery power expires (excluding a short hold-up time to allow for battery replacement) or the Zeroize button is activated. Storage Memory contains data that is to be maintained between SKL shutdown and start-up, but deleted upon zeroization. Storage Memory contains the encrypted

database and an Advanced Encryption Standard (AES) Key Checkword in a Direct Memory Access (DMA) file system.

- **Working Memory (64MB SDRAM):** The Working Memory is battery-backed volatile SDRAM. The contents of the Working Memory are lost when battery power expires, when the SKL is powered off, or when the Zeroize button is activated. Working Memory is logically partitioned into Working Memory for general operations and a FAT-based file system. Working system data files are stored in the Working Memory FAT-based file system. During system start-up, the encrypted database in Storage Memory is decrypted and placed in this file system.

The SKL memory architecture is shown in Figure 2, *SKL Memory Architecture*, below.

Physical Description	Logical Description
<u>64 MB Flash Memory</u> Non-Volatile	<b>Partition 1 (approximately 22MB)</b>  This partition contains the Bootloader Image and OS Image.
	<b>Partition 2, FAT File System, (approximately 42MB) /Flash</b>  This partition contains the executables to start the Secure Library, Core Library, Registry, and SKL CE programs.
<u>64 MB Storage Memory</u> Power removed upon zeroization	<b>FAT File System (64MB) /Storage</b>  This file system contains the Encrypted Database and the AES Init Checkword.
<u>64 MB Working Memory</u> Power removed upon zeroization or power-down	<b>Working Memory (approximately 50MB)</b>  This area of Working Memory is for general operating system usage.
	<b>FAT File System (approximately 14MB) /Working</b>  This area of Working Memory is where the Unencrypted Database is stored.

**Figure 2. SKL Memory Architecture.**

**KOV-21 INFOSEC CARD**

The KOV-21 provides Type I encryption/decryption services and provides the secure interface between the host computer and interfacing devices. The SKL uses an embedded KOV-21 approach. As such, the National Security Agency (NSA) requires that a Crypto Ignition Key (CIK) be used to lock and unlock the KOV-21 INFOSEC card.

The KOV-21 has the following states:

- Power-Up
- Un-initialized
- Initialized
- Mismatched
- Split Update
- New PIN
- Operations
- Alarm
- Zeroized

### CRYPTO IGNITION KEY (CIK)

The CIK is a separate, removable, non-volatile memory device designed to protect internal SKL keys and/or data from physical compromise when the SKL is in an unattended, non-secured environment. When the CIK is removed from the SKL, the KOV-21 card cannot be unlocked. Therefore, access to the data is denied. The absence of the CIK prevents the use of SKL operations.

### SKL INFORMATION FLOW

There are three different information flows that are explained in the following paragraphs. The first one is the way information flows within the SKL during normal use. The second is the Receive information flow and the third is the Transmit information flow.

### SKL Database Information Flow

When the SKL is first powered up certain functions start. After logon and the initiation of the SKL UAS, the resident Mission Database is opened. The way in which the Mission Database becomes useable to the operator is depicted in Figure 30, *SKL Database Information Flow*. Use this figure to follow the description in the following paragraph.

This description starts at power up and ends at power down. Once the Power button is depressed the SKL starts the boot routine. As part of the boot up the system checks to see if there is a valid CIK present so that the KOV-21 can be unlocked (1). Once the operator has logged on and the SKL UAS is started, the resident database is called from Storage Memory and decrypted (2). The decrypted database is then sent to Working Memory (3). From Working Memory the database is available to the SKL UAS and is viewable on the SKL display (4). When the SKL operator is finished making any desired changes or is finished viewing the database he exits the SKL UAS program causing the database in Working Memory to be encrypted by the KOV-21 (5). The database is then sent to Storage Memory (6). When the user logs out of the Core Library the KOV-21 is then locked by the CIK (7). The SKL can then be powered down.

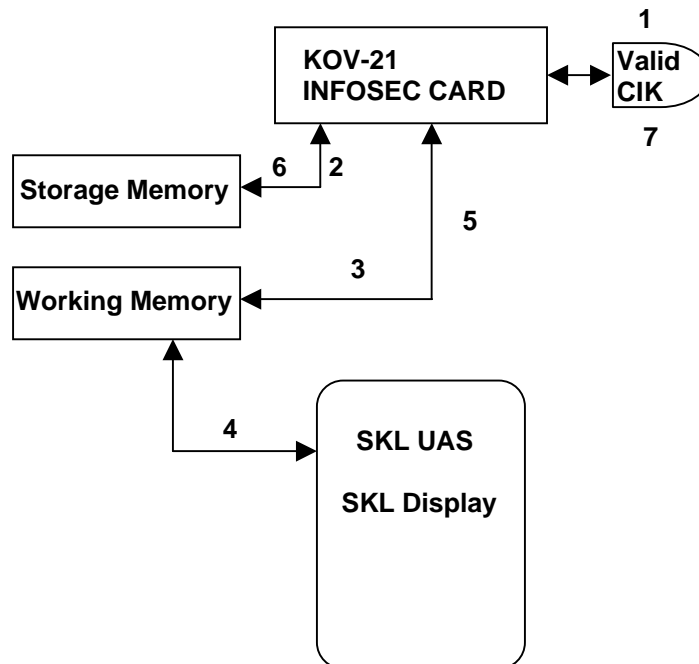


Figure 3. SKL Database Information Flow.

### SKL Receive Information Flow

The Receive Information Flow within the SKL is depicted in Figure 4. *SKL Receive Information Flow*. Use this figure to follow the description in the following paragraph.

This description assumes that the SKL is powered up and the operator is logged on and the SKL UAS is open and ready for work. Once a receive operation is initiated with the SKL UAS and the SKL is connected to an ACES or LCMS Workstation via the Fill Port (1) to receive information and/or key. It then goes to the KOV-21 (2). The KOV-21 encrypts the data and sends it to Storage Memory (3). The database is then moved from Storage Memory back to the KOV-21 (4). The KOV-21 decrypts the data and sends it to Working Memory (5). The data is then displayed on the SKL Display (6). The operator may now utilize the data as necessary to complete the assigned mission.

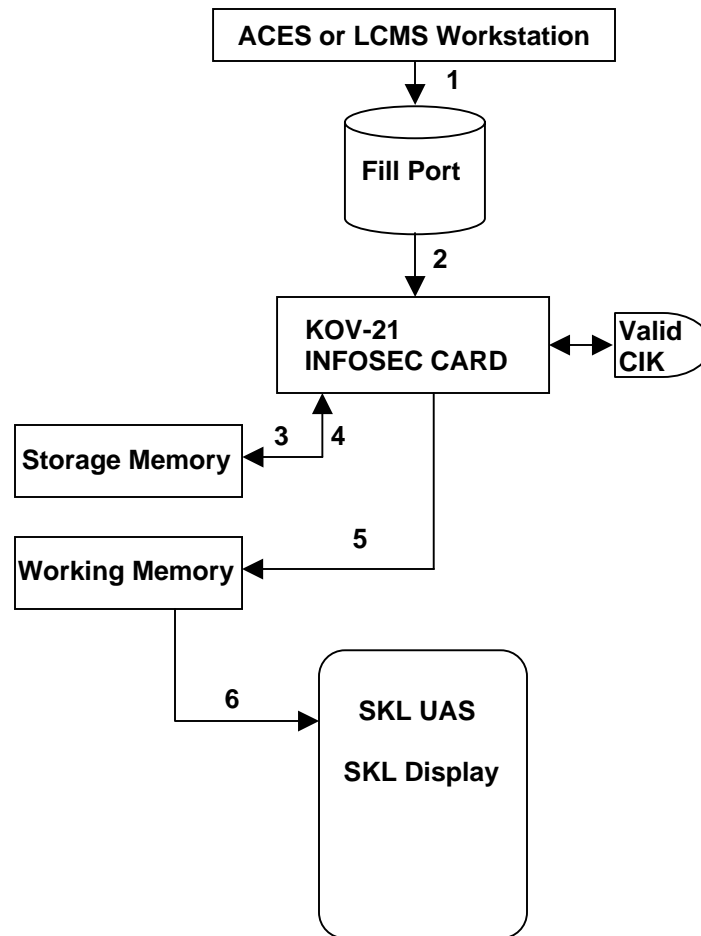


Figure 4. SKL Receive Information Flow.

### SKL Transmit Information Flow

The Transmit Information Flow within the SKL is depicted in Figure 5, *SKL Transmit Information Flow*. Use this figure to follow the description in the following paragraph.

This description assumes that the SKL is powered up and the operator is logged on and the SKL UAS is open and ready for work. Once a transmit operation is initiated with the SKL UAS the information to be transmitted is selected (1). The information is sent to the KOV-21 (2). The KOV-21 then sends the information to the Fill Port (3) where it is then sent to the ECU (4) via a Fill cable.

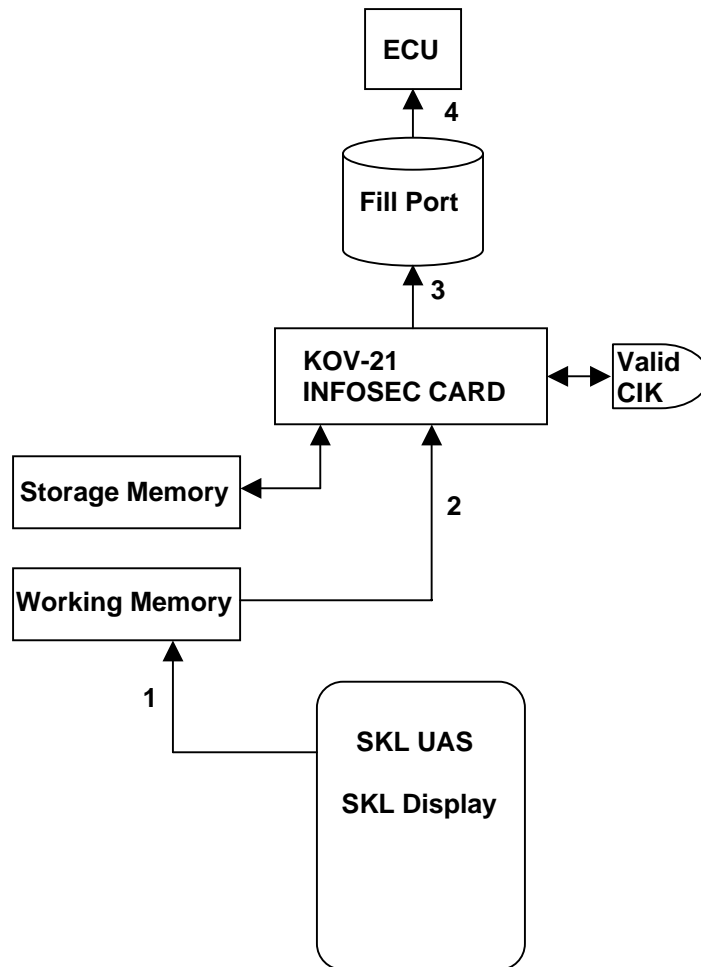


Figure 5. SKL Transmit Information Flow.

## MISSION DATA ORGANIZATION WITHIN THE SKL

The Mission Data organization in the SKL is not the same as it is in the DTD. As stated earlier, the SKL uses a Windows CE.Net operating system with the Core Library and SKL User Application Software (UAS) loaded on it. The mission data is organized very similar to how data is displayed in the Windows Explorer program. It uses tree structures with tabs as shown in Figure 6 through Figure 9 below. The Mission Data organization concept as depicted in the below figures needs to be understood so that you can accomplish your mission in the most timely and correct manner. This concept starts with the Platform.

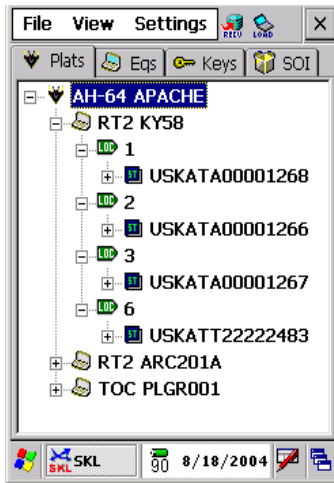


Figure 6. Plats Tab Expanded.

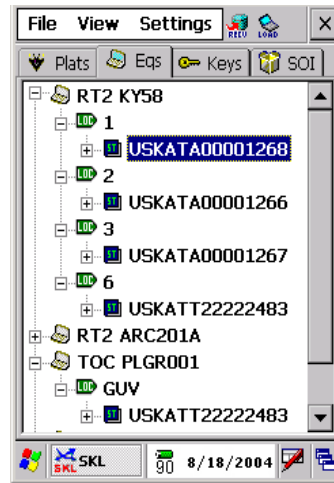


Figure 7. Eqs Tab Expanded.

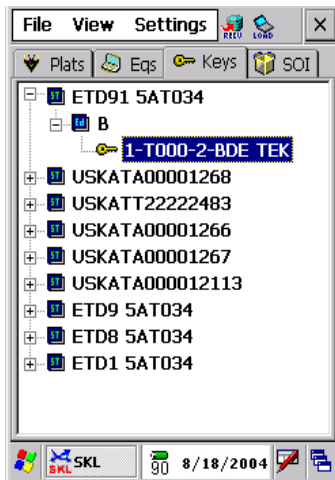


Figure 8, Keys Tab Expanded.

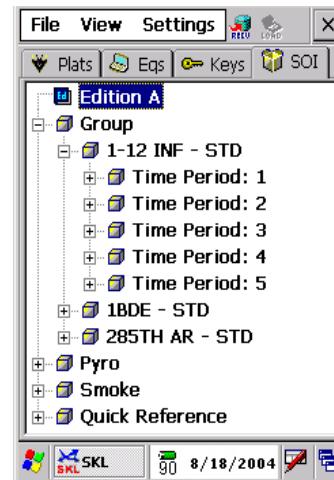


Figure 9. SOI Tab Expanded.

### Platform Mission Data

As depicted in Figure 6 above, the first Platform depicted is named "AH-64 APACHE". Assigned to this Platform are the names of three pieces of equipment. They are RT2 KY58, RT2 ARC201A, and TOC PLGR001. Under each piece of equipment there are Fill locations that may need to be filled with data and COMSEC key. In Figure 6 above, the equipment RT2 KY58, has been expanded to show the Short Titles of the key assigned to LOC1, LOC2, LOC3, and LOC6. Therefore, if you wanted to load key into

locations 1, 2, 3, and 6 of the RT2 KY58, you would simply select the equipment from the expanded Platform tab and then select File→Transmit→Load, or tap on the Load Icon and the process would be automatic. The necessary data for the RT2 KY58 equipment under the Platform AH-64 Apache would be pulled from the database and transmitted to the RT2 KY58. Under this scenario, you would not need to know anything else other than the Platform name and the name of the equipment.

### **Equipment Mission Data**

As depicted in Figure 7 above, the Equipment Tab is open showing just the equipment and assigned keys. This tab is very good at allowing you to see all the equipment and assigned keys that are in the database. You may from this window select equipment and then select File→Transmit→Load, or tap on the Load Icon and the process of loading the equipment with key would be automatic. However, there is one drawback using this procedure. That is, you must know which Platform the equipment is assigned to first to ensure that you are loading the correct equipment associated with the correct Platform. Therefore, if you are going to load equipment using the File→Transmit→Load procedure, you should always be on the Platform tab with the equipment you want to load highlighted.

### **Key Mission Data**

As depicted in Figure 8 above, the Keys Tab is open showing the Short Title, Edition, and Segment of the keys that are currently in the Mission Database. These keys can be either assigned to individual pieces of equipment or unassigned, meaning that they are not assigned to a piece of equipment and can be transmitted and/or loaded to equipment by selecting File→Transmit→Load Selected Keys. There is danger in performing this type of loading operation. First, you have to make sure you select the correct Short Title for the equipment location that you are attempting to load. Second, you must know thoroughly how to load the equipment because no Profile window will step you through the process. Finally, if you select the wrong Short Title and load it into the wrong equipment fill location, that piece of equipment may not be able to communicate with other equipment in its net. This Technical Manual will address the differences between Assigned and Unassigned Key below.

### **SOI Mission Data**

As depicted in Figure 9 above, the SOI Tab is open showing the 1-12th INF-STD Group expanded to show the first 5 Time Periods. The tab also will show you the Pyro, Smoke, and any Quick References that you may have added to the Quick Reference folder. There are various ways to view the SOI data. These are addressed later in this TM.

### **ASSIGNED VERSUS UNASSIGNED KEY**

The SKL Mission Data can contain keys that are either assigned to equipment fill locations or are not assigned to any equipment. This distinction is very important. If you have unassigned keys in your database, it means that you either created one from some device that has key generation capability, or you loaded the SKL with a key from another device such as a KYK-13, DTD, or KYX-15. In either case, you may have violated your local COMSEC rules. COMSEC key generation should only be done with your COMSEC Custodian's permission so accountability is maintained. This is why you should only have assigned keys in your Mission Database. This is not to say that there may be circumstances that will require you to have unassigned key in your database. But those instances should be rare.

When you select File→Transmit→Load, to load equipment, you are loading equipment with key that has been assigned to specific fill locations on the equipment you selected. This is the way you should always load key into equipment.

When you select File→Transmit→Load Selected Key to load equipment, you can be loading equipment with assigned or unassigned key. The danger is that you need to know exactly which key to select from the Keys Tab to load into a specific equipment fill location. If you get it wrong, then that radio may not be

able to communicate. The other drawback to this type of loading procedure is that you don't get a Profile window to help you load the equipment. This TM will have specific loading instructions for both Assigned and Unassigned Key in Chapter 2. These two loading procedures are named Load and Load Selected Key. Load is associated with Assigned key and Load Selected Key is associated with Unassigned key.

Knowing how to load key into equipment is half the battle. The easiest way to remember how to load key is to remember how the key was put into the Mission Database in the first place.

If the key(s) were received into the SKL using the File→Receive→Key Needed operation, then the key(s) received in this fashion are assigned to specific Fill locations on specific equipment. These keys should be loaded using the File→Transmit→Load selection. This loading procedure is defined in Work Package 0014.

If the key(s) were received into the SKL using the File→Receive→Key operation, then the key(s) received in this fashion are **not** assigned to specific fill locations on specific equipment. These keys should be loaded using the File→Transmit→Load Selected Keys selection. This loading procedure is defined in Work Package 0015. Or the keys can be assigned to specific fill locations on specific equipment and then you can use the File→Transmit→Load selection.

## DATABASE MANAGEMENT

The SKL gives the user the ability to create Platforms, Equipment, and Key Tags. It also will allow you to assign Equipment to Platforms and Key Tags to Equipment. You can also edit Platforms, Equipment, and Key Tags, as well as unassign Key Tags from Equipment and Equipment from Platforms. The totality of this is called Database Management. These functions provide for greater flexibility when dislocated from the ACES and LCMS Workstations. The user can now manipulate the database to fit changing mission requirements. The procedures to perform these tasks are located in multiple different paragraphs throughout Chapter 2. However for convenience, Work Package 0024 has been constructed to show an SKL operator the entire creation and assignment process in one procedure.

## KEY TAG CREATION

The SKL gives the user the capability to create a new key tag and then assign it to equipment. Once the assignment has been made the user can use the Key Needed procedure located in Work Package 0017 to obtain the actual key. Remember you should have permission from the COMSEC custodian to use this procedure prior to creating a key tag. Accountability for COMSEC key is paramount and should not be violated except in very unusual circumstances. The procedure to create a new key tag is contained in Work Package 0021.

## GENERIC PROCEDURES

The SKL UAS provides a Generic selection when attempting to perform an Over the Air Distribution (OTAD) Manual Rekey (MK) or Automatic Rekey (AK) procedure. This Generic selection should be used if the equipment you are attempting to perform an OTAD MK or AK on is **not** listed in the Select Equipment window. The Generic selection will work with most DS-101 and DS-102 equipment.

Remember that you should always select your OTAD equipment from the Select Equipment window if it is listed. Otherwise select Generic. However, remember that if you should select Generic, that you must understand all the equipment settings and procedures required to perform an OTAD procedure. You should have the TM for that piece of equipment available when the OTAD procedure is performed.

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## HOST (SYSTEM) TIME/DATE VERSUS KOV-21 CARD TIME/DATE

In the Simple Key Loader (SKL) the Host time is very important in that it is the time that is used when loading time to certain ECUs (i.e., SINCGARS, AN/PSC-5, ARC-201D, etc). When using the Date Load feature of the SKL to load keys, the Host date is used not the KOV-21 card date. The only procedure that uses the KOV-21 card time/date is the Audit Trail in Core Library. The SKL with SKL UAS V4.0 software shows the date or time in the taskbar of the Windows CE.Net operating system (OS). This is explained further in Chapter 2 of this Technical Manual. The Host date/time cannot be changed by the Host Operating System (OS) program. It can only be changed by changing the KOV-21 card date/time.

Accordingly, software has been written that allows the Host time/date to sync up with the KOV-21 card time/date. There are two ways this is accomplished. Initially upon power-up the Host time/date is synced to the card time/date. Secondly, once the SSO has set the KOV-21 Card time/date using the procedures in Work Package 0007 then a user can manually tell the system to have the Host time/date sync with the KOV-21 card time/date using the procedure in Work Package 0007.

It is very important that when loading an ECU radio net including time from multiple SKLs, that each SKL has the KOV-21 card time in sync with the other SKLs for the mission. Since the Host time is supposed to be in sync with the KOV-21 card time, each radio that is loaded in the net when time is also loaded should be able to communicate.

**END OF WORK PACKAGE**



CHAPTER 2  
OPERATOR INSTRUCTIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0



OPERATOR MAINTENANCE  
DESCRIPTION AND USE OF OPERATOR CONTROLS AND INDICATORS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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**OPERATOR MAINTENANCE  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0**

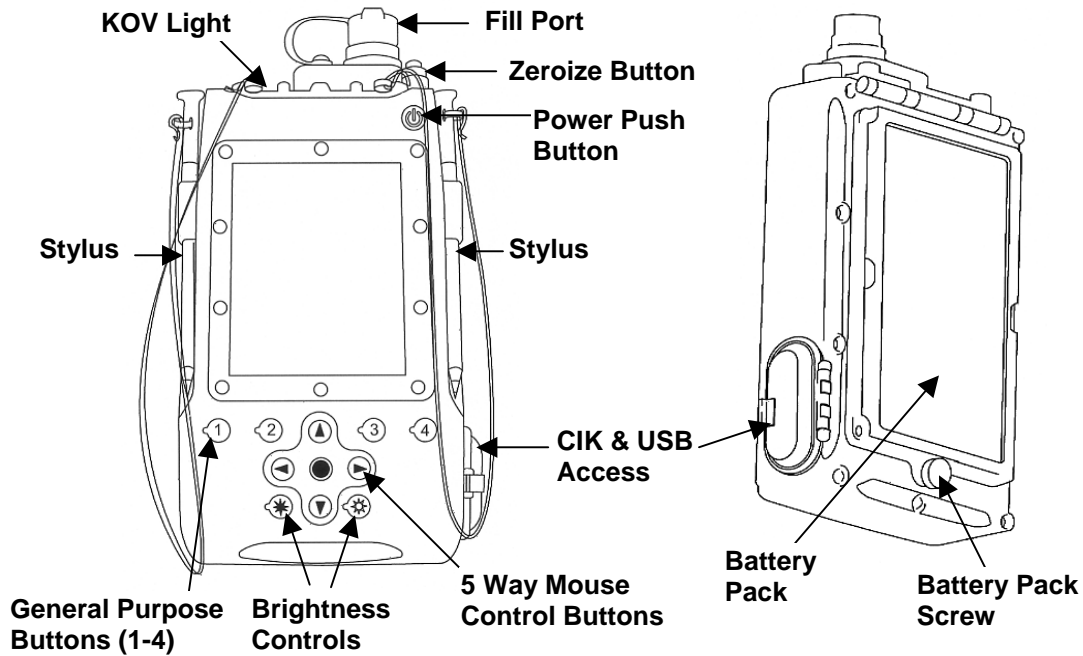
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**DESCRIPTION AND USE OF OPERATOR CONTROLS AND INDICATORS FOR THE SKL**

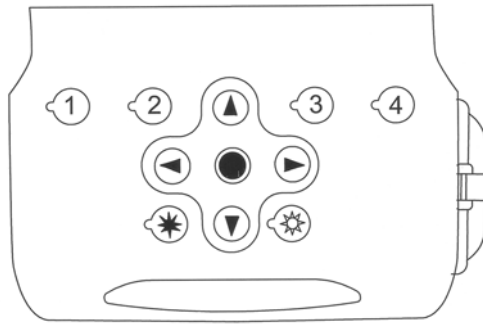
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**DESCRIPTION AND USE OF OPERATOR CONTROLS AND INDICATORS FOR THE SKL**

The features that come with the standard SKL are many and varied. Figure 1, *SKL Device Controls and Indicators* and Figure 2, *Navigation/Control Panel*, call out each feature on the SKL.



**Figure 1. Controls and Indicators.**



**Figure 2. Navigation/Control Panel.**

Table 1, *SKL Controls and Indicators Description*, defines the features and what they are used for.

**Table 1. SKL Controls and Indicators Description.**

FEATURE	EXPLANATION
Fill Port	The Fill Port is a standard 6-pin fill connector used on the DTD and other communications devices. A standard Fill Cable is used to connect the SKL to other COMSEC equipment. The Fill Port is located on the top of the SKL.
Zeroize Button	Pressing the Zeroize button activates the Zeroize function. Zeroization is immediate.
Power	This button controls the SKL power. When the Power button is depressed, the SKL is powered-on. When the SKL is powered-on and the Power button is depressed the SKL shuts down.
Inductive Stylus (2ea)	The Inductive Stylus is used to make selections on the Windows CE operating system, Core Library, and the SKL UAS. The Stylus uses an inductive coil. This means that you can lay your arm or hand on the screen and it's not going to cause any problems. The SKL does not use a touch screen; rather it uses an active display technology that must have the special stylus to make selections.
Crypto-Ignition Key (CIK) Access	The CIK Access area allows the operator to remove or replace the CIK. The CIK is used to control access to the secure domain (KOV-21 INFOSEC card). The SKL cannot be operated without a CIK.
5-Way Control Buttons	At the bottom center of the SKL are the 5-way Control Buttons. These buttons are used to navigate the menus of the SKL.
Brightness Controls	There are two buttons below the 5-way Control Buttons. The one on the right will increase the screen brightness and the one on the left will decrease the screen brightness.

**Table 1. SKL Controls and Indicators Description. (continued).**

FEATURE	EXPLANATION
General Purpose Buttons (1-4)	Just above the 5-way Control Buttons are four buttons aligned from left to right. These buttons are pre-programmed by the manufacturer to perform certain actions. Button 1 is set up to open the Start Menu, Button 2 opens the selected application menu, Button 3 places the device into Night Vision mode, and Button 4 activates Mouse mode.
KOV Light	When this light is steady on, it means that the KOV-21 card is powered on and working properly. If it is blinking, there could be a potential problem with the KOV-21 card.
Battery Pack	The battery pack can be one of two different types. The first type and preferred battery pack is the Lithium-Ion Polymer Cell. There are two types of Li-Ion Battery Packs. They are High Capacity and Standard Capacity batteries. The second type is an AA Battery Container that holds 8 AA Alkaline batteries.
Battery Pack Screw	This screw is used to remove the battery pack and to secure the battery pack to the SKL housing. This screw was recently replaced on the High Capacity Battery Pack to allow the user to better tighten the Battery Pack to the SKL. The longer screws were shipped to the locations the SKLs were shipped originally.
USB Ports	There are two types of USB ports on the SKL. There is a Mini-B which is the one located toward the bottom of the SKL. It is used for an ActiveSync connection to a PC. The USB port above the Mini-B is a Mini-A which can be used to connect an external keyboard, mouse, or mass storage device.

**AN/PYQ-10 (C) Simple Key Loader Operator Interfaces**

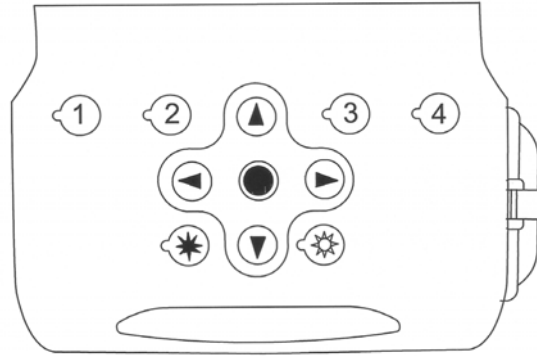
The operator may interface with the SKL in the following ways:

- Navigation and Control Buttons Interface
- Fill Port Interface
- Inductive Stylus Interface
- Virtual Keyboard Interface
- Zeroize Button Interface
- Crypto Ignition Key Interface
- USB Interfaces

Each of these specific operator interfaces will be explained in this Work Package.

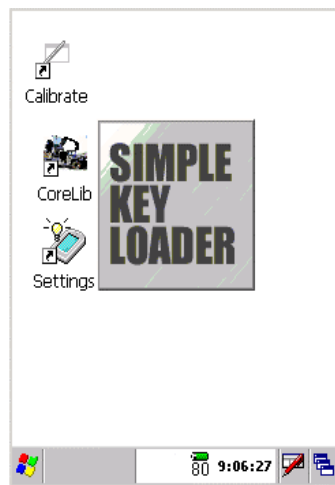
**Navigation/Control Buttons Interface**

The Navigation and Control buttons are located on the bottom front of the SKL as shown in Figure 3, *Navigation/Control Panel*, below. There are several buttons that make up the Navigation and Control panel. The numbered Control Buttons, when pressed, perform specific functions.



**Figure 3. Navigation/Control Panel.**

1. Control Button 1 will open the Start Menu. Use the following to open the Start Menu.
  - a. To open the Start Menu in Windows CE.Net, press **Control Button 1**. The window in Figure 4, *Start Menu*, opens.



**Figure 4. Start Menu.**

- b. Now you can use the Up/Down, Left/Right, and Open/Enter buttons to navigate through the Start Menu. Once you are finished with the Start Menu, press the **Control Button 1** again to close the Start Menu.
2. If you are in the SKL UAS program and want to accomplish some action that is initiated from one of the main menu selections, you can use the Control Button 2 to highlight and open the first main menu selection. This button functions like the Alt key on a windows keyboard. Use the following to activate a selected application's menu structure.
  - a. If you have pressed Control Button 1 just before you press Control Button 2 you will have to activate the SKL UAS Desktop again by clicking on something on any of the tabs. Once you do that then press **Control Button 2** again. The main menu as shown in Figure 5, *SKL UAS Main Menu from Button 2*, will open.

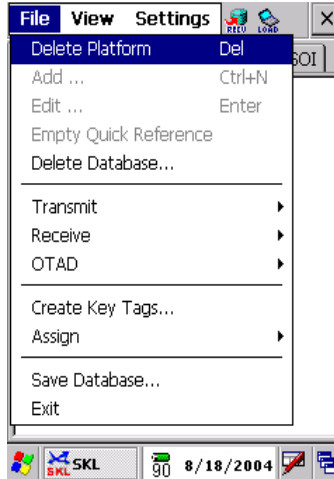


Figure 5. SKL UAS Main Menu from Button 2.

- b. When button 2 is depressed as described in the previous paragraph, the File menu opens. You can use the Up/Down, Left/Right, and Open/Enter buttons to navigate through the File menu. Once you are finished with the File Menu, press the **Control Button 2** again to close the File Menu.
3. There are times in the performance of the mission when you must operate the SKL at night. To help you in your nighttime SKL operations, provisions have been made to turn the display into Night Vision Goggles mode. When you press **Control Button 3** your display will change to Night Vision Goggles mode. To return to normal display mode, press **Control Button 3** again.
4. **Control Button 4** when pressed activates the Mouse Mode for the SKL. This means that once Control Button 4 is pressed the mouse arrow that is normally controlled by the Inductive Stylus alone, is now controlled by the Navigation Buttons and the Stylus. With the Mouse Mode turned on you don't need to use the Stylus to make selections. When the Mouse Mode is turned on you will see the Navigation Icon on the Taskbar of the Windows CE.Net OS. To exit the Mouse Mode, press **Control Button 4** again.
5. There are two (2) Brightness Control buttons on the Navigation/Control Panel. These are indicated by a dark sun and light sun. If you want the display darker, press and hold the black sun button until the display is to your liking. If you want the display brighter (lighter), press and hold the white sun button until the display is to your liking.
6. There are four (4) Navigation Buttons. These buttons allow you to navigate left, right, up, and down menu selections and the tabs in the SKL UAS program. They are also used to move the mouse arrow when in Mouse Mode. The center button in the Navigation area is the Open/Select button. Once you have highlighted the selection you want using the Navigation buttons, you can select it by pressing on the Open/Select button.

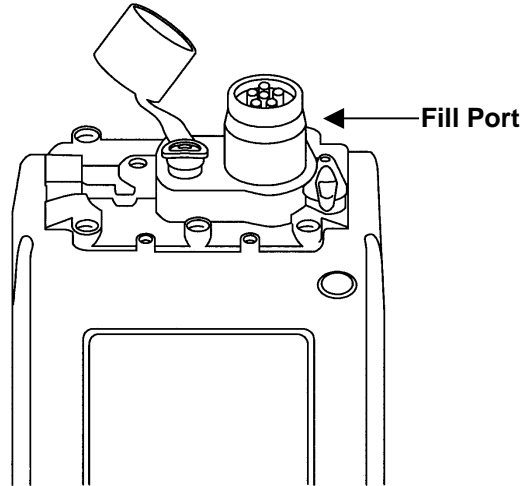
## END OF TASK

### Fill Port Interface

The Fill Port is located on top of the SKL and covered by a urethane protector. It receives a standard Fill cable that allows for the transfer of database information and key to a receiving device or from a transmitting device. It also will accommodate a specially designed RS-232 Cable that will connect to a workstation to receive database information. The Fill Port provides a direct connection to the KOV-21 INFOSEC card. The SKL Fill Port is shown in Figure 6, *Fill Port*.

**NOTE**

It is recommended that the O-rings in these cables be lubricated with silicon so that the locking connection can be made with the Fill Port more easily and without damaging the Fill Port internally.



**Figure 6. Fill Port.**

**Inductive Stylus Interface**

The SKL is supplied with two (2) Inductive Styli that are the primary means for operator interaction with the SKL. The stylus is used for logging on to the SKL, navigating menu structures and tabs, and initiating data transfer actions on the SKL. Inductive touch-panel technology creates a magnetic field above the display's surface and can then detect changes in this field when a special pen with passive circuitry is in range. The pen's position can be detected even when it is above the surface of the panel so that hovering and variable pressure effects can be used as part of the user interface.



**Figure 7. Inductive Stylus.**

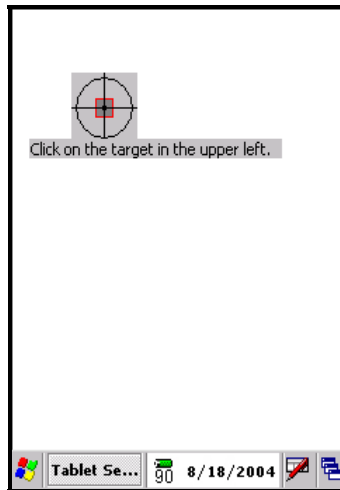
## Calibrating The Inductive Stylus

Through use, over time, the Inductive Stylus can become un-calibrated which leads to difficulty in selecting items that are in close proximity to each other. When this happens, the Inductive Stylus will have to be re-calibrated. There is a calibration program on the Windows CE.Net Desktop for stylus calibration. You can open this program two different ways. The first is to select **Start→Programs→Calibrate**. The second way is if you are already on the Windows CE.Net Desktop, just double-tap on the **Calibrate** icon. The following steps will lead you through the calibration process.

1. On the Windows CE.Net Desktop there is a “Calibrate” icon. Double-tap on the **Calibrate** icon. The window in Figure 8, *Calibrate*, opens.

### NOTE

**To effectively calibrate the stylus, make sure that you hold the stylus straight up and down so that the exact point of the stylus is centered on the cross hairs.**



**Figure 8. Calibrate.**

2. Follow the directions on the window. First place the point of the stylus on the target in the upper left of the window. The window will then change. Then place the point of the stylus on the target in the lower right of the window. This action will calibrate the stylus. The Calibrate window will close automatically. You may have to perform this operation several times to get the stylus perfectly calibrated. The new stylus on the V2 SKL is much more responsive.

## END OF TASK

### Virtual Keyboard Interface

The SKL uses a Virtual Keyboard for its data entry. The Virtual Keyboard is unique to the Windows CE.Net operating system. Since the Windows CE.Net OS is generally used on small footprint devices such as the SKL, which are normally not equipped with a hardware keyboard to accommodate text entry, a virtual (software generated) keyboard is used. It is located in the Taskbar of the Windows CE.Net operating system. Tapping on the Keyboard icon with the Inductive Stylus can activate this keyboard. Figures 9 and 10 below show the two keyboards depending on whether or not the CAPS key is toggled on or off.

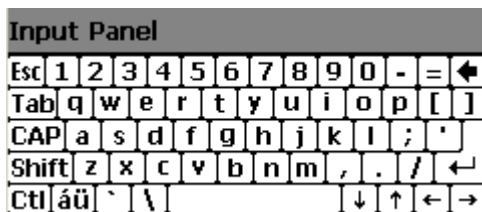


Figure 9. Virtual Keyboard Lower Case.

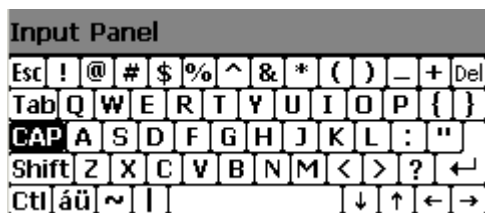


Figure 10. Virtual Keyboard Upper Case.

**Zeroize Button Interface**

The Zeroize button is Red with a Z embossed on it and is located on the top of the SKL just to the right of the Fill Port. A swivel cap protects the Zeroize button so that it cannot be accidentally depressed. Depressing the Zeroize button causes the KOV-21 INFOSEC card to begin a zeroization process of the SKL UAS mission data. Once this process is started it cannot be stopped. To Zeroize the KOV-21 INFOSEC card, swing open the swivel cap and depress and hold down the Red Button for more than 1 second. **Zeroization is immediate!** See Figure 11, *Zeroize Button Location*.

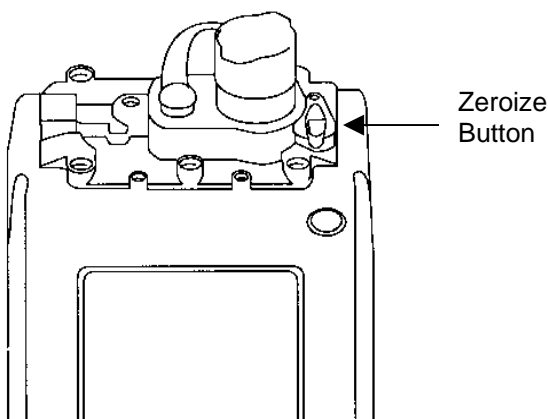


Figure 11. Zeroize Button Location.

**Crypto Ignition Key (CIK) Interface**

The CIK interface is located on the right-hand side of the SKL toward the bottom as shown in Figure 12, *CIK Location*. It is covered by a hinged door and has O-Rings that provide a barrier to the elements. The CIK is the hub around which the SKL revolves. If the SKL does not have a CIK installed the SKL cannot be used since the CIK locks and unlocks the secure domain (KOV-21). Therefore, it is of the utmost importance that the CIK be protected from damage and loss. If you have data in your SKL and you remove the CIK, no one can access that data. Work Package 0035 describes the CIK insertion process.

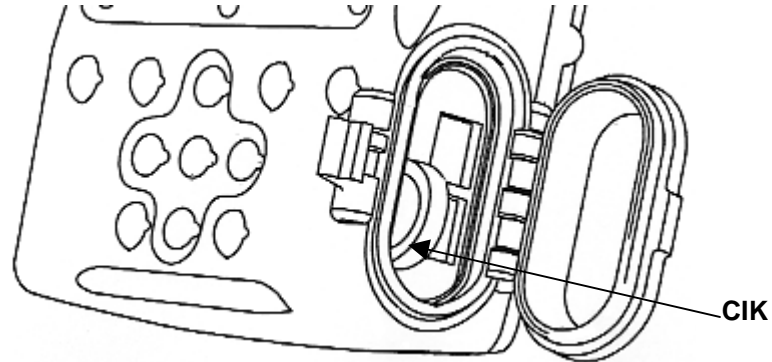


Figure 12. CIK Location.

### Universal Serial Bus (USB) Interfaces

There are two USB interfaces on the SKL. They are located under the hinged door on the right side of the SKL just below the CIK. The lower USB port is a mini-B and is used for an ActiveSync connection to a PC. It will be disabled for the production units. The USB port above the mini-B is a mini-A, and can be used for connections to an external mouse, or a mass storage device (for upgrading the SKL software). However, writing to a mass storage device has been disabled. See Figure 13, *USB Locations*, below for the exact location of the USB ports.

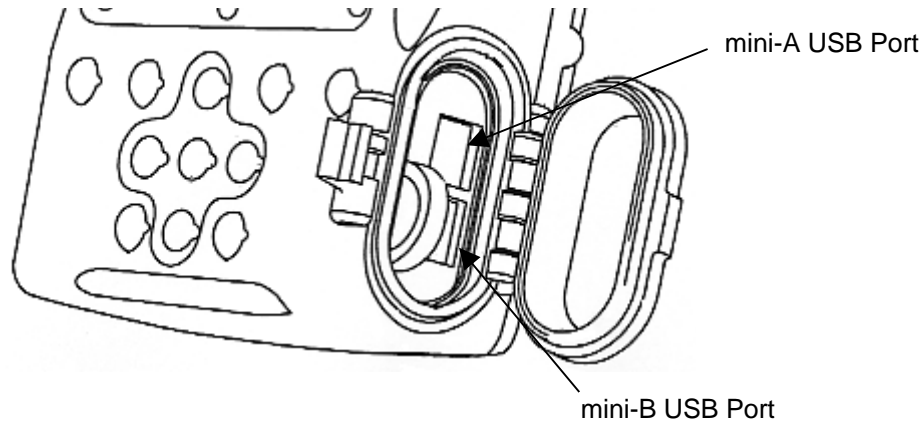


Figure 13. USB Locations.

### WINDOWS CE.NET TASKBAR

The Windows CE.Net Taskbar is very similar to the taskbars on other Microsoft Windows operating systems. However, there are some differences that make this taskbar unique. The taskbar features will be described below.



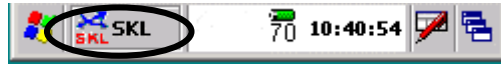
Figure 14. Windows CE.Net Taskbar.

As you can see from the figure above the Taskbar looks similar to other taskbars that you have seen on other Windows operating systems. However, there are subtle differences that will be pointed out to you in the next several paragraphs.



**Figure 15. Start Button Icon.**

The Windows logo that is circled above is really the Start button. It functions just like any other Start button on any other Windows taskbar.



**Figure 16. Active Program Icon.**

In Figure 16, the circled area will change depending on what program you have opened. The depicted circled area indicates that the SKL UAS program is open.



**Figure 17. Caps Lock.**

In Figure 17, when the Virtual Keyboard is open and the CAPS key is reverse video (black), the "A" will appear on the Taskbar in the position show above. It will stay there until the CAPS key is toggled to lower case. The Caps indicator will stay on the Taskbar even if you close the Virtual Keyboard.



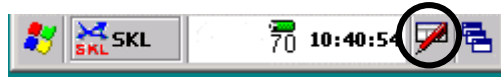
**Figure 18. Battery Capacity Icon.**

The circled area indicates the amount of battery power still available as a percentage of capacity for SKL operations. At very low power, a Battery Warning Dialog box will appear alerting you it is time to exit all programs gracefully and power down the SKL. You may close this dialog box by tapping on the X. The Warning Box will appear every 30 seconds until you replace the battery, recharge the battery, or convert to direct current from an electrical outlet.



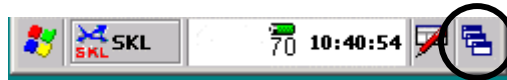
**Figure 19 Time/Date Icon.**

The two taskbars pictured above show the time and date. The top one is the default and shows the time to include incrementing seconds. If you double tap on the time icon it will change to the date as shown in the second graphic above. The time/date can only be set from within the Core Library. The Date/Time feature is further described later in Work Package 0007.



**Figure 20. Virtual Keyboard Icon.**

This is a feature that you would not normally find on any other Windows operating system. It is a Virtual Keyboard. When you tap on this icon the Virtual Keyboard appears. You can then tap on the keys to enter usernames, passwords, fill in information, or any other data that may be required during mission operations. To close the Keyboard, tap on the keyboard icon again.



**Figure 21. Program Switching Icon.**

Since the Taskbar on the SKL is so small the way in which the program switching occurs is a little different than the way a standard Windows computer would handle this. On standard taskbars the actual program icon is displayed in the taskbar and if you have multiple programs opened each icon is displayed and you can just click on the icon you wish to make that program active. On the SKL Taskbar it is handled differently. The area depicted in the circle when tapped on will display a list of active programs that can be selected. There are three programs that can be selected when all of them are open. They are SKL Desktop, Core Library, and SKL UAS. Simply select the program desired.



**Figure 22. 4-Way Button Control Icon.**

When this icon appears in the taskbar it indicates that you have depressed General Purpose Button 4 at the bottom of the SKL screen. When this button is depressed the icon appears and the 4-Way Mouse Control Buttons are active. You would generally use these buttons when your styli are not working, lost, or broken. To get rid of this icon, simply depress Button 4 again and it will go away.



**Figure 23. USB Connection Icon.**

When this icon appears in the taskbar it indicates that you have connected an USB device such as a Jump/Flash Drive to the mini-A port. This icon will go away when you have removed the USB device from the port.

### **Battery Fuel Gauge, Warnings, And Events**

A Battery Fuel Gauge icon is displayed in the task bar to indicate remaining battery capacity. It ranges from 100% to 10%, in 10% increments as shown in Figure 24, *Windows CE.Net Taskbar*, below. After 10% it starts to count down in 1% increments until 1% is reached. These increments change color as the amount of battery life diminishes. It goes from green to yellow at 40% and from yellow to red at 10%. It is highly recommended that when the battery capacity reaches the red area, that the SKL be powered down normally and the battery replaced with a fully charged battery. Failure to follow this advice could result in the loss of data and/or operational capability.



Figure 24. Windows CE.Net Taskbar.

A Low Battery Warning Dialog is displayed as depicted in Figure 25, *Main Batteries Very Low*, when the battery capacity reaches just 2% of capacity as depicted above.

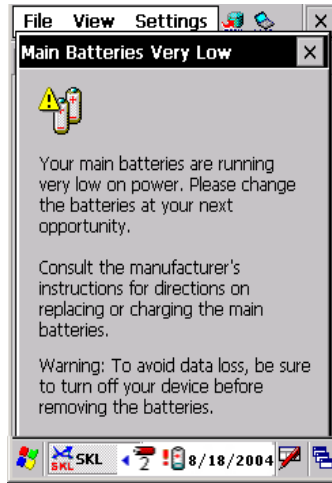


Figure 25. Main Batteries Very Low.

A Critical Low Battery Event Power Down Logout is generated when the battery capacity reaches 1% remaining. This Critical Low Battery Power event triggers the applications on the SKL to automatically shutdown, and the security application eventually calls on the SKL to power itself down.

### Battery Removal

The procedure to remove the battery from the SKL is the same whether the SKL is a V1 or V2 hardware device. On either SKL, when the Power Push button is depressed and the screen goes black, you must wait for at least 30-45 seconds before removing the battery. This is necessary to allow time for the SKL to finish processing and shutdown gracefully.

**END OF WORK PACKAGE**



OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
WINDOWS CE.NET SOFTWARE OVERVIEW  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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**OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0**

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**WINDOWS CE.NET SOFTWARE OVERVIEW:**

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**SKL SOFTWARE OVERVIEW**

The SKL that is fielded to the U.S. Army has four basic software packages installed. These are the Windows CE.Net operating system software, the Core Library program, the SKL UAS program, and SKL Database program.

**SKL SOFTWARE VERSIONS**

The version numbers for the information cited in this Technical Manual can be found in the following table, Table 1, *SKL Software Version Numbers*, below. All references to any of the software products loaded on the SKL that appear in this Technical Manual will assume to be the versions listed in the table.

**Table 1. SKL Software Version Numbers.**

<b>SOFTWARE</b>	<b>VERSION</b>
Windows CE.Net	4.20
Core Library	2.0
SKL UAS	4.0
SKL Database	2.33

**WINDOWS CE.NET OVERVIEW**

The Windows CE.Net is a componentized Operating System (OS) used to create customized embedded devices. It belongs to the Microsoft family of embedded operating systems. Designed from the ground up with embedded devices in mind, Windows CE.Net combines an advanced, real-time operating system and powerful tools for rapidly building the next generation of smart, connected, and small footprint devices such as the SKL. Built on its own code base, different from the desktop, Windows CE.Net provides a componentized, customizable, embedded OS that offers rich configuration and application options for the Simple Key Loader.

Although the Windows CE.Net operating system software offers many networking and communications features, most if not all of them will not be available on the SKL. This is because the SKL is used uniquely in the U.S. Army to meet the security requirements of its operational role. The desktop of the Windows CE.Net operating system is very similar to the other Windows operating systems that you are acquainted with as shown in Figure 1, *Windows CE.Net Desktop*, below. It is just smaller because of the screen size of the SKL.

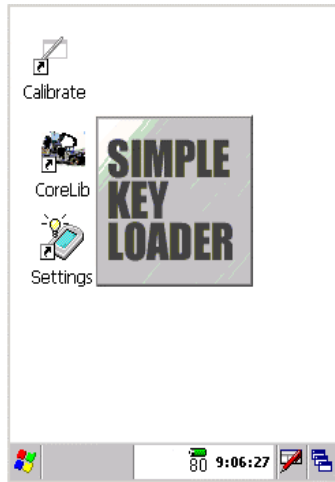


Figure 1. Windows CE.Net Desktop.

As can be seen in the above figure, there are only three icons on the desktop. The Calibrate Icon will allow you to calibrate your Inductive Stylus. The Core Library Icon will take you to the Core Library program, and the SKL Settings icon will allow you to set some of the SKL controls to your particular taste.

## WINDOWS CE.NET FEATURES

Some of the more visible Windows CE.Net features on the SKL are standard to Windows operating systems while others are unique to the Windows CE.Net OS. They are explained below:

### Start Button

The Start button on the SKL Windows CE.Net Operating System acts the same way as all other Windows operating systems. It may have fewer selections than most but the selections it does have should be familiar to you. If you tap on the **Start** button, the window in Figure 2, *Start Button Selections*, opens.

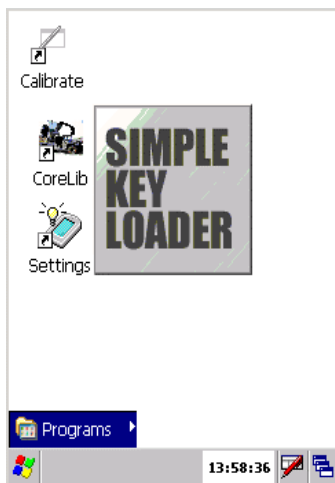


Figure 2. Start Button Selections.

1. As can be observed in the figure above, you will only get one (1) selection when tapping on the Start button. That is Programs. If you select **Programs** you will get a window similar to the one in Figure 3, *Programs*, below.

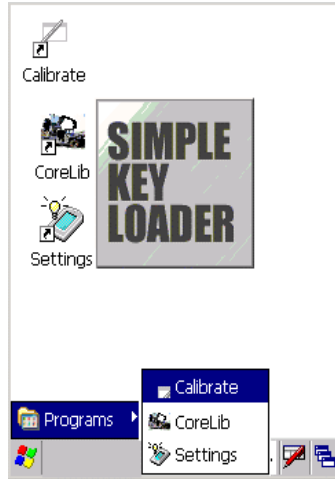


Figure 3. Programs.

2. Listed under the Programs selection are Calibrate (which is a program to calibrate the Inductive Stylus), CoreLib (which is the Core Library that provides KOV-21 INFOSEC card functionality), and SKL Settings. So you see the Programs area of the Start menu is very similar to normal Windows Operating Systems save some unique programs dedicated to the SKL.

## END OF TASK

### SKL Settings Menu

The SKL Settings Menu allows the operator of the SKL to make two adjustments with regard to power consumption. The first is how long the SKL waits during no usage time before powering down, and second is when the SKL's Backlight turns off through non-usage. Both of these settings are important in maintaining the maximum amount of battery power during mission operations. There are two different ways to access these settings. The first is to select **Start→Programs→SKL Settings** as depicted below in Figure 4, *Start→Programs→SKL Settings*. The second is to double-tap on the SKL Settings Icon that is located on the Windows CE.Net Desktop. Either method will get you to the SKL Settings Menu.

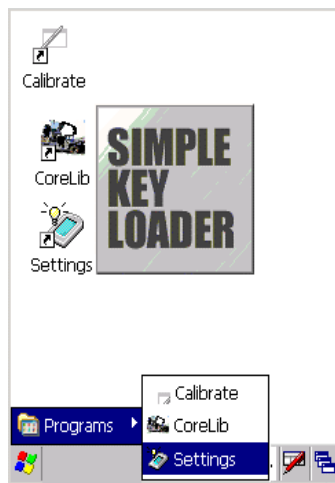
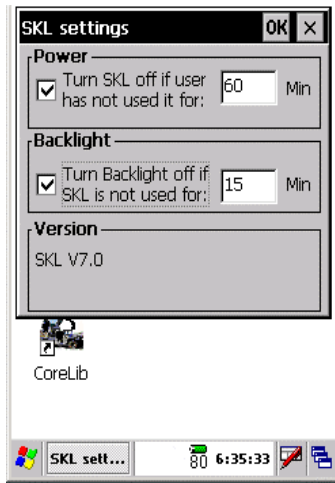


Figure 4. Start→Programs→SKL Settings.

1. As a result of the above selection the window in Figure 5, *SKL Settings*, opens.



**Figure 5. SKL Settings.**

2. The SKL Settings menu allows the operator to select the inactive power off setting and Backlight setting. The default for this window is; neither the Power nor Backlight selections are checked and 0 minutes are displayed and grayed out. As depicted above both the Power and Backlight have been checked indicating they are now activated. The Power Off time has been set to 60 minutes. The Backlight turn off time has been set to 15 minutes. Depending on your particular mission requirements with the SKL you should set these conditions accordingly. When you have completed your settings, tap on the **OK** button in the upper right-hand corner of the window. The SKL Setting window will close and the window that was open prior to starting this routine will re-open.

**END OF TASK**

**END OF WORK PACKAGE**



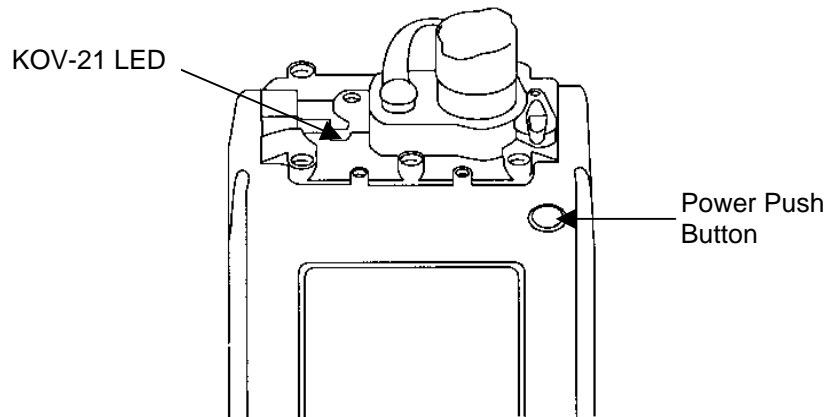
OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
INITIAL POWER UP AFTER DELIVERY OF SKL,  
NORMAL POWER UP AND LOGGING ONTO THE SKL  
AND  
POWERING DOWN THE SKL FROM THE SKL UAS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

**OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0**

**INITIAL POWER UP AFTER DELIVERY OF SKL  
NORMAL POWER UP AND LOGGING ONTO THE SKL  
POWERING DOWN THE SKL FROM THE SKL UAS**

**INITIAL POWER UP AFTER DELIVERY OF SKL**

1. Once the SKL is prepared for use as outlined in Work Package 0035, the initial power up sequence is simple. Locate the Power Push button at the front upper right-hand corner of the SKL as shown in Figure 1, *Power Push Button Location*, below. Press and hold the Power push button for approximately 3 seconds or until you see the system start to boot and then release the push button. The system should boot to the window in Figure 2, *Default SSO Login*.



**Figure 1. Power Push Button Location.**



**Figure 2. Default SSO Login.**

2. Observe the KOV-21 LED as depicted in Figure 1 above to make sure it is not flashing. If it is flashing, see Work Package 0031. As depicted above, a logon window has opened indicating that the default SSO account has a DEFAULTPIN as a password and that the DTD 2000 INFOSEC card is in an uninitialized state. When the SKL is issued to your unit it will have a default administrative account already created. The User ID for this account is **SSO** (all caps). This window is asking you if you want to initialize the card and pair it to this host computer. Tap on the **OK** button. The window in Figure 3, *Use External CIK*, opens.

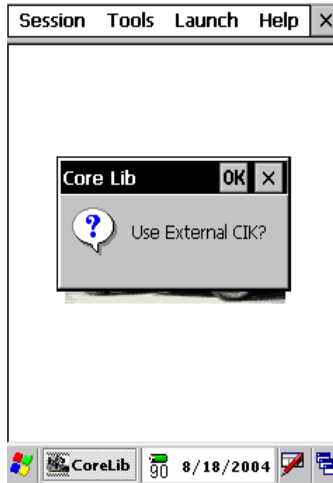


Figure 3. Use External CIK.

3. Tap on the **OK** button in the upper right-hand corner of the window. The window in Figure 4, *Change Password*, opens.



Figure 4. Change Password.

4. This window now allows the SSO to change the password from DEFAULTPIN to something else that will be associated with the KOV-21 INFOSEC card. Type in the new password and then confirm it. The password must be at least 6 characters in length and no more than 12 characters. **There can be no spaces in the password.** Then tap on the **OK** button. The window in Figure 5, *Password Successfully Updated*, opens. Make sure that you write down the new password for the SSO account and store it appropriately.

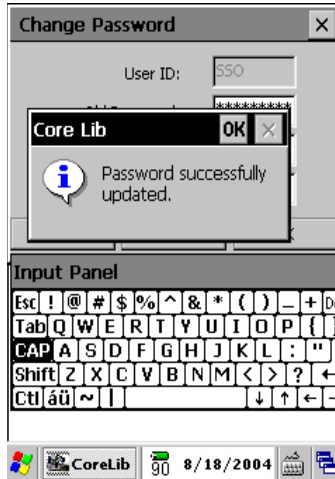


Figure 5. Password Successfully Updated.

5. Tap on the **OK** button in the upper right-hand corner of the window. The window in Figure 6, *Progress*, opens. This window will only stay up momentarily and then the window in Figure 7, *Information*, opens.



Figure 6. Progress.

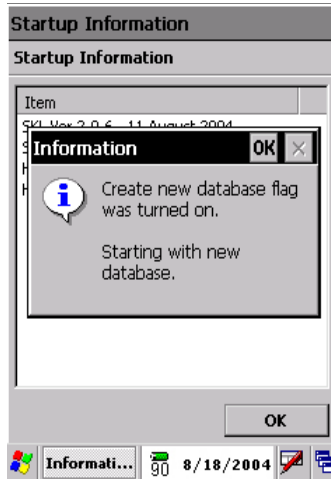


Figure 7. Information.

6. This window is informing you that a new database flag has been turned on and that the user will be starting with a new database. Tap on the **OK** button. The window in Figure 8, *Startup Information*, opens.

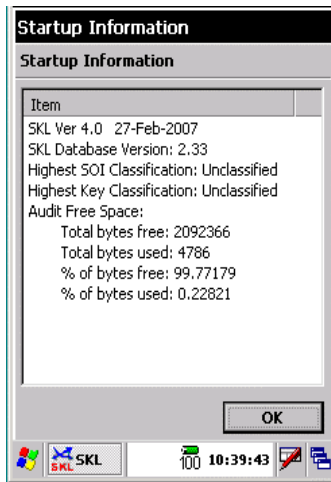


Figure 8. Startup Information.

7. This window is explained in detail on page 0006-8. Tap on the **OK** button. The window in Figure 9, *SKL UAS Desktop*, opens.

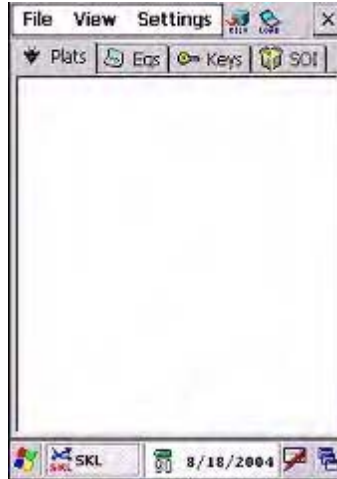


Figure 9. SKL UAS Desktop.

8. You have now created the SSO password, initialized the KOV-21 INFOSEC card and opened the SKL UAS program. You can now exit out of the SKL UAS program back to the Core Library and add the user accounts that you will require for this SKL using the procedures in Work Package 0007. You should also perform the procedure in Work Package 0007 to create another user account for the SSO. You should never use the SSO account to perform work in the SKL UAS program. Once these two procedures are accomplished, you may continue and open the SKL UAS program.

#### END OF TASK

#### NORMAL POWER UP AND LOGGING ONTO THE SKL

1. This procedure is very similar to the Initial Power Up sequence. The Power push button is located at the front upper right-hand corner of the SKL as shown in Figure 10, *Power Push Button Location*, below. Press and hold the Power push button for approximately 3 seconds or until you see the system start to boot and then release the push button. The system should boot to the window in Figure 11, *Core Library Logon*.

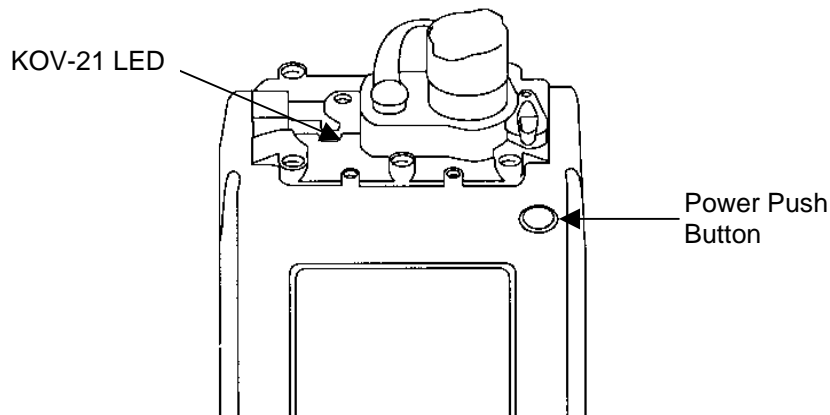


Figure 10. Power Push Button Location.



Figure 11. Core Library Logon.

2. Observe the KOV-21 LED as depicted in Figure 10 above to make sure it is not flashing. If it is flashing, see Work Package 0031. As depicted above, a logon window has opened indicating that you must logon to the Core Library to proceed.

**NOTE**

**The Keyboard can be moved by touching the title bar with the stylus and dragging the keyboard to the desired location.**

3. To enter the required information in the User ID and Password fields, follow the steps below:
  - a. A blinking Cursor will be displayed in the User ID field.
  - b. To enter alpha upper case keyboard characters, make sure the CAP key is toggled on (reverse video). Then using the stylus, select each letter of the User ID. You will notice that the selected letters appear in the User ID field of the Logon window.

**NOTE**

**If numbers are required for either the User ID or Password fields, you can toggle the keyboard to display numeric characters by tapping the stylus on the CAP Key.**

- c. Once the User ID has been entered, tap the stylus in the **Password Field** and a blinking Cursor will be displayed. Now you can enter the password.
- d. Once the correct User ID and Password have been entered tap on the **OK** button. The Logon window and virtual keyboard disappears if the User ID and Password where correct. Then the window depicted in Figure 12, *Progress* appears briefly and then Figure 13, *Startup Information* opens.



Figure 12. Progress.

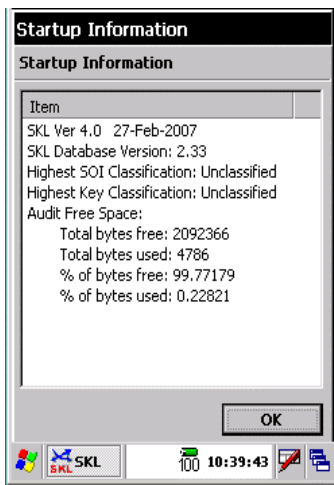


Figure 13. Startup Information.

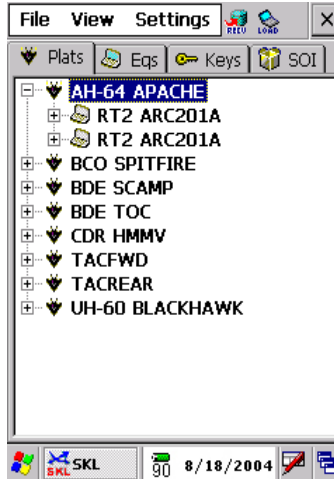
- d. This window displays the SKL Version and date, SKL Database Version, the highest Signal Operating Instructions (SOI) classification, and the highest key classification, the amount of Free Audit Space broken down into four different categories. Total Bytes Free, Total Bytes Used, % of Bytes Free, and % of Bytes Used. You should pay particular attention to the amount of Audit Bytes used as this will become an important number to know as explained later in this Work Package. Tap on the **OK** button with the stylus. The window in Figure 14, *SKL UAS Main Menu* is displayed. The SKL UAS Main Menu has now been opened and is ready for use.

**NOTE**

The platforms depicted below are used throughout the TM as a guide to perform the operations available to the SKL operator. Your data will undoubtedly display different platforms, equipment, key, and SOI.

**NOTE**

For operational purposes, the SSO account should never be used to access and utilize the SKL UAS program. Rather, create another user account and use it to perform your necessary mission with the SKL UAS program.



**Figure 14. SKL UAS Main Menu.**

- e. Since you are now into the SKL UAS program this would be a good time to set up your SKL the way that you want to view items in the trees. This can be done from the Settings→Options menu which is described in detail in Work Package 0029.

**END OF TASK**

**POWERING DOWN THE SKL FROM THE SKL UAS**

When the SKL is no longer needed for EKMS operations, it should be powered down and stored appropriately. Make sure that if you have made changes to your Mission Database that you save the database before powering down. To power down the SKL, from the SKL UAS follow the steps below.

**CAUTION**

**You should never power down the SKL while the SKL UAS program is open or the KOV-21 card light is green (active). Doing so may lead to a corrupted database.**

1. Exit the SKL UAS program by selecting **File→Exit** from the SKL main menu as shown in Figure 15, *SKL UAS File Menu*. You may also tap the **X** button in the top right-hand corner of the SKL Main Menu with the Inductive Stylus to exit the application.

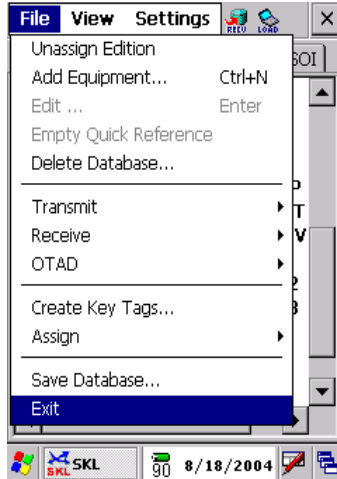


Figure 15. SKL UAS File Menu.



Figure 16. Core Library Desktop.

2. The window depicted in Figure 16, *Core Library Desktop*, is now displayed.

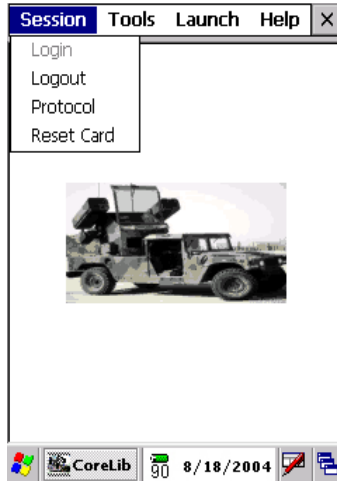


Figure 17. Logout

3. Once the Core Library Desktop opens, select **Session**→**Logout** as shown in Figure 17, *Logout*, above.
4. Once the Logout selection is made the window depicted in Figure 18, *Core Library Desktop*, returns with an hour glass icon in place of the arrow.

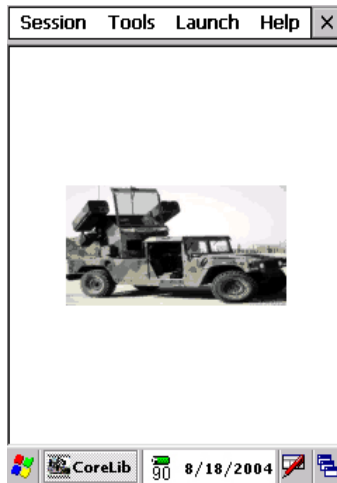


Figure 18. Core Library Desktop.

5. **Once the hour glass icon has disappeared and the KOV-21 card light is out**, the SKL can be powered down by pressing and holding the **Power** button until the power down sequence begins. The Power push button is depicted in Figure 19, *Power Push Button*. The SKL should power down normally.

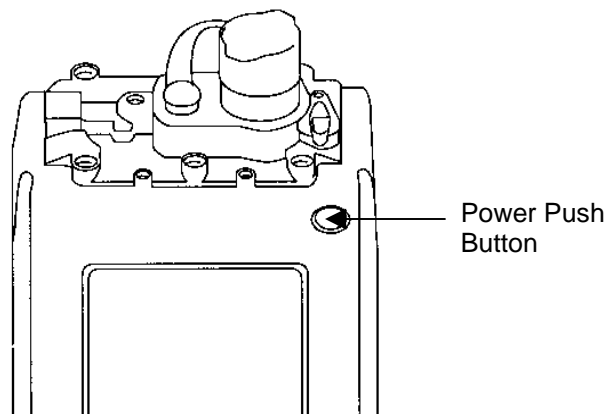


Figure 19. Power Push Button.

**CAUTION**

On the V2 hardware version of the SKL only, do not attempt to power up the SKL within 10 seconds of powering it down or you will lose the database contained in the SKL.

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
CORE LIBRARY  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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CORE LIBRARY

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CORE LIBRARY PROGRAM

The Core Library provides KOV-21 Information Security (INFOSEC) card functions for the Site Security Officer (SSO) and for user accounts created by the SSO. The application provides KOV-21 INFOSEC card, account and password maintenance, date and time setup, card reset, status monitoring, audit trail view and upload functions, and file download functions. The Core Library also provides the capability to select and launch the SKL User Application Software (UAS). The Core Library executable software resides and runs within the memory space and native Central Processing Unit (CPU) of the host SKL device. The Core Library is the vehicle that is used to logon to the KOV-21 INFOSEC card. Once the user is logged on to the KOV-21 card, the SKL UAS program is launched automatically. The Core Library software has several features that are described in the following paragraphs.

Accessing the Core Library Program

The Core Library program can be accessed two different ways. The first way is to just power up the SKL. The second way is to double-tap on the Core Library icon on the Windows CE.Net desktop with the Inductive Stylus. The window in Figure 1, *Core Library Logon*, opens.



Figure 1. Core Library Logon.

1. To get access to all the Core Library program features, you must logon to the KOV-21 INFOSEC card. All actions on the SKL other than those directly Windows CE.Net related must begin by logging on to the KOV-21. The SKL UAS program will not launch without logging on.
2. As stated in Work Package 0006, the SKL is issued with an administrative account called **SSO** (all caps) already created. The SSO must change the password for this account upon the initial power up and log on. The SSO can then create up to 10 other user accounts.

**NOTE**

**The Keyboard can be moved by touching the title bar with the stylus and dragging the keyboard to the desired location.**

3. To enter the required information in the User ID and Password fields, follow the steps below.
  - a. A Cursor will be displayed in the **User ID** field.
  - b. To enter lower case characters and numbers, make sure the CAP key is toggled off. To enter upper case and special characters, make sure the CAP key is toggled on (reverse video). Then using the stylus, select each letter of your User ID. You will notice that the letters appear in the User ID field of the Logon window.

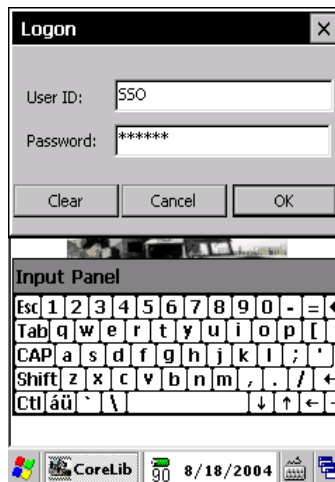
**NOTE**

**If numbers are required for either the User ID or Password fields, you can toggle the keyboard to display numeric characters by tapping the stylus on the CAP Key.**

- c. Once the User ID has been entered, tap the stylus in the **Password** field, and a Cursor will be displayed. Now you can enter the password for your account.

**CAUTION**

**If you are logging in as the SSO, ten (10) consecutive SSO logon failures will result in the KOV-21 INFOSEC card being zeroized and reset. This will cause the loss of all Mission Database items stored in the SKL, deletion of all user accounts, and the resetting of the SSO password.**



**Figure 2. Core Library Logon.**

4. Now using the stylus, tap on the **OK** button. The Logon window closes and Figure 3, *Startup Information*, opens. With this new change to the software the SKL UAS automatically opens once a valid logon is completed.

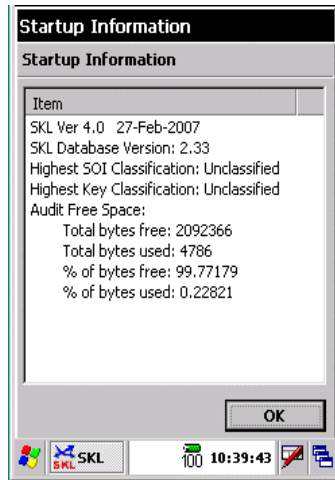


Figure 3. Startup Information.

5. The Startup Information window provides more information than the previous one. It now gives you a complete picture of the Audit Free Space, which will be very valuable to you so that you know when to perform a Remote Audit Upload. Once you are through looking at the information on the Startup Information window, tap on the **OK** button. The window in Figure 4, *SKL UAS Desktop* opens.

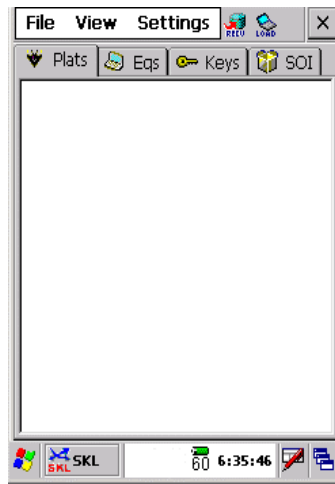


Figure 4. SKL UAS Desktop.

## END OF TASK

### Accessing the Core Library Features

Now that you have logged on to the Core Library to access the Core Library features you must exit the SKL UAS or use the Program Icon on the Taskbar to go back to the Core Library program. Once you are back at the Core Library you have access to most of the menu selections. There are four (4) main menu selections on the Core Library desktop as depicted below in Figure 5, The following Paragraphs address each of these selections as well as the sub-selections under each main heading. There are some selections that are not to be used by the user. Those selections will be identified.



Figure 5. Core Library Desktop.

### Session Menu

The Session menu has four (4) available selections. These are:

- Login (only available if you are not logged on)
- Logout (only available if you are logged on)
- Protocol
- Reset Card.

If you choose Login, then you will repeat the same steps that are called out in the second Paragraph of this Work Package. To logout, select **Logout** from the Session Menu and you will be logged out of the Core Library. However, you must first completely exit the SKL UAS program.

**Changing the Core Library Protocol.** This option allows for a choice of which protocol should be used to change the files in Core Library or upload Audit Data to the LCMS Workstation. The SKL user will not be able to modify files stored in the SKL. However, the user can change the protocol to upload Audit Data to the LCMS Workstation computer. Depicted in Figure 6, *Protocol*, are the two different protocols that you may set on the SKL for completing tasks in the Core Library. They are DS-101 and RS-232. The window defaults to DS-101. If you select RS-232 as the protocol you wish to use, then you may also select the Timeout Value for this protocol based on the device you are connecting to. There are three (3) selections you can make. They are Slow, Medium, and Fast. The default is Medium. Make your selection based on what you want to do and then click on the **OK** button. The Core Library Desktop re-opens.

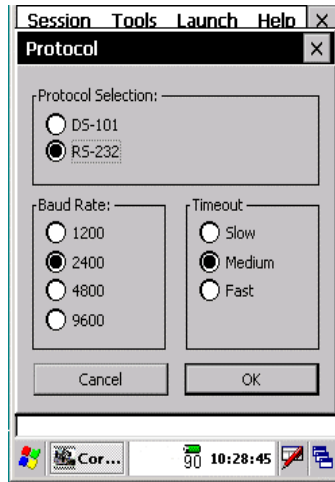


Figure 6. Protocol.

## END OF TASK

**Resetting the KOV-21 INFOSEC Card.** This action is the equivalent to a power down operation, without the removal of power. It will result in the card performing all its startup tests. Following the reset operation, the user is logged off. Although a user can run this test at any time, it should only be run when there is reason to believe that the KOV-21 card may have a problem or the software requests that it be reset. Use the following steps to reset the KOV-21 card.

1. From the Core Library Desktop, select **Session→Reset Card**. The window in Figure 7, *Confirm Card Reset*, opens.



Figure 7. Confirm Card Reset.

2. If you are sure that you want to continue, tap on the **Yes** button. The window in Figure 8, *Core Lib*, opens.

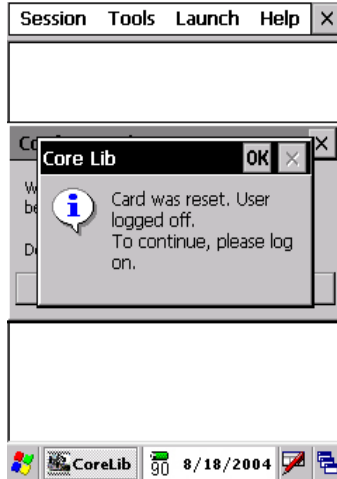


Figure 8. Core Lib.

3. This window confirms that the card was reset. It also informs you that the user has been logged off. If you want to continue operations, you will need to login again by selecting Login from the Session menu. Tap on the **OK** button in the upper right-hand corner of the window. The Core Library Desktop opens.

## END OF TASK

### Tools Menu

The Tools Menu of the Core Library Desktop contains several selections to perform housekeeping functions that may be required by unit procedures and military regulations. The two major sub-headings under the Tools Menu are “User” and “SSO”. The following paragraphs will outline the procedures to use each selection under these two sub-headings.

**User Menu.** The Tools→User Menu has four (4) submenus that perform functions that an ordinary user has permission to perform. The SSO account is a user account; therefore, the SSO account has access to all of these functions. These functional areas are:

- Change Password
- Get Card Time/Date
- Get Card Status
- Card Self-Test

The following paragraphs detail how to use each of these selections.

**Change User Password.** To change the User password, the user must first be logged on. If the user is not logged on, this selection is grayed out. If you are logged on and want to change your password select **Tools→User→Change Password**. The window in Figure 9, *Change Password*, opens.

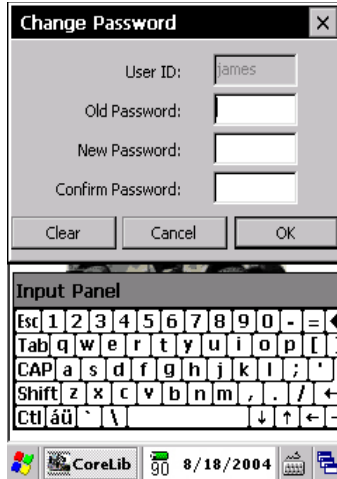


Figure 9. Change Password.

1. This window has several areas that require information. The User ID displays, in subdued form, the ID of the user that is logged on. To change the password for the account displayed, you will need to enter the old password first using the Virtual Keyboard. Then tap in the **New Password** field and enter the new password. The new password must be at least 6 characters in length and no more than 12 characters. **Spaces are not allowed in passwords.** To confirm the new password, tap in the **Confirm Password** field and then re-enter your new password. Then tap on the **OK** button. The window in Figure 10, *Password Successfully Updated*, opens.

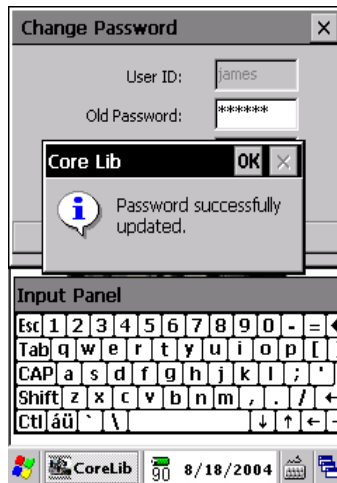


Figure 10. Password Successfully Updated.

2. Now tap on the **OK** button in the upper right-hand corner of the window. The Core Library Desktop opens.

#### END OF TASK

**Get Card Time/Date.** The KOV-21 INFOSEC card has its own date/time function aside from the date/time function of the Windows CE.Net operating system or (Host time). The time/date that is shown in the Taskbar of the Windows CE.Net Desktop will be set to the KOV-21 card time/date each time the SKL is powered on. Also the host time will be set to the KOV-21 card time as well. Before using this procedure, you should make sure that the SSO has set the correct date and time for the KOV-21

INFOSEC card. That procedure is addressed in below in the SSO Menu. There are many ECUs that can be loaded using the SKL. In many cases the time can also be loaded to the ECU along with the key and other data. If you choose to load time along with the other data the time is pulled from the Host time and not from the KOV-21 card time. Use the following procedure to first check the KOV-21 card date/time and then sync the Host time and date to the KOV-21 time and date.

**NOTE**

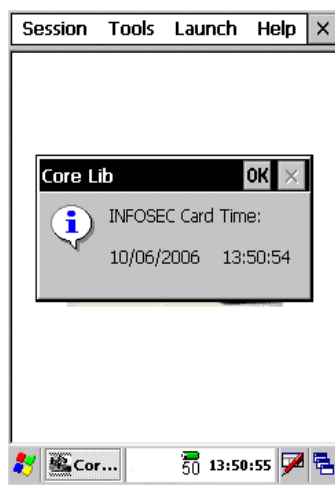
**Refer to Work Package 0003 for a more thorough understanding of the KOV-21 card time and the system (Host) time and how it can affect your communications.**

1. If you wish to know the date and time set in the KOV-21 INFOSEC card, select **Tools→User→Get Card Time/Date**. The window in Figure 11, *Get Card Date/Time*, opens.



**Figure 11. Get Card Date/Time.**

2. To find out the date and time that is set in the KOV-21 card select **NO** and then tap on the **OK** button. The window in Figure 12, *KOV-21 Card Date and Time*, opens.



**Figure 12. KOV-21 Card Date and Time.**

- This window shows you the current date and time that is set in the KOV-21 card. You will see the time incrementing on the taskbar as the seconds go by. The above window is a static display of the Date/Time only. Tap on the **OK** button in the upper right-hand corner of the window. The Figure 13, *Core Library Desktop*, returns.

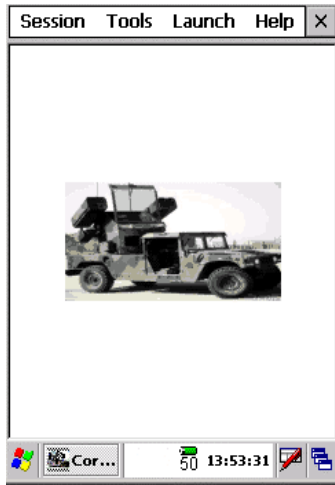


Figure 13. Core Library Desktop.

- Now select **Tools**→**User**→**Get Card Time/Date**, the window in Figure 14, *Get Card Date/Time with NO Selected*, opens.



Figure 14. Get Card Date/Time with NO Selected.

- This window always opens with NO selected. To change the selection to Yes, tap in the radio button to the left of the **Yes, set host time/date to card time/date** as depicted below in Figure 15, *Get Card Date/Time with YES Selected*.



Figure 15. Get Card Date/Time with YES Selected.

6. The above selection means that you want the Windows CE.Net operating system time (Host time) to be the same as the time in the KOV-21 INFOSEC card. Now tap on the **OK** button. The window in Figure 16, *New System Clock Time*, opens.

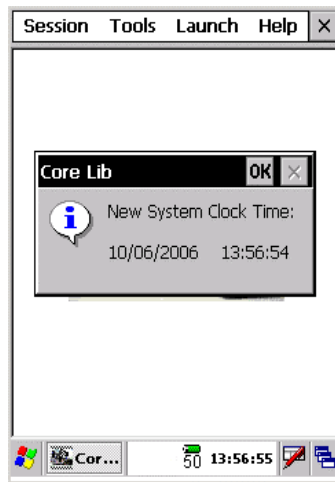


Figure 16. New System Clock Time.

7. You will notice in the window depicted above that after you selected Yes on the previous window the system shows you the new system (Host) time. Click on the **OK** button in the upper right-hand corner of the window. The Core Library Desktop returns.

**END OF TASK**

**KOV-21 INFOSEC Card Status.** There may be instances when you will need to know the exact status of the KOV-21 INFOSEC card before proceeding to launch the SKL UAS. Select **Tools→User→Get Card Status**. The window in Figure 17, *Card Status*, opens.



**Figure 17. Card Status.**

In the figure above, the card status includes several elements of information. These include Card Serial Number, Card State, Card Condition, Factory Setup, Zeroized Condition, Firmware Revision Number, and Free Audit Space. Of these informational areas, four are of particular importance. They are Card State, Card Condition, Zeroized Condition, and Free Audit Space. The Card State should always be "Operational". The Card Condition should be "Initialized". The Zeroized Condition should be "Not Zeroized" for operational purposes. The Free Audit Space should display enough space in bytes to complete the current mission of the SKL. A completely empty Audit Log should show approximately 2097152 bytes. When you are through viewing the card status, tap on the **OK** button. The Core Library Desktop returns.

#### **END OF TASK**

**KOV-21 INFOSEC Card Self-Test.** The KOV-21 INFOSEC card self-test routine is designed to pick up most anomalies that can be detected on the card. The test should be run when you suspect that the card is not operating properly. See Work Package 0031 for troubleshooting procedures for the KOV-21 INFOSEC card. It should be noted that once the test is started, a card-reset procedure will be accomplished which also means that the current user will be logged off. To start the self-test of the KOV-21 INFOSEC card select **Tools→User→Card Self-Test**. The window in Figure 18, *Confirm Card Self-Test*, opens.

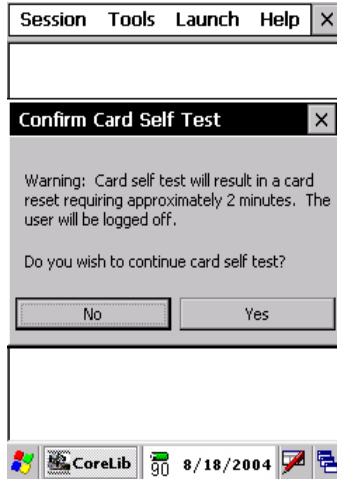


Figure 18. Confirm Card Self-Test.

1. Read the Warning and then decide if it is prudent at this time to continue with the self-test. If so, tap on the **YES** button. The self-test will take several minutes to complete. When the self-test is complete the window in Figure 19, Self Test Completed Successfully, opens.

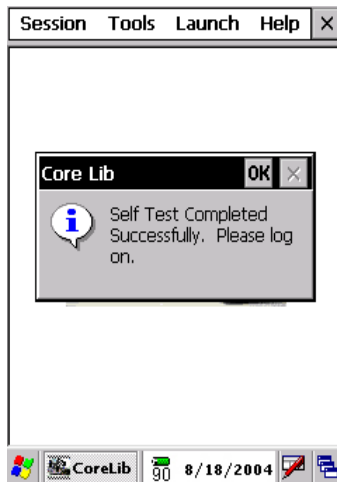


Figure 19. Self Test Completed Successfully.

2. Tap on the **OK** button in the upper right-hand corner of the window. The Core Library Desktop re-opens. Remember to logon if you want to continue with SKL operations.

#### END OF TASK

**SSO Menu.** The Tools→SSO menu has five (5) major functional management areas accessible only to the SSO account. These functional areas are:

- Set Card Time/Date
- User Management
- Audit Functions
- Firmware Controls
- File Controls

The following paragraphs detail the procedures to use these selections. These selections are only available if the SSO is logged in.

**Set the KOV-21 INFOSEC Card Time and Date.** Although the KOV-21 card's date and time are set in the factory you will always want to set the date and time to your operational settings. Most units have a Precision Lightweight GPS Receiver (PLGR) on hand to give them the precise date and time data to enter into the KOV-21 card. Once you have that data, select **Tools**→**SSO**→**Set Card Time/Date**. The window in Figure 20, *Set Card Date/Time*, opens.



Figure 20. Set Card Date/Time.

1. Depicted above are two areas that require configuring. They are the Card Time and the Card Date. With the date and time information gained from the PLGR or some other reliable source, set the Card Date first and then the Card Time. Once they are set, tap on the **OK** button. The window in Figure 21, *New Card and Host Time*, opens.

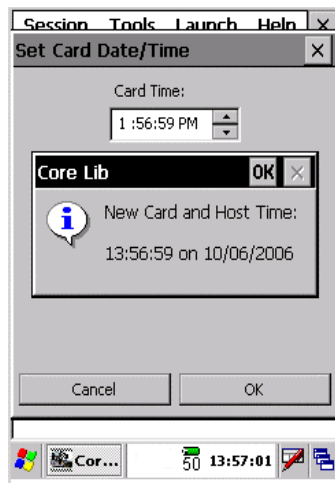


Figure 21. New Card and Host Time.

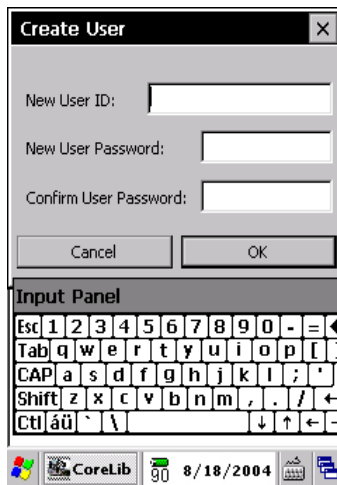
2. The window confirms the fact that the Card and Host time and date have been set. You will also see the change immediately in the Taskbar of the Windows CE.Net OS. Tap on the **OK** button in the upper right-hand corner of the window. The Core Library Desktop reopens.

**END OF TASK**

**User Management.** The User Management function under the SSO submenu has three (3) SSO functions. They are Create User, Delete User, and Change User Password. Each of the following three paragraphs will address each of these functions.

**Create or Re-Create a User Account.** The following procedure is used to create or re-create a user account. The only account that can create another user account is the SSO. Make sure that you are logged on as the SSO before attempting this routine. The SSO should create a user account for each person that is going to have access to the SKL UAS program. This also includes the SSO. **The SSO should never use the SSO account to work in the SKL UAS program.** He/she should create another user account for this purpose. To create or re-create a user account, follow the steps below.

1. To create or re-create a user account, select **Tools→SSO→User Management→Create User**. The window in Figure 22, *Create User*, opens.



**Figure 22. Create User.**

2. Using the stylus enter the new user ID. **There cannot be any spaces in the user ID.** Then enter the new user ID password and confirm the password. The Password field must have a minimum of 6 characters and it can have a maximum of 12 characters. **There can be no spaces in the Password.** Now tap on the **OK** button. The window in Figure 23, *User Created*, opens.

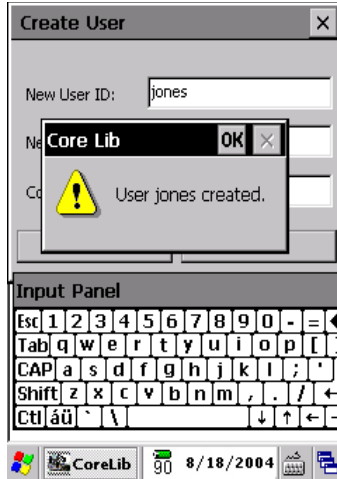


Figure 23. User Created.

3. This is a confirmation window that the account was created. Tap on the **OK** button in the upper right-hand corner to close the window. The Create User window re-opens in case you want to add more users. If not then tap on the Cancel button. The Core Library Desktop re-opens.
4. Now that the account is created, the account information can be provided to the user and inform the user to login to the KOV-21 card and then change the password.

#### END OF TASK

**Delete User Account.** There will be occasions when users of the SKL are no longer required to operate the system. These occasions can be when operators rotate duty stations, change jobs within the unit, leave the service, or are relieved of their duties through disciplinary action. When any of these circumstances arise, the SKL account associated with that individual must be removed from the SKL database. Use the following procedure to delete a user account.

1. From the Core Library Desktop, select **Tools**→**SSO**→**User Management**→**Delete User**. The window in Figure 24, *Delete User*, opens.

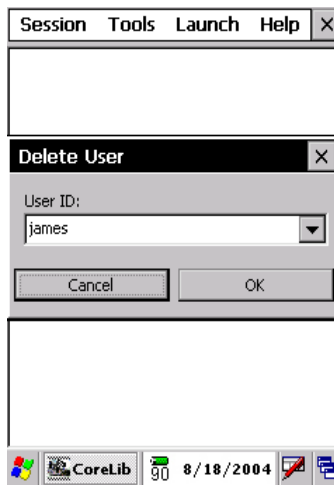


Figure 24. Delete User.

2. Select the user account you want to delete from the drop-down menu. Once you have selected the correct account to delete, tap on the **OK** button. The window in Figure 25, *Confirm Delete User*, opens.

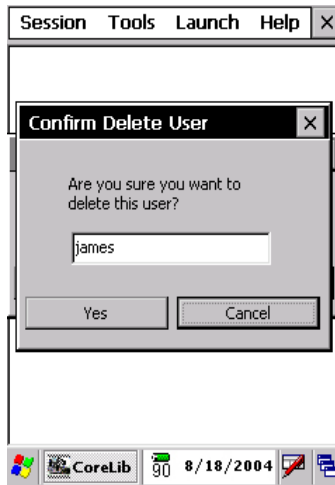


Figure 25. Confirm Delete User.

3. If you are sure that the account displayed is the account to be deleted, tap on the **Yes** button. The window in Figure 26, *User Removed*, re-opens.



Figure 26. User Removed.

4. This is the confirmation window that the account was deleted from the database. Tap on the **OK** button in the upper right-hand corner of the window. The window in Figure 27, *Delete User*, re-opens.

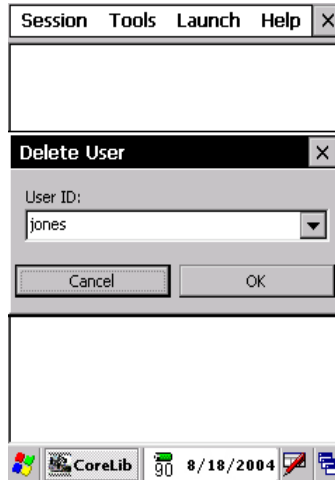


Figure 27. Delete User.

5. If you have no other accounts to delete, tap on the **Cancel** button or tap on the **X** button in the upper right-hand corner of the window to close the window and return to the Core Library Desktop.

#### END OF TASK

**Change a User's Password.** This procedure allows the SSO to change any User's password. This procedure can be used when the user forgets a password. Use the following procedure to change a user's password.

1. From the Core Library Desktop select **Tools**→**SSO**→**User Management**→**Change User Password**. The window in Figure 28, *Change Password*, opens.

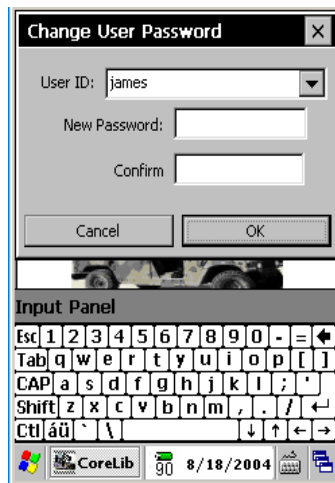


Figure 28. Change User Password.

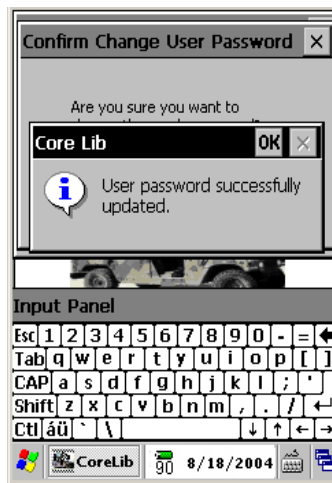
2. Select the User ID for password change from the drop-down menu. Once the correct User ID is displayed, tap the Stylus in the New Password field to obtain a blinking cursor. Then using the Virtual Keyboard input the new password for the User ID selected. The password must have a minimum of 6 characters and no more than 12 characters. **There can be no spaces in the password.** Tap in the Confirm field so that the cursor is now blinking in that field and then input the password again. After

you have entered the new password and confirmed it, tap on the **OK** button. The window in Figure 29, *Confirm change of User's Password*, opens.



**Figure 29. Confirm Change of User's Password.**

3. If you are sure of the action you are about to take, tap on the **Yes** button. The window in Figure 30, *Password Successfully Updated*, opens.



**Figure 30 Password Successfully Updated.**

4. This window alerts you that the User password has been successfully updated. Tap on the **OK** button in the upper right-hand corner of the window. The Core Library Desktop re-opens.
5. Provide the new password to the user and inform the user that the password must be changed once they have logged on to the KOV-21 INFOSEC card.

#### END OF TASK

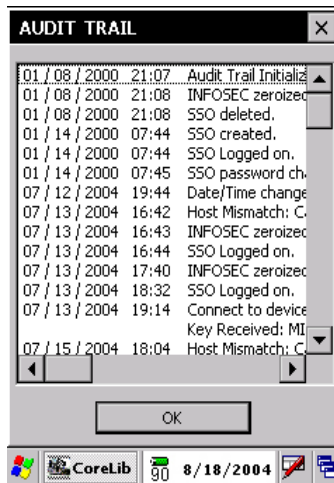
**Audit Functions.** Since the KOV-21 card controls all audit functions for the SKL the Core Library is where all the audit tasks take place. There are four (5) submenus under the Audit Functions menu. They are View Audit, Clear Audit, Upload Audit, Upload Audit DMD, and Remote Audit. Each will be explained in the following paragraphs.

**View Audit.** The KOV-21 INFOSEC card has the ability to audit (record) the actions taken on the SKL in relation to the KOV-21 card itself. The following are some of the more common events that are recorded in the Audit Log.

- When the Audit Trail was Initialized
- When accounts are created.
- When an account was deleted.
- When accounts are logged on.
- Any unsuccessful logon attempts.
- When an account password is changed.
- When and what key was received.
- What device was used to receive the key.
- When and what key was transmitted.
- When a key file was received.
- When and what key was zeroized.
- When the KOV-21 INFOSEC card was zeroized.
- When and what kind of device the SKL was connected to.
- When the date and time were changed and what it was changed to.
- Any alarm codes.
- When and what Key was updated.
- When a Remote Audit Uploaded was performed.

To view the Audit Log, use the following procedure.

1. From the Core Library Desktop, select **Tools**→**SSO**→**Audit Functions**→**View Audit**. The window in Figure 31, *Audit Trail*, opens.



**Figure 31. Audit Trail.**

2. Use the Slide Bars on the right side and the bottom of the window to get complete view of the Audit Log. Once you are through viewing the Audit Log, tap on the **OK** button. The Core Library Desktop re-opens.

**END OF TASK**

**Clear Audit.** Use the following procedure to clear the Audit Log.

**NOTE**

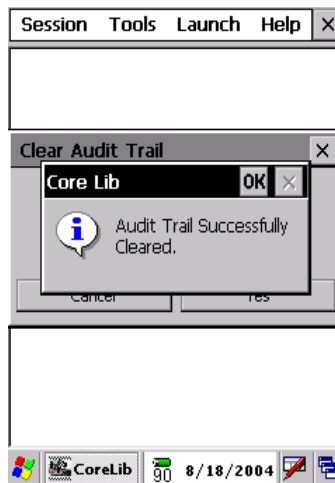
**Never clear any Audit Log without first performing a Remote Audit Upload to the LCMS Workstation. You should always have a complete Audit Trail on the SKL. Use the Remote Audit Upload procedure in this Work Package to remotely upload the Audit Log.**

1. After you have uploaded the Audit Log, you can now clear it if you have received permission from the COMSEC Custodian. From the Core Library Desktop, select **Tools**→**SSO**→**Audit Functions**→**Clear Audit**. The window in Figure 32, *Clear Audit Trail*, opens.



**Figure 32. Clear Audit Trail.**

2. If you are sure that you want to clear the Audit Log, then proceed by tapping on the **Yes** button. The window in Figure 33, *Audit Trail Successfully Cleared*, opens.



**Figure 33. Audit Trail Successfully Cleared.**

3. This window informs you that the Audit Trail was successfully cleared. Tap on the **OK** button in the upper right-hand corner of the window. The Core Library Desktop re-opens.

**END OF TASK**

**Upload Audit.** The Uploading the Audit Log selection is intended to allow one SKL to upload its Audit Log to another SKL. This function has not been cleared for use by NSA at this time.

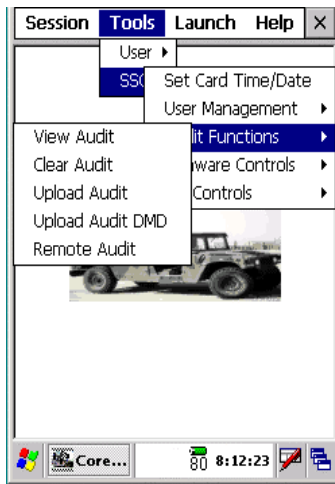
**Upload Audit DMD.** This function will not be used by the U.S. Army.

**Remote Audit.** To upload SKL Audit Data to the LCMS Workstation follow the procedures below. This process must be coordinated with the LCMS Workstation operator.

**NOTE**

**When remotely uploading the a SKL audit trail of more than 18000 bytes to the LCMS Workstation version 4.0.3.2 via the KP AUX port, this action may cause the KP to go into an alarm situation. This is caused by the audit trail being too big. If this situation occurs, you should get with your COMSEC Custodian and have the audit trail reviewed before clearing it.**

1. Make sure that you are logged on as the SSO. From the Core Library Desktop, select **Tools→SSO→Audit Functions→Remote Audit** as depicted below in Figure 34, *Tools→SSO→Audit Functions→Remote Audit*, opens.



**Figure 34. Tools→SSO→Audit Functions→Remote Audit.**

2. As a result of selecting the above the window in Figure 35, *Connect to LMD*, opens.

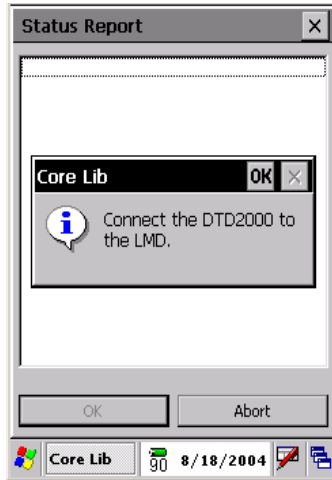


Figure 35. Connect To LMD.

- Using a standard Fill Cable, connect the SKL to the Auxiliary port on the KP and then to the Fill port on the SKL. Once that is accomplished, tap on the **OK** button in the upper right-hand corner of the window. The window in Figure 36, *Status Report*, opens.

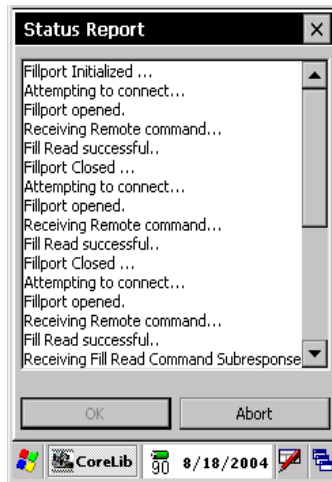


Figure 36. Status Report.

- The Status Report provides the operator of the SKL and LCMS Workstation with information relative to the Remote Audit Upload. When the Remote Audit Upload is complete, the window in Figure 37, *Remote Audit Trail Successfully Uploaded*, opens.

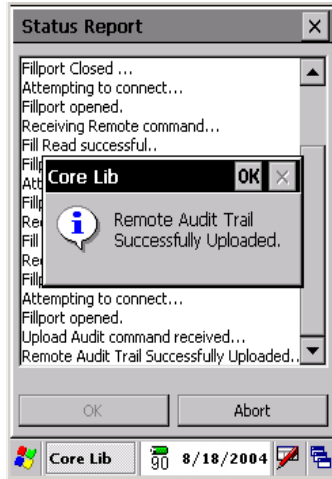


Figure 37. Remote Audit Trail Successfully Uploaded.

5. Tap on the **OK** button in the upper right-hand corner of the window. The window in Figure 38, *Status Report*, re-opens.

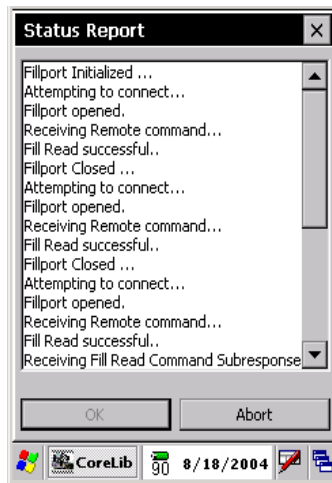


Figure 38. Status Report.

6. Now tap on the **Abort** button and then the **OK** button to close the Status Report window. The window in Figure 39, *Core Library Desktop*, opens.

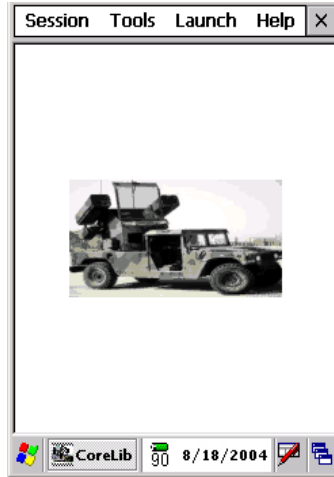


Figure 39. Core Library Desktop.

7. Depending on your individual unit procedures, you may now clear the Audit Log. However, your unit may wish for the Audit Trail to stay in the SKL until the full mission of the SKL is finished.

#### END OF TASK

**Firmware Controls.** The Firmware Controls function is used to update and clone the Core Library firmware. There are two (2) submenus under the Firmware Controls selection. They are Updating Core Library Firmware and Cloning Core Library Firmware. They are discussed below.

**Updating the Core Library Firmware.** This function will only be accomplished by field users under very unusual circumstances. Should this occur, instructions to update the firmware on the KOV-21 INFOSEC card will be provided by CECOM.

**Cloning the Core Library Firmware.** This function will only be accomplished by field users under very unusual circumstances. Should this occur, instructions to Clone the Core Library firmware will be provided by CECOM.

**File Controls.** File Controls deals exclusively with updating the software in the SKL. There are two selections under the File Controls selection. They are Download File and Software Update. When there is a change to the software in the SKL your command will be notified and told where to go to get the update. Specific instructions on how to update the software in the SKL will be provided by CECOM.

**Launch Menu.** The Launch Menu is used to launch the User Application Software (UAS) packages that are installed on the SKL. With SKL UAS version 4.0, the SKL UAS will automatically launch once a user has successfully logged into the Core Library. The Launch Menu is used when a user exits the SKL UAS and then wishes to re-start the SKL UAS. To start the SKL UAS follow the steps below.

1. From the Core Library Desktop, select **Launch→Launch UAS**. The window in Figure 40, *Launch UAS*, opens.

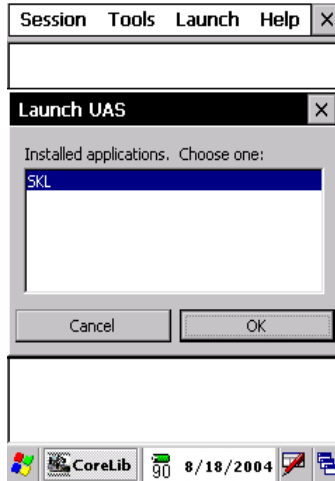


Figure 40. Launch UAS.

2. To continue to launch the SKL UAS tap on the **OK** button. The window in Figure 41, *Startup Information*, opens.

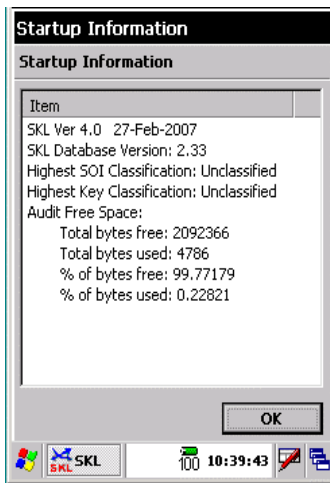


Figure 41. Startup Information.

3. This window provides several items of information that are useful to the SKL user. They are: the SKL version, the highest SOI classification, the highest key classification, and the Audit Free Space left in the SKL broken down into several different categories.. Once you have reviewed the information, tap on the **OK** button. The window in Figure 42, *SKL UAS Desktop*, opens.

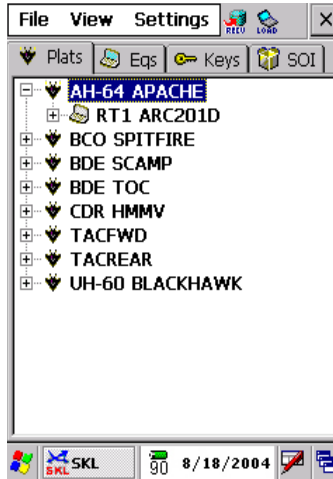


Figure 42. SKL UAS Desktop.

4. The SKL UAS program is now ready to be used. The description of the menu items and the procedures to use the software package are contained below starting with Work Package 0008.

**END OF TASK**

**Core Library Help Menu.** The Help Menu contains the **About** window, listing the version number of the Core Library. There are no contextual help items in this menu.

**END OF WORK PACKAGE**



OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
SKL UAS INTRODUCTION  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

---

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
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TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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**SKL UAS INTRODUCTION**

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**SKL USER APPLICATION SOFTWARE (UAS)**

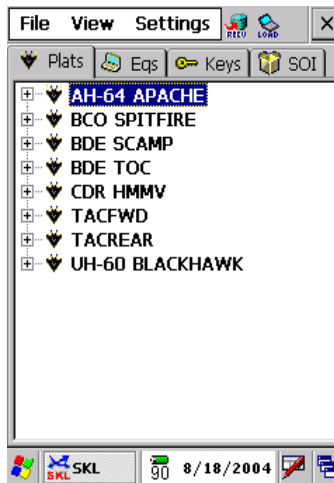
The software in the SKL that interfaces with the ACES Workstation, the LCMS Workstation, and the End Cryptographic Units is called the SKL User Application Software (UAS). The SKL UAS incorporates most of the functionality that is resident in the Common Tier 3 (CT3) software in the DTD. The following paragraphs and Work Packages in Chapter 2 will provide detailed guidance on how to use the SKL UAS package.

**SKL Tree Tab View Structure**

The SKL UAS database provides a Tree Tab View structure for viewing Platforms, Equipment, Keys, and SOI. The SKL UAS database is relational and uses the Platform record as the parent record and subsequent linked records as child records. These child records are Equipment and Keys. The Tree Tab view is very similar to the Windows Explorer that most people are very familiar with. SKL Tab View descriptions are as follows:

**Platform (Plats) Tab.** The Platform is normally defined (created) on the Automated Communication Engineering Software (ACES) Workstation and downloaded to the SKL. See Figure 1, *Plats Tab*, below.

Platform-based operation may be further characterized as automatic or manual. Automatic platform loading requires no operator selections at the SKL once the sequence has started. Manual platform loading refers to the operator's ability to pick and choose only those elements assigned to a platform, including the individual ECUs as well as fill locations, which are to be filled.



**Figure 1. Plats Tab.**

**Equipment (Eqs) Tab.** Equipment is represented by database records stored in the SKL. Each equipment type contains the necessary information (profile) to fill a specific ECU. A unique profile has been assigned to each ECU supported by the SKL. A list of supported equipment with profiles for SKL

UAS v4.0 can be found below. This profile provides ECU specific prompting for data download operations. See Figure 2, *Eqs Tab*, below. Table 1, *SKL UAS v4.0 Supported Equipment* provides a list of equipment that have profiles created for them.

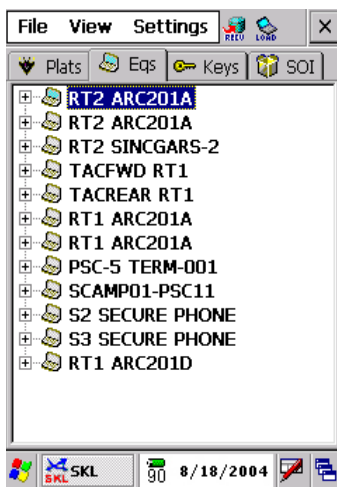


Figure 2. Eqs Tab.

Table 1. SKL UAS v4.0 Supported Equipment.

APX-118	CSEL HHR	KG-40A	KGV-88	KOV-17	MO-3
APX-123/UPX-41	CSZ-1A	KG66-A	KGX-93	KS-10	NTDR
ARC-164	GOE-2	KG-75	KGX-93A	KW-46	PSC-11
ARC-190	GPS MAGR	KG-81	KI-36	KW46-OT	PSC-5
ARC-201	GPS-PLGR	KG-84A	KIR-1C	KY-100	PSC-5C
ARC-201A	GRC-171	KG-84C	KIT-1C	KY-57	PSC-5D
ARC-201D	HGX-82	KG94-A	KIV-114	KY-58	RT-1523
ARC-210	HGX-83	KG-95	KIV-119	KY-68	RT-1523B
ARC-220	KG-175	KGR-66	KIV-6	KY-90	RT-1794
ARC-222	KG-194A	KGV-11A	KIV-7	KY-99A	TSC-154
ARC-231	KG-235	KGV-23	KIV-77	KYK-13	UNKNOWN
ARC-234	KG-240	KGV-68	KIV-78	KYV-5	
C-11561	KG-250	KGV-8	KIV-7M	KYX-15	

**Keys Tab.** Key tags are records containing Short Title, Edition, Text ID, Segment Number and other information related to the key. Each key tag may or may not have an actual key assigned to it. The SKL has a Receive Key Needed function to receive key for those key tags without key. See Figure 3, *Keys Tab*, below.

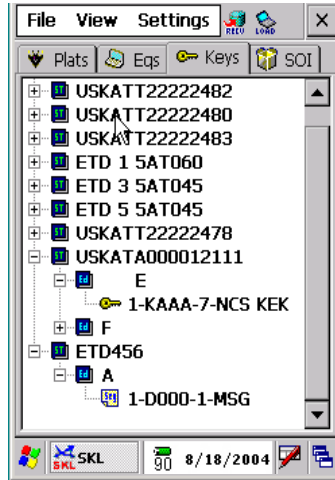




Figure 3. Keys Tab.

... Indicates a key has been received and stored in the Mission Database.

... Indicates a key is needed from a key-generating source.

**Signal Operating Instructions (SOI) Tab.** SKL Signal Operating Instructions information can be viewed in the SOI Tab. SOI data is received from the ACES Workstation, another SKL, or a DTD with CT3 software, in a compressed format. The SOI includes Network Groups, Networks, Call Signs, Call Words, Cue and Manual Frequencies, Suffixes, Expanders, Signs, Countersigns, Pyrotechnic and Smoke Signals, and Quick References. The SOI Tab provides for the storage, retrieval, display, and deletion of SOI information. See Figure 4, *SOI Tab*, below.

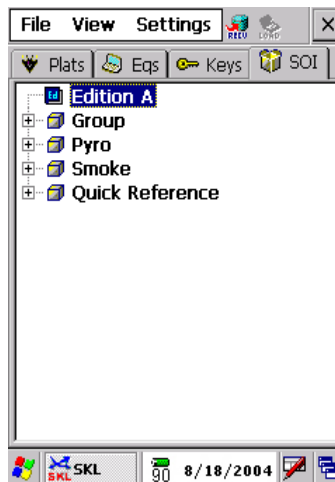


Figure 4 SOI Tab.

### Navigating the SKL UAS Desktop.

The SKL UAS Main Menu is broken down into three major headings, four (4) tabs, and two Icons. The following paragraphs will explain each of these areas. If the SKL is not currently displaying the SKL UAS Desktop, follow the steps in Work Package 0006 Powering Up and Logging onto the SKL, to open the SKL UAS Desktop as depicted in Figure 5, *SKL UAS Desktop*, below.

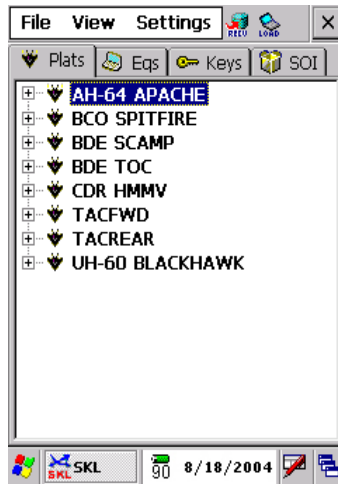


Figure 5. SKL UAS Desktop.

### File Menu

1. With the SKL UAS Desktop displayed as shown in Figure 5, *SKL UAS Desktop* above, select File by tapping once on **File** on the SKL UAS Desktop with the Inductive Stylus. The window in Figure 6, *SKL UAS File Menu*, opens. Also shown are the submenus of the File menu as depicted in Figures 7 through 11 below.

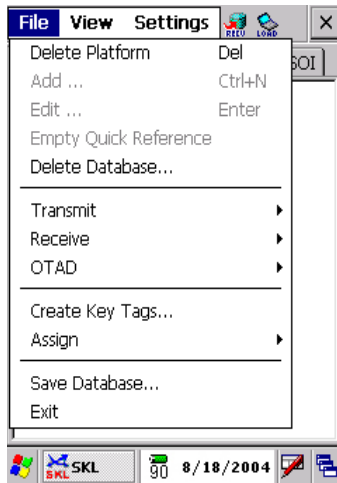


Figure 6. SKL UAS File Menu.

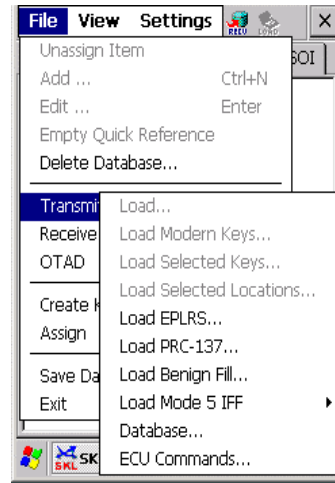


Figure 7. File→Transmit Menu.

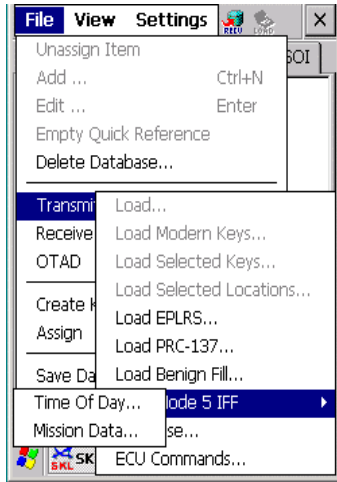


Figure 8. File→Transmit→Load Mode 5 IFF Menu.

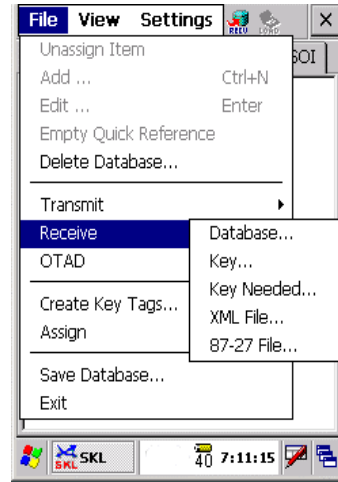


Figure 9. File→Receive Menu.

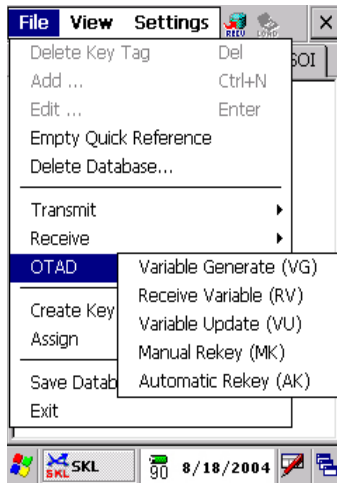


Figure 10. File→OTAD Menu.

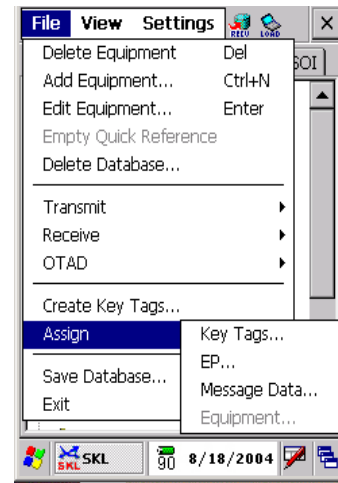


Figure 11. File→Assign Menu.

2. An explanation of each of the File menu's selections is presented in Table 2, *SKL UAS File Menu Description*.

Table 2. SKL UAS File Menu Description.

File Menu Option	Description
<p><b>Delete Platform, Equipment, Short Title, Edition, or Segment Changes to Unassign when a Platform or Equipment is expanded.</b></p>	<p>The Delete function is a multi functional selection depending on what is highlighted in the trees. If a Platform is highlighted then the Delete Platform function is available on the File menu. If Equipment is highlighted then the Delete Equipment function is available on the File menu. The same goes for the Short Title, Edition, and Segment.</p> <p>The Delete selection is replaced by the Unassign selection when a Platform is expanded or an Equipment, Location, Key Tag, Edition, or Segment is highlighted. When selected, the Equipment, Location, Key Tag, Edition, or Segment will be unassigned from the Platform.</p>
<p><b>Add Platform or Add Equipment</b></p>	<p>The Add Platform function is available when the Plats Tab is selected and allows the user of the SKL to add a Platform to the database. When the Eqs Tab is selected the Add Equipment function becomes available for the user to add Equipment to the database.</p>
<p><b>Edit</b></p>	<p>The Edit function when the Plats Tab is selected allows the user of the SKL to edit a Platform's attributes. When the Eqs Tab is selected the Edit function allows the user to edit some of the Equipment attributes.</p>
<p><b>Empty Quick Reference</b></p>	<p>This function will allow the user of the SKL to empty all the items assigned to a Quick reference. The Quick Reference is used for SOI functions only.</p>
<p><b>Delete Database</b></p>	<p>This function enables the deletion of all databases, selected databases, or selected items in one or more databases. You may delete all or selected items in the Platform, Equipment, and Key databases. Message data, Mission Date, and File Header information can be deleted also.</p>
<p><b>Transmit</b></p>	<p>This function provides the user with a selection of ten different Transmit functions.</p>
<p><b>Load</b></p>	<p>This function is initiated from the Platform or Equipment tree at any level within the tree. It is used to load ECUs.</p>
<p><b>Load Modern Keys</b></p>	<p>This selection allows the user to load modern key such as TACLANE key.</p>
<p><b>Load Selected Keys</b></p>	<p>This function is initiated from the Key tree only. It is used to load specific keys into ECUs.</p>

Table 2. SKL UAS File Menu Description. (continued)

File Menu Option	Description
<b>Load Selected Locations</b>	The function allows the user to load key into a specific location on a specific piece of equipment.
<b>Load EPLRS</b>	This function is used to load keys into the Enhanced Position Location Reporting System (EPLRS) equipment.
<b>Load PRC-137</b>	This function allows the user to load this specific equipment that contains modern key.
<b>Load Benign Fill</b>	This function allows the user to load a Benign Fill key into Benign Fill capable equipment such as the TACLANE.
<b>Load Mode 5 IFF</b>	Mode 5 IFF is the next generation of interrogation devices used by aircraft and ground elements to authenticate Friend or Foe forces.
<b>Time of Day</b>	The Time of Day is required as part of the Mode 5 IFF equipment Fill.
<b>Mission Data</b>	The Mission Data provides the keys and other required interrogation information for the Mode 5 IFF equipment.
<b>Database</b>	This function is used to transmit databases. It can transmit all or specifically selected Platforms, Equipment, Mission Dates, Keys, Files, Message Data, or transmit all the SOI Data.
<b>ECU Commands</b>	This function allows the operator to send and view commands to an ECU to perform certain functions.
<b>Receive</b>	This function provides the user with a selection of five different Receive functions.
<b>Database</b>	This function is used to receive all types of mission data from ACES, another SKL, or a CT3 DTD.
<b>Key</b>	This function is used to receive Key independent of Platform or Equipment assignments. After the receipt and storage is complete, the keys are visible in the Key tab.
<b>Key Needed</b>	This function allows for the receipt of Key, which is then assigned to a pre-existing Key tag in the SKL database.
<b>XML File</b>	XML is a simplified subset of Standard Generalized Markup Language (SGML). Its primary purpose is to facilitate the sharing of data across different information systems, particularly systems connected via the Niprnet.

Table 2. SKL UAS File Menu Description. (continued)

File Menu Option	Description
<b>87-27 File</b>	The 87-27 file type is a new capability for the ACES Workstation to distribute any database item in the form of a .DAT file.
<b>OTAD</b>	This function provides the user with a selection of five different Over-The-Air-Distribution (OTAD) operations.
<b>Variable Generate</b>	This function allows the user to generate a variable from an ECU capable device.
<b>Receive Variable</b>	This function allows the user to receive a variable from a distant SKL over a communications link.
<b>Variable Update</b>	This function allows the user to update a variable already stored in the SKL from an ECU capable device.
<b>Manual Rekey</b>	This function allows the user to manually have a distant ECU receive a variable over a communications link.
<b>Automatic Rekey</b>	This function allows the user to automatically rekey an entire communications net.
<b>Create Key Tags</b>	The function allows the user to create a specific key tag that can then be assigned to an equipment location.
<b>Assign</b>	This function provides the user with a selection of four different Assign operations.
<b>Key Tags</b>	This function allows the user to assign Key Tags to specific locations on specific equipment.
<b>EP</b>	This function allows the user to assign Electronic Protection to specific locations on specific equipment.
<b>Message Data</b>	This function allows the user to assign Message Data to specific Equipment that requires it.
<b>Equipment</b>	This function allows the user to assign Equipment to Platforms.
<b>Save Database</b>	This function allows the user to save the current SKL database.
<b>Exit</b>	This function allows the user to exit the SKL UAS program.

END OF WORK PACKAGE

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
SKL UAS DELETE FUNCTION  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

---

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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FILE MENU  
DELETE FUNCTION

---

DELETE FUNCTION

The Delete function under the File menu will change depending on the tab you have open and what you have highlighted. The following paragraphs will explain all the different uses of the Delete function.

**Delete a Platform**

The Delete Option under the File Menu allows for the deletion of Platforms from the Mission Database. You can only select one item at a time for deletion. To illustrate this function the following procedure will delete a single platform from the Mission Database.

1. From the Plats Tab window highlight the platform that you want to delete as depicted in Figure 1, *Plats Tab with Selected Item*. In the example below the TACFWD2 platform has been selected for deletion.

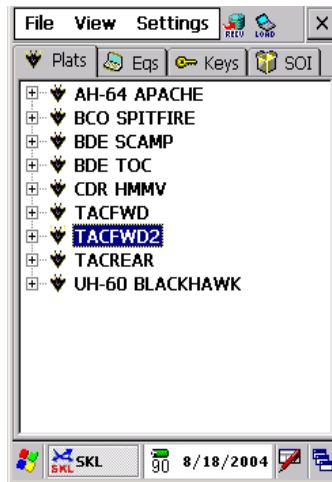


Figure 1. Plats Tab with Selected Item.

2. Select **File→Delete Platform** from the Main Menu as shown in Figure 2, *File→Delete Platform*.

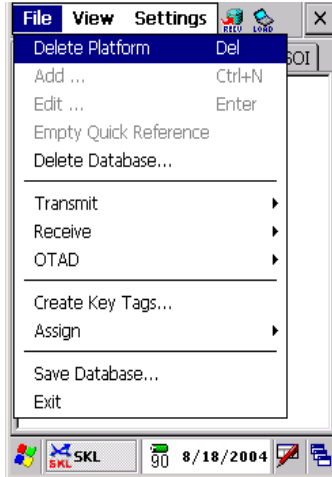


Figure 2. File→Delete Platform.

3. Once you have selected Delete Platform, the following window in Figure 3, *Delete Selected TACFWD2*, opens.

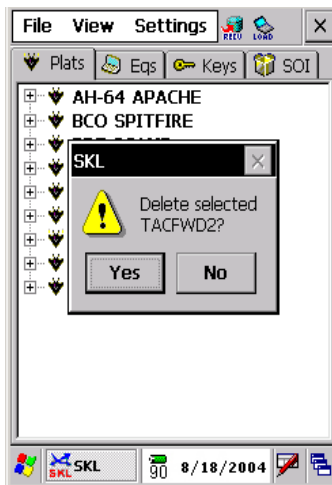


Figure 3. Delete Selected TACFWD2.

4. The Platform TACFWD2 has been selected for deletion. The SKL prompts you for confirmation of the platform deletion. Select Yes to delete the item or No to cancel the deletion process. Once **Yes** is selected, then the window in Figure 4, *Selected Platform(s) Deleted*, opens.

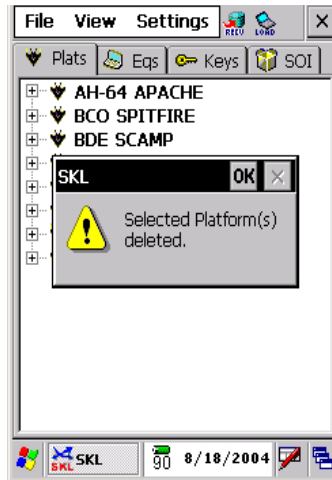


Figure 4. Selected Platform(s) Deleted.

5. Tap on the **OK** button in the upper right-hand corner of the window. The window in Figure 5, *Plats Tab Minus Deleted Item*, opens.

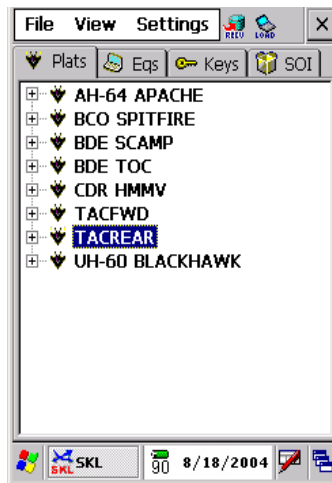


Figure 5. Plats Tab Minus Deleted Item.

6. You can see from the window above that the Platform TACFWD2 has been removed from the Plats Tab list. This indicates that the item was deleted. Now select **File**→**Save Database** to save the changes that have just been made.

## END OF TASK

### Delete Equipment

The Delete Option under the File Menu allows for the deletion of Equipment from the Mission Database. You can only select one item at a time for deletion. To illustrate this function the following procedure will delete equipment from the Mission Database.

1. From the **Eqs Tab** window highlight the equipment that you want to delete as depicted in Figure 6, *Eqs Tab with Selected Item*. In the example below the SINGGARS equipment has been selected for deletion.

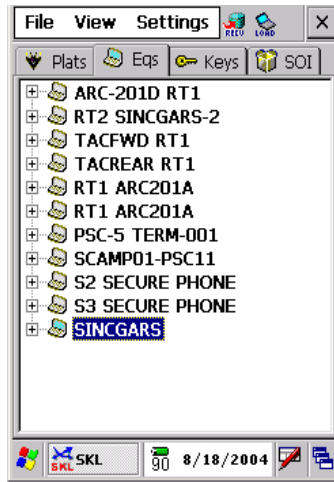


Figure 6. Eqs Tab with Selected Item.

2. Select **File→Delete Equipment** from the Main Menu as shown in Figure 7, *File→Delete Equipment*.

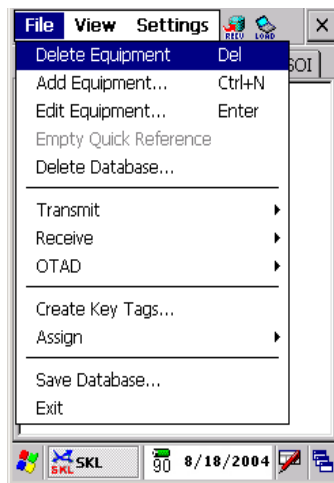


Figure 7. File→Delete Equipment

3. Once you have selected Delete Equipment, the following window in Figure 8, *Delete Selected SINGGARS*, opens.



Figure 8. Delete Selected SINGGARS.

- As depicted above the Equipment Single Channel Ground and Airborne Radio System (SINGGARS) has been selected for deletion. The SKL prompts you for confirmation of the equipment deletion. Select Yes to delete the item or No to cancel the deletion process. Once **Yes** is selected, then the window in Figure 9, *Selected Equipment Deleted*, opens.



Figure 9. Selected Equipment Deleted.

- Tap on the **OK** button in the upper right-hand corner of the window. The window in Figure 10, *Eqs Tab Minus Deleted Item*, opens.

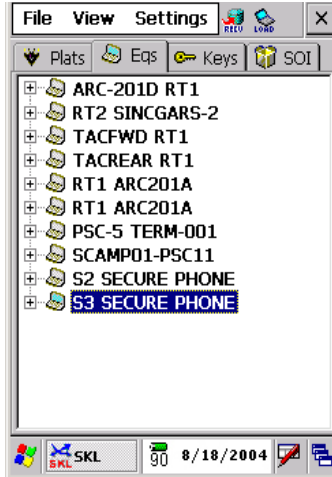


Figure 10. Eq's Tab Minus Deleted Item.

6. You can see from the window above that the Equipment SINGGARS has been removed from the Eq's Tab list. This indicates that the item was deleted. Now select **File→Save Database** to save the changes that have just been made.

## END OF TASK

### Delete Key Tag

The Delete Option under the File Menu allows for the deletion of a key tag from the Mission Database. You can only select one item at a time for deletion. To illustrate this function the following procedure will delete a single key tag from the Mission Database. The key tag encompasses all the attributes of a single COMSEC key. Some of these attributes are the Short Title, Edition, Segment, Effective Date, Expiration Date, Type of Key, etc. To delete a key tag follow the procedure below.

1. From the **Keys Tab** highlight the Short Title of the Key Tag that you want to delete as depicted in Figure 11, *Keys Tab with Selected Item*. In the example below the ETD8 5AT034 Short Title has been selected for deletion.

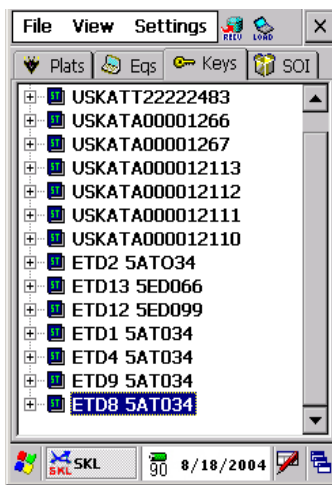


Figure 11. Keys Tab with Selected Item.

2. Select **File**→**Delete Key Tag** from the Main Menu as shown in Figure 12, *File*→*Delete Key Tag*.

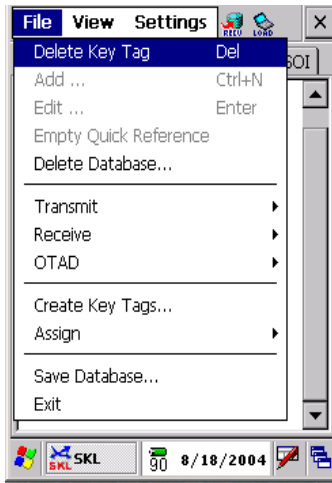


Figure 12. File→Delete Key Tag.

3. Once you have selected Delete Key Tag, the following window in Figure 13, *Delete Selected Short Title*, opens.

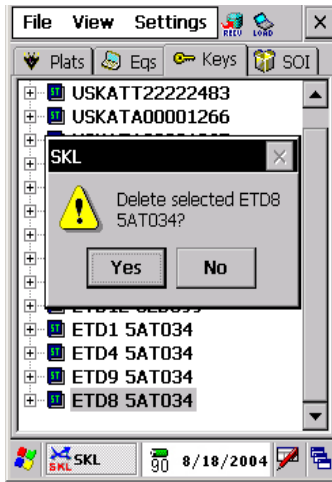


Figure 13. Delete Selected Short Title.

4. The Short title ETD8 5AT034 has been selected for deletion. The SKL prompts you for confirmation of the Short Title deletion. Select Yes to delete the item or No to cancel the deletion process. Once **Yes** is selected, then the window in Figure 14, *Selected Short Title Deleted*, opens.

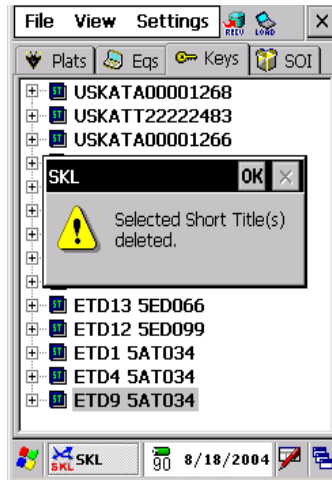


Figure 14. Selected Short Title Deleted.

5. Tap on the **OK** button in the upper right-hand corner of the window. The window in Figure 15, *Keys Tab Minus Deleted Short Title*, opens.

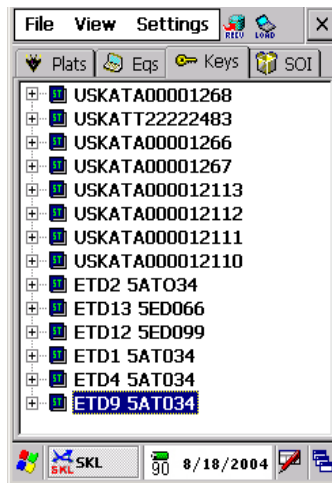


Figure 15. Keys Tab Minus Deleted Short Title.

6. You can see from the window above that the Short Title ETD8 5AT034 has been removed from the Keys Tab list. This indicates that the item was deleted. Now select **File**→**Save Database** to save the changes that have just been made.

#### NOTE

It should be noted here that when the Short Title was deleted, all the Key Tag information associated with the Short Title was deleted as well.

END OF TASK

## Delete Edition

The Delete Option under the File Menu allows for the deletion of an Edition from the Mission Database. You can only select one item at a time for deletion. To illustrate this function the following procedure will delete a single Edition from the Mission Database.

1. From the **Keys Tab** highlight the Edition of the Short Title that you want to delete as depicted in Figure 16, *Keys Tab with Edition Selected*. In the example below the Edition **M** has been selected for deletion.

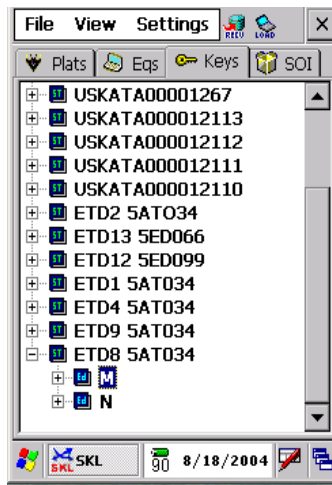


Figure 16. Keys Tab with Edition Selected.

2. Select **File→Delete Edition** from the Main Menu as shown in Figure 17, *File→Delete Edition*, opens.

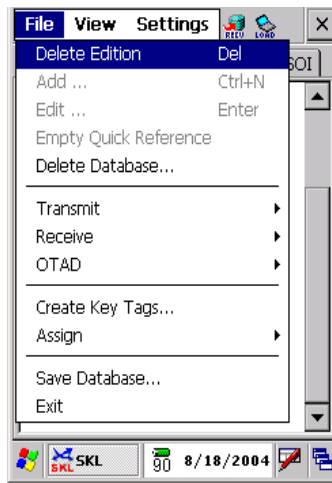


Figure 17. File→Delete Edition.

3. Once you have selected Delete Edition, the following window in Figure 18, *Delete Selected Edition*, opens.

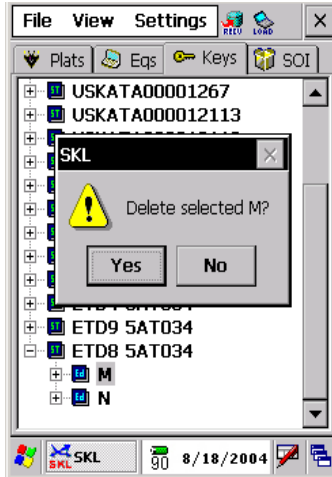


Figure 18. Delete Selected Edition.

4. The Edition **M** of Short Title ETD8 5AT034 has been selected for deletion. The SKL prompts you for confirmation of the Edition deletion. Select **Yes** to delete the item or **No** to cancel the deletion process. Once **Yes** is selected, then the window in Figure 19, *Selected Edition Deleted*, opens.

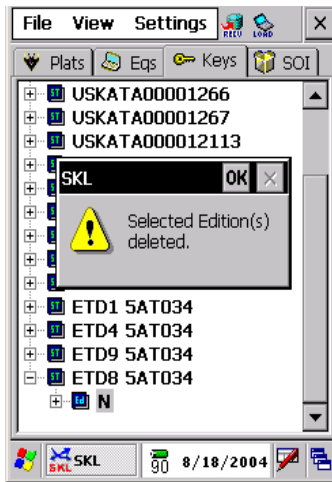


Figure 19. Selected Edition Deleted.

5. Tap on the **OK** button in the upper right-hand corner of the window. The window in Figure 20, *Keys Tab Minus Deleted Edition*, opens.

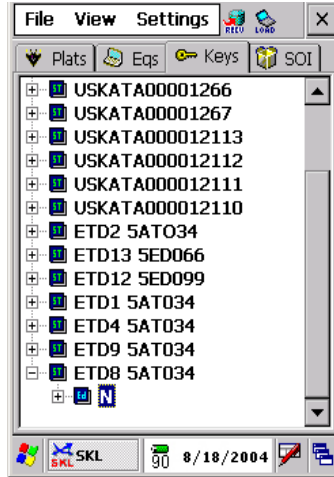


Figure 20. Keys Tab Minus Deleted Edition.

6. You can see from the window above that the Edition **M** under Short Title ETD8 5AT034 has been removed from the Keys Tab list. This indicates that the item was deleted. Now select **File→Save Database** to save the changes that have just been made.

#### NOTE

**It should be noted that if this was the only Edition under this Short Title, the Short Title will be deleted and all the Key Tag information associated with the Short Title will be deleted as well.**

#### END OF TASK

#### Delete Segment

The Delete Option under the File Menu allows for the deletion of a Segment from the Mission Database. You can only select one item at a time for deletion. To illustrate this function the following procedure will delete a single Segment from the Mission Database.

1. From the **Keys Tab** highlight the Segment of the Edition of the Short Title that you want to delete as depicted in Figure 21, *Keys Tab with Segment Selected*. In the example below the Segment 2-T000-1-KY68 TEK has been selected for deletion.

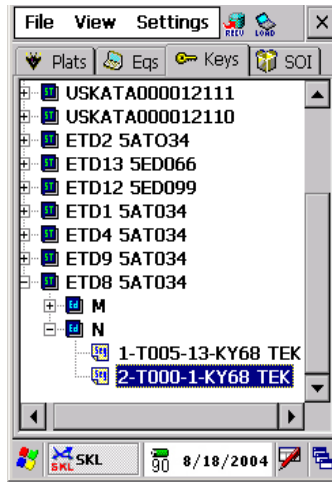


Figure 21. Keys Tab with Segment Selected.

2. Select **File→Delete Segment** from the Main Menu as shown in Figure 22, *File→Delete Segment*.

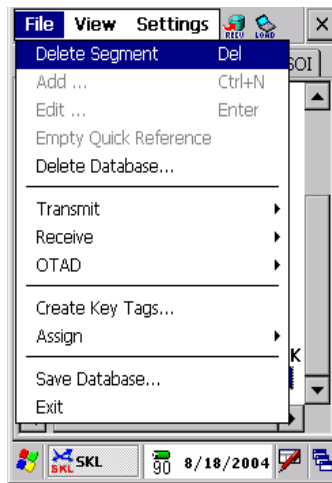


Figure 22. File→Delete Segment.

3. Once you have selected **Delete Segment**, the following window in Figure 23, *Delete Selected Segment*, opens.

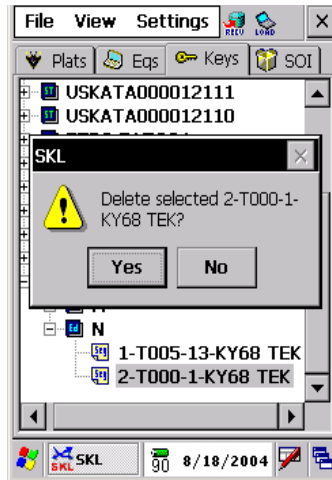


Figure 23. Delete Selected Segment.

4. The Segment 2-T000-1-KY68 TEK of Edition N of Short Title ETD8 5AT034 has been selected for deletion. The SKL prompts you for confirmation of the Segment deletion. Select Yes to delete the item or No to cancel the deletion process. Once **Yes** is selected, then the window in Figure 24, *Selected Segment Deleted*, opens.

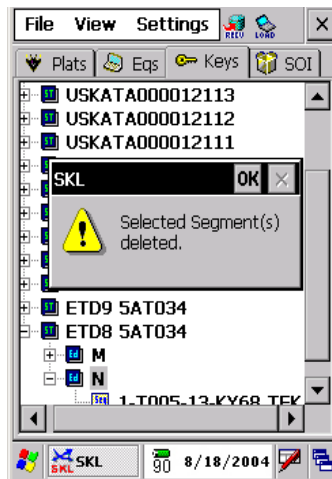


Figure 24. Selected Segment Deleted.

5. Tap on the **OK** button in the upper right-hand corner of the window. The window in Figure 25, *Keys Tab Minus Deleted Segment*, opens.

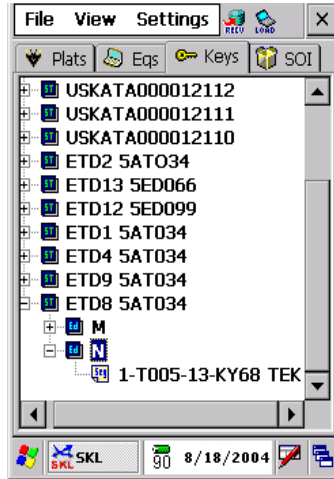


Figure 25. Keys Tab Minus Deleted Segment.

- You can see from the window above that the Segment 1-T000-1-KY68 TEK of Edition N under Short Title ETD8 5AT034 has been removed from the Keys Tab list. This indicates that the item was deleted. Now select **File→Save Database** to save the changes that have just been made.

**NOTE**

It should be noted that if this was the only Segment under the only Edition under this Short Title, the Short Title will be deleted and all the Key Tag information associated with the Short Title will be deleted as well.

**END OF TASK**

**Delete Modern Key**

The deletion of Modern Key from the database is different procedurally than the other delete functions described previously in this Work Package. Modern Key is unique and can only be deleted using a specific procedure. Highlight the Modern Key on the Keys Tab as shown in Figure 26, below.

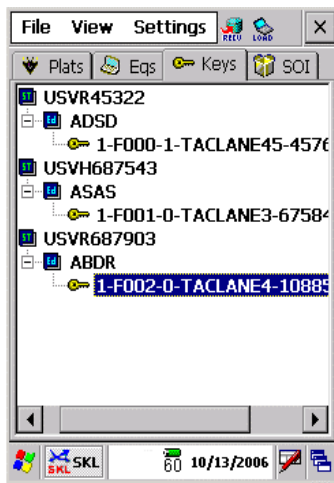
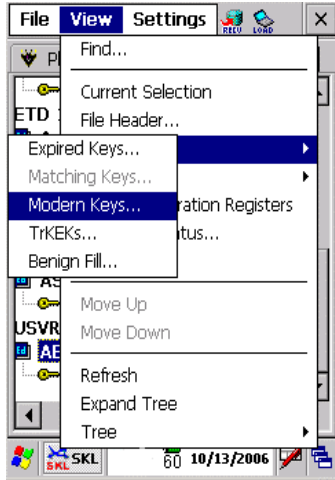


Figure 26. Modern Key Selected on Keys Tab.

1. Now select **View**→**Keys**→**Modern Keys** as shown below in Figure 27.



**Figure 27, View**→**Keys**→**Modern Keys.**

2. As a result of the above selection, the window in Figure 28, *Modern Keys* opens.



**Figure 28. Modern Keys.**

3. Select the Modern Key you wish to delete by placing a checkmark (✓) in the box to the left of the key. Then tap on the **Delete** button. The window in Figure 29, *Delete Selected Segments* opens.



Figure 29. Delete Selected Segments.

4. Tap on the **Yes** button. The window in Figure 30, *Selected Modern Key(s) Deleted* opens.

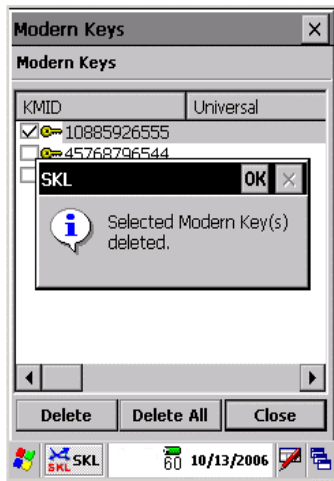


Figure 30. Selected Modern Key(s) Deleted.

5. Tap on the **OK** button in the upper right-hand corner of the window. The window in Figure 31, *Modern Keys* opens.



Figure 31. Modern Keys.

6. As can be observed from the window above, the selected key no longer appears in the Modern Keys list. Tap on the **Close** button. The window in Figure 32, *Keys Tab* opens.

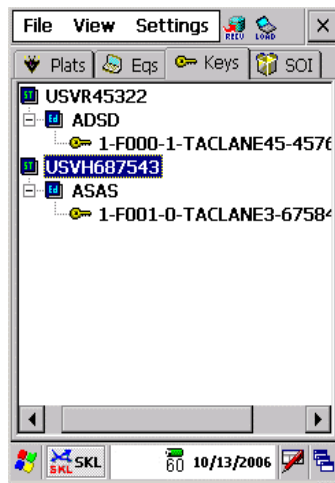


Figure 32. Keys Tab.

7. The Keys Tab no longer shows the deleted Modern Key. Now select **File→Save Database** to save the changes that have just been made.

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
SKL UAS UNASSIGN FUNCTION  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

---

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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FILE MENU  
UNASSIGN FUNCTION

---

UNASSIGN FUNCTION

The Unassign function under the File menu will change depending on the tab you have open and what you have highlighted. The following paragraphs will explain all the different uses of the Unassign function.

**Unassign Equipment**

The Unassign Equipment selection is used to remove Equipment that is assigned to a particular Platform. Use the following steps to unassign Equipment from a Platform.

1. Highlight the Equipment that you wish to unassign from the **Plats Tab**. As depicted below in Figure 1, *Equipment Highlighted*, the Equipment SINGGARS assigned to Platform TACFWD2 has been selected for unassignment.

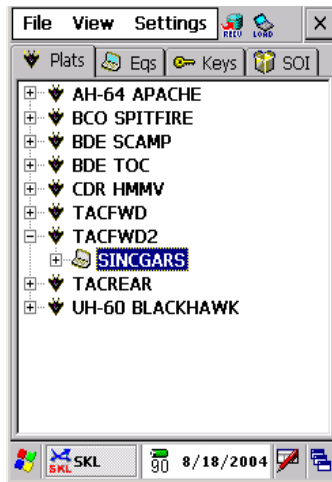


Figure 1. Equipment Highlighted.

2. Now select **File→Unassign Equipment** as shown in Figure 2, *File→Unassign Equipment*, opens.

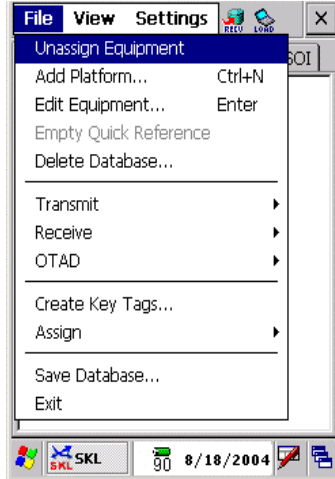


Figure 2. File→Unassign Equipment.

3. Once you have selected **Unassign Equipment**, the following window in Figure 3, *Delete Selected Assignment*, opens.



Figure 3. Delete Selected Assignment.

4. To delete the selected assignment, tap on the **Yes** button. The window in Figure 4, *Selected Item Unassigned Successfully*, opens.



Figure 4. Selected Item Unassigned Successfully.

5. Tap on the **OK** button in the upper right-hand corner of the window. The window in Figure 5, *Plats Tab*, opens.

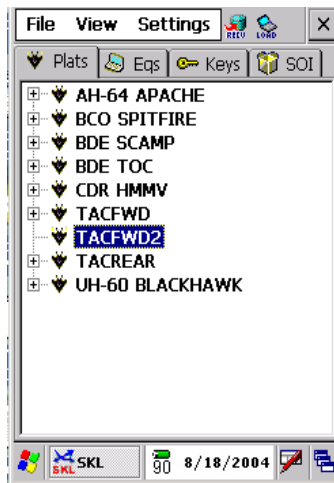


Figure 5. Plats Tab.

6. Notice that the Equipment has been Unassigned from the Platform TACFWD2 since there is now no + (plus sign) next to the Platform in this case. However, if you had other Equipment assigned to this Platform then the + (plus sign) would still be there and you could open the Platform up and see that the specific Equipment you unassigned was gone. Now select **File→Save Database** to save the changes that have just been made.

**NOTE**

The process of unassigning equipment from a platform does not mean the equipment has been deleted from the database. The equipment is still there and can be seen under the Eqs Tab.

END OF TASK

## Unassign Location

The Unassign Location selection is used to remove Fill Location from a piece of equipment. Use the following steps to unassign a Location from Equipment.

1. Highlight the Location on the equipment that you wish to unassign from the **Eqs Tab**. As depicted below in Figure 6, *Location Highlighted*, the Location C5 on the SINCGARS Equipment has been selected for unassignment.

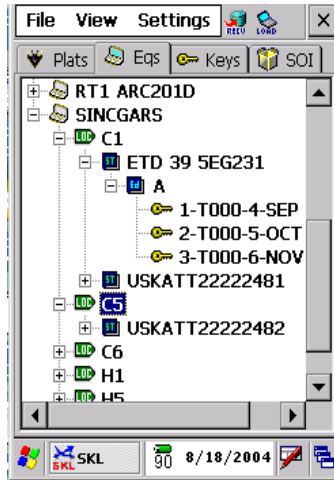


Figure 6. Location Highlighted.

2. Now select **File→Unassign Location** as shown in Figure 7, *File→Unassign Location*.

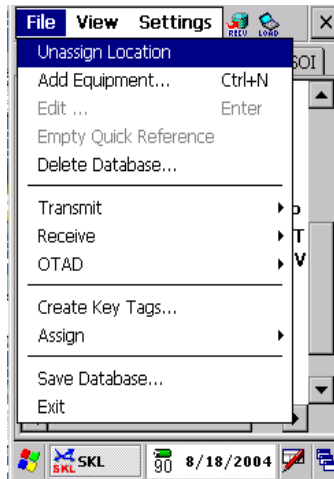


Figure 7. File→Unassign Location.

3. Once you have selected **Unassign Location**, the following window in Figure 8, *Delete Selected Assignment*, opens.

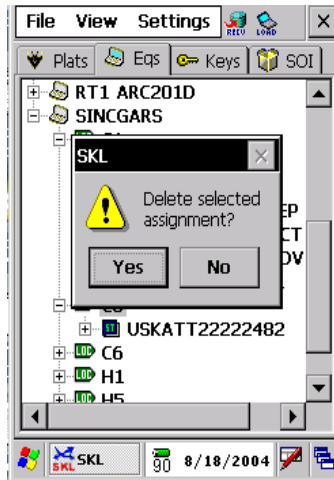


Figure 8. Delete Selected Assignment.

4. The SKL prompts you for confirmation of the assignment deletion. Select Yes to delete the item or No to cancel the deletion process. To delete the selected assignment, tap on the **Yes** button. The window in Figure 9, *Selected Item Unassigned Successfully*, opens.

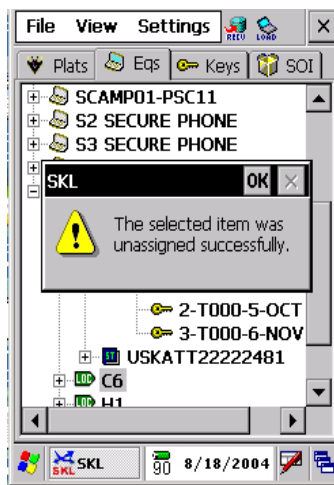


Figure 9. Selected Item Unassigned Successfully.

5. Tap on the **OK** button in the upper right-hand corner of the window. The window in Figure 10, Eqs Tab, opens.

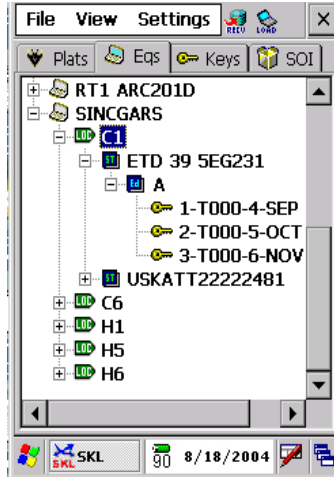


Figure 10. Eqs Tab.

6. Notice that the Location **C5** has been Unassigned from the Equipment SINGGARS. Now select **File→Save Database** to save the changes that have just been made.

#### NOTE

The process of unassigning a location from selected equipment does not mean that the location cannot be filled with other key. The locations on individual equipment are still there as part of the equipment profile.

#### END OF TASK

#### Unassign Key Tag

The Unassign Key Tag selection is used to unassign all Key Tag information from a location on equipment. Use the following steps to unassign a Key Tag from selected Equipment.

1. Highlight the Short Title on the equipment that you wish to unassign from the **Eqs Tab**. As depicted below in Figure 11, *Short Title Highlighted*, the Short Title USKATT22222481 on the SINGGARS Equipment location C1 has been selected for unassignment.

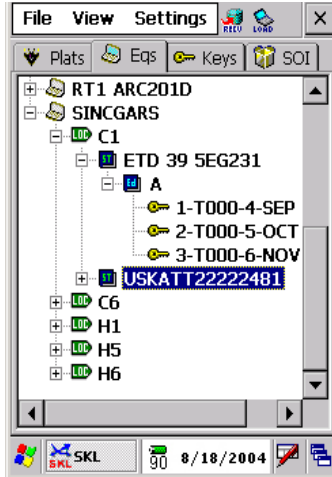


Figure 11. Short Title Highlighted.

2. Now select **File→Unassign Key Tag** as shown in Figure 12, *File→Unassign Key Tag*.

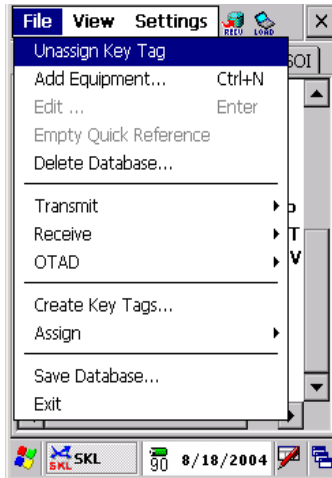


Figure 12. File→Unassign Key Tag.

3. Once you have selected **Unassign Key Tag**, the following window in Figure 13, *Delete Selected Assignment*, opens.

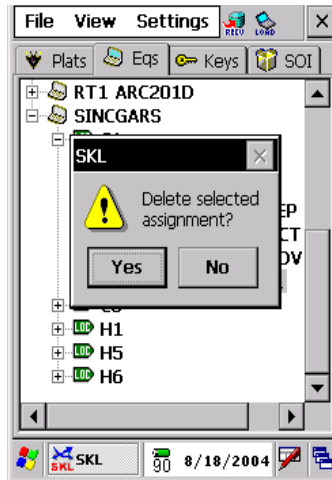


Figure 13. Delete Selected Assignment.

4. The SKL prompts you for confirmation of the assignment deletion. Select Yes to delete the item or No to cancel the deletion process. To delete the selected assignment, tap on the **Yes** button. The window in Figure 14, *Selected Item Unassigned Successfully*, opens.

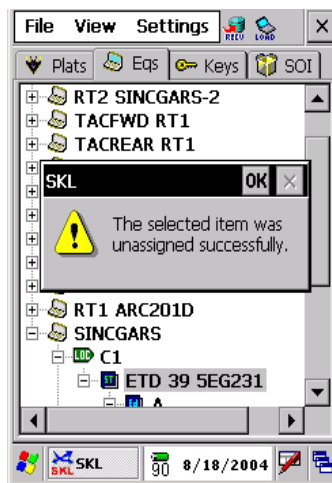


Figure 14. Selected Item Unassigned Successfully.

5. Tap on the **OK** button in the upper right-hand corner of the window. The window in Figure 15, *Eqs Tab*, opens.

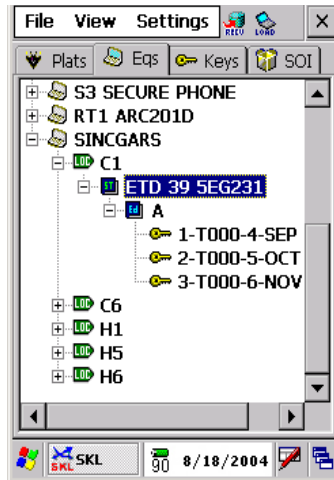


Figure 15. Eqs Tab.

6. Notice that the Short Title **USKATT22222481** on the SINCGARS Equipment location C1 has been unassigned. Now select **File→Save Database** to save the changes that have just been made.

#### NOTE

**The process of unassigning a Short Title from an equipment location does not mean the Short Title has been deleted from the database. The Short Title is still there and can be seen under the Keys Tab.**

#### END OF TASK

#### Unassign Edition

The Unassign Edition selection is used to unassign an Edition from a Short Title assigned to a location on selected equipment. Use the following steps to unassign an Edition from a selected location.

1. Highlight the Edition in the Short Title assigned to a Location on selected equipment that you wish to unassign from the **Eqs Tab**. As depicted below in Figure 16, *Edition Highlighted*, the Edition **D** of Short Title USKATA000012113 in Location C6 on the SINCGARS Equipment has been selected for unassignment.

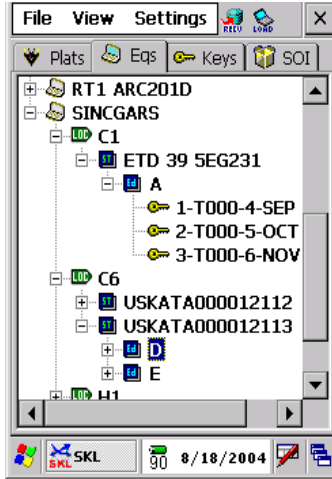


Figure 16. Edition Highlighted.

2. Now select **File**→**Unassign Edition** as shown in Figure 17, *File*→*Unassign Edition*.

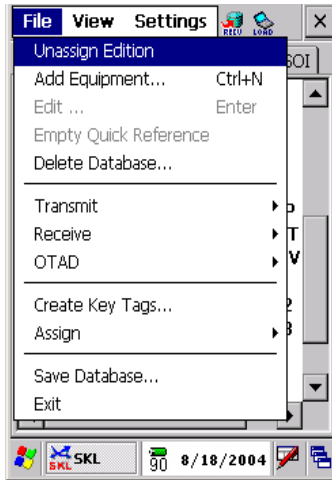


Figure 17. File→Unassign Edition.

3. Once you have selected **Unassign Edition**, the following window in Figure 18, *Delete Selected Assignment*, opens.

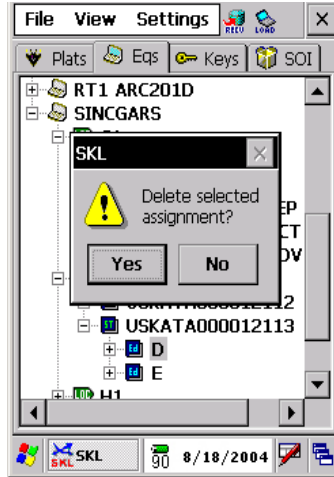


Figure 18. Delete Selected Assignment.

4. The SKL prompts you for confirmation of the Segment deletion. Select Yes to delete the item or No to cancel the deletion process. To delete the selected assignment, tap on the **Yes** button. The window in Figure 19, *Selected Item Unassigned Successfully*, opens.



Figure 19. Selected Item Unassigned Successfully.

5. Tap on the **OK** button in the upper right-hand corner of the window. The window in Figure 20, *Eq's Tab*, opens.

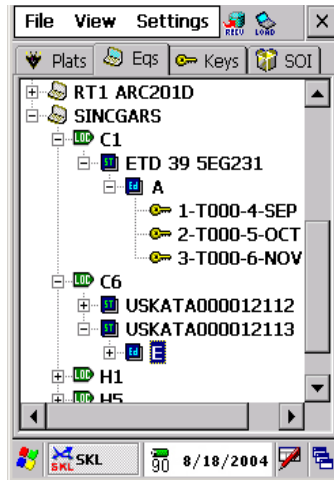


Figure 20. Eqs Tab.

6. Notice that the Edition **D** of Short Title USKATA000012113 in Location C6 on the SINGGARS Equipment has been Unassigned. Now select **File**→**Save Database** to save the changes that have just been made.

#### NOTE

**The process of unassigning an Edition from a location on selected equipment does not mean the Edition has been deleted from the database. The Edition is still there and can be seen under the Keys Tab.**

#### END OF TASK

#### Unassign Segment

The Unassign Segment selection is used to unassign a Segment from an Edition of a Short Title assigned to a location on selected equipment. Use the following steps to unassign a Segment from an Edition.

1. Highlight the Segment in the Edition that is in the Short Title assigned to the Location on the Equipment that you wish to unassign from the **Eqs Tab**. As depicted below in Figure 21, *Segment Highlighted*, Segment **1-T000-4-SEP** of Edition A of Short Title ETD 39 5EG231 in Location C1 on the SINGGARS Equipment has been selected for unassignment.

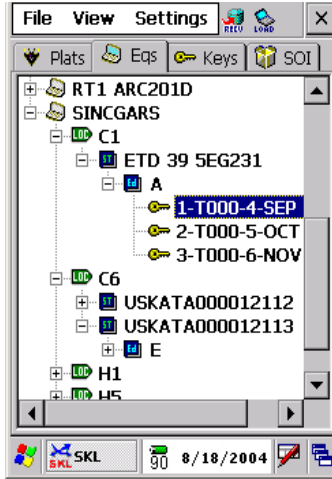


Figure 21. Segment Highlighted.

2. Now select **File→Unassign Segment** as shown in Figure 22, *File→Unassign Segment*.

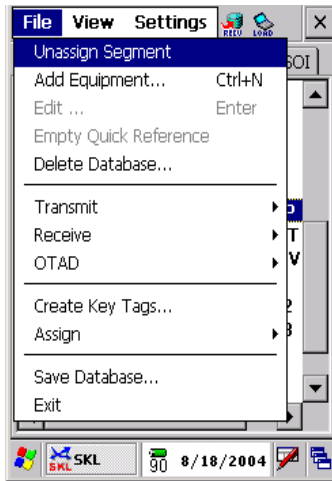


Figure 22. File→Unassign Segment.

3. Once you have selected **Unassign Segment**, the following window in Figure 23, *Delete Selected Assignment*, opens.

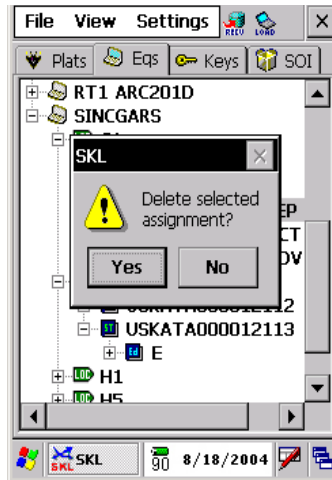


Figure 23. Delete Selected Assignment.

4. The SKL prompts you for confirmation of the Segment deletion. Select Yes to delete the item or No to cancel the deletion process. To delete the selected assignment, tap on the **Yes** button. The window in Figure 24, *Selected Item Unassigned Successfully*, opens.

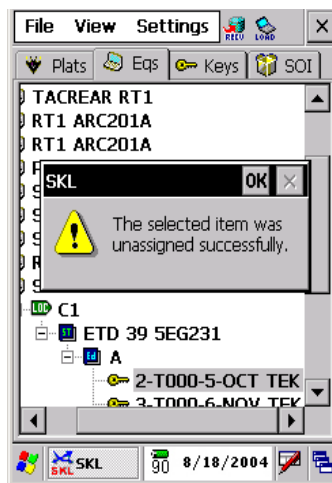


Figure 24. Selected Item Unassigned Successfully.

5. Tap on the **OK** button in the upper right-hand corner of the window. The window in Figure 25, *Eqs Tab*, opens.

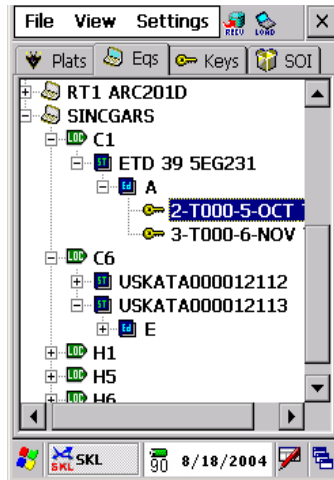


Figure 25. Eqs Tab.

6. Notice that the Segment **1-T000-4-SEP** of Edition A of Short Title ETD 39 5EG231 in Location C1 on the SINCGARS Equipment has been Unassigned. Now select **File→Save Database** to save the changes that have just been made.

**NOTE**

The process of unassigning a Segment from a Short Title assigned to a location on selected equipment does not mean the Segment has been deleted from the database. The Segment is still there and can be seen under the Keys Tab.

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
SKL UAS ADD AND EDIT FUNCTIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

---

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

---

FILE MENU  
ADD AND EDIT FUNCTIONS

---

ADD AND EDIT FUNCTIONS

The SKL UAS program allows the operator to add platforms and equipment to their database using a manual entry method. Once the platform and equipment is added to the database it can be edited to change the name or attributes. The following procedures will describe the actions to add or edit platforms and equipment.

**Add Platform**

The Add Platform function allows the user of the SKL to add a Platform to the Mission Database. Follow the procedures below to add a platform to the mission database. Start by making sure that you are on the **Plats tab** as depicted in Figure 1, *Plats Tab*, below.

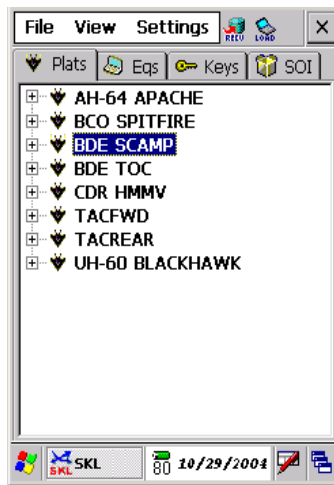


Figure 1. Plats Tab.

**NOTE**

When platforms are added to the database, they will be put at the end of the Plats Tab unless you have selected to have the Plats Tab sorted alphabetically first. The SKL UAS program puts the numerically numbered platforms before the alphabetical platforms when sorting is turned on.

1. Now select **File→Add Platform** as depicted below in Figure 2. *File→Add Platform*.

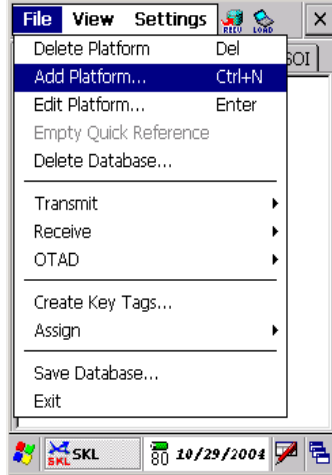


Figure 2. File→Add Platform.

2. As a result of the above selection the window in Figure 3. *Platform Name* opens.

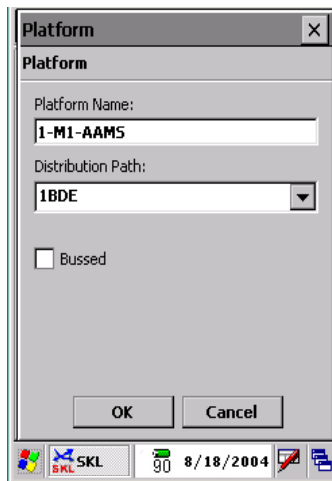


Figure 3. Platform Name.

3. Fill in the **Platform Name** and select a **Distribution Path** if desired. You must also determine whether or not this platform is **Bussed**. When finished, tap on the **OK** button. The window in Figure 4, *Plats Tab*, re-opens.

**NOTE**

**Bussed** - The SKL will be connected to a Fill Port that is in the Platform but not part of the equipment. An example of this is a helicopter where the equipment is in the rear but the Fill Port is located in the Cockpit. Bussed is also used when activating the wakeup or handshake of a specific equipment Fill Location.

**Non-Bussed** - The SKL will be connected to the equipment Fill Port and no Fill Location wakeup or handshake is required.

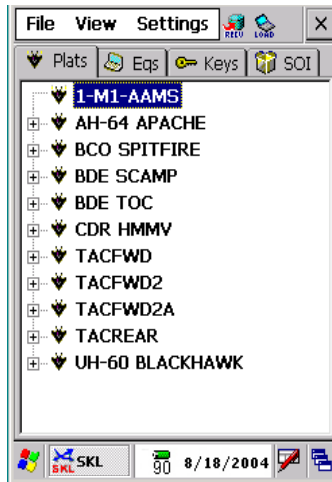


Figure 4. Plats Tab.

4. As can be observed from the depiction above, the Platform **1-M1-AAMS** has been added to the Plats Tab. All Platforms added in this way are put at the top of the Plats Tab as long as sorting is turned on with no + sign. If you do a refresh action the + sign will appear even though no equipment is assigned to it.

## END OF TASK

### Edit Platform

The Edit Platform selection allows the operator of the SKL to edit the Platform Name. Use the following procedure to Edit a Platform. The first thing you want to do is to highlight the Platform you want to edit on the Plats Tab as shown below in Figure 5, *Plats Tab with Platform Highlighted*.

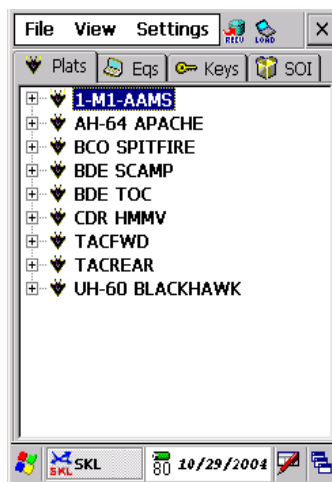


Figure 5. Plats Tab with Platform Highlighted.

1. Now select **File**→**Edit Platform** as depicted below in Figure 6, *File*→*Edit Platform*.

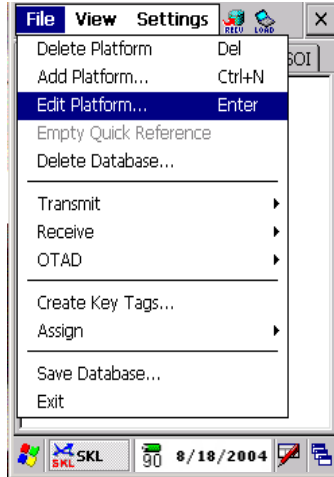


Figure 6. File→Edit Platform.

2. As a result of performing the above selection, the window in Figure 7, *Platform Name*, opens.

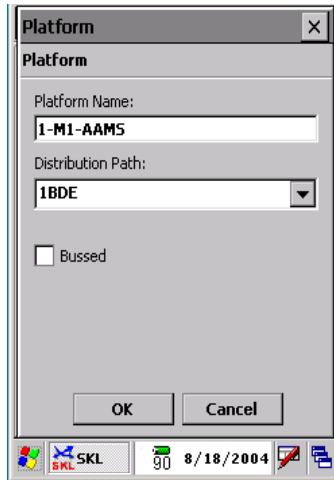


Figure 7. Platform Name.

3. From this window you can change the **Platform Name** and the **Distribution Path** if desired. You may also change the **Bussing** characteristics of the platform. Once you are finished editing the platform, tap on the **OK** button. The window in Figure 8, *Plats Tab*, re-opens.

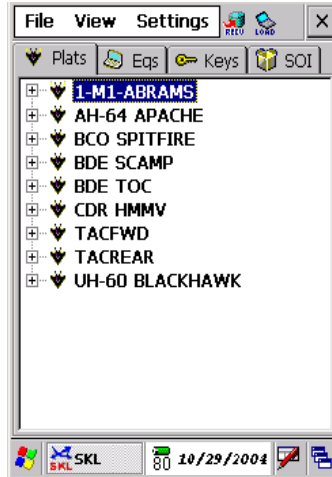


Figure 8. Plats Tab.

4. As depicted above you can see the platform name was changed from **1-M1-AAMS** to **1-M1-ABRAMS**. Now select **File→Save Database**.

#### END OF TASK

#### Add Equipment

The Add function under the File menu allows the user of the SKL the capability to add equipment to the Mission Database. The following procedures should be followed to add equipment to the Mission Database.

1. To start the procedure, make sure that the **Eqs Tab** is open as shown below in Figure 9, *Eqs Tab*.

#### NOTE

**When equipment is added to the database, they will be put at the end of the Eqs Tab unless you have selected to have the Eqs Tab sorted alphabetically first. The SKL UAS program puts the numerically numbered equipment before the alphabetical equipment when sorting is turned on.**

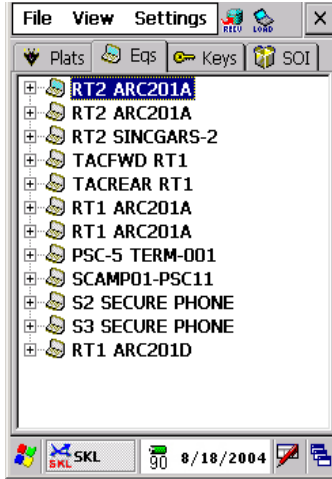


Figure 9. Eqs Tab.

2. Now select **File→Add Equipment** as shown in Figure 10, *File→Add Equipment*.

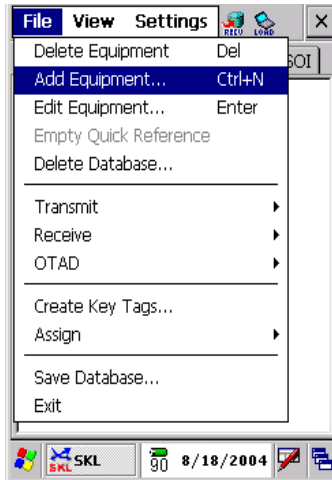


Figure 10. File→Add Equipment.

3. Once you have selected **Add Equipment**, the following window in Figure 11, *Equipment Name*, opens.

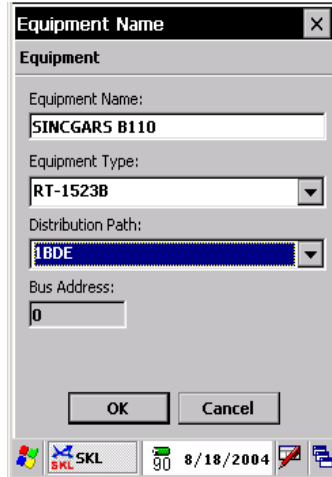


Figure 11. Equipment Name.

4. On this window there are some fields that need to be filled out and two drop down lists to choose from. Enter the **Equipment Name**, select the **Equipment Type** from the drop-down list, the **Distribution Path** is required and may be set to blank, and finally any specific **Bus Address** that is affiliated with this equipment type. Once this information is entered, tap on the **OK** button. The window in Figure 12, *Eqs Tab*, opens.

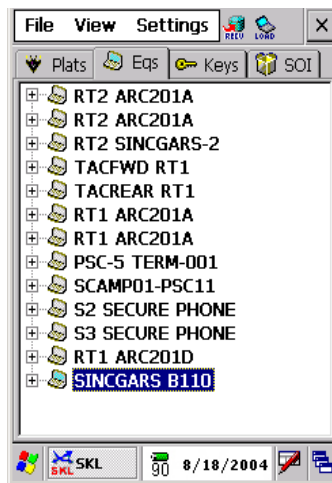


Figure 12. Eqs Tab.

5. You can now see from the Eqs Tab that the equipment **SINGGARS B110** has been added to the Mission Database at the bottom of the equipment list. This means that sorting for the equipment list is not turned on. This equipment, however, is not assigned to any platform in the database nor does it have any Key Tag material assigned to it. Now select **File**→**Save Database** to save the changes you have just made.

## END OF TASK

### Edit Equipment

The Edit function under the File menu allows the user of the SKL the capability to edit equipment that is stored in the Mission Database. The following procedures should be followed to edit equipment.

1. To start the procedure, make sure that the **Eqs Tab** is open and the equipment you wish to edit is highlighted as shown below in Figure 13, *Eqs Tab with Equipment Highlighted*.



Figure 13. Eqs Tab with Equipment Highlighted.

2. As depicted above, the equipment **SINGGARS B110** has been selected for editing. Now select **File→Edit Equipment** as shown in Figure 14, *File→Edit Equipment*, below.

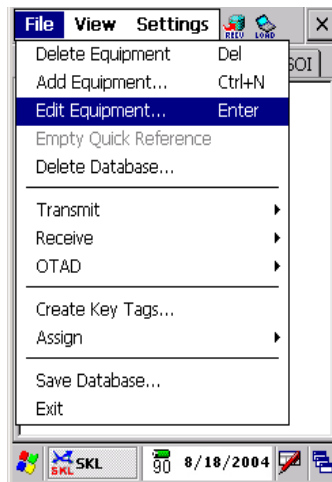


Figure 14. File→Edit Equipment.

3. Once you have selected **Edit Equipment**, the following window in Figure 15, *Equipment Name*, opens.

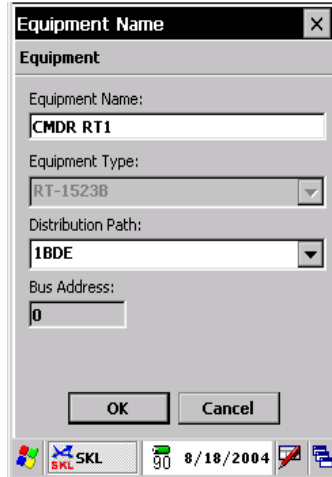


Figure 15. Equipment Name.

4. The only areas that can be edited are the Equipment Name and Distribution Path. You can only choose a Distribution Path that is already listed under the drop down menu to include a blank Distribution Path. Make the changes you desire and then tap on the **OK** button. The window in Figure 16, *Eqs Tab*, opens.

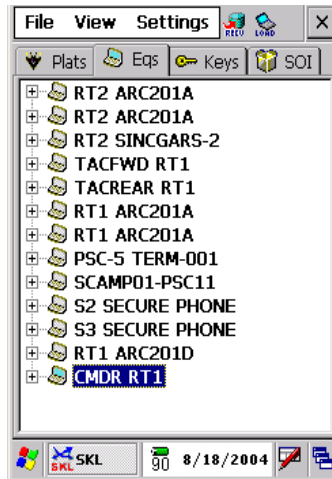


Figure 16. Eqs Tab.

5. As depicted above the Equipment Name was changed from SINGARS B110 to **CMDR RT1**. Now select **File**→**Save Database** to save the changes you have just made.

**END OF TASK**

**END OF WORK PACKAGE**

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
SKL UAS EMPTY OR REMOVE A QUICK REFERENCE FUNCTION  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

---

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

---

FILE MENU

EMPTY OR REMOVE A QUICK REFERENCE

---

EMPTY OR REMOVE A QUICK REFERENCE

There are two methods to remove an entry from the Quick Reference folder. The first method will remove all Quick Reference entries. The second method will remove just a single entry in the Quick Reference folder. The following paragraphs provide the procedures to use each method.

**Empty All Quick Reference Entries**

1. To empty the Quick Reference folder of all entries, make sure that you have the **SOI Tab open**. The window in Figure 1, *SOI Tab*, illustrates this.

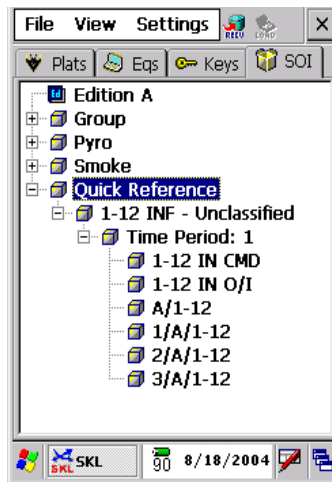


Figure 1. SOI Tab.

2. Now select **File→Empty Quick Reference** as depicted in window in Figure 2, *File→Empty Quick Reference*, below.

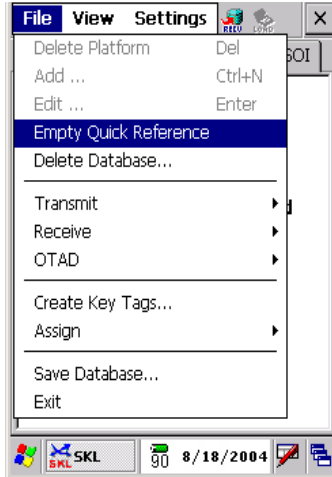


Figure 2. File→Empty Quick Reference.

- c. Once you have selected **Empty Quick Reference**, the following window in Figure 3, *Really Remove All Entries*, opens.

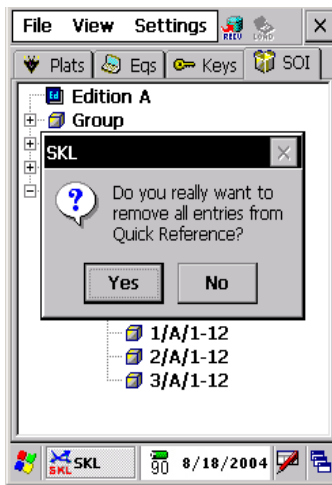


Figure 3. Really Remove All Entries.

- d. The SKL prompts you for confirmation to remove all entries from the Quick reference. Select Yes to delete the item or No to cancel the deletion process. To remove all entries from the Quick Reference, tap on the **Yes** button. The window in Figure 4, *Operation Successful*, opens.

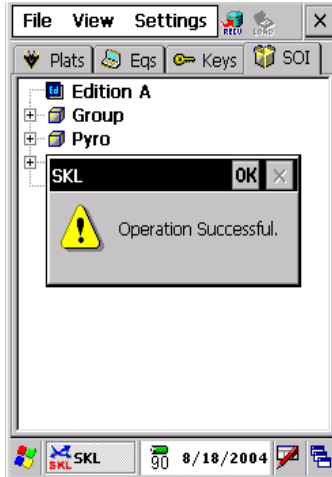


Figure 4. Operation Successful.

- e. Tap on the **OK** button in the upper right corner of the window with the Inductive Stylus. The window in Figure 5, *SOI Tab*, opens.

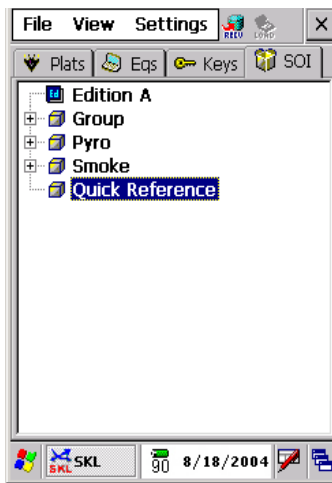


Figure 5. SOI Tab.

- f. You will notice that there is no + (plus sign) to the left of the Quick Reference folder indicating that there are no Quick Reference entries.

## END OF TASK

### Removing a Single Quick Reference Entry

If you have multiple entries in your Quick Reference folder, you may need to remove just a single Quick Reference entry while leaving the other entries present. To remove a single Quick Reference entry, follow the procedures below.

1. Make sure the SKL UAS is open to the **SOI tab**. Tap on the **+** sign to the left of the Quick Reference folder and select the net group which contains the net(s) you want to remove as shown in Figure 6, *Quick Reference Item Selected*.

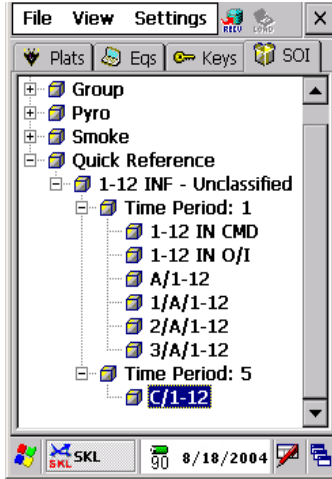


Figure 6. Quick Reference Item Selected.

2. Now select **View**→**Current Selection** from the SKL UAS Main Menu as depicted below in Figure 7, *View*→*Current Selection*, below.

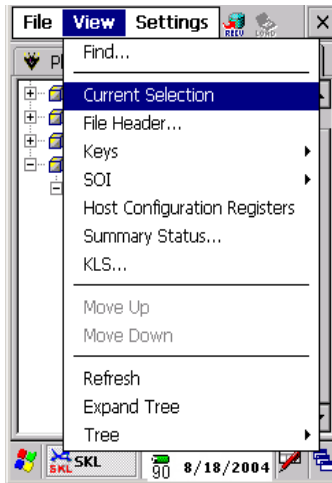


Figure 7. View→Current Selection.

3. Once you have selected View→Current Selection, the window in Figure 8, *Net Info*, opens.

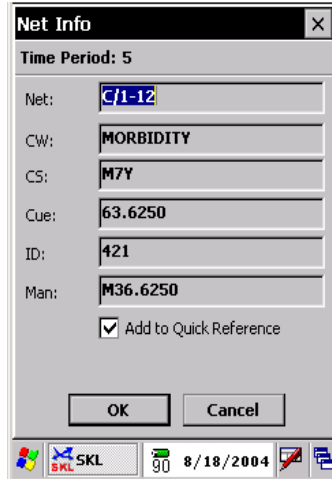


Figure 8. Net Info.

4. As depicted in the window above, there is a Checkmark (✓) in the “Add to Quick Reference” box. To remove this net from the Quick Reference folder, tap on the **Checkmark** to remove it and then tap on the **OK** button. The window in Figure 9, *SOI Tab with Quick Reference Expanded*, opens.

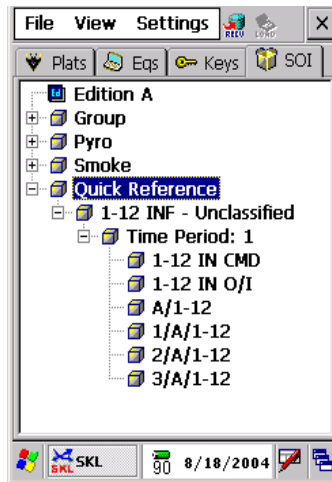


Figure 9. SOI Tab With Quick Reference Expanded.

5. As can be seen from the window above the Net C/1-12 in Time Period 5 has been removed from the Quick Reference. Since there was only one entry under Time period 5, it was removed from the Quick Reference entries. Now select **File**→**Save Database** to save the changes to the Mission Database that has just been made.

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
SKL UAS DELETE DATABASE FUNCTION  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

---

FILE MENU  
DELETE DATABASE

---

DELETE A DATABASE

As with the expired keys, you can delete an entire database or an individual database item from the SKL. This is another of the housekeeping functions that allow you to maintain the SKL in a current and manageable configuration. Follow the procedure below to delete a database.

1. To delete a database select **File→Delete Database** from the SKL Main Menu as depicted in Figure 1, *File→Delete Database*, opens.

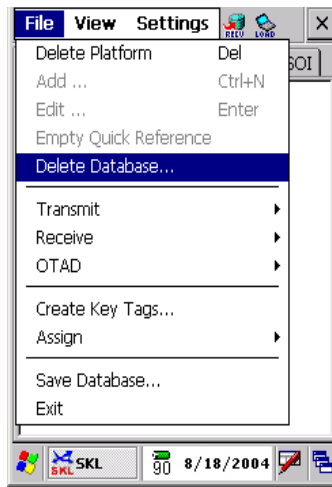


Figure 1. File→Delete Database.

2. As a result of selecting File→Delete Database, the window in Figure 2, *Database Options*, opens.



Figure 2. Database Options.

3. The Delete Database Wizard window provides a list of databases that are candidates for deletion on the Database Options screen. **This window defaults to all databases selected.** You may select just one database item by tapping on the **Deselect All** button and then select an individual database by putting a **Checkmark (✓)** to the left of the desired database with the Inductive Stylus. For this example we have selected the **Platform database** to be deleted as shown in Figure 3, *Delete Platform Database*, below.



Figure 3. Delete Platform Database.

4. Once the required selection has been made, tap on the **Next>>** button. The window in Figure 4, *Platform Selection*, opens.

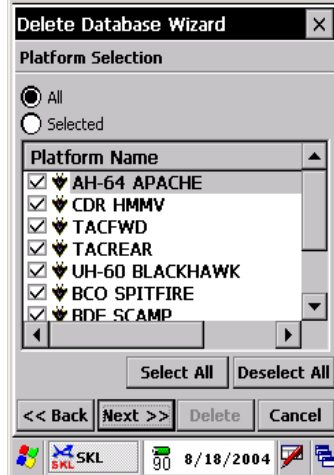


Figure 4. Platform Selection.

- From this window you can further select which Platform you wish to delete. All Platforms are selected by default. You may tap on the **Deselect All** button to remove all the Checkmarks and then select which Platform you wish to delete. We have selected the multiple Platforms to delete as depicted in Figure 5, *Platforms Selected*, below.

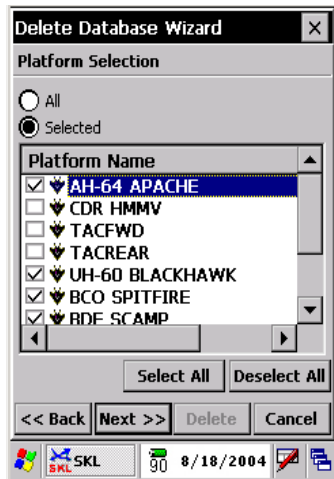


Figure 5. Platforms Selected.

- Now tap on the **Next>>** button. The window in Figure 6, *Finish*, opens.

**NOTE**

This procedure will only delete the selected platform database. The equipment and keys associated with the selected platform will remain in the SKL until deleted.

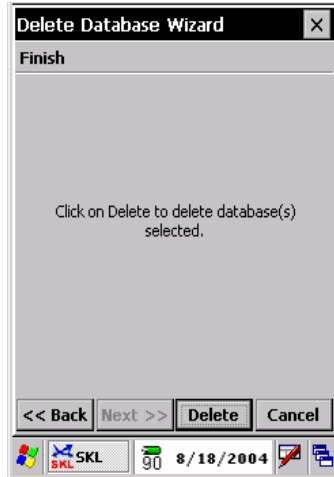


Figure 6. Finish.

7. If you are sure that you want to delete the selected database(s), tap on the **Delete** button. The window in Figure 7, *Delete Database Confirmation*, opens.

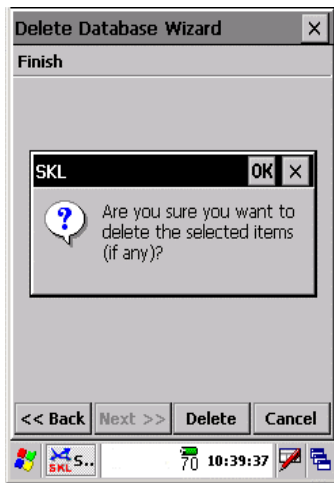
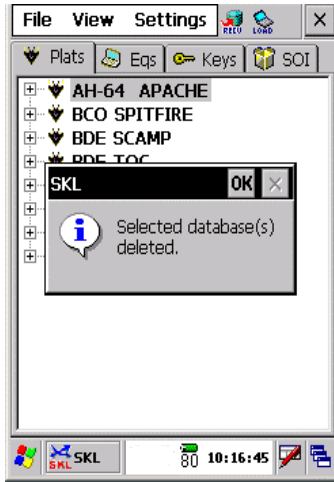


Figure 7. Delete Database Confirmation.

8. This window allows the SKL user to validate the deletion of the selected database items. Tap on **OK** in the upper right-hand corner to confirm the deletion or tap on the X in the upper right-hand corner of the window to cancel the deletion process. **The database will automatically be saved.** As a result of the continuation of the deletion process the window in Figure 8, *Selected Databases Deleted*, opens.



**Figure 8. Selected Databases Deleted.**

- i. This is a confirmation window that the selected database(s) was deleted. Tap on the **OK** button. The SKL returns to the tab that you had open when you started the deletion process.

**END OF TASK**

**END OF WORK PACKAGE**

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
SKL UAS TRANSMIT/LOAD FUNCTION (PART 1 OF 2)  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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FILE MENU  
TRANSMIT/LOAD

---

TRANSMIT

The Transmit selection under the File Menu has ten (10) submenu selections. They are Load, Load Modern Keys, Load Selected Keys, Load Selected Locations, Load EPLRS, Load PRC-137, Load Benign Fill, Load Mode 5 IFF, Database, and ECU Commands. This particular Work Package 0014 will only address the first five submenu selections. The last five selections will be discussed in the next Work Package 0015.

Load

The Load selection is the best way to load equipment with data and COMSEC key. When the Load selection is made it performs an automatic load of the equipment based on data and key assignments that have been specifically made for that Platform and Equipment. There are three (3) available Load options. They are; Load a Platform, Load Equipment Assigned to a Platform, and Load Assigned Key. Each of these Load functions is described in the following paragraphs.

**Load a Platform.** The Load Platform procedure is the best way to load all the equipment assigned to the platform. It is automatic and requires very little operator interaction. All data and COMSEC keys will be loaded to the correct equipment locations assigned to the platform. The platform in the example below is the Commander's HMMV SINCGARS radio. The windows may be different for other equipment. For other platforms, follow the prompts given on the Load ECU Wizard (Profile) window.

1. From the **Plats Tab** select the desired platform to load as shown in Figure 1, *Plats Tab with Platform Selected*, below.

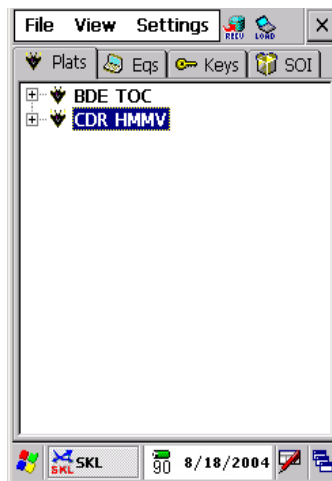
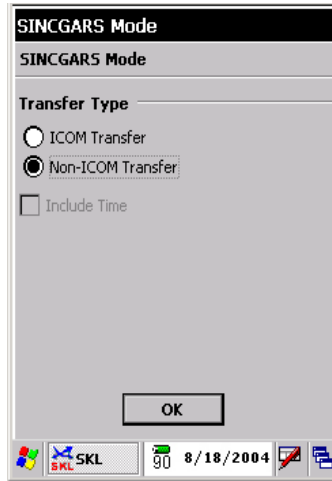


Figure 1. Plats Tab with Platform Selected.

**NOTE**

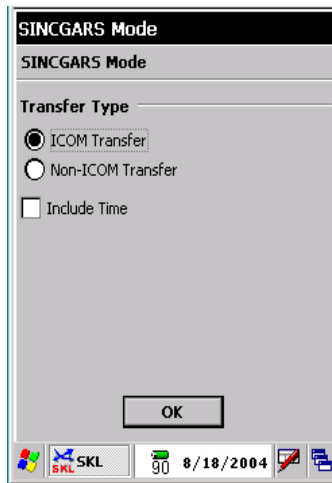
The windows shown below are for the SINGARS Radio only and are provided as an example of loading Key by Selecting a Platform.

- From the SKL UAS Main Menu, select **File→Transmit→Load**. The window in Figure 2, *SINGARS Mode*, opens.



**Figure 2. SINGARS Mode.**

- In this procedure we are going to select “Integrated COMSEC (ICOM) Transfer”. When the **ICOM** Transfer is selected, the “Include Time” field opens and is available to be selected as shown in Figure 3, *SINGARS Mode ICOM Selected*, below.



**Figure 3. SINGARS Mode ICOM Selected.**

- The decision to load the time from the SKL into the SINGARS is up to the operator. If the SINGARS is of the ASIP family then Time must be included. If the SKL’s time has been set using a PLGR then it would be a good idea to go ahead and include the time in the load. Once the correct selections are made tap on the **OK** button. The window in Figure 4, *Load ECU Wizard*, opens.

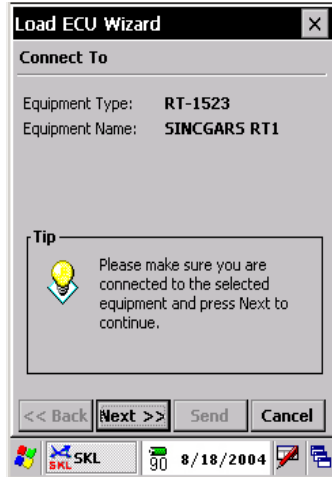


Figure 4. Load ECU Wizard.

5. This window displays the Equipment Type you are about to load and the Equipment Name. Connect the SKL to the Fill port on the SINCGARS radio and then tap on the **Next>>** button. The window in Figure 5, *Load ECU Wizard Profiles*, opens.

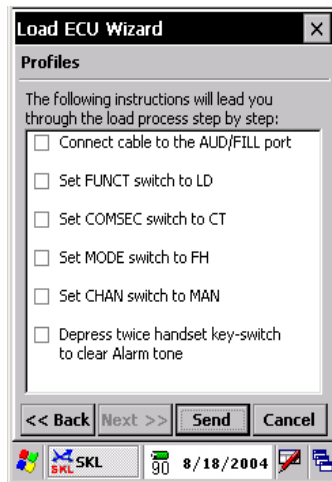


Figure 5. Load ECU Wizard Profiles.

6. The Load ECU Wizard Profiles window will only display those steps you are required to take based on the Profile Modes that is currently selected on your SKL. If the Profile Modes is set to "Detailed" then you will see most if not all steps required for you to take. If the Profile Modes is set to "Condensed", then you will see only a minimum amount of steps. See Work Package 0029 Options for more information on the Profile Modes. Follow the instructions in the Profile window for your equipment. Once all the settings and actions have been accomplished, tap on the **Send** button as shown in Figure 5. The SKL will also display any errors that may occur during the load routine. Once the ECU has received its load, the window in Figure 6, *Reload Equipment* opens.



Figure 6. Reload Equipment.

7. Now you have to make a decision. If there was only one equipment assigned to the Platform then you should select No. If however there were multiple equipment assigned to the Platform and you wish to load all of them at this time, then you should select Yes. If you selected Yes you would see the window in Figure 3 open again and you would follow the steps 4-6 above for each equipment that you are loading that is assigned to the Platform. If you select No then the window in Figure 7, *Operation Successful* opens.

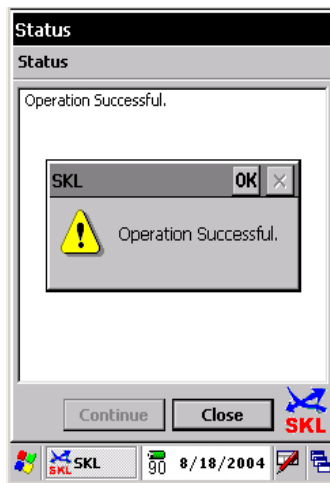


Figure 7. Operation Successful.

8. Tap on the **OK** button to close the dialog window. The SKL returns to the Plat Tab.

**END OF TASK**

**Load Equipment Assigned to a Platform.** This procedure allows the SKL operator to load equipment that has been assigned to a specific platform. The platform may have multiple pieces of equipment assigned to it and you may only want to load one specific piece of equipment from that platform.

NOTE

The windows shown below are for the **SINGARS ICOM** radio only and are provided as an example of loading Equipment Assigned to a Platform.

1. From the **Plats** tab, select the equipment you want to load from the expanded platform as depicted in Figure 8, *Plats Tab with Equipment Selected*, below.

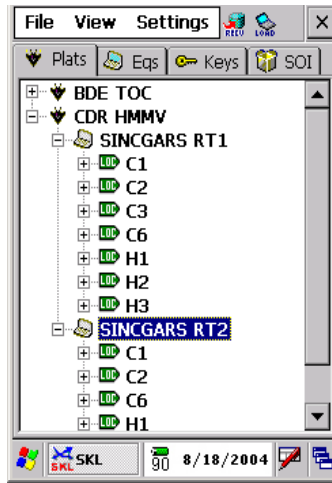


Figure 8. Plats Tab with Equipment Selected.

2. You will notice in the above window that the **SINGARS RT2** equipment has been selected. Also notice that it has several fill locations. With this procedure, all of these locations will be filled with data and COMSEC key automatically. With the **SINGARS RT2** equipment selected (highlighted), select **File**→**Transmit**→**Load** as depicted in Figure 9, *File*→*Transmit*→*Load*, below.

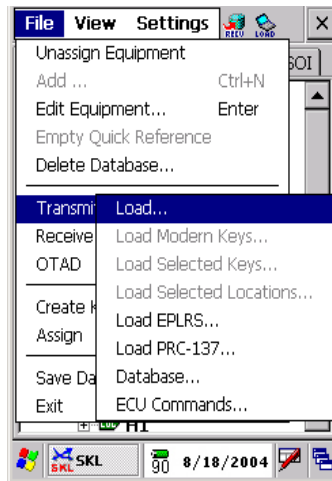


Figure 9. File→Transmit→Load.

3. As a result of selecting the **Load** function, the window in Figure 10, *SINGARS Mode*, opens.

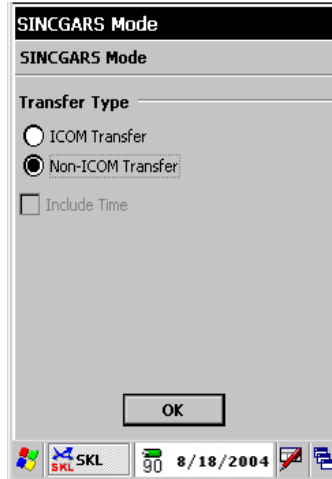


Figure 10. SINGGARS Mode.

4. Now select the type of Mode that your SINGGARS radio is. Most SINGGARS now fielded to the U.S. Army are ICOM SINGGARS radios; therefore, select **ICOM Transfer**. The window in Figure 11, *SINGGARS Mode ICOM Selected*, opens.

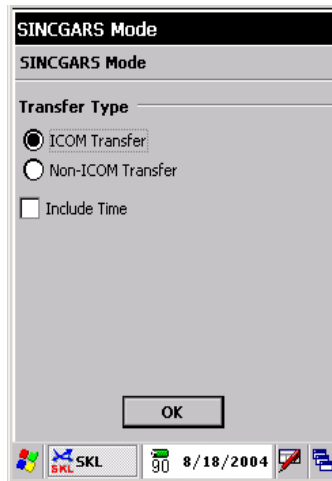


Figure 9. SINGGARS Mode ICOM Selected.

5. You will notice that the Include Time box becomes active. If the SKL's time was loaded using a PLGR or some extremely reliable time source then you may wish to include the time in the loading process. If the SINGGARS is of the ASIP family then Time must be included. If you do, then put a **Checkmark (✓)** in the **Include Time** box and tap on the **OK** button. The window in Figure 12, *Connect To* opens.

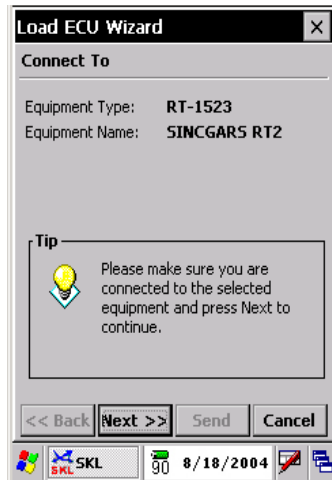


Figure 12. Connect To.

- This window displays the Equipment Type you are about to load and the Equipment Name. Follow the instructions in the TIP area and then tap on the **Next>>** button. The window in Figure 13, *Load ECU Wizard Profiles*, opens.

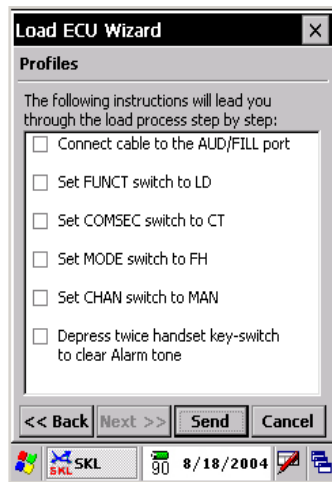


Figure 13. Load ECU Wizard Profiles.

- The Load ECU Wizard Profiles window will only display those steps you are required to take based on the Profile Modes that is currently selected on your SKL. If the Profile Modes is set to "Detailed" then you will see most if not all steps required for you to take. If the Profile Modes is set to "Condensed", then you will see only a minimum amount of steps. See Work Package 0029 Options for more information on the Profile Modes. Follow the instructions in the Profile window for your equipment. Once all the settings and actions have been accomplished, tap on the **Send** button. The window in Figure 14, *Status*, opens.

**NOTE**

The subsequent windows that open will vary depending on the equipment that you are trying to load.

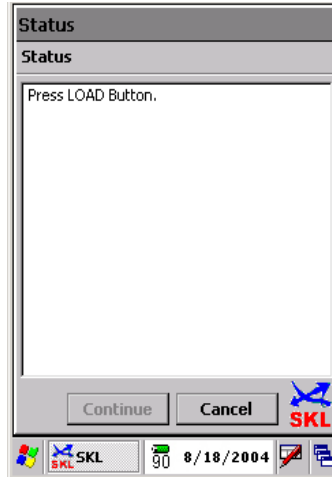


Figure 14. Status.

8. In this particular case, the SKL is informing you to press the Load Button on the SINCGARS RT2 equipment. Therefore, press the **Load** button on the equipment. The window in Figure 15, *Reload Equipment*, opens.

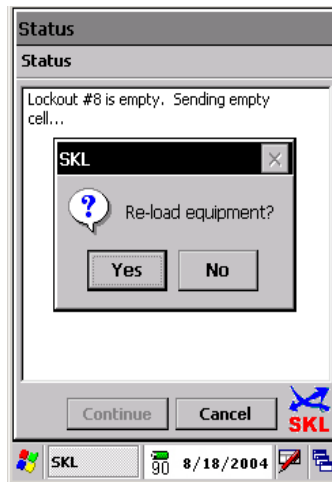


Figure 15. Reload Equipment.

9. This window gives you the opportunity to determine if you need to reload the equipment or not. For instance, you may have forgotten to set the Channel switch to MAN as directed in the Profile window. As such the load most probably did not occur properly. Therefore you would want to correct that oversight and reload the equipment. However, if you believe that you have followed the procedures correctly then tap on the **No** button. The window in Figure 16, *Operation Successful*, opens.



Figure 16. Operation Successful.

10. The appearance of this window indicates that the load operation was successful. Tap on the **OK** button in the upper right-hand corner of the window. The SKL closes this window and the Plats tab re-opens. You need to check the equipment you just loaded to make sure that it can communicate inside its net.

#### END OF TASK

**Load Assigned Key.** This procedure will allow you to load a single assigned Key to a Fill Location on Equipment assigned to a Platform. This feature can save time and ensure that the right key gets to the right Fill Location on the right Equipment assigned to the right Platform.

1. From the **Plats tab**, expand the Platform, Equipment, Fill Location, Short Title, and Edition so that you can see the Key assigned to the Fill Location as depicted in Figure 17, *Plats Tab Expanded*, below.

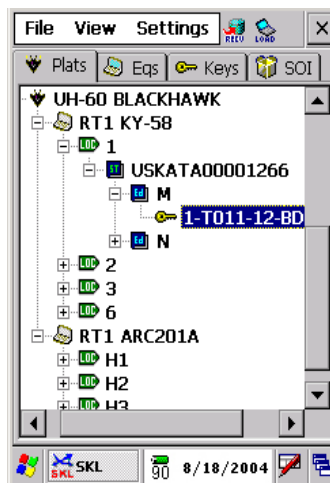


Figure 17. Plats Tab Expanded.

NOTE

The windows shown below are for the Equipment KY58 only, and are provided as an example of loading assigned Key to a specific Fill Location on Equipment assigned to a Platform.

2. You will notice in the above window that there are two Editions of Short Title USKATA00001266 assigned to LOC1 on the KY58. Once you have selected the correct Platform, Equipment, Fill Location, Short Title, Edition, and Key select **File**→**Transmit**→**Load** from the Main Menu as depicted below in Figure 18, *File*→*Transmit*→*Load*, below.

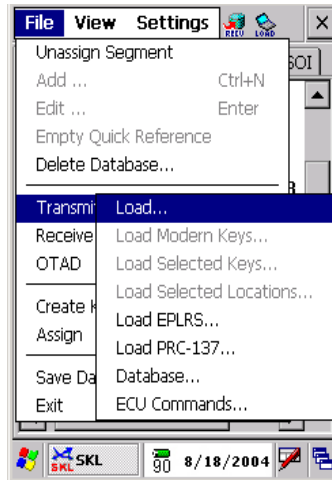


Figure 18. File→Transmit→Load.

3. As a result of selecting the Load function from the Main Menu, the window in Figure 19, *Load ECU Wizard*, opens.

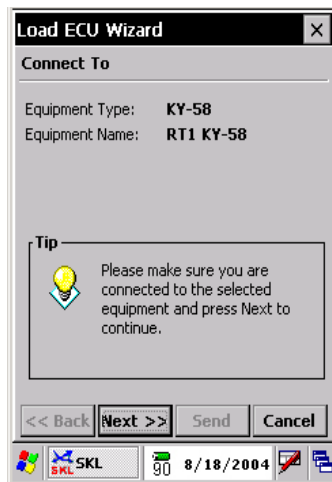


Figure 19. Load ECU Wizard.

4. This window displays the Equipment Type you are about to load and the Equipment Name. Connect the SKL to the Fill Connector on the KY58 and then tap on the **Next>>** button. The window in Figure 20, *Load ECU Wizard Profiles*, opens.

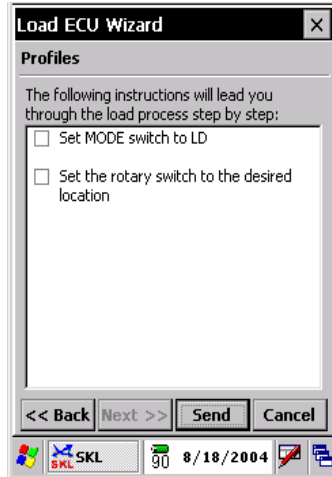


Figure 20. Load ECU Wizard Profiles.

5. The Load ECU Wizard Profiles window will only display those steps you are required to take based on the Profile Modes that is currently selected on your SKL. If the Profile Modes is set to "Detailed" then you will see most if not all steps required for you to take. If the Profile Modes is set to "Condensed", then you will see only a minimum amount of steps. See Work Package 0029 Options for more information on the Profile Modes. Follow the instructions in the Profile window for your equipment. Once all the settings and actions have been accomplished, tap on the **Send** button. The window in Figure 21, *Status*, opens.

**NOTE**

The subsequent windows that open will vary depending on the equipment that you are trying to load.

**NOTE**

Refer to the equipment Technical Manual for the location of the Mode switch and the Rotary switch.

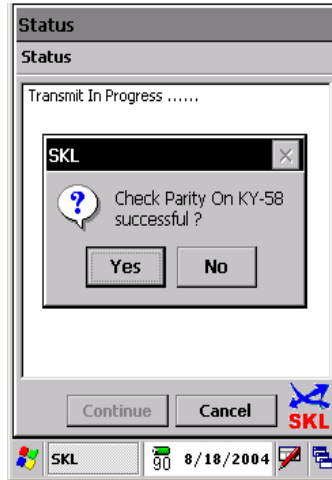


Figure 21. Status.

**NOTE**

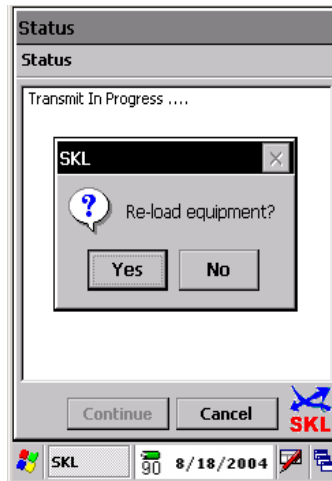
Refer to the equipment Technical Manual for the location of the **Initiate** button.

6. The SKL is now telling you to press **Initiate** on the Receiving Equipment. Press the **Initiate** button on the Receiving Equipment. The window in Figure 22, *Check Parity*, opens.



**Figure 22. Check Parity.**

7. On the KY58 there is an indicator lamp that will turn on if the key was received and the parity check was successful. Make sure that you are looking at that indicator so that you will know how to answer the question. If you don't see the indicator come on or flash, then chances are that the load failed and you should select **No**. However, if you see the indicator come on or flash, then tap on the **Yes** button. The window in Figure 23, *Reload Equipment*, opens.



**Figure 23. Reload Equipment.**

8. This window gives you the opportunity to determine if you need to reload the equipment or not. For instance, you may have forgotten to set the Rotary switch to the correct position. As such the load most probably did not occur properly. Therefore you would want to correct that oversight and re-load the equipment. However, if you believe that you have followed the procedures correctly then tap on the **No** button. The window in Figure 24, *Operation Successful*, opens.



Figure 24. Operation Successful.

9. The appearance of this window indicates that the load operation was successful. Tap on the **OK** button in the upper right-hand corner of the window. The SKL closes this window and the Plats tab re-opens. Now you should do a commo check on the KY58 to make sure that the key loaded properly and the equipment is operationally functional.

## END OF TASK

### Load Modern Key

The Army now has a limited number of ECUs and In Line Encryptors (INEs) that use Modern Key. There are specific attributes attached to Modern Key which make it different than an ordinary TEK or KEK. The procedures to load Modern Key are provided below. This procedure will use the TACLANE as the INE to load the Modern Key into.

1. Open the Keys Tab, then select **File→Transmit→Load Modern Keys** as shown in Figure 25, *File→Transmit→Load Modern Keys* below.

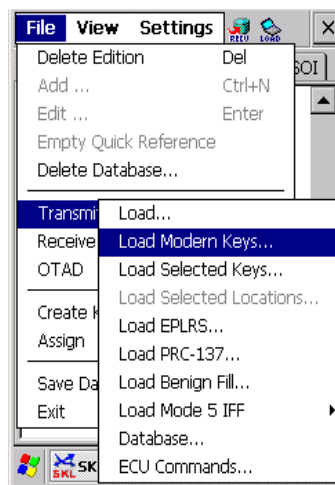


Figure 25. File→Transmit→Load Modern Keys.

2. As a result of the above selection, the window in Figure 26, *Selected Modern Keys* opens.



Figure 26. Selected Modern Keys.

3. Select the Modern Key you wish to load and then click on the **OK** button. The window in Figure 27, *Key Load Settings* opens.

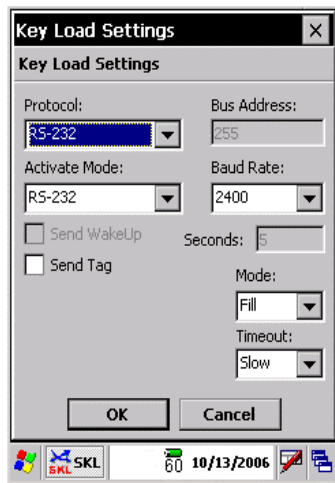


Figure 27. Key Load Settings.

4. The window will allow you to select which type of protocol to use to transmit the Modern Key. For the TACLANE we have chosen the RS-232 protocol. Once the protocol and other selections are made, tap on the **OK** button. The window in Figure 28, *Ready to Send Key* opens.

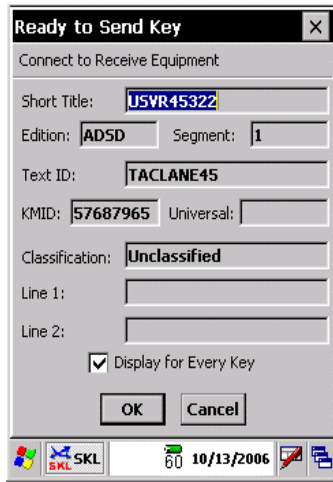


Figure 28. Ready To Send Key.

5. This window just allows you to verify the key you are about to load. The **Display for Every Key** selection should always be checked so that this window appears. Tap on the **OK** button. The window in Figure 29, *Status* opens.

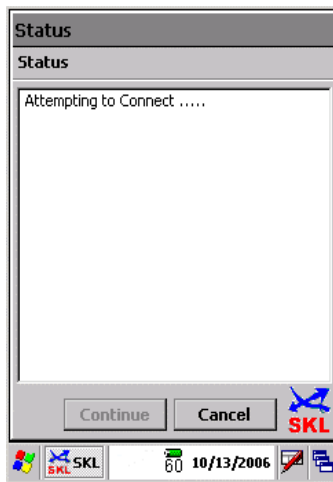


Figure 29. Status.

6. Depending on what Protocol you selected the information shown on the Status window could change. Once the connection is made and the key is loaded to the INE TACLANE, the window in Figure 30, *Operation Successful* opens.

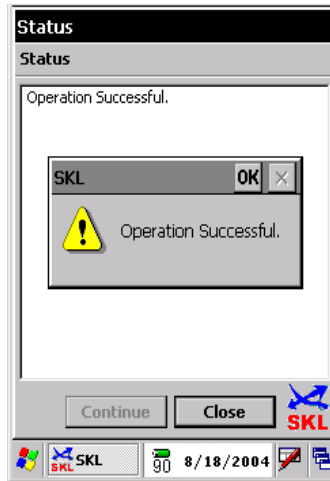


Figure 30. Operation Successful.

7. Now tap on the **OK** button in the upper right-hand corner of the window to dismiss it. The equipment you just loaded should be checked out to make sure that it can perform its mission.

## END OF TASK

### Load Selected Keys

The Load Selected Keys option really concerns unassigned key that may be in the Mission Database. **You should never use this option to load key that is assigned to equipment.** The Load Selected Keys option only becomes available to be selected when the Keys tab is open. The Keys tab will display both assigned and unassigned key. If you decide to use this option, be aware that you will not get a Profile window to assist you with the equipment setup as you do when loading assigned key. Therefore, you must be thoroughly familiar with the equipment you are loading the key into. Use the following procedure to load unassigned key into equipment.

1. Start by selecting the **Keys tab** as depicted in Figure 31, *Keys Tab*, below. It does not make any difference, which Short Title is highlighted when you open the Keys Tab.

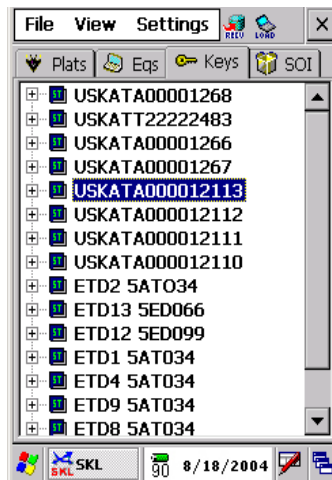


Figure 31. Keys Tab.

2. With the **Keys** tab open, select **File**→**Transmit**→**Load Selected Keys** as shown in Figure 32, *Load Selected Keys*, below.

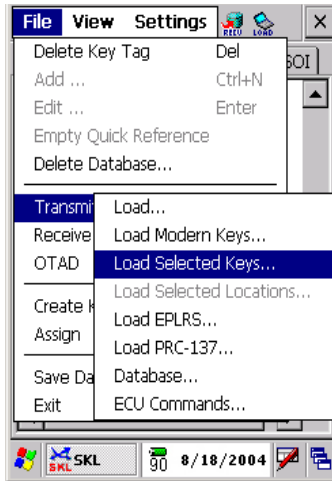


Figure 32. Load Selected Keys.

3. Once you have made the selection **Load Selected Keys**, the window in Figure 33, *Key Load Select Keys*, opens.

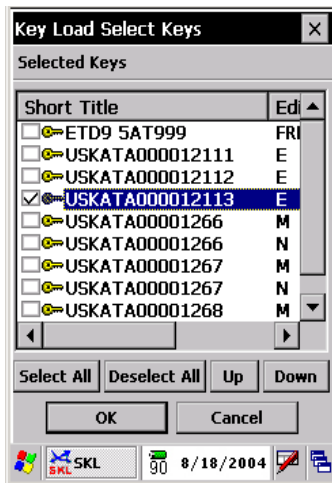


Figure 33. Key Load Select Keys.

4. This window is where you select which unassigned key you wish to load. **It defaults to no keys selected.** Select the unassigned key you wish to load as depicted above. Then tap on the **OK** button. The window in Figure 34, *DS-102* opens.

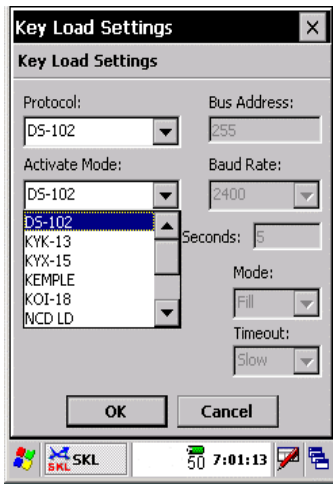


Figure 34. DS-102

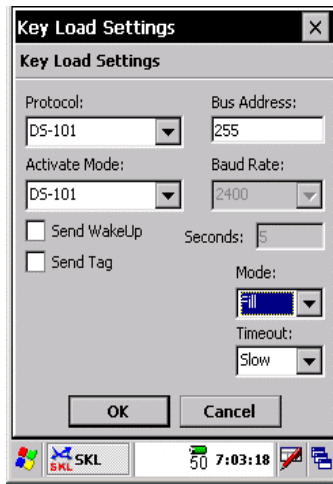


Figure 35. DS-101

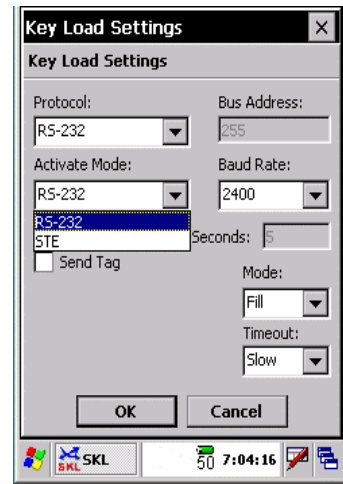


Figure 36. RS-232

5. Even though the above figures are titled Key Load Settings, what you are really doing with this window is selecting an emulation mode for the SKL. Once the emulation mode is chosen, the SKL will act just like the mode that was selected to load the unassigned key. The following paragraphs will explain in detail each of the above figures.
  - a. In Figure 34 above there are only two (2) active fields that can be selected. The first is the Protocol field. This figure shows that the DS-102 protocol was selected. The second field is the Activate Mode field. This field allows you to select what type of DS-102 emulation you want the SKL to perform. There are ten different selections that can be made. You must chose carefully so that the right emulation is selected for the loading of the unassigned key.
  - b. In Figure 35 above, once the DS-101 protocol is selected there are five (5) additional active fields that can be selected. These are Bus Address, Send WakeUp, Send Tag, Mode, and Timeout. The Bus Address defaults to 255. If the receiving device has the ability to display the Key Tag information, you will want to select Send Tag. The Send WakeUp selection should be selected if the target device requires it. Once the Send WakeUp is selected the Seconds field opens. This field defaults to 5 seconds. You can change this based on the receiving device's requirements. Finally, you must select the type of Mode this load is performing. The default is Fill. The other selection is Issue. If you are filling a device so that it can communicate with other devices, then select Fill. If you are giving this key to a device so that it can then load another device, then you should select Issue. The Timeout value has Slow, Medium, and Fast selections. The selection to make here depends on the receiving equipment requirements. In selecting the DS-101 protocol, you are saying to the SKL to emulate a DS-101 device to load the unassigned key into the equipment or issue the key to another SKL attached to the equipment.
  - c. In Figure 36 above there are five (5) active fields that can be selected once the RS-232 protocol is selected. These are Activate Mode, Baud Rate, Send Tag, Mode, and Timeout. The Activate Mode has two selections, RS232 and STE. The Send Tag and Mode fields were explained in Paragraph b above. The Baud Rate field allows you to select a baud rate based on the receiving equipment's capabilities. The range in this field is 1200 to 9600 baud. The Timeout field was explained in Paragraph b above. In selecting the RS-232 protocol, you are saying to the SKL to emulate a RS-232 device to load the unassigned key into the equipment.

Once you have made your emulation selections, tap on the **OK** button. The window in Figure 37, *Ready to Send Key*, opens.

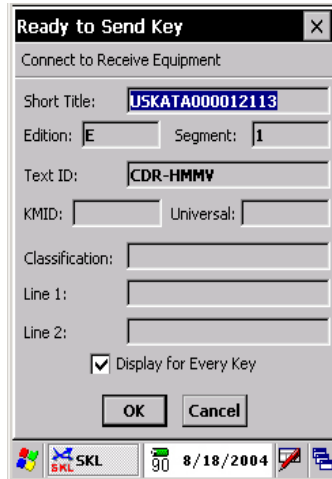


Figure 37. Ready To Send Key.

- This window displays the key you have selected to load into the equipment. It displays the Short Title, Edition, Segment, and Text ID of the key selected. It also has a check box which when selected will display this window for every key to be loaded in the unassigned mode. If you don't want to see this window for each key selected, then remove the Checkmark (✓) from the box. Once you have determined your selections and verified the key to be loaded, tap on the **OK** button. The window in Figure 38, *Status*, opens.



Figure 38. Status.

**NOTE**

**Refer to the equipment Technical Manual for the location of the Initiate button.**

- Depending on the emulation mode that you chose for the SKL to follow, various messages can appear on the Status window. In this case the Status window is telling the operator to "Press the Initiate Button". Locate the Technical Manual for the equipment you are loading unassigned key into to locate the position of the Initiate button. Once you have pressed the Initiate button the window in Figure 39, *Operation Successful*, opens.



Figure 39. Operation Successful.

8. Now tap on the **OK** button in the upper right-hand corner of the window to close it. The SKL UAS Desktop returns to the Keys Tab.

#### END OF TASK

#### Load Selected Locations

The SKL gives the user the option of loading key into a specific Fill Location on a specific piece of Equipment on a specific Platform. Use the following procedure to Load Selected Locations.

1. From the **Plats tab**, select the **equipment and Fill location** you want to load from the expanded platform as depicted in Figure 40, *Plats Tab with Equipment Fill Location Selected*, below.

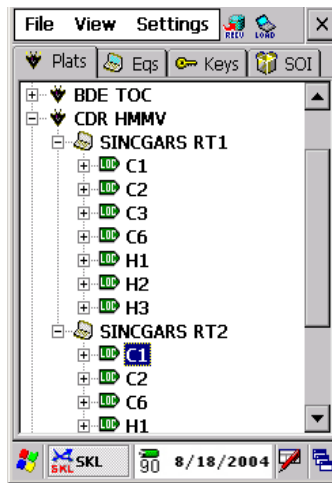


Figure 40. Plats Tab with Equipment Fill Location Selected.

NOTE

The windows shown below are for the SINGARS radio only and are provided as an example of loading a specific Fill location on Equipment assigned to a Platform. If you are loading any other piece of Equipment some of the windows could and probably will be different.

- You will notice in the above window that the Fill Location C1 of the SINGARS RT2 equipment for the CDR HMMV Platform has been selected. With this procedure, only the C1 Fill Location will be filled with COMSEC key automatically. **You must select (highlight) a location on the equipment before you can use this procedure.** With the SINGARS RT2 C1 equipment Fill location selected (highlighted), select **File→Transmit→Load Selected Locations** as depicted in Figure 41, *File→Transmit→Load Selected Locations*, below.

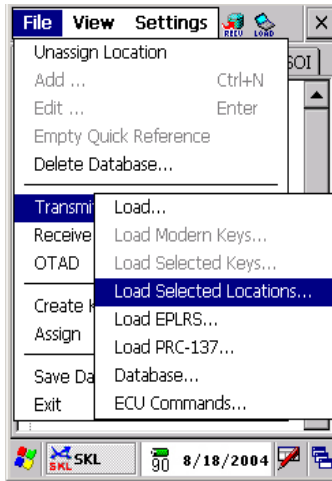


Figure 41. File→Transmit→Load Selected Locations.

- As a result of selecting the **Load Selected Locations**, the window in Figure 42, *Select Location(s)*, opens.

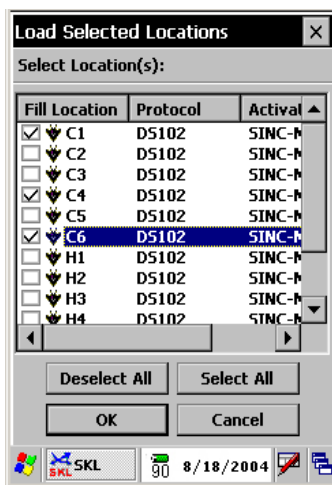


Figure 42. Select Location(s).

4. From this window you may select a **single location to fill** or **multiple locations to fill**. Once you have made your selections, tap on the **OK** button. The window in Figure 43, *SINGGARS Mode*, opens.

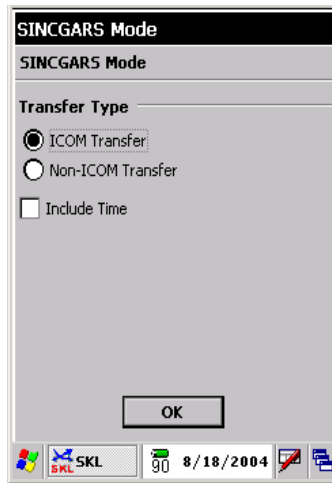


Figure 43. SINGGARS Mode.

5. Since this procedure depicts loading the SINGGARS radio, the user must tell the SKL which SINGGARS Mode will be loaded. You must also tell the SKL if the time is to be included in the loading process. Most if not all SINGGARS radios in the Army are now ICOM type radios. Therefore, tap on the **ICOM Transfer** radio button as depicted above and then if you want to include the time in the transfer, tap in the box next to **Include Time**. If the SINGGARS is of the ASIP family then Time must be included. The window in Figure 44, *Load ECU Wizard*, opens.



Figure 44. Load ECU Wizard.

6. This window displays the Equipment Type you are about to load and the Equipment Name. Follow the instructions in the TIP area and then tap on the **NEXT>>** button. The window in Figure 45, *Load ECU Wizard Profiles*, opens.

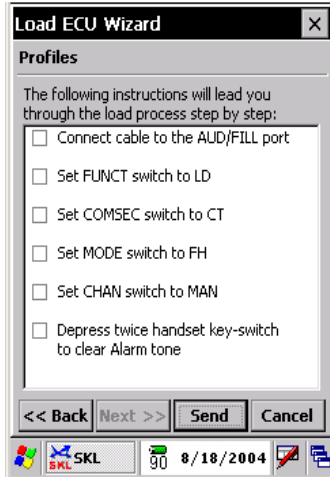


Figure 45. Load ECU Wizard Profiles.

7. The Load ECU Wizard Profiles window will only display those steps you are required to take based on the Profile Modes that is currently selected on your SKL. If the Profile Modes is set to "Detailed" then you will see most if not all steps required for you to take. If the Profile Modes is set to "Condensed", then you will see only a minimum amount of steps. See Work Package 0029 Options for more information on the Profile Modes. Follow the instructions in the Profile window for your equipment. Once all the setting and actions have been accomplished, tap on the **Send** button. The window in Figure 46, *Status*, opens.

**NOTE**

The subsequent windows that open will vary depending on the equipment that you are trying to load.

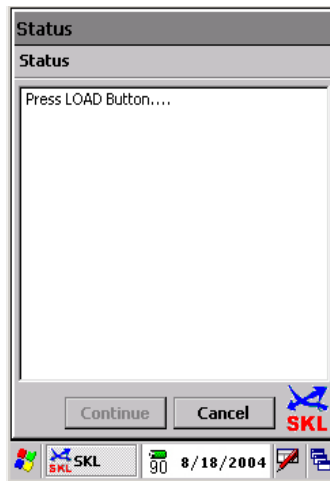


Figure 46. Status.

**NOTE**

Refer to the equipment Technical Manual for the location of the Load button.

8. This window informs you to press the Load button on the SINCGARS radio. Follow the instructions and then tap on the **Continue** button. The window in Figure 47, *Status*, opens.

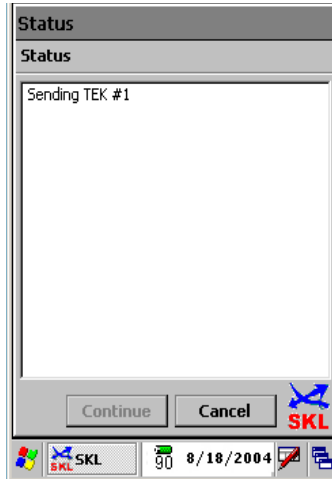


Figure 47. Status.

9. The Status window is alerting you that it sending TEK #1. After the transfer is complete the window in Figure 48, *Reload Equipment*, opens.

**NOTE**

The subsequent windows that open will vary depending on the equipment that you are trying to load.



Figure 48. Reload Equipment.

10. If you have confidence that you have loaded the radio correctly, then tap on the NO button. If you feel that you made a mistake during the loading procedure and the key in not in the location it should be, tap on the YES button. For this demonstration we will choose the **NO** button. The window in Figure 49, *Operation Successful*, opens.



Figure 49. Operation Successful.

11. The appearance of this window indicates that the load operation was successful. Tap on the **OK** button in the upper right-hand corner of the window. The SKL closes this window and the Plats tab re-opens. Now to verify the load was correct you need to do a radio check to make sure you can communicate on the channels that you loaded.

## END OF TASK

## Load EPLRS

In order to load an Enhanced Position Location Reporting System (EPLRS) radio set, the SKL must have received from the EPLRS Net Control Station KOK-13 the required keys for each radio set that your SKL is required to load. Once these keys (IKEK and TEK) are received into the SKL the SKL can now load the EPLRS radio sets. To do this select **File→Transmit→Load EPLRS** as depicted below in Figure 50, *File→Transmit→Load EPLRS*, below.

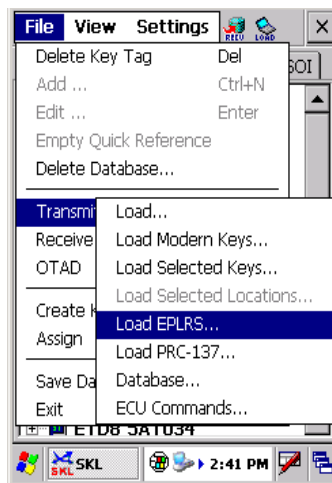


Figure 50. File→Transmit→Load EPLRS.

1. As a result of selecting **Load EPLRS**, the window in Figure 51, *Loading EPLRS TEK and IKEK*, opens.

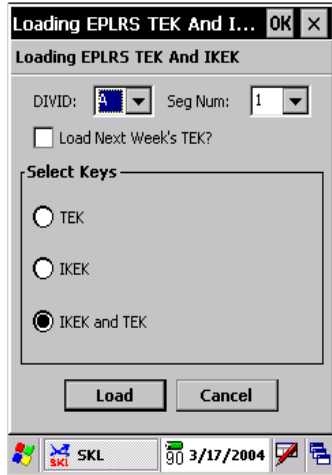


Figure 51. Loading EPLRS TEK and IKEK.

2. There are four areas of information that must be selected on this window. They are DIVID, Seg Num, Load Next Week's TEK, and Select Keys. The DIVID is alphabetic and can be from A to G. The number chosen here corresponds to the Division the particular EPLRS radio set is assigned to. The Segment Number is numeric and can be from 1 to 99. The Load Next Week's TEK is a simple check box. The SKL operator determines whether or not to load next week's TEK into the EPLRS radio set. The Select Keys area of the window will allow the SKL operator to select which key or keys to load to the EPLRS radio set. If this is the initial load of the EPLRS radio set then you should select IKEK and TEK. Once all selections have been made tap on the **Load** button. The window in Figure 52, *Load ECU Wizard*, opens.

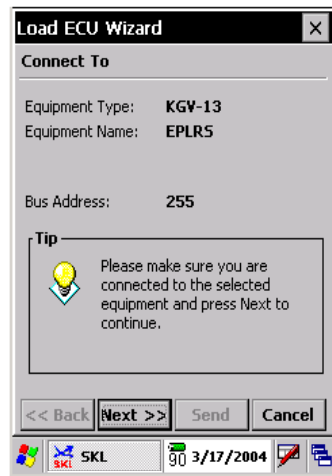


Figure 52. Load ECU Wizard.

3. This window displays the Equipment Type, Equipment Name, Bus Address, and any Tips for the operator of the SKL to make loading the EPLRS radio set easier. After reading the information on this window tap on the **Next>>** button. The window in Figure 53, *Status*, opens.



Figure 53. Status.

4. Now press the **Initiate** button on the EPLRS radio. When the SKL is trough transmitting the window in Figure 54, *Check Parity* opens.



Figure 54. Check Parity.

5. You need to verify the load status of the EPLRS radio set. This is done through a parity check. If the parity check was successful, select Yes. If the parity check was not successful, select No and attempt the procedure again. In this case tap on the **Yes** button, the window in Figure 55, *Disconnect SKL*, opens.



Figure 55. Disconnect SKL.

6. Disconnect the SKL from the EPLRS radio set and then tap on the **OK** button in the upper right-hand corner of the window. The window in Figure 56, *Reload Equipment* opens.

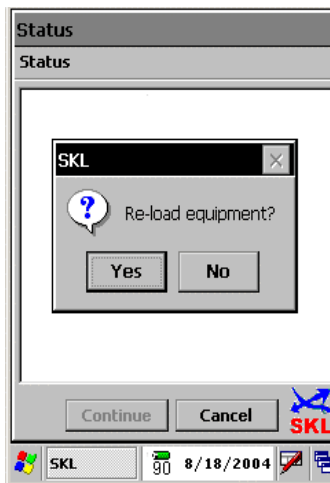


Figure 56. Reload Equipment.

7. You have already disconnected from the EPLRS radio set at this point. **You should always select NO even if you received an indication of a bad load to the EPLRS radio set.** Then you should attempt the load procedure from the beginning again. The window in Figure 57, *Operation Successful* opens.



**Figure 57. Operation Successful.**

8. Tap on the **OK** button in the upper right-hand corner of the window. The tab you had opened when you started this procedure opens. A good parity check indicates a good load into the EPLRS radio set.

**END OF TASK**

**END OF WORK PACKAGE**

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
SKL UAS TRANSMIT/LOAD TRKEK FUNCTION  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

---

**OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0**

---

**TRANSMIT/LOAD TrKEK FUNCTION**

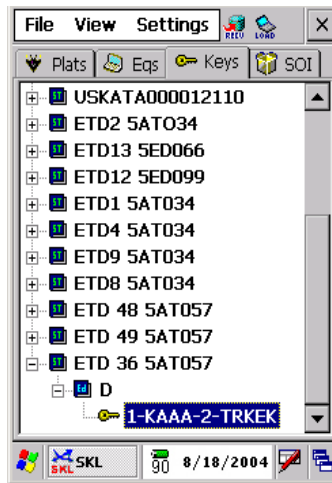
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**TRANSMISSION KEY ENCRYPTION KEYS (TrKEKs)**

A Transmission Key Encryption Key is one that encrypts other keys prior to them being transmitted or loaded. In the case of the SKL, the TrKEK can be Filled as well as Issued. In order for the TrKEK to work the way it was intended to work, it must be filled into the SKL by the KOK-22 (KP) or another SKL through the Load procedure.

**Fill Another SKL with a TrKEK**

If a master SKL has been Filled and Issued a TrKEK, it can now Fill another SKL through the Load command procedure. This will allow a second SKL to be able to send and receive encrypted key. To Fill another SKL with a TrKEK follow the procedure below. On the master SKL, select the **Keys Tab** and scroll until you find the **TrKEK Short Title and expand it and the Edition out to reveal the actual key**. Make sure the key is highlighted as depicted below in Figure 1, *TrKEK Expanded*.



**Figure 1. TrKEK Expanded.**

1. With the **TrKEK highlighted**, select **File→Transmit→Load** as depicted in Figure 2, *File→Transmit→Load*, below.

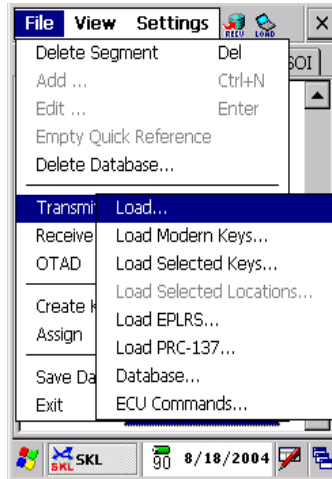


Figure 2. File→Transmit→Load.

- As a result of this above selection the window in Figure 3, *Key Load Settings*, opens.

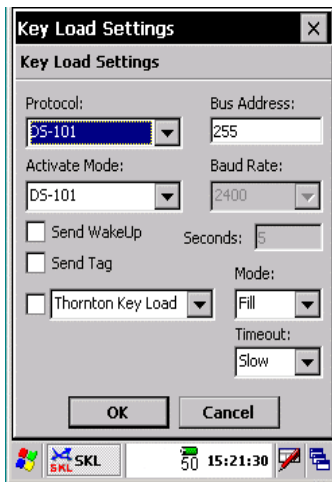


Figure 3. Key Load Settings.

- You will notice that all of the information is already filled in for you. Of particular note though is the Mode. Make sure **Fill** is selected in the Mode Field. That is because you are filling this TrKEK into the SKL and not issuing it to the SKL. Fill is always the default. Tap on the **OK** button. The window in Figure 4, *Connect to Receive Equipment*, opens.

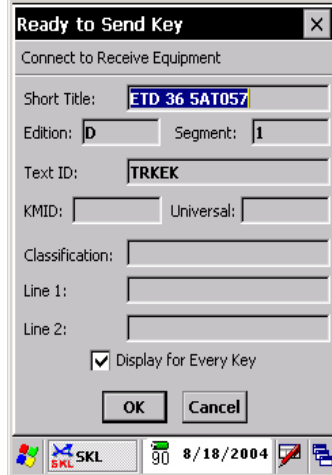


Figure 4. Connect to Receive Equipment.

4. Prepare the receiving SKL by following the procedures in Work Package 0016-22, steps 1-6. Connect the sending SKL to the receiving SKL using the standard Fill Cable. When finished, tap on the **OK** button. The window in Figure 5, *Operation Successful*, opens.



Figure 5. Operation Successful.

5. A Status window opens giving you the status of the Load operation. Then you will get an Operation Successful window as depicted above. Tap on the **OK** button in the upper right-hand corner of the window. The SKL returns to the Keys Tab. Disconnect the Fill Cable. **On the receiving SKL select View→Keys→TrKEK.** You should see the new TrKEK as a fill item in the receiving SKL. On the receiving SKL the TrKEK is automatically saved to the database. The operation is now complete.

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
SKL UAS TRANSMIT/LOAD FUNCTION (PART 2 OF 2)  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

---

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

---

FILE MENU  
TRANSMIT/LOAD

---

TRANSMIT

The Transmit selection under the File Menu has ten (10) submenu selections. They are Load, Load Modern Keys, Load Selected Keys, Load Selected Locations, Load EPLRS, Load PRC-137, Load Benign Fill, Load Mode 5 IFF, Database, and ECU Commands. This particular Work Package 0015 will only address the last five submenu selections. The first five selections are discussed in the previous Work Package 0014.

Load the PRC-137 Radio

The AN/PRC-137 radio is used in special circumstances by special U.S. Army units. It is a unique radio in that it loads its keys using files rather than using a Platform loading procedure similar to the SINCGARS radio. Use the following procedure to load an AN/PRC-137 radio.

1. Select **File**→**Transmit**→**Load PRC-137** as depicted below in Figure 1, *File*→*Transmit*→*Load PRC-137*.

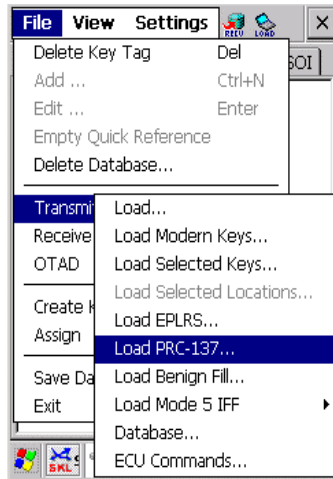


Figure 1. File→Transmit→Load PRC-137.

2. As a result of selecting **Load PRC-137**, the window in Figure 2, *Select TrKEK*, opens.



Figure 2. Select TrKEK.

3. The AN/PRC-137 requires that a Transmission Key Encryption Key (TrKEK) be loaded. **Select the TrKEK from the list** and then tap on the **Next>>** button. The window in Figure 3, *Select Key File*, opens.

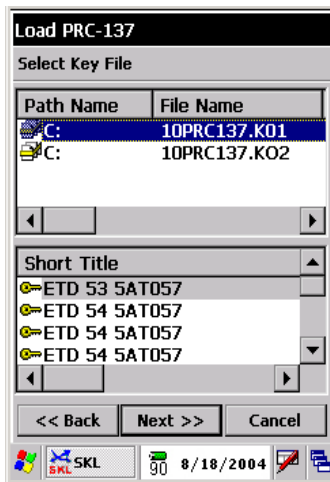


Figure 3. Select Key File.

4. This window lists all key files stored in the Mission Database of the SKL. Since the AN/PRC-137 is loaded using files rather than keys, **select the appropriate file** as depicted above and then tap on the **Next>>** button. The window in Figure 4, *Load Second Key File*, opens.

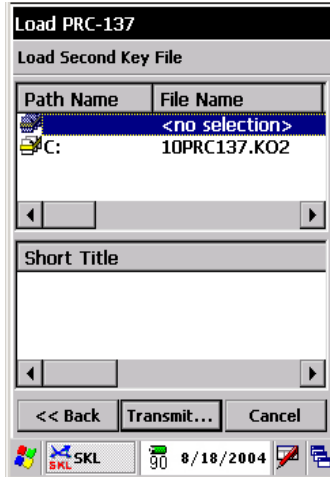


Figure 4. Load Second Key File.

5. This window allows you to load a second key file if there is one available. In the depiction above, we have selected "No Selection". Therefore, make your own selection based on what is stored in the SKL's Mission Database and then tap on the **Transmit** button. The window in Figure 5, *Load ECU Wizard*, opens.

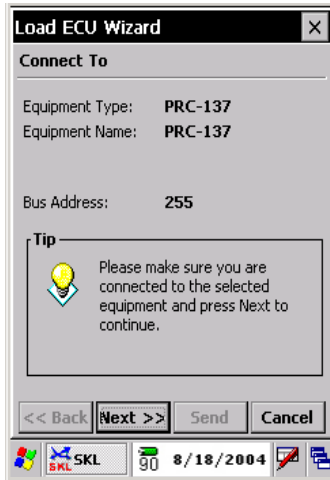


Figure 5. Load ECU Wizard.

6. Connect the SKL to the AN/PRC-137. Then follow the directions on the window and then tap on the **Next>>** button. The window in Figure 6, *Status*, opens.

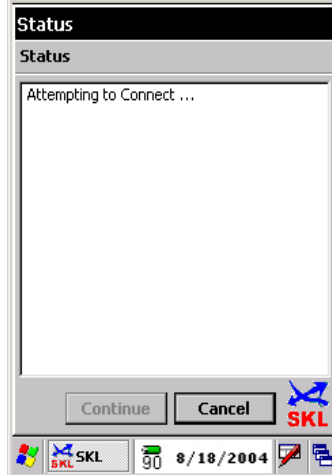


Figure 6. Status.

7. This window will provide you with a complete status of the loading procedure for the AN/PRC-137. Once the procedure is completed the window in Figure 7, *Operation Successful*, opens.



Figure 7. Operation Successful.

8. Tap on the **OK** button in the upper right-hand corner of the window. The window closes and the SKL UAS Desktop opens with the Keys Tab displayed.

## END OF TASK

### Load Benign Fill

Benign Fill (BF) is the NSA-designed process for loading application keys and data into an ECU using public key cryptography techniques. Benign Fill is designed so that the application keys are never red except in the device where they are generated and in the ECU where they are used. NSA is requiring most new ECUs to implement BF.

Since this implementation is so new there are no instructions on how to use it in the SKL at this time. As Benign Fill keying is implemented further in the U.S. Army this task will be updated to show how Benign Fill can be loaded in BF capable ECUs.

## Load Mode 5 IFF

Mode 5 IFF (Identification Friend or Foe) uses an electronic radio based identification system utilizing transponders. These transponders are on aircraft and ground based systems such as those found in ADA units. The purpose of the Mode 5 IFF system is to be able to identify which aircraft are friendly and which are not. This is done through a series of interrogation commands that are encrypted. If the responses are correct then the aircraft is considered friendly, if they are not, then the aircraft is considered hostile.

The SKL has routines to load the equipment used in the Mode 5 based systems and the ability to change the time of day and issue commands to the ECUs.

The following set of procedures should be followed to load key into the Mode 5 equipment, issue commands to that equipment and to set the time of day in the equipment.

## Load Mode 5 IFF Key

The procedure to load key into Mode 4/5 IFF equipment is the same as the procedure "Load Selected Key" (Work Package 0014). Follow the steps in that procedure to load the required key into the Mode 5 equipment.

## Load Mode 5 IFF Time of Day

The SKL has the ability to change the Time of Day in the Mode 5 equipment so that the transponders can sync up with each and interrogation can take place. Use the following procedure to change the Time of Day in the Mode 5 equipment.

1. Select **File**→**Transmit**→**Load Mode 5 IFF**→**Time of Day** as shown below in Figure 8, *Time of Day*.

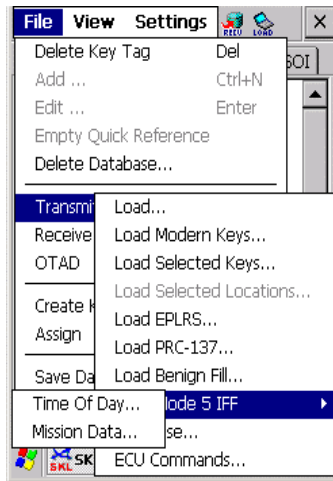


Figure 8. Time of Day.

2. As a result of the above selection the window in Figure 9, *Enter Bus Address* opens.



Figure 9. Enter Bus Address.

3. Now you must enter a Bus Address for the equipment you are attempting to change the Time of Day on. Tap on the **Down Arrow** and select the correct Bus Address. Then tap on the **OK** button. The window in Figure 10, *Activating Wakeup* opens.



Figure 10. Activating Wakeup.

4. Once the Wakeup of the equipment has been accomplished, the window in Figure 11, *Enter Time of Day* opens.

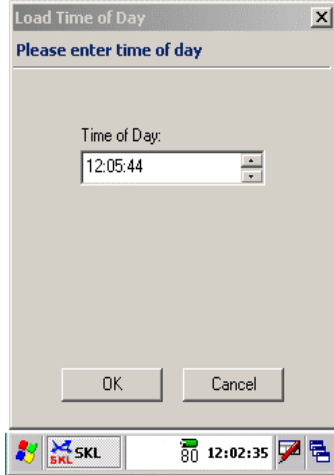


Figure 11. Enter Time of Day.

5. Enter the correct time by using the up and down arrows. When the time is correct, tap on the **OK** button. The window in Figure 12, *Operation Successful* opens.

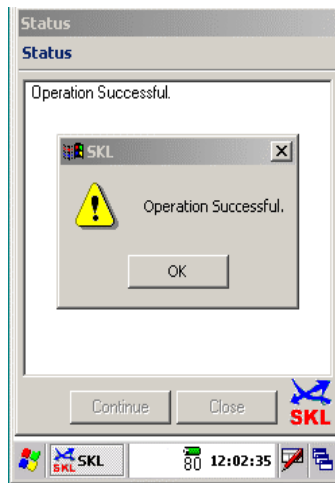


Figure 12. Operation Successful.

6. Tap on the OK button to finish the procedure. You have now just successfully changed the time of day in the Mode 5 IFF equipment.

### Load Mode 5 IFF Mission Data

Mode 5 IFF Mission Data allows the user to input specific data requirements into the Mode 5 equipment. These data requirements are essential to making the Mode 5 IFF system function properly. Use the following procedure to enter the Mission Data into the Mode 5 IFF equipment.

1. Select **File**→**Transmit**→**Load Mode 5 IFF**→**Mission Data** as shown below in Figure 13, *Mission Data*.

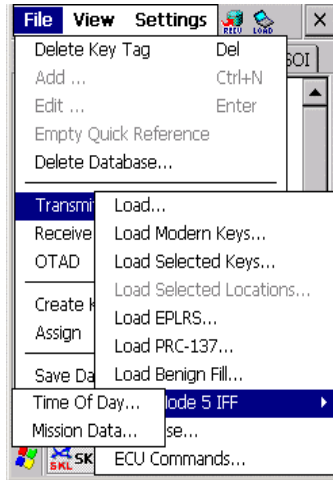


Figure 13. Mission Data.

2. As a result of the above selection the window in Figure 14, *Mission Data Input* opens.

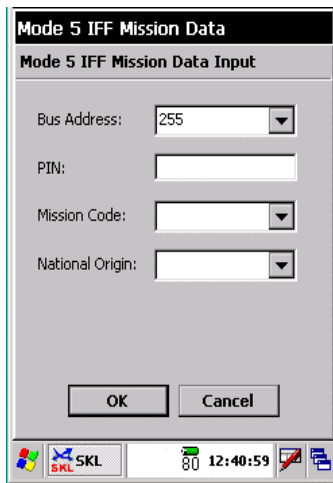


Figure 14. Mission Data Input.

3. Insert the PIN by activating the virtual keyboard. Once finished close the Virtual Keyboard. Then using the down-arrow select the correct Mission Code and National Origin. Then tap on the **OK** button. The window in Figure 15, *Activating Wakeup* opens.

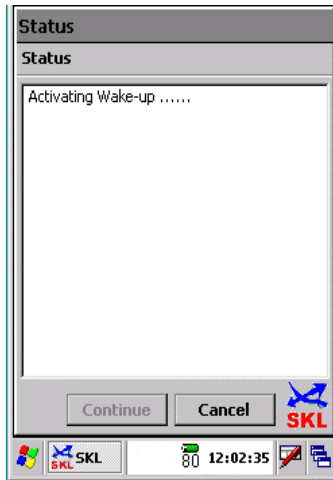


Figure 15. Activating Wakeup.

4. Once the Mode 5 equipment receives the wakeup signal, the Mission Data is sent to the equipment. Once the load is complete, the window in Figure 16, *Operation Successful* opens.

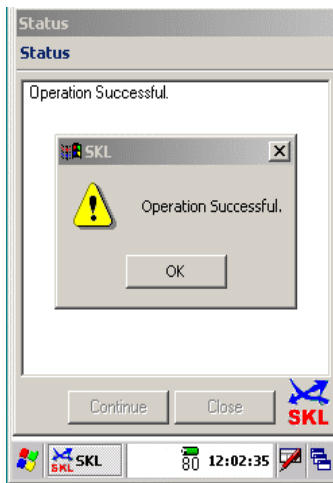


Figure 16. Operation Successful.

5. Tap on the **OK** button to close out the procedure.

### Transmit Database

There are four (4) different methods of transmitting a database. The first is to transmit all the databases that are stored in the SKL. The second is to transmit a selected database excluding the SOI database. The third is to transmit the SOI database by itself. The fourth method of transmitting a database is by using the SINCGARS Broadcast Mode. Associated with transmitting databases is the Transfer Mode you are going to use. The following paragraphs will lead you through the steps of transmitting databases.

**Transmit All Databases.** This feature allows the user of the SKL to transfer all the database information contained in the SKL to another device. This includes all assigned and unassigned database items. This procedure will work from any tab. Follow the procedures below to accomplish this action.

NOTE

The DTD with CT3 loaded is the only entity that uses Mission Dates. When attempting to transmit the Mission Date, you must select either a Platform, Equipment, or Key along with the Mission Date for this procedure to work. The SKL will then put a date starting with the effective date of the first key assigned and then include every other date for the period of time that the key is effective. For instance, if you have a TEK that is good for 30 days and your have a KEK that is good for 90 days and their effective dates are the same, the SKL will include 90 Mission Dates for these two keys. If you have a TEK that has three segments and each segment is good for 30 days, then your SKL will process 90 Mission Dates and transmit that data to the receiving device along with all the other data associated with the Platform, Equipment, or Key. As you can readily see from the data provided above, the transmission time for this particular procedure can be lengthy.

1. From the SKL UAS Main Menu, select **File**→**Transmit**→**Database**. The window in Figure 17, *Database Transmit Wizard*, opens.



Figure 17. Database Transmit Wizard.

2. With all the **Database Options selected by default**, tap on the Mission Date to remove the checkmark as this operation is transferring the database to another SKL. Now tap on the **Next>>** button. The window in Figure 18, *Transfer Mode*, opens.

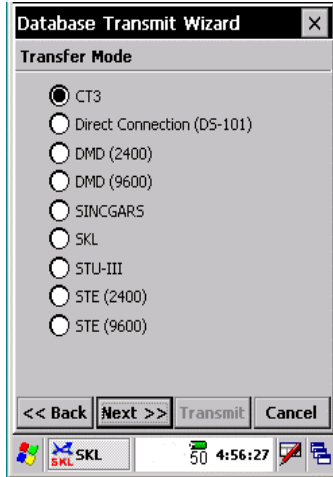


Figure 18. Transfer Mode.

3. Now select the target device that will receive the databases. The example depicted below in Figure 19, *Transfer Mode (SKL)*, has another SKL selected

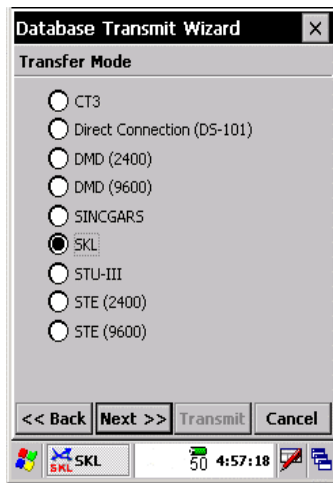


Figure 19. Transfer Mode (SKL).

4. The selection of the **SKL** for the transfer mode indicates that your transmitting SKL will be directly connected to another SKL. Now tap on the **Next>>** button. The window in Figure 20, *Database Transmit Wizard Finish*, opens.

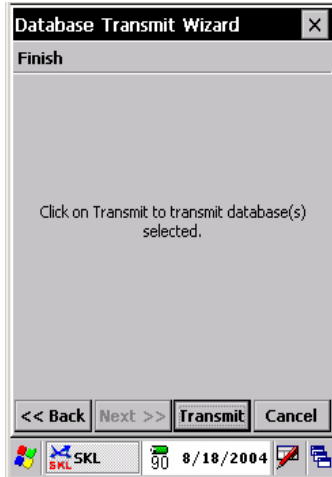


Figure 20. Database Transmit Wizard Finish.

5. Connect the Transmitting SKL to the Receiving SKL using a standard Fill cable. Then tap on the **Transmit** button to transmit the Databases. The window in Figure 21, *Status*, opens.

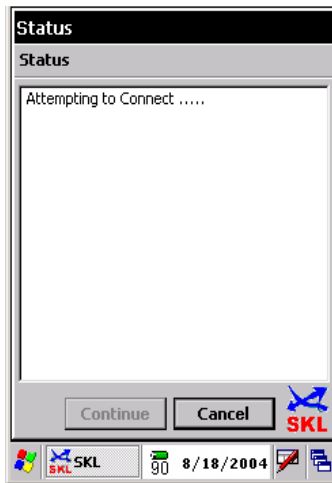


Figure 21. Status.

6. You will see a Progress window open and once the messages are built you should see messages on the Status window indicating the progress of the transmit process. On the Receiving SKL's Status window you should see the items being received. When the Transmit process is completed the window in Figure 22, *Operation Successful*, opens.



Figure 22. Operation Successful.

7. Tap on the **OK** button in the upper right-hand corner of the window. The SKL UAS Desktop returns.

#### END OF TASK

**Transmit Selected Database(s).** There will be times when you will want to transmit only selected databases to another device. To transmit selected databases to another device, follow the procedure below.

#### NOTE

The DTD with CT3 loaded is the only entity that uses Mission Dates. When attempting to transmit the Mission Date, you must select either a Platform, Equipment, or Key along with the Mission Date for this procedure to work. The SKL will then put a date starting with the effective date of the first key assigned and then include every other date for the period of time that the key is effective. For instance, if you have a TEK that is good for 30 days and your have a KEK that is good for 90 days and their effective dates are the same, the SKL will include 90 Mission Dates for these two keys. If you have a TEK that has three segments and each segment is good for 30 days, then your SKL will process 90 Mission Dates and transmit that data to the receiving device along with all the other data associated with the Platform, Equipment, or Key. As you can readily see from the data provided above, the transmission time for this particular procedure can be lengthy.

1. Select **File**→**Transmit**→**Database** from the SKL UAS Main Menu. The window in Figure 23, *Database Transmit Wizard*, opens.



Figure 23. Database Transmit Wizard.

2. As depicted in the window above, by default, all the databases are selected. Tap on the **Deselect All** button to remove the Checkmarks from all the databases as shown in Figure 24, *Database Transmit Wizard (Deselected)*, below.



Figure 24. Database Transmit Wizard (Deselected).

3. Now select only one database you wish to transmit by tapping in the box to the left of the database you wish to transmit. The example depicted in Figure 25, *Database Transmit Wizard Selected Database*, shows just **Platform** selected. This will allow you to transmit all items assigned to the Platform i.e., Equipment, Key Tags, EP Data, etc.



Figure 25. Database Transmit Wizard Selected Database.

4. Now tap on the **Next>>** button to continue with the transmit process. The window in Figure 26, *Transfer Mode*, opens.

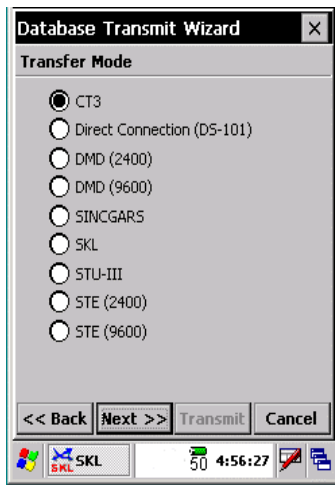


Figure 26. Transfer Mode.

5. Select the target device that is the intended destination. In the example depicted below, the SKL is chosen as shown in Figure 27, *Transfer Mode SKL Selected*.

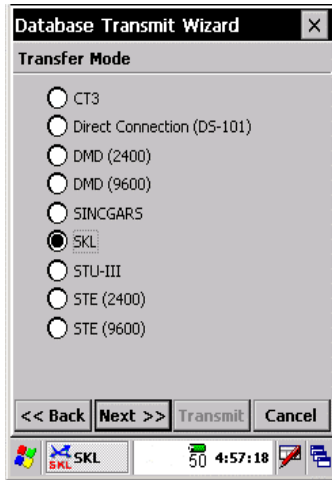


Figure 27. Transfer Mode SKL Selected.

6. Now tap on the **Next>>** button. The window in Figure 28, *Platform Selection*, opens.

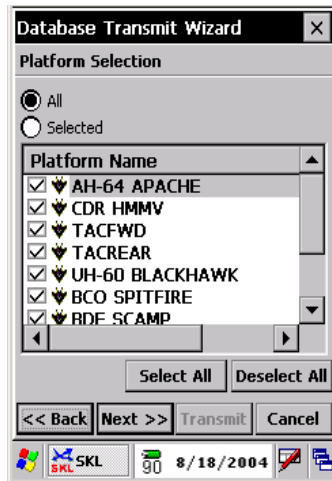


Figure 28. Platform Selection.

7. The Platform Selection window defaults to all platforms. If you wish to transmit only selected platforms, tap on the Deselect All button and then select each platform that you wish to transmit. Otherwise, leave the default as it is to transmit all platforms. Once you have made your platform selection, tap on the **Next>>** button. The window in Figure 29, *Finish*, opens.

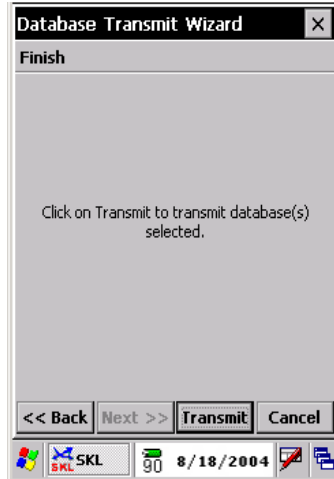


Figure 29. Finish.

8. Connect the Transmitting SKL to the Receiving SKL using a standard Fill cable. The SKL is now ready to transmit the selected databases. Tap on the **Transmit** button. The window in Figure 30, *Status*, opens.



Figure 30. Status.

9. The Status window shows the operator that the SKL is processing messages during the transmit operation. In the case depicted above there are 227 messages to process. This number will vary depending on what you have selected for transmission. When finished, the window in Figure 31, *Operation Successful*, opens.

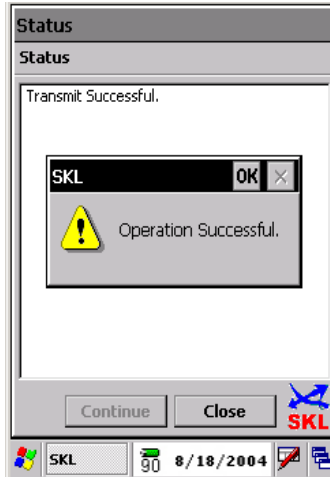


Figure 31. Operation Successful.

10. When the operation completes, you should receive a message like the one depicted above. Tap on the **OK** button in the upper right-hand corner of the SKL window. The Status window closes and the SKL returns to the SKL UAS Main Menu tab that you had open when the process began.

#### END OF TASK

**Transmit the SOI Database.** The SKL has the ability to transmit all the database elements that are stored in the SKL. The following procedure documents the steps required to transmit the SOI database to another device.

1. From the SKL UAS Main Menu, select **File**→ **Transmit**→**Database**. The window in Figure 32, *Database Transmit Wizard*, opens.



Figure 32. Database Transmit Wizard.

#### NOTE

You may select **Cancel** at anytime during the transmit operation to terminate the process.

- The Database Transmit Wizard defaults to selecting all the databases for transmit. To transmit just the SOI database, tap on the **Deselect All** button with the Inductive Stylus. This will remove the Checkmarks from all the databases. Then put a **Checkmark (✓)** in the box to the left of the **SOI** selection. When finished, the Database Transmit Wizard should look like the window in Figure 33, *Database Transmit Wizard Modified*.

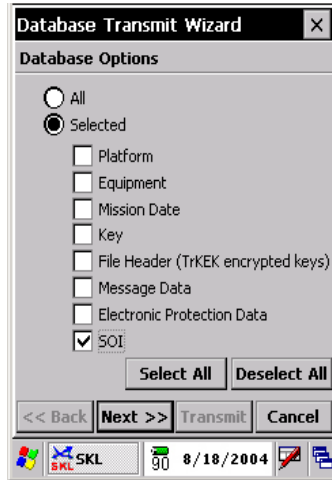


Figure 33. Database Transmit Wizard Modified.

- Now tap on the **Next>>** button to continue with the transmit process. The window in Figure 34, *Transfer Mode*, opens.

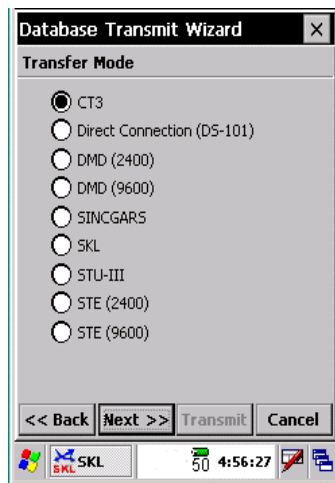


Figure 34. Transfer Mode.

- Now you must select how to transfer the SOI database. It defaults to **CT3** meaning that the database will be transferred to a CT3 device. Select the transfer mode from the list and tap on the **Radio** button next to your selection as depicted in the example in Figure 35, *Transfer Mode (SKL)*, below.

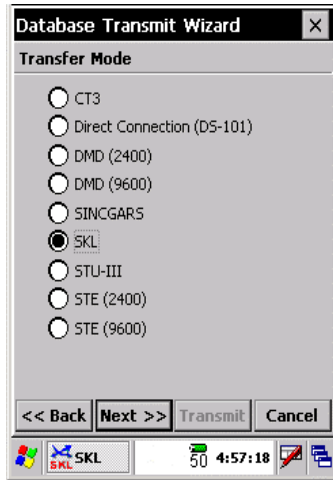


Figure 35. Transfer Mode (SKL).

5. The selection of the **SKL** for the transfer mode indicates that your transmitting SKL will be directly connected to another SKL. Now tap on the **Next>>** button. The window in Figure 36, *SOI Selection*, opens.

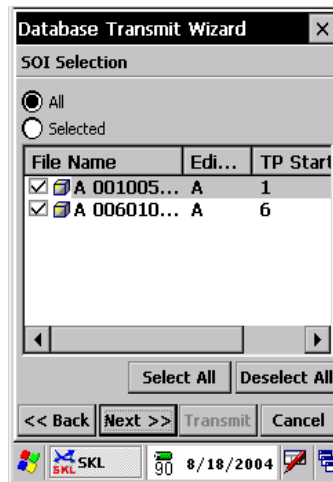


Figure 36. SOI Selection.

6. This window allows you to select the SOI files that you want to send. It defaults to all. If you want to send the first five (5) Time Periods then deselect the file A 001005.SOI. Conversely, if you want to send just Time Periods 6-10 then deselect the file A 006010.SOI. In this example all Time Periods are selected for transfer. Once you have made the correct selection, tap on the **Next>>** button. The window in Figure 37, *Finish*, opens.

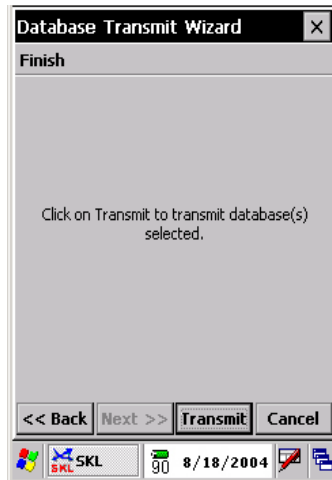


Figure 37. Finish.

7. Connect the Transmitting SKL to the Receiving SKL using a standard Fill cable. Then tap on the **Transmit** button to send the SOI Database. Multiple messages will appear in the Status area of the window during the transmit process. You can still cancel the operation at this time by tapping on the Cancel button. When the operation finishes, the window in Figure 38, *Operation Successful*, opens.

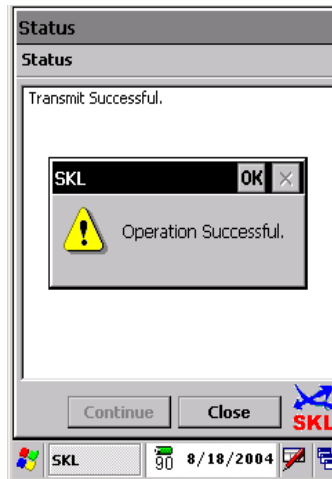


Figure 38. Operation Successful.

8. Tap on the **OK** button in the upper right-hand corner of the SKL window. The Status window closes and the SKL returns to the SKL UAS Main Menu.

#### END OF TASK

**Transmitting Database(s) Using the SINGARS Broadcast Mode.** This procedure allows the SKL at the SINGARS Net Control Station (NCS) radio to transmit a database(s) to multiple SKLs situated with the Outstation SINGARS radios at the same time. There are several actions that must take place at the transmitting SKL's location before the procedure can begin. These are:

- Move the handset on the NCS SINGARS radio to the **Aud/Fill** connector.
- Connect the SKL to the SINGARS radio's **Aud/Data** connector using a Fill cable.

- Set the data rate on the NCS SINGGARS radio by pressing the **DATA** button on the keypad and then the **CHG** button repeatedly until 1200 is displayed on the radio.
  - Inform the net members of their Broadcast ID number. (The NCS designates Broadcast IDs for the net members.) All receiving SKLs should have a separate Broadcast ID number. (There is a maximum of 16 Broadcast IDs per net.)
  - Pre-read all the steps in the procedure prior to actually performing the Broadcast process.
1. From the main menu select **File**→**Transmit**→**Database**. The window in Figure 39, *Database Options*, opens.

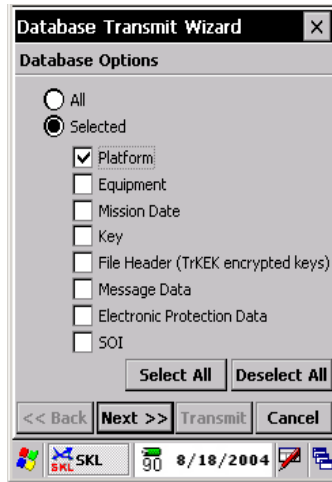


Figure 39. Database Options.

2. On the NCS SKL **select the type of database(s) you intend to broadcast**. The Database Options window opens with all databases selected. If you want to just transmit selected databases, tap on the Deselect All button and then select which database you want to transmit. The NCS operator should consider the size of the database before selecting multiple items. The more items selected, the longer the broadcast will take to complete. For our example we have chosen just the Platform database to transmit. Once you have made your selections tap on the **Next>>** button. The window in Figure 40, *Transfer Mode*, opens.

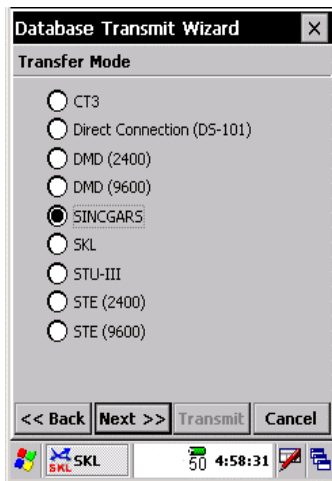


Figure 40. Transfer Mode.

- The Transfer Mode window opens with CT3 selected. Change the mode on the NCS SKL by tapping on the radio button next to **SINGARS** as shown above and then tap on the **Next>>** button. The window in Figure 41, *Select Broadcast ID*, opens.

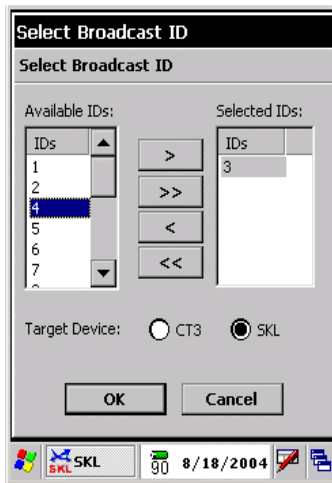


Figure 41. Select Broadcast ID.

- On the **NCS SKL** highlight each broadcast ID number you wish to transmit to and then tap on the **>** button to move the numbers from the Available IDs to the Selected IDs column. Then select the Target Device, (i.e., CT3 or SKL) as depicted above. After all the Broadcast IDs and Target Device has been selected, tap on the **OK** button. The window in Figure 42, *Platform Selection*, opens.

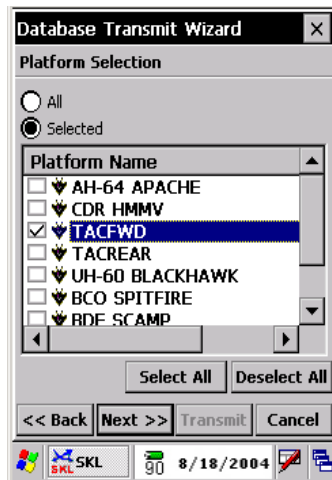


Figure 42. Platform Selection.

- The Platform Selection window opens with all Platforms selected. If you want just selected Platforms, then tap on the Deselect All button and then select which Platform(s) you wish to transmit. In this case we have chosen to transmit the **TACFWD Platform** and have put a Checkmark (✓) in the box next to the TACFWD Platform. Then tap on the **Next>>** button. The window in Figure 43, *Finish*, opens.

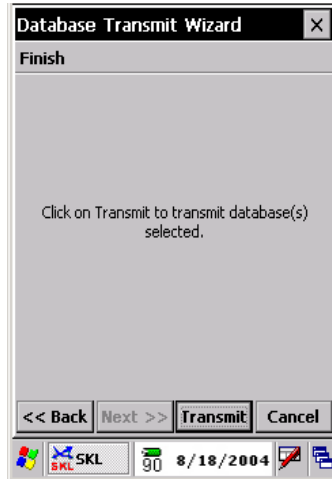


Figure 43. Finish.

- The NCS operator will now call all the Outstation(s) and tell them to prepare their SKL to receive a database(s) using the SINGGARS mode. Tell them once they are at the Receive Database window to tap on the Receive Button. The Outstation(s) SKL will display "Receive in progress...". Wait for all net members' SKL to display the "Receive in progress". On the NCS SKL tap on the **Transmit** button. The window in Figure 44, *Status*, opens.



Figure 44. Status.

- On the NCS SKL Status window you will temporarily see "Building data" and then "Broadcasting data". The NCS and net member's SKLs will electronically handshake and all selected data will be broadcasted. Once the Broadcast operation is finished the window in Figure 45, *Operation Successful*, opens.

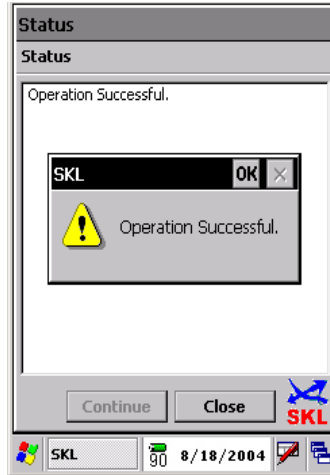


Figure 45. Operation Successful.

8. On the NCS SKL, tap on the **OK** button in the upper right-hand corner of the window. The SKL returns to the tab that was open when the Broadcast process started. The Outstation(s) SKLs should have received the database(s) and saved them into their Mission Database. Call each outstation to confirm that they received the database. For those that did not receive the database the operation will have to be repeated for just those outstations.

## END OF TASK

### Transmit ECU Commands

The SKL UAS v4.0 is capable of sending commands to five (5) different types of equipment. As new equipment for communications enter the force, they are having the capability to receive commands to do such things as Zeroize EEPROM slots, set up Station IDs, Station Addresses, and Zeroize RAM on DS-101 devices. The device shown below for the purposes of addressing this capability in this TM is the Joint Tactical Information Distribution System (JTIDS). To start the procedure to issue commands to the JTIDS equipment select **File**→**Transmit**→**ECU Commands**. The window in Figure 46, *ECU Command Wizard*, opens as shown below.



Figure 46. ECU Command Wizard.

1. This window will allow the user to select which equipment they want to send commands to, what type of command to send, select the Bus Address of the equipment (if any), and if you select either the KGV-23 equipment or the command Set Station ID another field will appear on this window below the Bus Address called Station ID.. To select equipment tap on the **Down Arrow** to the right of the ECU field. As drop-down menu appears as shown in Figure 47, *ECU Selection*, below.

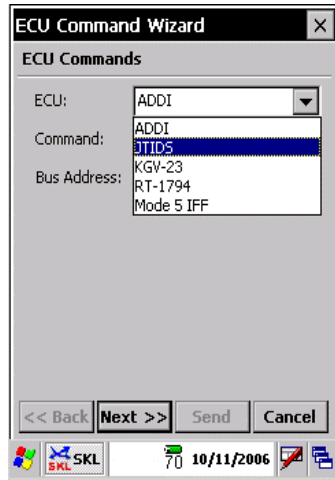


Figure 47. ECU Selection.

2. As depicted above there are five (5) different types of equipment the SKL can send commands to at the present time. They are ADDI, JTIDS, KGV-23, RT-1794, and Mode 5 IFF. For the purposes of this procedure we have chosen **JTIDS**. Now tap on the **Down Arrow** to the right of the Command field and a drop-down menu will appear as shown in Figure 48, *Command Selection*, below.

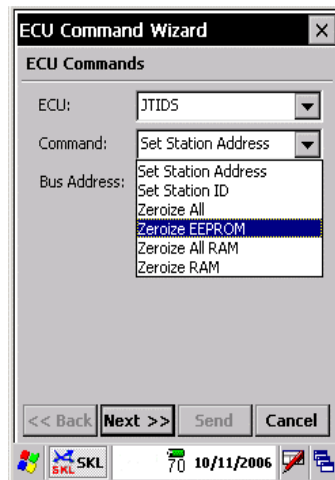


Figure 48. Command Selection.

3. As depicted above the JTIDS equipment has six (6) different commands that can be sent to the JTIDS equipment. For this procedure we have chosen **Zeroize EEPROM**. As a result of that command selection the window in Figure 49, *Available Locations*, opens.

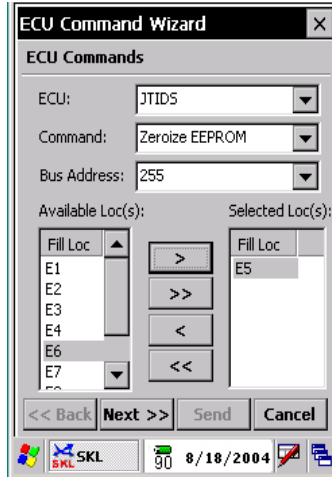


Figure 49. Available Locations.

- Since Zeroize EEPROM was chosen, the bottom half of the window changes to allow the operator to select which location in the EEPROM they wish to zeroize. In the case of JTIDS, there are nine (9) different Fill Locations that can be chosen. As depicted above, **Fill Loc E5** was chosen to be zeroized. To accomplish this, **highlight the Fill Loc you want to zeroize** and then click on the **>** to move that location to the Selected Loc(s) column. Once you have finished your selections, tap on the **Next>>** button. The window in Figure 50, *Connect To*, opens.

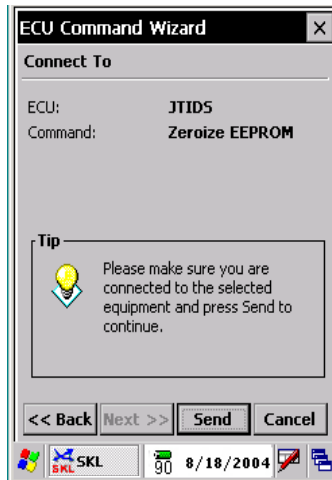


Figure 50. Connect To.

- Connect the SKL to the JTIDS using a standard Fill cable. Then tap on the **Send** button. The window in Figure 51, *Status*, opens.

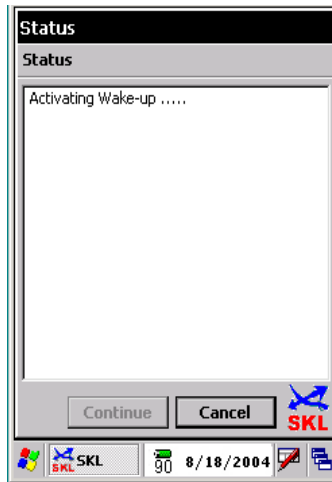


Figure 51. Status.

6. The Status window will give the user of the SKL the exact status of the procedure that is being performed. Once the procedure is completed, the window in Figure 52, *Operation Successful*, opens.



Figure 52. Operation Successful.

END OF TASK

END OF WORK PACKAGE



OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
SKL UAS RECEIVE FUNCTION (PART 1 OF 2)  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

---

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

---

FILE MENU  
RECEIVE

---

RECEIVE

The Receive selection under the File Menu has five (5) submenu selections. They are Database, Key, Key Needed, XML File, and 87-27 File. This Work Package will only address the first two submenu selections. The last three selections are discussed in Work Package 0017.

Receive Database

There are several different methods in which to receive a database into the SKL. Each Method will be explained in the following paragraphs.

**Receiving Database(s).** The SKL has the ability to receive databases. In the receive function, the selection of databases is up to the transmitting device. Use the following procedure to receive a database(s).

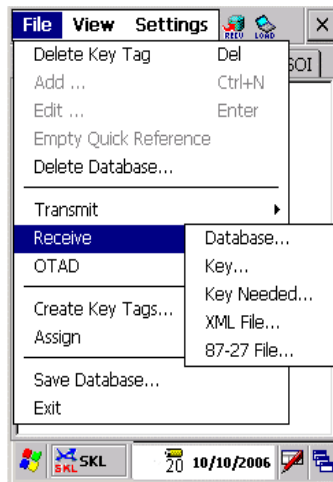


Figure 1. File→Receive→Database.

1. As depicted above, on the SKL UAS Main Menu, select **File→Receive→Database**. The window in Figure 2, *Receive Database*, opens.

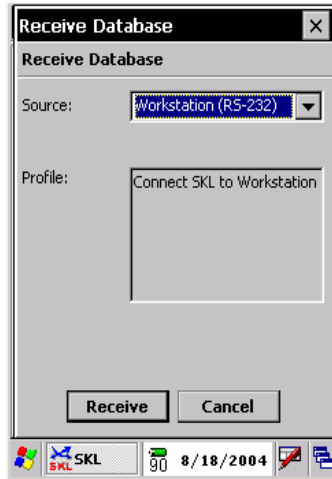


Figure 2. Receive Database.

2. This window has two parts. The first is the Source of the database. It defaults to **Workstation (RS-232)**. The second is the Profile. The Profile prompts the operator of the receiving SKL what to do in order to receive the database. Tap on the **Source** down arrow as depicted in Figure 3, *Receive Database Sources*.

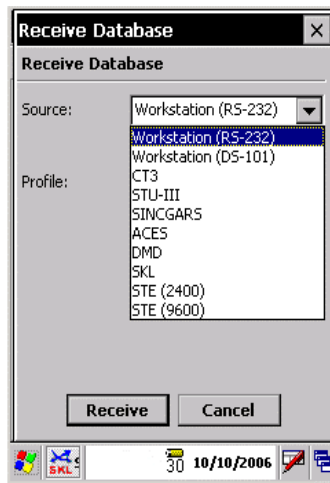


Figure 3. Receive Database Sources.

3. Select the source from the drop-down menu. For this example we have selected another **SKL** as shown in Figure 4, *Receive Database Source SKL*.

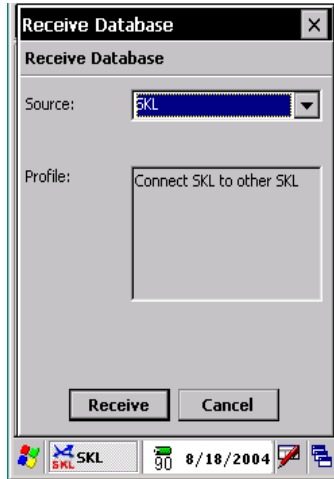


Figure 4. Receive Database Source SKL.

4. Once selection of the source has been made, the Profile area will tell the SKL operator what to do. Now tap on the **Receive** button. The Figure 5, *Status*, opens.

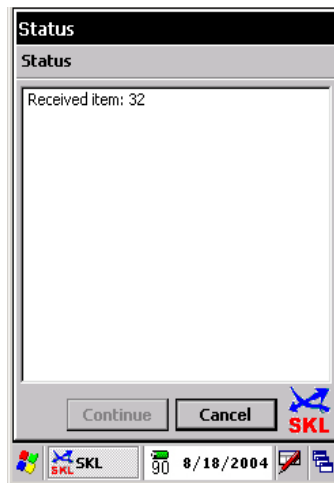


Figure 5. Status.

5. This window provides status on the receive operation. When the receive operation is complete, the program will autosave the changes to the database. The window in Figure 6, *Operation Successful*, opens.

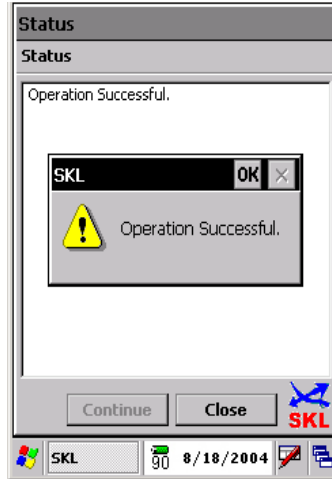


Figure 6. Operation Successful.

6. Tap on the **OK** button in the upper right-hand corner of the window to close it. The window in Figure 7, *Receive Database*, opens.

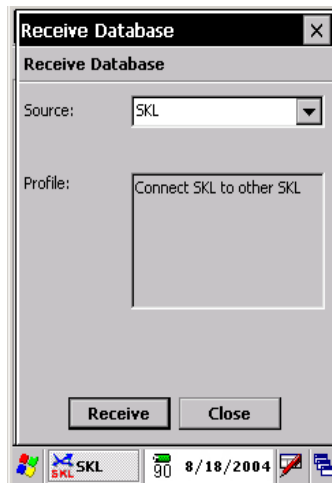


Figure 7. Receive Database.

7. With the receive operation complete, tap on the **Close** button. The system returns to the SKL UAS Main Menu with the tab displayed, which had been selected at the start of the receive operation as depicted in Figure 8, *Plats Tab*.

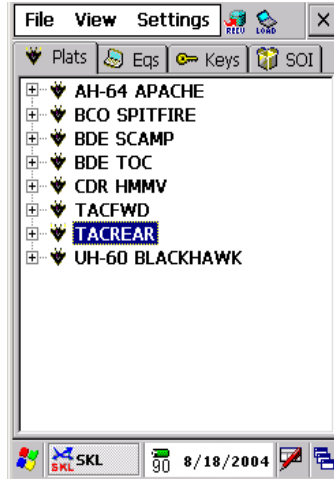


Figure 8. Plats Tab.

### END OF TASK

**Receiving Database from Workstation (RS-232) Source.** There are several different interface protocols that the SKL can use to send and receive information. They are RS-232, DS-101, and DS-102. The following procedure outlines the steps required to receive a database using the RS-232 protocol. The SKL display can be open to any tab; in this case the Plats tab is open as shown in Figure 9, *Plats Tab*.

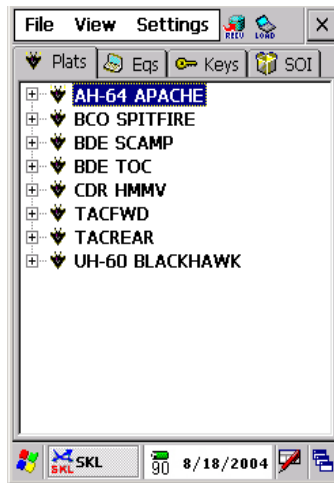


Figure 9. Plats Tab.

1. From the SKL UAS Main Menu, select **File→Receive→Database**. The window in Figure 10, *Receive Database*, opens.

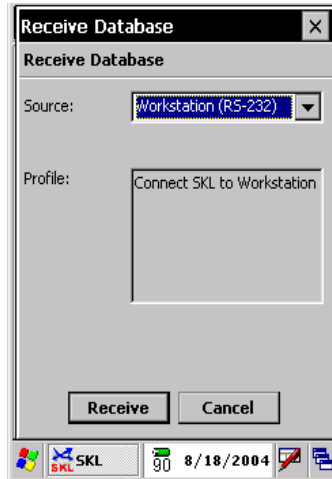


Figure 10. Receive Database.

2. This window has two parts. The first part Source, allows you to select the sending device. The second part is the Profile field. This field provides additional instructions for the SKL user. This window defaults to the Workstation (RS-232). Connect the SKL to the Workstation using the RS-232 cable. Once the two devices are physically connected tap on the **Receive** button with the Inductive Stylus. The window in Figure 11, *Status*, opens informing the user as to the status of the receive operation from the Workstation (RS-232).



Figure 11. Status.

3. The Status window displays the incremental progress of the receive operation from the Workstation (RS-232). If the receive operation is successful, the Status window will indicate this by displaying "Finished processing". When the receive operation is complete, the program will autosave the changes to the database. The window in Figure 12, *Operation Successful*, opens.

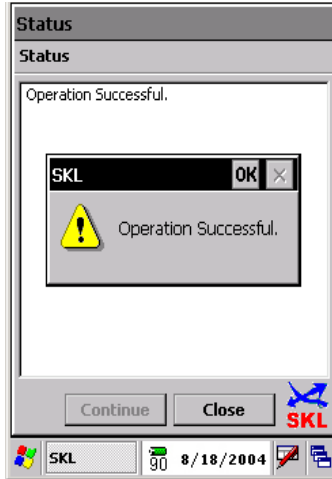


Figure 12. Operation Successful.

4. Tap on the **OK** button in the upper right-hand corner of the window to close it. The window in Figure 13, *Receive Database*, opens.

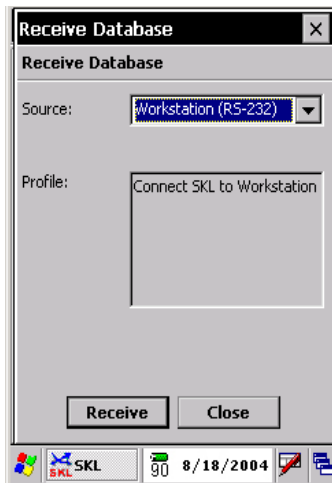


Figure 13. Receive Database.

5. If you have other items to receive, then you will want to tap on the Receive button and the receive process will continue on. If you have no more items to receive, tap on the **Close** button. The window in Figure 14, *Plats Tab*, opens.

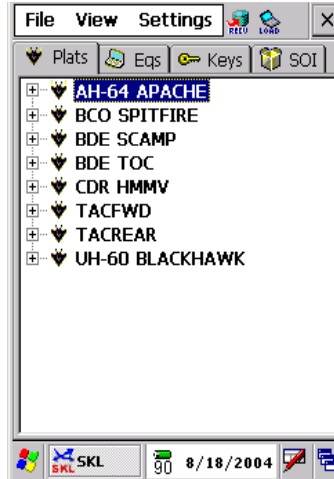


Figure 14. Plats Tab.

6. The figure depicted above shows the Plats Tab. That is only because that is the tab that was open when this process began. If you were on the Keys Tab, then that tab would re-open at the end of this process.

#### END OF TASK

**Receiving a Database Using the SINCGARS Broadcast Mode.** The transmitting device (SKL) can send a database(s) to multiple SKLs within a communications network at the same time providing that the transmitting SINCGARS radio can communicate with Outstation(s) radios. This procedure provides the steps the receiving SKL must perform to receive a database(s) from the transmitting SKL. There are certain pre-conditions that must be met before the receive procedure can commence. These are:

- Move the handset of the SINCGARS radio to the **Aud/Fill** connector.
- Connect the SKL via the Fill cable to the **Aud/Data** connector of the SINCGARS radio.
- Set the data rate by pressing the **Data** button on the keypad and then the **CHG** button repeatedly until 1200 is displayed on the radio.
- Know or request the broadcast ID number from the NCS.

1. From the main menu select **File→Receive→Database**. The window in Figure 15, *Receive Database*, opens.

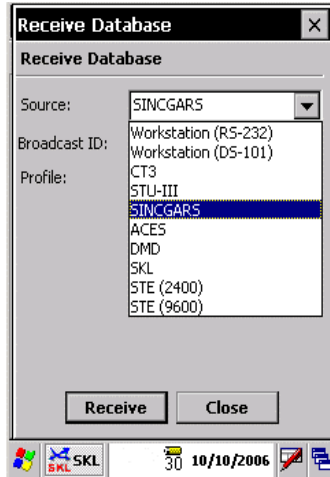


Figure 15. Receive Database.

2. Tap on the **Down Arrow** to display the source list. Select **SINGGARS**, from the source list. As a result of selecting SINGGARS the window in Figure 16, *Broadcast ID*, opens.

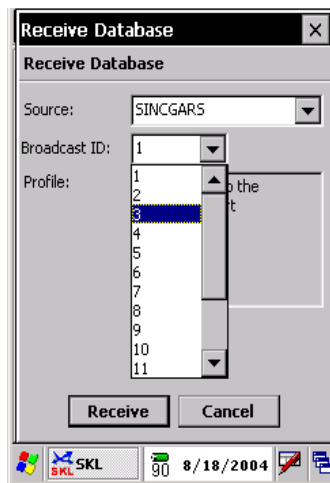


Figure 16. Broadcast ID.

3. Once SINGGARS is selected the Broadcast ID field opens. Tap on the **Down Arrow** of the Broadcast ID field and select the Broadcast ID. This is a designated ID for your particular SINGGARS radio. Each SINGGARS in the net will have its own Broadcast ID. In this case we have selected **3** as our ID. Once the ID is selected the window in Figure 17, *Profile*, opens.



Figure 17. Profile.

4. Connect the SKL to the **Aud/Data** connector on the SINGGARS radio and wait for the NCS to prepare their SKL to send the database(s). The NCS will then give you an instruction to tap on the **Receive** button. After the Receive button has been selected, a Status window opens and will display "**Receive in progress**" and then display the incoming data from the NCS. When the receive operation is complete, the program will autosave the changes to the database. The window in Figure 18, *Operation Successful*, opens.



Figure 18. Operation Successful.

5. Tap on the **OK** button in the upper right-hand corner of the window. The window in Figure 19, *Receive Database*, opens.

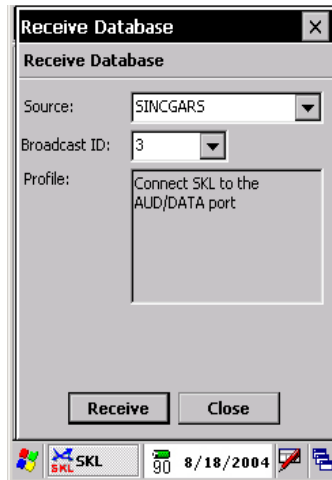


Figure 19. Receive Database.

6. If you are instructed that there is another database to follow, then tap on the Receive button again and the process will continue. If you are finished receiving databases tap on the Close button. For this depiction we have elected to tap on the **Close** button. The SKL returns to the tab that was open when you started the receive process. This concludes the procedure to receive a database(s) using the SINGGARS broadcast mode.

## END OF TASK

## Receiving Key

Two methods of receiving key into the SKL are outlined below. The first is receiving a key from a device using a DS-101 protocol. An example of this type of device would be the DTD. The second is receiving a key from a device using a DS-102 protocol. An example of this type of device is the KYK-13. Each of these receive functions is discussed below.

**Receiving Key from a DS-101 Device.** Two pieces of equipment use the DS-101 protocol and are used to download key. They are the DTD and the KOK-22 Key Processor (KP). Follow the procedures below to receive key from a DS-101 device.

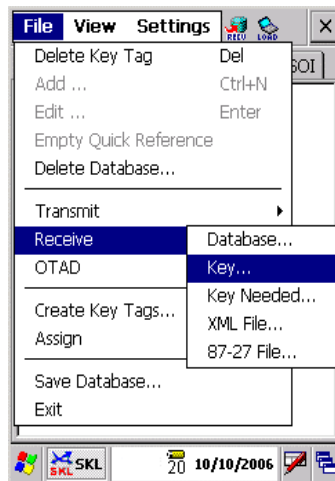


Figure 20. File→Receive→Key.

1. From the SKL UAS Main Menu, select **File**→**Receive**→**Key** as depicted above. The window in Figure 21, *Select Key Source*, opens.

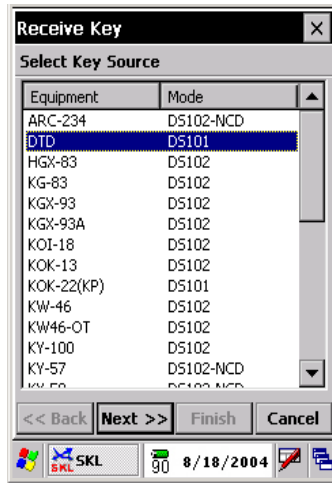


Figure 21. Select Key Source.

2. Use the Scroll Bar on the right side of the window to see all the selections. For this example we have selected the **DTD** as our key source. Once the DTD is highlighted, tap on the **Next**>> button. The window in Figure 22, *Receive Key Profile*, opens.



Figure 22. Receive Key Profile.

3. The Receive Key Profile window will only display those steps you are required to take based on the Profile Modes that is currently selected on your SKL. If the Profile Modes is set to "Detailed" then you will see most if not all steps required for you to take. If the Profile Modes is set to "Condensed" then you will see only a minimum amount of steps. (See Work Package 0029 Options for more information on the Profile Modes.) Follow the instructions in the Profile window for your equipment. Connect the DTD to the SKL and prepare the DTD for Transmit operations. On the DTD select the correct Key to transmit and continue with the operation on the DTD. Do not tap on the **Finish** button until after you have pressed the Down-Arrow on the DTD. The Status window on the SKL opens showing the progress of the Receive Key operation. Once completed, you should see the window in Figure 23, *Key Prompting*, displayed.



Figure 23. Key Prompting.

- This window is reminding you that the Date, Rate, and Period for the Key just received is set to Per Segment. If this is not what you want it to be then you must abort this operation and go to the Settings→Options→Keys tab to change it to either Short Title or Edition. Tap on the **OK** button, the window in Figure 24, *Status* opens.



Figure 24. Status.

- Once the receive procedure is completed, the window in Figure 25, *Receive Edition*, opens.



Figure 25. Receive Edition.

- The Receive Edition window provides information about the key that was just received from the DTD. The information consists of the Short Title, Edition, Text ID, Effective Date, Supersession Rate, and Cryptoperiod. The Effective Date, Supersession Rate, and Cryptoperiod can be changed to meet the needs of the mission the key will be used for. Tap on the **OK** button. The window in Figure 26, *Operation Successful*, opens.



Figure 26. Operation Successful.

- Tap on the **OK** button in the top right-hand corner of the SKL window. The keys are automatically saved to the database. Once the save is complete, the window in Figure 27, *Keys Tab*, opens. It should be noted here that the SKL will display the last Tab open prior to commencing the Receive Key operation.

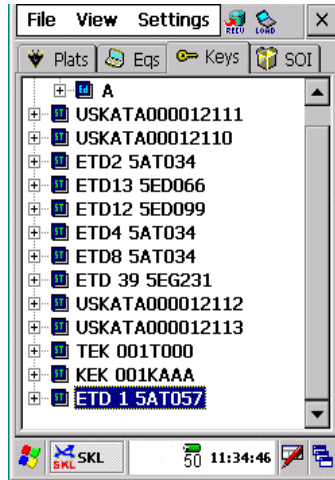


Figure 27. Keys Tab.

8. As depicted above the Keys tab was open when this procedure commenced and you can see the new key that was received. You can expand the Short Title to see the Edition and Key attributes.

#### END OF TASK

**Receiving Key from a DS-102 Device.** There is a number of equipment using DS-102 protocol from which key can be received by the SKL. Some of the more common ones are KYK-13, KYX-15, and the RT-1523 (SINGGARS Radio). For this example, the KYK-13 will be used to demonstrate how to receive key from a DS-102 device. Select **File**→**Receive**→**Key** from the SKL UAS Main Menu. The window in Figure 28, *Select Key Source*, opens.

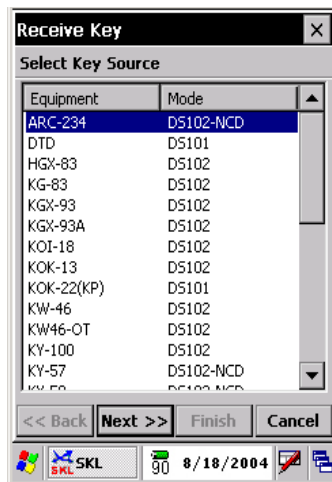


Figure 28. Select Key Source.

1. From the list presented, use the scroll bar to locate the KYK-13 and highlight it as shown in Figure 29, *Select Key Source (KYK-13)*, below.

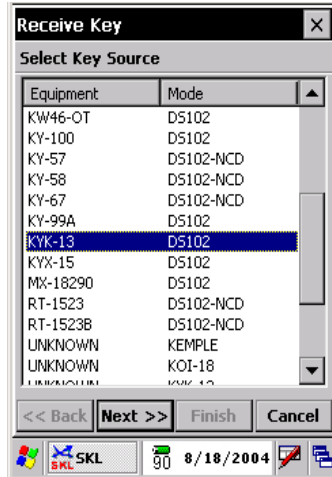


Figure 29. Select Key Source (KYK-13).

2. Now tap on the **Next>>** button. The window in Figure 30, *Receive Key (Key Tag Information)* opens.

**NOTE**

The window that opens next may be different than what is displayed in this example depending on the DS-102 device that you select.

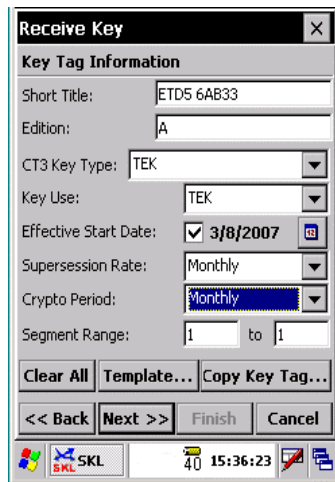


Figure 30. Receive Key (Key Tag Information).

3. This key tag information is for entry of applicable key tag data. There are three areas where the virtual keyboard is required. They are the Short Title, Edition, and Segment Range, which have been filled in as depicted above. The CT3 Key Type, Key Use, Effective Start Date, Supersession Rate, and Crypto Period are drop-down menus that are used to select the appropriate information. The Clear All button when tapped will clear all the information from only the Short Title and Edition fields. The Template button is used to select a saved template that will populate all the fields with the required information. The Copy Key Tag button when selected will allow you to copy key tag information from an existing key tag that is stored in your SKL. The key tag field characteristics are defined below:
  - a. The Short Title field has a 24-character limit.

- b. The Edition field has a 6-character limit.
- c. The Segment Range fields can accommodate a range from 1-99 segments.
- d. The CT3 Key Type field has a drop-down menu to choose from.
- e. The Key Use field has a drop-down menu.
- f. The Effective Start Date field has a down arrow that when selected opens up a calendar to choose the correct date.
- g. The Supersession Rate field has a drop-down menu.
- h. The Crypto Period field has a drop-down menu.



**TIP:** If default key tag values are in the Short Title and Edition fields, delete them by using the backspace key.



**TIP:** To use a field setting template, select Template and choose the appropriate template name (if any are listed on the Template list). This action enters the default values defined in the template in the Key Tag Information fields.

Once all the correct information has been entered in this window, tap on the **Next>>** button. The window in Figure 31, *Receive Key (Key Tag Information 2)*, opens.

The screenshot shows a window titled "Receive Key" with a close button (X) in the top right corner. Below the title bar is the heading "Key Tag Information 2". There are three input fields: "Register Number:" with the value "0", "Classification:" with a dropdown menu showing "Unclassified", and "Text ID:" with the value "1BDE CMD TEK". Below these fields is a button labeled "Save as Template...". At the bottom of the window are four buttons: "<< Back", "Next >>", "Finish", and "Cancel". The taskbar at the bottom of the screen shows the Windows logo, "SKL", "90", and the date "8/18/2004".

**Figure 31. Receive Key (Key Tag Information 2).**

- 4. There are two informational fields called Register Number and Text ID. Use the virtual keyboard to fill in the required information in these fields as depicted above. The other field, Classification has a drop-down menu from which to select the appropriate classification for the key. This window also has a button called "Save as Template". This is used to save the information you have entered in these windows to a template that can be used later to populate the fields in these windows when another key is received. The field characteristics are defined below:
  - a. Enter the Register Number. This is a numeric number starting at 0 (zero).
  - b. Select a Classification from the drop-down menu.

- c. Enter a Text ID. This field has a 16-character limit.

You can now save all the information that has been entered in the Key Tag Information pages to a template or you can skip the template process and continue with the Receive Key process. In this example we have chosen to Save as Template. Therefore, tap on the **Save as Template** button. The window in Figure 32, *Save Template*, opens.



Figure 32. Save Template.

5. Fill in the new template name using the virtual keyboard as depicted above and then tap on the **OK** button. The window in Figure 33, *Template List Updated*, opens.

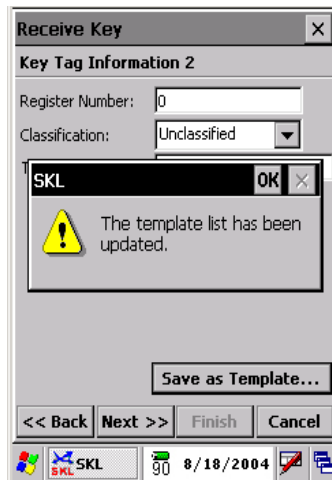


Figure 33. Template List Updated.

6. Tap on the **OK** button in the upper right-hand corner of the small window. The window in Figure 34, *Key Tag Information Filled In*, opens.

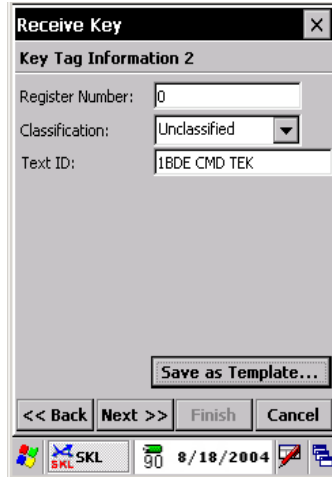


Figure 34. Key Tag Information Filled In.

7. Now tap on the **Next>>** button. The window in Figure 35, *Receive Key Profile KYK-13*, opens.

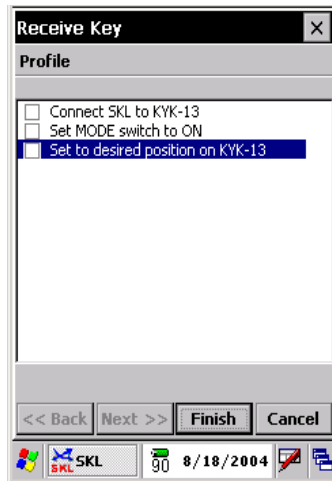


Figure 35. Receive Key Profile KYK-13.

8. The Receive Key Profile window will only display those steps you are required to take based on the Profile Modes that is currently selected on your SKL. If the Profile Modes is set to "Detailed" then you will see most if not all steps required for you to take. If the Profile Modes is set to "Condensed", then you will see only a minimum amount of steps. See Work Package 0029 Options for more information on the Profile Modes. Follow the instructions in the Profile window for your equipment. Once you have followed the instructions, tap on the **Finish** button. The window in Figure 36, *Operation Successful*, opens only if you have selected to receive only one segment of key. If you have selected to receive more than one segment, then the above window reopens with "Set to desired position on KYK-13" displayed. Change the Position Switch on the KYK-13 to the next position that has key. Then tap on the Finish button again. This process would continue until all keys are received for the segments desired.



Figure 36. Operation Successful.

9. Tap on the **OK** button in the upper right-hand corner of the SKL window. The keys will be automatically saved in the database. The window in Figure 37, *Keys Tab with New Short Title Displayed*, opens. If another tab is displayed, select the Keys Tab.

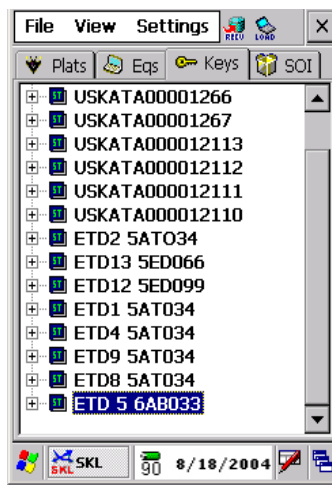


Figure 37. Keys Tab with New Short Title Displayed.

10. Depicted above, the new Short Title ETD 5 6AB033 is available. Expand the Short Title to display the segments as shown in Figure 38, *1BDE CMD TEK Expanded*, below.

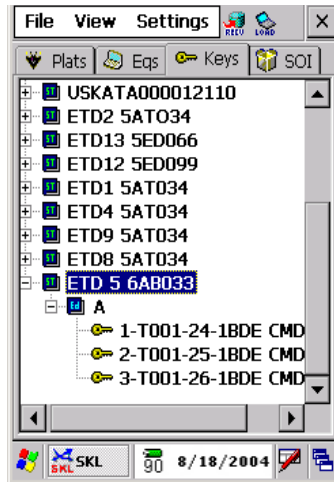


Figure 38. 1BDE CMD TEK Expanded.

11. You can now see that the keys are present in the SKL.

#### END OF TASK

**Fill the SKL with a TrKEK.** The procedure to fill a TrKEK into the SKL is no different than receiving any other key. This fill operation is normally done the first time using the KOK-22 (KP). Therefore, select **File→Receive→Key** as depicted below in Figure 39, *File→Receive→Key*.

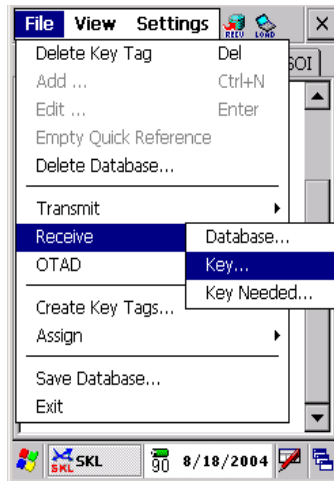


Figure 39. File→Receive→Key.

1. As a result of selecting the above, the window in Figure 40, *Select Key Source*, opens.

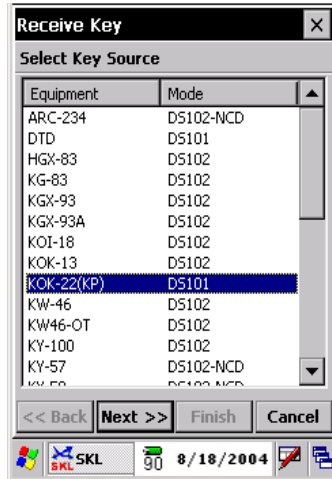


Figure 40. Select Key Source.

2. Scroll down the list and highlight the **KOK-22 (KP)**, and then tap on the **Next>>** button. The window in Figure 41, *Profile*, opens.

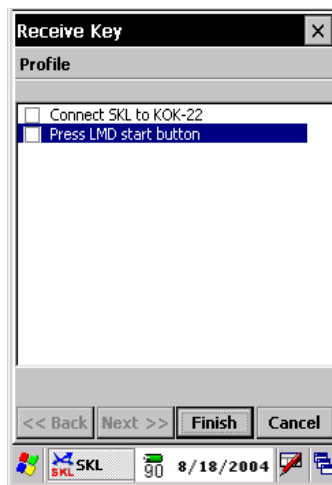


Figure 41. Profile.

3. The KP operator will do the steps necessary on the LCMS Workstation to fill the TrKEK into your SKL. After all the steps in the Profile have been accomplished, tap on the **Finish** button. The window in Figure 42, *SKL*, opens.



Figure 42. SKL.

4. This window comes up when you are receiving a key to let you know how the SKL Options are set up for the Key's Date, Rate, and Period. In this case it is set up for Short Title. Acknowledge the window by tapping on the **OK** button. The window in Figure 43, *Receive More Keys* opens.



Figure 43. Receive More Keys.

5. Since this is the only key to be received from the KP, tap on the **No** button. The window in Figure 44, *Receive Edition-DS100-1 Tag*, opens.

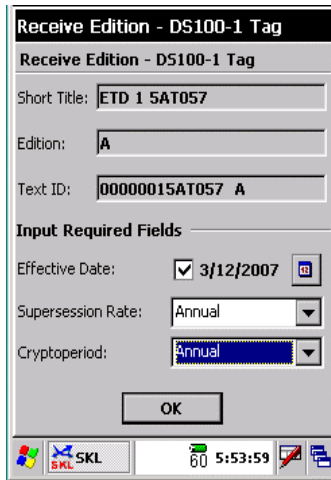


Figure 44. Receive Edition-DS100-1 Tag.

6. This window provides the user of the SKL some basic information about the key that was just received from the KP. It provides the Short Title, Edition, and Text ID. These fields are not changeable. There are three Input fields that must be correctly filled in. The first is the Effective Date. It is a drop-down menu where you can select the Effective Date. The next field is the Supersession Rate. This too is a drop-down menu and you may choose the Supersession Rate that you wish for the TrKEK. Finally the Cryptoperiod field needs to be correctly filled in. It too has a drop-down menu from which to choose the Cryptoperiod of the TrKEK. Once these fields are correctly populated, tap on the **OK** button. The window in Figure 45, *Operation Successful*, opens.



Figure 45. Operation Successful.

7. Now the TrKEK is filled into the SKL. You cannot go to the Keys Tab and expect to see the Short Title of the TrKEK. It will not be there since this was a load operation into the SKL. However, you can view the TrKEK by selecting **View→Keys→TrKEK**. This is the only place that you can see the Short Title, Edition, Text ID, Effective Date, Supersession Rate, and Cryptoperiod of a filled TrKEK. This TrKEK resides in a different area of the SKL. This SKL is now ready to receive keys that are encrypted by this TrKEK from the KP or another source that has the same TrKEK. The TrKEK was automatically saved to the database.

**END OF TASK**

**Issue a TrKEK to the SKL.** There is a difference between filling the SKL with a TrKEK and issuing a TrKEK to the SKL. If the TrKEK is issued to the SKL like any other key, then it is available to be filled into another SKL so it too will be able to send and receive encrypted key. The procedure to issue the TrKEK to the SKL is the same as in the Receive Key procedure in this Work Package except that you would choose the KOK-22 (KP) rather than the DTD. The only difference between this operation and the previous operation is that the KP operator will distribute the TrKEK to the SKL rather than fill the TrKEK into the SKL.

**END OF TASK**

**Receiving Multiple Keys from the KOK-22 Key Processor (KP).** This particular procedure has been written to ensure that when the SKL is receiving multiple keys from the KP that the operator of the SKL knows how to complete the process without receiving an error message. This procedure does not involve the Key Needed procedure. From the SKL UAS Main Menu select **File→Receive→Key**. The window in Figure 46, *Select Key Source*, opens.

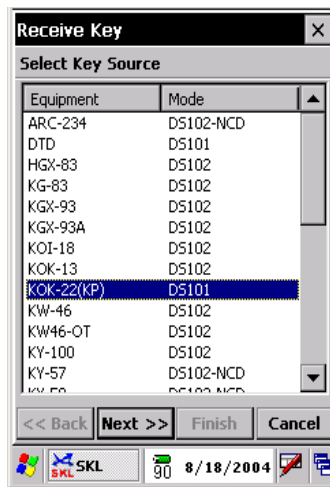


Figure 46. Select Key Source.

1. Highlight the **KOK-22(KP)** and then tap on the **Next>>** button. The window in Figure 47, *Receive Key Profile*, opens.

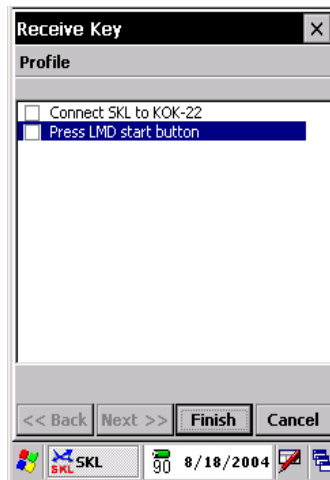


Figure 47. Receive Key Profile.

- The Receive Key Profile window will only display those steps you are required to take based on the Profile Modes that is currently selected on your SKL. If the Profile Modes is set to "Detailed" then you will see most if not all steps required for you to take. If the Profile Modes is set to "Condensed" then you will see only a minimum amount of steps. See Work Package 0029-Options for more information on the Profile Modes. Follow the instructions in the Profile window for your equipment. Once you have connected the SKL to the KP with a Fill cable, you may inform the KP operator to press the Start button on the LCMS Workstation. Then tap on the **Finish** button. The window in Figure 48, *Key Prompting*, opens.



Figure 48. Key Prompting.

- This window is reminding you that the Date, Rate, and Period for the Key just received is set to Per Edition. If this is not what you want it to be then you must abort this operation and go to the Settings→Options→Keys tab to change it to either Short Title or Segment. Tap on the **OK** button, the window in Figure 49, *Status* opens.

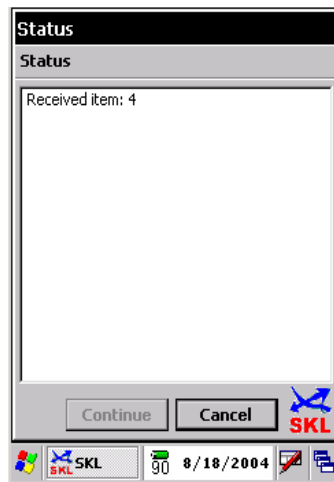


Figure 49. Status.

- The status window opens showing you the status of the download process. In the example we have elected to receive two (2) keys from the KP. The LCMS Workstation Operator will now perform some actions on the KP that will permit the first key to be downloaded to the SKL. As a result of those KP

actions the first key is downloaded to the SKL and the window in Figure 50, *Do you wish to receive more keys*, opens.



Figure 50. Do you Wish to Receive more Keys.

5. We have received only one of two keys we require. So therefore, tap on the **Yes** button. The window in Figure 51, *Do you wish to receive more keys*, opens.



Figure 51. Do you Wish to Receive more Keys.

6. As a result of selecting Yes and the KP operator performing actions on the KP to issue the second key the window depicted above is asking whether you want to continue to receive. We have now received all of the keys we require. Therefore, tap on the **NO** button, the window in Figure 52, *Receive Edition DS100-1 Tag*, opens.

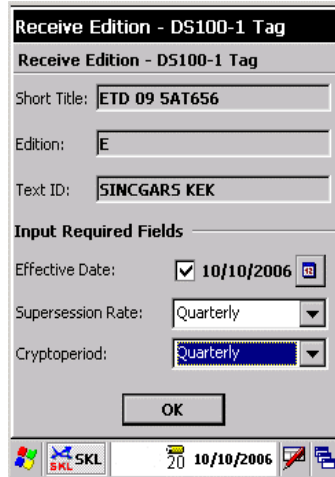


Figure 52. Receive Edition DS100-1 Tag.

7. This window shows you the first Short Title that you received and the attributes of that Short Title. It also allows you to set the Effective Date, Supersession Rate, and the Cryptoperiod. This information you should get from your COMSEC Custodian. Make the recommended changes and then tap on the **OK** button. The window in Figure 53, *Receive Edition DS100-1 Tag*, opens.

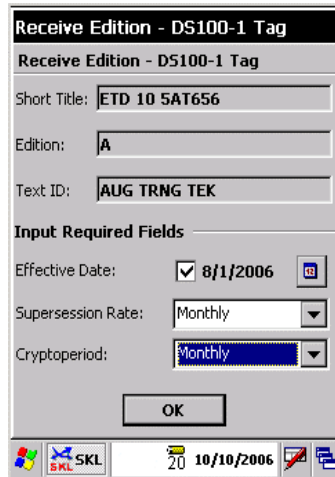


Figure 53. Receive Edition DS100-1 Tag.

8. This window shows you the second Short Title that you received and the attributes of that Short Title. It also allows you to set the Effective Date, Supersession Rate, and the Cryptoperiod. This information you should get from your COMSEC Custodian. Make the recommended changes and then tap on the **OK** button. The window in Figure 54, *Operation Successful* opens.

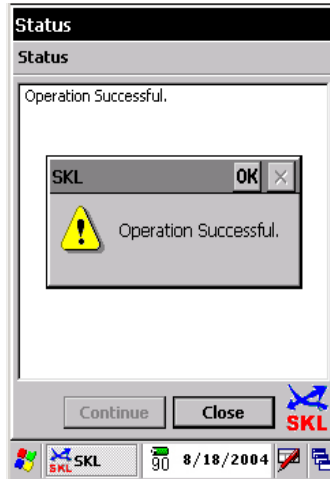


Figure 54. Operation Successful.

9. Now tap on the **OK** button in the upper right-hand corner of the window. The keys will automatically be saved to the database. Once the SKL UAS Desktop opens, go to the Keys Tab as depicted in Figure 54, *Keys Tab*, below.

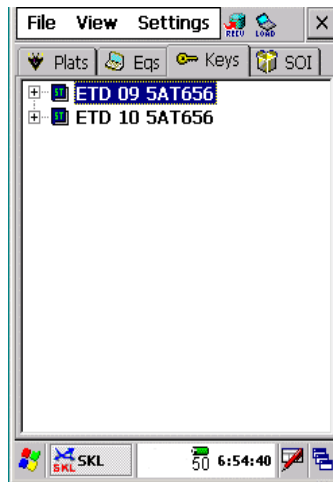


Figure 55. Keys Tab.

10. Scroll down the list of keys in the SKL and make sure that the keys you received from the KP are listed. The procedure to receive multiple keys from the KP is completed at this time.

**END OF TASK**

**END OF WORK PACKAGE**

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
SKL UAS RECEIVE FUNCTION (PART 2 OF 2)  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

FILE MENU  
RECEIVE

RECEIVE

The Receive selection under the File Menu has five (5) submenu selections. They are Database, Key, Key Needed, XML File, and 87-27 File. This Work Package 0017 will only address the last three submenu selections. The first two selections were discussed in Work Package 0016.

Receive Key Needed

Key Needed is a process where the Key Tag is in the SKL but the actual Key is not. The way to determine if the key is there or not is to open the Short Title then open the Edition to show the Segment. If there is a key symbol in front of the Key Tag then the key is there. If there is a symbol showing a piece of paper with SEG on it, then the key is not present and you will have to perform a Key Needed operation for that Key Tag. The two symbols are shown and explained on the following page.

When using the Key Needed procedure, it looks to resolve all key needed Short Titles regardless of the number of different sources that are displayed on the Select Key Source window. Two methods of performing Receive Key Needed functions are addressed. The first is receiving a key needed from a device using a DS-101 protocol. The second is receiving a key needed from a device using a DS-102 protocol.

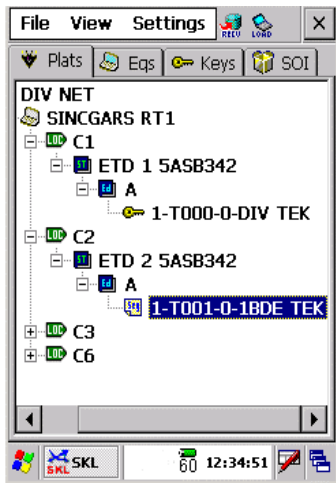


Figure 1. Plats Tab Expanded.

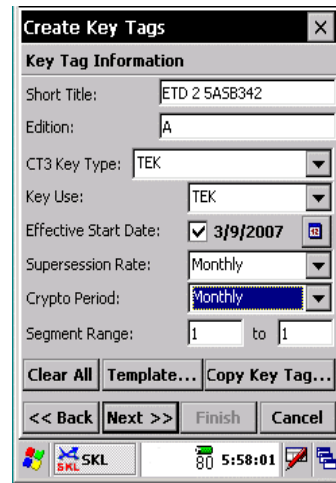



Figure 2. Segment Info 1.

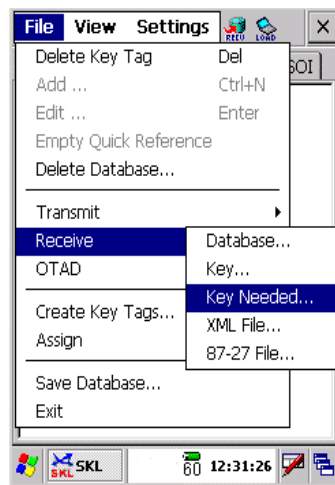
In Figure 1 there are three key tags assigned to the SINCGARS RT1 radio displayed. Channels 1 and 2 display the short title, edition, and segment information. Location C1 also displays a **Key** symbol next to segment **1-T000-0-DIV TEK** this key symbol indicates that the key variable has been received from the key-generating source. Location C2 displays **Seg** symbol next to segment **1-T001-0-1BDE TEK**. This symbol indicates that the key variable has not been received. Prior to attempting to load the specific

equipment (SINCGARS RT1), a Key Needed operation should be performed for all equipment fill locations that have the **Seg** symbol displayed. The generating source for the **Seg** symbol can be viewed as shown in Figure 2 above. In this depiction, the **KOK-22(KP)** is displayed as the key source for key segment **1-T001-0 1BDE TEK**. As long as the key has not been received, the key source can be changed. The operator will connect the SKL to the indicated key source when performing the Key Needed procedure.

... Indicates a key has been received and stored in the Mission Database.

... Indicates a key is needed from a key-generating source.

**Receiving Key Needed from a DS-101 Device.** Two pieces of equipment that use the DS-101 protocol and are used to perform a Key Needed operation are the DTD and the KOK-22 Key Processor (KP). When using this procedure, the key tag attributes of Short Title, Edition #, and Segment Information, in the transmitting device, must match the key tag in the SKL exactly. Any deviation and the procedure will fail. Follow the procedures below to perform a Key Needed operation from a DS-101 device. From the SKL UAS Main Menu, select **File→Receive→Key Needed** as shown below in Figure 3, File→Receive→Key Needed.



**Figure 3. File→Receive→Key Needed.**

1. As a result of this selection above, the window in Figure 4, *Select Key Source*, opens.

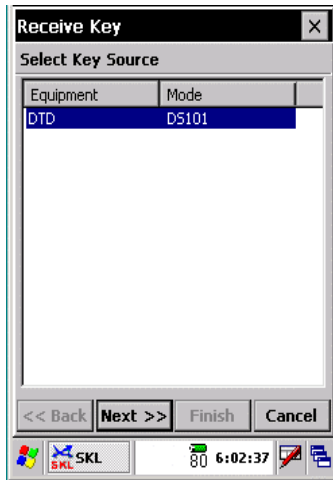


Figure 4. Select Key Source.

2. This window displays all key sources from which key is needed not all key generating devices. The sources for keys are defined as part of a database download from an ACES Workstation. For the current example the KOK-22 (KP) is our source for a Key Needed operation. Make sure the **KOK-22 (KP)** is highlighted and then tap on the **Next>>** button. The window in Figure 5, *Receive Key Profile*, opens.

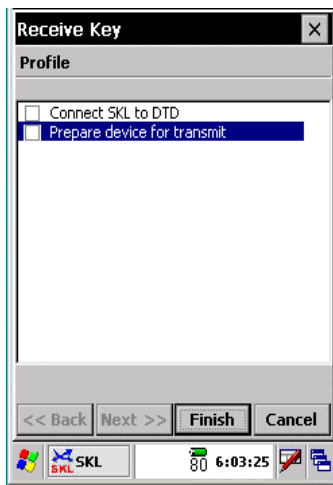


Figure 5. Receive Key Profile.

3. The Receive Key Profile window will only display those steps you are required to take based on the Profile Modes that is currently selected on your SKL. If the Profile Modes is set to "Detailed" then you will see most if not all steps required for you to take. If the Profile Modes is set to "Condensed" then you will see only a minimum amount of steps. See Work Package 0029 Options for more information on the Profile Modes. Follow the instructions in the Profile window for your equipment. Connect the KOK-22 to the SKL and prepare the KOK-22 for Transmit operations. On the KOK-22 select the correct Key to transmit and continue with the operation on the KOK-22. Do not tap on the **Finish** button until after you have pressed Transmit on the KP. The Status window opens showing the progress of the Receive Key operation. Once completed, you should see the window in Figure 6, *All Key Tags Resolved*.

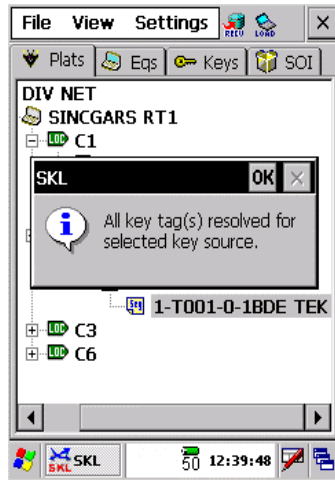


Figure 6. All Key Tags Resolved.

4. This window is telling you that all the key tags that have the KOK-22 (KP) as their source have been resolved. If you had ten key tags with the same source then you would have received ten keys. However, in this example we only had one key tag with a source of KOK-22 (KP). Tap on the **OK** button in the upper right-hand corner of the SKL window. The window in Figure 7, *Operation Successful*, opens.



Figure 7. Operation Successful.

5. Tap on the **OK** button in the upper right-hand corner of the SKL window. The received key(s) are automatically saved to the database. The SKL UAS Main Menu opens. Now open the Keys Tab if not already open as depicted in Figure 8, *Keys Tab*, below.

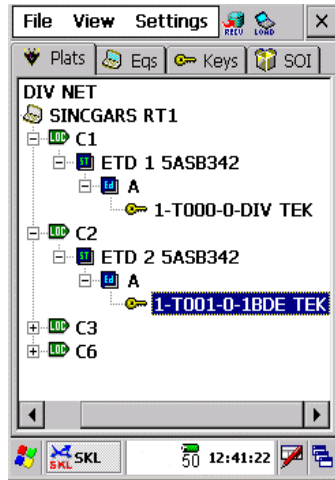


Figure 8. Keys Tab.

6. From the Keys Tab, make sure that the key just received is listed.

#### END OF TASK

**Receiving Key Needed from a DS-102 Device.** There are a number of equipment using DS-102 protocol from which a Key Needed operation can be performed by the SKL. Some of the more common ones are KYK-13, KYX-15, and the RT-1523 (SINGGARS Radio). For this procedure, the KYK-13 will be used to demonstrate how to perform a Key Needed operation from a DS-102 device. From the SKL UAS Main Menu, select **File**→**Receive**→**Key Needed**. The window in Figure 9, *Select Key Source*, opens.

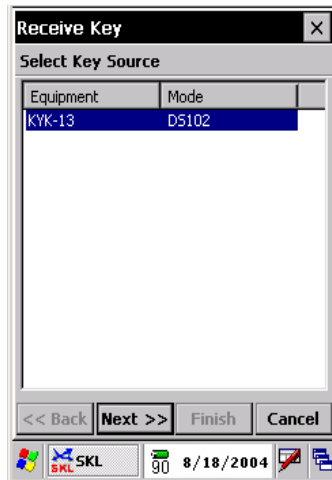


Figure 9. Select Key Source.

1. This window displays all key sources from which key is needed not all key generating devices. The sources for keys are defined as part of a database download from an ACES Workstation in most cases. As depicted above, there is one Key Source Equipment displayed. The Key Needed process will try to continue to resolve all Keys Needed once the process is started. Highlight the **KYK-13** and then tap on the **Next>>** button. The window in Figure 10, *Select Key Tag*, opens.

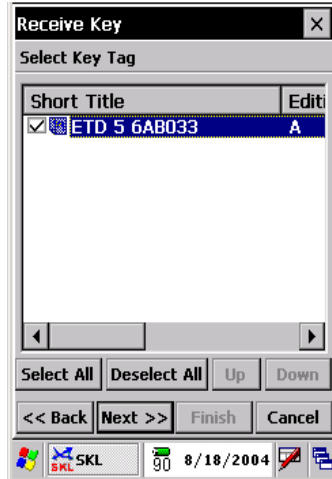


Figure 10. Select Key Tag.

2. This window allows you to select the Short Title for the key to be received. In this example, there is only one Short Title displayed because only one Short Title has the KYK-13 defined as the source for its key. Select the Short Title by tapping on the **Checkbox** to the left of the Short Title name. Then tap on the **Next>>** button. The window in Figure 11, *Profile*, opens.

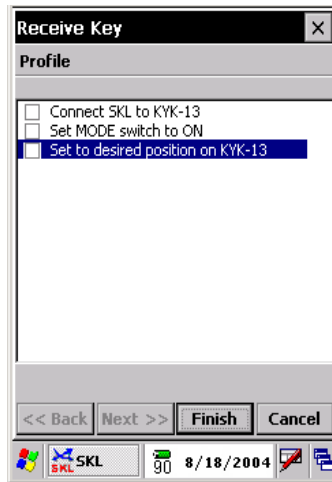


Figure 11. Profile.

3. The Receive Key Profile window will only display those steps you are required to take based on the Profile Modes that is currently selected on your SKL. If the Profile Modes is set to "Detailed" then you will see most if not all steps required for you to take. If the Profile Modes is set to "Condensed", then you will see only a minimum amount of steps. See Work Package 0029-Options for more information on the Profile Modes. Follow the instructions in the Profile window for your equipment. Once you have followed the instructions, tap on the **Finish** button. The window in Figure 12, *All Key Tags Resolved*, opens.



Figure 12. All Key Tags Resolved.

4. This window is telling you that all the key tags that have the KYK-13 as their source have been resolved. Tap on the **OK** button in the upper right-hand corner of the window. The window in Figure 13, *Operation Successful*, opens.



Figure 13. Operation Successful.

5. Tap on the **OK** button in the upper right-hand corner of the SKL window. The received key(s) are automatically saved to the database. Now open the Keys Tab and expand the key just received to make sure that it is listed as shown in Figure 14, *Keys Tab Expanded*, below.

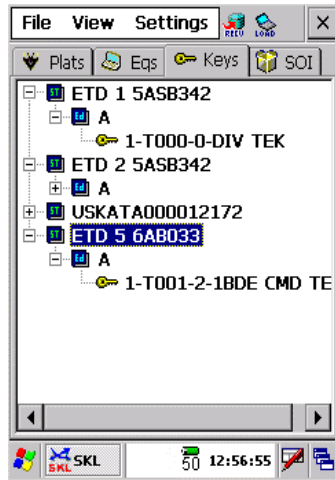


Figure 14. Keys Tab Expanded.

6. From the Keys Tab, make sure that the key just received is listed.

#### END OF TASK

**Receiving Duplicate Mission Database Items.** During any receive operation, the possibility exists that an item may be received that duplicates an item already stored in the SKL Mission Database. These items can be Platforms, Equipment, Key, or SOI. The following procedure illustrates what happens when a duplicate item is received. For this depiction we have chosen the Receive Key function. However, the process is the same with the other database items with the exception of how some of the wording is reflected in the windows and what windows are used. The whole point of this procedure lies with the Duplicate window shown below. From the SKL UAS Main Menu, select **File→Receive→Key Needed** as depicted in Figure 15, below.

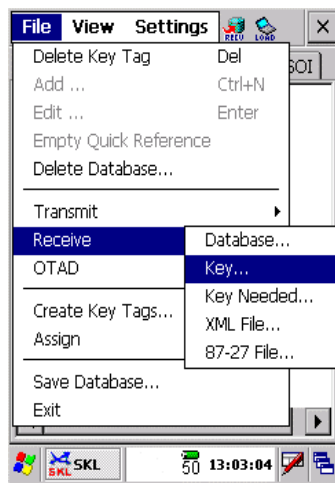


Figure 15. File→Receive→Key.

1. As a result of the selection above, the window in Figure 16, *Select Key Source*, opens.

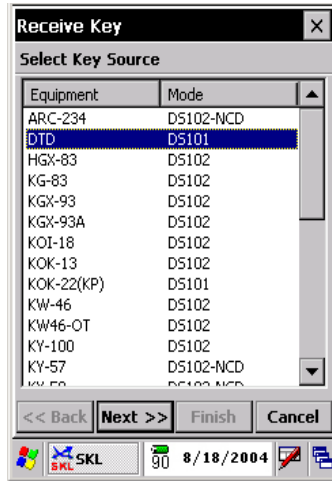


Figure 16. Select Key Source.

2. On this window select the source of the key you are about to receive. In this case select a DS-101 device. Once you have made your selection, tap on the **Next>>** button. The window in Figure 17, *Receive Key Profile*, opens.



Figure 17. Receive Key Profile.

3. The Receive Key Profile window will only display those steps you are required to take based on the Profile Modes that is currently selected on your SKL. If the Profile Modes is set to "Detailed" then you will see most if not all steps required for you to take. If the Profile Modes is set to "Condensed", then you will see only a minimum amount of steps. See Work Package 0029-Options for more information on the Profile Modes. Follow the instructions in the Profile window for your equipment. The profile window will provide specific prompts depending on the key source selected. Once you have followed the steps in the profile, tap on the **Finish** button. The window in Figure 18, *Status*, opens. If there is not a duplicate Key Tag, then the process finishes normally. However, if there is duplicate Key Tag, the window in Figure 19, *Duplicate Key Tag*, opens.

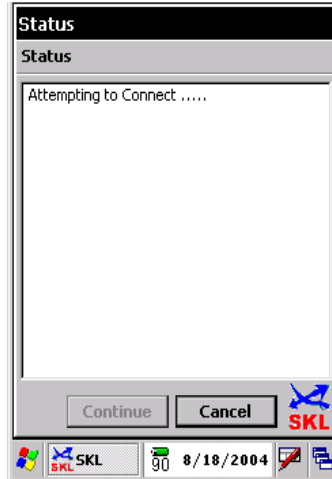


Figure 18. Status.



Figure 19. Duplicate Key Tag.

4. This window will appear when duplicate Key Tag information is received from a transmitting device. If you select **Accept**, then the process will delete the old key tag and any assignment to a particular piece of equipment. If you select **Reject**, then the process will not store the key tag or any assignment of that key tag to any equipment. If you select **Accept All**, then all current duplicate key tags and any assignments they may have to any equipment will be deleted and the new key tag(s) will take their place. If you select **Reject All**, then the process will not store any of the incoming duplicate key tag(s) and any assignments to particular equipment. For this example select **Accept**. The window in Figure 20, *Operation Successful*, opens. This window will appear for all duplicate items such as Platforms, Equipment, or SOI.



Figure 20. Operation Successful.

- e. Tap on the **OK** button in the upper right-hand corner of the SKL window. The received key(s) are automatically saved to the database. The SKL main menu returns.

**END OF TASK**

**Receive XML File**

The XML file is a new capability that the SKL has with this latest version of the SKL UAS. It is a file that will originate at the LCMS Workstation and then transferred to the ACES Workstation to use in creating planning data and Loadsets. The file can contain either encrypted or unencrypted keys. The file will be received into the SKL via the USB mini-A port using a Jump Drive. The following procedure will guide you through the steps necessary to receive an XML file from the Jump Drive.

- 1. Insert the USB Jump Drive into the Mini-A port of the SKL. From the SKL UAS Desktop, select **File→Receive→XML File** as shown below in Figure 21, *File→Receive→XML File*.

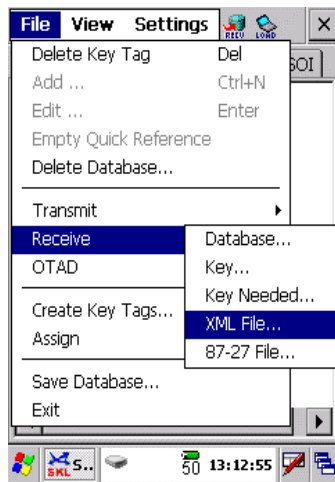


Figure 21. File→Receive→XML File.

- 2. As a result of the above selection the window in the Figure 22, XML File Selection opens.

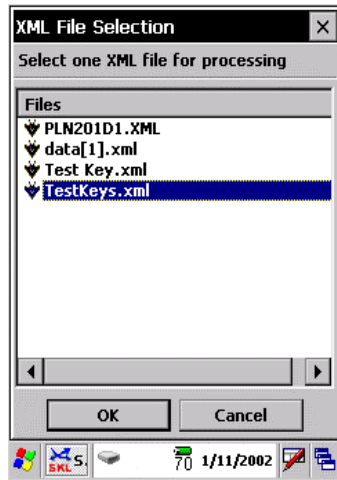


Figure 22. XML File Selection.

**NOTE**

**All XML files must reside on the root of the USB Jump Drive. They cannot be in any folder whatsoever for they will not appear on the window in Figure 22 above.**

3. From this window you can select which XML file you wish to receive into the SKL. You will notice at the bottom in the Taskbar there is an icon showing the USB Jump Drive is attached to the SKL. Select the file you wish to receive and tap on the **OK** button. The keys will be received into the SKL and then they will be automatically saved to the database. Once the keys are received and saved the window in Figure 23, *Operation Successful* opens.



Figure 23. Operation Successful.

4. The keys have been received at this point and they have been saved. Tap on the **OK** button to close the window. Now open the Keys Tab to view the keys just received from the XML file as shown below in Figure 24, Keys Tab.

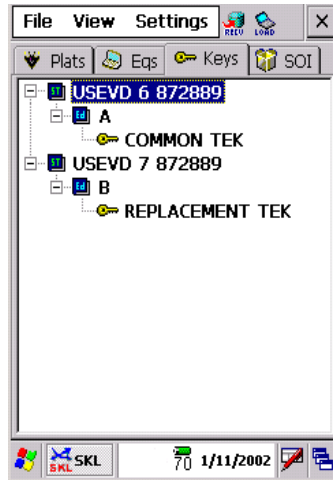


Figure 24. Keys Tab.

## END OF TASK

### Receive 87-27 File

The 87-27 file type is a new capability for the ACES Workstation to distribute any database item in the form of a .DAT file. The .DAT file is commonly referred to as an 87-27 file. These files must be downloaded from the ACES Workstation to a Jump Drive connected to the USB port on the workstation. They can be either on the root of the Jump Drive or in a folder on the Jump Drive. This method of transferring a database from ACES to the SKL is going to become the common way of transfer over the FILL Port because this method is extremely fast. Use the following procedure to receive an 87-27 file into the SKL. For this procedure we have elected to receive an SOI into the SKL.

1. Insert the Jump Drive with its Mini-A adapter into the Mini-A USB port on the SKL. From the SKL UAS Desktop, select **File→Receive→87-27 File** as shown below in Figure 25.

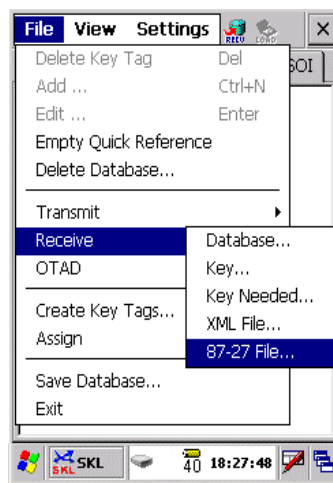


Figure 25. File→Receive→87-27 File.

2. You will notice the USB Icon in the Taskbar indicating that the SKL has sensed that there is a USB device attached to the system. As a result of the selection above the window in Figure 26, *Browse* opens.

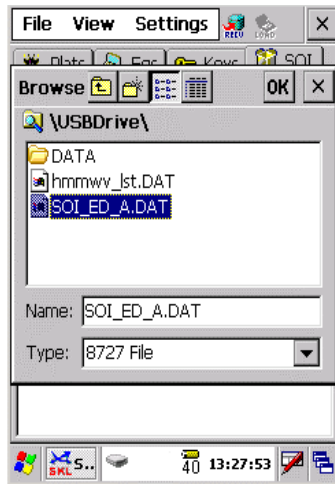


Figure 26. Browse.

3. You can now browse to the USB Drive by tapping on the **Folder with the Up-Arrow**. Then browse the drive for the .DAT file you are looking for. In this scenario we are looking for an SOI. Therefore, highlight the correct file and then tap on the **OK** button in the upper right-hand corner of the window. The window in Figure 27, *Status* opens.

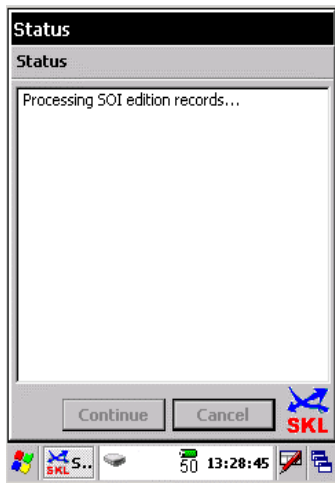


Figure 27. Status.

4. After the SKL processes the received information it is saved automatically to the database. Remove the USB Jump Drive from the SKL at this time. When the processing is finished the window in Figure 28, *Edition* opens.

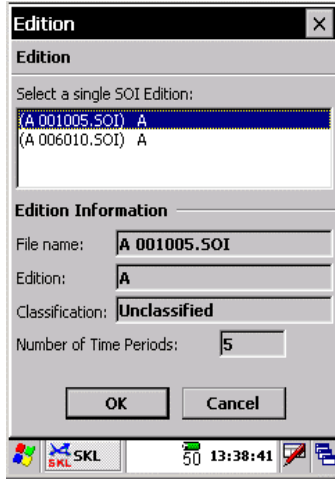


Figure 28. Edition.

5. Highlight the Edition to be displayed and tap on the **OK** button. The window in Figure 29, *Operation Successful* opens.

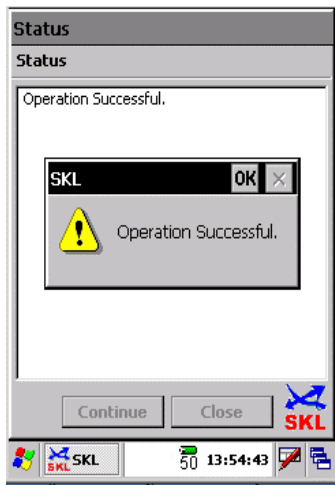
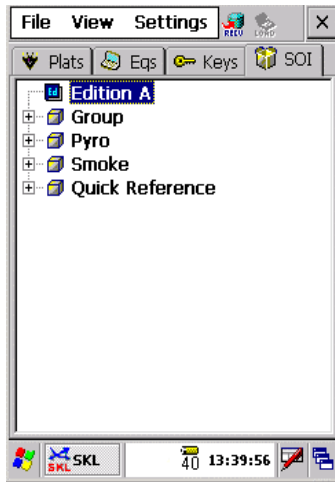


Figure 29. Operation Successful.

6. Tap on the **OK** button. The window in Figure 30, *SOI Displayed* opens.



**Figure 30. SOI Displayed.**

7. As can be seen from the window above the SOI Tab now shows the SOI for Time Periods 1-5 that were selected previously. If you tap on the + sign to the left of Group you will see all the Groups displayed. Also your Pyro and Smoke signals and meanings are now available to be referenced.

**END OF TASK**

**END OF WORK PACKAGE**



OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
SKL UAS VARIABLE GENERATE, RECEIVE VARIABLE, AND VARIABLE UPDATE FUNCTIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

---

**OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0**

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**FILE MENU**

- OVER THE AIR DISTRIBUTION (OTAD)**
  - VARIABLE GENERATE**
  - RECEIVE VARIABLE**
  - VARIABLE UPDATE**
  - MANUAL REKEY**
  - AUTOMATIC REKEY**
- 

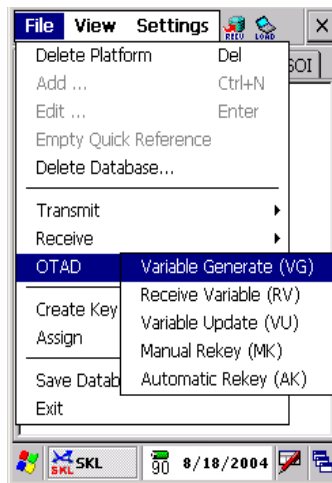
**OVER THE AIR DISTRIBUTION (OTAD)**

Over the Air Distribution (OTAD) provides a means to change the traffic encryption key in remote crypto-equipment by sending a new key directly to the remote crypto-equipment over the communication path it secures. The OTAD selection encompasses five (5) different procedures that allow the user of the SKL to have maximum flexibility in performing the mission. This Work Package will describe the procedure to follow for the first three OTAD procedures, VG, RV, and VU. The Manual Rekey (MK) procedure will be in Work Package 0019 and the Automatic (AK) procedure will be in Work Package 0020. The five sub-menus under the OTAD selection are:

- Variable Generate (VG)
- Receive Variable (RV)
- Variable Update (VU)
- Manual Rekey (MK)
- Automatic Rekey (AK)

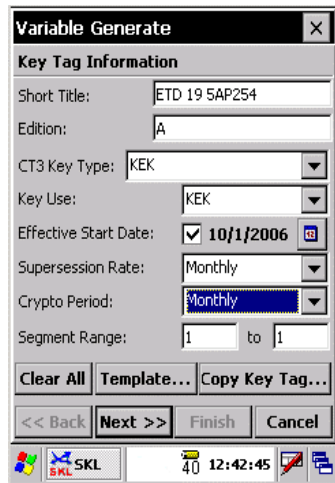
**Variable Generate (VG)**

Variable Generate allows the SKL operator to generate a key with user specific attributes. This OTAD option provides the operator with a way to generate a key and store it in the SKL for later distribution to an ECU. Follow the procedure below to generate a key variable.



**Figure 1. File→OTAD→Variable Generate.**

1. From the SKL UAS Main Menu select **File**→**OTAD**→**Variable Generate** as depicted above. The window in Figure 2, *Key Tag Information*, opens.



The screenshot shows a dialog box titled "Variable Generate" with a close button (X) in the top right corner. Below the title bar is a section labeled "Key Tag Information". The fields are as follows:

- Short Title: ETD 19 5AP254
- Edition: A
- CT3 Key Type: KEK (dropdown menu)
- Key Use: KEK (dropdown menu)
- Effective Start Date: 10/1/2006 (calendar icon)
- Supersession Rate: Monthly (dropdown menu)
- Crypto Period: Monthly (dropdown menu)
- Segment Range: 1 to 1

At the bottom of the dialog box are several buttons: "Clear All", "Template...", "Copy Key Tag...", "<< Back", "Next >>", "Finish", and "Cancel". The Windows taskbar at the bottom shows the SKL logo, a taskbar icon with the number 40, and the system clock showing 12:42:45.

**Figure 2. Key Tag Information.**

2. Before you can generate a key you must enter key tag data. There are three areas where the virtual keyboard is required. They are the Short Title, Edition, and Segment Range that have been filled in as depicted above. The CT3 Key Type, Key Use, Effective Start Date, Supersession Rate, and Crypto Period are drop-down menus that are used to select the appropriate information. The Clear All button when tapped will clear all the information from only the Short Title and Edition fields. The Template button is used to select a saved template that will populate all the fields with the required information. The Copy Key Tag button when selected will allow you to copy key tag information from an existing key tag that is stored in your SKL. The key tag field characteristics are defined below:

- The Short Title field has a 24-character limit.
- The Edition field has a 6-character limit.
- The Segment Range fields can accommodate a range from 0-99 segments.
- The CT3 Key Type field has a drop-down menu to choose from.
- The Key Use field has a drop-down menu.
- The Effective Start Date field has a down arrow that when selected opens up a calendar to choose the correct date.
- The Supersession Rate field has a drop-down menu.
- The Crypto Period field has a drop-down menu.

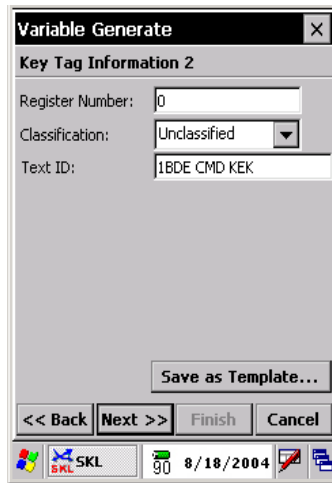


**TIP:** If default key tag values are in the Short Title and Edition fields, delete them by using the backspace key.



**TIP:** To use a field setting template, select Template and choose the appropriate template name (if any are listed on the Template list). This action enters the default values defined in the

template in the Key Tag Information fields.  
Once all the correct information has been entered in this window, tap on the **Next>>** button. The window in Figure 3, *Key Tag Information #2*, opens.



**Figure 3. Key Tag Information #2.**

3. This is window # 2 of the Key Tag Information. Use the virtual keyboard to fill in the required information in the Register Number and Text ID fields as depicted above. The other field, Classification has a drop-down menu from which to select the appropriate classification for the key. This window also has a button called “Save as Template”. This is used to save the information you have entered in these windows to a template that can be used later to populate the fields in these windows when another key is received. The field characteristics are defined below:

- Enter the Register Number. This is a numeric number starting at 0 (zero).
- Select a Classification from the drop-down menu.
- Enter a Text ID. This field has a 16-character limit.

You can now save all the information that has been entered in the Key Tag Information pages to a template or you can skip the template process and continue with the Receive Key process. In this example we have chosen to Save as Template. Therefore, tap on the **Save as Template** button. The window in Figure 4, *Save Template*, opens.



Figure 4. Save Template.

4. Use the Virtual Keyboard to fill in the New Template Name as depicted above. Then tap on the **OK** button. The window in Figure 5, *Template List Updated*, opens.

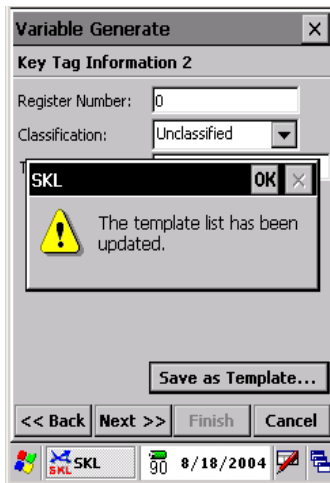


Figure 5. Template List Updated.

5. Tap on the **OK** button in the upper right-hand corner of the window. The window in Figure 6, *Key Tag Information 2*, opens.

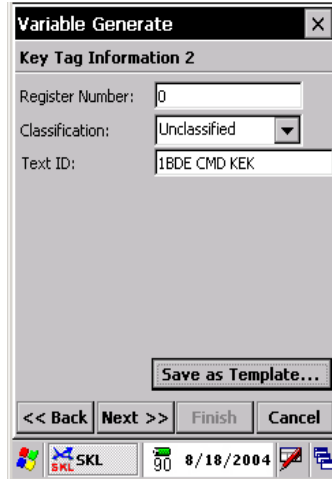


Figure 6. Key Tag Information 2.

6. Tap on the **Next>>** button. The window in Figure 7, *Variable Generate Profile*, opens.

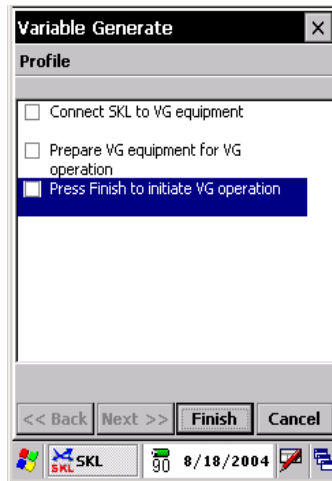


Figure 7. Variable Generate Profile.

**NOTE**

**Refer to the VG equipment Technical Manual for location of all relevant switches and buttons and how to prepare the equipment for a VG operation.**

7. The Variable Generate Profile window will only display those steps you are required to take based on the Profile Modes that is currently selected on your SKL. If the Profile Modes is set to "Detailed" then you will see most if not all steps required for you to take. If the Profile Mode is set to "Condensed" then you will see only a minimum amount of steps. See Work Package 0029 Options for more information on the Profile Modes. Follow the instructions in the Profile window for your equipment. This window provides the profile to generate a variable. Follow the steps and when finished, tap on the **Finish** button. The window in Figure 8, *Status*, opens.



Figure 8. Status.

8. This status window keeps you informed as to the progress of the variable generate operation. When finished, the window in Figure 9, *Operation Successful*, opens.

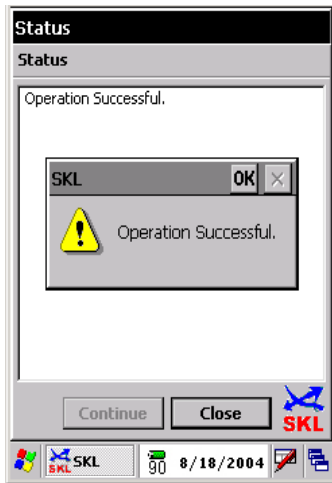


Figure 9. Operation Successful.

9. Now tap on the **OK** button in the upper right-hand corner of the window. The Variable Generate operation is complete. To view the key just generated, tap on the **Keys** tab if not already open. Then scroll down to see the key just received as depicted below in Figure 10, *New Key Received*.

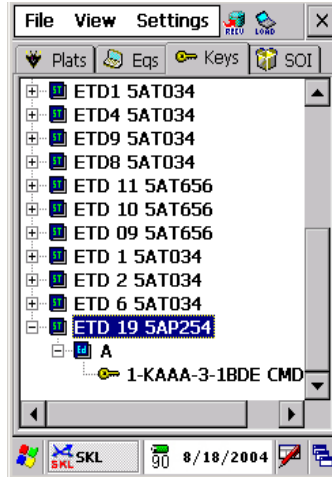


Figure 10. New Key Received.

10. Expand the Short Title and Edition of the received key to make sure that you have the key as depicted above. Now select **File**→**Save Database**. Once the database has been saved the SKL UAS Desktop returns.

## END OF TASK

### Receive Variable (RV)

The RV function provides the capability to receive a key into the SKL from another SKL or DTD using RV capable communications equipment. Follow the procedure below to receive a variable. From the SKL UAS Main Menu select **File**→**OTAD**→**Receive Variable**. The window in Figure 11, *RV Key Tag Information*, opens.

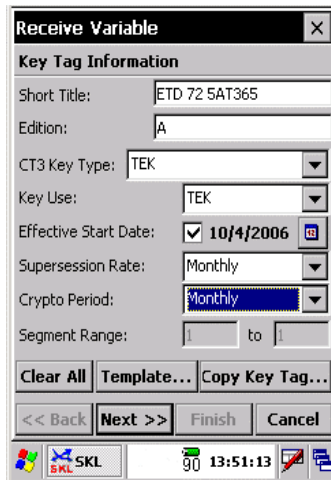


Figure 11. RV Key Tag Information.

1. Before you can generate a key you must enter key tag data. There are three areas where the virtual keyboard is required. They are the Short Title, Edition, and Segment Range that have been filled in as depicted above. The CT3 Key Type, Key Use, Effective Start Date, Supersession Rate, and Crypto Period are drop-down menus that are used to select the appropriate information. The Clear All button when tapped will clear all the information from only the Short Title and Edition fields. The

Template button is used to select a saved template that will populate all the fields with the required information. The Copy Key Tag button when selected will allow you to copy key tag information from an existing key tag that is stored in your SKL. The key tag field characteristics are defined below:

- The Short Title field has a 24-character limit.
- The Edition field has a 6-character limit.
- The Segment Range fields can accommodate a range from 0-99 segments.
- The CT3 Key Type field has a drop-down menu to choose from.
- The Key Use field has a drop-down menu.
- The Effective Start Date field has a down arrow that when selected opens up a calendar to choose the correct date.
- The Supersession Rate field has a drop-down menu.
- The Crypto Period field has a drop-down menu.



**TIP:** If default key tag values are in the Short Title and Edition fields, delete them by using the backspace key.



**TIP:** To use a field setting template, select Template and choose the appropriate template name (if any are listed on the Template list). This action enters the default values defined in the template in the Key Tag Information fields.

Once all the correct information has been entered in this window, tap on the **Next>>** button. The window in Figure 12, *RV Key Tag Information #2*, opens.

The screenshot shows a window titled "Receive Variable" with a close button (X) in the top right corner. Below the title bar is the heading "Key Tag Information 2". There are three input fields: "Register Number:" with the value "0", "Classification:" with a dropdown menu showing "Unclassified", and "Text ID:" with the value "1BDE.CMD.TEK". Below these fields is a "Save as Template..." button. At the bottom of the window are four buttons: "<< Back", "Next >>", "Finish", and "Cancel". The taskbar at the bottom shows the SKL logo, a battery icon, and the date "8/18/2004".

**Figure 12. RV Key Tag Information #2.**

2. This is window # 2 of the Key Tag Information. Use the virtual keyboard to fill in the required information in the Register Number and Text ID fields as depicted above. The other field, Classification has a drop-down menu from which to select the appropriate classification for the key. This window also has a button called "Save as Template". This is used to save the information you

have entered in these windows to a template that can be used later to populate the fields in these windows when another key is received. The field characteristics are defined below:

- Enter the Register Number. This is a numeric number starting at 0 (zero).
- Select a Classification from the drop-down menu.
- Enter a Text ID. This field has a 16-character limit.

You can now save all the information that has been entered in the Key Tag Information pages to a template or you can skip the template process and continue with the Receive Key process. In this example we have chosen to Save as Template. Therefore, tap on the Save as Template button. The window in Figure 13, *Save Template*, opens. Using the Virtual Keyboard complete the information fields on this window. When finished close the Virtual Keyboard. You can now save this information as a template if you wish by tapping on the **Save as Template** button. Or if this is a one time event, tap on the **Next>>** button. In this depiction we have chosen to Save as Template.



Figure 13. Save Template.

3. Use the Virtual Keyboard to fill in the New Template Name as depicted above. Then tap on the **OK** button. The window in Figure 14, *Template List Updated*, opens.

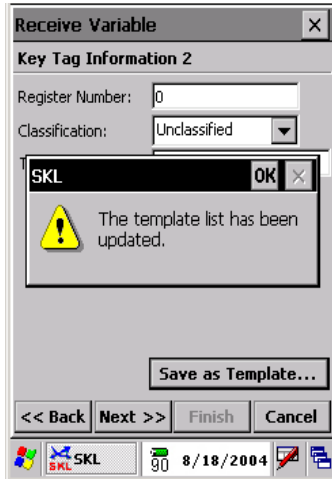


Figure 14. Template List Updated.

4. Tap on the **OK** button in the upper right-hand corner of the window. The window in Figure 15, *RV Key Tag Information #2*, opens.

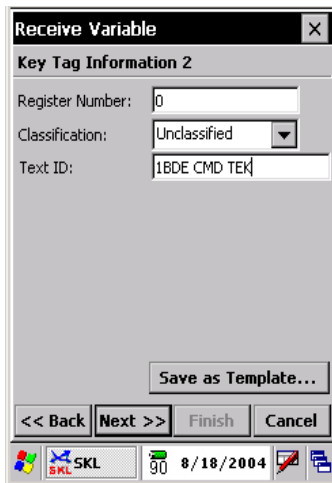


Figure 15. RV Key Tag Information #2.

5. Now with the template saved, tap on the **Next>>** button. The window in Figure 16, *RV Profile*, opens.

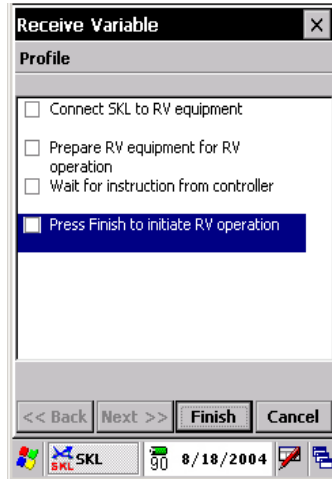


Figure 16. RV Profile.

**NOTE**

**Refer to the RV equipment Technical Manual for location of all relevant switches and buttons and how to prepare the equipment for a RV operation.**

6. The Receive Variable Profile window will only display those steps you are required to take based on the Profile Modes that is currently selected on your SKL. If the Profile Modes is set to "Detailed" then you will see most if not all steps required for you to take. If the Profile Modes is set to "Condensed" then you will see only a minimum amount of steps. See Work Package 0029-Options for more information on the Profile Modes. Follow the instructions in the Profile window for your equipment. Prepare the RV equipment for an RV operation and make sure that you establish communications with the distant end RV partner. Once all RV preparations have been completed, tap on the **Finish** button. The window in Figure 17, *Status*, opens.



Figure 17. Status.

7. This window gives you the status of the RV operation. When the RV operation is finished, the window in Figure 18, *Load Key Received*, opens.



Figure 18. Load Key Received.

- This window gives you the opportunity to Store the Key & Load it or just Store the Key. If you want to load the key into the equipment at this time, select your equipment from the drop-down list and then tap on the Store Key & Load button. Then follow the profile for loading the key into that particular equipment. In our depiction, we have elected not to load the equipment at this time. So tap on the **Store Key Only** button. The window in Figure 19, *Operation Successful*, opens.

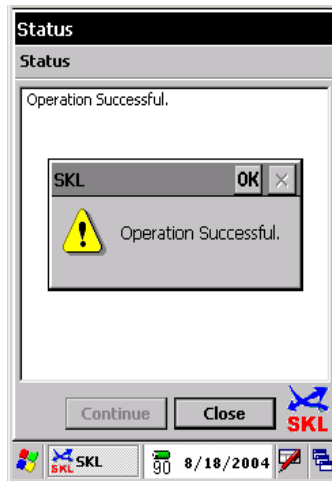


Figure 19. Operation Successful.

- Tap on the **OK** button in the upper right-hand corner of the window. The key will automatically be saved to the database. The tab you had open when the RV operation began returns. Now you must validate that the key was actually received. Tap on the Keys Tab and scroll down to the bottom of the list. You should see the Short Title of the key received as depicted below in Figure 20, *Keys Tab with RV Key*.

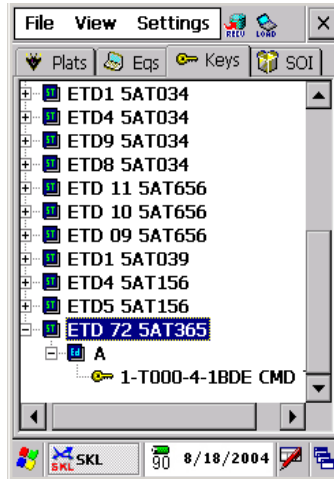


Figure 20. Keys Tab with RV Key.

END OF TASK

Variable Update (VU)

The VU function provides the capability to send a KEK to a VU-capable device that then performs a deterministic update of the key and returns the revised key to the SKL. The SKL retains the original and updated KEK. With the exception of the segment number and suffix fields, which are updated by one, the tag of the original is applied to the updated KEK. Follow the procedure below to generate a Variable Update. From the SKL UAS Main Menu select **File**→**OTAD**→**Variable Update**. The window in Figure 21, *VU Selected Key(s)*, opens.

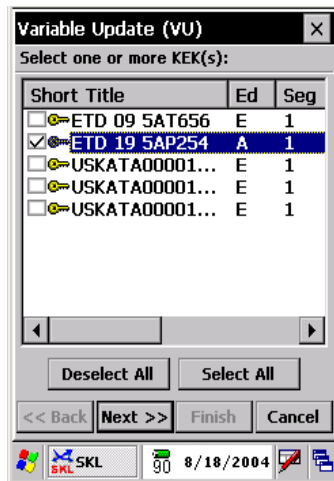


Figure 21. VU Selected Key(s).

1. To see other attributes of the key, scroll to the right to see the Text ID, Effective Date, and Expiration Date. Tap on the box to the left of the key that you want to update. Then tap on the **Next>>** button. The window in Figure 22, *VU Generated Key(s)*, opens.



Figure 22. VU Generated Key(s).

2. As depicted above, use the scroll bar to move to the right and see the new updated segment. To modify any attributes of the Short Title, double-tap on the **Short Title**. The window in Figure 23, *Modify VU Key Tag*, opens.

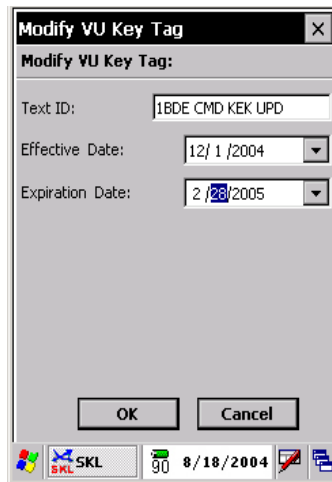


Figure 23. Modify VU Key Tag.

3. This window provides the means for you to change the Text ID, Effective Date, and Expiration Date. Make any desired changes to the Text ID using the Virtual Keyboard and the Drop Down arrows to make changes to the Effective and Expiration dates. Then tap on the **OK** button. The window in Figure 24, *VU Generated Key(s)*, reopens.



Figure 24. VU Generated Key(s).

4. Connect to generating source and then tap the **Finish** button. The window in Figure 25, *Operation Successful*, opens.

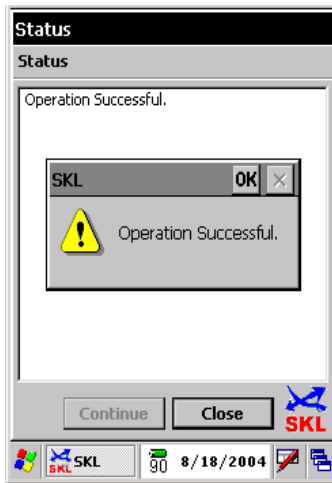


Figure 25. Operation Successful.

5. Now tap on the **OK** button in the upper right-hand corner of the window. The Key is automatically saved to the database. The SKL UAS Desktop opens showing the last tab selected. If the Keys Tab was not the last tab open before this process started, then tap on the Keys Tab to open it and scroll to the Short Title just updated. Open up the Short Title all the way to see the key attributes as depicted in the window in Figure 26, *Keys Tab*, opens.

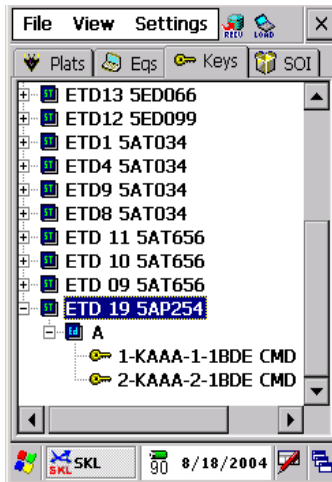


Figure 26. Keys Tab.

- As depicted above, there are now two keys shown for the Short Title **ETD 19 5AP254**. This verifies that the VU was successful. The VU operation is complete.

**END OF TASK**

**END OF WORK PACKAGE**



OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
SKL UAS MANUAL REKEY FUNCTION  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

---

**OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0**

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**FILE MENU**

**OVER THE AIR DISTRIBUTION (OTAD)  
VARIABLE GENERATE  
RECEIVE VARIABLE  
VARIABLE UPDATE  
MANUAL REKEY  
AUTOMATIC REKEY**

---

**OVER THE AIR DISTRIBUTION (OTAD)**

Over the Air Distribution (OTAD) provides a means to change the traffic encryption key in remote crypto-equipment by sending a new key directly to the remote crypto-equipment over the communication path it secures. The OTAD selection encompasses five (5) different procedures that allow the user of the SKL to have maximum flexibility in performing the mission. The first three procedures are found in Work Package 0018. The Automatic (AK) procedure is located in Work Package 0020. This Work Package will describe the Manual Rekey (MK) procedures. There are two MK procedures that will be described. The first is Manual Rekey. The second is Manual Rekey, Receive Variable (MK-RV). The five sub-menus under the OTAD selection are:

- Variable Generate (VG)
- Receive Variable (RV)
- Variable Update (VU)
- Manual Rekey (MK)
- Automatic Rekey (AK)

Each of these selections has unique characteristics concerning electronic key.

**Manual Rekey (MK)**

The MK procedure allows the NCS to send a TEK to the net members ECU equipment. In this case the SINCGARS radio. The NCS should call the net members and inform them to prepare their equipment for receiving a TEK and tell them how and when to switch to the new TEK. The old TEK may be deleted from the net member's equipment. However, this will be determined by the type of ECU equipment the net member has. This procedure is the Manual Rekeying of a single SINCGARS radio or multiple radios within a communications net. Follow the below listed steps to accomplish an MK.

**NOTE**

**Prior to starting the MK, the NCS should view the SKL database for the required TEK, and KEK, and advise net members to standby and prepare to receive a new TEK.**

There are five important things to do before starting the MK procedure. They are listed below:

- Know the NCS' KEK short title and text ID.
  - Know the Outstation's KEK short title and text ID.
  - Know what channel on the Outstation's radio that the TEK is going to be stored.
  - Pre-read all steps prior to actually performing the MK operation.
  - Know the new or replacement TEK Short Title and key attributes.
1. Select **File**→**OTAD**→**Manual Rekey (MK)** on the SKL as shown in Figure 1, *File*→*OTAD*→*MK*, below.

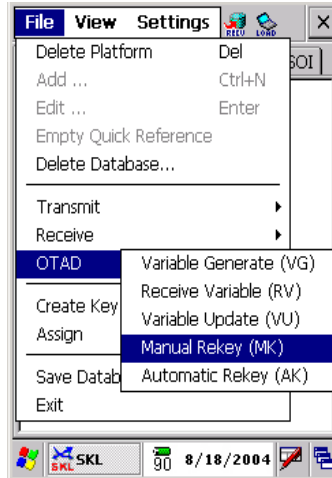


Figure 1. File→OTAD→MK.

2. Once the MK selection is made the window in Figure 2, *OTAD MK Select Equipment*, opens.

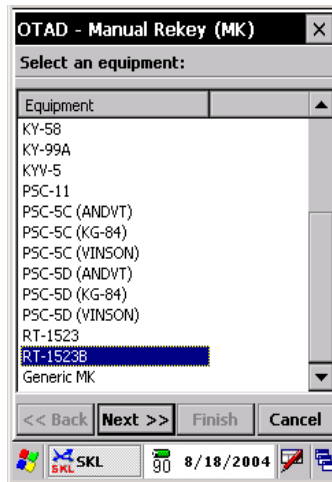


Figure 2. OTAD MK Select Equipment.

3. This is the window where you select the equipment you want to perform the MK on. For this example we have selected **RT-1523B**. Tap on the **Next>>** button. The window in Figure 3, *Perform MK-RV*, opens.

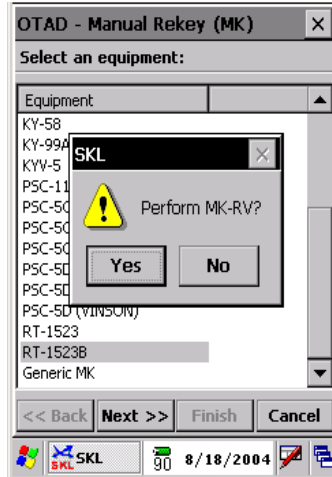


Figure 3. Perform MK-RV.

4. The MK-RV is used to transmit a TEK to a remote SKL via a radio net. Since this is an MK operation, tap on the **NO** button. The window in Figure 4, *Generate New Replacement TEK*, opens.

**NOTE**

The COMSEC custodian normally generates all TEKs. Only generate a new TEK when authorization has been given. If authorization has been given select Yes below and follow the prompts to Variable Generate (VG) a new TEK.

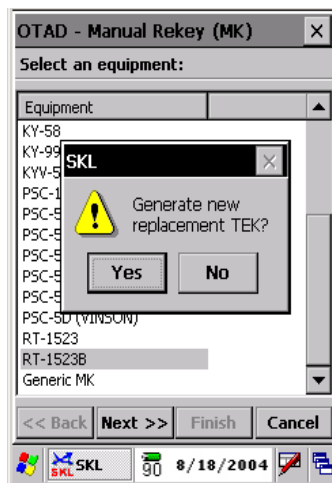


Figure 4. Generate New Replacement TEK.

5. If the new replacement TEK is in the key database tap on the **NO** button and proceed to the next step. The window in Figure 5, *Select an Outstation KEK*, opens. However, if you do not have the new TEK in the database and you have been given permission to generate a new TEK, select Yes and do the Variable Generate (VG) procedure located in Work Package 0018. Once you have the new TEK in your database, the MK process continues with the window in Figure 5, *Select Outstation KEK*.

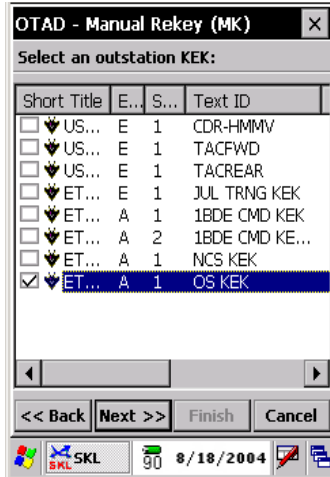


Figure 5. Select Outstation KEK.

6. Select the KEK that is stored in channel 6 of the Outstation's radio. The tap on the **Next>>** button. The window in Figure 6, *Select Replacement TEK*, opens.

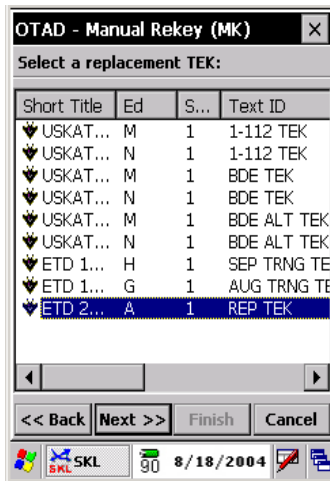


Figure 6. Select Replacement TEK.

7. Tap on the new replacement TEK and then tap on the **Next>>** button. The window in Figure 7, *Load Outstation KEK to NCS*, opens.

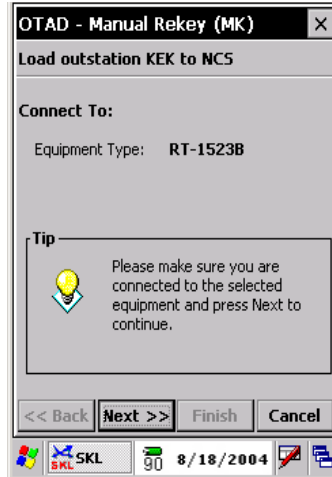


Figure 7. Load Outstation KEK to NCS.

8. Connect the SKL to the **Aud/Fill** connector on the NCS SINGGARS radio. Then tap on the **Next>>** button. The window in Figure 8, *Load Outstation KEK to NCS Profile*, opens.

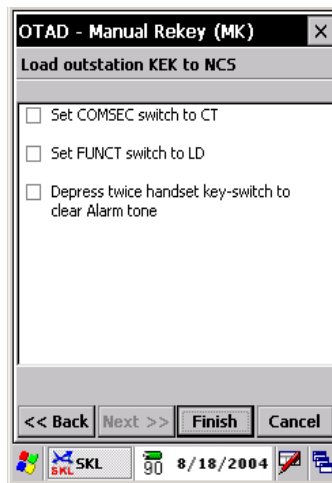


Figure 8. Load Outstation KEK to NCS Profile.

9. The OTAD Manual Rekey Load Outstation KEK to NCS window is really a Profile window and will only display those steps you are required to take based on the Profile Modes that is currently selected on your SKL. If the Profile Modes is set to "Detailed" then you will see most if not all steps required for you to take. If the Profile Modes is set to "Condensed", then you will see only a minimum amount of steps. See Work Package 0029-Options for more information on the Profile Modes. Follow the instructions in the Profile window for your equipment. Set the NCS SINGGARS radio to CT, LD, and the Channel Selector on an operational channel. Then tap on the **Finish** button. The window in Figure 9, *Ready to Send Key*, opens.

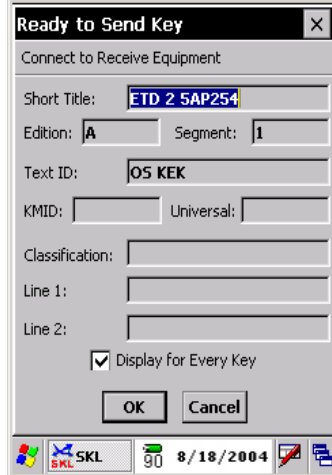


Figure 9. Ready to Send Key.

10. Review the Outstation KEK attributes and then tap on the **OK** button. The window in Figure 10, *Status*, opens.



Figure 10. Status.

11. Press the **Load** button on the NCS SINGARS radio keypad. You should see the following and take the action in c below:
  - a. The SKL Status window will temporarily display "**Load in progress**", "**Press STO and location**", and finally "**Operation Complete**".
  - b. **H-TEK** will be displayed on the NCS SINGARS radio.
  - c. Press **[STO]** and then the **[6]** button on the NCS SINGARS radio keypad. This action stores the Outstation SINGARS radio's KEK in channel 6 of the NCS SINGARS radio.
12. The window in Figure 11, *Pre-Steps MK Operation*, opens.

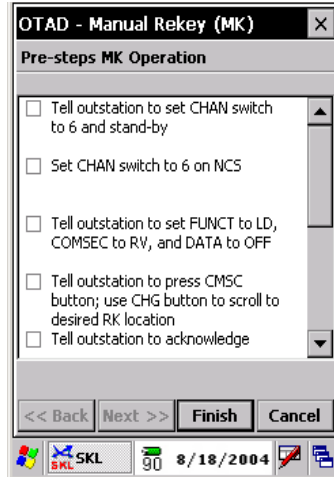


Figure 11. Pre-Steps MK Operation.

13. Perform the following Pre-steps in the MK Operation:

- a. Call the Outstation SINCGARS radio and tell them to go to channel 6.
- b. Set the NCS SINCGARS radio to channel 6.
- c. Perform a radio check between the NCS and the Outstation using channel 6.
- d. Tell the Outstation to set the Function Switch to **LD**, COMSEC to **RV**, and DATA to **Off**.
- e. Tell the Outstation to press **CMSC** and then press **CHG** until you see the channel you wish to store the new TEK in i.e., RK1, RK2, RK3, RK4, or RK5.
- f. Tell the Outstation that after MK to set Function Switch to **SQ On**, return to original channel, and set COMSEC to **CT**.
- g. Tell Outstation to standby for a Manual Rekey. **\*\*Wait for a response from the Outstation.**
- h. On the SKL, tap on the **Finish** button. The window in Figure 12, *Status*, opens.

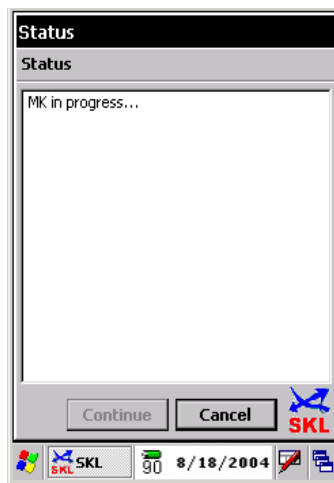


Figure 12. Status.

14. The SKL temporarily displays "MK in progress" for approximately 15 seconds. Then the window in Figure 13, *Post-Steps MK Operation*, opens.

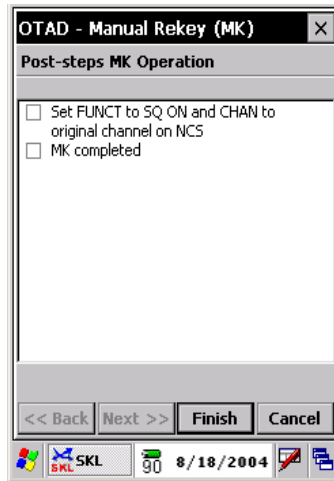


Figure 13. Post-Steps MK Operation.

15. Perform the following Post-Steps in the MK Operation:

- a. Set the NCS SINGARS radio to the original channel, the COMSEC to **CT**, and the Function switch to **SQ ON**.
- b. Perform a radio check with the Outstation.
- c. On the SKL, tap on the **Finish** button. The window in Figure 14, *Poll Net*, opens.

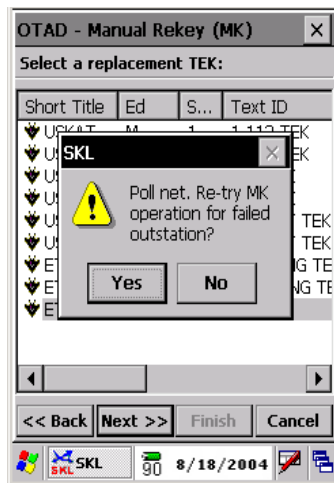


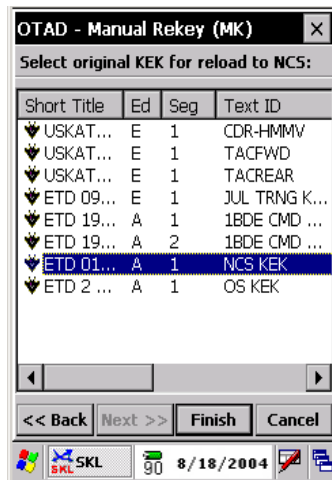
Figure 14. Poll Net.

16. Perform the following to determine if you need to perform the MK operation again:

**NOTE**

**Follow either step (16a) or step (16b) depending on whether or not the TEK was pre-loaded in the NCS radio.**

- a. If the NCS SINCGARS radio did not pre-load the TEK, tell the Outstation operator to scroll COMSEC **CMSC** to the new TEK and press the handset for the presence of the TEK. Then scroll back to the original TEK. Then ask the Outstation operator if they heard a solid tone or a beep and a rush in the handset.
  - If a solid tone was heard, then on the SKL tap on the **Yes** button to retry the MK.
  - If a beep and a rush was heard, then on the SKL tap on the **No** button and go to the next step.
- b. If the NCS SINCGARS radio had pre-loaded the TEK, tell the Outstation operator to scroll COMSEC **CMSC** to the new TEK. Advise the Outstation operator that if unable to communicate to scroll back to the original TEK position.
- c. Press **CMSC** and **CHG** on the NCS radio until the new TEK position is displayed. Perform a radio check with the Outstation operator.
  - If the radio check is successful, then on the SKL tap on the **No** button and go to the next step.
  - If the radio check is unsuccessful, then on the SKL tap on the **Yes** button to retry the MK operation and scroll the COMSEC back to the original TEK.
- d. If the MK was successful and you selected **No** for the MK retry, the window in Figure 15, *Select Original KEK for Reload to NCS*, opens.



**Figure 15. Select Original KEK for Reload to NCS.**

17. Select the original NCS SINCGARS radio KEK and then tap on the **Finish** button. The window in Figure 16, *Load Original KEK Back to NCS*, opens.

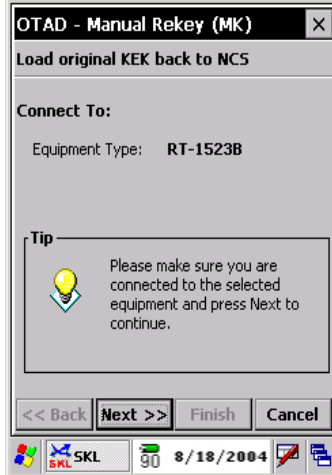


Figure 16. Load Original KEK Back to NCS.

18. Verify that the SKL is still connected to the **Aud/Fill** connector of the SINCGARS radio and then tap on the **Next>>** button. The window in Figure 17, *Load Original KEK Back to NCS Profile*, opens.

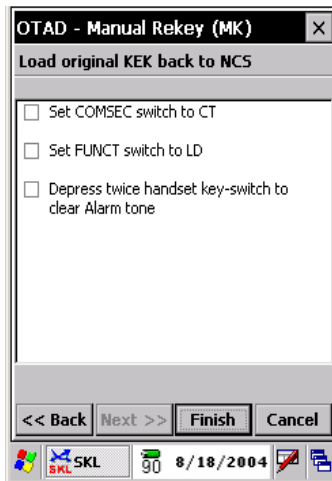


Figure 17. Load Original KEK Back to NCS Profile.

19. Set the NCS SINCGARS radio to CT, LD, and clear the COMSEC alarm by pressing the handset switch twice. Then tap on the **Finish** button. The window in Figure 18, *Ready to Send Key*, opens.

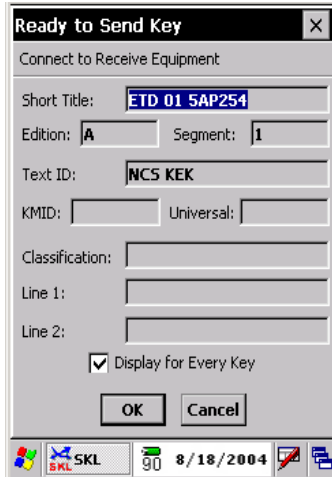


Figure 18. Ready to Send Key.

20. Review the NCS KEK attributes and then tap on the **OK** button. The window in Figure 19, *Status*, opens.



Figure 19. Status.

21. Press the **Load** button on the NCS SINGGARS radio keypad. You should see the following and take the action in c below:
  - a. The SKL Status window will temporarily display "**Load in progress**", "**Press STO and location**", and finally "**Operation Complete**".
  - b. **H-TEK** will be displayed on the NCS SINGGARS radio.
  - c. Press **STO** and then the **6** button on the NCS SINGGARS radio keypad. This action stores the NCS' SINGGARS radio's KEK in back in channel 6. The MK process continues with the window in Figure 20, *Reminder*, below.

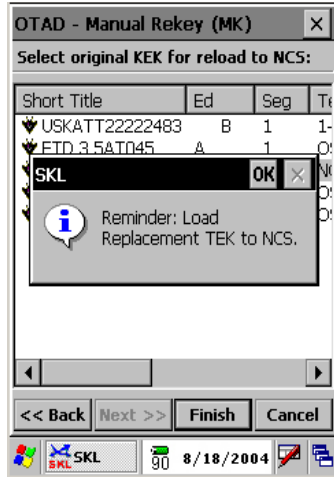


Figure 20. Reminder.

22. This window reminds you to load the replacement TEK into the NCS so that you can communicate with the outstations. Tap on the **OK** button in the upper right-hand corner of the window. The window in Figure 21, *Operation Successful*, opens concluding the MK procedure.

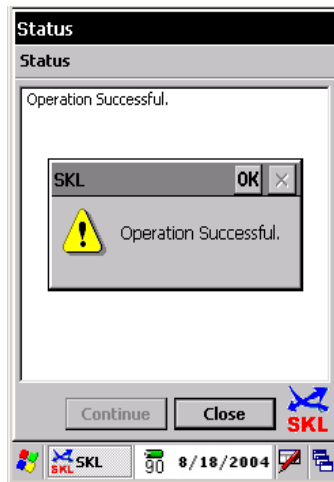


Figure 21. Operation Successful.

23. Tap on the **OK** button in the upper right-hand corner of the window. The SKL UAS desktop returns.

## END OF TASK

**Manual Rekey (MK) Receive Variable (RV).** The MK RV procedure allows the NCS to send a TEK to an Outstation(s) SKL. The Outstation(s) will need to prepare their SINCGARS radio and SKL to receive the TEK. The NCS will need to tell the Outstation(s) the TEK's key attributes (short title, edition, segment, and text ID). The NCS should not send the TEK to the Outstation(s) SKL prior to the Outstation(s) selecting finish on their SKL. Follow the steps below to send a TEK from the NCS' SKL through the SINCGARS radio to the Outstation(s) SKL. There are certain requirements that must be met before this procedure can be started. They are:

- Know the NCS SINGARS radio KEK's short title and text ID.
  - Know the Outstation(s) KEK's short title and text ID.
  - Call the Outstation(s) and tell them to prepare their SKL by performing the OTAD RV procedure.
  - Pre-read all steps prior to actually performing the MK.
1. From the main menu, select **File**→**OTAD**→**Manual Rekey (MK)**. The window in Figure 22, *Select Equipment*, opens.

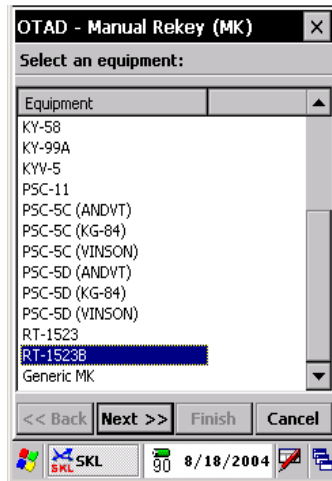


Figure 22. Select Equipment.

2. This is the window where you select the equipment to perform the MK RV on. We have selected the **RT-1523B** as depicted above. Now tap on the **Next>>** button. The window in Figure 23, *Perform MK-RV*, opens.

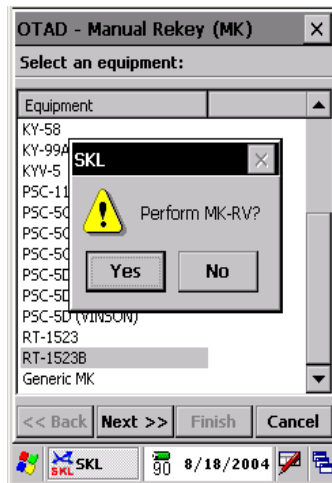


Figure 23. Perform MK-RV.

3. Tap on the **Yes** button. The window in Figure 24, *Generate New Replacement TEK*, opens.

NOTE

The COMSEC custodian normally generates all TEKs. Only generate a new TEK when authorization has been given. If authorization has been given select Yes below and follow the prompts to Variable Generate (VG) a new TEK.

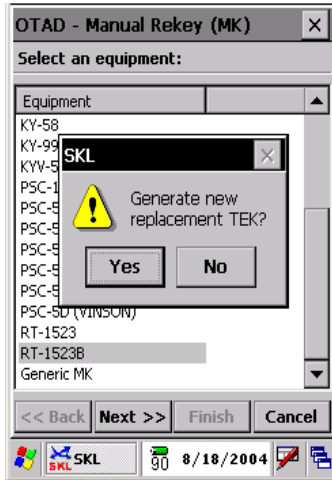


Figure 24. Generate New Replacement TEK.

4. If you need to generate the new TEK, select Yes and then run the Variable Generate procedure found in Work Package 0018. When you have the new TEK in your database, the MK RV procedure continues with the window below. If you have already generated the new TEK and it is in your Mission Database, tap on the **No** button. The window in Figure 25, *Select Outstation KEK*, opens.

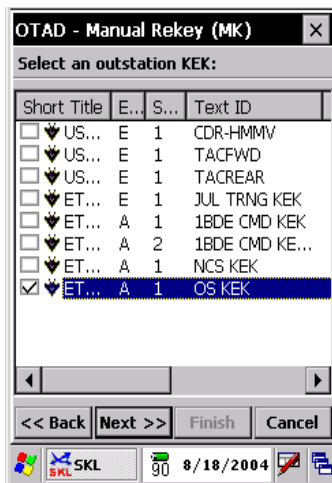


Figure 25. Select Outstation KEK.

5. Select the KEK for the Outstation(s) from the list and then tap on the **Next>>** button. The window in Figure 26, *Select Replacement TEK*, opens.

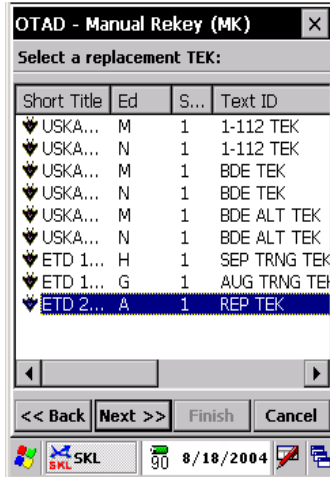


Figure 26. Select Replacement TEK.

6. Select the replacement TEK you are going to send to the Outstation(s) SKLs and then tap on the **Next>>** button. The window in Figure 27, *Load Outstation KEK to NCS*, opens.

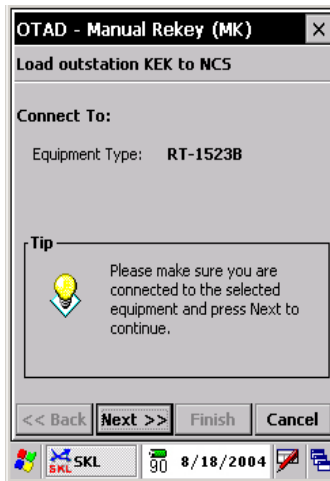


Figure 27. Load Outstation KEK to NCS.

7. Connect the SKL to the **Aud/Fill** port on the NCS SINCGARS radio and then tap on the **Next>>** button. The window in Figure 28, *Load Outstation KEK to NCS Profile*, opens.

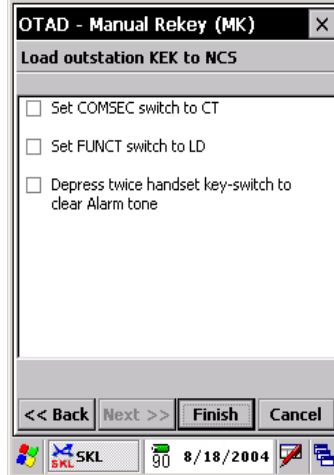


Figure 28. Load Outstation KEK to NCS Profile.

8. Perform the following on the NCS SINCGARS radio.
  - a. Set COMSEC switch to **CT**.
  - b. Set FUNCT switch to **LD**.
  - c. Depress the handset key - switch twice to clear the alarm tone.
9. Now tap on the **Finish** button. The window in Figure 29, *Ready to Send Key*, opens.

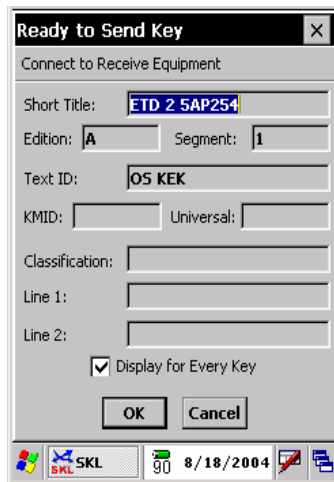


Figure 29. Ready to Send Key.

10. Review the attributes of the Outstation KEK to make sure you have the right key. If correct, tap on the **OK** button. The window in Figure 30, *Status*, opens.



Figure 30. Status.

11. Perform the following on the NCS SINGGARS radio.
  - a. Press the **LOAD** button on the keypad.
  - b. The SKL Status window will temporarily display "**Load in progress**" and then "**Press STO and location**" and finally "**Operation Complete**".
  - c. On the NCS SINGGARS radio **H-TEK** will be displayed.
  - d. On the NCS SINGGARS radio, press the **STO** button and then the **6** button on the keypad. This will store the Outstation(s) KEK into channel 6 of the NCS SINGGARS radio.
12. After these steps have been completed, the window in Figure 31, *Pre-Steps MK-RV Operation*, opens.

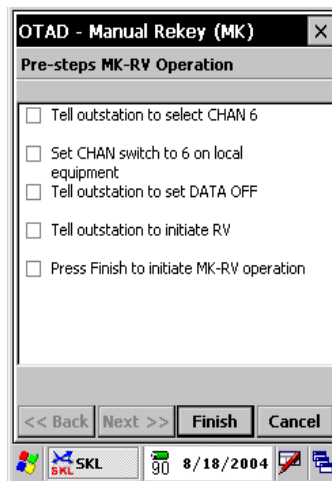


Figure 31. Pre-Steps MK-RV Operation.

13. Perform the following steps in order.
  - a. Call the Outstation(s) and tell them to go to channel 6.

- b. Set the NCS SINCGARS radio to channel 6.
- c. Perform a radio check with the Outstation(s).
- d. Tell Outstation(s) to press the **DATA** button and then the **CHG** button until their SINCGARS display reads **OFF**.
- e. Tell Outstation(s) to tap on the **Receive** button on their SKLs. **\*\*Wait for response from Outstation(s).**
- f. On the NCS SINCGARS SKL, tap on the **Finish** button.
- g. The NCS SINCGARS SKL will temporarily display "**MK in progress**" and then "**Operation Complete**". The window in Figure 32, *Post-Steps MK-RV Operation*, opens.

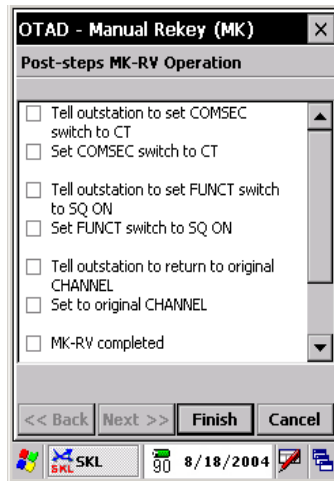


Figure 32. Post-Steps MK-RV Operation.

14. Perform the following steps in order.
  - a. Tell Outstation(s) to set their SINCGARS radio COMSEC switch to **CT** and the Function switch to **SQ ON**.
  - b. Tell Outstation(s) to return to the original channel on their SINCGARS radio.
  - c. Set the NCS SINCGARS radio COMSEC switch to **CT** and the Function switch to **SQ ON**.
  - d. Set the NCS SINCGARS radio to the original channel.
  - e. Perform a radio check with the Outstation(s).
  - f. Tap on the **Finish** button on the NCS SKL. The window in Figure 33, *Poll Net*, opens.



Figure 33. Poll Net.

15. Call the Outstation(s) and ask if they received the TEK into their SKL. If any Outstation(s) reports back to the NCS that their SKL did not receive the TEK, then advise those Outstation(s) to prepare the RV procedure on their SKL again and then tap on the Yes button to retry the MK. If the Outstation(s) reported back to the NCS that they received the TEK into their SKL then tap on the **No** button. The window in Figure 34, *Select Original KEK for Reload to NCS*, opens.

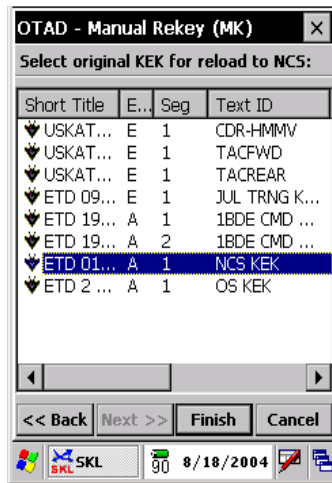


Figure 34. Select Original KEK for Reload to NCS.

16. Select the NCS KEK from the list and tap on the **Finish** button. The window in Figure 35, *Load Original KEK Back to NCS*, opens.

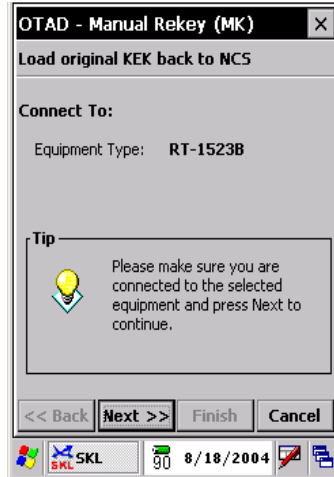


Figure 35. Load Original KEK Back to NCS.

17. Verify that the SKL is still connected to the **Aud/Fill** connector of the NCS SINGGARS radio, and then tap on the **Next>>** button. The window in Figure 36, *Load Original KEK Back to NCS Profile*, Opens.

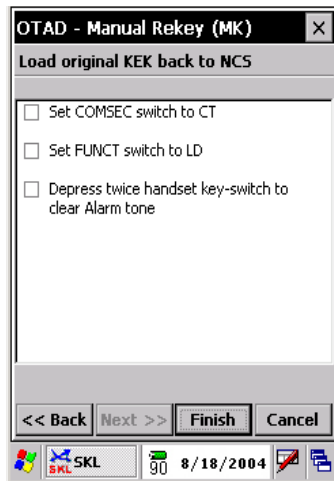


Figure 36. Load Original KEK Back to NCS Profile.

18. Perform the following on the NCS SINGGARS radio.
  - a. Set COMSEC switch to **CT**.
  - b. Set FUNCT switch to **LD**.
  - c. Depress the handset key- switch twice to clear the alarm tone.
19. Now tap on the **Finish** button. The window in Figure 37, *Ready to Send Key*, opens.

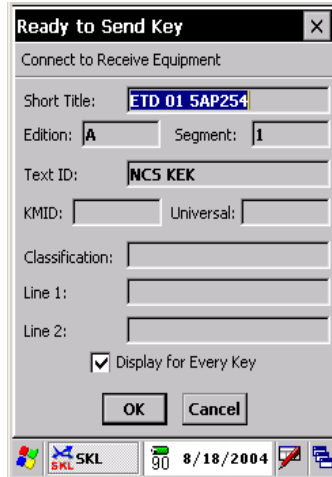


Figure 37. Ready to Send Key.

20. Review the attributes of the NCS KEK to make sure you have the right key. If correct, tap on the **OK** button. The window in Figure 38, *Status*, opens.



Figure 38. Status.

21. Perform the following on the NCS SINCGARS radio.
  - a. Press the **LOAD** button on the keypad.
  - b. The SKL Status window will temporarily display "**Load in progress**" and then "**Press STO and location**" and finally "**Operation Complete**".
  - c. On the NCS SINCGARS radio **H-TEK** will be displayed.
  - d. On the NCS SINCGARS radio, press the **STO** button and then the **6** button on the keypad. This will store the Outstation(s) KEK into channel 6 of the NCS SINCGARS radio.
22. After these steps have been completed, the window in Figure 39, *Operation Successful*, opens.

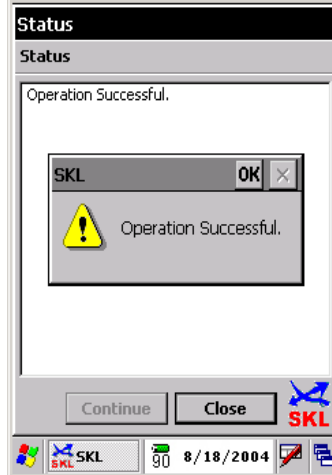


Figure 39. Operation Successful.

23. Tap on the **OK** button in the upper right-hand corner of the window. The SKL returns to the tab you had open when you started the MK-RV procedure.

#### END OF TASK

**Generic Manual Rekey (MK).** This procedure should be used to perform an Over-Air-The-Distribution (OTAD) Manual Rekey (MK) of communications equipment not listed on the OTAD Select Equipment window. This procedure is designed to rekey equipment in a net having no Net Control Station (NCS). This procedure could also be called simply "Net Rekey".

Use the following procedure to rekey a net using the Generic MK process.

1. Connect the SKL to a communications device within the net to be Rekeyed.
2. On the SKL select **File→Transmit→OTAD→Manual Rekey**. The window in Figure 40, *Select Equipment* opens.

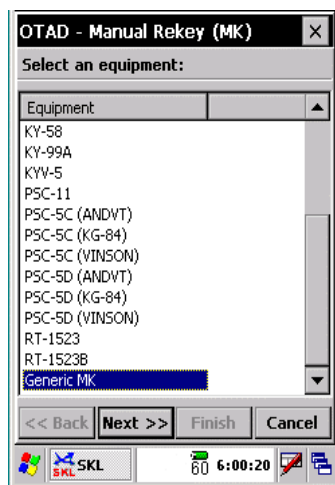


Figure 40. Select Equipment.

- From the list presented select **Generic MK** and tap on the **Next>>** button. The window in Figure 41, *Perform MK-RV Opens*.

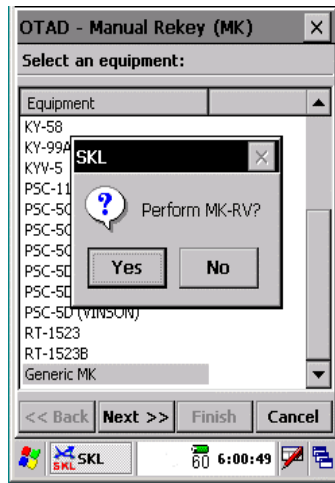


Figure 41. Perform MK-RV.

- Since this operation is about rekeying a net, tap on the **No** button. The window in Figure 42, *Generate New Replacement TEK opens*.

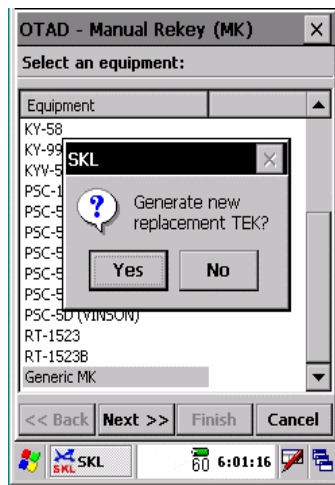


Figure 42. Generate New Replacement TEK.

- If the replacement TEK currently does not reside in the SKL this procedure should not have been attempted to begin with. However, if a replacement TEK needs to be generated the selection here would be Yes. However, for this demonstration we are selecting **No**. The window in Figure 43, *Load Outstation KEK to NCS opens*.

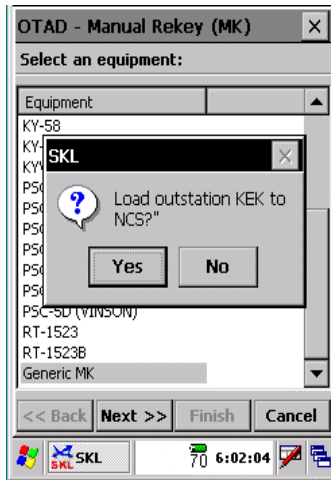


Figure 43. Load Outstation KEK to NCS.

6. Since this procedure concerns only a net rekey there is no NCS so therefore tap on the **No** button. The window in Figure 44, *Select Replacement TEK* opens.

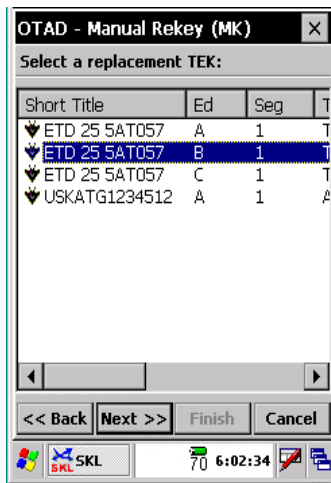


Figure 44. Select Replacement TEK.

7. From the list of keys provided, select the replacement TEK and then tap on the **Next>>** button. The window in Figure 45, *Pre-Steps MK Operation* opens.

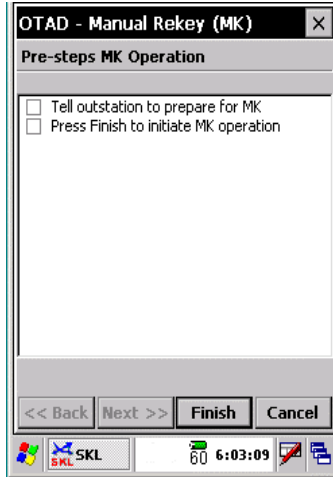


Figure 45. Pre-Steps MK Operation.

8. Follow all the pre-steps and then tap on the **Finish** button. The window in Figure 46. *MK in Progress* opens.



Figure 46. MK in Progress.

9. Once the process is complete, the window in Figure 47, *MK Completed* opens.

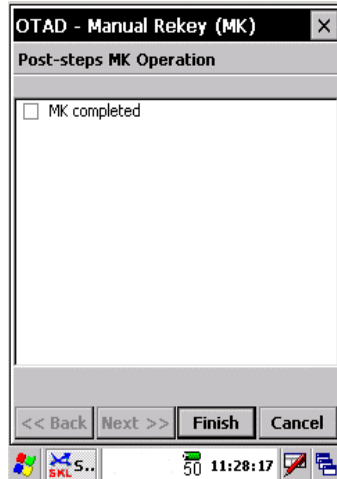


Figure 47. MK Complete.

10. The MK has completed but there are some housekeeping functions that need to be accomplished before the process is truly complete. Tap on the **Finish** button. The window in Figure 48, *Poll Net* opens.



Figure 48. Poll Net.

11. This window comes up as a result of this being an OTAD procedure. Since this is a Generic MK of a net only, there is no way to Poll the net. Therefore tap on the **No** button. The window in Figure 49, *Load Original KEK to NCS* opens. If there is a device in the net that did not get the replacement TEK, the procedure will have to be run again.

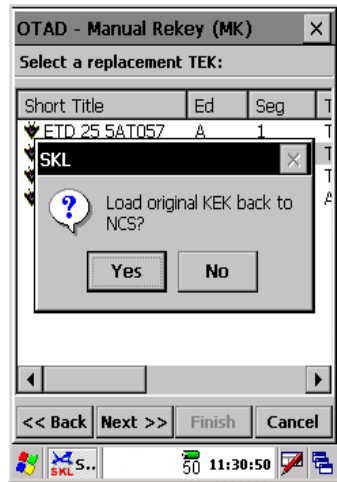


Figure 49. Load Original KEK Back to NCS.

12. Since a KEK was never utilized in this Generic MK procedure, tap on the **No** button. The window in Figure 50, *Load Replacement TEK to NCS* opens.

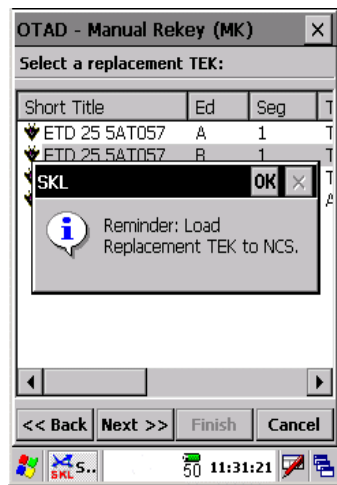
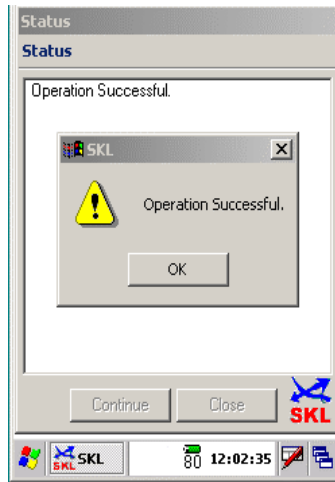


Figure 50. Load Replacement TEK to NCS.

13. In actuality what you are doing here is to load the replacement TEK into the device the SKL is connected to since there is no NCS in this type of net. Tap on the **OK** button. The window in Figure 51, *Operation Successful* opens.



**Figure 51. Operation Successful.**

14. Tap on the **OK** button to complete the procedure to rekey a net.

**END OF TASK**

**END OF WORK PACKAGE**



OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
SKL UAS AUTOMATIC REKEY FUNCTION  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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**OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0**

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**FILE MENU**

**OVER THE AIR DISTRIBUTION (OTAD)  
VARIABLE GENERATE  
RECEIVE VARIABLE  
VARIABLE UPDATE  
MANUAL REKEY  
AUTOMATIC REKEY**

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**OVER THE AIR DISTRIBUTION (OTAD)**

Over the Air Distribution (OTAD) provides a means to change the traffic encryption key in remote crypto-equipment by sending a new key directly to the remote crypto-equipment over the communication path it secures. The OTAD selection encompasses five (5) different procedures that allow the user of the SKL to have maximum flexibility in performing the mission. This Work Package will describe the Automatic Rekey (AK) procedure.

**Automatic Rekey (AK)**

The Automatic Rekey (AK) uses a rekey procedure that allows the NCS to update the net members TEK. When the net members receive a COMSEC message from the NCS, the net member's equipment TEK and KEK is automatically updated to the next variable. To accomplish this AK procedure, the NCS will have to be familiar with the communications net equipment, the OTAR switch settings, and menu programming. The NCS should refer to the correct equipment technical manual for specific OTAR procedures. The following AK procedure uses the RT-1523B SINCGARS radio as the equipment for the communications net. There are certain requirements that must be met before this procedure can be started. They are:

- Know the SINCGARS NCS KEK's short title and text ID.
- Know the current and replacement TEK's short title and text ID.
- Know the Outstation(s) KEK's short title and text ID.
- Know that the TEK on the Outstation(s) SINCGARS operational channel will be replaced, and that the replaced TEK will have to be stored on a separate channel on the SINCGARS NCS radio.
- Know what spare channel on the SINCGARS NCS radio that the new TEK is to be stored.
- Pre-read all steps of this procedure prior to actually performing the AK.

Once you are confident that you know the information cited above you can begin the procedure.

1. Select **File**→**OTAD**→**Automatic Rekey (AK)** from the main menu as depicted below in Figure 1, *Automatic Rekey (AK)*.

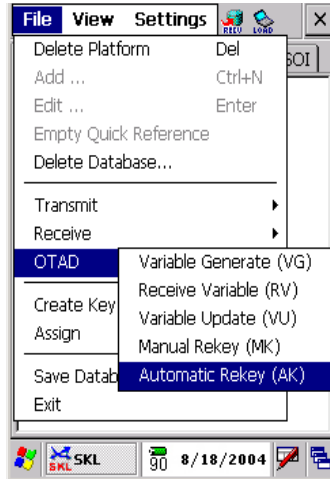


Figure 1. File→OTAD→Automatic Rekey (AK).

- As a result of selecting Automatic Rekey (AK), the window in Figure 2, *Select an Equipment*, opens.

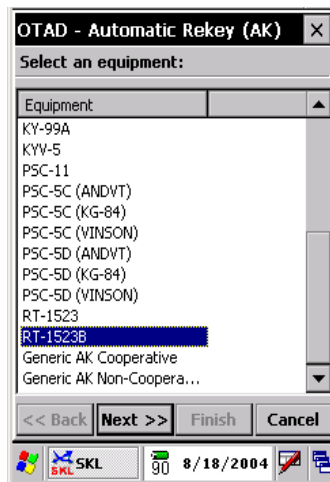


Figure 2. Select an Equipment.

- Since this procedure is using the SINCGARS radio to demonstrate the AK procedure, the **RT-1523B** has been selected as depicted above. You should select the equipment you need to perform an AK on. Then tap on the **Next>>** button. The window in Figure 3, *Generate New Replacement TEK*, opens.

**NOTE**

The COMSEC custodian normally generates all TEKs. Only generate a new TEK when authorization has been given. If authorization has been given select Yes below and follow the prompts to Variable Generate (VG) a new TEK.



Figure 3. Generate New Replacement TEK.

4. If you do not have the new TEK in the database and you have been given permission to generate a new TEK, select Yes and do the Variable Generate (VG) procedure located in Work Package 0018. Once you have the new TEK in your database, the process continues with the window below. If the new replacement TEK is in the key database tap on the **NO** button and proceed to the next step. The window in Figure 4, *Select One or More Outstation KEK(s)*, opens

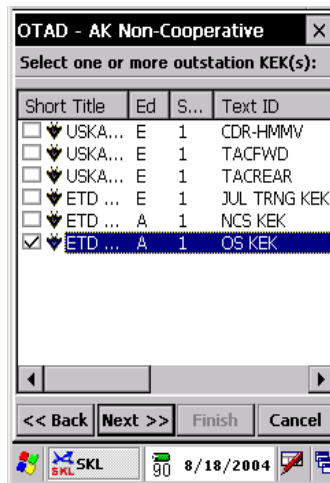


Figure 4. Select One or More Outstation KEK(s).

5. Select the KEK that are stored on channel 6 of the Outstation(s) SINCGARS radio as depicted above. Then tap in the **Next>>** button. The window in Figure 5, *Select a Replacement TEK*, opens.

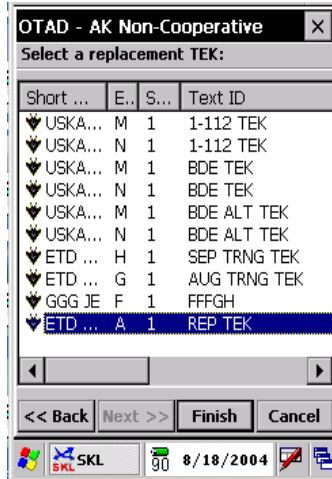


Figure 5. Select a Replacement TEK.

6. Select the replacement TEK as depicted above and then tap on the **Finish** button. The window in Figure 6, *Pre-Steps AK Operation*, opens.

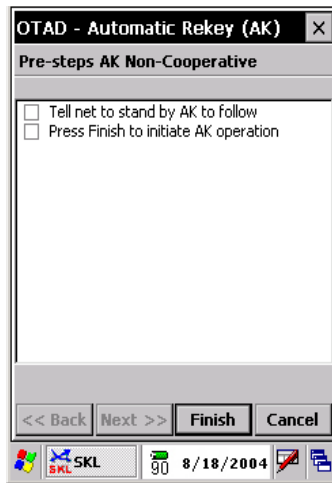


Figure 6. Pre-Steps AK Operation.

7. Communicate with the Outstation(s) and tell them to standby for an AK. **Make sure that you wait and get a response from all net members.** Once all net members have acknowledged, tap on the **Finish** button. The window in Figure 7, *Status*, opens.



Figure 7. Status.

8. On the SKL attached to the NCS SINCGARS radio, the Status window temporarily displays "**AK in progress**" and then "**Operation Complete**". The window in Figure 8, *AK Completed*, opens.

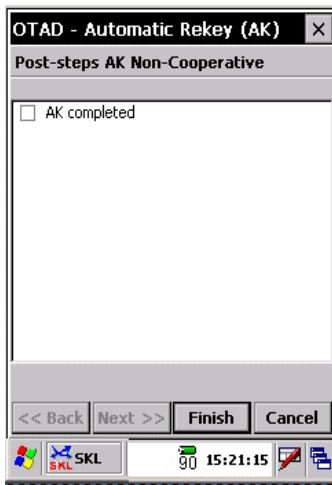


Figure 8. AK Completed.

9. Tap on the **Finish** button. The window in Figure 9, *All Outstations Successfully Rekeyed* opens.



Figure 9. All Outstations Successfully Rekeyed.

10. The NCS will attempt to Poll the Net to determine if any Outstation did not receive the updated TEK. If the NCS cannot communicate with the Outstation(s), then the **No** button should be selected so that the AK process can be repeated. If the NCS can communicate with all the Outstation(s) then tap on the **Yes** button. The window in Figure 10, *Load Replacement TEK to NCS*, opens.

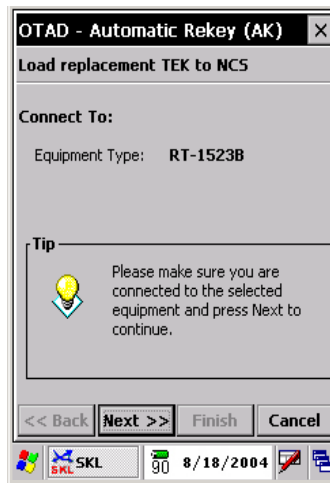


Figure 10. Load Replacement TEK to NCS.

11. Connect the SKL to the NCS SINCGARS radio **Aud/Fill** connector and then tap on the **Next>>** button. The window in Figure 11, *Load Replacement TEK to NCS Profile*, opens.

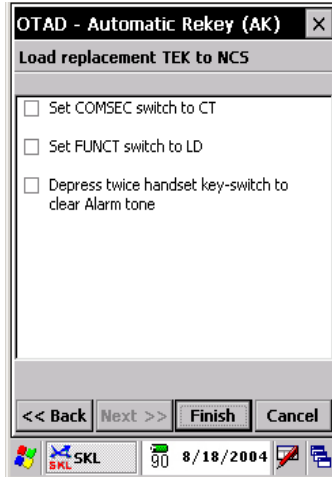


Figure 11. Load Replacement TEK to NCS Profile.

12. Perform the following on the NCS SINGGARS radio.
  - a. Set the COMSEC switch to **CT**.
  - b. Set the FCTN switch to **LD**.
  - c. Depress the Handset switch twice to clear the alarm tone.
13. Once these conditions have been met tap on the **Finish** button. The window in Figure 12, *Ready to Send Key*, opens.

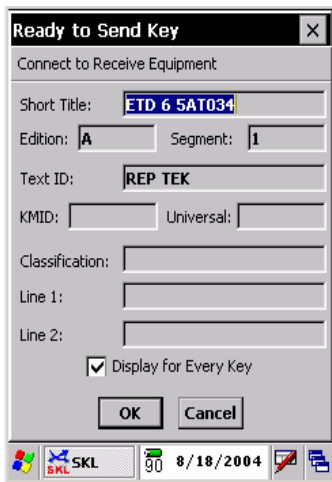


Figure 12. Ready to Send Key.

14. Review the key attributes of the replacement TEK, and if correct tap on the **OK** button. The window in Figure 13, *Status*, opens.

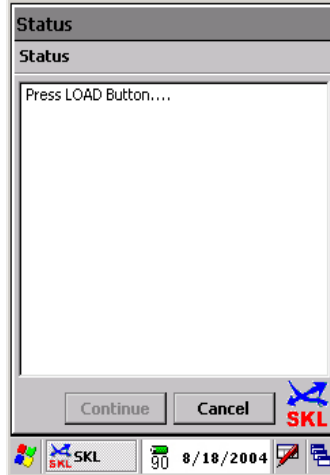


Figure 13. Status.

15. On the NCS SINGGARS radio, press the **Load** button on the keypad. The SKL attached to the NCS will temporarily display "**Press STO and location**" and then "**Operation Complete**". On the NCS SINGGARS radio, **H-TEK** is displayed. Press **STO** and the channel number that the key is to be stored in i.e., **1, 2, 3, 4, or 5**. The window in Figure 14, *Variable Update*, opens.

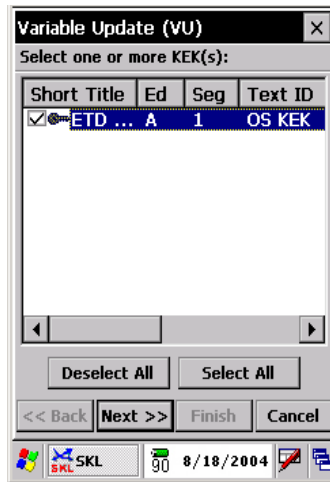


Figure 14. Variable Update.

16. This process will update the Outstation(s) KEK. Select the Outstation(s) KEK and then tap on the **Next>>** button. The window in Figure 15, *Generated KEK(s)*, opens.



Figure 15. Generated KEK(s).

17. This window shows you the generated KEK. As depicted in the window above the segment has changed from 1 to 2. If you use the scroll bar at the bottom of the window, you can see the Text ID, Effective, and Expiration Dates. If you wish to change the Text ID or the Effective or Expiration Dates, double-tap on the **Short Title**. The window in Figure 16, *Modify VU Key Tag*, opens.

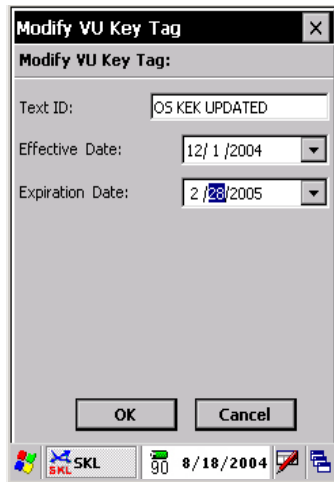


Figure 16. Modify VU Key Tag.

18. From this window you can change the Text ID, the Effective Date, and the Expiration Date of the KEK that was just created. Once you have made your changes, tap on the **OK** button. The window in Figure 17, *Generated KEK(s)*, returns.



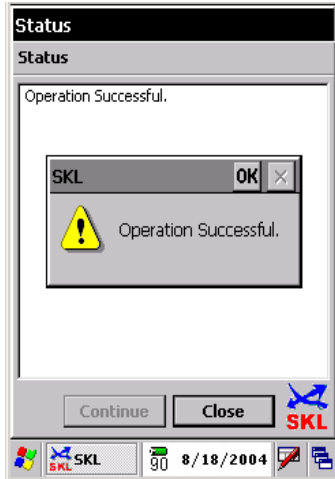
Figure 17. Generated KEK(s).

19. Tap on the **Finish** button. The window in Figure 18, *Status*, opens.



Figure 18. Status.

20. The SKL connected to the NCS SINGARS radio will display temporarily "**VU in progress**". Then the system automatically saves the key to the database. The window in Figure 19, *Operation Successful*, opens.



**Figure 19. Operation Successful.**

21. Once the database is saved the final action of the AK procedure is complete. Tap on the **OK** button in the upper right-hand corner of the window to close it. The Outstation(s) KEK was updated and the updated KEK has been stored in the database of the SKL.

**END OF TASK**

**END OF WORK PACKAGE**

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
SKL UAS CREATE KEY TAGS FUNCTION  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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FILE MENU  
CREATE KEY TAGS

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CREATE KEY TAGS

A new Key Tag can be manually created in the SKL without the use of other systems or equipment. The newly created Key Tag has all the user provided short title information as well as the receive key profile settings of the key generating device defined by the user. Once the Key Tag has been created, then a Key Needed procedure can be performed using the key-generating device defined by the user in the Key Tag. To create a Key Tag, follow the procedures below.

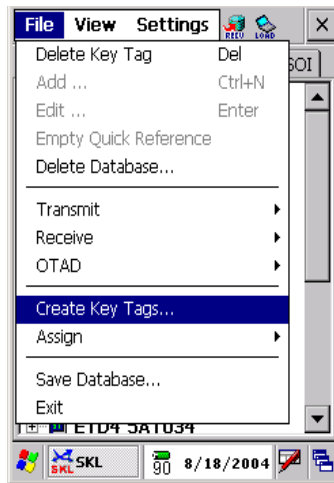


Figure 1. File→Create Key Tags.

1. From the SKL Main Menu, select **File→Create Key Tags** as depicted above. The window in Figure 2, *Select Key Source*, opens.

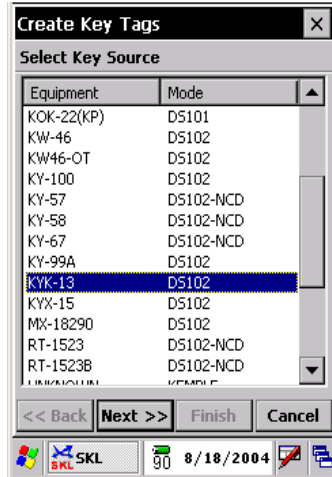


Figure 2. Select Key Source.

2. Scroll down the list of key sources and select the one you want to provide the key variable. As depicted above, the KYK-13 is selected. Once you have selected a key source tap on the **Next>>** button. The window in Figure 3, *Key Tag Information*, opens

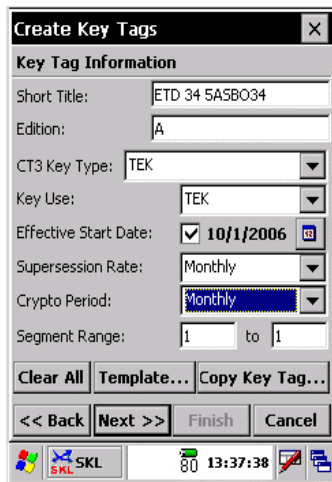


Figure 3. Key Tag Information.

3. The Key Tag Information window is used for the entry of applicable Key Tag data. There are three areas where the virtual keyboard is required. They are the Short Title, Edition, and Segment Range that have been filled in as depicted above. The CT3 Key Type, Key Use, Effective Start Date, Supersession Rate, and Crypto Period are drop-down menus that are used to select the appropriate information. The Clear All button when tapped will clear all the information from only the Short Title and Edition fields. The Template button is used to select a saved template that will populate all the fields with information that may be edited to fit the mission parameters. The Copy Key Tag button when selected will allow you to copy Key Tag information from an existing Key Tag that is stored in your SKL. The Key Tag field characteristics are defined below:
  - a. The Short Title field has a 24-character limit.
  - b. The Edition field has a 6-character limit.
  - c. The Segment Range fields can accommodate a range from 0-99 segments.

- d. The CT3 Key Type field has a drop-down menu to choose from.
- e. The Key Use field has a drop-down menu.
- f. The Effective Start Date field has a down arrow that when selected opens up a calendar to choose the correct date.
- g. The Supersession Rate field has a drop-down menu.
- h. The Crypto Period field has a drop-down menu.



**TIP:** If default key tag values are in the Short Title and Edition fields, delete them by using the backspace key.



**TIP:** To use a field setting template, select Template and choose the appropriate template name (if any are listed on the Template list). This action enters the default values defined in the template in the Key Tag Information fields.

- 4. Once all the correct information has been entered in this window, tap on the **Next>>** button. The window in Figure 4, *Key Tag Information 2*, opens.

**Figure 4. Key Tag Information 2.**

- 5. There are two informational fields called Register Number and Text ID. Use the virtual keyboard to fill in the required information in these fields as depicted above. The other field, Classification has a drop-down menu from which to select the appropriate classification for the key. This window also has a button called “Save as Template”. This is used to save the information you have entered in these 2 windows to a template that can be used later to populate the fields in these windows when another Key Tag is created. The field characteristics are defined below:
  - a. Enter the Register Number. This is a numeric number starting at 0 (zero).
  - b. Select a Classification from the drop-down menu.
  - c. Enter a Text ID. This field has a 16-character limit.

6. You can now save all the information that has been entered in the Key Tag Information pages to a template or you can skip the template process and continue with the Create Key Tag process. In this example we have chosen to Save as Template. Therefore, tap on the **Save as Template** button. The window in Figure 5, *Save Template*, opens.



Figure 5. Save Template.

7. Fill in the new template name using the virtual keyboard as depicted above and then tap on the **OK** button. The window in Figure 6, *Template List Updated*, opens.

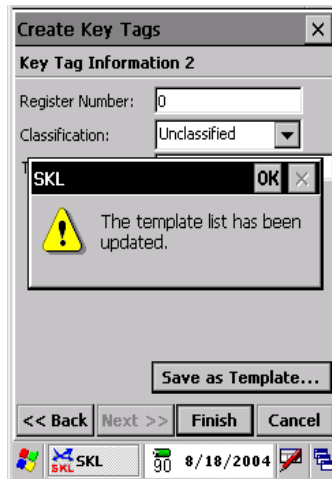


Figure 6. Template List Updated.

8. Tap on the **OK** button in the upper right-hand corner of the small window. The window in Figure 7, *Key Tag Information 2*, re-opens

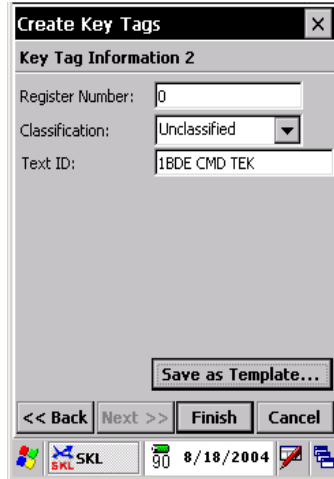


Figure 7. Key Tag Information 2.

9. Now tap on the **Finish** button. The window in Figure 8, *Keys Tab*, opens.

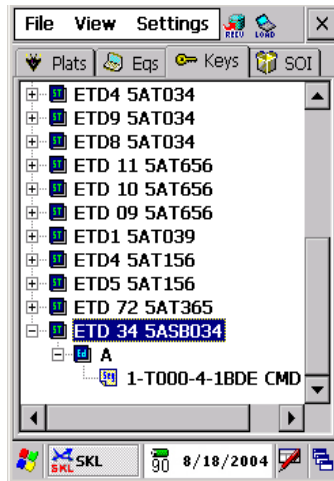


Figure 8. Keys Tab.

10. As depicted above in the Keys Tab, the Short Title ETD 34 5ASB034 and Edition A have been expanded to show the Segment **1-T000-4-1BDE CMD TEK**. This is the Key Tag that was created. As depicted above you only have a Segment and not the actual Key. Therefore you would now do a Key Needed Procedure to receive the actual Key for the Short Title and Edition. Now select **File→Save Database**.

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
SKL UAS ASSIGN FUNCTION  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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**OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0**

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**FILE MENU  
ASSIGN**

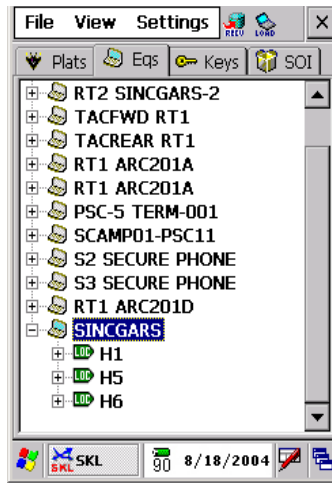
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**ASSIGN**

Some Key Tags, Electronic Protection (EP), Message Data, and Equipment that reside in the SKL database can only be loaded to their respective equipment if they are assigned to that equipment or platform. When Short Titles, EP Data, Message Data, and Equipment are received into the SKL, they may not be assigned to any equipment fill location(s) or Platforms. An example of this is when you perform an OTAD Receive Variable, Receive Selected Database, Receive Key, or Create Key Tag operation. The following four procedures will describe the Assign function in the SKL UAS program.

**Assign Key to an Equipment Fill Location**

To assign key to an equipment fill location follow the procedure below.



**Figure 1. Eqs Tab.**

1. To assign a key to an equipment fill location, first tap on the **Eqs Tab** as depicted above. Then locate the equipment that you want to assign the key to. In the depiction above, we have selected the SINGGARS equipment and expanded it to show that there are no Key Tags assigned, only hopsets are assigned to locations H1, H5, and H6. Then select **File→Assign→Key Tags** as shown in Figure 2 below.

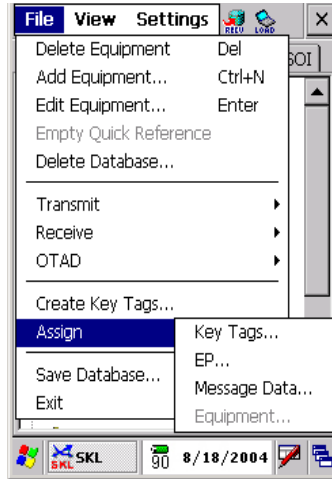


Figure 2. File→Assign→Key Tags.

- As a result of performing the above operation the window in Figure 3, *Assign Key Tags*, opens.

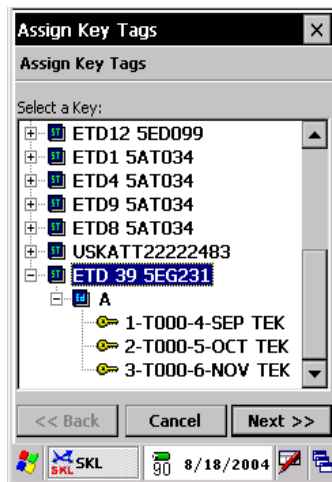


Figure 3. Assign Key Tags.

- Select the Short Title that will be assigned to the equipment fill location. As depicted above, the Short title **ETD 39 5EG231** has been selected. Once the Short Title is highlighted, tap on the **Next>>** button. The window in Figure 4, *Select a Location*, opens.

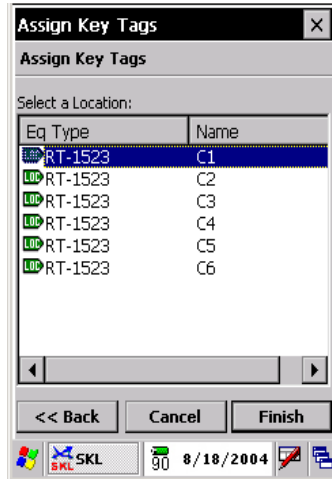


Figure 4. Select a Location.

4. This window displays the type of equipment and all available fill locations that the selected key can be assigned to. Select a location by highlighting it and then tap on the **Finish** button. The window in Figure 5, *Eqs Tab*, re-opens.

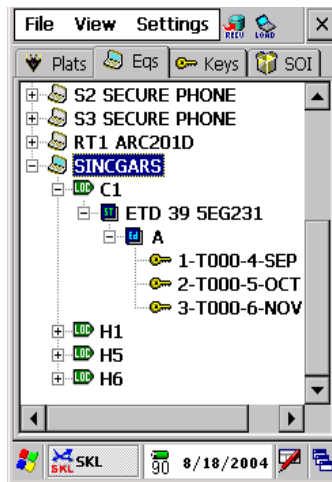


Figure 5. Eqs Tab.

5. As depicted above, the SINGGARS equipment has been expanded to show that fill location **C1** is populated with Short Title **ETD 39 5EG231**, Edition **A**, and **3 keys**. Now select **File→Save Database**. This will complete the assignment of key to a fill location on a selected piece of equipment. You will follow these same steps over again to assign another key to a location.

## END OF TASK

### Assign EP Data to an Equipment Fill Location

As part of this management capability of the SKL you have the ability to now assign Electronic Protection (EP) data directly to an Equipment Fill Location. Follow the procedure below to accomplish this assignment.

1. Select the **Eqs Tab** and select (highlight) the equipment or Fill Location you wish to assign EP data to, as depicted in Figure 6, *Eqs Tab Expanded*, below.

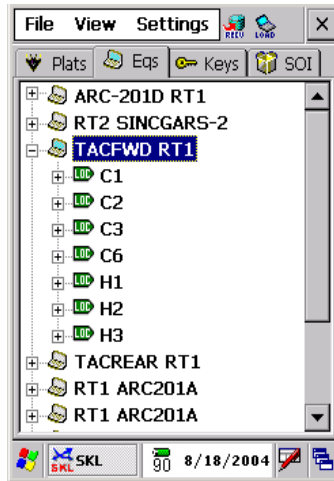


Figure 6. Eqs Tab Expanded.

2. In the depiction above, with **TACFWD RT1** selected there are four Key Locations and three EP Locations assigned to this Equipment. Now select **File**→**Assign**→**EP** as depicted below in Figure 7, *Assign EP*.

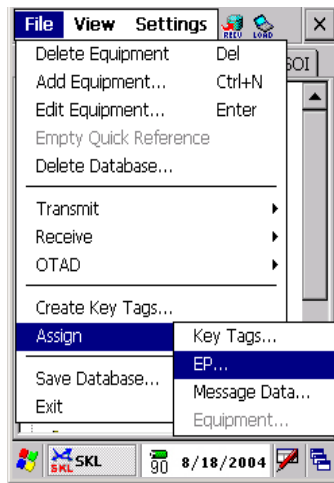


Figure 7. Assign EP.

3. As a result of the above selection, the window in Figure 8, *Select an EP*, opens.

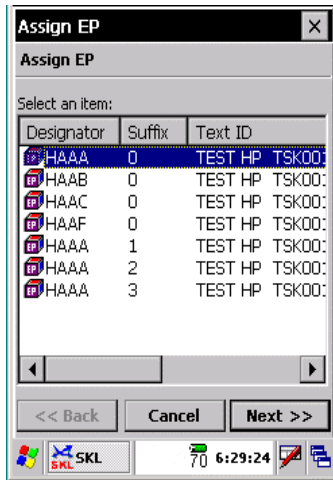


Figure 8. Select an EP.

- Now select the Hopset that you wish to assign to the Equipment and tap on the **Next>>** button. The window in Figure 9, *Select a Location*, opens.

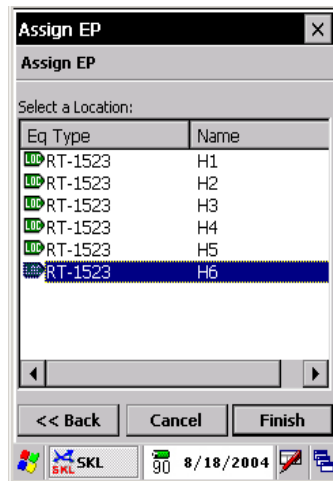


Figure 9. Select a Location.

- Now select the location on the RT1523 radio that you want the Hopset assigned to. Once you have made your selection tap on the **Finish** button. The window in Figure 10, *Assigned Hopset*, opens. In this depiction we have selected **H6**.

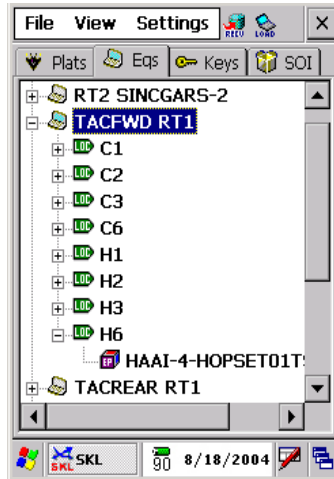


Figure 10. Assigned Hopset.

6. You can now see that a Hopset has been assigned to Fill Location **H6**. You will follow the same procedure to add EP data to other Hopset locations.

## END OF TASK

### Assign Message Data

There is equipment in the Army inventory that uses Message Data as part of their operational capability. Therefore, when Message Data is received into the SKL unassigned, it must be assigned to the equipment that it is intended for. In the example below, the SCAMP PSC-11 uses Message Data as part of its operational capability. Follow the procedure below to assign Message Data to Equipment.

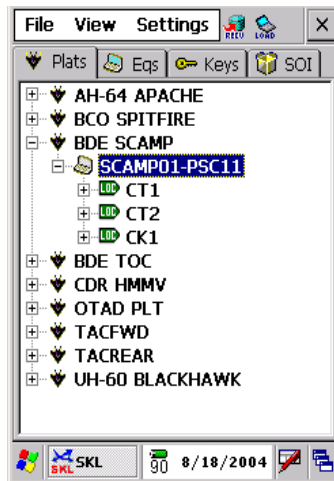


Figure 11. Plats Tab Expanded.

1. Expand the Plats Tab and select (highlight) the Equipment the Message Data is intended for as depicted in Figure 11, *Plats Tab Expanded*, above. Now select **File→Assign→Message Data** as depicted below in Figure 12, *File→Assign→Message Data*.

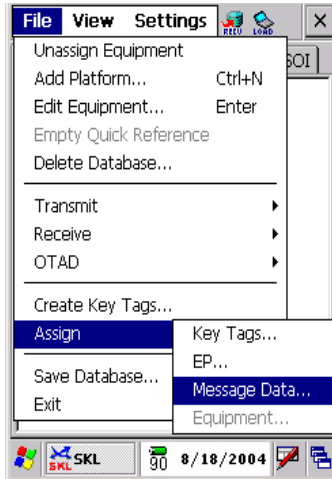


Figure 12. File→Assign→Message Data.

2. As a result of selecting Message Data, the window in Figure 13, *Assign Message Data*, opens.



Figure 13. Assign Message Data.

3. From this window, select the correct Message and then tap on the **Next>>** button. The window in Figure 14, *Select a Location*, opens.



Figure 14. Select a Location.

4. Select the location you want the Message Data to go into and then tap on the **Finish** button. The window in Figure 15, *Plats Tab with Message Data Assigned*, opens.

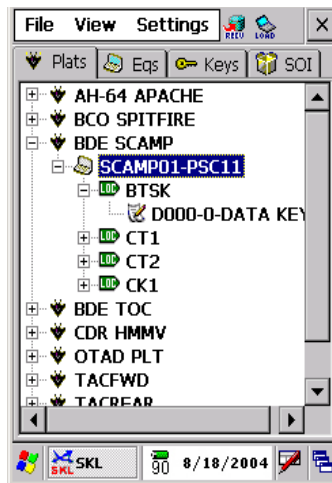


Figure 15. Plats Tab with Message Data Assigned.

5. You can now see in the window depicted above that the Message Data have been assigned to the **SCAMP PSC-11**.

## END OF TASK

### Assign Equipment to a Platform

The Platform is the highest echelon in the tree structure of the SKL. Therefore it would seem logical that there would be something assigned against each Platform displayed on the Plats Tab. Use the following procedure to assign Equipment to a Platform. Start by making sure you have the **Plats Tab open and the Platform you want to assign Equipment to highlighted**, as depicted below in Figure 16, *Plats Tab with Platform Highlighted*.

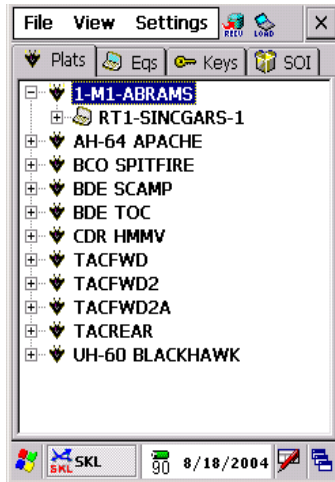


Figure 16. Plats Tab with Platform Highlighted.

1. Now select **File**→**Assign**→**Equipment** as depicted below in Figure 17, *File*→*Assign*→*Equipment*.

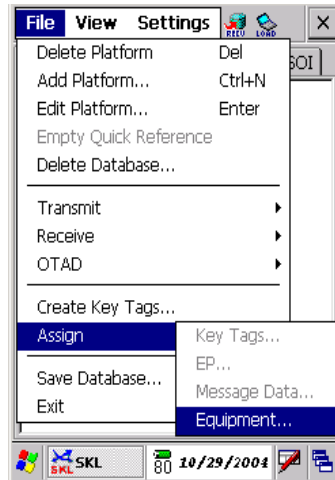


Figure 17. File→Assign→Equipment.

2. As a result of selecting the above, the window in Figure 18, *Assign Equipment*, opens.

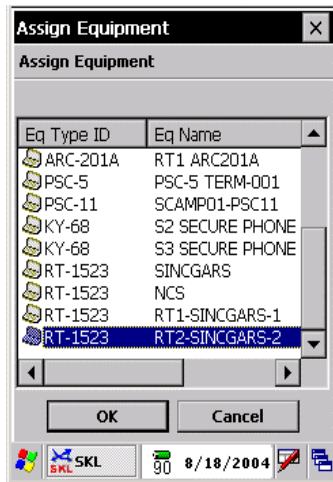


Figure 18. Assign Equipment.

3. From the list presented, select the Equipment you wish to assign to the Platform. Then tap on the **OK** button. The window in Figure 19, *Plats Tab*, opens.



Figure 19. Plats Tab.

4. As depicted above another SINGGARS radio was added to the **1-M1-ABRAMS** Platform.

END OF TASK

END OF WORK PACKAGE



OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
SKL UAS SAVE DATABASE AND EXIT FUNCTIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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**OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0**

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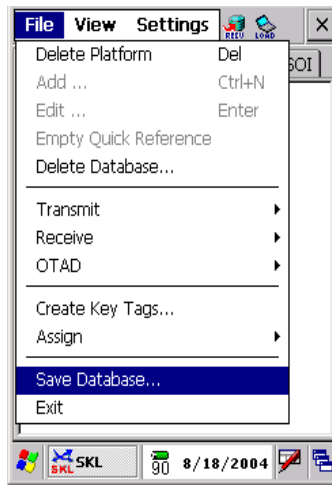
**FILE MENU  
SAVE DATABASE  
EXIT**

---

### SAVE DATABASE

The Save Database function allows the operator to save changes to the original Mission Database. These changes can be the form of deleting items or database(s) that are no longer required to perform the mission of the SKL. They can be additions to the database(s) in the form of new keys, SOI, Platforms, and Equipment. Once these new items or deleted items are confirmed as being resident or not resident in the database the actions must be saved in order for the additions or deletions to be permanent. The following short procedure will guide you through the Save Database function.

1. Select **File→Save Database** from the Main Menu as depicted in Figure 1, File→Save Database, below.



**Figure 1. File→Save Database.**

2. As a result of selecting the above, the window in Figure 2, *Progress*, opens.



Figure 2. Progress.

3. Once the Mission Database has been saved the SKL returns to the tab you had open prior to saving the database.

**END OF TASK**

**EXIT**

The Exit selection allows for the orderly closing of the SKL UAS. You should never shutdown the SKL without first exiting the SKL UAS program.

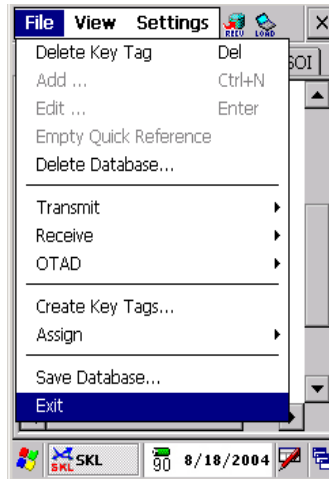


Figure 3. File→Exit.

1. Select **File→Exit** from the Main Menu as depicted above. The window in Figure 4, *Save Database*, opens if there has been changes to the database that were not saved previously.

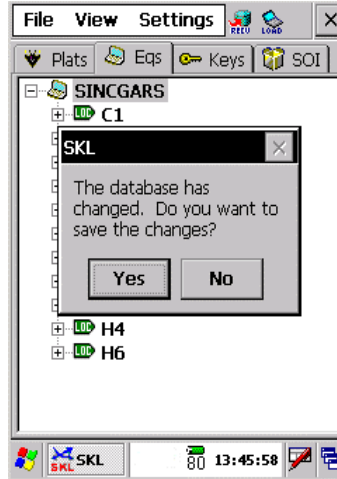


Figure 4. Save Database.

2. If you had made changes to the Mission Database and had not saved those changes before exiting the SKL UAS, then you will receive the window as depicted above. If however, you did save the database, then you will not get this window. In this case we forgot to save the Mission Database and therefore need to tap on the **Yes** button. The window in Figure 5, *Core Library Desktop*, opens.

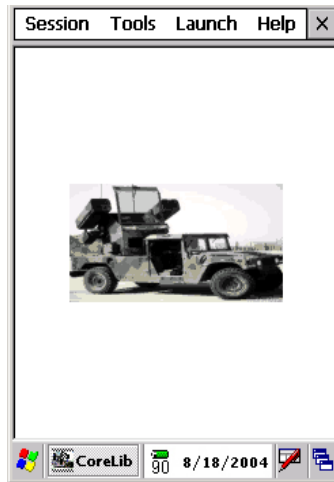


Figure 5. Core Library Desktop.

3. From the Core Library Desktop, you can now select **Session**→**Logout** and then shutdown the SKL or you can Logon a new user and then start the SKL UAS again.

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
SKL UAS DATABASE MANAGEMENT  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

---

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

---

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DATABASE MANAGEMENT

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DATABASE MANAGEMENT

This procedure will lead you through all the steps necessary to create a Platform, Equipment, and Key Tags. It will then show you how to assign the Key Tag(s) you just created to the proper Equipment locations and finally assign the Equipment you created to the Platform you created. All of these tasks are in the Technical Manual in various Work Packages in Chapter 2. This procedure is designed to combine all of those individual procedures into one continuous procedure so that you the operator of the SKL can accomplish this type of Database Management with little or no effort. To start, follow the procedures below to add a Platform to the Mission Database. **Start by making sure that you are on the Plats tab** as depicted in Figure 1, *Plats Tab*, below. To make this procedure clear, we are starting with no Mission Database in the SKL so that you can clearly see the creation of all the items that make up the Platform.

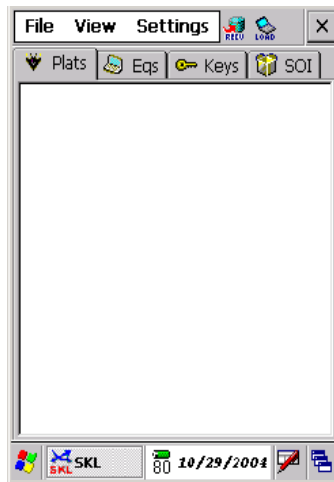


Figure 1. Plats Tab.

1. Now select **File→Add Platform** as depicted below in Figure 2, *File→Add Platform*.

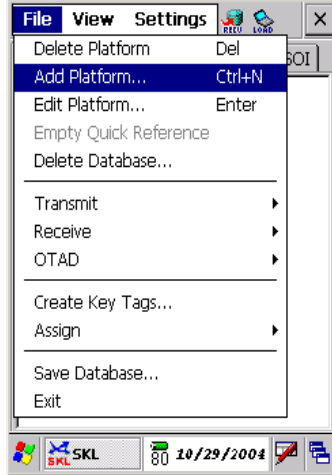


Figure 2. File→Add Platform.

2. As a result of the above selection the window in Figure 3, *Platform Name*, opens.

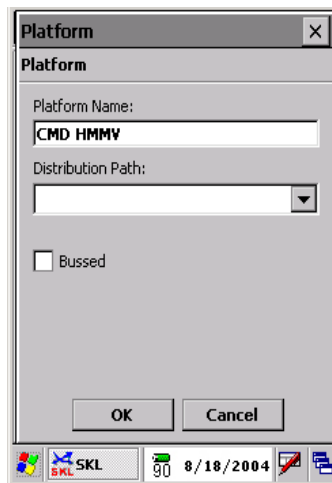


Figure 3. Platform Name.

3. **Fill in the Platform Name.** You must also determine whether or not this platform has a bussed capability. Since the mission database is empty, you cannot select a Distribution Path, since that comes from the ACES Workstation. When finished, tap on the **OK** button. The window in Figure 4, *Plats Tab*, re-opens.

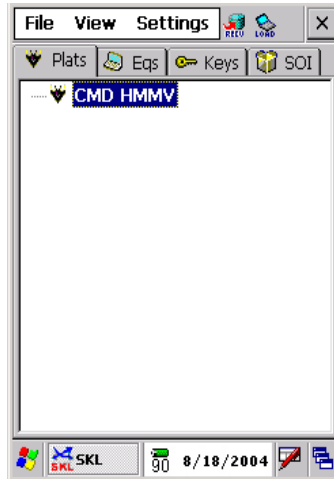


Figure 4. Plats Tab.

4. As can be observed from the depiction above, the Platform **CMD HMMV** has been added to the Plats Tab. There is no + sign to the left of the new platform because the CMD HMMV Platform has no equipment assigned to it. Select **File→Save Database**. Next we need to create Equipment.
5. **Make sure that the Eqs Tab is open** as shown below in Figure 5, *Eqs Tab*.

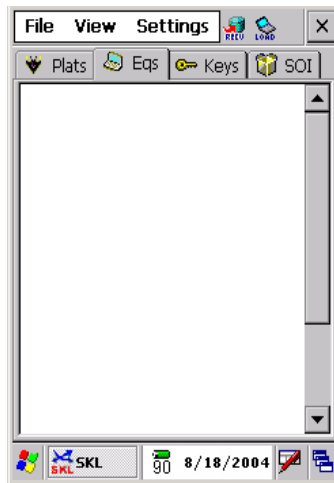


Figure 5. Eqs Tab.

6. You can see that there is no equipment in the Mission Database. Now select **File→Add Equipment** as shown in Figure 6, *File→Add Equipment*.

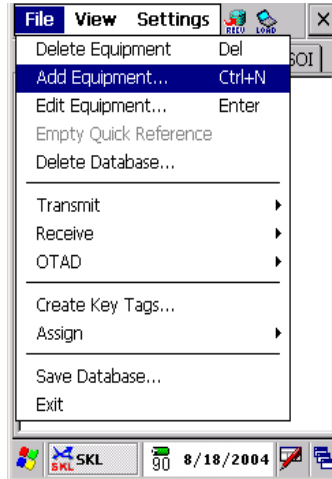


Figure 6. File→Add Equipment.

7. Once you have selected **Add Equipment**, the following window in Figure 7, *Equipment Name*, opens.

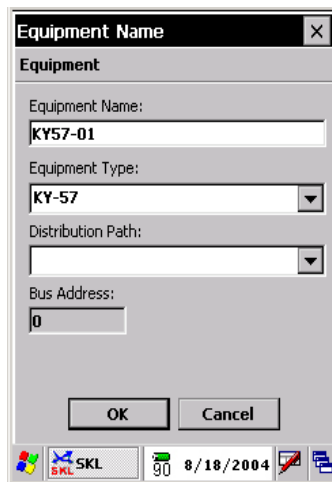


Figure 7. Equipment Name.

8. On this window there are some fields that need to be filled out and two drop down lists to choose from. **Enter the Equipment Name, then select the type of equipment it is, and finally any Bus Address that is affiliated with this equipment type.** The Distribution Path cannot be selected since there is no Mission Database. The Distribution Path comes from the ACES Workstation. Once this information is entered, tap on the **OK** button. The window in Figure 8, *Eqs Tab*, opens.

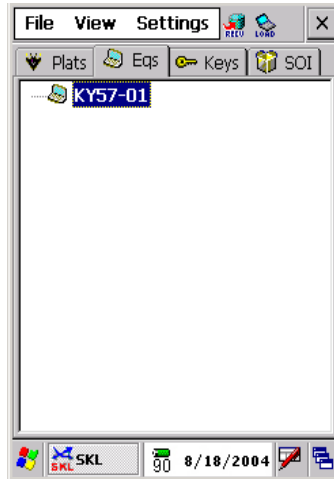


Figure 8. Eqs Tab.

9. You can now see from the Eqs Tab that the equipment **KY57-01** has been added to the Mission Database on the Eqs Tab. This equipment however, is not assigned to any platform in the database nor does it have any Key Tag material assigned to it. Now select **File→Save Database** to save the changes you have just made.
10. From the SKL Main Menu, select **File→Create Key Tags** as depicted below in Figure 9. As a result of this selection the window in Figure 10, *Select Key Source*, opens.

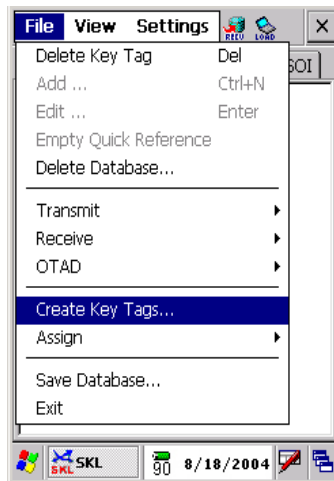


Figure 9. File→Create Key Tag.

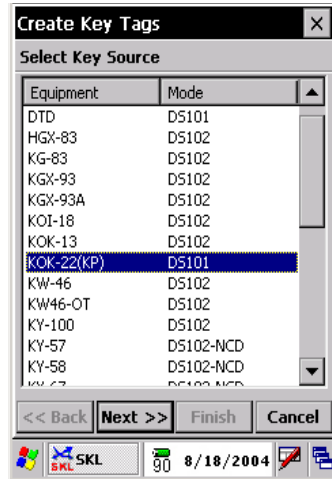


Figure 10. Select Key Source.

11. Scroll down the list of key sources and select the one to which you want to provide the key variable. As depicted above, the **KOK-22** is selected. Once you have selected a key source tap on the **Next>>** button. The window in Figure 11, *Key Tag Information*, opens



Figure 11. Key Tag Information.

12. The Key Tag Information window is used for the entry of applicable Key Tag data. There are three areas where the virtual keyboard is required. They are the Short Title, Edition, and Segment Range that have been filled in as depicted above. The CT3 Key Type, Key Use, Effective Start Date, Supersession Rate, and Crypto Period are drop-down menus that are used to select the appropriate information. The Clear All button when tapped will clear all the information from only the Short Title and Edition fields. The Template button is used to select a saved template that will populate all the fields with the required information. The Copy Key Tag button when selected will allow you to copy Key Tag information from an existing Key Tag that is stored in your SKL. The Key Tag field characteristics are defined below:
  - a. The Short Title field has a 24-character limit.
  - b. The Edition field has a 6-character limit.

- c. The Segment Range fields can accommodate a range from 0-99 segments.
- d. The CT3 Key Type field has a drop-down menu to choose from.
- e. The Key Use field has a drop-down menu.
- f. The Effective Start Date field has a down arrow that when selected opens up a calendar to choose the correct date.
- g. The Supersession Rate field has a drop-down menu.
- h. The Crypto Period field has a drop-down menu.



**TIP:** If default key tag values are in the Short Title and Edition fields, delete them by using the backspace key.



**TIP:** To use a field setting template, select Template and choose the appropriate template name (if any are listed on the Template list). This action enters the default values defined in the template in the Key Tag Information fields.

13. Once all the correct information has been entered in this window, tap on the **Next>>** button. The window in Figure 12, *Key Tag Information 2*, opens.

**Figure 12. Key Tag Information 2.**

14. There are two informational fields called Register Number and Text ID. Use the virtual keyboard to fill in the required information in these fields as depicted above. The other field, Classification, has a drop-down menu from which to select the appropriate classification for the key. This window also has a button called “Save as Template”. This is used to save the information you have entered in these windows to a template that can be used later to populate the fields in these windows when another Key Tag is created. The field characteristics are defined below:
- a. Enter the Register Number. This is a numeric number starting at 0 (zero).
  - b. Select a Classification from the drop-down menu.
  - c. Enter a Text ID. This field has a 16-character limit.

15. You can now save all the information that has been entered in the Key Tag Information pages to a template or you can skip the template process and continue with the Create Key Tag process. Therefore, tap on the **Finish** button. The window in Figure 13, *Keys Tab*, opens.

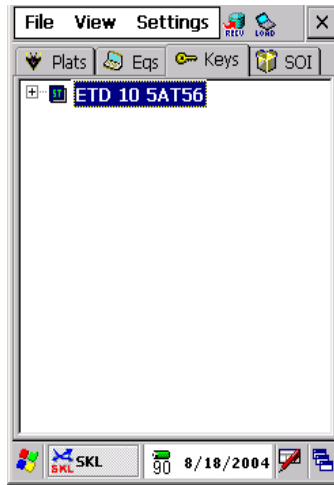


Figure 13. Keys Tab.

16. As depicted above the Keys Tab opened as a result of selecting Finish on the previous window. As shown the Short Title **ETD 10 5AT56** is now in the Mission Database. Now select **File→Save Database**.

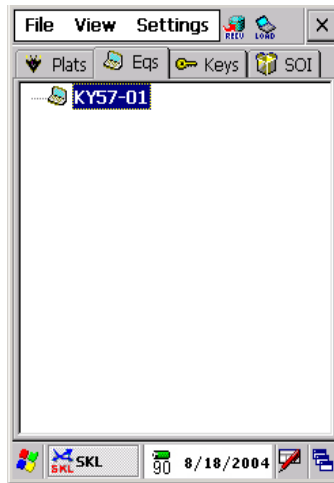


Figure 14. Eqs Tab.

17. Now we must assign this Key Tag to an equipment fill location. First tap on the **Eqs Tab** as depicted above. **Then locate the equipment that you want to assign the key to.** In the depiction above, we have selected the **KY-57** equipment. Then select **File→Assign→Key Tags** as shown below in Figure 15, *File→Assign→Key Tags*.

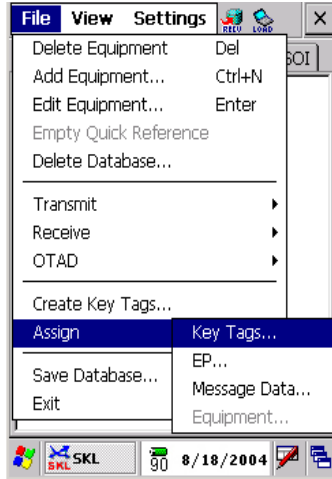


Figure 15. File→Assign→Key Tags.

18. As a result of performing the above operation the window in Figure 16, *Assign Key Tags*, opens.



Figure 16. Assign Key Tags.

19. Select the Short Title that will be assigned to the equipment fill location. As depicted above, we have selected **ETD 10 5AT56**. Once you have highlighted the Short Title you want, tap on the **Next>>** button. The window in Figure 17, *Select a Location*, opens.

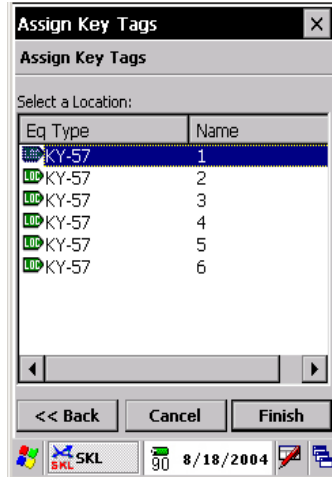


Figure 17. Select a Location.

20. This window displays the type of equipment and all available fill locations that the selected key can be assigned to. **Select a location by highlighting it** and then tap on the **Finish** button. The window in Figure 18, *Eqs Tab*, re-opens.

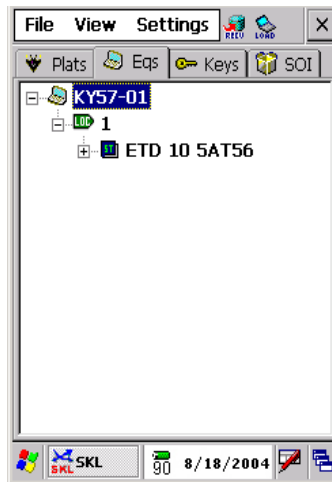


Figure 18. Eqs Tab.

21. As depicted above the KY-57 equipment has been expanded to show the fill location 1, with Short Title **ETD 10 5AT56** assigned to the KY-57 equipment. Now select **File→Save Database**. This will complete the assignment of key to a fill location on a selected piece of equipment.

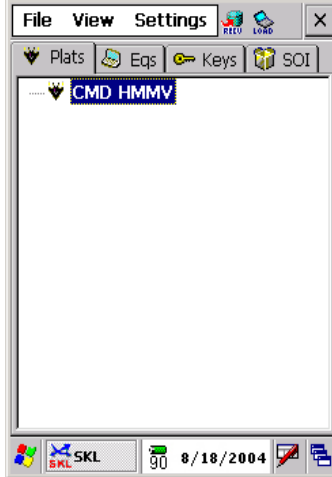


Figure 19. Plats Tab.

22. The next step in the process is to assign the equipment we have created to the platform we created. **Make sure you are on the Plats Tab** as depicted above in Figure 19. *Plats Tab*. Now select **File→Assign→Equipment** as depicted below in Figure 20, *File→Assign→Equipment*.

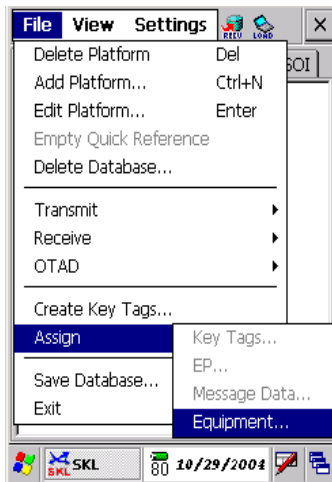


Figure 20. File→Assign→Equipment.

23. As a result of selecting the above, the window in Figure 21, *Assign Equipment*, opens.

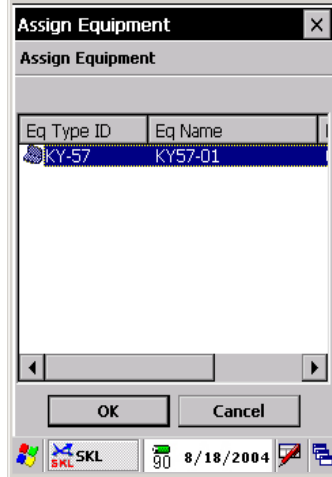


Figure 21. Assign Equipment.

24. From the list presented, **select the Equipment you wish to assign to the Platform**. Then tap on the **OK** button. The window in Figure 22, *Plats Tab*, opens.

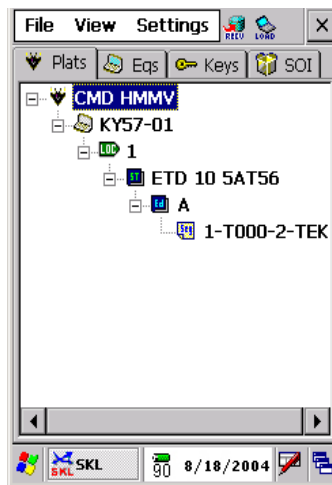


Figure 22. Plats Tab.

25. As depicted above the KY-57 was added to the CDR HMMV Platform. The Platform has been expanded out to show all the elements of the Platform (i.e., Equipment, Fill Location, Short Title, Edition, and Segment). You still do not have the actual key for this Fill Location. You must now perform a Key Needed operation or Receive Key operation and assign the actual key to the Fill Location noted above. This concludes the Database Management procedure of adding Platforms, Equipment, and Key Tags and then assigning the Key Tags to the Equipment Fill Locations, and finally assigning the Equipment to the Platform.
26. There are other aspects of Database Management such as Unassigning Equipment from Platforms and Unassigning Key Tags from Equipment. Also you can assign EP Data to specific Fill Locations on certain equipment. You may also edit Platforms, Equipment, and Key Tags. All of these other Database Management functions are listed in Chapter 2 of this TM.

**END OF TASK**

**END OF WORK PACKAGE**



OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
SKL UAS VIEW MENU INTRODUCTION  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

**OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0**

**VIEW MENU  
INTRODUCTION**

**VIEW MENU**

1. Select View by tapping once on **View** on the SKL UAS Desktop with the Inductive Stylus. The window in Figure 1, *SKL UAS View Menu*, opens. Also shown are the Keys and SOI submenus in Figure 2 and Figure 3.

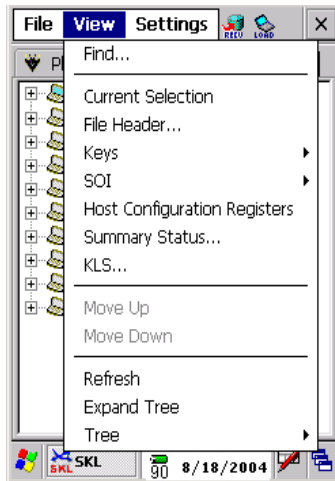


Figure 1. SKL UAS View Menu.

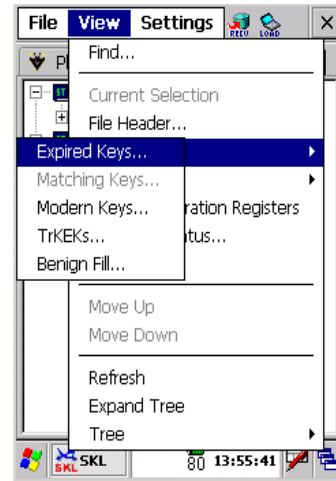


Figure 2. View -> Keys Menu

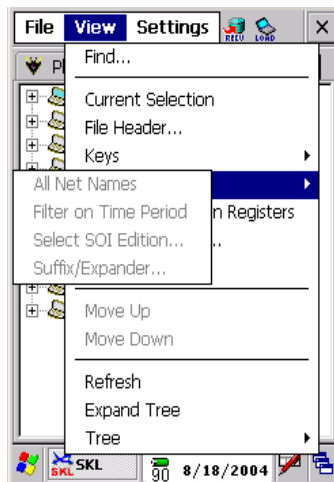


Figure 3. View -> SOI Menu.

2. An explanation of each of the View menu's selections is presented in Table 1, *SKL UAS View Menu Description*.

**Table 1. SKL UAS View Menu Description.**

View Menu Option	Description
<b>Find</b>	This function only searches for text visible in the tree.
<b>Current Selection</b>	This function displays additional information for Platforms, Equipment, Key Edition and Segment information, and SOI Net and Time Period information.
<b>File Header</b>	This function displays a split screen showing File information in the top frame and encrypted Keys assigned in the bottom frame. File Header information contains the information on the receiving device specific directory, filename, and file extension for the originating file.
<b>Keys</b>	This function allows the user to view several different types of keys and also provides a matching function.
<b>Expired Keys</b>	This function provides a quick access to view and delete expired keys.
<b>Matching Keys</b>	The Matching Keys selection is designed to allow the operator to discover any Keys Tags within the Mission Database that are identical.
<b>Modern Keys</b>	This function provides the user with the means to view any Modern keys in the database.
<b>TrKEKs</b>	This function allows the user to view and delete TrKEKs that have been issued to the SKL.
<b>Benign Fill</b>	This Function provides the means to view any Benign key that is in the database.
<b>SOI</b>	This function allows the user to view the Signal Operating Instructions (SOI).
<b>All Net Names</b>	This function is used to view a list of all net names stored in the SKL SOI database.
<b>Filter on Time Period</b>	This function is used to view a single time period when the desired time period is selected.

Table 1. SKL UAS View Menu Description. (continued)

View Menu Option	Description
<b>Select SOI Edition</b>	This function permits only one edition to be viewed from the SOI tree at a time. Use Select SOI Edition to select the SOI edition to be viewed. The selected edition controls SOI data displayed for Group, Expander/Suffix, Time Period, Net, Smoke/Pyrotechnics, and Sign/Countersign data.
<b>Suffix/Expander</b>	This function allows the user to select a single Time Period and to view either Suffixes or Expanders.
<b>Host Configuration Registers</b>	For Contractor Use Only
<b>Summary Status</b>	This window provides the SKL Version, SKL Database Version, Highest SOI classification, Highest Key classification loaded in the SKL. It also shows the amount of Free Audit Space divided into 4 different categories of information. This window also shows running totals for items loaded into the database.
<b>KLS</b>	This function allows the user to view the status of a key load to an ECU.
<b>Move Up</b>	The function allows the user to scroll up the tree view structure.
<b>Move Down</b>	The function allows the user to scroll down the tree view structure.
<b>Refresh</b>	This function allows the user to refresh the display.
<b>Expand Tree</b>	This function allows the user to expand out all the child nodes under a selected tree node.
<b>Tree</b>	This function allows the user to select any one of the 4 trees.

END OF WORK PACKAGE

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
SKL UAS FIND, CURRENT SELECTION, AND FILE HEADER FUNCTIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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VIEW MENU  
FIND  
CURRENT SELECTION  
FILE HEADER

---

### FIND

The Find function allows the user to locate and view selected Mission Database items without selecting the Main Menu Tabs or expanding the Menu Trees. Under the Find selection the user can search for Platform, Equipment, Key, and SOI Mission Database information. If searching for SOI information, the specific SOI edition must be selected prior to using the Find function. Use the following procedure to find and view selected Mission Database items.

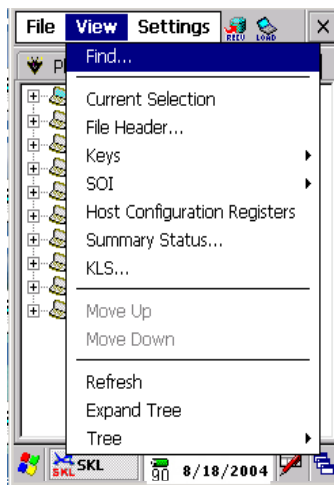


Figure 1. View→Find.

1. Select **View→Find** as depicted above. The window in Figure 2, *Find*, opens.

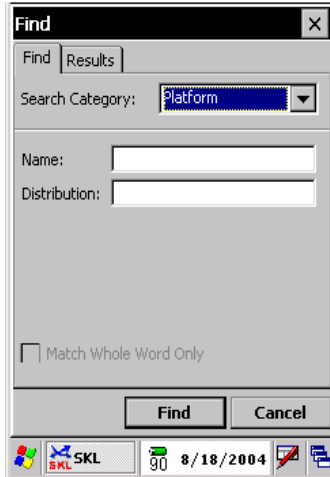


Figure 2. Find.

2. The Find window has two tabs. They are Find and Results. The Find tab allows the user to search for specific Mission Database items, and the Results tab displays the Mission Database information or attributes that were found during the search. Tap on the **Down Arrow** in the Search Category field and the window in Figure 3, *Search Category Selection Menu*, opens.

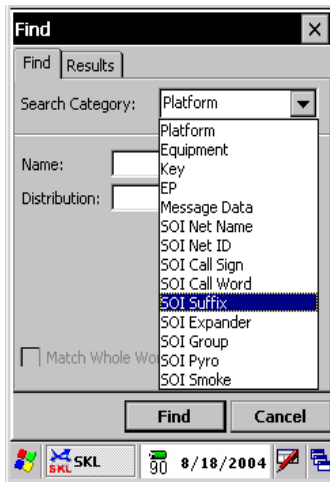


Figure 3. Search Category Selection Menu.

3. The SKL Operator can select a category and then search for a specific Mission Database item associated with the selected category. As depicted above, the **SOI Suffix** category was selected. Once the category is selected, the window in Figure 4, *Find*, opens.

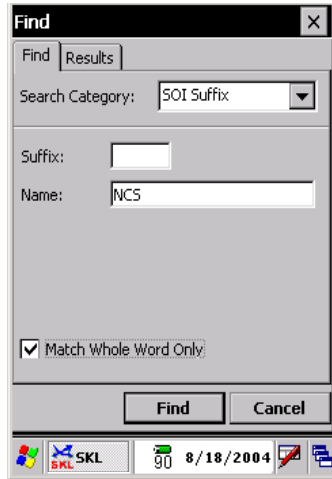


Figure 4. Find.

4. In the Name field using the virtual keyboard, type the name of the SOI Suffix you want the search function to find. Make sure that there is a Checkmark (✓) in the "Match Whole Word Only" field. Whole Word means that it will search on the entire word that is inserted into the Name field, not just part of it. Then tap on the **Find** button. The SKL will search the category for the specific item listed in the sub-fields and display them under the Results Tab as shown in Figure 5, *Results Tab*, below.

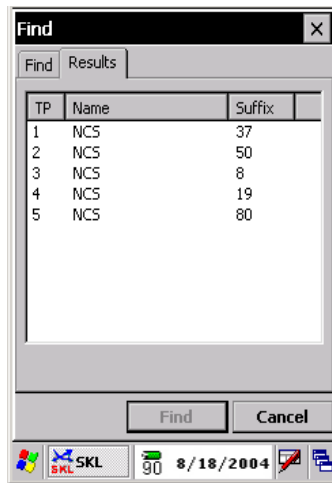


Figure 5. Results Tab.

5. As depicted above the Results tab displays all time periods and suffix numbers for the name NCS. To search for other items tap on the **Find** tab, or tap on the **Cancel** button to exit the Find function.

## END OF TASK

## CURRENT SELECTION

The Current Selection option under the View Menu provides the user with additional information about a platform, equipment, or key. This selection can be very useful if the operator needs to know all the specific information about an item in the Mission Database. The following procedure describes the steps necessary to view this information. In the example below, the SKL UAS is open with the **Plats** tab selected as shown in Figure 6, *Plats Tab*.

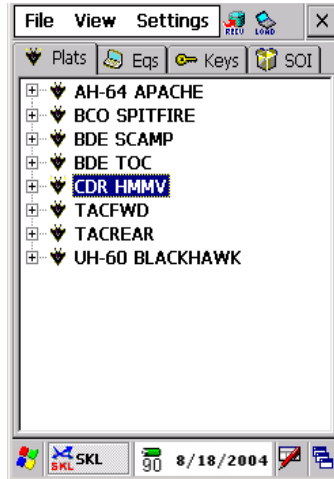


Figure 6. Plats Tab.

1. Highlight a platform as shown above and then from the main menu select **View→Current Selection**. The Platform window will open as shown in Figure 7, *Platform*.

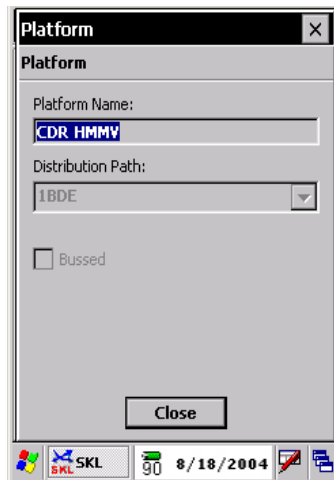


Figure 7. Platform.

2. The additional information for the chosen Platform is displayed in this window. There are three areas of information. They are Platform Name, Distribution Path, and whether or not the platform is on a buss or not. When through viewing the information, tap the Inductive Stylus on **Close** button. The SKL UAS Main Window returns as shown in Figure 8, *Plats Tab*.

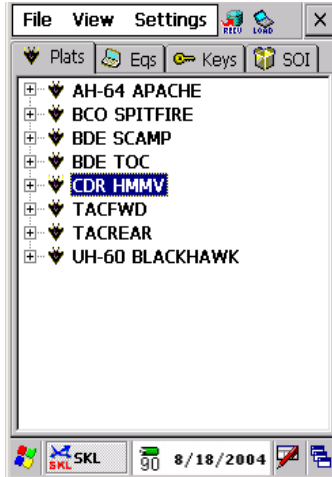


Figure 8. Plats Tab.

3. Select the **Eqs** tab. A window similar to the one in Figure 9, *Eqs Tab*, opens.

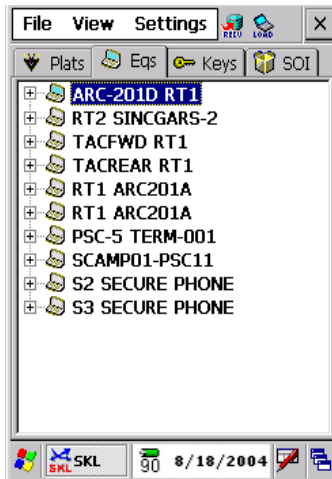


Figure 9. Eqs Tab.

4. Highlight the piece of equipment that you wish to view. Once the equipment is highlighted, select **View→Current Selection** from the Main Menu. A window similar to the one in Figure 10, *Equipment Name*, opens.

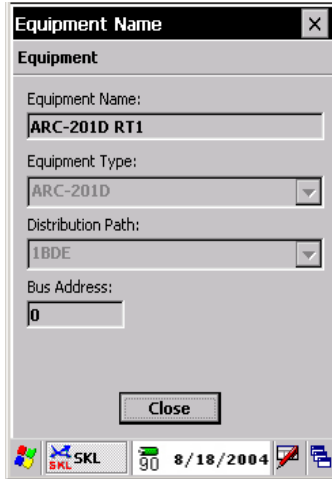


Figure 10. Equipment Name.

5. This window will provide the Equipment Name, Equipment Type, Distribution Path, and the Bus Address. When finished viewing the information tap on the **Close** button. The window in Figure 11, *Eqs Tab*, opens.

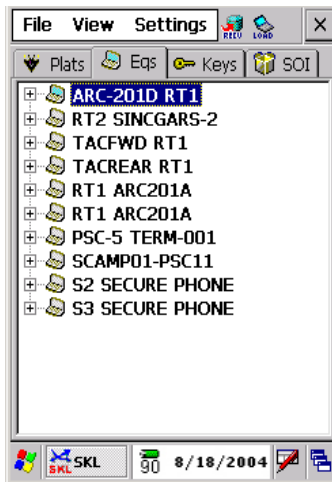


Figure 11. Eqs Tab.

6. Select the **Keys** tab. A window similar to the one in Figure 12, *Keys Tab*, opens.

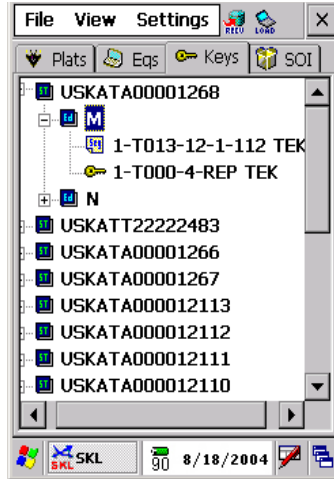


Figure 12. Keys Tab.

7. Highlight the Edition of the Short Title you wish to examine by tapping on the + sign next to the Short Title as shown in Figure 12 above. In the case above, **Edition M** of USKATA00001268 is highlighted. When viewing the information about the Edition of a key, it depends on whether or not the key has been received or there is just a segment present. Then select **View**→**Current Selection** from the Main Menu. The window Figure 13, *Edition Info, Key Source Open*, is displayed.



Figure 13. Edition Info, Key Source Open.



Figure 14. Edition Info, Key Source Closed.

8. The fields in these windows are Edition Info and Key Source. The Key Source has a drop-down window that will allow the operator to select something other than the KOK-22 Key Processor (KP) as a key source for this segment if the key has not been received into the SKL. If the operator changes the Key Source for the segment, the OK button must be selected to save the new Key Source. In Figure 14 you can see that the Key Source is grayed out and cannot be changed. This means that the key has already been received into the SKL. Tap on the **OK** button to save the selection if you have changed the key source and return to the Keys Tab as shown in Figure 15, *Keys Tab*.

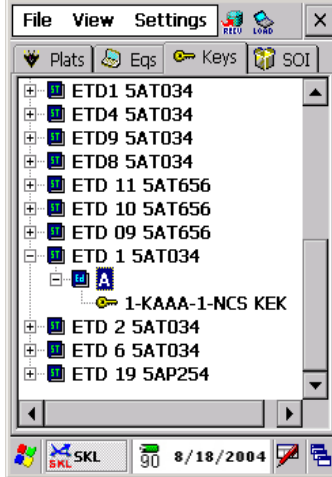


Figure 15. Keys Tab.

9. Now tap on the + sign next to the Edition to view the Segments. The window in Figure 16, *Keys Tab - Segments*, opens.

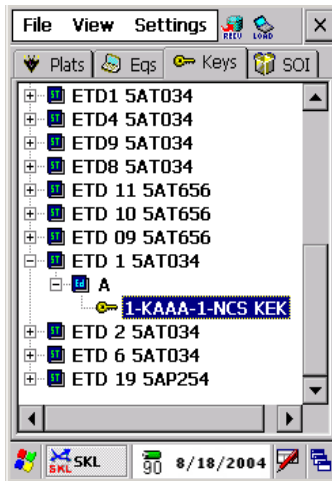


Figure 16. Keys Tab - Segments.

10. If the Segment is not highlighted, highlight it with the stylus. With the segment highlighted, select **View→Current Selection**. The window in Figure 17, *Segment Info 1*, opens.

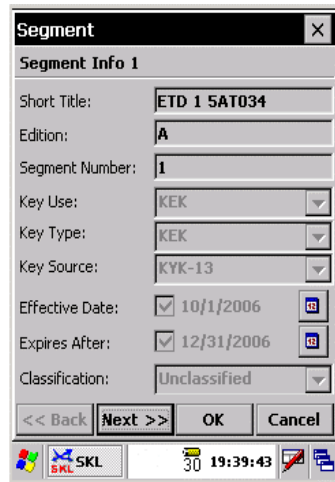


Figure 17. Segment Info 1.

- Looking at the Segment Info 1 window, there are several fields of information. These include the Short Title, Edition, Segment Number, Key Use, CT3 Key Type, Key Source, Effective Date, Expiration Date, and Classification. Of these, the only field that is changeable is the Key Source. However, this field can only be changed if the actual key for this short title has not been received into the SKL. Once the Key is received the Key Source field cannot be changed. Tap the **Next>>** button with the Inductive Stylus. The window in Figure 18, *Segment Info 2*, opens.

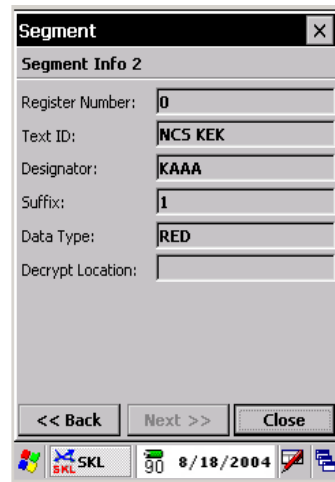
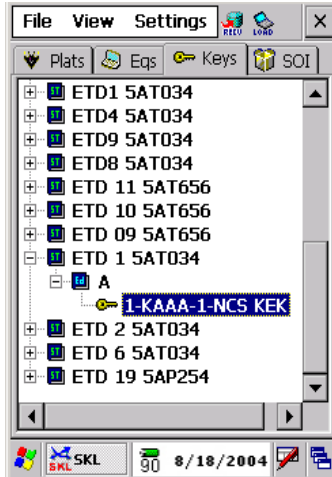


Figure 18. Segment Info 2.

- The Segment Info 2 window provides additional information on the key. This information includes the Register Number, Text ID, Designator, Suffix, Data Type, and Decrypt Location. All of this information is fixed and cannot be changed. You may select <<Back to return to the Segment Info 1 window or in the case of this example, tap the **Close** button to exit the window. The window in Figure 19, *Keys Tab – Segments*, opens.



Figurer 19. Keys Tab – Segments.

## END OF TASK

## FILE HEADER

File Headers contains a Key or group of Keys that are contained in an individual file that was received into the SKL from the LCMS Workstation (KOK-22). In the LCMS Workstation, File Headers can only be transmitted to Elements such as organizations that have a SKL, DTD, or another LCMS Workstation.

1. To view File Headers, select **View→File Header** as shown in Figure 20, *View→File Header*, below.

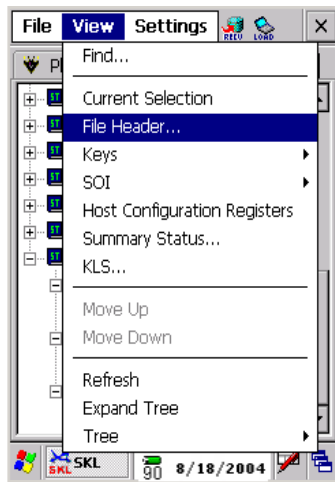


Figure 20. View→File Header.

2. As a result of selecting **View→File Header**, the window in Figure 21, *File Header*, opens.

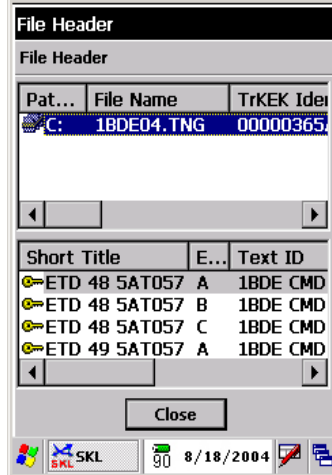


Figure 21. File Header.

- This window has two parts to it. The top part lists the file name of the File Header. In this case it is **1BDE04.TNG**. The bottom part of the window lists all the key(s) that are contained in the file. In this case there are multiple keys associated with this File Header. If you have a need to delete a File Header, all the key(s) must first be deleted before the File Header can be removed. To do this, follow the procedures in Work Package 0009. Once you are finished viewing the File Header and its contents, tap on the **Close** button. The SKL UAS Desktop returns.

**END OF TASK**

**END OF WORK PACKAGE**

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
SKL UAS KEYS FUNCTION  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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VIEW MENU  
KEYS

---

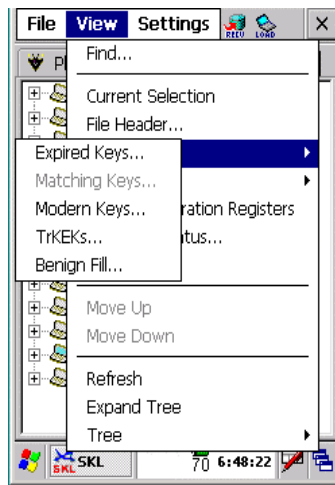
KEYS

The Keys selection under the View Menu has five (5) sub-selections. They are Expired Keys, Matching Keys, Modern Keys, TrKEKs (Transmission Key Encryption Keys), and Benign Fill. In the following paragraphs each of these selections will be explained.

**Expired Keys**

To assist in keeping the SKL Mission Database free of unnecessary data the SKL includes some housekeeping functions. One of the functions allows the operator to view and delete expired keys from the database. Each of the keys to be deleted must be viewed to confirm that the Key Tag needs to be removed from the database.

1. To start the process, you can be on any tab. Then select **View→Keys→Expired Keys** as depicted in Figure 1, *View→Keys→Expired Keys*, below.



**Figure 1. View→Keys→Expired Keys.**

2. As a result of the above selection the window in Figure 2, *Expired Keys*, opens.

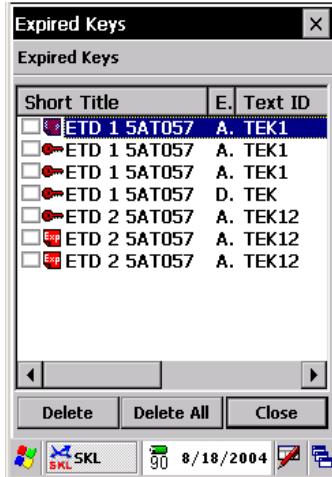


Figure 2. Expired Keys.

3. If there are any expired keys in the SKL Mission Database, they will be displayed in the window above. The window displays the expired key tags with or without key material. Use the scroll bar at the bottom of the window to view the Short Title, Edition, Text ID, Segment Number, and Expiration Date. From this information you can determine the need to delete any Short Title shown in the list. To delete a Short Title(s) put a Checkmark (✓) in the box to the left of the Short Title to be deleted and then tap on the Delete button or you may elect to delete all the expired keys in which case you would tap on the Delete All button. In the example, the **Delete All** button was selected. The window in Figure 3, *Delete Selected Segments Confirmation*, opens.



Figure 3. Delete Selected Segments Confirmation.

4. This window gives you one last chance to verify the need to delete the selected Segment(s)/keys. If you want to continue with the deletion, tap the **Yes** button with the Inductive Stylus. If you want to cancel the deletion tap on the No button. If yes was selected, the Segment(s) and keys will be deleted. The window in Figure 4, *Selected Expired Key(s) Deleted*, opens.

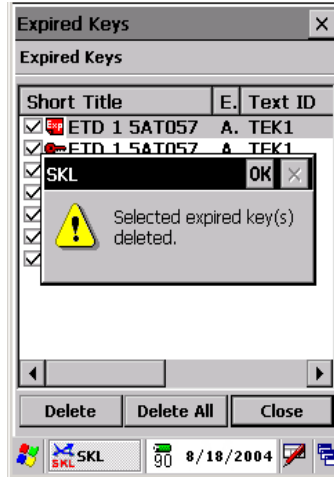


Figure 4. Selected Expired Key(s) Deleted.

5. Tap on the **OK** button in the upper right-hand corner of the window. The window in Figure 5, *Expired Keys*, opens

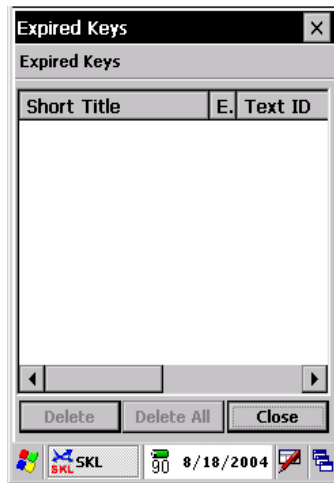


Figure 5. Expired Keys.

6. You can now browse the Keys tab and you will find there are no more expired keys present in your database. Now tap on the **Close** button. The tab you had opened when you started this procedure returns.

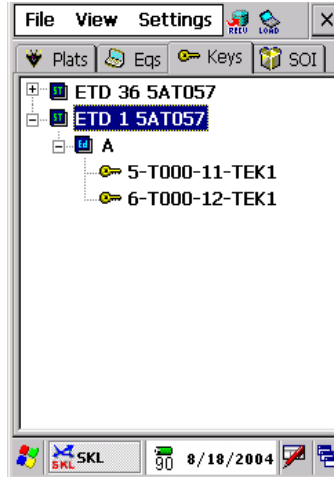


Figure 6. Keys Tab.

7. As depicted above there are no more expired keys shown on the Keys Tab. Now select **File→Save Database**. This will ensure that they are permanently removed from the Mission Database.

## END OF TASK

### Matching Keys

The Matching Keys procedure under the Keys menu is designed to allow the operator to discover any keys within the Mission Database that are identical. This does not mean Key Tag data; it is the actual key itself. The possibility could exist that you can have the same identical key in the Mission Database under two or more Short Titles. Use the following procedure to discover if the SKL Mission Database has any Matching Keys.

1. Select the **Keys** tab and expand it until the key you want to check a match on is highlighted as depicted below in Figure 7, *Keys Tab Expanded*.

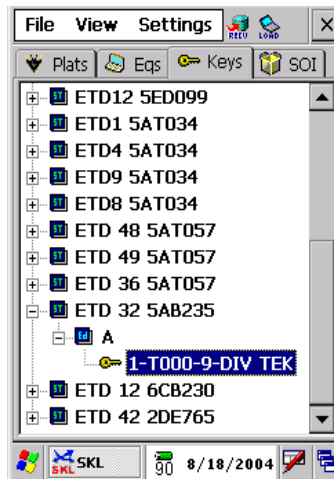


Figure 7. Keys Tab Expanded.

2. Once you have the key highlighted, select **View→Keys→Matching Keys** as depicted below in Figure 8, *View→Keys→Matching Keys*.

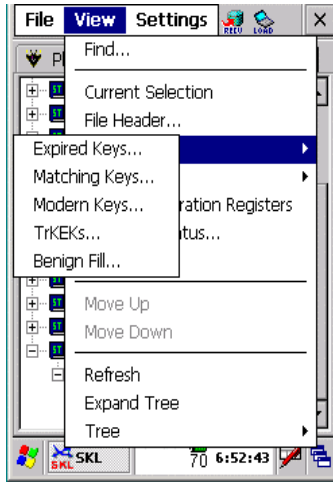


Figure 8. View→Keys→Matching Keys.

- Once you have made the above selection the window in Figure 9, *Matching Keys*, opens.

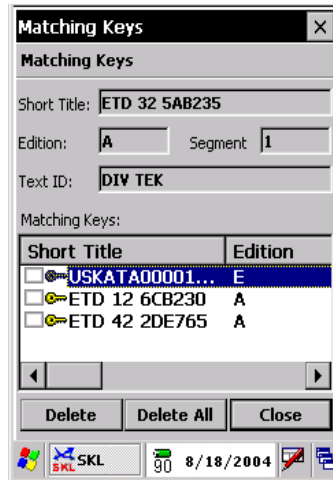


Figure 9. Matching Keys.

- As depicted above there are three other Short Titles that have the same key. It is not a good practice to have the same key associated with multiple Short Titles in your database. First, you must determine which Short Title is required to have this key. Once that determination is made then you should delete the other Short Titles by either choosing Delete or Delete All. Once you are finished, select **File→Save Database**.

## END OF TASK

### Modern Keys

The viewing of Modern keys function allows the operator to identify all the Modern Key(s) that are in the Mission Database. It also allows the operator to delete any Modern key(s) not required for any current or future mission.

- To view these unique keys, from the SKL UAS main menu select **View→Keys→Modern Keys** as shown in Figure 10 below.

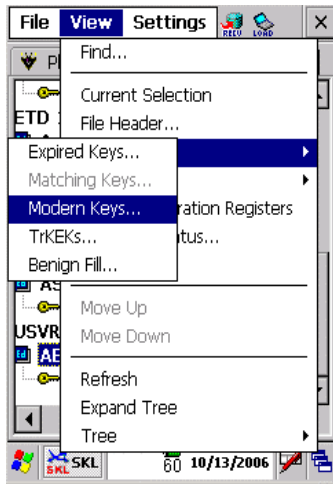


Figure 10. View→Keys→Modern Keys.

2. As a result of the above selection, the window in Figure 11, *Modern Keys* opens.

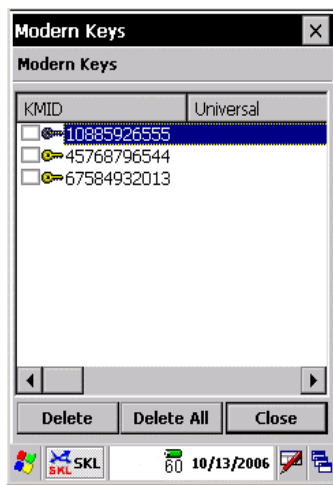


Figure 11. Modern Keys.

3. This window will provide you with all the information about the Modern Keys you have in the database. You may determine that a Modern key needs to be deleted from the database because it is no longer required. To accomplish this, put a Checkmark (✓) to the left of the KMID and then tap on the Delete button. When through viewing the keys tap on the **Close** button. The SKL UAS Desktop returns.

## END OF TASK

## TrKEKs

The SKL gives the operator the ability to view or delete a filled TrKEK that has been deemed unusable. To view a filled TrKEK follow the procedure below.

1. Select **View→Keys→TrKEK** as depicted below in Figure 12, *View→Keys→TrKEK*.

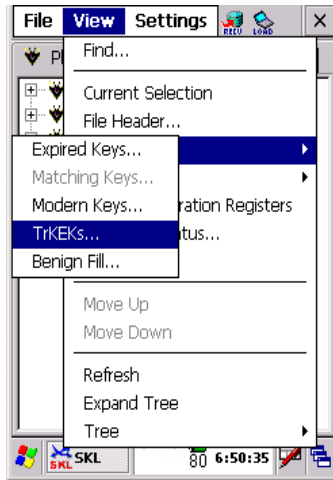


Figure 12. View→Keys→TrKEK.

- As a result of the above action, the window in Figure 13, *TrKEKs*, opens.



Figure 13. TrKEKs.

- From this window you can view the attributes of the TrKEK to include the Short Title, Edition, Text ID, Segment Number, and Expiration Date. The SKL returns to the SKL UAS Desktop and the tab you had open when you started this procedure. Now select **File→Save Database**.

END OF TASK

Benign Fill

TBD

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
SKL UAS SOI, SUMMARY STATUS, KEY LOAD STATUS, AND REMAINING VIEW MENU  
FUNCTIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

---

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

---

VIEW MENU

SIGNAL OPERATING INSTRUCTIONS (SOI)  
SUMMARY STATUS  
KEY LOAD STATUS  
MOVE UP  
MOVE DOWN  
REFRESH  
EXPAND TREE  
TREE

---

SOI

The SOI function under the View Menu allows the operator several different options when it comes to Signal Operating Instructions. The SOI selection has four (4) submenus from which to choose. They are: All Net Names, Filter on Time Period, Select SOI Edition, and Suffix/Expander. Normally the submenus would be discussed in order from top to bottom. However, before the SOI selection can be utilized, the Edition of SOI must first be selected. Therefore, the first submenu item that will be discussed will be Select SOI Edition.

**Select SOI Edition**

To view SOI information, the SOI Edition must first be activated. If an SOI Edition is not activated the SOI will not be available for viewing. Most of the time there will be only one SOI Edition in the SKL. However there could be multiple SOI Editions loaded into SKLs located at higher echelon command levels. If you select the SOI Tab, and see an Edition, that means that the Edition shown is active. To use any of the selections under the SOI heading the **SOI** tab must be open as shown in Figure 1, *SOI Tab*, below.



Figure 1. SOI Tab.

1. From the SKL UAS Main Menu, select **View**→**SOI**→**Select SOI Edition** as depicted below in Figure 2, *View*→*SOI*→*Select SOI Edition*.

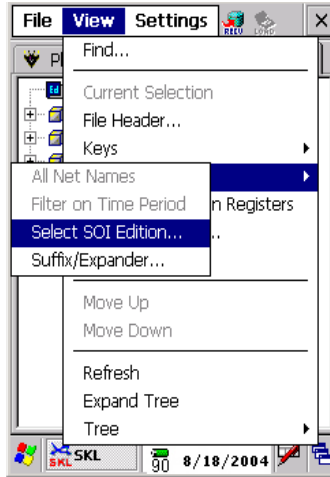


Figure 2. **View**→**SOI**→**Select SOI Edition**.

2. As a result of the above action, the window in Figure 3, *Edition*, opens.

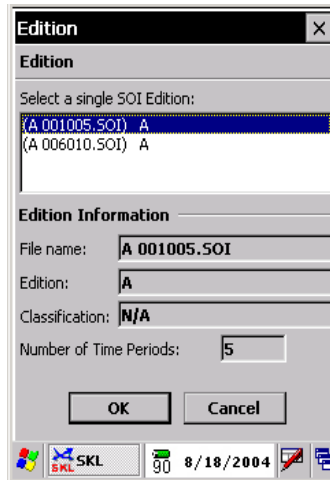


Figure 3. **Edition**.

3. This Edition window has several elements. In the top white box are listed two file names. The first file name A 001005.SOI, contains all the SOI information for the selected Edition for time periods 1-5. The second file name A 006010.SOI, contains all the SOI information for the selected Edition for time periods 6-10. The Edition Information area of the window contains the File Name selected, the Edition, Classification, and the number of time periods covered by the file. To activate the SOI Edition, highlight the file you want to activate and then tap on the **OK** button. The window in Figure 4, *SOI Tab*, opens.

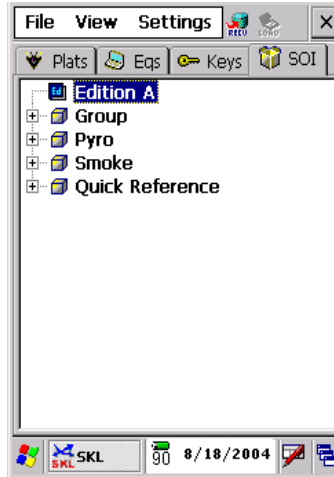


Figure 4. SOI Tab.

4. The SOI tree should be ordered as displayed in the figure above; Edition, Group, Pyro, Smoke, and Quick Reference. When Group is selected it should contain all the net groups resident in the SOI. There can be multiple net groups in the SOI. To see the net groups under the Group heading, tap on the + sign to the left of the Group. The window in Figure 5, *SOI Group Expanded*, opens.

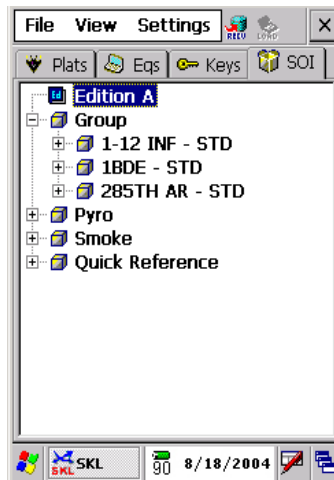


Figure 5. SOI Group Expanded.

5. As depicted above, the Group has been expanded and there are three SOI groups available for viewing. They are 1-12th INF-STD, 1BDE-STD, and 285th AR-STD. Now that the Edition has been activated, the other options under the SOI selection can be utilized.

## END OF TASK

### All Net Names

The All Net Names option under the SOI selection will allow you to view the net names under a selected SOI group.

1. With the SOI tab open, select a **Net Group** as depicted in Figure 6, *Net Group Selected*, below.

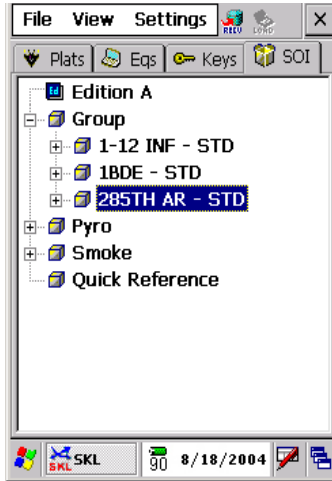


Figure 6. Net Group Selected.

2. With your net group now highlighted, select **View→SOI→All Net Names** as depicted below in Figure 7, *View→SOI→All Net Names*.

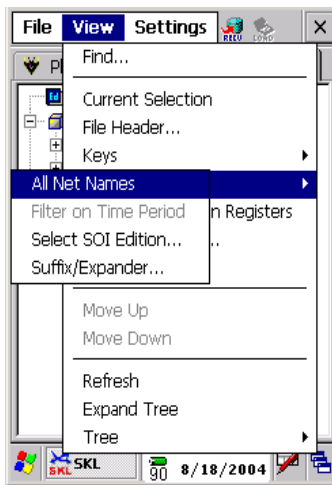


Figure 7. View→SOI→All Net Names.

3. As a result of selecting the above the window in Figure 8, *Group*, opens.

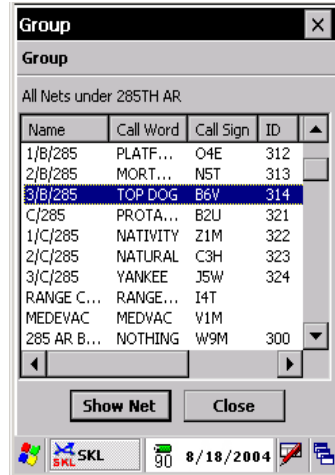


Figure 8. Group.

- This window displays all the nets assigned under the 285th AR net group. Now select the desired net from the list. Tap the **Show Net** button. The window in Figure 9, *Net Info*, opens.

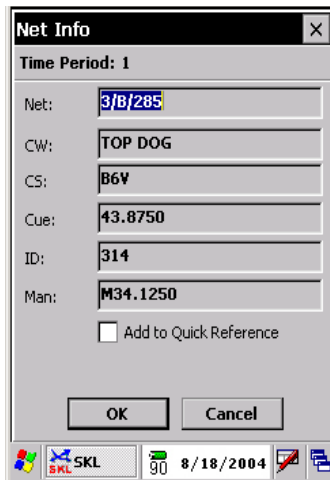


Figure 9. Net Info.

- This window provides all the information about the net. To add the net to the Quick Reference Folder, simply put a Checkmark (✓) in the box to the left of "Add to Quick Reference" and tap the **OK** button. The window in Figure 10, *Group*, re-opens.

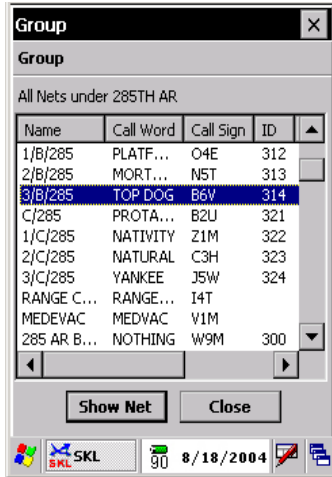


Figure 10. Group.

6. Tap on the **Close** button. The window in Figure 11, *SOI Tab*, reopens.

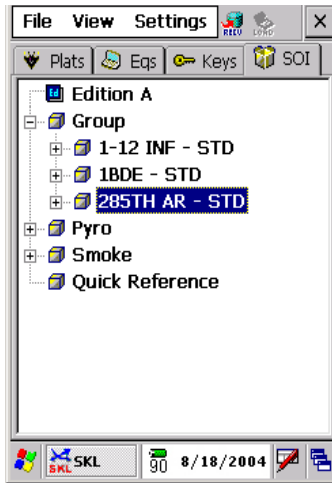


Figure 11. SOI Tab.

## END OF TASK

### Filter on a Time Period

The Filter on Time Period function allows the operator of the SKL to filter out Time Periods in a SOI that are not required for current viewing.

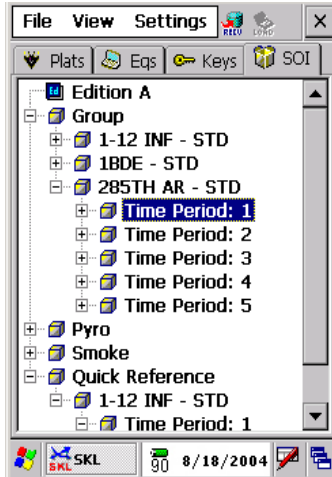


Figure 12. SOI Group Expanded.

1. Select the Time Period you want to filter from the SOI Tab as depicted in Figure 12, *SOI Group Expanded*, above. Then select **View**→**SOI**→**Filter on Time Period** from the SKL UAS Main Menu as shown below in Figure 13, *Filter on Time Period*.

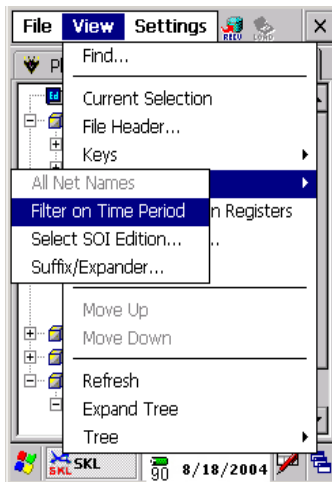


Figure 13. Filter on Time Period.

2. As a result of selecting Filter on Time Period, the window in Figure 14, *Time Period Filtered*, opens.

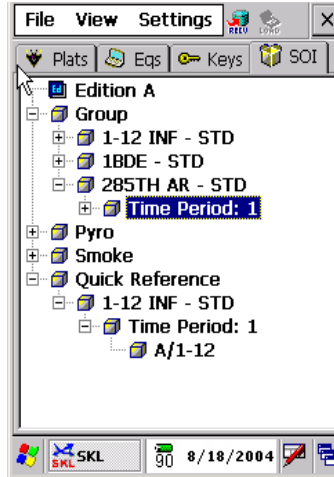


Figure 14. Time Period Filtered.

3. Notice that the Time Periods under the 285<sup>th</sup> AR net group have been reduced to the first Time Period. To remove the filter, highlight the Group and then select **Settings**→**Show All** from the SKL UAS Main Menu. The window in Figure 15, *SOI Groups Expanded*, opens.

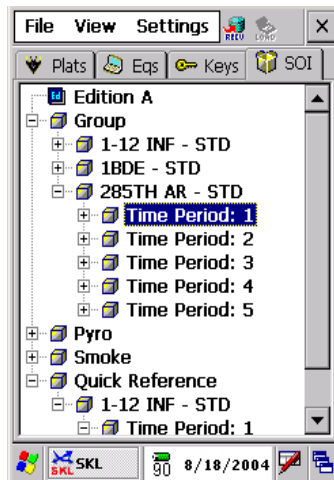


Figure 15. SOI Groups Expanded.

4. You can now see that the filter has been removed and the other Time Periods are displayed.

## END OF TASK

### Suffix/Expander

Viewing Suffix and Expanders can be accomplished several different ways. The first way is to expand the SOI Group and select a Time Period and then use the View→Current Selection option. The other way is to select the Time Period as depicted in Figure 15 above. Then select **View**→**SOI**→**Suffix/Expander** from the Main Menu as depicted below in Figure 16, *View*→*SOI*→*Suffix/Expander*, opens.

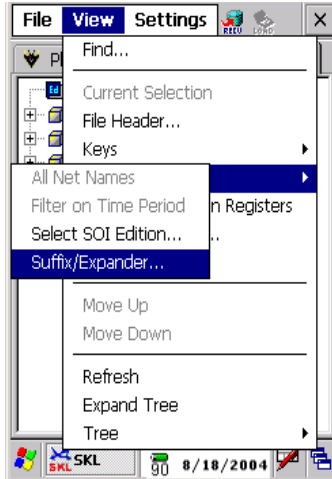


Figure 16. View→SOI→Suffix/Expander.

1. As a result of the above action the window in Figure 17, *Suffix/Expander*, opens.

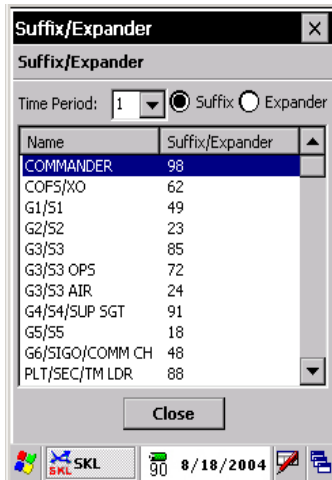


Figure 17. Suffix/Expander.

2. This window allows you to view both the Suffixes and Expanders for each of the 5 Time Periods. To view the Expanders tap the radio button to the left of Expander. To view the Suffixes/Expanders for a different Time Period tap on the Down Arrow and select the Time Period you wish to view. When finished viewing the Suffixes/Expanders tap on the **Close** button. The window in Figure 18, *SOI Groups Expanded*, returns.

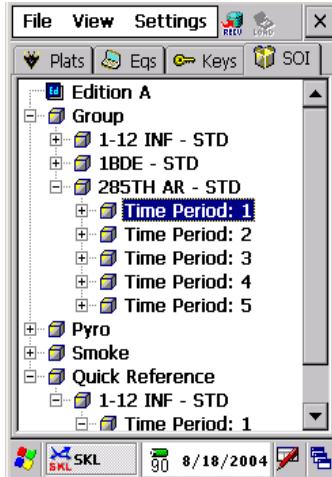


Figure 18. SOI Groups Expanded.

## END OF TASK

### Adding Nets to the Quick Reference

Adding nets that you frequently require information on to your Quick Reference in the SOI is a good way of managing those nets. The following procedure will show you how to add a net to the Quick Reference folder.

1. With the SOI tab open, select a Net Group as depicted in Figure 19, *Net Group Selected*, below.

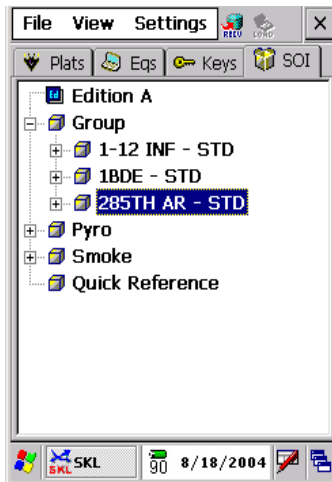


Figure 19. Net Group Selected.

2. With your net group now highlighted, select **View→SOI→All Net Names** as depicted below in Figure 20, *View→SOI→All Net Names*.

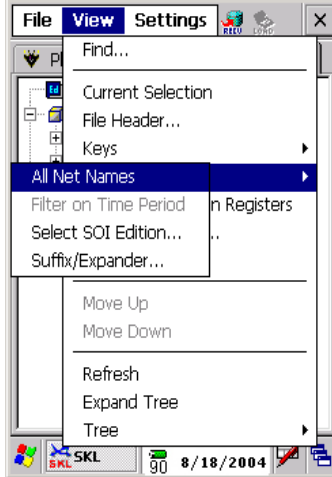


Figure 20. View→SOI→All Net Names.

3. As a result of selecting the above the window in Figure 21, *Group*, opens.

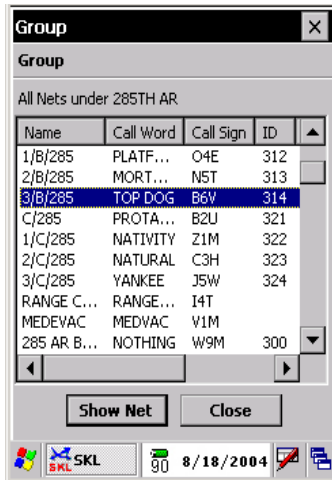


Figure 21. Group.

4. This window displays all the nets assigned under the 285th AR net group. Now select the desired net from the list. Tap the **Show Net** button. The window in Figure 22, *Net Info*, opens.

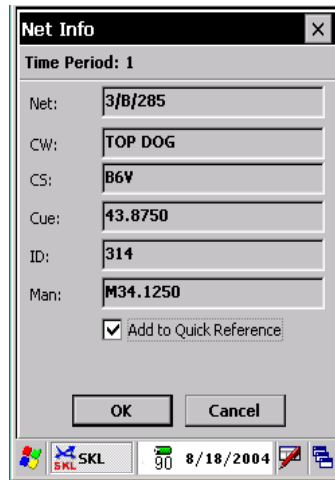


Figure 22. Net Info.

5. This window provides all the information about the net. To add the net to the Quick Reference Folder, put a Checkmark (✓) in the box to the left of “Add to Quick Reference” and tap the **OK** button. The window in Figure 23, *Group* re-opens.



Figure 23. Group.

6. Tap on the **Close** button. The window in Figure 24, *SOI Tab*, reopens.

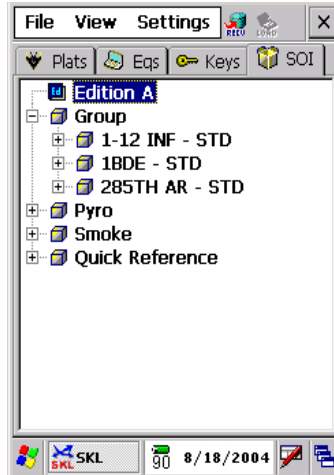


Figure 24. SOI Tab.

7. There is now a + sign to the left of the Quick Reference folder indicating that the Quick Reference folder has an entry. Tap the + sign to the left of 285th AR net group to expand the folder. The window in Figure 25, *285th AR Net Group Expanded*, opens.

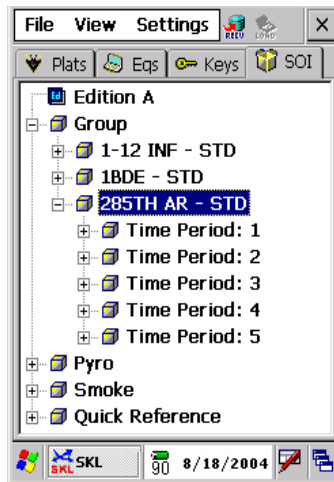


Figure 25. 285th AR Net Group Expanded.

8. Now tap on the + sign to the left of Time Period 1. The window in Figure 26, *Time Period 1 Expanded*, opens.

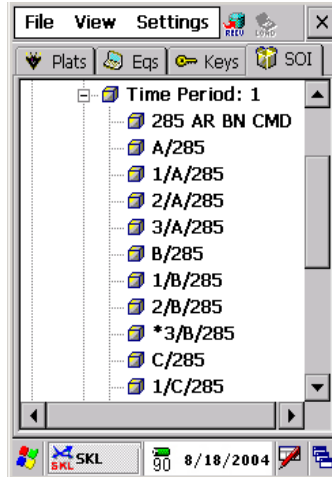


Figure 26. Time Period 1 Expanded.

9. You will notice in the window above, that the net 3/B/285 has an asterisk (\*) next to it. This indicates that the net also appears under the Quick Reference folder. Tap on the + sign to the left of the Quick Reference folder to expand it. Then continue to expand until the Nets are displayed. The window in Figure 27, *Quick Reference Expanded*, opens.

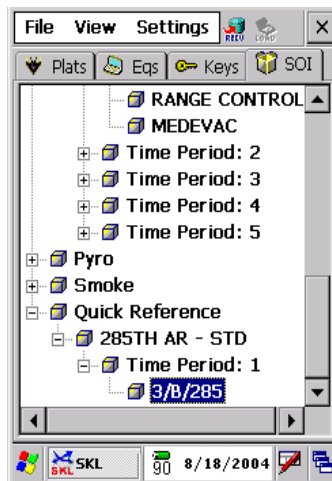


Figure 27. Quick Reference Expanded.

10. As depicted above the 285th AR net group for Time Period 1 has been added to the Quick Reference folder. Now you can easily retrieve information for this net for the first time period. To add additional nets to the Quick Reference folder just follow the steps 1-6 above.

## END OF TASK

### SOI Pyro Selection

The Pyro selections under the SOI tab are locked in and cannot be changed. The designations of each of the pyrotechnics listed are created in the ACES Workstation based on information received from the G3/S3. Use the following procedures to view the meanings of each of the pyrotechnics listed in the SOI.

1. To view the Pyro information, make sure that you are on the **SOI** tab as shown in Figure 28, *SOI Tab*, below.

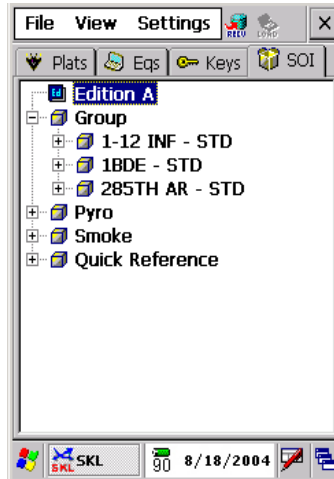


Figure 28. SOI Tab.

2. Click on the + sign to the left of Pyro to open the Pyro selections as shown in Figure 29, *Pyro Selections*, below.

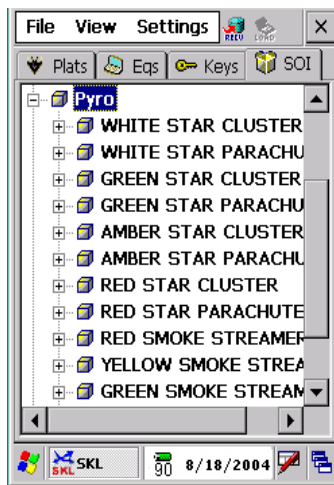


Figure 29. Pyro Selections.

3. To see what a particular Pyro selection means, highlight any of the selections available and then select **View**→**Current Selection**. The window in Figure 30, *Pyro/Smoke Info*, opens.

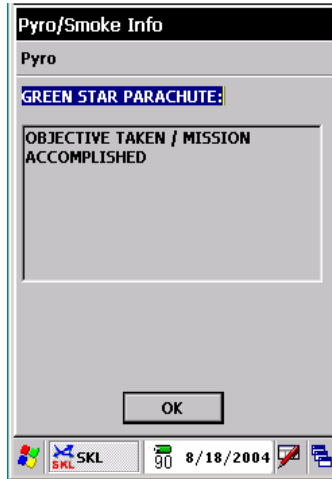


Figure 30. Pyro/Smoke Info.

4. As depicted above the meaning of the **Green Star Parachute** is listed. After you have reviewed the meaning of the Pyro selection, tap on the **OK** button. The SOI Tab reopens.

## END OF TASK

### SOI Smoke Selection

The Smoke selections under the SOI tab are locked in and cannot be changed. The designations of each of the Smoke Signals listed are created in the ACES Workstation based on information received from the G3/S3. Use the following procedures to view the meanings of each of the Smoke Signals listed in the SOI.

1. To view the Smoke Signal information, make sure that you are on the **SOI** tab as shown in Figure 31, *SOI Tab*, below.

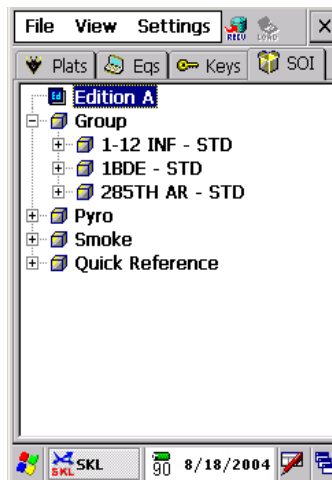


Figure 31. SOI Tab.

2. Click on the **+** sign to the left of Smoke to open the Smoke signal selections as shown in Figure 32, *Smoke Signal Selections*, below.

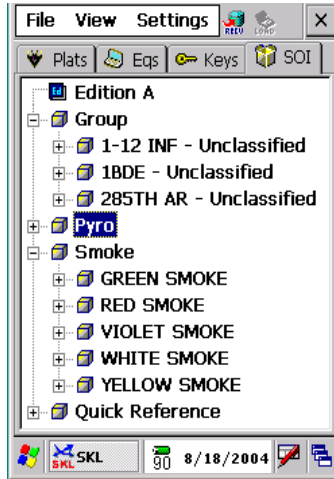


Figure 32. Smoke Signal Selections.

3. To see what a particular Smoke Signal selection means, highlight any of the selections available and then select **View**→**Current Selection**. The window in Figure 33, *Pyro/Smoke Info*, opens.

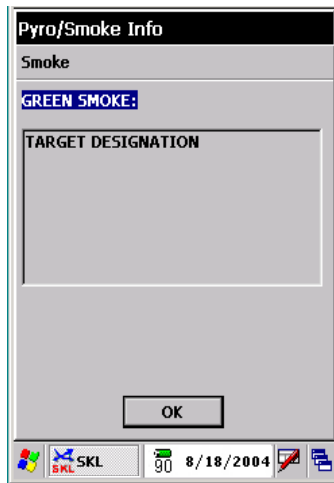


Figure 33. Pyro/Smoke Info.

4. As depicted above the meaning of the **Green Smoke** is listed. After you have reviewed the meaning of the Smoke Signal selection, tap on the **OK** button. The SOI Tab reopens.

## END OF TASK

## HOST CONFIGURATION REGISTERS

This function is only used by the contractor for configuration and troubleshooting purposes. The SKL operator will have no access to this function.

## SUMMARY STATUS

The purpose of the Summary Status window is to provide a detailed synopsis of the contents and classification of the SKL mission database in one location for easy viewing. It will also provide the user with the status of the Audit Trail such as how much of the space has been used and how much is left.

1. To look at the Summary Status, select **View→Summary Status** from the SKL Main Menu as depicted in Figure 34, *View→Summary Status*.

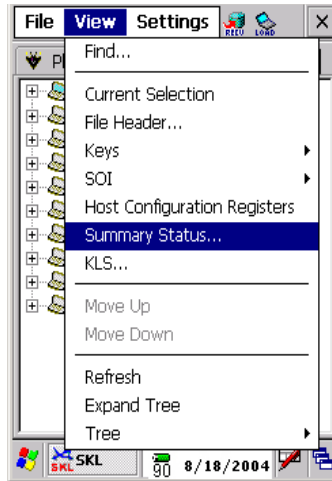


Figure 34. View→Summary Status.

2. As a result of the above action the window in Figure 35, *Summary Status*, opens.

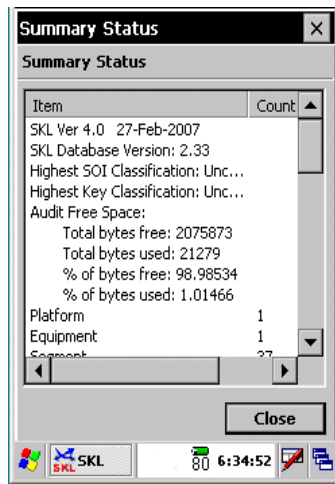


Figure 35. Summary Status.

3. The Summary Status window allows a user to view the following information: SKL Version, SKL Database Version, Highest SOI Classification, and Highest Key Classification. It will show the Audit Free Space in the SKL in four (4) different categories. It also will display the number of Platforms, Equipment, Segments, Message Data, Keys (i.e., N/A, FireFly, KEK, KPK, MSK, QKEK, TEK, TSK, TrKEK, IKEK, Seed, ICOM TSK, Non-ICOM TSK, WOD, MWOD, Training WOD, Thornton OTAR KEK, Thornton KEK Paper Tape, DTD GOE-2 TEK, DTD GOE-2 KEK, Usable GOE-2 TEK, and Usable GOE-2 KEK), Keys Needed, Keys Expired, Electronic Protection, File Headers, Benign Fill Messages, and Mission Dates. Use the scroll bar on the right side of the window to move up or down the window and the scroll bar at the bottom to move left to right in the window. Once you are through viewing the information, tap on the **Close** button with the Inductive Stylus to close the Summary Status window.

END OF TASK

## **KEY LOAD STATUS (KLS)**

The Key Load Status (KLS) function on the SKL allows the operator to view the status of a COMSEC key load to a special End Cryptographic Unit (ECU) such as the AN/PSC-5. The U.S. Army will only use this procedure very infrequently. Therefore it will not be explained in detail in this TM.

## **MOVE UP**

This menu selection will allow the SKL operator to scroll up the tree view structure.

## **MOVE DOWN**

This menu selection will allow the SKL operator to scroll down the tree view structure.

## **REFRESH**

This menu selection will allow the SKL operator to refresh the tab that is currently open.

## **EXPAND TREE**

This menu selection will allow the SKL operator to expand the tab tree that is currently open to its fullest view.

## **TREE**

This menu selection will allow the SKL operator to select the tree that needs to be open. This function is used in conjunction with the Navigation/Control Panel to move from tree to tree.

## **END OF WORK PACKAGE**

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
SKL UAS SETTINGS MENU FUNCTIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

---

OPERATOR MAINTENANCE  
OPERATION UNDER USUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

---

SETTINGS MENU  
DATE LOAD  
OPTIONS  
FILTER  
SHOW ALL  
FONT  
RECEIVE AND LOAD ICONS

---

### SETTINGS MENU

1. Select Settings by tapping once on **Settings** on the SKL UAS Desktop with the Inductive Stylus. The window in Figure 1, *SKL UAS Settings Menu*, opens.

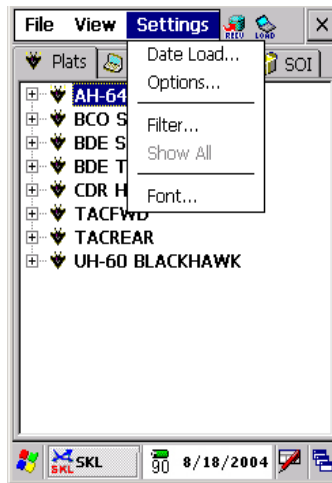


Figure 1. SKL UAS Settings Menu.

2. An explanation of each of the Settings menu's selections is presented in Table 1, *SKL UAS Settings Menu Description*.

Table 1. SKL UAS Settings Menu Description.

Settings Menu Option	Description
<b>Date Load</b>	This Function sets the date range limits for the Key and/or Key Tags to be displayed in the trees.
<b>Options</b>	<p>The Options window has six (6) different tabs on it that allow the operator of the SKL to preset display options, create unique messages for the ARC-210, define how the equipment profiles are displayed, define either the Short Title, Edition, or Segment for editing when receiving keys, setup how the trees will be displayed, and finally when to issue empty File Headers.</p> <p>Each of these areas will be explained in detail in the following pages.</p>
<b>Filter</b>	By default all Platforms, Equipment, and SOI information is displayed when each of the tabs are opened. The purpose of the Filter function is to limit what you want to see on each tab.
<b>Show All</b>	Turns off any filters that may have been previously applied. This action allows all database items to be displayed in the respective tabs.
<b>Font</b>	Allows the user to customize the font, size, color, bold, and italics options.

**Date Load**

The Date Load function allows the operator of the SKL to load selected keys by filtering the key segment's effective and expiration dates. This filtering gives the communications planner or COMSEC Custodian the choice of having multiple key segments in the SKL and insuring that the operator will only download keys that are effective during a specific system date or a manually chosen date. There are two ways that the filter can be enabled. The first is to filter keys everyday by the use of the system date. The second method is to manually set start and end dates of the key segment's effective and expiration dates. When the Date Load function is enabled, keys that have an effective and expiration date outside of the system date or the manually selected date range cannot be viewed nor can they be downloaded to an ECU.

Before you commence the Date Load function, you need to view the effective and expiration dates of all key segments that are to be filtered. Use the following procedure to view the key segments.

1. Highlight the key segment as depicted in Figure 2, *Plats Tab Expanded*, below.

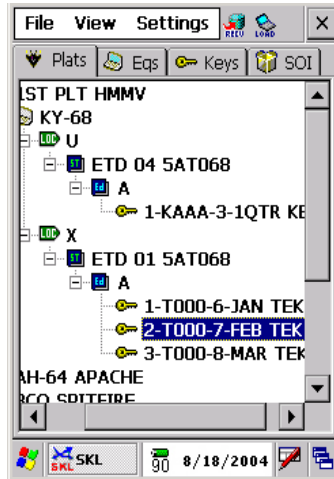


Figure 2. Plats Tab Expanded.

2. With the segment highlighted, select **View**→**Current Selection** from the SKL Main Menu. The window in Figure 3, *Segment Info 1*, opens.



Figure 3. Segment Info 1.

3. As depicted above the effective and expiration dates of the segment can be seen. Do steps a-c for each segment that you wish to filter. Write down the information for each segment so that you have it available to you when you start the filtering process. Once you have viewed and collected the information on the last segment you wish to filter, tap on the **Close** button. The Plats Tab returns.

## END OF TASK

**Using the System Date to Apply the Date Load Filter.** The system date can be used to filter key segments on a daily basis. When the "Always use system date" is selected, the only keys that can be viewed and downloaded are keys in which the effective date and the expiration date includes the system date. If the system date is not within this range then the key is filtered. Use the following procedure to apply a Date Load filter using the system date.

NOTE

If there is no Checkmark (✓) next to the Data Load menu item, it means that the Date Load Filter is not active.

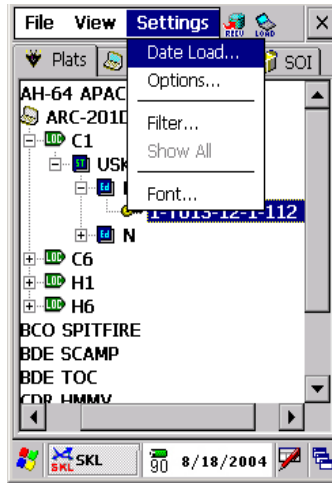


Figure 4. Settings→Date Load.

1. As a result of selecting **Settings→Date Load** from the Main Menu the window in Figure 5, *Date Load Filter*, opens.

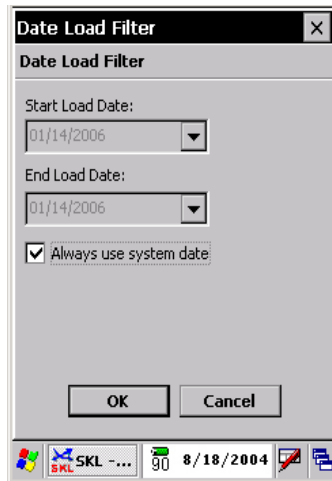


Figure 5. Date Load Filter.

2. The default for this window is to have a Checkmark (✓) in the box next to “Always use system date”. You will notice the Start Load Date and the End Load Date are grayed out. The “Always use system date” will use the System (Host) date to filter the keys. Tap on the **OK** button to close the window. The Figure 6, *Plats Tab Expanded*, opens.

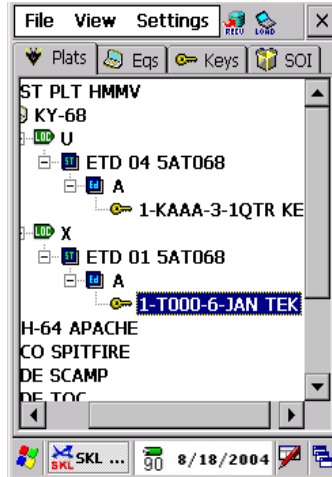


Figure 6. Plats Tab Expanded.

3. The Key Tags in this example; **KAAA** and **T000** are displayed because the System (Host) date falls between the Effective and Expiration dates of the Key Tag.

#### END OF TASK

**Using a Fixed Start and End Date to Apply the Date Load Filter.** Date Load filtering using a start and end date will only display key segments and allow the operator to load key segments when the start and end calendar date crosses over or falls between the key segment effective and expiration dates.

1. Select **Setting**→**Date Load** from the Main Menu. The window in Figure 7, *Date Load Filter*, opens.

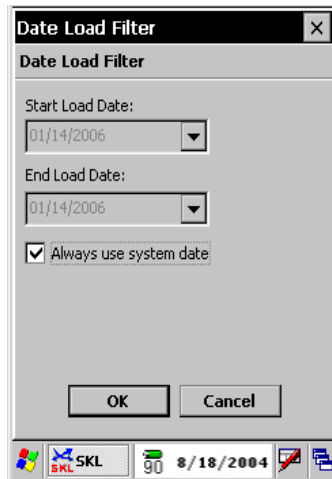


Figure 7. Date Load Filter.

2. The Date Load Filter window defaults to "Always use system date". Use the Stylus to tap on the Checkmark (✓) to remove it. Then tap on the **Down Arrow** in both date fields and select a start and end date. The window in Figure 8, *Date Load Filter Start and End Dates*, opens.

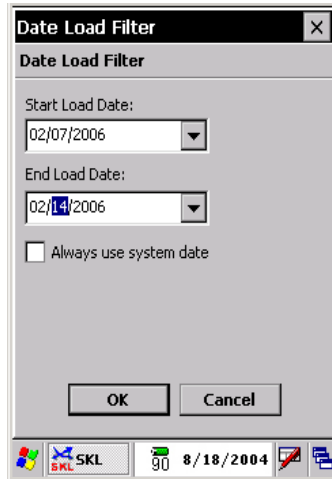


Figure 8. Date Load Filter Start and End Dates.

- As depicted above the Start Date is 7 February 2006 and the End Date is 14 February 2006. Now tap on the **OK** button. The window in Figure 9, *Plats Tab Expanded*, opens.

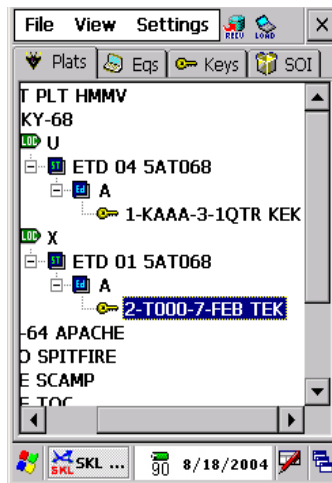


Figure 9. Plats Tab Expanded.

- The Plats Tab now shows only two key segments that fit the filtering criteria of 7 February 2006 and 14 February 2006. They are **KAAA** a three month KEK and **T000** a one month TEK.
- Another scenario that could happen when using Start and End dates is something called crossover. Select **Settings**→**Date Load**. The Figure 10, *Date Load Filter Crossover*, is depicted below.

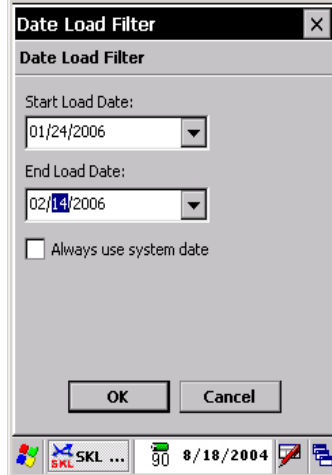


Figure 10. Date Load Filter Crossover.

6. As depicted above the Start date is 24 January 2006 and the End date is 14 February 2006. Now the filtering criterion has changed. Once the dates have been established, click on the **OK** button. When the Start and End dates cross the key segments' Effective or Expiration dates, multiple key segments can be displayed. As depicted below in Figure 11, *Plats Tab Expanded*, not only is **KAAA KEK** displayed but also two **TEKs (T000-6 and T000-7)** are displayed because the Start or End date fall between the key segments' Effective and Expiration dates, or the key segments' Effective and/or Expiration dates falls between the Date Load Filters Start and End dates.

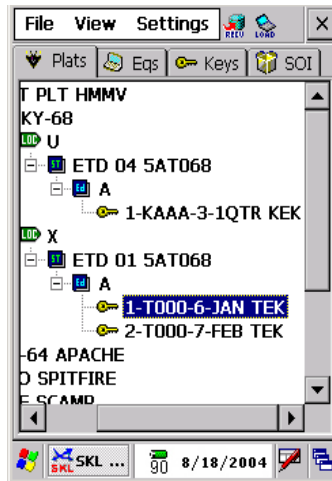


Figure 11. Plats Tab Expanded.

**END OF TASK**

**Disable the Date Load Filter.** If you want to disable the filtering of the Key segments, select **Settings→Show All** from the Main Menu. This action will remove the filter on anything that you may have filtered. See Figure 12, *Plats Tab Expanded Unfiltered*, and all the Key segments displayed.

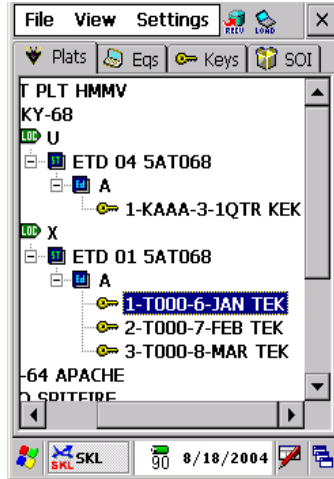


Figure 12. Plats Tab Expanded Unfiltered.

## END OF TASK

### Options

The Options window with its tabs can provide the SKL operator with all the necessary controls to setup the SKL UAS Tabs to visually display data in the way they would like to see it. The following paragraphs detail how to set up each of the Options tabs and how each setting affects the way information is presented on the windows.

**Keys Display.** Displaying Segment Information is very important for the operator to understand what keys are in the Mission Database and what equipment they are for. The following paragraphs will explain the Options Key Display tab and what you will see given what you choose on this tab. To change the way the keys are displayed select **Settings**→**Options**→**Keys Display** tab.

1. If you choose to select only the Designator as shown in Figure 13, *Keys Display-Designator Only* the SKL UAS tabs will display the key information as shown in Figure 14, *Designator Only Displayed* below.

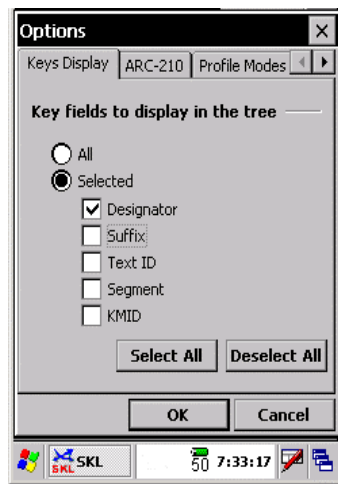


Figure 13. Keys Display-Designator Only.

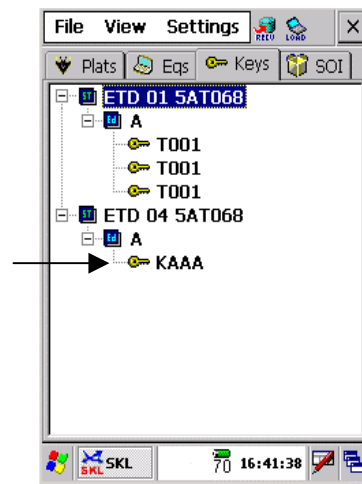


Figure 14. Designator Only Displayed.

2. If you choose to just to select the Suffix to be displayed as shown in Figure 15, *Keys Display-Suffix Only* the SKL UAS tabs will display the key information as shown in Figure 16, *Suffix Only Displayed* below.

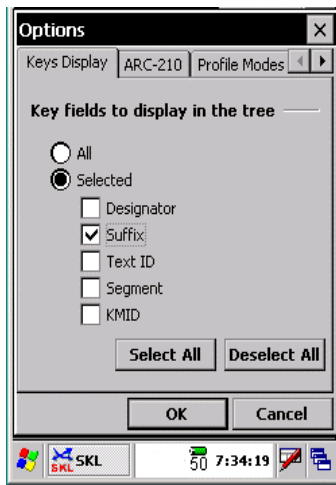


Figure 15. Keys Display-Suffix Only.

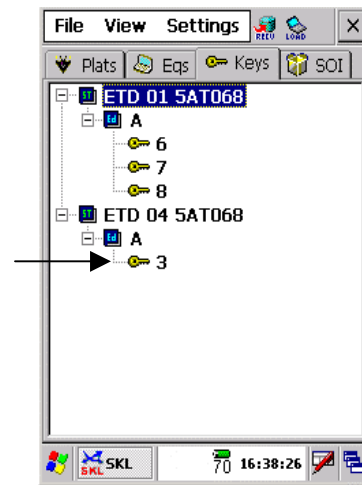


Figure 16. Suffix Only Displayed.

3. If you choose to just to select the Text ID to be displayed as shown in Figure 17, *Keys Display-Text ID Only* the SKL UAS tabs will display the key information as shown in Figure 18, *Text ID Only Displayed* below.

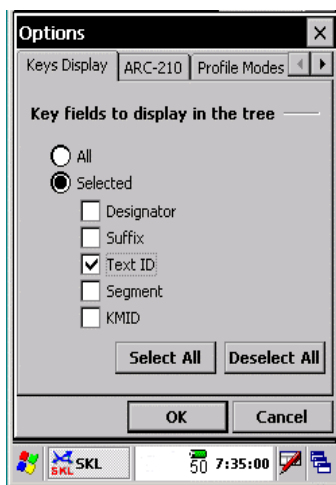


Figure 17. Keys Display-Text ID Only.

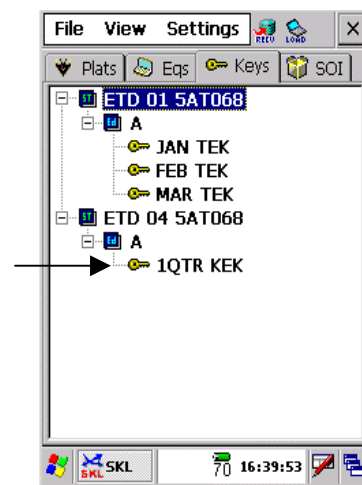


Figure 18. Text ID Only Displayed.

4. If you choose to just to select the Segment to be displayed as shown in Figure 19, *Keys Display-Segment Only* the SKL UAS tabs will display the key information as shown in Figure 20, *Segment Only Displayed* below.

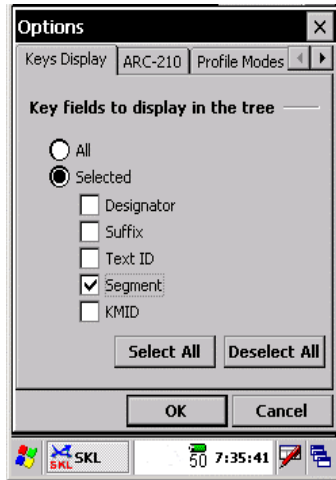


Figure 19. Keys Display-Segment Only.

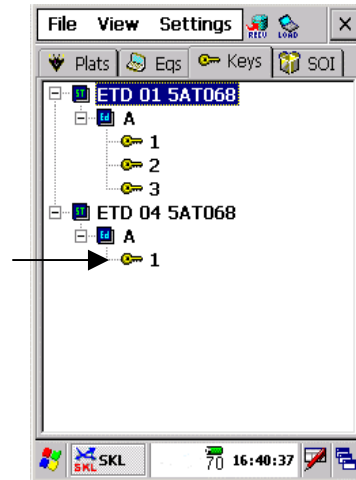


Figure 20. Segment Only Displayed.

- Ideally you should want to see all the information about the key segment that you can so that you can be better informed as to exactly what keys you have in your SKL and that they are assigned to the right equipment. It is highly recommended that you check all the selections except KMID as that is used for Modern Key only. Your selection should look like that in Figure 21, *Keys Display*; your SKL UAS tabs will display the segment information as shown in Figure 22, *Full Segment Displayed* below.

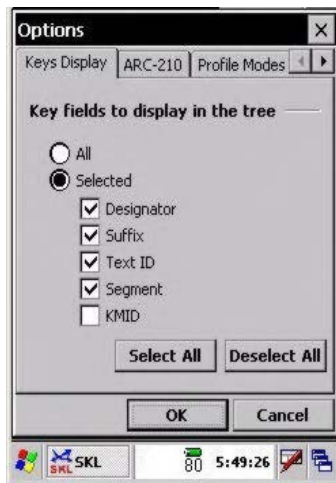


Figure 21. Keys Display.

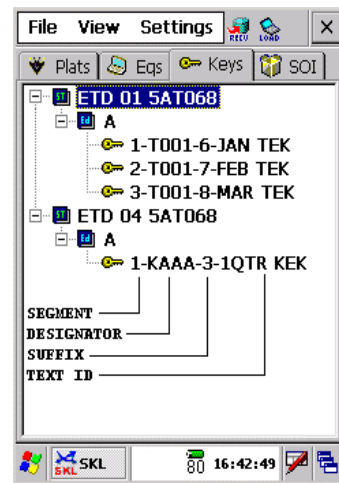


Figure 22. Full Segment Displayed.

- You can readily see the effects of being able to see the Segment information. A small diagram (Figure 22) has been included explaining what each part of the Segment information is.
- The KMID selection is used for Modern Key only. There will be very few SKLs that will hold Modern key at the present time. However, as more and more equipment is fielded requiring Modern Key fill, the SKL will be the device that will key up these devices with Modern Key. Therefore, if your unit uses Modern Key to fill equipment, then you should make sure the KMID selection is checked.

END OF TASK

**ARC-210.** The ARC-210 tab under the Options window will allow you to create default B1 & B2 Message Data for the ARC-210 radio. To create these two messages, select **Settings**→**Options**→**ARC-210**. The window in Figure 23, *ARC-210 Data* opens.

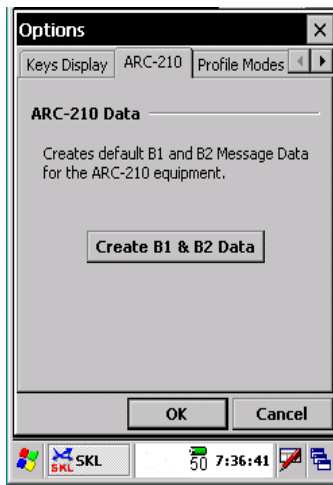


Figure 23. ARC-210 Data.

1. To create the ARC-210 Message Data, tap on the button in the center of the window. The window in Figure 24, *Message Data Created* opens.

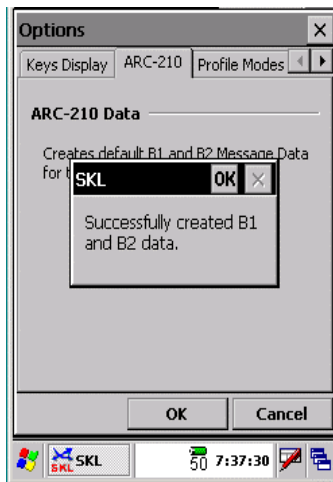


Figure 24. Message Data Created.

2. The Message Data has been successfully created. Tap on the **OK** button. The ARC-210 tab re-opens. You cannot display the Message Data; you only know that it is there by selecting **View**→**Summary Status**. Scroll down and look for Messages. You should see 2 messages.

#### END OF TASK

**Setting the Equipment Profile Mode.** The Profile Modes tab of the Options window is used to select either a Detailed or Condensed mode of key operation. The Detailed Mode equates to the Standard Mode in the current DTD (CT3) and the Condensed Mode equates to the Expert Mode in the current DTD (CT3). If you select Detailed as shown in Figure 25, *Detailed Option Selected*, then your Profile window will look similar to that shown in Figure 26, *Detailed Profile Window*.

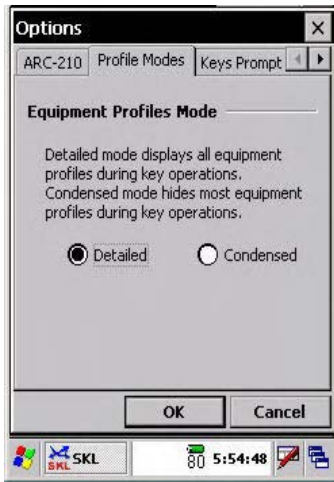


Figure 25. Detailed Option Selected.

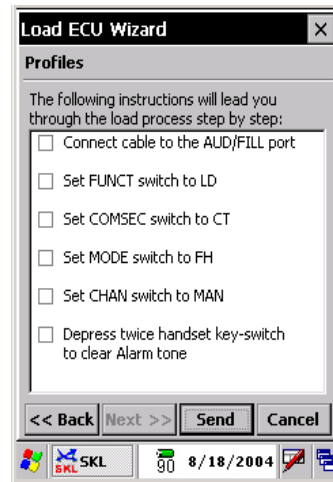


Figure 26. Detailed Profile Window.

You can readily see the advantages of selecting the Detailed Equipment Profile Instruction Mode. The Profile window will tell you exactly what to do with the equipment you are loading.

If you select Condensed, as shown in Figure 27, *Condensed Option Selected*, then you will see a Profile window similar to the one shown in Figure 28, *Condensed Profile Window*.

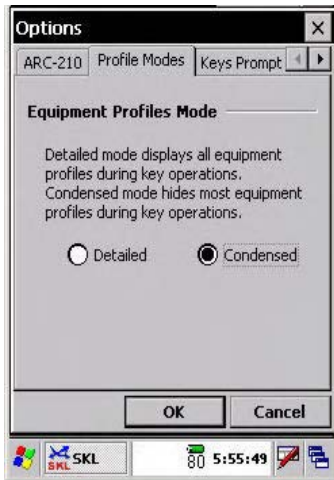


Figure 27. Condensed Option Selected.

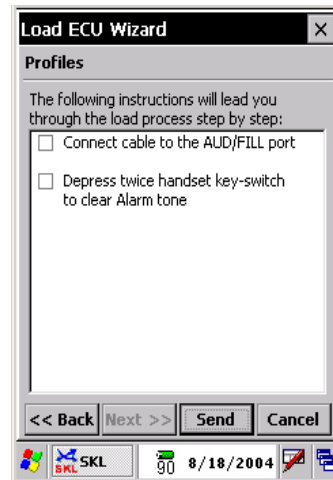


Figure 28. Condensed Profile Window.

As depicted in Figure 28, there are very limited instructions for you to follow. To use this mode you must be very familiar with the equipment you are loading so that you can accomplish a correct load of the mission data.

#### END OF TASK

**Keys Prompt.** The Keys Prompt tab has three selections that you can make. The first is called Short Title. When this selection is made it means that a prompt will come up for every Short Title received and that every Segment of each Short Title will update automatically based on the information the Short Title has.

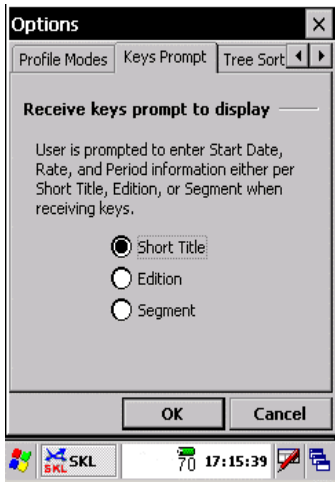


Figure 29. Short Title.

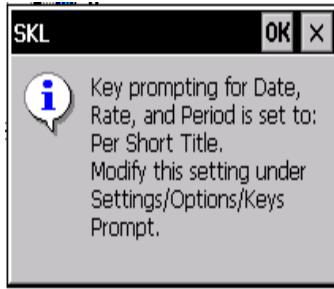


Figure 30. SKL.

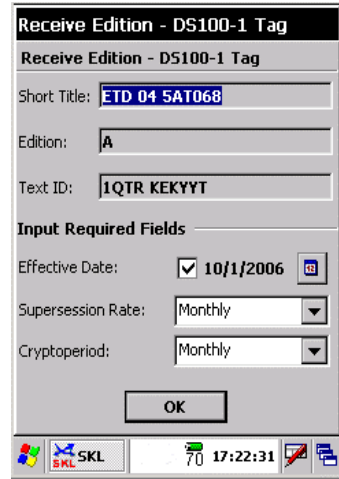


Figure 31. Receive Edition.

1. The second selection is Edition. The prompt will come up on every Edition for every Short Title. The Segments will update automatically based on the information given for the Edition.



Figure 32. Edition.

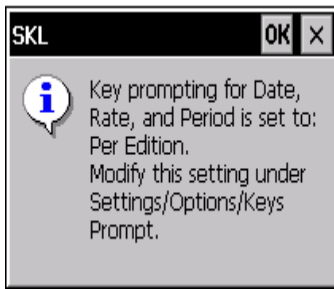


Figure 33. SKL.

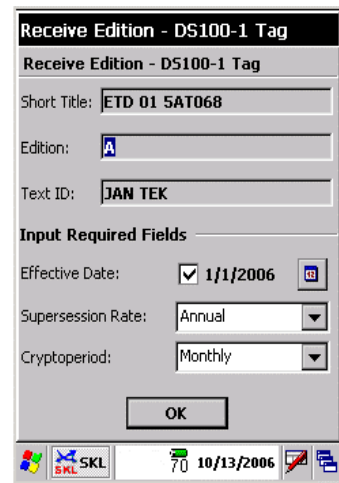


Figure 34. Receive Edition.

2. The third selection is Segment. A prompt will come up on each and every Segment that is received into the SKL regardless of the Edition or Short Title. You will have to manually set the Effective Date, Supersession Rate, and Cryptoperiod for each Segment.



Figure 35. Segment.

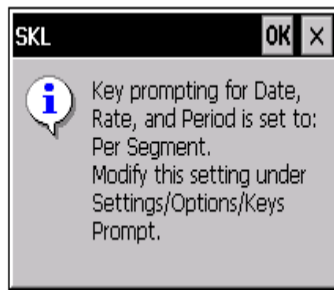


Figure 36. SKL.



Figure 37. Receive Edition.

**END OF TASK**

**Tree Sort.** The Tree Sort tab allows the operator of the SKL to define how the trees should be sorted. In Figure 38 below the Tree Sort tab is displayed.

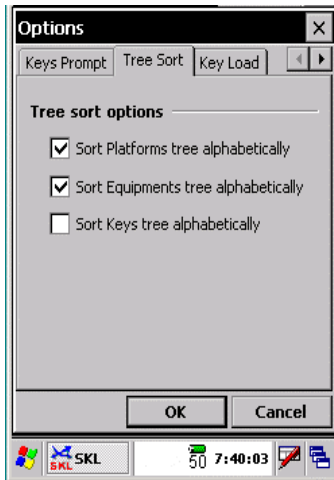


Figure 38. Tree Sort Tab.

As can be seen from the figure above the tab has three selections. They are Sort Platforms, Sort Equipment, and Sort Keys. The sorting once selected is done alphabetically starting with numerical numbers first and then alphabetical characters next. If you do not want your trees sorted simply remove the checkmarks and the items in each tree will be sorted by first in. First in means that the first platform received or created will be first then the second and so forth disregarding any type of sorting.

**END OF TASK**

**Key Load.** Figure 39, *Key Load Tab* gives the user the option of selecting whether or not they wish to issue the File Header along with an unencrypted key. The default is not checked. Certain equipment when issued unencrypted key cannot accept a File Header. This checkbox allows the user to send a File Header when issuing unencrypted key to certain equipment by adding the checkmark.

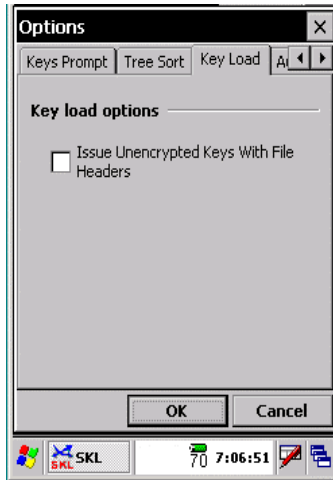


Figure 39. Key Load Tab.

**END OF TASK**

**Audit.** The Audit Tab, Figure 40, *Audit Tab* allows the user to either enable or disable the Audit Warning Notice that is displayed once the audit trail reaches a defined threshold. Currently for Army users this selection should always be enabled. The default is enabled.

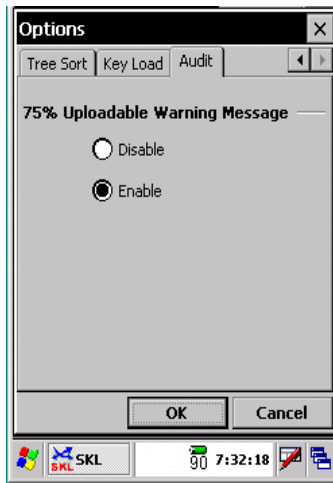


Figure 40. Audit Tab.

**END OF TASK**

**Filter**

The SKL database can sometimes be very large and cumbersome to navigate. To help alleviate the navigational problems that can come with large Mission Databases, the SKL UAS has a Filter function that can be set for the Plats Tab and Eqs Tab.

**Filter Platforms.**

1. To filter a platform, make sure that the Plats Tab is selected as shown in Figure 41, *Plats Tab*.

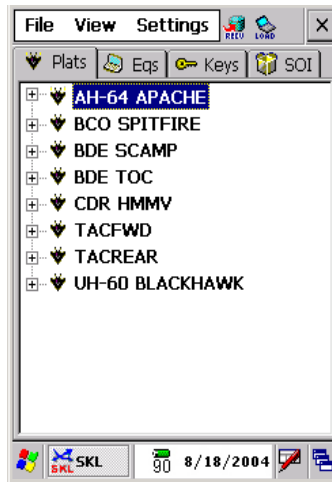


Figure 41. Plats Tab.

- As depicted in the above figure, there are many platforms listed. To filter the list to a specific platform or group of platforms select **Settings**→**Filter** from the Main Menu. The window in Figure 42, *Filter Plats*, should open.

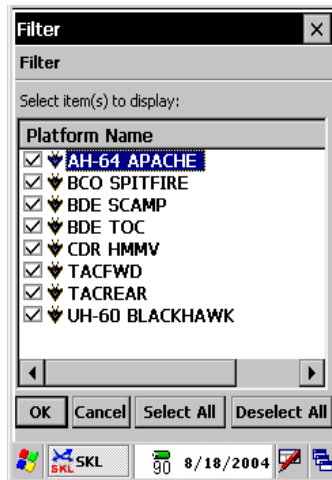


Figure 42. Filter Plats.

- As depicted above, all Platforms are selected and therefore no filtering will take place. All of these Platforms will be displayed. To display just an individual Platform from the list, place a Checkmark (✓) in the box next to the Platform you want to **filter** by tapping with the Inductive Stylus. For this example **CDR HMMV** has been selected as shown in Figure 43, *Filter Plats Single Platform*.



**TIP:** If all the platforms are selected and the user only wants to select a single platform, use the **Deselect All** option, and then select the desired platform for filtering.

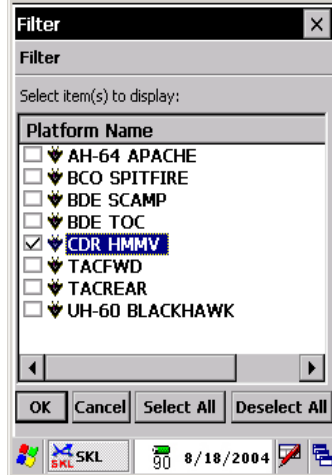


Figure 43. Filter Plats Single Platform.

- Once the Platform is selected, tap the **OK** button. Notice that when the Plats Tab reopens, only the Platform that was selected will be shown in the tree. In this example only the **CDR HMMV** Platform is visible in Figure 44, *Plats Tab Filtered*.

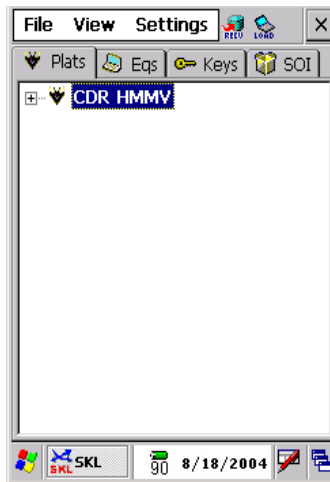


Figure 44. Plats Tab Filtered.

- As shown above, the only platform available for selection is CDR HMMV. That is because CDR HMMV was selected as the filtered Platform. Select **Settings** from the Main Menu. Note that the Filter selection has a Checkmark (✓) to the left of it indicating that the Plats Tab has an active Filter. See Figure 45, *Settings - Filter Active*.

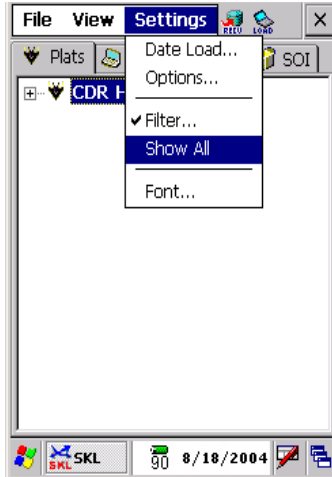


Figure 45. Settings - Filter Active.

6. To return the Plats Tab to its original display, select **Show All** from the Settings menu. The Checkmark (✓) is removed from the Filter selection and the Plats Tab is displayed showing all the platforms as depicted in Figure 46, *Plats Tab Unfiltered*.

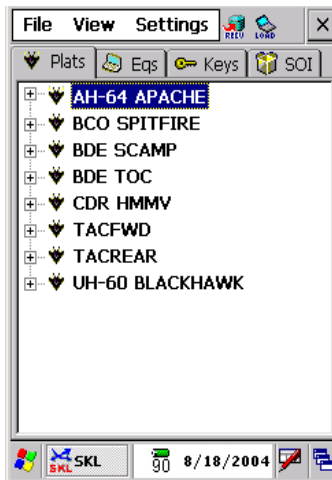


Figure 46. Plats Tab Unfiltered.

## END OF TASK

### Filter Equipment.

1. To filter at the equipment level, make sure that the **Eqs** tab is selected as shown in Figure 47, *Eqs Tab*.

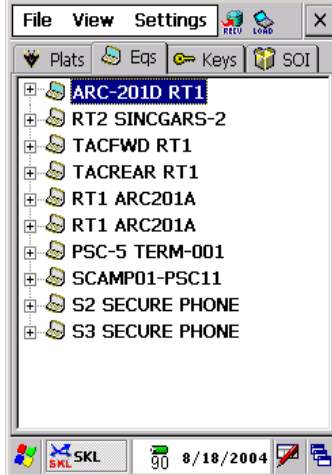


Figure 47. Eqs Tab.

2. Once you are on the Eqs Tab, select **Settings**→**Filter** from the Main Menu. The window in Figure 48, *Equipment Filter*, opens.

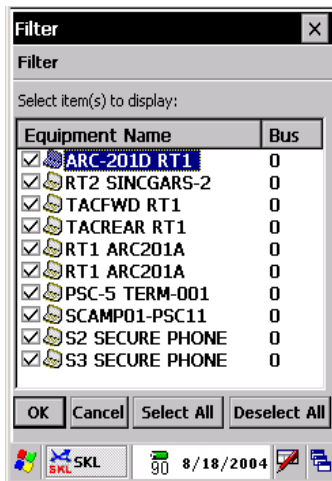


Figure 48. Equipment Filter.

3. From this window an Equipment Name can be selected for filtering. The window defaults to all equipment selected. Tap on the **Deselect All** button and then put a Checkmark (✓) in the box to the left of the Equipment Name you want to filter, as shown in Figure 49, *Equipment Name Selected*.

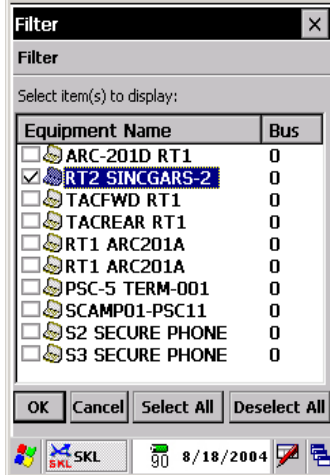


Figure 49. Equipment Name Selected.

- Once the item(s) have been selected tap on the **OK** button. The window in Figure 50, *Eqs Tab Filtered* opens showing just the filtered item.



Figure 50. Eq's Tab Filtered.

- To display all the Equipment again, select **Settings** from the Main Menu. The window in Figure 51, *Settings - Filter*, opens.

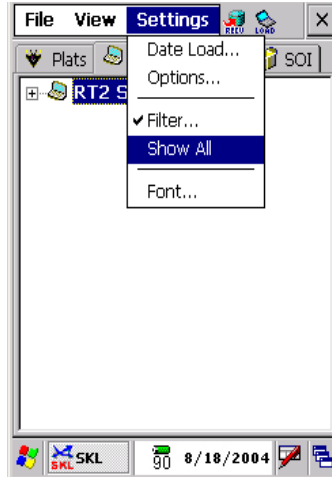


Figure 51. Settings - Filter.

6. Notice that Filter has a Checkmark (✓) to the left indicating that the filter is active for the Eqs Tab. To display all the equipment in the Eqs Tab, Select **Show All**. The window in Figure 52, *Eqs Tab Unfiltered*, returns.

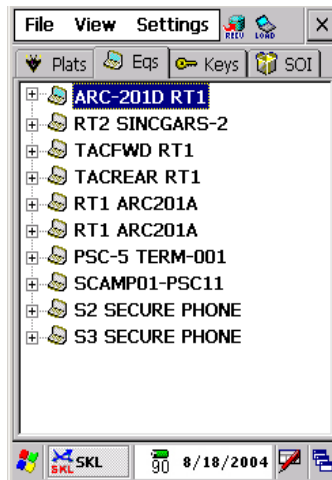


Figure 52. Eqs Tab Unfiltered.

## END OF TASK

### Show All

The Show All function allows an operator of the SKL to remove any filters that may have been applied to the Mission Database. To perform this function, select **Settings**→**Show All**.

## END OF TASK

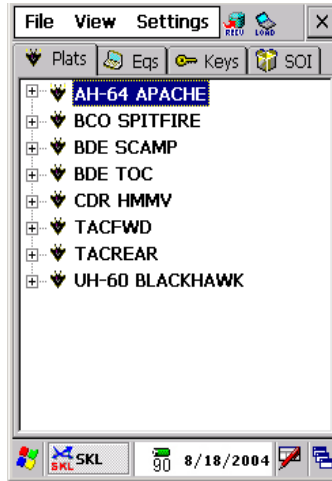
### Font

This paragraph describes the procedures necessary to change the Font, Font Style, Font Size, and Font Color of the text when viewing data in the Plats, Eqs, Keys, and SOI trees. There are 2 different Fonts (Courier New and Tahoma), 2 different Font Styles (Bold and Italic), 11 different Font Sizes, and 16

different Font Colors that can be selected. Each user of the SKL can use the font settings that allow them to view the data clearly. The SKL should be at the SKL Main Menu as shown in Figure 53, *Plats Tab*.

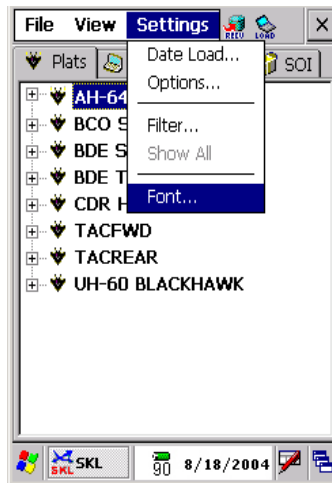
**NOTE**

**Changes made to the Font settings will only apply to the selected tab, i.e., Plats, Eqs, Keys, or SOI.**



**Figure 53. Plats Tab.**

1. To change the way the text appears in a selected tab, select the tab tree that you want to change (in this case the Plats tab), and then using the Inductive Stylus tap on **Settings→Font** as shown below in Figure 54, *Settings→Font*.



**Figure 54. Settings→Font.**

2. As a result of the above, the window in Figure 55, *Select Font*, opens.

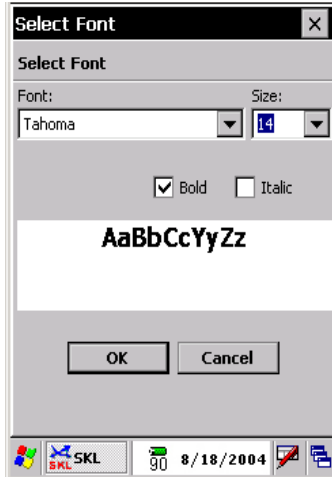


Figure 55. Select Font.

3. Use the Select Font window to make the selections you want and then tap on the **OK** button with the Inductive Stylus to apply the selections made to the Plats tab. The window in Figure 56, *SKL Main Menu Plats* returns showing the changes to the text. In this case the font size and font type was changed.

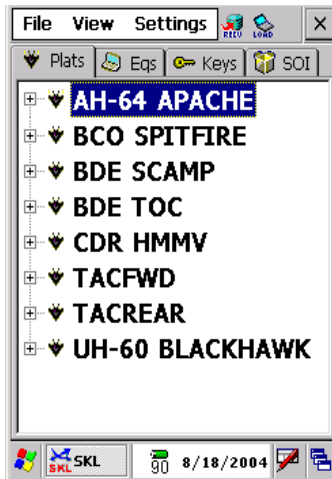


Figure 56. SKL Main Menu Plats.

## END OF TASK

## RECEIVE AND LOAD ICONS

The Receive and Load icons shown in Figure 57, *Receive and Load Icons*, can be used as a shortcut to receive a database or to load highlighted items on the Plats, Eq's, and Keys tabs.

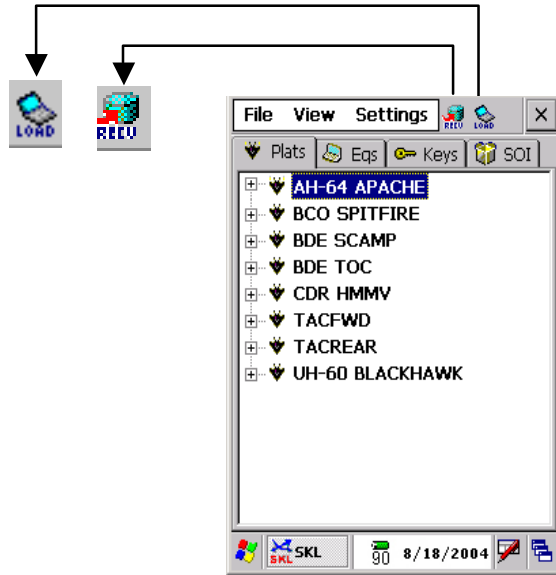


Figure 57. Receive and Load Icons.

END OF TASK

END OF WORK PACKAGE



OPERATOR MAINTENANCE  
OPERATION UNDER UNUSUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

---

OPERATOR MAINTENANCE  
OPERATION UNDER UNUSUAL CONDITIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

---

**OPERATION UNDER UNUSUAL CONDITIONS**

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Not applicable to the SKL.

**END OF TASK**

**END OF WORK PACKAGE**

CHAPTER 3  
TROUBLESHOOTING PROCEDURES  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0



OPERATOR MAINTENANCE  
TROUBLESHOOTING PROCEDURES  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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OPERATOR MAINTENANCE  
TROUBLESHOOTING PROCEDURES  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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**TROUBLESHOOTING PROCEDURES**

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**INTRODUCTION**

This Chapter provides information about the SKL Help Desk and defines recommended troubleshooting procedures that should be followed to correct a specific fault with the SKL..

**Help Desk**

There is a Help Desk that will provide assistance when needed. Once a failure is experienced and cannot be resolved at the operator level, the user will call the SKL Help Desk at commercial number (**Toll Free**) **(866) 651-1199**. The Help Desk will determine if the failure is hardware or software related.

If the problem is software or operational related, the Help Desk will provide assistance in resolving the problem. If the failure is determined to be hardware related, the user will be told to follow guidelines in the Warranty Bulletin TB 11-7010-410-24.

**Troubleshooting Procedures**

SKL troubleshooting is limited to the inspection, self-test, battery replacement, and use of fault isolation flow charts for Simple Key Loader. In the event of a malfunction, the operator should ensure that components of the Simple Key Loader are properly connected, power cables are plugged into the correct power source outlets or that the Lithium-Ion Battery is charged and correctly installed, and that the SKL main power button is depressed to turn ON the device. Refer to the following problem-solving guides for assistance. The operator should attempt to operate a failed SKL component a second time. If the SKL does not respond as expected, use the fault isolation flow charts to try and determine the faulty component. If the malfunction persists after correctly using the fault isolation flow charts, the problem should be reported to the Field maintenance for further troubleshooting and repair.

There are many troubleshooting techniques that can be used on computer systems. They all work to some degree. However, the following techniques should always be used when attempting to troubleshoot the Simple Key Loader.

1. **Check the obvious** – This is the first rule of troubleshooting the Simple Key Loader. Make sure that power is connected and turned on or the Battery is fully charged and installed correctly and securely, the external connections are firmly seated if any. Then use the fault isolation flow charts to try to isolate the problem, before calling on the Field Maintainer. Once the obvious has been checked and the problem still persists, move on to the second rule of troubleshooting the SKL.
2. **Contact the Field Maintainer** – This is the second rule of troubleshooting the SKL. The Field Maintainer has more tools with which to troubleshoot the SKL. The Field maintenance technicians are your best bet to solve the problem correctly the first time if rule one has not solved your problem.
3. **Contact the SKL Help Desk** – This is the Third rule of troubleshooting the SKL. If the Field Maintainer cannot resolve the problem then the SKL Help Desk should be called. There are experts located at the Help Desk that will be able to help in the resolution of the problem. The SKL Help Desk

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will help the user determine if there is a hardware problem and direct the user to the Warranty Bulletin.

4. **Test only one thing at a time** – This is the fourth rule of troubleshooting the SKL. If you change several things and then try to restart the SKL only to discover that it won't boot, how will you know which change caused the new problem? Also, if changing multiple items somehow fixes the original problem, what have you learned about it? If the problem recurs, how are you going to fix it then? This leads up to the fourth rule of troubleshooting.
5. **Document the problem as well as the solution** – This is the fifth rule of troubleshooting the Simple Key Loader. One thing about computers in general: if it happened once, it can (and probably will) happen again. If you've already isolated and repaired a problem once, why go through all the troubleshooting again? Write down what the problem is, what was done just before the problem occurred, and what you did to fix it.

Troubleshooting fault isolation flow charts are reliable only when certain conditions are met. If the fault is found to be outside of the troubleshooting flow charts, it must be assumed that the preconditions were not met. The following assumptions for maintenance are:

1. One problem at a time. It must be assumed that only one fault or failure caused the problem.
2. All switches and controls are properly set for normal operation. Improperly set switches and controls may simulate a malfunction.
3. All cables, adapters, connections, and terminations are in good condition and connected correctly. Open signal paths due to defective cables, adapters, and connectors account for many faults. Cables and connectors must be checked in all situations.
4. No operator error exists. All operators must follow the standard and approved hardware/software operating procedures.

The following fault isolation flow charts are provided to support problem solving at the operator level.

---

**Battery Charger Has A Flashing Amber LED When A Battery Is Inserted**

**WARNING**

**A flashing amber LED indicates the battery is faulty. Immediately remove the battery from the battery charger. Failure to remove the faulty battery can cause the battery pack to be overcharged, or charged with extremely high current, abnormal chemical reaction can occur in it, possibly leading to acid leakage, overheating, smoke emission, bursting and/or ignition. This condition can lead to possible personal injury if not corrected immediately.**

**Basic troubleshooting steps:** 1. Immediately remove the battery from the Battery Charger Station.  
2. Mark, label, or identify the battery in such a way to show that it is "Failed" and is not be used.

**Probable Fault:** Battery Pack has failed.

**Corrective Actions:** Document the fault, troubleshooting steps taken (and results, if any). Then deliver the battery pack to your Field Maintainer for battery pack replacement and disposal.

**Battery Charger LED Is Not Lit**

**WARNING**

**Do not use an apparently damaged or deformed battery pack. Otherwise, acid leakage, overheating, smoke emission, bursting, and/or ignition of the battery pack may occur. This condition can lead to possible personal injury if not corrected immediately.**

**Basic troubleshooting steps:** See Figure 1, Battery Charger LED is not Lit.

**Probable Fault:** If all steps fail to correct the problem, the probable faulty component is the battery charger, AC/DC power supply, or AC power cord.

**Corrective Actions:** Document the fault, troubleshooting steps taken (and results, if any) and deliver the battery charger, AC/DC power supply, and AC power cord to the Field Maintainer.

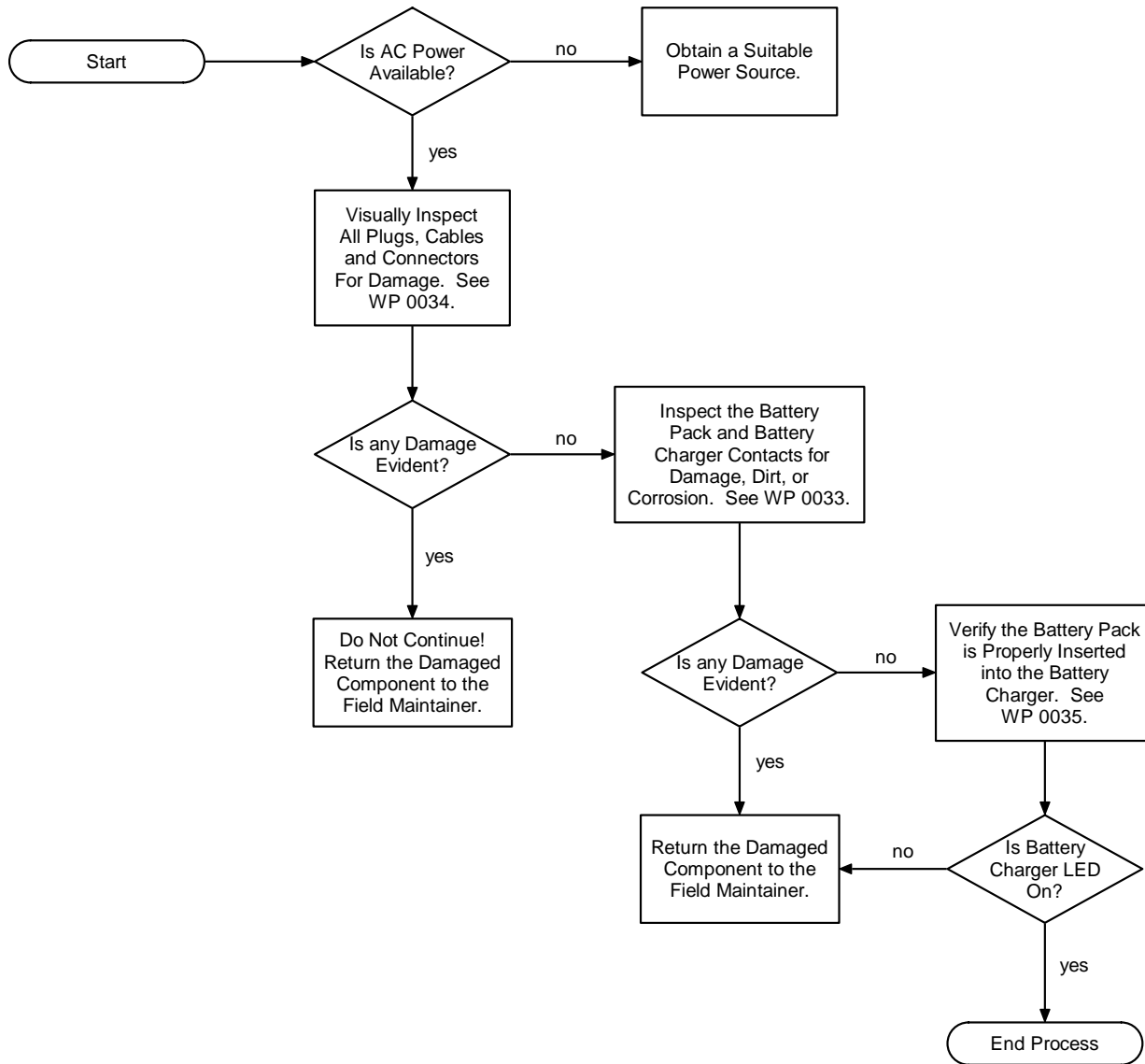


Figure 1. Battery Charger LED is not Lit.

SKL Will Not Power On

**WARNING**

Do not use an apparently damaged or deformed battery pack. Otherwise, acid leakage, overheating, smoke emission, bursting, and/or ignition of the battery pack may occur. This condition can lead to possible personal injury if not corrected immediately.

**Basic troubleshooting steps:** See Figure 2, SKL Will not Power On.

**Probable Fault:** If all steps fail to correct the problem, the probable faulty component is the SKL.

**Corrective Actions:** Document the fault, troubleshooting steps taken (and results, if any) and deliver the SKL to the Field Maintainer.

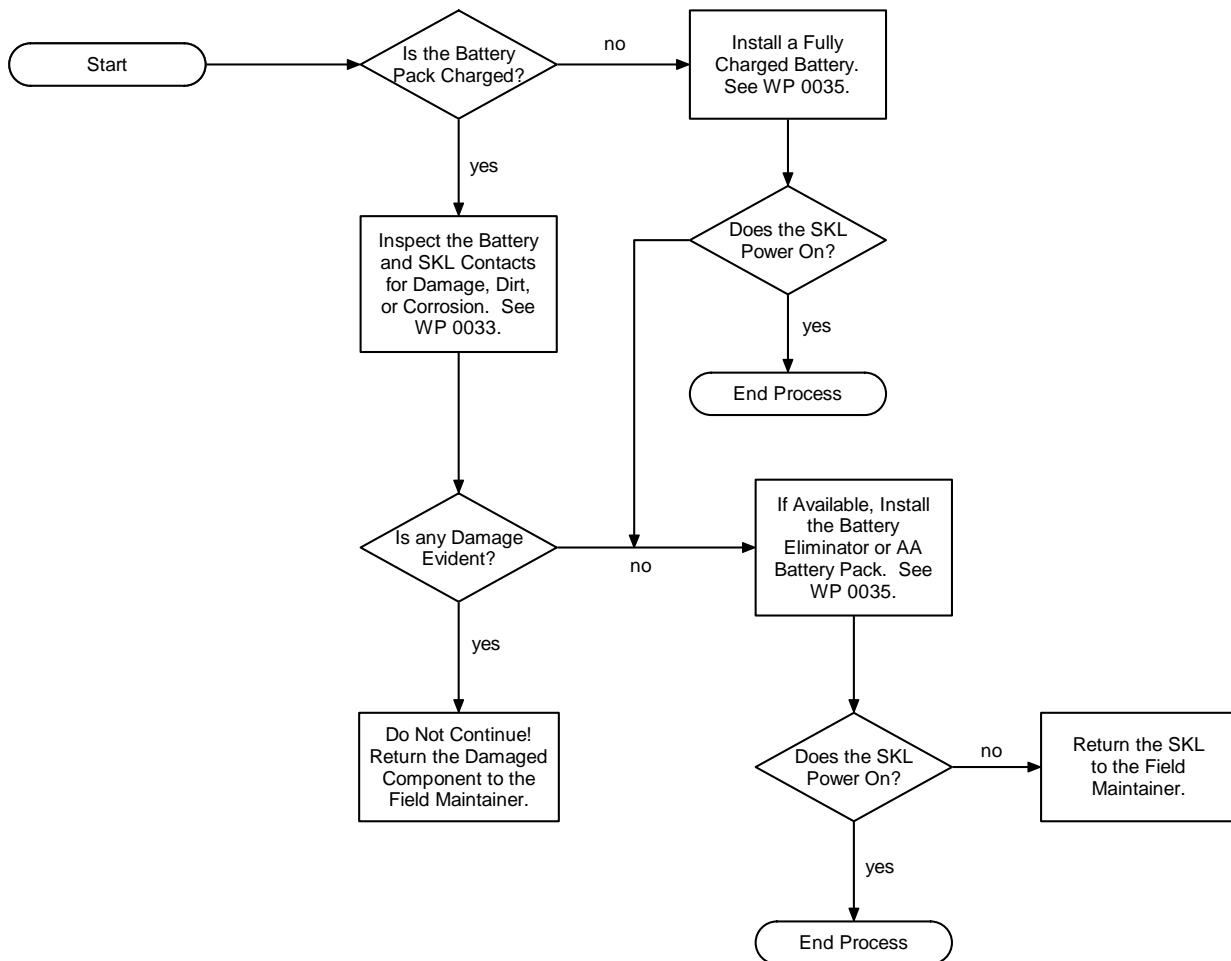


Figure 2. SKL Will not Power On.

User Cannot Logon To The Core Library

NOTE

If the user fails to logon after ten consecutive attempts, the user account is deleted.

**Basic troubleshooting steps:** See Figure 3, User Cannot Logon to the Core Library.

**Probable Fault:** If all steps fail to correct the problem, the probable faulty component is the SKL.

**Corrective Actions:** Document the fault, troubleshooting steps taken (and results, if any) and deliver the SKL to the SSO or the Field Maintainer.

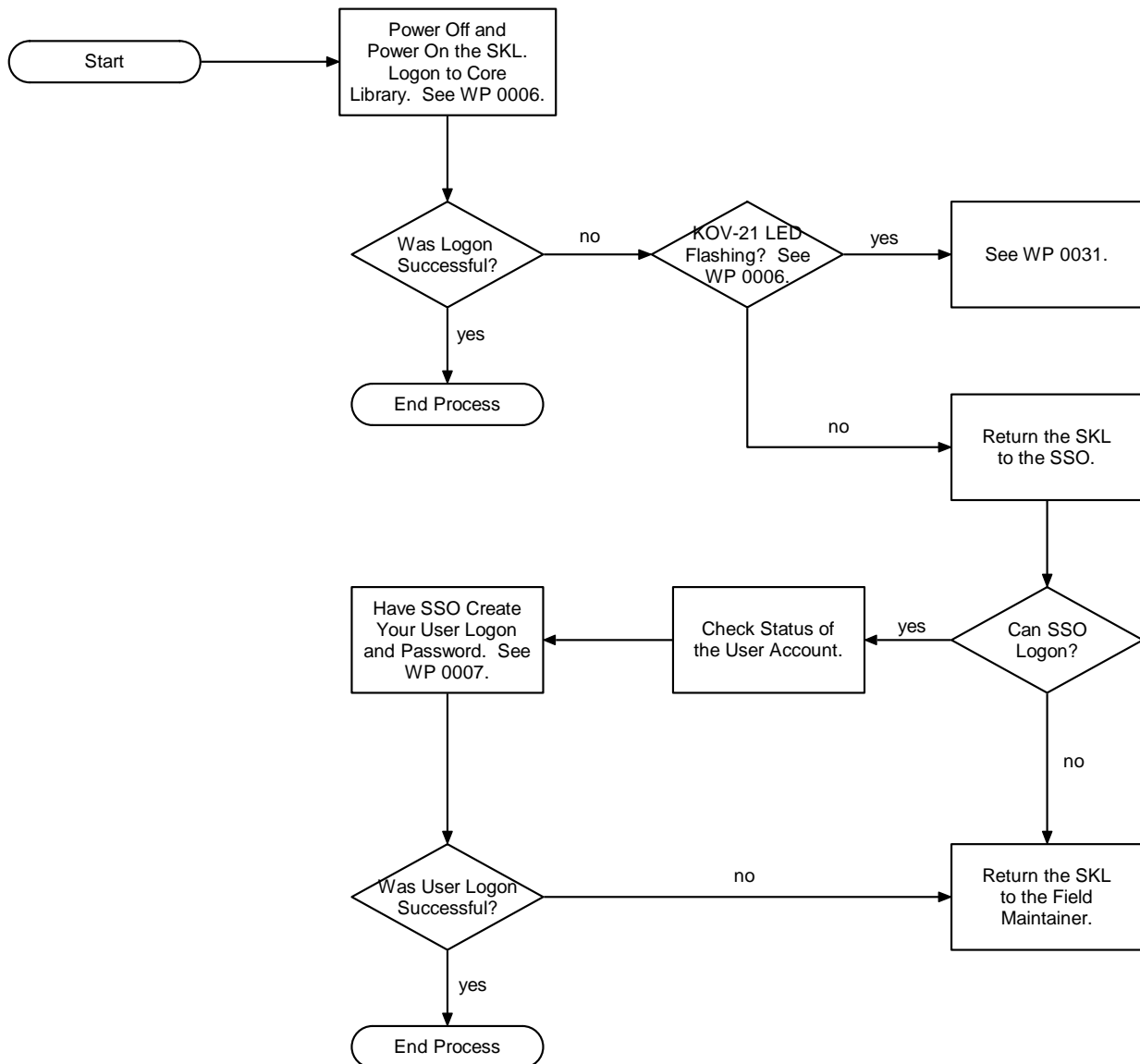


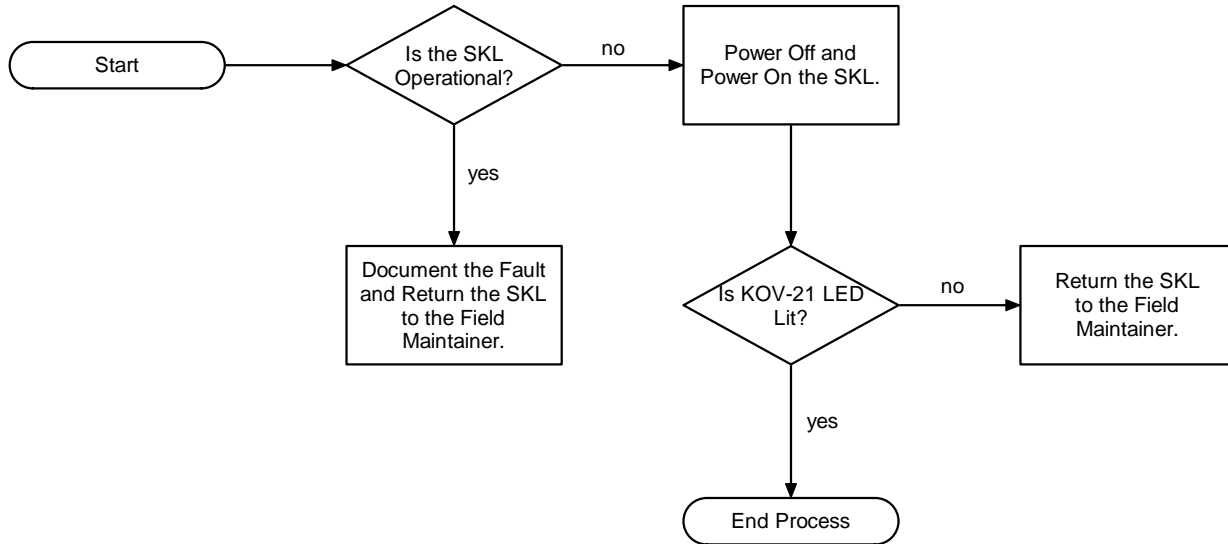
Figure 3. User Cannot Logon to the Core Library.

**KOV Activity Light Indicator LED Is Not Lit**

**Basic troubleshooting steps:** See Figure 4, KOV Activity Light Indicator LED is not Lit.

- Probable Fault:**
1. If all steps fail to correct the fault, the probable faulty component is the SKL.
  2. If the SKL is fully operational and the KOV indicator light is not lit, the fault is most likely the LED internal to the SKL.

**Corrective Actions:** Document the fault, troubleshooting steps taken (and results, if any) and deliver the SKL to the Field Maintainer.



**Figure 4. KOV Activity Light Indicator LED is not Lit.**

### KOV Activity Light Indicator LED Is Flashing

**Basic troubleshooting steps:** See Figure 5, KOV Activity Light Indicator LED is Flashing.

**Probable Fault:** The SKL has been “zeroized”. This is most likely the result of an intentional (active) Zeroization. The SSO did not logon successfully after 10 consecutive attempts.

**Corrective Actions:** Document the fault, troubleshooting steps taken (and results, if any) and deliver the SKL to the SSO.

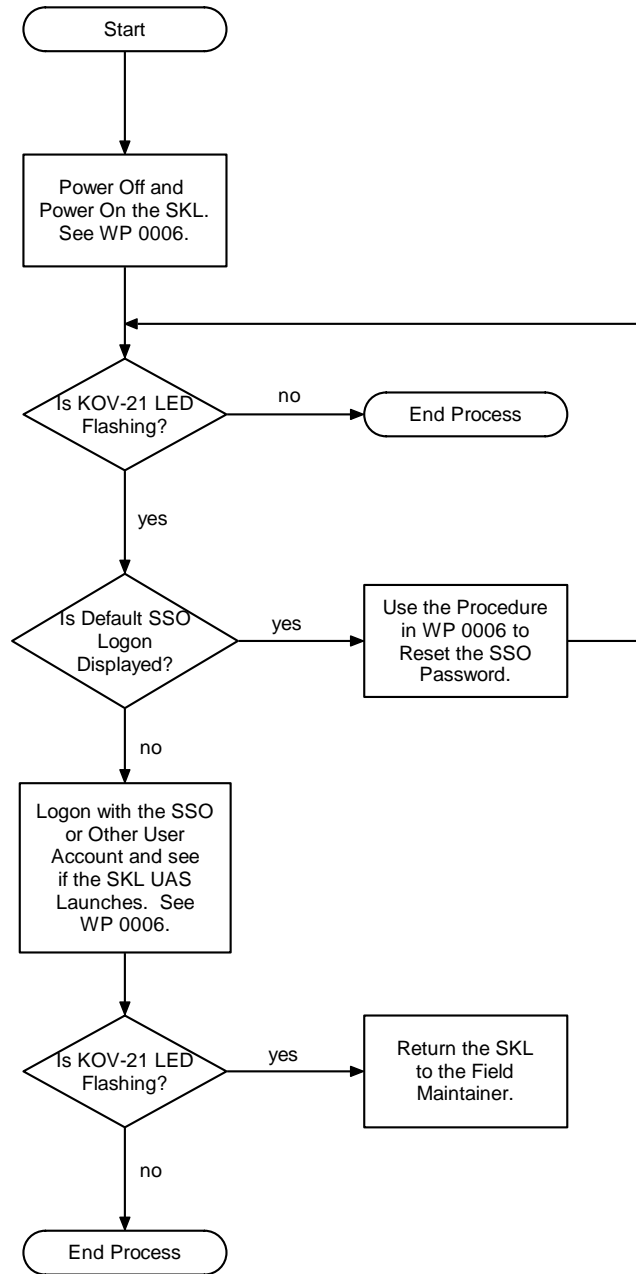


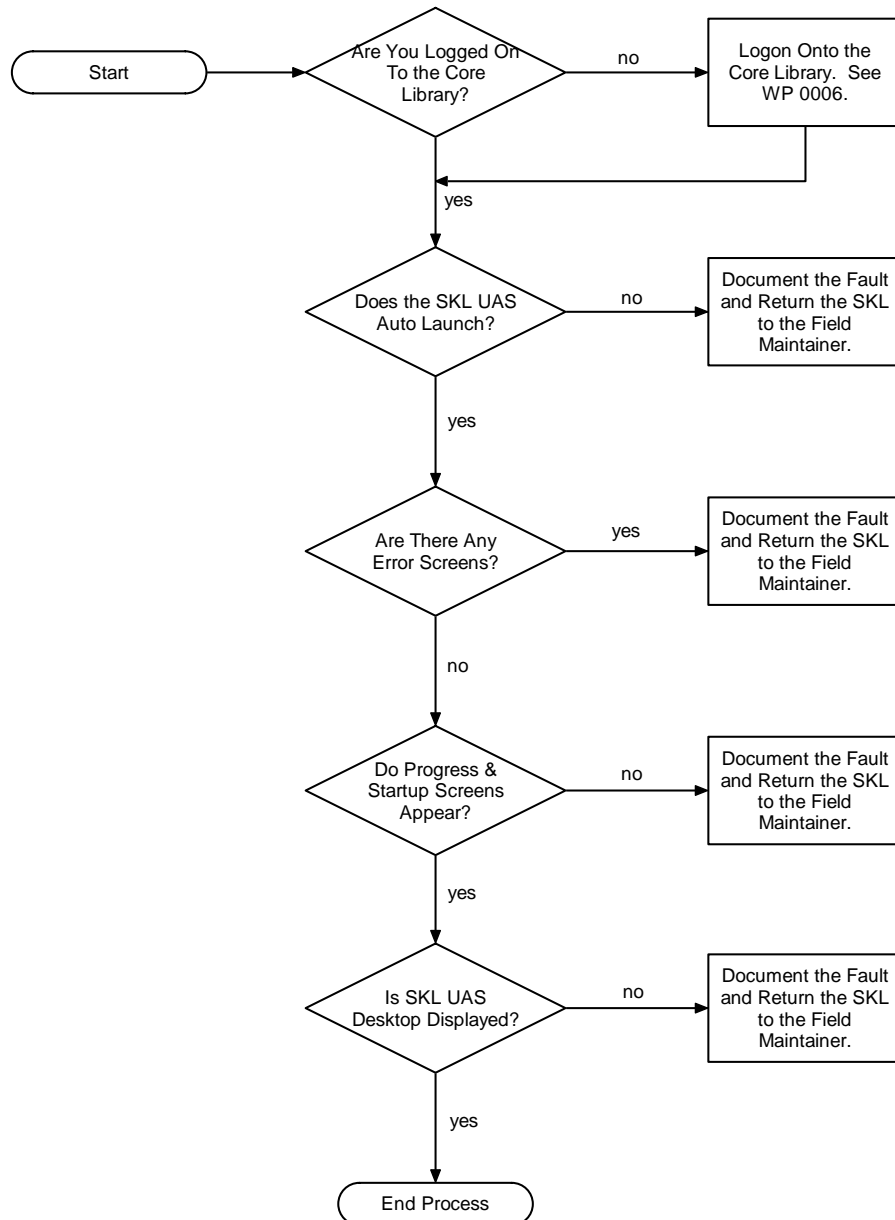
Figure 5. KOV Activity Light Indicator LED is Flashing.

**SKL UAS Does Not Start**

**Basic troubleshooting steps:** See Figure 6, SKL UAS does not Start.

**Probable Fault:** If all steps fail to correct the problem, the probable faulty component is the SKL.

**Corrective Actions:** Document the fault, troubleshooting steps taken (and results, if any) and deliver the SKL to the SSO or Field Maintainer.



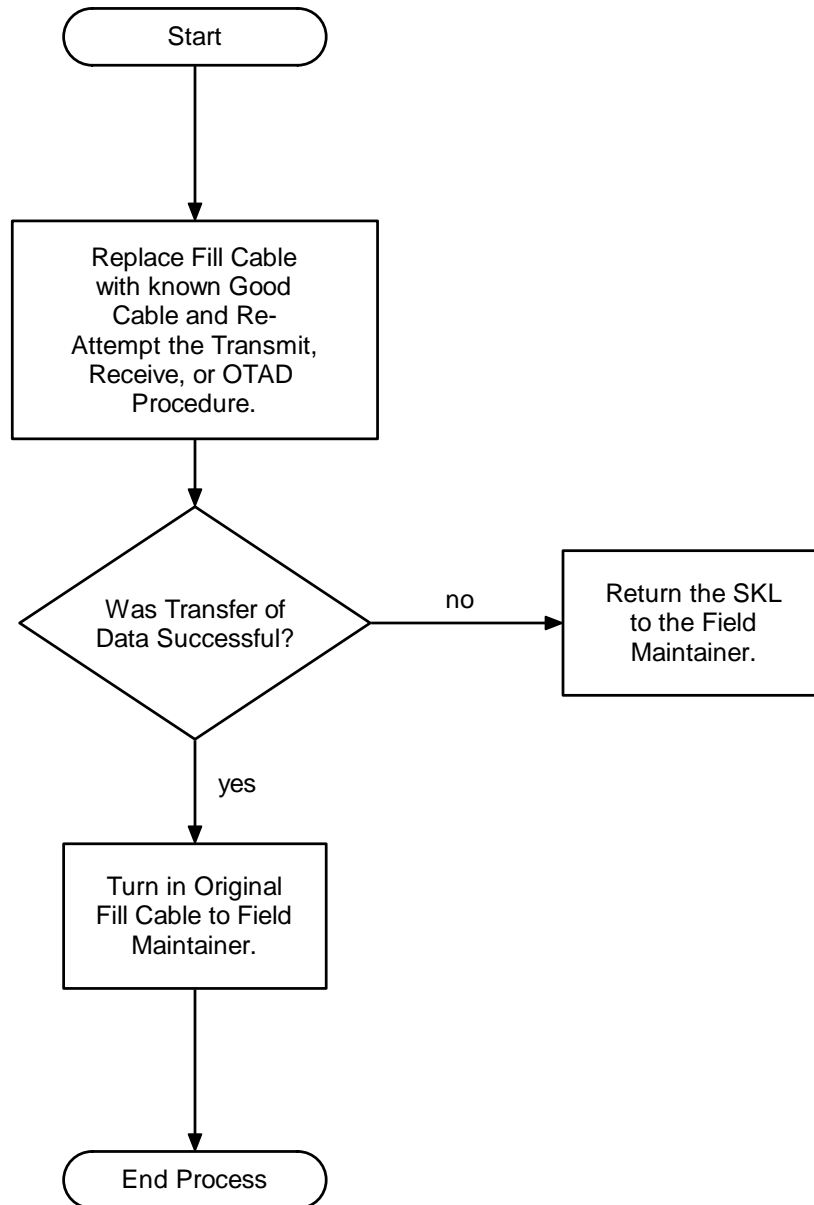
**Figure 6. SKL UAS does not Start.**

**Unable To Transmit Or Receive Data**

**Basic troubleshooting steps:** See Figure 7, Unable to Transmit or Receive Data.

**Probable Fault:** If all steps fail to correct the problem, the probable faulty component is the SKL.

**Corrective Actions:** Document the fault, troubleshooting steps taken (and results, if any) and deliver the Fill Cable or SKL to the Field Maintainer.



**Figure 7. Unable to Transmit or Receive Data.**

### Stylus Inoperative

**Basic troubleshooting steps:** See Figure 8, Stylus Inoperative.

**Probable Fault:**

1. If one stylus is inoperative, the fault is the stylus.
2. If both styli are inoperative, the fault is either both styli are faulty or the SKL is faulty.

**Corrective Actions:** Document the fault, troubleshooting steps taken (and results, if any) and deliver the faulty stylus or SKL to the Field Maintainer.

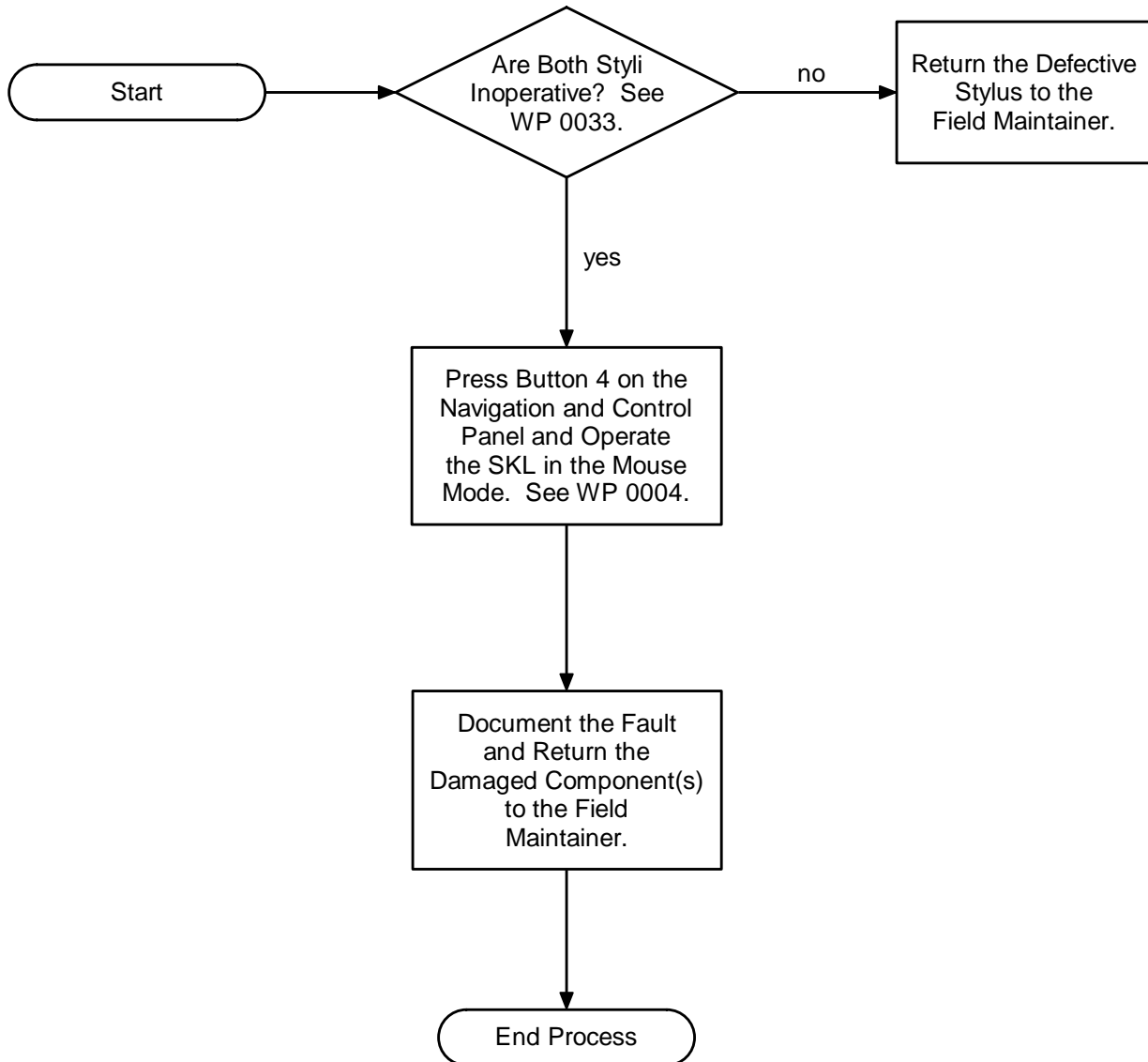


Figure 8. Stylus Inoperative.

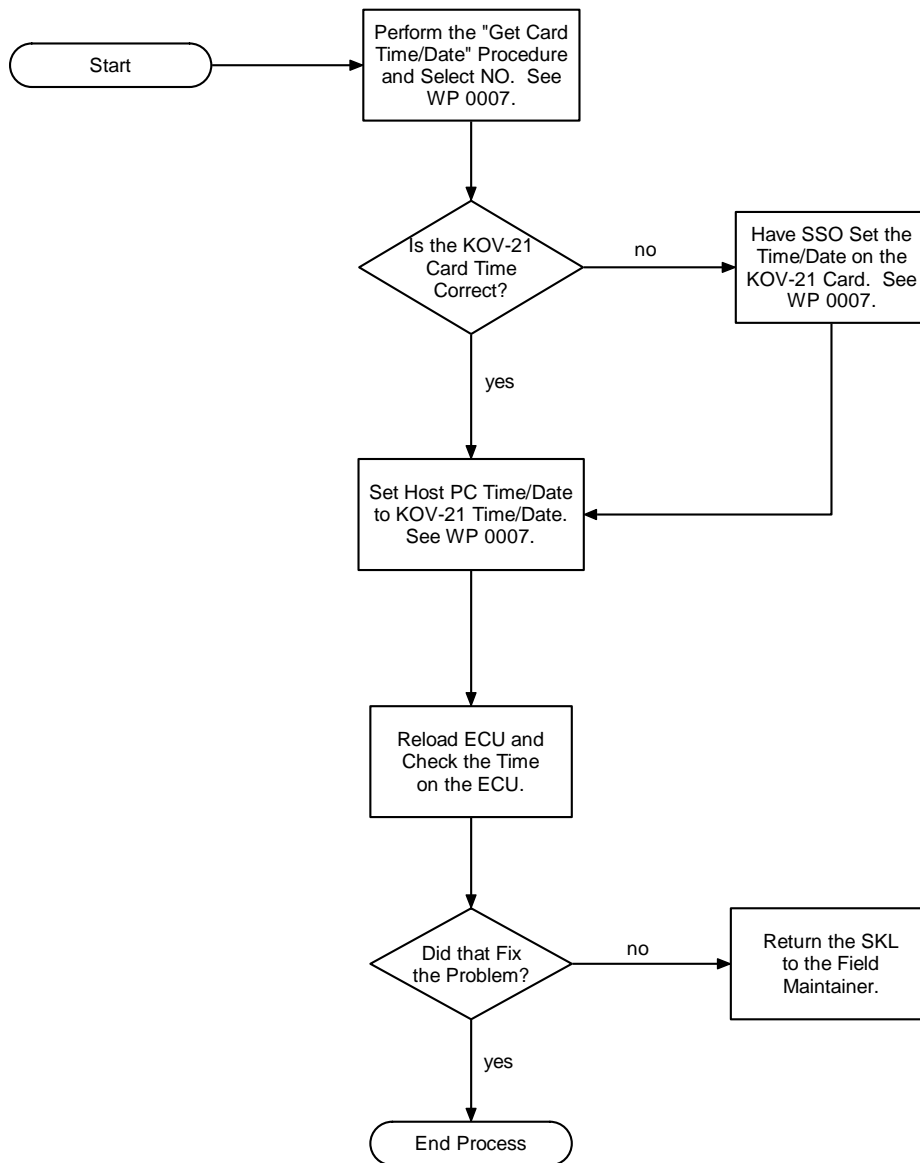
**ECU Equipment Is Loaded With Incorrect Time**

**Basic troubleshooting steps:** See Figure 9, ECU Equipment is Loaded with Incorrect Time.

**Probable Fault:**

1. The User has not performed the task Tools→User→Get Card Time/Date.
2. The SSO has not performed the task Tools→SSO→Set Card Time/Date.

**Corrective Actions:** Follow the Troubleshooting Flow Chart below to correct the Host PC time. If after following the instructions to change the time, and the incorrect time is still loaded to the ECU, send the SKL to the Field Maintenance.



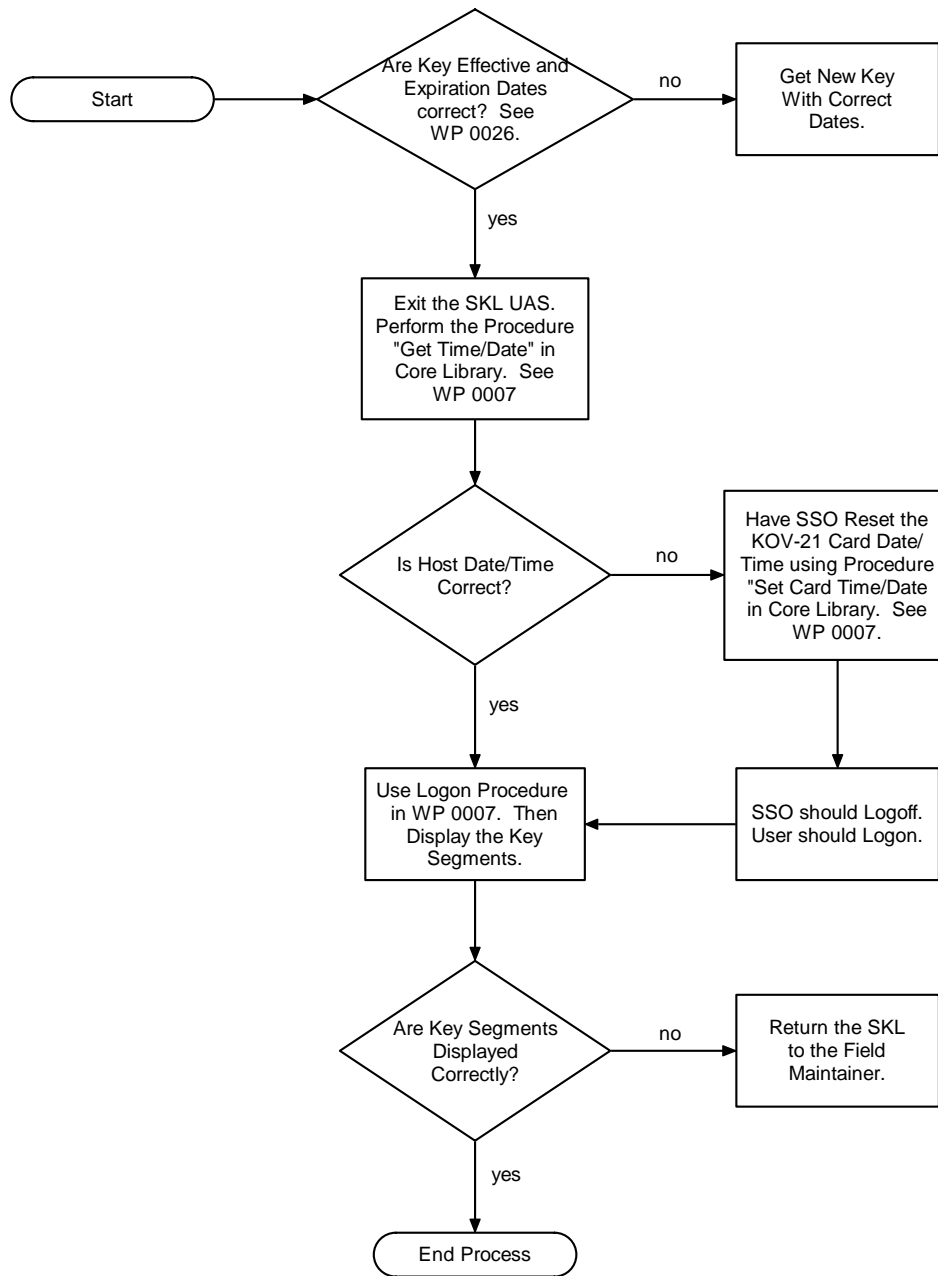
**Figure 9. ECU Equipment is Loaded with Incorrect Time.**

**Key Variables Displayed Indicate They Have Expired When In Fact They Have Not**

**Basic troubleshooting steps:** See Figure 10, Incorrect Key Variable Information Displayed.

**Probable Fault:** The KOV-21 INFOSEC card may have the wrong Time and Date.

**Corrective Actions:** Follow the Troubleshooting Flow Chart below to remove the expired condition from current key variables. If after following the instructions to set the correct time and date on the KOV-21 card, the key variables still show an expired condition, send the SKL to the Field Maintainer.



**Figure 10. Incorrect Key Variable Information Displayed.**

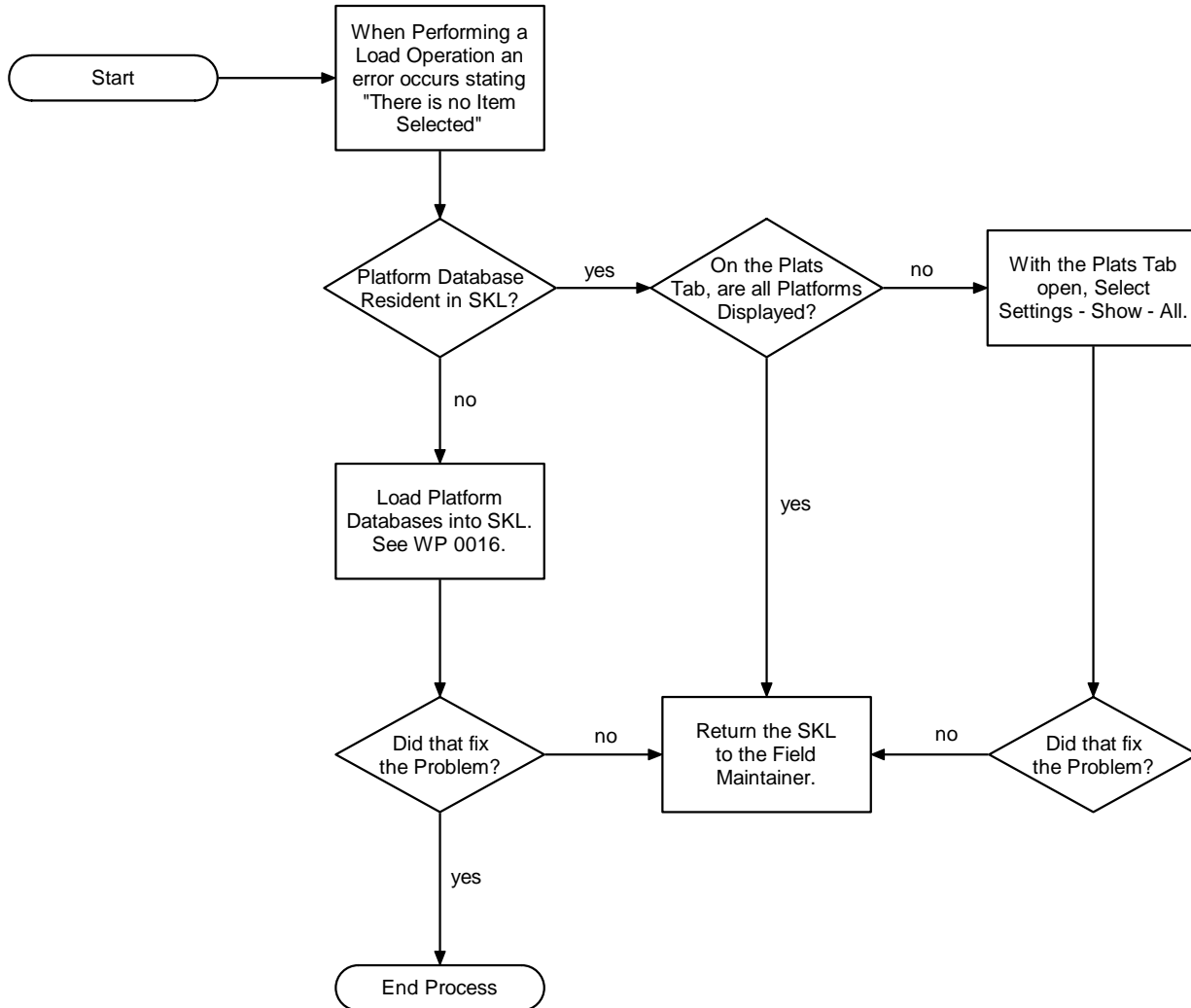
**During A Load Operation An Error Occurs Stating "There Is No Item Selected"**

**Basic troubleshooting steps:** See Figure 1, There is no Item to Load.

**Probable Fault:**

1. There is no Platform database resident in the SKL.
2. The Platforms are there but just cannot be seen.

**Corrective Actions:** Follow the Troubleshooting Flow Chart below to correct the loading problem. If after following the instructions and you still cannot load equipment, send the SKL to the Field Maintainer.



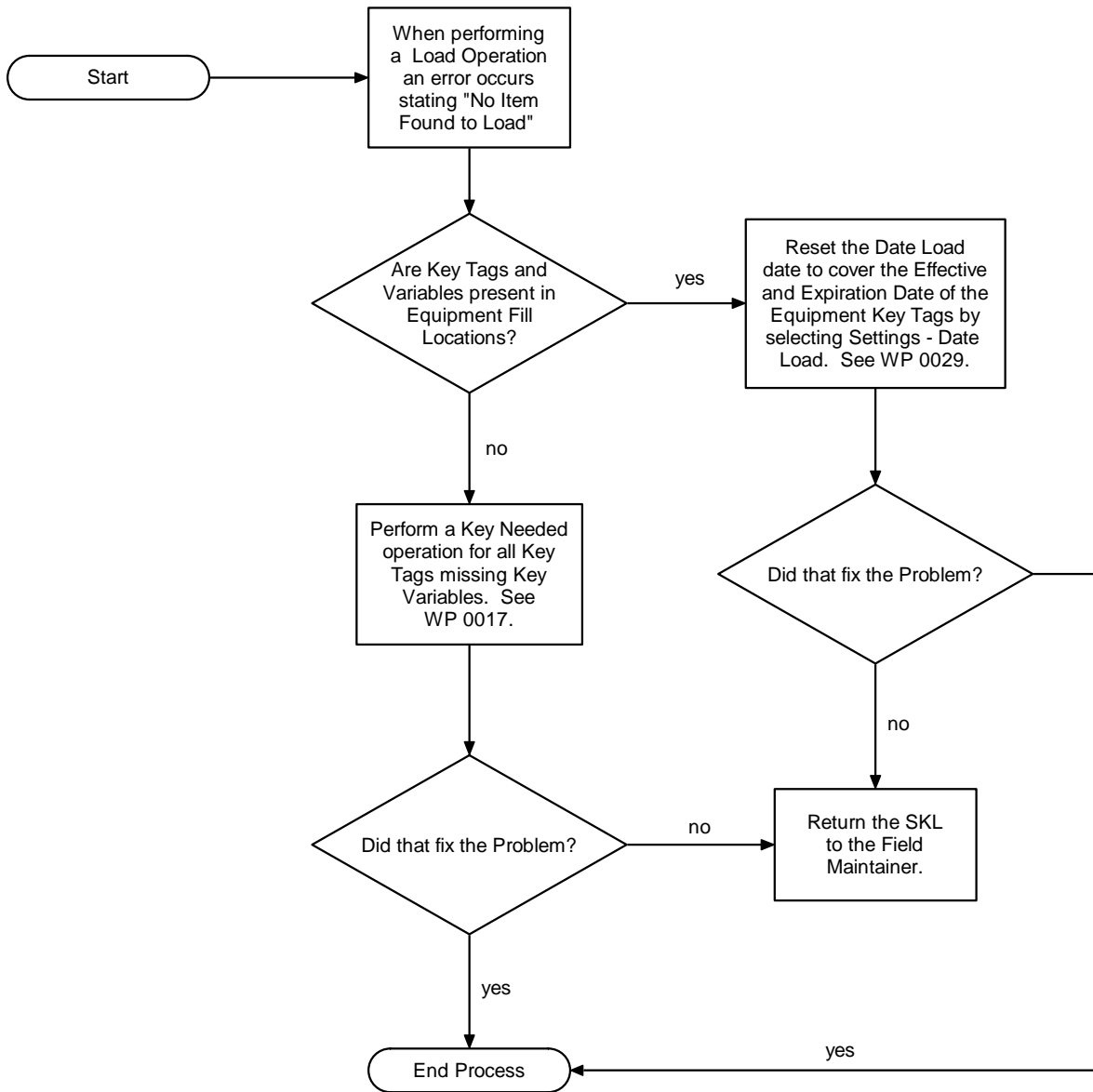
**Figure 11. There is No Item Selected.**

**During A Load Operation An Error Occurs Stating "No Item Found To Load"**

**Basic troubleshooting steps:** See Figure 12, No Item Found to Load.

- Probable Fault:**
1. View the equipment fill location for the presence of a key tag and key variable.
  2. Reset the Date Load date to cover the effective and expiration date of the key tags.

**Corrective Actions:** Follow the Troubleshooting Flow Chart below to correct the loading problem. If after following the instructions and you still cannot load equipment, send the SKL to the Field Maintainer.



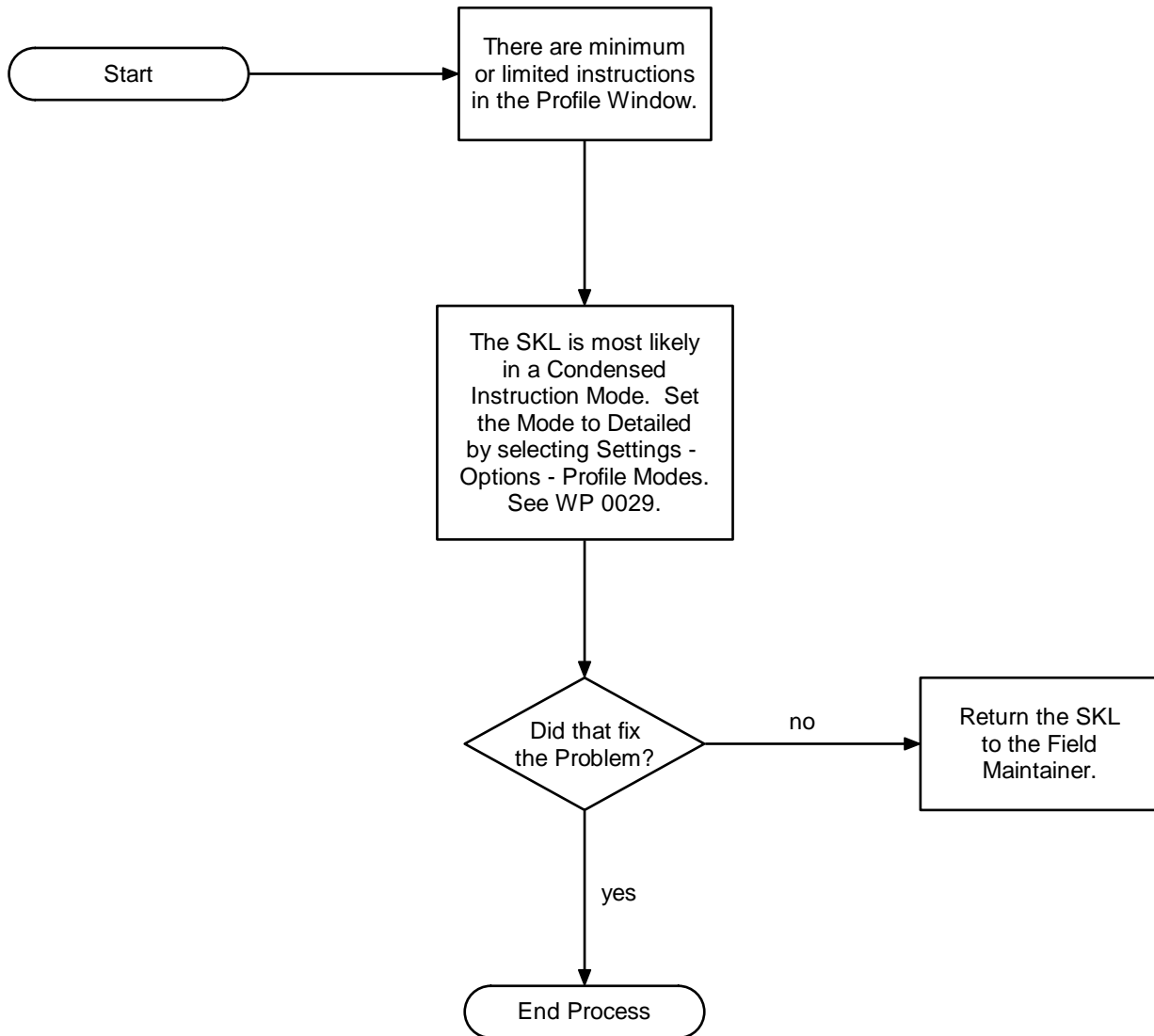
**Figure 12. No Item Found to Load.**

**During A Transmit Operation There Is Minimum Or Limited Instructions On The Profile Window**

**Basic troubleshooting steps:** See Figure 13, Minimum or Limited Instructions.

**Probable Fault:** This condition is most likely caused by the SKL being in a Condensed Instruction Mode.

**Corrective Actions:** Follow the Troubleshooting Flow Chart below to correct the lack of information on the Profile window. If after following the instructions and you still cannot see the instructions, send the SKL to the Field Maintainer.



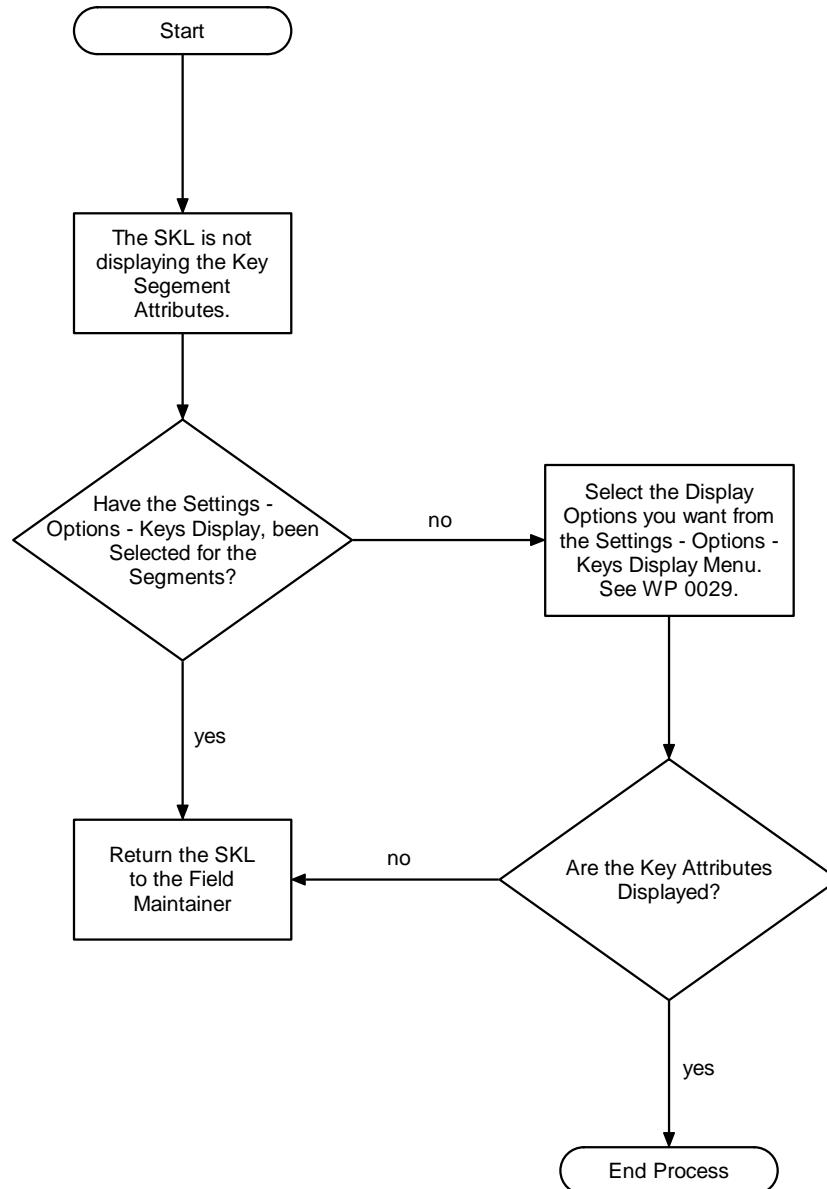
**Figure 13. Minimum or Limited Instructions on the Profile Window.**

**Key Tag Or Key Variable Attributes Are Not Displayed**

**Basic troubleshooting steps:** See Figure 14, Key Tag or Key Variables not Displayed.

**Probable Fault:** This condition is most likely caused by the SKL variable options not being selected.

**Corrective Actions:** Follow the Troubleshooting Flow Chart below to correct the lack of information concerning the Key Tag or Key Variable. If after following the instructions and you still cannot see the desired information, send the SKL to the Field Maintainer.



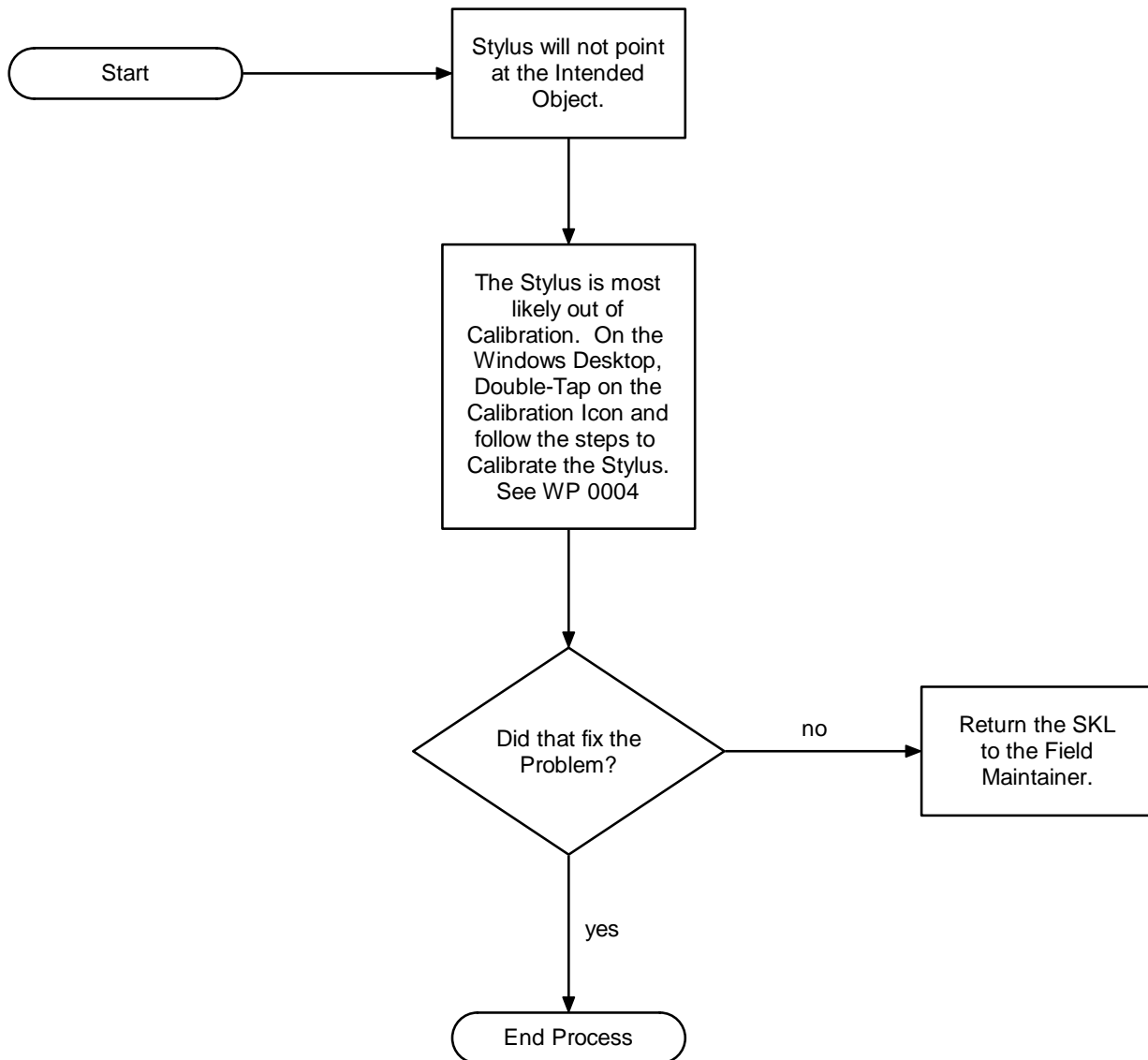
**Figure 14. Key Tag or Key Variable Attributes are not Displayed.**

**Stylus Will Not Point To Intended Object**

**Basic troubleshooting steps:** See Figure 15, Stylus will not Point to Intended Object.

**Probable Fault:** This condition is most likely caused by the Stylus being out of calibration.

**Corrective Actions:** Follow the Troubleshooting Flow Chart below to correct the Stylus' pointing problems. If after following the instructions and you still cannot point to the intended object, send the SKL or Stylus to the Field Maintainer.



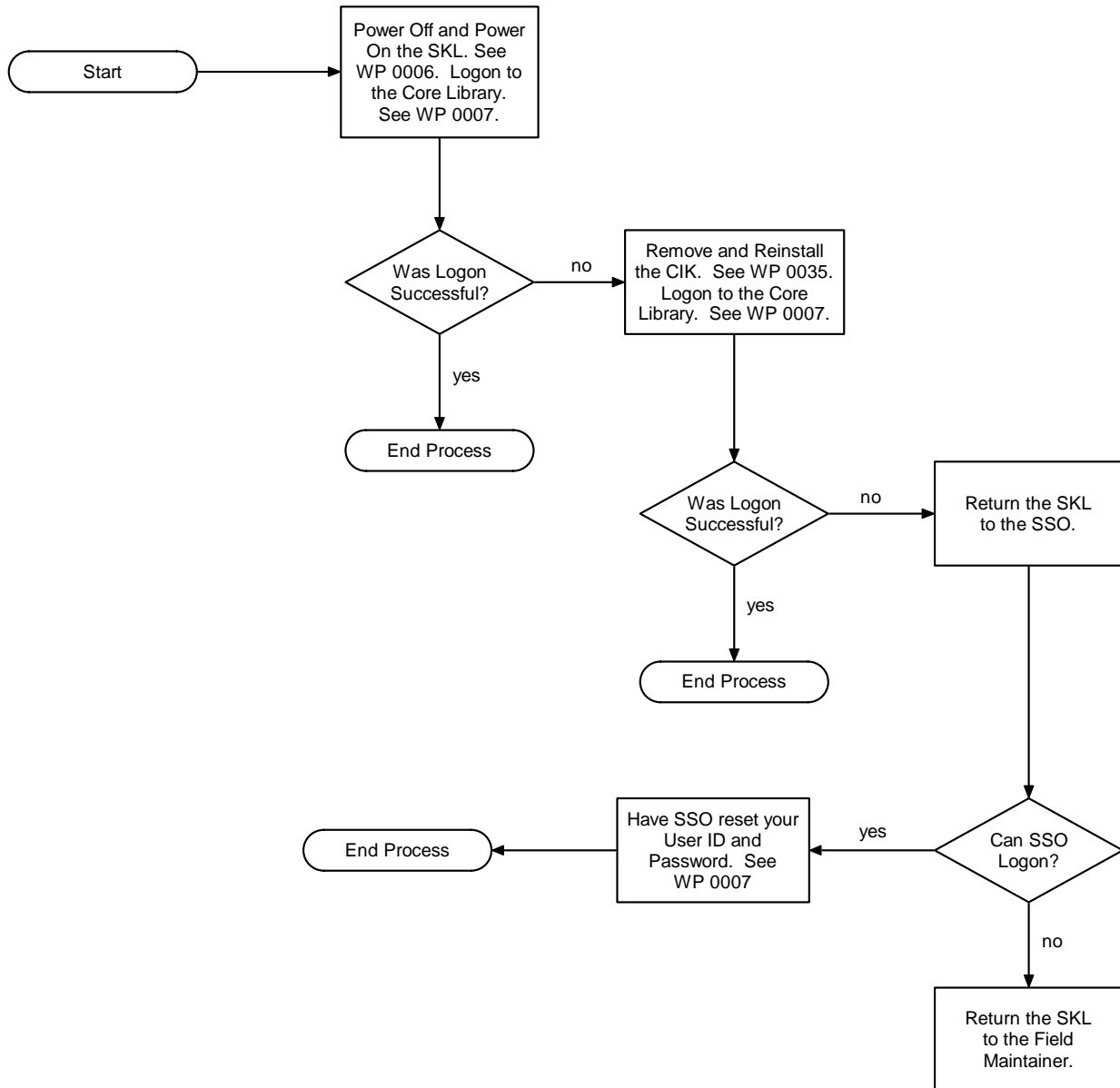
**Figure 15. Stylus will not Point to Intended Object.**

**Cannot Logon To The Core Library With A Valid Account And Password**

**Basic troubleshooting steps:** See Figure 16, Cannot Logon to the Core Library.

**Probable Fault:** This condition is most likely caused by not having a CIK in the SKL.

**Corrective Actions:** Follow the Troubleshooting Flow Chart below to correct the specific logon failure as noted in the Flow Chart. If after following the instructions and you still cannot Logon, send the SKL to the Field Maintainer.



**Figure 16. Cannot Logon to the Core Library.**

### SKL Display Is Black

**Basic troubleshooting steps:** See Figure 17, SKL Display is Black.

**Probable Fault:** This condition is most likely caused by depressing button 3 changing the display to Night Vision Mode.

**Corrective Actions:** Follow the Troubleshooting Flow Chart below to correct display characteristics. If after following the instructions and you still cannot change the display characteristics, send the SKL to the Field Maintainer.

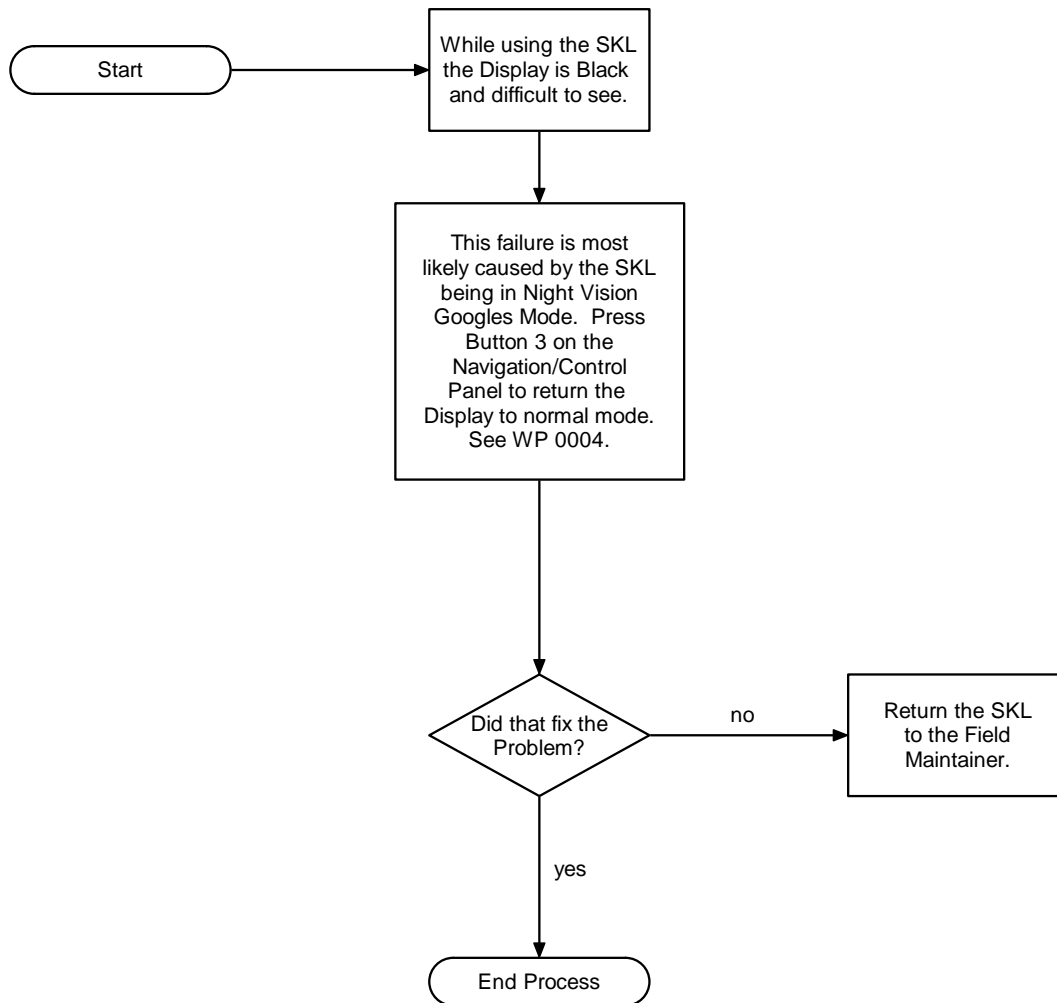


Figure 17. SKL Display is Black.

END OF TASK

END OF WORK PACKAGE



OPERATOR MAINTENANCE  
CORE LIBRARY AND SKL UAS ERROR/INFORMATION MESSAGES  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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OPERATOR MAINTENANCE  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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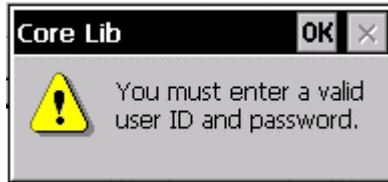
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ERROR/INFORMATION MESSAGES

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**Core Library and SKL UAS Error/Information Messages**

There are a number of error messages that will come up identifying to the user an incorrect action or an error while attempting a process. The error messages below are by no means all of the error messages contained in the software for the Core Library and SKL UAS. These are however some of the most common messages seen. An explanation will be given as to why the error message was generated and what you must do to eliminate the error message.



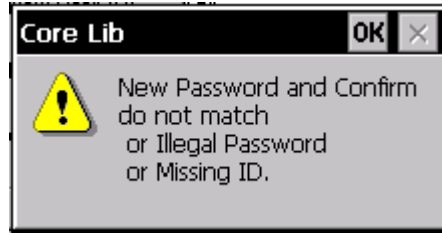
**Figure 1. Enter Valid User ID and Password.**

1. The error message displayed above is telling the user of the SKL that they must enter a valid User ID and Password to gain access to the system. Make sure that you have a valid account created for you and that you know the correct password for the account. If you cannot remember the User ID and/or Password, contact the SSO and have them reset your account. If you do not have an account and require an account have the SSO create one for you. To dismiss the window tap on the **OK** button.



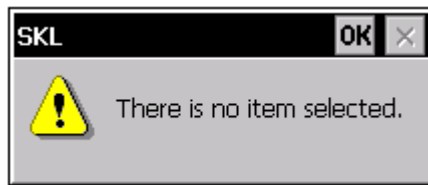
**Figure 2. Create User Failed.**

2. The error message displayed above is telling the SSO of the SKL that they must enter a valid User ID and Password to create a new account. Spaces are not allowed in the User ID. The Password field must have a minimum of 6 characters and no more than 12 characters. To dismiss the window tap on the **OK** button.



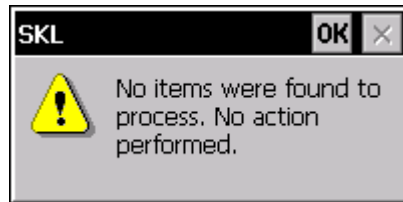
**Figure 3. New Password and Confirm do not Match.**

3. The error message displayed above is telling the SSO of the SKL that they must enter the same Password twice and they must match to create a new account. Or the Password chosen for the account is an illegal Password or there is no User ID associated with the Password. To dismiss the window tap on the **OK** button.



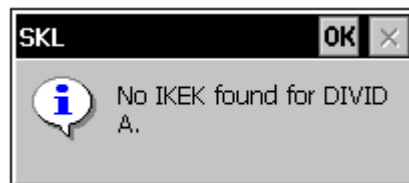
**Figure 4. There is no Item Selected.**

4. The error message displayed above is telling the user of the SKL that during the procedure File→Transmit→Load, no key variable is assigned to the Fill locations on the equipment. Make sure that you select the type of database you wish to load or insure that your SKL has the correct database items in it before starting the mission. To dismiss the window tap on the **OK** button.



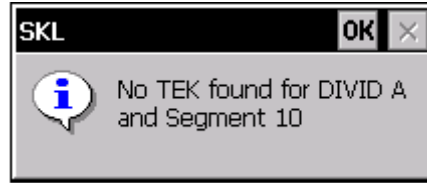
**Figure 5. No Items Found to Process.**

5. The error message displayed above is telling the user of the SKL that during the procedure File→Transmit→Load, no database was selected or there are no Key Variables assigned to equipment Fill locations. To resolve this error condition either select a database or assign keys to the equipment Fill locations. Therefore no action was performed. To dismiss the window tap on the **OK** button.



**Figure 6. No IKEK Found.**

- The Information message displayed above is telling the user of the SKL that during the procedure File→Transmit→Load EPLRS that the IKEK for a particular Division ID was not found in the database. To correct this condition, make sure that you have the necessary keys in your SKL UAS database before attempting to load the EPLRS equipment. To dismiss the window tap on the **OK** button.



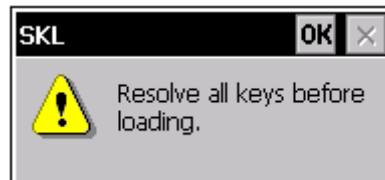
**Figure 7. No TEK Found.**

- The error information displayed above is telling the user of the SKL that during the procedure File→Transmit→Load EPLRS that the TEK for a particular Division ID and Segment # was not found in the database. To correct this condition, make sure that you have the necessary keys in your SKL UAS database before attempting to load the EPLRS equipment. To dismiss the window tap on the **OK** button.



**Figure 8. No TrKEKs Exist.**

- The error message displayed above is telling the user of the SKL that during the procedure File→Transmit→Load, the key variable is encrypted and no decryptor (TrKEK) is loaded in the SKL. To resolve this error condition, fill the SKL with the correct TrKEK from the LCMS Workstation. To dismiss the window tap on the **OK** button.



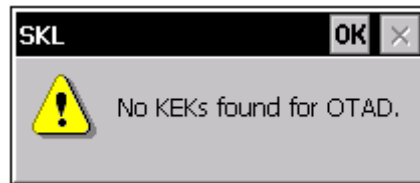
**Figure 9. Resolve All Keys Before Loading.**

- The error message displayed above is telling the user of the SKL that during the procedure File→Load that there are key tags assigned to equipment that you are attempting to load that do not have any keys. To resolve this error condition, make sure that you have all Key Tags resolved (containing key) before you attempt to perform the Load procedure. To dismiss the window tap on the **OK** button.



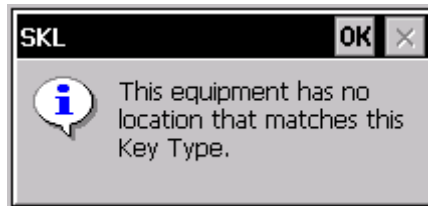
**Figure 10. No Key(s) Needed.**

10. The error message displayed above is telling the user of the SKL that during the procedure File→Receive→Key Needed, that there is no created Key Tag in the database that requires key. To resolve this error condition, make sure that you have created a Key Tag or download a Key Tag from the ACES Workstation before attempting to use this procedure. To dismiss the window tap on the **OK** button.



**Figure 11. No KEK(s) Found For OTAD.**

11. The error message displayed above is telling the user of the SKL that during the procedure File→OTAD→Variable Update (VG) that there are no KEK(s) in the database to complete the procedure. To resolve this error condition, make sure that you have the correct keys in the database for the procedure you are attempting to complete. To dismiss the window tap on the **OK** button.



**Figure 12. Equipment Location Does Not Match Key Type.**

12. The information message displayed above is telling the user of the SKL that during the procedure File→Assign→Keys that there are no keys in the database that correspond to the location on the equipment that the user is attempting to assign. To correct the condition, make sure of what each location on the equipment you are attempting to assign key to, will take. Not all equipment locations are TEKs or KEKs. Refer to the Technical Manual for the equipment you are attempting to load. To dismiss the window tap on the **OK** button.



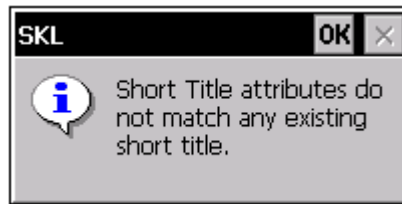
**Figure 13. No Expired Keys Exist.**

13. The error message displayed above is telling the user of the SKL that during the procedure View→Keys→Expired Keys that there are no expired keys in the database or the KOV-21 card date is incorrect. If the KOV-21 card is wrong go to Core Library and ask the SSO to change it to the correct date/time. To dismiss the window tap on the **OK** button.



**Figure 14. No Keys Found To Load.**

14. The information message displayed above is telling the user of the SKL that during the procedure File→Transmit→Load Modern Keys that there are no Modern Keys in the database. To resolve this condition, make sure that you have the correct keys in the database for the procedure you are attempting to complete. To dismiss the window tap on the **OK** button.



**Figure 15. Attributes Do Not Match.**

15. The information message displayed above is telling the user of the SKL that during the procedure File→Receive→Key Needed from the LCMS Workstation, that the Short Title attributes you are attempting to resolve in the SKL through the Key Needed procedure does not match the Short Title attributes being downloaded from the LCMS Workstation. To resolve this condition make sure that the attributes of the Key Tag in the SKL match exactly to the Key being downloaded from the LCMS Workstation. To dismiss the window tap on the **OK** button.



**Figure 16. There is no Record.**

16. The information message displayed above is telling the user of the SKL that during the procedure View→SOI→Suffix/Expander that there is no SOI in the database for you to view. To resolve this condition, either download an SOI from the ACES Workstation or another SKL/DTD. To dismiss the window tap on the **OK** button.



**Figure 17. Audit Trail Upload Warning.**

17. The information message displayed above is telling the user of the SKL that the Audit Trail in the SKL has reached its limit for uploading to the LCMS Workstation version 5.0. If you no longer wish to see this Warning message, you can stop it from appearing by selecting Settings→Options→Audit. For Army users of the SKL this is not a recommended course of action. You should follow the guidance of the warning message. To dismiss the window tap on the **Close** button.

**END OF WORK PACKAGE**



CHAPTER 4  
PMCS MAINTENANCE INSTRUCTIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0



FIELD MAINTENANCE  
PMCS INTRODUCTION  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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**FIELD MAINTENANCE  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0**

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**PMCS INTRODUCTION**

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**INTRODUCTION**

The operator is required to perform a prescribed series of Preventive Maintenance Checks and Services (PMCS) for the AN/PYQ-10 (C), Simple Key Loader (SKL). The PMCS procedures constitute systematic care, servicing, and inspection of all AN/PYQ-10 (C) SKL components, to maintain the system in good operating condition and to reduce down time by detecting and correcting system troubles. The checks and services are critical to ensure the combat-serviceability and mission-readiness of the AN/PYQ-10 (C) Simple Key Loader. Operator PMCS for the AN/PYQ-10 (C), SKL components is listed in the table and figures of this section.

When performing PMCS always observe the WARNINGS and CAUTIONS appearing at the beginning of this manual and in the PMCS tables. WARNINGS and CAUTIONS appear before applicable procedures. Additionally, the operator must observe any WARNINGS on plates and decals attached to the equipment. Observe all safety notes to prevent serious injury to personnel and damage to equipment.

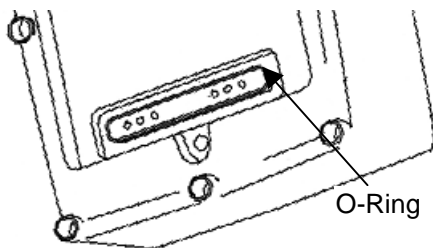
**Routine Services**

Routine checks and services are not listed in the PMCS tables. Routine services should be performed before and after deployment and before storage. These checks and services include the following:

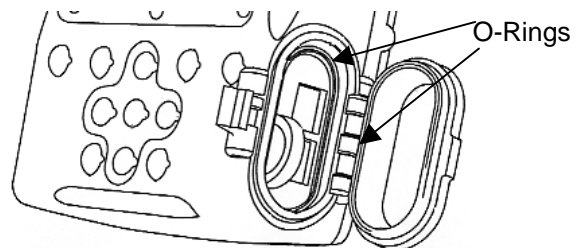
- Cleaning
- Dusting
- Checking for frayed cables
- Checking O-Rings for damage
- Checking for loose or broken knobs
- Checking for damaged connectors
- Checking for any physical damage
- Checking Lanyards for damage

**O-Ring Inspection Criteria**

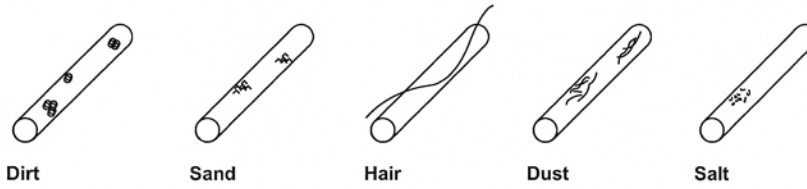
There are three O-Rings on an operational SKL. Figure 1 and 2 indicate where each O-Ring is located. Each one of these O-Rings is important to the safe operation of the SKL. Therefore you should inspect all the O-Rings periodically for damage. Use Figure 3, *O-Ring Criteria*, below to help you determine if the O-Ring needs to be replaced.



**Figure 1. Battery Receptacle O-Ring.**

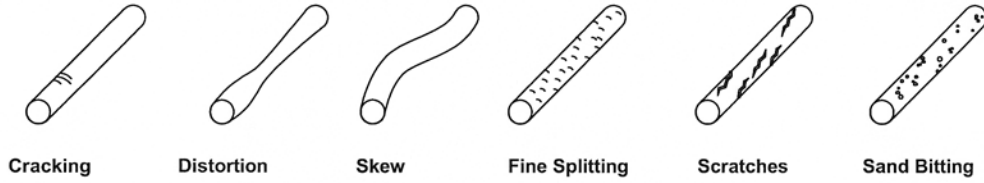


**Figure 2. Side Door O-Rings.**



Check for any dirt, sand, hair, dust and salt

Lightly run your fingertip around a o-ring to check for unapparent dirt.



Check for cracking, distortion, skew, fine splitting, scratches and sand biting.

**Figure 3. O-Ring Criteria.**

Once you have determined that an O-Ring needs to be replaced, notify Field Maintenance and they will validate that the O-Ring needs replacing and then replace the O-Ring.

**END OF TASK**

**END OF WORK PACKAGE**



FIELD MAINTENANCE  
PMCS INSTRUCTIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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FIELD MAINTENANCE  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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PMCS INSTRUCTIONS

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**PREVENTATIVE MAINTENANCE CHECKS AND SERVICES (PMCS)**

PMCS must be performed at specified intervals as shown in the following PMCS table. When operational requirements preclude doing PMCS at the specified time, perform only those services that can be performed on a non-interference basis and follow-up subsequent to mission completion. Deficiencies that cannot be corrected should be documented and reported to unit maintenance personnel. The following items explain the columns in the PMCS tables:

1. **ITEM NUMBER column.** Numbers in this column are for reference. When completing the DA Form 2404, Equipment Inspection, and Maintenance Worksheet, or DA Form 5988E (Automated), include the item number for the check/service indicating a fault. Item numbers also appear in the order that the checks and services are to be completed for the intervals listed.
2. **INTERVAL column.** This column specifies when the procedure is to be done. BEFORE (B) procedures must be completed prior to operating the SKL for its intended mission. DURING (D) procedures must be completed during the time of operation or using the equipment for its intended mission. Procedures with no interval indicated (A) must be done immediately after operating or using the equipment. Other procedures should be completed at the stated intervals.
3. **ITEM TO BE CHECKED OR SERVICED column.** This column provides the location and the item to be checked or serviced. The item location is underlined.
4. **PROCEDURE column.** This column indicates the procedure that must be done (check or service) to the item, to know if the equipment is ready or available for its intended mission or for operation. The procedure must be done at the stated interval.
5. **EQUIPMENT NOT READY/AVAILABLE IF column.** Information in this column identifies what faults will keep the equipment from being capable of performing its primary mission. If the check and service procedures show faults listed in this column, do not operate the equipment. Follow standard operating procedures for maintaining the equipment or reporting the failure.

**NOTE**

**Be sure to observe all notes and special instructions that appear in the PMCS tables.**

The following PMCS figure and table provide instruction for performing operator PMCS on the Simple Key Loader. Each system hardware component is addressed individually.

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**WARNING**

**Trichlorotrifluoroethane, trichloroethane, and similar chemical solvents will no longer be used for ordinary cleaning of equipment. These substances threaten public health and the environment by destroying ozone in the earth's upper atmosphere. Suitable non-hazardous cleaning materials will be used instead, such as a clean cloth, water, and mild detergent.**

PMCS applies to all components of the AN/PYQ-10 (C) Simple Key Loader. Each component has its own separate component listing which includes cables, adapters, and other items required to support the proper operation of each particular component.

Table 1, PMCS Instructions, lists PMCS requirements for the AN/PYQ-10 (C) Simple Key Loader. See item numbers in Figure 1, *PMCS Requirements for the AN/PYQ-10 (C) Simple Key Loader*, for reference. The table separates the procedures by equipment group.

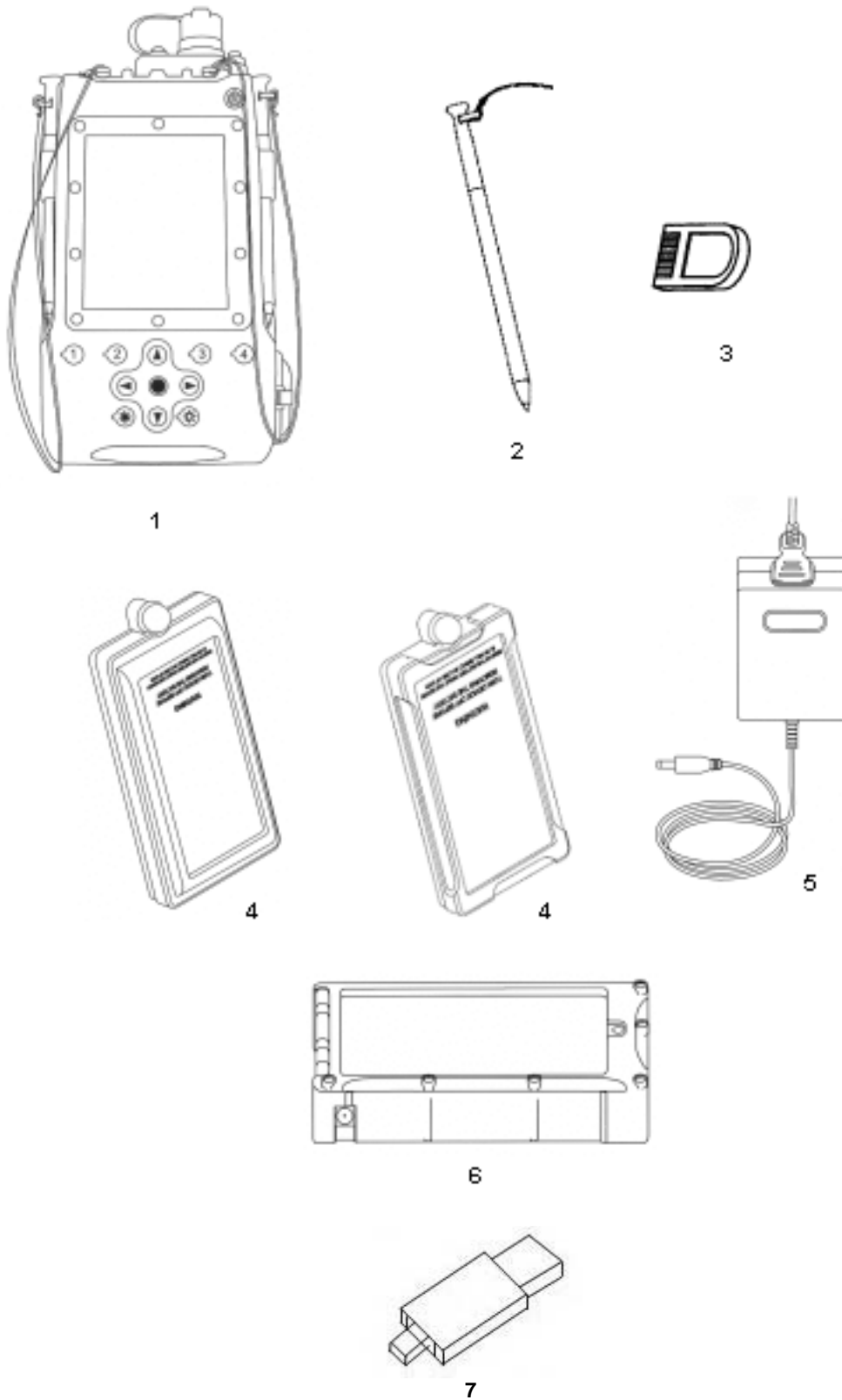


Figure 1. PMCS Requirements for the AN/PYQ-10 (C) Simple Key Loader.

Table 1. PMCS Instructions.

Item No.	Interval			Item To Be Checked Or Serviced	Procedure	Equipment Not Ready/Available If
	B	D	A			
1	B	D	A	<u>SKL Exterior</u>	Inspect for dirt, oil, grease, and fingerprints. Clean as required. Inspect LCD for cracks, chips, and surface irregularities. Notify Field Maintenance (FM) if LCD is cracked, chipped, or has surface irregularities.	LCD is cracked to the point that the image cannot be seen.
2	B	D	A	Stylus	Inspect for dirt, oil, grease, or other foreign material that could render the Stylus unusable.	Stylus cannot be used to make selections within any of the software components loaded on the SKL.
1, 3, 5, and 6	B	D	A	<u>Connectors/Plugs/Jacks Connector /Plug/Jack Pins</u>	Inspect connectors, plugs, and jacks for damaged, broken, missing, or corroded pins and contacts. Notify FM to treat corrosion, if required. Notify FM for replacement if pins are damaged, broken, or missing pins.	Any connector/plug/ Jack pins are damaged, missing, or severely corroded.
				Connector/Plug/Jacks Insulating Bodies	Inspect the insulating bodies of all connectors, plugs, and jacks for cracks, breakage, or exposed wiring. Notify FM for replacement if required.	The insulating body on any connector, plug, or jack has broken insulation or has wiring exposed.
5	B		A	AC Power Connector	Inspect connector for damaged, bent, or corroded pins.	AC adapter connector is unserviceable due to pins being damaged, bent, missing, or corroded.

Table 1. PMCS Instructions. (continued)

Item No.	Interval			Location or Item to Check/Service	Procedure	Not Fully Mission Capable If
	B	D	A			
4	B		A	<u>Rechargeable Battery Pack/ Rechargeable Battery Pack Exterior</u>	Inspect the exterior of the battery pack for dents, cracks, unusual bumps and swelling, or liquid leakage. Inspect battery pack connectors for bent, broken, missing, or corroded contacts. Notify FM to exchange any defective battery.	Battery pack has dents, cracks, unusual bumps and swelling, or liquid leakage. Battery pack contacts are bent, broken, missing, or corroded.
6	B		A	<u>Battery Charger Station/ Battery Charger Station Exterior</u>	Inspect Battery Charger connectors, and contacts for damaged, broken, missing, or corroded pins and contacts. Notify FM to treat corrosion, if required. Notify FM for replacement if pins/contacts are damaged, broken, or missing pins.	Any connector/contacts are damaged, missing, or severely corroded.
7	B		A	<u>USB Adapter</u>	Inspect the USB adapter's port connectors for broken, missing, or corroded pins and contacts. Notify FM for replacement if pins/contacts are damaged, broken, or missing pins.	Any connector/contacts are damaged, missing, or severely corroded.

END OF TASK

END OF WORK PACKAGE

CHAPTER 5  
MAINTENANCE INSTRUCTIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0



FIELD MAINTENANCE  
SERVICE UPON RECEIPT  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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**FIELD MAINTENANCE  
SERVICE UPON RECEIPT  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0**

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**INITIAL SETUP**

**Tools and Special Tools**

None

**References:**

SF 361, Transportation Discrepancy Report  
WP 0035

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**SERVICE UPON RECEIPT OF EQUIPMENT**

**Checking Unpacked Equipment**

The first step in the initial setup procedure is to unpack all SKL components. Carefully unpack each component, remove any protective wrapping, and inspect for damage, (e.g., broken or bent connectors or cables). If damage is detected, an assessment should be made to determine the extent of damages and possible adverse effect on system operations. Damaged equipment components should be replaced, if possible, prior to system set up and operation. Be sure to retain all protective wrappings and containers for further use as necessary. It is recommended that the initial setup and start-up of the SKL be done using a stable power source. Place the hardware components on a level surface near an AC power outlet. Assemble the SKL on a flat surface.

1. Inspect the equipment for damage done in shipment. Report damage on SF-361 (Transportation Discrepancy Report).
2. Check the equipment against the packing slip to make sure the equipment is complete. Report all discrepancies in accordance with the instructions given in DA PAM 750-8.

**Standard AN/PYQ-10 (C) Simple Key Loader Configuration**

The standard AN/PYQ-10 (C) Simple Key Loader configuration will include the following items:

- Simple Key Loader (SKL)
- Stylus (2ea)
- Battery Pack (2ea), 1ea High Capacity Lithium Ion Battery and 1ea Standard Lithium Ion Battery
- Battery Charger Assembly
- Crypto Ignition Key (CIK)
- USB Adapter

**END OF TASK**

**END OF WORK PACKAGE**

FIELD MAINTENANCE  
INSTALLATION INSTRUCTIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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FIELD MAINTENANCE  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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INSTALLATION INSTRUCTIONS

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**ASSEMBLING THE AN/PYQ-10(C) SIMPLE KEY LOADER**

Once you have unpacked the SKL (IAW Work Package 0034) and checked the components for damage and completeness, it is now time to assemble the SKL into a functional hand-held computer system. The following procedure should be used to assemble the SKL and charge the battery.

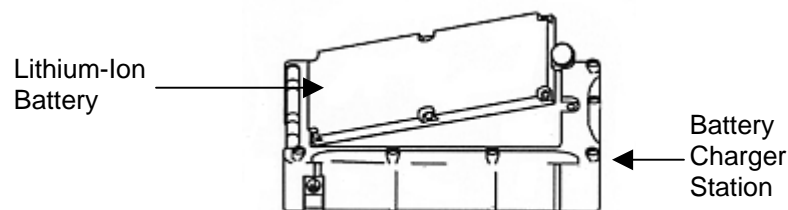
**Standard AN/PYQ-10(C) Simple Key Loader Configuration**

The standard AN/PYQ-10 (C) Simple Key Loader configuration will include the following items:

- Simple Key Loader (SKL)
- Stylus (2ea)
- Battery Pack (2ea), 1ea High Capacity Lithium Ion Battery and 1ea Standard Lithium Ion Battery
- Battery Charger Assembly
- Crypto Ignition Key (CIK)
- USB Adapter

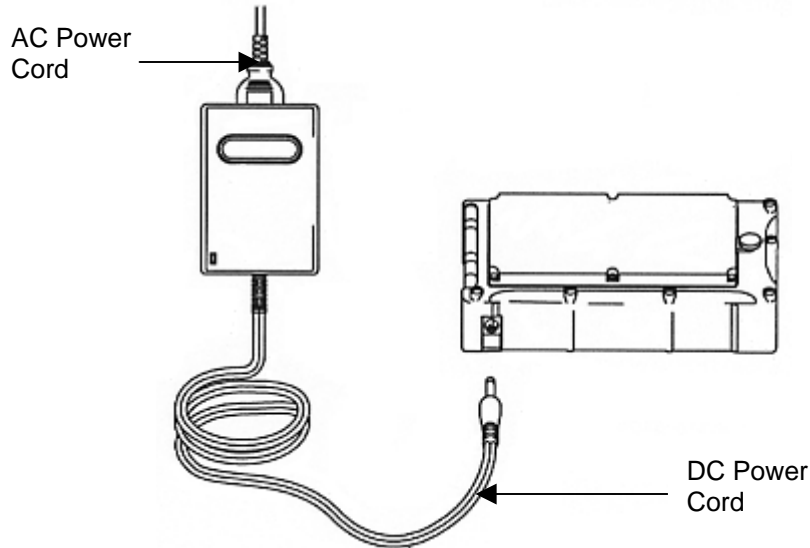
**Assembling the Battery Charger**

1. First install the Lithium-Ion Battery into the Battery Charger Station following the steps below. Use Figure 1, *Attaching the Battery to the Battery Charger Station*, as a guide while following the instructions below.
  - a. Take the battery in your hand and place the top end of the battery into the space provided on the front of the Battery Charger Station.
  - b. Then drop the battery down so that the screw of the knurled knob mates with the threaded embedded nut and tighten the knurled knob in a clock-wise rotation until finger tight.



**Figure 1. Attaching the Battery to the Battery Charger Station.**

2. Follow the steps below to finish assembling the Battery Charger. Use Figure 2, *Battery Charger Assembly*, as a guide while following the instructions below.
  - a. Connect the DC power cord to the Battery Charger Station.
  - b. Connect the female end of the AC Power cord to the AC/DC Converter.



**Figure 2. Battery Charger Assembly.**

- c. Now plug the male end of the AC Power cord into an AC outlet. You should see an orange light at the top of the Battery Charger Station indicating that the Battery is being charged. A fully discharged battery will take > 2 hours to fully charge. When the light on the Battery Charger Station turns green it means that the battery is fully charged.

#### **END OF TASK**

#### **Installing and Removing the Crypto Ignition Key (CIK)**

1. While the battery is being charged, the CIK if not already installed in the SKL can be installed. Locate the CIK that came with your SKL and follow the instructions below to install it. Figure 3, *CIK Installation*, will provide you with a visual reference to follow the instructions.

#### **CAUTION**

**Never attempt to remove or insert the CIK while power is applied to the SKL. Failure to follow these instructions may result in a CIK failure and/or KOV-21 Card failure.**

2. With the SKL facing you, open the CIK Access Door on the right side of the SKL.
3. Pick up the CIK with the rounded end between your fingers. Insert the CIK into the CIK slot. The CIK is reversible and can be inserted either way. Make sure the CIK is firmly seated in the CIK slot.
4. Close and secure the CIK Access door.
5. To remove the CIK, open the CIK Access Door and grab the CIK with your thumb and index finger and pull the CIK from the CIK slot.
6. Close the CIK Access Door.

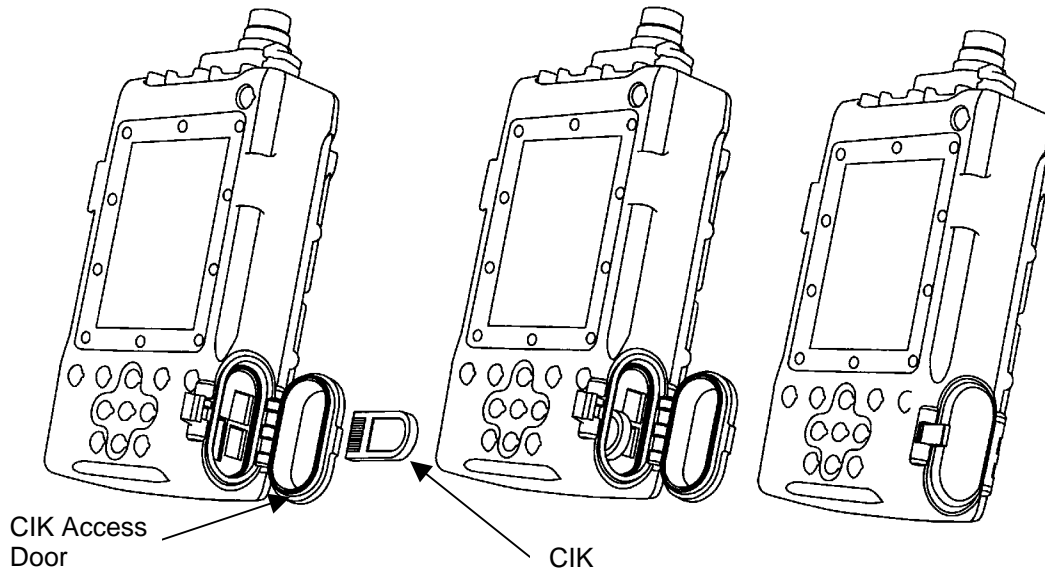


Figure 3. CIK Installation.

## END OF TASK

### Installing the Lithium-Ion Battery into the SKL

To make the SKL operational, portable, and battlefield-useful, the Lithium-Ion Battery must be installed onto the SKL. The following procedure describes the steps to install the battery into the SKL.

1. When charging is complete (a green light on Battery Charger), remove the Lithium-Ion Battery from the Battery Charger Station by turning the thumbscrew counterclockwise until free and lifting the battery from the Battery Charger Station.
2. Take the Battery in your hand and with the knurled knob at the bottom, place the top end of the Battery into the space provided on the back of the SKL as shown in Figure 4, *Battery Installation*.
3. Then drop the Battery down so that the screw of the knurled knob mates with the threaded embedded nut and tighten the knurled knob in a clock-wise rotation until tight. Do not use any tool to tighten the screw as this action can strip the threads on the housing.

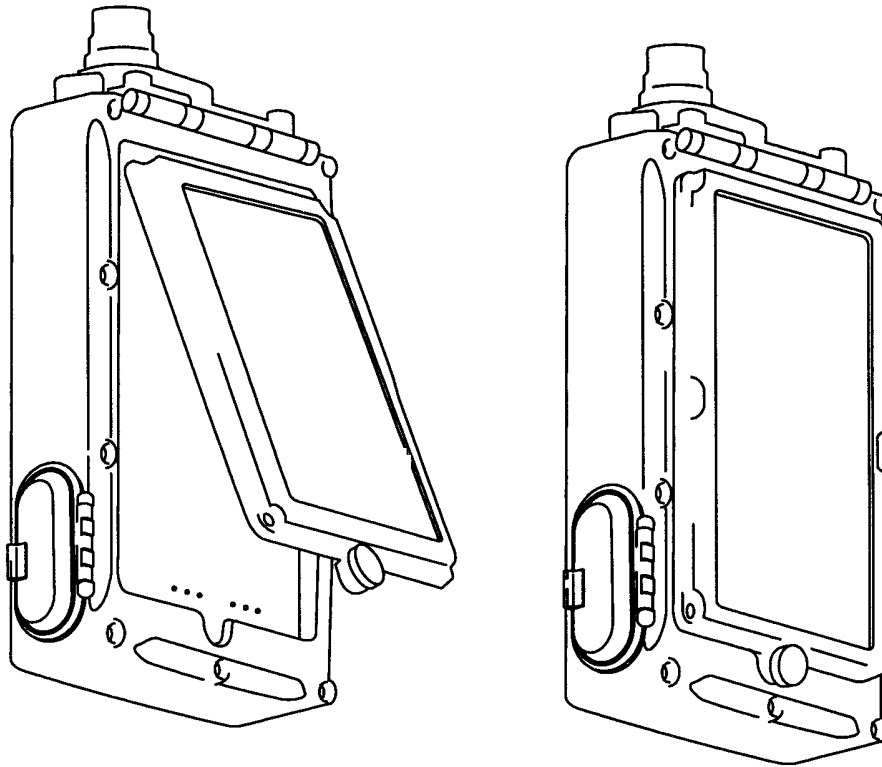


Figure 4. Battery Installation.

#### END OF TASK

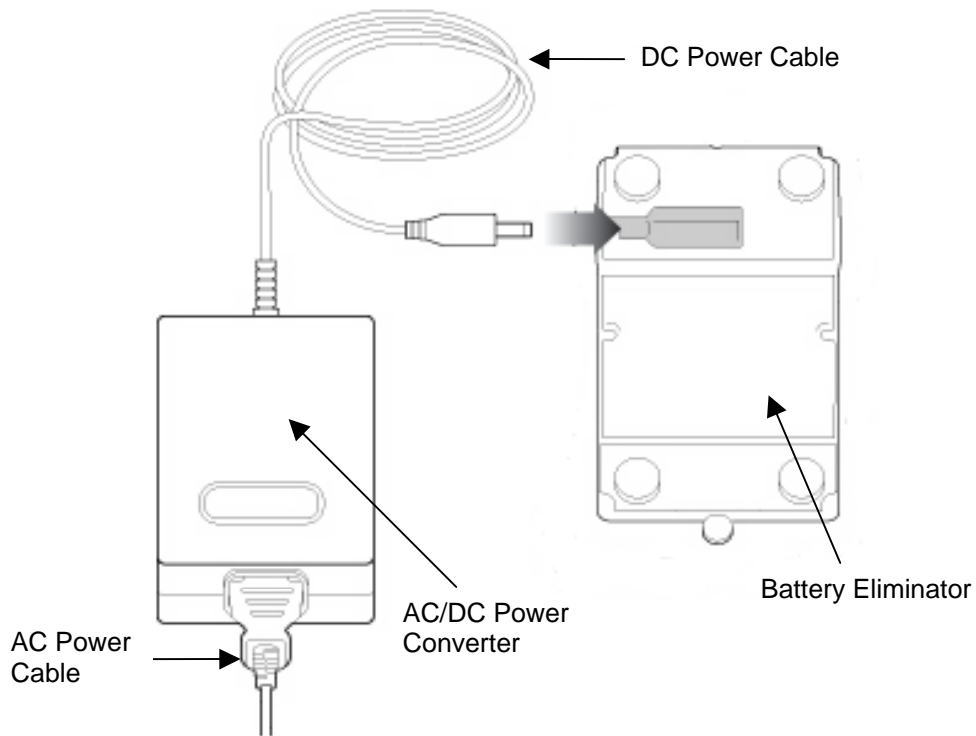
#### Assembling the Optional Battery Eliminator

The Battery Eliminator is an optional item listed on the Components of End Item List. If the unit orders this item and wishes to use it with the SKL, the procedures to assemble and install the Battery Eliminator are provided below.

#### CAUTION

**If you are changing the Battery Eliminator for the Battery and you have data stored in the SKL that you do not want to lose, you must make the change within 2 minutes or you run the risk of losing your database.**

1. To assemble the Battery Eliminator, use Figure 5, *Assembling the Battery Eliminator*, as a guide while following the instructions below.
2. Connect the female end of the AC Power cord to the AC/DC Converter. **Do not connect the male end of the AC Power cord to AC power at this time.**
3. Connect the DC power cord to the Battery Eliminator. Make sure to route the DC power cord through the slot provided so that the SKL will lay flat when the Battery Eliminator is in use.



**Figure 5. Assembling the Battery Eliminator.**

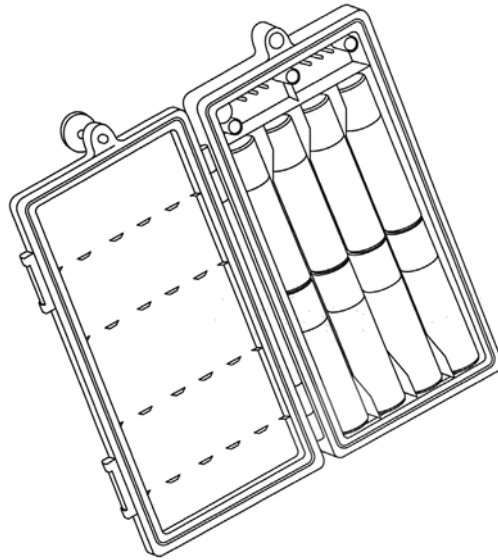
4. Now connect the Battery Eliminator to the SKL the same way that you would connect the Lithium-Ion Battery.
5. Once the Battery Eliminator is installed on to the SKL, turn the SKL over so that the face of the SKL is facing you. Now plug the male end of the AC Power cord into an AC outlet. You may now power up the SKL using the Battery Eliminator as your power source.

#### **END OF TASK**

#### **Assembling the Optional AA Battery Pack**

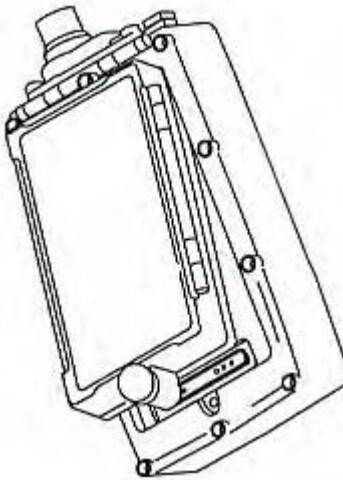
The AA Battery Pack is an optional power source for the SKL. It uses 8 AA batteries that are housed in a battery case that is water tight and can be mated to the back of the SKL in the same manner as the Lithium-Ion Battery Pack. Use the following procedure to install the batteries in the AA Battery Pack and then install the AA Battery Pack to the back of the SKL.

1. Open the AA Battery Pack by releasing the latches on the side of the Battery Pack. Install the AA batteries according to the diagram inside the AA Battery Pack making sure to get the polarity of the AA Batteries correct. You must install eight (8) AA batteries into the AA Battery Pack for it to work and provide proper emergency power to the SKL. Figure 6, *AA Battery Placement* shows how the batteries are to be inserted.



**Figure 6. AA Battery Placement.**

2. Close the AA Battery Pack after the batteries have been installed correctly. Then mate the AA Battery Pack to the back of the SKL as shown in Figure 7, *AA Battery Pack Installation*, below.



**Figure 7. AA Battery Pack Installation.**

3. Make sure the hinge for the AA Battery Pack is on your right side when mating the battery pack to the battery housing. Then tighten the knurled knob clockwise until finger tight. Once the AA Battery Pack is installed, turn on the SKL and check for correct SKL operation.

**END OF TASK**

**END OF WORK PACKAGE**



FIELD MAINTENANCE  
MAINTENANCE INSTRUCTIONS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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**FIELD MAINTENANCE  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0**

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**MAINTENANCE INSTRUCTIONS**

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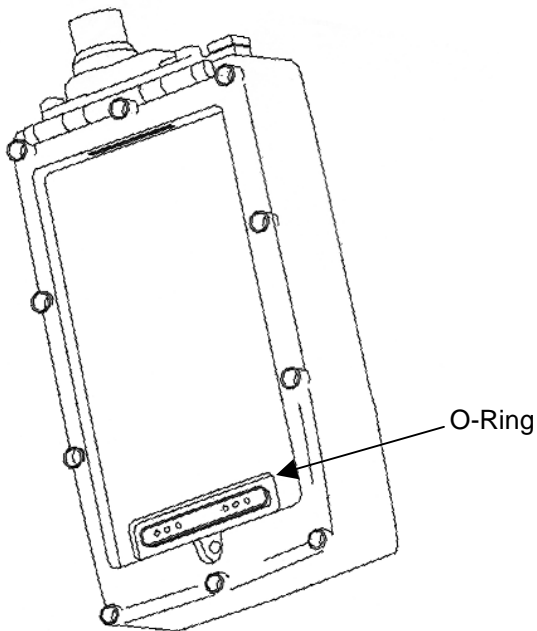
**MAINTENANCE PROCEDURES**

Field maintenance for the AN/PYQ-10 (C), Simple Key Loader (SKL) consists of the Field maintenance representative verifying the device and/or components are defective before these items are evacuated for warranty service. The Field Maintainer is also authorized to replace certain parts on the SKL that are defective or missing. See the Maintenance Allocation Chart (MAC) for a determination of what these parts are.

**Replacing the SKL Battery Receptacle O-Ring**

There is an O-Ring on the backside of the SKL at the bottom of the battery receptacle area. This O-Ring mates up to the Lithium-Ion Battery. This O-Ring forms a moisture barrier around the contacts of the battery and battery receptacle. This O-Ring will wear out over time and through use; therefore, it will need to be replaced periodically. Use the following procedure to replace the O-Ring on the Battery Receptacle.

1. Turn the SKL over so that the back of the SKL is facing you. Make sure that the Lithium-Ion battery is removed from the SKL. Use the Pliers and Alignment Tool shown in the Additional Authorized List (AAL) (WP 0045 Items 6 & 7) to remove the O-Ring from the SKL Battery Receptacle. Look at the picture in Figure 1, *SKL Battery Receptacle O-Ring Replacement*, below.



**Figure 1. SKL Battery Receptacle O-Ring Replacement.**

**CAUTION**

**Do not use any metal object to remove the O-Ring from the SKL Battery Receptacle area. Using a metal object to remove the O-Ring could damage the surface that the O-Ring mates with causing the O-Ring to prematurely fail.**

2. Work the Alignment Tool under the O-Ring so that it can be stretched over the battery contacts and removed.
3. Once the O-Ring has been removed from the SKL Battery Receptacle, use a clean cloth and clean the area the O-Ring was removed from prior to installing a new O-Ring.
4. Now locate the new O-Ring. It should look like the one depicted in Figure 2, *SKL Battery Receptacle O-Ring*, below.



**Figure 2. SKL Battery Receptacle O-Ring.**

5. Once the new O-Ring has been located, inspect the O-Ring for any damage prior to installation.
6. With clean hands, take the new O-Ring and gently stretch it and place it in the space provided in the SKL Battery Receptacle area. Using your fingers make sure the new O-Ring is seated properly. Do not use any adhesive to retain the O-Ring. It should stay in the space provided without any adhesive.
7. Take a clean cloth and gently wipe the battery contacts and surrounding area to remove any dirt, grease, or other substances. The SKL Battery Receptacle is now ready for use.

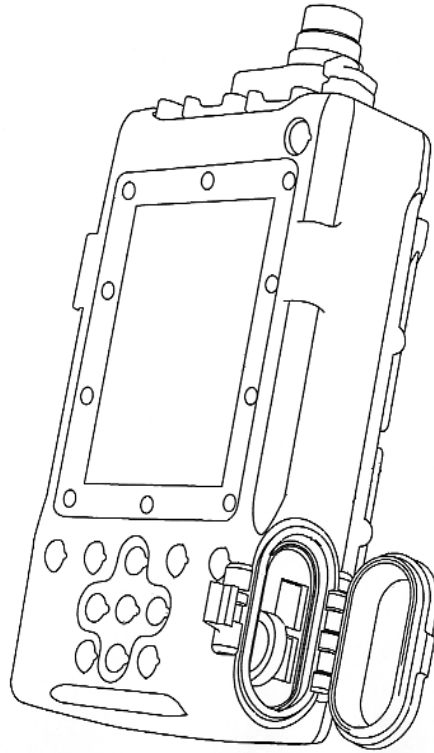
**END OF TASK**

**Replacing the Side Door Radial and Face Seal O-Rings**

The door on the right side of the SKL provides a moisture barrier for the USB ports and the CIK. This moisture barrier is made up of two O-Rings mating together. The first one is on the SKL housing and is called the Radial O-Ring. The second one is on the door and it is called the Compression O-Ring. These O-Rings will wear out over time and through use; therefore, they will need to be replaced periodically. Replace these O-Rings in pairs.

**Replacing the Side Door Radial O-Ring.**

1. Open the side door of the SKL. Use the Pliers and Alignment Tool shown in the Additional Authorized List (AAL) (WP 0045 Items 6 & 7) to remove the Radial O-Ring from the SKL Side Door Housing. Look at the picture in Figure 3, *SKL Side Door Radial O-Ring Replacement*, below to help you with this procedure.



**Figure 3. SKL Side Door Radial O-Ring Replacement.**

**CAUTION**

**Do not use any metal object to remove the O-Ring from the SKL Side Door Housing. Using a metal object to remove the O-Ring could damage the surface that the O-Ring mates with causing the O-Ring to prematurely fail.**

2. Work the Alignment Tool under the O-Ring so that it can be stretched enough to remove it.
3. Once the O-Ring has been removed from the SKL Side Door Housing, use a clean cloth and clean the area the O-Ring was removed from prior to installing a new O-Ring.
4. Now locate the new O-Ring. It should look like the one depicted in Figure 4, *SKL Side Door Radial O-Ring*, below.



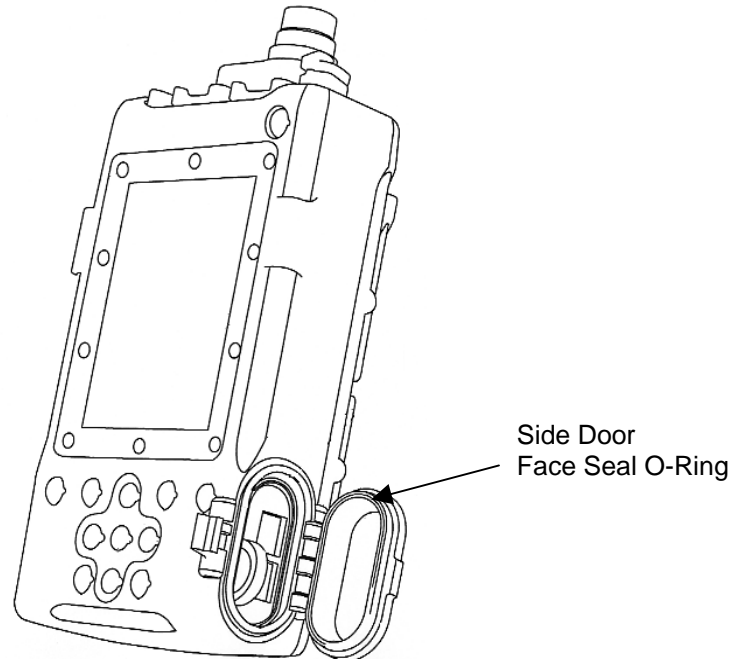
**Figure 4. SKL Side Door Radial O-Ring.**

5. Once the new O-Ring has been located, inspect the O-Ring for any damage prior to installation.
6. With clean hands, take the new O-Ring and gently stretch it and place it in the space provided in the SKL Side Door Housing area. Using your fingers make sure the new O-Ring is seated properly. Do not use any adhesive to retain the O-Ring. It should stay in the space provided without any adhesive.
7. Take a clean cloth and gently wipe the Radial O-Ring to remove any dirt, grease, or other substances.

**END OF TASK**

**Replacing the Side Door Face Seal O-Ring.**

1. Open the side door of the SKL. Use the Pliers and Alignment Tool shown in the Additional Authorized List (AAL) (WP 0045 Items 6 & 7) to remove the Face Seal O-Ring from the SKL Side Door. Look at the picture in Figure 5, *SKL Side Door Face Seal O-Ring Replacement*, below to help you with this procedure.



**Figure 5. SKL Side Door Face Seal O-Ring Replacement.**

**CAUTION**

**Do not use any metal object to remove the O-Ring from the SKL Side Door Housing. Using a metal object to remove the O-Ring could damage the surface that the O-Ring mates with causing the O-Ring to prematurely fail.**

2. Work the Alignment Tool under the O-Ring so that it can be stretched enough to be removed.
3. Once the O-Ring has been removed from the SKL Side Door, use a clean cloth and clean the area the O-Ring was removed from prior to installing a new O-Ring.
4. Now locate the new O-Ring. It should look like the one depicted in Figure 6, *SKL Side Door Face Seal O-Ring*, below.



**Figure 6. SKL Side Door Face Seal O-Ring.**

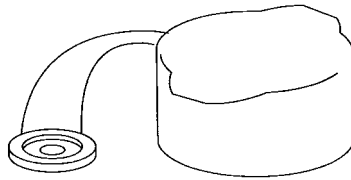
5. Once the new O-Ring has been located, inspect the O-Ring for any damage prior to installation.
6. With clean hands, take the new O-Ring and gently stretch it and place it in the space provided on the SKL Side Door. Using your fingers make sure the new O-Ring is seated properly. Do not use any adhesive to retain the O-Ring. It should stay in the space provided without any adhesive.
7. Take a clean cloth and gently wipe the Radial O-Ring to remove any dirt, grease, or other substances.

## END OF TASK

### Replacing The Fill Port Dust Cover

The SKL Fill Port is protected by a Urethane Dust Cover that keeps out moisture, dirt, and other undesirable substances. This Urethane Dust Cover can be damaged through use. Use the following procedure to replace the Fill Port Dust Cover

1. If the Fill Port Dust Cover is missing or damaged were it will not perform its protective function, then replacement is required.
2. Now locate the new Fill Port Dust Cover that was ordered. It should look like the one in Figure 7, *Fill Port Dust Cover*, below.



**Figure 7. Fill Port Dust Cover.**

3. Follow along with the steps below using Figure 8, *Installation of Fill Port Dust Cover*, as your guide.
  - a. Remove the Urethane cap if still on the fill port. Using your fingers un-screw the knurled nut in a counter-clockwise motion as shown in item **1** below.
  - b. Once the knurled nut is removed, lift the Fill Port cover or what is left of the cover off of the threaded post as shown in item **2** below.
  - c. Insert the new Fill Port cover over the threaded post making sure that the cover opening is facing up and then using your fingers screw the knurled nut in a clockwise motion as shown in item **3** below.
  - d. Once the nut is finger tight, put the Fill Port cover over the Fill port as shown in item **4** below.

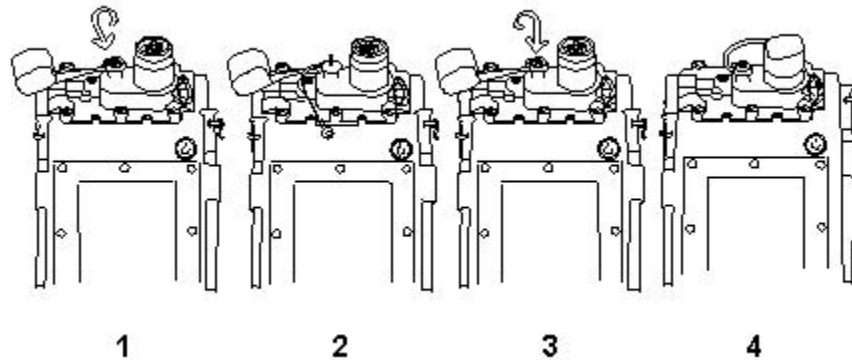


Figure 8. Installation of the Fill Port Dust Cover.

## END OF TASK

### Replacing The Zeroize Button Cover

The Zeroize Button Cover provides security against accidental zeroization of the SKL UAS database. It also provides a limited barrier to the elements. The Zeroize Button Cover should be inspected for workability and damage during normal PMCS and before any mission where the SKL will be used. In the event that the Zeroize Button Cover does not work properly or the cover is damaged, it should be replaced. Follow the procedures below to replace the Zeroize Button Cover.

### CAUTION

**You will need to be very careful when replacing the Zeroize Button Cover so as to not accidentally depress the Zeroize Button. Depressing the Zeroize Button will cause the SKL to immediately begin an irrevocable zeroization process. It does not matter if the SKL is powered up or powered down, the process will be accomplished, and all data stored in the SKL UAS database will be erased.**

1. The Zeroize Button Cover is held in place by an E-Ring. This E-Ring provides the necessary pressure on the Zeroize Button Cover so that it will not swing open without assistance. This is important since the cover protects the Zeroize Button from accidentally being depressed. First make sure you have a new Zeroize Button Cover before starting this procedure. It should look like the one in Figure 9, *Zeroize Button Cover*, below.

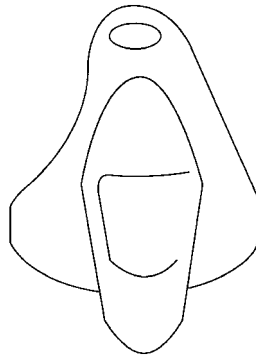
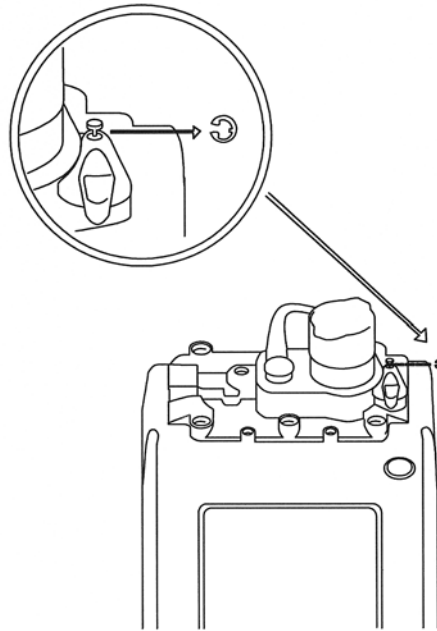


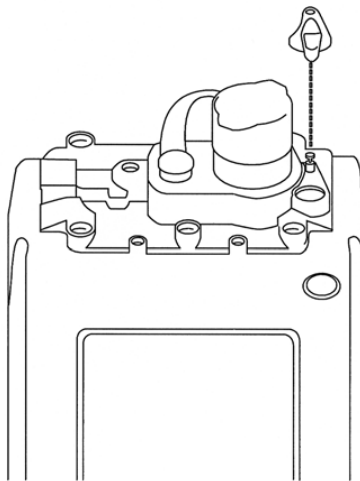
Figure 9. Zeroize Button Cover.

2. Once you have the new cover, use the Flat Tip Screwdriver shown in the AAL (WP0045, Item 8) to remove the E-Ring that holds the cover in place, making sure that the cover if not missing is, covering the Zeroize Button. Remove the E-Ring as shown in Figure 10, *E-Ring Removal*, below.



**Figure 10. E-Ring Removal.**

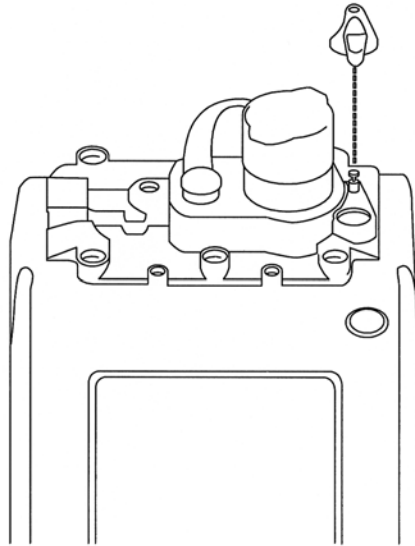
3. Now that the E-Ring is removed, remove the washer under the E-Ring. The cover can now be removed. Using your fingers lift the cover straight up and off of the Zeroize Button Cover Post as shown in Figure 11, *Zeroize Button Cover Removal*, below.



**Figure 11. Zeroize Button Cover Removal.**

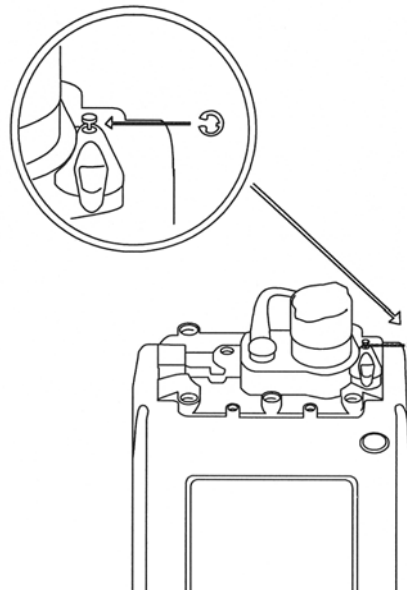
4. Using a clean cloth and being careful not to depress the Zeroize Button, clean the post of any dirt, oil, or grease.

5. Now take the new Zeroize Button Cover and using your fingers gently lower the cover over the post making sure to cover the Zeroize Button as shown in Figure 12, *Zeroize Button Cover Installation*, below.



**Figure 12. Zeroize Button Cover Installation.**

6. Using a clean cloth, clean the E-Ring and washer of any dirt, oil, or grease. Take the washer and position it over the post. Then take the E-Ring and position it so that the opening of the E-Ring fits snugly against the post. Take Flat Tip Screwdriver and push the E-Ring onto the post and over the washer. See Figure 13, *E-Ring Installation*, below.



**Figure 13. E-Ring Installation.**

7. Once the E-Ring is in place open the Zeroize Button Cover and check for ease of movement and that when closing the Zeroize Button Cover there is a click indicating that the cover is securely closed. If the cover passes these simple tests the cover has been replaced correctly.

## END OF TASK

### Replacing The Stylus Lanyard

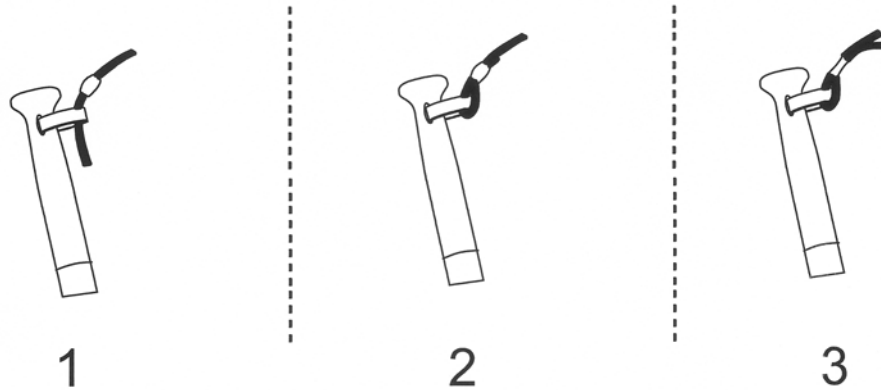
Each Inductive Stylus is secured to the SKL through the use of a lanyard. If the lanyard is cut or otherwise damaged so that the stylus is no longer secured to the SKL lanyard must be replaced. The following procedures should be followed to replace the stylus lanyard.

1. The first step in replacing the Lanyard is the removal of the old lanyard from the SKL and stylus. To remove the lanyard, cut the lanyard from both the SKL and the stylus.
2. Make sure that you have the new Lanyard and Split Rings. They should look like the ones in Figure 14, *Lanyard and Split Rings*, below.



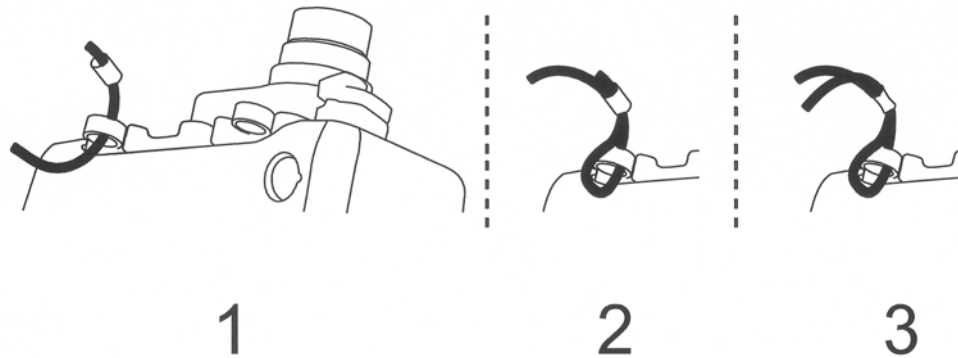
**Figure 14. Lanyard and Split Rings.**

3. Starting on the Stylus first, take the new Lanyard and feed one end of it through a Split Ring and then feed the lanyard through the attachment ring on the Stylus (see 1 below). Then loop the Lanyard back through the Split Ring (see 2 below). Slide the Split down the Lanyard toward the attachment ring on the Stylus allowing sufficient clearance to allow the Lanyard to move freely on the attachment ring and then take the Short Nosed Pliers shown in the AAL (WP0045, Item 7) and crimp the Split Ring to secure the Lanyard to the Stylus Attachment Ring making sure not to sever the Lanyard (see 3 below). See Figure 15, *Lanyard Replacement on Stylus*, below.



**Figure 15. Lanyard Replacement on Stylus.**

4. Now take the other end of the Lanyard and feed it through the other Split Ring and then feed the lanyard through the attachment ring on the SKL (see 1 below). Then loop the Lanyard back through the Split Ring (see 2 below). Slide the Split down the Lanyard toward the attachment ring on the SKL allowing sufficient clearance to allow the Lanyard to move freely on the attachment ring. Take the Short Nosed Pliers shown in the AAL (WP0045, Item 7) and crimp the Split Ring to secure the Lanyard to the Stylus Attachment Ring making sure not to sever the Lanyard (see 3 below). Use the diagram in Figure 16, *Lanyard Replacement on the SKL*, below to guide you through the procedure.



**Figure 16. Lanyard Replacement on the SKL.**

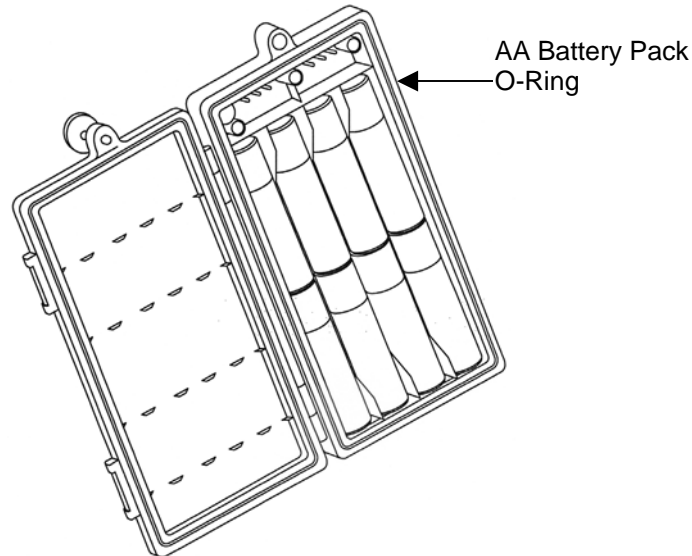
5. Now cut off any excess Lanyard material at both the Stylus and SKL attachment points to clean up the installation.

#### **END OF TASK**

#### **Replacing The AA Battery Pack O-Ring (Optional Item)**

There is an O-Ring on the inside of the AA Battery Pack. This O-Ring forms a moisture barrier for the batteries when the AA Battery Pack cover is closed. This O-Ring will wear out over time; therefore, it will need to be replaced periodically. Use the following procedure to replace the O-Ring on the AA Battery Pack.

1. Open the cover of the AA Battery Pack. Use the Pliers and Alignment Tool shown in the Additional Authorized List (AAL) (WP 0045 Items 6 & 7) to remove the O-Ring from the AA Battery Pack. Look at the picture in Figure 17, *AA Battery Pack O-Ring Replacement*, below.



**Figure 17. AA Battery Pack O-Ring Replacement.**

**CAUTION**

**Do not use any metal object to remove the O-Ring from the AA Battery Pack. Using a metal object to remove the O-Ring could damage the surface that the O-Ring mates with causing the O-Ring to prematurely fail.**

2. Work the Alignment Tool under the O-Ring so that it can be stretched enough to remove it.
3. Once the O-Ring has been removed from the AA Battery Pack, use a clean cloth and clean the area the O-Ring was removed from prior to installing a new O-Ring.
4. Now locate the new O-Ring. It should look like the one depicted in Figure 18, *AA Battery Pack O-Ring*, below.



**Figure 18. AA Battery Pack O-Ring.**

5. Once the new O-Ring has been located, inspect the O-Ring for any damage prior to installation.
6. With clean hands, take the new O-Ring and gently stretch it and place it in the space provided on the AA Battery Pack. Using your fingers make sure the new O-Ring is seated properly. Do not use any adhesive to retain the O-Ring. It should stay in the space provided without any adhesive.

**END OF TASK**

**END OF WORK PACKAGE**

CHAPTER 6  
PARTS INFORMATION  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0



FIELD MAINTENANCE  
PARTS INFORMATION INTRODUCTION  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
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FIELD MAINTENANCE  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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INTRODUCTION

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SCOPE

This RPSTL lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of field maintenance of the Transfer Unit, Cryptographic Key AN/PYQ-10(C), also referred to as the Simple Key Loader (SKL). It authorizes the requisitioning, issue, and disposition of spares, repair parts, special tools as indicated by the source maintenance and recoverability (SMR) codes.

GENERAL

In addition to the Introduction work package, this RPSTL is divided into the following work packages.

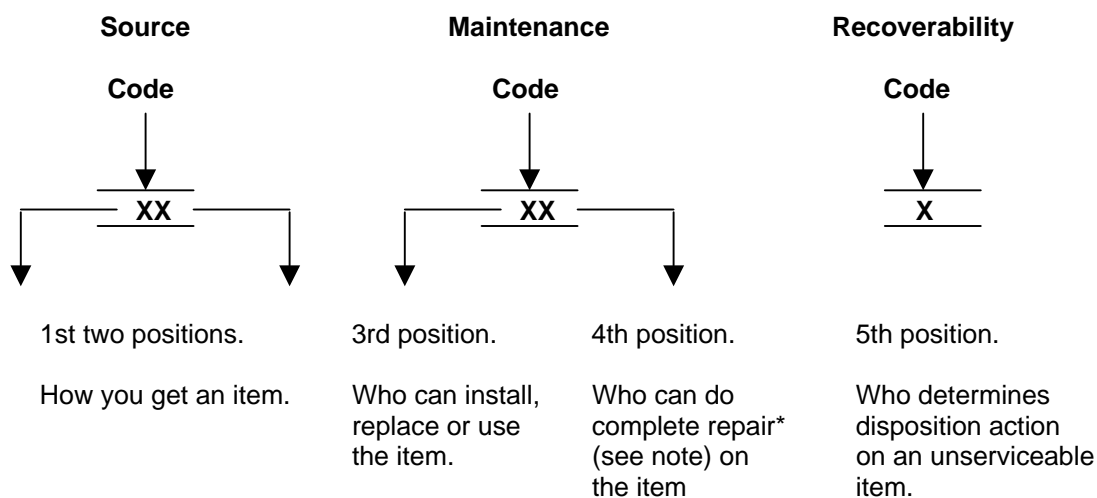
1. **Repair Parts List Work Package.** Work packages containing lists of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. These work packages also include parts that must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Sending units, brackets, filters, and bolts are listed with the component they mount on. Bulk materials are listed by item name in FIG. BULK at the end of the work packages. Repair parts kits are listed separately in their own functional group and work package. Repair parts for repairable special tools are also listed in a separate work package. Items listed are shown on the associated illustrations.
2. **Special Tools List Work Package.** Not applicable.
3. **Cross-Reference Indexes Work Packages.** There are 2 cross-reference indexes work packages in this RPSTL; the National Stock Number (NSN) Index work package and the Part Number (P/N) Index work package. The National Stock Number Index work package refers you to the figure and item number. The Part Number Index work package refers you to the figure and item.

**EXPLANATION OF COLUMNS IN THE REPAIR PARTS LIST AND SPECIAL TOOLS LIST WORK PACKAGES**

**Item No. (Column (1)).** Indicates the number used to identify items called out in the illustration.

**SMR Code. (Column (2)).** The Source, Maintenance, and Recoverability (SMR) code is a 5-position code containing supply/requisitioning information, maintenance level authorization criteria, and disposition instructions, as shown in the following breakout:

Table 1. SMR Code Explanation.



**NOTE**

**\* Complete Repair: Maintenance capacity, capability, and authority to perform all the corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.**

**Source Code.** The source code tells you how you get an item needed for maintenance, repair, or overhaul of an end item/equipment. Explanations of source codes follow:

**Code**

**Application/Explanation**

PA
PB
PC**
PD
PE
PF
PG
PH
PR
PZ

Stocked items; use the applicable NSN to request/requisition items with these source codes. They are authorized to the level indicated by the code entered in the 3rd position of the SMR code.

**NOTE: \*\* Items coded PC are subject to deterioration.**

KD
KF
KB

Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance level indicated in the third position of the SMR code. The complete kit must be requisitioned and applied.

**MO**-Made at Field (service)/ AMC level

**MF**-Made at Field/ASB level

**MH**-Made at below depot sustainment level

**ML**-Made at Specialized Repair Activity (SRA)/ TASMG

**MD**-Made at Depot

**MG**- Navy only.

Items with these codes are not to be requested and/or requisitioned individually. They must be made from bulk material which is identified by the part number in the Description and Usable On Code (UOC) column and listed in the Bulk Material group of the repair parts list. If the item is authorized to you by the 3rd position character of the SMR code, but the source code indicates it is made at a higher level, order the item from the higher level of maintenance.

**AO**-Assembled by Field (service)/AMC level

**AF**-Assembled by Field/ASB level

**AH**-Assembled by Below depot Sustainment level

**AL**-Assembled by Specialized Repair Activity (SRA)/TASMG

**AD**-Assembled by Depot

**AG**-Navy only

Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the level of maintenance indicated by the source code. If the 3rd position character of the SMR code authorized you to replace the item, but the source code indicates the item is assembled at a higher level, order the item from the higher level of maintenance.

**Code**

**Explanation**

- XA - Do not requisition an "XA" - coded item. Order its next higher assembly, refer to NOTE below.
- XB - If an item is not available from salvage, order it using the CAGE and part number given.
- XC - Installation drawings, diagrams, instruction sheets, field service drawings; identified by manufacturer's P/N.
- XD - Item is not stocked. Order an XD-coded item through local purchase or normal supply channels using the CAGEC and P/N given, if no NSN is available.

**NOTE**

**Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes, except for those items source coded "XA" or those aircraft support items restricted by requirements of AR 750-1.**

**Maintenance Code.** Maintenance codes tell you the level(s) of maintenance authorized to use and repair support items. The maintenance codes are entered in the third and fourth positions of the SMR code as follows:

**Third Position.** The maintenance code entered in the third position tells you the lowest maintenance level authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to one of the following levels of maintenance.

Maintenance Code	Application/Explanation
C -	Crew or operator maintenance done within organizational or aviation unit maintenance.
O* -	Organizational or aviation unit category can remove, replace, and use the item.
F -	Direct support or aviation intermediate level can remove, replace, and use the item.
H -	General support level can remove, replace, and use the item.
L -	Specialized repair activity can remove, replace, and use the item.
G -	Afloat and ashore intermediate maintenance can remove, replace, and use the item (Navy only).
K -	Contractor facility can remove, replace, and use the item.
Z -	Item is not authorized to be removed, replaced, or used at any maintenance level.
D -	Depot can remove, replace, and use the item.

**NOTE**

**Army may use C in the third position. However, for joint service publications, Army will use O.**

**Fourth Position.** The maintenance code entered in the fourth position tells you whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair; (i.e., perform all authorized repair functions).

**NOTE**

**Some limited repair may be done on the item at a lower category of maintenance if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.**

Maintenance Code	Applicability/ Explanation
O -	Field (service)/AMC is the lowest level that can do complete repair of the item.

Maintenance Code	Applicability/ Explanation
F -	Field ASB is the lowest level that can do complete repair of the item.
H -	Below depot sustainment is the lowest level that can do complete repair of the item.
L -	Specialized repair activity/TASMG (enter specialized repair activity designator) is the lowest level that can do complete repair of the item.
D -	Depot is the lowest level that can do complete repair of the item.
G -	Both afloat and ashore intermediate levels are capable of complete repair of item. (Navy only)
K -	Complete repair is done at contractor facility
Z -	Nonrepairable. No repair is authorized.
B -	No repair is authorized. No parts or special tools are authorized for the maintenance of a "B" coded item. However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

**Recoverability Code.** Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is shown in the fifth position of the SMR code as follows:

Recoverability Code	Application/Explanation
Z -	Nonrepairable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in 3rd position of SMR Code.
O -	Repairable item. When uneconomically repairable, condemn and dispose of the item at organizational or aviation unit level.
F -	Repairable item. When uneconomically repairable, condemn and dispose of the item at field level.
H -	Repairable item. When uneconomically repairable, condemn and dispose of the item at field level.
D -	Repairable item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item not authorized below depot level.
L -	Repairable item. Condemnation and disposal not authorized below Specialized Repair Activity (SRA)/TASMG.
A -	Item requires special handling or condemnation procedures because of specific reasons (e.g., precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.
G -	Field level repairable item. Condemn and dispose at either afloat or ashore intermediate levels. (Navy only)
K -	Repairable item. Condemnation and disposal to be performed at contractor facility.

**NSN (Column (3)).** The National Stock Number (NSN) for the item is listed in this column.

**CAGEC (Column (4)).** The Commercial and Government Entity Code (CAGEC) is a 5-digit code which is used to identify the manufacturer, distributor, or Government agency etc. that supplies the item.

**Part Number (Column (5)).** Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.

#### NOTE

**When you use an NSN to requisition an item, the item you receive may have a different part number from the number listed.**

**Description and Usable On Code (UOC) (Column (6)).** This column includes the following information.

1. The Federal item name and, when required, a minimum description to identify the item.
2. Part Numbers of bulk materials are referenced in this column in the line entry to be manufactured or fabricated.
3. Hardness Critical Item (HCI). A support item that provides the equipment with special protection from electromagnetic pulse (EMP) damage during a nuclear attack.
4. The statement "END OF FIGURE" appears just below the last item description in Column (6) for a given figure in both the repair parts list and special tools list work packages..

**Qty (Column (7)).** Indicates the quantity of the item used in the breakdown shown on the illustration figure, which is prepared for a functional group, sub functional group, or an assembly. A "V" appearing in this column in lieu of a quantity indicates that the quantity is variable and that the quantity may vary from application to application.

#### EXPLANATION OF CROSS-REFERENCE INDEXES WORK PACKAGES FORMAT AND COLUMNS

1. **National Stock Number (NSN) Index Work Package.** NSNs in this index are listed National Item Identification Number (NIIN) sequence..

**STOCK NUMBER Column.** This column lists the NSN in NIIN sequence. The NIIN consists of the last nine digits of the NSN. When using this column to locate an item, ignore the first four digits of the NSN. However, the complete NSN should be used when ordering items by stock number. For example, if the NSN is 5385-01-574-1476, the NIIN is 01-574-1476.

**FIGURE Column.** This column lists the number of the figure where the item is identified/located. The figures are in numerical order in the repair parts list and special tools list work packages.

**ITEM Column.** The item number identifies the item associated with the figure listed in the adjacent Fig. column. This item is also identified by the NSN listed on the same line.

2. **Part Number (P/N) Index Work Package.** Part numbers in this index are listed in ascending alphanumeric sequence (vertical arrangement of letter and number combinations which places the first letter or digit of each group in order A through Z, followed in the numbers 0 through 9 and each following letter or digit in like order )..

**PART NUMBER Column.** This column indicates the part number assigned to the item.

**FIGURE Column.** This column lists the number of the figure where the item is identified/located in the repair parts list and special tools list work packages.

**ITEM Column.** This column lists the number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

### SPECIAL INFORMATION

**Usable On Code (UOC).** The usable on code appears in the lower left corner of the description column heading. Usable on codes are shown as "UOC:" in the Description Column (justified left) on the first line applicable item nomenclature. Uncoded items are applicable to all models. Identification of the usable on codes used in this RPSTL are:

Code	Used On
TBD	AN/PYQ-10(C)

### HOW TO LOCATE REPAIR PARTS

#### 1. When NSNs or Part Numbers Are Not Known.

First. Using the table of contents, determine the assembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and lists are divided into the same groups.

Second. Find the figure covering the functional group or the sub-functional group to which the item belongs.

Third. Identify the item on the figure and note the number(s).

Fourth. Look in the repair parts list work packages for the figure and item numbers. The NSNs and part numbers are on the same line as the associated item numbers.

#### 2. When the NSN is known:

First. If you have the NSN, look in the STOCK NUMBER column of the NSN index work package. The NSN is arranged in NIIN sequence. Note the figure and item number next to the NSN.

Second. Turn to the figure and locate the item number. Verify that the item is the one you are looking for.

#### 3. When Part Number Is Known.

First. If you have the part number and not the NSN, look in the PART NUMBER column of the part number index work package. Identify the figure and item number.

Second. Look up the item on the figure in the applicable repair parts list work package.

### ABBREVIATIONS

(Not applicable.)

### END OF WORK PACKAGE

FIELD MAINTENANCE  
REPAIR PARTS LIST  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

FIELD MAINTENANCE  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

REPAIR PARTS LIST

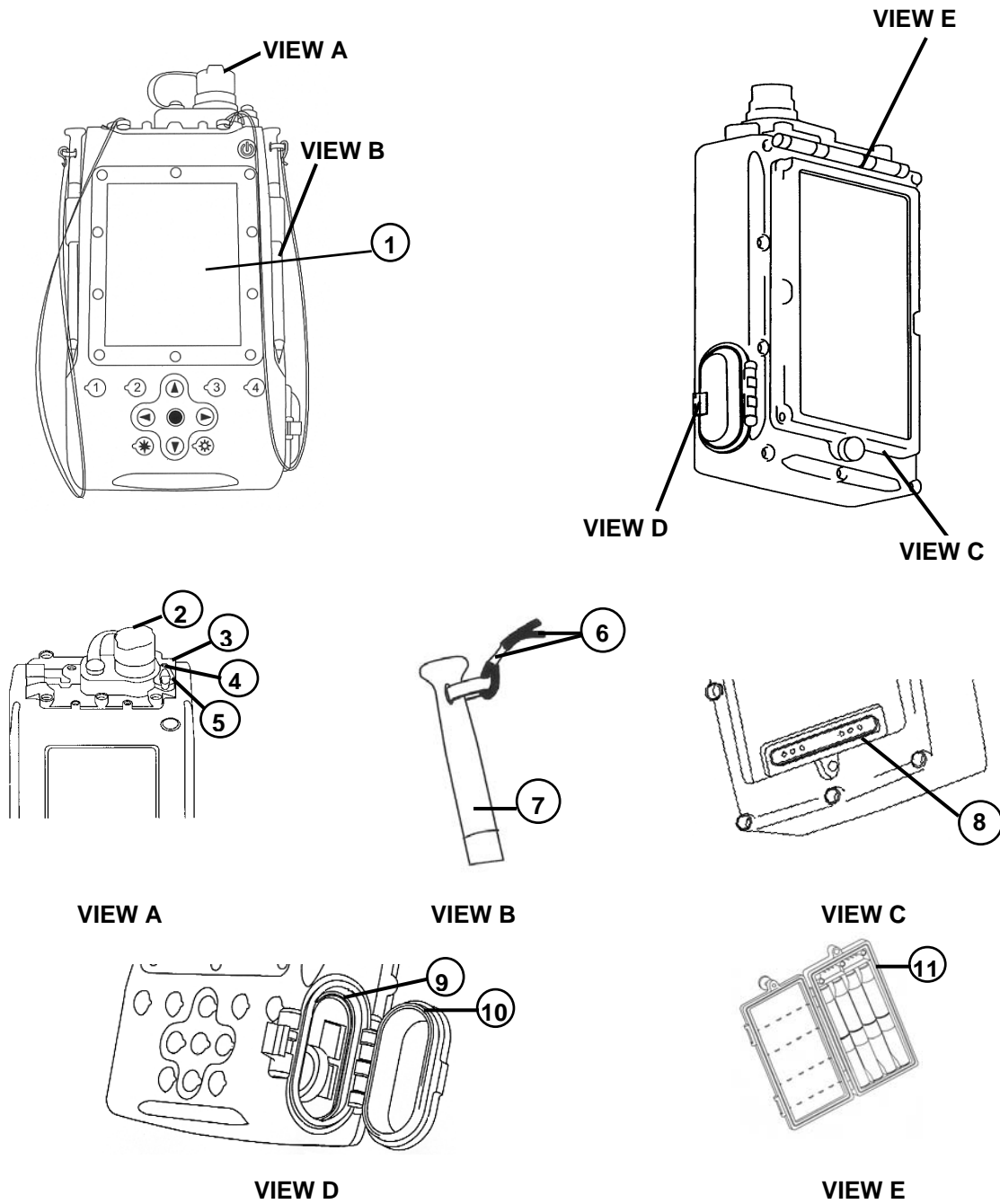


Figure 1. Transfer Unit, Cryptographic Key, AN/PYQ-10 (C), Simple Key Loader (SKL).

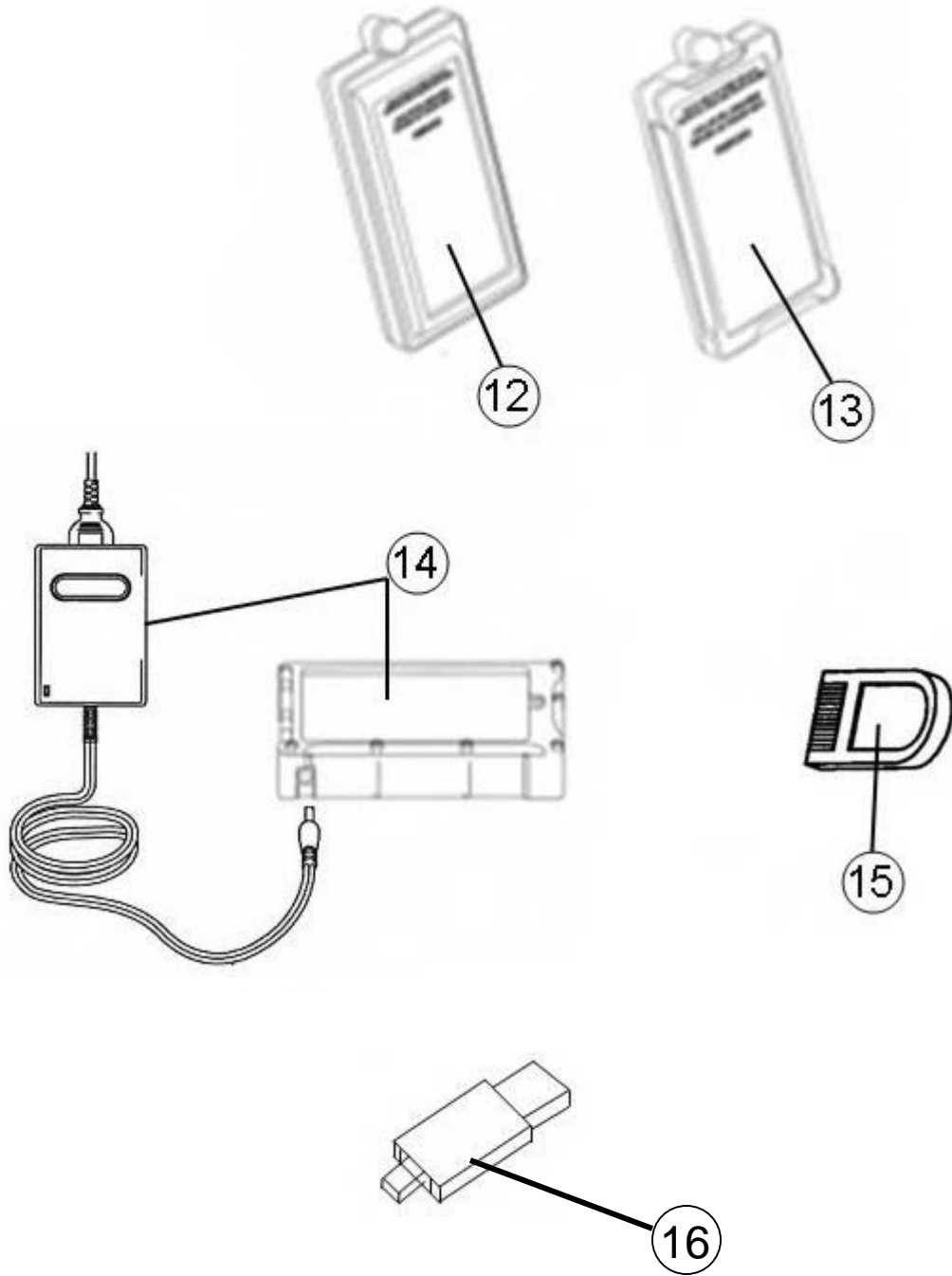


Figure 2. Transfer Unit, Cryptographic Key, AN/PYQ-10(C), Simple Key Loader (SKL).

**Table 1. Transfer Unit, Cryptographic Key, AN/PYQ-10 (C), Simple Key Loader (SKL) Parts List.**

Item #	SMR Code	NSN	CAGEC	Part Number	Description and Usable on Code (UOC)	Qty
01	PAODD	5810-01-517-3587	3CN36	200-00001-001	Transfer Unit, Cryptographic Key, AN/PYQ-10 (C), also referred to as the Simple Key Loader (SKL)	1ea
02	PAOZZ	5340-01-524-9480	3CN36	230-00038-01	Fill Port Dust Cover	1ea
03	PAOZZ	5365-01-524-9820	3CN36	270-00042-01	Zeroize Button Cover retaining E-Ring	1ea
04	PAOZZ	5310-01-524-9457	3CN36	270-00041-01	Zeroize Button Cover Washer	1ea
05	PAOZZ	5340-01-524-9816	3CN36	230-00040-01	Zeroize Button Cover	1ea
06	PAOZZ	5895-01-525-0352	3CN36	220-00073	Stylus Lanyard	2ea
07	PAOZZ	7520-01-524-9762	3CN36	200-00054	Stylus, Inductive	2ea
08	PAOZZ	5331-01-525-2035	3CN36	250-00005-01	Battery Receptacle O-Ring	1ea
09	PAOZZ	5331-01-545-0210	3CN36	250-00008-01	Side Door O-Ring (radial)	1ea
10	PAOZZ	5331-01-525-2064	3CN36	250-00009-01	Side Door O-Ring (face seal)	1ea
11	PAOZZ	5330-01-525-2011	3CN36	250-00020-01	AA Battery Pack O-Ring	1ea
12	PAOZZ	6130-01-525-2788	3CN36	200-00006-01	Battery Pack (Li-Ion) High Capacity	1ea
13	PAOZZ	6130-01-525-1635	3CN36	200-00005-01	Battery Pack (Li-Ion) Standard Capacity	1ea
14	PAOZZ	6130-01-548-1505	3CN36	200-00056	Battery Charger Assembly	1ea
15	PAOZZ	5810-01-529-8767	3CN36	450-00012-01	CIK	1ea
16	PAOZZ	5995-01-545-0167	3CN36	290-00008-01	USB Adapter	1ea

**END OF WORK PACKAGE**

FIELD MAINTENANCE  
REPAIR PARTS NSN INDEX  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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FIELD MAINTENANCE  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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REPAIR PARTS NSN INDEX

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Table 1. National Stock Number Index.

Stock Number	Figure	Item
5810-01-517-3587	1	1
5310-01-524-9457	1	4
5340-01-524-9480	1	2
7520-01-524-9762	1	7
5340-01-524-9816	1	5
5365-01-524-9820	1	3
5895-01-525-0352	1	6
6130-01-525-1635	2	13
5330-01-525-2011	1	11
5331-01-525-2035	1	8
5331-01-525-2064	1	10
6130-01-525-2788	2	12
5810-01-529-8767	2	15
5995-01-545-0167	2	16
5331-01-545-0210	1	9
6130-01-548-1505	2	14

END OF WORK PACKAGE

FIELD MAINTENANCE  
REPAIR PARTS, PART NUMBER INDEX  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
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FIELD MAINTENANCE  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
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REPAIR PARTS, PART NUMBER INDEX

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Table 1. Part Number Index.

Part Number	Figure	Item
200-00001-001	1	1
200-00005-01	2	13
200-00006-01	2	12
200-00054	1	7
200-00056	2	14
220-00073	1	6
230-00038-01	1	2
230-00040-01	1	5
250-00005-01	1	8
250-00008-01	1	9
250-00009-01	1	10
250-00020-01	1	11
270-00042-01	1	3
270-00080	1	4
290-00008-01	2	16
450-00012-01	2	15

END OF WORK PACKAGE

CHAPTER 7  
SUPPORTING INFORMATION  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
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SUPPORTING INFORMATION  
REFERENCES  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
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**SUPPORTING INFORMATION  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0**

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**REFERENCES**

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**ARMY REGULATIONS**

Information Assurance ..... AR 25-2  
Reporting of Item and Packaging Discrepancies .....AR 735-11-2

**COMMON TABLES OF ALLOWANCE**

Expendable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).....CTA 50-970

**FIELD MANUALS**

First Aid for Soldiers .....FM 4-25.11

**FORMS**

Boxes, Shipping, Reusable w/Cushioning .....PPP-B-1672D  
Recommended Changes to Publications and Blank Forms .....DA Form 2028  
Equipment Inspection and Maintenance Worksheet .....DA Form 2404  
Equipment Maintenance and Inspection Worksheet ..... DA Form 5988-E  
Packaging Army General Supplies ..... SB 746-1  
Reporting of Item and Packaging Discrepancies ..... SF 364  
Transportation Discrepancy Report ..... SF 361  
Product Quality Deficiency Report ..... SF 368  
Federal Property Management Regulation (FPMR), Code of Federal Regulations, Title 41, Chapter 101,  
Public Contracts and Property Management.

**MILITARY STANDARDS**

Marking for Shipment and Storage ..... MIL-STD-129

**PAMPHLETS**

Consolidation Index of Army Publications and Blank Forms ..... DA Pam 25-30  
Security Procedures for Controlled Cryptographic Items .....DA Pam 25-380-2  
The Army Maintenance Management System (TAMMS) User Manual..... DA Pam 750-8

**TECHNICAL BULLETINS**

Warranty Bulletin for the Transfer Unit, Cryptographic Key, AN/PYQ-10 (C).....TB 11-5810-410-24  
Safety Requirements for Maintenance of Electrical and Electronic Equipment..... TB 385-4  
Security Procedures for Safeguarding, Accounting, and Supply Control of COMSEC Material ... TB 380-41

**TECHNICAL MANUALS**

Procedures for Destruction of Electronics Material to Prevent Enemy Use ..... TM 750-244-2

**END OF WORK PACKAGE**

FIELD MAINTENANCE  
MAINTENANCE ALLOCATION CHART (MAC) INTRODUCTION  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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**SUPPORTING INFORMATION  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0**

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**MAINTENANCE ALLOCATION CHART (MAC) INTRODUCTION**

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**GENERAL**

This Work Package provides a summary of the maintenance operations for Transfer Unit, Cryptographic Key, AN/PYQ-10 (C). It authorizes categories of maintenance for specific maintenance functions on repairable items and components and lists the tools and equipment required to perform each function. This Work Package may be used as an aid in planning maintenance operations.

This introduction provides a general explanation of all maintenance and repair functions authorized at the two maintenance levels under the Two-Level Maintenance System concept.

The Maintenance Allocation Chart (MAC) designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component shall be consistent with the capacities of the designated maintenance levels, which are shown on the MAC in column (4) as:

Field	—	includes two subcolumns, Unit (C (operator/crew) and O (unit maintenance) and Direct Support (F) maintenance
Sustainment	—	includes two subcolumns, general support (H) and depot (D).

The tools and test equipment requirements list the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from the MAC. The remarks contain supplemental instructions and explanatory notes for a particular maintenance function.

**MAINTENANCE FUNCTION**

Maintenance functions will be limited to and defined as follows:

1. **Inspect.** To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination.
2. **Test.** To verify serviceability and to detect incipient failure by measuring the mechanical or electrical characteristics of an item and comparing those characteristics with prescribed standards.
3. **Service.** To perform operations required periodically to keep an item in proper operating condition; i.e., to clean or paint to replenish fuel, lubricants, hydraulic fluids, or compressed air supplies.
4. **Adjust.** To maintain, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to the specified parameters.
5. **Align.** To adjust specified variable elements of an item to bring about optimum or desired performance.
6. **Calibrate.** To determine and cause corrections to be made or to be adjusted on instruments of test, measuring, and diagnostic equipment used in precision measurement. Consists of comparisons of

two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

7. **Remove/Install.** To remove and install the same item when required to perform service or other maintenance functions. To emplace, seat, or fix into position an item, part, module (component or assembly) in a manner to allow the proper functioning of the equipment or system.
8. **Replace.** To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and assigned maintenance level is shown as the third position code of the Source, Maintenance and Recoverability (SMR) code.
9. **Repair.** To perform maintenance services (inspection, testing, servicing, adjustment, alignment, replacement) or other maintenance actions (welding, grinding, riveting, straightening, facing, re-machining, or resurfacing) to restore serviceability to an item by correcting specific damage, faults, malfunctions, or failures in a part, subassembly, module (component or assembly), end item, or system.
10. **Overhaul.** To perform the maintenance efforts (service/action) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards (i.e., Depot Maintenance Work Request (DMWR)) in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like-new condition.
11. **Rebuild.** Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with (IAW) original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (e.g., hours/miles) considered in classifying Army equipment/components.

#### COLUMN ENTRIES

1. **Column 1, Group Number.** Column 1 lists FGC numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly (NHA).
2. **Column 2, Component/Assembly.** Column 2 contains the item names of components, assemblies, subassemblies, and modules for which maintenance is authorized.
3. **Column 3, Maintenance Function.** Column 3 lists the functions to be performed on the item listed in column 2. When items are listed without maintenance functions, it is solely for the purpose of having the group numbers in the MAC and RPSTL coincide.
4. **Column 4, Maintenance Level.** Column 4 specifies, by the listing of a "worktime" figure in the appropriate sub-column(s), the lowest level of maintenance authorized to perform the function listed in column 3. This figure represents the active time required to perform that maintenance function at the indicated category of maintenance. If the number of complexity of the tasks within the listed maintenance function vary at different maintenance categories, appropriate "worktime" figures are shown for each category. The number of task-hours specified by the "worktime" figure represents the average time required to restore an item (assembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time, troubleshooting time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. Sub-columns of column 4 are as follows:

**Field:**

C - Crew  
O - Service  
F - Field

**Sustainment:**

H - Below Depot  
D - Depot

**NOTE**

The "L" maintenance level is not included in column (4) of the MAC. Functions to this level of maintenance are identified by a work time figure in the "H" column of column (4), and an associated reference code is used in the REMARKS column (6). This code is keyed to the remarks and the SRA complete repair application is explained there.

5. **Column 5, Tools and Test Equipment.** Column 5 specifies, by code, the common tool sets (not individual tools), common Test Measurement and Diagnostic Equipment (TMDE), and special tools, special TMDE, special support equipment required to perform the designated function. Codes are keyed to the entries in the tools and test equipment table.
6. **Column 6, Remarks.** Column 6 contains a letter code in alphabetic order, which is keyed to the remarks table entries.

**TOOLS AND TEST EQUIPMENT REQUIREMENTS (SECTION III)**

1. **Tool or Test Equipment Reference Code.** This column lists the numbers that coincide with the numbers used in the tools and equipment column of the MAC. The numbers indicate the applicable tool or test equipment for the maintenance functions.
2. **Maintenance Category.** This column lists the codes that indicate the maintenance category allocated the tool or test equipment.
3. **Nomenclature.** This column lists the noun name and nomenclature of the tools and test equipment required to perform the maintenance functions.
4. **National/NATO Stock Number.** This column lists the National/ North Atlantic Treaty Organization (NATO) stock number of the specific tool or test equipment.
5. **Tool Number.** This column lists the manufacturer's part number of the tool.

**REMARKS (SECTION IV)**

1. **Reference Code.** This column lists the codes that refer to the appropriate items in section II, column 6.
2. **Remarks.** This column provides the required explanatory information necessary to clarify items appearing in section II.

**NOTE**

A # in the maintenance category, Section II, column (4), indicates that there is a technical manual in the Remarks section that is referenced.

A \* indicates maintenance time has not been computed. Refer to the ARIL for distribution.

**END OF WORK PACKAGE**



SUPPORTING INFORMATION  
MAINTENANCE ALLOCATION CHART (MAC)  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

**SUPPORTING INFORMATION  
 FOR  
 TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
 SIMPLE KEY LOADER (SKL)  
 SKL UAS VERSION 4.0**

**MAINTENANCE ALLOCATION CHART (MAC)**

**Table 1. MAC FOR THE SIMPLE KEY LOADER, AN/PYQ-10 (C).**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINT FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND TEST EQUIPMENT	(6) REMARKS CODE
			FIELD			SUSTAINMENT			
			CREW	SERVICE	FIELD	DELOW DEPOT	DEPOT		
			C	O	F	H	D		
00	Transfer Unit, Cryptographic Key, AN/PYQ-10 (C)	INSPECT SERVICE TEST REPLACE REPAIR REPAIR OVERHAUL			0.1 0.2 0.5 0.5			*	A B C, D
							50.0		

**Table 2. Remarks.**

REFERENCE CODE	REMARKS
A	Visual/Mechanical
B	Test is performed using Built In Test/Built In Test Equipment (BIT/BITE) and/or functional checks.
C	Repair limited to the replacement of all external components.
D	(*) Return failed items to the manufacturer in accordance with the Warranty Bulletin.

**END OF WORK PACKAGE**

SUPPORTING INFORMATION  
COMPONENTS OF END ITEM AND BASIC ISSUE ITEMS  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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**SUPPORTING INFORMATION  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0**

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**COMPONENTS OF END ITEM AND BASIC ISSUE ITEMS**

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**SCOPE**

This Work Package lists integral components of and basic issue items for the Simple Key Loader (SKL).

**GENERAL**

This Components of End Item List is divided into the following sections:

1. Section II. Integral Components of the End Item. These items, when assembled, comprise the SKL and must accompany it whenever it is transferred or turned in. The illustrations will aid in the identity of these items.
2. Section III. Basic Issue Items (BII). These are the minimum essential items required to place the SKL in operation, to operate it, and to perform emergency repairs. Although shipped separately packed, they must accompany the SKL during operation and whenever it is transferred between accountable officers. The illustrations will assist with identity of the hard-to-identify items. This manual is the authority to requisition replacement BII, based on Table of Organization and Equipment (TOE)/Modified Table of Organization and Equipment (MTOE) authorization of the end item.

**EXPLANATION OF COLUMNS**

1. Illustration. This column is divided as follows:
  - a. Figure number. Indicates the figure number of the illustration on which the item is shown. Note that figures are after the end of the table.
  - b. Item number. The number used to identify the item called out in the illustration.
2. National Stock Number (NSN). Indicates the National Stock Number assigned to the item that is used for requisitioning.
3. Description. Indicates the Federal item name and, if required, a minimum description to identify the item. The part number (when applicable) indicates the primary number used by the manufacturer, which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items. Following the part number, the Commercial and Government Entity Code (CAGEC) (as applicable) is shown in parentheses.
4. Units of Measure (U/M). Indicates the measure used in performing the actual operator or maintenance function. This measure is expressed by a 2 character alphabetical abbreviation (e.g., ea, in, pr).
5. Quantity Required (Qty Reqd). This column lists the quantity of each item required for a complete major item.

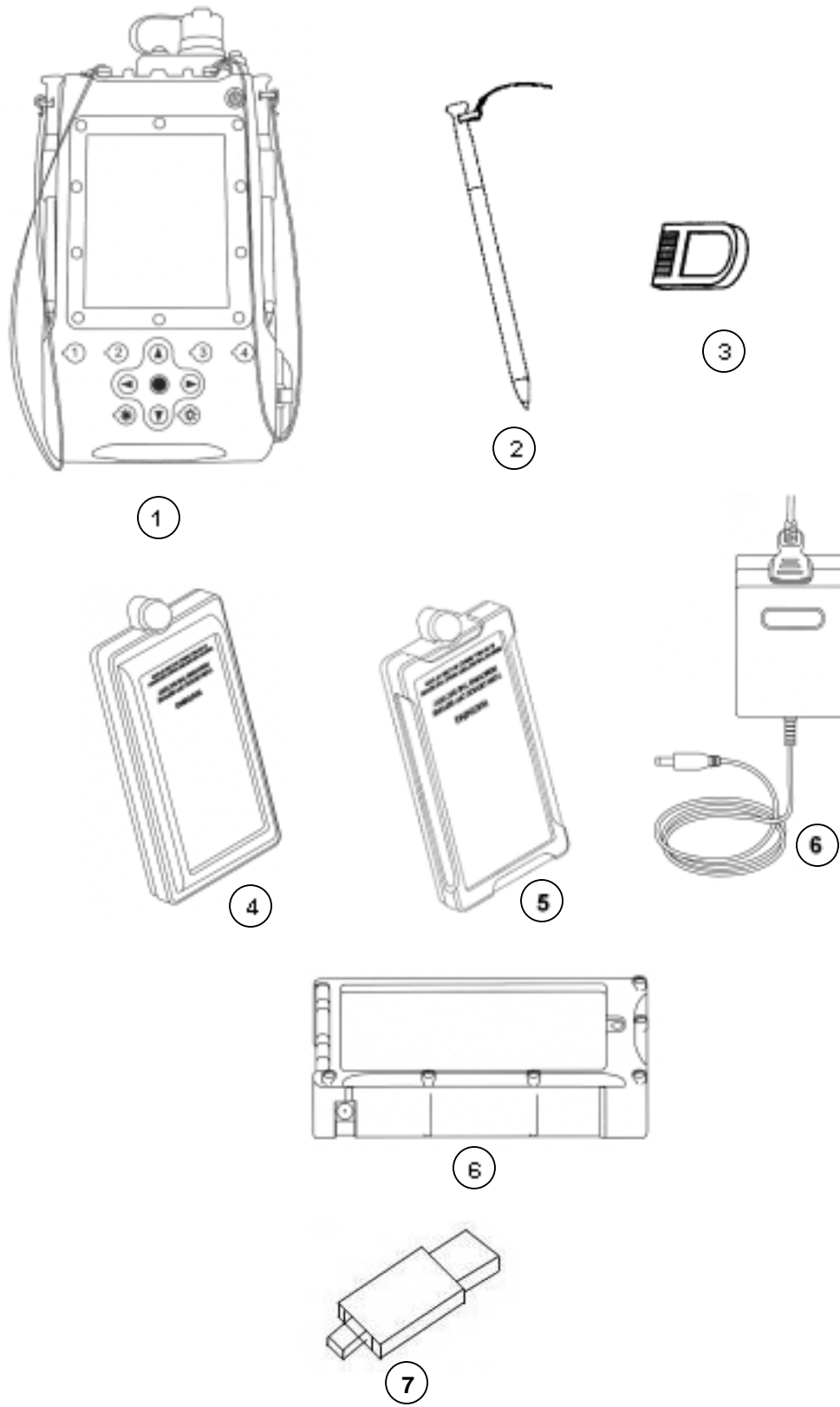


Figure 1. Components of End Item.

**Table 1. Components of End Item List.**

Illus No	(2) National Stock Number	(3) Description (CAGEC) and Part Number	Usable On Code	(4) U/M	(5) Qty Reqd
1	5810-01-517-3587	Transfer Unit, Cryptographic Key, AN/PYQ-10 (C), Simple Key Loader (SKL), Completed Assembly (no battery) Cage: 3CN36, P/N 200-00001-001		EA	1
2	7520-01-524-9762	Inductive Stylus Cage: 3CN36, P/N 450-000009-01		EA	2
3	5810-01-529-8767	CIK Cage: 3CN36, P/N 450-00012-01		EA	1
4	6130-01-525-2788	Battery Pack (High Capacity) Cage: 3CN36, P/N 200-00006-01		EA	1
5	6130-01-525-1635	Battery Pack (Standard Capacity) Cage: 3CN36, P/N 200-00005-01		EA	1
6	6130-01-548-1505	Battery Charger Assy Cage: 3CN36, P/N 200-00056		EA	1
7	5995-01-545-0167	USB Adapter (Female to Male) Cage: 3CN36, P/N 290-00008-01		EA	1

**Table 2. Basic Issue Items List.**

Illus No	(2) National Stock Number	(3) Description (CAGEC) and Part Number	Usable On Code	(4) U/M	(5) Qty Reqd
		Technical Manual, Operator's and Field Maintenance Manual, Including Repair Parts and Special Tools List for the Transfer Unit, Cryptographic Key, AN/PYQ-10 (C), Simple Key Loader (SKL) SKL UAS Version 4.0 TM 11-5810-410-13&P Cage: TBD, P/N N/A		EA	1

**END OF WORK PACKAGE**

SUPPORTING INFORMATION  
ADDITIONAL AUTHORIZATION LIST  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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**SUPPORTING INFORMATION  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0**

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**ADDITIONAL AUTHORIZATION LIST**

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**SCOPE**

This Work Package lists additional items authorized for the support of the Simple Key Loader.

**GENERAL**

This list identifies items that do not accompany the Simple Key Loader configuration, but are available through standard logistics channels. These items can be authorized by Common Table of Allowances (CTA), MTOE, Table of Allowances (TDA), or Joint Table of Allowances (JTA.)

**EXPLANATION OF LISTING**

National Stock Numbers, descriptions, and quantities recommended are provided to help identify and request the additional items required to support this equipment.

**Table 1. Additional Authorized Items List.**

<b>(1) Item No.</b>	<b>(2) National Stock Number</b>	<b>(3) Description (CAGEC) and Part Number</b>	<b>(4) U/M</b>	<b>(5) Qty Recm</b>
1	5810-01-348-4675	Cable, RS-232, ON433836-1	EA	N/A
2	6130-01-525-1617	AA Battery Pack, 3CN36, 200-00012-01	EA	N/A
3	6130-01-525-2021	Assembly, Battery Eliminator, 3CN36, 200-00010-01	EA	N/A
4	7045-01-525-2029	Carrying Case for PDA, Nylon, 3CN36, 650-00003	EA	N/A
5	5180-00-610-8177	Alignment Tool, Elec (Screwdriver Type; 7" Long)	EA	1
6	5120-00-293-3486	Pliers, Short Nose, Without Cutter	EA	1
7	5120-00-236-2140	Screwdriver, Flat Tip	EA	1

**END OF WORK PACKAGE**

SUPPORTING INFORMATION  
EXPENDABLE SUPPLIES AND MATERIALS LIST  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0

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**SUPPORTING INFORMATION  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
SKL UAS VERSION 4.0**

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**EXPENDABLE SUPPLIES AND MATERIALS LIST**

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**SCOPE**

This appendix lists expendable supplies and materials needed to operate and maintain the SKL. These items are authorized by CTA 50-970, Expendable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).

**EXPLANATION OF COLUMNS**

1. Column 1 - Item Number. This number is assigned to the entry in the listing and is referenced in the narrative instructions.
2. Column 2 - Level. This column identifies the lowest level of maintenance that requires the listed item.  
  
O - Operator/Crew  
C - Organizational Maintenance  
F - Direct Support Maintenance  
H - General Support Maintenance
3. Column 3 - National Stock Number (NSN). This is the National Stock Number assigned to the item; use it to request or requisition the item.
4. Column 4 - Description. Indicates the Federal Item Name and, if required, a description to identify the item. The last line for each item indicates the part number followed by the Commercial and Government Entity Code (CAGEC) in parentheses, if applicable.
5. Column 5 - Unit of Measure (U/M). Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy unit requirements.

**Table 1. Expendable Supplies and Materials List.**

(1) ITEM No	(2) Level	(3) National Stock Number	(4) Description (CAGEC) and Part Number	(5) U/M
1	C	8305-00-267-3015	Cloth, Cotton	TD
2	C	6135-00-985-7845	Battery, AA	EA

**END OF WORK PACKAGE**

REAR MATTER  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
VERSION 4.0



REAR MATTER  
GLOSSARY  
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TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
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REAR MATTER  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
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**GLOSSARY**

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<b>87-27</b>	The 87-27 file is used by the ACES Workstation to export a database in a .DAT format. The file then can be brought into the SKL for use.
<b>AC</b>	Alternating Current
<b>ACES</b>	Automated Communication Engineering Software
<b>AES</b>	Advanced Encryption Standard
<b>AK</b>	Automatic Rekey
<b>AMDF</b>	Army Master Data File
<b>Active Window</b>	The window currently accepting input.
<b>Application</b>	A computer program that performs a particular task, such as the SKL UAS.
<b>AR</b>	Army Regulation
<b>ARNG</b>	Army National Guard
<b>BDE</b>	Brigade
<b>BII</b>	Basic Issue Items
<b>BIT</b>	Built In Test
<b>BITE</b>	Built In Test Equipment
<b>Boot</b>	The process by which the computer is powered on and goes through the necessary steps to load and start the operating system. This also refers to the program in the root directory that loads and starts the operating system.
<b>CAGEC</b>	Commercial and Government Entity Code
<b>CBT</b>	Computer Based Training
<b>CCI</b>	Controlled Cryptographic Items
<b>CD</b>	Compact Disk
<b>CDR</b>	Commander
<b>CIK</b>	Cryptographic Ignition Key
<b>COMSEC</b>	Communications Security

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<b>CPC</b>	Corrosion Prevention Control
<b>CPU</b>	Computer Processing Unit
<b>Crypto Period</b>	The time span during which each key segment remains in effect.
<b>CTA</b>	Common Tables of Allowances
<b>CT3</b>	Common Tier 3
<b>DA</b>	Department of the Army
<b>DC</b>	Direct Current
<b>DIVID</b>	Division Identification
<b>DMD</b>	Data Management Device
<b>DMWR</b>	Depot Maintenance Work Request
<b>DOD</b>	Department of Defense
<b>DS-101</b>	A type of communications protocol.
<b>DS-102</b>	A type of communications protocol.
<b>DTD</b>	Data Transfer Device
<b>ECU</b>	End Cryptographic Unit
<b>EIR</b>	Equipment Improvement Recommendation
<b>EKMS</b>	Electronic Key Management System
<b>EP</b>	Electronic Protection
<b>EPLRS</b>	Enhanced Position Location Reporting System
<b>EQS</b>	Equipment
<b>Equipment</b>	Defines the actual hardware that is resident on the Platform.
<b>Equipment Profile</b>	Defines the steps that must be taken to load the designated ECU with key.
<b>FAT</b>	File Allocation Table
<b>FM</b>	Field Maintenance
<b>GPS</b>	Global Positioning System
<b>HMMV</b>	High Mobility Multipurpose Vehicle
<b>IAW</b>	In Accordance With
<b>ICOM</b>	Integrated COMSEC

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<b>ID</b>	Identification
<b>IKEK</b>	Initial Key Encryption Key
<b>Inductive Stylus</b>	A stylus that uses inductive technology to activate an object on the screen of the SKL.
<b>INFOSEC</b>	Information Security
<b>JTA</b>	Joint Tables of Authorization
<b>JTIDS</b>	Joint Tactical Information Distribution System
<b>KP</b>	Key Processor
<b>KEK</b>	Key Encryption Key
<b>Key</b>	Information (usually a sequence of random or pseudorandom binary digits) used initially to set up and periodically change the operations performed in crypto-equipment for the purpose of encrypting and decrypting electronic signals.
<b>Key Tag</b>	Key “tags” are records containing Short Title, Edition, Text ID, Segment Number and other information related to the key.
<b>KLS</b>	Key Load Status
<b>KMID</b>	Key Material Identification
<b>LCD</b>	Light Conducting Diode
<b>LCMS</b>	Local COMSEC Management Software
<b>LED</b>	Light Emitting Diode
<b>LKEK</b>	Local Key Encryption Key
<b>Load</b>	The sequence of events that moves the key from a fill device to the intended End Cryptographic Equipment (ECU).
<b>Logon</b>	The process of gaining access to the system or a particular software application.
<b>Logout</b>	The process of disconnecting from the system or software application.
<b>MAC</b>	Maintenance Allocation Chart
<b>MK</b>	Manual Rekey
<b>MTOE</b>	Modified Table of Organizational Equipment
<b>NATO</b>	North Atlantic Treaty Organization
<b>NCS</b>	Net Control Station
<b>NIIN</b>	National Item Identification Number
<b>NSA</b>	National Security Agency

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<b>NSN</b>	National Stock Number
<b>NVG</b>	Night Vision Goggles
<b>Operating System</b>	A group of programs and functions that provide basic functionality on a computer. The software that manages access to the system's hardware and other resources.
<b>OS</b>	Operating System
<b>OTAD</b>	Over the Air Distribution
<b>PAM</b>	Pamphlet
<b>PCMCIA</b>	Personal Computer Memory Card International Association
<b>PDA</b>	Personal Digital Assistant
<b>PIN</b>	Personal Identification Number
<b>PLATS</b>	Platforms
<b>Platform</b>	An individual communications system or assemblage with a unique name in a net. Depending on the network definition and mission needs, the platform may be a logical grouping of equipment such as: a vehicle with multiple COMSEC equipment items, a piece of COMSEC equipment, or a command center (TOC).
<b>PLGR</b>	Precision Lightweight GPS Receiver
<b>PMCS</b>	Preventive Maintenance Checks and Services
<b>Profile</b>	See Equipment Profile
<b>RAM</b>	Random Access Memory
<b>Receive</b>	The process by which information in the form of database(s) and/or key is transferred from a workstation or other repository to the SKL.
<b>RS-232</b>	Interface between Data Terminal Equipment (DTE) and Data Communications Equipment (DCE) employing serial binary data interchange.
<b>RPSTL</b>	Repair Parts and Special Tools List
<b>RV</b>	Receive Variable
<b>SB</b>	Service Bulletin
<b>SDRAM</b>	Synchronous Dynamic Random Access Memory
<b>Segment</b>	Traditional key that is valid for one cryptoperiod.
<b>Short Title</b>	An identifying combination of letters and numbers assigned to certain COMSEC items to facilitate handling, accounting, and control.
<b>SINGARS</b>	Single Channel Ground and Airborne Radio System
<b>SKL</b>	Simple Key Loader

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<b>SMR</b>	Source Maintenance & Recoverability
<b>STU III</b>	Secure Telephone Unit – Third Generation
<b>SOI</b>	Signal Operating Instructions
<b>SOP</b>	Standing Operating Procedures
<b>SSO</b>	Site Security Officer
<b>TAMMS</b>	The Army Maintenance Management System
<b>TB</b>	Technical Bulletin
<b>TDA</b>	Table of Distribution and Allowances
<b>TEK</b>	Transmission Encryption Key
<b>Text ID</b>	Free form text field in a key tag which associates key to a specific use or destination.
<b>TM</b>	Technical Manual
<b>TMDE</b>	Test Measurement and Diagnostic Equipment
<b>TOE</b>	Tables of Organizational Equipment
<b>Transmit</b>	The process which information in the form of database(s) or key is transferred from the SKL to an ECU or another SKL.
<b>TrKEK</b>	Transmission Key Encryption Key
<b>User Account</b>	This consists of the logon name and password which when combined allows access to the SKL's software packages.
<b>UAS</b>	User Application Software
<b>USB</b>	Universal Serial Bus
<b>VGA</b>	Video Graphics Array
<b>VG</b>	Variable Generate
<b>VU</b>	Variable Update
<b>XML</b>	Extensible Markup Language
<b>Wake Up</b>	The process of sending a known data stream to a Communications Bus to open it for use. Primarily used with the DS-101 protocol.
<b>Zeroize</b>	To remove or eliminate the <u>key</u> permanently from <u>cryptographic equipment</u> or <u>fill device</u> .

REAR MATTER  
ALPHABETICAL INDEX  
FOR  
TRANSFER UNIT, CRYPTOGRAPHIC KEY, AN/PYQ-10(C)  
SIMPLE KEY LOADER (SKL)  
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