

FIELD AND DEPOT MAINTENANCE MANUAL

IC-3620

CENTRAL CONTROL UNIT



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CENTRAL CONTROL UNIT
IC-3620

TECHNICAL MANUAL
and
REPAIR PARTS LIST
APRIL 1972



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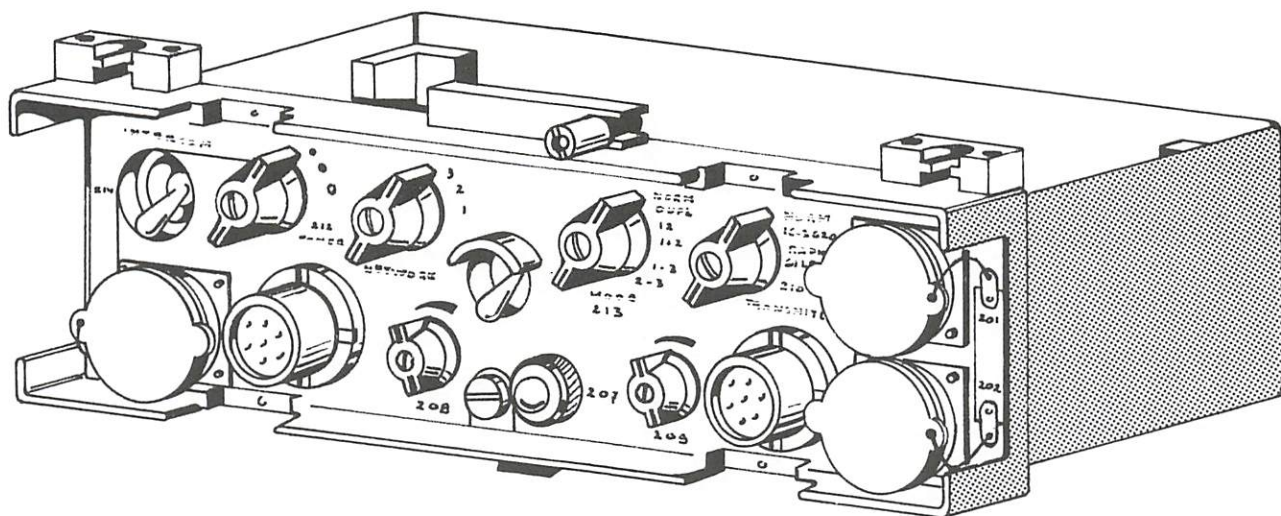
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CENTRAL CONTROL UNIT IC-3620

IC-3620

TECHNICAL MANUAL

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CHAPTER 1

Introduction and descriptions

Section 1 - Introduction

1. SCOPE

This technical manual describes the operation and maintenance of the central control unit IC-3620.

This unit is used as part of a vehicle-borne installation, thus permitting the following facilities:

If the installation contains two or three transceivers, the mode switch permits the mode of operation (simplex, duplex or retransmission).

If the installation contains one or more control units C-3621, intercommunication between the crew members is possible.

A field telephone may be connected to the intercom system, permitting communication from outside the vehicle (extercom) with the crew members and vice versa.

The position of the transmit-limited switch determines who may use the radio installation for transmission.

Furthermore the unit contains an on-off switch energising the equipment connected and a power switch for the power control of a possibly installed RF-amplifier.

2. DIFFERENCES AMONG MODELS

No known differences exist at the time being within the model covered in this manual.

3. TECHNICAL DATA

Supply voltage	- 18 V DC (stabilised)
Circuit breaker, vehicle battery voltage	- 10 A
Supply voltage for microphone(s)	- 6 V DC (stabilised)
Dimensions	- 252 x 104 x 151 mm
Weight	- 2.5 kg
The unit is of the plug-in design	

4. COMPOSITION OF THE CENTRAL CONTROL UNIT

The central control unit IC-3620 is made up of three modules. A module is a piece of equipment which mechanically and often electrically forms a self-contained whole and which can be readily removed from the installation.

When the exchangeable modules are removed from the unit, a chassis with front panel and wiring remains. This is what is called the "frame assembly" of the unit.

The frame assembly is in itself also a module.

The central control unit consists of the following modules:

Module 13 : AF-amplifiers

Module 14 : hybrid circuit and resistor circuit

Module 15 : frame assembly

The numbering of the electric parts such as resistors, capacitors, transistors etc. starts with 1 for each printed circuit and pin terminal board. It may therefore happen that in one and the same drawing, one or more resistors R1, capacitors C1, etc. are shown. This cannot lead to any confusion in the drawing, as it will be perfectly clear to which printed circuit or terminal board the component in question pertains.

Confusion in the text is avoided by making use, wherever and whenever necessary, of designations, such as 13A-TS1, 14B-R1, which means: transistor TS1 or printed circuit 13A and resistor R1 on printed circuit 14B.

5. CONNECTIONS AND CONTROLS (FIG. 2)

All controls of the central control unit are arranged on its front panel.

The rear of the unit carries two socket connectors into which a power supply unit may be plugged. The remaining connectors are on the front panel.

Control or connector	Function
Connector "201"	This takes the cable assembly which connects the unit to the vehicle's battery voltage.
Connector "202" and "203"	Used for connection to the intercom network, if applicable.
Connector "204" and "205"	Used to plug in a . handset . chestset with headgear . loudspeaker unit LS-3621
Switch "206" SUPPLY	Used to turn that part of the vehicular radio installation on and off which includes the central control unit. The switch also acts as an over-current cut-out, protecting the said part against the effect of short circuits or overloads.
Lamp "207"	Pilot lamp which lights when switch "206" is set to  . Rotation of bushing permits light intensity to be adjusted.
Volume controls "208" and "209"	Used to adjust the audio volume of the audio gear connected to connectors "204" and "205".
Switch "210" TRANSM. LTD	Used to determine who may use the radio installation for transmission; positions: NORM the vehicle set can now be operated from the central control unit IC-3620 as well as from all C-3621 control units incorporated in the intercom system.

Control or connector	Function
Switch "211" NETWORK	IC-3620 the vehicle set can now be operated only from the central control unit IC-3620.
	RADIO the vehicle set cannot be SILENCE used for transmission. The switch does not (even in the last position) prevent transmitting via audio gear connected direct to a transceiver. Used to select the desired transceiver or intercom position: "IC" . intercom . reception via all transceivers (at reduced level) "1+2+3" . reception via all transceivers; transmission via transceiver 1 only. . listening-in on intercom. . speech on intercom when using headgear "1" . reception and transmission via transceiver 1. . listening-in on intercom. . speech on intercom when using headgear "2" . reception and transmission via transceiver 2. . listening-in on intercom. . speech on intercom when using headgear "3" . reception and transmission via transceiver 3. . listening-in on intercom. . speech on intercom when using headgear
Switch "212" POWER	Permits selection of the desired output power of the transmitter through control of the 30 watt RF-amplifier (if at all fitted);

Control or connector	Function
Switch "213" MODE	positions: ○ low power ○ medium power ○ high power This switch permits the mode of operation of a vehicle set to be selected; positions: "NORM" simplex radio operation "DUPL 1,2" duplex radio operation, with transceiver 1 sending and transceiver 2 receiving or vice versa, depending on whether Switch "211" is in position 1 or 2 respectively "1-2" radio retransmit operation using transceivers 1 and 2; signals received by transceiver 1 are retransmitted by transceiver 2 and vice versa. "1-3" ditto, using transceivers 1 and 3 "2-3" ditto, using transceivers 2 and 3
Switch "214" INTERCOM	Used to pass intercom signals on with reduced strength; positions: ● intercom signals are passed on to the audio ancillary equipment at reduced intensity; the signals of the receivers and the field telephone are not reduced in strength ● all signals are passed on at full intensity.

Section 2 - Descriptions6. DESCRIPTION OF THE BLOCK DIAGRAM (fig. 3)

The central control unit combines the principal controls of the installation, so the number of switching functions it takes care of is great, provided the installation contains two or three transceivers.

Further the unit houses five amplifiers (module 13) for a variety of low frequency signals.

The microphone radio signal which is to modulate one of the available transmitters is applied to the microphone amplifier radio (1). Selector switch (2) determines which transmitter will be presented with the microphone signal thus amplified.

With this switch (2) in its highest position, the amplified microphone radio signal is routed via a switchable attenuator (5) to the intercom amplifier (6). The amplified signal is now routed to the intercom system as an intercom signal, thus permitting the radio microphone to be used for intra-vehicular communications.

The central control unit also receives a microphone intercom signal for exclusive intercom use. This is amplified by the microphone amplifier intercom (3) after which the signal is routed via attenuator (5) and intercom amplifier (6) to the intercom system.

The above mentioned outputs of intercom amplifier (6) and any other audio signals coming in over the intercom system are also routed to mixer (7) and hybrid circuit (8).

The hybrid circuit places the audio intercom signal on the circuit leading to the field telephone. The hybrid circuit separates the incoming and outgoing signals of the field telephone.

The incoming field telephone signal is routed via hybrid circuit (8) and extercom amplifier (9) to the intercom system as an audio extercom signal. This signal is routed, in addition, to mixer (7).

This mixer receives also the audio lines from transceiver 1, 2 and 3 and the intercom signal from intercom amplifier (6) mentioned above. The mixer (7) puts these audio signals together. A section of selector switch (2) permits a choice between monitoring the following information:

- . each of the individual amplifier outputs mixed with the intercom and extercom signals.
- . all amplifier outputs together mixed with the intercom and extercom signals.
- . only intercom and extercom signals

The combined audio signal is passed through telephone amplifier (10) and volume controls (11) to the audio equipment connected to the unit.

Mixer circuit (7) further delivers a mixed audio signal designated as AF to LS, which is applied exclusively to a possibly connected loudspeaker unit.

Further the central control unit houses a mode switch (12). This switch interconnects various lines of the intercom system, thus permitting an installation containing two or

three receivers to be used for simplex and duplex communication and for retransmission. For duplex communication, mode switch (12) interconnects audio lines of the transceivers 1 and 2 permitting listening-in on transceiver 1 while transmitting on transceiver 2 or vice versa. For retransmission, the mode switch (12) interconnects the audio- and squelch lines of the receiving transceiver to the microphone- and transmit contact lines respectively of the transmitting transceiver. For simplex communication the mode switch is passive and no interconnections are made.

The transmit limited switch (13) permits the use of the transmitter(s) to be restricted or even prevented. This switch may remove earth from the line earth for transmit contact, thus preventing the transmission from possibly connected control units in the intercom system, and restricting the transmission to microtelephones connected direct to the central control unit IC-3620.

In addition, switch (13) may also remove earth from the transmit contact line to the microtelephone connected direct to the central control unit thus also preventing transmission from this microtelephone; accidental transmission and even retransmission during radio silence is not possible.

The central control unit further contains a power control facility (14) permitting control of the transmitter output power in case the installation is provided with a 30 watt RF-amplifier.

Signal lamp (16) shows whether the section of the installation controlled by circuit breaker (15) is on; this circuit breaker also serves as a cut-out when the current drawn from the vehicle battery is excessive.

7. DESCRIPTION OF THE CIRCUIT DIAGRAM (fig. 4)

a. General

The 24 V vehicle battery voltage comes in on connector PD5 and is routed via circuit breaker SK3 and connector BD6 to the power supply unit, where it is converted into four stabilised supply voltages. Of these voltages the 18 V enters the central control unit on connector BD6 contacts 1 and 2 and serves as a supply voltage for the five AF-amplifiers in the unit and for pilot lamp LA1. Further the 18 V is placed on the intercom system to serve as supply voltage for control units connected to the intercom system. In addition the 18 V is routed to connectors PD3 and PD4 to serve as supply voltage for possibly connected loudspeaker units.

The signals from the transceivers of the installation come in via connector BD7. They are placed on the intercom system which runs via connectors PD1 and PD2. The intercom system in turn feeds other signals into the circuit..

A hand microtelephone (handset), chestset with headgear, or loudspeaker unit may be plugged into connectors PD3 and PD4 as required. In the case of the hand-

set the microphone is connected to contact C of PD3 or PD4, but with the chestset the situation is different. Its microphone is connected to contact C when the "RADIO" push-to-talk switch of the chestset is pressed, and to contact K when the "INTERCOM" push-to-talk switch of the chestset is pressed.

The routing of the radio microtelephone signal plugged into PD3 or PD4 depends on the position of 5-position switch SK1.

If the switch is in position "3" (as shown in fig 4) the radio microphone signal is taken via contact C of PD3 or PD4, microphone amplifier radio on printed circuit 13B, contacts r1 and r2 of SK1 and the "microphone line 3" to transceiver nr. 3.

Another section of SK1 connects the transmit contact of the microtelephone connected to PD3 or PD4 via contacts r7 and r8, and the "transmit contact 3" line to transceiver nr. 3.

As for the received telephone signal from transceiver 3, which enters the unit via "audio line 3", this signal is routed via resistor 14B-R9, contacts f6 and f11 of SK1, the telephone amplifier on printed circuit 13B, volume controls R2 and R3 to contacts A of connectors PD3 and PD4.

If SK1 is in position "2" or "1" the microtelephone is connected along similar lines to transceiver "2" or "1" respectively.

If SK1 is in position "1+2+3", the microphone and the transmit contact remain connected to transceiver 1.

However, the audio signals of the three transceivers on audio lines 1, 2 and 3 are now jointly applied via contacts f9, f4, f6 and f11 of SK1, the telephone amplifier on 13B, volume controls R2 and R3 to contacts A of connectors PD3 and PD4.

If SK1 is in position "IC" there is no connection to a transmit contact line since contact r11 of SK1 is not connected. The microphone signal coming in via contact C of PD3 or PD4 is now routed via microphone amplifier radio on printed circuit 13B, contacts r1 and r6 of SK1, switch SK2 and intercom amplifier on 13A to the "intercom audio line" of the intercom system.

If the microphone signal comes in via contact K of PD3 or PD4, the signal is routed via microphone amplifier intercom on 13B, switch SK2, intercom amplifier on 13A to the "intercom audio line" of the intercom system.

Also the intercom microphone signal, entering the unit via the "intercom microphone line" of the intercom system, is taken via SK2 and the intercom amplifier on 13A to the "intercom audioline" of the intercom system. SK2 permits the intercom signal to be set to high or low strength, as desired.

The field telephone (extercom), which may be connected to the power supply unit, is connected via contacts 14 and 15 of connector BD7 to the hybrid circuit on printed circuit 14A. The hybrid circuit sees to it that

the microphone signal from the field telephone is routed via the extercom amplifier on 13A to the "extercom audio line" of the intercom system.

This extercom audio signal is then routed via contact 9, resistors R6 and R7 and contact 5 of the mixer circuit on 14B to the "intercom audio line" of the intercom system with the result that the field telephone signal may be heard on all telephones and loudspeaker units connected to the central control unit and to the control units in the intercom system.

Conversely all "intercom audio line" signals are applied via contact 10, the hybrid circuit, contacts 8 and 9 of circuit 14A to the field telephone so that all intercom conversation can be heard there.

Printed circuit 14A contains, in addition to the hybrid circuit a 6 Volts zener diode stabiliser which provides the direct current required for the carbon microphones connected to the central control unit.

Transmitter limited switch SK4 permits the use of the transmitter(s) to be restricted.

Transmission can only be done when the line "earth for transmit contact" actually carries earth.

With SK4 in position "NORM", as shown in the figure the line "earth for transmit contact" in the intercom system is connected via contacts f6 of SK4 to earth, whereas the line "transmit contact earth" between contacts H of connectors PD3 and PD4 is connected to earth via contact f3 of SK4.

If in this situation a press-to-talk switch of a micro-telephone connected to PD3 or PD4 or connected to a control unit in the intercom system is pressed, a transmitter is switched on; which transmitter this is depends on the position of "NETWORK" selector switch SK1 as mentioned above.

With SK4 in the "IC-3620" position there is no earth on the "earth for transmit contact" line in the intercom system. In that case transmission from a control unit, connected to the intercom system, cannot be done. However, the "transmit contact earth" line between connectors PD3 and PD4 remains connected to earth, so transmission is restricted to microtelephones connected to the central control unit.

With SK4 in the "RADIO SILENCE" position earth is removed also from the "transmit contact earth" line between contacts H of PD3 and PD4 so transmission is made impossible.

The extra sections of SK4 introduce open circuits in the retransmission lines (to be discussed later) in this position so retransmission is also made impossible.

"MODE" switch SK5 offers the following facilities.

With SK5 in the "NORM" position the switch is passive, permitting normal simplex radio communication.

With SK5 in the "DUPL 1,2" position, the installation may be used for duplex operation.

If SK1 happens to be in position "1", transceiver 1 will operate as the transmitter and transceiver 2 as

the receiver. In order to make the latter arrangement possible, "audio line 2" of the intercom system is connected via resistor 14B-R8, contacts r11 and r10 of SK5 and resistor 14B-R10 to the "audio line 1".

If, with SK5 in the "DUPL 1,2" position, SK1 is set to position "2" the roles of the transceivers 1 and 2 are interchanged, no. 1 acting as the receiver and no. 2 as the transmitter.

Positions "1-2", "1-3" and "2-3" of SK5 permit retransmission, which means that what comes in via one transceiver is transmitted onwards by the other transceiver. With SK5, for example, in position "1-2" the "squench contact 1" line of the intercom system is connected via contacts r10 and r9 of SK4 and contacts r2 and r1-9 of SK5 to the "transmit contact line 2", and "audio line 1" of the intercom system is connected via resistor R1 and contacts f2-11 of SK5 to the "microphone line 2".

This means that, when transceiver 1 picks up a signal, strong enough to cause squench operation, transceiver 2 will retransmit this signal and vice versa.

The system in positions "1-3" and "2-3" of SK5 follows the same plan.

The said connections to the "transmit contact lines" pass also via switch SK4 to prevent retransmission working when SK4 is in the "RADIO SILENCE" position.

"POWER" switch SK6 is operative only if the installation includes a 30 watt RF-amplifier.

b. The amplifiers

Each microphone amplifier is a 2-stage DC amplifier which uses negative feedback for both DC and AC.

The two microphone amplifiers amplify the signals coming in from the microtelephones which are plugged into connectors PD3 and PD4.

Each telephone amplifier consists of two DC-coupled transistor stages followed by a single-ended push-pull stage; the latter is formed by a pair of complementary transistors (nnp and pnp).

The telephone amplifier on printed circuit 13B supplies signal to the microtelephones connected to connectors PD3 and PD4.

The two telephone amplifiers on printed circuit 13A supply signal to the intercom- and extercom audio lines of the intercom system.

CHAPTER 2

Maintenance

Section 1 - Electrical Testing, Trouble shooting and repair.

8. GENERAL

This section gives the testing, trouble-shooting and electrical repairwork of the central control unit. The tracing and locating of a faulty module (the frame assembly is in itself also a module) will be described in para. 9.

Module tester TS-3610 (figs. 6 and 10) is used when testing, trouble-shooting or adjusting modules 13 and 14.

The module tester takes the form of a small desk into which the module under test will be plugged. Connectors on the module tester enable the connection of the instruments required for testing.

An array of pushbuttons permits the supply voltage to be connected to or removed from certain parts of the circuit and allows the measuring instruments to be connected to particular terminals of the module circuit.

Trouble-shooting of a module always starts with the testing of the module; when a certain reading is not correct follow the instructions given. After each repair, repeat the test sequence.

The frame assembly (module 15) may be best tested with tested modules 13 and 14 fitted, following the test procedure for the central control unit, see para. 9.

By means of the circuit diagram (fig. 4) the test will give an indication which part of the circuit is at fault.

Then, using the wiring diagram (fig. 9) wiring list (para. 17) and an ohmmeter, the faulty part(s) can be located.

9. TESTING AND TROUBLE-SHOOTING OF THE CENTRAL CONTROL UNIT

Measuring instruments required:

- (1) Stabilised adjustable power supply 20 V DC, 1 A or more (e.g. Philips PE 1510); to be connected to connector BD6 contacts 1 (+) and 2 (-).
- (2) Tone generator (e.g. Philips PM 5100).
- (3) Multimeter 20.000 Ω/V or better (e.g. Philips PM 2411). If the stabilised adjustable power supply has no built-in ammeter connect this multimeter in series with socket connector BD6 and the power supply.
- (4) AF millivoltmeter (e.g. Philips PM 2454)

Note: For the safe measuring of voltages at the pins of the connectors of the central control unit, it is advised to construct various auxiliary extension cable assemblies. One cable assembly consists of a 26-pole socket connector (to match connector "202") and

26 wires (each with an insulated pin bushing) attached to the connector.

Mark the wires with the numbers or letters of the connector.

Similar extension cable assembly may be constructed for connectors "201", "203", "204", "205", BD6 and BD7.

The test procedure is given in the form of tables.

The first column gives the sequence number of each test to be performed.

The second column states what operations are to be performed and what result this operation should have if all is well.

The third column states what actions should be taken to eliminate the fault if the correct result, as given in the second column, is not obtained.

Set the controls to the following positions:

- . IC-3620 "208" fully clockwise
 "209" fully clockwise
 "210" to "NORM"
 "211" to "3"
 "213" to "NORM"
 "214" to "●" (down)
- . power supply set to 18 Volts DC
- . tone generator set to 1000 Hz - 0 Volts

Perform the following tests:

Note: The numbers between brackets (.) refer to the measuring instruments listed above.

Test no.	Operation and normal indication	Corrective action
1	Lamp "207" lights	. replace lamp . replace frame assembly
2	Ammeter on power supply or multimeter (3) indicates 110 ... 190 mA. Remove multimeter (3) and connect the power supply direct to contact 1 of connector BD6 (if applicable). Interconnect contacts BD6/2 and BD6/11	. replace module 13 . replace module 14 . replace frame assembly

Test no	Operation and normal indication	Corrective action
3	Using multimeter (3) measure ca. 17 Volts DC between the following contacts. "202/H" (+) "202/D" (-) "203/H" (+) "203/D" (-) "202/R" (+) "202/M" (-) "203/R" (+) "203/M" (-) "204/L" (+) "204/B" (-) "205/L" (+) "205/B" (-)	. replace frame assembly
4	Using multimeter (3) measure 5.9... 7.9 V DC between the following contacts: "204/C" (+) "204/E" (-) "204/K" (+) "204/E" (-) "205/C" (+) "205/E" (-) "205/K" (+) "205/E" (-)	. replace module 13 . replace module 14 . replace frame assembly
5	Connect the tone generator (2) and meter (4) to BD7/9 and "202/M" (earth). Adjust the output of the tone generator to 2 V, indicated on meter (4). Disconnect meter (4) from the tone generator and using this meter measure the following AC voltages: "202/J" and "202/M" (earth): 2V "203/J" and "203/M" (earth): 2V "204/A" and "204/B" (earth): 2.2...3.5V "205/A" and "205/B" (earth): 2.2...3.5V "204/D" and "204/B" (earth): 0.5...1V "205/D" and "205/B" (earth): 0.5...1V	. replace module 13 . replace module 14 . replace frame assembly
6	Connect the tone generator to BD7/8 and "202/M" (earth): Set switch "211" to "2". Using meter (4) measure the following AC voltages: "202/E" and "202/M" (earth): 2V "203/E" and "203/M" (earth): 2V "204/A" and "204/B" (earth): 2.2...3.5V "204/D" and "204/B" (earth): 0.5...1V	. replace module 14 . replace frame assembly
7	Connect the tone generator to BD7/7 and "202/M" (earth). Set switch "211" to "1". Using meter (4) measure the following AC voltages: "202/A" and "202/M" (earth): 2V "203/A" and "203/M" (earth): 2V "204/A" and "204/B" (earth): 2.2...3.5V "204/D" and "204/B" (earth): 0.5...1V	. replace module 14 . replace frame assembly

Test no.	Operation and normal indication	Corrective action
8	Set switch "211" to "1+2+3". Using meter (4) measure between "204/A" and "204/B" (earth): 2.2...3.5V	. replace frame assembly
9	Set switch "211" to "3" Connect the tone generator to "204/C" and "204/E" (earth). Adjust the output of the tone generator to 200 mV (to check with meter (4)). Using meter (4) measure the following AC voltages: "202/X" and "202/Y" (earth): 50...120mV "203/X" and "203/Y" (earth): 50...120mV BD7/6 and BD7/13 (earth): 50...120mV	. replace module 13 . replace frame assembly
10	Set switch "211" to "2" Using meter (4) measure the following AC voltages: "202/V" and "202/W" (earth): 50...120mV "203/V" and "203/W" (earth): 50...120mV BD7/5 and BD7/13 (earth): 50...120mV	. replace frame assembly
11	Set switch "211" to "1". Using meter (4) measure the following AC voltages: "202/T" and "202/U" (earth): 50...120mV "203/T" and "203/U" (earth): 50...120mV BD7/4 and BD7/13 (earth): 50...120mV	. replace frame assembly
12	Set switch "211" to "1+2+3" Using meter (4) measure the following AC voltage: "202/T" and "202/U" (earth): 50...120mV	. replace frame assembly
13	Set switch "211" to "IC" Using meter (4) measure the following AC voltages: "202/Z" and "202/a" (earth): 50...120mV "203/Z" and "203/a" (earth): 50...120mV "202/N" and "202/M" (earth): 1.5...2.5V "203/N" and "203/M" (earth): 1.5...2.5V "204/A" and "204/B" (earth): 2.2...2.5V "204/D" and "204/B" (earth): 100...200mV BD7/14 and BD7/15: 400 mV or higher	. replace module 13 . replace module 14
14	Set switch "214" to " • " (up). Using meter (4) measure between "202/N" and "202/M" (earth): 0.5...1V	. replace frame assembly

Test no	Operation and normal indication	Corrective action		
15	Connect the tone generator to "204/K" and "204/E" (earth) Using meter (4) measure between "202/Z" and "202/a" (earth):: 50...120 mV	- replace module 13 - replace frame assembly		
16	Connect the tone generator to BD7/14 and BD7/15 Adjust the output voltage to 0.6 V. Using meter (4) measure the following AC voltages: "202/S" and "202/M"(earth):1.5...2.5V. "203/S" and "203/M"(earth):1.5...2.5V "204/A" and "204/B"(earth):2.2...3.5V "204/D" and "204/B"(earth):0.5...1V	- replace module 13 - replace module 14 - replace frame assembly		
Switch off the measuring equipment and remove the connections to this equipment. Using multimeter (3) measure the indicated resistance between the connector contacts given in the list below. If the result of a measurement fails to meet this requirement, replace the frame assembly.				
Switch	Position	From	To	Resistance
"206"	"●"	"201/A" "201/B" "201/C" "201/D" "201/E" "201/F" "201/G" "201/H" "204/H"	BD6/10 BD6/9 BD6/8 BD6/7 BD6/6 BD6/5 BD6/4 BD6/3 "205/H", "202/D", "202/P"	0 Ω
"212"	"○" (medium)	BD6/14	BD6/15	0 Ω
	"○" (high)	BD6/2 BD6/14	BD6/12 BD6/15	

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Switch	Position	From	To	Resist- ance
"213"	"DUPL 1,2"			
"211"	"3"	"202/A" "204/F"	"202/E" "205/F", "202/L", "203/L", BD7/12	200 k Ω 0 Ω
	"2"	"204/F"	"202/G", "203/G", BD7/11	0 Ω
	"1"	"204/F"	"202/C", "203/C", BD7/10	0 Ω
	"1+2+3"	"204/F"	"202/C"	0 Ω
"213"	"1-2"	"202/A" "202/E" "202/B" "202/C"	"202/V" "202/T" "202/G" "202/F"	1200 Ω 1200 Ω 0 Ω 0 Ω
"210"	"IC-3620"	"202/B" "202/C" "204/H"	"202/G" "202/F" "202/D"	0 Ω 0 Ω 0 Ω
"213"	"1-3"	"202/A" "202/J" "202/B" "202/C"	"202/X" "202/T" "202/L" "202/K"	1200 Ω 1200 Ω 0 Ω 0 Ω
"210"	"NORM"	"202/B" "202/C"	"202/L" "202/K"	0 Ω 0 Ω
"213"	"2-3"	"202/E" "202/J" "202/G" "202/F" "202/P" "202/K" "202/F" "202/B" "202/b" "202/c"	"202/X" "202/V" "202/K" "202/L" "203/P" "203/K", BD7/3 "203/F", BD7/2 "203/B", BD7/1 "203/b" "203/c"	1200 Ω 1200 Ω 0 Ω 0 Ω 0 Ω 0 Ω 0 Ω 0 Ω 0 Ω 0 Ω

10. TESTING MODULE 13

Measuring instruments required

1. Module tester TS-3610
2. Stabilised adjustable power supply 20 V DC, 1 A or more (e.g. Philips PE 1510) to be connected to BD1 (+) and BD2 (-).
3. Multimeter 20000 Ω /V or better (e.g. Philips PM 2411) to be connected to BD3 (+) and BD4 (-).
4. Electronic voltmeter (e.g. Philips PM 2454) to be connected to BD5 and BD6 (earth).
5. Tone generator (e.g. Philips PM 5100) to be connected to BD7 and BD8 (earth).
6. Electronic voltmeter (e.g. Philips PM 2454) to be connected to BD9 and BD10 (earth).
7. Oscilloscope (e.g. Philips PM 3200) to be connected to BD11 and BD12 (earth).
8. Multimeter (e.g. Philips PM 2403) to be connected to BD15 and BD16.

For testing, proceed as follows.

Note: The numbers between brackets (.) refer to the measuring instruments listed above.

1. Connect the module tester up in accordance with the instructions given above. Make sure that not a single pushbutton is pressed and insert the module to be tested in holder "13" of the tester. Check that the holder for module 14 is unoccupied.
2. Adjust the power supply (2) to 17 V DC and press "D1" "D2" and "D6"
Meter (3) indicates 14 - 18 mA.
If wrong, see para. 11 item 1.
3. Press "D10" ("D1", "D2" and "D6" remain pressed).
Adjust tone generator (5) to 1000 Hz and to such an output voltage that meter (4) indicates 2 V AC.
Meter (6) indicates 70 mV AC or less. If wrong, see para. 11 item 2.
4. Examine the wave form on the oscilloscope, there should be no visible distorsion. If wrong, see para. 11 item 3.
5. Vary the tone generator frequency from 300 Hz to 3400 Hz. The indication on meter (4) should remain constant within ± 1 dB.
If wrong, see para. 11 item 4.

6. Press "D3" ("D1", "D2", "D6" and "D10" remain pressed)
Set the tone generator to 1000 Hz and to such an output voltage that meter (4) indicates 2V.
Meter (6) indicates 250 mV AC or less.
If wrong, see para. 11 item 5.
7. Examine the wave form on the oscilloscope; there should be no visible distortion. If wrong, see para. 11 item 6.
8. Vary the tone generator frequency from 300 Hz to 3400 Hz. The indication on meter (4) should remain constant within ± 1 dB -4dB.
If wrong, see para. 11 item 7.
9. Press "D7" ("D6" releases) and release "D3". ("D1", "D2" and "D10" remain pressed). Meter (3) indicates 24 - 32 mA. If wrong, see para. 11 item 8.
10. Set tone generator to 1000 Hz and to such an output voltage that meter (6) indicates 400 mV. Meter (4) indicates 90 mV or more.
Check the wave form on the oscilloscope, there should be no visible distortion. If wrong, see para. 11 item 9.
11. Vary the tone generator frequency between 300 Hz and 3400 Hz; the indication on meter (4) should remain constant within ± 1 dB.
If wrong, see para. 11 item 10.
12. Press "D4" ("D1", "D2", "D7" and "D10" remain pressed)
Adjust the tone generator to 1000 Hz and to such an output voltage that meter (6) indicates 400 mV. Meter (4) indicates 90 mV or more. Check the wave form on the oscilloscope, there should be no visible distortion.
If wrong, see para. 11 item 11.
13. Vary the tone generator frequency between 300 Hz and 3400 Hz, the indication on meter (4) should remain constant within ± 1 dB. If wrong, see para. 11 item 12.
14. Press "D5" ("D1", "D2", "D4", "D7" and "D10" remain pressed) Adjust the tone generator to 1000 Hz and to such an output voltage that meter (6) indicates 2 V. Meter (4) indicates 2.75 V or more. If wrong, see para. 11 item 13.
15. Increase the output of the tone generator to such an output voltage that meter (6) indicates 2,5 V. Examine the wave form on the oscilloscope, there should be no visible distortion. If wrong, see para. 11 item 14.
16. Decrease the output of the tone generator to such an output voltage that meter (6) indicates 2 V. Vary the tone generator frequency from 300 Hz to 3400 Hz, the indication on meter (4) should remain constant within ± 1 dB. If wrong, see para. 11 item 15.

17. Release "D2", "D5" and "D10" ("D1", "D4" and "D7" remain pressed).
Press "D12" and "D14". Meter (8) indicates 6.2 - 7.5 V.
If wrong, see para. 11 item 16.
18. Release "D4" ("D1", "D7", "D12" and "D14" remain pressed).
Meter (8) indicates again 6.2 - 7.5 V.
If wrong, see para. 11 item 17.
19. If all requirements are met, module 13 has approval for use.

11. TROUBLE-SHOOTING OF MODULE 13

Trouble-shooting of module 13 always starts with the test procedure of paragraph 10. When a reading is not correct, remove the cover from the module and proceed directly to the indicated item of this paragraph.
Refer to paragraph 16 for the instructions of the repair of the module. After repair repeat the test sequence of paragraph 10.

1. The current consumption of printed circuit 13A is not correct. Meter (8) is connected to the testpin. Using the testpin measure with meter (8) the following DC voltages on 13A:

MP1 : 9.3 - 11.3 V	MP10 : 9.3 - 11.3 V
MP2 : 8.4 - 10.8 V	MP11 : 8.4 - 10.8 V
MP3 : 13.8 - 16.4 V	MP12 : 13.8 - 16.4 V
MP4 : 14.4 - 16.8 V	MP13 : 14.4 - 16.8 V
MP5 : 7.8 - 9.9 V	MP14 : 7.8 - 9.9 V
MP6 : 7.5 - 9.2 V	MP15 : 7.5 - 9.2 V
MP7 : 6.3 - 8.4 V	MP16 : 6.3 - 8.4 V
MP8 : 7.5 - 9.2 V	MP17 : 7.5 - 9.2 V
MP9 : 7.2 - 8.9 V	MP18 : 7.2 - 8.9 V

When a voltage is not correct, check the associated components.

2. The sensitivity of the extercom amplifier is too low.
Set the output of the tone generator to 100 mV (indicated on meter (6)).
Press "D14" ("D1", "D2", "D6" and "D10" remain pressed)
Meter (4) and the oscilloscope are now connected to the testpin. Using the testpin, measure with meter (4) the following AC voltages on 13A.

MP1 : 50 mV or more	MP7 : 3 V or more
MP3 : 100 mV or more	MP8 : 2.8 V or more
MP5 : 3 V or more	MP9 : 2.8 V or more
MP6 : 2.7 V or more	pin 10 : 2.7 V or more

If wrong, check the components involved.

3. Distorsion is visible in the output of the extercom amplifier. Increase the output of the tone generator until the tops of the sine wave are clipped.

The clipping of the positive and negative tops should be observed almost simultaneously and when meter (4) indicates 2 V or more.

If wrong, check on 13 A: R2, R3, R8, R11, GR1, GR2 and TS1 through TS4.

If necessary, check the DC voltages at MP1 through MP9 as mentioned in item 1 above.

4. If deviations are observed check C1 through C4 on 13 A
5. Sensitivity of the intercom amplifier is too low. Set the output of the tone generator to 250 mV (indicated on meter (6)). Press "D14" ("D1", "D2", "D3", "D6" and "D10" remain pressed). Meter (4) and the oscilloscope are now connected to the testpin. Using the testpin, measure with meter (4) the following AC voltages on 13 A:

MP10 : 50 mV or more	MP16 : 3 V or more
MP12 : 100mV or more	MP17 : 2.8 V or more
MP14 : 3 V or more	MP18 : 2.8 V or more
MP15 : 2.7 V or more	pin 1: 2.7 V or more

If wrong, check the components involved.

6. Distorsion is visible in the output of the intercom amplifier. Increase the output of the tone generator until the tops of the sine wave are clipped. The clipping of the positive and negative tops should be observed almost simultaneously and when meter (4) indicates 2 V or more. If wrong, check on 13A: R14, R15, R20, R23, GR3, GR4 and TS5 through TS8. If necessary, check the DC voltages at MP10 through MP18 as mentioned in item 1 above.
7. If deviations are observed, check C6 through C9 and C11 on 13A.
8. The current consumption of printed circuit 13B is not correct. Meter (8) is connected to the testpin. Using the testpin, measure with meter (8) the following DC voltages on 13 B:

MP1 : 8.5 - 9.5 V	MP8 : 9.0 - 10.5 V
MP2 : 8.0 - 9.1 V	MP9 : 9.6 - 11.2 V
MP3 : 14.0 - 16.0 V	MP10 : 2.5 - 3.0 V
MP4 : 7.0 - 8.5 V	MP11 : 1.8 - 2.5 V
MP5 : 15.4 - 16.5 V	MP12 : 5.0 - 6.5 V
MP6 : 7.5 - 8.8 V	MP13 : 9.0 - 10.5 V
MP7 : 6.0 - 7.0 V	MP14 : 9.6 - 11.2 V
MP18 : 7.0 - 8.5 V	MP15 : 2.5 - 3.0 V
MP19 : 6.8 - 8.0 V	MP16 : 1.8 - 2.5 V
	MP17 : 5.0 - 6.5 V

If wrong, check the components involved.

9. The sensitivity of the microphone amplifier intercom is too low or distortion is visible on the oscilloscope.

The tone generator is set to 400 mV (meter (6)). Press "D14" ("D1", "D2", "D7" and "D10" remain pressed). Meter (4) and the oscilloscope are now connected to the testpin. Using the testpin, measure with meter (4) the following AC voltages on 13B.

pin 10 : 80 mV or more	MP17 : 90 mV or more
MP13 : 5 mV or more	pin 9 : 90 mV or more
MP15 : 400 mV or more	

Check, if necessary, the DC voltages at testpoints MP13 through MP17 as mentioned in item 8 above. If wrong, check the associated components.

10. If deviations are observed, check C9, C10 and C11 on 13B.

11. The sensitivity of the microphone amplifier radio is too low or distortion is visible on the oscilloscope. The tone generator is set to 400 mV (meter (6)). Press "D14" ("D1", "D2", "D4", "D7" and "D10" remain pressed). Meter (4) and the oscilloscope are now connected to the testpin. Using the testpin, measure with meter (4) the following AC voltages on 13 B:

pin 7 : 80 mV or more	MP12 : 90 mV or more
MP8 : 5 mV or more	pin 4 : 90 mV or more
MP10 : 400 mV or more	

Check, if necessary, the DC voltages at testpoints MP8 through MP12 as mentioned in item 8 above. If wrong, check the components involved.

12. If deviations are observed, check C5, C6 and C7 on 13B.

13. The sensitivity of the telephone amplifier is too low. The tone generator is set to 2 V (meter 6)). Press "D14" ("D1", "D2", "D4", "D5", "D7" and "D10" remain pressed). Meter (4) and the oscilloscope are now connected to the testpin. Measure, using the testpin with meter (4) the following AC voltages on 13 B:

MP1 : 80 mV or more	MP7 : 3 V or more
MP3 : 120 mV or more	MP18 : 2.8 V or more
MP4 : 2.75 V or more	MP19 : 2.8 V or more
MP6 : 3 V or more	

If wrong, check the associated components.

14. Distorsion is visible in the output of the telephone amplifier. Increase the output voltage of the tone generator until the tops of the sine wave displayed on the oscilloscope are clipped. The clipping of the positive and negative tops should be observed almost simultaneously and when meter (6) indicates 2.5 V or more. If wrong, check on 13B: R2, R3, GR1, GR2 and TS1 through TS4, If necessary, check the DC voltages at testpoints MP1 through MP7, MP18 and MP19 as mentioned in item 8 above.

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15. If deviations are observed, check on 13B: C1 through C4.
16. Check R11 and C5 on 13 B.
17. Check R20 and C9 on 13 B.

12. TESTING MODULE 14

The testing of module 14 requires the same measuring instruments as mentioned for module 13 in paragraph 10.

For testing, proceed as follows:

Note: The numbers between brackets (.) refer to the measuring instruments listed in paragraph 10.

1. Connect the module tester (1) up as indicated in para. 10. Make sure that not a single pushbutton is pressed.
2. Insert the module to be tested in holder "14" of the tester. Check that the holder for module 13 is unoccupied.
3. Adjust the power supply (2) to 17 V DC and press "D1" "D8", "D13" and "D14". Meter (8) indicates 5.9 - 7.9 V. If wrong, see para. 13 item 1.
4. Press "D2". Meter (3) indicates 20 - 30 mA. If wrong, see para. 13 item 2.
5. Press "D11" ("D13" releases, "D1", "D2", "D8" and "D14" remain pressed). Meter (8) indicates 1.1 - 1.5 V. If wrong, see para. 13 item 3.
6. Release "D11" and "D14" and press "D10" and "D15" ("D1", "D2" and "D8" remain pressed). Set tone generator to 1000 Hz 2 Volts (indicated on meter (6)). Meter (4) indicates 50 mV AC or more. If wrong, see para. 13 item 4.
7. Press "D16" ("D15" releases, "D1", "D2", "D8" and "D10" remain pressed). Adjust tone generator to such an output voltage that meter (6) indicates 5.5 V AC. Meter (4) indicates 0,5 mV or less. If wrong, see para. 13 item 5.
8. Press "D17" ("D16" releases, "D1", "D2", "D8" and "D10" remain pressed). Set tone generator to such an output that meter (6) indicates 630 mV AC. Meter (4) indicates 65 mV AC or more. If wrong, see para. 13 item 4.
9. Release "D10" and press "D9", "D14" and "D18" ("D8" releases, "D1", "D2" and "D17" remain pressed) Meter (9) indicates 5.2. - 6.2 V DC. If wrong see para. 13 item 6.
10. Press "D19" ("D18" releases). Meter (9) indicates 7.8 - 9.2 V DC. If wrong, see para. 13 item 7.
11. Press "D20" ("D19" releases). Meter (9) indicates 7.8. - 9.2 V DC. If wrong see para. 13 item 8.
12. Press "D21" ("D20" releases). Meter (9) indicates 7.8 - 9.2 V DC. If wrong, see para. 13 item 9.

13. Press "D22" ("D21" releases). Meter 9 indicates 10.3 - 12.3 V DC. If wrong, see para. 13 item 6.
14. If all requirements are met, module 14 has approval for use.

13. TROUBLE-SHOOTING OF MODULE 14

Trouble-shooting of module 14 always starts with the test procedure of paragraph 12. When a reading is not correct remove the cover from the module and proceed directly to the indicated item of this paragraph.

Refer to paragraph 16 for the instructions of the repair of the module. After repair, repeat the test sequence of paragraph 12.

1. Check on 14A : GR1, C1, R1, R2 and R4.
2. Check on 14A : R2 and R4
3. Check on 14A : R9, R10 and R11
4. Check on 14A : T1, T2, R3, R6, R7 and R8.
5. Adjust R6 "A" on 14A for minimum reading.
If still wrong, proceed to item 4 above.
6. Check on 14B : R5, R6 and R7
7. Check on 14B : R3 and R8
8. Check on 14B : R2 and R9
9. Check on 14B : R1 and R10

14. TROUBLE-SHOOTING AND REPAIRING THE FRAME ASSEMBLY MODULE 15

The frame assembly may be best tested with tested modules 13 and 14 fitted, following the test procedure of the central control unit in paragraph 9.

Using the circuit diagram (fig. 4) the test will give an indication which part of the circuit is at fault. By means of the wiring diagram (fig. 9) wiring list (para 17) and an ohmmeter, the faulty part(s) may be located.

15. MECHANICAL MAINTENANCE AND REPAIR OF THE FRAME ASSEMBLY (FIG. 5)

a. Removal from the cabinet

Loosen the four set screws in the four bridge clamps, swing the clamps outwards and remove the central control unit from the cabinet.

b. Removal of the modules 13 and 14

Loosen the captive screws (2) at the underside of the chassis and pull the modules from the unit by the two rings on top of the module.

c. Replacing the connectors

Before removing a connector, mark the connected wires for later identification.

Fig. 2 shows in what position the keys of the connectors "201", "202" and "203" have to be fitted. Do not forget to replace the O-ring on the connector before fitting. The O-rings should be greased as described under g.

d. Air leakage

Air leakage can be tested only, of course, with an IC-3620 combined in a case together with a power supply unit. Alternatively the unit can be tested in a specially designed case.

After removing the screw on the front of the unit (located between volume control "208" and pilot lamp "207") a fitting comes available for attaching a compressed air hose. Pressurise the case inside with a maximum of 0.1 atmosphere above normal. In this condition immerse the case in a tank of water. No air bubbles should escape.

e. Replacement and maintenance of the blocks

The blocks (1) have to be mounted accurately. The intervening space is given on the figure. These blocks and the headed shoulder pins are not to be painted.

f. Replacing the terminal boards.

If the terminal boards (sockets of modules 13 and 14) are replaced, care should be taken that the boards are mounted in the correct position.

To insure correct alignment of the terminal board with the earth sockets in the chassis, use a spare module 13 or 14 as jig before tightening the six screws. Tighten the six screws with a torque of 4,5 kg/cm. A spare module 13 or 14 should also be plugged in the terminal board before soldering the wires to the contacts.

This improves the alignment of the contacts.

g. The cleaning and greasing of rubber O-rings

All rubber O-rings used in the set should be greased before mounting.

If an O-ring has been dirtied during disassembly it can be wiped clean with a dry cloth. Afterwards it should be greased again. Even slightly damaged O-rings should be replaced. The greasing of the O-rings is done in the following way:

- . Prepare a mixture of 6 parts by weight silicone grease type DC33 light (manufacturer DOW CORNING) and 40 parts by weight refined petrol.
See to it that the grease is completely dissolved.
- . Dip the O-ring in the mixture but do not immerse it for more than 10 seconds.
- . Let the O-ring dry for 24 hours .

If too much solvent evaporates, a new mixture should be prepared. Greased O-rings which are not used at once should be wrapped in plastic foil. The silicone grease should not come in contact with other parts of the set. If necessary use cleaning fluid nr. 14 (Philips order code 1322 501 06401) to remove grease.

Warning! The mixture of silicone grease and refined petrol is inflammable, gives off poisonous fumes and may damage the skin after prolonged contact. Keep fire away, have a fume exhaust working and wear gloves.

h. Replacement of the rubber seal in the front

The rubber seal is glued to the front.

Pull the old seal from the groove and remove the remaining glue with a special thinner (Philips order code 1322 508 72501)

Carefully clean both the groove and the new seal with a special cleaning fluid (Philips order code 1322 510 50701). Do not keep the seal more than 10 sec. in the cleaning fluid. Dry the seal with oilfree compressed air.

Apply a very thin layer of glue (philips order code 1322 508 72401) to the bottom of the groove. The layer of glue should be appr. 2 mm wide and without interruptions or thick spots.

Let the glue dry for 20 to 30 minutes and carefully press the seal in the groove. Remove excess glue with the special thinner. Let the glue dry for 48 hours. Before mounting the unit in the cabinet the seal should be greased lightly with silicon grease (Philips order code 1322 504 98001)

Warning: all ingredients used are inflammable. Keep fire away! Clean the hands carefully afterwards.

16. DISASSEMBLY AND ASSEMBLY OF MODULES 13 AND 14 (FIGS.7 AND 8)

Loosen the two screws on top of the module and remove the cover. Unscrew the five fastening screws of the circuit to be repaired and remove this circuit.

Removing a part from a printed circuit may be best done by first cutting the connecting wires, after which the part may be removed and the wires unsoldered,

Parts that are glued to the print may be removed by carefully heating the glue with a soldering iron.

If the part has a plastic envelop, cut the plastic envelop first, then cut the wires, after which the part may be removed from the print and the glued envelope may be removed with the soldering iron. Be very careful not to damage the printed wiring.

When new parts are to be glued to the printed circuit use a cement composed of an epoxy resin and a catalyst (hardening agent) (e.g. Philips code nos 1322 501 36601 and 3522 502 14301).

Proceed as follows:

- . Carefully degrease the parts to be glued together.
- . Mix equal parts of epoxy resin and catalyst thoroughly taking care to avoid air bubbles in the mixture.

A mixture so prepared is immediately ready for use and will remain workable for about 45 minutes at approx. 18°C (65°F)

When the mixture thickens, do not try to dilute it. Never prepare more of the mixture than you will need immediately.

- . Apply the cement with a small brush or spatula.
- . Allow the cement to set. This takes 3 hours at 70°C (160°F) in an oven.

If the hardened glue must have high electrical surface resistance do not prepare and apply the cement at relative humidities of 60% and upwards.

Parts having a weight of over 15 grammes have to be glued to the print. This is also the case with parts having connecting wires exceeding a length of 25 mm and a weight of over 5 grammes.

During the assembly of the modules, care should be taken with the alignment of the two printed circuits with respect to each other and with the bottom of the module. Use the appropriate socket of the module tester TS-3610 as jig to insure correct alignment before tightening the screws.

Section 3 - Wiring list17. WIRING LIST OF THE FRAME ASSEMBLY (MODULE 15)

Use the list below in combination with fig. 9.
This figure shows, in addition to the routing of the wiring harnesses, the numbers of terminations and components. Where the term "pin" is used, this invariably refers to a pin of a terminal board.

no.	colour	from	to	wiring harness
1	green	PD5-A	SK3-2	1
2	green	PD5-B	SK3-2	1
3	green	PD5-C	SK3-2	1
4	green	PD5-D	SK3-2	1
5	blue-white	PD3-A	R2-2	1
6	blue-white	PD4-A	R3-2	1
7	black	PD3-B	PD4-B	1
8	violet-white	PD3-D	PD4-D	1
9	brown	PD3-F	PD4-F	1
10	violet	PD3-H	PD4-H	1
11	orange-white	PD3-L	PD4-L	1
12	cond.	PD3-C	PD4-C	1
	screen	PD3-E	PD4-E	1
13	cond.	PD3-K	PD4-K	1
	screen	PD3-E	PD4-E	1
14	brown	PD3-F	SK1-R7	1
15	blue	R2-3	R3-3	1
16	black	PD3-B	R2-1	1
17	black	PD4-B	R3-1	1
18	green	SK4-r1	SK5-r8	1
19	blue	SK4-r5	SK5-r4	1
20	green-white	SK4-r9	SK5-r2	1
21	cond.	SK1-f9	SK5-r10	
	screen	post 1		
22	cond.	SK1-f4	SK5-r11	
	screen	post 1		
23	cond.	SK1-r6	SK2-1	
	screen	post 2	post 3	
24	-	SK5-r4	SK5-r6	
25	-	SK5-f5	SK5-f8	
29	brown-white	PD1-A	pin A5	2
30	grey	PD1-B	pin A3	2
31	brown	PD1-C	pin A4	2
32	black	PD1-D	pin H3	2
33	red-white	PD1-E	pin C5	2
34	white	PD1-F	pin C3	2
35	red	PD1-G	pin C4	2
36	orange-white	PD1-H	pin J4	2
37	yellow-white	PD1-J	pin E5	2
38	grey-white	PD1-K	pin E3	2
39	yellow	PD1-L	pin E4	2
40	black	PD1-M	pin J2	2
41	blue-white	PD1-N	pin G4	2

no.	colour	from	to	wiring harness
42	violet	PD1-P	pin D3	2
43	orange	PD1-R	pin J5	2
44	violet-white	PD1-S	pin H5	2
45	cond.	PD1-T	pin B1	2
	screen	PD1-U	pin B2	2
46	cond.	PD1-V	pin D1	2
	screen	PD1-W	pin D2	2
47	cond.	PD1-X	pin F1	2
	screen	PD1-Y	pin F2	2
48	cond.	PD1-Z	pin G1	2
	screen	PD1-a	pin G2	2
49	cond.	PD1-b	pin H1	2
	screen	PD1-c	pin H2	2
55	brown-white	PD2-A	pin A5	3
56	grey	PD2-B	pin A3	3
57	brown	PD2-C	pin A4	3
58	black	PD2-D	pin H3	3
59	red-white	PD2-E	pin C5	3
60	white	PD2-F	pin C3	3
61	red	PD2-G	pin C4	3
62	orange-white	PD2-H	pin J4	3
63	yellow-white	PD2-J	pin E5	3
64	grey-white	PD2-K	pin E3	3
65	yellow	PD2-L	pin E4	3
66	black	PD2-M	pin J2	3
67	blue-white	PD2-N	pin G4	3
68	violet	PD2-P	pin D3	3
69	orange	PD2-R	pin J5	3
70	violet-white	PD2-S	pin H5	3
71	cond.	PD2-T	pin B1	3
	screen	PD2-U	pin B2	3
72	cond.	PD2-V	pin D1	3
	screen	PD2-W	pin D2	3
73	cond.	PD2-X	pin F1	3
	screen	PD2-Y	pin F2	3
74	cond.	PD2-Z	pin G1	3
	screen	PD2-a	pin G2	3
75	cond.	PD2-b	pin H1	3
	screen	PD2-c	pin H2	3
81	cond.	pin H1	14A-7	4
	screen	pin H2	14A-6	4
82	cond.	14A-7	13A-7	4
	screen	14A-6	13A-8	4
83	cond.	pin G1	SK1-r6	4
	screen	pin G2	post 2	4
84	cond.	pin E1	SK1-r2	4
	screen	pin E2	post 2	4
85	cond.	pin C1	SK1-r3	4
	screen	pin C2	post 2	4
86	cond.	pin A1	SK1-r4-r5	4
	screen	pin A2	post 2	4
87	cond.	pin E1	SK5-f4	4
	screen	pin E2		4
88	cond.	pin C1	SK5-f2-f11	4
	screen	pin C2		4
89	cond.	pin A1	SK5-f9	4
	screen	pin A2		4

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no.	colour	from	to	wiring harness
90	cond.	pin F1	BD7-6	4
	screen	pin F2	post 4	4
91	cond.	pin D1	BD7-5	4
	screen	pin D2	post 4	4
92	cond.	pin B1	BD7-4	4
	screen	pin B2	post 4	4
93	cond.	pin L1	SK5-f3	4
	screen	pin L3		4
94	cond.	pin L2	SK5-f5	4
	screen	pin L3		4
95	cond.	pin L4	SK5-f10	4
	screen	pin L3		4
96	cond.	SK2-1	13A-3	4
	screen	post 3	13A-2	4
97	cond.	SK2-1	13B-9	4
	screen	post 3	13B-6	4
98	cond.	SK1-r1	13B-4	4
	screen	post 2	13B-6	4
99	cond.	SK1-f9	14B-1	4
	screen	post 1		4
100	cond.	SK1-f6	14B-3	4
	screen	post 1		4
101	cond.	SK1-f4	14B-4	4
	screen	post 1		4
102	cond.	SK1-f11	14B-2	4
	screen	post 1		4
103	cond.	SK1-f11	13B-3	4
	screen	post 1	13B-2	4
104	cond.	PD3-C	13B-7	4
	screen	PD3-E	13B-6	4
105	cond.	PD4-K	13B-10	4
	screen	PD4-E	13B-6	4
110	yellow	pin F4	BD7-12	4
111	red	pin D4	BD7-11	4
112	brown	pin B4	BD7-10	4
113	yellow-white	pin F5	BD7-9	4
114	red-white	pin D5	BD7-8	4
115	brown-white	pin B5	BD7-7	4
116	grey-white	pin E3	BD7-3	4
117	white	pin C3	BD7-2	4
118	grey	pin A3	BD7-1	4
119	black-white	post 4	BD7-13	4
120	blue	14A-8	BD7-14	4
121	blue	14A-9	BD7-15	4
122	blue-white	pin G4	14A-10	4
123	brown-white	14B-10	pin A5	4
124	yellow-white	14B-8	pin E5	4
125	red-white	14B-7	pin C5	4
126	violet-white	14B-9	pin H5	4
127	yellow	pin E4	SK1-r8	4
128	red	pin C4	SK1-r9	4
129	brown	pin A4	SK1-r10/r11	4
130	orange	pin G3	GR1-2	4
131	violet-white	pin H5	13A-10	4

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no.	colour	from	to	wiring harness
132	grey	pin A3	SK4-r10	4
133	white	pin C3	SK4-r6	4
134	grey-white	pin E3	SK4-r2	4
135	violet	pin B3	SK4-f6	4
136	blue-white	pin G5	13A-1	4
137	brown	pin B4	SK5-r7	4
138	red	pin D4	SK5-r1-r9	4
139	yellow	pin F4	SK5-r3	4
140	orange-white	pin N4	BD6-1	4
141	black	pin J2	BD6-2	4
142	green-white	BD6-7	SK3-1	4
143	green-white	BD6-8	SK3-1	4
144	green-white	BD6-9	SK3-1	4
145	green-white	BD6-10	SK3-1	4
146	black	BD6-3	PD5-H	4
147	black	BD6-4	PD5-G	4
148	black	BD6-5	PD5-F	4
149	black	BD6-6	PD5-E	4
150	black-white	BD6-11	pin N1	4
151	brown	SK6-1	BD6-15	4
152	yellow	SK6-3/4	BD6-14	4
153	red	SK6-8	BD6-12	4
154	black	SK6-5	pin J2	4
155	orange-white	pin M5	LA1-1	4
156	black	LA1-2	pin J1	4
157	black-white	pin N1	13A-2	4
158	black-white	pin N2	13A-8	4
159	black-white	pin N2	13B-6	4
160	black-white	pin N3	14A-6	4
161	black	pin J1	13B-2	4
162	black	pin J3	14A-3	4
163	black	pin J1	SK4-f2	4
164	black-white	pin N3	PD4-E	4
165	violet	PD4-H	SK4-f3	4
166	orange-white	pin N4	GR1-1	4
167	orange-white	pin N4	13A-6	4
168	orange-white	pin N5	13B-1	4
169	orange-white	pin N5	14A-2	4
170	orange-white	pin J5	PD3-L	4
171	violet-white	PD3-D	14A-4	4
172	black	PD3-B	pin J3	4
173	blue	R2-3	13B-5	4
174	blue-white	14A-10	14B-5	4
175	blue-white	14A-5	14B-5	4
176	violet-white	14A-4	14B-6	4
177	orange-white	14A-1	13B-8	4
179	-	14A-5	14B-5	
180	-	SK1-r4	SK1-r5	
181	-	SK1-r10	SK1-r11	
182	-	SK5-f2	SK5-f11	
183	-	SK5-r1	SK5-r9	
184	-	SK6-3	SK6-4	

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REPAIR PARTS LIST

PREFACE

1) General

This manual is a list of items authorized for operator (first echelon) organizational (second echelon), field (third echelon) and depot (fourth and fifth echelon) maintenance.

The unit is divided in subassemblies as indicated on page 3.

From the subassemblies, the maintenance repair parts are listed in a alpha numerical order.

The fastening material of a repair part is listed directly below this repair part and the quantities of this fastening material are given for one repair part only. Fastening material for parts which are not repair parts, are listed as the maintenance repair parts mentioned above.

2) Explanation of columns

Column 1 lists the NATO stocknumber of the item

Column 2 lists the Manufacturing Code Number of the item

Column 3 lists the official name of the item and any additional description required for supply operations.

Column 4 lists the quantities of the item, used in the next higher assembly of this item.

Unless otherwise indicated, the quantities are given in pieces.

Column 5 lists the echelon which is authorized to make a request for the item.

Column 6 lists the number of the figure, which shows the location of the item.

Column 7 lists the key number of the item on the figure, mentioned in column 6.

3) Abbreviations

The abbreviations listed below may repair in this manual.

al	aluminium
al-alloy	aluminium alloy
amp	ampere(s)
anodic-fin	anodic-finish
approx	approximate(ly)
assy	assembly
blk	black
blu	blue
br	brass
brn	brown
bz	bronze
cd	cadmium
cd-pltd	cadmium-plated
cond	conductor(s)

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cop	copper
cop-pltd	copper-plated
corr-res-s	corrosion-resistant steel
dp	double-pole
dpdt	double-pole, double-throw
dpst	double-pole, single-throw
fil-hd	fillister head
fl-fil-hd	flat fillister head
fl-hd	flat head
grn	green
hex	hexagon
hex-hd	hexagon head
in id	inside diameter
l	length
ni	nickel
ni-pltd;	nickel plated
no	number
od	outside diameter
orn	orange
p-bz	phosphor bronze
posn	position(s)
pr	purple
ru	rubber
s	steel
sil-pltd	silver-plated
sltd	slotted
spdt	single-pole, double throw
spst	single-pole, single-throw
spg-s	spring-steel
sq-hd	square head
stls-s	stainless steel
term	terminal
thk	thick
tn-pltd	tin plated
tot	total
vio	violet
w/	with
wht	white
yel	yellow
zn	zinc
zn-pltd	zinc-plated

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CENTRAL CONTROL UNIT IC-3620

This equipment consists of the following subassemblies:

Frame assembly, Module 15	page 4
Module, 13	page 18
Module, 14	page 25

Line No.	NATO Stocknumber	Mfg. Code No.	Description	Quant.	Echelon	Fig. No.	Key No.	Remarks
	1	2	3	4	5	6	7	8
1	5820-17-033-6328 ----- -----	3522 140 70471 ¹ 3522 142 69491 ² 3522 142 80431 ³	FRAME ASSEMBLY, MODULE 15 <u>consisting of the following spare parts:</u>	1	3			
2	5340-17-033-0219	3522 102 91541	BLOCK; cr-ni-s; to guide stacked units <u>secured with:</u>	2	3	7	1	
3	5305-17-033-0075	2522 001 24171	SCREW, FL-FIL-HD; corr-res-s; type AM4 x 10 NEN 1602	2	3			
4	5310-17-033-6249	2522 613 03009	WASHER, LOCK; p-bz ni-pltd; type B4,1 NEN 1197	2	3			
5	5340-17-033-0220	3522 102 93461	BLOCK; cr-ni-s; to secure stacked units <u>secured with:</u>	1	3	1	6	
6	5305-17-033-0189	3522 102 93471	SCREW, SHOULDERED; cr-ni-s; M5; thread 1 5.3 mm, tot 1 1 17 mm	1	3			
7	5310-17-033-0188	3522 102 93451	WASHER, FLAT; cr-ni-s; 17 mm od 9 mm id, 1 mm thk	1	3			
8	5820-17-033-0221	3522 140 75551	CHASSIS; al-alloy, anodic fin	1	5	7	13	
9	5925-00-934-3098	3522 020 71761	CIRCUIT BREAKER; spst (206)	1	3	1		

¹⁾ With Dutch designation plates
²⁾ With Spanish designation plates
³⁾ With German designation plates

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Line No.	NATO Stocknumber	Mfg. Code No.	Description	Quant.	Echelon	Fig. No.	Key No.	Remarks
	1	2	3	4	5	6	7	8
			FRAME ASSEMBLY (continued)					
1	5340-17-033-0218	3522 102 91581	CLAMP; cr-ni-s; to secure stacked units	1	3	7	31	
			<u>secured with:</u>					
2	5315-17-033-0183	3522 102 91501	PIN, SHOULDER, HEADLESS; cr-ni-s	2	3	7	30	
3	5340-17-033-0203	3522 140 75031	POST, ELECTRICAL, MECHANICAL EQUIPMENT; consisting of stud, washer and nut	1	3	7	33	
4	5340-17-033-0071	2522 634 05006	RING, RETAINING; spring steel cd-pltd; type 3,2 DIN 6799	2	3	7	29	
5	5935-00-844-4223	3522 020 38181	CONNECTOR, RECEPTACLE, ELECTRICAL; 8 male contacts; type MS 3112E-16-8P; on Front (201)	1	4	1		
			<u>secured with:</u>					
6	5305-17-033-0074	2522 001 24098	SCREW, FL-FIL-HD; corr-res-s; type AM3 x 8 NEN 1602	4	4			
7	5310-17-015-5052	2522 613 03005	WASHER, LOCK; p-bz ni-pltd; type B3,1 NEN 1197	4	4			
8	5935-00-549-2646	3522 020 55761	CONNECTOR, RECEPTACLE, ELECTRICAL; 10 contacts; type U-79/U; on Front (204, 205)	2	4	1		
9	5935-17-035-2634	3522 020 72101	CONNECTOR, RECEPTACLE, ELECTRICAL; 15 female contacts, on rear side of Chassis	2	4	7	12	
			<u>secured with:</u>					
10	5305-17-005-1460	2522 005 01016	SCREW, FL-FIL-HD; s cd-pltd; type AM2 x 8 DIN 84	2	4			

Line No.	NATO Stocknumber	Mfg. Code No.	Description	Quant.	Echelon	Fig. No.	Key No.	Remarks
	1	2	3	4	5	6	7	8
			<u>FRAME ASSEMBLY (continued)</u>					
1	5310-17-036-9352	2522 600 16151	WASHER, FLAT; s cd-pltd; 5 mm od, 2.2 mm id, 0.3 mm thk	2	4			
2	5310-17-032-5543	2522 613 01001	WASHER, LOCK; p-bz cd-pltd; type B2,1 NEN 1197	2	4			
3	5935-00-835-3031	3522 020 38191	CONNECTOR, RECEPTACLE, ELECTRICAL; 26 male contacts; type MS 3112E-16-26P; on Front (202, 203) <u>secured with:</u>	2	4	1		
4	5305-17-033-0074	2522 001 24098	SCREW, FL-FIL-HD; corr-res-s; type AM3 x 8 DIN 1602	4	4			
5	5310-17-015-5052	2522 613 03005	WASHER, LOCK; p-bz ni-pltd; type B3,1 NEN 1197	4	4			
6	5940-17-033-7242	3522 103 04201	CONTACT, ELECTRICAL; br sil-pltd; tot l 8.5 mm; for Terminal boards 5940-17-036-9389 and 5940-17-033-8231	40	4			
7	5340-17-033-0223	3522 140 76471	CORNER PIECE; al-alloy anodic-fin <u>secured with:</u>	2	5	7	11	
8	5305-17-022-0045	2522 005 01069	SCREW, FL-FIL-HD; s cd-pltd; type AM3 x 10 NEN 1602	2	5			
9	5310-17-025-9030	2522 600 16016	WASHER, FLAT; s cd-pltd; type 3,2 DIN 433	2	5			
10	5310-17-024-5506	2522 613 01005	WASHER, LOCK; p-bz cd-pltd; type B3,1 NEN 1197	2	5			

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Line No.	NATO Stocknumber	Mfg. Code No.	Description	Quant.	Echelon	Fig. No.	Key No.	Remarks
	1	2	3	4	5	6	7	8
			FRAME ASSEMBLY (continued)					
1	5935-17-036-0807	3522 142 37691	COVER, ELECTRICAL CONNECTOR <u>secured with:</u>	3	3	1	3	
2	5305-17-710-1645	2522 001 24045	SCREW, FL-FIL-HD; corr-res-s; type AM2 x 6 NEN 1602	1	3	1	2	
3	5310-17-033-4820	2522 613 03001	WASHER, LOCK; p-bz; ni-pltd; type B2,1 NEN 1197	1	3			
4	5820-17-033-6323	3522 140 77461	FRONT; al-alloy; for Module 15 <u>secured with:</u>	1	5	1	1	
5	5305-17-033-0190	3522 102 78921	SCREW, FL-FIL-HD; cr-ni-s; M4; thread 1 4,1 mm, shank 1 6 mm tot 1 12.8 mm	2	5	7	2	
6	5305-17-024-5511	2522 005 01141	SCREW, FL-FIL-HD; s cd-pltd; type AM4 x 10 DIN 84	2	5	7	3	
7	5310-17-024-5507	2522 613 01009	WASHER, LOCK; p-bz cd-pltd; type B4,1 NEN 1197	2	5	7	4	
8	5970-17-036-9442	3522 020 34881	INSULATOR, STAND-OFF; near SK2 <u>secured with:</u>	1	4	7	15	
9	5970-17-036-9441	2522 600 13007	INSULATOR, WASHER; paper; type 2,2 NEN 2270	2	4			
10	5310-17-022-4380	2522 405 02005	NUT, HEXAGON; s cd-pltd; type M2 NEN 1560	1	4			
11	5305-17-036-9340	2522 005 01021	SCREW, FL-FIL-HD; s cd-pltd; type AM2 x 18 NEN 1602	1	4			
12	5310-12-139-3850	2522 600 16007	WASHER, FLAT; s cd-pltd; type 2,2 DIN 433	1	4			
13	5310-17-032-5543	2522 613 01001	WASHER, LOCK; p-bz cd-pltd; type B2,1 NEN 1197	1	4			

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Line No.	NATO Stocknumber	Mfg. Code No.	Description	Quant.	Echelon	Fig. No.	Key No.	Remarks
	1	2	3	4	5	6	7	8
			FRAME ASSEMBLY (continued)					
1	5935-17-033-0426	3522 020 68791	JACK, TIP; 1 contact; on rearside of Chassis	2	3	7	17	
2	5355-17-033-5215	3522 103 29041	KNOB; zn-alloy; for Resistor, variable (208, 209) <u>secured with:</u>	2	2	1		
3	5310-17-032-9882	3522 102 67211	PLATE, LOCKING; p-bz ni-pltd	1	2			
4	5305-17-032-9887	3522 102 67201	SCREW, CAPTIVE; cr-ni-s; M3; thread 1 3 mm, shank 1 7 mm	1	2			
5	5355-17-033-6419	3522 103 29061	KNOB; zn-alloy; for Switch, rotary (210, 211, 212, 213) <u>secured with:</u>	4	2	1		
6	5310-17-032-9882	3522 102 67211	PLATE, LOCKING; p-bz ni-pltd;	1	2			
7	5305-17-032-9887	3522 102 67201	SCREW, CAPTIVE; cr-ni-s; M3; thread 1 3 mm, shank 1 7 mm	1	2			
8	6240-00-940-7070	9234 635 18313	LAMP, INCANDESCENT; 14V; 80 mA (207)	1	1	1		
9	6210-17-032-9973	3522 020 38011	LENS, INDICATOR LIGHT; red (207)	1	2	1		
10	6210-00-926-7786	3522 020 38001	LIGHT, INDICATOR; br ni-pltd (207)	1	3	1		
11	5330-17-033-5825	2622 080 30708	O-RING; ru; 10.31 mm od, 6.75 mm id, 1.78 mm thk; to ensure the unit is airtight	1	5	1	7	

Line No.	NATO Stocknumber	Mfg. Code No.	Description	Quant.	Echelon	Fig. No.	Key No.	Remarks
	1	2	3	4	5	6	7	8
			FRAME ASSEMBLY (continued)					
1	5330-17-033-5209	2622 080 30993	O-RING; ru; 29.05 mm od, 23.81 mm id, 2.62 mm thk; for Connector receptacle, electrical (201, 202, 203)	3	4	1		
2	5315-17-033-0184	3522 102 91521	PIN, SHOULDER, HEADED; cr-ni-s; to guide stacked units	2	3	1	4	
3	5820-17-033-6327	3522 102 97251 ¹⁾	PLATE, DESIGNATION; al	1	3	1	5	
	-----	3522 103 82621 ²⁾						
	-----	3522 103 93121 ³⁾						
			<u>secured with:</u>					
4	5305-17-033-0073	2522 001 24044	SCREW, FL-FIL-HD; corr-res-s; type AM2 x 5 NEN 1602	5	3			
5	5310-17-033-4820	2522 613 03001	WASHER, LOCK; p-bz ni-pltd; type B2,1 NEN 1197	5	3			
6	5905-00-914-6336	2322 125 54649	RESISTOR, FIXED, FILM; 46.4 ohm $\pm$ 1% 0.125W; type RN55D46R4F (R1)	1	3	7		
7	5905-17-034-2886	3522 020 55591	RESISTOR, VARIABLE; 1 kohm $\pm$ 10%; 2W (208, 209)	2	4	1		
8	5305-17-033-0191	3522 102 93651	SCREW, CAPTIVE; cr-ni-s; M4; thread 1 5 mm tot 1 14.5 mm, to secure Module	2	4			

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- 1) With Dutch text
 2) With Spanish text
 3) With German text

Line No.	NATO Stocknumber	Mfg. Code No.	Description	Quant.	Echelon	Fig. No.	Key No.	Remarks
	1	2	3	4	5	6	7	8
			FRAME ASSEMBLY (continued)					
1	5305-17-032-9886	3522 102 90181	SCREW, FL-FIL-HD; cr-ni-s; M5; thread 1 5.6 mm, shank 1 8 mm; to ensure the unit is airtight	1	5	1	8	
2	5330-17-033-0204	3522 102 67791	SEAL, RUBBER STRIP; ru, nitril, black; 249 x 79 x 4 mm	1	3			
3	5961-00-878-2737	9330 720 70682	SEMICONDUCTOR DEVICE, DIODE; type 1N1126A (GR1)	1	4	7		
			<u>secured with:</u>					
4	5961-17-036-9378	9330 091 70002	INSULATION, SEMICONDUCTOR DEVICE	1	4			
5	5310-17-003-1856	2522 449 01009	NUT, HEXAGON; br ni-pltd	1	4			
6	5310-17-036-4247	2522 616 06008	WASHER, LOCK; EXTERNALLY TOOTHED; spg-s ni-pltd	1	4			

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Line No.	NATO Stocknumber	Mfg. Code No.	Description	Quant.	Echelon	Fig. No.	Key No.	Remarks
	1	2	3	4	5	6	7	8
			FRAME ASSEMBLY (continued)					
1	5820-17-034-3761	3522 142 25551	SHIELD, PROTECTING; al-alloy <u>secured with:</u>	1	4	7	18	
2	5305-17-003-5781	2522 005 01068	SCREW, FL-FIL-HD; s cd-pltd; type AM3 x 8 DIN 84	5	4			
3	5310-17-025-9030	2522 600 16016	WASHER, FLAT; s cd-pltd; type 3,2 DIN 433	5	4			
4	5310-17-024-5506	2522 613 01005	WASHER, LOCK; p-bz cd-pltd; type B3,1 NEN 1197	5	4			
5	5340-17-033-6343	3522 103 07871	STRAP, RETAINING; cr-ni-s <u>secured with:</u>	2	4	7	28	
6	5310-17-022-4379	2522 405 02008	NUT, HEXAGON; s cd-pltd; type M3 NEN 1560	2	4			
7	5305-17-003-5781	2522 005 01068	SCREW, FL-FIL-HD; s cd-pltd; type AM3 x 8 DIN 84	2	4			
8	5310-17-024-5506	2522 613 01005	WASHER, LOCK; p-bz cd-pltd; type B3,1 NEN 1197	2	4			
9	5340-17-033-6344	3522 103 07851	STRAP, RETAINING; cr-ni-s <u>secured with:</u>	2	4	7	27	
10	5305-17-003-5781	2522 005 01068	SCREW, FL-FIL-HD; s cd-pltd; type AM3 x 8 DIN 84	2	4			
11	5310-17-024-5506	2522 613 01005	WASHER, LOCK; p-bz cd-pltd; type B3,1 NEN 1197	2	4			

Line No.	NATO Stocknumber	Mfg. Code No.	Description	Quant.	Echelon	Fig. No.	Key No.	Remarks
	1	2	3	4	5	6	7	8
			<u>FRAME ASSEMBLY (continued)</u>					
1	5340-17-033-0202	3522 102 93481	STRAP, RETAINING; double, cr-ni-s; <u>secured with:</u>	1	4	7	25	
2	5305-17-003-5781	2522 005 01068	SCREW, FL-FIL-HD; s cd-pltd; type AM3 x 8 DIN 84	2	4			
3	5310-17-024-5506	2522 613 01005	WASHER, LOCK; p-bz cd-pltd; type B3,1 NEN 1197	2	4			
4	5340-17-033-0201	3522 102 93491	STRAP, RETAINING; single; cr-ni-s <u>secured with:</u>	2	4	7	32	
5	5310-17-033-0072	2522 405 02011	NUT, HEXAGON; s cd-pltd; type M4 NEN 1560	1	4			
6	5305-17-015-4251	2522 005 01139	SCREW, FL-FIL-HD; s cd-pltd; type AM4 x 8 NEN 1602	1	4			
7	5310-17-024-5507	2522 613 01009	WASHER, LOCK; p-bz cd-pltd; type B4,1 NEN 1197	1	4			
8	5340-17-036-7390	3522 103 78401	STRAP, RETAINING; single; cr-ni-s <u>secured with:</u>	1	4	7	5	
9	5305-17-003-5781	2522 005 01068	SCREW, FL-FIL-HD; s cd-pltd; type AM3 x 8 DIN 84	1	4			
10	5310-17-024-5506	2522 613 01005	WASHER, LOCK; p-bz cd-pltd; type B3,1 NEN 1197	1	4			

Line No.	NATO Stocknumber	Mfg. Code No.	Description	Quant.	Echelon	Fig. No.	Key No.	Remarks
	1	2	3	4	5	6	7	8
			<u>FRAME ASSEMBLY (continued)</u>					
1	5340-17-036-7391	3522 103 82001	STRAP, RETAINING; single; cr-ni-s for Wiring harness no. 2 <u>secured with:</u>	1	4	7	6	
2	5305-17-003-5781	2522 005 01068	SCREW, FL-FIL-HD; s cd-pltd; type AM3 x 8 DIN 84	1	4			
3	5310-17-024-5506	2522 613 01005	WASHER, LOCK; p-bz, cd-pltd; type B3,1 NEN 1197	1	4			
4	5930-17-033-0414	3522 020 54881	SWITCH, ROTARY; 2 poles, 3 posn (212)	1	3	1		
5	5930-17-033-7815	3522 020 72181	SWITCH, ROTARY; 3 poles, 5 posn (211)	1	4	1		
6	5930-17-033-7181	3522 020 54921	SWITCH, ROTARY; 4 poles; 3 posn (210)	1	4	1		
7	5930-17-033-7180	3522 020 54931	SWITCH, ROTARY; 5 poles; 5 posn (213)	1	4	1		
8	5930-99-051-0551	3522 020 00701	SWITCH, TOGGLE; 1 pole; 250V; 3A (214)	1	3	1		

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Line No.	NATO Stocknumber	Mfg. Code No.	Description	Quant.	Echelon	Fig. No.	Key No.	Remarks
	1	2	3	4	5	6	7	8
			FRAME ASSEMBLY (continued)					
1	5940-17-033-6316	3522 103 23611	TERMINAL BOARD; for 10 term; 30 x 17 x 1 mm; for Terminal board 5940-17-036-9389 and 5940-17-033-8231 <u>secured with:</u>	4	4			
2	5310-17-032-9692	2522 405 01003	NUT, HEXAGON; br ni-pltd; type M1,4 DIN 934	2	4			
3	5305-17-032-9695	2522 021 02018	SCREW, FL-HD; s ni-pltd; type M1,4 x 5 DIN 63	2	4			
4	5310-17-032-9497	2522 600 30003	WASHER, FLAT; s ni-pltd; type 1,5 DIN 433	2	4			
5	5310-17-035-1599	2522 610 14015	WASHER, SPRING TENSION; cr-ni-s; 3 mm od, 1.5 mm id, 0.25 mm thk	2	4			
6	5820-17-033-6322	3522 140 78721	TERMINAL BOARD; 155 x 46 x 1.5 mm <u>secured with:</u>	1	4	7	14	see also fig 6
7	5305-17-022-0045	2522 005 01069	SCREW, FL-FIL-HD; s cd-pltd; type AM3 x 10 NEN 1602	2	4			
8	5310-17-024-5506	2522 613 01005	WASHER, LOCK; p-bz cd-pltd; type B3,1 NEN 1197	2	4			
9	5905-00-727-9761	2322 152 01001	RESISTOR, FIXED, FILM; 100 ohm + 2%; 0.5 W; type RL20S101G (R7)	1	3	6		
10	5905-00-774-8329	2322 151 01202	RESISTOR, FIXED, FILM; 1.2 kohm + 2%; 0.25W; type RL07S122G (R4 thru R6)	3	3	6		

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Line No.	NATO Stocknumber	Mfg. Code No.	Description	Quant.	Echelon	Fig. No.	Key No.	Remarks
	1	2	3	4	5	6	7	8
			FRAME ASSEMBLY (continued)					
1	5940-17-033-8231	3522 142 60391	TERMINAL BOARD; for 20 term <u>secured with:</u>	1	4	7	24	
2	5310-17-033-0415	2522 500 05006	NUT, SQUARE; s cd-pltd; M3; width across flats 5.5 mm, 2.5 mm thk	6	4			
3	5305-17-029-6857	2522 021 01095	SCREW, FL-HD; s cd-pltd; type AM 3 x 10 DIN 63	6	4			
4	5310-17-024-5506	2522 613 01005	WASHER, LOCK; p-bz cd-pltd; type B3,1 NEN 1197	6	4			
5	5940-17-036-9389	3522 142 60431	TERMINAL BOARD; for 20 term <u>secured with:</u>	1	4	7	10	
6	5310-17-033-0415	2522 500 05006	NUT, SQUARE; s cd-pltd; M3; width across flats 5.5 mm, 2,5 mm thk	6	4			
7	5305-17-029-6857	2522 021 01095	SCREW, FL-HD; s cd-pltd; type AM3 x 10 DIN 63	6	4			
8	5310-17-024-5506	2522 613 01005	WASHER, LOCK; p-bz cd-pltd; type B3,1 NEN 1197	6	4			

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Line No.	NATO Stocknumber	Mfg. Code No.	Description	Quant.	Echelon	Fig. No.	Key No.	Remarks
	1	2	3	4	5	6	7	8
			<u>FRAME ASSEMBLY (continued)</u>					
1	5940-17-033-1502	3522 140 79561	TERMINAL BOARD; w/2 term; 20 x 20 x 1 mm	1	4	7	22	
			<u>secured with:</u>					
2	5305-17-003-9694	2522 005 01014	SCREW, FL-FIL-HD; s cd-pltd; type AM2 x 5 DIN 84	2	4			
3	5310-17-032-5543	2522 613 01001	WASHER, LOCK; p-bz cd-pltd; type B2,1 NEN 1197	2	4			
4	5310-17-036-4213	2522 610 14006	WASHER, SPRING, TENSION; cr-ni-s; 8 mm od, 4.3 mm id, 0.5 mm thk; to secure modules 13 and 14	2	3			

Repair parts List IC-3620

Line No.	NATO Stocknumber	Mfg. Code No.	Description	Quant.	Echelon	Fig. No.	Key No.	Remarks
	1	2	3	4	5	6	7	8
			FRAME ASSEMBLY (continued)					
1	5995-17-033-6334	3522 140 77361	WIRING HARNESS, BRANCHED; no 1	1	5	7	26	
2	5995-17-033-6331	3522 140 77421	WIRING HARNESS, BRANCHED; no 4	1	5	7	20	
3	5995-17-033-6333	3522 140 77381	WIRING HARNESS; no 2	1	5	7	7	
4	5995-17-033-6332	3522 140 77401	WIRING HARNESS; no 3	1	5	7	23	

Repair parts List IC-3620

Line No.	NATO Stocknumber	Mfg. Code No.	Description	Quant.	Echelon	Fig. No.	Key No.	Remarks
	1	2	3	4	5	6	7	8
1	5820-17-033-6329	3522 140 70481	MODULE, 13 <u>consisting of the following spare parts:</u>	1	3	7	19	
2	5820-17-033-7258	3522 145 92111	AMPLIFIER, AUDIO FREQUENCY; 13A <u>secured with:</u>	1	4	2	5	
3	5305-17-015-4446	2522 001 08045	SCREW, FL-FIL-HD; br ni-pltd; type AM 2 x 6 NEN 1602	5	4	2	2	
4	5310-17-029-2217	2522 600 10007	WASHER, FLAT; br ni-pltd; type 2,2 NEN 2270	5	4	2	3	
5	5310-17-033-4820	2522 613 03001	WASHER, LOCK; p-bz ni-pltd; type B2,1 NEN 1197	5	4	2	4	
6	5910-17-034-7532	2222 749 02272	CAPACITOR, FIXED, CERAMIC DIELEC- TRIC; 2700 pF -20 +50%; 50V; (C3, C8)	2	4	2		
7	5910-00-936-3862	3522 020 62851	CAPACITOR, FIXED, ELECTROLYTIC; 2.2 uF + 10%; 20V; type CSR13E225KL (C1, C6)	2	4	2		
8	5910-00-934-2865	3522 020 62911	CAPACITOR, FIXED, ELECTROLYTIC; 15 uF + 10%; 20V; type CSR13E156KL (C7)	1	4	2		
9	5910-00-936-1523	3522 020 62931	CAPACITOR, FIXED, ELECTROLYTIC; 22 uF + 10%; 35V; type CSR13F226KL (C5, C10)	2	4	2		

Repair parts List IC-3620

Line No.	NATO Stocknumber	Mfg. Code No.	Description	Quant.	Echelon	Fig. No.	Key No.	Remarks
	1	2	3	4	5	6	7	8
			<u>AMPLIFIER, AUDIO FREQUENCY, 13A,</u> <u>part of MODULE, 13 (continued)</u>					
1	5910-00-993-2201	3522 020 62961	CAPACITOR, FIXED, ELECTROLYTIC; 47 uF + 10%; 20V; type CSR13E476KL (C2, C4, C9)	3	4	2		
2	5910-00-938-4767	3522 020 44261	CAPACITOR, FIXED, PAPER DIELECTRIC 33000 pF + 10%; 50V; type CH09A1RA333K (C11)	1	4	2		
3	5970-17-009-9466	9390-004-90002	INSULATOR, DISK; for Transistor TS1 thru TS8	8	4			
4	5970-17-036-0255	3522 103 77401	INSULATOR, PLATE; for Capacitor fixed, ceramic dielectric C3 and C8	2	4			
5	5905-00-058-1458	2322 125 51009	RESISTOR, FIXED, FILM; 10 ohm + 1%; 0.125W; type RN55D10R0F (R9, R10, R21, R22)	4	4	2		
6	5905-00-914-6336	2322 125 54649	RESISTOR, FIXED, FILM; 46.4 ohm + 1%; 0.125W; type RN55D46R4F (R5, R17)	2	4	2		
7	5905-00-880-2350	2322 151 01001	RESISTOR, FIXED, FILM; 100 ohm + 2%; 0.25W; type RL07S101G (R25)	1	4	2		
8	5905-00-051-2098	2322 151 01501	RESISTOR, FIXED, FILM; 150 ohm + 2%; 0.25W; type RL07S151G (R7, R19)	2	4	2		
9	5905-00-682-6988	2322 151 01002	RESISTOR, FIXED, FILM; 1 kohm + 2%; 0.25W; type RL07S102G (R1, R11, R23)	3	4	2		

Line No.	NATO Stocknumber	Mfg. Code No.	Description	Quant.	Echelon	Fig. No.	Key No.	Remarks
	1	2	3	4	5	6	7	8
			<u>AMPLIFIER, AUDIO FREQUENCY, 13A</u> <u>part of MODULE, 13 (continued)</u>					
1	5905-00-051-0749	2322 151 01802	RESISTOR, FIXED, FILM; 1.8 kohm + 2%; 0.25W; type RL07S182G (R4, R6, R16, R18)	4	4	2		
2	5905-00-774-8287	2322 151 03302	RESISTOR, FIXED, FILM; 3.3 kohm + 2%; 0.25W; type RL07S332G (R13)	1	4	2		
3	5905-00-774-8301	2322 151 04702	RESISTOR, FIXED, FILM; 4.7 kohm + 2%; 0.25W; type RL07S472G (R8, R20)	2	4	2		
4	5905-00-051-0146	2322 151 08202	RESISTOR, FIXED, FILM; 8.2 kohm + 2%; 0.25W; type RL07S882G (R2, R14)	2	4	2		
5	5905-00-774-8331	2322 151 01003	RESISTOR, FIXED, FILM; 10 kohm + 2%; 0.25W; type RL07S103G (R12, R24)	2	4	2		
6	5905-00-774-8308	2322 151 01803	RESISTOR, FIXED, FILM; 18 kohm + 2%; 0.25W; type RL07S183G (R3, R15)	2	4	2		
7	5961-99-037-2903	9330 184 10692	SEMICONDUCTOR DEVICE, DIODE; type CV7332 (GR1 thru GR4)	4	4	2		
8	5940-17-033-6346	3522 142 05501	TERMINAL BOARD; w/5 term; 25.32 x 5 x 5 mm	2	4	2	1	
9	5961-17-027-6034	9330 203 40112	TRANSISTOR; type BFY55 (TS1, TS3, TS5, TS7)	4	4	2		
10	5961-00-880-4779	9330 719 10682	TRANSISTOR; type 2N2905 (TS2, TS4, TS6, TS8)	4	4	2		

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Line No.	NATO Stocknumber	Mfg. Code No.	Description	Quant.	Echelon	Fig.No.	Key No.	Remarks
	1	2	3	4	5	6	7	8
			MODULE, 13 (continued)					
1	5820-17-033-7257	3522 145 92011	AMPLIFIER, AUDIO FREQUENCY, 13B secured with:	1	4	3	5	
2	5305-17-015-4446	2522 001 08045	SCREW, FL-FIL-HD; br ni-pltd; type AM2 x 6 NEN 1602	5	4	3	2	
3	5310-17-029-2217	2522 600 10007	WASHER, FLAT; br ni-pltd; type 2,2 NEN 2270	5	4	3	3	
4	5310-17-033-4820	2522 613 03001	WASHER, LOCK; p-bz ni-pltd; type B2,1 NEN 1197	5	4	3	4	
5	5910-17-034-7532	2222 749 02272	CAPACITOR, FIXED, CERAMIC DIELEC- TRIC; 2700 pF -20 +50%; 50V (C3)	1	4	3		
6	5910-00-936-3862	3522 020 62851	CAPACITOR, FIXED, ELECTROLYTIC; 2.2 uF + 10%; 20V; type CSR13E225KL (C1)	1	4	3		
7	5910-00-934-2865	3522 020 62911	CAPACITOR, FIXED, ELECTROLYTIC; 15 uF + 10%; 20V; type CSR13E156KL (C5, C6, C7, C9, C10, C11)	6	4	3		
8	5910-00-936-1523	3522 020 62931	CAPACITOR, FIXED, ELECTROLYTIC; 22 uF + 10%; 35V; type CSR13F226KL (C13)	1	4	3		
9	5910-00-993-2201	3522 020 62961	CAPACITOR, FIXED, ELECTROLYTIC; 47 uF + 10%; 20V; type CSR13E476KL (C2, C4, C8)	3	4	3		
10	5970-17-009-9466	9390 004 90002	INSULATOR, DISK; for Transistor TS1 thru TS8	8	4			

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Line No.	NATO Stocknumber	Mfg. Code No.	Description	Quant.	Echelon	Fig. No.	Key No.	Remarks
	1	2	3	4	5	6	7	8
			AMPLIFIER, AUDIO FREQUENCY, 13B <u>part of MODULE, 13 (continued)</u>					
1	5970-17-036-0255	3522 103 77401	INSULATOR, PLATE; for Capacitor fixed, ceramic dielectric C3	1	4			
2	5905-00-058-1458	3522 125 51009	RESISTOR, FIXED, FILM; 10 ohm + 1%; 0.125W; type RN05D10ROF (R8, R9)	2	4	3		
3	5905-00-914-6336	2322 125 54649	RESISTOR, FIXED, FILM; 46.4 ohm + 1%; 0.125W; type RN55D46R4F (R5)	1	4	3		
4	5905-00-051-2098	2322 151 01501	RESISTOR, FIXED, FILM; 150 ohm + 2%; 0.25W; type RL07S151G (R7, R11, R20)	3	4	3		
5	5905-00-782-1503	2322 151 02701	RESISTOR, FIXED, FILM; 270 ohm + 2%; 0.25W; type RL07S271G (R26)	1	4	3		
6	5905-00-774-8292	2322 151 04701	RESISTOR, FIXED, FILM; 470 ohm + 2%; 0.25W; type RL07S471G (R19, R28)	2	4	3		
7	5905-00-682-6988	2322 151 01002	RESISTOR, FIXED, FILM; 1 kohm + 2%; 0.25W; type RL07S102G (R10)	1	4	3		
8	5905-00-774-8323	2322 151 01502	RESISTOR, FIXED, FILM; 1.5 kohm + 2%; 0.25W; type RL07S152G (R12, R15, R16, R21, R24, R25)	6	4	3		
9	5905-00-051-0749	2322 151 01802	RESISTOR, FIXED, FILM; 1.8 kohm + 2%; 0.25W; type RL07S182G (R4, R6)	2	4	3		

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Line No.	NATO Stocknumber	Mfg. Code No.	Description	Quant.	Echelon	Fig. No.	Key No.	Remarks
	1	2	3	4	5	6	7	8
			<u>AMPLIFIER, AUDIO FREQUENCY, 13B</u> <u>part of MODULE, 13 (continued)</u>					
1	5905-00-774-8290	2322 151 02202	RESISTOR, FIXED, FILM; 2.2 kohm + 2%; 0.25W; type RL07S222G (R13, R22)	2	4	3		
2	5905-00-774-8288	2322 151 02702	RESISTOR, FIXED, FILM; 2.7 kohm + 2%; 0.25W; type RL07S272G (R18, R27)	2	4	3		
3	5905-00-774-8301	2322 151 04702	RESISTOR, FIXED, FILM; 4.7 kohm + 2%; 0.25W; RL07S472G (R1, R14, R23, R29)	4	4	3		
4	5905-00-051-0146	2322 151 08202	RESISTOR, FIXED, FILM; 8.2 kohm + 2%; 0.25W; type RL07S822G (R2)	1	4	3		
5	5905-00-774-8308	2322 151 01803	RESISTOR, FIXED, FILM; 18 kohm + 2%; 0.25W; type RL07S183G (R3)	1	4	3		
6	5961-99-037-2903	9330 184 10692	SEMICONDUCTOR DEVICE, DIODE; type CV7332 (GR1, GR2)	2	4	3		
7	5940-17-033-6346	3522 142 05501	TERMINAL BOARD; w/5 term; 25.32 x 5 x 5 mm	2	4	3	1	
8	5961-17-027-6034	9330 203 40112	TRANSISTOR; type BFY55 (TS1, TS3, TS6, TS8)	4	4	3		
9	5961-00-880-4779	9330 719 10682	TRANSISTOR; type 2N2905 (TS2, TS4, TS5, TS7)	4	4	3		

Line No.	NATO Stocknumber	Mfg. Code No.	Description	Quant.	Echelon	Fig. No.	Key No.	Remarks
	1	2	3	4	5	6	7	8
			MODULE, 13 (continued)					
1	5820-17-033-6324	3522 140 78731	BOTTOM; br sil-pltd; 92 x 24.5 x 6 mm; for Module 13	1	4			
2	5965-17-032-9802	3522 140 76761	COVER; for Module	1	4			
			<u>secured with:</u>					
3	5305-17-025-6676	2522 001 08097	SCREW, FL-FIL-HD; br ni-pltd; type AM3 x 6 DIN 84	2	4			
4	5310-17-015-5052	2522 613 03005	WASHER, LOCK; p-bz ni-pltd; type B3,1 NEN 1197	2	4			
5	5340-17-032-9808	3522 102 94521	RING; p-bz ni-pltd; for the removing of the Module	2	3			
6	5340-17-032-9799	3522 102 94461	PIN, PILOT; cr-ni-s; M3; tot 1 16 mm	2	4			
7	5340-17-032-9811	3522 102 94471	SPACER; br ni-pltd; in lower end corners of Module	2	4			
8	5340-17-032-9810	3522 102 94481	SPACER; br ni-pltd; in the middle of lower end of Module	1	4			
9	5340-17-032-9809	3522 102 94491	SPACER; br ni-pltd; in upper end corners of Module	2	4			
10	5310-17-015-5052	2522 613 03005	WASHER, LOCK; p-bz ni-pltd; type B3,1 NEN 1197; for Pin, pilot	2	4			

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Line No.	NATO Stocknumber	Mfg. Code No.	Description	Quant.	Echelon	Fig. No.	Key No.	Remarks
	1	2	3	4	5	6	7	8
1	5820-17-033-6330	3522 140 70491	MODULE, 14 <u>consisting of the following spare parts:</u>	1	3	7	21	
2	5820-17-033-6325	3522 140 78741	BOTTOM; br sil-pltd; 92 x 24.5 x 6 mm; for Module 14	1	4			
3	5965-17-032-9802	3522 140 76761	COVER; for Module <u>secured with:</u>	1	4			
4	5305-17-025-6676	2522 001 08097	SCREW, FL-FIL-HD; br ni-pltd; type AM3 x 6 DIN 84	2	4			
5	5310-17-015-5052	2522 613 03005	WASHER, LOCK; p-bz ni-pltd; type B3,1 NEN 1197	2	4			
6	5340-17-032-9808	3522 102 94521	RING; p-bz ni-pltd; for the removing of the Module	2	3			
7	5820-17-033-6326	3522 145 91311	HYBRID CIRCUIT; 14A <u>secured with:</u>	1	4	4	5	
8	5305-17-015-4446	2522 001 08045	SCREW, FL-FIL-HD; br ni-pltd; type AM2 x 6 NEN 1602	5	4	4	2	
9	5310-17-029-2217	2522 600 10007	WASHER, FLAT; br ni-pltd; type 2,2 NEN 2270	5	4	4	3	
10	5310-17-033-4820	2522 613 03001	WASHER, LOCK; p-bz ni-pltd; B2,1 NEN 1197	5	4	4	4	
11	5910-17-037-5815	3522 142 69551	CAPACITOR, FIXED, ELECTROLYTIC; 220 uF $\pm$ 10%; 10V; (C1)	1	4	4		

Line No.	NATO Stocknumber	Mfg. Code No.	Description	Quant.	Echelon	Fig. No.	Key No.	Remarks
	1	2	3	4	5	6	7	8
			<u>HYBRID CIRCUIT, 14A, part of Module,</u> <u>14 (continued)</u>					
1	5905-00-914-6336	2322 125 54649	RESISTOR, FIXED, FILM; 46.4 ohm ± 1%; 0.125W; type RN55D46R4F (R1)	1	4	4		
2	5905-00-774-8286	2322 151 03901	RESISTOR, FIXED, FILM; 390 ohm ± 2%; 0.25W; type RL07S391G (R3)	1	4	4		
3	5905-00-764-1165	2322 152 08201	RESISTOR, FIXED, FILM; 820 ohm ± 2%; 0.5W; type RL20S821G (R2, R4)	2	4	4		
4	5905-00-682-6988	2322 151 01002	RESISTOR, FIXED, FILM; 1 kohm ± 2%; 0.25W; type RL07S102G (R5)	1	4	4		
5	5905-00-726-1867	2322 152 02202	RESISTOR, FIXED, FILM; 2.2 kohm ± 2%; 0.5W; type RL20S222G (R7, R8)	2	4	4		
6	5905-00-051-0146	2322 151 08202	RESISTOR, FIXED, FILM; 8.2 kohm ± 2%; 0.25W; type RL07S822G (R11)	1	4	4		
7	5905-00-051-2091	2322 151 01004	RESISTOR, FIXED, FILM; 100 kohm ± 2%; 0.25W; type RL07S104G (R9, R10)	2	4	4		
8	5905-00-103-7443	3522 020 42481	RESISTOR, VARIABLE; 500 ohm ± 5%; 0.75W; type 24C2X501 (R6)	1	4	4		
9	5961-00-852-7549	9330 722 10682	SEMICONDUCTOR DEVICE, DIODE; type 1N754A (GR1)	1	4	4		

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Line No.	NATO Stocknumber	Mfg. Code No.	Description	Quant.	Echelon	Fig. No.	Key No.	Remarks
	1	2	3	4	5	6	7	8
			<u>HYBRID CIRCUIT, 14A, part of Module 14 (continued)</u>					
1	5940-17-033-6346	3522 142 05501	TERMINAL BOARD; w/5 term; 25.32 x 5 x 5 mm	2	4	4	1	
2	5950-17-033-7260	3522 149 33211	TRANSFORMER, AUDIO FREQUENCY (T1)	1	4	4		
3	5950-17-033-7259	3522 149 33201	TRANSFORMER, AUDIO FREQUENCY (T2)	1	4	4		
4	5340-17-032-9799	3522 102 94461	PIN, PILOT; cr-ni-s; M3; tot 1 16 mm	2	4			
5	5820-17-033-6321	3522 145 91211	RESISTOR CIRCUIT, 14B <u>secured with:</u>	1	4	5	5	
6	5305-17-015-4446	2522 001 08045	SCREW, FL-FIL-HD; br ni-pltd; type AM2 x 6 NEN 1602	5	4	5	2	
7	5310-17-029-2217	2522 600 10007	WASHER, FLAT; br ni-pltd; type 2.2 NEN 2270	5	4	5	3	
8	5310-17-033-4820	2522 613 03001	WASHER, LOCK; p-bz ni-pltd; type B2,1 NEN 1197	5	4	5	4	
9	5905-00-051-2091	2322 151 01004	RESISTOR, FIXED, FILM; 100 kohm ± 2%; 0.25W; type RL07S104G (R1 thru R3, R5 thru R10)	9	4	5		
10	5940-17-033-6346	3522 142 05501	TERMINAL BOARD; w/5 term; 25.32 x 5 x 5 mm	2	4	5	1	

Repair parts List IC-3620

Line No.	NATO Stocknumber	Mfg. Code No.	Description	Quant.	Echelon	Fig. No.	Key No.	Remarks
	1	2	3	4	5	6	7	8
			<u>MODULE, 14 (continued)</u>					
1	5340-17-032-9811	3522 102 94471	SPACER, br ni-pltd; in lower end corners of Module	2	4			
2	5340-17-032-9810	3522 102 94481	SPACER, br ni-pltd; in the middle of lower end of Module	1	4			
3	5340-17-032-9809	3522 102 94491	SPACER, br ni-pltd; in upper end corners of Module	2	4			
4	5310-17-015-5052	2522 613 03005	WASHER, LOCK; p-bz ni-pltd; type B3,1 NEN 1197; for Pin, pilot	2	4			

Repair parts List IC-3620

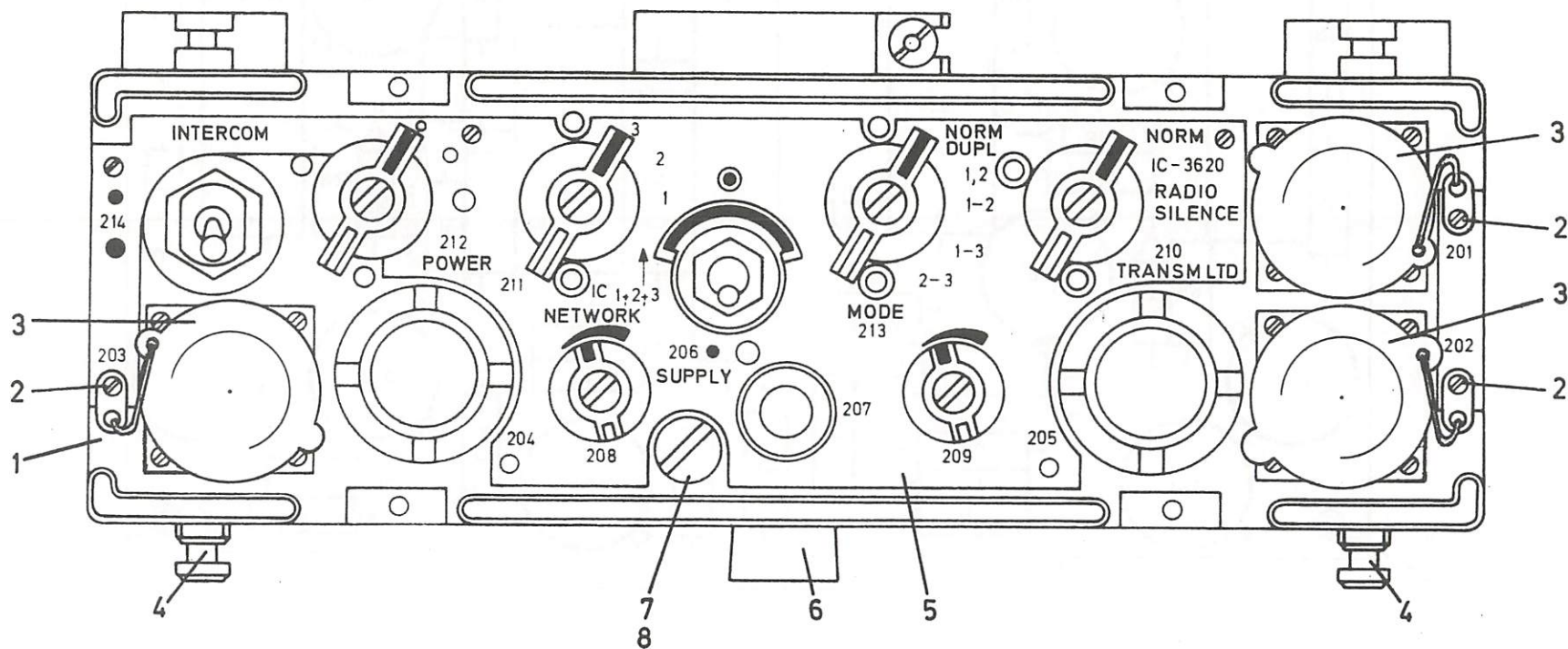


Fig 1. Front view IC-3620

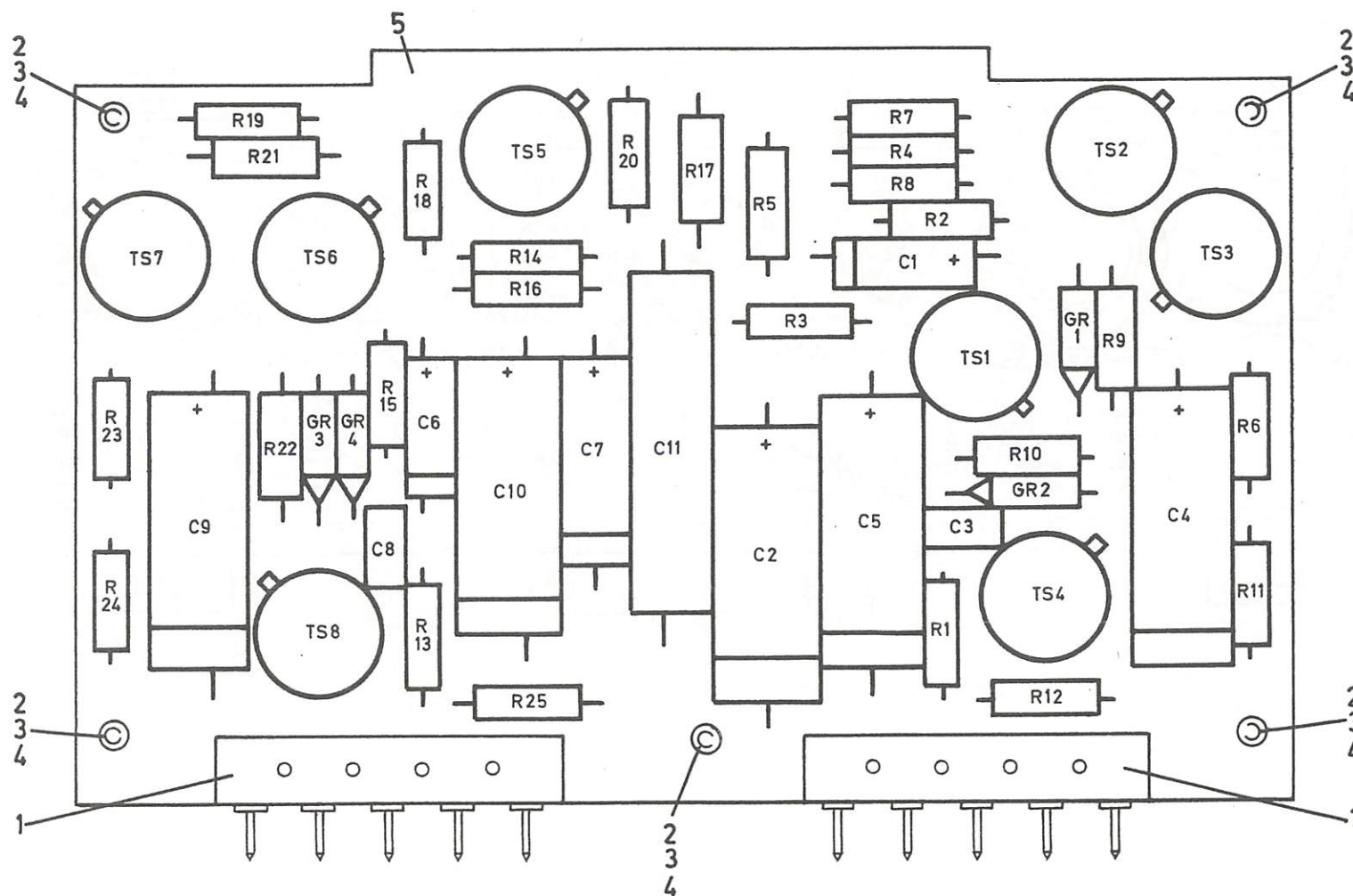


Fig 2. Amplifier, audio frequency, 13A

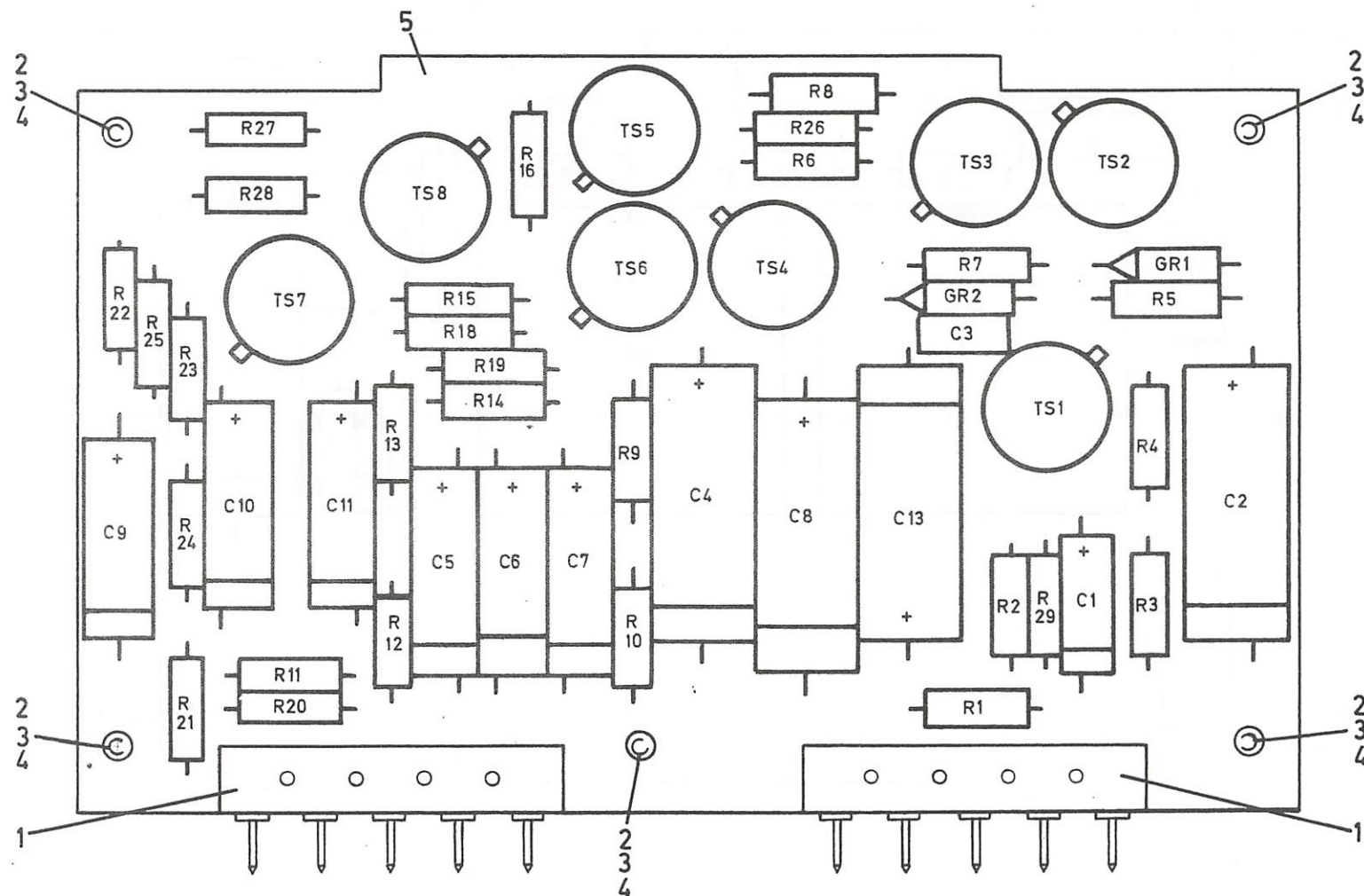


Fig. 3. Amplifier, audio frequency, 13B

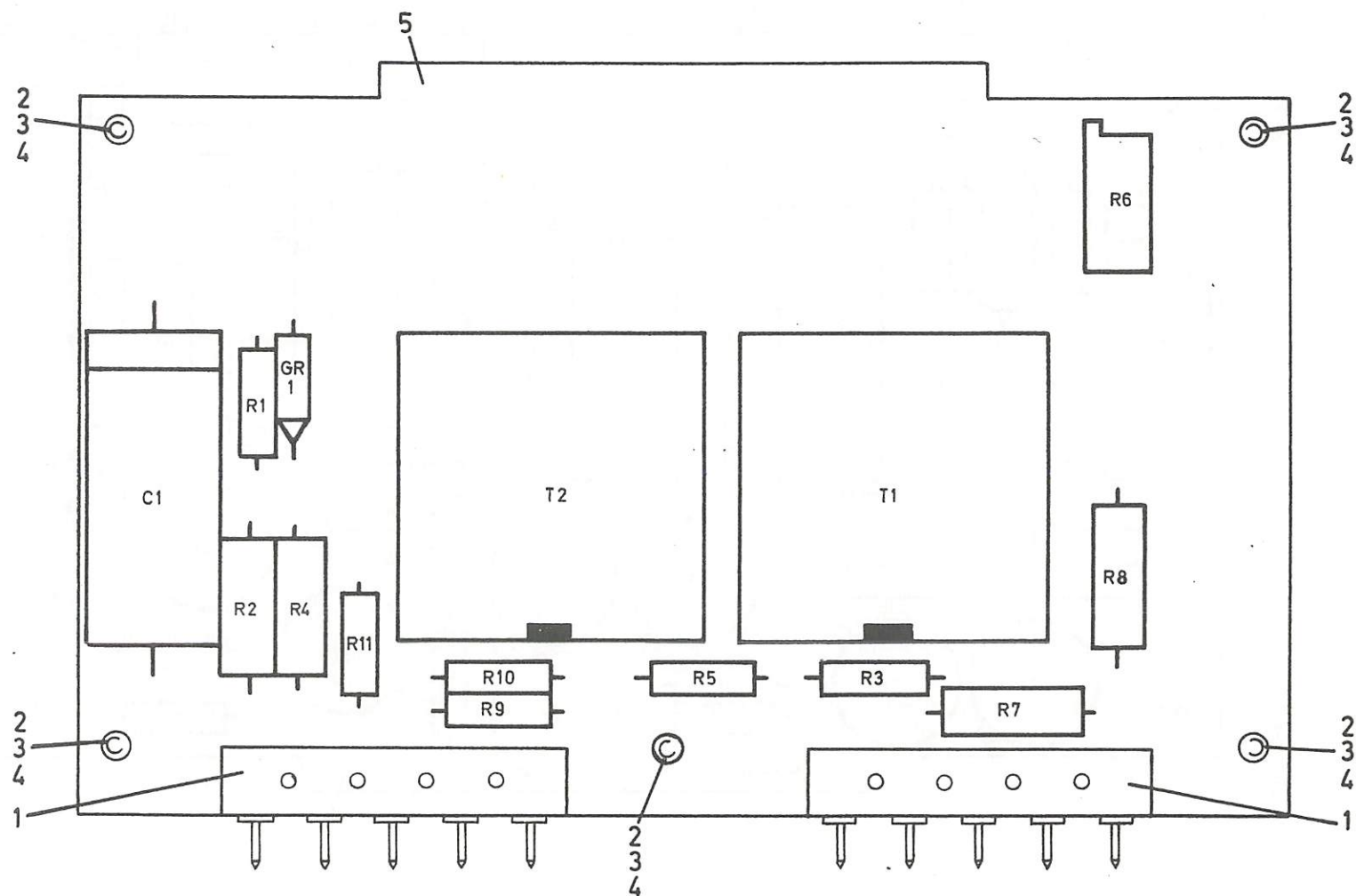


Fig 4. Hybrid circuit, 14A

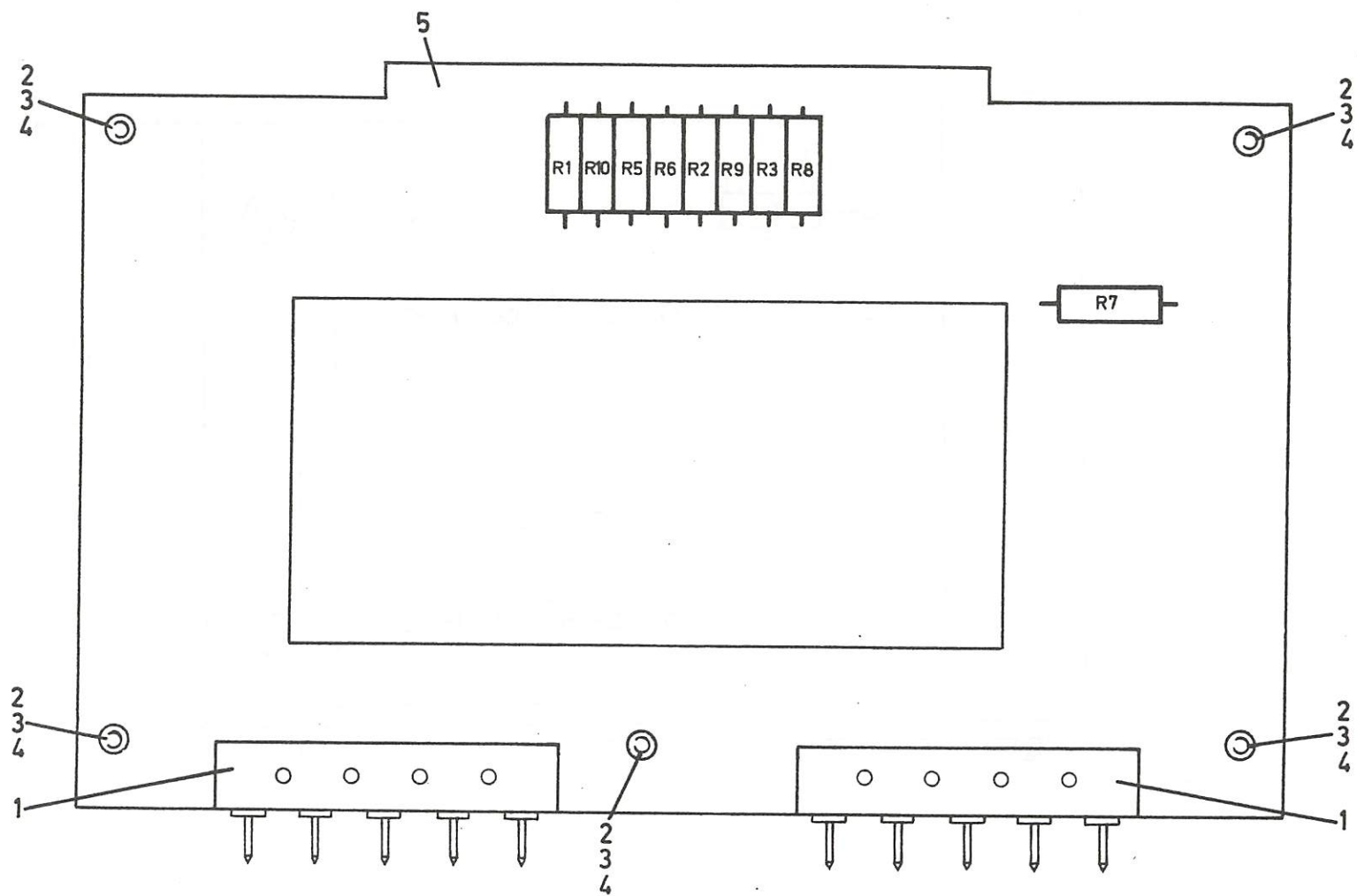


Fig 5. Resistor circuit, 14B

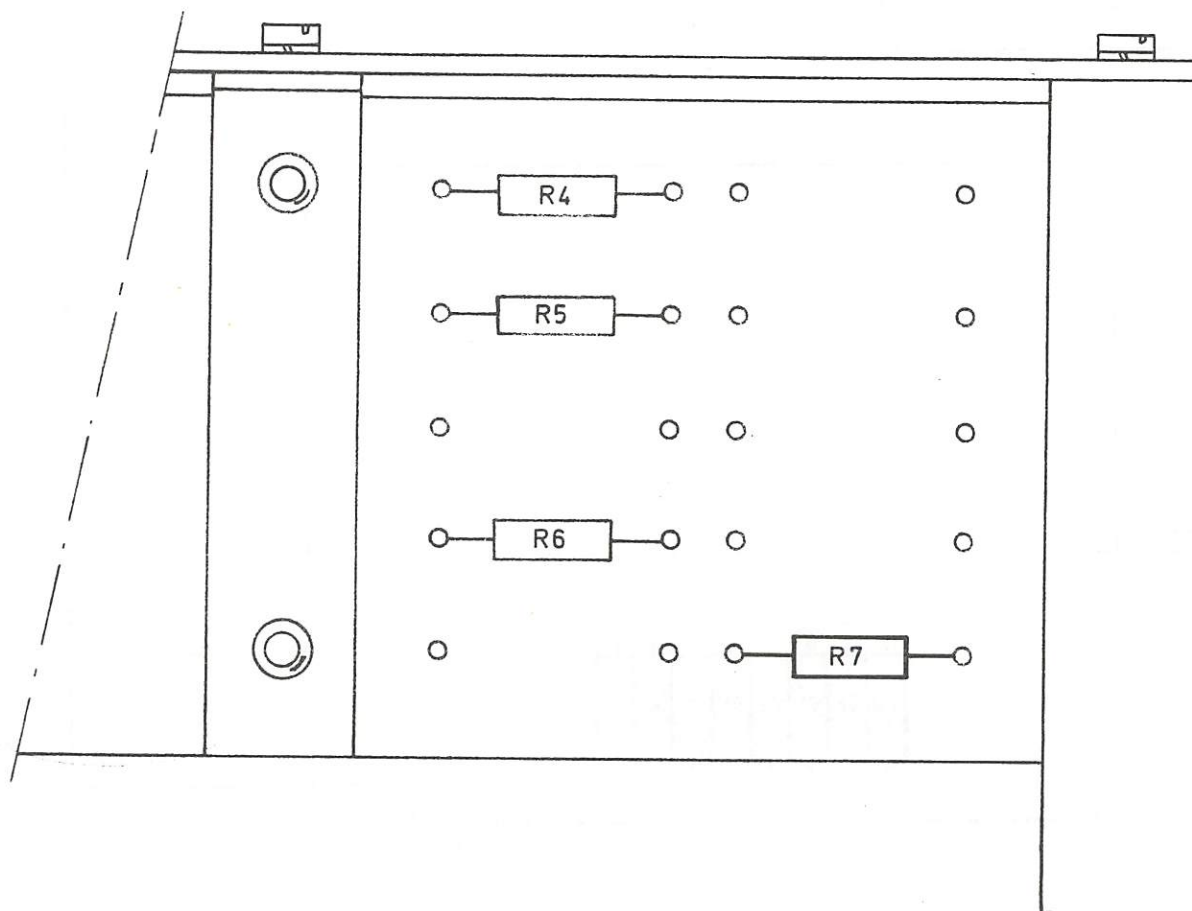


Fig 6. Terminal board NSN 5820-17-033-6322

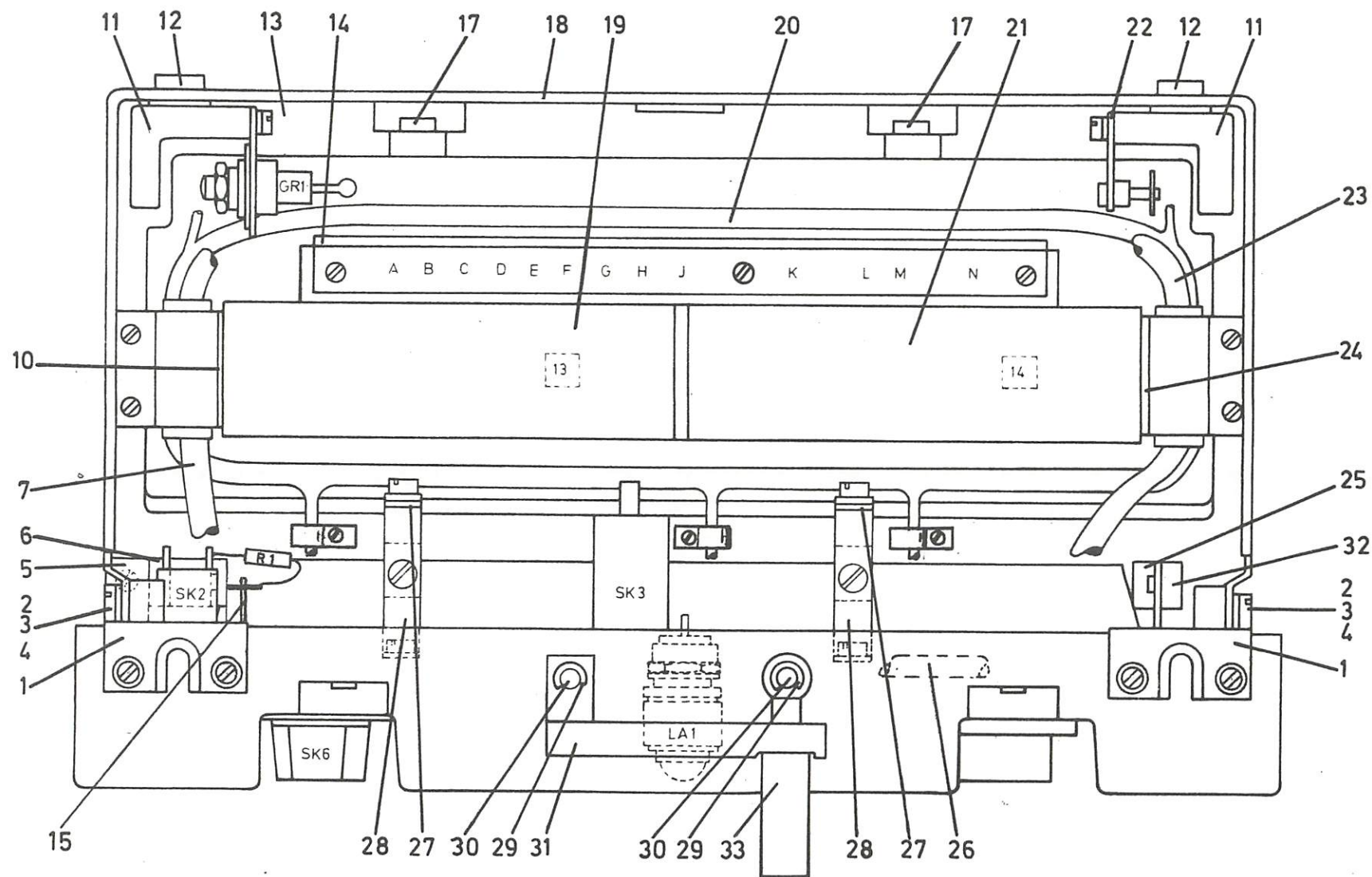


Fig 7. Top view IC-3620