Chapter 5

GENERAL SERVICING AND FAULT FINDING INFORMATION

CONTENTS

TABLES

ILLUSTRATIONS

General servicing information

1. The servicing of aircraft installations is limited to a mechanical inspection, pressurization test and an overall performance test (Chap.6). In the event of a defect, the equipment must be removed from the aircraft for servicable items to be substituted.

2. The extent to which servicing can be done at second line is governed by the availability of spares and by the availability of test gear necessary for reassembling, realignment and testing of the equipment. Lists of recommended test equipment are given in Tables 1, 2, 3, and 4. In general, only modules and plug-in valves should be changed at second line. Thus the scheduled test gear is confined to that necessary for locating the faulty module (or valve), changing it and testing the complete equipment afterwards.

3. When a transmitter-receiver is due for bench servicing it should first be subjected to the overall performance tests (Chap.6). This simplifies servicing by enabling a defect to be localized, obviating the necessity for testing each module individually. The full testing procedure and setting of preset controls are detailed in AP 116D-0116-4F. Module details are given in AP 116D-0133-1A and circuit diagrams in AP 116D-0133-10.

TABLE 1
General purpose test equipment

Item	Nomenclature	Ref. No.	Further details	Remarks
1	Multimeter CT498A	6625-99-105-7049	AP120M-0105-1	
or	Multimeter CT498	6625-99-949-1999	AP120M-0106-1	
2	Multimeter electronic CT471C	6625-99-955-6255	AP117G-0603-1	
or	Multimeter CT429	6625-99-943-8384	AP117G-1610-1	
3	Tester insulation Type C	6625-99-915-6675	AP120M-0109-1	
4	Wattmeter absorption AF(TF893A)	6625-99-914-9811	AP117B-0102-1	For a.f. measurements
5	Wattmeter absorption CT419	6625-99-943-5568	AP117B-0403-1	For r.f. measurements
6	Wattmeter absorption CT443	6625-99-999-3591	AP117B-0401-1	For low power r.f. measurements
7	Signal generator CT394B	6625-99-106-1189	AP117E-0213-1	For r.f.tests
or	Signal generator CT394A	6625-99-901-9983		
8	Lead test	6625-99-943-3486		For use with item 7
9	Signal generator (TF1370A)	6625-99-104-7574	AP117E-0101-1	For i.f.tests
or	Signal generator (TF1370)	6625-99-944-9754	AP117E-0404-1	
or	Signal generator Type 65B	6625-99-932-4976	AP2536C	
10	Signal Generator CT452A	6625-99-900-8337	AP117E-0207-1	For a.f.tests
11	Oscilloscope CT436	6625-99-913-8618	AP117K-0103-1	
12	Leak locator CT105	6625-99-104-8464	AP117X-0101-1	
13	Capsule, Arcton	10AF/545		
14	Leak indicator CT106	6625-99-946-8729		

TABLE 2

Special-to-type test equipment

Item	Nomenclature	Ref. No.	Further details
1	Test set, u.h.f. equipment Type 15056	6625-99-943-4149	AP 117M-0101-1
2	Test set radio	6625-99-956-8854	
3	Test kit (bench connector set)	6625-99-943-7032	AP 116D-0133-1B
4	Test kit (pedestal)	6625-99-943-6904	
5	Microphone simulator	6625-99-945-0061	
6	Monitor, audio/radio frequency	6625-99-943-7378	

TABLE 3

Servicing equipment, tools and miscellaneous components

Item	Nomenclature	Ref. No.	Further details	Remarks
1	Pump, pressurizing	4G/104-7435		
2	Gauge, pressure (2-20 lb)	4G/107-5943		
3	Headset	10AH/636-9202		
or	Headset	10AH/107-2835		
4	Alignment tool	10AG/955-6223		
5	Wrench socket	5120-99-120-0369		For locknuts on Control Unit
6	Screwdriver Phillips No. 1	5120-99-910-5864		
7	Screwdriver Phillips No. 2	5120-99-910-5865		
8	Watch, stop GS	6645-99-910-1002		
9	Fan, electric, 230V a.c. Type H	4140-99-110-2928		For cooling equipment on bench
10	Adaptor, electric (plug to socket)	5935-99-940-1652	AP-117E-0213-1	For use with r.f. signal generator
11 and	Fuse concentric	5920-99-932-4381		
	Fuse link	5920-99-999-3402		

TABLE 4
Bench Slaves

Item	Nomenclature	Ref. No.	Further details
1	Control Unit Type C1607/4	5821-99-945-5739	This AP and
2	Control receiver muting	5821-99-943-3247	AP 116D-0133-1A

Pressurizing

4. The pressure in the transmitter-receiver case should be maintained at not less than 3 lb per sq. in. above atmospheric pressure at sea level. If the case has not been removed, test using a pressure gauge and, if necessary, increase pressure to between 4 and 5 lb per sq. in. If the case has been removed proceed as in para. 5 or 6.

CAUTION...

Pressurizing to 5 lb per sq. in. at sea level will result in internal pressure of 20 lb per sq. in. at 6000 ft. This figure must not be exceeded otherwise the case may explode.

5. Pressurizing with air:-

(1) Using a pressurizing pump, pressurize the transmitter-receiver to 15 lb per sq. in.

(2) Allow the equipment to stand for six hours, then use leak indicator CT106 to verify that pressure has not fallen by more than ½ lb per sq. in.

(3) If a leak is apparent, use leak locator CT105 and leak indicator CT106 as described in AP 117X-0101-1 and take appropriate remedial action.

6. Presssurizing with nitrogen:-

(1) Using nitrogen charging apparatus, pressurize the transmitter-receiver to 15 lb per sq. in. Allow the equipment to stand for two minutes, then release the pressure. Repeat for one more cycle.

(2) Pressurize the transmitter-receiver with nitrogen to 15 lb per sq. in. and allow to stand for six hours, after which use the leak indicator CT106 to verify that it has not fallen by more than ½ lb per sq. in.

(3) If a leak is apparent, use leak locator CT105 and leak indicator CT106 as described in AP 117X-0101-1. After remedial action has been taken, repeat sub-para. (1) and (2).

(4) Release the pressure, then re-pressurize with nitrogen to between 3 and 5 lb per sq. in.

Dismantling and re-assembly

Removal of the cover from the transmitter-receiver.

7. Release the pressure, then use hexagon key No. 8 (part of maintenance kit 5180-99-943-1512) to unscrew the twelve hexagon socket-head screws securing the front panel to the cover assembly. Release each screw, a half-turn at a time, in the order shown in fig.1, until all are loose; the front panel or cover may be distorted if this procedure is not adopted. Stand the transmitter-receiver upright on its front panel, lift off the cover assembly and then place the chassis assembly on its base or side as convenient.

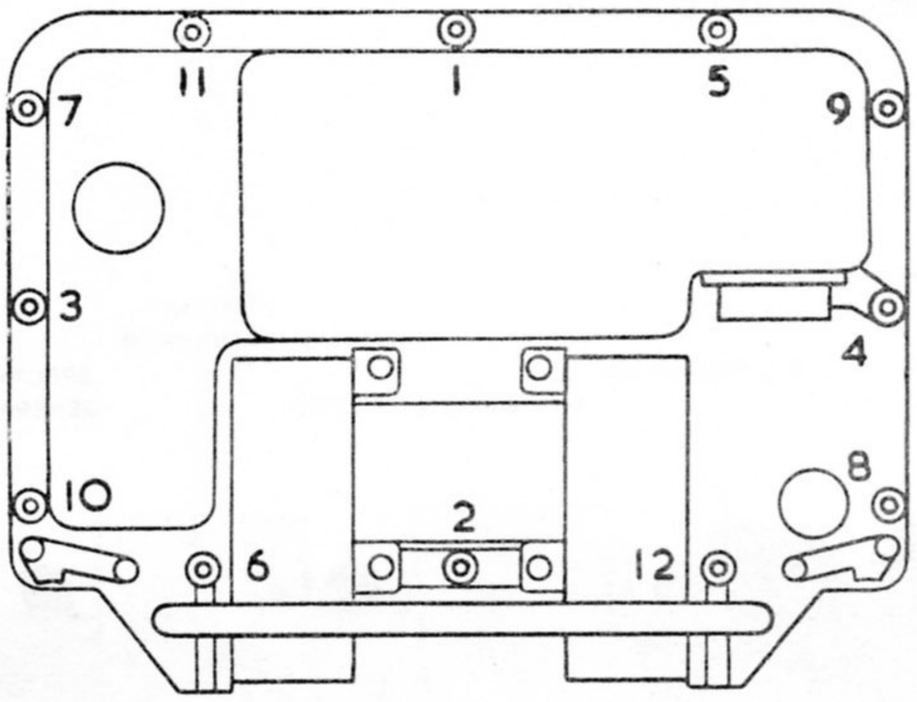


Fig. 1 Order of loosening and tightening the cover securing screws.

Removing modules from the main chassis

8. Before removing any module, ensure that the equipment is disconnected from all power supplies.

9. If the module to be removed is one of the six which has tuned circuits coupled to the frequency selector mechanism, first set up the equipment on a certain channel frequency so that the Oldham couplers are left in a convenient position for re-engagement when refitting the module. If the main chassis assembly is standing vertically on its front panel, set the equipment to a frequency of 220.0 MHz; if the main chassis is on its side, 310.0 MHz may be selected providing it is not required to remove the 1st i.f. unit (20-30 MHz), the oscillator unit or the spectrum generator unit. If, however, a fault prevents the tuning mechanism from operating, note the frequency setting before removing the module.

10. Removal and refitting of the 1st i.f. unit (20-30 MHz), the oscillator unit or the spectrum generator unit must be done with the equipment set to 220.0 MHz. The shafts on the 1st i.f. unit are spring loaded to return to the datum position when free. If the equipment is set to 310.0 MHz and is lying on its side, the floating portion of the Oldham couplers, on the oscillator unit, will drop off-centre when the module is removed, thus making it difficult to refit. The spectrum generator unit has one shaft driven by a 2:1 gear from the coupler; there are thus two complete turns of the coupler for one turn of the shaft and the module coupler should be rotated until the variable capacitor plates are fully closed.

11. The modules are secured to the main chassis by three or more red-headed captive screws; when these are released, and any coaxial connectors associated with the module are disconnected, the module may be removed by gently easing it to free the locating pins which position it on the main chassis. Having freed the electrical plug-in attachments, lift the module clear for attention or substitution.

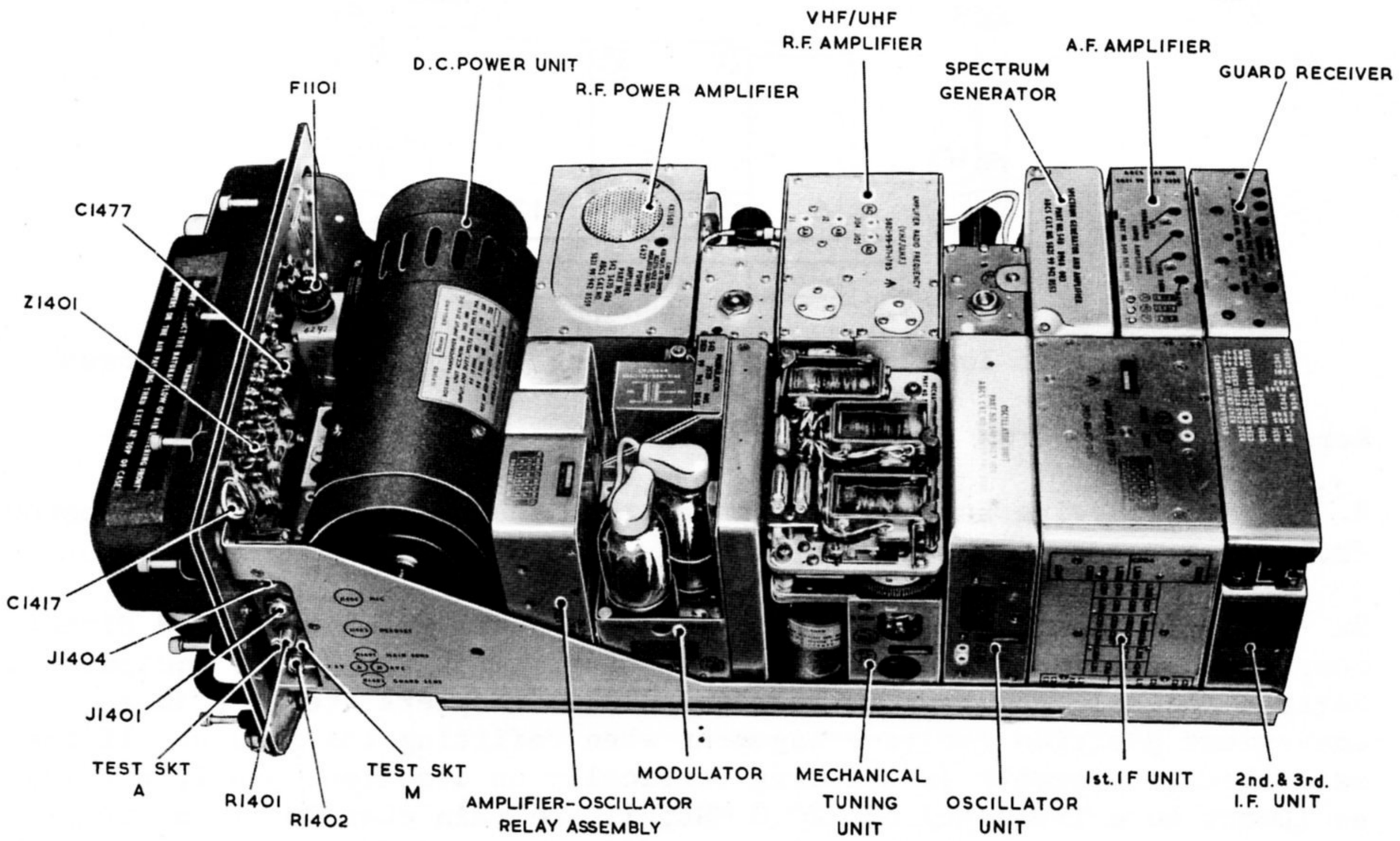


Fig. 2 General view of transmitter-receiver with cover removed

Interchangeability of modules

12. Some of the modules in this transmitter-receiver are common to other equipments (ARC52 etc.); these modules must have certain modifications incorporated. Table 5 gives the required minimum modification state of the modules; asterisks against the modification numbers indicate that the modifications are mandatory.

13. If any modules are changed, the transmitter-receiver must be subjected to an overall test. Adjustments of certain preset controls may be necessary if any of the following modules are changed; details of these adjustments are given in AP 116D-0116-4F.

(1) Amplifier, radio frequency (RF power amplifier)
(2) VHF/UHF r.f. amplifier
(3) Spectrum generator unit
(4) 2nd and 3rd i.f. unit (1825/500 KHz)
(5) Audio amplifier unit
(6) Guard receiver unit
(7) Modulator unit
(8) Power unit (d.c.) or
Power unit (a.c.) and rectifier unit

TABLE 5
Minimum modification state of modules

Module	N.S. No.	Strike Off	Mod. No.
Amplifier, audio frequency	5821-99-942-8555	1	5370
		2	5900
		3	A2295
		4	A2501
		5	A3058
Oscillator Unit	5821-99-942-8553	1	*5107
		2	*5827
		3	*5956
		4	6306
Modulator, radio transmitter	5821-99-942-8548	1	6396
		2	8596
		3	A3392
Spectrum generator unit	5821-99-942-8552	2	*5718
		3	*8473
		4	*A3221
		5	A3426
		6	A4324

*Mandatory

TABLE 5 (continued)

Module	N.S. No.	Strike Off	Mod. No.
Receiver unit (guard)	5821-99-942-8558	1	*5060
		2	*5233
		3	*5322
		4	*6160
		5	0654
Amplifier, radio frequency	5821-99-942-8559	1	5469
		2	5517
		3	5582
		4	8595
		5	8778
		6	0117
		7	0684
Tuning unit, radio frequency	5821-99-942-8549	1	7722
		2	A4962
Power unit (a.c.)	5821-99-942-8556	1	5083
		2	8704
Rectifier unit	5821-99-942-8551	1	6223
		2	0152
		3	A2383
Power unit (d.c.)	5821-99-942-8547	1	*6225
		2	6318
		3	7377
		4	A2500

*Mandatory

Refitting modules to the main chassis.

CAUTION...

An a.g.c. control (R1510) has been introduced into the chassis assembly by Mod. No. 9501 and 9499; associated wiring changes in the v.h.f./u.h.f. r.f. amplifier have been introduced by Mod. No. 9500. When changing an r.f. amplifier it is of the utmost importance to ensure that a modified module is NOT fitted to an unmodified chassis otherwise h.t. will be applied to the a.g.c. circuit.

14. If all modules are removed from the chassis, refit the tuning unit (mechanical) first because it is not possible to rock the couplers since the shafts are locked by pawls and indent wheels and there is no access hole through the gear shafts (para. 16 (4)). Final alignment of driving members is therefore achieved by rocking the complete gear train, on the gear plate assembly, backwards and forwards until engagement is effected.

15. A tuning unit (mechanical) taken from store may not be set up to 220.0 MHz (or, alternatively, 310.0 MHz). To set the drive shafts to either channel, depress the three relay armatures, on the top of the module, with the fingers of one hand; this lifts the pawls clear of the indent wheels, allowing the drive shafts to rotate when the motor shaft is turned with the other hand. Rotate the shaft such that the numbers pass the pointer in ascending order until the scale on the clutch housing on the 10 MHz shaft reads 22 (or 31) at the pointer. As this reading is approached, release the associated relay armature allowing the pawl to engage the indent wheel and thus locking the drive shaft. Again rotate the motor shaft so that the scales of the 1.0 MHz and 0.1 MHz shafts read 0 and .0 respectively at the pointers, releasing the associated relay armatures at the appropriate point to engage the pawls with the indent wheels and lock the drive shafts, thus setting the module to 220 MHz (or 310 MHz).

16. When refitting modules to the chassis, adopt the following procedure; where a module is not coupled to the frequency selector mechanism, only sub-para. (1), (3), (5) and (7) will apply.

(1) Locate the marked position on the main chassis in which the module is to be fitted.

(2) Position the Oldham coupler to the correct frequency and centralize the floating section.

(3) Enter the module locating pins into the appropriate sockets, taking care not to trap any associated wiring. Engage, but do not fully tighten, the securing screws.

(4) When the module is loosely secured to the main chassis, pass the alignment tool 5120-99-943-8594, or the blade of a suitable screwdriver, through the hollow shaft of the gear plate coupler to contact the shaft of the module. Rotate the shaft and coupler backwards and forwards, simultaneously rocking the associated gearing, to engage the driving members.

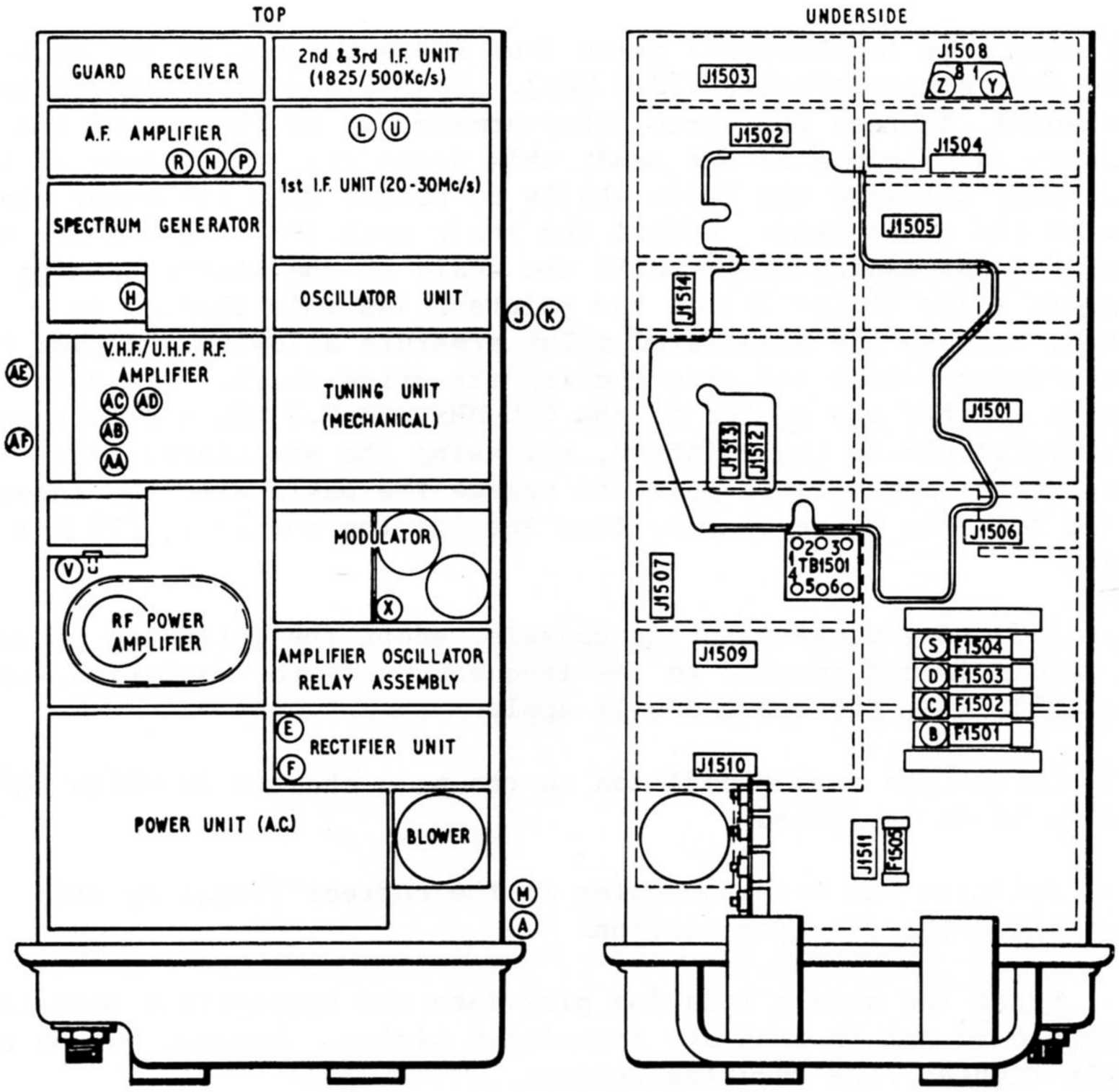
Note...

Certain modules have brass shafts and care must be taken when using the alignment tool or screwdriver blade.

(5) Fully tighten the module securing screws.

(6) Ensure that a small amount of backlash remains in the mechanical coupling.

(7) Reconnect the coaxial connectors, if any.



NOTE

THE EQUIPMENT ILLUSTRATED IS THE PTR175A. THE PTR175 IS SIMILAR EXCEPT THAT A POWER UNIT (D.C.) IS FITTED IN THE PLACE OF THE POWER UNIT (A.C.), RECTIFIER UNIT AND BLOWER. THE TEST POINTS (E) AND (F) ARE IN APPROXIMATELY THE SAME POSITION.

Fig. 3 Transmitter-receiver test points

Transmitter-receiver test points

17. The transmitter-receiver incorporates a number of test point sockets (fig. 3) which can be used to assist in locating faulty modules and, in some instances, the faulty section of a module. These test points are listed in Table 6 together with the nominal voltage required at each point and the possible fault if this requirement is not met.

18. All voltage readings are measured with a multimeter CT471C (or equivalent), between the appropriate test point and chassis (unless otherwise stated) with the modules either secured in the main chassis or connected to it via test pedestals and/or extension connectors. The equipment should be allowed to warm up for a least 15 minutes before testing.

Note...

When a module is used with a test pedestal and/or extension connector, ensure that all coaxial connections are made.

TABLE 6

Test point (socket/plug)	Location	Purpose	Voltage	Possible source of fault
POWER SUPPLY A (J1405)	Right hand panel	DC input	27.5V d.c. (nominal)	(1) Power supply (2) Connectors
B	Fuse board (F1501)	400 Hz, phase 1 input	115V a.c. (nominal) PTR 175A	(1) Fuse F1501 (2) Power unit (a.c.) (3) Connectors (4) Rectifier unit
C	Fuse board (F1502)	400 Hz, phase 2 input	115V a.c. (nominal) PTR175A	(1) Fuse F1502 (2) Power unit (a.c.) (3) Connectors (4) Rectifier unit
D	Fuse board (F1503)	400 Hz, phase 3 input	115V a.c. (nominal) PTR175A	(1) Fuse F1503 (2) Power unit (3) Connectors (4) Rectifier unit

Table 6 (continued)

Test point (socket/plug)	Location	Purpose	Voltage	Possible source of fault
E(J1001 or J1101)	Rectifier unit in PTR175A Power unit (d.c.) in PTR175	HT + VE	125 to 189.5V d.c.	(1) Rectifier unit in PTR175A (2) Power unit (d.c.) in PTR175A (3) Power unit (d.c.) in PTR175
F(J1002 or J1102)	Rectifier unit in PTR175A Power unit (d.c.) in PTR175	Bias	-18V to -25V (see note 1)	(1) Rectifier unit in PTR175A (2) Power unit (a.c.) in PTR175A (3) Power unit (d.c.) in PTR175
RECEIVER AB (J2)	VHF/UHF r.f. amp.	R.F. drive to u.h.f. receiver 1st mixer	-0.2V d.c. min. with 0.1V input signal	(1) Aerial relay (2) VHF/UHF r.f. amp.
H(J502)	Spectrum generator unit	Spectrum drive to tripler	-5V d.c. min.	Spectrum generator unit
J(J1901)	Oscillator unit	24.9 to 33.9 MHz osc.output	-1.0V d.c. min	Oscillator unit
K(J1902)	Oscillator unit	3.05 to 2.15 MHz osc. output	-0.5V d.c. min.	Oscillator unit
L(J202)	1st i.f. unit	21.85 to 31.75 MHz injection	-0.5V d.c. min	(1) Oscillator unit (2) 1st i.f. unit
M(J1406)	Main chassis	AGC line	About-0.7V d.c. with no signal and J1516 uncoupled	2nd and 3rd i.f. unit

TABLE 6 (continued)

Test point (socket/plug)	Location	Purpose	Voltage	Possible source of fault
N(J401)	AF amp.	Detector output	2Vmin. with 1mV input	(1) 1st i.f. unit (2) AF amp.
P(J402)	AF amp.	Audio gain	See Note 2	AF amp.
R(J403)	AF amp.	Signal-to-noise sensing circuit	See Note 3	AF amp.
TRANSMITTER				
S	Fuse F1504	EHT +ve	406.5 to 448.5V d.c.	(1) Fuse F1504 (2) Power unit
AF(J4)	VHF/UHF r.f. amp.	Input to u.h.f. transmitter 2nd mixer	-2V d.c.min. on TRANSMIT	(1) Spectrum generator unit (2) 1st i.f.unit (3) VHF/UHF r.f. amp.
AA(J1)	VHF/UHF r.f. amp.	UHF r.f. preamps.	-0.1V d.c. min. on TRANSMIT; -1.0V d.c. min. on RECEIVE	VHF/UHF r.f. amp.
AC(J104)	VHF/UHF r.f. amp.	Input to v.h.f. transmitter 2nd mixer	0.2V min. on TRANSMIT	(1) Amp-osc. relay unit (2) 1st i.f.unit (3) VHF/UHF r.f. amp.
AD(J105)	VHF/UHF r.f. amp.	VHF r.f. preamp.	-1.5V d.c. min. on TRANSMIT	VHF/UHF r.f.amp.
AE(J103)	VHF/UHF r.f. amp.	Drive to v.h.f. power amp.	-18V d.c. on TRANSMIT	VHF/UHF r.f. amp.
U(J201)	1st i.f. unit	1.8/1.85 MHz output	-2.5V d.c. on TRANSMIT	1st i.f. unit

TABLE 6 (continued)

Test point (socket/plug)	Location	Purpose	Voltage	Possible source of fault
V(J603)	RF power amp.	Drive to V603	-20V d.c. min. on TRANSMIT	(1) 1st i.f. unit (2) Spectrum generator unit (3) VHF/UHF r.f. amp. (4) RF power amp. (5) Amp-osc.relay unit
X(J701)	Modulator	Bias	-15V d.c.	(1) Modulator unit (2) Rectifier unit(PTR175A) or power unit (PTR175)
GUARD RECEIVER				
Y(P801/1)	Receiver unit (guard)	Guard receiver a.g.c.	-1.75V d.c. min. with no signal input	Guard receiver unit
Z(P801/8)	Receiver unit (guard)	Guard receiver detector output	-15V d.c. max. with 1mV input signal	Guard receiver

Note...

(1) A bias supply of between 38V and 52V d.c. is available from the power unit, but is reduced to between 18V and 25V by the loading of the complete transmitter-receiver and is further reduced to -15V in the modulator unit by Zener diode CR702.

(2) The reading at test point P should be 3V a.c. minimum with the guard receiver inoperative, GUARD potentiometer R425 set to midway position, MAIN audio potentiometer set to maximum and 1mV input signal modulated 30% at 1000Hz. With the guard receiver on, R415 and R425 at maximum and 1mV input signal modulated 30% at 1000Hz to the guard receiver, the reading should be 5V a.c. minimum.

(3) The reading at test point R should be +4V d.c. minimum with the AF amplifier connected for signal-to-noise squelch, THRESHOLD potentiometer R407 set to its midway position and 1mV input signal modulated 30% at 400 Hz. With 1mV input modulated 30% at 20 kHz, the reading should be -4V d.c. minimum. When the AF amplifier is connected for carrier operated squelch with 1mV unmodulated input, the reading should be -4.5V d.c. minimum.

19. If the visible valve heaters do not glow, test the heater voltages at the appropriate poles on the main chassis as shown in Fig. 4. Note that the heaters are connected in series-parallel. When examining heater circuits, ensure, that there are no unwanted earth paths.

20. To facilitate measurement of voltages at the module connectors, push the sleeving away from the required pole. Caution is necessary to avoid the risk of electric shock and to avoid placing a short between adjacent poles with the test probe. Push the sleeving back over the pole after test.

Repair of modules

21. When a fault has been localized to a module, change the module and re-test the equipment. Details of modules, including second line servicing, are given in AP116D-0133-1A.

Refitting the cover to the transmitter-receiver

22. Before refitting the cover to a PTR175 equipment, verify that Mod. No. A7858/8 (AP116D-0133-2, Cover 4, Leaflet No. B282) has been embodied on the chassis assembly; where this Mod. has been embodied, the serial No. of the equipment should appear on the cover assembly (see sub-para. (5) below). If, however, a modified chassis assembly or a cover assembly have been changed, proceed as follows:-

(1) Using a micrometer, measure and note the maximum thickness of each runner inside the cover.

(2) On the inside of the chassis assembly release the locknuts on the three securing screws of each of the Tufnol blocks fitted at the rear of the side members. Slacken the three screws of each block just sufficiently to allow movement of the blocks.

(3) Using slip gauges set the top of each block parallel to the runner bearing surface on the side member such that the gap is 0.005 in. greater than the corresponding runner thickness noted in sub-para. (1).

(4) Tighten the securing screws of both blocks and re-check the gaps, making adjustments where necessary. On the inside of the chassis, tighten the locknuts of all the block securing screws.

(5) Using any approved white paint or white marking ink, mark the top of the cover assembly with the following notice:-

"COVER FOR TRANS-REC S/N ....."

Apply a thin coat of an approved clear varnish to this area.

23. Fitting a cover assembly to a transmitter-receiver is achieved by reversing the removal procedure (para. 7). Pressurize the equipment in accordance with para. 5 or 6.

Conversion of Transmitter-Receiver Radio PTR 175 to PTR 175A

24 The items required for the conversion of Transmitter-Receiver, Radio, (PTR 175) 5821-99-971-1781 to a Transmitter-Receiver, Radio, (PTR 175A) 5821-99-971-1778 are listed in Table 7.

TABLE 7 - LIST OF CONVERSION ITEMS

Item (1)	Description (2)	NATO Ref. No. (3)	Quantity (4)
1	Blower	4140-99-943-2429	1
2	Rectifier Unit	5821-99-942-8551	1
3	Power Unit A.C.	5821-99-942-8546	1
4	Fuse 500mA	4140-99-059-0108	1
5	Screw, machine	5305-99-948-0203	3
6	Washer, spring	5310-99-943-3785	3
7	Nut, plain, hexagon	5310-99-948-0327	3
8	Screw, machine	5305-99-948-0350	3
9	Washer, spring	5310-99-943-3771	3
10	Fairlead, tubular	5340-99-943-1885	3

Conversion Procedure

25 It is advisable to carry out overall performance test for PTR 175 as detailed in Chap. 6 before proceeding with the conversion. Then switch the equipment off and proceed as follows.

25.1 Remove the d.c. Power Unit 5821-99-942-8547 from the position shown in Fig. 2.

25.2 Place the Blower 4140-99-943-2429 (cct ref. B150) in the position shown in Fig. 3 and secure it with three screws, washers and nuts, items 5, 6 and 7 of Table 7.

25.3 Connect the Blower wires to the rear of the front panel (refer to wiring diagram of AP116D-0133-6A Pt. 2 Chap. 15, Fig. 8 if necessary) as follows:

1) Green wire to 'ET15' (Earth tag 15).

2) Black wire to "A" terminal (junction of capacitor C1477 (Fig. 2) and lead 123 (Bn/R/O).

3) Orange wire to 'S07' (the other terminal of capacitor C1477).

25.4 Insert the 500mA Fuse (Item 4 Table 7) into the holder coded F1505 which is located on the underside of the Chassis (Fig. 3). ◀

▶ 25.5 Place the Rectifier Unit 5821-99-942-8551 (Item 2 of Table 7) into the position shown in Fig. 3 and secure with the one red headed captive screw available in that position. Fit the three captive screws, washers and fairleads (Items 8, 9 and 10 of Table 7) to secure the Rectifier Unit.

25.6 Remove the red headed captive screw, washer and fairlead from the screw station located on the right hand side of R1523 and refit these items to the vacant screw position (refer to AP116D-0133-6A Pt. 2 Chap. 15 Fig. 9 for the location of R1523).

25.7 Fit and secure the Power Unit A.C. 5821-99-942-8546 (Item 3 of Table 7) in the position shown in Fig. 3.

25.8 Re-identify the chassis and equipment reference numbers,
Chassis - delete 5821-99-971-1779 and insert 5821-99-971-1780,
Equipment - delete PTR175 5821-99-971-1781 and insert PTR175A 5821-99-971-1778.

25.9 Switch the equipment on and carry out the overall performance tests for PTR175A as detailed in Chapter 6. ◀

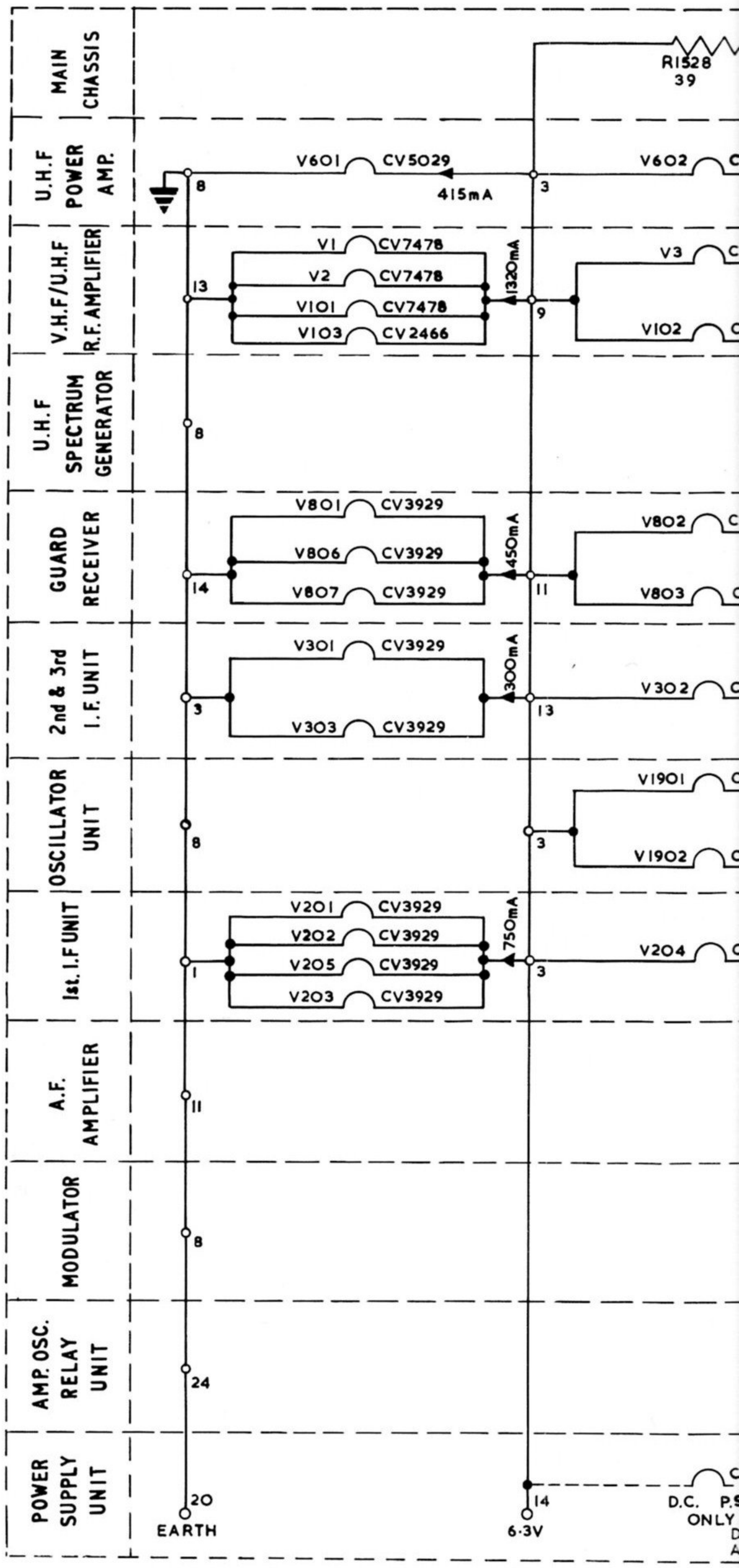


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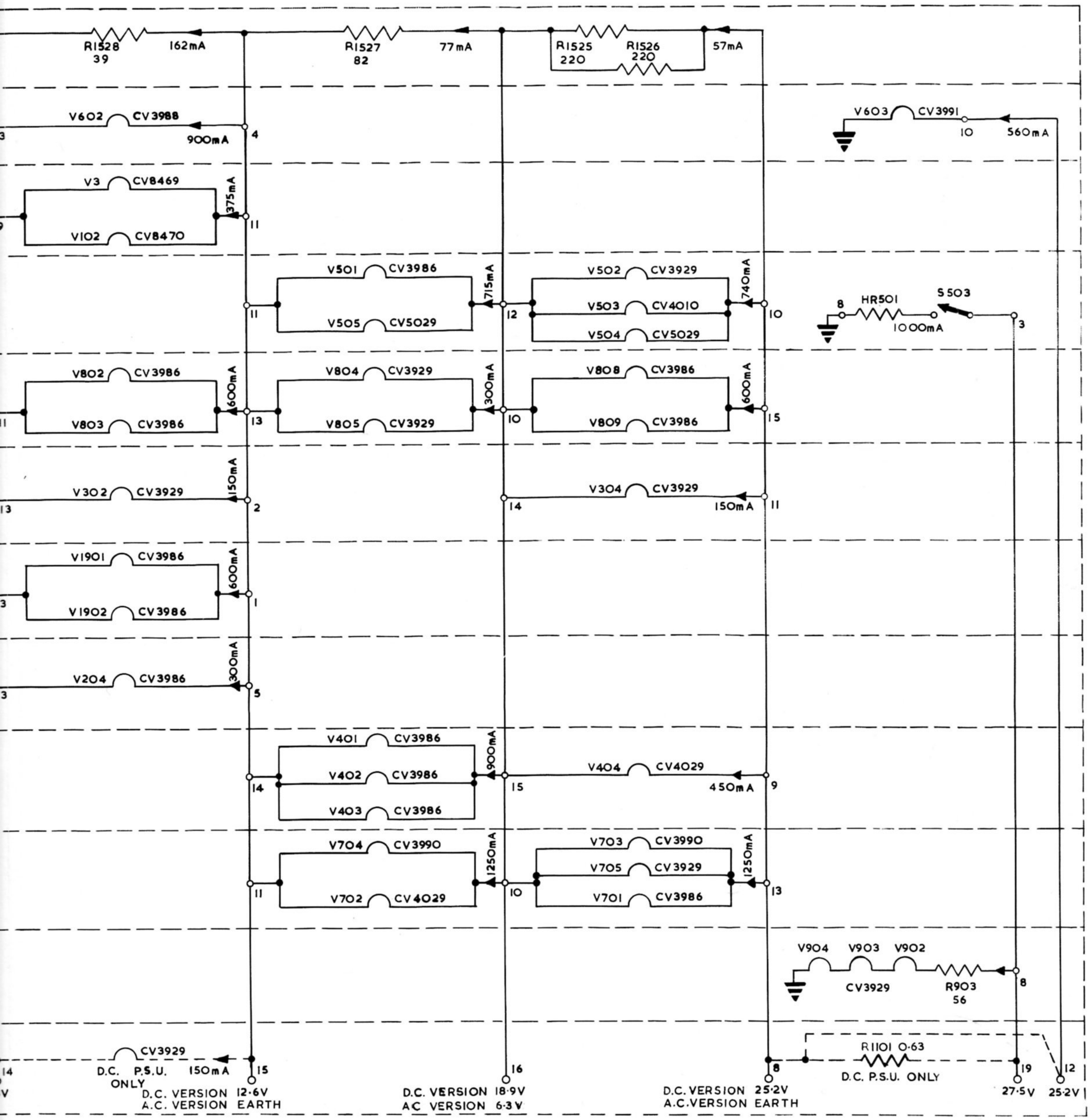
Fig. 4 Tra



g. 4 Transmitter-receiver heater current distribution