



WARNING

The voltages used in this equipment are high enough
to endanger life

CARELESSNESS COULD BE FATAL

See First Aid instructions on page ii to vi

USER HANDBOOK FOR RADIO STATION UK/PRC 320

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LIST OF ASSOCIATED PUBLICATIONS

(User Handbooks)

	Army Code
Radio Station UK/VRC 321	61253
Radio Station UK/VRC 322	61255
Radio Station UK/PRC 350	61124
Radio Station UK/PRC 351 and UK/PRC 352	61128
Radio Station UK/VRC 353	61393
Clansman Radio Control Harness	61172
Clansman Secondary Batteries, Battery Charging and Testing	61395
Adaptor, Telegraph, Radio low/high level	61466
Clansman VHF Antennas	61388
Test Set Audio, Radio Audio Accessories	61656
Test Set, Condition 'Clansman Radio'	61655
Test Set, Harness Connectors Clansman	61657

Fig 1 The UK/PRC 350 Manpack



Fig.1 The UK/PRC 320 Manpack

CHAPTER ONE

PURPOSE AND PLANNING INFORMATION

INTRODUCTION

1.1 The Radio Station UK/PRC 320 is based on the UK/RT 320, a simple to operate lightweight transmitter/receiver operating in the 2 to 30 MHz range with operating frequency selection at 100 HZ intervals. The PRC 320 operates in the SSB, AM or CW modes and can be used as a manpack, ground station or vehicle radio.

The RT 320 is fully sealed and operates from a clip-on 24V secondary battery. A headset assembly, handset and morse key are provided as basic items. A hand generator, a.c. and d.c. charging units are also available as ancillaries. The PRC 320 and its ancillaries are suitable for use in combat conditions anywhere in the world.

PURPOSE

1.2 Although it can be used as a ground station or vehicle radio, the PRC 320 is primarily a manpack radio operating in the SSB mode.

DESCRIPTION

1.3 As a manpack radio with a whip antenna, the PRC 320 provides reliable ground wave SSB communication for distances of up to 35 km, day or night, over the kind of country found in Western Europe. The basic manpack weighs about 11 kg, including GS carrier and adaptor. A lightweight carrier is also available.

As a ground station with a 7.9 m vertical antenna, it provides ground wave communication for distances up to 50 km. As a ground station using an end-fed or dipole antenna with optimum choice of frequency, the sky wave range is several thousand kilometres. These ranges are dependent on the choice of frequency.

As a vehicle radio, the PRC 320 can be operated independently or through the vehicle control harness. Its operating characteristics are similar to those of the manpack. The manpack carrier is used to mount the radio in a vehicle. The radio must be run from its own battery and not directly from the vehicle supply. However, the radio battery can be float charged by means of a d.c. charging unit.

Remote control, including intercommunication and call facilities, is available in conjunction with the Control Radio Set, Local/Remote and various alternative remote units. Manual rebroadcast facilities can be obtained in conjunction with units of the Clansman radio control harness.

A solar shield is provided to protect the radio from direct radiation by the sun. No harm is done if the shield is left fitted to the radio when it is not needed.

When it is necessary to operate two PRC 320 stations (or a PRC 320 and another HF station) in close proximity within the 19.1 MHz to 30 MHz frequency band, a Selectivity Unit, Radio Frequency 12W (SURF 12W) can be used to reduce interference.

When it is necessary to operate two PRC 320 stations (or a PRC 320 and another HF station) in a vehicle, a Selectivity Unit, Radio Frequency 25W (SURF 25W) must be used.

TECHNICAL DATA

1.4	Frequency Range	2 to 30 MHz
	Frequency Control	From built-in frequency synthesiser and reference oscillator.
	Frequency Indication	The frequency indicated by the decade switches is: <ol style="list-style-type: none"> a. 2 kHz above the suppressed carrier frequency on SSB. b. Carrier frequency on AM. c. The radiated frequency on CW.
	Frequency Selection	In increments of 100 Hz by means of six decade switches.
	Frequency Stability	1 p.p.m.
	Operating Modes and Bandwidth	Voice : SSB (upper sideband) 2.7 kHz AM (double sideband) 6 kHz Key : CW (wideband) 2.7 kHz CW (narrowband) 250 Hz
	Operating Temperature	-37°C to +52°C
	Environmental Protection	Fully sealed
	Receiver Sensitivity	SSB : 0.8 μ V for 10 dB (S + N)/N AM : 3.3 μ V at 30% mod for 10 dB (S + N)/N CW(W) : 0.8 μ V for 10 dB (S + N)/N CW(N) : 0.8 μ V for 17 dB (S + N)/N

Audio Output	7 mW into 100 Ω (less than 10% distortion)
Transmitter Power Output	High Power : 30W p.e.p. 10W mean
	Low Power : 3W p.e.p. 1W mean
Power Consumption (Average)	Receive : 3.6W
	Transmit : 40W
Power Supplies	24V d.c. 3.3. Ah secondary battery which provides 12 hours of operation on a 1:9 transmit/receive ratio.
	24V d.c. 1 Ah secondary battery normally used with hand generator which can power the radio for long periods.
	24V d.c. signal batteries when used with a special cable assembly fitted with non-reversible polarity connector.

BATTERY CHARGING FACILITIES

1.5 The 14V or 28V DC Charging Units can charge one Clansman 3.3 Ah or 1 Ah battery. They operate from a nominal 14V or 28V d.c. source and provide a constant current charge output. The units are intended primarily to float charge the radio battery in vehicle installations.

The AC Charging Unit will re-charge up to 16 Clansman 3.3 Ah or 1 Ah batteries simultaneously. It operates from a 100 - 125V or 200 - 250V 50 - 60 Hz a.c. supply.

The approximate times for charging batteries from flat, using either a d.c. or an a.c. charging unit, are:

3.3 Ah	4 hours
1 Ah	1 $\frac{1}{4}$ hours

Charging control is automatic and overcharging or battery damage cannot occur.

The Hand Generator, which clips on to the RT 320 and battery, will maintain the charge state of the battery for an indefinite period with a normal transmit/receive ratio of 1:9.

VEHICLE INSTALLATION

1.6 When the PRC 320 is installed in a vehicle, its carrier frame is clipped to a mounting frame. A clip-in kit is provided.

The battery is float-charged by the d.c. charging unit from the vehicle supply. **The radio must not be powered directly from the vehicle supply since this could cause damage.**

The radio can be operated with a headset assembly plugged in direct or it can be connected via a harness adaptor into the vehicle harness and operated through a control, radio set, local/remote (see Chapter 3). In both cases the radio is connected to the vehicle whip antenna.

Where it is not possible to install the RT 320 close to the vehicle antenna, a Tuning Unit, RF 25W is connected between the vehicle antenna and the RT 320.

CONSTRUCTION

1.7 The transmitter/receiver (RT 320) is contained in a sealed light alloy case. All controls are mounted on the front panel and external connectors on the top and rear panel. Projections around the front and rear panels protect the controls and connectors. The RT 320 is mounted on either a GS carrier with adaptor (see Fig.3a) or a lightweight carrier (see Fig.3b), and the battery is clipped to the bottom of the case of the transmitter/receiver. When A SURF 12W is used it is screwed directly to the case of the RT 320.

The manpack whip antenna comprises eight sections of tubing threaded on a cord to facilitate assembly. When assembled, it has an overall length of 2.4m and is fitted to the RT 320 using the antenna adaptor. The whip antenna can also be used with a 5.4 m mast and adaptor to provide a 7.9 m vertical antenna for ground station use. The 5.4 m mast consists of six tubular fibreglass sections (approximately 1 m in length) together with supporting guys and other accessories. When dismantled, it can be packed into a reinforced fabric case for ease of transportation. Assembly details are shown in Fig.9 (page 31).

The wire antenna consists of 47 m of insulated braid wound on a bobbin. The braid has coloured markers at quarter (first six metres only) one, five and ten metre intervals to facilitate measurement of the required antenna length; a 40 m throwing cord is attached to the bobbin. Two wire antennas can be used as a dipole, in conjunction with a dipole centre junction and antenna feeder cable.

The antenna counterpoise comprises four 9 m lengths of insulated wire attached to a bobbin on which they are wound when not in use. A short lead joined to the wires on the bobbin provides an external connection.

TABLE 1
RADIO STATION UK/PRC 320 ITEMS

ITEM NAME (COMMON NAME)	NATO NO.	NOMINAL DIMENSIONS	NOMINAL WEIGHT	FIG. NO.
Transmitter/receiver, radio UK/RT 320 (RT 320)	5820-99-114-3188	390 x 250 x 120 mm	5.0 kg	2a
Battery, secondary, 24V, 3.3 Ah (3.3 Ah battery)	6140-99-620-8057	180 x 130 x 70 mm	3.4 kg	2a
Plate, mounting, electrical equipment (GS carrier adaptor)	5820-99-620-9265	350 x 270 x 40 mm	1.0 kg	2a
Frame, packboard, Mk. 2 (GS carrier)	8465-99-135-7135	450 x 440 x 200 mm	1.4 kg	2a
Carrier frame, electrical equipment (lightweight carrier)	5999-99-620-8027	400 x 250 x 150 mm	1.2 kg	2a
Adaptor, antenna (whip adaptor)	5820-99-621-9025	220 x 40 x 30 mm	400 g	2a
Antenna assembly 2.4 m long (whip antenna)	5820-99-621-9029	2.4 m x 9 mm dia. (8 sections, 350 mm long)	140 g	2a

ITEM NAME (COMMON NAME)	NATO NO.	NOMINAL DIMENSIONS	NOMINAL WEIGHT	FIG. NO.
Headset, microphone assembly and cable assembly, switch, electrical, pressel (headset)	5965-99-620-8320 5965-99-620-5667	-	500 g	2a
Handset, general application (handset)	5965-99-620-5669	200 x 80 x 50 mm	200 g	2b
Key, telegraph, manual, manpack (morse key)	5805-99-117-7542	270 x 110 x 100 mm	170 g	2b
Shield, solar (solar shield)	5820-99-620-2088	430 x 270 mm	100 g	2b
Bag, ancillaries (ancillaries bag)	5820-99-621-9028	310 x 230 x 100 mm	110 g	2b
Cable assembly, power, electrical, 2 conductor, 3 m long (battery extension cable)	5995-99-620-2113	3 m long	120 g	2b
Generator, electrical, hand operated (hand generated)	5820-99-114-3390	210 x 130 x 80 mm (210 x 150 x 80 mm with handle in operating position)	2.5 kg	2b

ITEM NAME (COMMON NAME)	NATO NO.	NOMINAL DIMENSIONS	NOMINAL WEIGHT	FIG. NO.
Battery, secondary, 24V, 1 Ah (1 Ah battery)	6140-99-620-8058	180 x 70 x 50 mm	1.1 kg	2b
Antenna, wire type, c/w reel (wire antenna)	5820-99-117-7440	140 x 120 mm (47 m extended)	650 g	2c
Centre Junction, dipole (dipole centre junction)	5820-99-117-7439	140 x 50 x 30 mm	150 g	2c
Cable assembly, r.f. UR76, 20 m long (antenna feeder cable)	5995-99-620-5803	20 m long	680 g	2c
Antenna counterpoise (counterpoise)	5820-99-793-7130	115 x 75 mm (4 x 9 m extended)	140 g	2c
Mast, antenna support, fibreglass, 5.4 m (5.4 m mast)	5820-99-621-9027	5.4 m high (990 x 150 x 100 mm in carrying case)	4.3 kg	2c
Selectivity unit, radio frequency 12W (SURF 12W)	5820-99-630-6174	260 x 120 x 50 mm	1.5 kg	8

ITEM NAME (COMMON NAME)	NATO NO.	NOMINAL DIMENSIONS	NOMINAL WEIGHT	FIG. NO.
Cable assembly, r.f. UR76, 106 mm long (SURF 12W cable)	5995-99-630-6175	106 mm long	50 g	8
Control, radio set, local/remote (CRL/R)	5820-99-117-0449	130 x 120 x 80 mm	680 g	15
Cable assembly, electrical, 6 conductor, 500 mm long (CRL/R cable)	5995-99-620-2352	500 mm long	70 g	15
Cable assembly, power, electrical, 2 conductor, 2.23 m long (external supply cable)	5995-99-117-7435	2.23 m long	140 g	4b
Charger, battery d.c. input, 14V (14V d.c. charging unit)	6130-99-620-2114	210 x 140 x 120 mm	2.3 kg	18
Charger, battery, d.c. input, 28V (28V d.c. charging unit)	6130-99-117-0450	210 x 140 x 120 mm	2.3 kg	18
Wiring harness, 2 conductor, 2 m long (d.c. charging unit supply cable)	5995-99-117-7437	2 m long	130 g	18

ITEM NAME (COMMON NAME)	NATO NO.	NOMINAL DIMENSIONS	NOMINAL WEIGHT	FIG. NO.
Cable assembly, power, electrical, 4 conductor, 1 m long (battery charging cable)	5995-99-117-7436	1 m long	100 g	18
Charger, battery, a.c. (a.c. charging unit)	6130-99-117-0451	440 x 350 x 310 mm	29.0 kg	19
Cable assembly, power, electrical, 3 conductor, 3 m long (a.c. charging unit supply cable)	5995-99-620-2112	3 m long	120 g	19

CHAPTER TWO

OPERATING INFORMATION

BASIC STATION AND ANCILLARY EQUIPMENT

2.1 The items comprising the basic station and its auxiliary equipment are illustrated in Fig.2a, b, c, in which they are referred to by their common names.

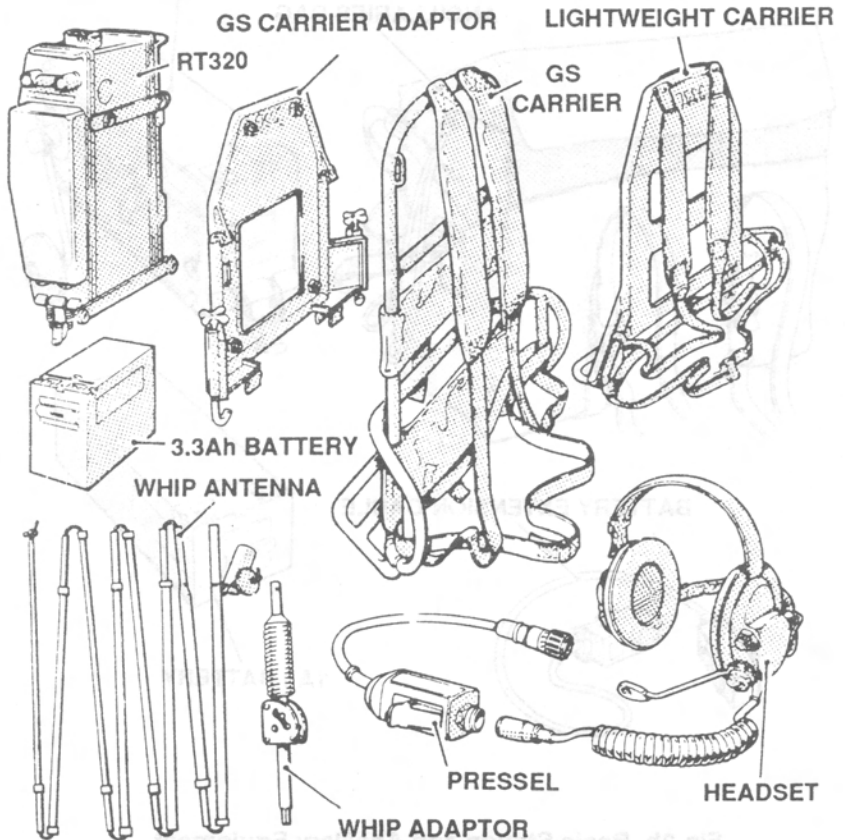


Fig.2a Basic Station and Ancillary Equipment

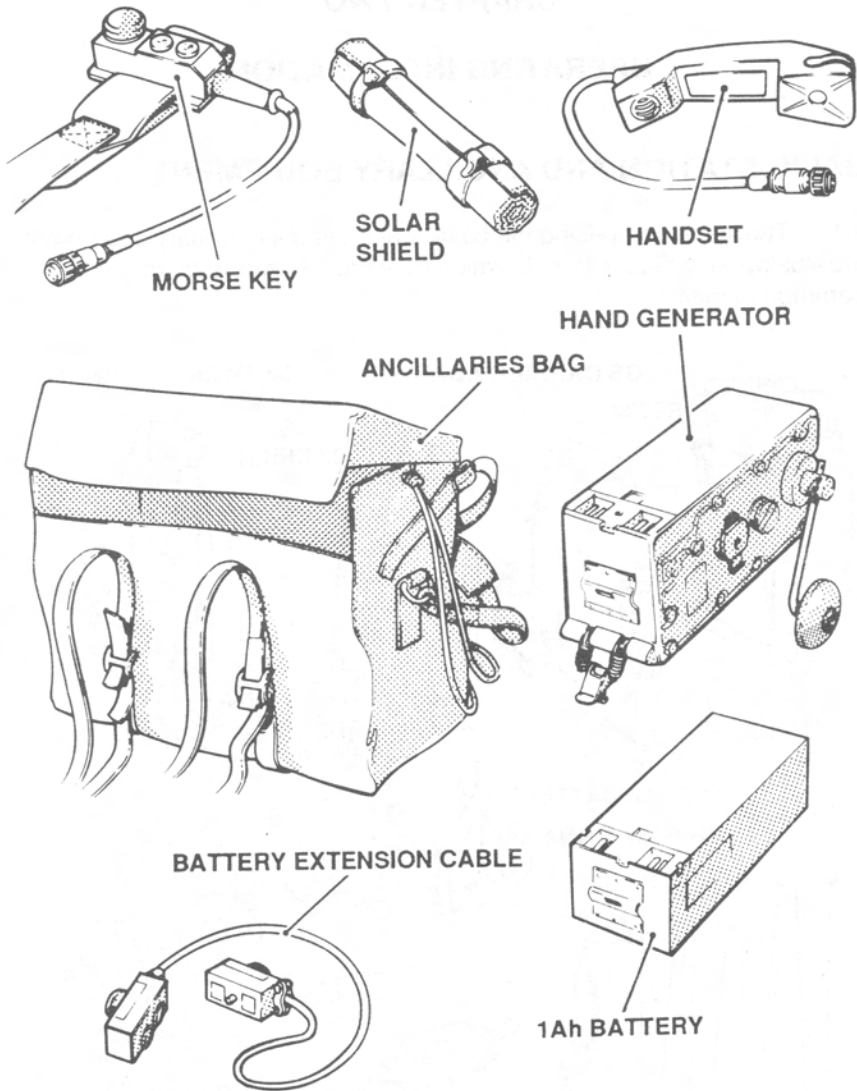


Fig.2b Basic Station and Ancillary Equipment

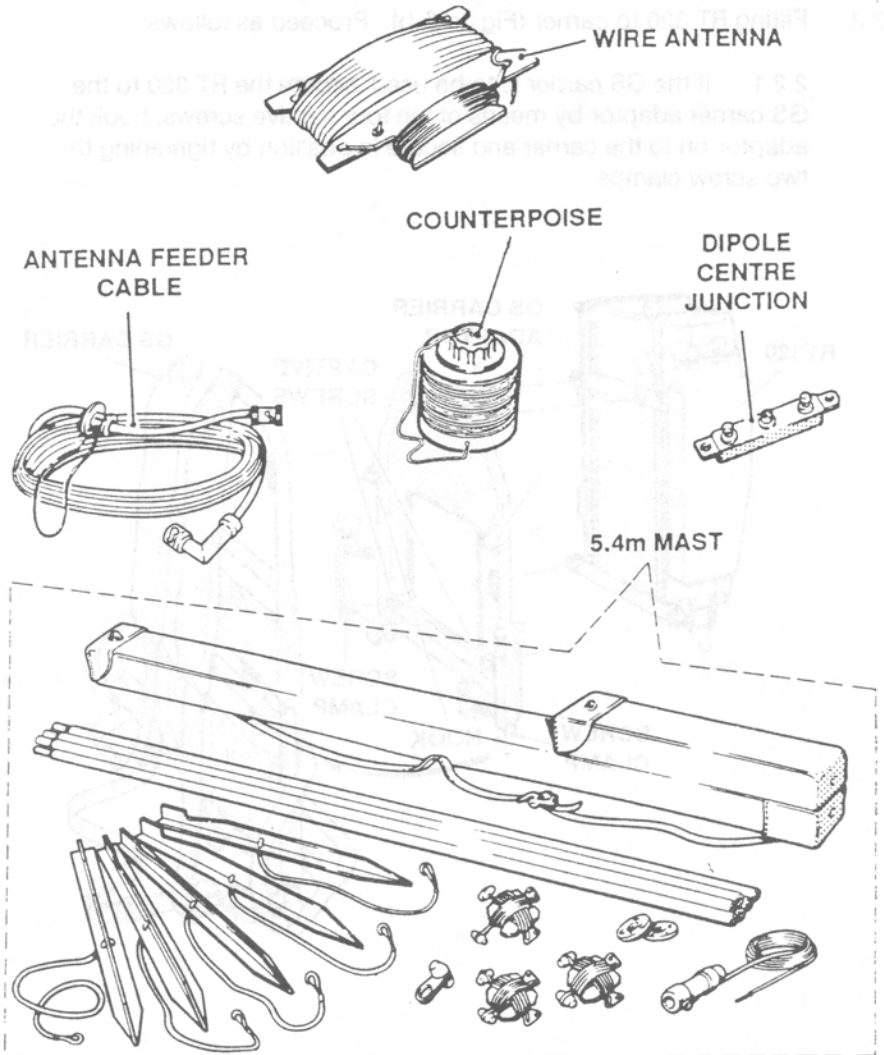


Fig.2c Basic Station and Ancillary Equipment

ASSEMBLY OF STATION

2.2 Fitting RT 320 to carrier (Fig.3a & b). Proceed as follows:

2.2.1 If the GS carrier is to be used, secure the RT 320 to the GS carrier adaptor by means of the four captive screws, hook the adaptor on to the carrier and secure in position by tightening the two screw clamps.

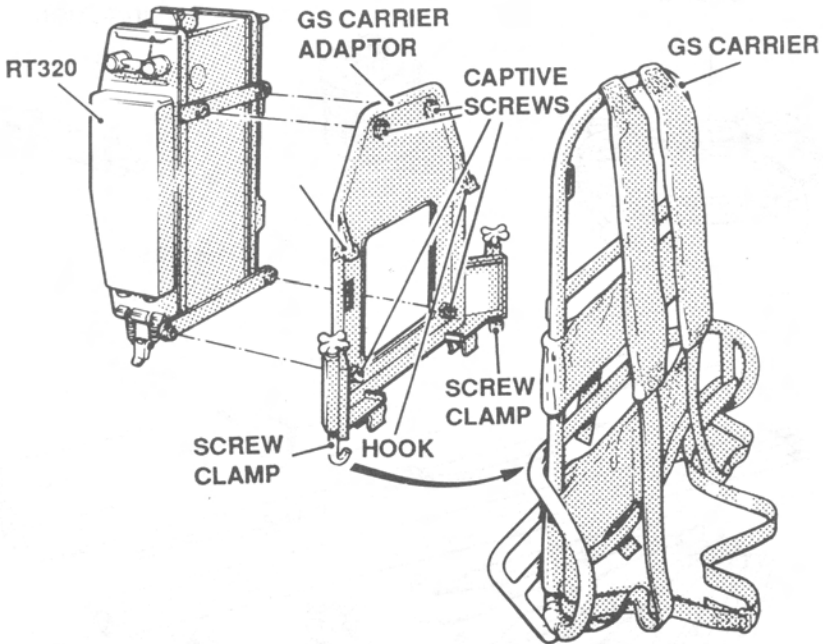


Fig.3a Fitting RT 320 to Carrier (GS)

2.2.2 If the lightweight carrier is to be used, secure the RT 320 to the carrier by means of the four captive screws.

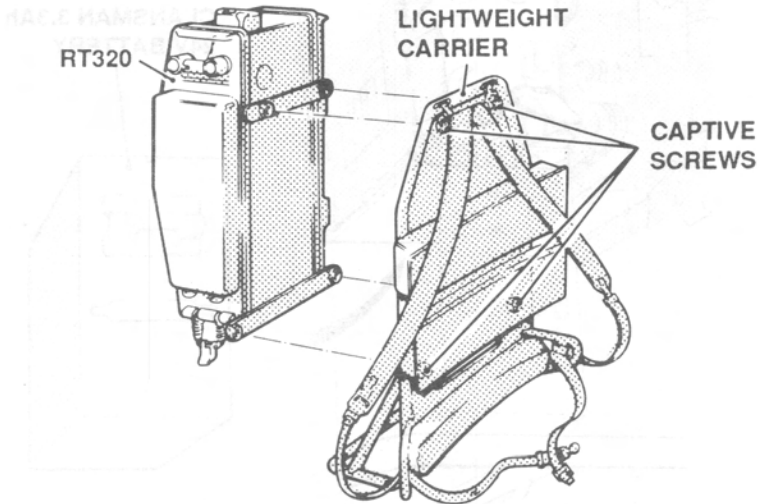


Fig.3b Fitting RT 320 to Carrier (Lightweight)

2.3 Connecting battery to RT 320 (Fig.4a & b). Proceed as follows:

2.3.1 At the RT 320, turn the transmitter power switch to OFF.

2.3.2 Lift the battery retaining latches of the RT 320, fit the battery to the RT 320 so that the contacts of both engage and then secure the retaining latches.

After a period of use, the battery should be removed and placed on charge.

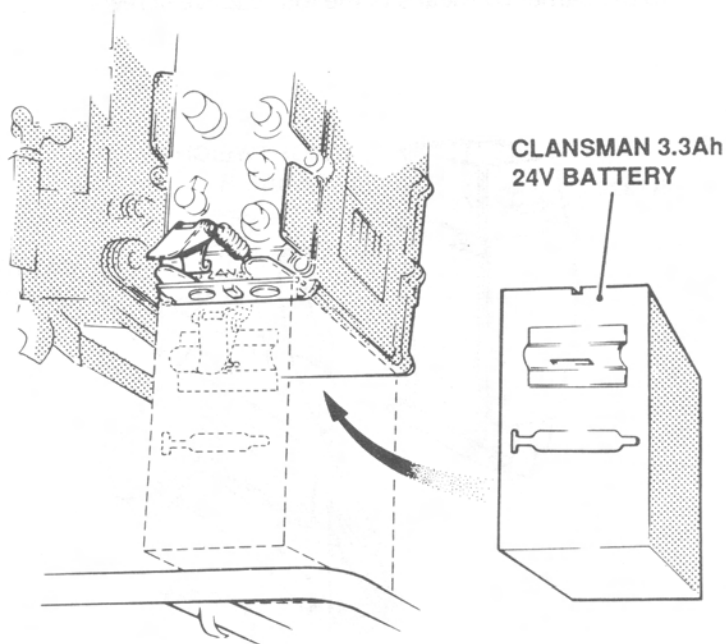


Fig.4a Fitting Battery

2.3.3 If it is required to operate the RT 320 with the battery separated, connect the battery with the battery extension cable, ensuring that the plug and socket are correctly orientated on the battery and RT 320 respectively by means of the locating studs and that the plug and socket securing screws are tightened.

2.3.4 If it is required to operate the RT 320 with a 24V signal battery, connect the battery with the external supply cable, ensuring that the socket is correctly orientated on the RT 320, the socket securing screw is tightened and the red and black leads are connected to the battery positive and negative terminals respectively.

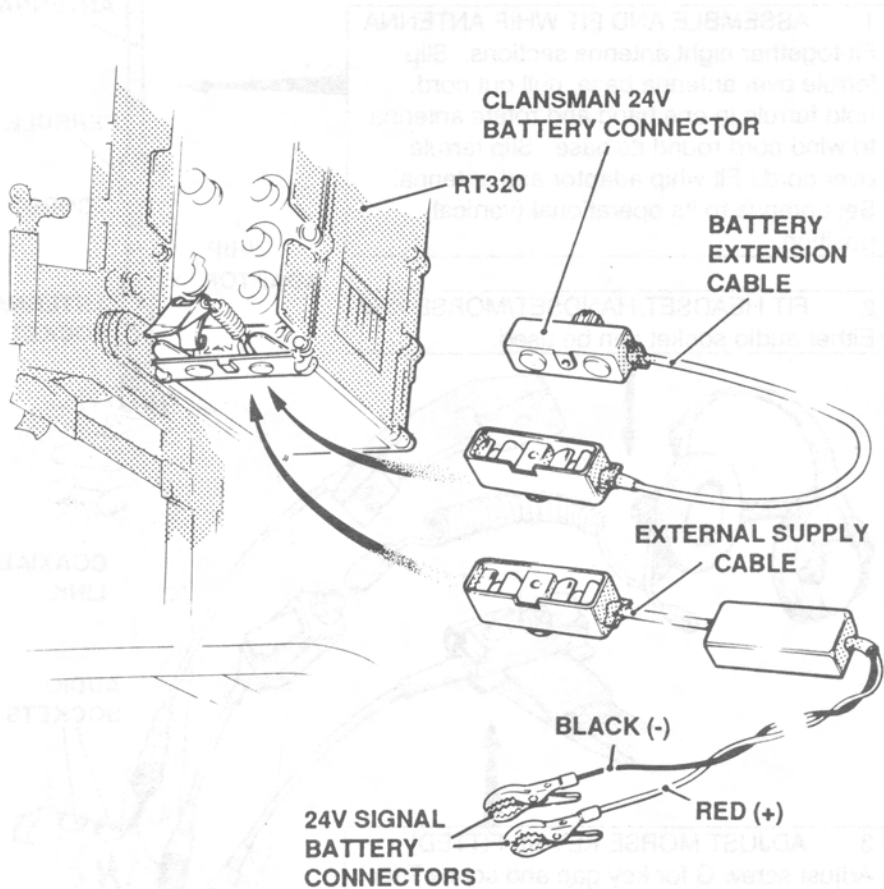


Fig.4b Fitting Battery Cables

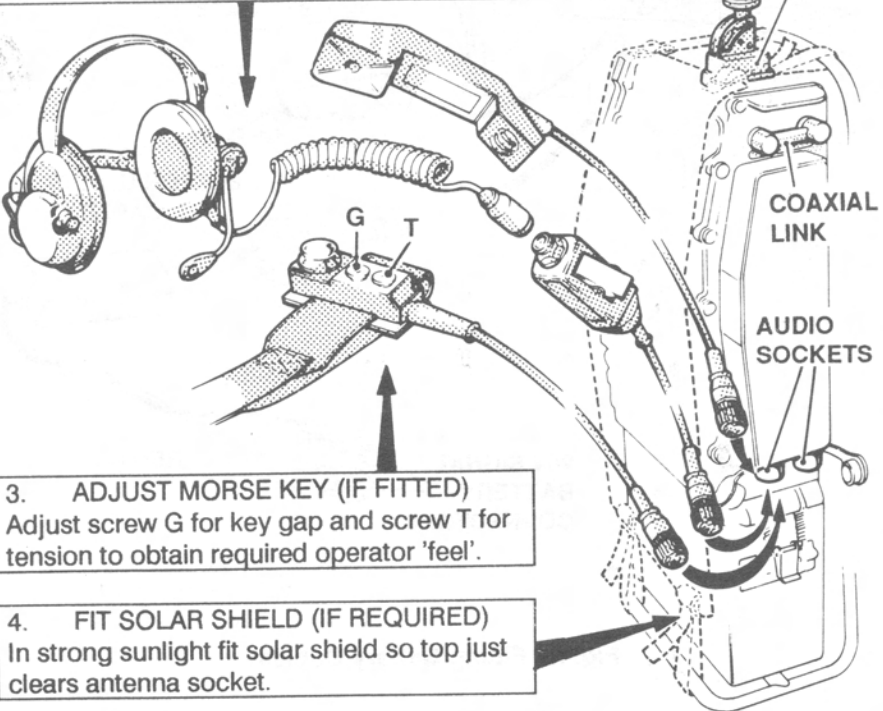
2.4 Assembling manpack. Proceed as shown in Fig.5.

1. ASSEMBLE AND FIT WHIP ANTENNA

Fit together eight antenna sections. Slip ferrule over antenna base, pull out cord, hold ferrule in one hand and rotate antenna to wind cord round its base. Slip ferrule over cord. Fit whip adaptor and antenna. Set antenna to its operational (vertical) position.

2. FIT HEADSET/HANDSET/MORSE KEY

Either audio socket can be used.



3. ADJUST MORSE KEY (IF FITTED)

Adjust screw G for key gap and screw T for tension to obtain required operator 'feel'.

4. FIT SOLAR SHIELD (IF REQUIRED)

In strong sunlight fit solar shield so top just clears antenna socket.

Fig.5 Assembling Manpack

CARRYING POSITION

2.5 The correct carrying position for the manpack is as shown in Fig.1 (page xii). The lightweight carrier illustrated in Fig.2a (page 13) can be used as an alternative.

OPERATING INFORMATION

2.6 Set up and tune the PRC 320 as shown in Fig.6.

ANTENNA TUNING

2.7 The settings of the RANGE and LOAD switches on the RT 320 antenna tuning unit (ATU) are determined by the operating frequency and the type of antenna (various configurations are described in para. 2.15 to 2.20), as shown in the ATU RANGE AND LOADING TABLE (Fig.7, page 24) on the equipment case. Switch settings for V dipole and vehicle 4 m whip antennas are not given in this table and form the subject of a separate table, also illustrated in Fig.7. The method of using the tables is as follows:

2.7.1 Determine which block in the appropriate ANTENNA column corresponds with the selected operating frequency in the FREQ MHz column and initially set the RANGE and LOAD switches respectively to the letter and number given in the block, e.g. if the operating frequency is 5.7635 MHz, set the switches to B and 3 respectively when using the manpack whip antenna, B and 6 with the 5.5 m vertical antenna and B and 2 with the vehicle 3 m and 4 m whip antennas. When using the 7.9 m vertical antenna, set the switches to B and the position between 6 and 9 inclusive which enables the highest meter reading to be achieved when adjusting the TUNE control.

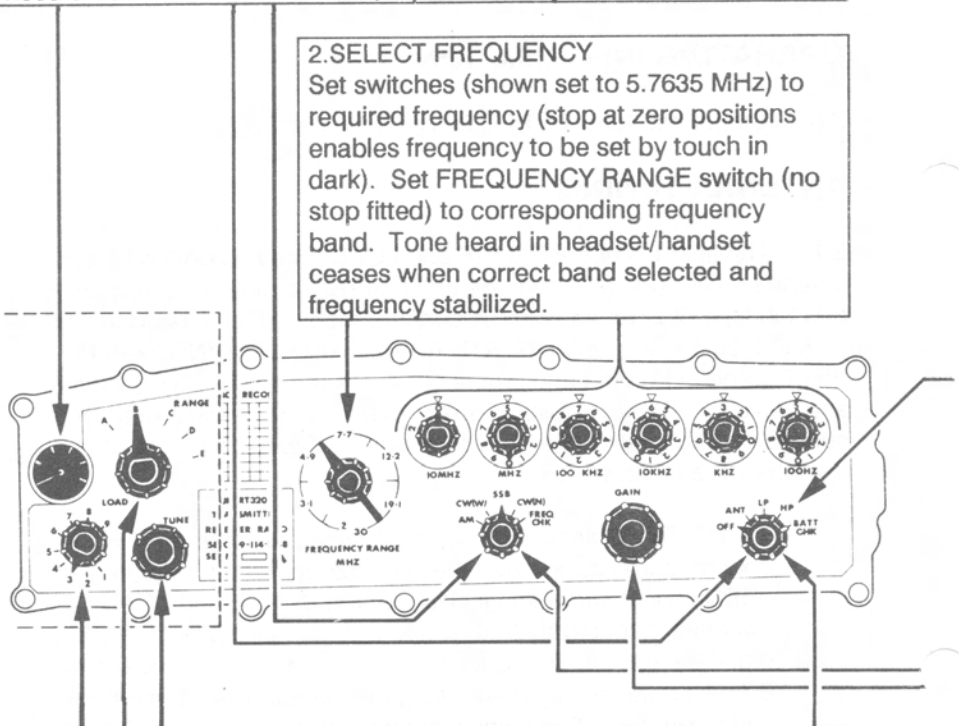
2.7.2 In the case of an end-fed antenna, set the antenna length and the switches according to the table, e.g. for a frequency of 5.7635 MHz, set the antenna to a length of 32 metres and the switches to C and 7.

1. CHECK BATTERY

Set to BATT CHK and CW (W or N). A reading will be obtained on the meter. Depress pressel/morse key. Check meter needle registers on or above second mark. (The first mark is zero.) Release pressel. If needle was below second mark, replace battery.

2. SELECT FREQUENCY

Set switches (shown set to 5.7635 MHz) to required frequency (stop at zero positions enables frequency to be set by touch in dark). Set FREQUENCY RANGE switch (no stop fitted) to corresponding frequency band. Tone heard in headset/handset ceases when correct band selected and frequency stabilized.



3. TUNE ANTENNA TUNING UNIT (ATU)

Set to ANT. Set RANGE and LOAD switches to suit antenna and frequency (see para. 2.7). Depress pressel/morse key and adjust TUNE control for maximum reading. Adjust LOAD switch for maximum reading, selecting lower number position if two give same reading. Re-adjust TUNE control for maximum reading and release pressel.

Fig.6 Operating information

4.RE-CHECK BATTERY

Repeat operation 1.

5.SELECT TRANSMITTER POWER

Set to LP (low power) or HP (high power) as required.

6.SELECT MODE

Set to SSB or AM for speech and CW for morse.

7.COMMUNICATE

To transmit, depress pressel and speak into microphone when in speech mode, or operate morse key when in CW mode. Sidetone heard in every mode. To receive, release pressel/morse key.

WARNING: A slight burning sensation may be experienced if exposed metal areas of the case from which paint has been chipped are touched when operating the set on HP (high power). All such damage must be re-painted as soon as possible.

8.ADJUST VOLUME

Adjust GAIN control for required volume of received signal.

9.SWITCH OFF WHEN NOT IN USE

NOTE: When audio gear is removed, there is no indication that the set is on.

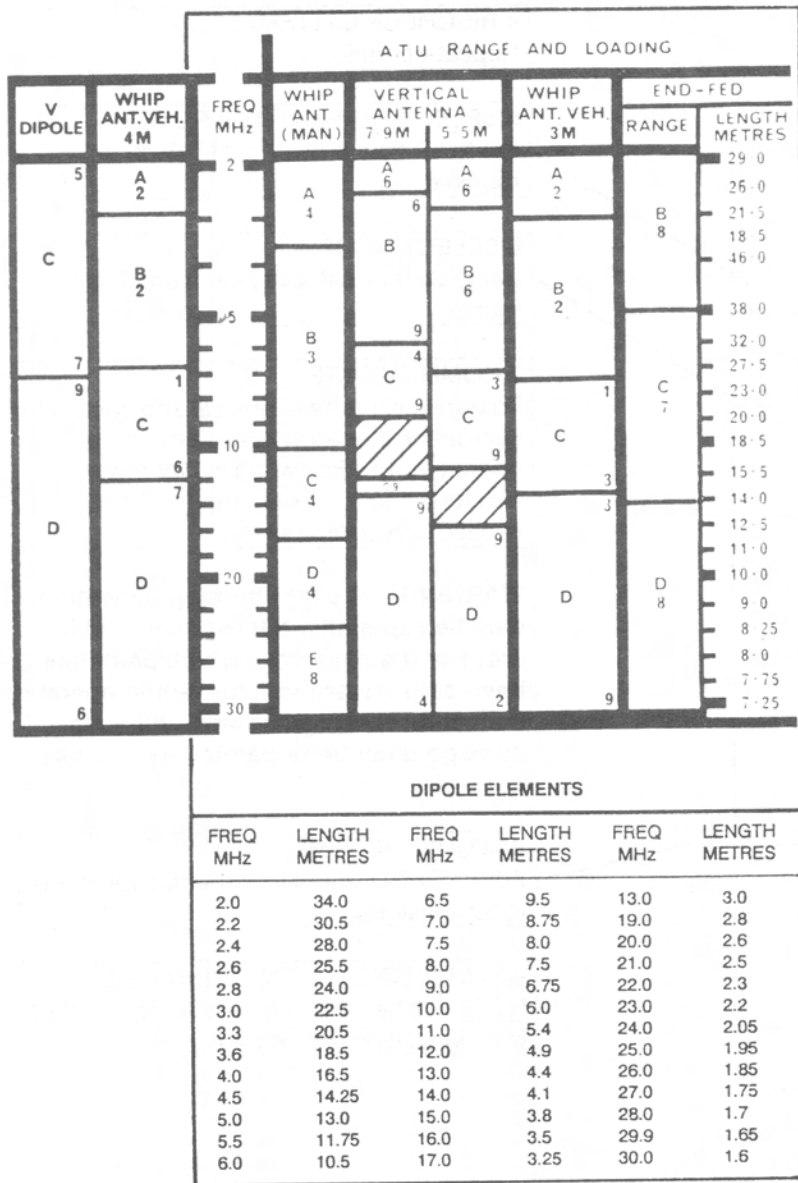


Fig.7 ATU Range and Loading and Dipole Elements Tables

2.7.3 In the case of a dipole antenna using a dipole centre junction and antenna feeder cable, antenna tuning is performed solely by adjusting the length of each dipole element to the nearest frequency listed in the table, e.g. for a frequency of 5.7635 MHz, set the length of each element to 10.5 metres.

2.7.4 In the case of a dipole antenna in which the elements are connected directly to the RT 320 (V dipole), the switches are set as shown in addition to adjusting the element lengths, e.g. for a frequency of 5.7635 MHz, set each dipole element to a length of 10.5 metres. Set the switches to C and the position between 5 and 7 inclusive which enables the highest meter reading to be achieved when adjusting the TUNE control.

- NOTE:
- a. When operating the RT 320 in the manpack role, any significant change in operator position alters the antenna ground plane and affects the antenna impedance which can result in a reduction in power output. This effect is most noticeable when the operator moves between the standing and prone positions. In such cases the ATU should be re-tuned to compensate. Similarly, if the set is removed from the operator's back or if the set is tuned on the ground and then returned to the operator's back, re-tuning will be necessary. Proximity effects of trees, ground, buildings etc can affect the antenna impedance in a similar fashion.
 - b. The operator, or any person touching the equipment, forms part of the antenna ground plane and has an effect on antenna tuning due to hand capacitance on the antenna tuning control. This effect is most noticeable when the operator is standing, his body is effectively part of the ground plane.

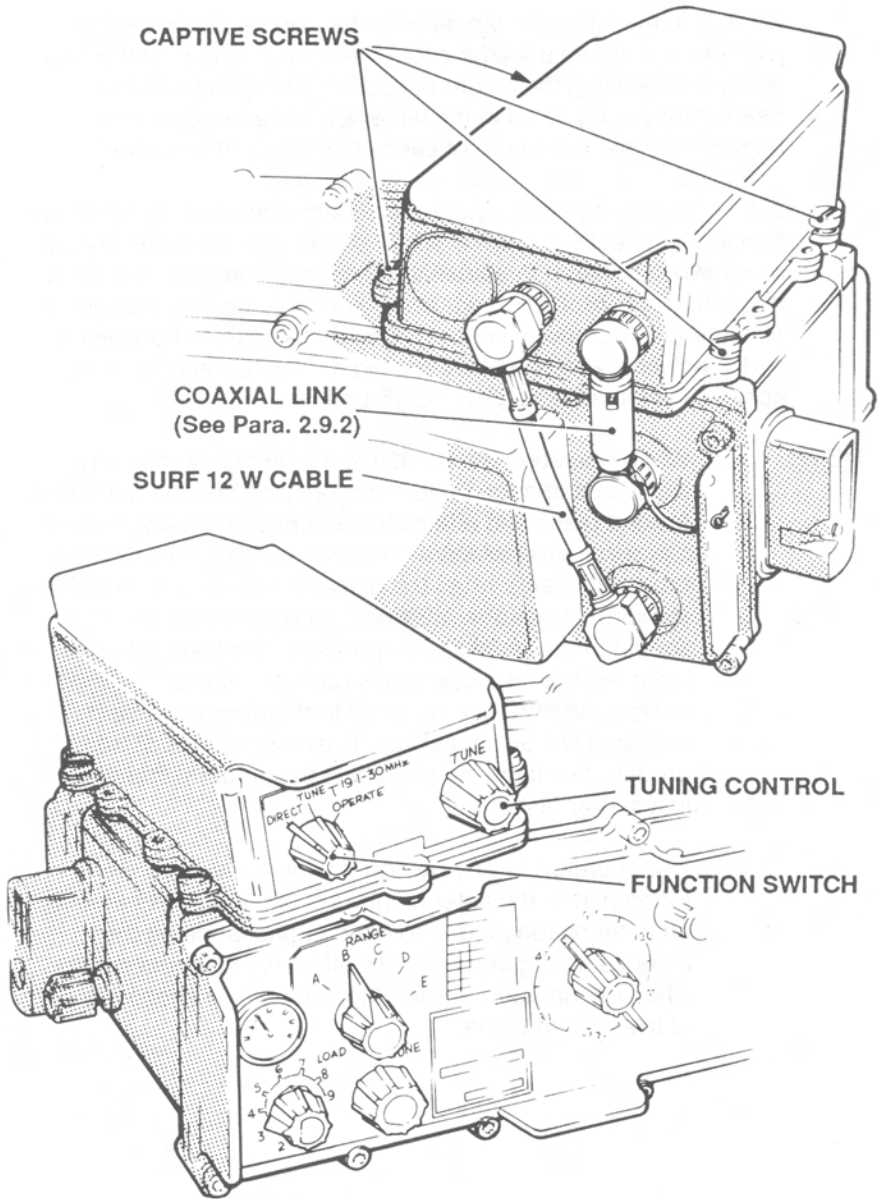


Fig.8 SURF 12W

SELECTIVITY UNIT, RADIO FREQUENCY, 12W (SURF 12W) (Fig.8)

2.8 The SURF 12W is used in the manpack role if the PRC 320 is to be operated in the frequency band 19.1 MHz to 30 MHz within 100 metres of another HF radio. It reduces unwanted radiation from the transmitter.

2.9 Fitting SURF 12W; Proceed as follows:

2.9.1 Secure the SURF 12W to the RT 320 by means of the four captive screws.

2.9.2 Remove the coaxial link from between the RT 320 INT TUNER and T/R sockets (release both connector retaining rings fully and withdraw, **do not** release one retaining ring and rotate the link). Re-connect the coaxial link between the INT TUNER sockets of both units and connect the T/R sockets of both by the SURF 12W cable. Ensure that all four coaxial connectors are locked in position by their retaining rings.

2.9.3 If required, fit the solar shield, which is of sufficient length to accommodate the SURF 12W.

2.10 Tuning SURF 12W; Proceed as follows:

2.10.1 Carry out operations 1 and 2 in Fig.6 (Operating Information, pages 22 and 23).

2.10.2 If the frequency selected is between 2 MHz and 19.1 MHz, set the SURF 12W function switch to DIRECT. At any other frequency, set the switch to TUNE, the RT 320 power switch to ANT, depress the pressel and adjust the SURF 12W TUNE control for maximum meter reading. Release the pressel.

2.10.3 Carry out operations 3 to 8 in Fig.6.

5.4 m MAST (Fig.9, page 30; Fig.11, page 33)

2.11 The 5.4 m mast forms the basis of the 7.9 m and 5.5 m vertical antennas used for ground wave operation and can be used also as a support for various dipole and end-fed antenna configurations. It comprises six tubular sections which, when fitted together, are supported by three pairs of guys. For ease of transport, the mast is supplied as a kit (5820-99-621-9027) containing the following items:

Mast section assembly (section) 5820-99-621-9017	-	6 off
Guy assembly (guy) 5820-99-621-9018	-	6 off
Stake, peg assembly (stake) 4030-99-621-9019	-	5 off
Adaptor, mast assembly (adaptor) 5820-99-621-9020	-	1 off
Plate, guy (guy plate) 5820-99-621-9021	-	2 off
Former 5820-99-621-9022	-	3 off
Plate, tie (tie plate) 5820-99-621-9023	-	1 off
Case, mast (case) 5820-99-621-9024	-	1 off

2.12 To assemble and erect the mast, proceed as follows:

2.12.1 Remove all items from the case and fit together the six sections, interposing a guy plate between the third and fourth and the tie plate between the two lowermost sections.

2.12.2 Fit to the top of the mast the second guy plate and:

- a. If the mast is to be used for a 5.5 m vertical antenna, add the adaptor complete with down lead.
- b. If the mast is to be used for a 7.9 m vertical antenna, add the adaptor complete with down lead and then fit the 2.4 m whip antenna into the adaptor.

2.12.3 Remove the guys from the formers on which they are wound and feed the guy toggles through the underside of the elongated holes in the guy plates. Locate the toggles so that they will not pull through the holes when the guys are under tension.

2.12.4 If the mast is to support a wire dipole or end-fed antenna, feed the throwing cord of the wire antenna (para. 2.16) through the top of the circular holes in the upper and lower guy plates. If the mast is to be used as a vertical antenna, feed the adaptor down lead through the guy plates.

2.12.5 Drive into the ground three of the stakes, equally spaced in a circle of 6m diameter. In soft ground, dig holes for the stakes and embed them to a depth sufficient to withstand the tension of the guys.

2.12.6 Stand the base of the mast on the reinforced lid of the case in the centre of the circle and attach the loop at the end of the upper and lower guy of each pair to a stake by means of its hook. Tighten the guys to maintain the mast in a vertical position.

2.12.7 If the mast is to support a wire dipole or end-fed antenna, pull the throwing cord of the wire antenna tight and tie off round the tie plate.

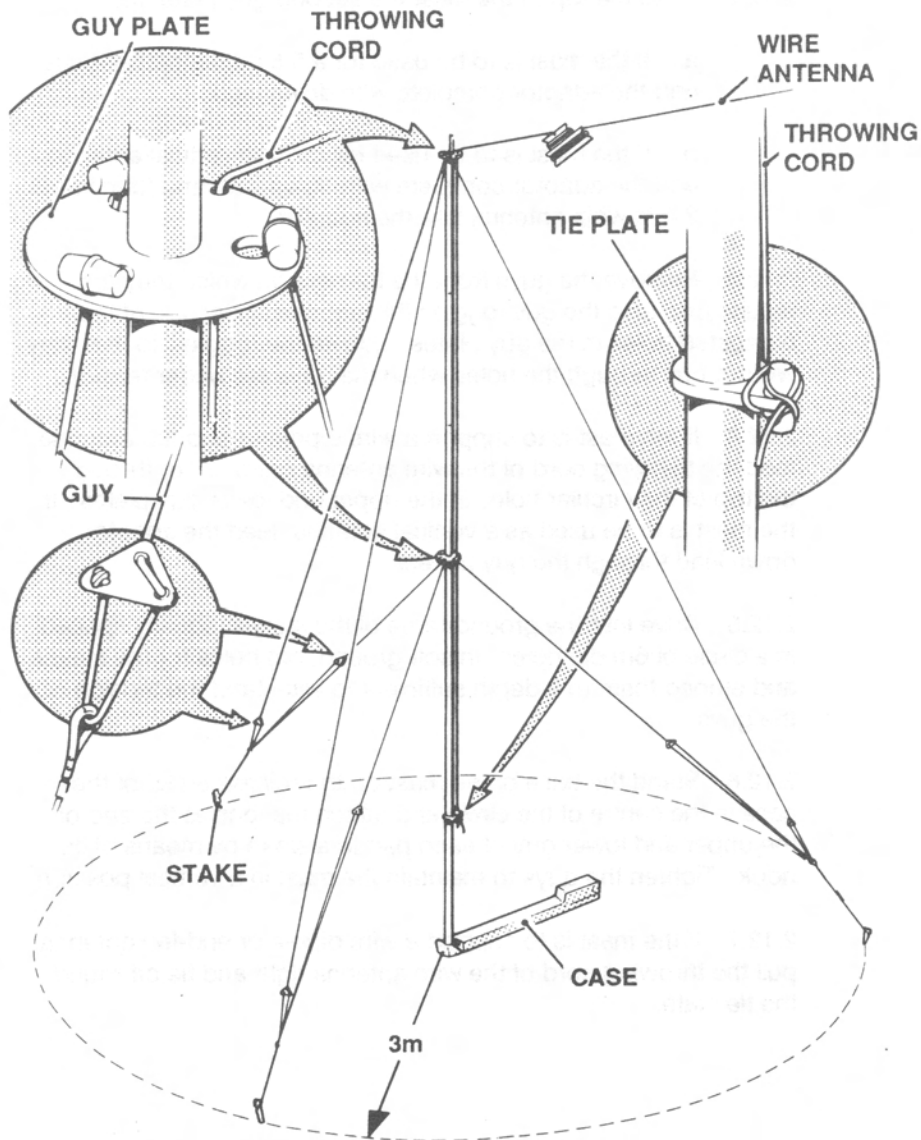


Fig.9 Erection of 5.4 m Mast with Wire Antenna

ANTENNA COUNTERPOISE (Fig.10 below)

2.13 The antenna counterpoise provides an artificial earth for all antennas when used on ground of poor conductivity, such as desert or frozen snow and ice, and should always be used with the ground wave vertical and end-fed antennas. In use, the four wires are spread radially around the RT 320 and the short lead is connected to the earth terminal of the RT 320. The counterpoise should always be used if doubtful about the ground conditions, because its use will never reduce performance and will often improve it.

2.14 The setting up procedure for the RT 320 when used in conjunction with the counterpoise is as shown in Fig.6 but, if the counterpoise is added after setting up, the equipment should be re-tuned.

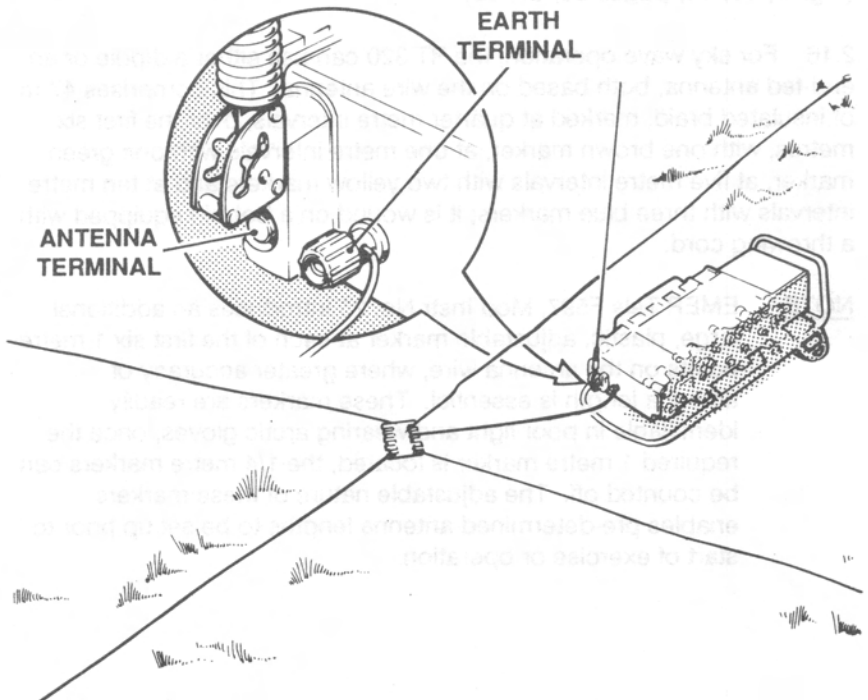


Fig.10 Antenna Counterpoise

GROUND WAVE VERTICAL ANTENNAS (Fig.11 overleaf)

2.15 For ground wave operation, the RT 320 uses vertical antennas based on the 5.4 m mast (see para. 2.12 on pages 28,29). In both the 5.5 m and the 7.9 m antennas, the down lead is connected to the RT 320 antenna terminal, as shown, and the setting up procedure is as shown in Fig.6. Both antennas can be used throughout the frequency range of the equipment, except within the dead spots shown hatched in the ATU RANGE AND LOADING table. In these cases, an end-fed antenna should be used, as described in para. 2.20. The antenna counterpoise must be used with these antennas (see para. 2.13).

SKY WAVE DIPOLE AND END-FED ANTENNAS

(Fig.12, 13, 14, pages 36, 37, 38)

2.16 For sky wave operation, the RT 320 can use either a dipole or an end-fed antenna, both based on the wire antenna. This comprises 47 m of insulated braid, marked at quarter metre intervals, over the first six metres, with one brown marker, at one metre intervals with one green marker, at five metre intervals with two yellow markers and at ten metre intervals with three blue markers; it is wound on a bobbin equipped with a throwing cord.

NOTE: EMER Tels F597, Mod Instr No. 25 introduces an additional large, plastic, adjustable marker at each of the first six 1 metre points on the antenna wire, where greater accuracy of antenna length is essential. These markers are readily identifiable in poor light and wearing arctic gloves; once the required 1 metre marker is located, the 1/4 metre markers can be counted off. The adjustable nature of these markers enables pre-determined antenna lengths to be set up prior to start of exercise or operation.

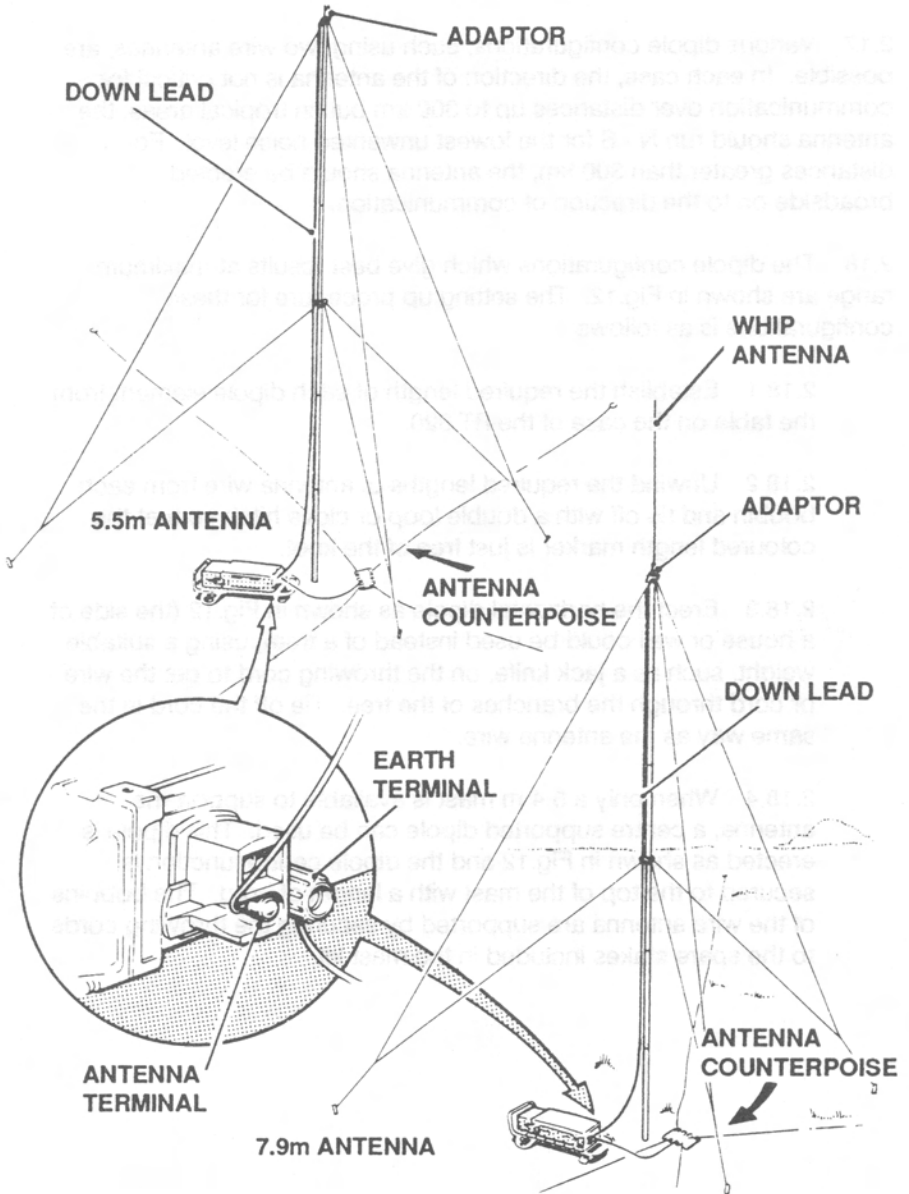


Fig.11 5.4m Mast with Ground Wave Vertical Antennas

2.17 Various dipole configurations, each using two wire antennas, are possible. In each case, the direction of the antenna is not critical for communication over distances up to 300 km but, in tropical areas, the antenna should run N - S for the lowest unwanted noise level. For distances greater than 300 km, the antenna should be erected broadside on to the direction of communication.

2.18 The dipole configurations which give best results at maximum range are shown in Fig.12. The setting up procedure for these configurations is as follows:

2.18.1 Establish the required length of each dipole element from the table on the case of the RT 320.

2.18.2 Unwind the required lengths of antenna wire from each bobbin and tie off with a double loop or clove hitch so that the coloured length marker is just free of the knot.

2.18.3 Erect the horizontal dipole as shown in Fig.12 (the side of a house or wall could be used instead of a tree), using a suitable weight, such as a jack knife, on the throwing cord to get the wire or cord through the branches of the tree. Tie off the cord in the same way as the antenna wire.

2.18.4 When only a 5.4 m mast is available to support the antenna, a centre supported dipole can be used. This dipole is erected as shown in Fig.12 and the dipole centre junction is secured to the top of the mast with a length of cord. The bobbins of the wire antenna are supported by securing the throwing cords to the spare stakes included in the mast kit.

2.18.5 Remove the coaxial link between the RT 320 INT TUNER and T/R sockets by releasing both connector rings fully and withdrawing. Do not release one retaining ring and rotate the link. Then connect the T/R socket to the dipole centre junction by means of the antenna feeder cable. If the SURF 12W is fitted, remove the cable from between the two T/R sockets and connect the RT 320 T/R socket to the dipole centre junction. Ensure that no strain is applied to the terminals and coaxial socket of the dipole centre junction by looping the antenna wires through its lugs and suspending the antenna feeder cable from it by means of the loop of cord attached to the cable, as shown.

2.18.6 Where the antenna has EMER Tels F597 Mod Instr No. 24 embodied, a strain relief device provides secure anchorage of the antenna to the dipole centre junction. Connection of the modified antenna to the dipole centre junction is effected as shown in Fig.12.

2.18.7 Set up the equipment as shown in Fig.6 (pages 22 and 23), but do not tune the ATU (operation 3) as, in this configuration, antenna matching is provided solely by the lengths of the dipole elements.

2.19 Examples of other dipole configurations are given in Fig.13 (page 37). In these examples, the dipole centre junction and antenna feeder cable are not used, the coaxial link between the INT TUNER and T/R sockets remains fitted and the wire antenna ends are connected directly to the RT 320 antenna and earth terminals as shown. The lengths of the dipole elements are specified in the table on the radio set (also shown in Fig.7, page 24). The equipment is set up as shown in Fig.6 (pages 22 and 23), using the RANGE AND LOAD switch settings given for the V dipole in Fig.7 (page 24).

**DIPOLE
CENTRE JUNCTION
(POST - MOD INSTR No. 24)**

**DIPOLE
CENTRE JUNCTION
(PRE - MOD INSTR No. 24)**

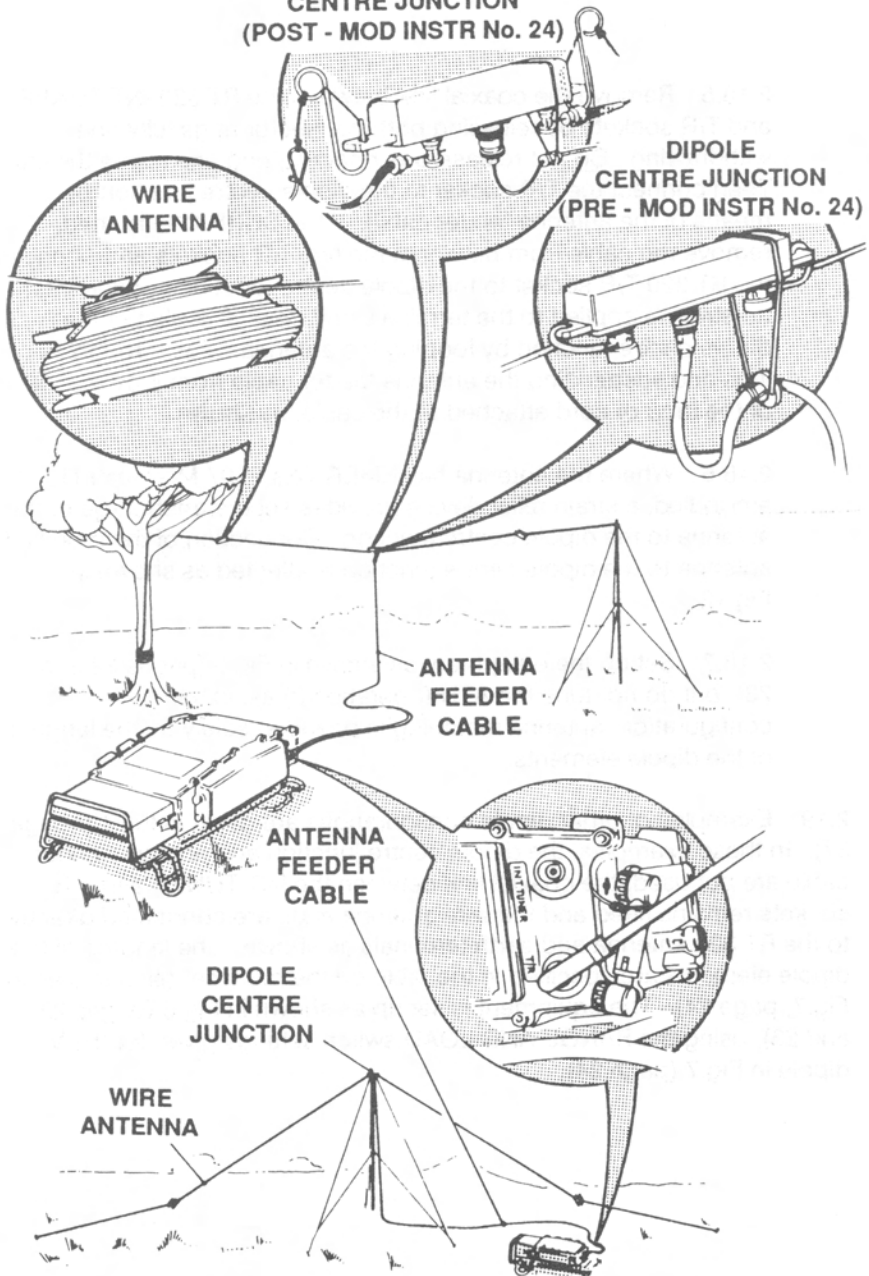


Fig.12 Dipole Configurations using Antenna Feeder Cable

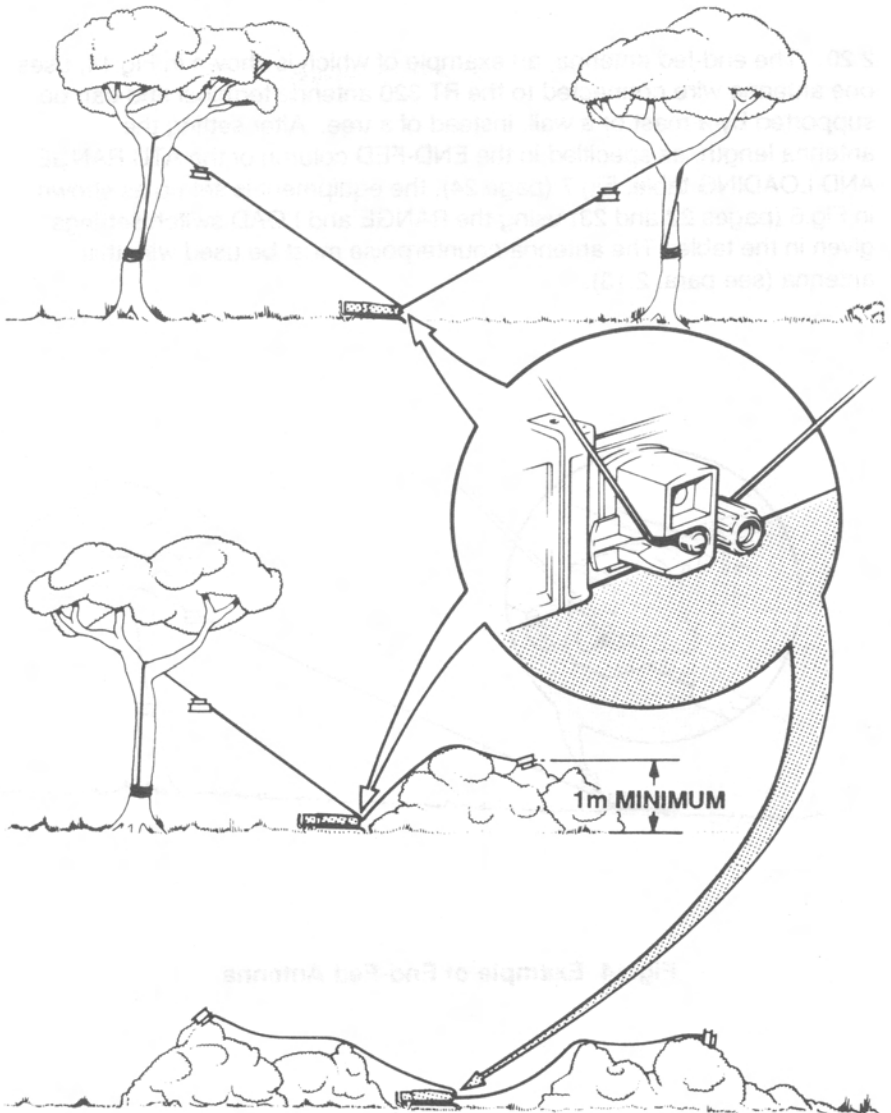


Fig.13 Examples of other Dipole Configurations

2.20 The end-fed antenna, an example of which is shown in Fig.14, uses one antenna wire connected to the RT 320 antenna terminal and can be supported by a mast or a wall, instead of a tree. After setting the antenna length, as specified in the END-FED column of the ATU RANGE AND LOADING table, Fig.7 (page 24), the equipment is set up as shown in Fig.6 (pages 22 and 23) using the RANGE and LOAD switch settings given in the table. The antenna counterpoise must be used with this antenna (see para. 2.13).

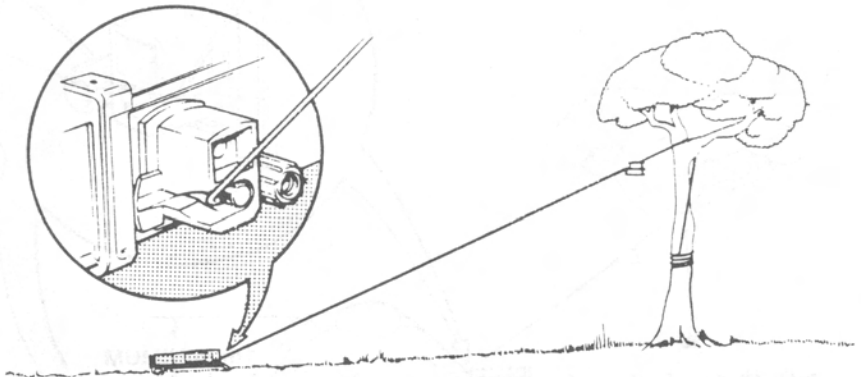


Fig.14 Example of End-Fed Antenna

REMOTE OPERATION (Fig.15, page 40)

2.21 The PRC 320 can be operated remotely from a distance of up to 3 km by the use of other items from the Clansman range of equipment as described overleaf.

2.22 Speech operation. For operation in a speech mode (SSB or AM), the PRC 320 is used in conjunction with a control, radio set, local/remote (CRL/R) at the local position, connected by up to 3 km of D10 cable to a remote control handset at the remote position, as shown. Note that the polarity of the D10 connections must be correct. If incorrect, the 'call' tone is heard and the connections must be reversed. (Details of the method of connecting D10 cable to the handset are given in the User Handbook for Clansman Radio Control Harness, Army Code No. 61172.) The setting up and operating procedure is as follows:

2.22.1 Set the CRL/R function switch to LOCAL and set up the RT 320 as shown in Fig.6 (pages 22 & 23).

2.22.2 At the RT 320, select the required speech mode (SSB or AM). The equipment is now ready for operation from either the local or the remote position, depending on the setting of the CRL/R function switch, the facilities provided in each position of which are as follows:

- a. LOCAL - RT 320 controlled by local operator's pressel. Both operators hear received signal and transmitter sidetone.
- b. REM - RT 320 controlled by remote operator's pressel, but local operator can override remote operator by operating his pressel. Both operators hear received signal and transmitter sidetone.
- c. I/C - Intercommunication between both operators on operation of their respective pressels. Both operators hear received signal superimposed on their intercommunication.

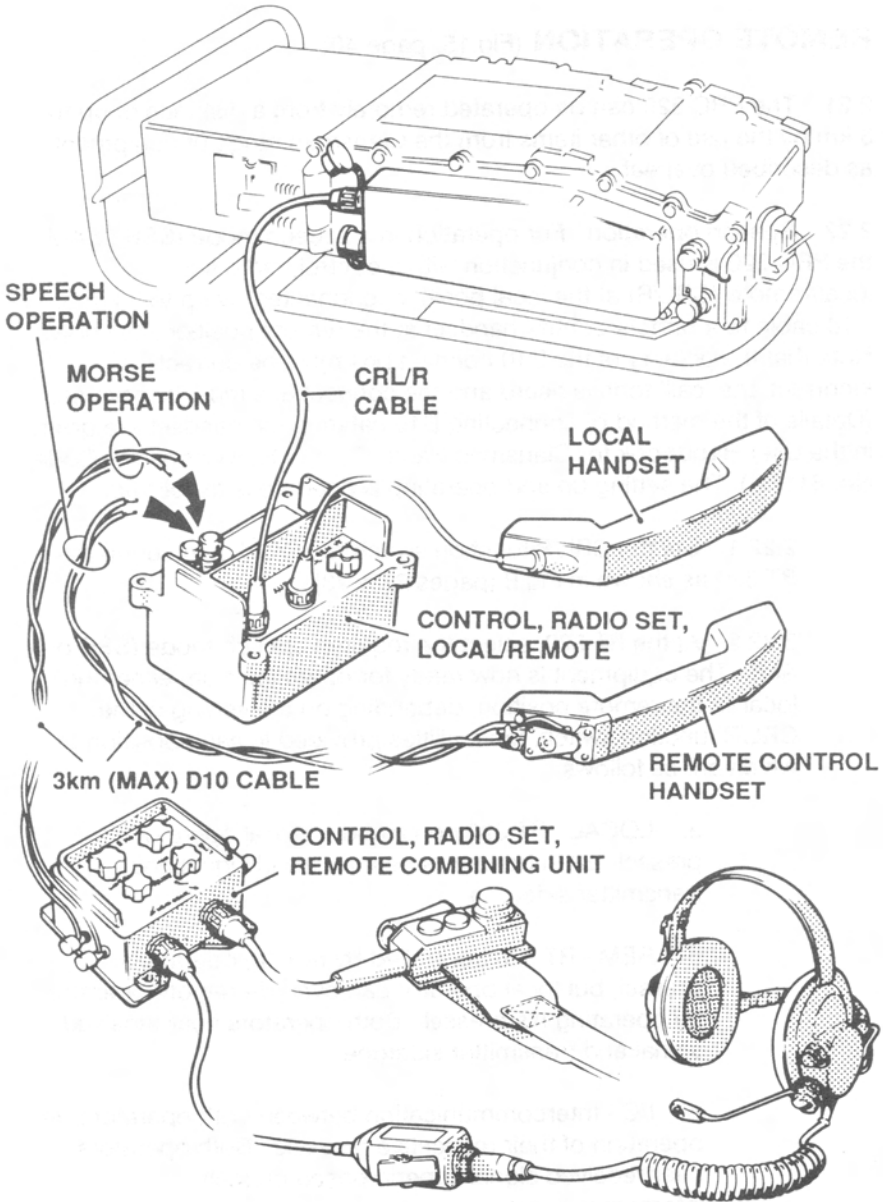


Fig.15 Remote Operation

d. CALL - Local operator calls remote by a tone. Switch spring-loaded to return to I/C position. (Remote operator can call local in any position of CRL/R function switch by depressing call button on handset.)

2.23 Morse operation. For morse operation (CW), a morse key and/or headset/handset at the remote position is connected via a control, radio set, remote combining unit (RCU) to the D10 cable in place of the remote control handset, as shown. The setting up and operating procedure is as described for speech operation in para. 2.22, except that a CW mode (N or W) is selected at the RT 320. The setting up and operating procedure for the RCU, details of which are given in the User Handbook for Clansman Radio Control Harness, Army Code No. 61172, is as follows:

2.23.1 If the D10 cable has been connected to the LINE A terminals, set the selector switch to A. If the cable has been connected to the LINE B terminals, set the switch to B.

2.23.2 Set the function switch to MORSE. The equipment is now ready for operation in the CW mode and can be controlled from either the local or the remote position by means of the CRL/R function switch, as previously described. When the equipment is operating, set the WORKING control to obtain the required volume in the remote headset or handset. To call the local operator, turn the function switch to the spring-loaded CALL position.

2.23.3 If required, the RCU can be operated in the speech mode by setting the function switch to VOICE and the RT 320 to SSB or AM.



REBROADCASTING (Fig.16)

2.24 The PRC 320 can be operated as a manual rebroadcast station in conjunction with a control, radio set, local/remote (CRL/R), an interconnecting box, harness adaptor (IBHA) and an interconnecting box, 2 radio (ICB2). Interconnections between the units are shown in block diagram form in Fig.16, but reference should be made to the User Handbook for Clansman Radio Control Harness, Army Code No. 61172.

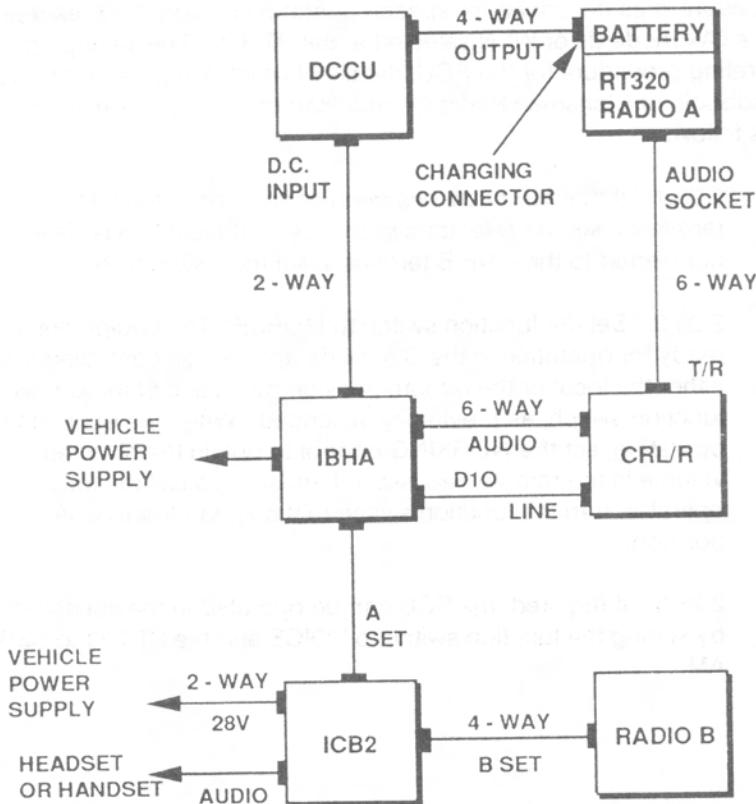


Fig.16 Local Rebroadcast Interconnections

BATTERY CHARGING UNITS

HAND GENERATOR (Fig.17)

2.25 The hand generator enables a PRC 320 to be operated for an indefinite period without changing the battery and, complete with a 1 Ah secondary battery, is latched to the RT 320 in place of a 3.3 Ah battery. In an emergency, the generator alone (without the battery) can be used to power the RT 320 when in the receive condition. The generator can be used with the equipment in any position, but it will be found easiest to operate with the equipment on the ground. If required, a 3.3 Ah battery may be used instead of the 1 Ah, but in this case the equipment must be removed from the carrier.

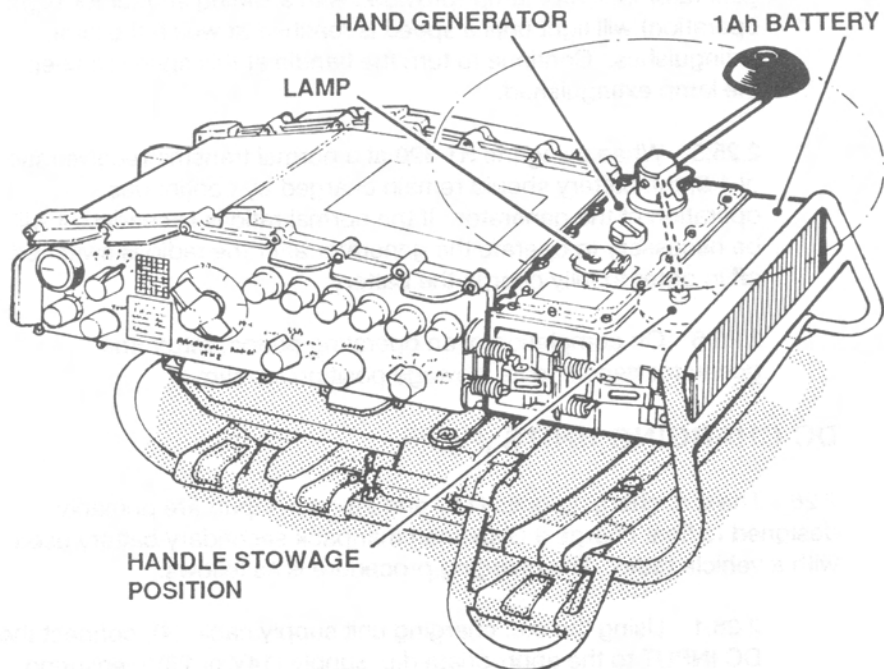


Fig.17 PRC 320 with Hand Generator

The procedure for fitting and operating the generator is as follows:

2.25.1 Lift the battery retaining latches on the RT 320, fit the generator so that its spring contacts engage with the contact studs of the RT 320 and then close the retaining latches.

2.25.2 Lift the battery retaining latches on the generator, fit the battery so that its spring contacts engage with the contact studs of the generator and then close the retaining latches.

2.25.3 Loosen the generator handle retaining wing nut, set the handle to the winding position and tighten the wing nut.

2.25.4 Turn the handle. As the turning speed is increased, the generator indicator lamp (provided with a sliding shutter for night operation) will light until a speed is reached at which the lamp extinguishes. Continue to turn the handle at this speed to keep the lamp extinguished.

2.25.5 When using the RT 320 at a normal transmit:receive ratio of 1:9, the battery should remain charged by continuous operation of the generator. If the normal ratio is exceeded, it will be necessary to operate the generator after the radio is switched off in order to fully charge the battery.

2.25.6 On completion of an operating period, return the generator handle to its stowage position, as shown.

DC CHARGING UNITS (Fig.18)

2.26 The d.c. charging units (14V and 28V d.c. input) are primarily designed to float charge a Clansman manpack secondary battery used with a vehicle radio. The charging procedure is as follows:

2.26.1 Using the d.c. charging unit supply cable (4), connect the DC INPUT to the appropriate d.c. supply (14V or 28V), ensuring correct polarity.

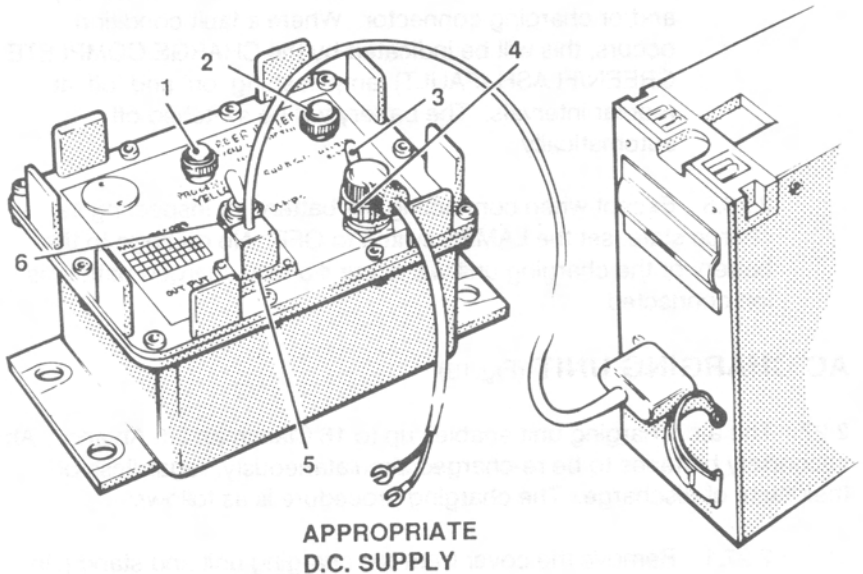


Fig.18 DC Charging Unit

2.26.2 Using the battery charging cable, connect the charging connector on the battery to the OUTPUT connector (5).

2.26.3 Set the INPUT switch (3) to ON.

2.26.4 Set the LAMPS switch (6) down (on). The CHARGE PROCEEDING YELLOW lamp (1) will light to indicate that the battery is properly connected and is being charged. When the battery is fully charged this lamp will extinguish and the CHARGE COMPLETE GREEN/FLASH (FAULT) lamp (2) will light. The approximate charging times from flat are:

- | | |
|-------------------|-----------------------|
| a. 1 aH battery | 1 $\frac{1}{4}$ hours |
| b. 3.3 Ah battery | 4 hours |

NOTE: EMER Tels K017, Mod Instr Nos 18 (14V) and 19 (28V) introduce sensor circuits to detect faults in the battery and/or charging connector. Where a fault condition occurs, this will be indicated by the CHARGE COMPLETE GREEN/FLASH (FAULT) lamp flashing 'on' and 'off' at regular intervals. The battery will be switched off automatically.

2.26.5 Except when connecting the battery, or inspecting its charge state, set the LAMPS switch to OFF. No damage to the battery or the charging unit will occur if a fully charged battery is left connected.

AC CHARGING UNIT (Fig.19)

2.27 The a.c. charging unit enables up to 16 Clansman 3.3 Ah and 1 Ah secondary batteries to be re-charged simultaneously, regardless of their state of discharge. The charging procedure is as follows:

2.27.1 Remove the cover from the charging unit and stand it in the upright position as shown in Fig.19 (**unit must not be operated in any other position**).

2.27.2 Adjust the voltage selector panel (8) to correspond with the voltage of the 50 - 60 Hz a.c. mains supply.

WARNING: Ensure that the unit is disconnected from the supply whilst making adjustments.

2.27.3 Remove the cover from the a.c. mains fuse (4) and ensure that it is of the correct rating, i.e. 20A for a 100 - 125V supply and 10A for a 200 - 250V supply.

2.27.4 Open the sliding vent at the rear of the charging unit.

2.27.5 Using the a.c. charging unit supply cable, connect the INPUT plug (6) to the a.c. mains supply.

WARNING

The voltages used in this equipment
are high enough to endanger life.

CARELESSNESS COULD BE FATAL

See First Aid instructions on
page (ii) to (v).

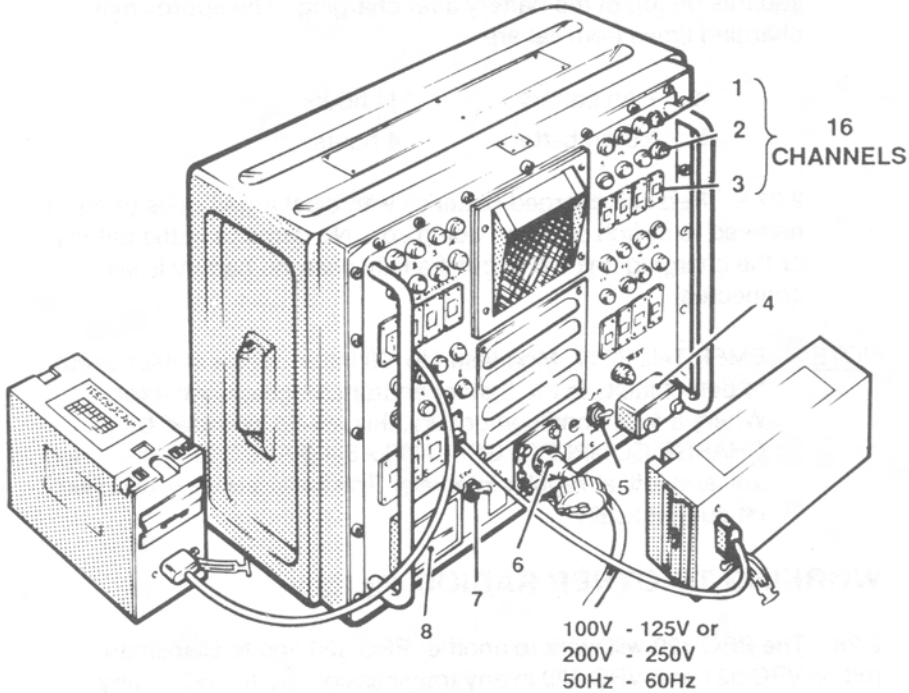


Fig.19 AC Charging Unit

2.27.6 Set the LAMPS switch (7) down (on).

2.27.7 Using the battery charging cables, connect the charging connector of each battery to be charged to an outlet connector (3) and set the MAINS switch (5) down (on). Each outlet has an associated yellow lamp (1), which will light to indicate that the battery is properly connected and is being charged. When the battery is fully charged, this lamp will extinguish and an associated green lamp (2) will light.

2.27.8 Record each charge by crossing off one of the white squares on top of the battery after charging. The approximate charging times from flat are:

- | | |
|-------------------|-----------------------|
| a. 1 Ah battery | 1 $\frac{1}{4}$ hours |
| b. 3.3 Ah battery | 4 hours |

2.27.9 Replace charged batteries with discharged ones (there is no need to switch off when doing so). No damage to the battery or the charging unit will occur if a fully charged battery is left connected.

NOTE: EMER Tels K017, Mod Instr No. 20 introduces a sensor circuit to detect faults in the battery and/or charging connector. Where a fault condition occurs, this will be indicated by the CHARGE COMPLETE GREEN/FLASH (FAULT) lamp flashing 'on' and 'off' at regular intervals. The battery will be switched off automatically.

WORKING TO OTHER RADIOS (Fig.20)

2.28 The PRC 320 will work to another PRC 320 and to Clansman radios VRC 321 and VRC 322 in any transmission mode and on any selected 100 Hz channel in the frequency range 2 MHz to 30 MHz. It will also work in limited modes of transmission and on limited frequencies to the other radios shown.

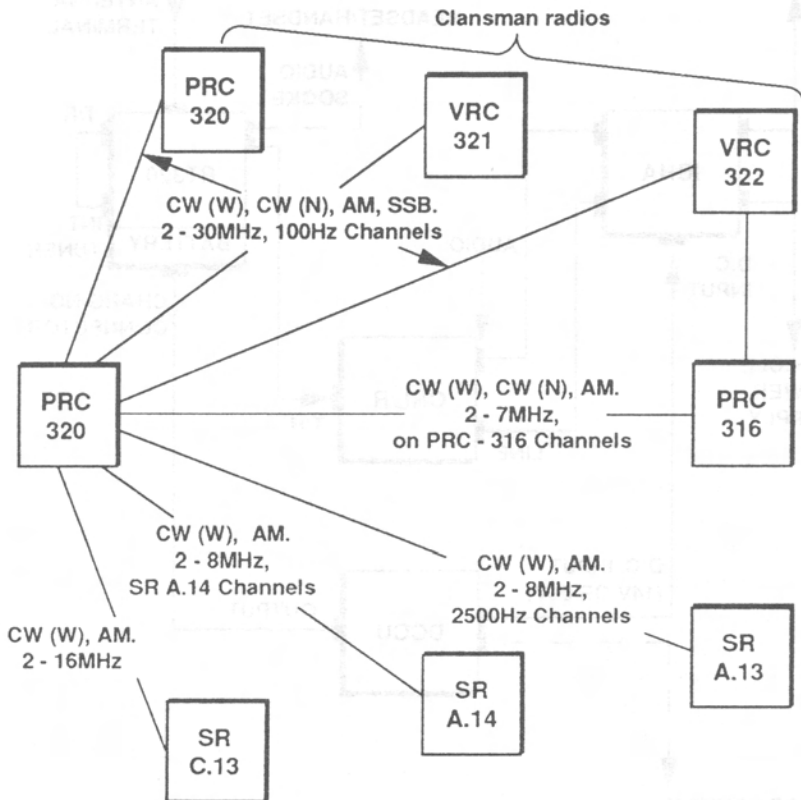


Fig.20 Working to other Radios

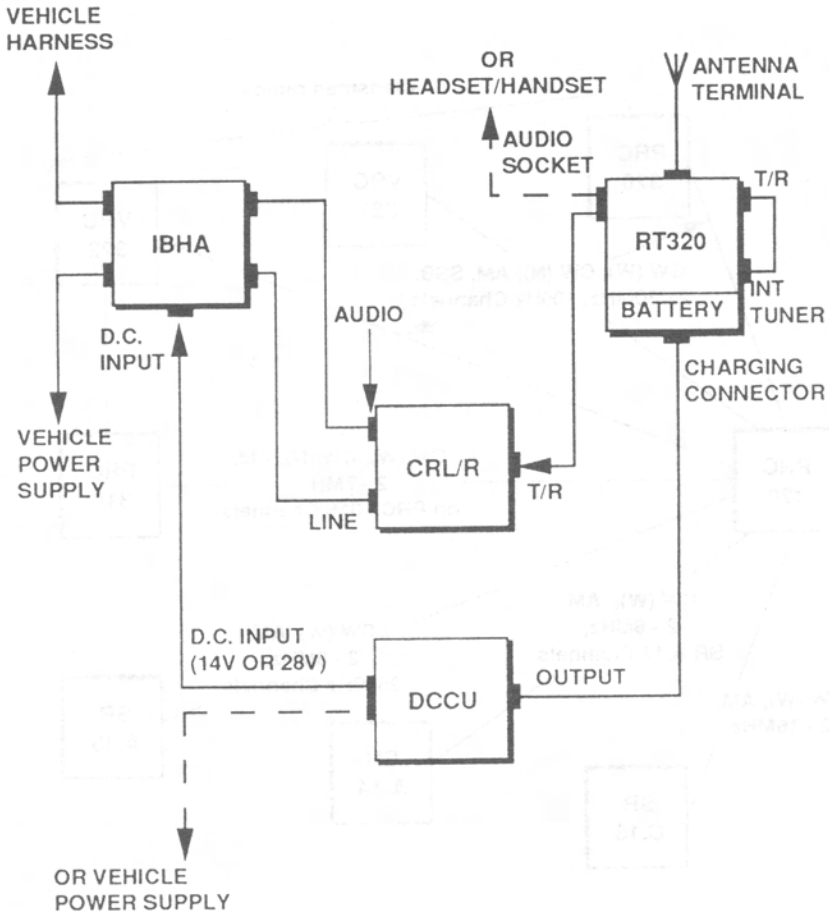


Fig.21 Vehicle Harness Interface

CHAPTER THREE

USE OF RADIO IN A VEHICLE

INTRODUCTION

3.1 This Chapter gives general information on the use of the RT 320 in a vehicle installation. Detailed information on individual vehicle installations is covered in the appropriate vehicle installation handbook.

INSTALLATION

3.2 The RT 320 is normally mounted on its carrier, which is secured to a mounting frame installed in the vehicle by means of clips, and connected via its antenna terminal to the vehicle whip antenna. The equipment can be connected directly to a headset or handset via an audio socket, as in the manpack role, or into the vehicle harness (28V vehicles only) via a control, radio set, local/remote (CRL/R) and interconnecting box, harness adaptor (IBHA), as shown in block diagram form in Fig.21. The battery is normally float-charged by either a 14V or a 28V input d.c. charging unit (DCCU), depending on the vehicle electrical supply. Under no circumstances is the RT 320 to be powered directly by the vehicle electrical supply as damage would result from so doing.

TUNING UNIT RF 25W

3.3 In circumstances where it is not possible to install the RT 320 close to the vehicle antenna, the Tuning Unit RF 25W (TURF 25W) is connected between the vehicle antenna and the transmitter/receiver section of the RT 320, and is located close to the vehicle antenna. The latter is connected to a terminal on the rear of the TURF 25W; the input coaxial socket in the centre of the tuning data disc on the front is connected to the RT 320 T/R coaxial socket (after removal of the coaxial link) as shown in block diagram form in Fig.22.

The TURF 25W takes the place of the RT 320 ATU and is tuned as follows:

- 3.3.1 Set the RT 320 transmitter power switch to ANT.
- 3.3.2 Unlock the TURF 25W controls and rotate the tuning data disc to the frequency nearest the operating frequency, interpolating between the frequencies on either side if necessary.
- 3.3.3 Read across the disc to obtain the settings of the TUNE, MATCH and SELECT controls and set these controls accordingly.
- 3.3.4 Depress the pressel and adjust the TUNE and MATCH controls to obtain maximum reading on the RT 320 meter (the TURF 25W meter is inoperative when used with the RT 320).
- 3.3.5 Release the pressel and lock the TURF 25W controls.

SELECTIVITY UNIT, RADIO FREQUENCY, 25W (SURF 25W) (Fig.23)

3.4 When the RT 320 is used in a vehicle which has any other HF radio (including another RT 320), the SURF 25W must be used.

NOTE: The SURF 12W described in paras 2.8 and 2.9 is not adequate in this situation.

The SURF 25W is installed in a convenient position in the vehicle and connected in one of the two ways shown in Fig.23. Tuning differs for each method of connection. Follow the appropriate procedure below:

For Figure 23a:

- 3.4.1 On the RT 320, adjust the controls to the required frequency. Select ANT and CW(N).
- 3.4.2 On the TURF 25W, adjust TUNE, MATCH and SELECT to the correct settings.

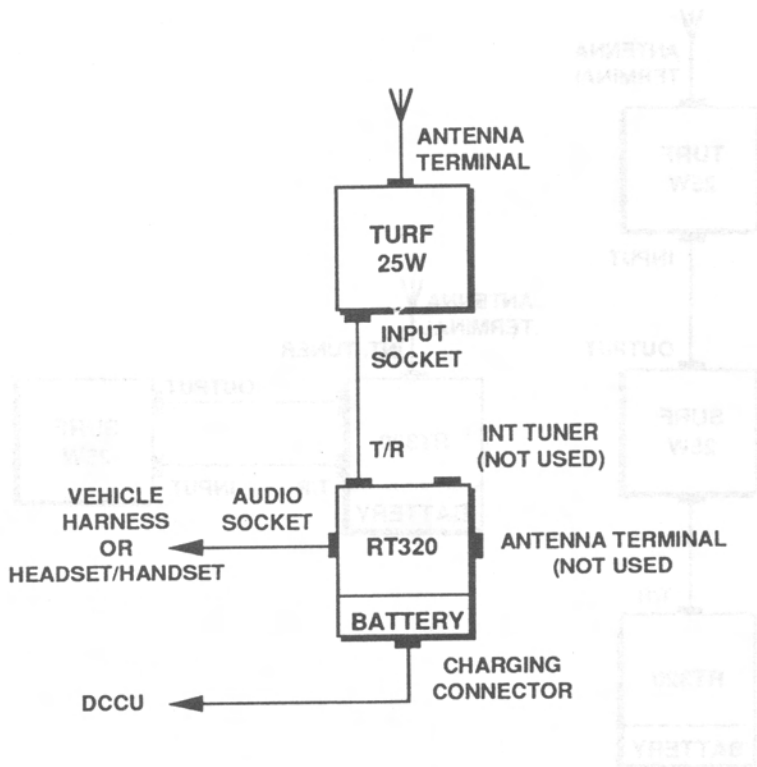
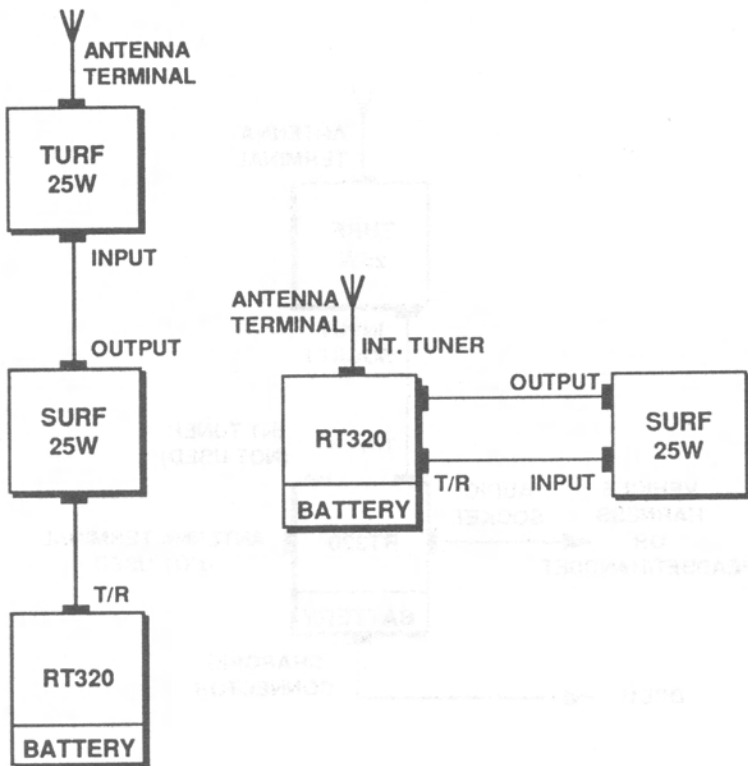


Fig.22 TURF 25W Connections



a) WITH TURF 25W

b) USING INTERNAL TUNER IN RT 320

Fig.23 SURF 25W Connections

- 3.4.3 On the SURF 25W, select DIRECT (MHz switch fully clockwise) and OPERATE AND LOCK.
- 3.4.4 Press the pressel and tune the TURF 25W to maximise the meter reading on the RT 320. Lock controls.
- 3.4.5 Set the SURF 25W to the correct frequency band and switch to TUNE.
- 3.4.6 Press the pressel and tune the SURF 25W to maximise the meter reading on the RT 320. Switch to OPERATE AND LOCK.
- 3.4.7 Switch the RT 320 to LP and AM/SSB/CW.

For Figure 23b:

- 3.4.8 As 3.4.1 above.
- 3.4.9 As 3.4.2 above.
- 3.4.10 Press the pressel on the RT 320 and adjust the RANGE, LOAD and TUNE controls for maximum reading on the RT 320 meter.
- 3.4.11 As 3.4.5 above.
- 3.4.12 As 3.4.6 above.
- 3.4.13 As 3.4.7 above.

CHAPTER FOUR

PREVENTIVE MAINTENANCE

GENERAL

4.1 No equipment can be expected to work properly unless it is kept in first-class condition by regular maintenance, conscientiously carried out. This is the responsibility of the NCO or man who in direct charge of the equipment and NOT of the workshop or repair staff, although they may be called upon to carry out certain servicing tasks.

4.2 To guide the NCO or man responsible for maintenance, and to ensure that it is carried out regularly, signal equipment is serviced on a task system. The tasks in the case of the PRC 320 are simple and few in number, as listed below.

4.3 Instructions regarding the supervision of servicing, frequency of performing each task and recording the completion of tasks will be issued by unit commanders. Army Form B2661 is to be used for recording purposes.

4.4 The RT 320 is a fully sealed radio and is NOT to be opened by the operator under any circumstances.

OPERATOR'S SERVICING

4.5 The following tasks are to be carried out by the operator at the times specified or as required:

4.5.1 Keep the equipment clean and dry. Remove any dust or dirt from the connectors, control knobs and terminals. If the equipment has been subjected to immersion, remove loose water from all connectors. Dry the headset or handset thoroughly and remove loose water from cavities by shaking. Remove water from inside the morse key by shaking and from the contacts by blowing through the hole below the knob.

- 4.5.2 Check switches and controls to ensure that they are functioning correctly and are securely mounted on the case.
- 4.5.3 Inspect the case for damage and corrosion.
- 4.5.4 Check that battery connections are clean and undamaged.
- 4.5.5 Check the battery fixing clamps and latches for security. Report any weak or broken springs.
- 4.5.6 Check the security of the RT 320 on its carrier.
- 4.5.7 Examine cable assemblies for frayed ends or damaged insulation. Pay particular attention to coaxial connectors used on antenna feeders.
- 4.5.8 Check that wire antenna connections are clean and in good condition. If an antenna wire breaks, strip back the insulation on each side of the break and, as a temporary measure, tie the bared ends together. If the ferrule breaks off from the end of an antenna wire, strip back the insulation and, again as a temporary measure, connect the bared end to the appropriate terminal on the RT 320.
- 4.5.9 Carry out the functional tests described in Chapter 5.

CHAPTER FIVE

CORRECTIVE MAINTENANCE AND FUNCTIONAL CHECKS

GENERAL

5.1 The procedures outlined in this chapter are to be followed when checking the RT 320 and its ancillary equipment. These checks are to be carried out as part of the preventive maintenance given in Chapter Four or in the event of equipment failure. They are designed to enable an operator to quickly prove that the equipment is functioning correctly or to localise the fault if it is not. The following points are to be observed at all times:

5.1.1 The operator is not to open sealed equipment under any circumstances.

5.1.2 The equipment is not normally to be removed from its parent installation in order to perform maintenance.

5.1.3 The user is only to take remedial action where this is stated to be specifically within his capability.

5.1.4 The user is not to make adjustments or replace items unless he can make a confirmatory test.

FUNCTIONAL CHECKS

5.2 When carrying out the functional checks following, it is to be ensured that the equipment has been correctly set up and is being operated in accordance with the operating information given in Chapter Two (page 21).

BATTERY CHECK

5.3 Check the charge state of the battery as follows:

5.3.1 Set the transmitter power switch to BATT CHK and the mode selector switch to either of the CW positions.

5.3.2 Depress the pressel or the morse key and check that the meter needle registers on or above the second mark on the scale (the first mark is zero). Release the pressel. If the needle was below the second mark, replace the battery.

5.3.3 Tune the antenna as described in Chapter Two (Page 21) and re-check the battery as described above.

FREQUENCY CHECK

5.4 The operator can check the frequency accuracy of the RT 320 by comparing its frequency with that of either a laboratory frequency standard or a standard frequency broadcast. It should be possible to hear one of the standard frequency broadcasts at any time of day, irrespective of location. Details are to be found in Sky Wave Charts, Army Code No. 60123 and Standard Frequency and Time Transmissions in Signals Communications in the Army, Volume III, Army Code No. 70026. The check procedure is as follows:

5.4.1 Set the frequency of the RT 320 to that of the check station, ensuring that the latter is transmitting CW only so that a pure tone is heard in the headset. (Any other mode of transmission from the check station might cause a warbling tone that could be mistaken for frequency instability in the RT 320.)

5.4.2 Set the mode selector switch to **FREQ CHK** and listen to the two tones now present, adjusting the **GAIN** control as necessary.

- a. If the tones fluctuate slowly, the RT 320 frequency accuracy is satisfactory, the rate of fluctuation indicating the amount by which the frequency is off tune. If speech is badly distorted at the higher frequencies in the SSB mode, the equipment should be sent to workshops for re-calibration as soon as possible.
- b. If a rapid warble is heard, the frequency is well off tune and the equipment should be sent to workshops for re-calibration. Even with the frequency well off tune, in an emergency it might be possible to communicate with another PRC 320 in the AM or CW(W) modes.

OPERATING MODE CHECKS

5.5 Check the PRC 320 for correct operation in each position of the mode selector switch as described below. When checking reception in each mode, another PRC 320 can be used as a transmission source by transmitting (on the same frequency as the equipment being checked) speech in the voice modes and keyed CW in the CW modes. The check procedure is as follows:

5.5.1 AM reception. Set the mode selector switch to AM and the GAIN control as required.

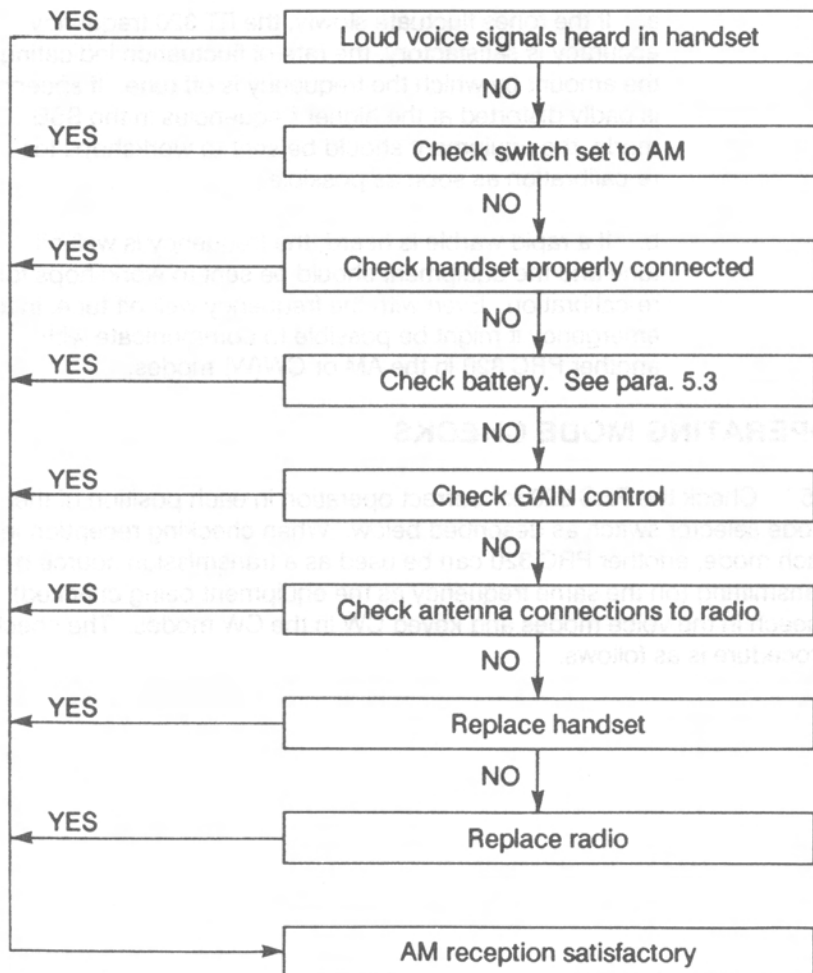


Fig.23 AM Reception Check

5.5.2 AM transmission. Set the mode selector switch to AM, the GAIN control as required, depress the pressel and speak into the microphone.

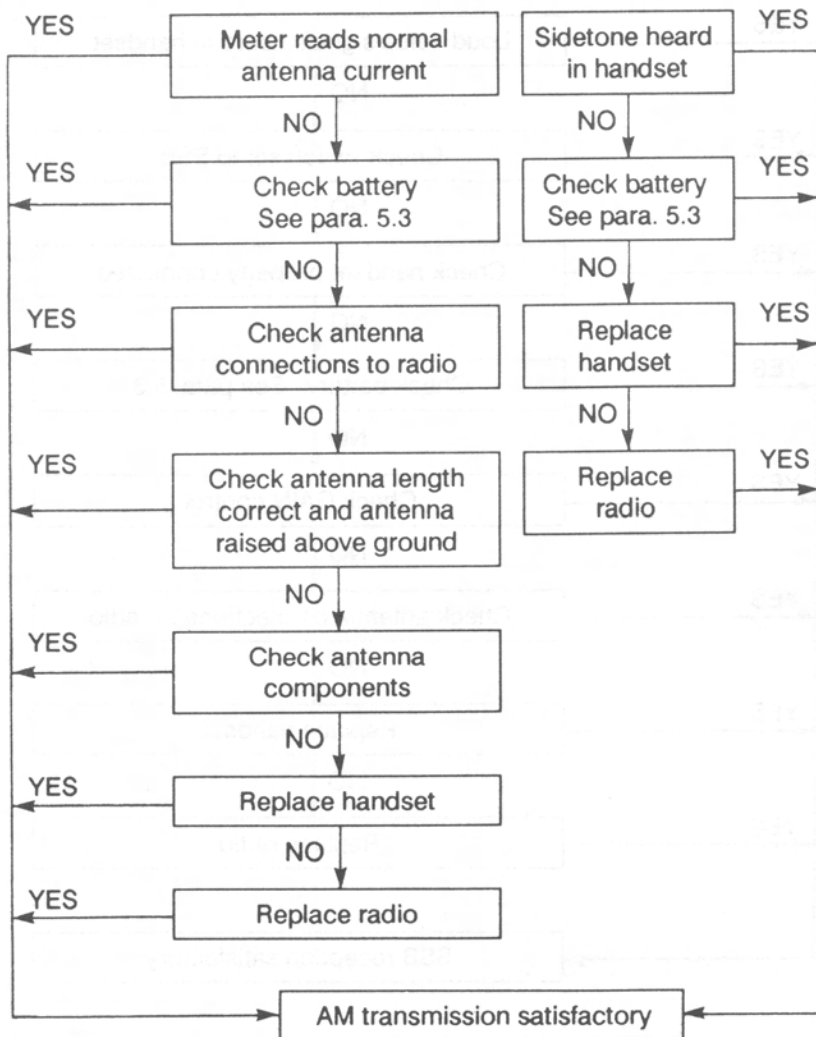


Fig.24 AM Transmission Check

5.5.3 SSB reception. Set the mode selector switch to SSB and the GAIN control as required.

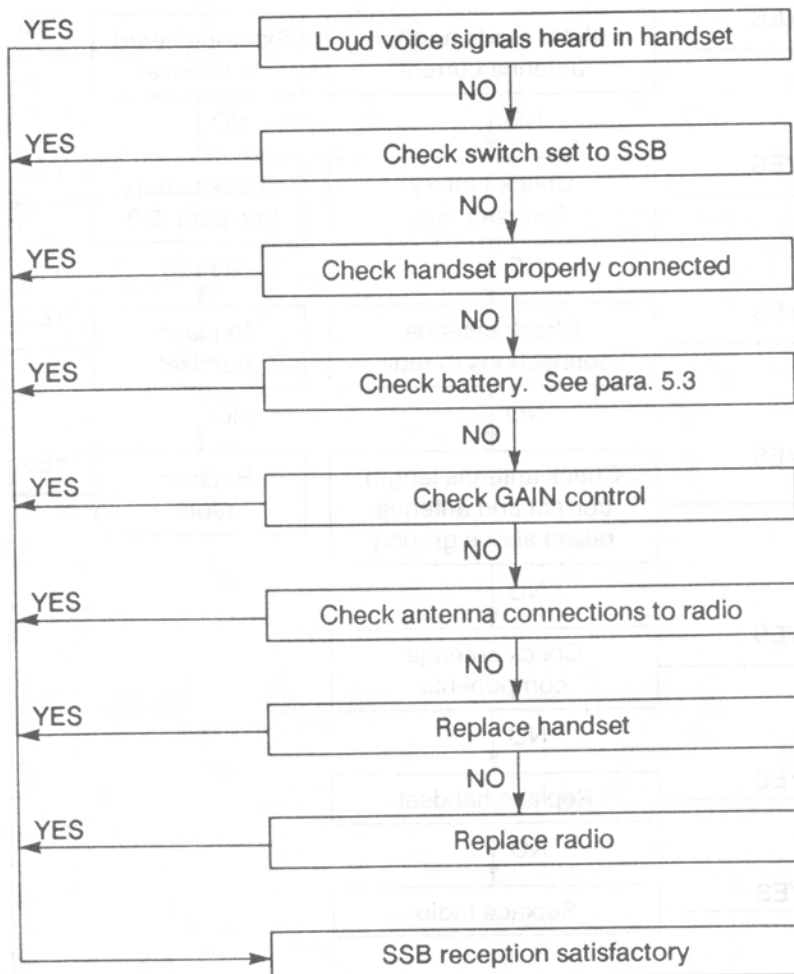


Fig.25 SSB Reception Check

5.5.4 SSB transmission. Set the mode selector switch to SSB, the GAIN control as required, depress the pressel and speak into the microphone.

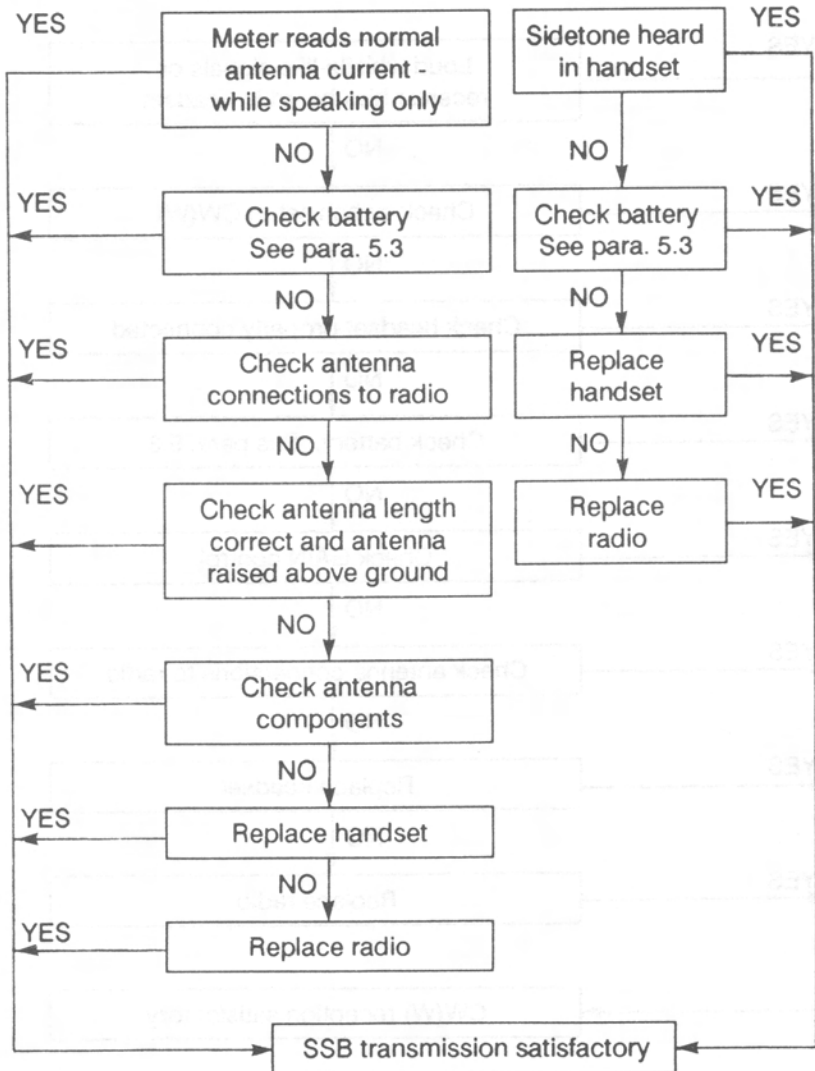


Fig.26 SSB Transmission Check

5.5.5 CW reception. Set the mode selector switch to CW(W) and the GAIN control as required. On completion of the check below, repeat it with the mode selector switch set to CW(N).

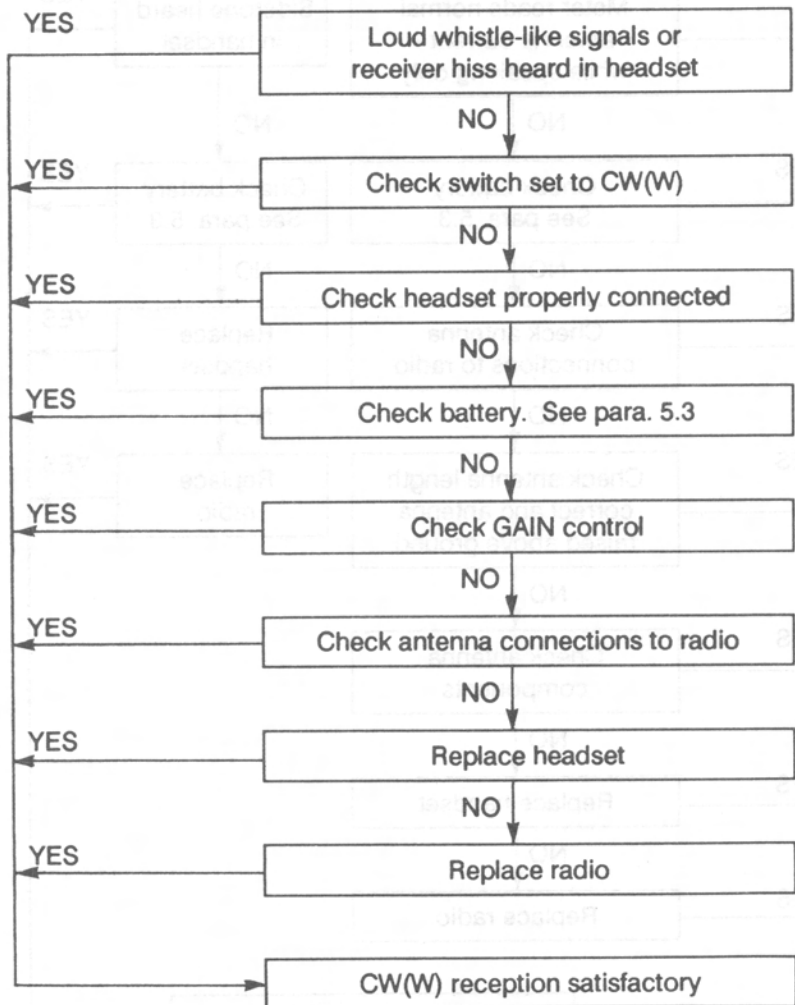


Fig.27 CW Reception Check

5.5.6 CW transmission. Set the mode selector switch to CW(W), the GAIN control as required and depress the morse key. On completion of the check below, repeat it with the mode selector switch set to CW(N).

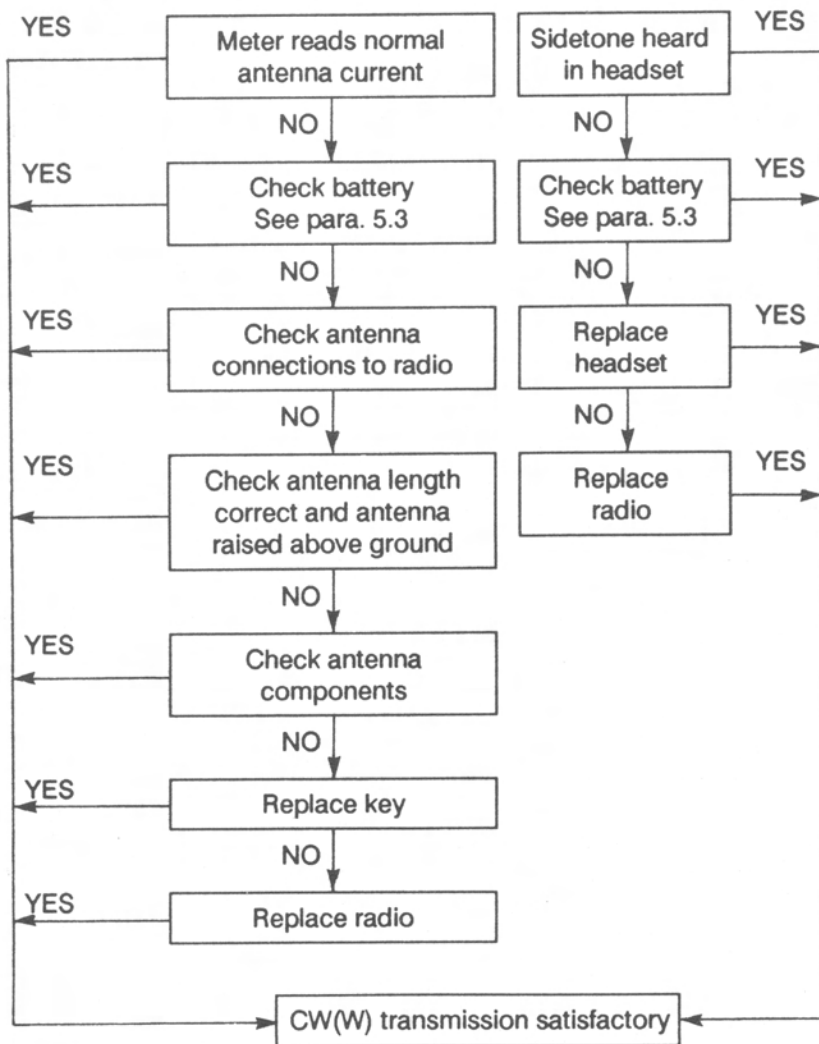


Fig.28 CW Transmission Check

IDEAS SUGGESTIONS DEFECTS

You are the user of this equipment - can it be improved?

If you have any good suggestions about this or ANY Signals equipment, the Ministry of Defence Army Department is interested.

Ideas and Suggestions

If you can suggest:

- (a) an improvement in design or shape,
- (b) a better method of installation, operating, or servicing,
- (c) other equipments which might do the job better,

the procedure is quite simple - pass it to your OC or Adjutant for transmission to the local Chief Signal Officer.

It will remain YOUR idea.

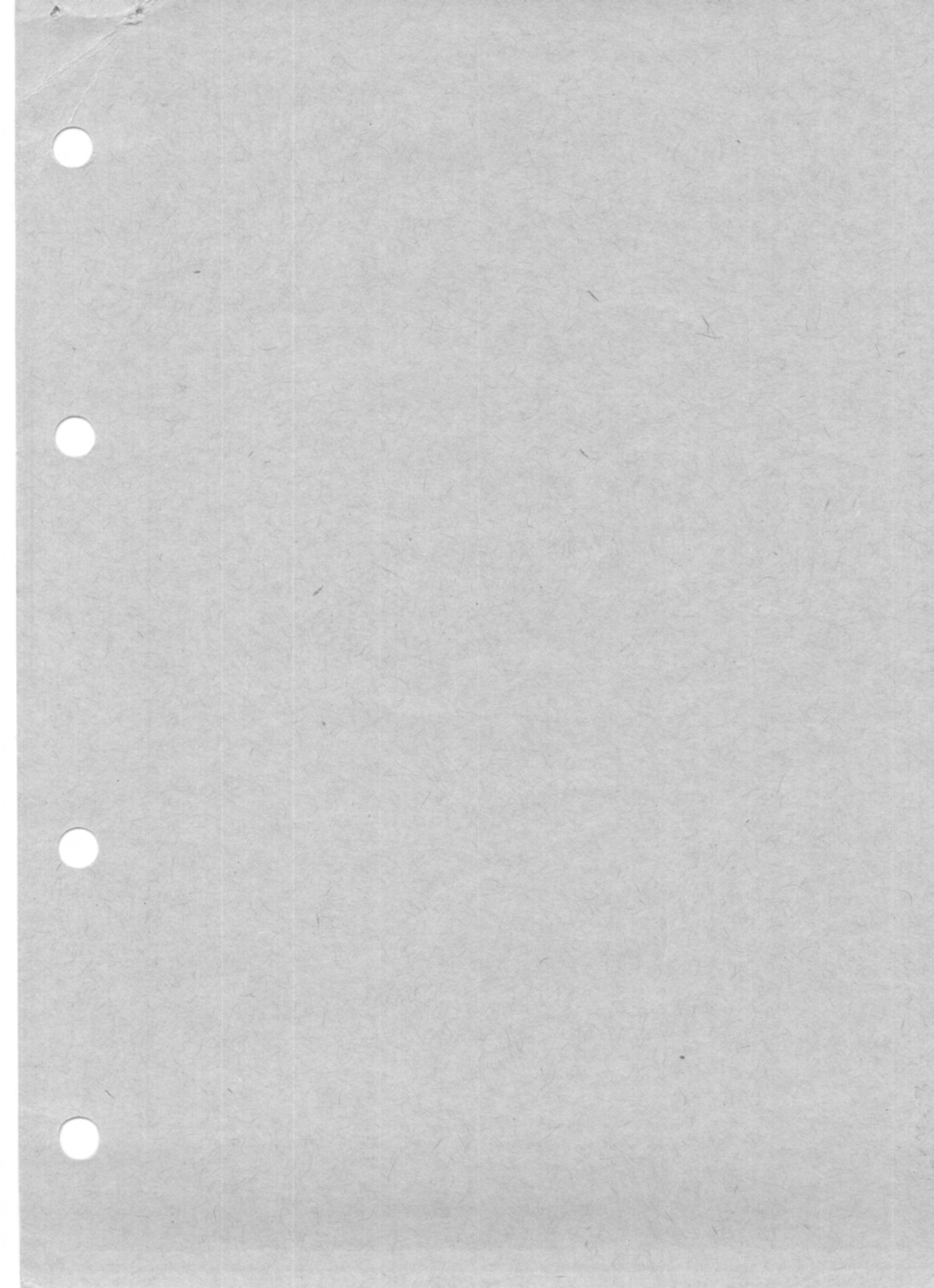
See the Signal Equipment Performance Report (AF B63), details for completion of which are found on the cover of the pad.

Defects

If there is something wrong with the equipment AS IT STANDS, other than a fair wear and tear fault, it is a defect.

Again don't keep it to yourself, pass it to your OC. The procedure for him to follow is given in EMER Management N200. (AFG3660 is the form to use.)

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