RECEIVER TRASMITTER HF RT F100

PARAMETER	PERFORMANCE
Frequency Range	2 - 29.9999 Mhz
Power Output	20mW to 20W in 6 steps 1. 20mW 2. 80mW 3. .32W 4. 1.25W 5. 5W 6. 20W
Number of Channnels	280000 at 100Hz spacing
Pre-setable Channels	20 channels in two days (4 channels per day associated with two frequency simplex operation)
Modes	USB - Upper side band LSB - Lower side band DATA - up to 2400 baud (linear) CW - Continuous Wave CWN - Continuous Wave Narrow
Current consumption	Receive @ 24V 0.18A max Transmit SSB 2.23A max CW 4.00A max
Dimensions	Heigth 86.5mm Width 279.0mm Depth 253.5mm
Weight	5.375kg max

RT F-100 OPERATOR GUIDE

POWER ON

a. Turn select switch to LOCAL

LOCAL TEST

a. Turn select switch to TEST
b. Press 1 on keypad
c. Press 1 again
d. Turn select switch back to LOCAL

ENTERING FREQUENCIES

a. Press PROGRAMME on keypad
b. Press ENTER on keypad
c. Press FREQ on keypad
d. Press the desired frequency numerals using the keypad
e. Press ENTER on keypad

CHANGING POWER SETTINGS

a. Press POWER on keypad
b. Press desired setting numeral using the keypad
   Power settings are as follows:
   i. 1-20mw ii 2-80mw
   iii 3-.32w iv 4-1.25w
   v 5-5w vi 6-20w

MODES SETTINGS

a. Press MODE on keypad
b. Press desired setting on keypad
   Mode settings are as follows:
   i. 1-CW ii 2-CWN
   iii 3-DATA iv 4-USB
   v 5-LSB

CHANGING DAYS

a. Press DAY on keypad
b. Press desired numeral on keypad
   Day settings are as follows:
   i 1-DAY 1 ii 2-DAY 2

TURNING ON/OFF LCD LIGHT

a. Press POWER twice on keypad to turn on.
b. Press POWER twice on keypad to turn off

TURNING OFF WARNING TONES

a. Press CALL on keypad
b. Press ENTER on keypad

RECEIVER/TRANSMITTER HF R/T-F100

Primary Function Controls

1.	Antenna	3 Position toggle switch, which is biased away from the ERASE position.
	Y	Switch position when the R/T is used with a manpack whip or long wire antenna. (Switch to this position to force a re-tune of a vehicle installation.
	50 Ohms	Switch to this position when R/T is used with any other antenna. (switch to this position to force a re-tune of the man-pack whip).
	ERASE	To Erase all memory content. (used in conjunction with the rotary switch (LOCAL/REMOTE) set to ERASE.
	Local/Remote	7 position switch
	OFF	The R/T switched OFF (ON in all other positions).
	LOCAL	R/T controlled from the front panel
	EXT	R/T controlled from items connected to the ANC (Ancillary) rear panel connector.
	TEST	Allows built-in test routines to be carried out from the key pad.
	REM	Used when operating with the HANDSET, REMOTE CONTROL connected to the REM Terminals on the rear panel.
	I/C	Used to provide an intercom between local and remote operators without transmitting.
	ERASE	To erase all memory content. Must be held in this position at the same time as the toggle switch is held to ERASE for at least 1 second.
3.	Volume	Audio volume control
4.	Squelch	Rotary control to alter threshold of signal activated mute. Noised muted with no signal present. Operates in USB and LSB modes only

Connector Functions

5.	**Voice/Fill**	Connection of audio gear or Fill Input Device.
6.	**Voice/Data**	Connection of audio gear or data terminal device.
7.	**50 Ohms**	RF. socket for connection to: AMPLIFIER, RADIO, FREQUENCY, HF; TUNER, HF, VEHICLE ANTENNA; FILTER, BANDPASS, HF COSITING; or 50 ohms antenna system.
8.	**ANC**	For connection of Ancillary equipment: FREQUENCY, HOPPER; REMOTE CHANNEL SELECTOR; EXTENDED FRONT PANEL ; SINGLE RADIO REMOTE LINE ADAPTOR; RETRANSMISSION UNIT; CONTROL, INTERCOMMUNICATIONS-RADIO, VEHICLE.
9.	**DC POWER**	Connection of REGULATOR, VOLTAGE POWER SUPPLY.
10	**AUTO CONTROL**	Connection of: AMPLIFIER, RADIO FREQUENCY, HF ; TUNER HF, VEHICLE ANTENNA; FILTER, BANDPASS, HF COSITING.
11.	**5.6Mhz**	Connection of clock signal to FREQUENCY, HOPPER, HF;
12.	**Rem**	Connection of HANDSET, REMOTE CONTROL.
13.		Connection of long wire antenna.
14.		Connection of antenna, HF, MANPACK, WHIP.
15		Earthing stud.
16		Manpack battery terminals and gasket.
17		Vent
18		Cable stripper (field telephone cable)
19		Identification plate and Serial number
20		Modification strike off label.

LCD Panel Symbols

v	One to six chevrons for signals strength, either received or transmitted.
^	One to six chevrons for transmit power level setting.
14706.9	Six figures and decimal point showing assigned frequency of channel in use.
8	One figure showing number of the channel selected.
BAD VSWR	Indicates a fault condition exists in the transmission path.
NO EX PA	Power level 7 has been selected in a station which has no external 100W amplifier fitted.
MEM BAT	Internal memory battery low.
LOW BAT	Power supply voltage low.
L	Set to LSB mode.
U	Set to USB mode.
CW	Set to CW mode.
CWN	Set to CW narrow mode.
DT	Set to DATA mode.
HOP	Set to frequency HOP mode.
PGM	Program mode selected.
SYNC	Indicates Hopping Synchronisation.
SQ	Audio output muted (SQUELCH)
DAY 1	Set to Day 1.
DAY 2	Set to Day 2.

Keys Pad Functions

CW 1	Either "CW mode" or "one"
CW 2	Either "CWN mode" or "two"
DATA 3	Either "DATA mode" or "Three"
USB 4	Either "USB Mode" or "four". When "four" is a channel number, it is a two frequency simplex channel working with channel seven.
LSB 5	Either "LSB Mode" or "five". When "five" is a channel number, it is a two frequency simplex channel working with channel eight.
PGM 6	Either "PROGRAM Mode" in conjunction with the ENT key or "six".
CALL 7	Either "Call" (to a remote operator) or "Seven". When seven is a channel number it is a two frequency simplex channel working with channel four.
HAIL 8	Either "Hail" (activates call signal into frequency hopping nets) or "eight". When eight is a channel number, it is a two frequency simplex channel working with channel five.
FILL 9	Either "Fill" (for use with the FID) or "nine".
FREQ	Used to change frequency, in conjunction with number entries.
LIGHT PWR	Either panel illumination switch, or change TX power in conjunction with a number entry.

CHAN FR v	Either a "Channel" in conjunction with a number entry, or reduces the operating frequency.
CHAN FR ^	Either "Mode" or "increases the operating frequency.
DAY 0	Either a channel bank in conjunction with a number (1 or 2) or "zero".
ENT	Entry key.

illaries

Handset. General Purpose H-F300

The Handset. General purpose H-F300 (GP Handset) is a telephone-type handset which connects directly to the HF R/T via an attached flying lead. A pressel switch is included. The GP Handset can be used while wearing a respirator fitted with a speech valve.

Handset. Remote Control H-F301

The Handset, Remote Control H-F301 (Remote Control Handset) is a telephone-styles handset which connects to the HF R/T via up to 3 km of WD-1/TT field telephone cable. The Remote Control Handset has a built-in pressel switch, and a clothing clip and provides a volume control to set the level of received audio. The Remote Control Handset also provides facilities for intercommunications with the local HF R/T operator: A "Press to Call" button is provided to attract the attention of the HF R/T Operator. The Remote Control Handset can be used while wearing a respirator fitted with a speech valve.

Headset. Microphone. Infantry H-F303

the Headset. Microphone. Infantry H-F303 (infantry Headset) consists of a single earpiece with attached boom microphone. Connection to the HF R/T is via an attached flying lead. An in-line pressel unit is provided in the flying lead. The Pressel housing provided a socket for simultaneous connection of a Microphone Dynamic. Respirator M-F300. The Infantry Headset is fitted by means of webbing straps and velcro fasteners and may be worn under a hat or helmet.

Microphone. Dynamic. Respirator M-F300

The Microphone. Dynamic., Respirator M-F300 (Respirator Microphone) is designed to functionally replace the boom mike of the Infantry Headset when the user is also wearing an anti-gas respirator. The microphone fits over the speech valve of the respirator and connects via a flying lead to the connector on the pressel unit of the Infantry Headset.

Key, Telegraph. Manpack KY-F100

The Key. Telegraph. KY-F100 (manpack Telegraph Key) is a small enclosed morse key fitted with an adjustable webbing leg strap and a flying lead for connection to the HF R/T. Provides a convenient means for the manpack operator to send morse. Normal gap and tension adjustment are available.

Remoting Options

Control, Radio Set, Remote Channel Selector C-F307

The control, Radio Set, Remote Channel Selector C-F307 (RCS) is a small hand-held unit which connects to the HF R/T to enable the carrier of a manpack station to change the HF R/t channel while the station is out of reach. Any one of the ten communications channels can be selected by a rotary switch the channels concerned are those selected on the connected HF R/T.

Interconnection with the HF R/T is via the RCS flying lead. A clothing clip is included to enable the unit the be secured in a convenient position on the user's clothing. A socket enables the operator's handset/headset to be connected. A rotary volume control is included to control the volume of the connected headset.

Control, Radio Set, Extended Front Panel C-F308

The Control, Radio Set Extended Front Panel C-F308 (EFP) is a portable unit which connects to the HF R/T to enable extended control of those R/T panel functions which do not require program mode.

Interconnection with the HF R/T is via a cable assembly which permits use at a distance of up to 15 meters from the HF R/T (Note: the supplied cable CX-F324 is only 3.7 meters long).

Mounting Options

Field Pack, Radio Carrier MT-F304

The Field Pack, Radio Carrier MT-F304 (Manpack Carrier) is a non-rigid means of strapping an HF R/T with battery, to an operators back. Allows full access to all controls, sockets, antenna and battery attachments. Padded shoulder straps and back panel provide for greater user comfort. Various adjustable straps are provided both to secure the station provided for ancillary equipment and the operator personal kit.

Field Pack, Radio Carrier, Signaller's MT-F305

The Field Pack, Radio Carrier, Signaller's MT-F305 (signaller's Pack) is a larger backpack unit in which the HF R/T with battery and associated ancillaries can be carried. The included units are totally enclosed in the pack. A zip-fastened panel allows access to the HF R/T front panel. The Manpack Whip antenna protrudes through a hole in the top. The larger interior allows stowage of other radio gear plus operators kit.

Antenna Options

Antenna. HF, Manpack Whip AS-F100

The Antenna. HF Manpack Whip AS-F100 is an eight-section, collapsible 2.5 metre HF whip antenna capable of covering the frequency range 2 to 30 Mhz and intended for mounting directly to an HF R/T via an associated Angle Adaptor. The antenna is also useable in the vehicle clip-in role. The whip antenna comprises eight copper plated and painted thin tubular sections, each fitted with a guide to enable the sections to fit together. an internal braided nylon cord is used to enable the antenna whip to be erected quickly and prevent loss of sections.

The Angle Adaptor consists of a stainless steel helical spring and a variable position angle adaptor provided with three indents to enable selection of 0 deg. 45 deg. 90 deg. whip antenna angles. A spring loaded collet at the top of the helical spring accepts the lower section of the whip[antenna, while the spigot attached to the angle adaptor fits and secures the adaptor to the HF R/T antenna socket.

Antenna, HF, Lightweight AS-F101

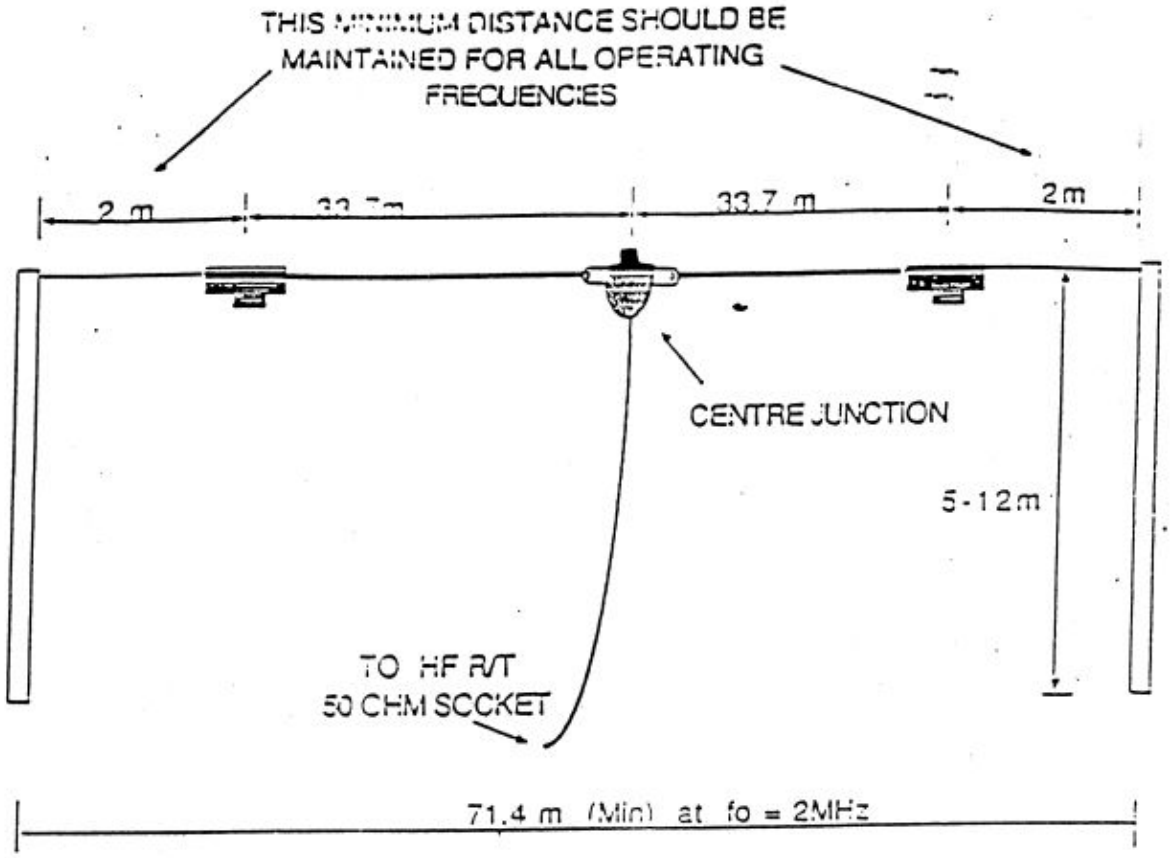
The Antenna. HF Lightweight AS-F101 (Lightweight Antenna) is a wire antenna in a carry bag for use in static conditions when higher efficiency and longer range communications are required. May be used in one of three configurations.

RAVEN RT-F100
PHYSICAL CHARACTERISTICS

HEIGHT	-	86.5 MM
WIDTH	-	275 MM
DEPTH	-	252 MM
MASS	-	5.7 KG MAX

OPERATING TEMPERATURE RANGE

-21 TO +70 DEG C



TYPICAL SETUP (SHOWN AT fo = 2 MHz) Not to scale.

Fig. 2. HORIZONTAL DIPOLE CONFIGURATION ANTENNA. HF. LIGHTWEIGHT AS-F101

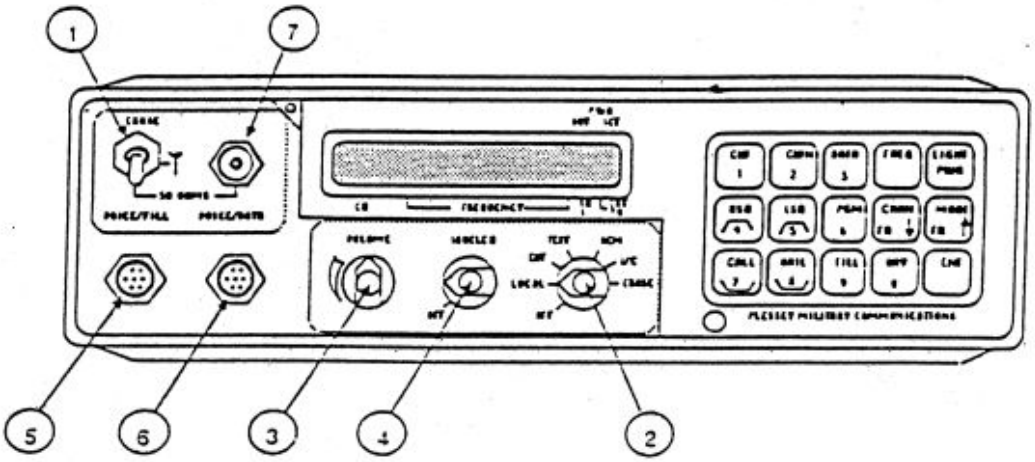


Fig 2a

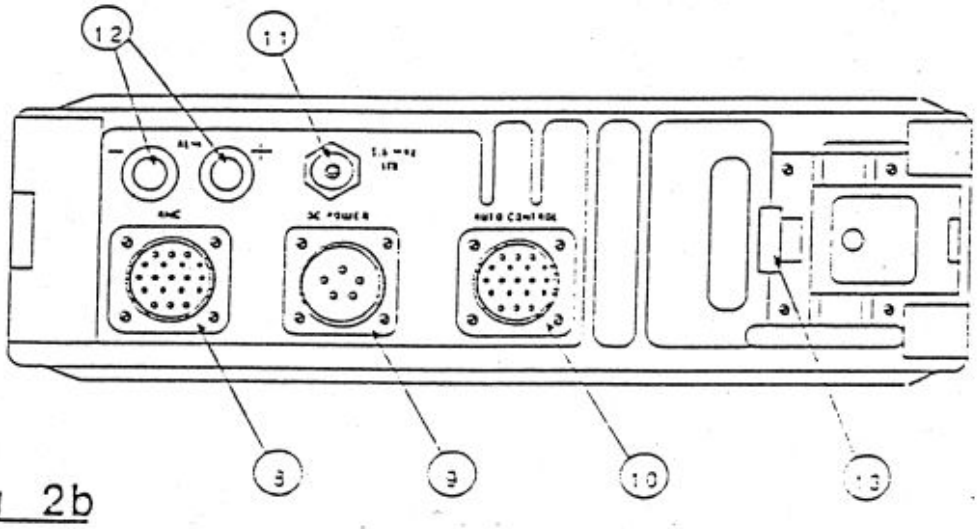


Fig 2b

RECEIVER TRANSMITTER, HF RT-F100
FRONT AND REAR PANELS

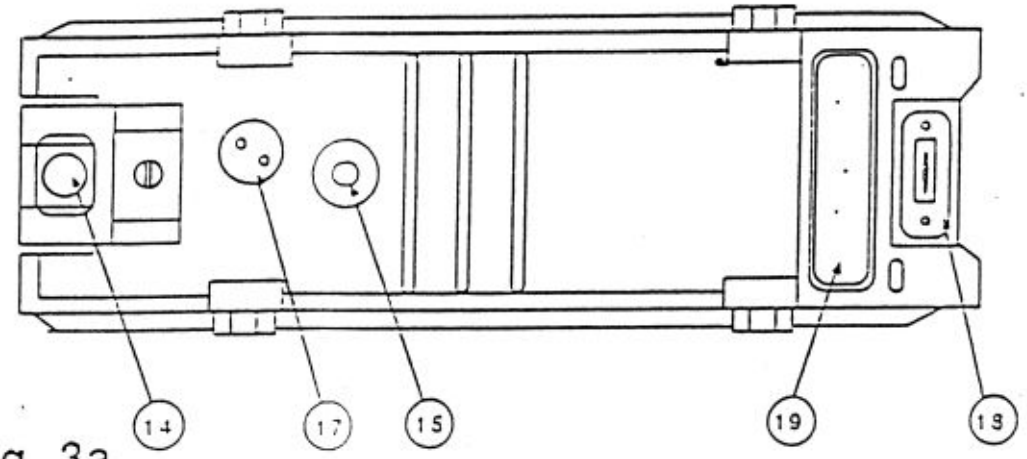


Fig 3a

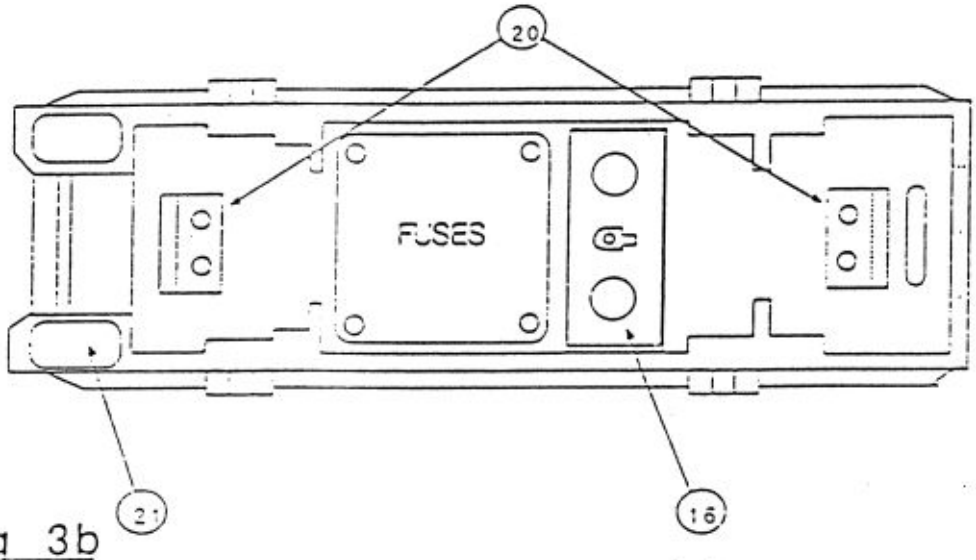


Fig 3b

RECEIVER TRANSMITTER. HF RT-F100
SIDE PANELS.

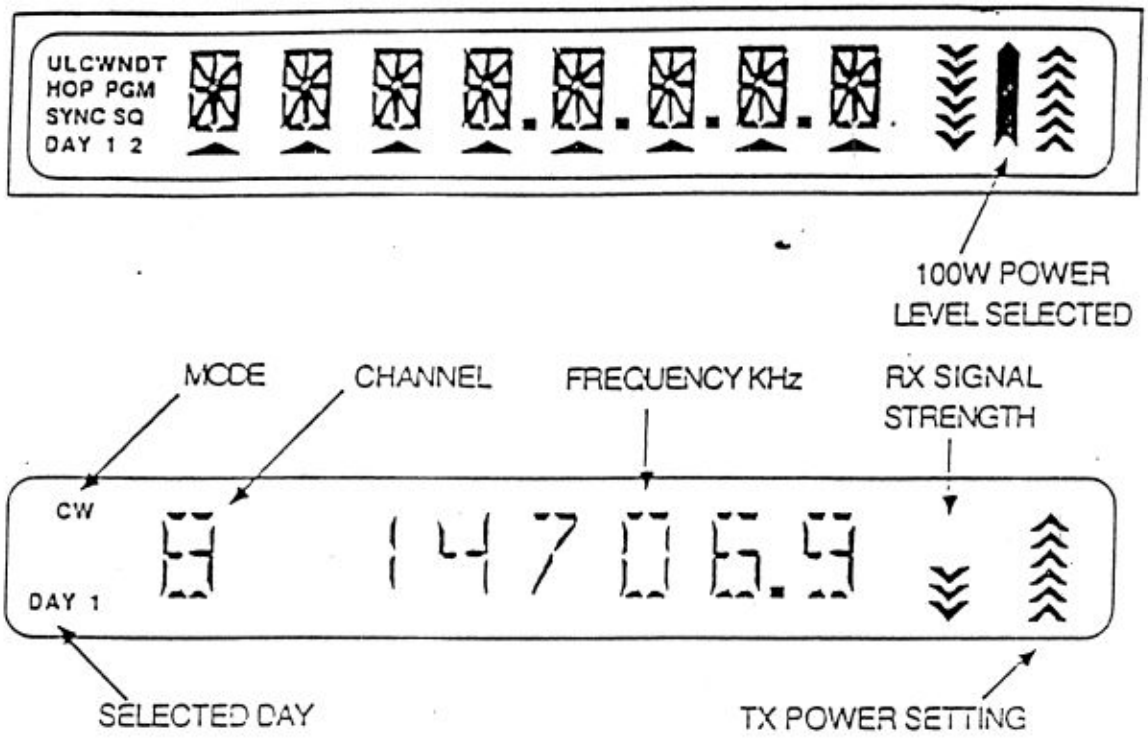


Figure 4a. R/T Display

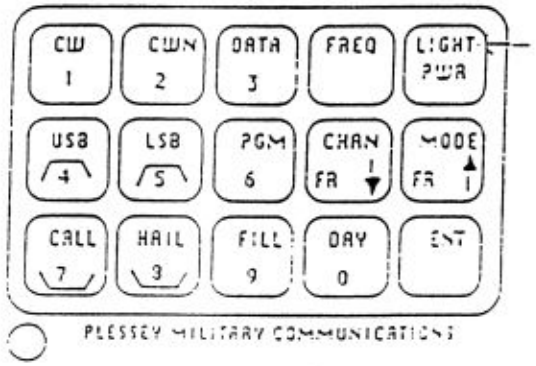


Figure 4b. R/T Keypad

Fig.4 RECEIVER TRANSMITTER, HF RT-F100 DISPLAY and KEYPAD

Fig. 5. WIDEBAND DIRECTIONAL VEE CONFIGURATION

ANTENNA . HF. LIGHTWEIGHT AS-F101

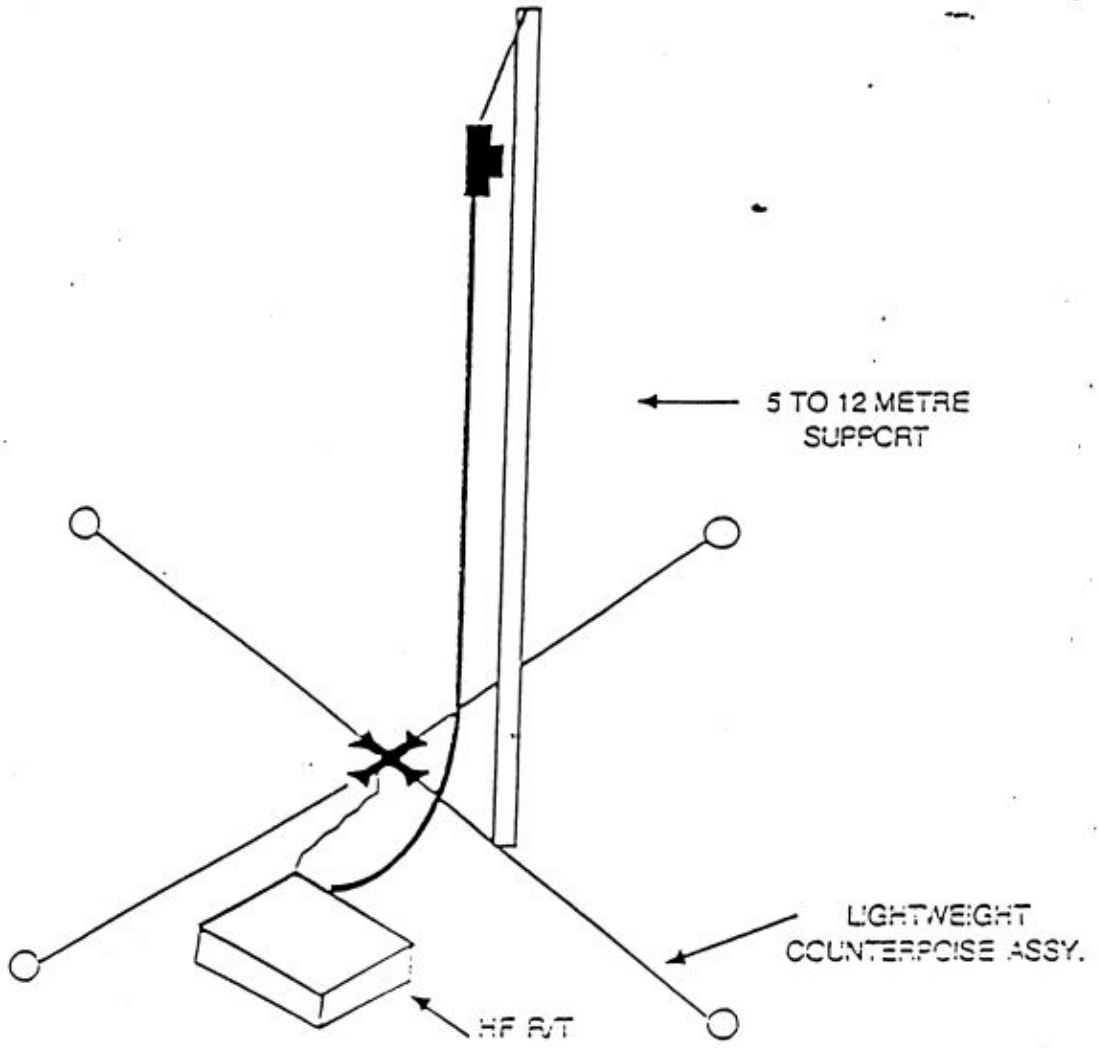


Fig. 6. VERTICAL MONOPOLE CONFIGURATION
ANTENNA, HF, LIGHTWEIGHT AS-F101