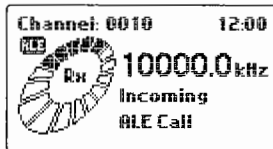


Receiving an ALE Message

When an ALE link to your station commences the following is displayed on your transceiver:-

A station in the ALE net is attempting to establish a link to your station:-




Your station is now linked and has received an ALE message, an audible alarm sounds:-




If after 60 seconds no key has been pressed the alarm will stop and regular 'blips' will be heard, indicating a call was received in your absence. Pressing any key will display the message received:-



Pressing the  key shows the address that the station called i.e. one of your addresses:-





BARRETT 2050 HF SSB TRANSCEIVER

Pressing the  again shows the address of the station that called you:-



— < ALE Message Page 1 > —
From
FIELDBASE

Pressing  returns you to the previous screen etc.

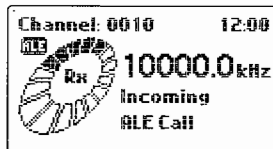
Pressing the  key or using PTT will return you to the main screen.

Receiving an ALE telephone call

If the RS-232 output is disabled (see I/O section of the Protected Menu) ALE telephone call requests are displayed on the transceiver front panel as follows:-

When an ALE link to your station commences the following is displayed on your transceiver:-

A station in the ALE net is attempting to establish a link to your station:-




Your station is now linked and has received an ALE phone number, an audible alarm sounds:-




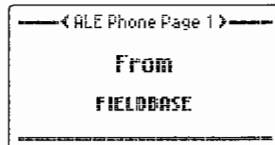
If after 60 seconds no key has been pressed the alarm will stop and regular 'blips' will be heard indicating a call was received in your absence. Pressing any key will display the received message:-




Pressing the  key shows the address that the station called i.e. one of your addresses:-




Pressing the  again shows the address of the station that called you:-



← ALE Phone Page 1 →
FROM
FIELDBASE

Pressing  returns you to the previous screen etc.

Pressing the  key or using PTT will return you to the main screen.

Note:- Normally when using this ALE telephone number function the receiving transceiver is connected to a automatic telephone interconnect unit such as the Barrett 960 or Barrett 2060, in this case the RS-232 output is enabled the receipt of an ALE telephone call request is not displayed as above and the telephone interconnect takes control of the transceiver.

Receiving an ALE Netcall

When an ALE link to your station commences the following is displayed on your transceiver:-

A station in the ALE net is attempting to establish a link to your station:-

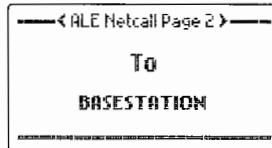



Your station is now linked, an audible alarm sounds:-




Your address has matched an incoming Netcall, a call to a number of stations in one call. Each station must respond to confirm the Netcall is established with the calling station. Each station responds in pre-determined slots.


If after 60 seconds if no key has been pressed the alarm will stop and regular 'blips' will be heard indicating a call was received in your absence. Pressing any key will display the call data:-



Pressing the  again shows the address of the station that called you:-



Pressing  returns you to the previous screen etc.

Pressing the  key or using PTT will return you to the main screen.


Closing individual ALE links

You must be linked to close an ALE link:-



Or if more than one ALE link is in progress (example 3 links):-




current hold the  key until the screen showing status of the links appears:-



use the **Scroll keys** to select link you wish to close (example shown - a link with a station not in your ID book):-




then press the  key

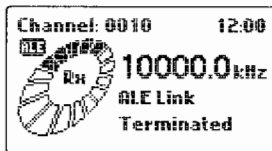


At this point you can either send a message, in which case go to the section "Sending an ALE text message to another station in an ALE network" or you can terminate the link:-

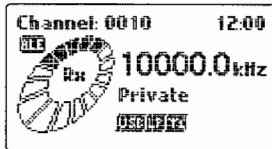
To terminate the link use the Scroll keys to select "Terminate Link":-



press the  key



The link is now terminated and unless you are linked to more than this station then your station will return to ALE scanning or manual mode:-

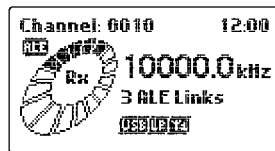



Closing an all ALE links

You must be linked to close an ALE link:-




Or if more than one ALE link is in progress (example 3 links):-



press the  key

select "Terminate All Links" with the scroll keys

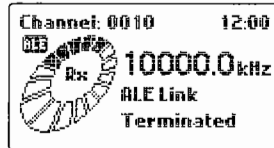


then press the  key

The ALE system now terminates all open links.

Remote station closes the ALE link

If the station you are linked to closes the link the following will be displayed:-

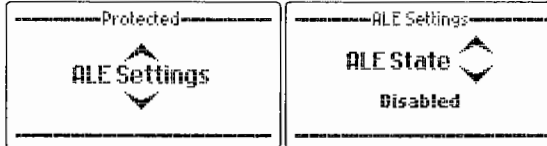


Your station will then return to ALE scanning (assuming your station was in ALE scan mode before the ALE link occurred):-



ALE configuration menus

ALE Enable



This feature enables or disables the ALE system

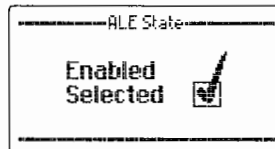
Use the **Scroll keys** to select the setting required (example "ALE Enabled"):-



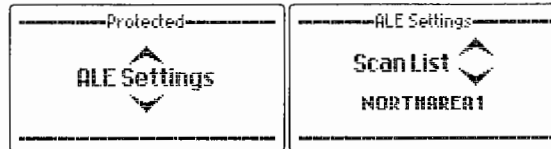
When the setting required is selected press the




key




ALE scan list select



Note:- you can also enter this scan list select section by holding down the  key for more than two seconds


To select the ALE scan list required

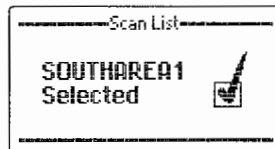
press the  key



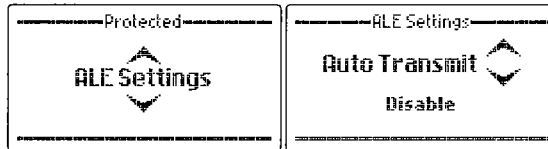
Use the **Scroll keys** or press the first letter of the scan list you want to use (example shown – "s") to select the scan table required:-



then press the  key

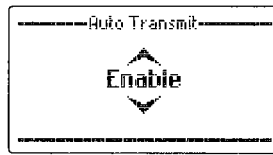


Auto transmit



When Auto Transmit is set to "Disable" the ALE system will not respond to any calls made to this station.

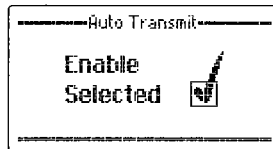
Use the **Scroll keys** to select the setting required (example "Enable"):-



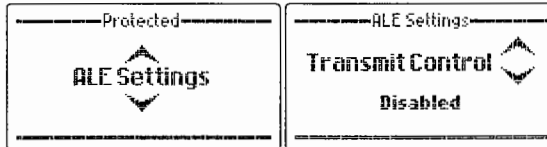
When the setting required is selected press the



key

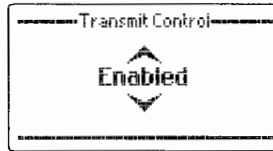


Transmit Control



When Transmit Control is set to "Disabled" the ALE system will not be able to transmit any ALE calls, including automatic soundings and responses to incoming ALE calls.

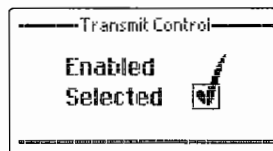
Use the **Scroll keys** to select the setting required (example "Enabled"):-



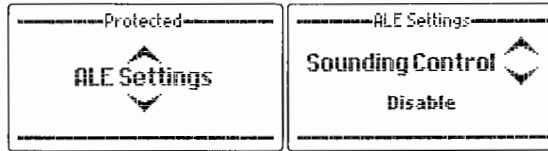
When the setting required is selected press the



key

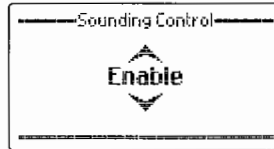


Sounding control



ALE operates normally both transmitting and receiving sounds when Sounding Control is set to "Enable". In some circumstances however it is desirable not to transmit soundings under any circumstances, in this case Sounding Control is set to "Disable". Sounding is limited to certain channels (pre-programmed by the ALE fill program). The ALE system will however, continue to make and respond to calls (depending on the Response Control settings).

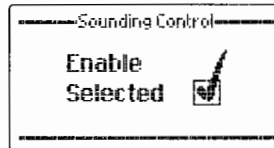
Use the **Scroll keys** to select the setting required (example "Enable");-



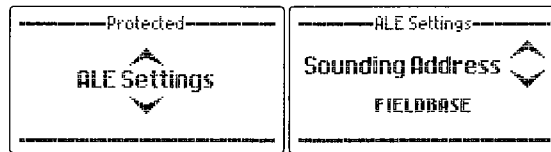
When the setting required is selected press the



key



Sounding Address



Configures the self address used during an automatic sounding (Sounding Control must be set to Global On). If sounding control = individual preset basis, the address used is dependant on the active channel.



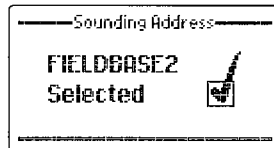
Use the **Scroll keys** to select the setting required (example "FIELDBASE2"):-



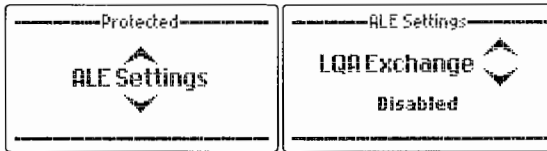
When the setting required is selected press the



key




Link quality analysis (LQA) exchange

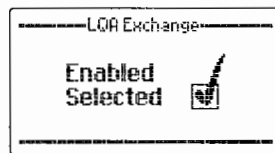


This option enables or disables the exchange of LQA information with other stations

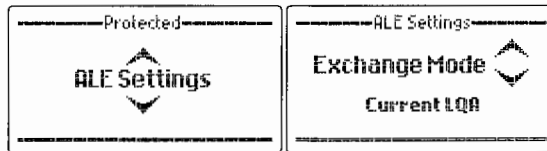
Use the **Scroll keys** to select the setting required (example "Enabled"):-



When the setting required is selected press the  key




Link quality analysis (LQA) exchange mode

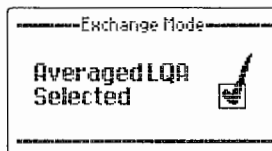


This option sets the source of the LQA reading sent to the other station, it can be set to "Current LQA" which is a reading taken during the ALE burst just received or it can be set to "Averaged LQA" which uses the long term averaged value taken from memory.

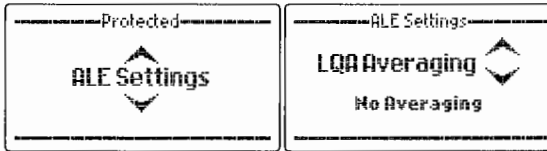
Use the **Scroll keys** to select the decay time or disable (example "Averaged LQA"):-



When the setting required is selected press the  key



LQA averaging



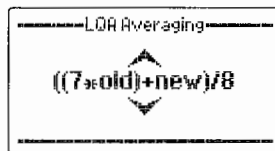
This option sets the method used to update an existing link quality value stored in ALE processor memory when the new link quality value is worse than the stored value.

The option can be set to either replace the old values with the new values or replace the old values with different weighted averages of the old values and new readings.

Averaging reduces the effect that one bad reading might otherwise have on a perfect channel. If a new reading is better than an old value, the old value is replaced by the reading. There are 4 different averaging formulas available:-

- No averaging, replace the old values with new values
- $(old+new)/2$
- $((3*old)+new)/4$
- $((7*old)+new)/8$

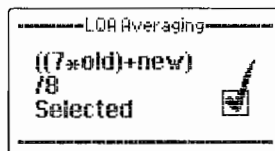
Use the **Scroll keys** to select the LQA averaging value required (example " $((7*old)+new)/8$ ":-

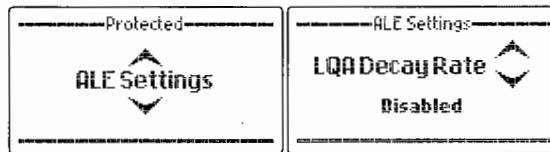


When the setting required is selected press the



key



Link quality analysis (LQA) decay rate

This option sets the artificial decay rate for the link quality information that is stored in the link quality table within the ALE processor.

Switching the sounding off and setting a decay rate of two hours would result in the recording of a perfect channel (100% channel quality) decaying to an unusable channel (0% channel quality) over a period of two hours.

The decay rate can be disabled, set to 1,2,4,8,24 and 48 hours.

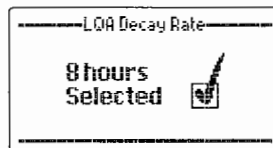
Use the **Scroll keys** to select the decay time or disable (example "8 hours"):-



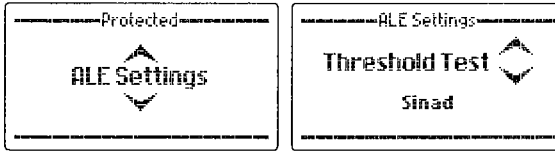
When the setting required is selected press the



key




Threshold test

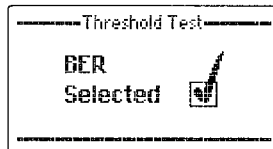


Used to select which type of threshold test is used to determine what quality ALE channel is acceptable for communication. Either "Sinad", "BER", "Both" or "None" can be selected.

Use the **Scroll** keys to select the test required (example "BER"):-



press the  key




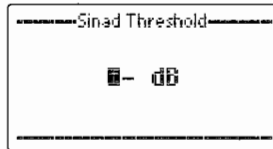
SINAD threshold



This option sets the SINAD threshold at which an ALE channel is considered usable.


This can be set to between 0 and 30dB.

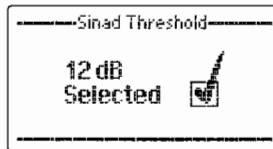
press the  key

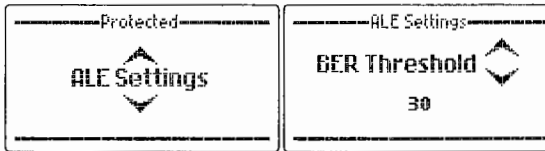


using the numeric keys enter the SINAD threshold required (example "12dB"):-




then press the  key



BER threshold

This option selects the BER threshold at which an ALE channel is considered usable. If the required BER is not reached in the reply from the remote station the link establishment process is rejected. Depending on the retry setting the link establishment would continue on another link.


It can be set between 0-30, selecting 30 effectively means that all links are allowed

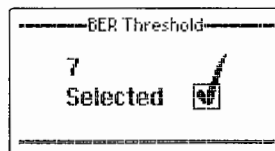
press the  key



using the numeric keys enter the BER threshold required (example "7"):-



then press the  key



ALE fill mode

The ALE is configured with its entire network data using the Barrett PC based ALE fill program. Refer to the Barrett 2050 PC based programming software that contains the ALE fill program for details.

Programming functions

The Barrett 2050 transceiver can be programmed in three ways:-

Using the 2050 programming software, loaded on a PC, and transferring information to the 2050 by either IR through the front panel or by RS-232 through the auxiliary connector.

By direct key entry through the front panel

Note:- This facility may not be available if the network administrator has barred the function during programming using a PC.

By cloning information from another transceiver, through the auxiliary connector using a cloning cable Barrett P/N BCA90024 (2050) or P/N BCA204020 (2050 in manpack adaptor)

Programming using the Barrett 2050 programming software

The Barrett 2050 programming software should be loaded onto PC using the instructions supplied with the package.

Transceiver configuration packs are uploaded and downloaded to the 2050 transceiver either via IR or via the serial port on the auxiliary socket on the 2050 transceiver.

Programming using the Barrett cable P/N BCA90023/BCA204020

To program the transceiver using the RS-232 port of your PC or Laptop plug one of the cables mentioned above (depending on whether you are programming a 2050 or a 2050 in the manpack adaptor) into the PC or laptops serial port. The other end should be plugged into the accessory socket of the transceiver or manpack adaptor. Your PC or laptop should have the Barrett 2000 series programming software running and the 2050 should be switched on. Programming functions can now commence.


Note:- When programming it is suggested you use a Barrett supplied programming cable. Other common serial cables have other pins connected. In some cases when connected to the programming computer these pins can have varying effects. The most common is that the 2050 transceiver remains in power on mode, even though the control head looks inactive the main unit remains powered up. This is due to the remote power up pin on auxiliary connector being held active.

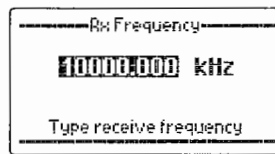
Programming using the IrDA link

To program the transceiver using the IR link your PC or notebook should be fitted with an IrDA standard IR facility and have the Barrett 2000 series programming software running. Bring your PC or laptop's IR device in visual range of the IR window on the front panel of the 2050 transceiver then go to the "Standard Menu – IR Enable section" and enable the IR facility. The PC or Laptop should now connect to the 2050 transceiver and programming functions can commence. **Note:-** the IR facility will only remain active for 5 minutes after being enabled if no connection is made with a PC or laptop.

Programming a channel from the front panel

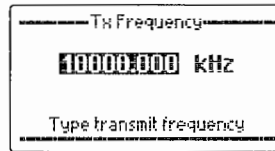
Note:- To program a channel from the front panel it is necessary to have this function enabled.

To enter the programming mode first select the channel you want to program then press the  key:-

Transmit and receive frequencies

Use the numeric keypad to enter the receive frequency

then press the  or  key



Use the numeric keypad to enter the transmit frequency

then press the  or  key

Channel use labels



Use the Scroll keys to select the required channel label

Note:- channel labels can be entered in the "General" section of the protected menu.



then press the  or  key

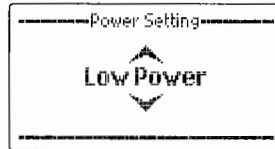
Operating mode



Use the Scroll keys to select the required operating mode, USB, LSB, AM,CW or AFSK

then press the  or  key

Note:- If the 500Hz or narrow filter hardware option is enabled this filter is automatically selected in CW mode and AFSK mode

Transmitter power setting

Use the Scroll keys to select the required output power – high, medium or low power.

then press the  or  key

Antenna Socket selection

Each channel can be directed to use either the default antenna socket or the auxiliary antenna socket. This is useful if two antennas are used for different frequency ranges.

Note:- the default antenna socket is ANT 1, the Auxiliary antenna socket is ANT 2.



Use the Scroll keys to select the required antenna socket 1 or 2

then press the  or  key

Selcall format

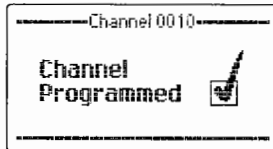
Each channel can be programmed for one selcall format, for a description of the formats available, refer to the beginning of this manual.




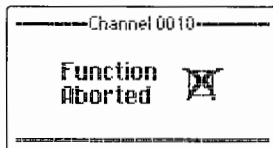
Use the Scroll keys to select the required selcall format

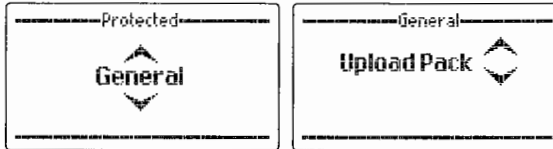
then press the  or  key

This last key press displays the following screen indicating the channel programming is complete:-



The channel program sequence can be aborted at any stage in the programming sequence by pressing the  key after which the following is displayed:-




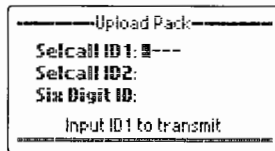
Cloning (programming) from another transceiver

Note:- Use the transceiver you want to send the configuration from for the following steps

This feature is used to send a copy of the configuration of one 2050 transceiver or 2050 transceiver fitted in the manpack adaptor to another using a cable (Barrett P/N BCA90024 or BCA204020) connecting both transceivers together via their auxiliary connectors using the RS-232 connection.

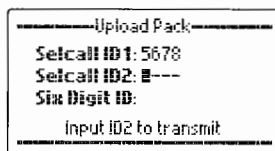
Before uploading commences it is necessary to enter the selcall ID's of the transceiver that will be loaded.

press the  key



Using the numeric keypad enter Self ID 1 and press the

 key



Using the numeric keypad enter Self ID 2 and press the

 key



Using the numeric keypad enter Six digit ID and press the



key

```
-----Upload Pack-----  
Selcall ID1: 1234  
Selcall ID2: 7890  
Six Digit ID: 123456#  
Press Enter to Upload
```

then press the



key to proceed with cloning.

2050 transceiver in the 2040 manpack adaptor

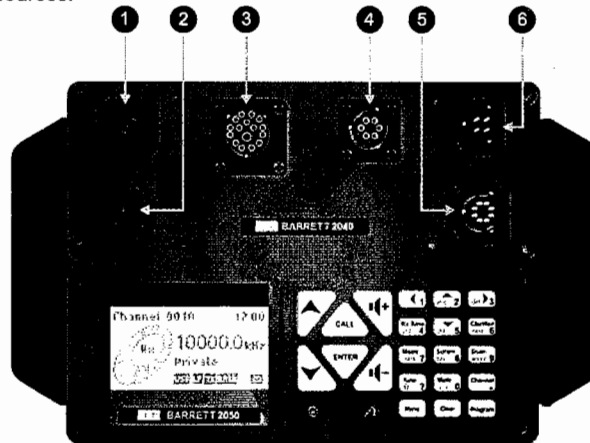
The Barrett manpack uses a Barrett 2050 deployed in the Barrett 2040 manpack adaptor, therefore all the operations described in the manual above will operate when the 2050 transceiver is in this configuration. The only difference is the RF power output is automatically reduced so that there are only two power settings 10 Watts and 30Watts. These are set by the channel power setting, Low Power (LP) is 10Watts and Medium Power (MP) and High Power (HP) are both 30Watts

The Barrett 2040 manpack adaptor comprises:-

An automatic antenna tuner for operation with a collapsible whip or long-wire.

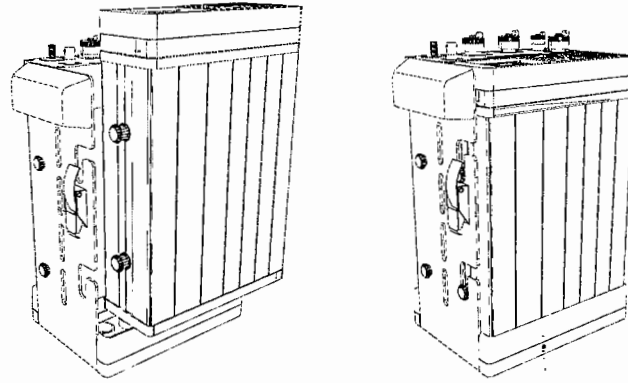
A removable 10Ah lithium ion battery cartridge

An inbuilt battery management system that charges and operates the manpack with DC input voltages between 22VDC and 26VDC, allowing operation from 24V vehicle sources, 24V solar panels and 24V hand crank generators. A separate Universal AC/DC input power adaptor Barrett P/N BCA204007 is available to charge and operate the manpack when mains voltages are available between 100-254 VAC or DC voltage between 11-18VDC are available from sources such as a 12V vehicles sources.

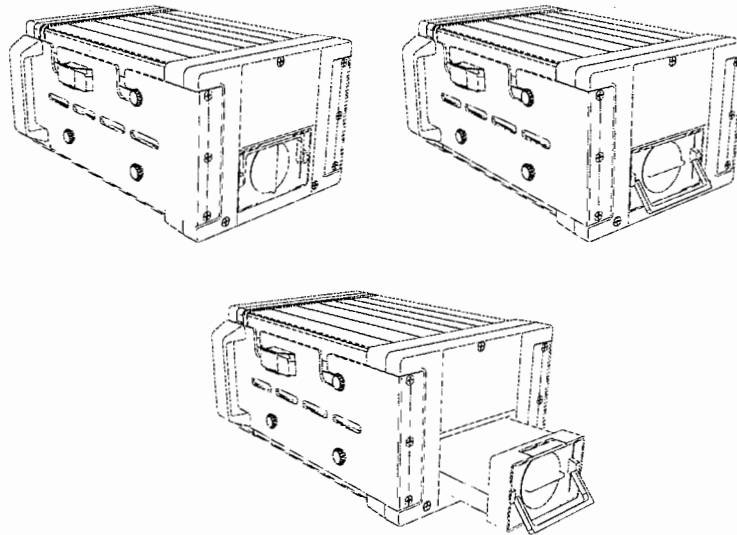


- 1 Whip antenna socket
- 2 Long wire antenna BNC socket
- 3 Auxiliary socket
- 4 ESU/CW socket
- 5 Handset socket
- 6 External power socket

Fitting the 2050 into the 2040 manpack adaptor



Removing the battery cartridge



BARRETT 2050 HF SSB TRANSCEIVER

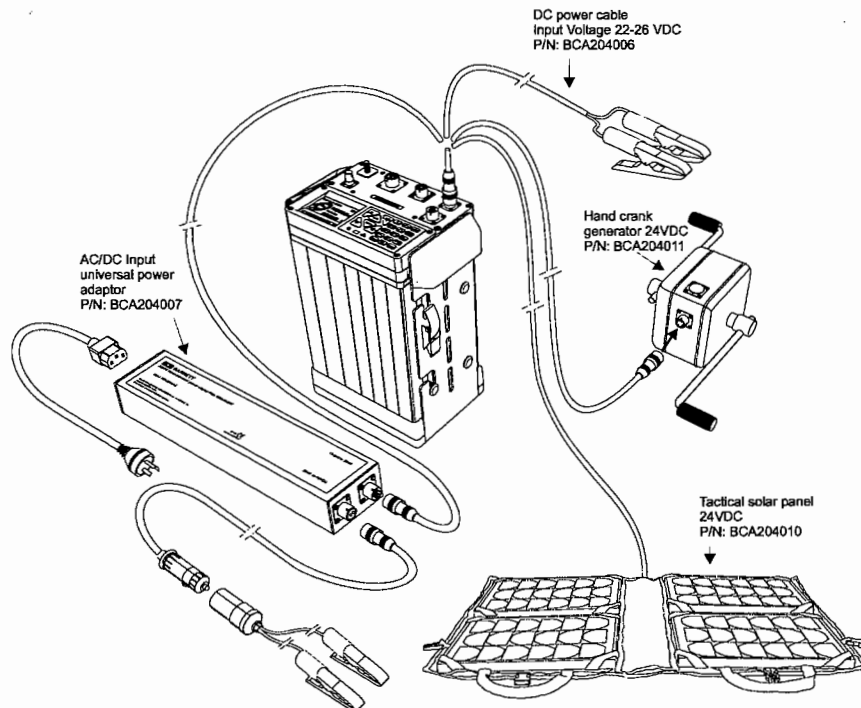
Powering and charging the Barrett manpack

The Barrett manpack transceiver uses a 10Ah Lithium Ion battery cartridge.

With the battery cartridge fitted in the manpack the transceiver can be operated and the battery cartridge charged when a DC input of between 22 VDC and 26 VDC is supplied to the unit.

This DC power supply can be generated in several ways:-

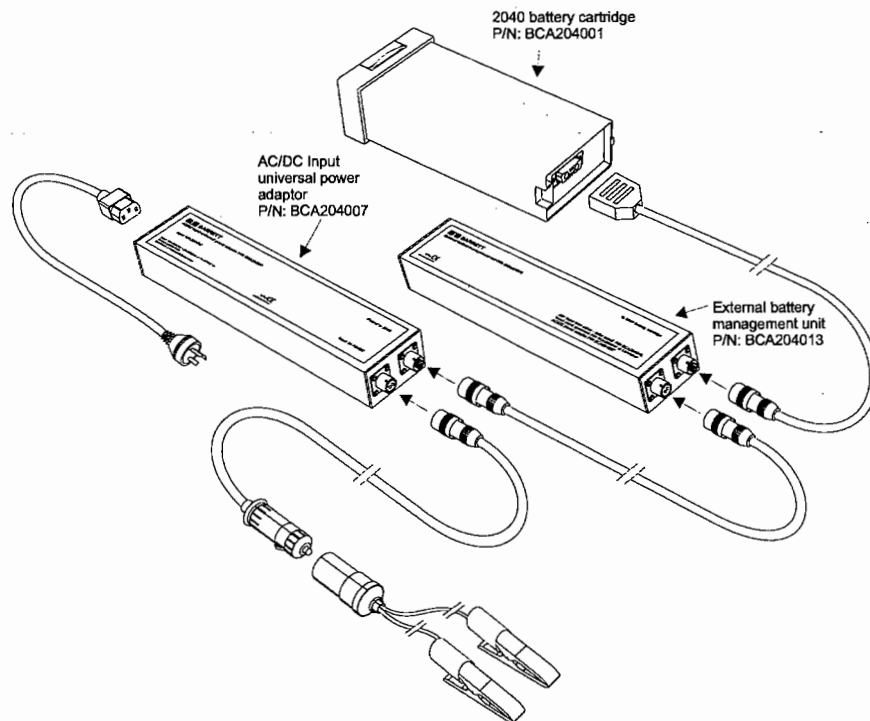
- 1 From a 24V vehicle power source using DC power cord
Barrett P/N BCA204006
- 2 24 VDC Tactical solar panel Barrett P/N BCA204010
- 3 24 VDC Hand crank generator Barrett P/N BCA204011
- 4 From a mains AC supply between 100VAC and 254VAC or DC supply
between 11 and 18 VDC using the Barrett universal AC/DC power adaptor
Barrett P/N BCA204007



Charging a 10Ah lithium ion battery cartridge outside the manpack

The 2040 battery cartridge can be charged outside the manpack using the external battery management unit P/N BCA204013 and the AC/DC input universal power adaptor P/N BCA204007. Alternatively the external battery management unit can be powered without the use of the AC/DC input universal power adaptor by a 24V source such as the following:-

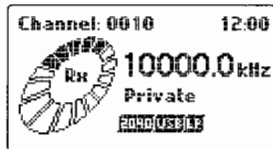
- 1 From a 24V vehicle power source using DC power cord Barrett P/N BCA204006
- 2 24 VDC Tactical solar panel Barrett P/N BCA204010
- 3 24 VDC Hand crank generator Barrett P/N BCA204011



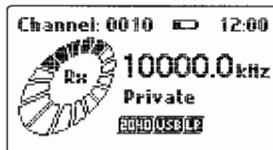
Battery charge indicator when charging the 2040

When the charging source is connected to the 2040 and the transceiver is switched on, the battery icon between the channel number and the time shows the progress of the charge process:-

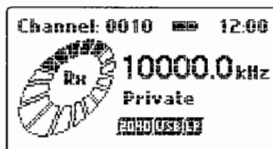
If no battery charging icon is visible it indicates the charging device is not connected or connected but not providing charge, or is connected but switched off:-



The battery icon with a moving line running from left to right indicates that the battery is charging:-



The battery icon stationary and filled "black" indicates that the battery is charged and the charger is now trickle charging:-



Operation in the manpack configuration

Manpack operation using the automatic antenna tuner

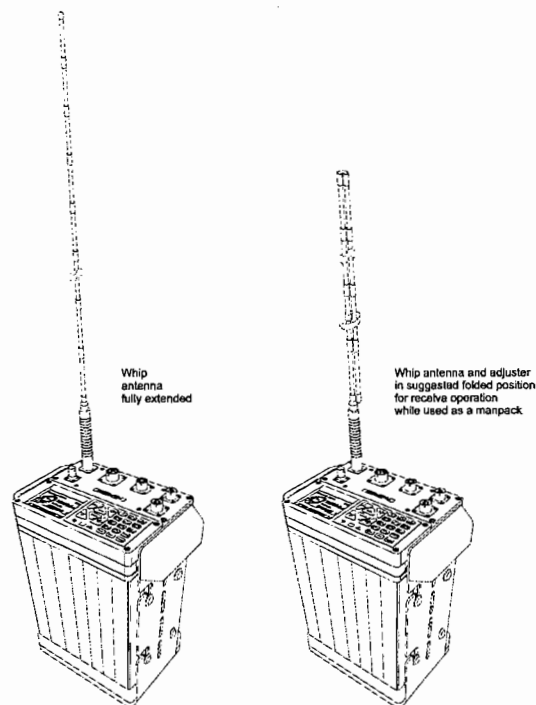
The Barrett manpack can be used with the 10 metre throw over long-wire provided or the optional 3 metre collapsible whip.

Note:- Either the whip or the long-wire can be used but not both together.

Using the whip

The gooseneck should be fitted to the whip antenna stud and the whip unfolded to its maximum height. If using the Barrett manpack while walking in the backpack configuration it is suggested that while in receive standby mode the collapsible antenna be only extended to half height and secured using the Velcro tab. **When a call is received extend the antenna to full height before transmission.**

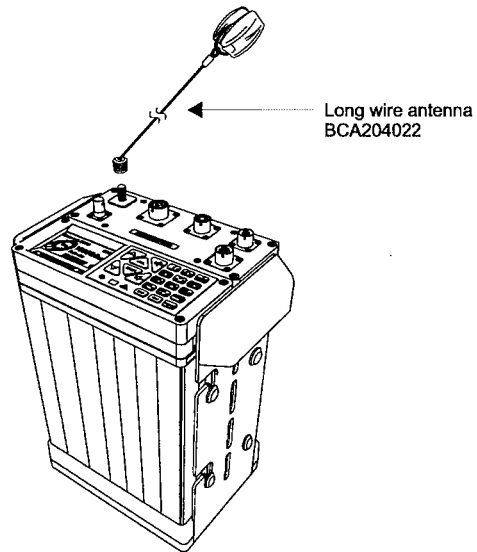
Note:- When using an un-tuned antenna such as the whip or the long-wire the section "2040 Antenna Select" in the standard menu should be used to enable the automatic tuner i.e. select "Whip/Long-wire" operation. When this is selected the in-built tuner automatically tunes the whip or long-wire whenever the unit transmits after a channel change.



Using the throw over long-wire antenna

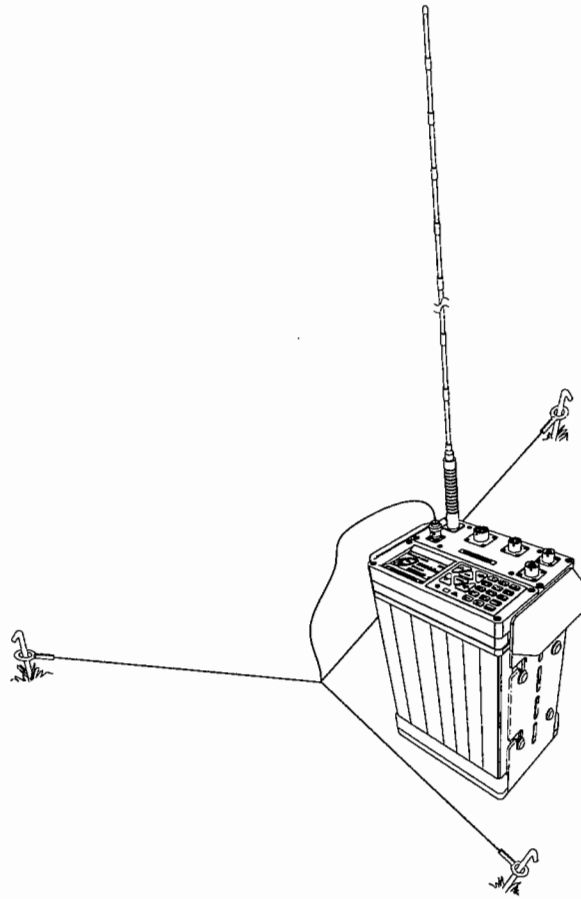
The long-wire antenna should be unfurled and the end away from the manpack transceiver should be attached to any structure available and as high as possible.

Note:- When using an un-tuned antenna such as the whip or the long-wire the section **"2040 Antenna Select"** in the standard menu should be used to enable the automatic tuner i.e. select "Whip/Long-wire" operation. When this is selected the in-built tuner automatically tunes the whip or long-wire whenever the unit transmits after a channel change.



Using the counterpoise

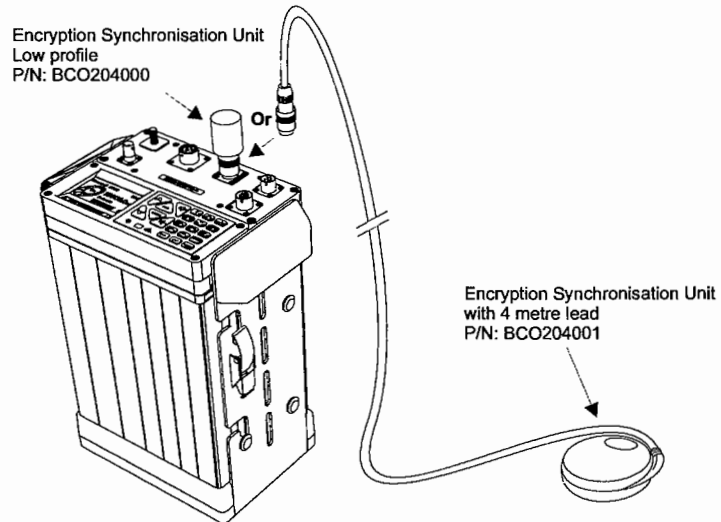
When using either a whip or the long-wire antenna efficiency can be increased by the use of the counterpoise supplied. This is connected to the 2040 via the BNC connector connected to the counterpoise. The three radials should be spread out on the ground as indicated in the diagram below:-



Operation of the manpack in frequency hopping mode.

To operate in frequency hopping mode one of the two types of ESU's (Encryption Synchronisation Units) supplied with the frequency hopping option must be plugged into the ESU socket on the top of the 2040 manpack adaptor. Both ESU's acquire satellite timing information so must be in view of the sky i.e. cannot be operated inside buildings. This is why one version of the ESU has an extension lead to enable the ESU to be positioned outside if operating within a building. Both ESU's can be used to supply position information for position tracking operations.

To operate the manpack in frequency hopping mode refer to the Section "Frequency hopping" in this manual.



Operation of the manpack in temporary base stations

For temporary base station operation, Barrett manpack can be operated using either a single wire, end fed, portable broadband antenna Barrett P/N BC91205 or a tactical rapid deploy end fed low power dipole, Barrett P/N BC91503 as illustrated below:-

Deploying the end fed single wire low power broadband

Barrett P/N BC91205

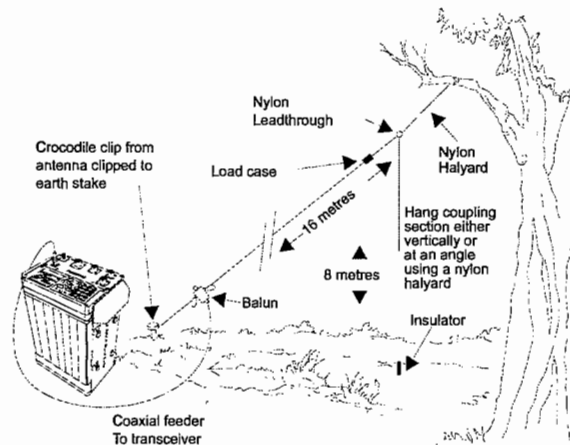
Unfurl the broadband antenna from the winding bobbin supplied.

Push the earth stake into the ground. Clip the short wire from the balun box, with the coaxial connector on it, to the earth stake using the crocodile clip supplied.

Hang the wire section of the antenna in any configuration convenient as indicated in the diagrams below. Note the higher from the the ground the more efficient the antenna will be.

Connect the coaxial cable from the coaxial socket on the blue balun box on the antenna to the manpack transceiver 50Ω BNC antenna socket.

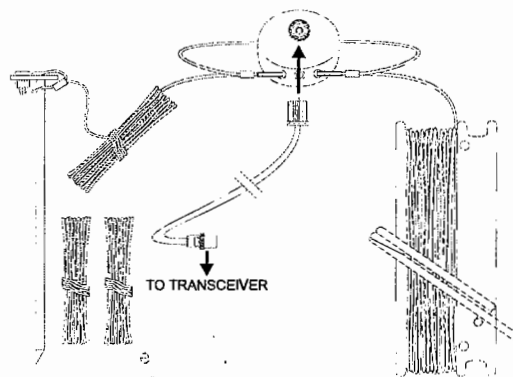
The antenna is now ready for operation, no tuning or adjustments are required.



Deploying the tactical rapid deploy, tuned, end fed, low power dipole

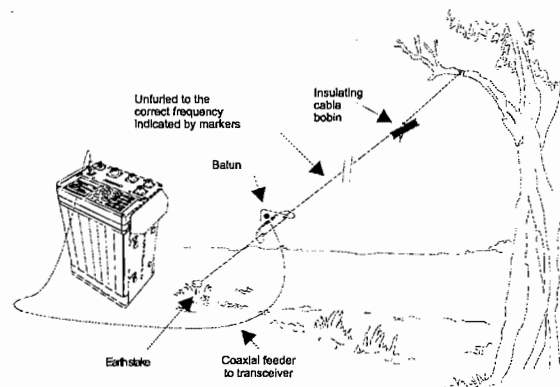
Barrett P/N BC91503

Remove all components from the kit bag and check for damage/wear, ensure all components are present.



Choose a spot on the ground near to a tree or elevated anchor point. Fit the coaxial cable to the balun as indicated in the diagrams below. Unwind the cable and lay the assembly on the ground. From the bobbin unwind the insulated cable until the desired frequency marker is reached, secure the cable into the slots provided on the bobbin. The nylon halyard should then be

unwound and laid out (if required). Push the earth peg into the ground. The radiating end of the end fed dipole is now ready to be elevated into a working position either on a tree or some elevated natural object using the lead weight and nylon halyard. If you have a mast available, the antenna may be slung from this.



Connect the coaxial cable from the coaxial socket on the balun centre on the antenna to the manpack transceiver 50Ω BNC antenna socket.

The antenna is now ready for operation on the frequency you have set it to, select that frequency on the transceiver.

Connectors

Auxiliary socket

15 pin waterproof panel mounted socket

Pin	Name	Description of function	Level
1	+13V8 Fused	Fused 13.8VDC output	+13.8VDC
2	Bal Audio Out 1	Balanced audio out 1	600 Ω -6dBm to +9dBm
3	Bal Audio Out 2	Balanced audio out 2	600 Ω -6dBm to +9dBm
4	Bal Audio Out 1	Balanced audio in 1	600 Ω -24dBm to 0dBm
5	Bal Audio Out 2	Balanced audio in 2	600 Ω -24dBm to 0dBm
6	Aux PTT	PTT in	Active low 0V
7	RS-232 Tx	RS-232 Tx data	True RS-232 levels
8	RS-232 Rx	RS-232 Rx data	True RS-232 levels
9	Scan Stop	Scan stop input	Active low 0V
10	PTT Out	PTT output to external equipment	Active low 0V
11	Aux Dig Out 2	Auxiliary digital output (future use)	Active low 0V
12	Gnd	Ground	Ground 0V
13	Gnd	Ground	Ground 0V
14	Gnd	Ground	Ground 0V
15	Gnd	Ground	Ground 0V

ESU/CW socket
6 pin waterproof panel mounted socket

Pin	Name	Description of function	Level
1	1PPS	1 PPS from External Synchronisation Unit (ESU)	TTL
2	NMEA +	NMEA data input	+5VDC
3	+5	+5V for ESU power	+5VDC
4	CW key	CW key input	Active low 0V
5	Gnd	Ground	Ground 0V
6	N/C	Not connected	

Handset Socket
6 pin waterproof panel mounted socket

Pin	Name	Description of function	Level
1	MICL	Balanced Microphone input low	
2	MICH	Balanced Microphone input high	
3	PTT	PTT input	Active low 0V
4	Speaker	Loudspeaker output	0-10V
5	Aud UnBal	Unbalanced audio in	
6	Gnd	Ground	Ground 0V

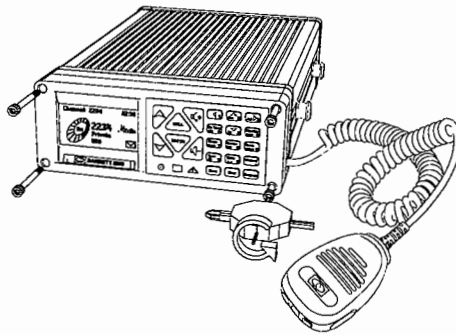
Power socket

4 pin waterproof panel mounted socket

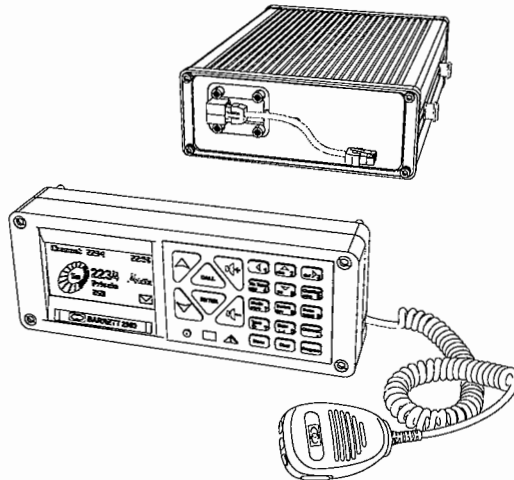
Pin	Name	Description of function	Level
1	+VIn	External supply input – positive	+22 to 28 VDC
2	+VIn	External supply input – positive	+22 to 28 VDC
3	Gnd	External supply input – negative	-22 to 28 VDC
4	Gnd	External supply input – negative	-22 to 28 VDC

Installing the Barrett 2050 transceiver

Changing the 2050 transceiver from a desk top unit to a remote control (trunk mount) unit using the Mobile Pack P/N BCA20501



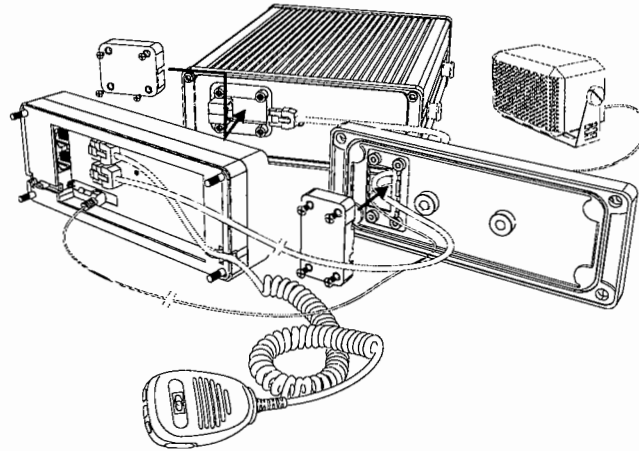
- Remove the M4 cap screws from front panel using Barrett tool provided



Un-plug short interface cable from the remote head and the main body

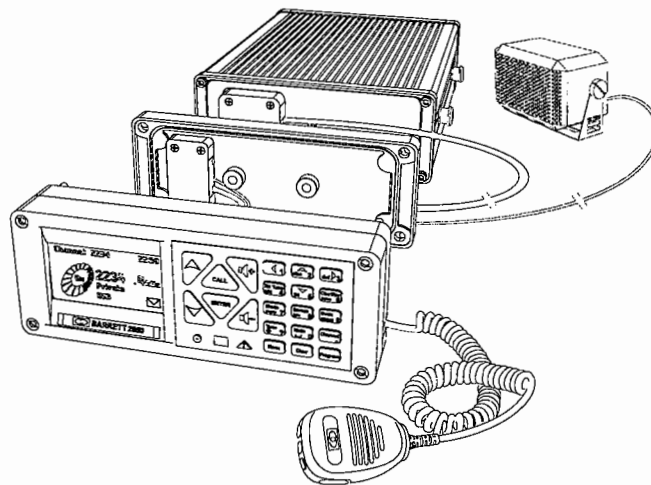
Using the short M4 cap screws supplied refasten the front panel of the main unit.
(into the screw positions left vacant by the removal of the control head)

BARRETT 2050 HF SSB TRANSCEIVER



Replace the previous short interface cable with the 6m interface cable and fit the cable restraint/weatherproofing cover using the 4 x 8mm thermoplastic screws provided.

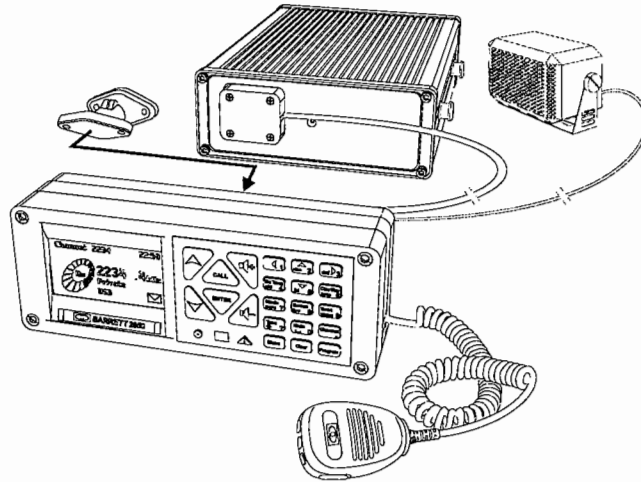
Insert the interface cable and speaker lead through the rear opening in the remote head mounting plate and plug into the sockets as indicated in the diagram



Screw the cable restraint/weatherproofing cover on the remote head mounting plate with 4 x 8mm thermoplastic screws provided

BARRETT 2050 HF SSB TRANSCEIVER

Using the original M4 cap screws provided attach the remote head to the remote head mounting plate



Attach the RAM mount using the 2 x M5 screws provided to the control head rear mount plate.

Land based systems

Introduction

This section provides instructions for the installation of land based HF communication equipment.

Most of the installation work can be performed by non-technical personnel if they carefully follow the instructions given in this handbook. It is however recommended that the completed installation be checked by a suitably qualified technician. In some equipment configurations, technical adjustment is required for the equipment to operate correctly.

Note:-Some equipment has specific instructions supplied with it. When this is the case those instructions over-ride the general guidance of this handbook, and must be followed in detail.

Unpacking and inspection

When unpacking the transceiver, check the contents against the packing note provided. Before discarding the carton, check that all accessories have been removed and are not mislaid in the packing material. Inspect the equipment for any transit damage. If damage has occurred notify your supplier immediately and gain their advice on further action. Failure to do this could affect the warranty covering the equipment.

Fixed station installations

Transceiver position

The following should be considered when choosing a position for the transceiver.

Operating convenience

The transceiver should be placed so that the operator is comfortable and any facilities he may require are easily accessible.

Air circulation

Most transceivers rely on air flow around cooling fins to dissipate heat generated by the transmitter. The mounting position must allow free air flow around these fins.

Proximity of transceiver to antenna

When using RG-58 coaxial cable from the transceiver to the antenna a cable length of no more than 30 metres is recommended. Should a run of more than 30 metres be required it is recommended that a low loss coax such as RG-213 or RG-8 be used.