10 The NET List

This section contains the following topics:

About NETs

A NET is a special ALE addressing capability. With NET addressing, two or more stations are pre-configured to respond to the same NET address. When a station calls a NET, all stations with that NET address *and* their self addresses in the Member Address setting for the NET respond in their designated response slot. In the NGT transceiver, a NET contains the configuration information required for making and receiving NET calls. This information defines the process for the handshake during link establishment.

The full 3-way handshake process involves a leading call from the initiating station, a response from the receiving station, and an acknowledgement from the initiating station. Following the acknowledgement, all stations that are able to, enter the link.

A station can have a NET programmed in its NET List and either:

• be a member of the NET, that is, their self address is in the Member Address setting for the NET

• not be a member of the NET, that is, their self address is *not* in the Member Address setting for the NET

NETs are used with ALE/CALM networks, which define the channels that the NET may use when establishing an ALE link, and the Privacy Mode for messaging within a call. For more information on networks see page 121, *The Network List*.

You can make a call to a NET by selecting the NET, Emergency, Message, Phone, Selective, or Send Position call type and entering the NET address. You can set up an entry in the Address List to make a NET call. For more information on the Address List see page 145, *The Address List*.

Figure 28 shows an example of the information required to create a NET. This information is explained on page 134, *Settings in the NET List*.

Figure 28:   An example of information stored in the NET List

```
NET List
NET A ——┬— Address:            111
        ├— Network:            North
        ├— Member Address:     BOB      1 of 5
        │                      JOE      2 of 5
        │                      SAM      3 of 5
        │                      TOM      4 of 5
        │                      TIM      5 of 5
        │
        ├— Outgoing Calls:     Enabled
        ├— Incoming Calls:     Members only
        ├— Link:               Only if response
        ├— Response:           Send
        ├— Tune Time:          2 seconds
        ├— LQA Exchange:       Yes
        └— Slot Width:         Variable

NET B ——┬— Address:            222
        ├— Network:            Central
        ├— Member Address:     BET      1 of 7
        │                      MAR      2 of 7
        │                      SAM      3 of 7
        │                      MIK      4 of 7
        │                      JAC      5 of 7
        │                      JAN      6 of 7
        │                      PET      7 of 7
        │
        ├— Outgoing Calls:     Disabled
        ├— Incoming Calls:     Enabled
        └— Link:               Immediately
```

NOTE

For successful NET calling and response, the Address, Network, Member Address, Link, Tune Time, LQA Exchange and Slot Width settings in the NET List must be identical for all stations that are members of the NET. Specifically, the order of the member stations in the Member Address setting must be identical for all member stations, as this order is used to determine the response slots for all stations.

Settings in the NET List

NOTE

In the following discussion, you will need to log in as administrator to see the NET List (see page 110, *Logging into admin level from user level*).

Name

The NET name may be any meaningful name that you want to assign to the NET. The name may be up to 20 alphanumeric characters including spaces. The NET name is only used for reference within the transceiver. It is not part of the NET configuration data.

Address

CAUTION   This setting must be the same in all member stations.

The Address setting contains the global address used by all members of the NET, and other stations that have the NET programmed in the NET List, to establish an ALE link during NET calls. The address may be up to 15 alphanumeric characters however, for efficiency of NET calls, it is preferable that the address be limited to 3 characters. You should choose an address that is not the same as any self addresses in the NET or wider communication audience.

Network

CAUTION   This setting must be the same in all member stations.

The Network setting refers to the network containing the channels to be used with the NET. This is selected from the pre-defined list of networks in the Network List. You can set up two NETs with the same address but with different networks, say one for Group Privacy Mode and one for Plain Privacy Mode. If the networks have the same channels, then the Member Address setting in each NET should be identical.

Member Address

CAUTION   This setting must be the same in all member stations.

The Member Address setting contains a sequential list of the self addresses of all members of the NET. The station uses this list to calculate the response slots, so each station in the NET can determine when an automatic response is required after the initiating call. A member address may be up to 15 alphanumeric characters however, for efficiency of NET calls, it is preferable that the member addresses be limited to 3 characters. To preserve an empty slot use the null address (@@@) in a member address position.

Outgoing Calls

The Outgoing Calls setting enables you to set up your station to make calls to the NET, or disable calling to the NET. Unless you need to restrict calling to the NET, you should set the Outgoing Calls setting to Enabled for all stations in the NET, regardless of their member status.

If you want to set up your NET so that only one station makes calls to the NET, set the Outgoing Calls setting for the NET in that station to Enabled. All other stations with this NET programmed would then have the Outgoing Calls setting for the NET set to Disabled.

Incoming Calls

CAUTION   If the Link setting is set to Only if response, you must ensure that at least one member station is set to receive an incoming call from the NET.

The Incoming Calls setting enables you to set up your station to receive all incoming calls from the NET, receive calls only if you are a member of the NET, or disable receiving calls from the NET.

If the station has the NET programmed, then it can receive calls from the NET if the Incoming Calls setting is set to Enabled. If your station has the NET programmed but you are not a member, and you do not want to receive all of the NET calls, set the Incoming Calls setting to Members only. As your station is not a member of the NET, it will not enter the link. If you are a member of the NET but do not want to receive any calls from the NET, select Disabled.

Link

CAUTION   This setting must be the same in all member stations.

The Link setting determines how the initiating station links with the receiving stations. It can link:

- only if it receives a response from a member station

- even if it doesn't receive a response from a member station

- immediately

    Stations with the NET programmed will only send a response to a NET call if:

NOTE   • their self address is included in the Member Address setting for the NET, that is, they are a member of the NET

    • the Response setting in the NET List is set to Send

If it is important that you know with which member stations you have linked, then you must set the Link setting to Only if response. The initiating station will make the call to the NET using the best channel, on average, for all NET members. If there is no response to this channel, the initiating station will select the next ranked channel and attempt the call again, and so on until at least one response is received. Any member station detecting the call will respond, if they are enabled to do so, then the initiating station completes the link. Non-member stations with this NET programmed will also enter the link, but as they are not members, they will not send a response. If you use this setting, you must be sure that there are stations in your NET that will respond. If the initiating station does not receive a response to the call after trying all channels for the NET, it will terminate the link establishment process.

If you want to send a NET call to all stations with the NET programmed, but you do not need to know which of the member stations have entered the link, set the Link setting to Even if no response. The initiating station will make the call to the NET using the best average channel for all NET members. All stations detecting the call will enter the link, if enabled to do so.

If you want to send a NET call to all stations with the NET programmed without the delay of the link establishment process, set the Link setting to Immediately. In this case, the initiating station will establish an implicit link with any stations programmed with the NET that detected the call. There is no 3-way handshake.

Response

CAUTION   If the Link setting is set to Only if response, you must ensure that at least one member station is set to respond to a call from the NET.

The Response setting sets whether or not receiving member stations respond to NET calls during link establishment. Generally, you would set the Response setting to Send, so that there is confirmation of the station entering the link. However, if for some reason you do not want the receiving station to transmit on air, you would set the Response setting to Don't send. If a station is set to not respond, it will still enter the link when it receives the acknowledgement from the initiating station.

NOTE   The Response setting is only applicable to NET calls. It does not affect a station's ability to respond to an ANY, Group Selective or Wildcard call (see).

Tune Time

CAUTION   This setting must be the same in all member stations.

The Tune Time setting is the time that the members of the NET wait after the initiating call before sending the automatic responses to the initiating station. This time should be set to match the longest tuning time between all members in the NET.

LQA Exchange

CAUTION   This setting must be the same in all member stations.

The LQA Exchange setting determines whether or not the exchange of LQA information occurs during calls within the NET. If this setting is enabled, the transceiver adds an appropriate amount of time to the slot widths so that LQA information can be exchanged.

Slot Width

CAUTION   This setting must be the same in all member stations.

The Slot Width setting determines the width of response slots for each member of the NET. If the Slot Width setting is set to Fixed, then all slot widths match the width required for the largest member address for the NET. However, this extends the time to complete the handshake considerably. Unless required for interoperability reasons, the recommended setting is Variable. In this case, the transceiver calculates the exact slot width required for the response from each station.

Programming the NET List

NOTE   In the following discussion, you will need to log in as administrator to see the NET List (see page 110, *Logging into admin level from user level*).

Creating a NET

When you create a NET, the transceiver prompts you for various details. It is recommended that you read page 134, *Settings in the NET List* before you create a NET.

To create a NET:

❑   Press ✖ until **Main Menu** is displayed.

❑   Scroll to **NET**, then press ✔.

❑   Use the List Manager to create an entry (for help see page 97, *Creating an entry in a list* and page 52, *Entering and editing text*).

❑   Enter the setting information provided in the following table as required, then press ✔ to enter the information.

If this prompt is displayed...	Do this...
Address?	• enter the address of the NET you want to use for the NET call NOTE If you leave this setting blank, the NET cannot be used.
Network?	• select the network you want to use for the NET call NOTE If you select **<Disable>**, the NET cannot be used.
Member Address?	• enter the self address of the first member of the NET
Add another Member Address?	• enter the self address of the next member of the NET NOTE If you do not want to add another member address, press ✖.
Outgoing Calls?	• select whether or not you can make NET calls from this NET
Incoming Calls?	• select whether or not you can receive NET calls on this NET as a member of the NET (**Members only** or **Disabled**), or • select whether or not you can receive NET calls on this NET if you are not a member of the NET (**Enabled** or **Disabled**)

If this prompt is displayed...	Do this...
Link?	• select how you want member stations to operate during link establishment
Response?	• select whether or not your station will respond to a NET call NOTE Only stations that are members of a NET are able to send a response.
Tune Time?	• increase or decrease the tuning time
LQA Exchange?	• select whether or not LQA information is exchanged during NET calls
Slot Width?	• select whether the width of the response slot is fixed or variable

The new NET is created and the List Manager remains open.

❑ If you want to view the NET you have created, press ✖ to close the List Manager.

Renaming a NET

When you rename a NET, references to the NET in other lists are not automatically updated; you need to go to the Address List to update any entries that refer to the NET.

For example, if the NET you renamed is used in an entry in the Address List, go to this entry, find the reference to the old NET name, then change it so that the new name is displayed (for help see page 155, *Editing an entry in the Address List*). If you do not update the reference to the NET, the transceiver will prompt you to enter an address each time you use the entry to make a call.

Renaming a NET is a standard list function. For help see page 98, *Renaming an entry in a list*.

Copying a NET

Copying a NET is a standard list function. For help see page 99, *Copying an entry in a list*.

Editing a NET

Editing a NET is a standard list function. For help see page 99, *Editing an entry in a list*.

Deleting a NET

Deleting a NET is a standard list function. For help see page 100, *Deleting an entry from a list*.

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11 The Phone Link List

This section contains the following topics:

About phone links

A phone link is a connection to a station with a telephone interconnect unit that can route Phone calls from transceivers to the public telephone network.

The addresses of the phone link stations you use, and the networks and channel/modes you use to make Phone calls, can be stored in the Phone Link List. If you want to be prompted for some of these details when you make a Phone call you can leave the relevant settings in the Phone Link List blank. If you want to be prompted for all of these details leave the Phone Link List blank.

Settings in the Phone Link List

NOTE
In the following discussion, you will need to log in as administrator to see the Phone Link List (see page 110, *Logging into admin level from user level*).

Address

The Address setting in a phone link is the address of the transceiver connected to the radio/telephone interface.

Network

The Network setting in a phone link identifies the network through which the call is made to the transceiver connected to the radio/telephone interface.

Channel/Mode

The Channel/Mode setting in a phone link identifies the channel and mode that are used to make a call to the transceiver connected to the radio/telephone interface.

Programming the Phone Link List

NOTE

In the following discussion, you will need to log in as administrator to see the Phone Link List (see page 110, *Logging into admin level from user level*).

Creating a phone link

To create a phone link:

❑ Press ✕ until **Main Menu** is displayed.

❑ Scroll to **Phone Link**, then press ✔.

❑ Use the List Manager to create an entry (for help see page 97, *Creating an entry in a list* and page 52, *Entering and editing text*).

❑ Enter the setting information provided in the following table as required, then press ✔ to enter the information.

If this prompt is displayed...	Do this...
Address?	• enter the address of the phone link station, or • leave the address empty if you want to be prompted to choose an address when you make the call
Network?	• select the network in which you want to use this phone link, or • select **\<blank\>** if you want to be prompted to select a network when you make the call
Channel/Mode?	• select the channel/mode that you want to use to make the call, or • select **\<blank\>** if you want to be prompted to select a channel/mode when you make the call

The new phone link is created and the List Manager remains open.

❑ If you want to view the phone link you have created, press ✕ to close the List Manager.

Renaming a phone link

When you rename a phone link, references to the phone link in the Address List are not automatically updated; you need to go to the Address List and update any references to the phone link.

For example, if the phone link you renamed is used in an entry in the Address List, go to this entry, find the reference to the old phone link, then change it so that the new name is displayed (for help see page 155, *Editing an entry in the Address List*). If you do not update the reference to the phone link, the transceiver will prompt you to select a phone link each time you use the entry to make a call.

Renaming a phone link is a standard list function. For help see page 98, *Renaming an entry in a list*.

Copying a phone link

Copying a phone link is a standard list function. For help see page 99, *Copying an entry in a list*.

Editing a phone link

Editing a phone link is a standard list function. For help see page 99, *Editing an entry in a list*.

Deleting a phone link

Deleting a phone link is a standard list function. For help see page 100, *Deleting an entry from a list*.

12 The Address List

This section contains the following topics:

About the Address List

The Address List is like any personal address book: it is a place to store the names and addresses of stations you often call. When you have entered the details of a station, calling the station becomes as simple as going to the entry for it, then pressing **CALL**.

If you want to be prompted to enter particular details at the time you make a call (for example, type a message or select a channel) you can leave the relevant settings blank. If you make several different types of calls to one address you can create several entries with the same name and address but with different call types.

The Emergency 1 entry is stored in the Address List. This is the entry the transceiver calls when you press ⚠. Setting up this key is covered on .

For information on making calls from the Address List and making calls using ⚠ see .

Settings in the Address List

CallType–Address

The call type is the type of call that you want to make to the station that you want to call. For example, if you want to know where a mobile station is located, you send a Get Position call to the station. The Address setting is the address of the station that you want to call.

If you have the FED-STD-1045 ALE/CALM option installed, you can use the ALL address syntax with the Emergency, Message, Phone, Selective, and Send Position call types. If you have the MIL-STD-188-141B ALE option installed, you can set up the Address List to use the ALL, ANY, Group Selective, NET, and Wildcard address syntaxes with the Emergency, Message, Phone, Selective, and Send Position call types. The transceiver will automatically determine the call type from the ALE address syntax that you enter in the address.

If you enter the ALE address syntax...	The transceiver will send...
@?@	a global ALL call to all listening stations (see page 159, *ALL address syntax*)
@A@	a selective ALL call to listening stations that have an 'A' as the last character of their self address ('A' may be any specified upper-case letter or number), for example, TNAA, EANBA, 1NCA, 23A (see page 159, *ALL address syntax*)
@@?	a global ANY call to all listening stations (see page 160, *ANY address syntax*)
@@A	a selective ANY call to listening stations that have an 'A' as the last character of their self address ('A' may be any specified upper-case letter or number), for example, TNAA, EANBA, 1NCA, 23A (see page 160, *ANY address syntax*)
@AB	a double selective ANY call to listening stations that have 'AB' as the last two characters of their self address ('A' and 'B' may be any specified upper-case letter or number), for example, BAAB, 14BAB, Q2CAB, 1AB (see page 160, *ANY address syntax*)

If you enter the ALE address syntax...	The transceiver will send...
@A?	a double selective wildcard ANY call to listening stations that have an 'A' as the second to last character of their self address ('A' may be any specified upper-case letter or number) and any upper-case letter or number as the last character, for example, USAM, 19MA0, ENA9, 3DAZ (see page 160, *ANY address syntax*)
ABC,JK3MN,PQR (example only)	a Group Selective call to the stations specifically addressed (see page 161, *Group Selective address syntax*)
NET address	a NET call to all stations with that NET programmed in the NET List (see page 162, *NET address syntax*)
???	a Wildcard call to listening stations that have a self address matching the length of the sent address and with any upper-case letter or number as each of the characters, for example, SAM, NAA, 234, 3AZ (see page 163, *Wildcard address syntax*)
A?B? (example only)	a selective Wildcard call to listening stations that have a self address matching the length of the sent address with 'A' and 'B' as the first and third characters respectively, and with any upper-case letter or number in the second and last characters, in this case ('A' and 'B' may be any specified upper-case letter or number), for example, A2BM, ADB1, AZBE, A3B8 (see page 163, *Wildcard address syntax*)

Message

The Message setting in the Address List entry is available when you select Message as the call type. It may be used for requesting configuration and diagnostic information from other transceivers in your network, or you can pre-store a standard message that is sent each time you make a call using this entry in the Address List. For example, you may need to notify your base station that you are shutting down for the day. Therefore, you would create an entry in your Address List to send a Message call (call type) to your base station (address) containing the message 'Shut down'. The Privacy Mode and Privacy Password in the network used for the call specify how the data is transmitted, for example, plain or encrypted (see page 124, *Privacy Mode*).

Messages are sent using a Codan protocol in Codan Selcall networks, and as an AMD message in ALE/CALM networks.

A Message call closes the link as soon as the message has been sent.

Phone Link

The Phone Link setting in an Address List entry is available when you select Phone as the call type. It identifies the phone link station through which the call is made.

Network

The Network setting in an Address List entry identifies the network through which the call is made to the station that you want to call.

Channel/Mode

The Channel/Mode setting in an Address List entry identifies the channel and mode that are used to make the call to the address given in the entry.

Setting up the emergency key

When you press ⚠ the transceiver begins a call to the station specified in the Emergency 1 entry in the Address List. You can configure this entry to make any type of call available to you. Emergency calls will trigger an emergency alert tone at the receiving station. When AMD messaging is used in ALE calls, an emergency alert tone is triggered by #HELP, #SOS, #MAYDAY, #PANPAN, and #EMERGENCY text. The ⚠ key can be set up to call one or more stations in an emergency.

CAUTION   You should pre-set all the settings in the Emergency entries so that the call is made automatically during an emergency without the transceiver prompting for information.

Calling one station in an emergency

To set up the ⚠ key to call one station in an emergency:

❑   Press **VIEW** until the Address List is displayed.

❑   Press ✓.

❑   Scroll to **Emergency 1**, then press ✓.

NOTE   If the Emergency 1 entry has been deleted, create a new entry and name it Emergency 1 (for help see page 154, *Creating an entry in the Address List*).

❑   Edit the details in each setting to suit the call you want to make (for help see page 155, *Editing an entry in the Address List*).

Calling several stations in an emergency

If you want to set up the ⚠ key to call several stations you can do so in two ways. You can:

•   make one call to several stations simultaneously

•   make several different types of calls in succession

Calling several stations simultaneously

If you want to call several stations simultaneously, set up the Emergency 1 entry in the Address List to make a call.

In an ALE/CALM network, calls to a group of stations can be made using ALL, ANY, Group Selective, NET, and Wildcard address syntaxes through the Emergency, Message, Phone, Selective, and Send Position call types if you have the MIL-STD-188-141B ALE option installed. You can also send a message as part of the ALE call.

For more information on the special ALE address syntax see page 147, *CallType–Address*.

In a Codan Selcall network, calls to a group of stations can be made using a group selcall address through the Emergency, Message, and Selective call types. A group address is an address that ends in two or more zeros. For example, to call all stations with addresses that range from 1201 to 1299, you would enter 1200 as the address. To call all stations with addresses that range from 150001 to 159999, you would enter 150000 as the address.

To set up the ⚠ key to call several stations simultaneously:

❑ Press **VIEW** until the Address List is displayed.

❑ Press ✓.

❑ Scroll to **Emergency 1**, then press ✓.

NOTE	If the Emergency 1 entry has been deleted, create a new entry and name it Emergency 1 (for help see page 154, *Creating an entry in the Address List*).

❑ Enter the details of the call you want to make (for help see page 155, *Editing an entry in the Address List*).

❑ Enter the group selcall address in the CallType–Address setting.

Making several different types of calls

NOTE

This capability is available for use in Codan Selcall networks, enabling you to make different types of calls, or even the same call type on several channels.

In ALE/CALM networks, the channel selection is typically done automatically, so it is not necessary to set up the Emergency entries in the Address List to make chain calls.

If you want to make several different types of calls in succession you need to create an entry in the Address List for each different type of call you want to make, and name the entries Emergency 1, Emergency 2, Emergency 3 and so on.

When you press ⚠, the transceiver calls the station (or stations) specified in the Emergency 1 entry, then pauses for about 10 seconds. It then calls the station in the Emergency 2 entry, and so on, until it calls the station in the last Emergency entry. Calls made this way are referred to as chain calls.

When the transceiver pauses between calls it displays the seconds remaining in the pause at the top right of the screen, as shown in Figure 29.

Figure 29:   The front panel screen during a chain call
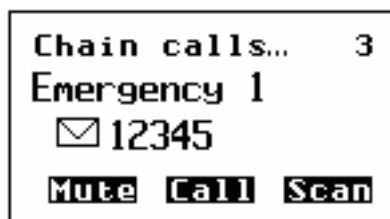
You can terminate a chain call by pressing PTT. If you press PTT during:

- an Emergency or Selective call, you can continue with the current call but the chain call itself is terminated (that is, the transceiver will not call the *next* Emergency entry)

- a call in which data is being sent to another station (for example, a Message call), the current call and chain call are terminated

NOTE

If you want to make a call that sends data and a call that enables you to speak to an operator, set up the Emergency entries to make the data call first: once you press PTT to speak to an operator, the chain call is terminated.

You can also terminate a chain call by pressing any key. The exceptions to this are that:

- you can press ✕ to remove messages on the screen, and press ◼◗)) and ◼◗) to adjust the volume at any time, without terminating the call

- if you are prompted to select and/or enter details about the call (for example, a channel/mode), you can press any keys to do so without terminating the call

To set up the ⚠ key to call several stations in succession:

❑ Decide on the stations you want to call in an emergency, the type of call you want to make to each station, and the order in which you want to make the calls.

NOTE

If you want to use a special ALE address syntax, you should set up the Emergency entries to make calls that create an implicit link, or link immediately first, for example, an ALL call. Address syntaxes that require a response should be set up in the last Emergency entry of the chain call, if required.

❑ Enter the details of the first call you want to make into the Emergency 1 entry (for help see page 155, *Editing an entry in the Address List*).

❑ Create an entry in the Address List, name it Emergency 2 and enter the details of the second call you want to make (for help see page 154, *Creating an entry in the Address List*).

❑ Create an entry for each subsequent call you want to make, naming the entries Emergency 3, Emergency 4 and so on.

The number of Emergency entries you can create is limited by the number of entries you can store in the Address List.

Programming the Address List

Creating an entry in the Address List

To create an entry in the Address List:

❑ Press **VIEW** until the Address List is displayed.

❑ Press ✔.

❑ Use the List Manager to create an entry (for help see page 97, *Creating an entry in a list* and page 52, *Entering and editing text*).

❑ Enter the setting information provided in the following table as required, then press ✔ to enter the information.

If this prompt is displayed...	Do this...
New name?	• enter a name for the new entry (for example, the name of the person or station you want to call using this entry)
\<Call type\>? and \<Address\>	• select the call type you want to use, or select **\<No call type\>** if you want to be prompted to select a call type when you make the call • enter the address to which you want to send the call, or leave the address empty if you want to be prompted for an address when you make the call NOTE If you selected **Phone?** as the call type, enter the telephone number you want to call. You can enter up to 16 digits. NOTE For information on the address syntaxes for MIL-STD-188-141B ALE calls see page 147, *CallType–Address*.
Message?	• enter the message you want to send, or • leave the message empty if you want to be prompted to choose a stored message when you make the call (see page 168, *Message call*)
Phone Link?	• select the phone link station through which you want to make the call, or • select **\<blank\>** if you want to be prompted to select a phone link when you make the call

If this prompt is displayed...	Do this...
Network?	• select the network you want to use to make the call, or • select **\<blank\>** if you want to be prompted to select a network when you make the call
Channel/Mode?	• select the channel/mode you want to use to make the call, or • select **\<blank\>** if you want to be prompted to select a channel/mode when you make the call

The new entry is created and the List Manager remains open.

❑ If you want to view the entry you have created, press ✖ to close the List Manager.

Renaming an entry in the Address List

Renaming an entry in the Address List is a standard list function. For help see page 98, *Renaming an entry in a list*.

Copying an entry in the Address List

Copying an entry in the Address List is a standard list function. For help see page 99, *Copying an entry in a list*.

Editing an entry in the Address List

Editing an entry in the Address List is a standard list function. For help see page 99, *Editing an entry in a list*.

Deleting an entry in the Address List

Deleting an entry in the Address List is a standard list function. For help see page 100, *Deleting an entry from a list*.

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13 Making and receiving calls

This section contains the following topics:

Calls you can make and receive

Special ALE address syntaxes

There are five types of special address syntax available for use in ALE/CALM networks with a 2110 SSB Transceiver:

- ALL address syntax (FED-STD-1045 ALE/CALM option or MIL-STD-188-141B ALE option)

- ANY address syntax (MIL-STD-188-141B ALE option)

- Group Selective address syntax (MIL-STD-188-141B ALE option)

- NET address syntax (MIL-STD-188-141B ALE option)

- Wildcard address syntax (MIL-STD-188-141B ALE option)

The types of ALE address syntaxes you can use depends on the options installed in the transceiver.

Each address syntax has an icon associated with it that is displayed when you make and receive calls (see Table 17).

Table 17:   Call icons for Selective calls made or received using a special ALE address syntax

Address syntax	Icon
ALL	
ANY	
Group Selective	
NET	
Wildcard	

Each special ALE address syntax is described below.

ALL address syntax

NOTE	The ALL address syntax may be used if the FED-STD-1045 ALE/CALM option or MIL-STD-188-141B ALE option is installed in the transceiver.
NOTE	You cannot use the ALL address syntax in the Channel Test, Get Position, or Get Status call type.
NOTE	For information on entering text in a call address see page 56, *Entering text in an ALE call address*.

If you want to send an ALE call to any station that is tuned to the same frequency in an ALE/CALM network or scanning the network, make a call through the Emergency, Message, Phone, Selective, and Send Position call types using the ALL address syntax (see page 167, *Emergency call*, page 168, *Message call*, page 169, *Phone call*, page 169, *Selective call*, and page 170, *Send Position call*). The ALL call does not specifically call any stations, and does not request any automatic responses from stations that enter the link. Stations can be configured to accept or to ignore ALL calls.

NOTE	When you use an ALL address syntax through the Selective call type, the call icon will change to the ALL call icon (⬚) when the call is started.

The global ALL address syntax is @?@. All stations detecting the call will enter an ALE link with the initiating station, if enabled to do so. The group of linking stations can be narrowed by using a selective ALL address syntax. In this address, the ? is replaced by an upper-case letter or number, for example, @A@. All stations detecting the call that have this letter or number as the last character in their self address for the ALE/CALM network will enter the link.

If you send a selective ALL call to a group of stations, you can send another selective ALL call to bring more stations into the link. For example, if you initially call @A@, all stations tuned to the same frequency in an ALE/CALM network or scanning the network with an 'A' as the last character of their self address will enter the link. If you follow this with a call to @B@, then a further group of stations with 'B' as the last character of their self address will also enter the link. If the receiving stations are already in a link, this link will be closed and a new link created with the new call.

Alternatively, you can send multiple ALL addresses together to make a call to a range of stations, for example, @A@,@B@.

ANY address syntax

NOTE — The ANY address syntax may be used if the MIL-STD-188-141B ALE option is installed in the transceiver.

NOTE — You cannot use the ANY address syntax in the Channel Test, Get Position, or Get Status call type.

NOTE — For information on entering text in a call address see page 56, *Entering text in an ALE call address*.

CAUTION — If a station detects an ANY call to its matching self address, it will send a response over the air.

If you want to send an ALE call to any station that is tuned to the same frequency in an ALE/CALM network or scanning the network, and receive a response, make a call through the Emergency, Message, Phone, Selective, and Send Position call types using the ANY address syntax (see page 167, *Emergency call*, page 168, *Message call*, page 169, *Phone call*, page 169, *Selective call*, and page 170, *Send Position call*). The ANY call does not specifically call any stations, but it does request an automatic response from stations that detect the call. These responses are returned in any slot position (collisions may occur). The operator at the initiating station can use these responses to gather information on the status of the stations using the network. The initiating station then completes the link establishment with an acknowledgement sent to all stations from which it received a response. Stations can be configured to respond to or to ignore ANY calls.

NOTE — When you use an ANY address syntax through the Selective call type, the call icon will change to the ANY call icon ( ) when the call is started.

The global ANY address syntax is @@?. All stations detecting the call will send a response to the initiating station. The group of stations detecting the call can be narrowed by using a selective ANY address syntax. In this address, the ? is replaced by an upper-case letter or number, for example, @@A. All stations detecting the call that have this letter or number as the last character in their self address for the ALE/CALM network will send a response, then enter a link with the initiating station when the acknowledgement is received.

You can send multiple ANY addresses together to make a call to a range of stations, for example, @@A,@@B.

The allowable length of the called address is dependent on the length of the self address used for the call.

If the length of your self address is...	The length of the called address can be...
1–3 characters	1–9 characters
4–6 characters	1–3 characters

Group Selective address syntax

NOTE   The Group Selective address syntax may be used if the MIL-STD-188-141B ALE option is installed in the transceiver.

NOTE   You cannot use the Group Selective address syntax in the Get Position or Get Status call type.

NOTE   For information on entering text in a call address see page 56, *Entering text in an ALE call address*.

CAUTION   If a station detects a Group Selective call to its matching self address, it will send a response over the air.

If you want to send an ALE call to specific stations that are named in the call but are not members of a pre-determined group, make a call through the Emergency, Message, Phone, Selective, and Send Position call types using the Group Selective address syntax (see page 167, *Emergency call*, page 168, *Message call*, page 169, *Phone call*, page 169, *Selective call*, and page 170, *Send Position call*). The Group Selective call requests an automatic response from stations that detect the call and whose self addresses match one of those in the call. These responses are sent in reverse order from that provided in the call. The initiating station then completes the link establishment with an acknowledgement sent to all stations from which it received a response.

NOTE   When you use a Group Selective address syntax through the Selective call type, the call icon will change to the Group Selective call icon (🔧) when the call is started.

With Group Selective addresses, the length of the combined address can be no longer than 12 ALE words, excluding commas. An ALE word has 3 characters. There can be no more than five different first ALE words in the combined address. For example:

An address of 'BOB1,BOB2,BOB3,BOB4,TIM,JOHN,MIK,SUE' has five different first ALE words, that is, BOB, TIM, JOH, MIK and SUE. However, this address will be rejected because it has a total of 13 ALE words, that is, BOB, 1, BOB, 2, BOB, 3, BOB, 4, TIM, JOH, N, MIK and SUE.

NET address syntax

NOTE	The NET address syntax may be used if the MIL-STD-188-141B ALE option is installed in the transceiver.
NOTE	You cannot use the NET address syntax in the Get Position or Get Status call type.
NOTE	For information on entering text in a call address see page 56, *Entering text in an ALE call address*.

If you want to send an ALE call from one station to other stations that are members of the NET or have the NET programmed, make a NET call using the NET address through the Emergency, Message, NET, Phone, Selective, and Send Position call types (see page 167, *Emergency call*, page 168, *Message call*, page 169, *Phone call*, page 169, *Selective call*, and page 170, *Send Position call*). These stations have a common NET address. The member stations send an automatic response to the initiating station in a pre-determined response slot. The initiating station then completes the link establishment with all member stations. If a member station is set up to not respond during its allocated response slot, it will still enter the link.

NOTE	When you use a NET address syntax through the Selective call type, the call icon will change to the NET call icon ( ) when the call is started.

The NET address syntax can be any combination of upper-case letters and numbers up to 15 characters however, for efficiency of NET calls, it is preferable that the address be limited to 3 characters. To make a call using a NET, the NET must be programmed in the transceiver and configured correctly (see page 138, *Programming the NET List*).

Wildcard address syntax

NOTE	The Wildcard address syntax may be used if the MIL-STD-188-141B ALE option is installed in the transceiver.
NOTE	You cannot use the Wildcard address syntax in the Channel Test, Get Position, or Get Status call type.
NOTE	For information on entering text in a call address see page 56, *Entering text in an ALE call address*.
CAUTION	If a station detects a Wildcard call to its matching self address, it will send a response over the air.

If you want to send an ALE call to any station that is tuned to the same frequency in an ALE/CALM network or scanning the network, and receive a response, make a call through the Emergency, Message, Phone, Selective, and Send Position call types using the Wildcard address syntax (see page 167, *Emergency call*, page 168, *Message call*, page 169, *Phone call*, page 169, *Selective call*, and page 170, *Send Position call*). The Wildcard address syntax, which ALE stations recognise, uses the wildcard character ? as a placeholder for characters within a self address of a receiving station. Stations that detect the call and whose self address matches the pattern in the wildcard address will send a response to the initiating station. These responses are returned in any slot position (collisions may occur). For example, a call sent to EM? may be responded to by stations in the network with a self address in the ranges EMA–EMZ and EM0–EM9. The initiating station then completes the link establishment with an acknowledgement sent to all stations from which it received a response.

NOTE	When you use a Wildcard address syntax through the Selective call type, the call icon will change to the Wildcard call icon (?◙?) when the call is started.
NOTE	The wildcard question marks can be in any position within the address. The stations that respond will have an address that is the same length as the wildcard address sent from the initiating station.

You can send multiple Wildcard addresses together to make a call to a range of stations, for example, ?A,B??.

The allowable length of the called address is dependent on the length of the self address used for the call.

If the length of your self address is...	The length of the called address can be...
1–3 characters	1–9 characters
4–6 characters	1–3 characters

Summary of the special ALE address syntaxes

The following summarises the special ALE address syntaxes for the MIL-STD-188-141B ALE option. For help with entering the special characters see *page 56, Entering text in an ALE call address*.

If you enter the ALE address syntax...	The transceiver will send...
@?@	a global ALL call to all listening stations (see *page 159, ALL address syntax*)
@A@	a selective ALL call to listening stations that have an 'A' as the last character of their self address ('A' may be any specified upper-case letter or number), for example, TNAA, EANBA, 1NCA, 23A (see *page 159, ALL address syntax*)
@@?	a global ANY call to all listening stations (see *page 160, ANY address syntax*)
@@A	a selective ANY call to listening stations that have an 'A' as the last character of their self address ('A' may be any specified upper-case letter or number), for example, TNAA, EANBA, 1NCA, 23A (see *page 160, ANY address syntax*)
@AB	a double selective ANY call to listening stations that have 'AB' as the last two characters of their self address ('A' and 'B' may be any specified upper-case letter or number), for example, BAAB, 14BAB, Q2CAB, 1AB (see *page 160, ANY address syntax*)

| If you enter the ALE address syntax...	The transceiver will send...
@A?	a double selective wildcard ANY call to listening stations that have an 'A' as the second to last character of their self address ('A' may be any specified upper-case letter or number) and any upper-case letter or number as the last character, for example, USAM, 19MA0, ENA9, 3DAZ (see page 160, *ANY address syntax*)
ABC,JK3MN,PQR (example only)	a Group Selective call to the stations specifically addressed (see page 161, *Group Selective address syntax*)
NET address	a NET call to all stations with that NET programmed in the NET List (see page 162, *NET address syntax*)
???	a Wildcard call to listening stations that have a self address matching the length of the sent address and with any upper-case letter or number as each of the characters, for example, SAM, NAA, 234, 3AZ (see page 163, *Wildcard address syntax*)
A?B? (example only)	a selective Wildcard call to listening stations that have a self address matching the length of the sent address with 'A' and 'B' as the first and third characters respectively, and with any upper-case letter or number in the second and last characters, in this case ('A' and 'B' may be any specified upper-case letter or number), for example, A2BM, ADB1, AZBE, A3B8 (see page 163, *Wildcard address syntax*)

Call types

There are 8 different types of calls available with an 2110 SSB Transceiver:

- Channel Test call

- Emergency call

- Get Position call

- Get Status call

- Message call

- Phone call

- Selective call

- Send Position call

The types of calls you can make and receive depend on the options installed in the transceiver.

Each call type has an icon associated with it that is displayed when you make and receive calls (see Table 18).

Table 18:   Call types and icons

Call type	Icon
Channel Test	🔲?
Emergency	⚠
Get Position	🎏?
Get Status	🖥
Message	✉
Phone	☎
Selective	🔲
Send Position	🎏

Each type of call is described below.

Channel Test call

If you want to test the suitability of a channel/mode before you use it to transmit voice or data, make a Channel Test call.

In an ALE/CALM network, a Channel Test call may be sent to an ALE address using a Group Selective or NET address syntax (if you have the MIL-STD-188-141B ALE option installed).

NOTE   You cannot use the ALL, ANY, or Wildcard address syntax with a Channel Test call.

A Channel Test call made in an ALE/CALM network with a Group Selective or NET address may be used to replace the information in the LQA database. The initiating station automatically sends a beacon on each channel/mode combination in the ALE/CALM network, recording local and remote BER and SINAD information, and calculating an LQA score. The LQA screen is visible during the Channel Test call, and at the end of the call, displays the best channel on which to make the call.

The LQA information recorded during a Channel Test call in an ALE/CALM network replaces information already recorded against the same network and self addresses. Using a Channel Test call in an ALE/CALM network is an immediate method of replacing the LQA database in the transceiver.

A Channel Test call made in an ALE/CALM network using the text **SOUNDING** as the call address may be used to initiate a sounding operation. Transceivers that detect this sounding will update the relevant information stored in their LQA database.

In a Codan Selcall network, a Channel Test call sends a request to the station you want to call on the channel/mode you have selected. The receiving station automatically returns an audible test signal. The volume and clarity of this signal indicates the quality of the channel/mode.

You can also test channels once you have started a call (for more information see page 176, *Replacing LQA information as part of a call in an ALE/CALM network* and page 174, *Testing a channel as part of a call in a Codan Selcall network*).

Emergency call

If you want to trigger an emergency alert tone at a particular station and speak to an operator, make an Emergency call. If the GPS option is installed in the transceiver (and you have connected and configured a GPS receiver), your GPS position is automatically sent with the call. Emergency calls can be sent to several stations at once (see page 150, *Setting up the emergency key* and page 170, *Group calls in a Codan Selcall network*).

If you have the FED-STD-1045 ALE/CALM option installed, you can use the ALL address syntax with the Emergency call type to send a call to a group of stations using an ALE/CALM network. If you have the MIL-STD-188-141B ALE option installed, you can use the ALL, ANY, Group Selective, NET, and Wildcard address syntaxes with the Emergency call type to send a call to a group of stations using an ALE/CALM network.

NOTE	You can use any of the characters in the basic 38 ASCII subset (A–Z, 0–9, @ and ?) for the address.

For more information on the ALE address syntaxes you can use with an Emergency call see page 164, *Summary of the special ALE address syntaxes*.

Get Position call

NOTE	You cannot use the ALL, ANY, Group Selective, NET, or Wildcard address syntax with a Get Position call.
NOTE	The success of your Get Position call will depend upon the setting in the Cfg Respond GPS entry in the Control List of the transceiver you are polling and the Privacy Mode of the network you are using for the call (see page 204, *Cfg Respond GPS*).

If you want to obtain the GPS position of a station that has the GPS option installed in the transceiver (and a GPS receiver connected to it and configured), make a Get Position call. Get Position calls are automatically answered by the receiving station so an operator is not required to take any action.

The information you receive from a Get Position call is displayed on the front panel as it is received, if permitted, and is stored in the Calls In Log (see page 192, *The Calls In Log*).

Get Status call

NOTE	You cannot use the ALL, ANY, Group Selective, NET, or Wildcard address syntax with a Get Status call.
NOTE	The success of your Get Status call will depend upon the setting in the Cfg Respond OTA entry in the Control List of the transceiver you are polling and the Privacy Mode of the network you are using for the call (see page 204, *Cfg Respond OTA*).

If you want to obtain information on the status of a transceiver at another station, such as the power output of the transmitter or the firmware versions installed, make a Get Status call. Get Status calls are automatically answered by the receiving station so an operator is not required to take any action.

The information you receive from a Get Status call is displayed on the front panel as it is received, if permitted, and is stored in the Calls In Log (see page 192, *The Calls In Log*).

When you make a Get Status call you need to specify the type of information you require: diagnostic or configuration. This is described in detail on page 335, *Get Status calls*.

Message call

If you want to send a typed message to another station, make a Message call. You can enter a message at the time you make a call, store up to 10 messages in the Control List for later use, and store messages in the Address List as part of a Message call.

If you have the FED-STD-1045 ALE/CALM option installed, you can use the ALL address syntax with the Message call type to send a call to a group of stations using an ALE/CALM network. If you have the MIL-STD-188-141B ALE option installed, you can use the ALL, ANY, Group Selective, NET, and Wildcard address syntaxes with the Message call type to send a call to a group of stations using an ALE/CALM network.

NOTE	You can use any of the characters in the basic 38 ASCII subset (A–Z, 0–9, @ and ?) for the address.

For more information on the ALE address syntaxes you can use with a Message call see page 164, *Summary of the special ALE address syntaxes*.

Message calls are automatically answered by any receiving stations so an operator is not required to take any action. If you send an ALE call using the Message call type, the link terminates immediately after the message is sent. Messages you receive are displayed on the front panel, if permitted, and stored in the Calls In Log (see page 192, *The Calls In Log*).

Phone call

If you want to call a telephone number from the transceiver, make a Phone call. Before you make a Phone call you need to know the address of a telecommunication station through which your call can be routed to the public telephone network.

If you have the FED-STD-1045 ALE/CALM option installed, you can use the ALL address syntax with the Phone call type to send a call to a group of telecommunication stations using an ALE/CALM network. If you have the MIL-STD-188-141B ALE option installed, you can use the ALL, ANY, Group Selective, NET, and Wildcard address syntaxes with the Phone call type to send a call to a group of stations using an ALE/CALM network.

NOTE   You can use any of the characters in the basic 38 ASCII subset (A–Z, 0–9, @ and ?) for the address.

For more information on the ALE address syntaxes you can use with a Phone call see .

Selective call

If you want to speak to an operator at a particular station, make a Selective call. When the station receives the call the transceiver rings like a phone to notify the operator. Selective calls can be heard by any station tuned to or scanning your current channel with their mute switched off. However, only the transceiver at the station to which the call has been addressed will ring.

Selective calls can be made to several stations at once (see).

If you have the FED-STD-1045 ALE/CALM option installed, you can use the ALL address syntax with the Selective call type to send a call to a group of stations using an ALE/CALM network. If you have the MIL-STD-188-141B ALE option installed, you can use the ALL, ANY, Group Selective, NET, and Wildcard address syntaxes with the Selective call type to send a call to a group of stations using an ALE/CALM network. The transceiver will automatically determine the call icon from the address syntax that you enter in the address.

NOTE   You can use any of the characters in the basic 38 ASCII subset (A–Z, 0–9, @ and ?) for the address.

If you have the MIL-STD-188-141B ALE option installed and the ALE Selective Msg entry in the Control List enabled, you will be able to send a message with the start of a call if you press ✔ when prompted during the call. You must use an ALE/CALM network to make the call.

For more information on the ALE address syntaxes you can use with a Selective call see .

Send Position call

If you want to send your GPS information to another station, make a Send Position call. You can only make Send Position calls if the GPS option has been installed in your transceiver.

If you have the FED-STD-1045 ALE/CALM option installed, you can use the ALL address syntax with the Send Position call type to send a call to a group of stations using an ALE/CALM network. If you have the MIL-STD-188-141B ALE option installed, you can use the ALL, ANY, Group Selective, NET, and Wildcard address syntaxes with the Send Position call type to send a call to a group of stations using an ALE/CALM network. The transceiver will automatically determine the call icon from the address syntax that you enter in the address.

NOTE   You can use any of the characters in the basic 38 ASCII subset (A–Z, 0–9, @ and ?) for the address.

For more information on the ALE address syntaxes you can use with a Send Position call see page 164, *Summary of the special ALE address syntaxes*.

Send Position calls are automatically answered by any receiving stations so an operator is not required to take any action. If you send an ALE call using the Send Position call type, the link terminates immediately after the GPS position is sent. GPS positions you send are stored in the Calls Out Log (see page 187, *The Calls Out Log*).

Group calls in a Codan Selcall network

Emergency, Message and Selective calls can be made to a group of stations simultaneously by using a Codan Selcall network and a group address.

A group selcall address is an address that ends in two or more zeros. For example, to call all stations with addresses that range from 1201 to 1299, you would enter 1200 as the address. To call all stations with addresses that range from 150001 to 159999, you would enter 150000 as the address.

NOTE   You can replace the zeros at the end of the address with dots or question marks, for example, 12.. or 12?? instead of 1200.

Special AMD messaging features

NOTE   Special AMD messaging is available if the MIL-STD-188-141B ALE
              option is installed.

For interoperability with other transceivers, the 2110 SSB Transceiver recognises special
AMD messaging syntax included at the beginning of an AMD message sent on a
network with a Privacy Mode of Plain. The transceiver will accept and process the
syntax shown in Table 19. You can also manually enter any of this text into an AMD
message. The syntax shown must be followed by a space, then the required information.

Table 19:   Special AMD messaging syntax

Syntax	Processed as...
#CMD	A query call. The command is forwarded to the CICS port or internal engineering terminal, then the status is returned.
#EMERGENCY	An Emergency call. The transceiver will sound an emergency alert tone.
#GPS	A Send Position call. The GPS position data is received followed by position information.
#GPS?	A Get Position call. The GPS position data is received followed by position information.
#HELP	An Emergency call. The transceiver will sound an emergency alert tone.
#MAYDAY	An Emergency call. The transceiver will sound an emergency alert tone.
#PANPAN	An Emergency call. The transceiver will sound an emergency alert tone.
#SOS	An Emergency call. The transceiver will sound an emergency alert tone.
#TEL <Telephone number>	A Phone call. The call is transferred to the attached telephone interconnect unit, which dials the telephone number.
#TEL!	A hangup for a Phone call. The hangup from the radio party has hung up the call.

NOTE   When you send an Emergency call using a Plain network from 2110 SSB
              Transceivers, the #HELP text appears in the AMD message of a receiving
              vendor transceiver.

Recognised variable expansion

The variables listed in Table 20 may be added in a Message call or an AMD message sent with a call. These variables are recognised by the 2110 SSB Transceiver's firmware. The firmware expands the variable by inserting the current information associated with the variable in the message.

Table 20:   Recognised variables and their associated information

Keyword	Function when used in a message
$DATE	Inserts the current date in the following format: <name of day> <month> <day> <year>
$GPS	Inserts the current valid GPS position in the following format: <latitude> <longitude> <altitude> <UTC>
$TIME	Inserts the current time in the following format: <hh>:<mm>:<ss>
$TZ	Inserts the time zone offset in the following format: <time zone offset>
$VER	Inserts the current version of the transceiver unit firmware in the following format: <version number>

If you have the MIL-STD-188-141B ALE option installed and the ALE Selective Msg entry in the Control List enabled, you will be able to send a message with the start of a call if you press ✓ when prompted during the call. If you enter the following message...

MY POSITION IS $GPS

...the receiving station will display the following:

"MY POSITION IS 8958.04N 13841.23E +0.0M 101622 (A)" 05 FEB 02:05

NOTE	For help on entering **$** see page 55, *Entering special characters in messages and names*.
NOTE	The transceiver checks the length of the expanded message before transmission. If you receive an error stating that the message is too long, review the message and shorten the message as required.

Making a call

Listen Before Transmit Mode

NOTE   If you change the setting in the Cfg LBT Mode entry in the Control List you must switch the transceiver off then on again for the change to take effect.

The 2110 SSB Transceiver is capable of listening to a channel before initiating a call on the channel. If the Cfg LBT Mode in the Control List is enabled, the transceiver will detect whether or not there is traffic on the selected channel, that is, the channel is occupied. The transceiver will listen on a channel for the length of time specified in the Cfg LBT Period entry in the Control List. The transceiver will try busy channels twice before reporting that they are busy.

The Cfg LBT Mode may be set to Enabled, Override allowed, or Disabled.

When the Cfg LBT Mode is set to Enabled, and the transceiver detects that the channel(s) tried is(are) busy, it will prompt you to try the call again. You can:

- press **CALL** to try the call again using LBT

- press 🔍 to select a new channel, then press **CALL** to make a call on this channel using LBT

NOTE   If only one channel was tried and found to be busy using LBT, you can listen for traffic on the channel then, if clear, override LBT by *holding* **CALL**.

When the Cfg LBT Mode is set to Override allowed, and the transceiver detects that the channel(s) tried is(are) busy, it will prompt you to try the call again. You can:

- press **CALL** to try the call again using LBT

- *hold* **CALL** to try the call again without LBT (send the call regardless of any detected traffic)

- press 🔍 to select a new channel, then press **CALL** to make a call on this channel using LBT

- *hold* 🔍 to select a new channel and try the call on this channel without LBT (send the call regardless of any detected traffic)

Calls using the Emergency call type or calls made through the ⚠ key will override the LBT Mode if it is enabled at either level. For information on setting up the ⚠ key see .

Testing the quality of a channel in a Codan Selcall network

If you want to test the quality of a particular channel/mode in a Codan Selcall network before you use it to transmit voice or data, you can do so in two ways. You can:

- start making a call then, when prompted to select a channel/mode, test one or more channel/mode combinations

- make a separate Channel Test call before you make the other call

Testing a channel as part of a call in a Codan Selcall network

NOTE   This is the recommended method of making a Channel Test call.

To test a channel/mode as part of a call:

❑ Start the call using your preferred method.

   For example, go to the Address List then select the entry for the station you want to call.

❑ When the transceiver prompts you to select a channel/mode, scroll to the channel/mode you want to test then *hold* **CALL**.

❑ Listen for the revertive signal from the other station.

   The volume and clarity of the signal indicates the quality of the channel/mode. You may need to try another channel.

❑ When you have found a suitable channel/mode, press **CALL** to continue the call.

Making a Channel Test call in a Codan Selcall network

To make a Channel Test call in a Codan Selcall network:

❑ Press **CALL**.

❑ Type the address of the station you want to call and select **Channel Test?** as the call type.

❑ Select the Codan Selcall network in which you want to make the call.

❑ Scroll to the channel/mode you want to test, then press **CALL**.

❑ Listen for the revertive signal from the other station.

   The volume and clarity of the signal indicates the quality of the channel/mode.

Replacing LQA information for all channels in an ALE/CALM network

NOTE — You can make a Channel Test call in an ALE/CALM network if you have the MIL-STD-188-141B ALE option installed.

If your station operates in a rapidly changing environment, for example, interactions with mobile stations, you may want to replace the network-specific LQA information in the transceiver's database just prior to making a call in the network. You can do this by making a Channel Test call in the network using the Group Selective or NET address syntax.

If you want to replace the LQA information for an ALE/CALM network in your transceiver, you can do so in two ways. You can:

• start a call then, when prompted to select a channel/mode, test one or more channel/ mode combinations

• make a separate Channel Test call before you make the other call

CAUTION — You cannot make a Channel Test call using the ALL, ANY, or Wildcard address syntax, or to a NET that is set up to link immediately (see page 134, *Settings in the NET List*).

During a Channel Test call in an ALE/CALM network, the LQA screen will be visible, indicating the most recent response from a station, and a progress report on the highest number of responses received on any channel and the number of channels tried.

Figure 30:   LQA screen showing the most recent response


```
LQA 53% Loc 4/10
Chan 2/USB
     12345 1/1
Mute  Call  Scan
```
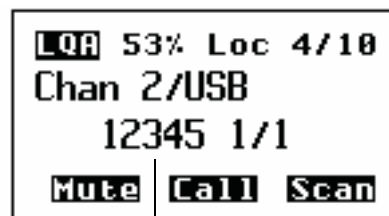
station that has responded
most recently

For more information on the LQA screen see page 224, *LQA Screen entry*.

Replacing LQA information as part of a call in an ALE/CALM network

To replace LQA information as part of a call:

❑ Press **SCAN** to stop scanning.

❑ Start the call using your preferred method.

  For example, go to the Address List then select the entry for the station you want to call.

❑ When the transceiver prompts you to select a channel/mode, select **<auto>**, then *hold* **CALL**.

❑ View the LQA screen for the best channel/mode to use.

❑ Press **CALL** to continue the call.

❑ When prompted again to select a channel/mode, you can either:

  • press 🔍 to select the best channel/mode combination determined during the Channel Test call

  • select any other channel that had an acceptable LQA score

  • select **<auto>** for the transceiver to select the best channel/mode for the call, starting with the channel on which the most recent successful link was established

❑ Press **CALL** to continue the call.

Making a Channel Test call in an ALE/CALM network

To make a Channel Test call in an ALE/CALM network:

❑ Press **CALL**.

❑ Type the ALE NET or Group Selective address syntax of the stations for which you want to replace the LQA information, then select **Channel Test?** as the call type.

❑ Select the ALE/CALM network in which you want to make the call.

  NOTE   You do not have to select a network if you are sending the call to a NET address as the network is already defined by the NET.

  The LQA Screen will display the best channel for the network, including the LQA score as a percentage, and the BER/SINAD scores at the local and remote stations.

Making a manual sounding operation in an ALE/CALM network

NOTE   Manual sounding is available if you have the MIL-STD-188-141B ALE option installed.

If you need to perform a manual sounding operation using the handset, you make a Channel Test call in an ALE/CALM network using the text **SOUNDING** as the address. You can do this as part of a new call, or if you use this feature often, set up an entry in the Address List, then use this entry to perform a sounding operation in the selected network (see page 154, *Creating an entry in the Address List*). The sounding operation will update the LQA database in transceivers that detect the sounding.

To make a manual sounding operation:

❑   Press **CALL**.

❑   Select **Channel Test?** as the call type, then press ✱ to enter the text **SOUNDING** as the address, then press **CALL**.

```
 Channel Test?
 ☏? SOUNDING█
                    #

 Mute  Call  Scan
```
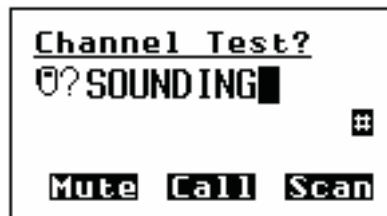
❑   Select the ALE/CALM network in which you want to make the sounding, and if scanning was switched off, the channel/mode on which you want to make the sounding.

A sounding operation on all channels, or the specified channel, in the network is performed.

Selecting the best channel in an ALE/CALM network

NOTE   You must have the MIL-STD-188-141B ALE option installed.

In order to select the best channel based on LQA information stored in the transceiver, you need to provide the context of the best channel, that is, the address that you want to call and the network in which you want to make the call.

To select the best channel:

❑   Press **SCAN** to switch off scanning.

❑   Press **CALL**.

❑   Type the address of the station for which you want to find the best channel.

❑   Select any valid call type for the address entered.

❑   Select the ALE/CALM network in which you want to make the call.

❑   At the channel/mode prompt, press 🔍.

The best channel is selected.

Other ways to make calls

Making a new call

Making a new call is as simple as pressing **CALL**, typing the address of the station you want to call, then following the prompts. You can make a new call at any time.

Returning a call

The details of the calls you receive are stored in the Calls In Log. Up to 20 calls can be stored at a time and you can return any of these calls directly from this log.

When you return a call from the Calls In Log you can either use as many details of the original call as possible, or review all details and select new details if necessary.

For more information on the log see .

Repeating a call

The details of the calls you make are stored in the Calls Out Log. Up to 20 calls can be stored at one time and you can repeat any of these calls directly from this log.

When you repeat a call from the Calls Out Log you can either use as many details of the original call as possible, or review all details and select new details if necessary.

For more information on the log see .

Making a call from the Last Heard Log

If you have the MIL-STD-188-141B ALE option installed, your transceiver will keep a log of the last 100 on-air transmissions it has detected. The information gathered from each transmission includes the self address used by the heard station, the time/date of the transmission, and the channel/mode used for the transmission.

When you make a call from the Last Heard Log, you will be prompted with the information from the log. You may select new details for the call if necessary.

For more information on the log see .

Making a call from the Phone Link List

If you make frequent Phone calls from the transceiver you may want to make them from the Phone Link List. When you begin a call from this list the call type is always Phone (so you don't have to scroll to it), and you are not prompted to select a phone link; the call uses the entry you were on when you began the call.

You may be prompted to select certain details about the call depending on the configuration of the transceiver.

Making a voice call

The simplest type of call is a voice call. To make a voice call you:

- select a channel and mode

- press PTT to tune the antenna

- wait until the channel is clear of voice and data traffic

- *hold down* PTT and begin speaking

Your call can be heard by any station tuned to or scanning this channel with their Mute Scan entry switched off, set to Scan for Voice, or set to Voice.

Calling methods

CAUTION   Depending on the configuration of a NET, a NET call may take several minutes to establish a link.

NOTE   While a call is being established, the transceiver will show that calling activity is in progress by flashing the **CALL** icon in place of the scan indicator.

To make any type of call to a specific station:

❑ Decide on the method you want to use to make the call, then use the information in the following table to start the call.

NOTE   For help with entering text see

If you want to...	Do this...
make a call from the Address List	• go to the entry you want to call in the Address List • to use as many details from the entry as possible, press **CALL**, or • to review all details and/or select new ones, *hold* **CALL**
make a call in an emergency	• *hold* ⚠ for at least 2 seconds
make a new call	• press **CALL** • select the call type you want to use • enter the address (including any special ALE address syntax for ALL, ANY, Group Selective, NET, and Wildcard calls) of the station(s) you want to call, or if you are making a Phone call, enter the phone number you want to call • press **CALL** NOTE If the ALE Selective Msg entry in the Control List is enabled, you will be prompted to press ✓ to enter a message.
return a call	• press **CALL LOGS** twice to open the Calls In Log • go to the call you want to return • to use as many details from this call as possible, press **CALL**, or • to review all details and/or select new ones, *hold* **CALL**

If you want to...	Do this...
repeat a call	• press **CALL LOGS** to open the Calls Out Log • go to the call you want to repeat • to automatically repeat this call, press **CALL**, or • to review all details and/or select new ones, *hold* **CALL**
make a call from the Last Heard Log	• press **CALL LOGS** three times to open the Last Heard Log • go to the Last Heard entry to which you want to make a call • press **CALL** • select the call type you want to use • press **CALL** NOTE If the ALE Selective Msg entry in the Control List is enabled, you will be prompted to press ✔ to enter a message.
make a Phone call from the Phone Link List	• go to the phone link through which you want to make this call • press **CALL** • enter the telephone number you want to call (you can enter up to 16 digits) • press **CALL**

❏ You may be prompted for details about the call depending on the method you chose to make the call, the call type you selected, and the configuration of the transceiver.

If you are prompted for any details, use the information in the following table to enter them, then press **CALL**.

If this prompt is displayed...	Do this...
Select link	• select the phone link station through which you want to make the Phone call
Phone link addr?	• enter the address of the phone link station through which you want to make the Phone call (including any special ALE address syntax for ALL, ANY, Group Selective, NET, and Wildcard calls)

If this prompt is displayed...	Do this...
Select msg	• select the message you want to use For help on editing a message see page 225, *Messages entry*. NOTE To retrieve diagnostic information from the remote station, type 1. To retrieve configuration information, type 2 (see page 335, *Get Status calls*).
Select network	• select the network in which you want to make the call
My address?	• select or enter the self address from which you want to send the call
Select chan/mode	**In an ALE/CALM network:** • select **\<auto\>** if you want the transceiver to select the best channel/mode for the call, starting with the channel on which the most recent successful link was established, or • select the channel/mode you want to use to make the call, or • if you have the MIL-STD-188-141B ALE option installed, press ⊙ to select the best channel based on information in the LQA database NOTE In an ALE/CALM network, you can test the quality of the channels in a network by sending a Channel Test call (see page 176, *Replacing LQA information as part of a call in an ALE/CALM network*). **In a Codan Selcall network:** • select the channel/mode you want to use to make the call and check that it is clear of voice and data traffic NOTE In a Codan Selcall network, you can test the quality of the selected channel by sending a Channel Test call (see page 174, *Testing a channel as part of a call in a Codan Selcall network*).

❑ If LBT Mode is set to Enabled or Override allowed, you may be prompted to try the channels again. Use the information in the following table to answer the prompt.

If this prompt is displayed...	Do this...
Chan busy: Try again? All|<N> chans busy: Try again?	**If Cfg LBT Mode is set to Enabled:** • press **CALL** to try the call again using LBT • press 🔍 to select a new channel, then press **CALL** to make a call on this channel using LBT NOTE If only one channel was tried and found to be busy using LBT, you can listen for traffic on the channel then, if clear, override LBT by *holding* **CALL**. **If Cfg LBT Mode is set to Override allowed:** • press **CALL** to try the call again using LBT • *hold* **CALL** to try the call again without LBT (send the call regardless of any detected traffic) • press 🔍 to select a new channel, then press **CALL** to make a call on this channel using LBT • *hold* 🔍 to select a new channel and try the call on this channel without LBT (send the call regardless of any detected traffic)

If you made an ANY, Group Selective, NET, or Wildcard call, you will receive pop-up messages stating from which stations you have received a response.

NOTE   To abort the call before a connection to the other station is made, press PTT.

❑ To complete the call, use the information in the following table.

NOTE

If you made an ALL, ANY, Group Selective, NET, or Wildcard call, you can send data within the established link by pressing **CALL** and following the prompts.

If the link is closed automatically during these inlink messages, consider extending the Cfg In Call Timeout entry in the Control List.

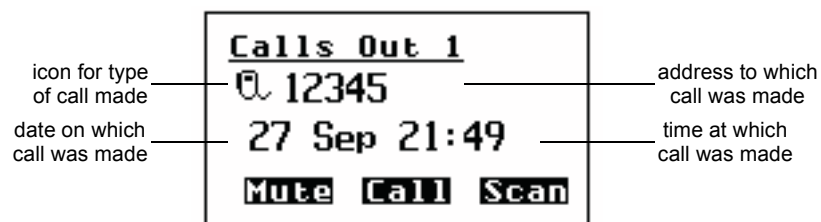| If you are making a...	Do this...
Channel Test call	**In an ALE/CALM network:** • wait for the LQA screen to display the best channel **In a Codan Selcall network:** • listen for the revertive signal NOTE The call is ended automatically but can be aborted by pressing PTT or **SCAN**.
Emergency call Selective call	**In an ALE/CALM network:** • wait until a message informs you that the call has been successful • *hold down* PTT then speak, releasing PTT when you have finished speaking • press **SCAN** to end the call and resume scanning **In a Codan Selcall network:** • wait until a message informs you that the call has been sent and listen for audible beeps transmitted from the other station • *hold down* PTT then speak, releasing PTT when you have finished speaking • press **SCAN** to end the call and resume scanning
Get Position call Get Status call Message call Send Position call	• wait until a message informs you that the call has been completed NOTE The call is ended automatically but can be aborted by pressing PTT or **SCAN**.

If you are making a...	Do this...
Phone call	• wait until you hear a reply from the person you called • *hold down* PTT then speak, releasing PTT when you have finished speaking • press **SCAN** to end the call **In an ALE/CALM network:** The transceiver resumes scanning. **In a Codan Selcall network:** The transceiver asks if you want to send a hangup signal. • to send a hangup signal, press ✔ • if the other party has sent a hangup signal via the phone line, press ✘ The transceiver resumes scanning.

The Calls Out Log

When you make a call, an entry for the call is created in the Calls Out Log. The entry lists the:

- type of call that was made

- address to which the call was made

- message or position that was sent if the call was a Message, Get Status or Send Position call

- time at which the call was made

- self address from which the call was made

- network in which the call was made

- channel/mode on which the call was made

- phone link that was used, if the call was a Phone call

Figure 31:   The Calls Out Log showing a Selective call made

icon for type of call made — address to which call was made

date on which call was made — time at which call was made

```
Calls Out 1
 ℚ 12345
 27 Sep 21:49
 Mute  Call  Scan
```

If you make a Message, Get Status or Send Position call, the information sent is displayed instead of the date and time.

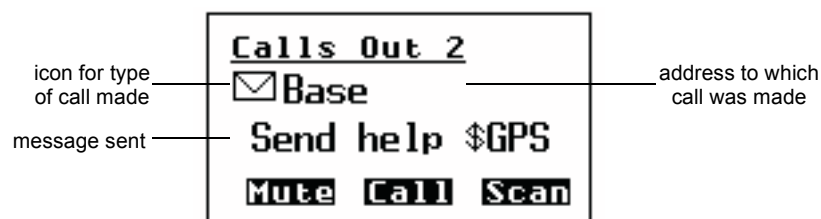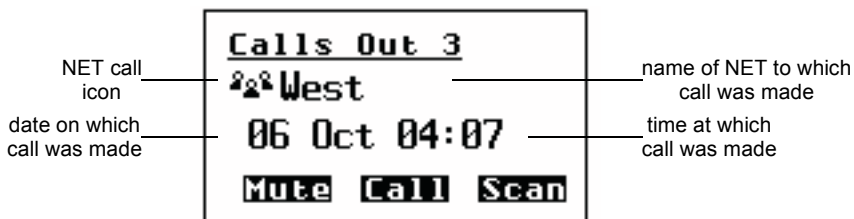Figure 32:   The Calls Out Log showing a Message call made

icon for type of call made — address to which call was made

message sent

```
Calls Out 2
 ✉Base
 Send help $GPS
 Mute  Call  Scan
```

Figure 33:   The Calls Out Log showing a NET call made

NET call icon —
date on which call was made —

```
Calls Out 3
👥 West
06 Oct 04:07
Mute Call Scan
```

— name of NET to which call was made
— time at which call was made

Up to 20 calls can be stored at one time and you can repeat any of these calls directly from the log (see page 189, *Repeating a call from the Calls Out Log*).

The calls are listed in the order in which they were made with the most recent call at the top of the list. If you make two or more calls with the same call type and address (and message or GPS position, if applicable), only the most recent call is kept in the log.

If you make a Get Position or Get Status call, an entry for the call is created in the Calls Out Log, and the information that is sent to you by the other station is stored in an entry for the call in the Calls In Log (see page 192, *The Calls In Log*).

Displaying an entry in the Calls Out Log

To display an entry in the Calls Out Log:

❑   Press **CALL LOGS** to open the Calls Out Log.

   The details of the last call sent are displayed.

```
Calls Out 1
📞 12345
27 Sep 21:49
Mute Call Scan
```
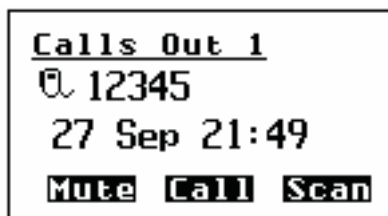
❑   Scroll through the entries.

❑   To display more information about an entry, press ✔.

❑   Scroll through the settings.

❑   Press ✖ to return to the entry.

❑   Press ✖ to close the Calls Out Log and return to the screen from which you began.

Repeating a call from the Calls Out Log

To repeat a call from the Calls Out Log:

❑ Press **CALL LOGS** to open the Calls Out Log.

❑ Scroll to the call you want to repeat.

❑ Either:

• press **CALL** to automatically repeat the call, or

• *hold* **CALL** to review all details and/or select new ones

Deleting an entry from the Calls Out Log

To delete an entry from the Calls Out Log:

❑ Press **CALL LOGS** to open the Calls Out Log.

The details of the last call sent are displayed.

❑ Scroll to the entry you want to delete.

❑ *Hold* 🔍 to open the List Manager.

❑ Select **Delete entry**.

The transceiver asks you to confirm that you want to delete the entry.

❑ Press ✓.

The entry is deleted and the List Manager remains open.

❑ Press ✗ repeatedly to return to the screen from which you began.

Receiving a call

There are two ways you can receive a call. You can listen to a channel and respond when you hear a voice, or you can wait until an alert tone notifies you of a call addressed to your station. This section covers receiving calls addressed to your station.

When you receive a call addressed to your station, the transceiver sounds an audible alert tone, displays an incoming call screen, if permitted, and creates an entry in the Calls In Log.

NOTE	These events do not occur when you receive a Channel Test, Get Position, or Get Status call as the transceiver automatically responds to these calls.

The call alert

The call alert varies according to the type of call received. For Message, Phone, Selective and Send Position calls it continues for about 10 seconds then changes to a series of pips until you press a key. For Emergency calls it continues for 5 minutes then changes to a series of pips.

Table 21: Call types and alert tones

Call type	Alert tone sounds like...
Emergency	heehaw, heehaw, heehaw
Message	pip, pip, pip, pip, pip
Phone	a telephone ringing
Selective	a telephone ringing
Send Position	pip, pip, pip, pip, pip
Group calls: Emergency calls all other calls	heehaw, heehaw, heehaw beep, beep, beep, beep, beep, beep

NOTE	If you want to switch off the audible alert tone when a call is received, set the Cfg Alert Tones entry in the Control List to Disabled (see page 110, *Logging into admin level from user level* and page 200, *Entries in the Control List*).

The incoming call screen

The incoming call screen displays:

•   the type of call being received

•   the address of the station making the call

•   the date and time at which the call was received

•   the message, GPS position or status information, if sent

•   the call count number

NOTE	If you want to switch off the audible alert tone when a message is received, set the Cfg Alert Tones entry in the Control List to Disabled (see page 110, *Logging into admin level from user level* and page 200, *Entries in the Control List*).
NOTE	If you want to prevent a message being displayed when it is received, set the Cfg Incoming Msg entry in the Control List to Just log (see page 110, *Logging into admin level from user level* and page 200, *Entries in the Control List*).

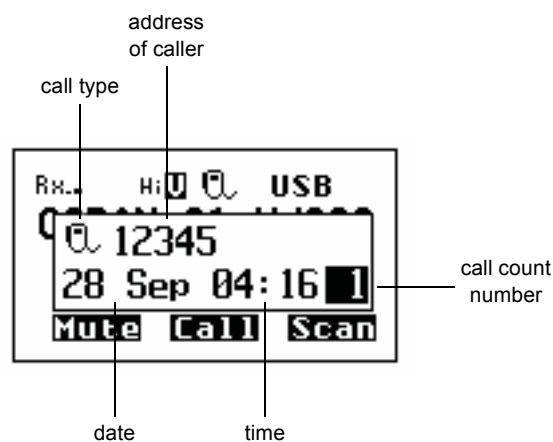Figure 34:   An incoming call screen for a Selective call

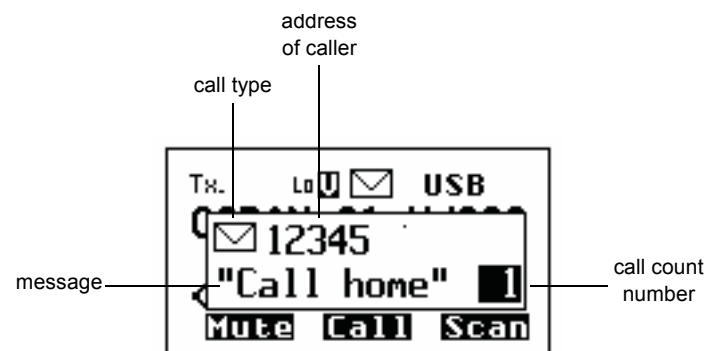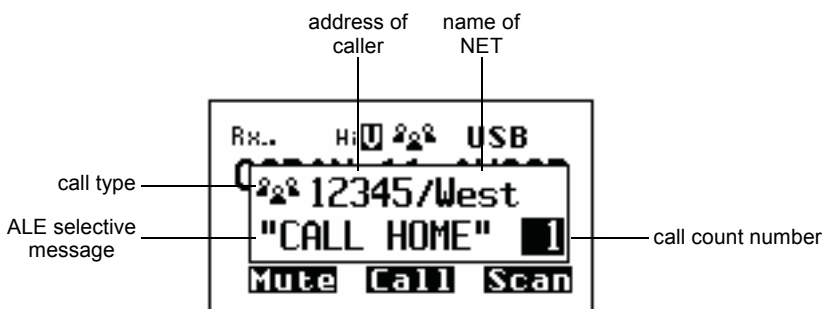Figure 35:   An incoming call screen for a Message call

Figure 36:   An incoming call screen for a NET call

If you receive one or more calls while the transceiver is unattended, the incoming call screen displays the details of the most recent call. The call count number at the bottom right of the screen indicates the number of calls received since the first call (see Figure 34).

To remove the incoming call screen:

❑   Press ✘.

Error reporting in a received AMD message

If you receive a call containing a message in which an error has been detected, the corrupted part of the message will be replaced with reverse-highlighted bullets.
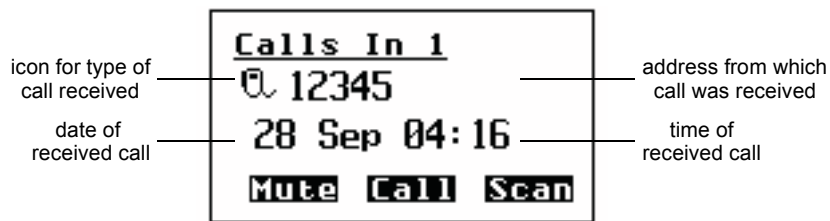
The Calls In Log

When you receive a call, an entry is created in the Calls In Log. The entry lists the:

•   type of call received and the address of the caller

•   message, GPS position or status information received if the call was a Message, Get Position, or Get Status call

•   time at which the call was received

•   self address to which the call was sent

•   network in which the call was received

•   channel/mode on which the call was received

•   phone link that was used, if the call was a Phone call

NOTE   Entries are not created for Channel Test, Get Position, and Get Status calls.

Figure 37:   The Calls In Log showing a Selective call received

icon for type of
call received

address from which
call was received

Calls In 1
℧ 12345
28 Sep 04:16
Mute **Call** **Scan**

date of
received call

time of
received call

If you receive a Message or Send Position call, or you have made a Get Position or Get Status call, the information received is displayed instead of the date and time.

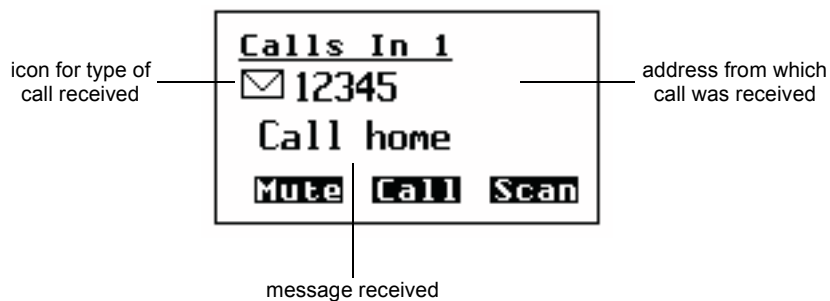Figure 38:   The Calls In Log showing a Message call received

icon for type of
call received

address from which
call was received

Calls In 1
✉ 12345
Call home
Mute **Call** **Scan**

message received

Figure 39:   The Calls In Log showing a Get Status call received

icon for type of
call received

address from which
call was received

Calls In 1
🖥 1111
[ASR] RF:4.11 J
Mute **Call** **Scan**

status information
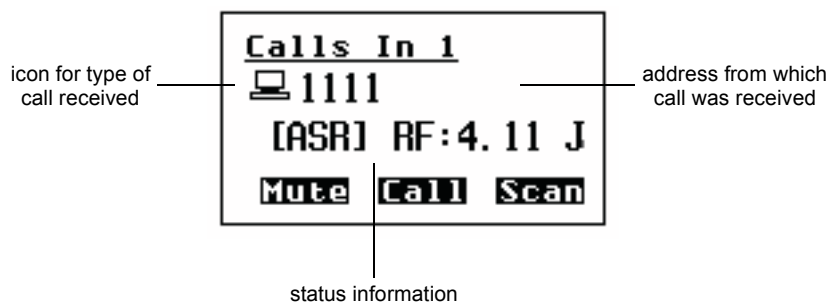
Figure 40:   The Calls In Log showing a NET call received
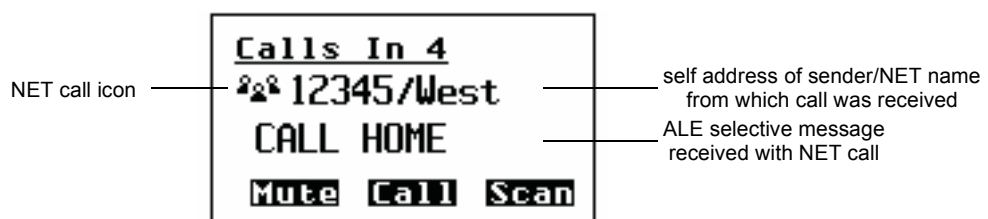
NET call icon

self address of sender/NET name
from which call was received

ALE selective message
received with NET call

Calls In 4
👥 12345/West
CALL HOME
Mute **Call** **Scan**

Up to 20 calls can be stored at a time and you can return any of these calls directly from the log (see page 194, *Returning a call from the Calls In Log*).

The calls are listed in the order in which they were received with the most recent call at the top of the list. If you receive two or more calls with the same call type and address (and message or GPS position, if applicable), only the most recent call is kept in the log.

Displaying an entry in the Calls In Log

To display an entry in the Calls In Log:

❑ Press **CALL LOGS** twice to open the Calls In Log.

The details of the last call received are displayed.

```
Calls In 1
 ℚ 12345
 28 Sep 04:16
Mute Call Scan
```
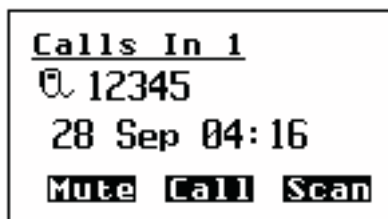
❑ Scroll through the entries.

❑ To display more information about an entry, press ✔.

❑ Scroll through the settings.

❑ Press ✖ to return to the entry.

❑ Press ✖ to close the Calls In Log and return to the screen from which you began.

Returning a call from the Calls In Log

To return a call from the Calls In Log:

❑ Press **CALL LOGS** twice to open the Calls In Log.

❑ Scroll to the call you want to return.

❑ Either:

• press **CALL** to use as many details from this call as possible, or

• *hold* **CALL** to review all details and/or select new ones

Deleting an entry from the Calls In Log

To delete an entry from the Calls In Log:

❑ Press **CALL LOGS** twice to open the Calls In Log.

   The details of the last call received are displayed.

❑ Scroll to the entry you want to delete.

❑ *Hold* 🔍 to open the List Manager.

❑ Select Delete entry.

   The transceiver asks you to confirm that you want to delete the entry.

❑ Press ✓.

   The entry is deleted and the List Manager remains open.

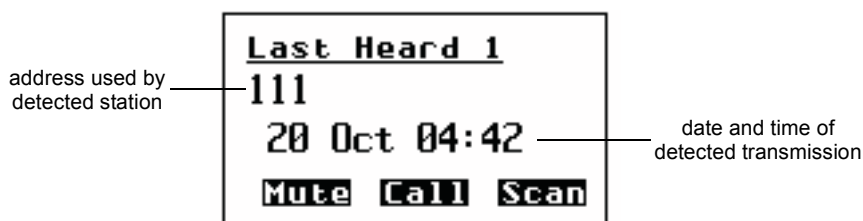❑ Press ✖ repeatedly to return to the screen from which you began.

Detecting transmissions from other stations

NOTE   The Last Heard Log is available if you have the MIL-STD-188-141B ALE option installed in your transceiver.

When your station detects transmissions from any other active stations, an entry is created in the Last Heard Log. The entry lists the:

• the address used by the detected station

• time and date at which the call was detected

• channel/mode on which the call was detected

Figure 41:   The Last Heard Log

address used by
detected station

Last Heard 1
111
    20 Oct 04:42
Mute **Call** **Scan**

date and time of
detected transmission

Up to 100 detected transmissions can be stored at a time, and you can make a call to any of the stations recorded in the log directly from the log (see page 197, *Making a call from the Last Heard Log*).

The transmissions are listed in the order in which they were detected with the most recent at the top of the list. If you detect two or more transmissions with the same station address and channel/mode, only the most recent call is kept in the log.

Displaying an entry in the Last Heard Log

To display an entry in the Last Heard Log:

❑ Press **CALL LOGS** three times to open the Last Heard Log.

The details of the last transmission detected are displayed.
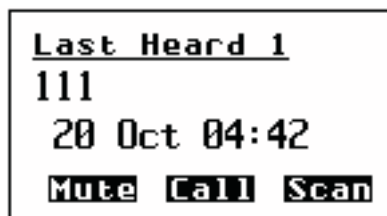
```
Last Heard 1
111
 20 Oct 04:42
Mute  Call  Scan
```

❑ Scroll through the entries.

❑ To display more information about an entry, press ✔.

❑ Scroll through the settings.

❑ Press ✖ to return to the entry.

❑ Press ✖ to close the Last Heard Log and return to the screen from which you began.

Making a call from the Last Heard Log

To make a call from the Last Heard Log:

❑ Press **CALL LOGS** three times to open the Last Heard Log.

❑ Scroll to the Last Heard entry to which you want to make a call.

❑ Press **CALL**.

❑ Select the call type you want to use.

❑ Press **CALL**.

This page has been left blank intentionally.

This section contains the following topics:

Entries in the Control List

The entries in the Control List enable you to customise the transceiver and control the way it operates. Table 22 provides a complete list of the entries in the Control List that can be changed at user and admin level. Some of the entries are covered in more detail in the sections after the table.

NOTE

The Control List is admin hidden, by default. You will only be able to access the Control List to view and/or change entries by logging into admin level (see page 110, *Logging into admin level from user level*). If the user needs to access any entries in the Control List, the administrator should set up hot keys to these entries (see page 241, *Creating a macro and assigning it to a hot key*).

CAUTION

Some entries in the Control List alter the configuration of the transceiver, for example, RS232 Mode and RS232 Mode. If your transceiver does not respond as expected after an entry in the Control List has been altered, switch the transceiver off then on again.

Table 22:   Entries in the Control List

Name of entry	Use this entry to...	Default
Address	Program up to 20 self addresses for your station and specify the network or networks in which you want to use them. For more information on self addresses see page 69, *Entering your station self address*.	
ALE Accept ALL Call	Set whether or not your transceiver will accept ALL calls that it detects. For more information see page 209, *ALE Accept ALL Call*.	Enabled
ALE Accept ANY Call	Set whether or not your transceiver will accept and respond to ANY calls that it detects. For more information see page 209, *ALE Accept ANY Call*.	Enabled
ALE Accept Wildcard Call	Set whether or not your transceiver will accept and respond to Wildcard calls that it detects. For more information see page 209, *ALE Accept Wildcard Call*.	Enabled
ALE AMD Position	Set the position in which the transceiver will transmit AMD data. For: • the shortest possible call duration, select Auto • compatibility with other transceivers, select Leading For more information see page 209, *ALE AMD Position*.	Auto
ALE BER	Increase or decrease the value of the BER threshold used in BER testing. For more information see page 210, *ALE BER*.	12 errors
ALE Call Threshold	Set the minimum score for a channel to be tried in ALE calls. For more information see page 210, *ALE Call Threshold*.	0%
ALE Call Weighting	Weight the LQA scoring of ALE channels for data or voice. For more information see page 211, *ALE Call Weighting*.	Mostly voice

Table 22:   Entries in the Control List (cont.)

Name of entry	Use this entry to...	Default
ALE Golay	Set the value of the Golay threshold used in Golay testing. For more information see page 211, *ALE Golay*.	2
ALE Hangup ALL Call	Set whether or not the initiator of an ALL call can hang up the call to all linked stations. For more information see page 211, *ALE Hangup ALL Call*.	Enabled
ALE LQA Average	Select the way that LQA information will be used when recording signal quality. For more information see page 211, *ALE LQA Average*.	Both
ALE LQA Clear	Clear the LQA information in the transceiver. For more information see page 212, *ALE LQA Clear*.	
ALE LQA Decay	Set the length of time it takes for LQA information to artificially decay, or switch this feature off. For more information see page 212, *ALE LQA Decay*.	15 days
ALE LQA Exchange	Exchange LQA information with stations during each call so that the link quality can be assessed in both directions. For more information see page 213, *ALE LQA Exchange*.	On
ALE LQA Mapping	Set the mapping of LQA information according to its frequency. For more information see page 213, *ALE LQA Mapping*.	Frequency
ALE Retries	Set the number of times the transceiver retries a channel when attempting to establish an ALE link before trying the next best channel in the network. For more information see page 213, *ALE Retries*.	1
ALE Selective Msg	Set whether or not you can send a message with a Selective call made in an ALE/CALM network. For more information see page 213, *ALE Selective Msg*.	Enabled
ALE Silent Mode	Prevent automatic ALE transmissions from the transceiver unit. For more information see page 213, *ALE Silent Mode*.	Off
ALE Site Mgr	Collect information on unknown ALE transceivers in the network. For more information see page 214, *ALE Site Mgr*.	Off
ALE Soundings	Set the status of the transceiver following a sounding. For more information see page 214, *ALE Soundings*.	Default
Audio Volume	Set the audio volume of the transceiver.	8
Auto Resume Listen	Set the scan method used when scanning is switched on by the Auto Resume Mode entry. For more information see page 215, *Auto Resume entries*.	Leave as is
Auto Resume Mode	Set the action performed when the Auto Resume Time ends. For more information see page 215, *Auto Resume entries*.	Start scan
Auto Resume Time	Set the length of time after scanning stops that the transceiver performs the action set in the Auto Resume Mode entry. For more information see page 215, *Auto Resume entries*.	2 minutes

Table 22:   Entries in the Control List (cont.)

Name of entry	Use this entry to...	Default
Battery	View the status of the attached battery.	
Cfg Abandon Mode	Set how the transceiver will shut down following the ❶ + ⚠ key sequence. If you want the transceiver to: • not respond to the abandon key sequence, select Never • shut down and only be accessed by an administrator (if an admin password has been set), select Lock • erase all secure keys, channels, networks, NETs, phone links, addresses, self addresses, call logs, messages, welcome text, site manager, and LQA information, then admin lock, select Erase	Never
Cfg Alert Tones	Set whether or not the transceiver will give an alert tone (beep or ring) when it receives a message or a call. If you want the transceiver to: • provide a local alert tone and external alarm, if connected, when it receives a message or a non-message call, select Normal • provide an external alarm, if connected, when it receives a non-message call only, select Messages skip ext alarm • provides a local alert tone when it receives a non-message call, select Messages don't ring • provide no alert tones or external alarms, if connected, when it receives any type of call, select Disabled	Normal
Cfg Auto Tune Mode	Set the Auto Tune Mode to suit the antenna. If you have: • a broadband antenna or an antenna that does not require a tuning cycle, select 50 Ohm • an antenna that uses a Codan antenna tuning interface (for example, 9350, 4203, 8558), select Codan • an antenna that does not conform to Codan's antenna tuning interface but provides automatic tuning capability (for example, 9103), select SWR • different types of antennas that may require tuning by the internal antenna tuner, or do not require a tuning cycle, select ATU/50 Ohm • an antenna that requires tuning by the internal antenna tuner, select ATU	ATU/50
Cfg Call Status Time	Set the maximum length of time a receiving station has to respond to a Get Status call with the information you requested.	5 seconds
Cfg Chain Call Pause	Set the length of time the transceiver pauses between chained calls, for example, during an Emergency call.	10 seconds

Table 22:   Entries in the Control List (cont.)

Name of entry	Use this entry to...	Default
Cfg Channel Scroll	Set the direction in which the ❯ key scrolls in the Channel List, that is, to the next channel or the previous channel. By default, pressing ❯ scrolls to the next highest number/next alphabetically sorted name in the Channel List, that is, 1-2-3-4 or Chan A-Chan B-Chan C-Chan D. If you want the ❯ key to scroll in the opposite direction, as it does in other lists in the transceiver, select Go to prev chan.	Go to next chan
Cfg Easitalk	Select a noise reduction algorithm.	Cepstral
Cfg Fast AGC	Switch fast auto gain control on or off.	Disabled
Cfg In Call Timeout	Set the length of time from the last key press on the front panel after which incoming calls on the transceiver will be hung up.	30 seconds
Cfg Incoming Msg	Set whether or not the transceiver will display a message to the operator when it is received. If you want to: • display messages and log them in the Calls In Log, select Show and log • prevent messages from being displayed, but still log them in the Calls In Log, select Just log	Show and log
Cfg LBT Mode	Set whether or not the transceiver will listen for calls and traffic on a channel before initiating a call. If you want to: • use LBT for all calls, select Enabled • use LBT, with the option to override for all calls, select Override allowed • disable LBT for all calls, select Disabled For more information on listening before transmitting see page 173, *Listen Before Transmit Mode*.	Enabled
Cfg LBT Period	Set the length of time that the transceiver will listen for calls and traffic on a channel before initiating a call.	2 seconds
Cfg Low Current Mode	Set the level of current used by the transceiver during muted operation. If you want to: • extend the time remaining for your battery, select Auto • reduce the time remaining for your battery and improve the receiver's performance in areas of high signal levels, select Disabled	Auto
Cfg Power Preference	Set the power preference to suit the power transmission level for your station. If you want to: • transmit with high power, select High • transmit with low power, select Low	
Cfg PTT Beeps	Transmit astrotones when the PTT button is released during a call. This saves you having to say 'over' each time you release PTT.	On

Table 22:   Entries in the Control List (cont.)

Name of entry	Use this entry to...	Default
Cfg PTT Cutout Time	Set the length of time after PTT is held down for the transceiver to cease transmission and switch to receive. This ensures that, even if PTT is held down accidentally (because, for example, you are sitting on the handset), power consumption is minimised and the transceiver is ready to receive calls. You can also use this entry to switch this feature off.	10 minutes
Cfg Respond GPS	Set the way in which the transceiver will handle its response to a Get Position call sent through an ALE/CALM or Codan Selcall network. If you want to: • respond to a Get Position call regardless of the Privacy Mode of the network through which the call was made, thus leaving your encrypted position data open to decryption by others, select Always • respond in a proprietary Codan-encoded format to a Get Position call on a network with the Privacy Mode set to Registered, Group or None, select Codan • respond to a Get Position call from another Codan transceiver on a network with the Privacy Mode set to Group and a common Privacy Key, select Encrypted • disable your response to any Get Position call, select Never NOTE You will still be able to make Send Position calls if this entry is set to Never.	Always
Cfg Respond OTA	Set the way in which the transceiver will handle its response to an OTA command sent through an ALE/CALM or Codan Selcall network. If you want to: • respond to an OTA command regardless of the Privacy Mode of the network through which the call was made, thus leaving your encrypted OTA command open to decryption by others, select Always • respond in a proprietary Codan-encoded format to an OTA command on a network with the Privacy Mode set to Registered, Group or None, select Codan • respond to an OTA command from another Codan transceiver on a network with the Privacy Mode set to Group and a common Privacy Key, select Encrypted • disable your response to any OTA command, select Never For more information on OTA commands contact your Codan representative.	Codan
Cfg RF Pre-Amp	Switch the RF pre-amplifier on or off. To increase the receive sensitivity of the RF unit, select On. To reduce it, select Off.	On

Table 22:   Entries in the Control List (cont.)

Name of entry	Use this entry to...	Default
Cfg Scan Voice Extend	Set the period of time that the transceiver holds the scan when voice is detected. The transceiver will continue to extend by this amount each time voice is detected on the channel, up to the maximum hold period set in the Cfg Scan Voice Max Hold entry. If you do not want the transceiver to hold the scan after voice is detected, set this entry to Disabled.	5 seconds
Cfg Scan Voice Max Hold	Set the maximum length of time that the transceiver pauses on a channel after voice has been detected. This entry overrides the extend function in the Cfg Scan Voice Extend entry.	5 seconds
Cfg Speaker External	Switch an external speaker, connected via the 19-way GPIO connector, on or off.	Disabled
Cfg Speaker Internal	Switch the internal speaker on or off. You can also toggle the internal speaker by *holding* **MUTE**.	Enabled
Cfg Units	Set the default unit (metric or imperial) for temperature and distance measurements.	Metric
Clarifier	Improve the quality of received voice by adjusting the frequency of the currently selected channel/mode to exactly match that of the received signal. You can also display the Clarifier screen by pressing **CLAR**.	
Customer Device	Display the Codan type number of the device.	2110
Customer Name	Display the ISO (sales order number) customer name.	
Customer Profile	Display the ISO customer profile.	
Customer Radio	Display the ISO transceiver type.	2110
Customer Reference	Display the ISO customer reference.	
Devices	Do the following: • display the serial number • enter option codes • display the firmware version • display the product name • rename the transceiver • gain access to the lists For more information see page 216, *Devices entry*.	
Easitalk	Switch Easitalk on or off. You can also toggle Easitalk by pressing **EASITALK**.	Off
Free Tune	Use the transceiver to tune to any frequency between 250 kHz and 30 MHz.	

Table 22:   Entries in the Control List (cont.)

Name of entry	Use this entry to...	Default
GPS Error Time	Set the time the transceiver waits to receive updated GPS information before it displays an error message. NOTE You cannot make Send Position calls until the transceiver receives valid GPS information. If you send an Emergency call before valid GPS information is received, the message 'No GPS data available' is sent with the call. If you receive a Get Position call, the same message is sent to the caller. When valid GPS data is received again a message is displayed on the front panel to inform you of this.	10 minutes
GPS Screen	Display information about your GPS position. For more information see page 222, *GPS Screen entry*.	
Help Mode	Switch Help Mode on or off. When Help Mode is switched on, the top line of the front panel screen displays a detailed description of the screen you are on. When Help Mode is switched off, the top line displays the standard description for the screen.	Off
Key Beep	Switch key valid beeps on or off. When you press a key that is appropriate for the task you are performing, the transceiver makes a valid beep. When you press an inappropriate key, the transceiver makes an error beep. The Key Beep entry enables you to switch valid key beeps on or off. You cannot switch off error beeps.	On
Key Hold Time	Set the length of time that a key must be held down for a *hold* action.	0.5 seconds
Key Repeat Rate	Set the speed with which the ▶, ◣, ◀») and ◀») keys repeat when they are held down.	0.2 seconds
Key Scroll Speed	Set the speed with which the characters on a key scroll when the key is held down.	1 second
Key Timeout	Set the time the transceiver waits between two presses of the same key to display the next character on the key. When this time elapses the transceiver inserts the character displayed and moves the cursor to the next space.	1 second
LQA Screen	Display information regarding the most recent LQA information update. The information includes the remote station address, local and remote BER/SINAD, LQA score, and best channel/mode. For more information see page 224, *LQA Screen entry*.	
Macro Pause	Set the pause time of macros that have been set to operate Before pause or After pause. The macro pause time is also the time that each step in a macro is displayed when the Macro Single Step entry is switched on. For more information on macros and hot keys see page 237, *Hot keys*.	3 seconds

Table 22:   Entries in the Control List (cont.)

Name of entry	Use this entry to...	Default
Macro Single Step	Switch macro single stepping on or off. This enables you to debug macros by running them a step at a time. For more information on macros and hot keys see page 237, *Hot keys*.	No
Manual Tune	Manually tune the antenna. You can also display the Manual Tune screen by pressing **TUNE**.	
Messages	Store up to 10 messages for use in Get Status and Message calls. For more information see page 225, *Messages entry*.	
Mode	Change the mode used with the currently selected channel. You can also change the mode by pressing **MODE**. For more information on modes see page 229, *The Mode List*.	
Mute	Switch mute on or off. You can also toggle the mute on and off by pressing **MUTE**.	
Mute Scan	Set the type of mute selected when scanning starts. If you want mute to open when: • a selective call to your station is detected, or when voice is detected during scanning of channels in a voice network, select Selcall • voice is detected on a channel in a voice network, select Voice • voice is detected on a channel in any type of network (that is, the scanning rate is reduced), select Scan for Voice Scan for Voice automatically reverts to Voice when scanning stops. NOTE You can toggle the mute type, to prevent mute opening on detected voice, by pressing **V/S**.	Voice
Password Admin	Store a numeric password (up to 10 digits) for administrator access to the transceiver.	
Password User	Store a numeric password (up to 6 digits) for user access to the transceiver.	
Power Off	Switch off the transceiver.	
RS232 Mode	Set the mode in which the RS232 19-way serial port operates. If the port is: • not in use, select None • receiving GPS information, select GPS • controlling and monitoring the transceiver, select CICS	None
RS232 Speed	Set the baud rate of the RS232 19-way serial port.	9600
Scan	Switch scanning on or off.	
Scan Allow	Enable or disable scanning.	Yes

Table 22: Entries in the Control List (cont.)

Name of entry	Use this entry to...	Default
Screen Auto-Dim	Set the time the transceiver waits after a key has been pressed to switch off the backlighting on the front panel screen. The backlighting is automatically switched on again when a key is pressed.	1 minute
Screen Brightness	Set the brightness of the screen.	
Screen Contrast	Set the contrast of the screen.	
Screen Scroll Rate	Set the speed with which characters on the screen scroll when the line length exceeds the screen width.	0.8 seconds
Screen Scroll Step	Set the number of characters on the screen that scroll as a block when the line length exceeds the screen width.	1
Secure Index	Select the Corporate key.	
Secure Key	Set the Corporate key for a particular index.	
Secure Mode	Set the default operating mode of the voice encryptor when you press **SEC**. The options are: • Global • Corporate	Global
Time Local	Set the local date and time. For more information see page 67, *Setting the time and date*.	
Time Screen	Display the current date and time. For more information see page 67, *Setting the time and date*.	
Time Zone Offset	Set the difference between the time displayed on the date/time screen and UTC. For more information see page 67, *Setting the time and date*.	0 hours
Update Main Menu	Refresh lists in the Main Menu.	
Welcome Screen	Display the welcome screen. This screen is briefly displayed when the transceiver is switched on.	
Welcome Text	Store up to three lines of text to be displayed on the welcome screen. If all three lines of text are blank, the welcome screen is not displayed when the transceiver is switched on.	

ALE entries

NOTE	You must have the FED-STD-1045 ALE/CALM option installed to use the ALE entries in the Control List.
NOTE	In the following discussion, you will need to log in as administrator to see the Control List (see page 110, *Logging into admin level from user level*).
CAUTION	Do not attempt to change the ALE settings in the Control List unless you are familiar with ALE operation. For more information on ALE, refer to FED-STD-1045 ALE.
	The initial values that are set in your transceiver by Codan should provide good performance.

ALE Accept ALL Call

ALL calls are not addressed to a specific station. If your station detects a call with a matching ALL address syntax, it will enter the linked state and alert the operator. If you do not want to receive either global or selective ALL calls, disable this feature.

ALE Accept ANY Call

ANY calls are not addressed to a specific station. If your station detects a call with a matching ANY address syntax, it will send a response (random slot) to the initiating station. Your station will enter a link when it receives an acknowledgement from the initiating station. If you do not want to receive either global or selective ANY calls, disable this feature.

ALE Accept Wildcard Call

Wildcard calls are not addressed to a specific station. If your station detects a call with a matching Wildcard address syntax, it will send a response (random slot) to the initiating station. Your station will enter a link when it receives an acknowledgement from the initiating station. If you do not want to receive Wildcard calls, disable this feature.

ALE AMD Position

AMD data can be sent at different positions within an ALE call. You can set the transceiver to send it in the leading part of the call, or you can set the transceiver to automatically select the best place to send the AMD data with the call, in either the leading or acknowledge part of the call.

With ALE calling, the transceiver may cycle through several channels before a link is established. If you select Leading, the AMD data is always positioned in the leading part of the call. The data will be transmitted prior to any response from the receiving station. If the transceiver abandons this channel and moves to the next best channel, it will send the AMD data again prior to any response being received. The leading position is required for interoperability with older Codan transceivers (firmware earlier than V4.00) and may be required for interoperability with transceivers from other vendors. If you select Auto, the transceiver will determine the best position for the AMD data in the call. It may move the AMD data from the leading part of the call, sending it after a response has been received from the other station. Auto is the recommended setting.

NOTE   The ALE AMD Position entry is only effective in Auto when the networks used to make the call have their Privacy Mode set to Plain.

ALE BER

ALE control information is sent and received in blocks of data called ALE words. Each word is sent three times to reduce the effects of fading, interference and noise. When the words are decoded the transceiver records the number of errors that occurred in the transmission.

The number of errors indicates the quality of the channel used. A bit error rate of 0 indicates perfect reception. A bit error rate of 48 indicates that all bits of the ALE word were bad.

The ALE BER entry enables you to specify the number of errors you will tolerate in this test, which indicates the quality of the channels on which you are prepared to accept calls. Also see page 211, *ALE Golay*.

CAUTION   It is recommended that this entry is not altered from the factory setting.

ALE Call Threshold

When the quality of a channel is tested it is given an LQA score. This score is based on the results of local and remote measurements for BER and SINAD and on the call weighting value set in the ALE Call Weighting entry.

NOTE   If the ALE LQA Exchange entry is set to Off, remote measurements are not used.

Generally, a score of 25% indicates the minimum acceptable standard for voice communication. A score of 50% or higher indicates a good channel. The ALE Call Threshold entry enables you to set:

•   the minimum score a channel must achieve for it to be tried in ALE calls

•   the minimum acceptable standard for the channel at the time when a link is being established

NOTE   The transceiver will attempt to make calls on channels for which there is no score, but only after channels with a score above the threshold have been tried.

ALE Call Weighting

When the quality of a channel is tested the channel is given an LQA score. The ALE Call Weighting entry enables you to weight the scoring process according to the use of the transceiver. For example, if the transceiver is mainly used to make voice calls you would select Mostly voice. When Lowest acceptable is selected the transceiver will attempt a call on the channel with the lowest frequency (with an LQA score above the set threshold), then attempt the channel with the next higher frequency and LQA score etc, until a link is established. In some situations where propagation distances may be less than a few hundred kilometres, weighting the LQA scores in this way increases their effectiveness.

ALE Golay

ALE control information is sent and received in blocks of data called ALE words. After a word has been received, BER tested and accepted, the transceiver performs a Golay test to check it for errors and correct it if necessary.

The number of error bits per word indicates the quality of the channel used to transmit the word. Golay testing can detect and correct up to three error bits per ALE word. It can also detect four error bits but is not guaranteed to correct all four. Note that excessive errors can sometimes create false readings.

The ALE Golay entry enables you to specify the number of errors you will tolerate and correct in this test, which indicates the quality of the channels on which you are prepared to accept calls. Also see page 210, *ALE BER*.

CAUTION   It is recommended that this entry is not altered from the factory setting.

ALE Hangup ALL Call

During an ALL call, a link is established implicitly without the receiving stations responding to the initiating station. When the ALE Hangup ALL Call entry is enabled, the initiating station will send a link termination sequence when **SCAN** is pressed. All stations that entered the link will hang up the link and return to scanning when they receive this sequence.

ALE LQA Average

When the transceiver periodically tests the quality of the channels in your network it stores the results for future use. The transceiver uses an averaging method to reduce the effect that the new reading may have on the current channel values.

The ALE LQA Average entry enables you to select the averaging method used. If you want to:

• disable the averaging feature and replace the old results with the new results, select New

• retain 75% of the old results and 25% of the new, select Mainly old

• retain 87.5% of the old results and 12.5% of the new, select Old

• replace the old results with the average of the old and new results, select Both

CAUTION

LQA information gathered by the *initiating* station during a Channel Test call in an ALE/CALM network is not averaged according to the ALE LQA Average entry. This new information replaces any information stored for the channels and stations detected during the call.

LQA information gathered by the *receiving* station during a Channel Test call in an ALE/CALM network is averaged according to the ALE LQA Average entry for that station.

ALE LQA Clear

Use the ALE LQA Clear entry to clear the LQA information in the transceiver. If a large amount of information is stored this may take a few minutes. If a significant change has occurred to the transceiver, the ALE LQA information will adapt more rapidly to the new environment if the information is cleared.

ALE LQA Decay

When your transceiver periodically records the quality of the channels in your network it stores the results for future use. Several factors can affect the accuracy of these results including:

• an insufficient number of ALE sounding transmissions being made in your network

• an insufficient number of ALE calls being made (which prevents the transceiver from exchanging channel quality information with other transceivers)

• stations moving their location

• antenna loading, nearby physical structures and local noise for stations mounted in vehicles

These factors can lead to the deterioration of good channels going unnoticed. To avoid this, use the ALE LQA Decay entry to artificially decay channel quality information over time. This forces the transceiver to continually work against the artificial decay to maintain an accurate picture of channel quality that does not overestimate actual conditions.

For mobile stations the recommended decay period is 1–4 days. For base stations it is 15–30 days.

If you do not want to use this feature, select Disabled.

ALE LQA Exchange

If you want the transceiver to send and receive LQA information to and from other stations during calls, set the ALE LQA Exchange entry to On.

If the ALE LQA Exchange entry in your transceiver is set to Off it will not request LQA information from other stations. Your transceiver will receive any LQA information sent from the other station.

NOTE	When the ALE LQA Exchange entry is set to On, it increases the length of time it takes to establish a call by approximately 4 seconds for every 10 channels on which the call is tried.
NOTE	LQA information is always exchanged during a Channel Test call in an ALE/CALM network, regardless of the setting in the ALE LQA Exchange entry.

ALE LQA Mapping

The ALE LQA Mapping entry determines the method by which the LQA information is stored within the transceiver, that is, according to frequency or channel name.

ALE Retries

When you make a call in an ALE/CALM network the transceiver attempts to establish an ALE link with the other station on the best available channel. If you want the transceiver to retry each channel before trying the next best channel in the network, set the number of retries you want in the ALE Retries entry. The transceiver can retry channels up to five times. If you do not want the transceiver to retry channels, set the ALE Retries entry to zero.

ALE Selective Msg

When you make a Selective call in an ALE/CALM network you are able to include a message with the call.

If you want to be prompted to include a message with a Selective call in an ALE/CALM network, set the ALE Selective Msg entry to Enabled. If you do not need to send messages with Selective calls on ALE/CALM networks, or your transceiver does not contain ALE/CALM networks, set this entry to Disabled.

ALE Silent Mode

The ALE Silent Mode entry disables automatic ALE transmissions from the transceiver. When ALE Silent Mode is switched on you can send ALE calls but not receive them, and the transceiver receives sounding signals but does not send them. When ALE Silent Mode is switched off the transceiver operates as a normal ALE station.

ALE Site Mgr

The ALE Site Mgr entry enables the transceiver to collect information on other transceivers with which it communicates. Each time your transceiver detects an unknown station address it requests:

• the ESN of the transceiver

• any other station self addresses stored in that transceiver

• the tuning time of the transceiver's antenna

It requests this information up to three times, and only 2110 SSB Transceivers in which the FED-STD-1045 ALE/CALM option is installed can respond.

The information collected enables your transceiver to optimise calls to the other transceiver (by adjusting the time taken to wait for the antenna to tune) and to minimise soundings.

NOTE

If your network consists of only a few 2110 SSB Transceivers with the FED-STD-1045 ALE/CALM option installed and many other transceivers, you may want to set the ALE Site Mgr entry to Off. Your transceiver will attempt to interrogate the other transceivers in the network each time calls are made.

ALE Soundings

The ALE Soundings entry enables the transceiver to vary the conclusion that it sends with a sounding.

If you want the transceiver to:

• send a TWAS conclusion to the sounding, that is, not remain in a state that will accept a link, select Default

• send a TIS conclusion to the sounding, that is, pause at the end of the sounding ready to accept a link, select Invite link

• switch off all sounding activity regardless of the Sounding Interval setting in the Network List, select Disabled

Auto Resume entries

NOTE   In the following discussion, you will need to log in as administrator to see the Control List (see page 110, *Logging into admin level from user level*).

The auto resume entries—Auto Resume Time, Auto Resume Mode and Auto Resume Listen—enable you to set the transceiver to automatically begin a task when scanning is switched off and there has been no PTT, channel change, scan on/off, mute on/off or call sending activity for a certain length of time. This enables you to ensure that the transceiver resumes scanning automatically if it is left unattended.

Use the Auto Resume Time entry to specify the time you want the transceiver to wait, since the last key was pressed, before it begins the task. You can select from 1–20 minutes.

Use the Auto Resume Mode entry to specify the task. If you:

• want the transceiver to start scanning, select Start scan

• want the transceiver to close the link to end any call in progress and, if it was scanning prior to the call, resume scanning, select Close link

• do not want the transceiver to resume scanning, select Off

If you selected Start scan as the value in the Auto Resume Mode entry, use the Auto Resume Listen entry to specify the scan method you want to use. If you want the transceiver to:

• scan according to the value set in the Mute Scan entry, select Leave as is

• scan for voice and calls addressed to your station, select Voice and calls

• scan only for calls addressed to your station, select Calls only

NOTE   If the scan method has been altered by the user, the transceiver will return to the scan method specified in the Auto Resume Listen entry following the time that is specified in the Auto Resume Time entry.
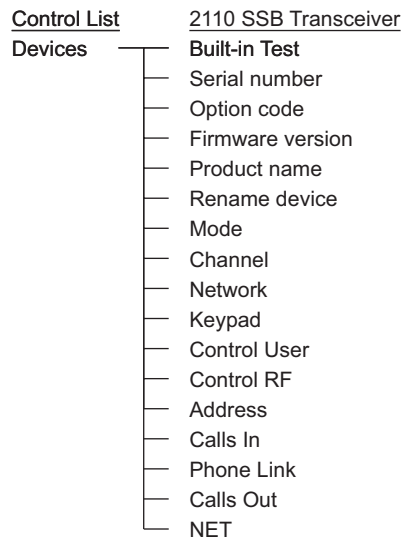
Devices entry

In the following discussion, you will need to log in as administrator to see the Control List (see page 110, *Logging into admin level from user level*).

The Devices entry in the Control List enables you to display information specific to the transceiver. You can display the:

* list of built-in tests

* ESN

* version of firmware installed

* product name

* lists stored in the device

You can also use the Devices entry to install new options and to rename the device. Figure 42 shows the type of information that you can display about the device and the lists that are stored in the device.

Figure 42: The Devices entry in the Control List

```
Control List        2110 SSB Transceiver
Devices ———— Built-in Test
           ——— Serial number
           ——— Option code
           ——— Firmware version
           ——— Product name
           ——— Rename device
           ——— Mode
           ——— Channel
           ——— Network
           ——— Keypad
           ——— Control User
           ——— Control RF
           ——— Address
           ——— Calls In
           ——— Phone Link
           ——— Calls Out
           └── NET
```

Selecting a built-in test

To select a built-in test:

❑ Press ✖ until **Main Menu** is displayed.

❑ Scroll to **Control**, then press ✔.

❑ Scroll to **Devices**, then press ✔.

❑ Scroll to **Built-in Test**, then press ✔.

```
Select test?
-<Auto>


 Mute  Call  Scan
```
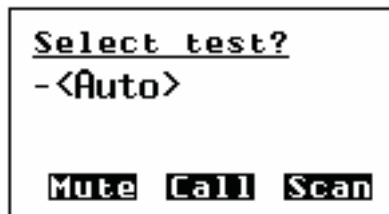
The hyphen next to the test name, in this case, **<Auto>**, indicates that the test has not been run in this session of testing.

❑ Scroll to the test that you want to perform, then press ✔.

When the test is in progress, the hyphen is replaced by a large dot.

When the test has been completed, the hyphen is replaced by a ✔ or a ✖ to show that the test has passed or failed respectively.

Displaying the electronic serial number of a device

To display the electronic serial number of a device:

❑ Press ✖ until **Main Menu** is displayed.

❑ Scroll to **Control**, then press ✔.

❑ Scroll to **Devices**, then press ✔.

❑ Scroll to **Serial number**, then press ✔.

The ESN for the device is displayed and scrolls across the screen.

```
Serial number
0C-3A5D-440A-000


 Mute  Call  Scan
```
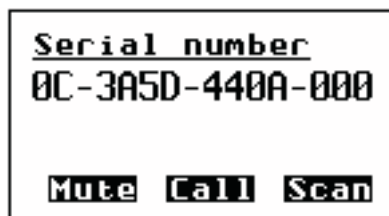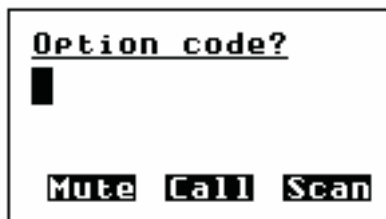
Installing an option in the transceiver

When you purchase an option for your transceiver (such as FED-STD-1045 ALE/CALM or GPS) you receive a 16-character option code. To install the option, you need to enter the option code using the Devices entry in the Control List.

To install an option in the transceiver:

❑ Press ✖ until **Main Menu** is displayed.

❑ Scroll to **Control**, then press ✔.

❑ Scroll to **Devices**, then press ✔.

❑ Scroll to **Option code**, then press ✔.

The option code screen is displayed.

```
Option code?
█



 Mute   Call   Scan
```

❑ Enter the code, then press ✔.

NOTE   The transceiver automatically adds dashes after each four digits.

The option is installed.

NOTE   Depending on the option you installed, a message may be displayed that asks you to restart the transceiver.

Displaying the firmware version of your transceiver

If you need to check the firmware version in your transceiver, use the Firmware version setting under the Devices entry in the Control List.

To display the firmware version of your transceiver:

❑ Press ✖ until **Main Menu** is displayed.

❑ Scroll to **Control**, then press ✔.

❑ Scroll to **Devices**, then press ✔.

❑ Scroll to **Firmware version**, then press ✔.

The firmware version is displayed.

Displaying the product name of a device

To display the product name of a device:

❑   Press ✖ until **Main Menu** is displayed.

❑   Scroll to **Control**, then press ✔.

❑   Scroll to **Devices**, then press ✔.

❑   Scroll to **Product name**, then press ✔.

The product name is displayed.

Renaming your transceiver

The transceiver is shipped with a standard name, that is, 2110 SSB Transceiver. If you want to rename the transceiver, use the Rename device setting under the Devices entry in the Control List.

To rename your transceiver:

❑   Press ✖ until **Main Menu** is displayed.

❑   Scroll to **Control**, then press ✔.

❑   Scroll to **Devices**, then press ✔.

❑   Scroll to **Rename device**, then *hold* ✔.

The name of the transceiver is displayed.
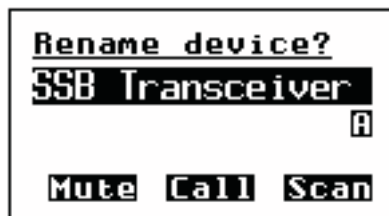
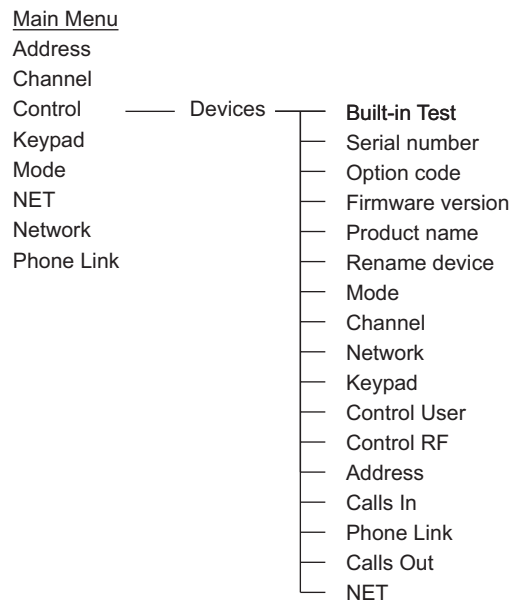❑   Enter a new name for the transceiver, then press ✔.

NOTE   For help with entering text see page 52, *Entering and editing text*.

Accessing lists from the Devices entry

NOTE

In the following discussion, you will need to log in as administrator to see the Control List (see page 110, *Logging into admin level from user level*).

You can access all the lists through the Main Menu. You can also access them through the Devices entry in the Control List (see Figure 43).

Figure 43: Lists as they are displayed in the Main Menu and under the Devices entry in the Control List

```
Main Menu
Address
Channel
Control ——— Devices ——— Built-in Test
Keypad                    Serial number
Mode                      Option code
NET                       Firmware version
Network                   Product name
Phone Link                Rename device
                          Mode
                          Channel
                          Network
                          Keypad
                          Control User
                          Control RF
                          Address
                          Calls In
                          Phone Link
                          Calls Out
                          NET
```

Displaying a list using the Devices entry

To display a list using the Devices entry in the Control List:

❑ Press ✖ until **Main Menu** is displayed.

❑ Scroll to **Control**, then press ✔.

❑ Scroll to **Devices**, then press ✔.

❑ Scroll to the list you want, then press ✔.

NOTE

If the list is not displayed it may be hidden at user or admin level. Switch full view on, and/or log into admin level to display the list (for help see page 112, *Displaying full and normal view* and page 110, *Logging into admin level*).

You may view and edit entries and settings in the list while it is displayed.

Displaying and editing channels using the Devices entry

When you access the Channel List from the Main Menu the transceiver selects each channel as you scroll to it. If you access the Channel List through the Devices entry you can display and edit the channels without stopping channel scanning.

GPS Screen entry

The GPS receiver is a hardware option. It must be enabled in the firmware by an option code.

You can configure the GPS receiver to report in metric or imperial units via the Cfg Units setting in the Control List.

The GPS Screen entry in the Control List enables you to display your current GPS position. Press **GPS** to access the GPS screen.

Table 23 explains the abbreviations for each type of reading you may receive. The new reading indicator is a number that increments each time a new reading is received. It cycles from 1 to 9.

Figure 44:   The GPS Screen entry in the Control List
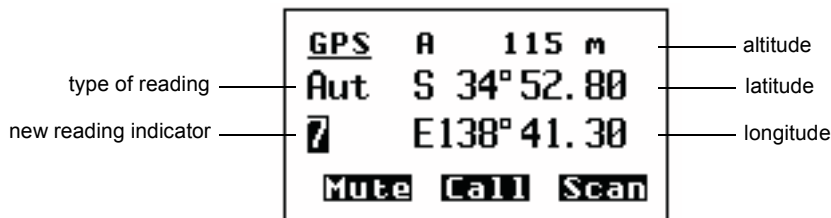
Table 23:   Types of readings on the GPS screen

Abbreviation	Description
Aut	Automatic reading
Bad	Bad reading

NOTE	If you connect an external GPS unit to the 2110 SSB Transceiver, and an internal unit is already fitted, the information from the external GPS unit will take precedence over the internal GPS unit. When you disconnect the external GPS unit, restart your transceiver to re-initiate the internal GPS unit.

Setting up the transceiver

NOTE   The 2110 SSB Transceiver is compatible with NMEA format 0183 V2.00. It will accept and process the following GPS receiver input sentences: RMC, GLL and GGA.
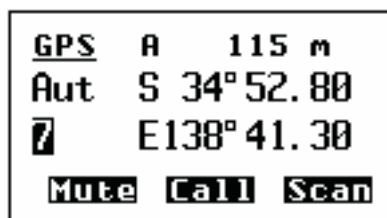
Before you display the GPS screen, make sure that the GPS hardware option has been correctly fitted in the transceiver and is enabled.

Displaying the GPS screen

To display the GPS screen:

❑   Press **GPS**.

The GPS screen is displayed. For example:

```
GPS  A    115 m
Aut  S 34°52.80
█    E138°41.30
Mute  Call  Scan
```

NOTE   If **no data** is displayed on the GPS screen, the transceiver has not received any valid GPS data.

❑   Press **GPS** to return to the screen from which you began.

Calculating distance and bearing

To calculate the distance and bearing to another station:

❑   Go to an Address List or Call Log entry containing a GPS position of the other station.

The transceiver calculates the distance to the other transceiver and its bearing from true north with respect to your current location.

```
Calls In 1
⚠Base
 12.4 km, 172° T
Mute  Call  Scan
```
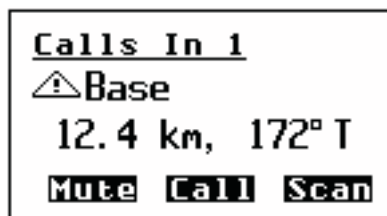
LQA Screen entry

NOTE   The LQA Screen entry is only displayed if the MIL-STD-188-141B ALE option is installed in the transceiver.

The LQA screen is automatically displayed when you make a Channel Test call in an ALE/CALM network, and is accessed at other times via the LQA Screen entry in the Control List. It enables you to display the most current LQA information for the best channel. If you need to refer to this screen frequently, consider creating a hot key to display it, or making it the home screen (for more information see page 237, *Hot keys*, page 329, *Example 2: displaying an information screen* and page 95, *Setting the home screen*).

Figure 45:   The LQA Screen entry in the Control List
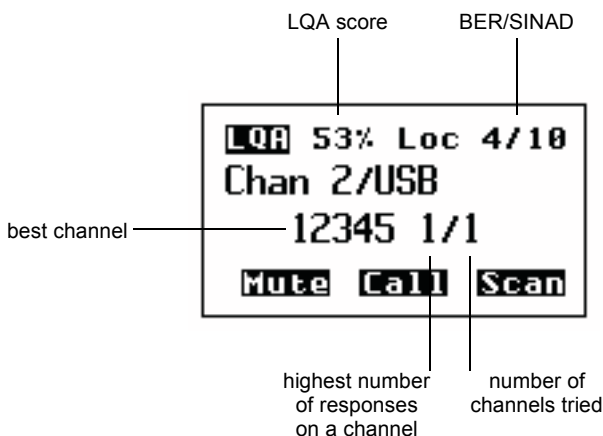
The LQA screen contains information on the most recent LQA exchange that has occurred. This may be due to a Channel Test call in an ALE/CALM network, a sounding, or an ALE call.

NOTE   LQA information derived from a sounding will not contain BER/SINAD information from the remote site.

The LQA score is an overall measure of the quality of the information between the two stations for a particular channel/mode combination. This score is compared with the ALE Call Threshold to determine whether or not the channel is suitable.

The local and remote BER/SINAD provide a measure of the effectiveness of data/voice transmission on the channel. The BER may range from 0 (no errors) to 30. The transceiver typically does not use channels with a BER > 12. The SINAD may range from 0 (poor channel) to 30.

The channel/mode combination with the highest LQA score is displayed on the LQA screen. The highest number of replies on a channel/mode is displayed with the number of channels on which a response was received.

The information presented in the LQA screen reflects information in the LQA database, and as such will be affected by the ALE LQA Decay entry in the Control List.

Messages entry

You can store up to 10 messages in the Messages entry for use in Get Status and Message calls. When you make one of these calls, you can scroll through these messages then select and/or edit the one you want to send.

To pre-type and store a message:

❑ Press **CALL**.

❑ Scroll to **Message?**, then press ✓.

```
Select ms9 (Hold

                     2
Mute  Call  Scan
```
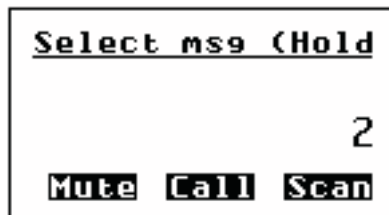
❑ Scroll to the setting in which you want to enter your message, then *hold* ✓.

```
Edit ms9?
█

                     A
Mute  Call  Scan
```
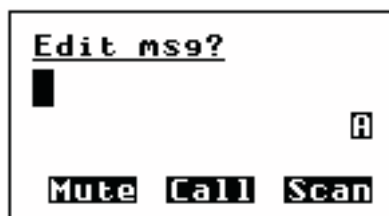
❑ Enter the message, then press ✓.

NOTE   For help with entering text see page 52, *Entering and editing text*.

❑ Press ✗ or PTT to cancel the call.

This page has been left blank intentionally.

15 The Keypad List

The Keypad List stores information about the keys on the front panel and the events that occur when the keys are pressed.

NOTE   The transceiver is shipped with the Keypad List hidden at admin level. To display the list see .

The Keypad List contains an entry for each key on the front panel. Each entry stores a list of the macros assigned to the key, and a list of the upper-case, lower-case and numeric characters that you can enter using the key (see Table 24).

NOTE   There are no entries for the **CALL**, ↘, ↖, ⊕, ✓, ✗, ◼⟩ and ◼⟩ keys as you cannot assign macros to these keys.

It also contains two entries that you can use to create and maintain macros. The Special entry contains a number of macros that you cannot create from the front panel but that you can copy and assign to any key. The Unassigned entry is a place where you can store macros for which you have no immediate use. For more information on macros and the Special and Unassigned entries see .

Table 24:   Entries in the Keypad List

Name of key	Macros assigned to key	Upper case	Lower case	Numeric
#	Call Logs - Out	A	a	#
*	Easitalk	. , ' ? ! & # $ * ( ) - + /	. , ' ? ! & # $ * ( ) - + /	.
0	Channel Screen	0 space	0 space	0
1QZ	Manual Tune	QZ1	qz1	1
2ABC	Clarifier	ABC2	abc2	2
3DEF	Next Mode	DEF3	def3	3
4GHI	Free Rx	GHI4	ghi4	4
5JKL		JKL5	jkl5	5
6MNO	Tx Pwr	MNO6	mno6	6
7PRS	Mute Type	PRS7	prs7	7
8TUV	Secure	TUV8	tuv8	8
9WXY	GPS	WXY9	wxy9	9
Emergency	Call Emergency			
F1	Mute			
F2	Call Key			
F3	Scan Toggle			

Table 24:   Entries in the Keypad List (cont.)

Name of key	Macros assigned to key	Upper case	Lower case	Numeric
Hang up	Scan Toggle			
Mute	Mute			
Power	Power Down			
Special	Power Down			
	Mute Type			
	Mute			
	Call Logs - Out			
	Call Logs - In			
	New Call			
	End Call			
	Call Key			
	Scan Toggle			
	Call Emergency			
	Secure			
Unassigned				

16 The Mode List

The Mode List stores information about the modes available in the transceiver. A mode is a set of parameters to be used with a channel consisting of a sideband and an IF filter, as shown in Table 25. An IF filter may be centred differently in the audio pass band to suit the particular requirements. For example, USB CW and USB PT use the same 500 Hz filter, but with different centre frequencies.

Table 25:   Examples of modes

Name of mode	Sideband	IF centre	IF width
USB	USB	1 500 Hz	2 500 Hz
LSB	LSB	1 500 Hz	2 500 Hz
AM	AM	1 500 Hz	2 500 Hz
USB CW	USB	900 Hz	500 Hz
LSB CW	LSB	900 Hz	500 Hz
AM CW	AM	900 Hz	500 Hz
USB PT	USB	1 700 Hz	500 Hz
LSB PT	LSB	1 700 Hz	500 Hz
USBW	USB	1 650 Hz	2 700 Hz
LSBW	LSB	1 650 Hz	2 700 Hz

The modes from which you can select depend on the options installed in the transceiver. The Mode List is display-only: you cannot add, edit or delete modes from it.

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17 Using the transceiver in free tune and Amateur Mode

This section contains the following topics:

Using the transceiver in free tune

The transceiver can be used as a free tune receiver. This enables you to tune to any frequency within the transceiver's operating range of 250 kHz to 30 MHz. In some circumstances, the options installed on your transceiver may enable you to transmit while free tuning, for example, the Amateur Mode option enables you to transmit during free tune when in amateur frequency bands (see Table 26 on page 235).

Entering a specific free tune frequency

To enter a specific frequency:

☐ Press **FREE Rx**.

☐ Press 🔍.

☐ Enter a new frequency or edit the existing frequency as required, then press ✔.

☐ Do one or more of the following:

• to exit to the screen from which you began, press **FREE Rx**.

• to exit free tune receive, go to the Channel List and select another channel (for help see page 51, *Selecting a channel*)

If you re-enter Free Tune prior to selecting another channel in the Channel List, the selected frequency will be the same as that last used.
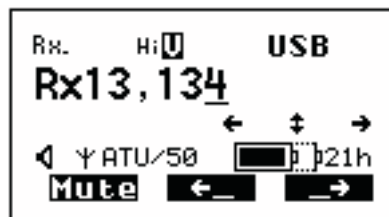
Tuning to a free tune frequency

To tune to a frequency:

❑ Press **FREE Rx**.

The transceiver tunes to the frequency that was currently selected in the Channel List and the cursor is placed under the last digit.

```
Rx..    Hi🅤      USB
Rx18,734
              ←   ↕   →
  Ψ ATU/50  [■■■  ]49h
 Mute    ←_     _→
```
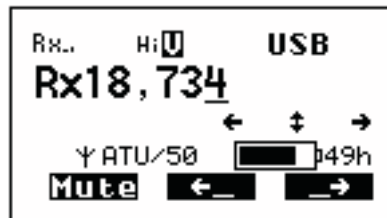
If you are able to transmit during Free Tune, the Rx will be replaced by a Tx within the Amateur band frequencies, as shown below.

```
Rx..    Hi🅤      USB
Tx18,134
              ←   ↕   →
  Ψ ATU/50  [■■■  ]49h
 Mute    ←_     _→
```
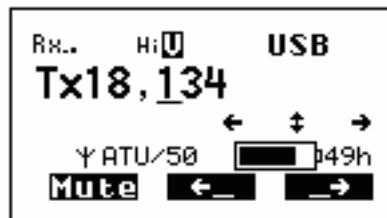
The **F2** and **F3** keys on the keypad can now be used as left/right scroll keys, as indicated on the Free Tune screen.

NOTE   Press **F3** repeatedly to insert a decimal point and enable the frequency to be tuned to two decimal places (0.01 kHz).

❑ To increase or decrease the frequency by units of one, ten, one hundred and so on, move the cursor to the appropriate position...

```
Rx..    Hi🅤      USB
Rx18,734
              ←   ↕   →
  Ψ ATU/50  [■■■  ]49h
 Mute    ←_     _→
```
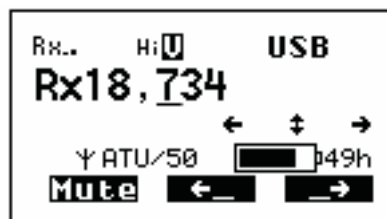
...then press the ◗ and ◖ keys. The transceiver tunes to the new frequency.
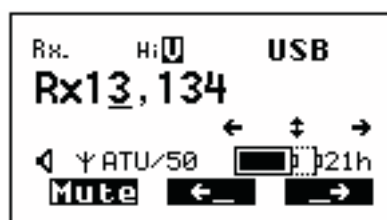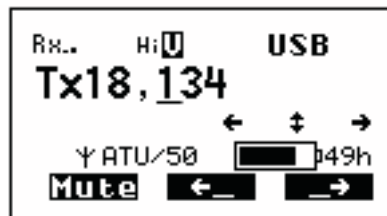
```
Rx..    Hi🅤      USB
Tx18,134
              ←   ↕   →
  Ψ ATU/50  [■■■  ]49h
 Mute    ←_     _→
```

```
Rx.    Hi🅤      USB
Rx13,134
              ←   ↕   →
◁ Ψ ATU/50  [■■ ]21h
 Mute    ←_     _→
```

❑ Do one or more of the following:

- to exit to the screen from which you began, press **FREE Rx**.

- to exit free tune receive, go to the Channel List and select another channel (for help see page 51, *Selecting a channel*)

   If you re-enter Free Tune prior to selecting another channel in the Channel List, the selected frequency will be the same as that last used.
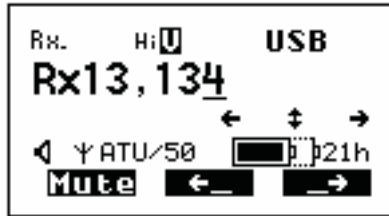
Using the transceiver in Amateur Mode

If you have Amateur Mode enabled in your transceiver you will be able to transmit on the Amateur bands shown in Table 26. You will not be able to transmit on frequencies outside of these bands using Free Tune Mode. You may be able to transmit on pre-configured channels outside amateur bands.

Table 26: Amateur bands in the 2110 SSB Transceiver

Frequency (MHz)
1.8–2.0
3.5–4.0
7.0–7.3
10.1–10.15
14.0–14.35
18.0–18.2
21.0–21.45
24.8–25.0
28.0–29.7

Amateur Mode uses the frequency entered on the Free Tune screen. For information on using the Free Tune screen see page 232, *Using the transceiver in free tune*. When you want to transmit on the selected frequency, press PTT to tune the antenna.

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18 Hot keys

This section contains the following topics:

About hot keys

If you want to automate some of the tasks you perform with the transceiver you can create hot keys on the front panel to perform the tasks for you. For example, if you frequently call a particular station using an entry in the Address List you can create a hot key to select the Address List from the Main Menu, search for the entry, then make the call. Performing these tasks is then as simple as pressing the hot key.

Hot keys can be created to perform any task or series of tasks that involve using a list. These include:

• opening a list at a particular entry

• displaying the time screen in the Control List

• calling a specific station

• changing a setting

Table 5 on page 30 lists the standard hot keys on the front panel.

Creating a hot key is a simple process. The transceiver prompts you for information about the way you want the hot key to operate and puts this information into a macro. It then prompts you to press the key to which you want to assign the macro (that is, the key you want to be the hot key for the task) and enter a name for the macro. Using the hot key is as simple as pressing the key.

Full-time and part-time hot keys

Any key can be used as a hot key except the **CALL**, ◣, ◤, ✓, ✕, ◉, ▮◀)) and ▮◀) key. If you want to be able to use a hot key at any time, regardless of any task you may be performing, use the **MUTE**, **SCAN**, ⚠, or ➊ keys on the front panel. These keys can be used as full-time hot keys.

The remaining keys on the front panel, that is, 0–9, **✱** and **#**, can be used as part-time hot keys. They operate as hot keys at any time except when you are entering or editing text. In this situation they are used to enter characters and cannot be used as hot keys.

Table 27:   Full-time and part-time hot keys

Full-time hot keys	Part-time hot keys		Keys that cannot be used as hot keys
MUTE SCAN ⚠ ➊	TUNE 1 QZ	CLAR 2ABC	MODE 3DEF	CALL ◣ ◤ ◉
	FREE Rx 4 GHI	5 JKL	Tx PWR 6MNO	✓ ✕ ▮◀)) ▮◀)
	M/S 7 PRS	SEC 8TUV	GPS 9WXY	PTT button on handset
	EASI TALK ✱	VIEW 0 ␣	CALL LOGS #	

Assigning several macros to one key

Several macros can be assigned to one key. When you use a hot key to which several macros have been assigned, the list of macros is displayed so you can select the one you want, as shown in Figure 46.

Figure 46:   Using a hot key to which several macros have been assigned

```
Hot key 5JKL?
Time Screen
Help Mode
 Mute  Call  Scan
```
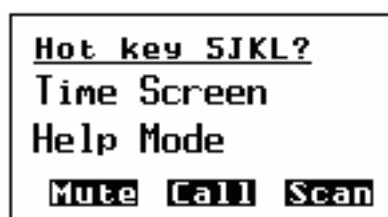
The order in which the macros are listed can be changed. When you assign a macro to a key you are prompted to select the position in the list in which you want to insert the new macro. You can also change the order after you have assigned the macro to a key by copying or moving the macro to and from the same or a different key. For more information see page 244, *Copying a macro* and page 245, *Moving a macro*.

Automating several tasks with one macro

Macros can be created to perform two or more tasks in succession. For example, you can create a macro that selects a particular channel then makes a call, or that displays your GPS position then sends that position to a particular station.

You can create a macro that performs several tasks by either joining two macros or adding to a macro. For more information see page 247, *Joining macros* and page 248, *Adding to a macro*.

Troubleshooting macros

If you need to troubleshoot your macros, the Macro Single Step entry in the Control List may help you. When this entry is switched on and you run a macro, each individual step in the macro is displayed on the screen. The length of time each step is displayed can be set using the Macro Pause entry in the Control List.

Storing macros

Macros are physically stored in the Keypad List. The Keypad List contains an entry for each key on the front panel. When a macro is assigned to a key it is stored in the Macro setting for the key.

If you do not want to assign a macro to a key (because, for example, you have no immediate use for it and do not want to delete it) you can assign or move it to the Unassigned entry in the Keypad List for future use. You can do this by pressing ✔ when prompted to assign a macro to a key.

Ideas for creating macros

Before you create a macro you may want to read the examples provided on for ideas about the types of tasks you can automate and the options available to you.

Creating a macro and assigning it to a hot key

To create a macro and assign it to a hot key:

❑ Decide on the task you want the hot key to perform.

❑ Navigate to the list, entry or setting in which the task begins.

For example, if the task is to open a list at a particular entry, navigate to that entry. If the task is to enter a particular value in a setting, navigate to the setting and enter the value.

❑ *Hold* 🔍 to open the List Manager.

❑ Scroll to **Macros...**, then press ✔.

❑ Scroll to **Create macro**, then press ✔.

The transceiver prompts you to select the action you want the macro to perform and/or the timing with which you want it to operate.

NOTE	The information for which you are prompted and the options from which you can select vary according to the list, entry or setting from which you began.

❑ If you are prompted to select the action you want the macro to perform, scroll to the option you want, then press ✔.

Table 28 on page 242 explains each option.

❑ Scroll to the timing with which you want the macro to operate, then press ✔ (see Table 28).

❑ Press the key to which you want to assign the macro.

To assign the macro to the Unassigned entry in the Keypad List, press ✔.

You cannot assign the macro to the Special entry.

The macros assigned to the key or entry are displayed. At the end of the list, or if there are no macros assigned to the key or entry, **<end>** is displayed.

If you pressed the wrong key, press ✖ to go back a step, then press the key to which you want to assign the macro.

❑ Scroll to the macro that you want to have in the list immediately after the new macro, then press ✔.

To insert the macro at the end of the list, scroll to **<end>**, then press ✔.

❑ Type a name for the new macro, then press ✔.

NOTE	For help with entering text see page 52, *Entering and editing text*.

The macro is created and assigned to the key. The List Manager remains open.

Table 28:   Macro options

Option	Setting	Select this option if you want the macro to...
Macro action?	Go to this entry	Display the list or entry you were on when you created the macro.
	Go to marker	Display the list or entry on which a marker has been set.
	Go to this chan	Select the channel you were on when you created the macro.
	Display chan	Display the currently selected channel.
	Go to this freq	Select the Free Tune frequency and cursor position you were on when you created the macro.
	Display freq	Display the currently selected frequency in the Free Tune screen with the cursor position you were on when you created the macro.
	Set this value	Change the value in the setting you were on to the value that was displayed when you created the macro. For example, if you entered a value of 100 in the setting then began creating the macro, the macro would set the value to 100.
	Set next value	Go to the setting you were on when you created the macro, then select the next possible value for the setting. For example, if the possible values for the setting you were on were Off and On, and prior to running the macro the value was set to Off, the macro would set the value to On.
	Display value	Display the value in the setting you were on when you created the macro.

Table 28:   Macro options (cont.)

Option	Setting	Select this option if you want the macro to...
Macro operates?	Immediately	Perform the task immediately without displaying the screen involved. For example, select a new channel without displaying the channel screen in the Channel List.
	Before pause	Perform the task immediately, save the new value if the macro changed a value, briefly display the screen involved, then return to the screen you were on when you pressed the hot key. For example, select a new channel, briefly display the channel screen in the Channel List, then return to the screen you were on when you pressed the hot key. NOTE To change the length of time the screen is displayed, use the Macro Pause entry in the Control List.
	After pause	Perform the task immediately, briefly display the screen involved, save the new value if the macro changed a value, then return to the screen you were on when you pressed the hot key. (If the macro changes a value the pause gives you a chance to cancel the change before it is saved by pressing ✕.) For example, change a value in a Control List entry, briefly display the entry, save the change, then return to the screen you were on when you pressed the hot key. NOTE To change the length of time the screen is displayed, use the Macro Pause entry in the Control List.
	Wait	Perform the task immediately then remain on the screen involved.

Copying a macro

Use the Copy macro entry in the List Manager to:

- copy a macro from one key and assign the copy to the same or a different key

- copy a macro from the Special or Unassigned entry in the Keypad List and assign it to a key

NOTE   You cannot copy a macro to the Special entry in the Keypad List.

To copy a macro:

❑   *Hold* ⌕ to open the List Manager.

❑   Scroll to **Macros...**, then press ✔.

❑   Scroll to **Copy macro**, then press ✔.

❑   Do one of the following:

- press the key to which the macro you want to copy is assigned

- press ✔ to go to the Unassigned entry

- press ◀ to go to the Special entry

The macros assigned to the key or entry are displayed.

If there are no macros assigned to the key or entry, **(none)** is displayed. Press ✖ to go back a step, then press the key to which the macro is assigned.

❑   Scroll to the macro you want to copy, then press ✔.

❑   Press the key to which you want to copy the macro.

If you want to copy the macro to the Unassigned entry in the Keypad List, press ✔.

The macros assigned to the key or entry are displayed. At the end of the list, or if no macros are assigned to the key or entry, **<end>** is displayed.

If you pressed the wrong key, press ✖ to go back a step, then press the key to which you want to assign the macro.

❑   Scroll to the macro that you want to have in the list immediately after the copied macro, then press ✔.

To insert the macro at the end of the list, scroll to **<end>**, then press ✔.

The macro is copied and the List Manager remains open.

Moving a macro

Use the Move macro entry in the List Manager to:

• move a macro from one key to another

• change the order in which macros are listed on a hot key

• move a macro to or from the Unassigned entry in the Keypad List

NOTE   You cannot move macros to or from the Special entry in the Keypad List, but you can copy them and rename the copies if necessary.

To move a macro:

❑ *Hold* ⚲ to open the List Manager.

❑ Scroll to **Macros...**, then press ✔.

❑ Scroll to **Move macro**, then press ✔.

❑ Do one of the following:

   • press the key to which the macro you want to move is assigned

   • press ✔ to go to the Unassigned entry

   The macros assigned to the key or entry are displayed.

   If there are no macros assigned to the key or entry, **(none)** is displayed. Press ✖ to go back a step, then press the key to which the macro is assigned.

❑ Scroll to the macro you want to move, then press ✔.

❑ Press the key to which you want to move the macro.

   If you want to move the macro to the Unassigned entry in the Keypad List, press ✔.

   The macros assigned to the key or entry are displayed. At the end of the list, or if no macros are assigned to the key or entry, **<end>** is displayed.

   If you pressed the wrong key, press ✖ to go back a step, then press the key to which you want to assign the macro.

❑ Scroll to the macro that you want to have in the list immediately after the moved macro, then press ✔.

   To insert the macro at the end of the list, select **<end>**, then press ✔.

   The macro is moved and the List Manager remains open.

Renaming a macro

NOTE   You cannot rename macros in the Special entry in the Keypad List, but you can copy them and rename the copies if necessary.

To rename a macro:

❑ *Hold* ⌕ to open the List Manager.

❑ Scroll to **Macros...**, then press ✔.

❑ Scroll to **Rename macro**, then press ✔.

❑ Do one of the following:

  • press the key to which the macro you want to rename is assigned

  • press ✔ to go to the Unassigned entry

  The macros assigned to the key or entry are displayed.

  If there are no macros assigned to the key or entry, **(none)** is displayed. Press ✖ to go back a step, then press the key to which the macro is assigned.

❑ Scroll to the macro you want to rename, then press ✔.

  The name is highlighted.

❑ Enter a new name for the macro, then press ✔.

  NOTE   For help with entering text see page 52, *Entering and editing text*.

  The macro is renamed and the List Manager remains open.

Deleting a macro

To delete a macro:

❑ *Hold* ⌕ to open the List Manager.

❑ Scroll to **Macros...**, then press ✔.

❑ Scroll to **Delete macro**, then press ✔.

❑ Do one of the following:

  • press the key to which the macro you want to delete is assigned

  • press ✔ to go to the Unassigned entry

  The macros assigned to the key or entry are displayed.

  If there are no macros assigned to the key or entry, **(none)** is displayed. Press ✖ to go back a step, then press the key to which the macro is assigned.

❑ Scroll to the macro you want to delete, then press ✔.

  The macro is deleted and the List Manager remains open.

Creating a macro to perform two or more tasks

If you want to create a macro that performs two or more tasks in succession you can do so by joining two macros or by adding to a macro.

For example, if you have created a macro to display the GPS screen in the Control List and another to send your GPS position to a particular station, you can join them to create one macro. If you have created a macro that performs the first task you can add to it by creating a macro to perform the second task, then add this macro to the first macro in one step.

Joining macros

Joining macros involves joining two existing macros. Before you begin you need to consider the order in which you want the macros performed. The transceiver will prompt you to select the macro you want performed first, then the macro you want performed second. It will then make a copy of the second and join it to the end of the first. The new combined macro takes the name of the first macro. You can rename the macro if necessary (see page 246, *Renaming a macro*).

NOTE

You cannot join two macros if the first macro is assigned to the Special entry in the Keypad List. You can, however, make a copy of this macro, assign it to a key or to the Unassigned entry in the Keypad List, then join another macro to the copy (for help see page 244, *Copying a macro*).

To join two macros:

❑ Decide on the order in which you want the hot key to perform the macros.

❑ *Hold* 🔍 to open the List Manager.

❑ Scroll to **Macros...**, then press ✔.

❑ Scroll to **Join macros**, then press ✔.

❑ Do one of the following to select the macro that you want performed *first*:

• press the key to which the macro is assigned

• press ✔ to go to the Unassigned entry

The list of macros assigned to the key or entry is displayed.

If there are no macros assigned to the key or entry, **(none)** is displayed. Press ✖ to go back a step, then press the key to which the macro is assigned.

❑ Scroll to the macro you want performed *first*, then press ✔.

❑ Press the key to which the macro you want performed *second* is assigned.

The list of macros assigned to the key or entry is displayed.

If there are no macros assigned to the key or entry, **(none)** is displayed. Press ✖ to go back a step, then press the key to which the macro is assigned.

❑ Scroll to the macro you want performed *second*, then press ✓.

A copy of the second macro is joined to the end of the first macro. The new, combined macro takes the name of the first macro. The List Manager remains open.

Adding to a macro

Adding to a macro involves creating a macro then adding it to the end of an existing macro in one step. The new, combined macro takes the name of the first macro. You can rename the macro if necessary (see page 246, *Renaming a macro*).

NOTE	You cannot add to a macro if the macro is assigned to the Special entry in the Keypad List. You can, however, make a copy of this macro, assign it to a key or to the Unassigned entry in the Keypad List, then add to the copy (for help see page 244, *Copying a macro*).

To add to a macro:

❑ Navigate to the list, entry or setting in which the task you want to add to the existing macro begins.

For example, if the task is to open a list at a particular entry, navigate to that entry. If the task is to enter a particular value in a setting, navigate to the setting and enter the value.

❑ *Hold* 🔍 to open the List Manager.

❑ Scroll to **Macros...**, then press ✓.

❑ Scroll to **Add to macro**, then press ✓.

❑ If you are prompted to select the action you want the macro to perform, scroll to the option you want, then press ✓.

NOTE	The information for which you are prompted and the options from which you can select vary according to the list, entry or setting from which you began.

Table 28 on page 242 explains each option.

❑ Scroll to the timing with which you want the macro to operate, then press ✓ (see Table 28).

❑ Do one of the following:

• press the key to which the macro you want to add this macro is assigned

• press ✓ to go to the Unassigned entry

The list of macros assigned to the key or entry is displayed.

If there are no macros assigned to the key or entry, **(none)** is displayed. Press ✗ to go back a step, then press the key to which the macro is assigned.

❑ Scroll to the macro to which you want to add the new macro, then press ✔.

The new macro is added to the end of the existing macro. The new, combined macro takes the name of the existing macro. The List Manager remains open.

Special macros

The transceiver is shipped with 11 macros that cannot be recreated from the front panel. These macros are assigned to the Special entry in the Keypad List and are listed in .

You cannot assign macros to, or delete macros from, the Special entry. You can, however, copy these macros from this entry and assign them to various keys or to the Unassigned entry in the Keypad List (for help see). You can then use the copy as you would any other macro.

The transceiver is shipped with copies of six of these macros assigned to various keys on the front panel. The:

• Call Emergency macro is assigned to the ⚠ key

• Call Key macro is assigned to the **CALL** key

• Call Logs - Out macro is assigned to the **CALL LOGS** key

• Mute macro is assigned to the **MUTE** key

• Power Down macro is assigned to the 🕛 key

• Scan Toggle macro is assigned to the **SCAN** key

Table 29:   Macros assigned to the Special entry in the Keypad List

Name of macro	Description
Call Emergency	Begins a call to the Emergency 1 entry in the Address List. If there are other emergency entries in the list (named Emergency 2, Emergency 3 and so on) the macro pauses for approximately 10 seconds after the first call has ended then begins a call to the next emergency entry. The transceiver calls each emergency entry in sequence until the last entry has been called or you press PTT.
Call Key	Begins a call, enabling the user to enter call information when prompted.
Call Logs - In	Displays the Calls In and Calls Out logs, beginning with the Calls In Log, then returns to the screen from which you began. When the MIL-STD-188-141B ALE option is installed, the Last Heard Log is displayed after the Calls Out Log.
Call Logs - Out	Displays the Calls Out and Calls In logs, beginning with the Calls Out Log, then returns to the screen from which you began. When the MIL-STD-188-141B ALE option is installed, the Last Heard Log is displayed after the Calls In Log.
End Call	Ends a call if a call is in progress.
Mute	Toggles mute on or off.
Mute Type	Toggles between Selcall mute and Voice mute.
New Call	Displays the new call screen with the address and call type of the last call made.
Power Down	Switches off the transceiver.
Scan Toggle	Ends a call if a call is in progress, or switches scanning on or off.
Secure	Toggles Voice Encryptor on or off, if installed with special firmware programmed and enabled in the transceiver.

19 Operating the transceiver from a computer

This section contains the following topics:

About CICS

CICS is a set of commands that the transceiver understands. The commands are suitable for use from a computer. You can operate your transceiver with CICS instead of the front panel. To use CICS you must connect your transceiver to a PC or personal organiser via the RS232 serial port (see page 258, *Setting up CICS*).

2110 SSB Transceivers operate with CICS V3.20 (or later).

CICS V3.20 includes the `amd`, `alebeacon`, `beacon`, `lbt`, `link`, `lqa` and `sound` commands, which enable the 2110 SSB Transceiver to operate with a third party messaging protocol, provide AMD messaging, LBT, and beacon capabilities through CICS (if the MIL-STD-188-141B ALE option is installed). The `amd` command enables you to send messages within an established ALE link. The LBT range of commands enables you to start the LBT process and override the global Cfg LBT Mode setting in the Control List of the transceiver during specific calls. The `alebeacon` command enables you to start a processes that gathers LQA information within the ALE/CALM network applicable to the addresses provided with the call.

Using CICS

Entering commands

When you enter CICS commands you can enter up to 255 characters. Commands are processed when they are ended with an ASCII carriage return character. ASCII line feed characters are ignored. When echoing is on, a received carriage return character is echoed as the ASCII carriage return/line feed sequence (see page 266, *echo command*).

Structuring commands

Commands can include variables that are user-defined, for example, `gpsbeacon <destination>[@<network>]`, where destination is the address of the station that you want to call. Each command and variable is separated by a space character. Variables inside single or double quotes are treated as a single variable. Space characters inside quoted text are treated as part of the text. Any user-defined variables that include a space character, such as a channel or network name, must have double quotes enclosing the variable.

If you are using multiple ALL, ANY or Wildcard address syntaxes, or Group Selective addresses with a CICS command, you must enter the addresses within quotes, for example, `alecall 'TOM,DICK,HARRY@PRIMEAST'`.

Command line control commands

The **Backspace** key is used for basic editing in CICS. The use of other editing keys requires a VT100 terminal emulation program such as HyperTerminal in Windows. All other characters are echoed as they are.

Table 30 lists the keys that can be used to edit commands in CICS.

Table 30:   Editing keys used in CICS

Keys	Action
Delete	Deletes the character above the cursor.
Backspace	Deletes the character to the left of the cursor.
Ctrl+A	Moves to the start of the line.
Ctrl+C	Aborts the current command.
Ctrl+E	Moves to the end of the line.
Ctrl+K	Deletes from the cursor to the end of the text.
Ctrl+R	Refreshes the input line.
Ctrl+U	Deletes the entire line of text entered.
↑	Moves up through the commands entered previously.
↓	Moves down through the commands entered previously.
→	Moves one character to the left.
←	Moves one character to the right.

Special characters

An equal sign (=) or a question mark (?) can be used to initiate an action, or request information (see page 430, *Using '=' and '?'*).

Command prompt

CICS V3.20 (or later) has an optional prompt to enter commands, that is, >, which indicates commands can be entered (see page 275, *prompt command*).

Addresses in commands

Addresses can be specified with or without a network (see page 434, *Using addresses with or without a network*). An address in an ALE/CALM network must be upper-case letters or numbers, @ and ?. An address in a Codan Selcall network must be numbers.

If you have the MIL-STD-188-141B ALE option installed, you can use special ALE address syntaxes to send ALL, ANY, Group Selective, NET, and Wildcard calls through any of the existing call commands in CICS (`alecall`, `aletelcall`, `call`, `gpsposition`, `pagecall`, `selcall`). For more information see page 159, *ALL address syntax*, page 160, *ANY address syntax*, page 161, *Group Selective address syntax*, page 162, *NET address syntax*, and page 163, *Wildcard address syntax*.

NOTE	You cannot use the ALL, ANY, or Wildcard address syntax in the `alebeacon` and `beacon` commands.
NOTE	The use of the ALL, ANY, Group Selective, NET, or Wildcard address syntax in the `gpsbeacon` and `statuscall` commands will not be effective due to collisions of responses.

If you enter the ALE address syntax...	The transceiver will send...
@?@	a global ALL call to all listening stations (see page 159, *ALL address syntax*)
@A@	a selective ALL call to listening stations that have an 'A' as the last character of their self address ('A' may be any specified upper-case letter or number), for example, TNAA, EANBA, 1NCA, 23A (see page 159, *ALL address syntax*)
@@?	a global ANY call to all listening stations (see page 160, *ANY address syntax*)
@@A	a selective ANY call to listening stations that have an 'A' as the last character of their self address ('A' may be any specified upper-case letter or number), for example, TNAA, EANBA, 1NCA, 23A (see page 160, *ANY address syntax*)
@AB	a double selective ANY call to listening stations that have 'AB' as the last two characters of their self address ('A' and 'B' may be any specified upper-case letter or number), for example, BAAB, 14BAB, Q2CAB, 1AB (see page 160, *ANY address syntax*)

If you enter the ALE address syntax...	The transceiver will send...
@A?	a double selective wildcard ANY call to listening stations that have an 'A' as the second to last character of their self address ('A' may be any specified upper-case letter or number) and any upper-case letter or number as the last character, for example, USAM, 19MA0, ENA9, 3DAZ (see page 160, *ANY address syntax*)
ABC,JK3MN,PQR (example only)	a Group Selective call to the stations specifically addressed (see page 161, *Group Selective address syntax*)
NET address	a NET call to all stations with that NET programmed in the NET List (see page 162, *NET address syntax*)
???	a Wildcard call to listening stations that have a self address matching the length of the sent address and with any upper-case letter or number as each of the characters, for example, SAM, NAA, 234, 3AZ (see page 163, *Wildcard address syntax*)
A?B? (example only)	a selective Wildcard call to listening stations that have a self address matching the length of the sent address with 'A' and 'B' as the first and third characters respectively, and with any upper-case letter or number in the second and last characters, in this case ('A' and 'B' may be any specified upper-case letter or number), for example, A2BM, ADB1, AZBE, A3B8 (see page 163, *Wildcard address syntax*)

If you are using multiple ANY, NET, or Wildcard addresses, or Group Selective addresses with a CICS command, you must enter the addresses within quotes.

With Group Selective addresses, the length of the combined address can be no longer than 12 ALE words, excluding commas. An ALE word has 3 characters. There can be no more than five different first ALE words in the combined address. For example:

An address of 'BOB1,BOB2,BOB3,BOB4,TIM,JOHN,MIK,SUE' has five different first ALE words, that is, BOB, TIM, JOH, MIK and SUE. However, this address will be rejected because it has a total of 13 ALE words, that is, BOB, 1, BOB, 2, BOB, 3, BOB, 4, TIM, JOH, N, MIK and SUE.

ALE call options

When you make a call through CICS you can specify whether or not to override the global settings for the transceiver at the time of the call.

To enable LQA for a call	Type `+lqa`
To disable LQA for a call	Type `-lqa`
To enable LBT for a call	Type `+lbt`
To disable LBT for a call	Type `-lbt`
To make a call using the current channel only	Type `thischan`

Recognised variable expansion

The variables listed in Table 31 may be added in a message with any command. These variables are recognised by CICS V3.20 (or later) when they are enclosed in double quotes. CICS expands the variable by inserting the current information associated with the variable into the message with the command.

Table 31:   Variable expansion in a command

Keyword	Function when used in a call or beacon command
$DATE	Inserts the current date in the following format: \<name of day> \<month> \<day> \<year>
$GPS	Inserts the current valid GPS position in the following format: \<latitude> \<longitude> \<altitude> \<UTC>
$TIME	Inserts the current time in the following format: \<hh>:\<mm>:\<ss>
$TZ	Inserts the time zone offset in the following format: \<time zone offset>
$VER	Inserts the current version of the transceiver unit firmware in the following format: \<version number>

A typical use for the variable expansion feature is as follows:

Command typed at initiating station	Information displayed at receiving station
alecall BH "My position is $GPS on $DATE at $TIME"	ALE-LINK: 'Ch 27980', M2, BH, 05/02 02:13, "MY POSITION IS 8958.04N 13841.23E +0.0M 101622 (A) ON THU FEB 05 2004 AT 02:18:16 "
alecall B? +lqa "My position is $GPS"	LQA: 'Ch 27980', M2, 0/29, -/-, 100% ALE-LINK: 'Ch 27980', M2, B?, 05/02 02:23, "MY POSITION IS 8958.04N 13841.23E +0.0M 101622 (A)"

Sending and receiving calls

When you make calls using CICS commands, you do not need to use the `hangup` command when you are making successive calls or using the `chan` or `scan` commands. For example, after sending a Get Position call, CICS enables you to change the channel then send another Get Position call without using the `hangup` command to close the existing link.

CAUTION
If a response is not received to a Get Status, Get Position, or Message call (for example, a page call ack to a Message call) you *must* use the `hangup`, `chan`, `scan` or `call` command to receive subsequent calls. Control software using these commands must take this into account.

Responses and outputs

CICS is an interface from which random outputs will occur, for example, when calls are received. Additionally, depending on the configuration of the equipment, the order of responses to commands may change. Software operating on this interface must be able to adapt to these irregularities to enable correct system behaviour under all conditions. It is recommended that echo is switched off to avoid intermixing of the commands you enter with the responses from the system (see).

Message length in a Message call

The permitted message length when making a Message call depends on the type of call system, the Privacy Mode selected, and the character set (see).

Error reporting in a received AMD message

If you receive a call containing a message in which an error has been detected, the corrupted part of the message will be replaced with tilde characters (~).

Setting up CICS

Connecting a computer to a transceiver

To connect a computer to a transceiver:

❏ Use a serial port (for example, COM1) on the computer to connect to the 19-way GPIO connector on the front panel using cable 08-06237-001.

Setting up a transceiver for CICS

To set up a transceiver to be used with CICS:

❏ Make sure that the Control List settings for the serial port you are using have been set correctly. Check that:

- the RS232 Mode entry is set to CICS

- the RS232 Speed entry is set to the baud rate of the computer, for example, 19 200 baud

CAUTION   If you change the settings in these entries you must switch your transceiver off then on again for the changes to take effect.

Setting up a computer for CICS

To set up a computer for use with CICS:

❏ Start a terminal emulation program, for example, HyperTerminal in Windows.

❏ Check the settings in the terminal emulation program. Make sure that you:

- select the serial port on the computer that has been connected to the transceiver

- select the baud rate that corresponds to the baud rate set in the Control List of the transceiver

- set data bits to 8

- set parity to none

- set stop bits to 1

Terms used in CICS and the 2110 SSB Transceiver

The terms used in several CICS commands differ from those used in transceiver. Table 32 lists these commands and the equivalent 2110 SSB Transceiver terms.

Table 32:   CICS commands and the equivalent 2110 SSB Transceiver terms

CICS commands	Equivalent term in the 2110 SSB Transceiver
alebeacon	Channel Test call using an ALE/CALM network
alecall	Selective call using an ALE/CALM network
aletelcall	Phone call using an ALE/CALM network
beacon	Channel Test call that is independent of the call system
gpsbeacon	Get Position call using an ALE/CALM or a Codan Selcall network
gpsposition	Send Position call using an ALE/CALM or a Codan Selcall network
pagecall	Message call using an ALE/CALM or a Codan Selcall network
selbeacon	Channel Test call using a Codan Selcall network or non-alpha address in an ALE/CALM network
selcall	Selective call using a Codan Selcall network or non-alpha address in an ALE/CALM network
selfid	Your station self address
statuscall	Get Status call using an ALE/CALM or a Codan Selcall network
telcall	Phone call using an ALE/CALM or a Codan Selcall network

CICS commands

This section covers the functions and syntax of the CICS commands. In this section:

- the function of each command is summarised in Table 33

- the syntax and function of each command is summarised in Table 35 on page 287

Table 33:   CICS commands and their functions

Commands	Function	See...
alebeacon	Makes a Channel Test call to addressed stations using an ALE/CALM network.	page 261
alecall	Makes a call to addressed stations using an ALE/CALM network.	page 262
aletelcall	Makes a Phone call to addressed stations using an ALE/CALM network.	page 263
amd	Sends a message on the existing ALE link.	page 264
beacon	Makes a Channel Test call to addressed stations using an ALE/CALM or a Codan Selcall network.	page 264
call	Makes a call on the current channel using an ALE/CALM or a Codan Selcall network.	page 265
chan	Controls the selection of channels in the transceiver.	page 266
echo	Controls the echo state of the transceiver.	page 266
freq	Displays the frequency of the current channel, or selects the channel by the frequency specified.	page 267
gpsbeacon	Makes a Get Position call to an addressed station using an ALE/CALM or a Codan Selcall network.	page 268
gpsposition	Makes a Send Position call to addressed stations using an ALE/CALM or a Codan Selcall network.	page 269
hangup	Closes an active link between your transceiver and the station that you are calling.	page 269
help	Displays the help available in CICS.	page 270
lbt	Displays the global LBT Mode or monitors the current channel for the presence of data or voice.	page 270
link	Displays the current link status.	page 270
lock	Controls the lock status of the transceiver.	page 271
lqa	Controls the display of LQA information on the current or last established link since powerup of the transceiver.	page 272
mode	Controls the mode settings of the channels in the transceiver.	page 273
pagecall	Makes a Message call to addressed stations using an ALE/CALM or a Codan Selcall network.	page 274

Table 33:   CICS commands and their functions (cont.)

Commands	Function	See...
prompt	Controls the settings for the prompt on the command interface.	page 275
ptt	Controls the settings for PTT.	page 276
scan	Controls the settings for scanning in the transceiver.	page 277
secure	Controls the voice encryptor status of the transceiver.	page 278
selbeacon	Makes a Channel Test call to an addressed station using a Codan Selcall or non-alpha address in an ALE/CALM network.	page 279
selcall	Makes a Selective call to an addressed station using a Codan Selcall network or non-alpha address in an ALE/CALM network.	page 280
selfid	Controls the list of self addresses used in CICS.	page 280
set	Controls the settings in CICS.	page 281
sideband	Controls the sideband setting for channels in the transceiver.	page 282
sound	Controls the settings for sounding operations in the transceiver.	page 283
statusack	Sends a response to a Get Status call.	page 284
statuscall	Makes a Get Status call to an addressed station using an ALE/CALM or a Codan Selcall network.	page 284
statustime	Sets the length of time a station has to respond to a Get Status call.	page 285
telcall	Makes a Phone call to an addressed station using an ALE/CALM or a Codan Selcall network.	page 286
ver	Displays the current version of CICS being used.	page 286

alebeacon command

If you have the MIL-STD-188-141B ALE option installed, you can use the alebeacon command to replace the LQA information for an ALE/CALM network. The command sends a request to the addressed stations you want to call on a specific channel (thischan), or all channels, in the selected network. The receiving stations automatically respond with LQA information.

To replace LQA information for a specific channel, pause scanning, select the channel, then make the beacon, including the call option thischan with the command. To test all channels in an ALE/CALM network, perform the beacon while scanning is on.

NOTE   To display the full response of LQA information use the lqa output on command (see page 272, *lqa command*).

Syntax

NOTE	You cannot use the ALL, ANY, or Wildcard address syntax in the `alebeacon` command.

NOTE	For more information on: • address syntaxes see page 254, *Addresses in commands* • call options see page 256, *ALE call options* • recognised variables see page 256, *Recognised variable expansion*

`alebeacon <destination>[@<network>] [s] [from <self address>[@<network>]]`

where:

`<destination>[@network]` is the address [and network] of the station that you want to call.

`s` makes the call in Silent Mode.

`from <self address>[@<network>]` is the self address [and network] that you want to use for this call.

alecall command

Use the `alecall` command to select the best channel on which to establish a link to addressed stations, then make a call on that channel.

To disconnect the link, either:

• use the `scan on` command to close the link and resume scanning (see page 277, *scan command*), or

• use the `hangup` command to terminate the link (see page 269, *hangup command*)

Syntax

NOTE	For more information on: • address syntaxes see page 254, *Addresses in commands* • call options see page 256, *ALE call options* • recognised variables see page 256, *Recognised variable expansion*

`alecall <destination>[@<network>] ["<message>"] [from|tis|twas <self address>[@<network>]]`

where:

`<destination>[@network]` is the address [and network] of the station that you want to call.

`<message>` is the written text message that is to be sent to the station. Use single or double quotes, or backslashes to recognise spaces in the message text (see page 433, *Using quotation marks*).

`from <self address>[@<network>]` is the self address [and network] that you want to use for this call.

`tis <self address>[@<network>]` is the keyword that requests a link with the destination address, using the self address [and network] provided for your station.

`twas <self address>[@<network>]` is the keyword that does not request a link with the destination address, using the self address [and network] provided for your station.

If you have the FED-STD-1045 ALE/CALM option installed, you can use the ALL address syntax with the `alecall` command. If you have the MIL-STD-188-141B ALE option installed, you can use the ALL, ANY, Group Selective, NET, or Wildcard address syntax with the `alecall` command.

NOTE	You can use any of the characters in the basic 38 ASCII subset (A–Z, 0–9, @ and ?) for the address.

aletelcall command

Use the `aletelcall` command to select the best channel on which to establish a link to an addressed station, then make a telcall on that channel. A telcall is a call to a telephone number.

NOTE	Before you can make an aletelcall you need to know the address of a station with a telephone interconnect unit (for example, JPS RTU–282/292) through which your call can be routed to the public telephone network.

To disconnect the link, either:

- use the `scan on` command to close the link and resume scanning (see page 277, *scan command*), or

- use the `hangup` command to terminate the link (see page 269, *hangup command*)

Syntax

NOTE	For more information on: • address syntaxes see page 254, *Addresses in commands* • call options see page 256, *ALE call options* • recognised variables see page 256, *Recognised variable expansion*

`aletelcall <destination>[@<network>] <telephone number>`
`[from <self address>[@<network>]]`

where:

`<destination>[@<network>]` is the address [and network] of the station with a telephone interconnect unit.

`<telephone number>` is the telephone number to be dialled by the telephone interconnect unit.

from `<self address>[@<network>]` is the self address [and network] that you want to use for this call.

amd command

If you have the MIL-STD-188-141B ALE option installed, you can use the `amd` command to send a message within an existing ALE link. When you establish a link using a calling command that allows an ALE address, for example, `call` and `alecall`, you can send messages within the link. The message must be enclosed in quotes.

Syntax

`amd "<message>"`

where:

`<message>` is the written text message that is to be sent to the station. Use single or double quotes, or backslashes to recognise spaces in the message text (see page 433, *Using quotation marks*).

beacon command

If you have the MIL-STD-188-141B ALE option installed, you can use the `beacon` command to test the quality of channels in an ALE/CALM, Codan Selcall or Voice Only network before you use it to transmit voice or data. If you use the `beacon` command in an ALE/CALM network the information in the LQA database will also be replaced. The command sends a request to the addressed stations you want to call on a specific channel (`thischan`), or all channels, in the selected network. The receiving stations automatically respond with LQA information if the beacon is made in an ALE/CALM network.

The LQA information, or the volume and clarity of the returned test signal, indicate the quality of the channel(s).

Syntax

NOTE	You cannot use the ALL, ANY, or Wildcard address syntax in the `beacon` command.
NOTE	For more information on: • address syntaxes see page 254, *Addresses in commands* • call options see page 256, *ALE call options* • recognised variables see page 256, *Recognised variable expansion*

`beacon <destination>[@<network>] [s] [from <self address>[@<network>]]`

where:

`<destination>[@network]` is the address [and network] of the station that you want to call.

NOTE   If the network specified is ALE/CALM, the call will be an ALE call, and the ALE call options will be available.

`s` makes the call in Silent Mode.

`from <self address>[@<network>]` is the self address [and network] that you want to use for this call.

call command

Use the `call` command to establish a voice link with another station on the current channel in an ALE/CALM or a Codan Selcall network.

Syntax

NOTE   For more information on:
- address syntaxes see page 254, *Addresses in commands*
- call options see page 256, *ALE call options*
- recognised variables see page 256, *Recognised variable expansion*

`call <destination>[@<network>] [from <self address>[@<network>]]`

where:

`<destination>[@network]` is the address [and network] of the station that you want to call.

`from <self address>[@<network>]` is the self address [and network] that you want to use for this call.

If you have the FED-STD-1045 ALE/CALM option installed, you can use the ALL address syntax with the `call` command. If you have the MIL-STD-188-141B ALE option installed, you can use the ALL, ANY, Group Selective, NET, or Wildcard address syntax with the `call` command.

NOTE   You can use any of the characters in the basic 38 ASCII subset (A–Z, 0–9, @ and ?) for the address.

chan command

Use the `chan` command to:

- display the current channel in the transceiver
- change to the channel specified

NOTE	If you want to use the command to change to another channel, make sure that the channel has been programmed into the transceiver's Channel List (see page 119, *Programming the Channel List*).

Syntax

`chan`

`chan <name>`

where:

`chan` displays the name of the current channel.

`<name>` changes to the channel specified, if the channel has been programmed into the transceiver's Channel List. The name is case sensitive.

echo command

Use the `echo` command to control the local behaviour of the CICS serial interface. Use it to:

- display the current echo state
- switch the echo state on and off

The default setting is that echo is on. With echo on, any character that is typed is echoed (mirrored) back to the screen. This corresponds to the use of Full Duplex Mode in terminal settings. If you have an automated system, the recommended setting for the system is echo off, which corresponds to Half Duplex Mode. This avoids intermixing echoes of the commands you enter and the responses from the system.

Syntax

`echo`

`echo on`

`echo off`

where:

`echo` displays the current echo state of the interface.

`on` enables echoing of characters entered.

`off` disables echoing of characters entered.

freq command

Use the `freq` command to:

- display the receive and/or transmit frequencies of the current channel in the transceiver

- select a channel by the transmit frequency

NOTE   Specify the frequency in kilohertz and use a decimal point (.) to specify a fraction part.

Syntax

`freq`

`freq <frequency>`

where:

`freq` displays the receive and/or transmit frequencies of the current channel.

`<frequency>` specifies a receive frequency value in kilohertz. The transceiver searches for a channel with this frequency. If an exact match cannot be found, the channel with the next higher receive frequency is selected.

Limitations

When you select a channel by frequency, `CHAN: <name>` is displayed when the transceiver changes the channel to match the frequency you requested. If the transceiver is already on a channel that matches this frequency, only the frequency is displayed.

gpsbeacon command

Use the `gpsbeacon` command to request the current GPS position of another station.

NOTE	The transceiver of the receiving station *must* have the GPS option installed. If it has not been installed or GPS data is unavailable, a message is displayed to inform you of this.

Syntax

NOTE	The use of the ALL, ANY, Group Selective, NET, or Wildcard address syntax in the `gpsbeacon` command will not be effective due to collisions of responses.

NOTE	For more information on: • address syntaxes see page 254, *Addresses in commands* • call options see page 256, *ALE call options* • recognised variables see page 256, *Recognised variable expansion*

```
gpsbeacon <destination>[@<network>] [from <self
address>[@<network>]]
```

where:

`<destination>[@<network>]` is the address [and network] of the station from which you want to receive a GPS position.

`from <self address>[@<network>]` is the self address [and network] that you want to use for this call.

gpsposition command

Use the `gpsposition` command to send your current GPS position to another station. The call is automatically answered by the receiving station.

NOTE   The GPS option *must* be installed in your transceiver.

Syntax

NOTE
For more information on:
- address syntaxes see page 254, *Addresses in commands*
- call options see page 256, *ALE call options*
- recognised variables see page 256, *Recognised variable expansion*

`gpsposition <destination>[@<network>] [from <self address>[@<network>]]`

where:

`<destination>[@<network>]` is the address [and network] of the station to which you want to send your GPS position.

`from <self address>[@<network>]` is the self address [and network] that you want to use for this call.

If you have the FED-STD-1045 ALE/CALM option installed, you can use the ALL address syntax with the `gpsposition` command. If you have the MIL-STD-188-141B ALE option installed, you can use the ALL, ANY, Group Selective, NET, or Wildcard address syntax with the `gpsposition` command.

NOTE   You can use any of the characters in the basic 38 ASCII subset (A–Z, 0–9, @ and ?) for the address.

hangup command

Use the `hangup` command to close an active link created by a call with another station. If the transceiver was scanning before the call was made it will resume scanning once the link has been terminated.

Syntax

`hangup`

help command

Use the `help` command to:

- display the categories of help available
- display command details within categories

Syntax

```
help
help <category>
```

where:

`help` displays the categories of help available.

`<category>` displays detailed help for the commands within the specified category.

lbt command

Use the `lbt` command to:

- display the global LBT Mode
- perform a check on the current channel for the presence of data or voice

Syntax

```
lbt
lbt measure
```

where:

`lbt` displays the current LBT Mode.

`measure` checks the current channel for the presence of data or voice, then displays whether the channel is busy or vacant.

link command

If you have the MIL-STD-188-141B ALE option installed, you can use the `link` command to display the current link status of the transceiver.

Syntax

```
link
```

where:

`link` displays the current link status of the system.

lock command

Use the `lock` command to:

- display the current lock status of the transceiver

- set whether or not the transceiver is locked

- break a lock from another interface

When a lock is on the transceiver, it only responds to the interface issuing the command, that is, CICS. When more than one lock is on, a single `lock off` command releases the entire system.

Syntax

`lock`

`lock on`

`lock off`

`lock abort`

where:

`lock` displays the current lock state of the system.

`on` attempts to lock the system.

`off` releases the lock(s) on the system.

`abort` attempts to break a lock from another interface.

lqa command

If you have the MIL-STD-188-141B ALE option installed, you can use the `lqa` command to:

- display the LQA information from the current or last established ALE link since powerup of the transceiver

- enable or disable the asynchronous output of LQA information on LQA exchanges or soundings

The LQA information comprises local and remote data. The local LQA information indicates the quality of the signal that the local station has received from the remote station. The remote LQA information indicates the quality of the signal that the remote station has received from the local station.

NOTE	In order to receive remote LQA information, the remote station must have ALE LQA Exchange switched on (see page 96, *Changing a setting in the Control List* and page 200, *Entries in the Control List*).

Syntax

`lqa`

`lqa output`

`lqa output on`

`lqa output off`

where:

`lqa` displays the LQA information from the current or last established link since powerup of the transceiver.

`output` displays the current status of the asynchronous output.

`on` enables asynchronous output of LQA information, that is, displaying LQA output as it is sent or received. Information provided includes channel name, current station, local BER/SINAD, remote BER/SINAD, and LQA score.

`off` disables asynchronous output of LQA information (default powerup state).

mode command

Use the `mode` command to:

- display the mode setting for the current channel

- set a new mode setting for the selected channel (depending on the modes permitted for that channel)

A mode is a type of reception or transmission you can use with a channel. It consists of a sideband, an IF centre and IF width. Most transceivers have modes such as USB and LSB. However, transceivers can be configured with additional modes available under different names.

NOTE	The `mode` command and `sideband` command can be used interchangeably (see page 282, *sideband command*). If you are using CICS V3.20 (or later), the `mode` command is preferred.

Syntax

`mode`

`mode <name>`

where:

`mode` displays the mode of the current channel.

`<name>` sets the mode of the channel to the mode specified, but only if the mode is permitted for the channel.

pagecall command

Use the `pagecall` command to send a written message to another station. The receiving station automatically sends an acknowledgment response when the call is received.

NOTE   The permitted message length depends on the type of call system, the Privacy Mode selected, and the character set (see Table 34).

Table 34:   Variations in message length

Call system	Privacy Mode	Character set	Maximum message length (number of text characters)
ALE	Plain	ASCII-64	83–90
ALE	None	ASCII-256	64–84
ALE	Group	ASCII-256	50
ALE	Registered	ASCII-256	50
Codan Selcall	None	ASCII-127	64
Codan Selcall	Group	ASCII-256	64
Codan Selcall	Registered	ASCII-256	64

NOTE   ASCII-64: This protocol uses all upper-case and numeric characters and some punctuation characters.

NOTE   ASCII-127: This protocol uses all printable ASCII characters up to decimal 127.

NOTE   ASCII-256: This protocol uses full binary encoding of all 8-bit characters.

Syntax

NOTE   For more information on:
- address syntaxes see page 254, *Addresses in commands*
- call options see page 256, *ALE call options*
- recognised variables see page 256, *Recognised variable expansion*

`pagecall <destination>[@<network>] "<message>" [from <self address>[@<network>]]`

where:

`<destination>[@<network>]` is the address [and network] of the station to which you want to send the message.

`<message>` is the written text message that is to be sent to the station. Use single or double quotes, or backslashes to recognise spaces in the message text (see *page 433, Using quotation marks*).

`from <self address>[@<network>]` is the self address [and network] that you want to use for this call.

If you have the FED-STD-1045 ALE/CALM option installed, you can use the ALL address syntax with the `pagecall` command. If you have the MIL-STD-188-141B ALE option installed, you can use the ALL, ANY, Group Selective, NET, or Wildcard address syntax with the `pagecall` command.

NOTE   You can use any of the characters in the basic 38 ASCII subset (A–Z, 0–9, @ and ?) for the address.

prompt command

Use the `prompt` command to:

- set the type of prompt that will be displayed on the command interface

- disable the prompt output

Syntax

`prompt`

`prompt time`

`prompt <text string>`

`prompt off`

where:

`prompt` enables the prompt output on the command interface if it has been disabled previously and displays the current prompt type, that is, time or the text string.

`time` switches the prompt output to that of the time since the transceiver was last reset.

`<text string>` switches the prompt output to the text string entered.

`off` disables the prompt output on the command interface.

ptt command

Use the `ptt` command to:

- display the current PTT status of the transceiver

- switch between transmit and receive modes

- switch between voice and data modes

The `ptt` command operates for 30 seconds. If you require a longer PTT, repeat the `ptt on` command before the PTT times out.

Data Mode is the default mode when the transceiver is switched on, as PTT in CICS is generally only used with data applications.

Syntax

```
ptt
ptt on
ptt on voice
ptt on data
ptt on talk
ptt off
```

where:

`ptt` displays the current PTT state of the transceiver.

`on` switches the transceiver to Transmit Mode using the selected signal.

`off` switches the transceiver to Receive Mode using the selected signal.

`voice` switches the transceiver to send/receive voice (enhanced) signals.

`data` switches the transceiver to send/receive data (raw) signals.

`talk` switches the transceiver to send/receive compressed voice signals and holds the automatic gain control during breaks in speech.

scan command

Use the `scan` command to:

- display the current scanning state of the transceiver (if scanning is on, the name of the network being scanned is also displayed)

- control whether scanning is on or off

- specify the network to be scanned

NOTE   Issuing a `scan on` command when a lock is on will automatically unlock the interface (see).

Syntax

`scan`

`scan on`

`scan off`

`scan <network>`

where:

`scan` displays the current scanning state of the transceiver, that is, whether scanning is on or off.

`on` starts scanning all networks that are set to scan.

`off` stops scanning and enables channels to be changed manually.

`<network>` switches to the specified network and starts scanning that network.

secure command

NOTE
The `secure` command is only available when the voice encryptor hardware option is installed, and special firmware is programmed into the transceiver and enabled.

Use the `secure` command to:

- activate the voice encryptor feature in the 2110 SSB Transceiver
- display the current secure state of the transceiver (Corporate, Global or Off)
- select the secure index
- program the secure key
- set the default secure mode

Syntax

```
secure
secure corp [<PIN>]
secure global [<PIN>]
secure off
secure on [PIN]
```

where:

`secure` displays the current voice encryptor state.

`corp [PIN]` switches on Corporate Mode voice encryptor with or without a specified PIN.

`global [PIN]` switches on Global Mode voice encryptor with or without a specified PIN.

`off` switches off the voice encryptor feature.

`on [PIN]` switches on the voice encryptor using the mode set with the `secure mode corp` or `secure mode global` commands.

The following `secure` commands are available following the `login admin` command:

```
secure index
secure key [#n] [<key-code>]
secure mode corp
secure mode global
```

where:

`secure index` selects one of the different Corporate keys if the secure key #n has been set.

secure key [#n] [<key-code>] sets the Corporate key for index n (8 digits for index 1; 16 digits for indices 2–n). #0 sets the base key, which alters all of the keys.

secure mode corp sets the default voice encryptor mode to use the Corporate key.

secure mode global sets the default voice encryptor mode to use the Global key.

selbeacon command

Use the selbeacon command to test the quality of a selected channel before you use it to transmit voice or data. The command sends a request to the station you want to call on the channel you have selected. This receiving station automatically responds with an audible test signal. The volume and clarity of the returned signal indicates the quality of the channel.

Syntax

NOTE   You cannot use the ALL, ANY, Group Selective, NET, or Wildcard address syntax with a selbeacon command.

For more information on:

NOTE
- address syntaxes see page 254, *Addresses in commands*
- recognised variables see page 256, *Recognised variable expansion*

selbeacon <destination>[@<network>] [s] [from <self address>[@<network>]]

where:

<destination>[@network] is the address [and network] of the station that you want to call.

s makes the call in Silent Mode.

from <self address>[@<network>] is the self address [and network] that you want to use for this call.

selcall command

Use the `selcall` command to make a Selective call to an addressed station.

Syntax

NOTE   You cannot use the ALL, ANY, Group Selective, NET, or Wildcard address syntax with a `selcall` command.

NOTE
For more information on:
- address syntaxes see page 254, *Addresses in commands*
- call options see page 256, *ALE call options*
- recognised variables see page 256, *Recognised variable expansion*

```
selcall <destination>[@<network<] [s] [from <self
address>[@<network>]]
```

where:

`<destination>[@network]` is the address [and network] of the station that you want to call.

NOTE   If the network specified is ALE/CALM, the call will be an ALE call, and the ALE call options will be available.

`s` makes the call in Silent Mode.

`from <self address>[@<network>]` is the self address [and network] that you want to use for this call.

selfid command

A self address is an address for your station. Other stations can selectively call your station using your self address. You can set a number of self addresses for your station.

Use the `selfid` command to:

- display the current list of self addresses for the CICS interface
- create new self addresses for the CICS interface
- change the current self addresses for the CICS interface

The initial list of self addresses used by the CICS interface are those that currently exist in the Address entry in the Control List of the transceiver.

NOTE   Changes to the list of self addresses used by the CICS interface will not affect the list of self addresses in the Address entry in the Control List of the transceiver. The changes are lost when the transceiver is switched off.

Syntax

```
selfid
```

```
selfid <self address>[, <self address>]
```

where:

`selfid` displays your current list of self addresses used by the CICS interface.

`<self address>` sets the self addresses for the CICS interface to the one or more addresses specified on the command line. The addresses can be simple or fully qualified, for example, `12359` or `12359@*SELCALL`, `RICKY` or `RICKY@PRIMWEST`. If no network is specified, the self address applies to all networks.

Limitations

The only calls displayed are those addressed to the list of self addresses used by the CICS interface. When the 2110 SSB Transceiver is switched on, all self addresses assigned to networks are added to the list of self addresses for CICS by default. When a self address is added through CICS, these default addresses are removed from the list and the new one is added.

If the Address entry in the Control List of the transceiver contains wildcard self addresses, for example, 12.., these are only used by CICS in RTU–282/292 mode.

set command

Use the `set` command to:

- display the current option(s) available
- change the setting of the GP input to lock or pause

When the GP port Q line input is asserted, scanning on the transceiver is stopped via a lock or a pause, as specified in this command.

Syntax

```
set
```

```
set gp lock
```

```
set gp pause
```

where:

`set` displays the options available.

`gp lock` locks the GP input.

`gp pause` pauses the GP input.

sideband command

Use the `sideband` or `sb` command to:

- display the sideband for the current channel

- select the sideband for the current channel, if it is permitted for that channel

The sidebands are:

- USB

- LSB

- AM

NOTE	The `sideband` and `mode` commands can be used interchangeably (see page 273, *mode command*). If you are using CICS V3.20 (or later), the `mode` command is preferred.

Syntax

`sideband`

`sideband usb`

`sideband lsb`

`sideband am`

`sb`

`sb usb`

`sb lsb`

`sb am`

where:

`sideband` or `sb` displays the sideband for the current channel.

`usb` selects USB for the current channel, if it is permitted for that channel.

`lsb` selects LSB for the current channel, if it is permitted for that channel.

`am` selects AM for the current channel, if it is permitted for that channel.

sound command

NOTE   The `sound` command will only have an effect in transceivers that have the MIL-STD-188-141B ALE option installed.

Use the `sound` command to:

- display the current status of ALE sounding operations, that is, on or off

- enable or disable ALE sounding operations

- initiate an ALE sounding operation

The `sound` command may be used regardless of the scanning state of the transceiver. It will occur in all ALE/CALM networks that have a valid self address and are set to be scanned. ALE sounding operations will not occur if the transceiver is in a link with another transceiver.

Syntax

NOTE   For more information on:

- address syntaxes see page 254, *Addresses in commands*
- call options see page 256, *ALE call options*
- recognised variables see page 256, *Recognised variable expansion*

```
sound
```

```
sound on
```

```
sound off
```

```
sound now [from <self address>[@<network>]]
```

where:

`sound` displays the current status of ALE sounding operations.

`on` enables automatic ALE sounding to occur in networks that have a sounding interval set (see page 128, *Programming the Network List*).

`off` disables automatic ALE sounding operations from the command interface.

`now` initiates an ALE sounding operation in all ALE/CALM networks that have a valid self address and are set to be scanned.

`from <self address>[@<network>]` initiates an ALE sounding operation on the specified self address in all ALE/CALM networks that are set to be scanned and for which this self address is valid.

statusack command

Use the `statusack` command to send a reply to a Get Status call you have received. A status call acknowledgment response contains the status information requested. It is sent automatically if a status call requesting remote diagnostics (1) was sent (see page 284, *statuscall command*). The `statusack` command must be sent within the statustime specified by the station that sent the call (see page 285, *statustime command*).

Syntax

`statusack <destination>[@<network>] "<message>"`

where:

`<destination>[@<network>]` is the address [and network] of the station that requested the status information.

`<message>` is the status information requested by the station that sent the status call. The message is sent within single or double quotes to allow the use of spaces in the message.

statuscall command

Use the `statuscall` command to obtain information on the status of a transceiver or attached equipment at another station. A status call is typically used to request information about a remote transceiver.

NOTE	For a description of each type of status information see page 335, *Get Status calls* specific to the model of your 2110 SSB Transceiver.

When you request status information, you need to specify the type of information you require. To request diagnostic information enter '1' as the message.

The receiving station will automatically send the status information requested. The receiving station is required to respond to a status call within the timeout period (see page 285, *statustime command*). If a response to a status call is not sent within the timeout period an error message is displayed.

Syntax

NOTE	The use of the ALL, ANY, Group Selective, NET, or Wildcard address syntax in the `statuscall` command will not be effective due to collisions of responses.
NOTE	For more information on: • address syntaxes see page 254, *Addresses in commands* • call options see page 256, *ALE call options* • recognised variables see page 256, *Recognised variable expansion*

`statuscall <destination>[@<network>] "<message>" [from <self address>[@<network>]]`

where:

`<destination>[@<network>]` is the address of the station from which you require status information.

`<message>` is the number that corresponds to the type of status information that you request, that is, '1' for remote diagnostics.

`from <self address>[@<network>]` is the self address [and network] that you want to use for this call.

statustime command

Use the `statustime` command to specify the amount of time that the receiving station has to respond to a status call (see page 284, *statuscall command*). The response can be the requested information or a `STATUSNACK`.

NOTE

Be aware that the 2110 SSB Transceiver adds 45 seconds to the statustime you have entered. For example, if you have entered 10 seconds for the statustime, the receiving station has 10 seconds to prepare the response and 45 seconds to send the call to the requesting station.

If a `statusack` response is not received on the CICS port of the receiving station within this time, a message is displayed to inform you of this.

You can use the `statustime` command to:

- display the current statustime

- set a new statustime

Syntax

`statustime`

`statustime <timeout value>`

where:

`statustime` displays the current timeout value (in seconds).

`<timeout value>` sets the time (in seconds) in which the receiving station has to respond to a statuscall.

Limitations

The timeout value is local to this CICS interface.

telcall command

Use the `telcall` command to make a call to a telephone number.

NOTE	Before you can make a Phone call you need to know the address of a station with a telephone interconnect unit (for example, JPS RTU–282/292) through which your call can be routed to the public telephone network.

Syntax

NOTE	For more information on: • address syntaxes see page 254, *Addresses in commands* • call options see page 256, *ALE call options* • recognised variables see page 256, *Recognised variable expansion*

```
telcall <destination>[@<network>] <telephone number> [from
<self address>[@<network>]]
```

where:

`<destination>[@<network>]` is the address [and network] of the station with a telephone interconnect unit.

`<telephone number>` is the telephone number to be dialled by the telephone interconnect unit.

`from <self address>[@<network>]` is the self address [and network] that you want to use for this call.

ver command

Use the `ver` command to display the version of CICS that is being used.

Syntax

```
ver
```

Summary of command syntax

Table 35 summarises the syntax of each CICS command.

Table 35:   Summary of CICS command syntax

Command syntax	Function

`alebeacon`
`<destination>[@<network>]`
`[±lbt] [±lqa] [s] [from <self`
`address>[@<network>]]`
	Makes a Channel Test call to addressed stations using any, or the specified, ALE/CALM network from the self address specified.

`alecall`
`<destination>[@<network>]`
`[±lbt] ["<message>"] [±lqa]`
`[<amd>] [from|tis|twas <self`
`address>[@<network>]]`
	Makes a call to addressed stations using any, or the specified, ALE/CALM network from the self address specified.

`aletelcall`
`<destination>[@<network>]`
`[±lbt] [±lqa] <telephone`
`number> [from <self`
`address>[@<network>]]`
	Makes a Phone call to addressed stations using any, or the specified, ALE/CALM network from the self address specified.

`amd "<message>"`	Sends a message within the established ALE link.

`beacon`
`<destination>[@<network>]`
`[±lbt] [±lqa] [s] [from <self`
`address>[@<network>]]`
	Makes a Channel Test call to addressed stations using any, or the specified, ALE/CALM or Codan Selcall network. This type of beacon is independent of the call system.

`call <destination>[@<network>]`
`[±lbt] [±lqa] [from <self`
`address>[@<network>]]`
	Makes a call to addressed stations using any, or the specified, ALE/CALM or Codan Selcall network from the self address specified.

`chan [<name>]`	Displays the current channel, and switches to the channel specified.
`echo [off|on]`	Displays the current echo status, and switches to Half Duplex Mode (off) or Full Duplex Mode (on, default).
`freq [<frequency>]`	Displays the common receive/transmit frequency or the separate receive and transmit frequencies (in kHz) for the current channel, or selects the channel that has the receive frequency specified (in kHz). If the channel with the exact receive frequency is not found, the channel with the next higher frequency is selected.

`gpsbeacon`
`<destination>[@<network>]`
`[±lbt] [from <self`
`address>[@<network>]]`
	Makes a Get Position call to an addressed station using any, or the specified, ALE/CALM or Codan Selcall network from the self address specified.

Table 35:   Summary of CICS command syntax (cont.)

Command syntax	Function
`gpsposition <destination>[@<network>] [±lbt] [±lqa] [from <self address>[@<network>]]`	Makes a Send Position call to addressed stations using any, or the specified, ALE/CALM or Codan Selcall network from the self address specified.
`hangup`	Closes an active link between your transceiver and the station that you are calling.
`help [<category>]`	Displays the categories of help available, and detailed help for the commands within the selected category.
`lbt [measure]`	Displays the current LBT Mode, and performs a check on the current channel for the presence of data or voice.
`link`	Displays the current link status of the transceiver.
`lock [abort|off|on]`	Displays the current lock status of the transceiver, attempts to break a lock, releases all locks, or sets a lock.
`lqa [output [off|on]]`	Displays: • the LQA information from the current or last established ALE link since powerup of the transceiver • the current status of the asynchronous output Sets the asynchronous output of LQA information to: • off (no output, default) • on (channel name, current station, local BER/SINAD, remote BER/SINAD, and LQA score)
`mode [<name>]`	Displays the mode of the current channel, and sets the mode of the current channel to that specified, if the mode is permitted for that channel.
`pagecall <destination>[@<network>] [±lbt] [±lqa] "<message>" [from <self address>[@<network>]]`	Makes a Send Position call to addressed stations using any, or the specified, ALE/CALM or Codan Selcall network from the self address specified. Your message must be written within double or single quotes. See Table 34 on page 274 for details on the message length.
`prompt [off|<text string>|time]`	Enables the prompt output on the command interface and displays the current prompt type, switches between a variable text string prompt or the time prompt (time since the transceiver was last reset), and disables the prompt.
`ptt [off|on] [data|voice|talk]`	Displays the current PTT state of the transceiver and places the transceiver into PTT for 30 seconds. Sets the PTT to: • Receive Mode with a data, voice or talk signal • Transmit Mode with a data, voice or talk signal

Table 35:   Summary of CICS command syntax (cont.)

Command syntax	Function
`scan [<network>|off|on]`	Displays the current scanning state of the transceiver, and if scanning is on, displays the names of networks that are currently being scanned. Switches scanning off or on and switches to the network specified and begins scanning on that network.
`secure [[corp|global|off|on [PIN]]]`	Displays the current voice encryptor state, switches on Corporate/Global Mode or the default mode voice encryptor with or without a specified PIN, and switches secure mode off.
`secure index`	Selects 1 of n different Corporate keys. Requires login by administrator.
`secure key [#n] [<key-code>]`	Sets the Corporate key for an index n. Requires login by administator.
`secure mode [corp|global]`	Sets the default mode voice encryptor (Corporate or Global). Requires login by administrator.
`selbeacon <destination>[@<network>] [s] [from <self address>[@<network>]]`	Makes a Channel Test call to an addressed station using any, or the specified, ALE/CALM or Codan Selcall network from the self address specified.
`selcall <destination>[@<network>] [±lbt] [±lqa] [s] [from <self address>[@<network>]]`	Makes a Selective call to an addressed station using any, or the specified, ALE/CALM or Codan Selcall network from the self address specified. If the network specified is ALE/CALM, the call will be an ALE call, and the ALE call options will be available.
`selfid [<self address>[, <self address>]]`	Displays the current list of self addresses used by CICS, and creates new self addresses for CICS.
`set [gp lock|pause]`	Displays the current operational settings for CICS, and locks or pauses a GP input.
`sideband [am|lsb|usb]` `sb [am|lsb|usb]`	Displays the sideband of the current channel, and changes the sideband of the current channel to AM, LSB or USB, *only* if permitted for that channel.
`sound [off|on]`	Displays the current status of ALE sounding operations, and switches automatic ALE soundings off or on.
`sound now [±lbt] [±lqa] [from <self address>[@<network>]]`	Initiates an ALE sounding operation in all ALE/CALM networks that have a valid self address and are set to be scanned.
`statusack <destination>[@<network>] "<message>"`	Sends a response to a Get Status call with the status information requested.

Table 35:   Summary of CICS command syntax (cont.)

Command syntax	**Function**

`statuscall`
`<destination>[@<network>]`
`[±lbt] [±lqa] "<message>"`
`[from <self`
`address>[@<network>]]`
	Makes a Get Status call to an addressed station using any, or the specified, ALE/CALM or Codan Selcall network from the self address specified.

`statustime [<timeout value>]`	Displays the amount of time (in seconds) the receiving station has to respond to a Get Status call, and sets this time.

`telcall`
`<destination>[@<network>]`
`[±lbt] [±lqa] <telephone`
`number> [from <self`
`address>[@<network>]]`
	Makes a Phone call to addressed stations using any, or the specified, ALE/CALM or Codan Selcall network from the self address specified.

`ver`	Displays the version of CICS being used.

CICS response messages

Table 36 summarises CICS response messages and their meanings.

Table 36:   CICS response messages

Response message	Description
`ALE-EXIT: <address>`	The station specified has hung up from the link.
`ALE-JOINED: <address>`	The station specified has responded to an ANY, Group Selective, NET, or Wildcard call. The ANY, NET, and Wildcard calls may also contain multiple addresses.
`ALE-LINK: <channel>, <caller address>, <self address>, <time>`	An ALE link has been established.
`ALE-LINK: FAILED`	The ALE link between your transceiver and the station you are calling has failed because the outgoing call was not started or was aborted. This message is preceded by a message stating the reason for the failure.
`ALE-REPLY: <caller address>, "<message>"`	The station specified has replied to your call with an AMD message.
`CALL DETECTED`	A call has been detected.
`CALL FAILED`	An outgoing call has not started or was aborted. This message is preceded by a message stating the reason for the failure.
`CALL SENT`	An outgoing call has been sent.
`CALL STARTED`	An outgoing call has been initiated.
`CHAN: <name>`	The transceiver has changed the channel to that specified. This message is only shown when the system is not scanning. Names that include spaces are displayed within double quotes.
`CICS: V<version number>`	The current version status of CICS.
`ECHO: OFF`	Echo is switched off, that is, Half Duplex mode.
`ECHO: ON`	Echo is switched on, that is, Full Duplex mode.
`EMERGENCY: <channel>, <caller address>, <destination>, <date> <time>, [<gps position>|NO GPS UNIT CONNECTED|NO VALID GPS POSITION]`	An Emergency call has been received.
`FREQ: xxxxx.x RX, INHIBIT TX`	The receive frequency of the current channel. The transmit frequency is inhibited or it is a TxD channel.

Table 36:   CICS response messages (cont.)

Response message	Description
FREQ: xxxxx.x RX, yyyyy.y TX	The receive and transmit frequencies of the current channel.
FREQ: xxxxx.x RX/TX	The receive and transmit frequencies (in kHz) of the current channel are the same.
GPS-POSITION: <channel>, <caller address>, <self address>, <date> <time>, <gps position>|NO GPS CONNECTED|NO VALID GPS POSITION	The GPS position of another station has been received.
LBT: ABORTED	The LBT measurement process has been aborted.
LBT: ALL CHANNELS BUSY	All of the channels tested for voice and data were busy. No call was sent.
LBT: DISABLED	The global LBT Mode is disabled.
LBT: ENABLED	The global LBT Mode is enabled.
LBT: OCCUPIED	The channel tested is occupied with traffic.
LBT: VACANT	The channel tested is clear of voice and data traffic.
LINK: CLOSED	The ALE link between your station and another station has been closed.
LINK: INCOMING	The ALE link between your station and another station is active, and your station is the recipient.
LINK: OUTGOING	The ALE link between your station and another station is active, and your station is the originator.
LOCK	The GP input has been set to lock.
LOCK: ABORT	A lock is released from another interface.
LOCK: BUSY	The system is locked and cannot be used from this interface.
LOCK: OFF	The system is currently unlocked.
LOCK: ON	The system is currently locked.
LQA: <channel>, <remote station address>, <local BER/SINAD>, remote BER/SINAD>, <LQA score>%	The LQA information from the current or last established ALE link since powerup of the transceiver has been requested. The LQA information comprises BER/SINAD values for the link, and the LQA score. An invalid value is represented by a hyphen.
LQA-OUTPUT: OFF	The asynchronous output of LQA information has been disabled.
LQA-OUTPUT: ON	The asynchronous output of LQA information has been enabled, that is, LQA output is displayed as it is sent or received.

Table 36: CICS response messages (cont.)

Response message	Description
`MODE: <name>, <sideband>, <ifwidth>, <ifcentre>`	The current mode of the channel.
`NO EXTERNAL UNIT CONNECTED OR NO RESPONSE`	A Get Status call has been sent to a transceiver that does not have the required equipment attached.
`NO RESPONSE`	A Get Status call has been sent and the receiving station has not responded to your request for information.
`OK`	The command has been accepted and is being processed. Normally displayed for any command that does not respond with some value immediately.
`Options: gp`	Identifies GP input as the only option that can be changed by the user. You can change the setting of the GP input to lock or pause.
`PAGE-CALL: <channel>, <caller address>, <self address>, <date> <time>, "<message>"`	A Message call has been received.
`PAGE-CALL-ACK: <channel>, <self address>, <caller address>, <date> <time>`	A Message call acknowledgment response has been received.
`PAUSE`	The GP input has been set to pause.
`PROMPT: <time>|<text string>`	The mode of the current prompt has been requested.
`PTT: OFF`	PTT is currently off, that is, the local transceiver is in Receive Mode.
`PTT: ON [, DATA|VOICE|TALK]`	PTT is currently on, that is, the local transceiver is in Transmit Mode. Data is the default mode.
`PTT: REJECTED`	You cannot transmit.
`SCAN: ALE, <network>, <network>`	Scanning has started on the ALE/CALM networks specified.
`SCAN: OFF`	Scanning has stopped.
`SCAN: ON, <network>, <network>`	Scanning has started on the networks specified.
`SECURE INDEX`	The index of the Corporate key currently in use.
`SECURE MODE: CORP|GLOBAL`	The current default setting of the voice encryptor.
`SECURE: CORP|GLOBAL [PIN]`	The current state of the voice encryptor.
`SECURE: OFF`	The current state of the voice encryptor.
`SELCALL: <channel>, <caller address>, <self address>, <date> <time>`	A Selective call has been received.

Table 36:   CICS response messages (cont.)

Response message	Description
SELFID-LIST: <self address>, <self address>, <self address>	The list of current self addresses used by the CICS interface.
SIDEBAND: AM	The sideband for the current channel is AM.
SIDEBAND: LSB	The sideband for the current channel is LSB.
SIDEBAND: USB	The sideband for the current channel is USB.
SOUNDING: FAILED	The ALE sounding operations have been aborted before completion.
SOUNDING: FINISHED	The ALE sounding operations have been completed.
SOUNDING: OFF	The ALE sounding operations have been disabled.
SOUNDING: ON	The ALE sounding operations have been enabled.
SOUNDING: STARTED <self address>@<network>	The ALE sounding operations have commenced.
STATUS-ACK: <channel>, <caller address>, <self address>, <date> <time>, "<message>"	A Get Status call acknowledgment response has been requested and sent.
STATUS-CALL: <channel>, <caller address>, <self address>, <date> <time>, "<message>"	A Get Status call request message has been received.
STATUS-CALL-ACK: <channel>, <caller address>, <self address>, <date> <time>, "<message>"	A Get Status call acknowledgment response has been requested and sent.
STATUSTIME: <n>	The current timeout value, where *n* is the amount of time (in seconds) the receiving station has to respond to a Get Status call.
TEL-CALL: <channel>, <caller address>, <self address>, <date> <time>, <telephone number>|DISCONNECTED	A Phone call has been received or disconnected.

CICS error messages

Table 37 summarises CICS error messages and their meanings.

Table 37:   CICS error messages

Error message	Description
ERROR: Admin access required	The command that you entered requires an administrator login. Type `login admin`. Enter the admin password for the transceiver connected.
ERROR: ALE beacon not allowed	The call type used for the call is not installed in the transceiver. Select another call type, or if you want to use the call type, contact your Codan representative.
ERROR: AMD call failed	The message that you have sent within an established link has failed.
ERROR: Bad command	The syntax of the command entered is incorrect. Use the `help` command to look for the categories of available commands and use the `help <category>` command to get information on the available commands within a category. For information on CICS functionality use the `help cics` command.
ERROR: Call failed	The outgoing call has not started. This message is preceded by a message stating the reason for the failure. Check the destination address and use the `selbeacon` command to send a Channel Test call to the destination. You may need to select another frequency.
ERROR: Call reply error XXX	There has been an internal problem making the call. Under normal conditions this error should not occur. Switch the transceiver off then on again.
ERROR: Call type not allowed	This type of call cannot be made. Check if the option associated with the call type is installed in the transceiver.
ERROR: Channel not found	The channel you entered is not programmed in the transceiver. Either program the channel into your transceiver, or select another channel for the call.
ERROR: Citizen band frequency but not citizen band channel	You are not permitted to transmit on this CB frequency as it does not correspond with a CB channel within the transceiver. Select another frequency.
Error: Command failed	The command you entered has failed. Check the syntax required for the command.
ERROR: Data too long	The message is too long. Shorten the message, or split the message over a number of calls. The maximum number of characters permitted in a call type is provided in Table 34 on page 274.
ERROR: FROM selfid <self address> not valid	The self address contains characters that are not permitted. Check that the self address is correct for the type of network in which it is being used (see page 69, *Entering your station self address*).

Table 37:   CICS error messages (cont.)

Error message	Description

`ERROR: Internal error`
`ERROR: Internal error`
`XXXX`
`ERROR: Internal get`
`ERROR: Internal set`
	Under normal conditions this error should not occur. It is an indication that something went wrong with internal processing. Contact your Codan representative.

`ERROR: Invalid address`	The destination address that you are using for the call contains characters that are not permitted, or the statusack has an invalid source address. Check all addresses for the call.
`ERROR: Invalid call options`	The call options that you have entered for the call: • do not match those allowed for the call system • have been repeated • are not recognised when inserted after a message
`ERROR: Invalid call type for network`	The call type used for the call is not supported by the network. Select a call type that is valid for the network, or select a different network.
`ERROR: Invalid call type or selfid for scanning networks`	You have started a call during scanning. CICS attempts to select the first suitable network, however in this case, there are no suitable networks. Do one of the following before making the call again: • switch off scanning • specify the network for the call • select a different call type • select a different self address
`ERROR: Invalid characters in selfid`	The self address contains characters that are not permitted. Check that the self address is correct for the type of network in which it is being used (see page 69, *Entering your station self address*).
`ERROR: Invalid destination address`	The destination address used for the call type or network is incorrect, for example, alpha characters in a Codan Selcall network. Correct the destination address and try the call again.
`ERROR: Invalid network name`	The name of the network used for the call does not exist or does not support the call type (see page 123, *Network Name*).
`ERROR: Invalid selfid for specified address`	The entry in the self address list is incorrect. Check that the self address and assigned networks in the self address list are correct.
`ERROR: Invalid selfid for specified network`	The self address contains characters that are not permitted by the network specified, for example, alpha characters in a Codan Selcall network. Correct the self address.
`ERROR: Invalid selfid network`	The network in the self address list is incorrect. The self address list has been updated with a network using the `selfid` command. The network specified does not exist. Select a valid network for the self address.

Table 37: CICS error messages (cont.)

Error message	Description
`ERROR: Invalid source address`	The self address used for the call has not been accepted. Check that the self address is correct for the network's call system.
`ERROR: LBT option not installed`	You have attempted to use LBT but it is not installed in your transceiver.
`ERROR: LBT wrong mode`	You have attempted to use LBT when the transceiver is unable to perform LBT, for example, when the transceiver is scanning.
`ERROR: Low battery voltage`	CICS has attempted a PTT and detected that the battery voltage is low. Recharge the battery.
`ERROR: Max index allowed is n`	You have attempted to set a Secure Index that is greater than `n`. Enter a Secure Index that is less than or equal to `n`.
`ERROR: Message not allowed`	A message is not allowed with this call type. Select another call type, or if you want to use this call type with a message, contact your Codan representative.
`ERROR: Message too big`	The message length is too long. Shorten the message, or split the message over a number of calls. The maximum number of characters permitted in a call type is provided in Table 34 on page 274.
`ERROR: Mode is not allowed`	The mode is not permitted for the selected channel. Select another mode.
`ERROR: Mode not found`	The mode requested is not available on this transceiver. Select another mode.
`ERROR: Network in address not found`	The network used in the call address is not programmed in the Network List of the transceiver. Either program the network into your transceiver, or select another network for the call.
`ERROR: Network not found`	You have used the `scan [on|off|<network>]` command. The network specified is not programmed in the Network List of the transceiver. Repeat the `scan` command using `on`, `off` or a valid network name.
`ERROR: No active link`	You have used the `hangup` command, but no call is currently in progress.
`ERROR: No ale network`	You have used the `alecall` or `aletelcall` commands. The transceiver has searched for an ALE/CALM network but one was not found.
`ERROR: No call system for current channel`	You have made a call on the currently selected channel and mode (scan is off). No channel is specified in the call information. CICS searches all networks for one that contains the currently selected channel and mode, but has not found a network. Select another channel and/or mode.

Table 37:   CICS error messages (cont.)

Error message	Description
ERROR: No channels found	You have made a call on the currently selected channel (scan is off), but a channel cannot be selected because no channels are programmed or you were in free tune (see page 231, *Using the transceiver in free tune and Amateur Mode*). Exit free tune if required. Program some channels into your transceiver, or if not permitted to do so, contact your Codan representative.
ERROR: No GPS unit connected	You have sent GPS information in a call, however, the transceiver has detected that a GPS unit is not connected in the system. Check the cable connections to the GPS unit and that the RS232 mode and speed entries in the Control List are set correctly. The GPS option must also be installed.
ERROR: No key at this index	You have selected a Secure Index that does not have a Secure Key set. Select another index, or program a key for this index.
ERROR: No link available	There is no link available to the addressed station. This is caused by updates occurring in the transceiver unit. Wait a few minutes for the link to be established. If the link is still unavailable, try the call again.
ERROR: No modes programmed	No modes are programmed in the transceiver. Contact your Codan representative.
ERROR: No modes with this sideband	No modes are programmed with this sideband. Contact your Codan representative.
ERROR: No network for selfid	The command entered included a self address for which there is no suitable network, for example, the self address contained alpha characters but there is no ALE/CALM network.
ERROR: No networks found	You have set the transceiver to scan or are making a call while scanning is on, but the transceiver cannot find any networks that are set to be scanned. Change the Scan Network setting in the networks that you want to scan (see page 128, *Programming the Network List*).
ERROR: No response from RF unit	There has been a problem making the call or requesting PTT such that there is no response from the transceiver unit. Check cable connections. Wait for a minute or two for the transceiver unit to recover automatically.
ERROR: No selfid	You have made a call on the currently selected channel (scan is off) without specifying a network. The transceiver has located a network containing the channel, but no self address is set for this network in the self ID list. Select a different channel, select a self address to use with the network, or specify a network that has a valid self address in the call information.
ERROR: No selfid for network	The specified network does not have a self address. Check the command syntax and the self address list.

Table 37: CICS error messages (cont.)

Error message	Description
`ERROR: Not installed`	You have attempted to send an AMD message, request LQA information, or perform a sounding operation. The options required to perform these activities are not installed in your transceiver. If you want to perform these activities, contact your Codan representative.
`ERROR: No valid GPS position`	The GPS position is either too old or not valid yet. Check the cables connected to the GPS unit.
`ERROR: Not an ALE network`	The command entered requires an ALE/CALM network, but the network specified with the command is not an ALE/CALM network.
`ERROR: Not supported`	The request cannot be executed because the option is not installed in your transceiver. If you want to use the option, contact your Codan representative.
`ERROR: PTT active`	The transceiver is currently transmitting and prevents the command from being executed. For example, you will *not* be able to change channels when the system is transmitting. Wait until the transceiver has completed the transmission, then send the new command.
`ERROR: PTT rejected`	PTT did not succeed. For more information see page 318, *PTT rejected from <location of PTT: reason>*.
`ERROR: Request failed`	The information requested cannot be retrieved from the RF unit. Check the cable connections.
`ERROR: Scan list empty`	The `scan on` command failed because no networks are set for scanning, these networks do not contain any channels, or the Scan Allow entry is disabled. The `scan <network>` command failed because these networks do not contain any channels, or the Scan Allow entry is disabled. Change the Scan Network entry to Scan (see page 123, *Scan Network*), add channels to the network if necessary, or enable the Scan Allow entry.
`ERROR: Scanning is on`	The system is currently scanning and cannot complete the command. Use the `scan off` command to switch off scanning, then try the new command again.
`ERROR: Secure is On`	The command you entered is not allowed while the Voice Encryptor option is active. Use the `secure off` command to exit secure mode, then try the new command again.
`ERROR: Selfid list empty`	Your transceiver does not have any self addresses programmed.
`ERROR: Selfid list too long`	There are too many self addresses in the self address list. Delete self addresses until the list contains no more than 20 self addresses.
`ERROR: Selfid too long`	The self address or the total length of the self address and network name exceeds a specified limit for the call system used in the network. Shorten the length of the self address and/or the network name.

Table 37:   CICS error messages (cont.)

Error message	Description
ERROR: Sideband not allowed	The sideband is not permitted for this channel. Select another mode.
ERROR: Synthesiser is unlocked	You cannot transmit while the synthesiser is unlocked. Switch the transceiver off then on again. If the error persists, contact your Codan representative.
ERROR: System is busy	There has been a problem making the call or updating the self address list. Wait for a few minutes, then repeat the command.
ERROR: System locked	The system is locked and the command cannot be executed. Wait for the lock to be released (for example, a data call ending), or to timeout, then try the command again.
ERROR: Too many group IDs	You are making a call using the Group Selective address syntax, however you have entered too many addresses (see page 254, *Addresses in commands*).
ERROR: Transceiver cut out	The PTT has timed out according to the value set in the Cfg PTT Cutout Time entry in the Control List. If your transmission is long, set the Cfg PTT Cutout Time entry to 30 minutes.
ERROR: Transceiver is tuning	The PTT command has been rejected because the transceiver is currently tuning. Wait until the transceiver completes the tuning cycle, then try the ptt command again.
ERROR: Transmit inhibited	You have tried to transmit on a receive-only channel. Select a channel that has a transmit frequency.
ERROR: Tx disabled because of TPE link	You are not permitted to transmit a signal with the TPE link in its current position and the programming options installed in your transceiver. Contact your Codan representative.
ERROR: Unable to send data	There has been a problem sending data with the call. This message is preceded by a message stating the reason for the data not being sent. Refer to the description for the previous message to resolve the problem.
ERROR: Unknown network name in selfid	The network for the self address does not exist as the network may have been deleted after it was allocated to the self address. Program the network into the Network List in your transceiver, or edit the self address so that it uses a current network.
ERROR: XR or VP not installed	You have attempted to use a voice encryption option that is not installed in your transceiver. If you want to use this option, contact your Codan representative.

20 Connectors

This section contains the following topics:

WARNING   Only suitably qualified personnel should use the information contained in this section. Failure to observe this warning could result in damage to the transceiver.

Front panel

Figure 47: Front panel of the transceiver unit
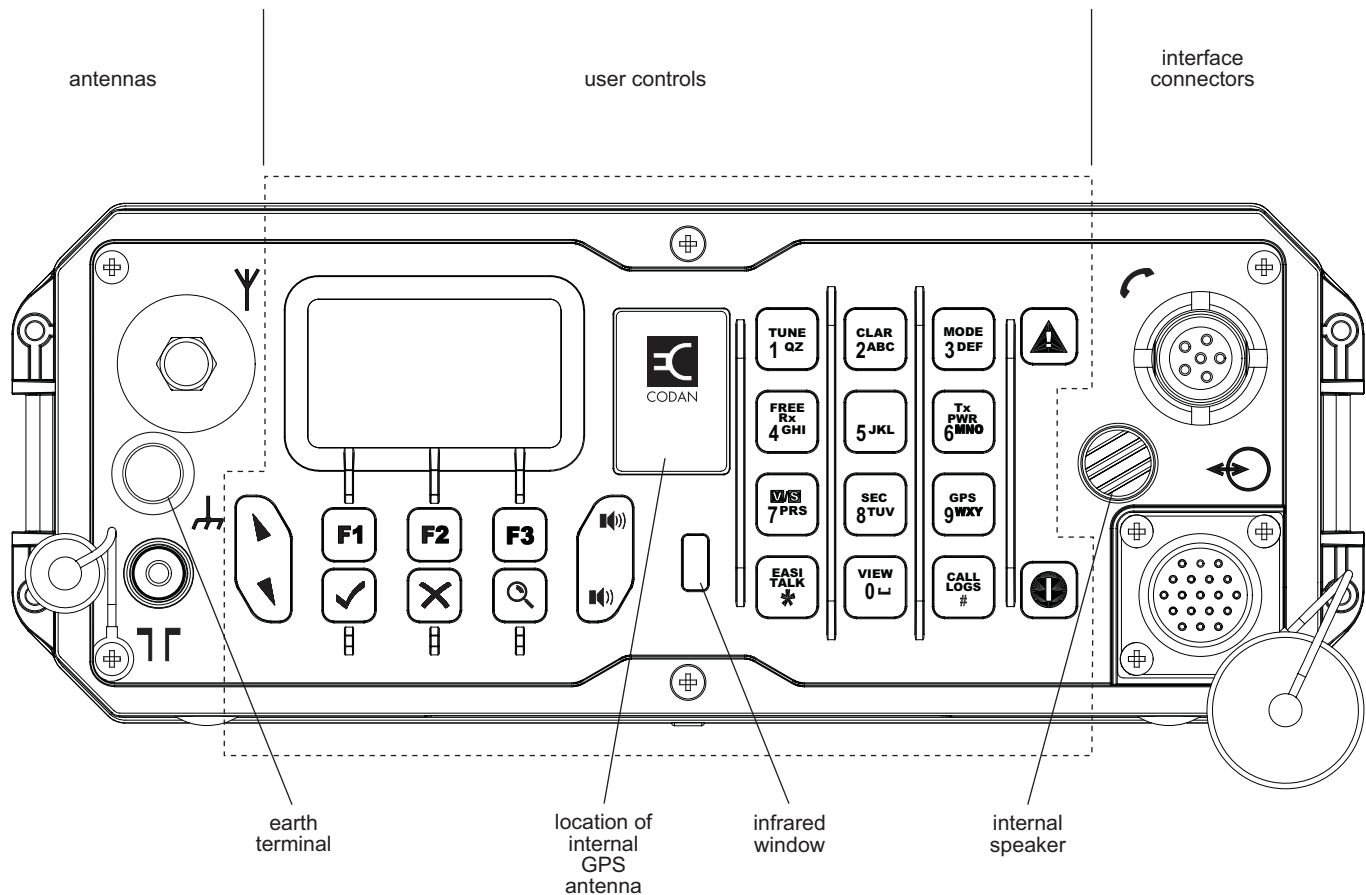
Antenna connectors

The antenna connectors comprise:

- an antenna stud (Ƴ)

- a 50 Ω connector (ꓓꓶ)

The antenna connectors are grounded using the earth terminal (⏚).

Pinouts of the handset connector

Figure 48: Front view of the handset connector
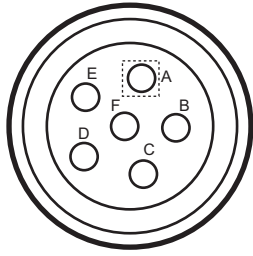
Table 38: Pinouts of the handset connector

Pin no.	Function	Signal levels
A	Ground	0 V
B	Earphone	10 V p–p maximum (600 Ω)
C	PTT	Active low for PTT
D	Microphone (switched)	15 mV p–p (ALC threshold)
E	Power	+12 V nominal
F	Not used	

Pinouts of the 19-way GPIO connector

Figure 49:   Front view of the 19-way GPIO connector
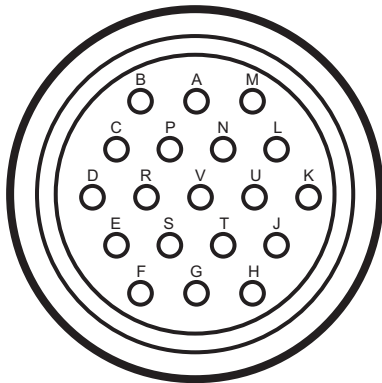
Table 39:   Pinouts of the 19-way GPIO connector

Pin no.	Function	Signal levels
A	Line audio in	300 mV p–p (ALC threshold) I/P approx. 50 kΩ bridging
B		
C	Line audio out	1 V p–p (20 dB above AGC) 600 Ω load maximum
D	Morse	Active low
E	RS232 transmit data	RS232
F	RS232 receive data	
G	PTT	Active low
H	Power and signal ground	0 V
J	Speaker (+) audio output bridging	1 W into 4 Ω
K	Protected, switched supply from battery	12 V DC nominal 10–15 V DC range 1 A maximum
L	Speaker (−) audio output paired with J	1 W into 4 Ω
M	Power in for charging battery	15.5 V DC approx. 1 A maximum, current limiting
N	Antenna control	3.3 V logic input 5 V tolerant
P		3.3 V logic I/O 5 V tolerant
R	Scan output	Open collector 1 kΩ pull-down

Table 39:   Pinouts of the 19-way GPIO connector (cont.)

Pin no.	Function	Signal levels
S	RS232 RTS	RS232
T	RS232 CTS	
U	External PA ALC	0–5 V DC analogue
V	Quiet	Active low

Bottom panel

Figure 50:   Bottom panel of the transceiver unit
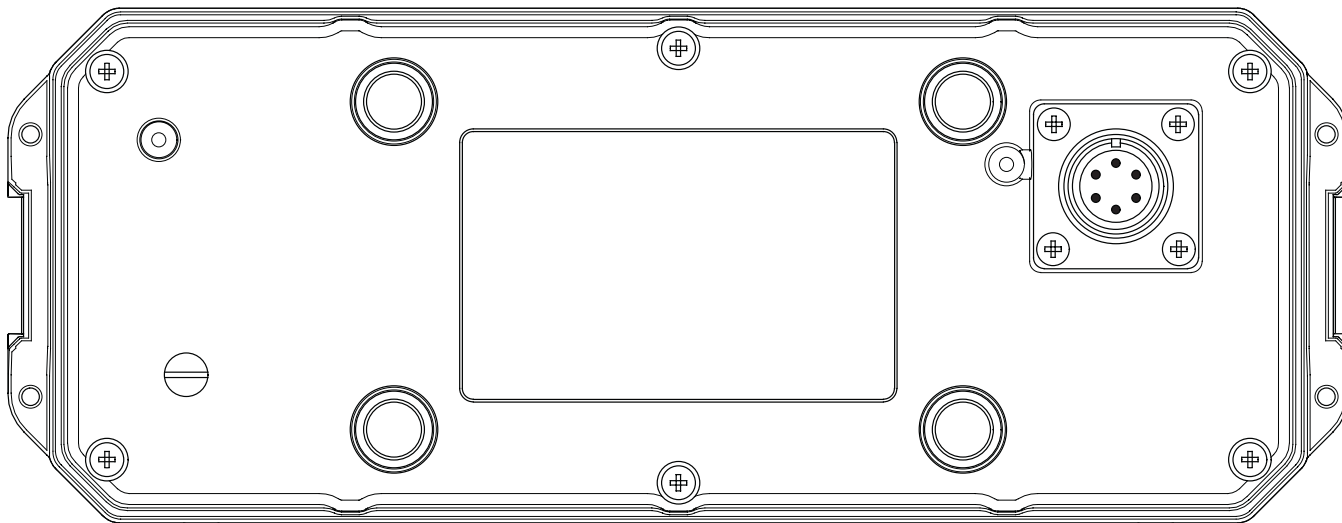
Pinouts of the battery connector on the transceiver unit

Figure 51:   Front view of the battery connector on the transceiver unit

Table 40:   Pinouts of the battery connector on the transceiver unit

Pin no.	Function	Signal levels
A	Ground	0 V
B	Charge out	15.5 V @ 1 A maximum, current limiting
C	Battery+	12 V nominal
D	SMB data	3.3 V logic
E	SMB clock	3.3 V logic
F	Spare	

Battery pack

Figure 52:   Top panel of the battery pack

Pinouts of the battery connector on the battery pack

Figure 53:   Front view of the battery connector on the battery pack

Table 41:   Pinouts of the battery connector on the battery pack

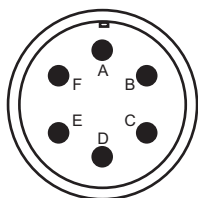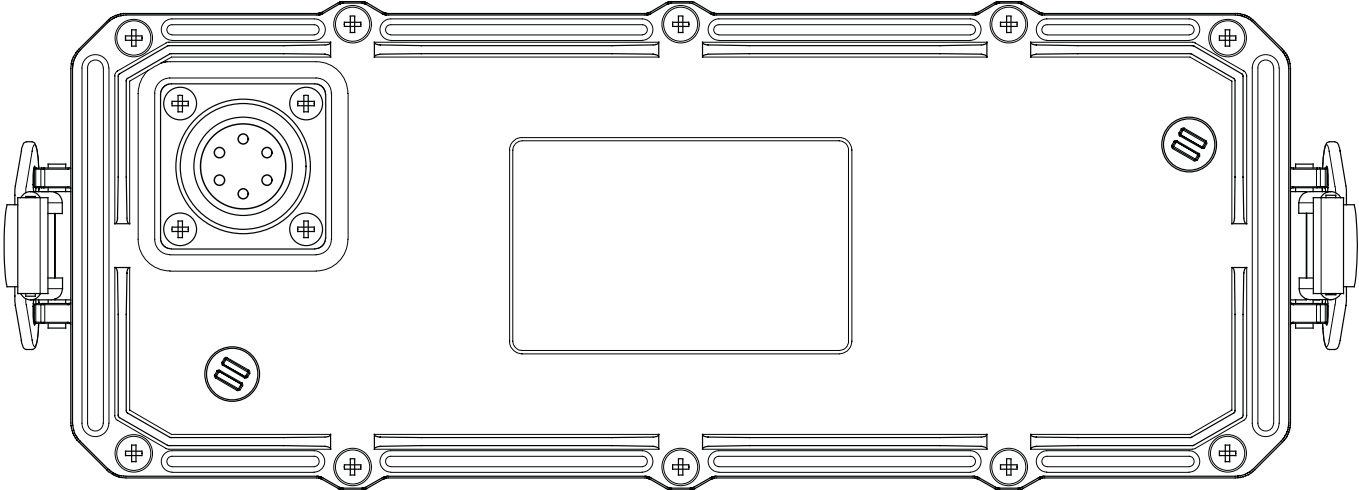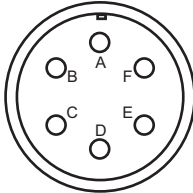| Pin no.	Function	Signal levels
A	Ground	0 V
B	Charge in	15.5 V @ 3 A maximum, current limiting
C	Battery+	12 V nominal
D	SMB data	3.3 V logic
E	SMB clock	3.3 V logic
F	Spare	

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This section lists the system messages that may be displayed on the front panel and a description of each for a 2110 SSB Transceiver.

Table 42:   System messages

Message	Description
**** NSP ****	NSP is being used to upload or download information to the transceiver. Wait until NSP has finished. You may then need to switch the transceiver off then on again.
Admin password incorrect	You have entered an incorrect admin password. Enter the correct password.
Administrator logged out	You have logged out of admin level and have returned to user level.
Antenna untuned	The antenna is no longer tuned. Tune the antenna.
Bad bearing: Invalid GPS position in last message	The GPS position of your transceiver is classified as Bad, so the bearing to the GPS position in the call log or Address List is not accurate. Update the GPS position in your transceiver.
Call aborted	You have aborted the current call by pressing PTT while the call was being made.
Call already in progress	A call is currently in progress. End or abort the call before you start another.
Call completed	The call in which you were transferring data has been automatically completed.
Call error: bad message	You have pressed ✔ so that you can send a message within a Selective call however, the call system will not accept the message that you have entered. Check the characters and length of the message, as only A–Z, 0–9, and some punctuation characters may be allowed.
Call error: call system not configured	The option for the call system with which you have attempted to make a call has not been installed in the transceiver. Select a network with a different call system or, if you know the option code for the call system, install it using the Option code setting under the Devices entry in the Control List (see page 218, *Installing an option in the transceiver*).
Call error: check cables and restart tcvr	An error has occurred in a device. Switch the transceiver off, check that the cables are connected correctly, then switch the transceiver on. If the problem persists, contact your Codan representative.
Call error: message too long	The message you have entered has too many characters. The permitted message length depends on the type of call system, the Privacy Mode selected, and the character set (see Table 34 on page 274). Reduce the length of your message.

Table 42:   System messages (cont.)

Message	Description
Call error: no GPS info to send	You have attempted to make a Send Position call but the transceiver did not have any GPS information to send. This may be because the transceiver has not received any valid GPS data and/or because it has not been correctly configured to operate with a GPS receiver. Check that: • the cable between the GPS receiver and the transceiver is connected correctly • the value in the RS232 15way Mode entry in the Control List is set to GPS • the baud rate in the RS232 15way Speed entry in the Control List is set to the correct baud rate for the GPS receiver Try the call again.
Call error: specify status message	You have attempted to make a Get Status call without specifying the type of information you want from the other station. When you try the call again, ensure that you specify this information when the transceiver prompts you for a message.
Call error: stop scan then retry	An error occurred when the transceiver tried to stop scanning. Press **SCAN** to stop scanning, then try the call again.
Call failed: auto timeout exceeded	An automated part of a call took too long. The transceiver has ended the call.
Call failed: could not connect	The transceiver could not connect to the station you called because: • the station did not respond • the channel was of poor quality Try again later.
Call failed: no response received	The transceiver did not receive a response from the station you called. Try the call on a different channel.
Call rejected: check call details then retry	The transceiver could not make the call because: • one or more details of the call were incorrect • the system was busy Check the details of the call and/or wait for 10 seconds before you try the call again.
Call sent <call type icon> <address>	The Emergency or Selective call you made in a Codan Selcall network has been sent to the other station. *Hold down* PTT then speak.
Call succeeded <call type icon> <address>	The Emergency or Selective call you made in an ALE/CALM network has been automatically answered by the other station. *Hold down* PTT then speak.

Table 42:   System messages (cont.)

Message	Description
Call type not installed: <call type icon>	The option to make this type of call has not been installed in the transceiver. Select a different call type or, if you know the option code for the call type, enter it using the Option code setting under the Devices entry in the Control List (see page 218, *Installing an option in the transceiver*).
Calling... <call type icon> <address>	Your call has started. Wait for the next message.
Calling... Send message	You are sending a message within an existing ALE link to the in-link address.
Calling... Trying <name of channel>/<name of mode>	You have started a call in an ALE/CALM network. The transceiver is attempting to make the call on the channel/mode displayed.
Can't charge Too hot	The battery monitoring system has detected that the temperature is too high for charging. Wait until the battery temperature lowers, then try charging the battery again.
Can't change frequency	You cannot edit frequencies in this transceiver.
Can't change mode	You cannot change the mode on the current channel for one of the following reasons: • The mode you want to set is not an allowed mode for the channel. Select another mode. • The channel/mode has been locked. You may be able to unlock it if it is locked at the same access level as that into which you are logged. • The TxD option has been installed in the transceiver which prevents you from changing modes on transmit channels. For more information contact your system administrator.
Can't change mode: channel has changed	The channel has been reprogrammed and the mode is no longer valid.
Can't change mode: tcvr is scanning	You cannot change the current mode because the transceiver is scanning. Press **SCAN** to stop scanning, then try again.
Can't clarify chan: tcvr is scanning	You cannot use the clarifier while the transceiver is scanning. Press **SCAN** to stop scanning, then try again.
Can't edit this item	You have used a macro to go to a setting that can no longer be edited. For example, you created a macro to go to the Message setting of an entry in the Address List. You then changed this entry to make a Selective call instead of a Message call. The message setting is no longer relevant to the entry so it is not displayed. When you use the macro, however, it still tries to go to this setting. To avoid this message, delete the macro.

Table 42: System messages (cont.)

Message	Description
Can't free tune: tcvr is scanning	You have attempted to use the transceiver as a free tune receiver while the transceiver is scanning. Press **SCAN** to stop scanning, then try again.
Can't modify <name of macro> macro	You have attempted to modify a macro stored in the Special entry in the Keypad List. Make a copy of the macro first, assign the copy to a key or to the Unassigned entry in the Keypad List, then modify the copy.
Can't toggle scan: try again	An error has occurred while switching scanning on or off. Press **SCAN** to toggle scanning.
Can't tune: tcvr is scanning	You have attempted to manually tune the antenna while the transceiver is scanning. Press **SCAN** to stop scanning, then try again.
Chain call ended	You have ended a chain call by pressing a key.
Channel busy: <name of channel>	The channel/mode on which you are attempting to make a call is busy.
Channel busy: Try again later	Your call cannot be made because the channel is busy. Wait for the channel to clear, or select a different channel, then try again.
Channel List is empty	There are no channels in the Channel List. Create one or more channels.
Channel not found: <name of channel>	The channel/mode on which you are attempting to make a call is in the channel/mode list of the network you are using, but it is not in the Channel List. Start the call again and select another channel/mode. To avoid this message, delete the channel/mode from the network.
Channel Test ...listen	Listen for the revertive from the station you called.
Channel Test sent...	Your Channel Test call has been sent. Wait for the revertive.
Data call started	An incoming or outgoing call using a modem has started.
Data changed by another user	Another user is changing the entries in the list. Exit from the list, wait for the user to finish changing the entries, then select the list again to update the entries.
Device error in <name of device>	An error has occurred in one of the transceiver's devices. Switch the transceiver off then on, then retry the task that caused the error.
Error in NET: <name of NET> <details>	The specified NET cannot be found, or the network associated with the NET cannot be found, or is not an ALE/CALM network. Check that the NET is programmed into your transceiver and that it contains a valid network.

Table 42:   System messages (cont.)

Message	Description
Error reading <name of list/entry/device>	An error occurred when the transceiver tried to read the list, entry or device displayed. Switch the transceiver off, check that the cables are connected correctly, then switch the transceiver on. If the problem persists, contact your Codan representative.
Error reading an entry: skipping it	An error occurred when the transceiver tried to read an entry. Switch the transceiver off, check that the cables are connected correctly, then switch the transceiver on. If the problem persists, contact your Codan representative.
Error reading call type	An error occurred when the transceiver tried to read the call type of the outgoing call. Switch the transceiver off, check that the cables are connected correctly, then switch the transceiver on. If the problem persists, contact your Codan representative.
Error updating list: check cables then restart tcvr	An error occurred when the transceiver tried to update a list. Switch the transceiver off, check that the cables are connected correctly, then switch the transceiver on. If the problem persists, contact your Codan representative.
Error updating list: check setting value and length	An error occurred when the transceiver tried to update a list. Check the value of the setting or the length of a message before attempting to save the setting.
GPS position established	The transceiver is now receiving valid GPS information.
Group chan not found: <name of channel>	The channel/mode on which you are attempting to make a call is no longer in the group specified in the Network List. Select another channel. To avoid this message, delete the channel/mode from the entry you used to make the call.
Hangup from: <self address of member leaving the call>	A station in the link has hung up.
Hangup sent ...listen	You have ended a Phone call. Listen for the revertive to confirm that the telephone interconnect unit received your hangup signal.
Information sent...	The transceiver has sent the data in your Message or Send Position call.
Invalid addr: <address>	The address you have entered has invalid syntax for an ALE ALL, ANY, Group Selective, NET, or Wildcard call.
Invalid addr for call system: <destination address>	The address of the station you are trying to call is not valid for the call system of the network you are using (for example, you are making the call in a Codan Selcall network but the destination address contains letters). Correct the address, or select a different network, then try again.

Table 42:   System messages (cont.)

Message	Description
Invalid addr for call system: <your station self address>	The self address from which you want to make this call is not valid for the call system of the network you are using (for example, you are making the call in a Codan Selcall network but the self address for this network contains letters). Correct the self address, or select a different network, then try again.
Invalid addr for call type: <address>	You have entered an invalid address syntax for the call type, for example, you are making an ALL call in a Channel Test call.
Invalid call to NET address	You have attempted to make a Get Position or Get Status call to a NET address.
Invalid mode: <channel/mode> in <network>	A channel in a network you are scanning has a mode that is no longer valid for it. This may be because: • the mode is not an allowed mode for the channel • the mode is no longer in the Mode List The channel/mode combination will not be scanned. To avoid this message, do one or more of the following: • go to the Channel List and modify the allowed modes for the channel • go to the Network List and modify the channel/mode list in the network • install the correct option for the mode
Invalid option code	You have entered an invalid option code. Enter the correct code.
Item already exists	You have attempted to add an item to a list that is identical to an existing item. Add a unique item.
Key <name of key> is stuck	A key on the front panel is stuck down. Release the key.
Link quality <progress of clearing action>	You have selected to clear the ALE link quality analysis information from the transceiver and the progress of the clearing activity is displayed.
List is full	You have attempted to create an entry or add an item to a list that is full. Delete some entries/items.
Locked entry Locked list Locked setting	You have attempted to edit a locked list, entry or setting. If the item was locked at the same access level as that into which you are logged, or at a lower level, you can unlock the item. For example, if an entry was locked at user level and you logged in as a user, you could unlock the entry using the Unlock? entry in the List Manager (see page 115, *Locking and unlocking information*). To unlock the item, use the appropriate entry in the List Manager.

Table 42:   System messages (cont.)

Message	Description
Low battery	Battery voltage is very low. Recharge or replace the battery. If the transceiver is installed in a vehicle, start the vehicle to recharge the battery.
Macro error: recreate macro for <name of macro>	An error occurred when the transceiver tried to create the macro. Create the macro again.
Macro memory is full	The memory storage for macros is full. You must delete one or more macros before you can create another.
Macro update needed Delete a few unused macros to make room for new macros	The macros programmed through NSP are inconsistent with the current version of transceiver unit firmware, and the transceiver has insufficient memory space to update the macros. Delete one or two macros then switch the transceiver off then on again.
Macros updated Reload Keypad List in NSP and save a new profile for use with JB <transceiver unit version at which macro update occurred> and higher	NSP has downloaded an old set of macros that are inconsistent with the current version of transceiver unit firmware. Load the new Keypad List from the transceiver into a new profile for use with this version of transceiver unit firmware and higher.
Memory error: Address List reset	The Address List has been reset to its factory-default contents due to a memory error. If you created any entries in this list you will need to recreate them.
Memory error: all lists reset	Firmware in the transceiver has been upgraded. As the layout of data in each list has changed from the previous version of firmware, all lists have been reset to their factory-default contents. Recreate the entries and/or re-enter the values in each list.
Memory error: Calls In Log reset	The entries in the Calls In Log have been deleted due to a memory error.
Memory error: Calls Out Log reset	The entries in the Calls Out Log have been deleted due to a memory error.
Memory error: Keypad List reset	The Keypad List has been reset to its factory-default contents due to a memory error. If you created any macros or modified any key assignments you will need to recreate and/or re-enter them.
Memory error: macros reset	The macro database has been reset to its factory-default contents due to a memory error. If you created any macros you will need to recreate them.
Memory error: one or more lists reset	Firmware in the transceiver has been upgraded. As the layout of data in some lists has changed from the previous version of firmware, some lists have been reset to their factory-default contents. Recreate the entries and/or re-enter the values in the lists affected.
Memory error: Phone Link List reset	The Phone Link List has been reset to its factory-default contents due to a memory error. If you created any entries in this list you will need to recreate them.

Table 42:   System messages (cont.)

Message	Description
Memory error: station addresses reset	Your station self addresses have been reset due to a memory error. Re-enter these self addresses.
Memory error: write failed	An error occurred when the transceiver tried to write to non-volatile memory. Retry the task that caused the error. If the problem persists, contact your Codan representative.
Mode not found: <name of mode>	The channel on which you are attempting to make a call is in the channel/mode list of the network you are using, but: • the mode is no longer an allowed mode for the channel • the name of the mode has been changed in the Mode List Begin the call again and select another channel/mode. To avoid this message, modify the channel/mode setting for the entry you are using to make the call. You can also check the allowed modes for the channel in the Channel List and/or check the name of the mode in the Mode List.
Name already exists	You have attempted to create an entry in a list with the same name as an existing entry. Create an entry with a unique name.
Network not found: <name of network>	The network in which you have attempted to make a call is not in the Network List. Select another network. To avoid this message, change the network in the entry in which this error occurred.
Network chan/mode list is empty	There are no channels in the channel/mode list of the network you are scanning. Enter some channels.
New option installed: restart tcvr	A new option has been installed in the transceiver. Switch the transceiver off then on for the option to take effect.
No data available	The information you requested from the other station is unavailable.
No mode for <name of channel>	There are no allowed modes for the channel. Go to the Channel List and select a mode for the channel.
No networks set to be scanned	You have switched scanning on but no networks have been set to be scanned. Go to the Network List, go to the network you want to scan, then change the value in the Scan Network setting from Don't scan.
No tuner	The transceiver has attempted to tune the antenna, but there may be no tuner (the antenna may not require one), or the antenna may be faulty.
No valid GPS info within timeout period	No valid GPS information has been received within the time set in the GPS Error Time entry in the Control List.
No valid network in Network List	This message is displayed when the Network List is empty. Create a suitable network in the Network List.

Table 42:   System messages (cont.)

Message	Description
Not found: <name of entry>	A setting in this list refers to an entry in another list, but that entry is no longer there. Select a different entry or recreate the missing entry.
Not in Channel List: <name of channel>	One of the channels in the network you are scanning is not in the Channel List. Either remove the channel from the channel/mode list of the network, or recreate the channel in the Channel List.
Not in network: <channel/mode>	The channel/mode on which you have attempted to make a call is not in the network. For example, the Address List entry you are calling specifies the network in which the call is to be made, but the channel/mode is not in that network. Select a different channel/mode or network. This message may also be displayed when you are editing a channel/mode in the Address or Phone Link List and the channel/mode is not in the network specified. Select a different channel/mode or network.
Number too high	You have entered a number that exceeds the maximum value for the setting. Enter a lower number.
Number too low	You have entered a number below the minimum value for the setting. Enter a higher number.
Other station ended call	The station you called has ended the call.
Position rcvd: <GPS position>	The transceiver has received the GPS position of the station you called.
Power fault on antenna	The antenna power has failed due to excessive current being drawn by the antenna. Check the antenna connectors, and if the problem persists, check the antenna.
Power fault on antenna recovered	The power fault on the antenna has been rectified.
PTT aborted: confirmations lost	The device that was transmitting (for example, a modem) has been disconnected. Reconnect the device then try the task again.
PTT aborted: timeout period exceeded	The transceiver has ceased transmission because the maximum transmission time set in the Cfg PTT Cutout Time entry in the Control List was exceeded. This may have occurred because you held PTT down too long or made a long transmission using a modem. Release the PTT button if it is held down and/or increase the PTT cutout time if necessary.

Table 42:   System messages (cont.)

Message	Description
PTT rejected from <location of PTT: reason>	The transceiver could not transmit from a specific location for the reason stated. The possible locations are the handset, morse key, and CICS on the 19-way port.
	The possible reasons are that:
	• you are on a receive-only channel
	• the mode is not allowed for this channel
	• you are in the CB frequency range but are not on a specific CB channel
	• you are using a transceiver in which the channel programming option and the position of the TPE link does not permit transmission
	• the system is locked
	• the transceiver is scanning
	• the battery is low
	• the synthesiser is unlocked
	• the transceiver is tuning
	• the maximum transmission time set in the Cfg PTT Cutout Time entry in the Control List was exceeded
Read only entry Read only list Read only setting	You have attempted to edit a locked list, entry or setting. The item was locked at a higher access level than that into which you are logged. You cannot unlock it unless you log into that higher level. For example, if an entry was locked at admin level and you have logged in as a user, you must log in as an administrator before you can unlock the entry.
Receive-only channel	You have attempted to transmit on a receive-only channel. Select a channel on which you can transmit.
Reply: <caller address> <message>	You have received a response to a call from another station that includes a message.
Request sent...	Your request that information (such as a GPS position) be automatically sent to you from another station has been sent. Wait for the next message.
Response from: <list of NET members who responded, latest response first>	You have made a NET call and received a slotted response from the NET members listed.
Secure error: hardware fault	Switch the transceiver off, check that the cables are connected correctly, then switch the transceiver on. If the problem persists, contact your Codan representative.
Secure error: index key not set	You have selected a key that has not been set up in the secure index.

Table 42:   System messages (cont.)

Message	Description
Secure error: no keys set	No keys have been programmed since the voice encryptor was installed. Program a secure key (see page 80, *Using the voice encryptor*).
Secure error: try again	The voice encryptor module has reset unexpectedly. Press **SEC** to go secure.
Service option enabled	The service option in the transceiver is enabled. Contact your Codan representative to have this option disabled.
Settings hidden in <name of entry>	You have attempted to display the settings for an entry where all the settings have been hidden at user level. To display the settings, use the Full view? entry in the List Manager. To display the settings in normal view, use the Show? entry in the List Manager.
Skip message Only ALE/CALM allows message with Selective calls	The ALE Selective Msg entry in the Control List is enabled. You have entered a message at the ✔ prompt in a Selective call and attempted to make the call on a network that is not ALE/CALM. The Selective call will proceed without the message. If you want to send the message, select an ALE/CALM network when prompted.
Sounding completed	The sounding operation that you initiated from the front panel is now complete.
Status rcvd: <Get Status information>	The transceiver has received the Get Status information from the station you called.
Synthesiser lock error	The frequency synthesiser has not locked on a frequency. Contact your Codan representative.
Synthesiser lock recovered	The frequency synthesiser can now lock on a frequency.
System error <error number>	A system error has occurred. The transceiver will restart automatically. Retry the task you were performing when the error occurred. If the problem persists, note the system error number in the message, then contact your Codan representative.
Tcvr busy: retry in 10 seconds	The transceiver is busy. This may be because: • it is receiving an incoming call • it is processing a change made to your station self address Wait for 10 seconds then try the task again.
Text too long	You have entered a line of text that is too long. Reduce the length of the text.

Table 42:   System messages (cont.)

Message	Description
Too many chans for auto ALE call	The ALE/CALM network in which you are attempting to make a call contains more than 100 channels. The transceiver will attempt to make the call on a maximum of 100 channels. To avoid this message and to ensure the transceiver uses all the channels in the network, go to the Network List and reduce the number of channels in the network to 100 or less.
Too many chans to scan	More than 100 channels have been set to be scanned. The transceiver will only scan 100 of them. In the Network List: • remove some channels from the channel/mode list of one or more of the networks that are set to be scanned • reduce the number of networks that are set to be scanned by changing the value of the Scan Network setting in one or more networks to Don't scan
Tune aborted	Automatic tuning of the antenna was aborted because you pressed PTT during an automatic tuning cycle.
Tune antenna then retry call	Your call cannot be made until the antenna is tuned. Tune the antenna then try the call again.
Tune failed	The transceiver could not automatically tune the antenna.
Tune successful	The transceiver has tuned the antenna successfully.
Tuner timeout	Automatic tuning of the antenna has timed out because: • the transceiver could not tune the antenna within the specified timeout period • the tuner cable is not connected • the Cfg Auto Tune Mode is set incorrectly
Tuning...	The transceiver is automatically tuning the antenna.
Waiting for response	You have requested that information (such as a GPS position) be automatically sent to you from another station. The transceiver is waiting for a response from that station. Wait for the next message.

22 Accessories and hardware options

The following accessories and hardware options are available for your 2110 SSB Transceiver.

Table 43:   List of accessories and hardware options

Code	Accessories
08-06155-002	High-stability reference oscillator
08-06185-001	Battery Pack 12 V, 8 Ah NiMh
08-06186-001	Battery Pack 12 V, 13 Ah NiMh
08-06188-001	Battery Pack 12 V, 7 Ah SLA
08-06214-001	6-way output lead for battery charger
08-06215-001	19-way output lead for battery charger
08-06216-001	Input lead for DC battery charger (lighter adaptor)
08-06217-001	Input lead for DC battery charger (clips)
08-06237-001	19-way (MS) to 9-way (D-type) programming cable
08-06259-001	Earth lead with clip and plug
15-00216	Backpack, External Frame
15-00217	Backpack, Internal X Frame
15-00218	Backpack, Soft
15-00446	4-wire counterpoise
15-00452	3 m (10 ft) Collapsible Whip Antenna
15-00453	Tape Whip Antenna
15-00454	Long Wire Antenna and Adaptor
15-00455	Wire Dipole Antenna (3–30 MHz)
15-00456	Broadband Dipole Antenna (3–30 MHz)
15-00457	Dipole/Broadband Dipole Antenna Kit
15-00458	End-fed Broadband Antenna
15-00459	Short Knock-down Whip Antenna
15-00573	2110 Battery Charger AC 1 A
15-00574	2110 Battery Charger DC 1 A
15-02071-EN	2110 SSB Transceiver Technical Service Manual
15-04128-EN	NGT System Programmer
15-04139-EN	2110 SSB Transceiver Repair Guide

Table 43:   List of accessories and hardware options (cont.)

Code	Accessories
15-10479	FED-STD-1045 ALE/CALM option
15-10481	Tx program disable (TxD) option
15-10518	Amateur Mode option
15-10525-000	GPS receiver option (internal fit)
15-10528-000	500 Hz filter option (internal fit)
15-10529-000	3 kHz filter option (internal fit)
15-10531-000	Voice Encryptor option (internal fit)
15-10532	MIL-STD-188-141B ALE option
67-90200	Input lead for AC battery charger (AUS-IEC)
67-90201	Input lead for AC battery charger (UK-IEC)
67-90202	Input lead for AC battery charger (USA-IEC)
67-90203	Input lead for AC battery charger (EU-IEC)

The following table shows typical values.

Table 44:   Specifications for the 2110 SSB Transceiver

Item	Specification		
Channel capacity	400		
Frequency range	Transmit:	1.6 to 30 MHz	
	Receive:	250 kHz to 30 MHz	
Operating modes	Single sideband (J3E) USB or LSB or switched USB/LSB, (AM H3E optional)		
Transmitted power	25 W (PEP) ±0.5 dB (high power)		
	5 W (PEP) ±0.5 dB (low power)		
	CW or single tone: approximately 60% of PEP with average PEP control (average control disabled on handset PTT)		
Spurious and harmonic emissions	Better than 65 dB below PEP		
Receiver sensitivity	Frequency: 0.25 to 30 MHz	RF amp off: 0.28 μV PD −118 dBm	
	Frequency: 1.6 to 30 MHz	RF amp on: 0.14 μV PD −124 dBm	
	For 10 dB SINAD with greater than 50 mW audio output		
Selectivity	Greater than 70 dB at −1 kHz and +4 kHz reference SCF USB		
	Maximum pass band level variation:	6 dB	@ 300 to 2600 Hz
	Ripple:	2 dB p–p	@ 500 to 2500 Hz
Frequency stability	±1 ppm	(−30 to +60°C)	(standard)
	±0.5 ppm	(−30 to +60°C)	(high stability)
Supply voltage	12 V DC nominal from supplied battery, negative earth		
	Normal operating range:		10.5 to 15.5 V DC
	Reverse polarity protection provided		
Overvoltage protection	Shutdown at 16 V ±0.5 V DC nominal for duration of overvoltage		
Low voltage switch off	Switch off @ 10 V		

Table 44:   Specifications for the 2110 SSB Transceiver (cont.)

Item	Specification		
Supply current	Transmit:	Two-tone into 50 Ω:	2.5–3.5 A
		Average speech:	1 A for battery life calculations
	Receive:	No signal:	120 mA standby mode 145 mA operating mode
Tuning limit of internal antenna tuner	< 1.5:1 typical SWR		
Tuning time of internal antenna tuner	First time:	2.5 s	
	From memory:	50 ms typical	
Size	2110 (including battery):	245 mm W × 350 mm D × 92 mm H (9.8 in W × 14.0 in D × 3.7 in H)	
	2110 only:	245 mm W × 250 mm D × 92 mm H (9.8 in W × 10.0 in D × 3.7 in H)	
Weight	2110 only:	2.5 kg (5.5 lb)	
	13 Ah NiMh battery pack:	2.9 kg (6.4 lb)	
	8 Ah NiMh battery pack:	2.1 kg (4.6 lb)	
	7 Ah SLA battery pack:	3.2 kg (7.1 lb)	
Sealing	IP68 (immersion for 1 h at a depth of 1 m (3 ft))		

Accessories

Table 45:   Physical specifications of accessories

Accessory	Size	Weight
Tape Whip Antenna	50 mm W × 20 mm D × 480 mm H (2.0 in W × 0.8 in D × 19.2 in H)	0.3 kg (0.7 lb)
Knock-down Whip Antenna	40 mm W × 40 mm D × 550 mm H (1.6 in W × 1.6 in D × 22.0 in H)	0.4 kg (0.9 lb)
3 m (10 ft) Collapsible Whip Antenna	40 mm W × 40 mm D × 550 mm H (1.6 in W × 1.6 in D × 22.0 in H)	0.4 kg (0.9 lb)
Long Wire Antenna and Adaptor	200 mm W × 70 mm D × 40 mm H (8.0 in W × 2.8 in D × 1.6 in H)	0.5 kg (1.1 lb)
End-fed Broadband Antenna	200 mm W × 70 mm D × 60 mm H (8.0 in W × 2.8 in D × 2.4 in H)	0.7 kg (1.5 lb)
Broadband Dipole Antenna (3–30 MHz)	200 mm W × 100 mm D × 200 mm H (8.0 in W × 4.0 in D × 8.0 in H)	3.2 kg (7.1 lb)
Wire Dipole Antenna (3–30 MHz)	200 mm W × 100 mm D × 200 mm H (8.0 in W × 4.0 in D × 8.0 in H)	2.7 kg (6.0 lb)
Coaxial cable, 3 m (10 ft)		0.2 kg (0.4 lb)
Coaxial cable, 15 m (50 ft)		0.6 kg (1.4 lb)
Earth lead with clip/plug	100 mm W × 25 mm D × 20 mm H (4.0 in W × 1.0 in D × 0.8 in H)	0.1 kg (0.2 lb)
Counterpoise	105 mm W × 105 mm D × 25 mm H (4.2 in W × 4.2 in D × 1.0 in H)	0.2 kg (0.4 lb)
Earth stake	237 mm H × 31 mm dia (head) × 6 mm dia (shaft) (9.5 in H × 1.2 in dia (head) × 0.3 in dia (shaft))	0.1 kg (0.2 lb)
3121 AC Battery Charger	160 mm W × 80 mm D × 30 mm H (6.4 in W × 3.2 in D × 1.2 in H)	0.5 kg (1.1 lb)
3122 DC Battery Charger	160 mm W × 80 mm D × 30 mm H (6.4 in W × 3.2 in D × 1.2 in H)	0.4 kg (0.9 lb)
Backpack, External Frame	450 mm W × 30 mm D × 650 mm H (18.0 in W × 1.2 in D × 26.0 in H)	4.3 kg (9.5 lb)
Backpack, Internal X Frame	420 mm W × 25 mm D × 650 mm H (16.8 in W × 1.0 in D × 26.0 in H)	3.4 kg (7.5 lb)
Backpack, Soft	400 mm W × 20 mm D × 600 mm H (16.0 in W × 0.8 in D × 24.0 in H)	1.4 kg (3.1 lb)

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