



MOTOROLA

Land Mobile Products Sector

MICOM-2/2E

HF-SSB Transceiver

Computer Interface Software

© Motorola Inc., 1998

Motorola, Inc.
Land Mobile Products Sector
1301 E. Algonquin Road
Schaumburg, IL 60196

User's Guide

68P02950C35-B
April, 1998



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HF-SSB Transceiver

Computer Interface Software

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Land Mobile Products Sector

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Acronyms and Abbreviations

AGC	Automatic Gain Control
ALE	Automatic Link Establishment
AME	Amplitude Modulation Equivalent
ARQ	Automatic Repeat Request
BDIR	Bidirectional
CI	Computer Interface
HF	High Frequency
LCD	Liquid Crystal Display
LED	Light Emitting Diode
LSB	Lower Side Band
Net	Network
PLT	Pilot (mode)
RSS	Radio Service Software
Rx	Receive
SelCall	Selective Calling
SQ	Squelch
Tx	Transmit
ULQ	Update Link Quality
USB	Upper Side Band

Introduction

Application

The MICOM-2/2E is a high performance, DSP-based, multi-purpose HF-SSB radio. It is intended for use in voice, data, and fax operation, in mobile or base station configurations. The MICOM-2/2E is operated from its integral front panel or remotely via a personal computer. It can be integrated into a large variety of advanced systems such as data and fax networks, VHF-UHF-microwave and telephone interconnect, high power (400W/1000W) systems, and so on.

The Computer Interface (CI) user's guide is designed for users who wish to control the MICOM-2/2E radio from a remote or local location, using a personal computer (IBM PC or compatible).

Important: For more information on the MICOM-2/2E options and on how various functions described in this User's Guide, such as scanning, groups, selective calling, nets, and so on, see any of the following manuals relevant to your specific equipment:

- MICOM-2 HF SSB Transceiver, Owner's Manual (68P02941C60)
- MICOM-2 HF SSB Transceiver Digital Selective Calling Option (68P02950C95)
- MICOM-2E HF SSB Transceiver, Owner's Manual (68P02952C60)

It is highly recommended that you read these manuals and familiarize yourself with the functions of the MICOM-2/2E prior to using the CI application.

Prerequisites

To use the CI software to control the radio, a basic working knowledge of Microsoft Windows is recommended. If you are new to the Windows operating environment, you should learn Windows fundamentals – using the mouse, working with windows, and opening and closing documents – before you begin to work with the CI software.

Computer Interface Contents

The CI option (Motorola part no. S947) consists of the following:

1. Application software, available on 3½ inch diskettes
2. This User's Guide (68P02950C35)
3. An RS232 cable (FKN4617A).

The CI option can also be ordered as a field retrofit kit. In this case, the radio model must be stated when ordering the kit, as follows:

For Micom-2 (Basic): Motorola part no. FLN2423

For Micom-2E (Enhanced): Motorola part no. FLN2423

Computer Configuration Requirements

In order to communicate with the radio using the CI, an IBM-PC with the following configuration is required:

- 486DX/66 MHz or higher
- 16 MB RAM
- A monitor with a minimum resolution of 800x600 and at least 256 colors
- Microsoft Windows operating system version 3.11
- Free hard disk space of at least 12 Mbytes
- One 3½ inch, 1.44 MB floppy disk drive
- One serial communication port
- A mouse

Computer Support

If you encounter a problem, first check your hardware setup. Problems requiring additional analysis should be referred to:

Motorola Radio Support Center

3761 S. Central Avenue
Rockford, IL 61102, USA
Tel: (847) 725 4830 or (800) 227 6772

Global Data Specialists

3707 E. Broadway Road,
Suite 2,
Phoenix, AZ 85040, USA
Tel: (602) 437 4331
Fax: (602) 437 1858

US Federal customers should contact:

Motorola USFG Depot

7940 Penn Randall Place
Upper Marlboro, MD 20772
Tel: (301) 736 4300 or (800) 969 6680
Fax: (301) 735 7414 or (800) 784 4133

Getting Started

General

This section guides you in the installation of the MICOM-2/2E Computer Interface Software and in the connection of the radio to your computer.

How to Install the Software

The Computer Interface Software is shipped to you on 3½ inch diskettes. To set the software up on a hard disk, proceed as follows:

1. Insert the CI Install disk (disk 1) into drive A.
2. Enter Windows.
If Windows is already running, close any open applications.
3. From the File menu, choose Run
4. Type `a:setup` (or `b:setup`) and then press [Enter].
5. Follow instructions on the screen.

If the installation process is completed successfully, the CI software is now installed on your hard disk and a new program group has been created in your Program Manager window named MICOM-2/2E Computer Interface.

How to Connect the Radio to your Computer

Connect the “radio” side of the RS232 cable to the Accessory connector on the radio rear panel. Connect the “computer” side of the RS232 cable to the PC serial port. If necessary, use a D25-to-D9 adapter.

How to Start the Computer Interface Application

1. Turn on your computer; at the DOS prompt, type “win” and press [Enter].
2. Connect your radio to the computer.
3. Turn the radio on.
4. Double-click the Computer Interface icon. The application starts to run, and after a few seconds the main window of the CI appears on the screen.

The Main Window

After the application has completed initialization, the CI main window appears. The main window is comprised of a title bar, a menu bar, a tool bar and an application status line.

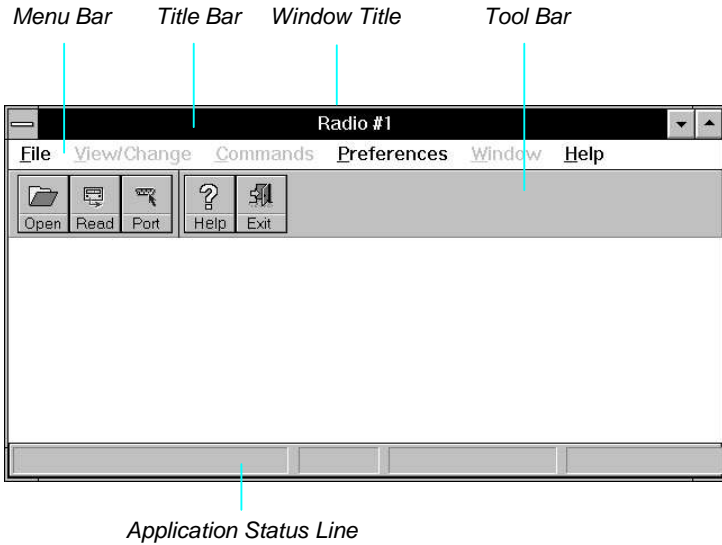


Figure 1. CI Main Window

The Title Bar

The title bar of the main window indicates the radio name or any other name given by the user.

Menu Bar

The menu bar enables the selection of commands and dialog boxes, using the mouse or keyboard shortcuts. Figure 2 displays a tree of the menus.

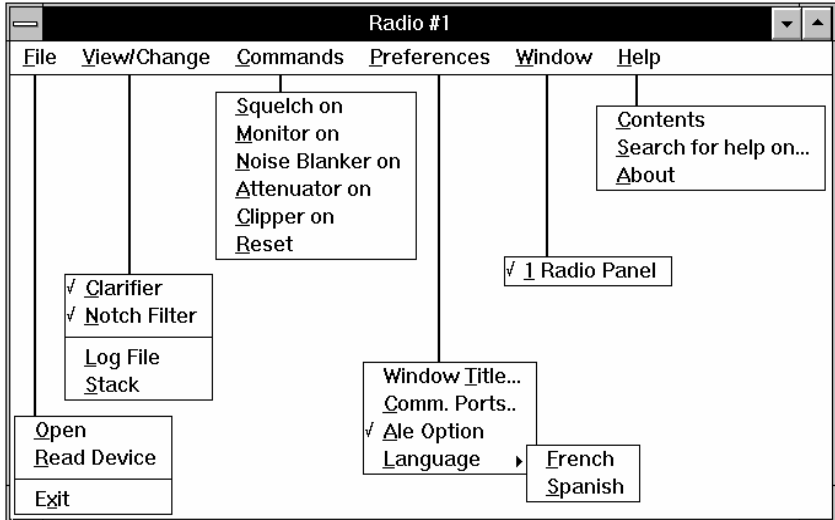









Figure 2. CI Menu Tree









Tool Bar

The tool bar enables the user access to commonly used commands and dialog boxes, by clicking an icon (button).

The icons available in both MICOM2 and MICOM2E are:

	Open	Opens an existing radio parameter file (default file)	
	Read Device	Loads parameters from the radio	
	Communication Ports	Selects the baud rate and the computer communication port (dialog box)	
		Squelch ON/OFF	Turns the squelch circuit on or off. When squelch is on, the speaker remains muted until the radio detects a valid signal in its input. When squelch is off, the speaker emits all signals, including noise.
		Monitor Mute ON/OFF	

Special icons available only in MICOM2E are:

		Noise Blanker ON/OFF	Activates/deactivates repetitive noise filter.
		Clipper ON/OFF	When on, uses voice processing to boost the output power.
		Attenuator ON/OFF	When on, attenuates the incoming signal by 20dB.
		Help	Displays on-line help.
		Exit	Exits the CI application

Application Status Line

This line contains five fields that describe the application status:

Status:	Displays the position of the mouse cursor.
File/Radio:	Displays "File" if the application loads the radio data base from a file; otherwise, "Radio" is displayed.
S/N:	Displays the radio's serial number.
Code:	Displays the radio's code (this code can not be changed).
COM:	Displays the communication port and baud rate.

General Operation

General

This section describes how to:

- Load the control panel
- Load parameters from the radio
- Load radio parameters from a file

In addition, general CI operations are described, including:

- Renaming the application
- Selecting a language
- Customizing the CI serial communication parameters
- Resetting the MICOM-2/2E Radio

Loading the Control Panel

When you run the CI application, the main window opens while the program examines whether the CI data base is empty or contains entries. If the data base is empty, a black screen opens. If there are entries in the database, the CI automatically loads the CI control panel.

Note: The CI application is shipped from the factory with an empty database file. When you first open the application, the Open command in the File menu and the Open button are disabled. Once you have read the radio parameters from the radio using the Read Device command, they are automatically saved in the database file, which will then be available through the Open command.

Loading Parameters from the Radio

The Read Device command uses a serial communication interface to load the radio parameters directly from the radio. This method of loading the radio parameters is time consuming and is not recommended on a regular basis.

Step 1. From the File menu, choose Read Device, or click the Read Device button on the toolbar.

A window with a progress bar appears. The bar advances from left to right, indicating the progress of loading parameters from the radio into the computer.

The loaded parameters are automatically saved in a default file.

Note: If there is no response from the radio, or if the communication parameters (baud rate or communication ports) are not compatible, a communication failure message appears.

Loading Parameters from a File

The Open command in the File menu enables you to load radio parameters directly from the database file. This is the fastest and recommended manner of loading the radio parameters.

Step 1. From the File menu, choose Open.

Alternatively, click the Open button on the toolbar.

Note: If the radio configuration has been changed using the RSS, click the Read button to read the new radio parameters into the CI database.

Selecting the Language

The CI software can display texts and messages in three different languages: English, French and Spanish.

Step 1. From the Preferences menu, choose Language.

Select the required language from the drop-down list.

Changing the Title of the Radio Window

This option enables you to change the title of the radio which appears in the window's title bar.

To change the title of the radio window:

Step 1. From the Preferences menu, select Application Name.

An input message box appears.

Step 2. Type a new name and press [Enter] or click the OK button.

The application name is replaced with the new name.

Customizing the CI Communication Parameters

You can customize the CI serial communication parameters, i.e., communication ports and baud rate.

The communication port and baud rate are displayed on the application status line.

To customize CI communication parameters:

Step 1. From the Preferences menu, choose Comm. Ports.

The Communication Ports dialog box is displayed.

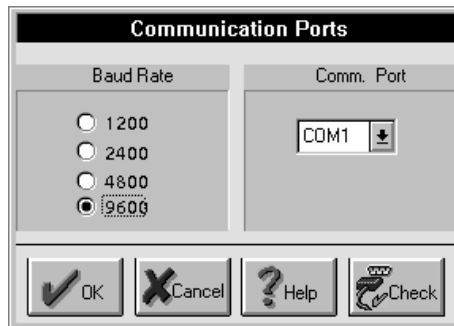


Figure 3. The Communication Ports Dialog Box

The following table lists the Communication Ports window parameters

Parameter	Specifies
Baud Rate	<p>The serial communication baud rate. To select a baud rate, click one of the options (1200/2400/4800/9600 bps).</p> <p>Note: If the MICOM-2/2E is intended for operation with HF-Modem type CCIR-476-3 in ARQ mode, the serial communication baud rate must be set to 9600 bps.</p>
Comm. Port	<p>The serial communication ports. Select a port from the drop-down list.</p> <p>Note: If all ports are being used by other applications, close such applications to free the ports.</p>
Comm. test button	<p>Note: Prior to any communication attempt, verify that the communication cable is firmly connected on both sides (radio and PC), and that the radio is on.</p>



To verify the selected baud rate and communication port, enable radio communication and click the Check button. The Communication Progress window is displayed. You can stop this process at any time by clicking the Abort button.

If you selected an incorrect baud rate or communication port, a communication failure prompt appears on the screen, indicating that you must select a new value.

Radio Communication Parameters

The MICOM-2/2E radio has the following communication parameters:

- Baud rate: 1200,2400,4800 or 9600 (user selectable)
- Data bits: 8 (factory setting)
- Stop bits: 1 (factory setting)
- Parity: Odd (factory setting)

Resetting the Radio

This option enables you to reset the MICOM-2/2E radio.

Step 1. From the Preferences menu, select User>Reset.

The radio receives the reset command and initializes itself to the last stable state. The radio then sends a message to the application to synchronize the displayed parameters.

MICOM-2 (Basic) Control Panel Window

Once the radio parameters are loaded into the CI, the control panel window appears. The control panel includes the radio display, a clarifier, and a card board (comprised of a channel tab and a link tab).

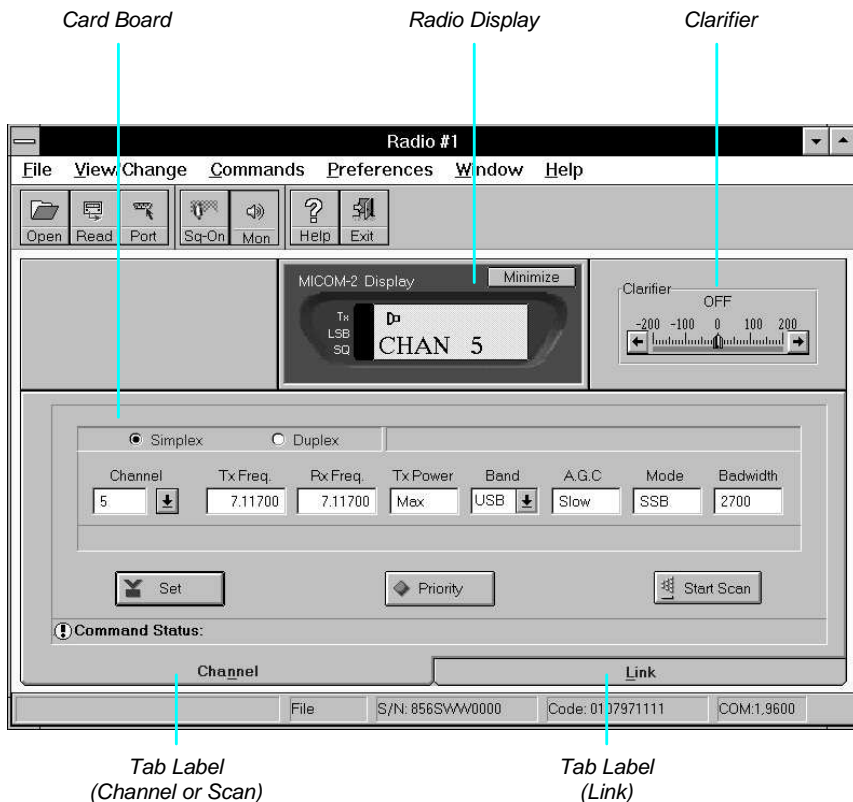


Figure 4. Control Panel

Radio Display






This box simulates the LCD display of the radio, including an LCD text and icon display, LEDs, and a Minimize button.

LCD Display

The LCD display consists of eight characters, indicating the radio status and providing information such as channel or scan mode, transmission, clarifier, frequency, and radio errors.

Status Annunciators

Above the character display are five status icons which indicate five parameters of the radio operating status: clarifier, noise blanker (NB), monitor, stack, and alarm.

-  Clarifier icon
-  Noise blanker icon
-  Monitor icon
-  Stack icon
-  Alarm icon

Radio LEDs

The three LEDs indicate the radio PTT condition, radio mode and squelch condition, as follows:

LED	Color	Lights when...
Tx	Red	the PTT key is pressed.
LSB	Orange	the radio is in LSB mode.
SQ	Green	the squelch circuit is active.

Minimize Button

The minimize button enables you to reduce the CI main window so that only the radio display is visible.

Clarifier

The clarifier enables fine tuning of the receive frequency to improve voice quality when the incoming signal is slightly off frequency. The

clarifier can be turned off and is automatically disabled during transmission.

The upper and the lower frequency deviation limits are $\pm 200\text{Hz}$.

Note: When the radio switches to a new channel, the clarifier is automatically turned off.

The Card Board

The card board contains all information and variable parameters necessary to control the radio in various modes and activities such as channel mode, scan mode, selective call, replying calls and so on.

The card board consists of two tabs, Channel/Scan and Link. The Channel/Scan tab is used for channel and scan modes, and the Link tab is used for selective calling, link information, display of unanswered calls, and reply to unanswered calls.

Note: In MICOM-2 radios equipped with the SelCall option, only the Channel/Scan tab is visible when SelCall mode is off.

Channel/Scan Tab

The Channel/Scan tab includes channel and scan controls. Only one of these controls appears on the screen, depending on whether the radio is in channel or scan mode.

Channel Mode Controls

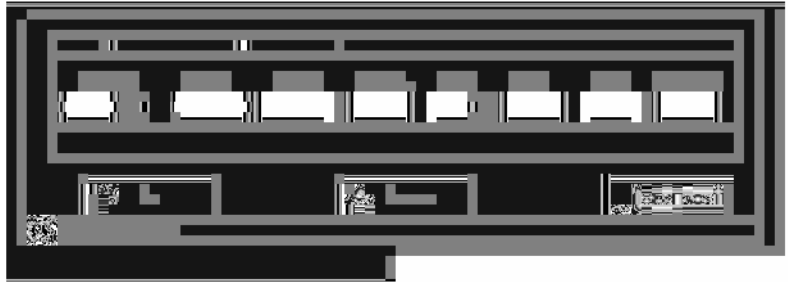


Figure 5. Channel/Scan Tab, in Channel Mode

The following table lists the channel controls and parameters:

Parameter		Indicates
Channel	<i>drop down</i>	The number of the selected channel.

Tx Frequency	<i>read-only</i>	The transmit frequency (MHz). Frequency range: 1.6 MHz – 30 MHz.
Rx Frequency	<i>read-only</i>	The receive frequency (MHz). Frequency range: 0.1 MHz – 30 MHz.
Band	<i>drop down</i>	Side band operation: Upper Side Band or Lower Side Band.
AGC	<i>read-only</i>	Automatic (receive) Gain Control: <ul style="list-style-type: none"> • Slow – used for voice communication • Fast – generally used for data transmission (only when required by the HF data modem).
Tx Power	<i>read-only</i>	Transmit power level: low 25 Watt high 100 Watt medium 60 Watt max. 125 Watt Note: When a 400W/1000W amplifier is connected to the radio, the transmitted power is 400W/1000W and not as displayed in the Tx Power box.
Mode	<i>read-only</i>	Carrier reinsertion level: <ul style="list-style-type: none"> • SSB (Single Side Band) – The radio operates on the upper side band with suppressed carrier. • AME (Amplitude Modulation Equivalent) – The radio operates on the upper/lower side band with the carrier inserted 6 dB below peak envelope power. • PLT (Pilot mode) – The radio operates on the upper/lower side band with the carrier inserted 15 dB below peak envelope power.
Bandwidth	<i>read-only</i>	The bandwidth of the current channel. Note: MICOM-2 has only one bandwidth – 2700 Hz.

Status Line

In the following cases, an error appears in the status line:

- The typed channel/frequency is out of range.
- The typed channel/frequency is not a numerical value.
- The channel/frequency box is empty.

Note: If there is an error in the typed channel or frequency, you cannot press the set button.

Scan Mode Controls

If the MICOM-2 radio is equipped with a SelCall option, two scan modes are available:

- SelCall scan mode
- Basic scan mode (enabled when SelCall is off)

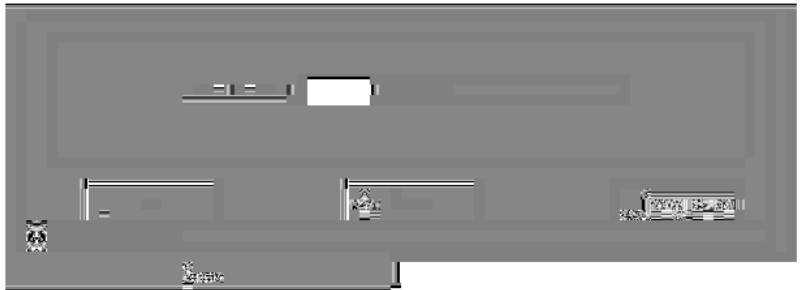


Figure 6. Channel/Scan tab, in Scan Mode

The following table lists the channel controls and parameters:

Parameter		Indicates
Group/Net	<i>drop down</i>	The selected Group/Net number
Net Name	<i>read-only</i>	The current Net Name (only in SelCall mode)

SelCall Scan mode

Note: This section refers only to MICOM-2 radios equipped with the SelCall option.

When the SelCall mode is operating, the MICOM-2 can automatically scan up to five nets (1, 2, 3, 4 and 5), each with up to 100 channels.

The nets are pre-programmed in the radio (using the RSS for SelCall), and each net has an assigned name (network address). In the CI, you can switch from one net to another using the Scan Group drop-down menu.

Basic Scan mode

When the SelCall mode is off, or if your radio is not equipped with the SelCall option, the MICOM-2 operates in basic mode and can automatically scan up to five groups (A, B, C, D and E), each with up to 100 channels.

The groups are pre-programmed in the radio (using the radio's RSS, depending on the radio model). In the CI, you can switch from one group to another by selecting a new group in the Scan Group drop-down menu.

An additional channel can be programmed as a "guard" channel. This channel is scanned more frequently than the other channels.

Command Status Line

The Status line registers error messages and other messages for the user.

For example, if the last request is still in process, the message "Command in progress" appears in the Status line. If you attempt to issue a command while the radio is transmitting, the message "Radio is transmitting now, commands cannot be executed during transmitting" appears in the Status line.

Buttons

The Channel/Scan tab command buttons are:

Set Button



Click this button to download the selected channel number and its parameters to the radio.

Priority Button



Instantaneously changes the current channel to a pre-defined priority channel, overriding the current status and the standard operating procedure.

Start/Stop Scan Button



The Start Scan button initiates scanning of channels in the currently selected group. This is considered the Radio Scanning state.



The Stop Scan button stops radio scanning. The radio status switches to Channel mode.

Link Tab

Note: This paragraph refers only to MICOM-2 radios equipped with the SelCall option.

In radios equipped with the SelCall option, this tab is visible only if the SelCall option is active.

The SelCall Link tab includes all SelCall controls and displays all SelCall status information.

In the SelCall tab, you can:

- Select the net, channel, and station
- Perform selective calling
- Display unanswered calls
- Reply unanswered calls.

Link Mode Controls



Figure 7. Link Tab

The following table lists the SelCall controls and parameters:

Parameter		Indicates
Call Type	<i>type selection</i>	The required selective call type: <ul style="list-style-type: none"> • Station – private call • Net – all members in a specific net • All Call – broadcast call
Net	<i>drop down</i>	Lists all available nets and displays the name of the selected net.
Channel	<i>drop down</i>	Lists all available channels in the selected net and displays the Rx frequency of the selected channel.
To	<i>drop down</i>	Lists all station and net names stored in the SelCall directory.

Buttons

The SelCall tab command buttons are:

Send Button



Click this button to initiate Selective Calling.

Stack Button



Displays all unanswered calls in SelCall mode.

Abort Button



Disconnects/aborts selective calling.

Command Status Line

The Status line registers error messages and other messages for the user.

For example, if the last request is still in process, the message "Command in progress" appears in the Status line. If you attempt to issue a command while the radio is transmitting, the message "Radio is transmitting now, commands cannot be executed during transmitting" appears in the Status line.

MICOM-2 (Basic) Operation

General

This section describes how to operate the MICOM-2 radio using the CI (Computer Interface) software. The operations available depend on the specific radio model.

For **all models**, the CI enables the user to:

- Turn the squelch on or off
- Set the clarifier
- Select or change a channel and change its configuration
- Set the priority channel
- Select or change a group and start or stop scanning

For **MICOM-2 radios equipped with the SelCall option**, the CI enables the user to:

- Activate/Deactivate the SelCall option
- Monitor the speaker
- Initiate selective calling
- Reply to calls in SelCall mode
- Use the stack option
- Reply to unanswered calls
- View the SelCall log file

Turning Squelch On or Off

To turn squelch on or off, click the squelch button or choose Squelch from the Commands menu. The squelch is a toggle button, i.e. each time you click it, the squelch circuit changes its state from on to off and vice versa.

You can set the squelch state regardless of the current mode of the CI application.

Setting the Clarifier

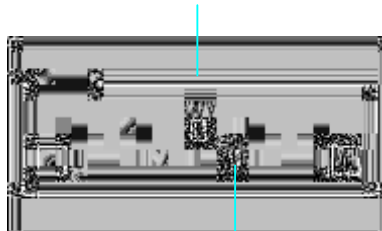
The clarifier enables fine tuning of the receive frequency to improve voice quality when the incoming signal is slightly off frequency. The upper and the lower frequency deviation limits are $\pm 200\text{Hz}$.

To change the clarifier setting in predefined steps, use the left and right buttons to decrease/increase the clarifier deviation by 10 Hz.

To set the clarifier at a specific frequency deviation, drag and drop the coarse button.

To set the clarifier to off, click on the "0" digit.

Click "0" to turn clarifier off



Coarse Button

Figure 8. The Clarifier Box

Selecting and Configuring a Channel

The MICOM-2 radio can have up to 100 programmed channels.

Note: The radio can only be set to channels that have been programmed using the Radio Service Software (RSS).

To select a new channel using the Channel box:

Step 1. Open the Channel/Scan tab.

Note: If the radio is in Scan mode, press the Scan button to return to Channel mode. The active tab will be "Channel".

Step 2. Click the Channel drop-down list and select the required channel from the list. If a scroll bar appears inside the list box, this means that there are more channels than displayed. Use the scroll bar to scroll the list.

Alternatively, you can click inside the Channel box and type the required channel number.

Selecting a new channel will automatically change all other fields in the dialog box to values stored in the computer's memory for this channel.

Note: When new channel settings and configurations are selected, these are displayed on screen, but are not reflected in the radio.

To update the radio configuration, click the Set button or press [Enter].

To select a different band for the current channel:

Step 1. Click the Band drop-down list and select the required band from the list.

Alternatively, click inside the Band box and type "U" for USB (upper side band) or "L" for LSB (lower side band).

Note: When new band settings and configurations are selected, these are displayed on screen, but are not reflected in the radio.

To update the radio configuration, click the Set button or press [Enter].

Setting the Priority Channel

To set the radio to work with the priority channel, click the Priority button and wait for radio to respond. The radio changes its current channel to

the pre-defined priority channel, overriding the current status and the standard operating procedure.

You can select a priority channel regardless of the current mode of the CI application.

Selecting a Group and Scanning

To select a scan group:

Step 1. Click the Scan Group drop-down list and select the required group (A, B, C, D, E, or SelCall Net 1,2,..5, if your radio includes the SelCall option) from the list.

Note: When the radio is in scanning mode, each time you select a new group, the radio changes its scan group immediately.

Entering Scan Mode

To start scanning, click the Start Scan button. The tab name and configuration changes to the Scan tab. The radio enters Scan mode and begins to scan channels in the currently selected group.

Exiting Scan Mode

There are three different ways to stop scanning:

Stop Scan Click the Stop Scan button.
The radio stops scanning, the tab name and configuration changes to the Channel tab and the radio status reverts to Channel mode.

Priority Click the Priority button.
The radio stops scanning, reverts to Channel mode, and sets the priority channel.

PTT Press the PTT (microphone) button.
The radio immediately stops scanning at the last channel reached.

Note: The PTT option is available only when the radio is in basic scan mode.

Activating/Deactivating the SelCall Option

Note: This section refers only to MICOM-2 radios equipped with the SelCall option.

You can activate or deactivate the Selcall option from the CI application.

To activate/deactivate the SelCall option:

Step 1. From the Preferences menu select SelCall Option.

Wait until the application has completed any changes in the control settings before proceeding.

Monitoring the Speaker

Note: This section refers only to MICOM-2 radios equipped with the SelCall option.

When SelCall is active, you can switch the speaker on or off.

Step 1. From the Command menu, select Monitor.

Alternatively, click the Monitor button on the toolbar.

When Monitor is activated, the MON icon appear on the radio LCD display.

The Monitor button toggles from on to off and vice versa.

Note: The monitor function is only available when the SelCall mode is activated.

Entering SelCall Mode

Note: This section refers only to MICOM-2 radios equipped with the SelCall option.

Selective calling enables you to contact predefined nets.

If SelCall is not active, from the Preferences menu, select SelCall.

Making Selective Calling

Step 1. Select the Link tab.

Step 2. Select the call type: Station, Net, or All Call.

Step 3. Open the Net drop-down list and select the identification number of the net you wish to call from the net list box.

Alternatively, you can click inside the net box and type the net number.

Step 1. Open the Channel drop-down list and select a channel.

Step 2. If you selected call type Station, open the To drop-down list and select a specific station name.

Step 3. Click the Send button to start calling.

Aborting Selective Calling

Step 1. Click the Abort button on the Link tab.

The radio will send an Abort message to the remote station and will revert to the last mode (Scan mode or Channel mode).

Note: If the HOME acknowledge flag is not on, the Abort message will not be sent to the remote radio (this parameter can be programmed in the RSS).

Replying to Calls in SelCall Mode

Note: This section refers only to MICOM-2 radios equipped with the SelCall option.

When the CI receives a SelCall request, a message box opens, notifying the user that an incoming selective call has been received.

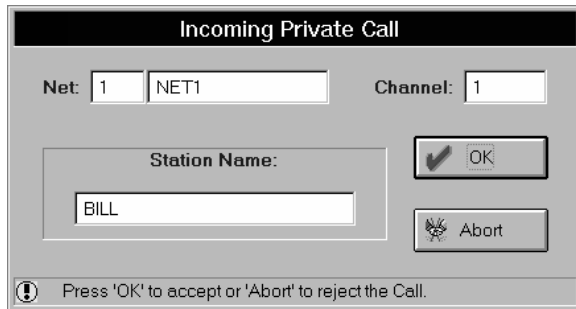


Figure 9. The Incoming Private Call Dialog Box

You can confirm or reject the call:

- To confirm the call, click the OK button in the message box. This will cause the radio to confirm the call and establish the link.
- To reject the call, click the Abort button in the message box. This will cause the radio to send a reject message to the station that performed the call and to revert the radio to its previous state.

Using the Stack

Note: This section refers only to MICOM-2 radios equipped with the SelCall option.

Unanswered calls in SelCall mode are stored in the Stack, which can save up to 200 calls (depending on the log file size). When at least one unanswered call is registered, the Stack button in the Link tab is activated. If the stack is empty, i.e., there are no unanswered calls, the Stack button is disabled.

Note: The contents of the Stack are not necessarily identical to those of the radio cache. The Stack is only updated when the application is running and can store up to 200 unanswered calls.

Viewing the Stack List

To display the Stack log file, from the View/Change menu, select Stack.

Alternatively, click the Stack button in the Link tab.

A dialog box containing the list of station names and the date and time of the unanswered calls appears. You can answer these calls directly from the list, delete selected entries or all entries.

If the Stack list window is too small to contain the list of calls, a scroll bar appears on the right hand side of the window, enabling you to scroll the list.

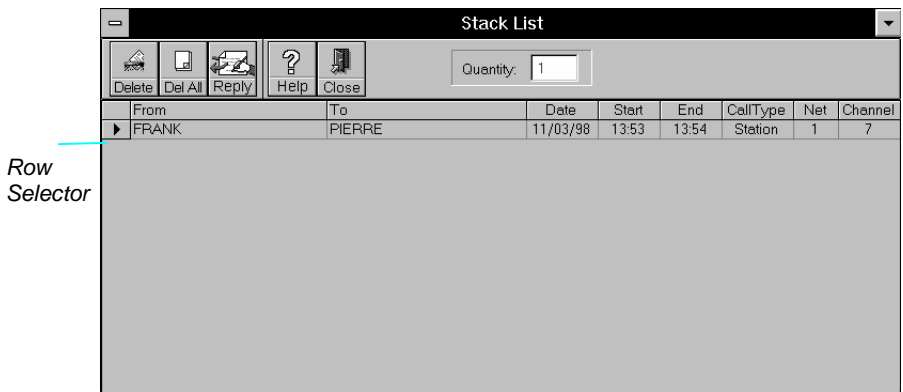


Figure 10. The Stack List

The following table details the information displayed in the Stack list:

Field	Indication
From	The caller's station name
To	The called station name
Date	The date on which the call was made
Start	The starting time of the call
End	The ending time of the call
Call type	The call type: Station, Net or All Call
Net number	The net number
Channel	The channel number

The Stack List Toolbar

The stack list toolbar enables quick access to commonly used commands and dialog boxes. To display or hide the toolbar, select **Toolbar** from the **View/Change** menu.

The stack list command buttons are:

Delete



Click this button to delete specific calls that you have marked. To select multiple records, hold down the [Ctrl] button and click the rows in the row selector.

Delete All



Click this button to delete all unanswered calls.

Reply



Click this button to reply to an unanswered call that you have marked (one call only).

Help



Click this button to display on-line help.

Close



Click this button to close the Stack List window.

Replying to Unanswered Calls

Note: This section refers only to MICOM-2 radios equipped with the SelCall option.

To reply to an unanswered call registered in the Stack list:

Step 1. Click the listing to which you wish to reply.

Step 2. Click the Reply button in the Stack list toolbar.

The CI application automatically performs the following sequence:

- The marked listing is deleted from the Stack list.
- The Stack list is closed.
- The Station name and all relevant information (net and channel) are automatically loaded into the Link tab fields.

Step 3. Click the Send button to initiate the call.

Using the Log File

Note: This section refers only to MICOM-2 radios equipped with the SelCall option.

Viewing the Log File

The Log viewer enables you to view the log of all incoming and outgoing calls.

To open the Log viewer window, from the View/Change menu, select Log File.

From	To	Date	Start	End	CallType	Net	Channel
PIERRE	FRANK	11/03/98	13:52	13:52	Station	1	3
PIERRE	PATRICE	11/03/98	13:52	13:52	Station	1	7
FRANK	PIERRE	11/03/98	13:53	13:54	Station	1	7

Figure 11. The Log List

The log list contains the following information:

Field	Indication
From	The caller's station name
To	The called station name
Date	The date on which the call was made
Start	The starting time of the call
End	The ending time of the call
Call type	The call type: Station, Net or All Call
Net number	The net number
Channel	The channel number

If the Log list window is too small to contain the list of calls, a scroll bar appears on the right hand side of the window, enabling you to scroll the list.

The Log List Toolbar

The log list toolbar enables quick access to commonly used commands and dialog boxes. To display or hide the toolbar, select Toolbar from the View/Change menu.

The log list command buttons are:

Delete



Click this button to delete specific calls that you have marked. To select multiple records, hold down the [Ctrl] button and click the rows in the row selector.

Delete All



Click this button to delete all calls.

Help



Click this button to display on-line help.

Close



Click this button to close the Log List window.

MICOM-2E (Enhanced) Control Panel Window

Once the radio parameters are loaded into the CI, the control panel window appears. The control panel includes the radio display, a clarifier, a Notch Filter, and a card board (comprised of a channel tab, link tab and Update Link Quality).

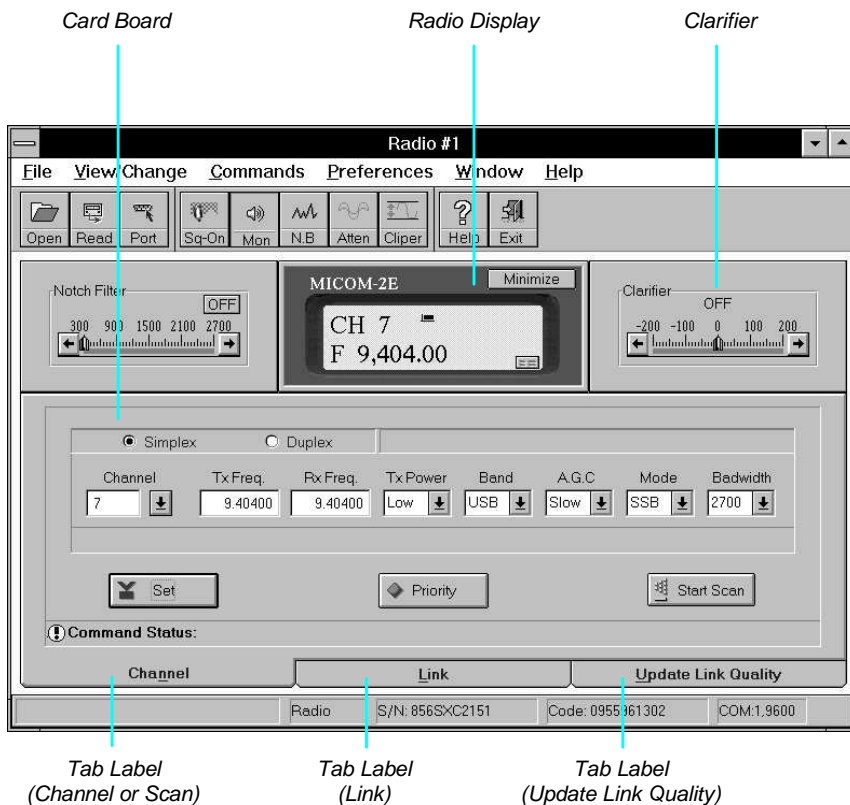


Figure 12. Control Panel

Radio Display

This box simulates the LCD display of the radio, and includes the following elements: two textual displays (mode and information), an icon display, a transmission (Tx) bar, a receive/transmit level indicator, and a minimize button.

Mode Display

Indicates the current working mode, for example CH# for channel mode, Freq. For frequency mode, ALE for ALE mode and so on.










Information Display

Information pertaining to the operation presently being performed in the current working mode.

For example: when the radio is in Channel Mode, this line displays the actual frequency of the specified channel.

Icon Display

Above the textual display is the Icon Display, where any of the ten following icons can be displayed, indicating various parameters of the radio's operating status, as follows:

	USB
	LSB
	Squelch
	Monitor
	Noise Blanker
	Clarifier
	Notch Filter
	Bandwidth
	AGC
	Alarm

Transmission Bar (Tx)

The transmission bar is displayed when the PTT button is pressed, indicating that the MICOM-2E is transmitting.

Receive/Transmit Level

In Transmit mode, this bar displays the output power level.

In Receive mode, this bar displays the level of the received signal, when the receive level button is pressed.

Minimize Button

The minimize button enables you to reduce the main window of the CI so that only the radio display is visible.

Clarifier

The clarifier enables fine tuning of the receive frequency to improve voice quality when the incoming signal is slightly off frequency. The clarifier can be turned off and is automatically disabled during transmission.

The upper and the lower frequency deviation limits are $\pm 200\text{Hz}$.

Note: When the radio switches to a new channel, the clarifier is automatically turned off.

Notch Filter

The notch filter reduces noise in a specific user-defined range within the channel bandwidth, in order to improve voice quality. The notch filter can be turned off and is automatically disabled during transmission.

Note: When the radio switches to a new channel, the notch filter is automatically turned off.

The Card Board

The card board contains all information and variable parameters necessary to control the radio in various modes and activities such as channel mode, scan mode, selective call, replying calls and so on.

The card board consists of three tabs, Channel/Scan, Link and Update Link Quality. The Channel/Scan tab is used for channel and scan modes. The Link tab is used for selective calling, link information, display of unanswered calls, and reply to unanswered calls. The Update Link Quality tab is used for sounding and channel score management in ALE mode.

Note: In MICOM-2E radios equipped with the ALE option, only the Channel/Scan tab is visible when the ALE mode is turned off.

Channel/Scan Tab

The Channel/Scan tab includes channel and scan controls. Only one of these controls appears on the screen, depending on whether the radio is in channel or scan mode.

Channel Mode Controls

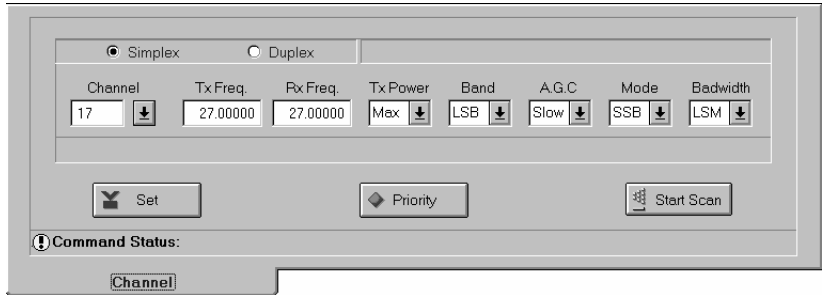


Figure 13. Channel/Scan Tab, in Channel Mode

The following table lists the channel controls and parameters:

Parameter		Indicates/Sets
Simplex	<i>type selection</i>	The Receive (Rx) and Transmit (Tx) frequencies are identical. When you type a value in either the Rx or the Tx Frequency fields, the other field will automatically be set to the same frequency.
Duplex	<i>type selection</i>	Indicates that the Receive (Rx) frequency is different from the Transmit (Tx) frequency. When you type a value in either the Rx or the Tx Frequency field, this does not affect the other frequency field.
Channel	<i>drop down</i>	Lists all programmed channels in the radio and displays the selected channel.
Tx Frequency	<i>read/write</i>	The transmit frequency (MHz). Frequency range: 1.6 MHz – 30 MHz.
Rx Frequency	<i>read/write</i>	The receive frequency (MHz). Frequency range: 0.1 MHz – 30 MHz.
Band	<i>drop down</i>	Side band operation:

Parameter		Indicates/Sets										
AGC	<i>drop down</i>	Upper Side Band or Lower Side Band. Automatic (receive) Gain Control: <ul style="list-style-type: none">• Slow – used for voice communication• Fast – generally used for data transmission (only when required by the HF data modem).										
Tx Power	<i>drop down</i>	Transmit power level: low 25 Watt medium 60 Watt high 100 Watt max. 125 Watt Note: When a 400W/1000W amplifier is connected to the radio, the transmitted power is 400W/1000W and not as displayed in the Tx Power box.										
Mode	<i>drop down</i>	Carrier reinsertion level: <ul style="list-style-type: none">• SSB (Single Side Band) – The radio operates on the upper side band with suppressed carrier.• AME (Amplitude Modulation Equivalent) – The radio operates on the upper/lower side band with the carrier inserted 6 dB below peak envelope power.• PLT (Pilot mode) – The radio operates on the upper/lower side band with the carrier inserted 15 dB below peak envelope power.										
Bandwidth	<i>drop down</i>	The bandwidth of the current channel, as follows: <table><thead><tr><th>Display</th><th>Range</th></tr></thead><tbody><tr><td>2700</td><td>(350-2700)Hz</td></tr><tr><td>3300</td><td>(350-3300)Hz</td></tr><tr><td>LSM</td><td>(1450-1950)Hz</td></tr><tr><td>C.W.</td><td>(650-1150)Hz</td></tr></tbody></table>	Display	Range	2700	(350-2700)Hz	3300	(350-3300)Hz	LSM	(1450-1950)Hz	C.W.	(650-1150)Hz
Display	Range											
2700	(350-2700)Hz											
3300	(350-3300)Hz											
LSM	(1450-1950)Hz											
C.W.	(650-1150)Hz											

Status Line

In the following cases, an error message appears in the status line:

- The typed channel/frequency is out of range.
- The typed channel/frequency is not a numerical value.
- The channel/frequency box is empty.

Note: If there is an error in the typed channel or frequency, you cannot press the set button.

Scan Mode Controls

If the MICOM-2E radio is equipped with an ALE option, two scan modes are available:

- ALE scan mode
- Basic scan mode (enabled when ALE is off)

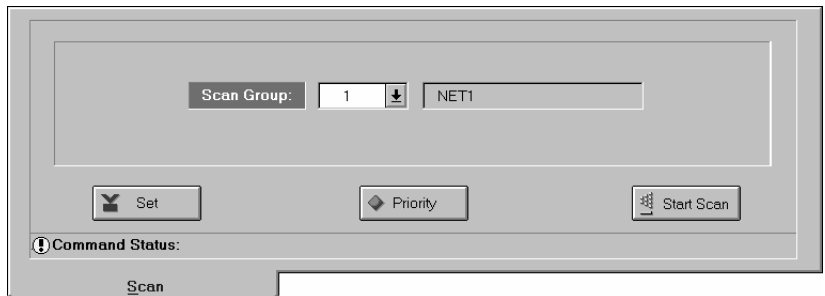


Figure 14. Channel/Scan Tab, in Scan Mode

The following table lists the channel controls and parameters:

Parameter		Indicates
Group/Net	<i>drop down</i>	The selected Group/Net number
Net Name	<i>read-only</i>	The current Net Name (only in ALE mode)

ALE Scan mode

Note: This section refers only to MICOM-2E radios equipped with the ALE option.

When the ALE mode is operating, the MICOM-2E can automatically scan up to twenty nets (1 to 20), each with up to 200 channels.

The nets are pre-programmed in the radio (using the RSS for ALE), and each net has an assigned name (network address and Self Address). In the CI, you can switch from one net to another using the Scan Group drop-down menu.

Basic Scan mode

When the ALE mode is off, or if your radio is not equipped with the ALE option, the MICOM-2E operates in basic mode and can automatically scan up to five groups (A, B, C, D and E), each with up to 200 channels.

The groups are pre-programmed in the radio (using the radio's RSS, depending on the radio model). In the CI, you can switch from one group to another by selecting a new group in the Scan Group drop-down menu.

An additional channel can be programmed as a "guard" channel. This channel is scanned more frequently than the other channels.

Command Status Line

The Status line registers error messages and other messages for the user.

For example, if the last request is still in process, the message "Command in progress" appears in the Status line. If you attempt to issue a command while the radio is transmitting, the message "Radio is transmitting now, commands cannot be executed during transmitting" appears in the Status line.

Buttons

The Channel/Scan tab command buttons are:

Set Button



Click this button to download the selected channel number and its parameters to the radio.

Priority Button



Instantaneously changes the current channel to a pre-defined priority channel, overriding the current status and the standard operating procedure.

Start/Stop Scan Button



The Start Scan button initiates scanning of channels in the currently selected group. This is considered the Radio Scanning state.



The Stop Scan button stops radio scanning. The radio status switches to Channel mode.

Link Tab

Note: This paragraph refers only to MICOM-2E radios equipped with the ALE option.

In radios equipped with the ALE option, this tab is visible only if the ALE option is active.

The Link tab includes all ALE controls and displays all SelCall status information.

In the Link tab, you can:

- Select the net, channel, station and message.
- Perform ALE calling.
- Display unanswered calls
- Reply unanswered calls.

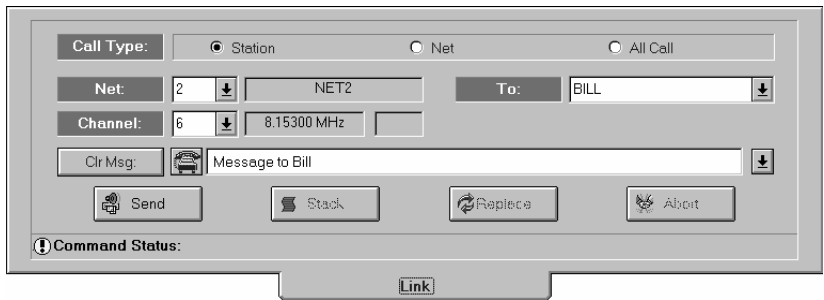


Figure 15. Link Tab

The following table lists the Link controls and parameters:

Parameter		Indication / Setting
Call Type	<i>type selection</i>	The required ALE call type: <ul style="list-style-type: none"> • Station – private call • Net – all members in a specific net • All Call – broadcast call
Net	<i>drop down</i>	Lists all available nets and displays the name of the selected net.
Channel	<i>drop down</i>	Lists all available channels in the selected net and displays the Rx frequency of the selected channel.
To	<i>drop down</i>	Lists all stations and the current net names stored in the ALE directory.
Clr Msg	<i>button</i>	Clears the message field.
Tel	<i>button</i>	Inserts the word “Dial” at the beginning of the message field (for ASTIC use).
Message List	<i>drop down editable</i>	Lists all defined messages (up to 100). Messages can be edited.

Buttons

The Link tab command buttons are:

Send Button



Click this button to initiate ALE Calling.

Stack Button



Displays all unanswered calls in ALE mode.

Replace Button



Disconnects/aborts the ALE link and initiates ALE calling on a better channel.

Abort Button



Disconnects/aborts ALE calling.

Command Status Line

The Status line registers error messages and other messages for the user.

For example, if the last request is still in process, the message “Command in progress” appears in the Status line. If you attempt to issue a command while the radio is transmitting, the message “Radio is transmitting now, commands cannot be executed during transmitting” appears in the Status line.

Update Link Quality Tab

Note: This paragraph refers only to MICOM-2E radios equipped with the ALE option.

In radios equipped with the ALE option, this tab is visible only if the ALE option is active.

In the Update Link Quality tab, you can:

- Activate sounding.
- Perform bidirectional transmission

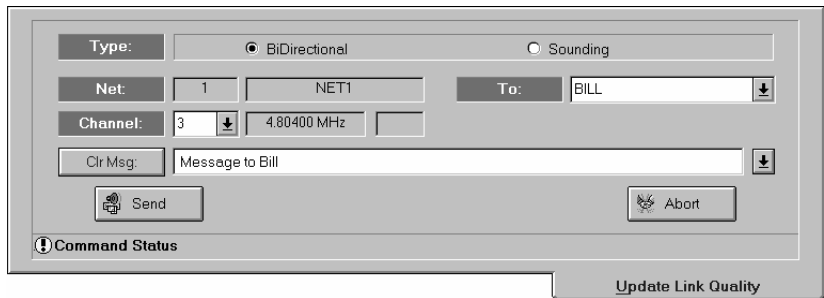


Figure 16. Update Link Quality Tab

The following table lists the ULQ (Update Link Quality) controls and parameters:

Parameter		Indicates
Type	<i>type selection</i>	The required ULQ type: <ul style="list-style-type: none"> • Sounding • Bidirectional transmission
Net	<i>label</i>	Displays the current net number and name.
Channel	<i>drop down</i>	Lists all available channels in the current net and displays the Rx frequency of the selected channel.
To	<i>drop down</i>	Lists all station and net names stored in the ALE directory.
Clear Msg	<i>button</i>	Clears the message field.
Message List	<i>drop down</i> <i>editable</i>	Lists all defined messages (up to 100). Messages can be edited.

Buttons

The Update Link Quality tab command buttons are:

Send Button



Click this button to initiate sounding/bidirectional transmission.

Abort Button



Aborts sounding/bidirectional transmission.

Command Status Line

The Status line registers error messages and other messages for the user.

For example, if the last request is still in process, the message "Command in progress" appears in the Status line. If you attempt to issue a command while the radio is transmitting, the message "Radio is transmitting now, commands cannot be executed during transmitting" appears in the Status line.

MICOM-2E (Enhanced) Operation

General

This section describes how to operate the MICOM-2E radio using the Computer Interface software.

Note: When the MICOM-2E radio is controlled by the CI, the radio keyboard is locked to prevent user interference. To enable keyboard functionality turn the radio off and on.

For all models, the CI enables the user to:

- Turn the squelch on or off
- Turn the noise blanker on or off
- Turn the attenuator on or off
- Turn the clipper on or off
- Set the clarifier
- Set the notch filter
- Select or change a channel and change its configuration
- Set the priority channel
- Select or change a group and start or stop scanning

For MICOM-2E radios equipped with the SelCall option, the CI enables the user to:

- Activate/deactivate ALE Option
- Monitor the speaker
- Initiate selective calling
- Reply to calls in ALE mode
- Use the stack option
- Reply to unanswered calls
- View the ALE log file

Turning Squelch On or Off

To turn squelch on or off, click the squelch button or choose Squelch from the Commands menu. The squelch is a toggle button, i.e. each time you click it, the squelch circuit changes its state from on to off and vice versa.

You can set the squelch state regardless of the current mode of the CI application.

Turning the Noise Blanker On or Off

To turn noise blanker on or off, click the Noise Blanker button or select Noise Blanker from the Commands menu. The noise blanker button toggles from on to off and vice versa.

Note: The noise blanker function is only available when the noise blanker option is enabled using the RSS.

Turning the Attenuator On or Off

To turn attenuator on or off, click the Atten (Attenuator) button or choose Attenuator from the Commands menu. The Atten button button toggles from on to off and vice versa.

Turning the Clipper On or Off

To turn clipper on or off, click the Clip (Clipper) button or choose Clipper from the Commands menu. The Clipper button toggles from on to off and vice versa.

Setting the Clarifier

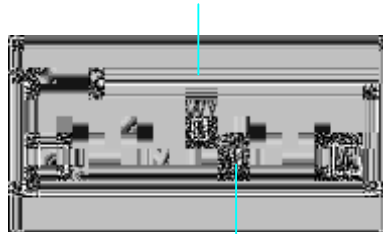
The clarifier enables fine tuning of the receive frequency to improve voice quality when the incoming signal is slightly off frequency. The upper and the lower frequency deviation limits are $\pm 200\text{Hz}$.

To change the clarifier setting in predefined steps, use the left and right buttons to decrease/increase the clarifier deviation by 10 Hz.

To set the clarifier at a specific frequency deviation, drag and drop the coarse button.

To set the clarifier to off, click on the "0" digit.

Click "0" to turn clarifier off



Coarse Button

Figure 17. The Clarifier Box

Setting the Notch Filter

The notch filter reduces a narrow frequency type noise within the current channel bandwidth in order to improve voice quality

The notch filter setting can be changed using predefined steps which move the notch center frequency higher or lower within the channel bandwidth.

To change the setting, use the left and right buttons (←, →).

To move the notch filter to a specific location, drag and drop the coarse button.

To turn the notch filter option off, click "OFF" button.

Note: The notch filter is only available when the radio is in channel mode and the channel bandwidth is 2700 or 3300.

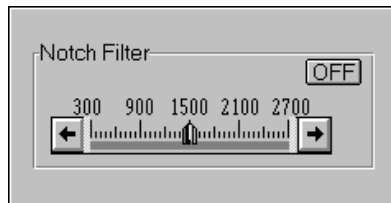


Figure 18. The Notch Filter Box

Selecting and Configuring a Channel

The MICOM-2E radio can have up to 200 programmed channels.

Note: The radio can only be set to channels that have been programmed using the Radio Service Software (RSS).

To select a new channel using the Channel box:

Step 1. Open the Channel/Scan tab.

Note: If the radio is in Scan mode, press the Scan button to return to Channel mode. The active tab will be “Channel”.

Step 2. Click the Channel drop-down list and select the required channel from the list. If a scroll bar appears inside the list box, this means that there are more channels than displayed. Use the scroll bar to scroll the list.

Alternatively, you can click inside the Channel box and type the required channel number.

Selecting a new channel will automatically change all other fields in the dialog box to values stored in the computer’s memory for this channel.

To change the frequency of the current channel:

Step 1. Select Simplex for identical Tx and Rx frequencies or Duplex for different Tx and Rx frequencies.

Step 2. Click inside the Tx Freq. or Rx Freq. fields or use the [Tab] key to reach the Tx Freq. or Rx Freq. fields.

Step 3. Type the required frequency (MHz).

To change the power level of the current channel:

Step 1. Click the Tx Power drop-down list and select the required power level from the list.

Alternatively, click inside the Tx Power box and type one of the following:

“L” for Low

“M” for Medium

“H” for High

“M” for Maximum

Note: The first time you type “M”, the value selected is Medium; the second time you type “M”, the value is Maximum.

To change the band of the current channel:

Step 1. Click the Band drop-down list and select the required band from the list.

Alternatively, click inside the Band box and type:

“U” for USB (upper side band)

“L” for LSB (lower side band)

To change the A.G.C. of the current channel:

Step 1. Click the A.G.C. drop-down list and select the required speed from the list.

Alternatively, click inside the Band box and type:

“S” for Slow

“F” for Fast

To change the mode of the current channel:

Step 1. Click the Mode drop-down list and select the required type from the list.

Alternatively, click inside the Band box and type:

“S” for SSB

“A” for AME

“P” for PLT (Pilot).

To change the bandwidth of the current channel:

Step 1. Click the Bandwidth drop-down list and select the required bandwidth from the list.

Alternatively, click inside the Tx Power box and type:

“2” for 2700

“L” for LSM (for modem use)

“3” for 3300

“C” for C.W.

Note: When the Channel/Frequency/Power/Band/AGC/Mode/Bandwidth settings and configurations are changed, these are displayed on screen, but are not reflected in the radio.

To update the radio configuration, click the Set button or press [Enter].

Setting the Priority Channel

To set the radio to work with the priority channel, click the Priority button and wait for radio to respond. The radio changes its current channel to the pre-defined priority channel, overriding the current status and the standard operating procedure.

You can select a priority channel regardless of the current mode of the CI application.

Selecting a Group and Scanning

To select a scan group:

Step 1. Click the Scan Group drop-down list and select the required group (A, B, C, D, E, or ALE Net 1,2,..20, if your radio includes the ALE option) from the list.

Note: When the radio is in scanning mode, each time you select a new group, the radio changes its scan group immediately.

Entering Scan Mode

To start scanning, click the Start Scan button. The tab name and configuration changes to the Scan tab. The radio enters Scan mode and begins to scan channels in the currently selected group.

Exiting Scan Mode

There are three different ways to stop scanning:

- | | |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Stop Scan | Click the Stop Scan button.
The radio stops scanning, the tab name and configuration changes to the Channel tab and the radio status reverts to Channel mode. |
| Priority | Click the Priority button.
The radio stops scanning, reverts to Channel mode, and sets the priority channel. |
| PTT | Press the PTT (microphone) button.
The radio immediately stops scanning at the last channel reached.
Note: The PTT option is available only when the radio is in basic scan mode. |

Activating/Deactivating the ALE Option

Note: This section refers only to MICOM-2E radios equipped with the ALE option.

You can activate or deactivate the ALE option from the CI application.

To activate/deactivate the ALE option:

Step 1. From the Preferences menu select ALE Option.

Wait until the application has completed any changes in the control settings before proceeding.

Monitoring the Speaker

Note: This section refers only to MICOM-2E radios equipped with the ALE option.

When SelCall is active, you can switch the speaker on or off.

Step 1. From the Command menu, select Monitor.

Alternatively, click the Monitor button on the toolbar.

When Monitor is activated, the MON icon appear on the radio LCD display.

The Monitor button toggles from on to off and vice versa.

Note: The monitor function is only available when the ALE mode is activated.

Entering ALE Mode

Note: This section refers only to MICOM-2E radios equipped with the ALE option.

Selective calling enables you to contact predefined nets.

If the ALE option is not active, from the Preferences menu, select ALE Option.

Making Selective Calling

Step 1. Select the Link tab.

Step 2. Select the call type: Station, Net, or All Call.

Step 3. If you selected Net in Step 2, open the Net drop-down list and select the identification number of the net you wish to call from the net list box (only when the radio is in scan mode).

Step 4. Open the Channel drop-down list and select Auto for automatic channel selection, or select a specific channel.

Step 5. If you selected Station in Step 2, open the To drop-down list and select a specific station name.

Step 6. If you want to add a message to your call, select a message from the message drop-down list or type inside the message field a message. To remove a message from the message field click the Clr Msg button.

Step 7. Click the Send button to start calling.

When the link has been established, a link establishment message will appear on the LCD display and a handshake icon will appear in the To Field.

Handshake Icon: 

Re-establishing a link on a different channel

If you are linked to another user and the channel become noisy, you can use the ALE mechanism to reestablish the link on a better channel.

To reestablish a link:

Step 1. Click the Replace button on the Link tab.

The radio will send an Abort message to the remote station and will automatically establish a link on a different channel, as determined by the ALE data base.

Disconnecting/Aborting Selective Calling

If you wish to disconnect or abort selective calling:

Step 1. Click the Abort button on the Link tab.

The radio will send an Abort message to the remote station and will revert to the last mode (Scan mode or Channel mode).

Note: If the Home acknowledge flag is not on, the Abort message will not be sent (this parameter can be programmed in the RSS).

Replying to Calls in ALE Mode

Note: This section refers only to MICOM-2E radios equipped with the SelCall option.

When the CI receives an ALE call request, a message box opens, notifying the user that an incoming selective call has been received.

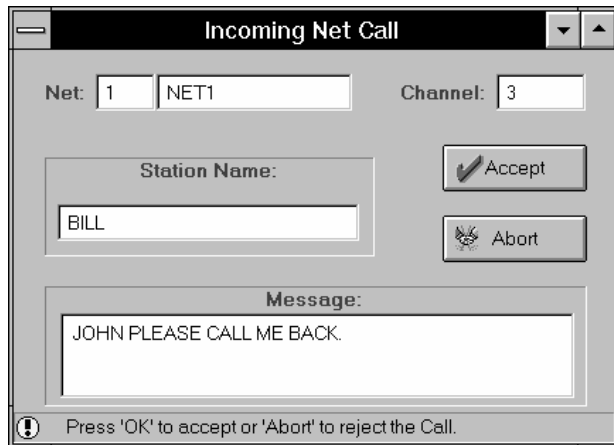


Figure 19. The Incoming Private Call Dialog Box

The following table lists the parameters and controls available in the Incoming Call window.

Parameter		Indication / Action
Net	<i>read only</i>	The net number and name in which the call was established.
Channel	<i>read only</i>	The channel number in which the call was established.
Station Name	<i>read only</i>	The name of the Caller.
Message	<i>read only</i>	If an AMD message is attached the call, it is displayed in this field.
Accept	<i>button</i>	Accepts an incoming call
Abort	<i>button</i>	Rejects an incoming call.

You can confirm or reject the call:

- To confirm the call, click the Accept button in the message box. This will cause the radio to confirm the call and establish the link.
- To reject the call, click the Abort button in the message box. This will cause the radio to send a reject message to the station that performed the call and to revert the radio to its previous state.

Setting Sounding ON and OFF

Note: This section refers only to MICOM-2E radios equipped with the ALE option.

Sounding is a method of testing all channels in the network under field conditions by sending out a unilateral broadcast signal on unoccupied channels at periodic intervals. When a station identifies a sounding signal sent from another station, the quality of the received signal is registered in the database of connectivity information within the network.

Note: Sounding can only be performed if the sounding flag in the radio has been programmed as OFF in the ALE RSS.

To turn Sounding on:

Step 1. Select the Update Link Quality tab.

Step 2. In the Type field, select Sounding.

Step 3. Click the Send button to set Sounding to ON.

The Sounding option label changes from black to red, indicating that sounding has been activated.

Note: As sounding is a broadcast signal, you cannot select a station name from the To list and you cannot add a message to a sounding process.

To turn Sounding off:

Step 1. Select the Update Link Quality tab.

Step 2. In the Type field, select Sounding.

Step 3. Click the Abort button to set Sounding to OFF.

The Sounding option label changes from red to black, indicating that the sounding process is not active.

Bidirectional Transmission

Note: This section refers only to MICOM-2E radios equipped with the ALE option.

Bidirectional transmission is a method of exchanging LQA (Link Quality Analysis) scores with any station in the network without establishing a link. This can be done on a single channel or on all network channels. An AMD message can also be added to the bidirectional transmission.

To initiate bidirectional transmission:

Step 1. Select the Update Link Quality tab.

Step 2. In the Type field, select Bidirectional.

Step 3. Open the Channel drop-down list and select a specific channel or select Auto for All Channels.

Step 4. Open the To drop-down list and select a specific station name with which to perform bidirectional transmission, or the net name of a net in which to perform bidirectional transmission with all net members.

Step 5. If you want to add a message to bidirectional transmission, select a message from the message drop-down list or type a message in the message field.

To remove a message from the message field click the Clr Msg button.

Step 1. Click the Send button to start bidirectional transmission.

The bidirectional transmission label changes from black to red, indicating that bidirectional transmission has begun.

Wait until the bidirectional transmission is completed before proceeding.

To stop bidirectional transmission:

Step 1. Click the Abort button.

The bidirectional transmission label changes from red to black, indicating that bidirectional transmission has been stopped.

Using the Stack

Note: This section refers only to MICOM-2E radios equipped with the ALE option.

Unanswered calls in ALE mode are stored in the Stack, which can save up to 200 calls (depending on the log file size). When at least one unanswered call is registered, the Stack button in the Link tab is activated. If the stack is empty, i.e., there are no unanswered calls, the Stack button is disabled.

Note: The contents of the Stack are not necessarily identical to those of the radio cache. The Stack is only updated when the application is running and can store up to 200 unanswered calls.

Viewing the Stack List

To display the Stack log file, from the View/Change menu, select Stack.

Alternatively, click the Stack button in the Link tab.

A dialog box containing the list of station names and the date and time of the unanswered calls appears. You can answer these calls directly from the list, delete selected entries or all entries.

If the Stack list window is too small to contain the list of calls, a scroll bar appears on the right hand side of the window, enabling you to scroll the list.

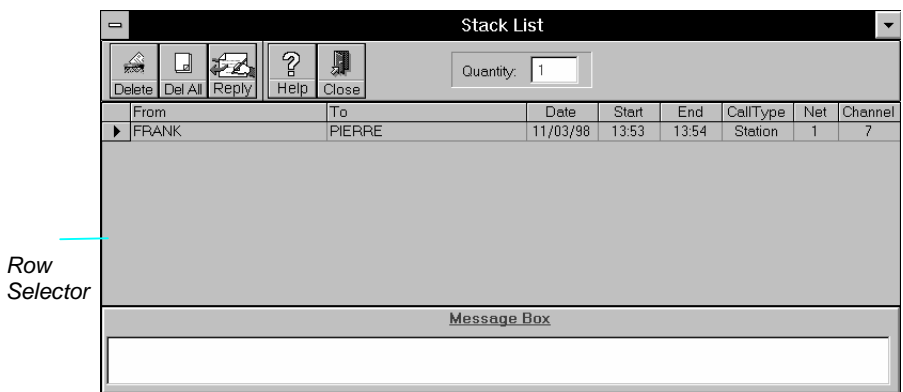


Figure 20. The Stack List

The following table details the information displayed in the Stack list:

Field	Indication
From	The caller's station name
To	The called station name
Date	The date on which the call was made
Start	The starting time of the call
End	The ending time of the call
Message	The received/transmitted message.
Net number	The net number
Channel	The channel number
Call type	The call type: Station, Net or All Call

The Stack List Toolbar

The stack list toolbar enables quick access to commonly used commands and dialog boxes. To display or hide the toolbar, select **Toolbar** from the **View/Change** menu.

The stack list command buttons are:

Delete



Click this button to delete specific calls that you have marked. To select multiple records, hold down the [Ctrl] button and click the rows in the row selector.

Delete All



Click this button to delete all unanswered calls.

Reply



Click this button to reply to an unanswered call that you have marked (one call only).

Help



Click this button to display on-line help.

Close



Click this button to close the Stack List window.

Replying to Unanswered Calls

Note: This section refers only to MICOM-2E radios equipped with the ALE option.

To reply to an unanswered call registered in the Stack list:

Step 1. Click the listing to which you wish to reply.

Step 2. Click the Reply button in the Stack list toolbar.

The CI application automatically performs the following sequence:

- The marked listing is deleted from the Stack list.
- The Stack list is closed.
- The Station name and all relevant information (net and channel) are automatically loaded into the Link tab fields.

Step 3. Click the Send button to initiate the call.

Using the Log File

Note: This section refers only to MICOM-2E radios equipped with the ALE option.

Viewing the Log File

The Log viewer enables you to view the log of all incoming and outgoing calls.

To open the Log viewer window, from the View/Change menu, select Log File.

The screenshot shows a window titled "Log File". At the top, there are icons for "Delete", "Del All", "Help", and "Close", along with a "Quantity:" field set to "3". Below this is a table with the following data:

From	To	Date	Start	End	CallType	Net	Channel
PIERRE	FRANK	11/03/98	13:52	13:52	Station	1	3
PIERRE	PATRICE	11/03/98	13:52	13:52	Station	1	7
FRANK	PIERRE	11/03/98	13:53	13:54	Station	1	7

Below the table is a "Message Box" with an empty text area.

Figure 21. The Log List

The log list contains the following information:

Field	Indication
From	The caller's station name
To	The called station name
Date	The date on which the call was made
Start	The starting time of the call
End	The ending time of the call
Call type	The call type: Station, Net or All Call
Net number	The net number
Channel	The channel number
Message	The received/transmitted message.

If the Log list window is too small to contain the list of calls, a scroll bar appears on the right hand side of the window, enabling you to scroll the list.

The Log List Toolbar

The log list toolbar enables quick access to commonly used commands and dialog boxes. To display or hide the toolbar, select Toolbar from the View/Change menu.

The log list command buttons are:

Delete



Click this button to delete specific calls that you have marked. To select multiple records, hold down the [Ctrl] button and click the rows in the row selector.

Delete All



Click this button to delete all calls.

Help



Click this button to display on-line help.

Close



Click this button to close the Log List window.

Keyboard Shortcuts

Press	For quick access to dialogs and commands...
[Alt] F	File
[Alt] F O	Open
[Alt] F R	Read device
[Alt] F X	Exit
[Alt] V	View/Change
[Alt] V C	Clarifier
[Alt] V N	Notch Filter
[Alt] V L	Log File
[Alt] V S	Stack
[Alt] C	Commands
[Alt] C S	Squelch on/off
[Alt] C M	Monitor on/off
[Alt] C N	Noise Blanker on/off
[Alt] C A	Attenuator on/off
[Alt] C C	Clipper on/off
[Alt] C R	Reset
[Alt] P	Preferences
[Alt] P T	Window Title
[Alt] P P	COM Ports
[Alt] P S	SelCall Option
[Alt] P A	ALE Option
[Alt] W	Window
[Alt] H	Help
[Alt] H C	Contents
[Alt] H S	Search for help on...
[Alt] H A	About

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