

ClearOne®

INTERACT™ PRO | AT | 81

USER'S MANUAL



Preface

INTERACT AT | PRO | 8i USER'S MANUAL CLEARONE PART NO. 800-154-000-01 JANUARY 2010 (REV. 1.4)
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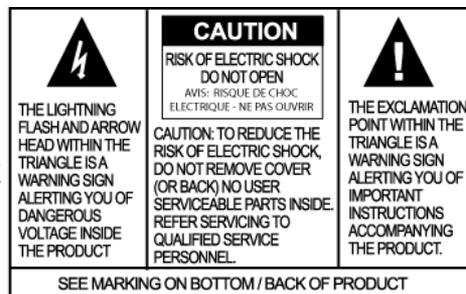
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IMPORTANT SAFETY INFORMATION

Read all safety information before using this product.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet. Apparatet skal tilkoples jordet stikkontakt.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Use the mains plug to disconnect the apparatus from the AC mains. The mains plug shall remain readily operable.
16. To completely disconnect unit power from the AC mains, disconnect the unit's power cord from the mains socket. To reconnect power, plug the unit's power cord into the mains socket following all safety instructions and guidelines.
17. Caution: Danger of explosion if lithium battery is incorrectly displaced. Replace only with the same or equivalent type. Battery should only be replaced by qualified personnel and is not intended as a user serviceable part. Do not expose batteries or battery pack to excessive heat such as prolonged sunlight, fire or other heat sources.
18. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in fire or electric shock.
19. This product can interfere with electrical equipment such as tape recorders, TV sets, radios, computers and microwave ovens if placed in close proximity.

WARNING: TO PREVENT FIRE OR ELECTRICAL SHOCK HAZARD, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.



INTERACT SOFTWARE OVERVIEW

ClearOne's INTERACT Software™ provides an easy interface for configuring system settings and customizing the audio in your INTERACT conferencing system. While the INTERACT system is designed to work out of the box for audio conferencing setups, INTERACT Software is required to adjust audio levels and equalizer settings for the INTERACT components as well as the auxiliary audio devices.

Installing the INTERACT Software

The INTERACT software is available for download at: www.clearone.com - **Resources - Resource Library** - under the section titled **INTERACT**. This section contains the latest software and firmware releases and documentation for your product.

To install the software:

1. If you are installing from CD on a Windows machine, place the CD in the drive tray and close the drive. If Autorun is enabled, the installer will launch. If you do not have Autorun enabled double-click your cd-drive icon from **My Computer** and navigate to the **Software** folder. Open the folder.
2. If you are downloading the software, unzip the downloaded file to a location of your choice. Open the folder containing the unzipped setup files.
3. From this point, the instructions pertain to both a CD or downloaded install. Double-click **Setup.exe**.
4. Once the installation wizard launches, read through the instructions. Click **Next**.
5. Read the INTERACT EULA, click either "**I Do Not Agree**" or "**I Agree**". If you agree, click **Next**.
6. Read the Information screen, click **Next**
7. Select the installation folder, click **Next**
8. Confirm the installation, click **Next**
9. The Windows Device Driver Installation Wizard will launch, click **Next**. This will install the required drivers for the ClearOne INTERACT product line.
10. When the Device Driver Installation Wizard confirms the status of the drivers, click **Finish**.
11. Repeat steps 9-10 if asked.
12. The installation is complete. You are ready to use the INTERACT software.

Navigating INTERACT Software

Menus and Toolbar

- The Menus and Toolbar buttons provide quick access to INTERACT Software features such as System Diagnostics, Phonebook, Firmware Uploader and Event Log.



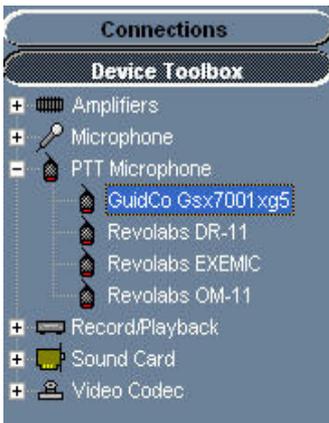
Connections list

When the INTERACT Software is started the software will show all available connections. If USB or RS-232 is chosen the software will connect immediately. If Ethernet is chosen, you will be prompted for a username and password before connecting. The software can only make one connection at a time..



Device Toolbox

- Lists most common brands of auxiliary audio products (video codecs, sound cards, VCRs and amplifiers). The audio settings for these devices have been optimized for use with the INTERACT system. Users can add and edit their own devices. See the **Edit Devices** section.



Configuration Screen

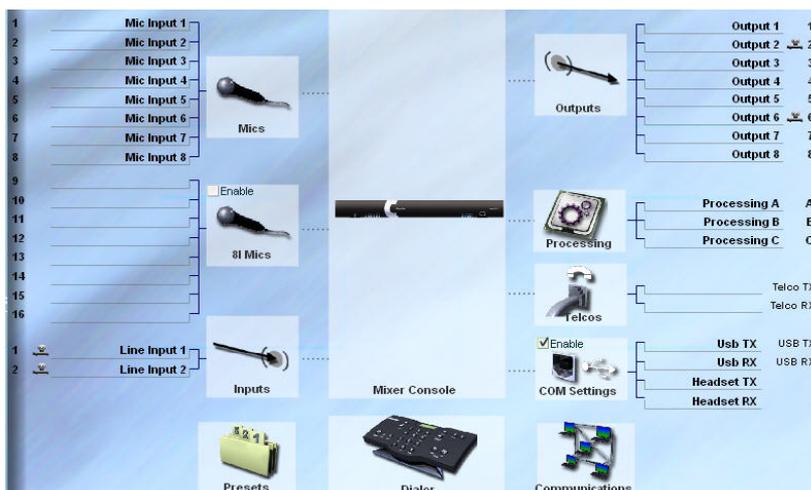
- Access the configuration windows for the INTERACT system by clicking the icons.



Interact AT screen shot

- **INTERACT AT Only** - COM units are enabled by selecting them from the dropdown boxes (COM Units are enabled on the INTERACT PRO by selecting

the appropriate check box).



Interact Pro screen shot

Online/Offline Indicator

- Shows connection status (online/offline) and the name of the connected unit.



Status Indicators

- Status for Communications (green = online, yellow = connecting, red = offline), Telephone In Use (red = not in use, green = in use) and Mic Mute/Gating (red = mute, green = gated, off = not gated).



Connecting to Units

Serial Connection

- When you connect to the INTERACT unit with a serial cable, the unit is detected when you start INTERACT Software and a connection to the unit is established. The name of your unit and the online status are displayed below the Configuration screen.

Network Connection

- When INTERACT Software is started, it automatically finds all INTERACT units on the same subnetwork and displays them in the Connections list. To connect, simply click the unit icon. You will be prompted to enter the user name and password. Once a connection is established, the Configuration screen will appear and the unit name and Online status will be displayed.

USB Connection

- An INTERACT can be connected via USB to your Windows based computer. The INTERACT software is compatible with Microsoft® Windows XP, Vista and Windows 7.

Working Offline

Note: Changes made offline will only take effect once they have been imported to a connected INTERACT system.

Creating a New File

1. Click the New File  toolbar icon.
2. Select either the INTERACT AT or INTERACT PRO depending on your system.
3. This will open the Configuration Screen where you can set user preferences for your INTERACT system.
4. Save the file.

Editing an Existing File

1. Click the Open File  toolbar button.
2. Using the Open browse window, locate and select your saved file.
3. Click Open and make desired changes.
4. Save the file.

Importing a File

Note: To import an existing file, you must first connect to an INTERACT unit.

1. Select Import File from the File menu.
2. Using the Open browse window, locate and select your saved file.
3. Click **Open**.
4. The new configuration settings will be sent to the connected INTERACT unit.
5. The device will require a reboot.

INTERACT MIC EX

The MIC EX is a Microphone breakout box with 3 XLR mic/line input channels and a Link input/output.

Product features include:

Front



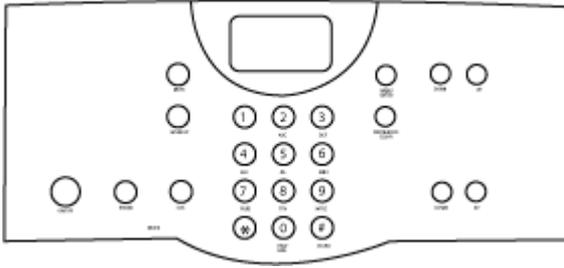
A. Power indicator

Back



- A. Link Connectors: Connect the link line to the IN connector using RJ-45 cable. Connect the breakout box to the mixer using RJ-45 cable and connect the breakout box's OUT connector to the mixer's IN connector.
- B. Microphone Connectors: You can connect up to three mics--the mics can be tabletop mics, button mics, portable mics, etc.

INTERACT DIALERS



INTERACT Dialer

The INTERACT DIALER is a wired tabletop controller designed to add functionality to your INTERACT device.

INTERACT Dialer-W (Wireless)

The INTERACT DIALER-W is a 2.4 GHz Wireless tabletop control device requiring an INTERACT COM-W device connected to the INTERACT system.

Features and functions include:

LCD Icon	Function
 ANTENNA SIGNAL	Indicates commands are received and acknowledged by base unit and represents the signal strength from the base unit to the RF controller.
 BATTERY	Indicates battery level (RF controller only)
Key	Function
 ON/OFF	Press to activate the phone and access the dial tone. Press again to hang up the phone.
 PHONE	Press once to switch from OCS mode to standard telco mode (standard telephone calls can only be made from this mode).
 MUTE	Press once to mute all microphones during a call. Press again to unmute.
 WAKE UP	Press and hold for two seconds to display the status of the INTERACT. (RF controller only)
 OCS	Press once to switch dialer to OCS mode (used only with Microsoft Office Communicator enabled networks).
 MENU ENTER	Press once to access the controller programming menu. Once you are in the Menu, this key serves as the Enter key.
 PHONEBOOK CLEAR	Press once to dial stored numbers. When you are in the Phonebook, use this key to delete characters or to go back to the previous screen.
 DOWN	Press down or up to navigate through the menu and phonebook.
 UP	
 VOLUME	Press while on a call to adjust call volume.

INTERACT COM / COM-W (WIRELESS)

INTERACT COM

The INTERACT COM is an interface device used to add USB audio and headset audio to an INTERACT system.

INTERACT COM-W (Wireless)

The INTERACT COM-W is an interface device used to add USB audio, headset audio and a wireless INTERACT DIALER to an INTERACT system.

Product features include:

Front



A. Power indicator

Back



- A. Link In/Out ports: Link input and output ports connect G-link enabled devices to the INTERACT COM and COM-W
- B. HS port: Connects a telephone headset to the COM and COM-W
- C. USB 2.0 compatible port: Connects USB devices to the COM and COM-W unit
- D. Control/Status port: GPIO port
 - Pin 1: Master Microphone Mute Control
 - Pin 2: Master Microphone Mute Status
 - Pin 3: On/Off Hook Control

- Pin 4: On/Off Hook Status
 - Pin 5: Vdc (up to 40 milliamps)
 - Pin 6: Ground
- E. Antenna (COM-W only): Allows wireless communication for command transfers between the COM-W and the INTERACT unit.

NETWORK CONNECTION

Network Connection allows you to connect to any INTERACT system on your network using an IP address or a unique network name.

Using Network Find

Open the Network Find

- Click the **Network Find** button on the toolbar (or located under **Tools/Network Find**).

Note: INTERACT Software will automatically detect units located on the same subnetwork. You only need to use Network Find to locate units outside of the subnetwork. This is based on the assumption that your LAN is configured correctly. If your LAN is **not** configured correctly, please refer to your IT Administrator.

Connect to a system on the network

1. Enter the **IP Address** or **Network Name** of the system to which you want to connect.
2. Click **OK**.
3. You will see a Password Prompt window. Enter the **User Name** and **Password** of the networked system.
4. Click **OK**. The system icon will appear in the Connection list and the Configuration screen will open.

PHONEBOOK

INTERACT Software features a Phonebook utility which stores up to 20 phone numbers. These numbers are also assigned a speed dial number for dialing convenience through the INTERACT Controller. Phonebook entries are listed in alphabetical order, speed dial number or number. You can add, edit or delete an entry from the Phonebook window.

Phonebook Edit

Open the Phonebook

- Click the Phonebook button  on the toolbar (or located under **Tools/Phonebook Edit**).

Add a number

1. Click **Add**
2. Enter the **Name** and **Number**.
3. Enter a **Speed Dial Number**(1-20). If you don't enter a speed dial number, INTERACT Software will automatically assign one. Alternatively, the user can assign a speed dial number of **None** - this will not assign a speed dial number.
4. Click **OK**

Delete a number

1. Select the entry you want to delete.
2. Click **Delete**

Edit a Phonebook entry

1. Select the entry you want to edit, click **Edit**.
2. Make desired changes to the entry.
3. Click **OK**. Confirm the deletion.

REGIONAL SETTINGS

You can set the date and time in the Regional Settings window to ensure accurate time stamp on log files. The Regional Settings window is accessed through the Regional Setting toolbar button or from the Tools menu (**Tools/Regional Settings**).

Date / Time

To set Local Time

1. Select the Local Time check box. The Local Time and Date boxes are now active.
2. Enter the current date and time.
3. Select Use Daylight Savings if your region observes daylight saving time.
4. Select the correct Time Zone.
5. Click OK to save settings and close the window.

To reference a Time Server

1. Uncheck the **Use Local Time** check box.
2. Enter the IP address for the time server.
3. Select Use Daylight Savings if your region observes daylight saving time.
4. Select the correct Time Zone.
5. Click OK to save settings and close the window.

If the device is connected to a network using DHCP, Time Server is included with DHCP options and will auto populate depending on those settings.

EVENT LOG

The Event Log keeps a user-definable record of events such as passwords, dialing, reboots and errors. The selected events are tracked and listed in the Event Log. The INTERACT software must be connected to a unit to view the Event Log.

Using the Event Log

Open the Event Log

- Click the **Event Log**  toolbar button (or **Tools/Event Log**)

Track events

- Select the events you would like to log

Save the Event Log

1. Click the Save button
2. Name the file
3. Click Save. The log is saved as a .txt file

Print the Event Log

1. Click the Print button
2. Select the printer
3. Click **Print**

Error Messages

When the INTERACT system encounters an error, an **error icon**  will appear in the lower left corner of INTERACT Software. Review this log to troubleshoot problems.

View error messages

- Click the **error icon** in the lower left corner of the INTERACT window

Clear error messages

- Click Clear

Note: Users can also select and copy error messages.

SYSTEM CHECKS

Note: To perform a diagnostic the INTERACT system must be connected.

The System Checks window allows you to check your INTERACT system to be sure all parts of your system are connected and working properly. You should run the system checks before all uses of the INTERACT and once a week to troubleshoot any problems.

Open System Diagnostics

- Click the **System Checks** toolbar button. Alternatively System Checks can be selected from the **Tools** menu.

Run System Checks

- Click the **Start** button.

You will hear a tone as the INTERACT checks attached loudspeakers and mics. When the check is complete, lights will indicate the status of each component. Green indicates the part is connected and functioning. Red indicates a problem with the component.

FIRMWARE LOADER

Updates and enhancements to your INTERACT system are made available through new software and firmware releases which can be downloaded from the [ClearOne web site](#). Once you have installed the new software version, you will need to upload new firmware files to your INTERACT units.

Connect to the INTERACT unit

Click the **INTERACT unit** icon in the Connection list. If you are connecting via IP you will be prompted to enter the user name and password (defaults are clearone/interact). Once a connection is established, the Configuration screen will appear and the unit name and Online status will be displayed.

It is recommended that you make a backup of your original Site File, located in the same location you saved the file. The firmware will be located in the Interact Software folder, located in:
C:\Program Files\ClearOne\Interact\1.0\firmware

Upload Firmware

1. Click the Firmware Loader button on the toolbar.
2. Click the File button
3. Browse to the correct file located in INTERACT Software folder C:\Program Files\ClearOne\Interact\1.0\firmware.
4. Click **Open**
5. Click the Update button.
6. The File Transfer Progress bar will indicate when the firmware has been uploaded.

Once completed the unit will reboot.

INTERACT COM UPDATER

Updates and enhancements to your INTERACT system are made available through new software and firmware releases which can be downloaded from the [ClearOne web site](#). Once you have installed the new software version, you will need to upload new firmware files to your INTERACT units.

Connect to the INTERACT unit

Note: Your INTERACT COM must be linked to your INTERACT unit. Correct linking and power will be indicated by a blue light on the front of the INTERACT COM.

Update Firmware

1. Connect the INTERACT COM to your Computer with a USB cable. If you are asked to install drivers follow the onscreen wizard.
2. Once the INTERACT COM is connected, click the INTERACT COM Updater button on the toolbar (or **Tools/INTERACT COM Updater**).
3. Click the Select File button
4. Browse to the correct file located in C:\Program Files\ClearOne\Interact\1.0\firmware
5. Click **Open**
6. Click the Update button.

During the upgrade process you may be asked to install drivers; these USB device drivers are necessary to continue the Interact COM update. Follow the prompts in the Device Driver Wizard to complete driver installation and Interact COM Update.

SERIAL COMMANDS

The INTERACT Serial Commands guide can be found as a separate document. The document contains a list of applicable serial commands, use and application for the INTERACT AT and INTERACT PRO models.

Connecting with Telnet

Users can connect to any unit via RS -232 and telnet. Available telnet commands are the same as those used in the Serial Command section of the INTERACT Serial Commands guide.

How to Connect with Telnet:

- Use the client of your choice
- Telnet uses port 23
- The user name and password are the same as used by INTERACT. The default username is **clearone** and the default password is **INTERACT**. These are not case sensitive.

Note: The INTERACT PRO 8i cannot be controlled through RS-232 and Telnet.

RS-232 Port: INTERACT AT/Pro

Pin#	User Definable	Control
1	N	DCD
2	N	TXD
3	N	RXD
4	N	DTR
5	N	Ground
6	N	DSR
7	N	CTS
8	N	RTS
9	N	No Connection

Note: To avoid communication errors, ClearOne recommends using all nine pins when connecting to the RS -232 port.

INTERACT AT

The ClearOne INTERACT AT is a mixer that interfaces with the MIC and MIC EX via RJ-45 cable. It is equipped with two line inputs, 2 line outputs, a 5-watt amplifier and telephone hybrid.



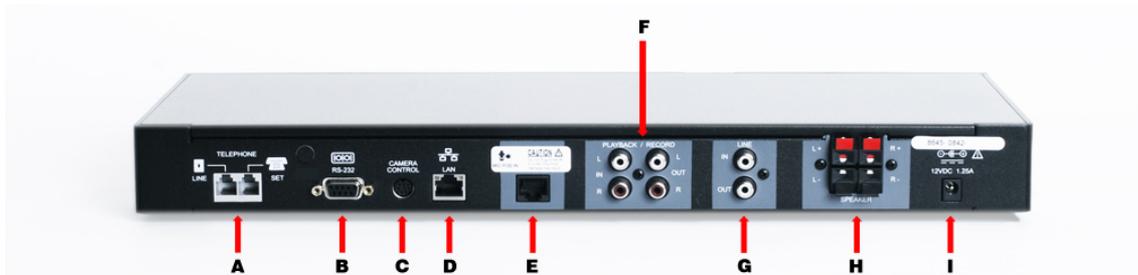
Features of the INTERACT AT include:

Front



- A. On/Off hook indicator
- B. Microphone indicator: Indicators show which microphone channels are active
- C. Input Metering: Shows current input level
- D. USB 1.1 compatible input

Back



- A. Telephone interface: Connect an analog phone line to the INTERACT
- B. RS-232 control port: Used for connect to the Interact Software or control from a 3rd part controller such as AMX or Crestron.
- C. Camera Control: Video System Control Architecture port used to control a VISCA compatible camera
- D. Ethernet port: 10/100 Mbps Ethernet port. The LEDs adjacent to the port indicate connection status and packet traffic activity.
- E. MIC Pod input: Input for the INTERACT MIC Pod accessory ONLY!
- F. Playback/Record input/outputs: Left and right channel input and output RCA jacks used to connect playback and recording devices.
- G. Line input/output: Mono line input and output RCA jacks

- H. Speaker outputs: Left and right push terminals, 5 watts/channel, 8 ohms.
- I. Power adapter input: 12 V DC 1.25 amp.

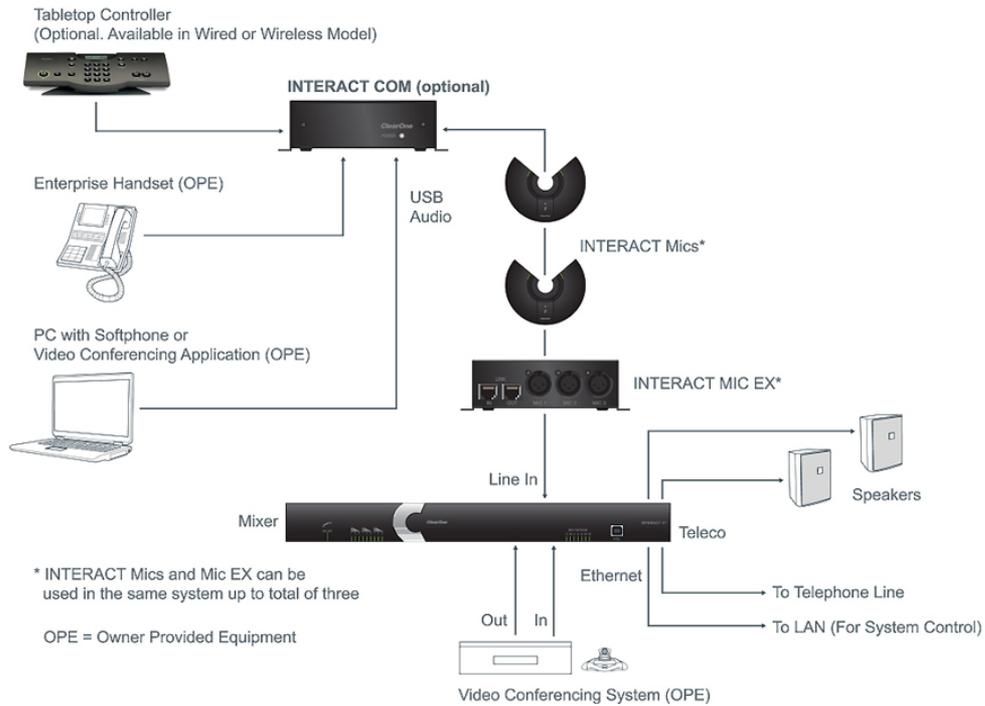
WARNING: Use the Link In and Link Out ports with INTERACT Devices ONLY . Connecting ANY other devices to the Link In and Link Out ports, including ClearOne Converge and Converge Pro products, or Power Over Ethernet (PoE) devices, will result in severe equipment damage.

BASIC CONNECTIONS

Connecting the INTERACT AT should be a smooth process. Once basic connections for audio/video conferencing are made, the system is ready to use.

The diagram below illustrates a typical INTERACT AT installation.

INTERACT AT Connection Diagram



Audio Conferencing Setup (INTERACT AT)

Setting up Audio Conferencing

1. If you are installing the mixer into a rack, remove the side panels, rotate them and then reattach.
2. Connect the first microphone breakout box to the mixer with a Cat. 5 cable.
3. Connect the second and third INTERACT MIC EX boxes using Cat. 5 cables. (Third breakout box on the INTERACT AT only).
4. Connect the microphones to the breakout boxes, as desired.
5. Connect the speakers to the mixer.
6. Using the RJ-11 cable, connect an analog telephone jack to the **Line** jack on the mixer.
7. Using an RJ-11 cable (not supplied), connect an analog telephone set to the **Set** jack on the mixer (optional).
8. Using the 7' Cat. 5 cable, connect the mixer to the network. (Network settings can be changed in INTERACT software.)
9. Using the power supply cords, connect the mixer to an electrical outlet.
10. If using the wired controller, connect the controller to the mixer's RS-232 serial port using the supplied RJ-11 to DB-9 adapter. If using the RF controller, attach the external antenna and turn it until it is upright.
11. If using the RF controller, insert four AAA batteries into the battery compartment in the bottom of the unit.

Setting up Audio Conferencing (INTERACT PRO)

1. If you are installing the mixer into a rack, remove the side panels, rotate them and then reattach.
2. Connect the first microphone breakout box to the mixer with the 18" Cat. 5 cable.
3. Connect the second and third INTERACT MIC EX boxes using the 18" Cat. 5 cables. (Third breakout box on the INTERACT AT only).
4. Connect the microphones to the breakout boxes, as desired.
5. Connect the speakers to the mixer.
6. Using the RJ-11 cable, connect an analog telephone jack to the **Line** jack on the mixer.
7. Using an RJ-11 cable (not supplied), connect an analog telephone set to the **Set** jack on the mixer (optional).
8. Using the 7' Cat. 5 cable, connect the mixer to the network. (Network settings can be changed in INTERACT software.)
9. Using the power supply cords, connect the mixer to an electrical outlet.
10. If using the wired controller, connect the controller to the mixer's RS-232 serial port using the supplied RJ-11 to DB-9 adapter. If using the RF controller, attach the external antenna and turn it until it is upright.
11. If using the RF controller, insert four AAA batteries into the battery compartment in the bottom of the unit.

Auxiliary Devices (INTERACT AT)

The mixer allows connection to a number of different audio and video peripherals, such as video codecs, VCRs, DVD players, cameras and computers.

Connecting Video Codecs, Amplifiers and Sound Cards

Line input/output devices such as video codecs, amplifiers and sound cards can be connected to the Line In or Line Out connectors on the INTERACT mixer. These connectors provide mono-audio.

To Connect a Video Codec

1. Using an RCA cable, connect the **Line In** on the INTERACT mixer to the line out on a video codec.
2. Using an RCA cable, connect the **Line Out** on the INTERACT mixer to the line in on a video codec.

To Connect a Sound Card

1. Using an RCA cable, connect the **Line Out** or **Record Out** on the INTERACT mixer to the line in on an amplifier.

Note: Use the INTERACT software to adjust the equalization and volume of these devices. Refer to pages 39–46 for more information. When using the INTERACT software, be sure to drag the amplifier to the correct device (either line out or record). This will properly assign the AEC reference and change the volume command on the controller to control the external amplifier volume.

Connecting VCRs and DVD Players

You can record your audio/video conference or play audio using a playback device such as a VCR or DVD player.

1. For recording, connect the **Left** and **Right Audio Out** on the INTERACT to the left and right audio in on the VCR or DVD player.
2. For playback, connect the **Left** and **Right Audio In** on the INTERACT to the left and right audio out on the VCR or DVD player.

Connecting PTZ Cameras

The Converge system provides voice-tracking capabilities through VISCA control port connection to a Pan, Tilt, Zoom camera. Voice Tracking allows the camera to move to preset positions based on microphone activation.

1. Connect the camera to the **Camera Control** port on the mixer.

Serial Control Connection

You can connect a computer or a control device, such as an AMX or Crestron, to the INTERACT mixer through the serial control port. See page 83 for a list of the serial commands.

1. Connect computer to the **RS-232 Control** port on the back of the mixer using a 9-pin straight-through serial cable.

USB Control Connection

You can also connect a computer to the INTERACT through the USB port.

1. Connect computer to the USB port on the front of the mixer using a USB cable.

Digital Phones

If you have a digital (PBX) telephone service, you need to run an analog extension from the PBX (recommended for best performance) or use a digital-to-analog telephone line converter. For more information, contact ClearOne Technical Support.

Note: If you connect the INTERACT through a digital-to-analog line converter, you will not be able to use the tabletop controller or the INTERACT software dialing interface to make calls. You will instead need to dial from the digital phone. The phone handset must be kept off hook for the duration of the call.

Connecting a Digital Phone

1. Connect one end of the telephone cable into the **Line** jack on the back of the mixer and the other end into the digital-to-analog converter.
2. Connect the converter's power adapter into an electrical outlet.
3. Connect a second telephone cable from the converter to a PBX phone. Consult the converter's user manual for more information.

DEVICE TOOLBOX - INTERACT AT

The Device Toolbox Editor allows you to add audio devices to the pre-configured Device Toolbox list for future system setup. You will need to save the INTERACT file, which can then be imported into the next INTERACT AT unit you are configuring. If you want to only copy over the settings for a specific device, you will need to copy and paste the settings.

Using the Device Toolbox Editor

Open the Device Toolbox Editor

- Select the device category from the **Device Toolbar**, click the **+** symbol to expand.
- Right-click the device to edit. Select **Device Toolbox Editor**.
- Alternatively: From the Tools menu, select **Edit Device List**.

Add a device

1. Click Add.
2. Select the **Device Type** from the Device Type list.
3. Enter the Name of the Manufacturer.
4. Enter the ModelNumber of the device.
5. Enter the **Equalization** levels and the **Gain** settings.
6. Click **OK**. The new device will appear in the Toolbox Editor window and in the Device Toolbox.

Edit a device

1. In the Device Type list, select the device you want to modify.
2. The Edit Device window opens. Make the desired changes.
3. Click OK.

Delete a device

1. In the **Device Type** list, select the device you want to delete.
2. Click Delete.
3. Confirm that you want to delete the device.

MIXER CONSOLE - INTERACT AT

The Mixer Console allows you to create mixes of audio and send them to specific outputs. This allows you greater flexibility in setting up your conferencing environment. The audio inputs are shown along the left side of the window and the audio outputs are along the top.

Note: There are several routing paths that are inactive. This is to prevent audio from being routed back to the source and creating feedback.

Mixer Options

To create a mix of audio

- Select the check boxes for the audio inputs you want routed to each output.

To adjust Input levels

- You can adjust volume on the inputs, using the corresponding volume sliders. Each volume slider is independent of any other volume control in the mixer. To view a meter the corresponding check box must be selected.

To use Output meters

- The meters are peak meters which measure the audio level. The meter bars move from green to yellow to red as the volume increases. The red bars indicate that the audio is too loud and is being clipped or cut off.

Mute

- Click any of the **Mute** buttons to mute an input or output. Each Mute button is independent of any other Mute control in the mixer.

Click **Close** to return to the main flow screen.

LINE INPUT SETTINGS - INTERACT AT

The Line Input Settings window is used to customize and configure the audio from the auxiliary device that is connected to the Line In jack on the INTERACT mixer. Line Input devices include video codecs, CD players and sound cards.

Note: Many of the most common Line Input devices have been pre-configured for optimal performance with the INTERACT system. These devices are listed in the Device Toolbox.

Adding A Device Label

- You can add the Manufacturer and Model of your connected Playback device using a serial command.
- You can also add your Playback device to the Device Toolbox using the Device Toolbox Editor, which allows you to specify the Manufacturer and Model.

Equalization

Using Equalizers

- Increase and decrease the Low, Mid and High frequencies using the Equalization sliders. Levels can be adjusted from +12 dB to – 12 dB.

Learn about Equalization

- Equalization in INTERACT Software is very similar to bass and treble adjustments on a stereo. Increasing or decreasing the different frequencies allows you to customize loud-speaker audio and provide the optimal listening experience for your users. Using this feature is optional.

Mute

Press the **Mute** button to silence audio on the Line Input.

Meters and Volume

Adjusting Volume

1. Get an audio signal from the line input device.
2. Adjust the audio level using the Volume slider.

Learn about using Meters

- The peak meters are used to measure the audio level with the meter bars moving from green to yellow to red as the volume increases. The red bars indicate that the audio is too loud and is being clipped or cut off.

LINE OUTPUT SETTINGS -- INTERACT AT

The Line Output Settings window is used to customize and configure the audio being sent to the auxiliary device that is connected to the Line Out jack on the INTERACT mixer. Line Output devices include video codecs, CD players, amplifiers and sound cards.

Note: Many of the most common Line Output devices have been pre-configured for optimal performance with the INTERACT system. These devices are listed in the Device Toolbox.

Adding a Device Label

- You can add the Manufacturer and Model of your connected Playback device using a serial command.
- You can also add your Playback device to the Device Toolbox using the Device Toolbox Editor, which allows you to specify the Manufacturer and Model.

Equalization

Using Equalizers

- Increase and decrease the Low, Mid and High frequencies using the Equalization sliders. Levels can be adjusted from +12 dB to – 12 dB (INTERACT AT only).

Learn about Equalization

- Equalization in INTERACT Software is very similar to bass and treble adjustments on a stereo. Increasing or decreasing the different frequencies allows you to customize loud-speaker audio and provide the optimal listening experience for your users. Using this feature is optional.

Meters and Volume

Adjusting Meters

1. Get an audio signal from the line output device.
2. Adjust the Volume using the Volume slider.

Learn about using Meters

- The meters are peak meters measuring the audio level. The meter bars move from green to yellow to red as the volume increases. The red bars indicate that the audio is too loud and is being clipped or cut off.

CAMERA CONTROL

The INTERACT system provides voice tracking capabilities through VISCA control port connection to a PTZ camera. The camera presets are programmed in INTERACT Software and assigned to each microphone pod. The INTERACT AT supports nine camera positions and a home position.

Camera Control Settings

To open the Camera Control window

- With the camera connected, click the **Camera Controls** button on the configuration window.

To set camera presets

1. Select the Camera Control Mode, either Sony or Cannon.
2. If you have more than one camera, select which camera you are programming.
3. Select the Camera Delay. Camera delay is the amount of time the microphone must be activated before the camera moves to the preset position.
4. Select Voice Tracking System Enabled.
5. Using the directional arrow buttons and the Zoom In and Out buttons, position the camera for the first microphone pod.
6. Click Save Preset under the microphone pod to assign the camera position to the microphone.
7. Repeat steps for the second and third microphones.

To test camera presets

- Click Run Preset to test the preset programming for the microphone pod.

DIALER - INTERACT AT

In addition to the INTERACT Controller, you can manage calls through the Dialer in INTERACT Software. You can dial a number, redial the last dialed call, and disconnect calls. You can also use flash settings, mute the microphones and adjust call volume.

Making and Receiving Calls

Open the Dialer

Note: A connection must be present for the dialer to work on the AT. A connection is not necessary for the INTERACT PRO.

- Click the Dialer icon on the configuration screen.



Make a call

1. Click the ON/OFF key. You will hear a dial tone.
2. Dial the number as you would on a standard phone. The number appears on the LCD screen as it dials.

Call a Phonebook number

Note: You can also pre-dial the number and then press the ON/OFF key to connect the call. Press and hold the pound key (#) to enter a pause in the dialing string.

1. Select the number in the Phonebook list. The name and number appear in the display window.
2. Click On/Off button to dial the call.

Tip: You can also double-click the number in the Phonebook list to initiate a call.

End a call

- Click the **On/Off** button.

Redial a number

- Click the Redial button.

Send a Flash signal

- If your telephone service includes call transfer, call waiting or conference calling, you can use the Flash key. Refer to your local telephone service provider for details.

Call Settings

Mute/Unmute microphones (All Mic channels)

1. Click the Mute button to mute all microphones.
2. Click the Mute button again to unmute all the microphones.

Adjust call volume

- Use the **Up** and **Down** buttons to adjust the call volume to the desired level.

Return to the Configuration screen

- Click the **Switch to Flow Window** button to return to the configuration screen.

Mode

- Click either the **OCS** (Office Communicator Suite) button to communicate via Microsoft™ Office Communicator or **Telco** to switch the dialer back to its normal communication mode.

COMMUNICATIONS SETTINGS - INTERACT AT

Your INTERACT system can be controlled through the network or through serial connection. You can also connect a PTZ camera to the Camera port and use the Voice Tracking feature (not available on the INTERACT PRO).

Network Settings

Note: Contact a Network Administrator for information on current network settings and permissions

Change IP Settings

1. Create a unique network name and enter it in the Network Name field. (Default is ClearOne.)
2. If your network is DHCP enabled, the IP Address, Subnet and Gateway information will be filled in.
3. If your network is not DHCP-enabled or if you require a static IP address, clear the **Use DHCP** check box and enter the IP, Subnet and Gateway addresses.
4. Select Use DNS if you have a Domain Name Server and want name resolution (to use a network name) for your static IP address.
5. Set a **User Name** and **Password** for access when connecting over IP. The default user name is: clearone. The default password is: interact - these are not case sensitive.
6. Click **OK** to save the settings and close the window.

Set Up IP Filtering

Enter specific IP addresses that will be allowed to access the INTERACT system.

IP filters allow you to restrict access to your INTERACT system. Only computers with the specified IP address can connect to INTERACT. You can specify a range of IP addresses by using zeros. For example, entering 192.168.105.0 will allow any IP addresses in the 192.168.105.1 to 192.168.105.254 range to access the INTERACT system.

Serial Port Settings (AT Only)

Configure Camera Port

1. If you are connecting a camera for voice tracking mode, set the **Baud Rate** to match the baud rate indicated in the camera specifications.
2. Select **Flow Control** to enable hardware flow control.
3. Click **OK** to save settings and close the window.

Configure Control Port

1. Select the Control Port Baud Rate that matches the baud rate of the PC COM port or the control device.
2. Select **Flow Control** to enable hardware flow control.
3. Click **OK** to save settings and close the window.

Learn about Flow Control

Flow control is the regulation of the transmission and reception of data between two devices. ClearOne recommends enabling Flow Control on the INTERACT system.

Radio Settings - INTERACT PRO and AT

The Radio Settings tab allows the user to customize wireless settings for INTERACT components.

- Click **Radio Enable** to activate/deactivate the wireless radio used by the INTERACT hardware.
- Radio Frequency is selected by clicking on and selecting a frequency from the **Radio Frequency** drop box.
- Use the **Radio ID** drop box to assign a unique ID to your INTERACT device.

Clear Channel Assessment

Clear Channel Assessment scans and reports the best radio channel for your INTERACT device. Click **Run** to start this process.

Enable Radio Statistics

Click the **Enable Radio Statistics** check box to display **Link Quality**, **RSSI Level** and **Packet Error** statistics for the device.

Click **OK** to save your changes.

RECORD OUTPUT SETTINGS -- INTERACT AT

The Record Output Settings window is used to customize and configure the audio being sent to the recording device that is connected to the Record jack on the INTERACT mixer. Recording devices include VCRs, DVD players, and sound cards.

Note: Some of the most common Recording devices have been pre-configured for optimal performance with the INTERACT system. These devices are listed in the Device Toolbox.

Adding a Device Label

- You can add the Manufacturer and Model of your connected Playback device using a serial command.
- You can also add your Playback device to the Device Toolbox using the Device Toolbox Editor, which allows you to specify the Manufacturer and Model.

Meters and Volume

Adjust Volume

- Increase and decrease the Low, Mid and High frequency tones using the Equalization sliders. Levels can be adjusted from +12 dB to – 12 dB.

Learn about using Meters

- The meters are peak meters which measure the audio level, the nominal level is -10 dBu. The meter bars move from green to yellow to red as the volume increases. The red bars indicate that the audio is too loud and is being clipped or cut off.

INTERACT MIC AND MIC EX SETTINGS - INTERACT AT ONLY

Level

The Level tab lets a user adjust level settings for each of the INTERACT MIC's three microphones independently.

- **Fine Gain:** Use the slider to adjust Fine Gain for each Mic Input independently
- **Level Meter:** Displays current levels for each Mic Input
- **ALC:** Click the **ALC** button to activate Auto Level Control for each Mic Input independently
- **Mute:** Click **Mute** to mute each input independently
- **P Pwr**(MIC EX only): Click this button to enable Phantom Power for the mic channel.

Processing

The processing tab adds processing and filters to each microphone based on user preference.

- **AEC:** Click the **AEC** button to activate Acoustic Echo Cancellation
- **NLP:** Default is Soft. Click a radio button to set the Non-Linear Processing level or deactivate the feature.
- **NC:** Click the **NC** button to activate/deactivate Noise Cancellation. Use the slider to adjust the amount of noise cancellation used for that microphone.
- **Speech Lift:** Click the **Speech Lift** button to route the microphone's audio to the Loud-speaker output. Use the **Speech Levels** slider to set the desired level (the default is -6 dB).
- **Filter:** Click to apply filtering to each independent Mic Input.
 - Start by clicking **Add Filter**
 - Adjust the filter placement by moving the point along the grid (Hz, dB/deg).
 - Alternatively, click **Table View** to apply a list view.
 - To adjust the active filter, click the fields along the top row.
 - **Active Filter:** Selects the filter to adjust
 - **Type:** Sets the type of filter applied
 - **Frequency:** Adjusts the frequency of the filter
 - **Gain:** Increases or decreases gain applied to the filter
 - **Q:** Increases or decreases the Q applied to the filter
 - **Bandwidth:** Adjusts the filter's bandwidth
 - **Bypass:** Bypasses the filter completely
 - To add phasing to a filter, click **Phase**
 - Click **Bypass All** to override all filter settings
 - Click **Remove Filter** to delete the selected filter
 - Click **Close** to apply settings and close the window
 - To remove an existing filter, open the **Processing tab**, click **Remove Filter** and **Close**.

Gating

Click the **Gating** tab to access microphone gating features. You can control the gating mode, set the gate ratio, hold time, and attenuation, set the decay rate, and control chairman override for each microphone from this tab.

Setting the Gate Mode

Set Gate Mode allows you to set the gate mode. Choices are limited to manual on, override on, and auto.

- Manual on activates a mic; the microphone contributes to gating parameters.
- Manual off deactivates a mic; the microphone no longer contributes to gating parameters.
- Override on activates a mic; the microphone does not contribute to gating parameters.

- Auto automatically gates the mic on or off, based on input levels and other parameters programmed into the INTERACT AT.
- **PA Adaptive:** PA Adaptive Mode: Uses the audio level on a specified output as the new ambient level when audio is present at the power amplifier. This prevents loudspeaker audio from gating on the mic while still allowing people in the room to gate on microphones when they speak (provided that their voices are louder than the loudspeaker audio). For example, you might decide to play background music from a CD player during a presentation. PA Adaptive Mode allows you to use the output routed from the CD player as the ambient reference to prevent the CD player's audio from gating on microphones. The default is **Off**.

Adjusting Gate Ratio

Gate ratio specifies how much louder the mic audio level must be above the ambient noise level before the mic gates on.

- Using the slider, adjust the gate ratio to the desired level.

Adjusting Hold Time

Adjust hold time allows you to set how long the channel stays gated on after the mic gates off.

- Using the slider, adjust the hold time to the desired level.

Adjusting Decay Rate

Set decay rate allows you to set how quickly a mic gates off after the hold time expires.

- Click the **Decay Rate** radio button for the desired amount of decay after the gate is lost.

Enabling Chairman Override

Chairman override provides gating priority for a mic. When a mic with chairman override enabled gates on, all mics that don't have chairman override enabled will gate off.

- Click the **Chairman Override** radio button enable the chairman override feature.

PLAYBACK INPUT SETTINGS - INTERACT AT

The Playback Input Settings window is used to customize and configure the audio from the playback device that is connected to the Playback jack on the INTERACT mixer. Playback devices include VCRs, DVD players and sound cards.

Note: Some of the most common Playback devices have been pre-configured for optimal performance with the INTERACT system. These devices are listed in the Device Toolbox.

Adding a Device Label

- You can add the Manufacturer and Model of your connected Playback device using a serial command.
- You can also add your Playback device to the Device Toolbox using the Device Toolbox Editor, which allows you to specify the Manufacturer and Model.

Equalization

Use Equalizers

- Equalization in INTERACT Software is very similar to bass and treble adjustments on a stereo. Increasing or decreasing the different frequencies allows you to customize loud-speaker audio and provide the optimal listening experience for your users. Using this feature is optional.

Stereo Mix

Enable Stereo Mix

- Select **Stereo Mix** if your external device uses stereo inputs/outputs. The INTERACT provides mono-only audio from stereo devices. By selecting Stereo Mix you ensure the proper level adjustments are made to your audio.

Meters and Volume

Adjust Volume

1. Get an audio signal from the line input device.
2. Adjust the Volume using the Volume slider.

Learn about using Meters

- The meters are peak meters measuring the audio level. The nominal level is -10 dBu. The meter bars move from green to yellow to red as the volume increases. The red bars indicate that the audio is too loud and is being clipped or cut off.

TELEPHONE SETTINGS - INTERACT AT

You can set user Telephone Preferences as well as Country and Flash settings in the Telephone Settings window.

Telephone Settings

Preferences

- Select **2 Rings** or **4 Rings** for the Auto Answer setting, or **Disabled** if you want to manually answer calls.
- Select Auto Disconnect if you would like INTERACT to disconnect when it detects loop-drop or call progression.
- Select **Audible Connect** if you would like one tone to sound when the INTERACT is taken off hook and two tones to sound when the INTERACT is on hook.

Configure Ringer

- Select from three available ringer melodies or deactivate the ringer. Click **Ringer Test** to hear the selected ringer.
- Adjust ringer volume using the **Ringer Level** slider.

Program Local Number

- Enter the Local Number for the INTERACT system. This will display on the tabletop controller LCD.

Configuration

- Select the Country or region where the phone is being used (default is US/Canada)
- Select **Flash duration** from the **Flash Settings list**. This setting is dependent on your PBX system.

Level

- **Receive ALC** (Auto Level Control) is activated by default. ALC keeps the telephone audio level consistent with audio levels coming from other sources. If de-selected, the following options will be available:
 - **Telco Receive Volume** allows you to adjust incoming volume
 - **TEC**: Click to activate Telephone Echo Cancellation. This feature cancels side-tone from the Headset Receive.
 - **NLP**: Click to activate Non-linear Processing
 - **Telco Transmit Volume** allows you to adjust outgoing volume (always available)
- Click **OK** to save your settings.

LOUDSPEAKER SETTINGS - INTERACT AT

You can customize your loudspeaker audio in the Loudspeaker settings window of the INTERACT Software.

ClearEffect™

Enable ClearEffect

- Click the ClearEffect **On/Off** button. The indicator will turn green when ClearEffect is enabled. This setting only effects telco receive audio.

Learn about ClearEffect

- When ClearEffect is enabled, it causes the audio coming from the telephone line to emulate wideband audio. It does this by adding high and low frequencies to the audio signal, creating a fuller sound. Using this feature is optional.

Equalization

Use Equalizers

- Increase and decrease the Low, Mid and High frequencies using the Equalization sliders. Levels can be adjusted from +12 dB to – 12 dB.

Learn about Equalization

- Equalization in INTERACT Software is very similar to bass and treble adjustments on a stereo. Increasing or decreasing the different frequencies allows you to customize loudspeaker audio and provide the optimal listening experience for your users. Using this feature is optional.

Mute

Click **Mute** to silence all output to the loudspeakers.

Meter and Volume

Adjust Volume

- The loudspeaker volume has been optimized for use with the INTERACT system. You can increase or decrease loudspeaker volume as desired.

Learn about Meters

- The meters are peak meters which show the audio level. The nominal level is -10 dBu. The meter bars move from green to yellow to red as the volume increases. If the meter shows red, decrease the volume. Red indicates clipping.

INTERACT COM SETTINGS - INTERACT AT

Click the Headset/USB/RF drop down to add a headset to the INTERACT mixer console. Once selected, click the headset icon to launch the Headset USB Settings window.

Telephone Mode

Set/Line Jack Active and Headset/INTERACT COM Active

Check to adjust settings for this telephone mode.

Levels

- Telco/Headset Rx: Adjusts the Telco/Headset receive levels
- Telco/Headset Tx: Adjusts the Telco/Headset transmit levels
- USB Rx: Adjusts the USB receive levels
- USB Tx: Adjusts the USB transmit levels
- Mute: Click the **Mute** button to mute any of the above settings.

INTERACT COM Active

Check to adjust the headset configuration.

Headset Configuration

- Telephone Set: Click the drop down to select the telephone set you will use with the head-phone/USB Breakout Box configuration.
- RJ 11 Pin Out: Choose the drop down setting which best describes your pin out configuration.
- Speaker Gain: Adjusts headset speaker gain
- Mic Gain: Adjusts headset mic gain
- Telephone Line Echo Cancellation: (Default On) Activates/deactivates Telephone Line Echo Cancellation
- Non-Linear Processing: (Default On) Activates/deactivates Non-Linear Processing
- Automatic Level Control: (Default On) Activates/deactivates Automatic Level Control

USB Configuration

- Standard USB Mode/Office Communicator Mode: Chooses between either Standard USB Mode or Office Communicator Mode (used only with Microsoft Office Communicator).

INTERACT PRO

The INTERACT PRO is a mixer with 8 mic inputs, 8 line outputs, 2 line inputs, processing channels, 4 presets and a built-in Telephone hybrid.



Features of the INTERACT PRO include:

Front



- A. On/Off hook indicator
- B. Microphone indicator: Indicators show which microphone channels are active
- C. Output metering: Shows current meter level of output chosen as volume channel in the Dialer Window
- D. USB 1.1 compatible input

Back



- A. Telephone interface: Telephone interface: Connect an analog phone line to the INTERACT
- B. RS-232 control port: Used for connect to the Interact Software or control from a 3rd part controller such as AMX or Crestron.
- C. Link In: Link input to connect ONLY other INTERACT PRO peripheral devices
- D. Mic/Line inputs: Mini-terminal push-on block connector for any combination of microphone and/or line level inputs.
- E. Line In: Mini-terminal push-on block connector for line level inputs only

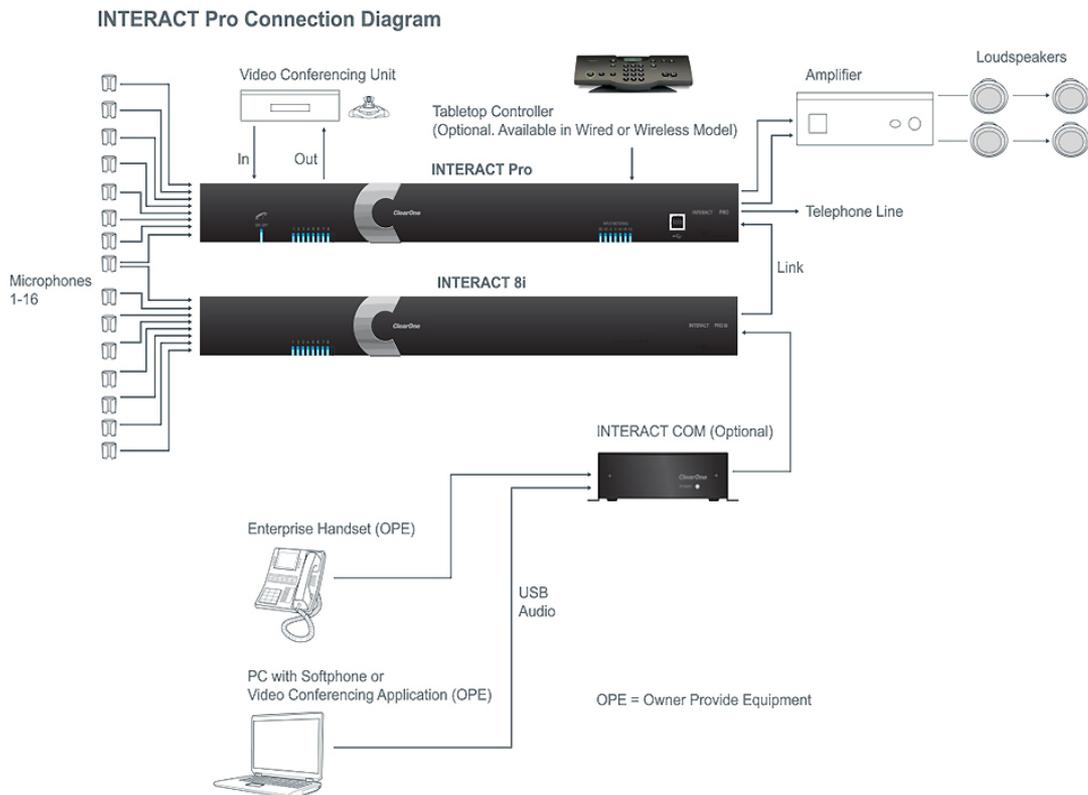
- F. Line Out: Mini-terminal push-on connector for line-level outputs
- G. Power adapter input: 12 VDC 2.5 amp.

Connecting the INTERACT PRO and INTERACT 8i

Connecting the INTERACT PRO and INTERACT 8i to external INTERACT peripherals and external devices is similar to the process used to connect Converge™ and Converge Pro devices.

- Connections to microphones, amplifiers, etc. are made through the Phoenix connectors on the back panel of the INTERACT. (**Remember:** eight additional microphone inputs are added by connecting an INTERACT 8i, totaling 16 microphone inputs.)
- Connections between the INTERACT PRO, INTERACT 8i, INTERACT COM and other INTERACT devices are typically made through the Link ports on the back panels of the respective units.
- Video Conferencing units can be connected directly to the INTERACT PRO
- Wireless connections can be configured through the INTERACT software
- PCs running Softphone software, Video conferencing applications and equipment can be connected through an INTERACT COM unit to either an INTERACT 8i (connected to an INTERACT PRO) or an INTERACT PRO.
- Enterprise Handsets are also connect via the INTERACT COM

The diagram below illustrates a possible configuration scenario.



INTERACT PRO 8i

The INTERACT PRO 8i is an 8-microphone channel expansion unit, using an RJ-45 cable to connect with the INTERACT PRO mixer.



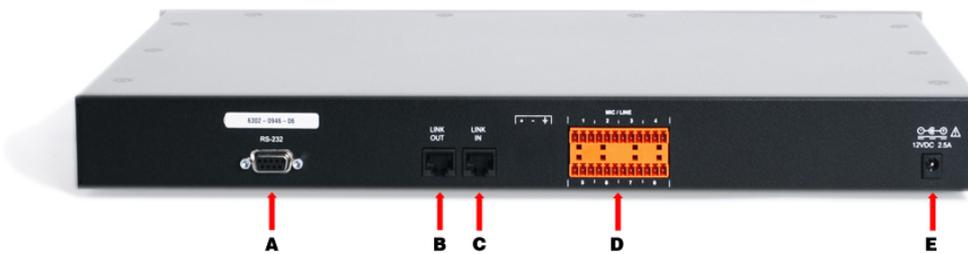
Features of the INTERACT 8i include:

Front



- A. On/Off hook indicator
- B. Microphone indicator: Indicators show which microphone channels are active
- C. Output metering: Shows current meter level of output chosen as volume channel in the Dialer Window

Back



- A. RS-232 control port: Only used for firmware recovery. Cannot be used with a third party control system, such as AMX or Crestron, or with an INTERACT Dialer.
- B. Link Out: Link output to connect ONLY other INTERACT PRO peripheral devices
- C. Link In: Link input to connect ONLY other INTERACT PRO peripheral devices
- D. Mic/Line Inputs: Mini-terminal push-on block connector for any combination of microphone and/or line level inputs
- E. Power adapter input: 12 V D/C, 2.5 Amp

DEVICE TOOLBOX - INTERACT PRO

The audio settings for many common auxiliary audio devices such as video codecs, video playback devices, amplifiers and sound cards, have been pre-configured for optimal performance with the INTERACT PRO system. These devices are listed in the Device Toolbox section.

Note: If your device is not listed, you can configure it manually or add it to the Device Toolbox using the Device Toolbox Editor.

Adding a Device

Adding Devices to the Device Toolbox

1. Click the plus sign (+) to expand a category.
2. Right-click the category name and select **Device Toolbox Editor**.
3. Click the Add button.
4. From the **Device Type** dropdown, choose the category of device you're adding. Enter a Manufacturer name into the **Manufacturer** field and a Model name/number into the **Model** field.
5. If the device uses a Stereo connection, click the **Stereo** radio button. This setting enables input/output assignment for the stereo channels.
6. EQ sliders for the **Low**, **Mid** and **High** frequency ranges. Adjust the EQ sliders to set a desired sound quality level for each device.
7. Use the **Output Gain** slider to adjust the default output level for your device.
8. Click **OK** to save, **Cancel** to abandon the changes.

Editing Devices

1. Click the plus sign to expand the category with the device you want to edit.
2. Right-click the device to edit, click **Edit**.
3. Follow **steps 4-7** from **Adding Devices to the Device Toolbox** to complete the edit process.
4. Click **OK** to save, **Cancel** to abandon the changes.

Deleting Devices

1. From the Device Toolbox click the *listed* device you wish to delete.
2. Click the **Delete** button, when the Confirm dialog box appears, click **Yes** to complete the device removal.

Using Pre-Configured Devices

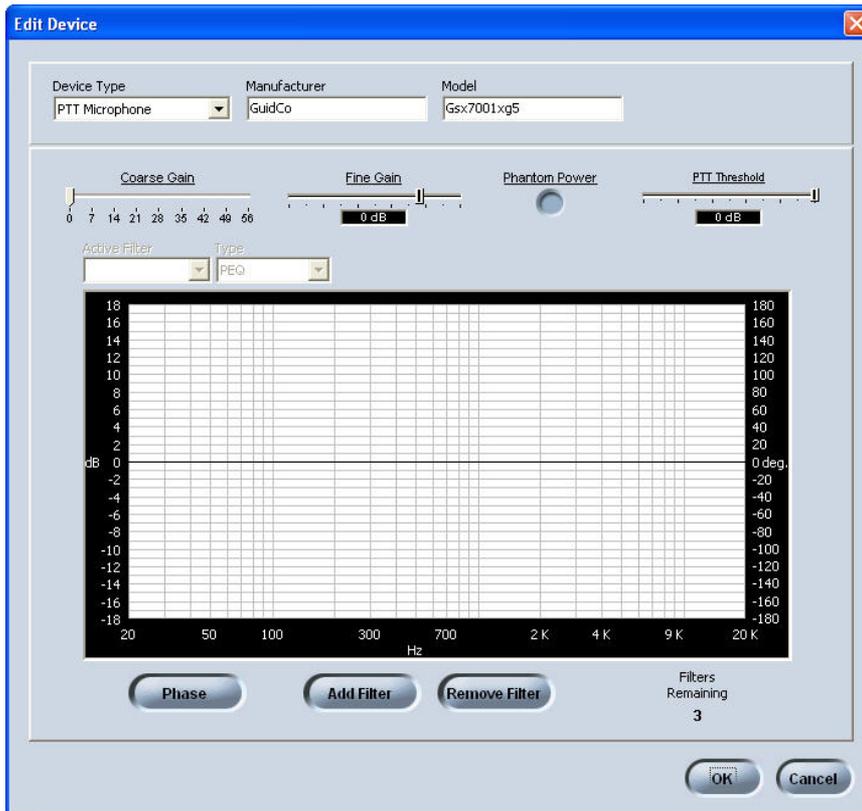
Users can click on a device from the **Toolbox** and drag it into the **Flow Window**, where it's added to the channel they wish to configure (for example: a microphone is dragged into the Flow and dropped onto **Mic Input 3**). Once the device is added an icon appears next to that Channel Number. Click *any* **Mic Input** to launch the dialog window (in this case, the Mic Input dialog). This example shows the microphone we added Connected To Mic Input 3. Repeat this process for any device on any of the Channels you wish you configure with a pre configured device.

If an INTERACT 8i is connected to the PRO unit, click the **Enable** check box in the 8i Mics Flow to add Mic Inputs 9-16. Microphones and PTT Microphones can now be dragged from the Device Toolbox onto these available inputs.

Right-click a device in the Flow Window (e.g. the microphone we dropped onto Mic Input 3) and click **Clear Device** to remove it from that Channel.

PTT Microphones and Microphones

Push-to-Talk microphones require a separate add/edit procedure.



1. In **Device Toolbox**, expand the **PTT Microphone** section
2. Double click one of the selections to launch the **Edit or Add Device** window (pictured above)
3. **Device Type**, **Manufacturer** and **Model** are listed along the top row.
4. Adjust **Coarse Gain**, **Fine Gain**, activate **Phantom Power** (if the microphone requires power) and adjust **PTT Threshold** using the various adjustments along the second row.
 - **Phantom Power** sends power from the mixer to the microphone. Use this only if the PTT microphone you are using specifically requires this setting.
 - **PTT Threshold**: Set this to the level needed for your object.
 - **Phase**, **Add Filter** and **Remove Filter** are discussed in [Processing](#) section of this document.

Microphones

Microphones are handled exactly like PTT Microphones with the exception of **PTT Threshold**. Follow the steps above to create a microphone object.

MIC SETTINGS - INTERACT PRO

The Mic Settings window is used to customize and configure the audio from the various microphones that are connected to a Mic Input.

- Users can change the input label by clicking the text box next to the desired input label (for example: Input2). Replace the default label with a new name for the input.

Level Tab

- **Connected To:** Shows make and model of pre-configured device dropped on channel, if one was used
- **Coarse Gain:** Use the slider to adjust Coarse Gain for each of the 8 Mic Inputs independently
- **Fine Gain:** Use the slider to adjust Fine Gain for each Mic Input independently
- **Level Meter:** Displays current Post Gain levels for each Mic Input
- **ALC:** Click the **ALC** button to activate Auto Level Control for each Mic Input independently
- **Mute:** Click **Mute** to mute each input independently
- **P Pwr:** Click the **P Pwr**(on by default) button to activate/deactivate phantom power on each Mic Input independently

Processing Tab

- **System Settings:** AEC requires a physical output reference to track output gain changes. Therefore when using virtual AEC references, you must use output gain tracking to provide level information to the AEC process. Choose the appropriate output or outputs for the AEC to track gain changes on when using the Virtual Reference(s).
 - If you are using Mono mode, only one AEC reference is used. If you are using Stereo Mode, both AEC references are used.

Note: Only use stereo mode if using true left and right channels.

- **AEC:** Click the **AEC** button (on by default) to toggle Acoustic Echo Cancellation on and off. The radio buttons below set the strength of the NLP (Non-Linear Processing) setting.
 - **NLP:** Default is **Soft**. Click a radio button to set the Non-Linear Processing level or deactivate the feature. Setting the NLP to higher levels may affect the full duplex capabilities of your conferencing system.
- **NC:** Click the **NC** button (on by default) to toggle Noise Cancellation on and off, use the slider to adjust Cancellation Depth. Use the lowest amount of depth as possible for best audio performance.
- **Enable PTT:** Check the **PTT** box to enable Push-to-Talk. To set up PTT you must activate the Pre gain meter by selecting the check box. Muting your PTT microphone at the microphone element. Watch the Pre gain meter for the highest level, this is the electronic noise of you PTT Microphone connecting. Set the PTT threshold to this level. Now when the PTT microphone is muted and the pre gain meter reaches the set level, the microphone channels AEC will freeze adaption and stop any echo artifacts from being transmitted to the far end of the conference.
- **Filter:** Click to apply filtering to each independent Mic Input.
 - Start by clicking **Add Filter**
 - Adjust the filter placement by moving the point along the grid (Hz, dB/deg).
 - Alternatively, press the **Table View** button to toggle the display between graph view and table view. Table view displays filter settings in table format for all filters configured for the input channel. Clicking on a row in table view selects the filter, displays the current settings for that filter, and allows you to

edit the values in the setting fields. Changes made in the setting fields are immediately reflected in the table.

- To adjust the active filter, click the fields along the top row.
 - **Active Filter:** Selects the filter to adjust
 - **Type:** Sets the type of filter applied
 - **Frequency:** Use the **Frequency** selector box to set the center frequency (in Hertz) for the filter you are configuring. Range is from 20 Hz to 20 kHz in 1Hz increments. The default is 1 kHz.
 - **Gain** (Available for PEQ filters only): Use the **Gain** selector box to set the gain value for the filter you are configuring. Range is from -15 to 15dB. The default is 0dB.
 - **Q** (Available for Notch and PEQ filters only): Use the **Q** (Quality Factor) selector box to select the ratio of the center frequency divided by the bandwidth. Q is the inverse of bandwidth, and the two parameters are linked. Therefore changing the Q value also changes the bandwidth value. Range is from .18 to 28.85.
 - **Bandwidth** (Available for Notch and PEQ filters only): Use the **Bandwidth** selector box to set the difference between the upper and lower points of a filter's audio passband. Bandwidth is the inverse of Q, and the two parameters are linked. Hence changing the bandwidth value also changes the Q value. The range is .05 to 5.00 octaves.
 - **Bypass:** Use the **Bypass** checkbox to bypass the currently selected active filter. This feature allows you to configure different filters and save them for future use without having to recreate them.
- Press the **Phase** button to display the phase relationship of the graphed frequency response (appears as a gray line on the active filter graph). The phase scale appears on the right vertical axis of the graph.
- Click **Bypass All** to bypass all filters for the selected input channel. The filters are grayed out in graph view, and the bypass status is shown as on in table view.
- Click **Remove Filter** to delete the selected filter
- Click **Close** to apply settings and close the window

Available Filters

There are five configurable filter types available:

- **All Pass:** Frequency range is 20.00Hz to 20.00kHz. All pass changes the phase of the audio signal at the set frequency.
- **High Pass:** Selectable frequency cutoff is 20.00Hz to 20.00kHz. Rolloff is 12dB/-octave. Level is fixed at 0dB.
- **Low Pass:** Selectable frequency cutoff is 20.00Hz to 20.00kHz. Rolloff is 12dB/-octave. Level is fixed at 0dB.
- **Notch:** Center frequency range is 20.00Hz to 20.00kHz. Bandwidth is from .05 to 5.00 octaves in .01 octave increments. Level is fixed at -80dB.
- **PEQ (Parametric Equalizer):** Center frequency range is 20Hz to 20kHz in .01Hz increments. Bandwidth is .05 to 5 octaves in .01 octave increments. Level range is -15 to +15dB in 0.5dB increments.

Gating Tab

- **Max Number of Microphones:** Max number of Microphones is **1-8** or **All**. If you are using an INTERACT PRO **All** is equal to 8. If an INTERACT 8i is linked to the PRO **All** is equal to 16.
- **Gate Mode:** Choose **Auto**, **Manual On**, **Override On** or **PA Adaptive**
 - Select the **Manual On** radio button to gate the channel on, or **Manual Off**.
 - **PA Adaptive Mode:** A gating configuration setting that uses the audio level on a specified output as the new ambient level when audio is present at the power

amplifier. This prevents loudspeaker audio from gating on the mic while still allowing people in the room to gate on microphones when they speak (provided that their voices are louder than the loudspeaker audio). For example, you might decide to play background music from a CD player during a presentation. PA Adaptive Mode allows you to use the output routed from the CD player as the ambient reference to prevent the CD player's audio from gating on microphones. The default is off.

- Adjust the sliders to modify **Gate Ratio**, **Hold Time** and **Off Attn**
 - **Gate Ratio**: Specifies how much louder than the ambient level the audio level must be before the channel automatically gates on. The gate ratio range is from 0 to 50dB. The default is 15dB.
 - **Hold Time**: Determines how long the channel stays gated on after the audio falls below the Gate Ratio threshold. The hold time range is from .1 to 8.0 seconds. The default is .3 seconds.
 - **Off Attenuation**: Sets the amount of level reduction applied to a channel when it is gated off. The range is from 0 to 60dB. The default is 12dB.
 - **Decay Rate**: Determines how fast a channel gates off after the Hold Time expires. The default is Medium.
 - **Manual Off**: Manually setting the channel to gate off, which applies the off attenuation level to that channel.
 - Check the **Chairman Override** box to provide gating priority of the selected mic over any of the others. When a mic with Chairman Override enabled gates on, all mics which do not have Chairman Override enabled will gate off.

AEC Meter

This tab provides monitoring information for the INTERACT PRO AEC functionality. The three graphs report AEC levels for **Echo Return Loss**, **Echo Return Loss Enhancement** and **Total Echo Reduction** on each Mic channel. This tab also provides a mute/gating led on each mic channel. If the LED is lit Red, that channel is muted.

- **Echo Return Loss(ERL)**: Shows the difference between the reference signal level and the input level to the echo canceller. This is an average meter that updates when a receive-only signal is present.
- **Echo Return Loss Enhancement(ERLE)**: Shows the loss through the echo cancellation and non-linear processing chain—the difference of the two levels. This is an average meter that updates when a receive-only signal is present.
- **Total Echo Reduction**: Shows the total ERL and ERLE reduction. This is an average meter that updates only when a receive -only signal is present.

MIXER CONSOLE - INTERACT PRO

The Mixer Console allows you to create mixes of audio and send them to specific outputs using a matrix array similar to the ClearOne Converge™ Pro line. This allows you greater flexibility in setting up your conferencing environment. The audio inputs are shown along the left side of the window and the audio outputs are along the top.

Note: There are several routing paths that are inactive. This is to prevent audio from being routed back to the source and creating feedback.

Mixer Options

Any number of input-to-output connections can be made in the matrix, with level control at each cross point. Any input or combination of inputs can be routed to any output or combination of outputs.

The matrix appears with the current routing configuration displayed for all channels. The functionality of the matrix screen is described in the following sections.

The routing legend shows the status of cross points using colored cells that mark the intersection or cross point of the routing from input to output. The color of the cross point cell identifies the input type:

Input Routing

- To route an input to an output, click in the routing matrix at the intersection between the input and the output. A mic input can be designated as gated (yellow). All other input cross points will be colored green.

Note: The current audio level to the nearest dB is shown in cross point cells.

Black cells are restricted routing paths which prevent Telco, Headset RX, USB RX and Processing channels from being routed back to themselves.

Clear Matrix Button

Press the **Clear Matrix** button to clear ALL current matrix settings. A Confirm dialog appears asking you to confirm the clear matrix operation. Use caution when using this feature because the operation cannot be undone.

Audio Routing Matrix

The numbers and letters along the top and left side of the matrix show the cross point coordinates. The Labels for each channel are also shown to make them easy to identify. As you move the cursor over the matrix, the labels for the channels are highlighted in white for each cross point.

Note: Clicking on a channel label opens the Channel screen for that channel group, allowing you to modify the channel label and change channel configuration settings as needed.

Cross Point Shortcut Menu

Cross Point Level Control

To adjust the level for a cross point, right-click on the cross point and select Cross Point from the shortcut menu. The Cross Point Attenuation slider appears. Move the slider or use the selector box to set the gain/attenuation level in dB. The range is from -60 to 12dB in .5dB increments. The default is 0dB.

Note: Your changes are made in real time

Copy and Paste Cells

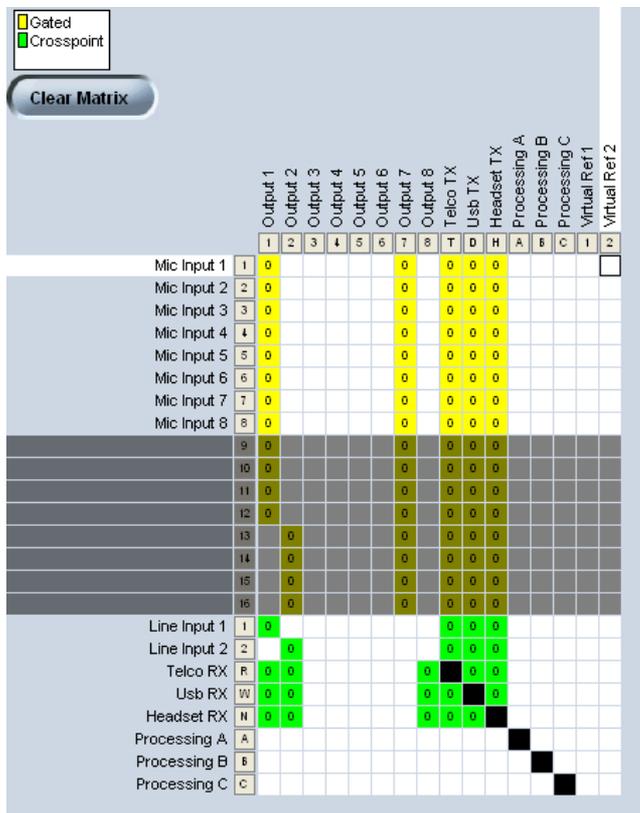
You can copy a single cell using the shortcut menu options. To copy a cross point, click the cell to copy, press **<Ctrl+C>** to copy, then move the cursor to the empty cell you wish to paste, press **<Ctrl+V>**. The cross point will be pasted into the empty cell. Alternatively, right click the cell with your mouse and use the copy/paste menu.

Virtual Reference Outputs

The INTERACT PRO allows the user to set up to two Virtual References.

Virtual AEC References allow you to combine multiple audio sources to create a single echo cancellation reference, such as video conferencing and teleconferencing combined. In these and some other applications, using virtual AEC references improves AEC performance.

The two virtual references are shown on the far right side of the Matrix.:



Use virtual references when your output to the amplifier contains audio not wanted in the Acoustic Echo Cancellation Reference, such as local microphones. Route the inputs that contain audio that needs to be canceled, like "receive from telco" or video codecs, (etc.) to your virtual reference(s). This gives you the capability to reinforce local microphones into the room and not have them included in your reference.

Note: If the channels selected for a virtual reference use Processing or Faders, you should select the processing or fader channel as the virtual reference source. This provides the AEC process with the most accurate reference for the signal, thereby providing faster convergence and more accurate AEC performance.

When using virtual references you must assign an output to that virtual reference in order to track audio level changes. This output will typically be the output feeding your local room amplifier. If this is not done correctly echo may be heard at the far end when level changes are made.

LINE INPUT SETTINGS - INTERACT PRO

The Line Input Settings window is used to customize and configure the audio from the auxiliary device that is connected to the Line In phoenix connectors on the INTERACT PRO mixer. Line Input devices include video codecs, CD players and sound cards.

Note: Many of the most common Line Input devices have been pre-configured for optimal performance with the INTERACT system. These devices are listed in the Device Toolbox.

Input Settings

Click the **Input** icon to open the Input Settings window.

- Users can change the input label by clicking the text box next to the desired input label (for example: Input2). Replace the default label with a new name for the input.

Level Tab

- **Connected To:** Displays the **Make** and **Model** of equipment attached to that channel.
- **Input Gain** Adjusts the line input gain for that channel.
- The input level is monitored through the **Post Gain Level** meter. You must select the check-box in order to activate the meter.
- A **Mute** button is provided to silence the specific channel.

Equalization

Increase and decrease the Low, Mid and High frequencies using the Equalization sliders. Levels can be adjusted from +12 dB to –12 dB.

Learn about Equalization

- Equalization in INTERACT Software is very similar to bass and treble adjustments on a stereo. Increasing or decreasing the different frequencies allows you to customize loud-speaker audio and provide the optimal listening experience for your users. Using this feature is optional.

Meters and Volume

Adjusting Volume

1. Get an audio signal from the line input device
2. Activate the meter
3. Adjust the audio level using the Volume slider

Learn about using Meters

- The meters are peak meters measuring the audio level. The meter bars move from green to yellow to red as the volume increases. The red bars indicate that the audio is too loud and is being clipped or cut off.

PRESETS - INTERACT PRO

Presets for an entire device configuration can be saved for the INTERACT PRO (maximum of 4). Presets save the configuration currently running on the INTERACT PRO. When the Preset is run it re-configures every setting on the unit.

Settings not saved to a Preset include: network, RS-232, phonebook, regional, on/off hook state of telco, telco configuration properties and meter activation.

Saving a Preset

1. Make all changes to your configuration you want included in the Preset.
2. In the Flow Control, click **Presets**
3. Enter a name into one of the available slots
4. Click **Save** to store the current configuration
5. Click yes to confirm saving or no to cancel
6. Click **Close** to exit the Preset window

Running a Preset

1. In the Flow Control, click **Presets**
2. Click the **Run** button which corresponds to the preset you wish to load
3. Click **Close** to exit the Preset window

DIALER - INTERACT PRO

In addition to the INTERACT Controller, you can manage calls through the Dialer in INTERACT Software. You can dial a number, redial the last dialed call, and disconnect calls. You can also use flash settings, mute the microphones, adjust call volume and change between Telco and OCS modes.

Making and Receiving Calls

Open the Dialer

Note: A connection must be present for the dialer to work on the AT. A connection is not necessary for the INTERACT PRO.

- Click the Dialer icon on the flow window.



Make a call

1. While connected to an active phone line, click the ON/OFF key. You will hear a dial tone.
2. Dial the number as you would on a standard phone. The number appears on the LCD screen as it dials.

Note: You can also pre-dial the number and then press the ON/OFF key to connect the call. Press and hold the pound key (#) to enter a pause in the dialing string.

Call a Phonebook number

1. Select the number in the Phonebook list. The name and number appear in the display window.
2. Click On/Off button to dial the call.

Tip: You can also double-click the number in the Phonebook list to initiate a call.

End a call

- Click the **On/Off** button.

Redial a number

- Click the Redial button.

Send a Flash signal

- If your telephone service includes call transfer, call waiting or conference calling, you can use the Flash key. Refer to your local telephone service provider for details.

Call Settings

Mute/Unmute microphones (All Mic channels)

1. Click the Mute button to mute all microphones.
2. Click the Mute button again to unmute all the microphones.

Adjust call volume

- Use the **Up** and **Down** buttons to adjust the call volume to the desired level. This adjusts the output chosen in the output channel drop down list.

Return to the Configuration screen

- Click the **Switch to Flow Window** button to return to the configuration screen.

Mode

- Click either the **OCS** (Office Communicator Suite) button to communicate via Microsoft™ Office Communicator or **Telco** to switch the dialer back to its normal communication mode.

COMMUNICATIONS SETTINGS - INTERACT PRO

Your INTERACT system can be controlled through the network or through serial connection and USB.

Network Settings

Note: Contact a Network Administrator for information on current network settings and permissions. Settings must be applicable to NetBIOS protocols.

Change IP Settings

1. Create a unique network name and enter it in the Network Name field (default is ClearOne.)
2. If your network is DHCP enabled, the IP Address, Subnet and Gateway information will be filled in.
3. If your network is not DHCP-enabled or if you require a static IP address, clear the **Use DHCP** check box and enter the IP, Subnet and Gateway addresses.
4. Select Use DNS if you have a Domain Name Server and want name resolution (to use a network name) for your static IP address.
5. Click **OK** to save the settings and close the window.

Set Up IP Filtering

Enter specific IP addresses that will be allowed to access the INTERACT system.

IP filters allow you to restrict access to your INTERACT system. Only computers with the specified IP address can connect to INTERACT. You can specify a range of IP addresses by using zeros. For example, entering 192.168.105.0 will allow any IP addresses in the 192.168.105.1 to 192.168.105.254 range to access the INTERACT system.

User/Password

To change or set a user name and password please do the following:

1. Click the **User/Password** button\
2. Enter a new user name in the **User Name** field
3. Enter a new password in the **Password** field
4. Enter the password again in the **Confirmation** field
5. Click **OK** to set the new user name and password or **Cancel** to discard the information

Serial Tab

The serial tab allows you to adjust settings for the Control Port.

- Baud Rate: Adjusts the data rate for the port -- default is 57600 baud.
- Flow Control: This setting manages the data rate between two data nodes, preventing a fast sender from "outrunning" a slow receiver. The default for this setting is "On".

Radio Settings - INTERACT PRO and AT

The Radio Settings tab allows the user to customize wireless settings for INTERACT components.

- Click **Radio Enable** to activate/deactivate the wireless radio used by the INTERACT hardware.
- Radio Frequency is selected by clicking on and selecting a frequency from the **Radio Frequency** drop box.
- Use the **Radio ID** drop box to assign a unique ID to your INTERACT device.

Clear Channel Assessment

Clear Channel Assessment scans and reports the best radio channel for your INTERACT device. Click **Run** to start this process.

Enable Radio Statistics

Click the **Enable Radio Statistics** check box to display **Link Quality**, **RSSI Level** and **Packet Error** statistics for the device.

Click **OK** to save your changes.

COM SETTINGS - INTERACT PRO

To adjust COM settings on the INTERACT PRO, please do the following.

1. Click the **Enable** box in the COM Settings flow.
2. Click the **COM Settings** flow box to launch the COM Settings window.

Level

- USB Tx: Adjusts the USB transmit levels
- USB Rx: Adjusts the USB receive levels
- Headset Tx: Adjusts the Headset transmit levels
- Headset Rx: Adjusts the Headset receive levels
- Meter: Represents the audio levels (in decibels) for each Level setting.
- Mute: Independently mutes the specific channel
- ALC: Automatic Level Control - maintains a consistent level on the Headset Rx channel.
- NOM: (Default on) Number of Open Mics - As more mics gate on the output level increases therefore a constant channel must be maintained. As number of mics double, the NOM drops the level at output by 3dB. This way a constant is maintained as mics gate on and off.
- LEC: (Default on) Line Echo Cancellation - suppresses echo when activated.
- NLP: (Default on) Click the **NLP** button to activate Non-linear Processing.

Configuration

USB Configuration

- Standard USB Mode/Office Communicator Mode: Chooses between either Standard USB Mode or Office Communicator Mode (used only with Microsoft Office Communicator).

Headset Configuration

- Telephone Set: Click the drop down to select the telephone set you will use with the Headset configuration. This automatically changes the pin out and gains for that phone. If you wish to use a phone not in the list you can choose Custom and change the settings manually.
- RJ 11 Pin Out: Choose the drop down setting which best describes your pin out configuration.
- Coarse Speaker Gain: Adjusts coarse speaker gain for the headset jack
- Coarse Mic Gain: Adjusts coarse mic gain for the headset jack

TELCOS - INTERACT PRO

You can set user Telephone Preferences as well as Country and Flash settings in the Telephone Settings window.

Telephone Settings

Preferences

- Select **2 Rings** or **4 Rings** for the Auto Answer setting, or select **Disabled** if you want to manually answer calls.
- Select Auto Disconnect if you would like INTERACT to disconnect when it detects loop-drop or call progression.
- **Audible Connect:** Default setting - On. Audible Connect is a courtesy tone letting the user know when the phone is on or off hook.

Configure Ringer

- Select from three available ringer melodies or deactivate the ringer. Click **Ringer Test** to hear selected melody.
- Adjust ringer volume using the **Ringer Level** slider.

Program Local Number

- Enter the Local Number for the INTERACT system. This will display on the tabletop controller LCD.

Configuration

- Select the Country or region where the phone is being used (default is US/Canada)
- Adjust the Flash Setting to the appropriate level for your Country and click **OK** or **Cancel** to save your settings.

Level

- **Receive ALC** (Auto Level Control) is activated by default. ALC keeps the telephone audio level consistent with audio levels coming from other sources.
 - **Telco Receive Volume** allows you to adjust incoming volume when ALC is turned off.
 - **Clear Effect:** Click this button to activate Clear Effect
 - **Telco Transmit Volume** allows you to adjust outgoing volume (always available)
 - Click **NOM** (Number of Open Mics/Constant Level) to toggle NOM on and off. NOM maintains a constant output level by automatically adjusting gain levels based on the number of mics gated on and routed to the selected output channel. NOM reduces the output level proportionally by 3dB for every doubling in the number of open mics. By default NOM is active.
- Click **OK** or **Cancel** to save your settings.

PROCESSING SETTINGS - INTERACT PRO

- Users can change the processing label by clicking the text box next to the desired processing label (for example: processing2). Replace the default label with a new name for the channel.

Level Tab

Filter Button

- **Filter:** Click to apply filtering to each independent Processing channel.
 - Start by clicking **Add Filter**
 - Adjust the filter placement by moving the point along the grid (Hz, dB/deg).
 - Alternatively, press the **Table View** button to toggle the display between graph view and table view. Table view displays filter settings in table format for all filters configured for the input channel. Clicking on a row in table view selects the filter, displays the current settings for that filter, and allows you to edit the values in the setting fields. Changes made in the setting fields are immediately reflected in the table.
 - To adjust the active filter, click the fields along the top row.
 - **Active Filter:** Selects the filter to adjust
 - **Type:** Sets the type of filter applied
 - **Frequency:** Use the **Frequency** selector box to set the center frequency (in Hertz) for the filter you are configuring. Range is from 20 Hz to 20 kHz in 1Hz increments. The default is 1 kHz.
 - **Gain** (Available for PEQ filters only): Use the **Gain** selector box to set the gain value for the filter you are configuring. Range is from -15 to 15dB. The default is 0dB.
 - **Q** (Available for Notch and PEQ filters only): Use the **Q** (Quality Factor) selector box to select the ratio of the center frequency divided by the bandwidth. Q is the inverse of bandwidth, and the two parameters are linked. Therefore changing the Q value also changes the bandwidth value. Range is from .18 to 28.85.
 - **Bandwidth** (Available for Notch and PEQ filters only): Use the **Bandwidth** selector box to set the difference between the upper and lower points of a filter's audio passband. Bandwidth is the inverse of Q, and the two parameters are linked. Hence changing the bandwidth value also changes the Q value. The range is .05 to 5.00 octaves.
 - **Bypass:** Use the **Bypass** checkbox to bypass the currently selected active filter. This feature allows you to configure different filters and save them for future use without having to recreate them.
 - Press the **Phase** button to display the phase relationship of the graphed frequency response (appears as a gray line on the active filter graph). The phase scale appears on the right vertical axis of the graph.
 - Click **Bypass All** to bypass all filters for the selected input channel. The filters are grayed out in graph view, and the bypass status is shown as on in table view.
 - Click **Remove Filter** to delete the selected filter
 - Click **Close** to apply settings and close the window

Available Filters

There are eight configurable filter types available:

- **All Pass:** Frequency range is 20.00Hz to 20.00kHz. All pass changes the phase of the audio signal at the set frequency.
- **CD Horn:** Horn drivers commonly used in arrays in arenas and auditoriums have an inherent 6dB/octave high frequency rolloff. The CD Horn EQ compensates for this characteristic.

- **High Pass:** Selectable frequency cutoff is 20.00Hz to 20.00kHz. Rolloff is 12dB/octave. Level is fixed at 0dB.
- **High Shelving:** Provides boosting or attenuation of frequencies above a designated frequency. The transition between the spectrum above and below the designated frequency occurs at a fixed 6dB/octave rate. The gain or loss above the corner frequency is adjustable to +/- 15dB.
- **Low Pass:** Selectable frequency cutoff is 20.00Hz to 20.00kHz. Rolloff is 12dB/octave. Level is fixed at 0dB.
- **Low Shelving:** Provides boosting or attenuation of frequencies below a designated frequency. The transition between the spectrum above and below the designated frequency occurs at a fixed 6dB/octave rate. The gain or loss below the corner frequency is adjustable to +/- 15dB.
- **Notch:** Center frequency range is 20.00Hz to 20.00kHz. Bandwidth is from .05 to 5.00 octaves in .01 octave increments. Level is fixed at -80dB.
- **PEQ (Parametric Equalizer):** Center frequency range is 20Hz to 20kHz in .01Hz increments. Bandwidth is .05 to 5 octaves in .01 octave increments. Level range is -15 to +15dB in 0.5dB increments.

Compressor Button

The **Comp** button opens the Compressor window. With the compressor you can change the gain transfer characteristics of the signal path and control the dynamics of a signal.

- Select the **Enable Compressor** check box to activate the compressor.
- **Post Cmprs Gain:** Adjust the compressor gain with the gain slider.
- The graph reflects the input/output decibel levels with the gain setting you select.
- **Threshold** determines the RMS level at which the compressor begins to operate. The range is from -60 to +20dBu. Default is 0dBu.
- **Ratio** changes the rate of compression applied to the input signal as the signal exceeds the threshold level. The range is 1:1 to 1:20dB. Default is 1:1
- **Attack** determines how quickly compression is enabled. It is calibrated in milliseconds. The range is 0 to 100ms in .5ms steps. Default is 10ms.
- **Release** determines how quickly compression is disabled. The range is 100ms to 2 seconds, in 10ms steps. Default is 500ms.
- **Input meter:** This peak meter shows the level of the signal as it enters the compressor.
- **Compression meter:** This peak meter shows the instantaneous compression value at a given time.

The **Mute** button silences each processing channel independently.

Gain: The slider independently adjust the gain level for each processing channel. Levels for each channel are reported in the corresponding meter.

The meter displays post processing and post gain levels.

OUTPUT SETTINGS - INTERACT PRO

The Output Settings window is used to customize and configure the audio being sent to the auxiliary device that is connected to the Line Out jack on the INTERACT mixer. Line Output devices include video codecs, CD players, amplifiers and sound cards.

Note: Many of the most common Line Output devices have been pre-configured for optimal performance with the INTERACT system. These devices are listed in the Device Toolbox.

Adding a Device Label

- Users can change the device label by clicking the text box next to the desired output label (for example: Output 2). Replace the default label with a new name for the output.
- You can also add your Playback device to the Device Toolbox using the Device Toolbox Editor, which allows you to specify the Manufacturer and Model.

Levels

Level Tab

1. Adjust the Output Gain using the slider control. Output Levels are monitored via the Output Level meter.
2. Click **NOM** (Number of Open Mics/Constant Level) to toggle NOM on and off. NOM maintains a constant output level by automatically adjusting gain levels based on the number of mics gated on and routed to the selected output channel. NOM reduces the output level proportionally by 3dB for every doubling in the number of open mics. By default NOM is active.
3. Click **Mute** to silence the channel.

COMPLIANCE

 **WARNING:** The country code must be set correctly in the INTERACT software to ensure that the unit operates properly when connected to the telco network, and that it complies with the country's telco requirements. Changing this code to a country other than the intended country of operation might cause INTERACT PRO & INTERACT AT devices to be non-compliant.

FCC Part 15/ICES-003/RSS-210 Compliance

FCC ID:FBICOM (INTERACT COM-W)

FCC ID:FBIDIALER (INTERACT DIALER-W)

IC:1970A-COM (INTERACT COM-W)

IC:1970A-DIALER (INTERACT DIALER-W)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules and Industry Canada ICES-003. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his/her own expense.

This device complies with Part 15 of the FCC Rules and Industry Canada ICES-003. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

Changes or modifications not expressly approved by ClearOne Communications could void the user's authority to operate the equipment.

This equipment must be installed by qualified professionals or contractors in accordance with FCC Part 15.203 & IC RSS-210, Antenna Requirements. Do not use any antenna other than the one provided with the unit.

FCC RF Radiation Exposure Statement

This equipment complies with the FCC radiation exposure limits set forth for portable transmitting devices operating in an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance.

- The equipment should only be used or installed at locations where there is normally at least a 20cm separation between the antenna and all persons.

NOTE: The DIALER-W contains an internal antenna while the COM-W uses an external antenna.

- This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
- Changes or modifications not expressly approved by the party responsible could void the user's authority to operate this equipment.

FCC Part 68 Compliance

US:FBIBR00BINTERACT

Ringer Equivalence Number (REN): 0.0B(ac)

This equipment complies with Part 68 of the FCC Rules Requirements adopted by ACTA . On the mixer unit of this equipment contains, among other information, a product identifier in the format US:AAEQ##TXXXX. If requested, this information must be provided to your telephone company.

The REN is used to determine the number of devices that may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to obtain the maximum RENs for the calling area. The REN for this product is part of the product identifier that has the format US:AAEQ##TXXXX. The digits represented by ## are the REN without a decimal point (e.g. 03 is a REN of 0.3).

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications to maintain uninterrupted service.

This equipment uses an RJ11C jack that is used to connect this equipment to the premises wiring and telephone network. This RJ11C jack complies with the applicable FCC Part 68 Rules and Requirements adopted by the ACTA . A compliant telephone cord and modular plug is provided with this product. It is designed to be connected to a compatible modular jack that is also compliant. See installation instructions for details. **WARNING:** The country code must be set correctly in Console to ensure that the unit operates properly when connected to the telco network, and that it complies with the country's telco requirements. Changing this code to a country other than the intended country of operation might cause Converge Pro devices to be non-compliant. 304

If you experience problems with this equipment, contact ClearOne Communications, 5225 Wiley Post Way, Suite 500, Salt Lake City, Utah 84116, or by phone at (800) 945-7730 for repair and warranty information. If the equipment is causing harm to the telephone network, the telephone company may request you disconnect the equipment until the problem is resolved.

No user serviceable parts are contained in this product. If damage or malfunction occurs, contact ClearOne Communications for instructions on its repair or return.

Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information. This equipment cannot be used on telephone company provided coin service.

If your home has specially wired alarm equipment connected to the telephone line, ensure the installation of this equipment does not disable your alarm equipment. If you have questions about what will disable alarm equipment, consult your telephone company or a qualified installer.

Electrical Safety Advisory

This equipment uses AC power which can be subjected to electrical surges, typically lightning transients which are very destructive to customer terminal equipment connected to AC power sources. The warranty for this equipment does not cover damage caused by electrical surge or lightning transients. To reduce the risk of this equipment becoming damaged it is suggested that the customer consider installing a surge arrester.

IC COMPLIANCE

IC: 1970A-INTERACT

Ringer Equivalence Number (REN): 0.0B(ac)

NOTICE: The term "IC" before the certification/registration number signifies that Industry of Canada technical specifications were met.

This certification means that the equipment meets certain telecommunications network protective operational and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.

The REN is used to determine the number of devices that may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to obtain the maximum RENs for the calling area. The REN for this product is listed above.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the companies inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by ClearOne Communications. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment. Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

EUROPEAN COMPLIANCE

Conformity of the equipment with the guidelines below is attested by the CE mark.



EC Declaration of Conformity

Manufacturer's
Name:

ClearOne Communications

Manufacturer's
Address:

Edgewater Corporate Park South Tower
5225 Wiley Post Way, Suite 500
Salt Lake City, Utah 84116 U.S.A.

Model:

INTERACT PRO, INTERACT AT, INTERACT MIC, INTERACT MIC EX,
INTERACT Dialer, INTERACT Dialer-W, INTERACT COM & INTERACT
COM-W

Declares that the product(s) listed above conform(s) to the following Council Direc-

tive(s): 1999/5/EC Radio equipment and Telecommunications Terminal Equipment (R&TTE) Directive.

Product Standard(s) to which Conformity of the Council Directive(s) is declared:

EMC - 89/336/EEC "Electromagnetic Compatibility (EMC) Directive":

EN 55022: 2006 Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement.
(Emissions)

EN 55024: 1998 Information technology equipment - Immunity characteristics - Limits and methods of measurements.
(Immunity)
+A1+A2

EN 61000-4-2: Electrostatic Discharge Immunity
2009

EN 61000-4-3: Radiated RF Immunity
2006

EN 61000-4-4: Electrical Fast Transients Immunity
2004

EN 61000-4-5: Lightning Surge Immunity
2005

EN 61000-4-6: Conducted RF Immunity
2009

EN 61000-4-8: Power Frequency Magnetic Field Immunity
1993

EN 61000-4-11: Voltage Dips and Voltage Interruptions
2004

Safety - 73/23/EEC "Low Voltage Directive (LVD)":

IEC 60950-1: 2001 Safety of Information Technology Equipment, Including Electrical Business E equipment.

Telecom & Radio - 1999/5/EC Radio equipment and Telecommunications Terminal Equipment (R&TTE) Directive:

Telecom – (INTERACT PRO & INTERACT AT):

Access and Terminals (AT); Harmonized basic attachment requirements for Terminals for connection to analogue interfaces of the Telephone Networks; Update of the technical contents of TBR 021, EN 301 437, TBR 015, TBR 017; Part 1: General aspects, Part 2: Basic transmission and protection of the network from harm, Part 3: Basic Interworking with the Public Telephone Networks.

Radio Equipment – (INTERACT Dialer-W & INTERACT COM-W):

EN 300 328 V1.6.1 Electromagnetic compatibility and Radio spectrum Matters (ERM); Wide-band transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using wide band modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive.
(2004-11)

RoHS - 2002/95/EC Restriction of the Use of certain Hazardous Substances in Electrical and Electronic Equipment (EEE) & WEEE - 2002/96/EC Waste of Electrical and Electronic Equipment (EEE).

We herein certify that the products listed above are in compliance with the EU directive 2002/95/EC and EU directive 2002/96/EC.

We, the undersigned, hereby declare that the equipment specified above conforms to the above directives and standards. Date of Issue: January 12, 2010

Legal Representative in Europe

/s/ Tracy Bathurst
Signature

Tracy Bathurst
CSO

New Zealand Compliance

In the event of main power failure, INTERACT equipment will become inoperable with regard to making telephone calls.

All persons using INTERACT equipment for recording telephone conversions shall comply with New Zealand law, which requires that at least one party to the conversation be aware that the conversation is being recorded. In addition, the principles enumerated in the Privacy Act of 1993 shall be complied with in respect to the nature of any personal information collected, the purpose of this collection, how it is used, and what is disclosed to any other party.