Clear-Com®

ECLIPSE PRODUCTION MAESTRO

V5.2

Incorporating Pro Version

and

Clear-Vu Audio Metering

User Manual

CLEAR-COM

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ECLIPSE PRODUCTION MAESTRO

INTRODUCTION

Eclipse Production Maestro provides Eclipse intercom system administrators with the ability to create and manage audio across one or more matrices. Production Maestro allows users on intercom panels and Digital beltpacks to have keys re-labelled to conferences. Selected conferences may be dynamically reconfigured to respond to changing requirements such as those in studios, sports venues, MCR areas or Command and Control centres. Conference and 4-Wire audio levels may be monitored in real-time via on-screen meters.

Standard or Pro Modes

Production Maestro operates in Standard or Pro mode depending on the license purchased and the facilities available will depend on the mode. Facilities only available in Pro mode are covered in this manual and the restriction will be indicated. In general Production Maestro Pro adds Preset-Conferences, Key Groups, more user settings and restrictions, and split screen canvas.

The various system components are color coded for rapid identification on screen; panel ports are colored dark blue and 4-wire ports are colored amber, conferences are shown in light blue and 4-Wire Viewers are shown in light green. Key groups are shown in dark grey (Pro mode only).

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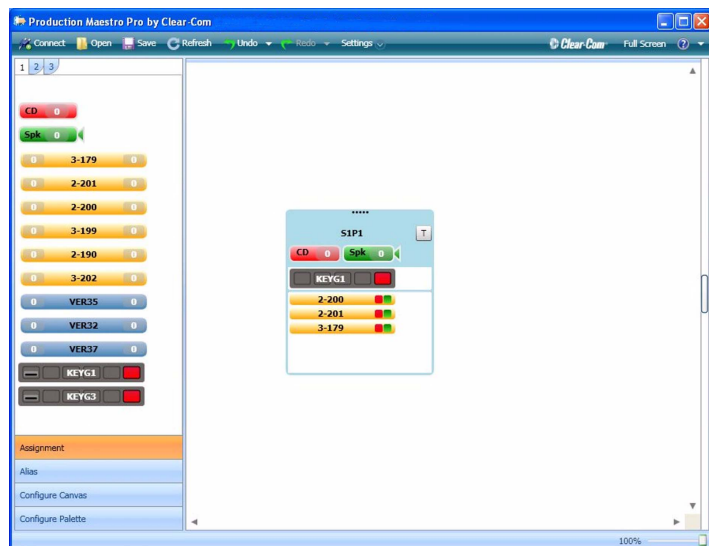
Figure 1-1: Production Maestro Elements

The conferences may be hosted on a single matrix or across a number of matrices linked by fiber-optic cables or trunks.

The last conference layout can be stored on disk and recalled as required to facilitate the rapid reconfiguration of an intercom system for different requirements.

The Production Maestro software should be run on a PC meeting the following minimum specifications:

• Microsoft Windows XP Professional SP2 or Windows Server 2003 SP1 or Windows Vista or Windows 7 operating system.

• Appropriate language support if non-latin fonts are to be used.

• Microsoft .NET Framework 3.5 SP1 (supplied with Production Maestro).

• Personal computer with Microsoft Windows Experience Index base score of 3.0 or higher when running Windows Vista or equivalent if running Windows XP, Windows Server 2003 or Windows 7.

• 1GB RAM or better recommended depending on operating system.

• 10GB of free hard disk space.

• Combo DVD drive.

• SVGA display resolution.

• Microsoft compatible mouse with scroll wheel.

• Appropriate keyboard if non-latin fonts are to be used.

• IEEE 802.3 Ethernet port.

PRODUCTION MAESTRO STARTUP

The Production Maestro installer default behavior is to create a shortcut on the desktop. Production Maestro can be started using the desktop icon or from the Windows Start menu entry as shown below in Figure 1-2.
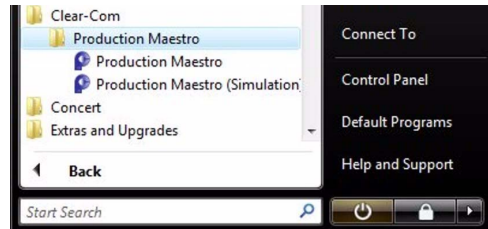

Figure 1-2: Starting Production Maestro from Programs (Vista)

When Production Maestro is run the initial display is shown in Figure 1-5. The Production Maestro toolbar contains the buttons to control basic Production Maestro operations.
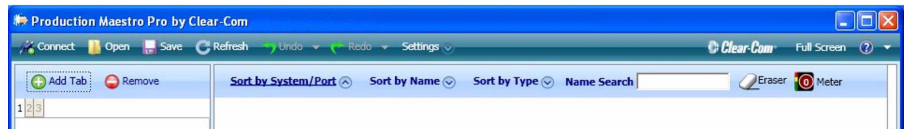
Figure 1-3: Production Maestro Toolbar

In order to use Production Maestro the ECS configurations should be exported from 'My Systems' as .ccn files which can be read by Production Maestro.

If Production Maestro does not find a valid license on the target matrix or one of the target matrices in a linked set an error message will be displayed at the top of the canvas highlighted in red.
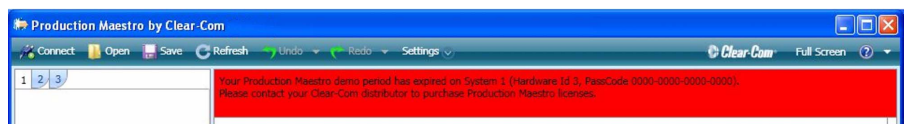
Figure 1-4: Production Maestro License Error

In order to obtain a valid license please complete and return the passcode request form at the end of this manual.

The license key must be downloaded to the matrix by entering it into the system options page in ECS and downloading a map to the matrix.

If the 31 day demo mode license key on the matrix is about to expire a warning message will be displayed at the top of the canvas highlighted in orange. Other warning messages about licenses are also highlighted in orange. Refer to the section on licensing for further information on Production Maestro licensing requirements.
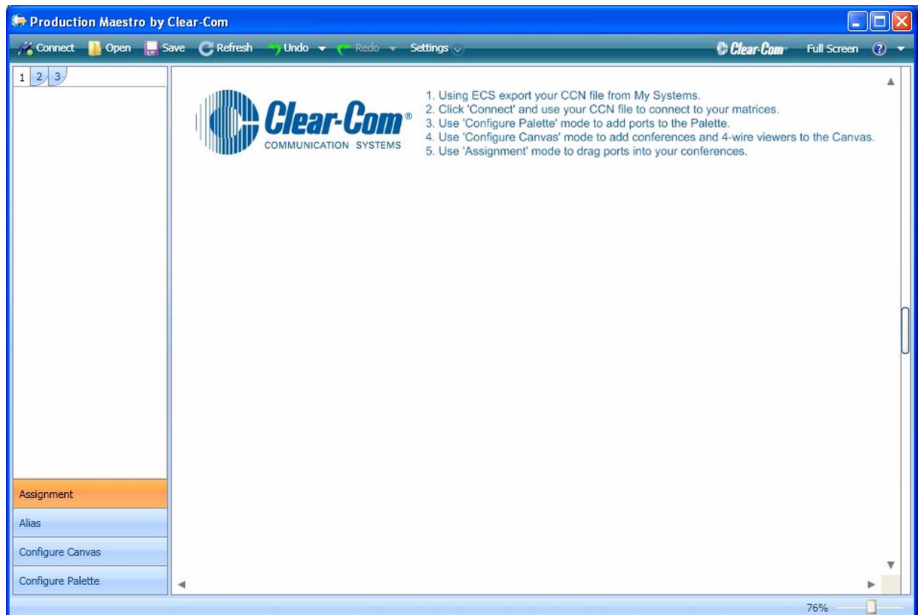
Figure 1-5: Production Maestro Initial Screen

Initially the 'Undo' and 'Redo' buttons on the toolbar are greyed out. The 'Connect', 'Open' and 'Save' buttons are available.

Clicking on the '?' button will display Production Maestro help while clicking on the down arrow button will display a menu.
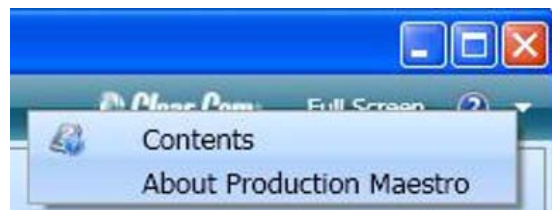
Figure 1-6: Production Maestro Information Menu

The menu accesses Production Maestro help ('Contents') and Production Maestro version information ('About Production Maestro').

Figure 1-7: Production Maestro Version Information

The Production Maestro version information lists component versions in addition to the build information. This information may be required for support.

The 'Copy Info' button is supplied to place this information on the Windows clipboard so that it can be pasted into other documents.

CANVAS BACKGROUND

The canvas background defaults to the supplied background file 'back.jpg' in the Production Maestro installation directory. The default background file may be replaced with a customized file of the same name to show the house logo, user set-up instructions, conference info or just a picture.

If a default file is already present, for example included in the installation, this will be used.

If the canvas background file is renamed or deleted the canvas background will be plain white or charcoal (Pro mode option only).

For Pro users there is a secondary background 'back2.jpg' for the second canvas.

USING PRODUCTION MAESTRO

PRODUCTION MAESTRO TOOLBAR BUTTONS

Connect

The 'Connect' button opens a dialog window and prompts for a Clear-Com configuration (.ccn) file. The IP addresses of the matrices in the configuration are extracted from the configuration file and IP connections are made to these matrices. No other data such as port lists is read from ccn files; information on ports, conferences and keygroups (Pro mode only) is read live from the matrix or matrices. This means that Production Maestro clients are automatically updated with changes to the configuration made by the ECS application.

Note: Production Maestro can be run in simulation mode where the port and conference information will be read from the ccn file and no attempt will be made to connect to any matrix.
Production Maestro can be run in simulation mode from the programs menu or from a desktop shortcut using the command line argument "/SIM" (see "Command Line Options" on page 2-9 for more information).

.
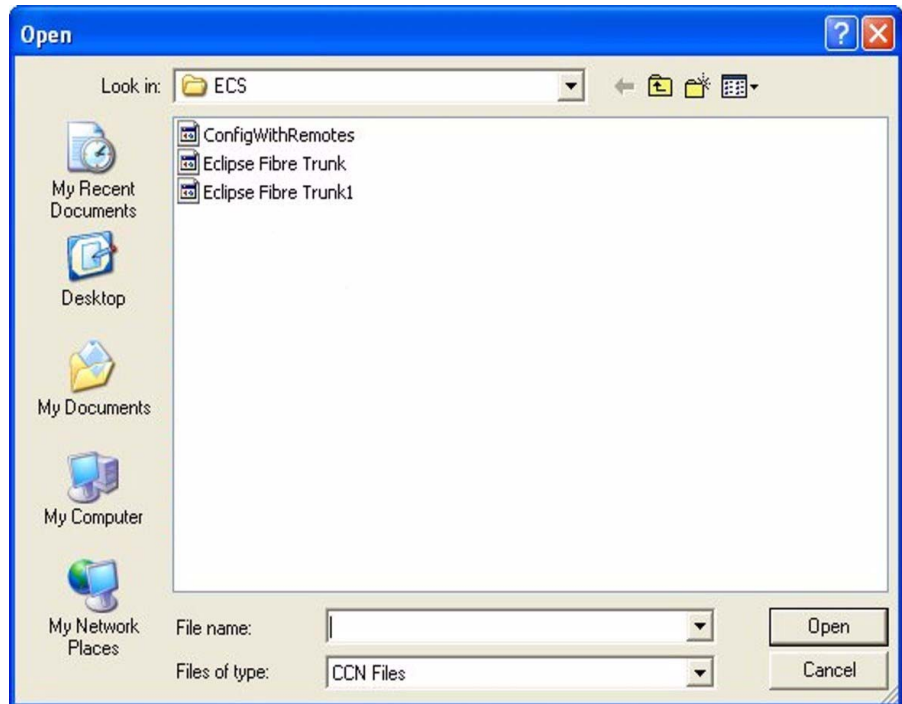
Figure 1-8: Network Configuration File Open Dialog

While Production Maestro is attempting to connect to the matrices referenced in the ccn file it will display the message 'Connecting to'

and a list of the IP addresses it is attempting to connect to in the bottom left hand corner of the Production Maestro display.

Open

The 'Open' button opens a Production Maestro conference configuration (.ccr) file. This is the conference layout file, which stores the Production Maestro screen configuration, such as palette width, canvas configuration, audio level meters, settings and palette configurations.

The ccr file does not contain the port information as this is read directly from the matrices by Production Maestro. The ccr file also does not contain the alias level or routing assignments made by Production Maestro.
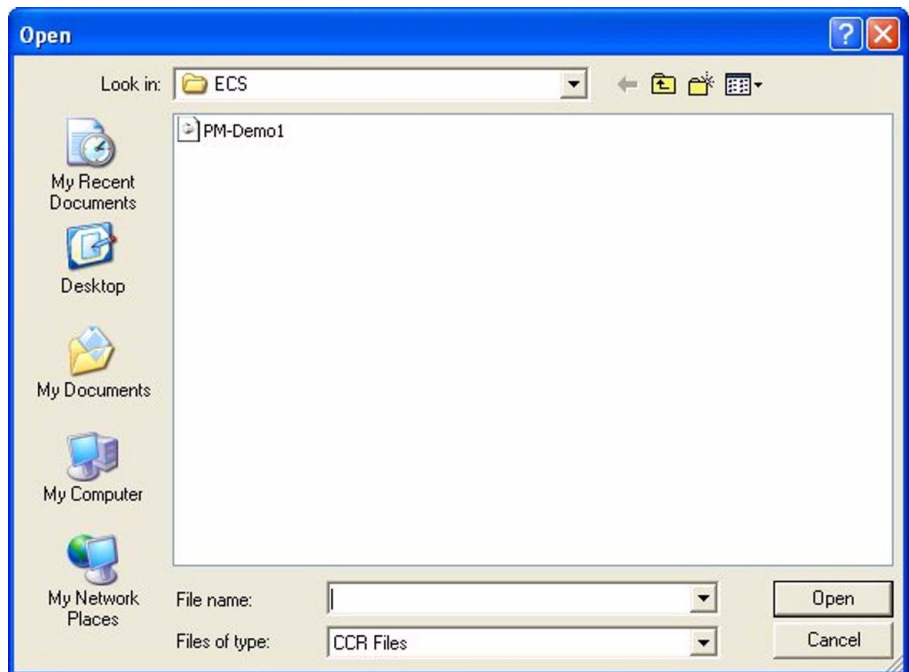
Figure 1-9: Conference Configuration File Open Dialog

Select the required ccr file and click on 'Open' to open it. Production Maestro will load the layout information.

Save

The 'Save' button saves the current Production Maestro configuration
to a file (normally a .ccr file).
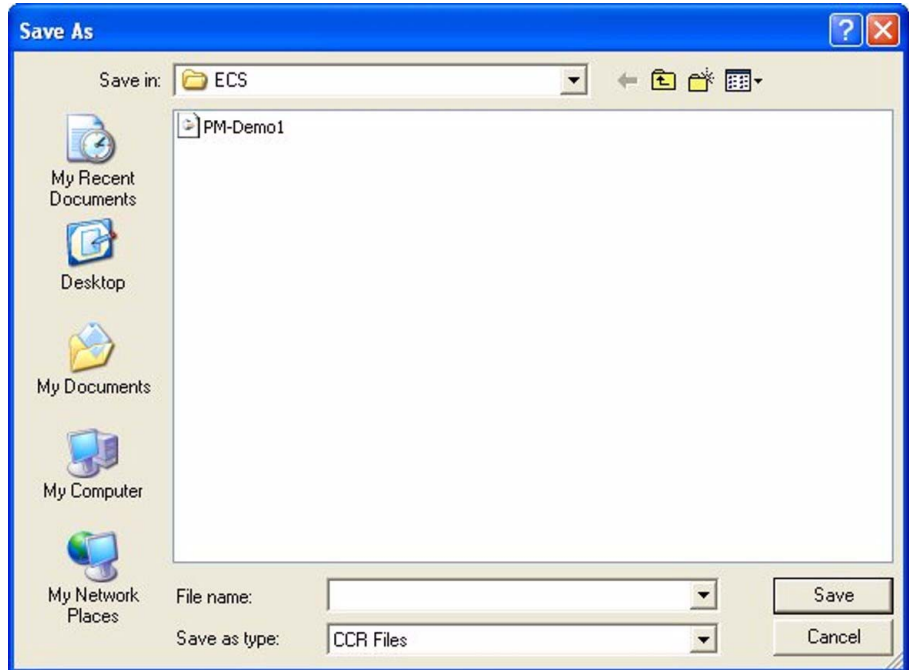
Figure 1-10: Conference Configuration File Save Dialog

Enter the required filename (without file extension) and click on 'Save'.
The Production Maestro layout and settings information will be saved
to the file. The port information is not saved to the file as this is read
back from the matrices when the file is opened by Production Maestro.

Refresh

The 'Refresh' button causes Production Maestro to reload the current
device information from the matrix or matrices it is connected to and
update the display.

This may be used after communications have been interrupted
between the PC and matrices.

Undo

The 'Undo' button reverses the last action. Use the drop-down button
on the toolbar to see a list of the previous actions. Selecting the
topmost action will undo the last action. Selecting an action further
down the list will undo that action and all other actions after it up to the
top of the list.

Most Production Maestro actions can be undone, e.g. moving a port on
the Palette, assigning a port to a conference, aliasing a conference.

Redo

The 'Redo' button repeats the last undone action. Use the drop-down button on the toolbar to see a list of the last redone actions.

Settings

The 'Settings' button opens the option setting display allowing a panel to be set up for temporary connection to any conference using the conference 'T' button (see "Associated Panel" on page 1-40) and a dedicated audio meter port to be configured (see "Associated Meter Port" on page 1-41). The settings options also allow prompts and settings to be enabled when changing the configuration of conferences (Standard and Pro mode), user restrictions to be set up (Pro mode only) and the color scheme to be changed (Pro mode only).

Full Screen

The 'Full Screen' button toggles between a full screen display of the Production Maestro work area and the default window that can be sized in the normal way.

Help (?)

The 'Help' button opens the Production Maestro help facility.

About (down arrow)

This button displays a menu for Production Maestro help contents and information about Production Maestro.

CONNECTION STATUS

If Production Maestro loses the connection to a matrix the names of all the devices from that matrix are changed to '????' to signal the loss of data. Production Maestro will attempt to reconnect to the matrix and will display the message "Connecting to <IP address of matrix>" in the bottom left corner of the window until the connection is restored. Production Maestro will continue trying to reconnect indefinitely.

Port entities will be greyed out when Production Maestro loses contact with the matrix to indicate that their status is unknown.

When Production Maestro restores the connection it will display the message "Loading <IP address of all matrix>" as it reloads the device data from the linked set. The display will be updated with the new configuration information and the port entities will no longer be greyed out.

CONFIGURING CONFERENCES

Before Production Maestro can be used to configure conferences it must be given an initial system layout file (ccn file) exported from ECS (see 'Export Project' in the ECS manual part no. 810299Z).   This file provides Production Maestro with the initial IP addresses (see "Connect" on page 1-6).

When Production Maestro connects to a matrix it obtains the current active assignments from the matrix. All assignments made by Production Maestro are sent directly to the matrix. If Production Maestro loses the connection to the matrix all assignments that have been made will remain in effect and any other Production Maestro client connected to the matrix will still be able to make assignments. Figure 1-11 below illustrates a conference setup (includes some Production Maestro Pro mode features).
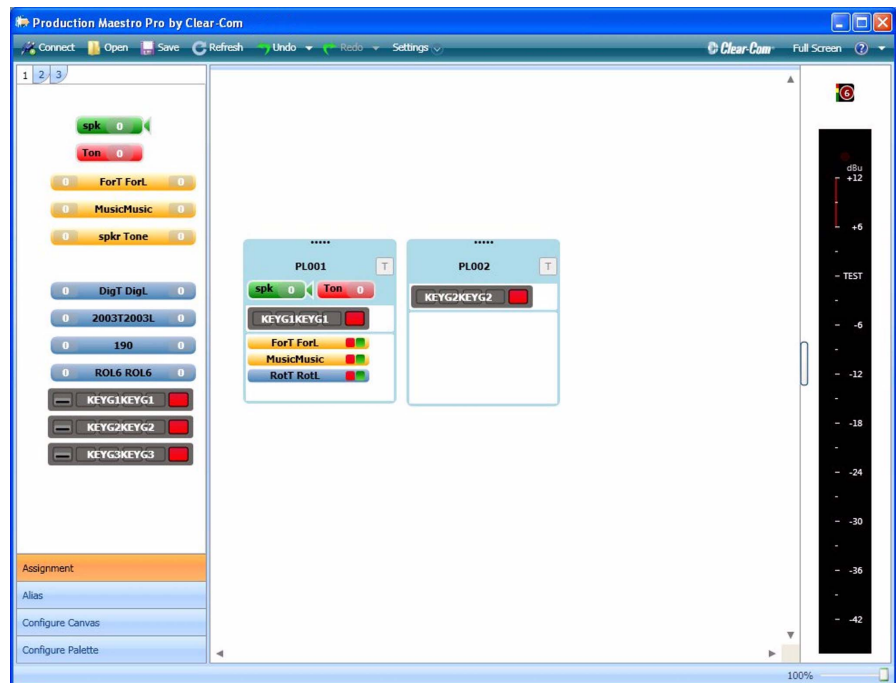
Figure 1-11: Production Maestro with Conference Setup Loaded

When the mouse pointer is hovered over an item in the canvas or palette windows a tooltip about the item is displayed beside it.
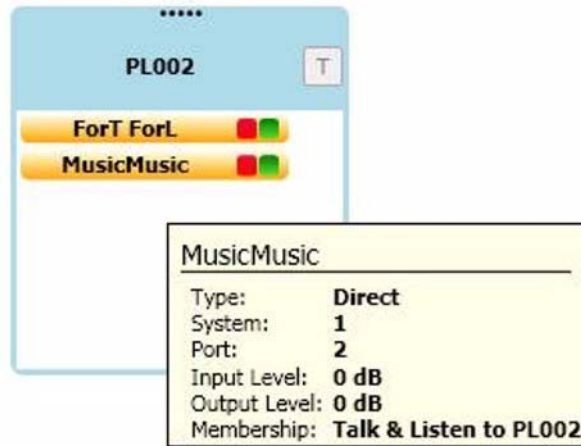
Figure 1-12: Onscreen Tooltip

Once Production Maestro is connected to the matrices and has port and conference setups loaded it can be used to configure conferences. The features of an Production Maestro conference screen are shown in Figure 1-13 (includes Production Maestro Pro mode features).
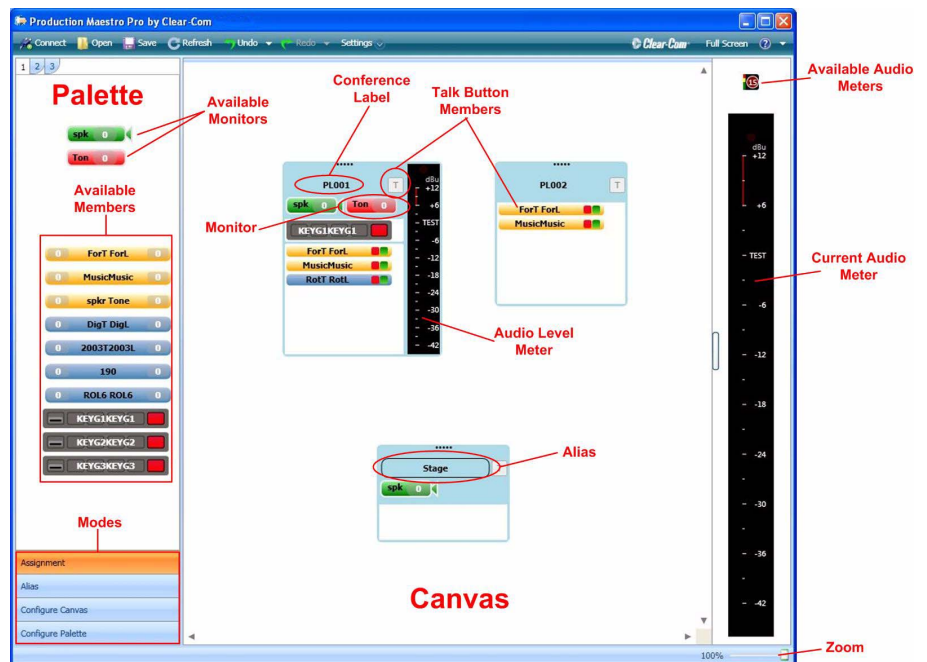
Figure 1-13: Production Maestro Features

Production Maestro operates in one of four modes selected from the buttons at the bottom of the palette panel described below.

MODES OF OPERATION

ASSIGNMENT MODE

This is the main operating mode. In this mode the palette containing the devices available for assignment and canvas layout are locked and it cannot be edited.

Actioning on Assignment

Items from the palette such as interfaces and direct connections and monitors can be dragged from the palette and dropped into conferences on the canvas to make live changes to the matrices that Production Maestro is linked to. Items can also be dragged and dropped from one conference to another.

Users should note that when 4-Wire direct interfaces are assigned to a conference using Production Maestro rather than ECS these interfaces will not be listed on V-Series panels when viewing conference members. This is due to such assignments being temporary rather than fixed in the ECS configuration.

When items are being dragged to conferences or 4-Wire Viewers an icon will be displayed next to the mouse pointer indicating what type of assignment is being made, depending on which mouse button is being used.
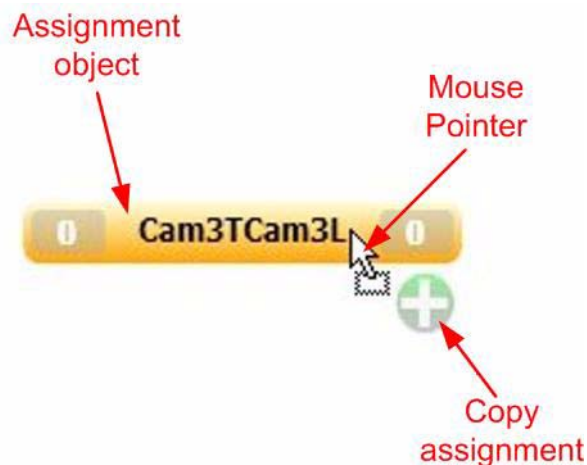
Figure 1-14: Copy Assignment
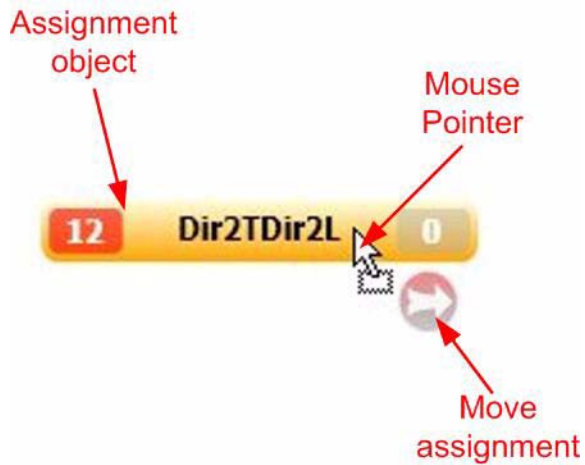
Figure 1-15: Exclusive Move Assignment

Note: It is not possible to place a panel as a fixed source and destination into a conference.
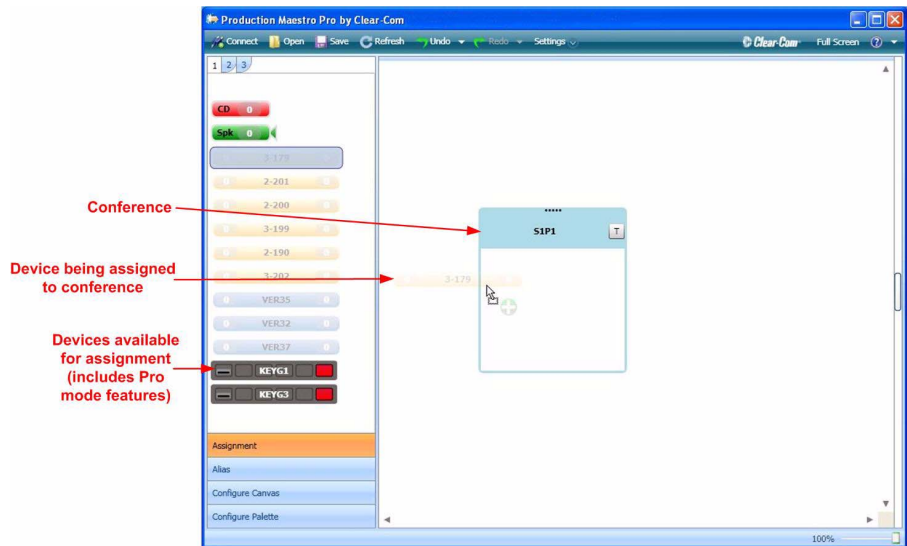
Figure 1-16: Assigning a Device to a Conference

MOUSE OPERATION FOR ASSIGNMENT

Default Mouse Operation

The left mouse button always performs the default operation while the right mouse button performs the non-default operation.

The effects of dragging and dropping a new port into a conference list differs depending on whether the left or right mouse button is used to select the port. The left mouse button always performs the default operation while the right mouse button performs the non-default operation.

The default operation (left mouse button) when assigning a port to a conference from the palette is to add the port to the conference without affecting any other conference. The non-default operation (right

mouse button) will add the port to the conference exclusively, removing that port from any other conference it is assigned to. It will not remove the port from any 4-Wire Viewer it is assigned to. This also applies to Idents and Monitors.

Ports may also be moved between conferences by dragging and dropping. In this case the default operation is to move the port from one conference to another, while the non-default operation is to copy the port from one conference to another. This also applies to 4-Wire Viewers. This also applies to Idents and Monitors.

• If the left mouse button is used to select and drag a port from the palette to the destination conference it will be added to that conference without affecting any other conference.
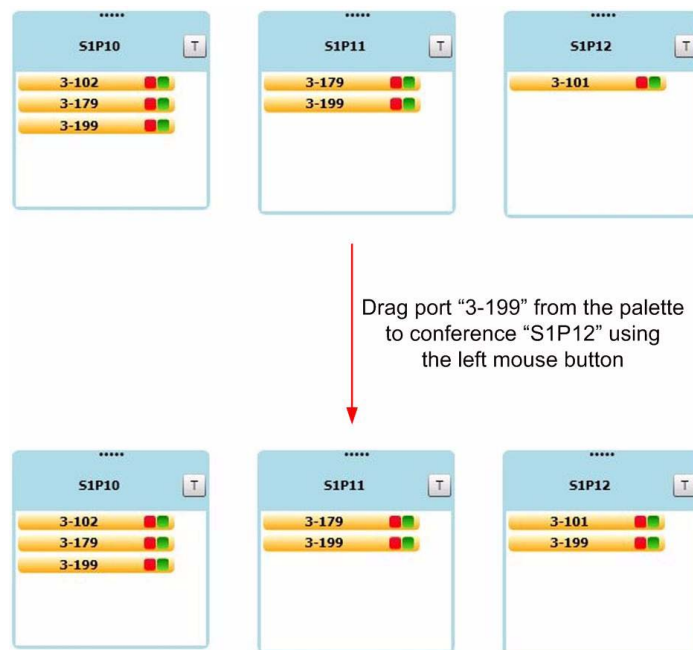
Figure 1-17: Dragging and Dropping with the Left Mouse Button

• If the right mouse button is used to select and drag a port from the palette to the destination conference it will be exclusive to the destination conference and will be removed from any other conference it may be listed in.
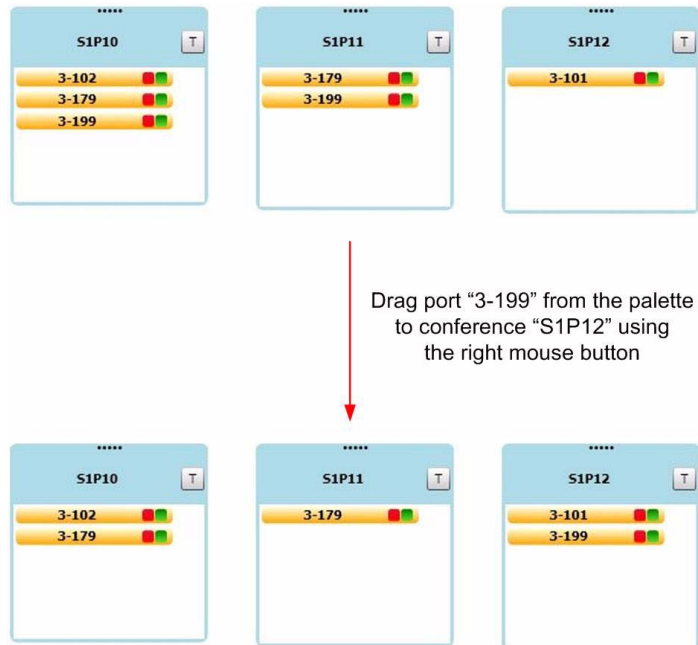
Figure 1-18: Dragging and Dropping with the Right Mouse Button

- If the left mouse button is used to select and drag the port from one conference to another the port is removed from the source conference and placed in the destination conference.
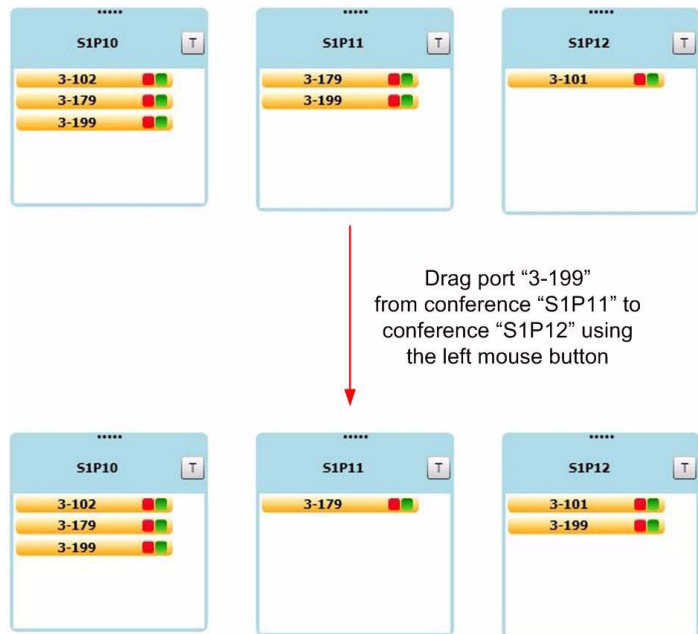
Figure 1-19: Moving Ports with the Left Mouse Button

- If the right mouse button is used to select and drag the port from one conference to another the port is copied from the source

conference to the destination conference and so is present in both conferences afterwards.
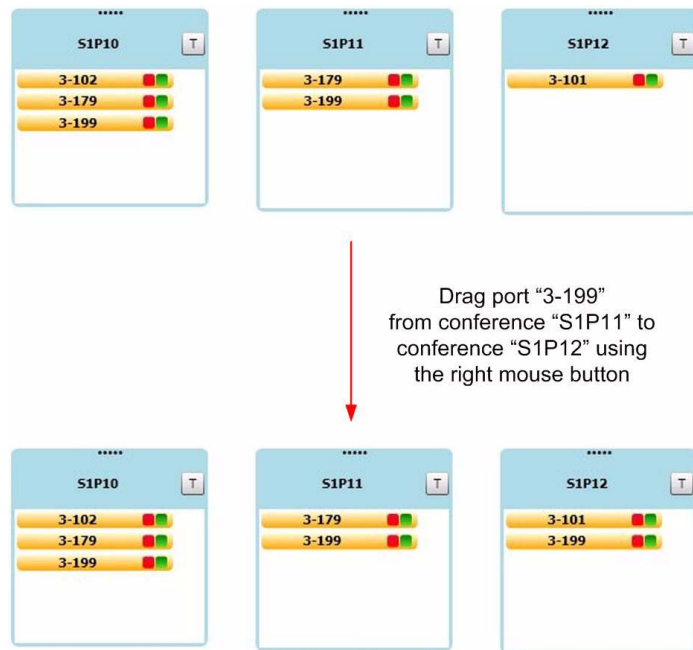
Figure 1-20: Moving Ports with the Right Mouse Button

By clicking and holding the mouse button on a conference T button an associated panel or port can talk to the conference (see "Associated Panel" on page 1-40).

Figure 1-21: Adding an Associated Panel to a Conference

Preset Conferences

Production Maestro allows users to create preset conferences (Pro mode only) that can be copied into live conferences as required. Preset conferences are created by selecting 'Configure Canvas' mode, opening the 'Other' palette and dragging and dropping the preset conference onto the canvas.
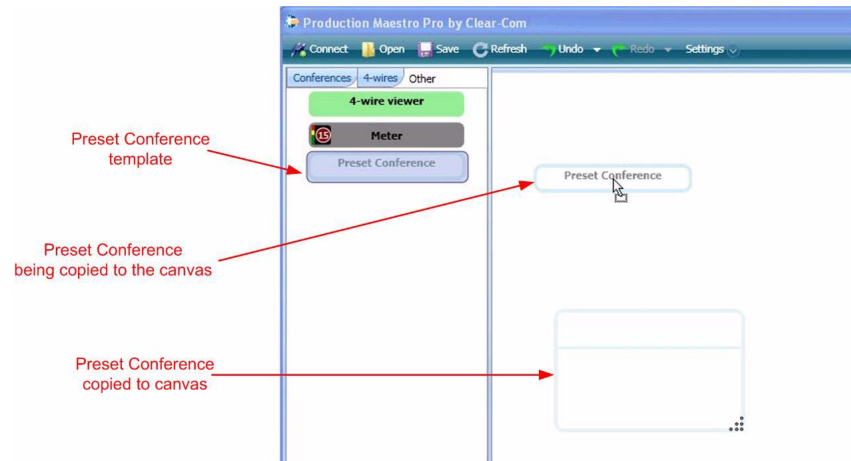
Figure 1-22: Preset Conference Setup

Use Preset Conferences to manage many changes to conferences in one operation. For example a news conference can be changed to use communication lines from different OB trucks, a different studio KeyGroup and automatically erase any existing 4-wire members all in one action.

Once a preset conference has been placed on the canvas it can be given a name using the Alias mode in the same way as a normal ECS conference. Any number of preset conferences may be placed on the canvas in this way.

To populate a preset conference select Assignment mode and populate it with 4-Wire ports, key groups and monitors from the palette as required. To apply it to an existing conference simply drag and drop the preset conference onto the target conference and the contents of the preset conference will be added to the existing conference. The name of the existing ECS conference will be changed to that of the preset conference.
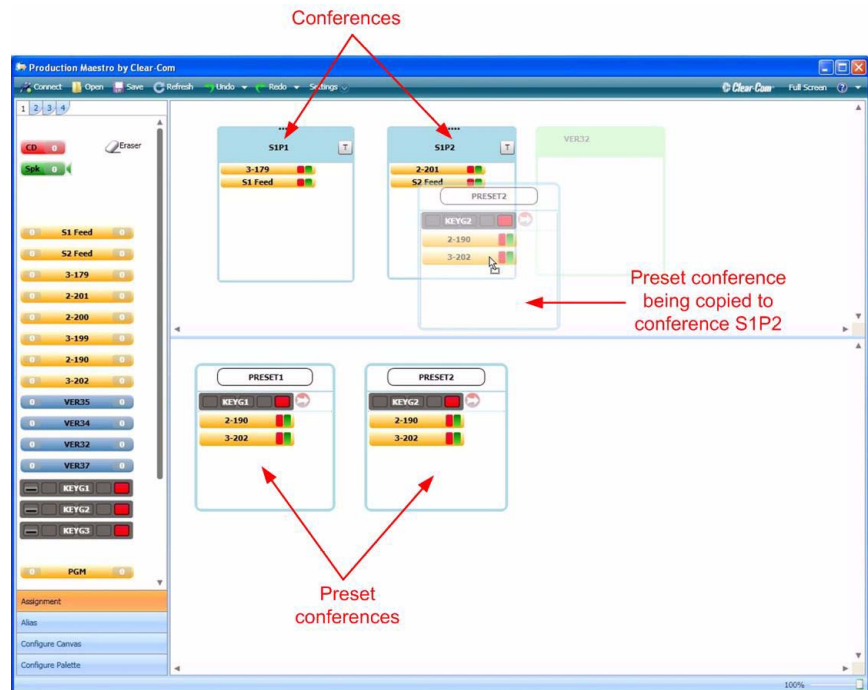
Figure 1-23: Using Preset Conferences

If an eraser is added to the preset conference and the preset conference is then added to an existing conference the current members will be erased and replaced by the members of the preset conference.

Preset conferences are only created within Production Maestro and are not sent to the matrix. Only when they are applied to existing conferences are changes sent to the matrix.

Pro Mode Only

Drag as Preset to a Conference

Existing conferences can also be used in the same way as preset conferences using the "Drag as Preset" facility (Pro mode only). To access this position the mouse pointer over the conference options menu graphic to open the menu and click on "Drag as Preset" (see Figure 1-24).
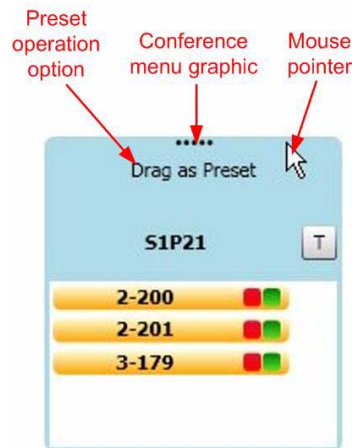
Figure 1-24: Using an ECS Conference as a Preset Conference

Drag the conference onto the target conference and drop it to copy the contents to the target conference. The source conference is not changed by this operation. The name of the target conference is not changed by this operation.

In Pro mode this function can also be used to copy an existing conference to a preset conference. In this case the effect depends on whether the left or right mouse button is used to drag and drop the conference onto the preset conference.

Drag as Preset to a Preset Conference

Pro Mode Only

The "Drag as Preset" function (Pro mode only) can be used to modify the contents of preset conferences. In this case the left and right mouse buttons will have different effects.

If the left mouse button is used the contents of the original conference will be added to the preset conference. If the right mouse button is used the contents of the original conference will replace the contents of the preset conference. Any existing name assigned to the preset conference via an Alias is deleted.

Copy or replace operations to a preset conference will not display warning prompts if the members already exist in another conference.

ZOOM

The canvas can be zoomed either by rolling the mouse wheel over a blank section of canvas, or by double-clicking. Double-click alternates between Zoom-To-Fit and standard zoom.

INPUT AND OUTPUT

Interface input and output levels are displayed while they are in the palette. If the mouse pointer is positioned on a device the device parameters are displayed in a parameter window under the device.
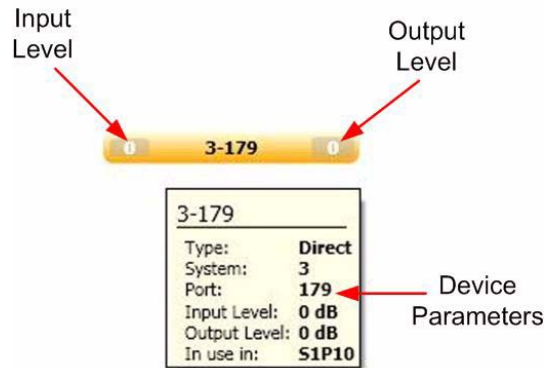
Figure 1-25: Device Parameters in Production Maestro

The input or output level can be changed by selecting the input or output level of the device and rolling the mouse wheel while it is selected. The color and density of the level block changes as the level changes from -72dB to +18dB changing from black to grey to transparent to orange to red, with values around 0 being transparent. The input or output value is displayed on the device and in the device parameter window. If the level is set to -72dB it will displayed as "Cut" rather than -72 on the device icon. The tooltip will display the level as -72dB.

Figure 1-26: Input/Output Level Color Coding

Double clicking on an input or output level where the level can be adjusted will automatically cut the audio by setting the level to -72dB (Cut). Double clicking again will restore the level to its previous value. If the mouse wheel is used to adjust the level while it is cut the previous level is lost and the new level will be -72dB (Cut).

AUDIO PRESENCE TALLY

When Production Maestro is running in Pro mode an Audio Presence Tally can be displayed on 4-Wire ports in the palette provided that the Audio Presence Tally option has been enabled for that 4-Wire port in ECS (please refer to the ECS manual part 810299Z).

When audio is detected on a port on the palette with Audio Presence Tally enabled a green background will be displayed on the input level on the port.
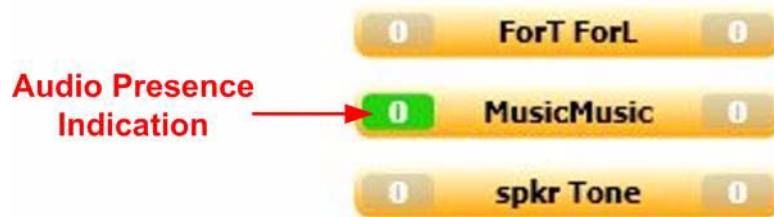
Figure 1-27: Audio presence Tally Enabled

Note: This feature is only available provided that the PC running Production Maestro is on the same network as the matrix the port is on.

Alias Label Mode

Alias label mode has a separate palette on which the user can configure Alias labels for conferences, panels or 4-wire ports. These aliases can be dragged onto a conference on the canvas to change the conference default ECS name to an alias name live. The new label will appear on all panel keys with this conference assigned to them in ECS. These labels are unicode and as such support all unicode character sets
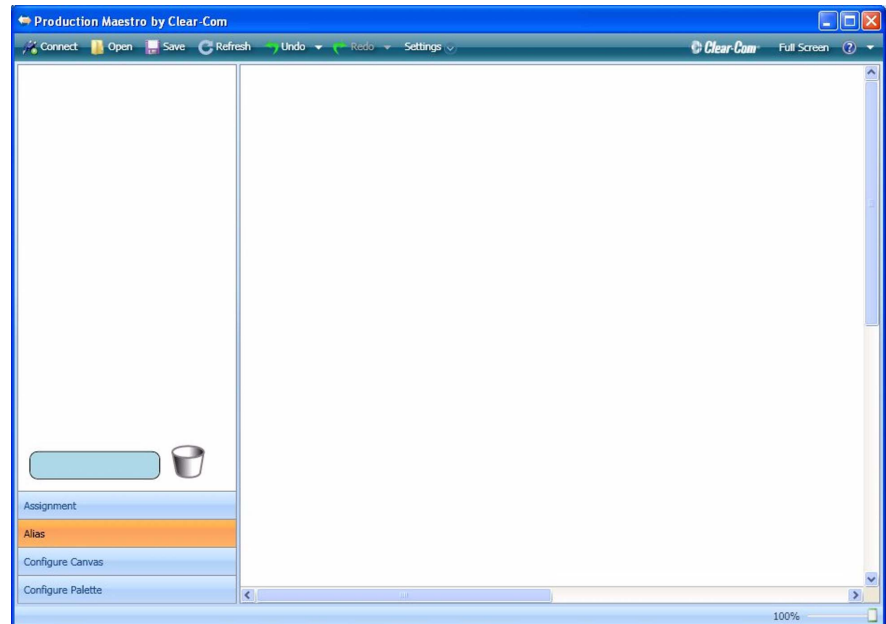
Figure 1-28: Initial Alias Display

To create a new alias, type the name of the new alias into the blank area and then drag it to the palette area.

The new alias can also be dragged directly onto a conference on the canvas without first being dragged onto the palette area.

The alias operation can also be reversed allowing an alias already on the canvas to be dragged back onto the Alias palette.

An alias can also be dragged onto to a 4-wire viewer on the canvas to rename the 4-wire port that has been assigned to the viewer.
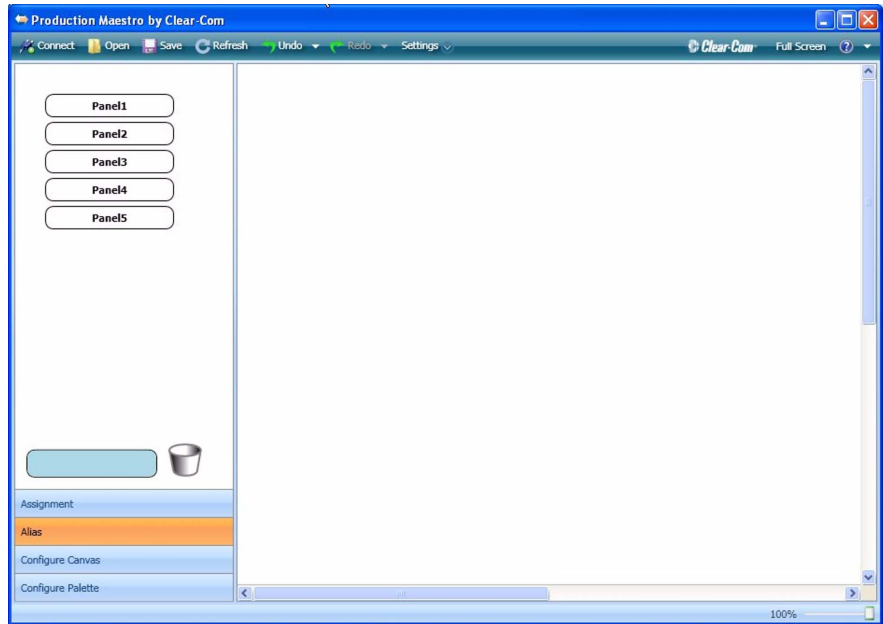
Figure 1-29: Alias Creation

When an Alias is dragged onto a conference, the conference on the Rack is aliased to the new name.
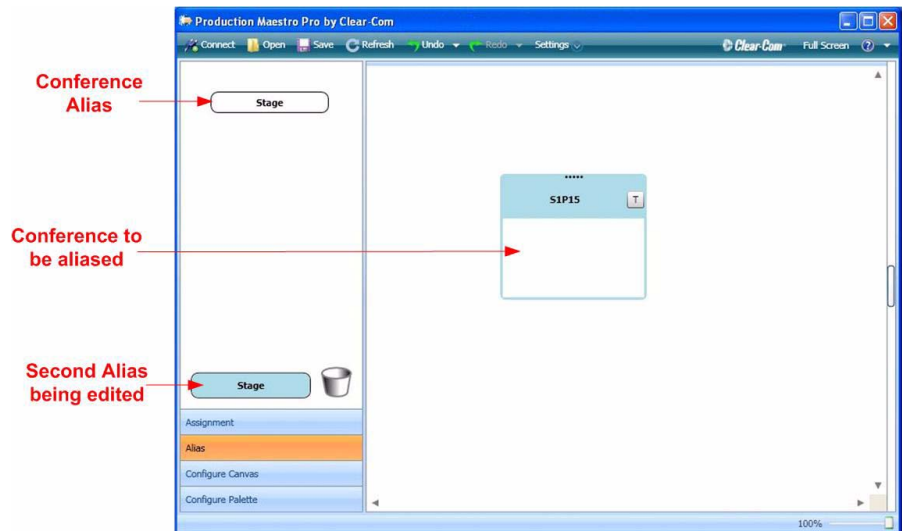
Figure 1-30: Conference Aliases

Available Aliases are stored as part of the Production Maestro configuration. They are not shared between Production Maestro users.

Configure Canvas

All conferences available on the matrices connected to Production Maestro are displayed in the palette area. The conferences that are to be configured or edited can be dragged onto the canvas area ready to be edited. In this way the configure canvas mode allows the user to design the layout of their work space to suit their work flow. It is not possible to make an assignment in Configure Canvas mode.
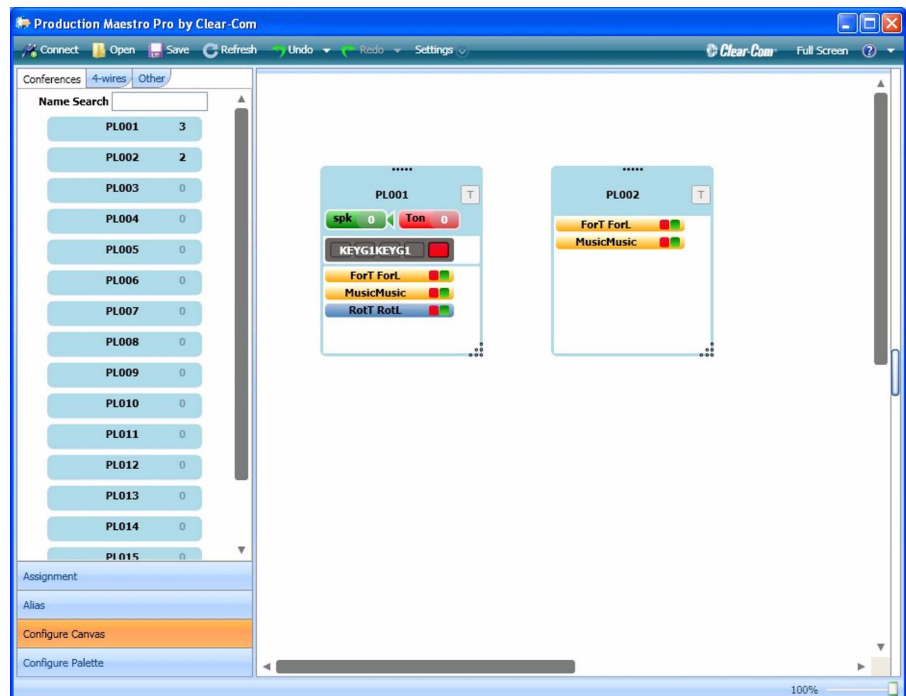
Figure 1-31: Configuring the Canvas with Conferences (Pro mode)

In Production Maestro two canvases are available for configuration; the second canvas is behind the first and can be accessed by using the mouse to move the top of the first canvas down to give access to the second canvas.
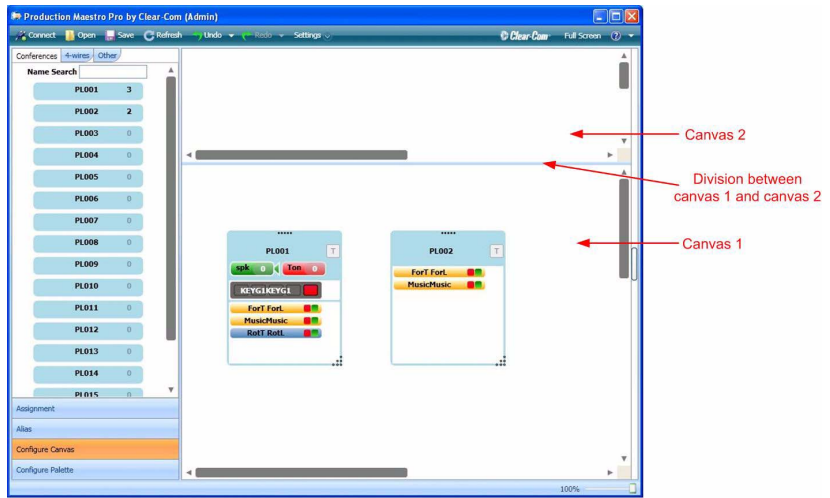
Figure 1-32: Production Maestro Double Canvas

When conferences are dragged and dropped onto the canvas they are expanded to show a list of all the current members.

To remove a conference from the canvas the mouse is used to drag the conference onto the palette area.
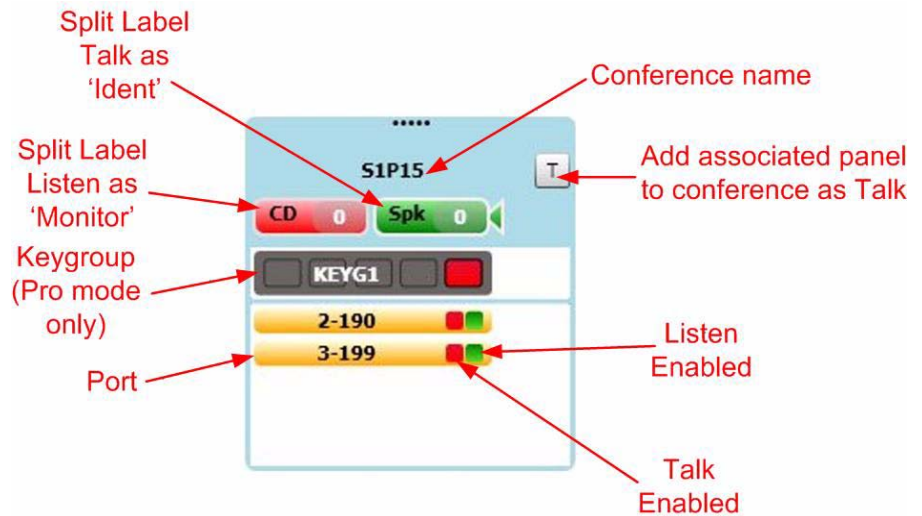
Figure 1-33: Conference Features

Direct ports that are configured as split label in ECS (see chapter 5 "Basic Settings" in the ECS User Guide part 810299Z) are displayed as two separate icons.

- The Listen label is displayed as a green 'Monitor' device.

- The Talk label is displayed as a red 'Ident' device.

- The Monitor device only has an output level offset.

- The Ident device only has an input level.

• Input ident ports can be used to set tones or station ident audio to conferences in a technical set-up mode.

• The Monitor output ports can be wired to local loudspeaker systems within the users area for audio monitoring selected conferences.

TALK AND LISTEN LABELS

The 'Direct' and 'Panel' devices have talk (red) and listen (green) buttons on the right hand end of the bar. Clicking on these buttons will turn off the talk or listen; clicking again on the button will turn it back on.

This feature does not operate on split label ports.

The key groups have a panel on the end indicating whether the group is active talk (red) or active listen (green). The talk or listen status of a key group cannot be changed by Production Maestro.

Configure Palette

All the valid port devices on the matrices connected to are displayed in the canvas area. Port devices that are to be assigned to conferences can then be dragged onto the palette to make them available for assignment to conferences in assignment mode. It is not possible to make an assignment in this mode.
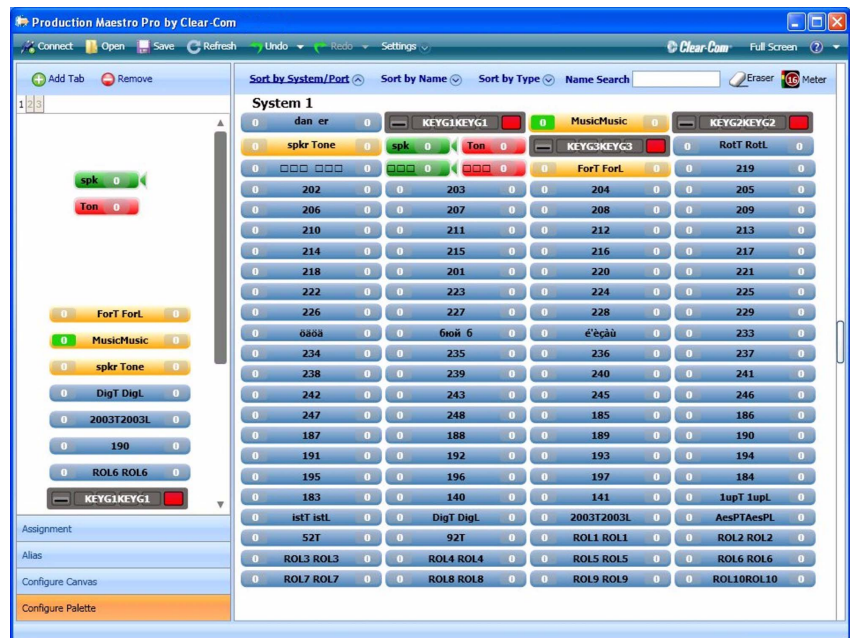
Figure 1-34: Available Port Devices On Canvas

The default palette has three tabs providing three separate sets of devices that can be placed on the palette and assigned to conferences. When Pro mode is enabled an additional control bar is

displayed above the tabs allowing tabs to be removed and added. There is no limit to the number of tabs that can be added but adding an excessive number of tabs (100+) may impair the performance of the PC.

To select a set of devices click on the tab at the top of the palette.

The list of available devices shown on the canvas that can be assigned to the palette can be sorted by System and Port, Name or Type using the soft toolbar at the top of the canvas. To sort by one of the options click on the required sort button.

Alternatively a name can be searched for by entering a search string in the "Name Search" dialogue. As each character is entered the device list is filtered to match the search string. For example, if the first character entered is "d" all devices beginning with "d" will be displayed. If the next character entered is "a" then only devices with names beginning with "da" will be displayed. The name search facility is not case sensitive.

Eraser

Pro Mode Only

The Eraser (Pro mode only) is used to reset a conference to its original ECS defaults or to clear a conference of existing members when it is overwritten by a preset conference. To use this function drag and drop the Eraser into the assignment palette with the devices. Multiple copies of the Eraser may be placed in the assignment palette, for example in different tabs. Erasers can be removed from the assignment palette by dragging and dropping them onto the main canvas.

Figure 1-35: Eraser Drag and Drop

Monitors Operation

All ECS split label ports are displayed as pairs of Listen and Talk/Listen monitors in the Configure Palette mode. They are also displayed as 4-Wire ports.

Figure 1-36: Split Label Monitors

When a split label port is added to the palette, the fact that it is a monitor is stored as part of the palette configuration.

When a monitor is added to a conference it is automatically added as a listen-only member.   If a split label monitor port is added to a conference Production Maestro will add it as a monitor/ident pair.

If a split label port intended not to be used as an ident/monitor pair port (non-monitor) is added to a conference, it will be added as TL (Talk/Listen), so it will not be shown as a monitor. If it is changed to a L (listen) member, it will not be shown as a monitor. However if the configuration is reloaded, it will be shown as a monitor at that point.

The input and output levels for monitors are set in the same way as for ports and panels.

Disconnected Indication

The disconnected label ('?????') is displayed on conference members when Production Maestro is not connected to a matrix and therefore has no port information to apply to the current configuration.

Zoom Display

The Zoom display at the bottom right of the screen (see Figure 1-13) displays the current zoom level of the display.

4-WIRE VIEWER

A 4-wire viewer-monitor is provided by default in the Canvas Configuration under the "Other" tab to allow a 4-wire port to be monitored and the connections to that port modified.

In order to use the 4-Wire Viewer it must be dragged and dropped onto the canvas in 'Configure Canvas' mode in the same way as a conference.   The 4-Wire viewer allows the user to visually monitor routing to/from a 4-Wire port and to assign 4-Wires to 4-Wires (sometimes known as XY routing).

Unlike conferences shown on the canvas, 4-Wire viewers can have their target changed in the assignment mode.
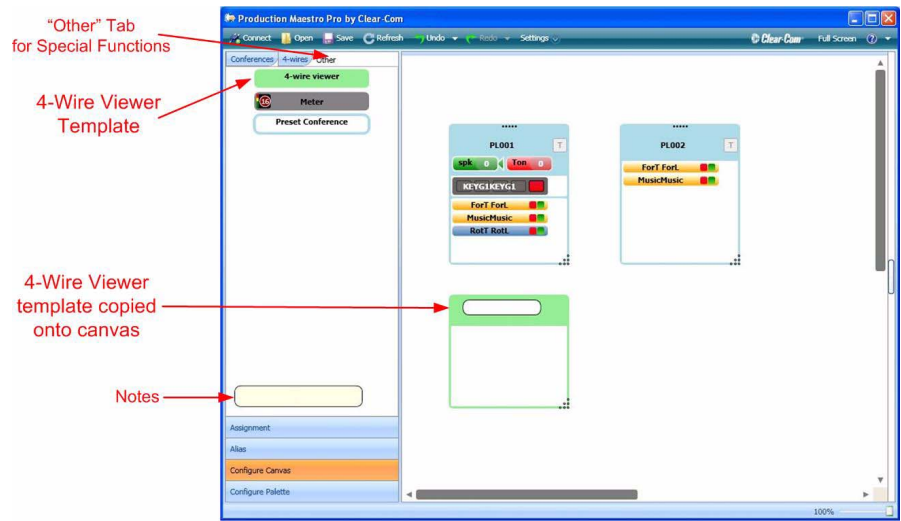
Figure 1-37: 4-Wire View Template (includes Pro features)

Once the 4-Wire Viewer has been dropped on the canvas the mode can be switched to 'Assignment' mode for use.

To make a port a monitored port it is dragged from the palette and dropped onto the 4-Wire viewer. When this is done all the conferences the port is a member of are displayed in the 4-Wire viewer together with a list of all the ports that it has connections to.

If an additional port is assigned to one of the conferences that the monitored port is a member of then that new port will also be displayed in the connections list of the 4-Wire viewer for the monitored port.
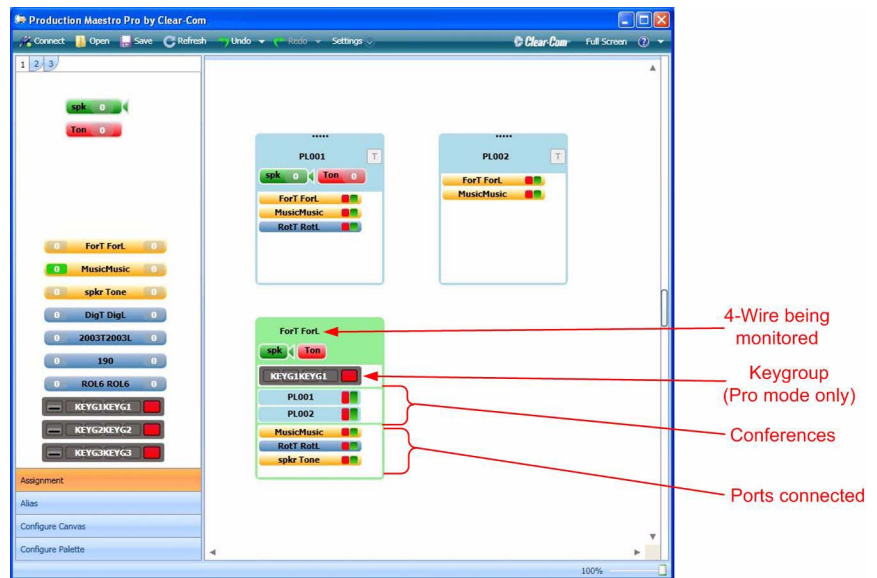
Figure 1-38: 4-Wire Viewer Monitoring a Port

Additional ports can be connected to the port being monitored by dragging and dropping the required port into the 4-Wire Viewer. These ports appear in the 4-Wire Viewer list and a new talk and listen crosspoint will be made between the new port and the monitored port. The matrices will be updated by Production Maestro with the new configuration.

The effects of dragging and dropping a new port into a 4-Wire Viewer list differs depending on whether the left or right mouse button is used to select the port. The left mouse button always performs the default operation while the right mouse button performs the non-default operation.

- If the left mouse button is used to select and drag a port from the palette to the destination 4-Wire Viewer it will be added to that viewer without affecting any other 4-Wire Viewer.

- If the right mouse button is used to select and drag a port from the palette to the destination 4-Wire Viewer it will be exclusive to the destination viewer and will be removed from any other viewer it may be listed in.

The talk and listen properties of the new port can be changed by clicking on the talk or listen buttons as with ports in conferences.

Ports that have been added to the monitored port in the 4-Wire Viewer can also be disconnected from the monitored ports by dragging the port out of the viewer and dropping it on an empty area of canvas or back in the palette.

More than one instance of the 4-Wire Viewer can be placed on the canvas so it is possible to use this to monitor a number of different ports simultaneously.

An alias can assigned to a 4-Wire by dragging and dropping an Alias from the Alias palette onto the viewer in the same way as conferences.

If the Production Maestro configuration is saved to a ccr file with 4-Wire viewers present they will also be saved with any ports being monitored and restored when the ccr file is opened.

Notes

Pro Mode only

The Notes template (Pro mode only) is available under the 'Other' tab in 'Configure Canvas' mode and allows operator notes to be added to the canvas. To enter a note select the template and type in the required text and then drag the note onto the canvas. The note will remain fixed on the canvas in 'Assignment' mode in the same way as conferences and 4-Wire viewers.

To remove a note from the canvas simply drag and drop the note onto the palette in 'Configure Canvas' mode.

Remote Crosspoints Display

Production Maestro will display remote crosspoints in the 4-Wire Viewer in the same way as local crosspoints i.e. crosspoints to devices in the 4-Wire Viewer list remote to the system or systems that Production Maestro is connected to.

CONFIGURING AN IFB

Production Maestro can be used to manage IFB setups dynamically. To use Production Maestro to manage IFBs all IFB destinations, program feeds and interrupt sources must first be defined in ECS and downloaded to the matrix. All the IFB destinations (normally 4-wire ports) must have 'Global IFB' under 'Advanced Settings' and 'Global Settings' set to 'True' in ECS and the audio dimming level configured.

To create an IFB system comprising a IFB destination and program feeds drag the IFB destination to an empty 4-Wire Viewer so that it becomes the monitoring port. The program feeds are then added to the 4-Wire Viewer which is now attributed to the IFB destination port.
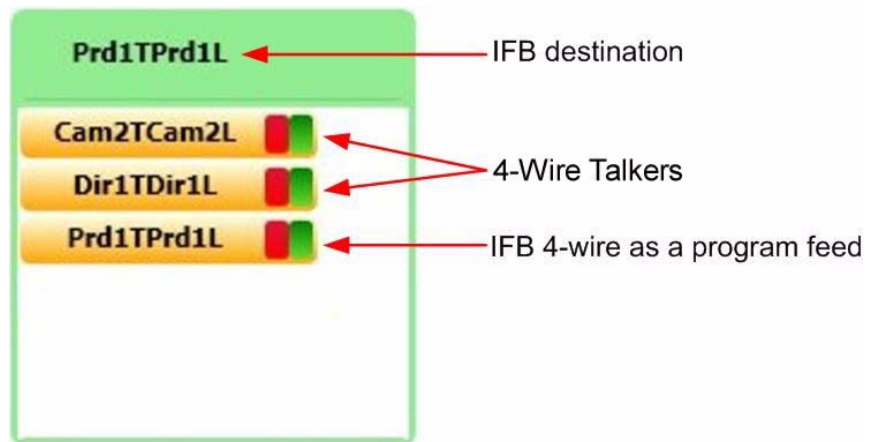
Figure 1-39: 4-Wire Viewer Configured as an IFB

With this configuration the program feeds placed in the 4-Wire Viewer will be heard by the IFB destination. If a talk key on a panel that is assigned to the IFB destination (IFB source) is selected an audio path is established between the panel and the IFB destination and the program feeds will be dimmed and the panel audio will be heard by the IFB destination as long as the audio path is present.

If the IFB destination is also a member of a conference then the conference will be added to the 4-Wire viewer and the conference audio will be heard by the IFB destination.

The program feed dimming level when IFB source audio is present is specified in ECS when the IFB destination is set up.
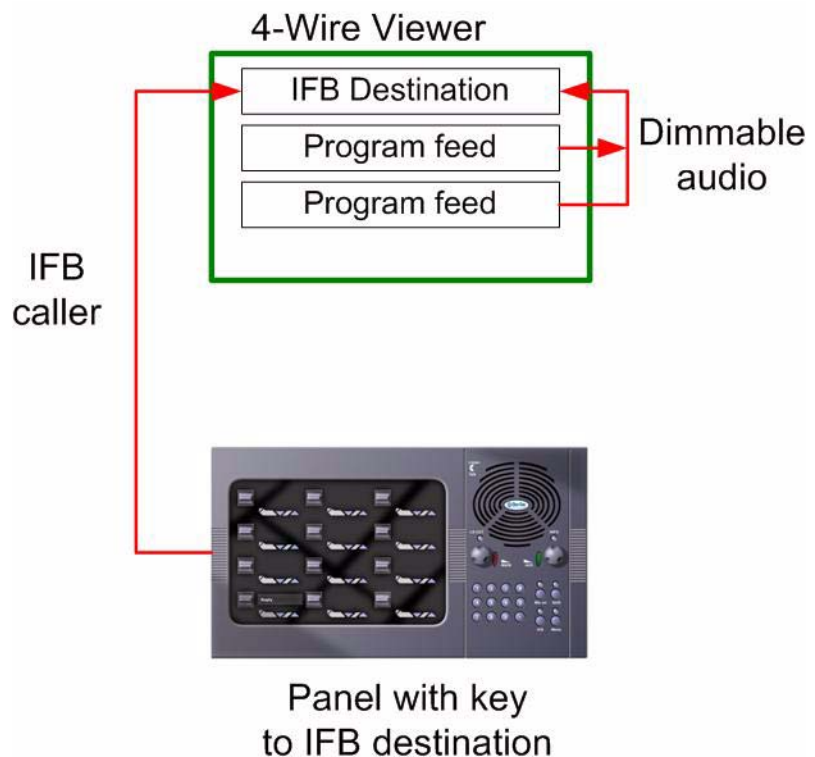
Figure 1-40: IFB Setup in Production Maestro

AUDIO LEVEL METERING (CLEAR-VU ®)

Production Maestro V5.2 includes a new facility to meter audio levels for conferences and 4-Wire ports in real-time. This facility normally requires at least one LMC-64 Audio Meter card to be fitted to the matrix although limited use is possible without an LMC-64 card (see "Associated Meter Port"). This new facility is called Clear-Vu ®.

The number of audio meters provided by an LMC-64 card can be configuration to 16, 32, 48 or 64 in ECS and the total number of available meters will be displayed by Production Maestro. Each time a meter is used the count will be updated on all Production Maestro clients. The audio level information is broadcast by the LMC-64 cards so the Production Maestro clients must be on the same network as the LMC-64 cards unless switches or routers are configured to forward the broadcast data between networks. Production Maestro does not require the IP address of the LMC-64 card.

The same audio meter data can be used by multiple Production Maestro clients so multiple assignments of the same audio meter will not use additional meters.

The use of meters consumes system resources so the more meters displayed in Production Maestro, the more load the PC will be subject to. If extensive use is being made of audio level metering a minimum specification PC may not be suitable.

When performing cross-system metering in a fiber-linked system (i.e. the point being metered and the EMC card are in different matrices) fiber channels will be used. Therefore it is advisable to place the EMC card in the matrix where most metering is likely to take place.

Note: It is not possible to perform output level metering of ports that are not on the same system as the EMC card.

- Input meters display the audio level into the matrix from a port, after input level adjustment has been applied.

- Output meters display the audio output level from the matrix to a port after output level adjustment has been applied.

- Conference meters display the mixed audio level.   If their own output level is set to 0db conference members will hear it.

- The meter setups are saved as part of the Production Maestro configuration in the ccr file.

- Audio level meters can be added to 4-Wire ports in the palette in a reduced format.

To Add a Meter to a 4-Wire on the Palette

Select Configure Palette mode. An audio meter control will be displayed on the toolbar at the top of the canvas area next to the eraser.

Figure 1-41: Toolbar Showing Audio Meter Control

Add the required 4-Wire port to the palette if it is not already present.

To add an input meter drag the meter control to the left-hand-side of the 4-Wire in the palette. The meter display will appear at the top of the 4-Wire.

To add an output meter drag the meter control to the right-hand-side of the 4-Wire in the palette. The meter will appear at the bottom of the 4-Wire.
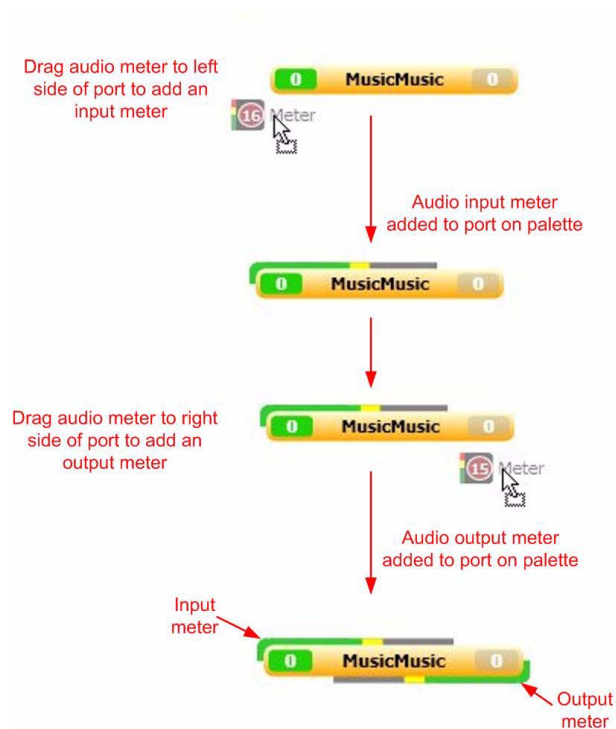
Figure 1-42: Adding Audio Meters to a 4-Wire on the Palette

To remove a meter from a 4-Wire port on the palette the user must be in 'Configure Palette' mode. Use the mouse to drag the audio meter away from the 4-Wire port and drop it on the palette.

To Add a Meter to a 4-Wire on the Canvas

A new type of 'Fixed 4-Wires' has been introduced in release V5.2. Unlike the 4-Wire viewer it is not possible to change the 4-Wire attached to the Fixed 4-Wire viewer once it has been added to the canvas.

Note: It is not possible to add meters to the 4-Wire viewer introduced in previous versions of Production Maestro.

Fixed 4-Wire viewers are displayed in 'Configure Canvas' mode under the '4-Wires' tab. All the 4-Wire ports present in the system configuration will be shown under the '4-Wires' tab except 4-Wire ports configured as monitors or idents.

Figure 1-43: Fixed 4-Wire Viewers on Palette

To add an audio meter to a fixed 4-Wire:

1. Select Configure Canvas mode.
2. Add the desired fixed 4-wire to the canvas by selecting the "4-wires" tab and dragging to the required 4-Wire to the canvas.
3. Select the "Other" tab to show the Meter control
4. To add an Input Meter, drag the Meter control to the left-hand-side of the fixed 4-wire on the canvas. The meter will appear to the left of the 4-wire.
5. To add an Output meter, drag the Meter control to the right-hand-side of the fixed 4-wire on the canvas. The meter will appear to the right of the 4-wire.
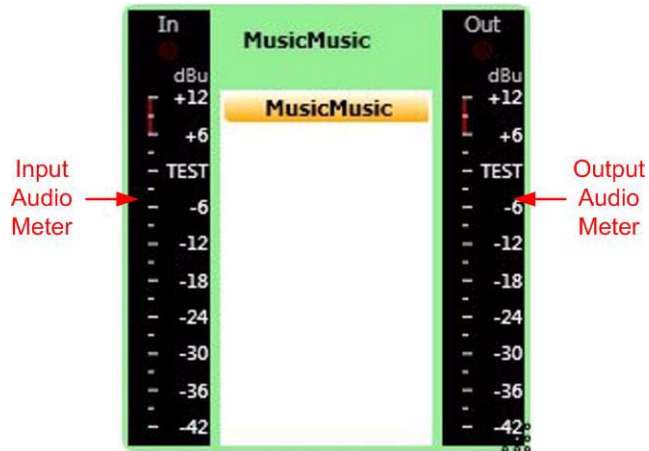

Figure 1-44: Fixed 4-Wire with Meters

To remove a meter from a Fixed 4-Wire:

1. Select 'Canvas' mode.
2. Select the meter to be removed.
3. Drag the meter away from the fixed 4-Wire and drop it onto the canvas.

To Add a Meter to a Conference on the Canvas

Only output meters can be added to conferences to indicate the audio level being heard by the members of the conference. To add a meter to a Conference:

1. Select Configure Canvas mode.
2. Add the desired conference to the canvas by selecting the "Conferences" tab and dragging the required Conference to the Canvas.
3. Select the "Other" tab to show the Meter control.
4. Drag the Meter control to the conference on the canvas. The meter will appear to the right of the conference.
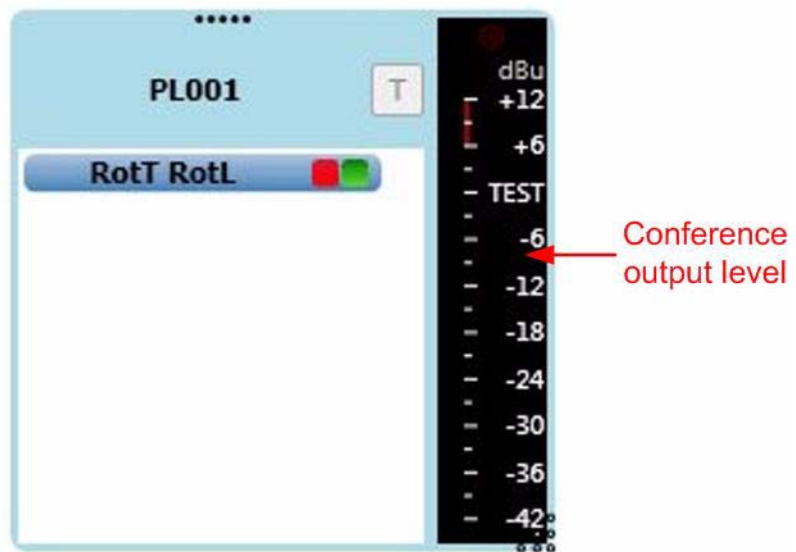
Figure 1-45: Conference with Meter

To remove a meter from a Conference:

1. Select 'Canvas' mode.
2. Select the meter to be removed.
3. Drag the meter away from the Conference and drop it onto the canvas.

Cursor Meter

The cursor meter provides a single large meter, docked on the right-hand-side of the screen, which can be used to dynamically meter different points while in assignment mode.

To display the cursor meter click on the button on the right side of the canvas. To hide the cursor meter click on the button again.
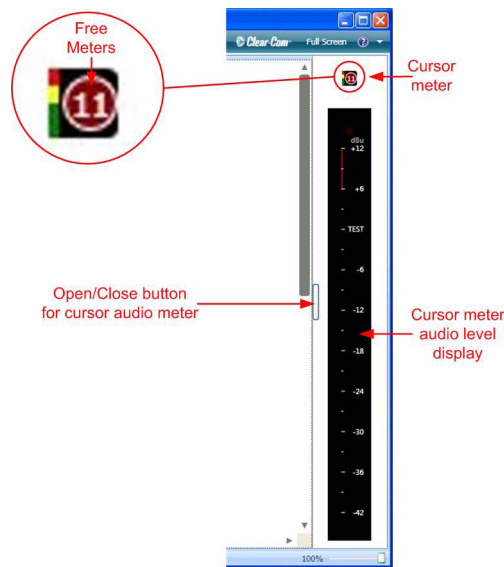
Figure 1-46: Cursor Meter Display

Unlike the fixed canvas meters (see "To Add a Meter to a 4-Wire on the Canvas") the cursor meter allows metering of 4-wires placed in a 4-wire viewer.

To use the cursor meter:

1. Place the mouse pointer over the cursor meter and left-click. The mouse pointer will change to indicate that cursor meter mode is now in operation.

2. Hover the cursor over the point you wish to meter:

   - to meter the input of a palette 4-wire, hover over the LHS of the 4-wire.

   - to meter the output of a palette 4-wire, hover over the RHS of the 4-wire.

   - to meter the input of a canvas fixed 4-wire, hover over the LHS of the 4-wire.

   - to meter the output of a canvas fixed 4-wire, hover over the RHS of the 4-wire.

   - to meter the input of a 4-wire placed in a 4-wire viewer on the canvas, hover over the LHS of the 4-wire viewer.

   - to meter the output of a 4-wire placed in a 4-wire viewer on the canvas, hover over the RHS of the 4-wire viewer.

   - to meter a canvas conference, hover over the conference.

After a short delay (500ms) the title above the large meter on the right of the screen will change to match what is being hovered over and metering will begin. To stop metering, move the cursor to a blank area of the screen and after a short delay the metering will stop.

Restricting Cursor Metering

It may be desirable to restrict operators from using the cursor meter to prevent unnecessary usage of system resources.

A user restrictions option to prevent cursor metering is available to administrators. If this option is selected it is saved as part of a Production Maestro configuration file (see "Restricting Cursor Metering" on page 1-39).

When a non-administrative user loads a configuration file with cursor metering disabled the cursor meter will be hidden and the user will not be able to use the cursor meter.

Running out of Meters

It is still possible to attempt to assign meters to a 4-Wire port or conference when zero free meters are reported. This is because the 4-Wire port or conference may already have a meter assigned to it and the audio level data is already being broadcast. In this case a new meter does not need to be assigned to the target.

However if an attempt is made to assign a meter that requires an additional meter and no free meters are available, a message is shown to the user. No attempt is made to automatically add the meter if a meter later becomes available - the user must repeat the assignment of the meter at a later point to add a new meter.

SETTINGS

Associated Panel

This feature is useful for enabling the Production Maestro user to communicate with any current conference using a local panel assigned as an Associated Panel.

Clicking the 'Settings' button on the toolbar toggles the 'Associated Panel' display on or off at the top of the canvas.
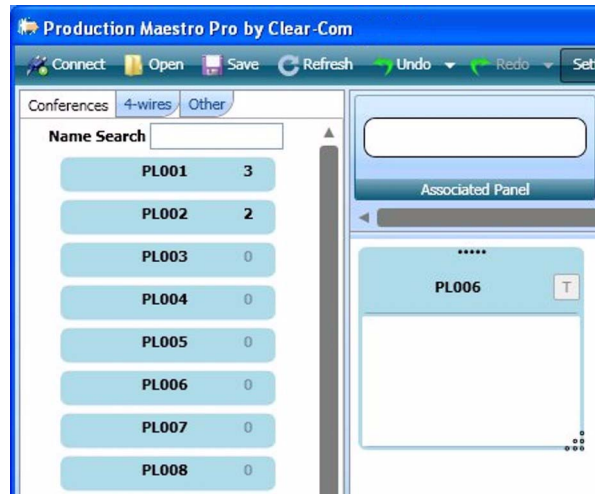
Figure 1-47: Associated Panel Setting

A panel or port can be dragged and dropped from the palette onto the Associated Panel and the settings can be adjusted as for a normal panel.

Once a panel has been set up as an associated panel it is possible to talk to any conference on the canvas from the associated panel by clicking and holding the 'T' button (talk) on the top right of the conference display (see Figure 1-33 on page 1-26). When this is done the associated panel is added to the conference list until the 'T' button is released in Production Maestro.

Figure 1-48: Associated Panel Talking to a Conference

Associated Meter Port

The associated meter port allows a 4-Wire port configured as Direct to be used as a single audio meter connected directly to the PC running Production Maestro.

To set up an Associated Meter Port drag the 4-Wire port to be used as the audio meter from the palette onto the Associated Meter Port.
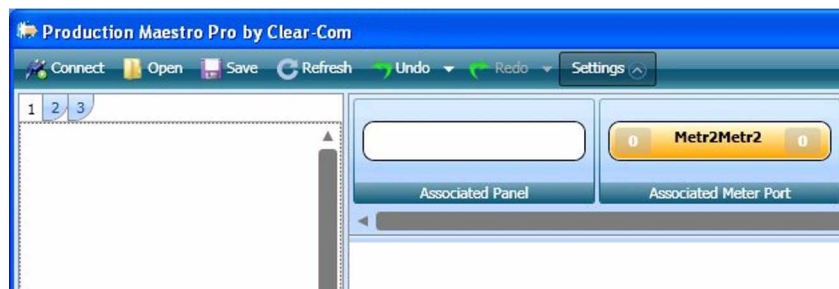
Figure 1-49: Associated Meter Port Assigned

Once the port has been assigned it will be treated as audio meter zero. For the audio meter to be used by Production Maestro the port must be connected to the audio input device of the PC running Production Maestro (usually 3.5mm jack for a microphone).

Table 1-1 shows the pin connection from a 4-Wire port (RJ45) to a 3.5mm audio jack which is plugged into the audio input (microphone) port on a PC.

Matrix 4-Wire Port	PC Audio 3.5 mm jack
1	N/C
2	N/C
3	N/C
4	Tip
5	Ring
6	N/C
7	N/C
8	N/C

Table 1-1: Pin Connection for 4-Wire to PC Audio Cable

This type of connection should not be used if an LMC-64 card is present as the meters on the LMC-64 also start at zero, resulting in a duplicate meter.

Prompt When Erasing Conferences

Pro Mode only

The erase tool (Pro mode only) is used to reset conferences to the ECS default, erasing any changes made by Production Maestro. When the erase tool is dragged to a conference a prompt is displayed requesting confirmation of the change.
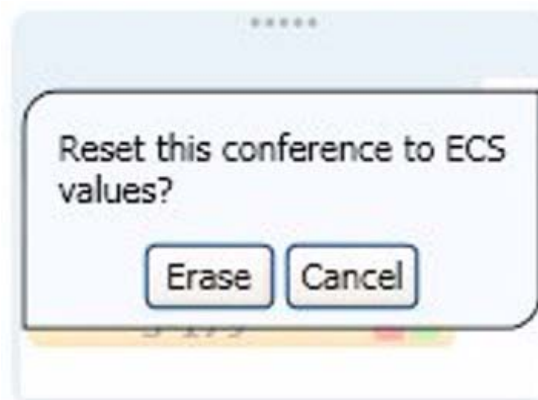
Figure 1-50: Erase Conference Confirmation (Pro mode only)

Click on the 'Cancel' button to abandon the operation and leave the conference unchanged. Clicking on the 'Erase' button will continue the operation and return the conference to the default ECS state.

Prompt When Adding Item to Conference that is Already in a Different Conference

If this setting is checked Production Maestro will display a prompt whenever the user attempts to assign an item from the assignment

palette to a conference when it is already present in a different conference.

Figure 1-51: Item Assignment Prompt (Pro mode only)

If the 'Cancel' button is selected the item assignment will be cancelled. If the 'Apply anyway' button is selected the assignment will be completed.

If a port is present in multiple conferences all the audio from those conference will be present on that port, potentially making it impossible for the port to be used to communicate with a single conference. Any audio input from the port will be output to all the conferences it is present in which may also be unwanted.

Eraser Leaves Monitors, Idents and Alias name

Pro Mode Only

Selecting this setting (Pro mode only) modifies the action of the eraser on conferences so that it will not delete monitors and idents added by Production Maestro from conferences. If the conference name has been modified by the use of an alias in Production Maestro the alias name will be retained. All the other effects of the erase will remain the same.

USER RESTRICTIONS

If Production Maestro is in Pro mode and has been started with the "Admin" option additional settings are available (see the section on command line options in the Installation chapter). These settings enable an administrator to restrict the changes that an user can make to a preset layout (.ccr file). These settings are saved in the layout file.

Once user restrictions are saved in the layout file they can only be changed or removed by starting Production Maestro with the "Admin" option and making the required changes and then saving the layout file again.

If Production Maestro is not started with the "Admin" option the User Restrictions settings menu is not displayed and the settings cannot be changed.

In this way a system administrator can manage the activities of a number of users by assigning them specific setups and elements that

they can change without being able to modify any other aspect of the system.
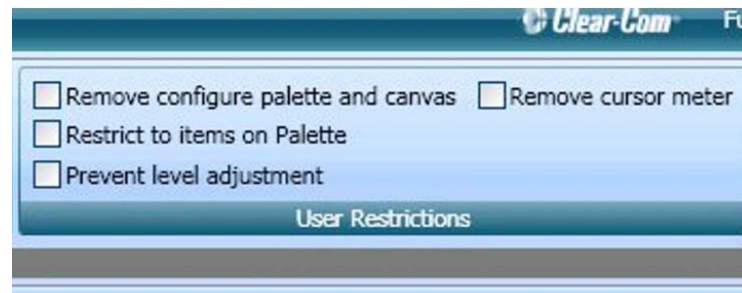
Figure 1-52: User Restrictions in Admin Mode

Remove Configure Palette and Canvas

Pro Mode Only

This user restriction is only displayed if Production Maestro is running in Pro mode and has been started with the "Admin" option. If this restriction is active only the Assignment and Alias modes will be available to the user. The user will not be able to add conferences, 4-Wire Viewers or preset conferences to the canvas or remove them from the canvas. The user will also be unable to use the 'Configure Palette' mode to change the devices available on the palette.

The user will have full control of the conferences and 4-Wire Viewers already on the canvas and will be able to add elements from the palette to conferences and 4-Wire Viewers. The user will also be able to remove elements from conferences and 4-Wire Viewers even if those elements are not present on the palette and have been assigned to conference or 4-Wire Viewer by another user. The user will also be able to assign Aliases to conferences and 4-Wire Viewers on the canvas.

This setting will also present the user from changing the associated panel or assigning an associated panel. Associated panels may be assigned at run time by a command line option (see the section on command line options in the Installation chapter).

In this mode the Settings button is not available on the toolbar so the user will not be able to change the prompts or theme settings.
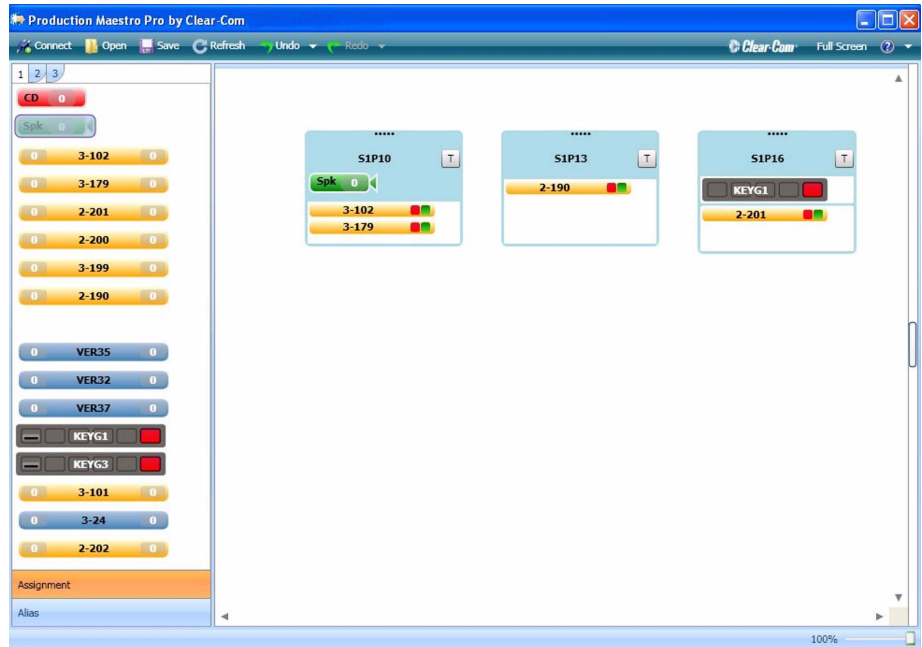
Figure 1-53: Layout File with Assignment Mode Restricted

Only the Assignment and Alias mode tabs are present and Settings are not present on the toolbar.

Restrict to Items on Palette

Pro Mode Only

This setting option is only displayed if Production Maestro is running in Pro mode and has been started with the "Admin" option. If this user restriction is active the user is prevented from modifying conference and 4-Wire Viewer members that are not present on the user's palette. Conference members visible on the canvas that are not on the palette will be displayed semi-transparent to indicate that they cannot be modified.

This user restriction does not disable the Prompts and Theme settings which can be accessed via the settings button on the toolbar.

The user has access to all the configuration modes and can add or remove an associated panel.
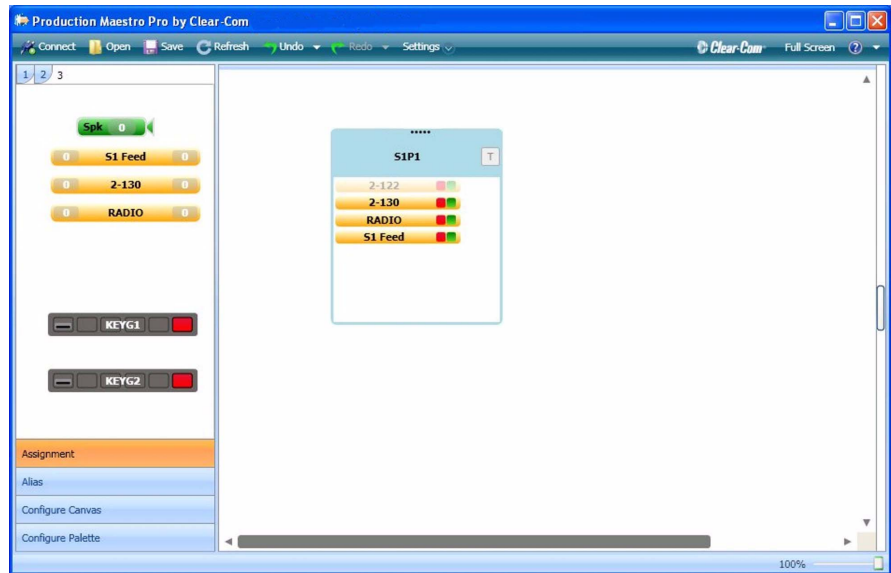
Figure 1-54: Layout File with Palette Restricted

The conference member that is not available on the palette is shown semi-transparent to indicate that it cannot be modified by the user due to the user restriction.

Prevent Level Adjustment

Pro Mode only

This setting option is only displayed if Production Maestro is running in Pro mode and has been started with the "Admin" option. If this user restriction is active users not in Admin mode will be unable to alter port input or output levels.

The visible effect of the restriction is that when the mouse wheel is used to adjust the levels they will appear to change and then revert back to the original setting as soon as the adjustment ceases. No level change will be sent to the matrix.

Remove Cursor Meter

Pro Mode only

This setting option is only displayed if Production Maestro is running in Pro mode and has been started with the "Admin" option. If this user restriction is active users not in Admin mode will not have access to the dynamic meter located in the right of the screen.

This meter allows an authorized user to dynamically meter audio levels by clicking on the meter toggle button and then hovering the meter over the item to be metered. The audio level will be displayed on the scale on the right of the screen.

Theme Selection

Pro Mode only

The 'Professional' checkbox in the 'Theme' section allows Production Maestro to be set to a darker screen color scheme that may be desirable for use in areas with low light levels.
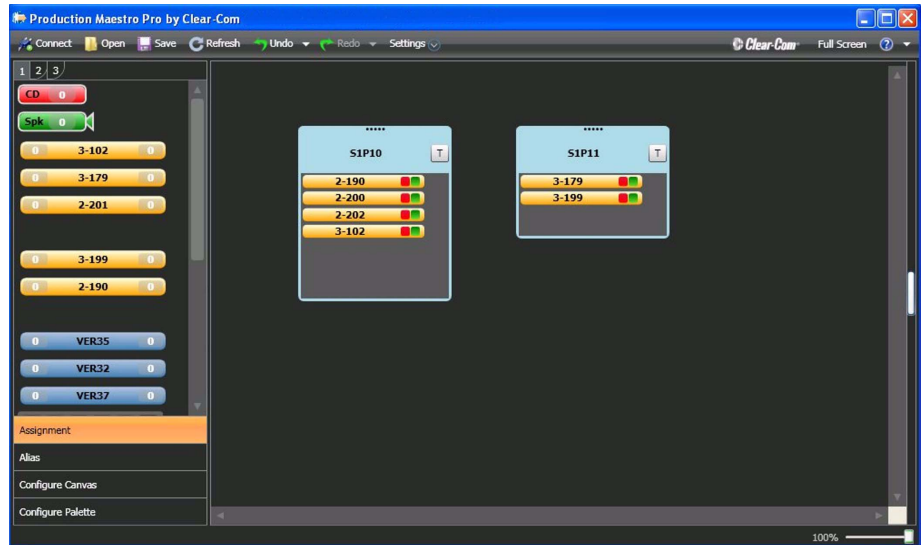
Figure 1-55: Production Maestro Alternate Screen Colors

This option is available in all Pro modes except when the assignment user restriction is in force and the settings menu is not available.

All the other functions of Production Maestro remain unchanged in the 'Professional' screen color scheme.

2 INSTALLATION

INSTALLING PRODUCTION MAESTRO

DATA BACKUP

If Production Maestro is being installed as an update to an existing Production Maestro installation it is recommended that all the Production Maestro layouts are backed up by exporting them to Clear-Com Configuration files. Production Maestro configurations are saved as .ccr files. These should be placed in a directory outside the directory tree used by the currently installed Production Maestro. They can also be backed up to external media such as CD or DVD.

To export the ECS system configurations they should be exported by opening the 'My Systems' and selecting the 'Export Layout' option on the My Systems toolbar. The directory and filename can then be selected and the configuration saved as a.ccn file by clicking on the 'Save' button in the 'Save as' dialogue.

SOFTWARE INSTALLATION

Ensure that the installer has full Administrator rights as these are required in order to install Production Maestro.

1. Insert the installation media into the computer's CD/DVD drive.
2. The installation media should autorun and display a menu. Select the Production Maestro installation option from the menu to start the installation.
   If the installation media does not autorun navigate to the "Production Maestro" folder and select and run the file "setup_productionmaestro.exe" to start the installation manually.
3. Follow the instructions on the screen to install the software described below in "Production Maestro Installation Details" on page 2-2.
4. When the installation is complete, a message appears on the screen to verify that the program has been successfully installed on the computer. Click on the 'Finish' button.

PRODUCTION MAESTRO INSTALLATION DETAILS

After starting the installer will check that the required support files are available and that the version of Windows present will support Production Maestro.

The installer will then display the first installation dialogue screen.
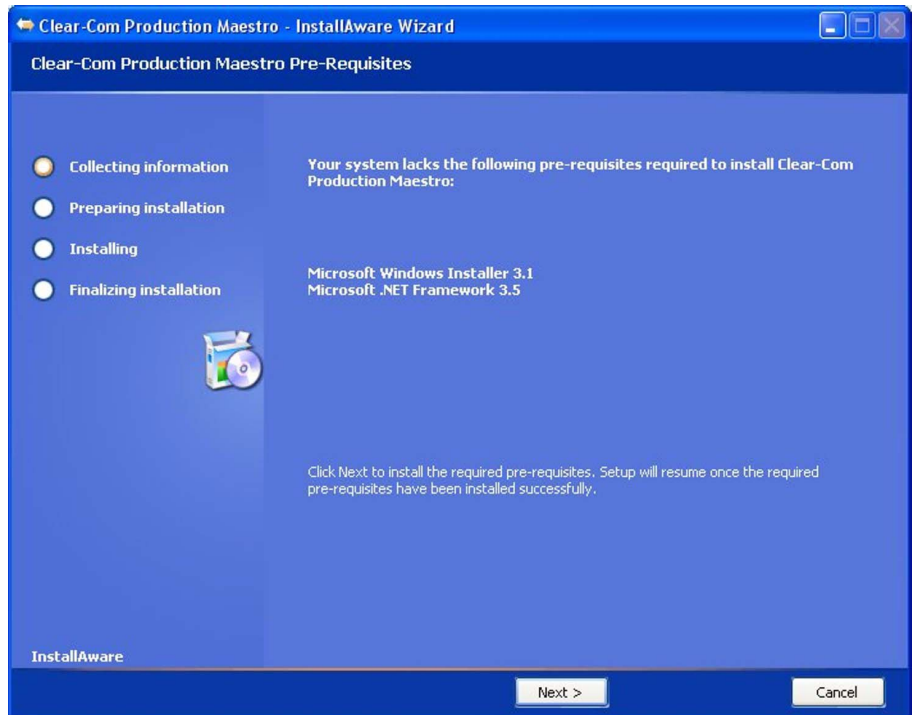
Figure 2-1: Production Maestro Installation Start

Click on the 'Next' button to continue. The installer will display the software license agreement.

Figure 2-2: Production Maestro Software License

Click on the acceptance checkbox to accept the license conditions and then click on 'Next' to continue with the installation.

The installer will display the options for the installation path and the space requirements.
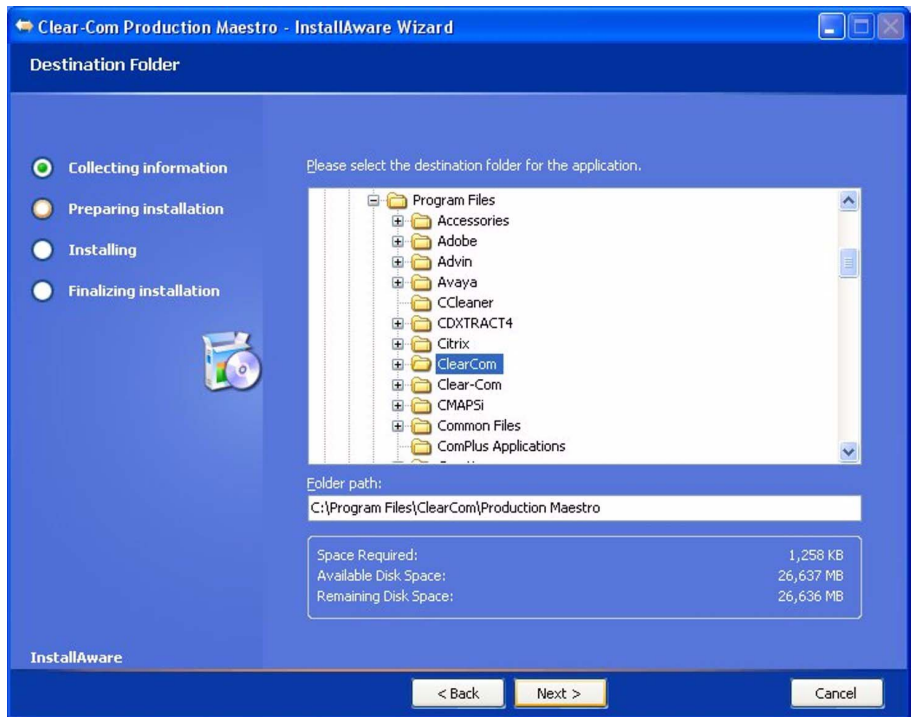
Figure 2-3: Production Maestro Installation Path

The installation folder can be changed by editing the folder path but it is recommended that the default path is accepted.

Click on the 'Next' button to accept the path and continue with the installation. The installer will display the start group for Production Maestro and the user setup.
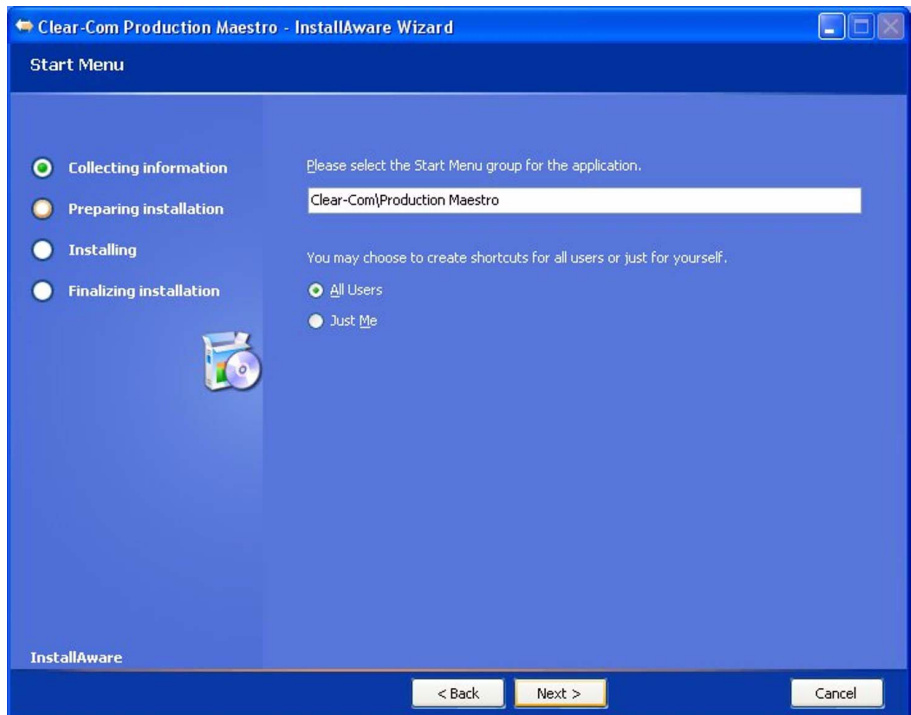
Figure 2-4: Production Maestro Start Setup

The Start Menu group can be edited if required to change it from the default group of Clear-Com. It is recommended that the default value is used.

A shortcut to Production Maestro will be created either for the user installing the software or for all users. This is selected by clicking on the appropriate radio button. Click on the 'Next' button to continue to the install confirmation screen.
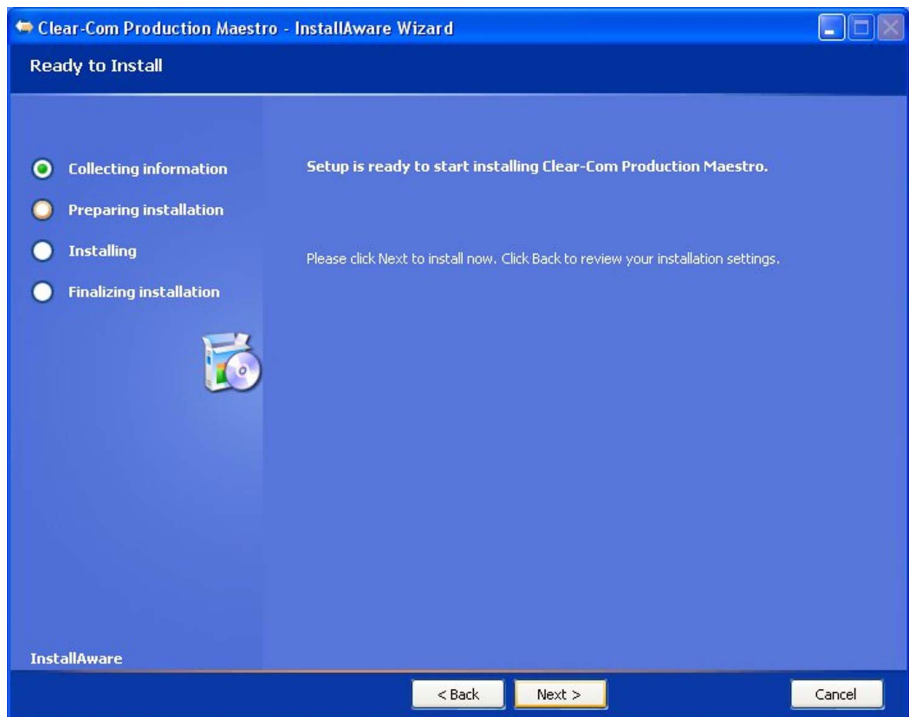
Figure 2-5: Production Maestro Installation Confirmation

Click on 'Next' to proceed with the installation or 'Back' to go back and change installation options.

If 'Next' is selected the installation will be carried out. Any support software will also be installed.
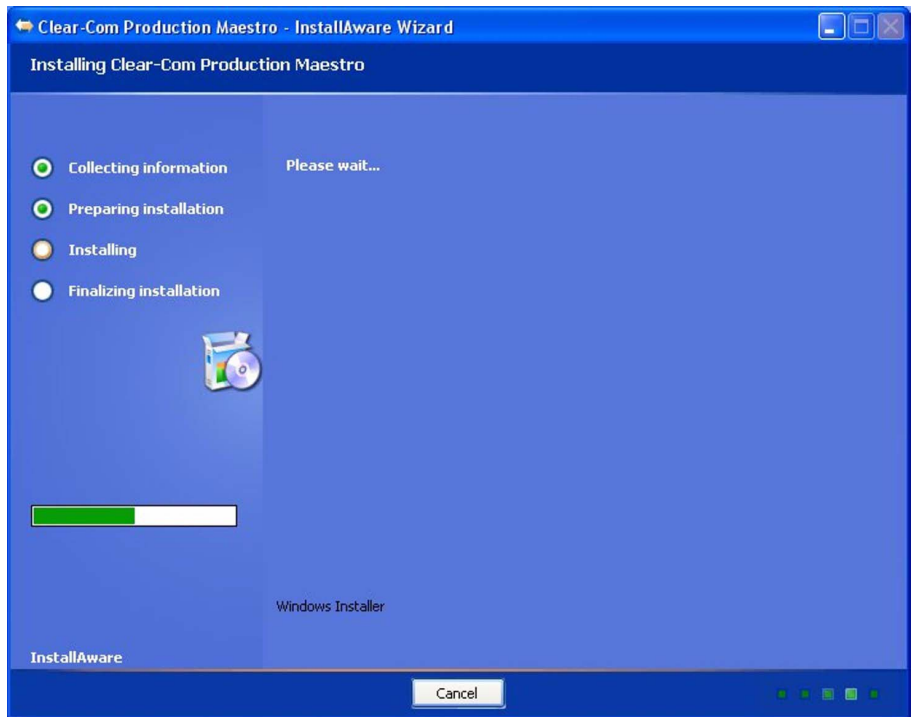
Figure 2-6: Production Maestro Installing

On completion of installation the final installer screen is display giving the user the option to start Production Maestro immediately on exiting the installer.
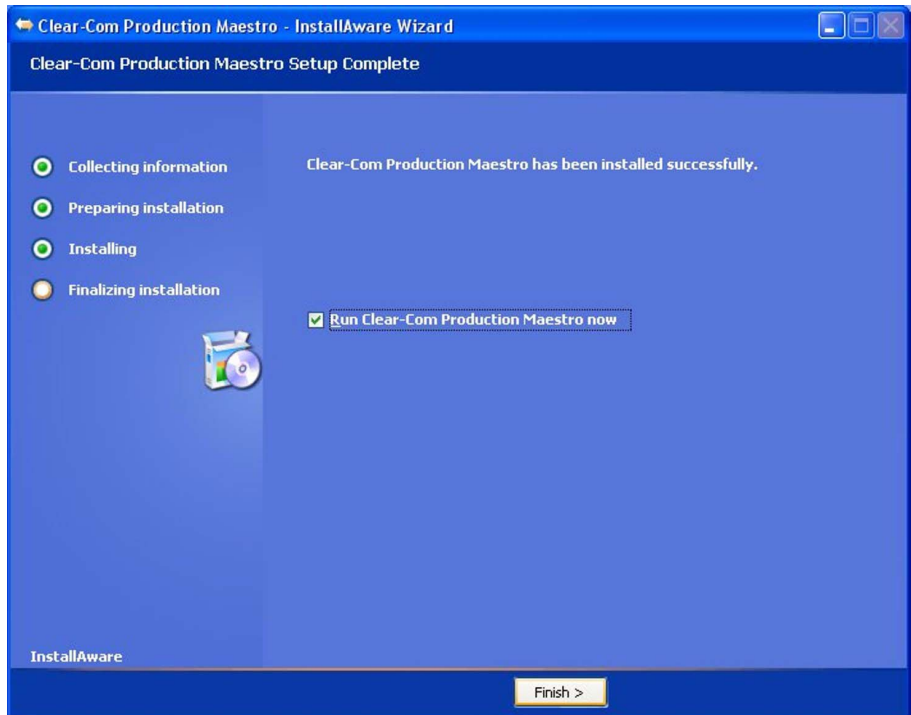
Figure 2-7: Final Production Maestro Installer Screen

If the option to run Production Maestro immediately is left checked the introductory Production Maestro screen will be displayed.
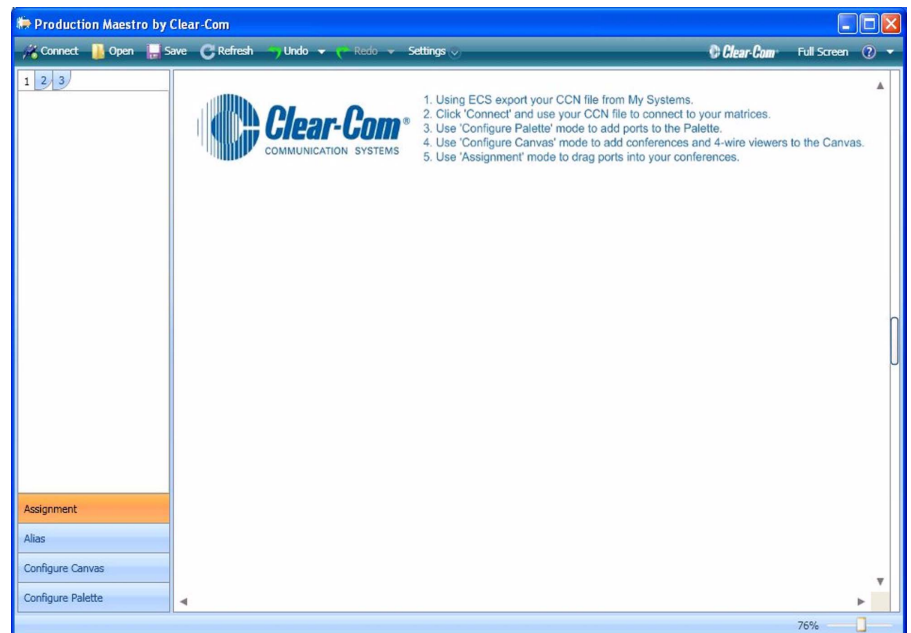
Figure 2-8: Production Maestro Startup Screen

STARTING THE PRODUCTION MAESTRO APPLICATION

Production Maestro is now installed on the computer.

- If the firewall configuration is successful, "Updated XP Firewall" appears in the dialog box.
- If the firewall configuration is not successful a message will be displayed in the dialog box referring the user to more information.
- Windows XP may show a Firewall dialogue box asking whether to Block or Unblock Production Maestro. Select Unblock Production Maestro.

In order to use Production Maestro the ECS configurations should be exported from 'Export Project' as .ccn files which can be read by Production Maestro.

Production Maestro can save palette and canvas screen layouts configurations as files with the default filename extension or .ccr . This filename extension can be associated with Production Maestro so that clicking on a .ccr file will automatically start Production Maestro and load the file.

COMMAND LINE OPTIONS

The installer will create entries in the programs menu and optionally these can be copied to the desktop. The Production Maestro command line can include parameters to specify configuration and layout files to be opened on startup and program configuration options.

The Production Maestro configuration options are:

/SIM - runs Production Maestro in simulation mode. An entry to run Production Maestro in simulation mode is automatically created by the installer in the programs menu. By default Production Maestro in simulation mode is emulates a system with a PRO license.

/STANDARD - this option may be added to the /SIM option to force simulation mode to emulate a system with a non-PRO license.

/ADMIN - runs Production Maestro in administrator mode (only valid in Pro mode). This makes some additional settings available that allow a system administrator to place restrictions on user actions. These settings are saved in the layout file. If a layout file has not been saved in administrator mode no user restrictions will be saved.

/LAN2 - uses the Lan2 IP address's to connect to the Linked Set.

/ASSOCIATED-PANEL - this option allows the system administrator to set up a command line that will specify the associated panel to be used. The format of the command line is:

/ASSOCIATED-PANEL=PORT.<system number>.<port number>

for example /ASSOCIATED-PANEL=PORT.1.3 for port 3 on system 1.

/ASSOCIATED-METER-PORT - this option allows the system administrator to set up a command line to specify the port on the matrix that is connected to the PC audio input. This allows Production Maestro to meter an audio level without using an LMC-64 card. The format of the command line is:

　/ASSOCIATED-METER-PORT=PORT.<system number>.<port number>

Different Production Maestro PCs can use the same layout file but different ports for audio metering in this way.

The Production Maestro startup parameters are:

Configuration File - including a system configuration path and filename (.CCN) within/outside (as required for you operating system) the quoted command line causes Production Maestro to automatically load that system configuration file when it is run.

e.g. "C:\Program Files\ClearCom\Production Maestro\Production Maestro.exe C:\Files\system.ccn"

Layout File - including a Production Maestro layout path and filename (.CCR) within/outside (as required for you operating system) the quoted command line causes Production Maestro to automatically load that layout file when it is run.

e.g. "C:\Program Files\ClearCom\Production Maestro\Production Maestro.exe C:\Files\layout.ccr"

LICENSING

All Eclipse matrix sales include a 31 day trial and can be used without a licence on your Eclipse network. After 31 days run-time a passcode licence will be required to continue to use Production Maestro. The passcode license will allow Production Maestro to be used in Standard or Pro mode depending on the license purchased.

Production Maestro licenses are available for up to 10 users per matrix frame in the network. Each matrix that is required to participate with Production Maestro or Production Maestro Pro requires a suitable passcode licence in ECS. Site licences are available. For further information please contact your Clear-Com distributor or Clear-Com sales.The matrix license is input via System Preferences in ECS.

Production Maestro will check the license on the connected matrix or matrices repeatedly during operation. If the matrix license ceases to be available Production Maestro will disconnect from the matrix.

If you need to add more licences after adding participating linked matrices or more Production Maestro users then please provide Sales with a list of all the matrix IDs (from the event log) and new passcodes can be provides for every participating matrix in the linked set.

Normally all the matrices in a linked set being managed using Production Maestro will have the same type of Production Maestro license i.e. Standard or Pro. If Production Maestro finds a mixture of standard and Pro licenses on a linked set warning messages will be displayed highlighted in orange. Production Maestro will only operate in Standard mode until all the matrices are licensed for Pro mode.

In order to obtain a valid license please complete and return the Production Maestro passcode request form at the end of this manual.

3 GLOSSARY

Analog Port Any of the Eclipse matrix's analog input/output RJ-45 connectors that are used to connect cable from the matrix to panels and interfaces. Each "port" connects to a separate audio channel in the matrix intercom system.

Alias label A label that is temporarily assigned and replaces a previously labeled port or conference.

Bus A bus is the channel or path between the components in the matrix along which electrical signals flow to carry information from one component to the next. In the Eclipse matrix the bus is located in the etched surface of the midplane.

Call Signal A call signal is an electronic signal sent from one panel or interface to another. A call signal can be audible and/or visual. Typically a call signal is sent to get the attention of a panel operator who may have turned down their intercom speaker's volume or removed their headset. It can also be sent to activate an electronic relay.

Canvas The assignment area of Production Maestro which can have any user labeled background.

Category-5 cable EIA/TIA 568 category specification relating to network cabling. Shielded category-5 cabling is required for Eclipse matrix wiring.

CellCom Digital wireless communications product. Sold under the CellCom name in USA and as FreeSpeak in Europe and Asia.

Central Matrix The term "central matrix" is used to differentiate the central hardware and software of the intercom system from the connected audio devices. The central matrix consists of:

1. The metal housing for the circuit cards and power supplies.
2. The circuit cards.
3. The power supplies.
4. The rear panel connectors which connect the matrix's hardware to panels and interfaces.

Conference An internal matrix virtual party line or busbar where many panels and interfaces can talk onto or listen from the party line without talking to themselves.

Destination A device such as an intercom panel, beltpack, or interface to which audio signals are sent. The device from which audio signals are sent is called a "source".

Duplex All real-time communication between individuals talking face to face is full duplex, meaning that they can both talk and listen simultaneously. The Eclipse matrices provide full-duplex audio.

ECS Eclipse Configuration Software. Software program that guides the operation of the central matrix circuit cards and connected panels.

Ethernet International standard which describes how information is transmitted across a network. Provides for the efficient organization of network components.

Fiber-optic Cable A fiber-optic cable consists of a glass core covered with a reflective material called "cladding" and several layers of buffer coating to protect the cable from the environment. A laser sends light pulses through the glass core to the other end of the cable.

FreeSpeak Digital wireless communications product. Sold under the FreeSpeak name in Europe and Asia and CellCom name in USA.

Full Duplex Refers to transmission of signals in two directions simultaneously.

IFB "Interruptible Foldback". The term "foldback" refers to sending "program" audio, or some other audio mix, back to announcers while they are on the air. Doing so allows announcers to monitor themselves, other announcers, videotapes of commercials, or some mix of sources, while they on the air. This is typically found in television news and live broadcast events.

Announcers typically wear a small ear piece so they can hear the selected foldback audio mix. When a director wants to give directions to an announcer on air, or to announce changes in the program, the director must "interrupt" the foldback. To do this, the director uses a channel specifically set up to interrupt the foldback audio.

Interface Module A piece of electronic hardware designed to convert the 4-wire signals of a central matrix port to some other form of communication, such as 2-wire party line, telephone, etc. The interface module is connected to a central matrix port. The external non-4-wire device is then connected to the interface module.

ISO The ISO function, short for "panel ISOlation", allows a panel operator to call a destination and interrupt all of that destination's other audio paths and establish a private conversation. When the call is completed the destination's audio pathways are restored to their original state before the interruption.

KeyGroup KeyGroups provide a way of assigning a label to multiple panels simultaneously even within a networked matrix system. Once the KeyGroups have been defined using ECS, all the keys within a KeyGroup can be changed with a single assignment in Production Maestro (Pro mode only).

Label A label is an alphanumeric name of up to five characters that identifies a source, destination, or control function accessed by an intercom panel. Labels appear in the displays of the intercom panel. Labels can identify panels, ports interfaced to other external equipment, fixed groups, party lines, and special control functions.

Multiplexing The process by which two or more signals are transmitted over a single communications channel. Examples include time division and wavelength division multiplexing.

Non-volatile Memory Data stored in the CPU's firmware (ROM) that is not lost when the power is turned off.

Palette The port, keyGroup and Monitor selection screen in Production Maestro.

Panel Also referred to as "station" in some cases (usually older manuals). Any intelligent intercom device connected to the rear-panel analog ports of the central matrix. This term does not refer to devices connected through interface modules.

Party Line A wired shared communication system based on a single screened pair of wires. See the Encore range. Matrix requires the CCI-22 to interface to it.

Port Any of the input/output connections (RJ-45 connectors) on the back panel of the central matrix. These connectors and the attached cables connect the central matrix to remote intercom devices. The term "port" emphasizes that the connection is a "portal" between the central matrix and the remote intercom devices.

Program Any separate audio source that is fed into the intercom channels. In television applications, for example, "program" audio is the audio that is broadcast on air.

Rack Unit or RU Standardized unit of mounting space on a rack panel. Each rack unit is 1.75 inches (44.45 mm) of vertical mounting space. Therefore 1 RU is 1.75 inches (44.45 mm) of vertical mounting space, 2 RU is 3.5 inches (88.9 mm), 3 RU is 5.25 inches (133.35 mm), and so on.

Remote Panel Any intelligent intercom device connected to the back-panel ports of the central matrix. This term does not refer to devices connected through interfaces.

Sidetone The sound of the panel operator's own voice heard in their own earphone as they speak.

Source In this manual, the term "source" refers to a device—such as an intercom panel, interface, or beltpack —that sends audio into the matrix. The device to which audio is sent is called a "destination".

VOX In the Eclipse system, when audio at a panel exceeds a threshold, a light switches on at the panel's port card to visually cue the operator. The threshold level is set in the Eclipse Configuration Software.

V-Series Communications panels used with Eclipse systems providing advanced facilities. Available in rack mount and desktop formats.

ECLIPSE MANUALS

The following manuals are available covering Eclipse products and accessories.

SOFTWARE MANUALS

Eclipse Configuration Software (ECS) Instruction Manual - 810299Z

Eclipse Logic Maestro Instruction Manual - 810414Z

Eclipse Production Maestro Quick Start Guide - 810409Z

Eclipse Production Maestro Installation and User Guide - 810410Z

Eclipse DECTSync Manual - 810412Z

Eclipse Host Computer Interface (HCI) Manual - 810413Z

HARDWARE MANUALS

Eclipse Omega Matrix Instruction Manual - 810290Z

Eclipse Median Matrix Instruction Manual - 810347Z

Eclipse PiCo Matrix Instruction Manual - 810348Z

Eclipse-32 Matrix Instruction Manual - 810315Z

Eclipse Matrix Installation Manual - 810298Z

Eclipse Upgrade Reference Manual - 810377Z

Eclipse V-Series Panels User Manual - 810365Z

Eclipse FOR-22 4-Wire Interface Instruction Manual - 810306Z

Eclipse CCI-22 Party Line Interface Instruction Manual - 810307Z

Eclipse TEL-14 Telephone Interface Instruction Manual - 810308Z

Eclipse GPI-6 General Purpose Inputs Instruction Manual - 810309Z

Eclipse RLY-6 General Purpose Outputs Instruction Manual - 810310Z

DIG-2 Digital Interface Instruction Manual - 810311Z

IMF-3, IMF-102, DIF-102 Interface Module Frame Instruction Manual - 810313Z

Eclipse AES-6 Digital Interface Instruction Manual - 810383Z

Eclipse BAL-8 Isolation Interface Instruction Manual - 810403Z

Eclipse V-Series AES-3 Option Card Installation Instructions - 810388Z

Eclipse V-Series XLR-7M Upgrade Instructions - 810405Z

Eclipse V-Series T-Adapter Installation Instructions - 810406Z

Eclipse FIM-202D Fiber Interface Instruction Manual - 810385Z

Eclipse FIM-102 Fiber Interface Instruction Manual - 810319Z

Eclipse FIM-108 Fiber Interface Instruction Manual - 810291Z

Eclipse 4000 Series II Panels Installation Guide - STA0530Z

Eclipse 4000 Series II Panels User Guide - STA0531Z

Eclipse ICS 1008E/1016E Panels Instruction Manual - 810404Z

Eclipse ICS 102/62 Panels Instruction Manual - 810302Z

Eclipse ICS 2003 Panel Instruction Manual 810303Z

Eclipse ICS 92/52 Panels Instruction Manual - 810301Z

Eclipse i-Station Instruction Manual - 810305Z

Eclipse ICS-21 Speaker Panel Instruction Manual - 810263Z

Eclipse ICS-22 Speaker Panel Instruction Manual - 810264Z

Eclipse ICS-24 Headset Panel Instruction Manual - 810265Z

Eclipse Digital Wireless Beltpack Instruction Manual - 810376Z

LIMITED WARRANTY

This document details the Clear-Com Standard Limited Warranty for all new products for sale within all regions with the exception of Military, Aerospace, and Government (MAG).

EXCEPT AS SET FORTH HEREIN ("LIMITED WARRANTY"), CLEAR-COM MAKES NO OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, NONINFRINGEMENT OF THIRD PARTY RIGHTS, OR FITNESS FOR A PARTICULAR PURPOSE, ALL OF WHICH ARE EXPRESSLY DISCLAIMED.

1. **Standard Limited Warranty.** Clear-Com warrants its products, including supplied accessories, against defects in material or workmanship for the time periods as set forth below provided it was purchased from an authorized Clear-Com dealer or distributor.

   a) Pursuant to this Limited Warranty, Clear-Com will, at its option:

      i)   repair the product using new or refurbished parts, or;

      ii) replace the product with a new or refurbished product.

   b) Remedies: In the event of a defect, the rights detailed in 1 (a) are your exclusive remedies. For purposes of this Limited Warranty, "refurbished" means a product or part that has been returned to its original specifications.

   c) Standard Warranty Period (by Product):

      i)   All Clear-Com brand systems and products, including belt packs, have a Limited Warranty of two years, with the exception of;

         (1) Cables, accessories, components & consumable items have a Limited Warranty of 90 days.

         (2) Any Clear-Com product that has been classified as obsolete at the time of sale has a Limited Warranty of 90 days from sales and will be replaced with the same product or a sales credit will be issued, at the sole discretion of Clear-Com.

         (3) Headsets, handsets, microphones, and associated spare parts, as well as UHF wireless IFB products, have a Limited Warranty of one year.

         (4) UHF WBS Analog wireless intercom systems have a Limited Warranty of three years.

(5) All software products, including Concert (Client and Server), ECS, Production Maestro and Logic Maestro are warranted for one year and shall substantially conform to published specifications. The media on which the Software is furnished is warranted to be free of defects in material and workmanship (under normal use) for a period of one year.

(6) Any Clear-Com products that are listed within the last time buy period have the same Limited Warranty for their type 1.i 1 - 1.i.5 as above.

d) Any Clear-Com product that is repaired or supplied as a replacement under the terms of this Limited Warranty shall inherit the remaining warranty period from the original product.

e) Standard Warranty Period Start Date

i) Dealer / Distributor Sales: In view of Dealer or Distributor stocking practices, the Standard Warranty Period for products sold through Dealers or Distributors will commence from the Clear-Com invoice date and will include an automatic extension of three months. Any valid warranty claim within the Standard Warranty Period as determined by the Clear-Com invoice date will be covered without further supporting evidence. All warranty claims after this date must be supported by the Customer's proof of purchase that demonstrates the product is still within the Standard Warranty Period (as detailed in Section 1.c.i above, plus the automatic three month extension) from their purchase date.

ii) Direct Sales: The Standard Warranty Period will commence from the date the product was shipped from Clear-Com to the Customer. The Standard Warranty Period start date for contracts that include commissioning will be the date of the Site Acceptance Test (SAT) or one month from conclusion of the commissioning project, whichever is earlier.

f) Invalidation of Warranty

i) This Limited Warranty shall be invalidated if the product's outer case has been opened and internal modifications have been made or damage has occurred, or upon the occurrence of other damage or failure not attributable to normal wear and tear. Authorized modifications with Clear-Com's express written permission will not invalidate the warranty.

g) Software Updates

i) Software Updates are released periodically to correct discovered program bugs. During the Warranty Period, software updates are available to Customers free of charge.

h) Software Upgrades

    i) Software Upgrades include new Features and/or Functional Enhancements and are not included as part of the Standard Warranty but may be purchased at the published rates.

    ii) Note: In the absence of a Software Update containing a program correction and no available workaround to mitigate the problem, at the discretion of Service, Sales, Engineering, or Product Management, the Customer may be provided a Software Upgrade under warranty.

2. **Exclusions.** Services do not cover damage or failure caused by any occurrence beyond Clear-Com's reasonable control, including without limitation acts of God, fire, flooding, earthquake, lightning, failure of electric power or air conditioning, neglect, misuse, improper operation, war, government regulations, supply shortages, riots, sabotage, terrorism, unauthorized modifications or repair, strikes, labor disputes or any product failure that Clear-Com determines is not a result of failure in the Services provided by Clear-Com. Further Services excluded from this Agreement include: services required due to errors or omissions in Customer purchase orders; installation or maintenance of wiring, circuits, electrical conduits or devices external to the products; replacement or reconditioning of products which, in Clear-Com's opinion cannot be reliably maintained or properly serviced due to excessive wear or deterioration; Customer's failure to maintain the installation site in accordance with the environmental specifications of the products; or service on products removed from the location originally specified by Customer and/or reinstalled without the prior written approval of Clear-Com. Customer will pay Clear-Com's then current published charges to restore such Covered Products to a condition eligible for further service under this Agreement. Clear-Com shall be excused from and shall not be liable for any failure or delay in performance under this Agreement due to the foregoing or any causes beyond its reasonable control.

3. **Limitation of Liability.** **IN NO EVENT WILL CLEAR-COM BE LIABLE UNDER THIS AGREEMENT FOR ANY INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING WITHOUT LIMITATION LOST PROFITS), REGARDLESS OF THE FORM OF ACTION, EVEN IF ADVISED IN ADVANCE OF THE POSSIBILITY OF SUCH DAMAGES.**

4. **Assignment.** Neither party may assign this Agreement or any portion thereof without the prior written consent of the other, except in the event of a merger, sale of all or substantially all of the assets or other corporate reorganization.

5. **Ownership of replaced parts or product.** All replaced parts or products become the property of Clear-Com.

6. **Entire Agreement.** This Agreement constitutes the entire agreement between the parties with respect to the subject matter hereof, and supersedes all prior or contemporaneous proposals, oral or written, and all other communications between them relating to the subject matter of this Agreement.

TECHNICAL SUPPORT & REPAIR POLICY

NOVEMBER 1, 2008

In order to ensure that your experience with Clear-Com and our World Class products is as beneficial, effective and efficient as possible, we would like to define the policies and share some "best practices" that can accelerate any problem solving processes which we may find necessary and to enhance your customer service experience. Our Technical Support, Return Material Authorization, and Repair Policies are set forth below. These Policies are subject to revision and constantly evolve in order to address our Customers' and the Market's needs. Accordingly these are provided by way of guidance and for information only and may be changed at anytime with or without Notice.

TECHNICAL SUPPORT POLICY

a) Telephone, online, and e-mail technical support will be provided by the Customer Service Center free of charge during the Warranty Period.

b) Technical support will be provided free of charge for all software products under the following conditions:

    i) The application, operating, and embedded software is installed on a product covered by Clear-Com's Limited Warranty, and:

      (1) The software is at the current release level; or,

      (2) The software is one (1) version removed from current.

    ii) Older versions of software will receive "best-effort" support, but will not be updated to correct reported bugs or add requested functionality.

c) For Technical Support:

    i) North and South America, (inc. Canada, Mexico, and the Caribbean) & US Military:
Hours:	0800 - 1700 Pacific Time
Days:	Monday - Friday
Tel:	+1 510 337 6600
Email:	CustomerServicesUS@clearcom.com

    ii) Europe, the Middle East and Africa:
Hours:	0800 - 2000 Central European Time

Days:	Monday - Friday
Tel:	+49 40 853 999 700
Email:	TechnicalSupportEMEA@clearcom.com

   iii) Asia-Pacific:

Hours:	0800 - 1700 Pacific Time
Days:	Monday - Friday
Tel:	+1 510 337 6600
Email:	CustomerServicesAPAC@clearcom.com

d) Email Technical Support is available for all Clear-Com branded products free of charge for the life of the product, or two years after a product has been classified as obsolete, whichever comes first.

e) Support for Distributor and Dealer Sales

   i)   Distributors and Dealers may utilize the Customer Service Centers once a system has been installed and commissioned. Clear-Com Systems and Applications Engineers will provide support to the Distributor from the pre-sales stage through to satisfactory installation for new system purchases. Customers will be encouraged to contact their Dealer or Distributor with their installation and technical support enquires rather than using the Customer Service Centers directly.

f) Support for Direct Sales

   i)   Customers may utilize the Customer Service Centers once a system has been installed and commissioned by Clear-Com Systems and Applications Engineers, or in the case of project installations, once the Project Team has completed the hand-over to the Support Centers.

RETURN MATERIAL AUTHORIZATION POLICY

a) Authorizations: All products returned to Clear-Com or a Clear-Com Authorized Service Partner must be identified by a Return Material Authorization (RMA) number.

b) The Customer will be provided with an RMA number upon contacting Clear-Com Sales Support as instructed below.

c) The RMA number must be obtained from Clear-Com via phone or email prior to returning product to the Service Center. Product received by the Service Center without a proper RMA number is subject to return to the Customer at the Customer's expense.

d) Damaged equipment will be repaired at the Customer's expense.

e) Returns are subject to a 15% restocking fee.

f) Advance Warranty Replacements (AWRs);

    i) *During the first 30 days of the Standard Warranty Period:* Once the equipment fault has been verified by Clear-Com or its authorized representative, Clear-Com will ship a new replacement product. The Customer will be provided with an RMA number and be required to return the faulty equipment within 14 days of receipt of the replacement or will be invoiced for the list price of a new product.

    ii) *During days 31-90 of the Standard Warranty Period:* Once the equipment fault has been verified by Clear-Com or its authorized representative, Clear-Com will ship a like-new, fully refurbished replacement product. The Customer will be provided with an RMA number and be required to return the faulty equipment within 14 days of receipt of the replacement or will be invoiced for the list price of a new product.

    iii) To obtain an RMA number or request an AWR:

        (1) North and South America, Asia-Pacific, and US Military:

Hours:	0800 - 1700 Pacific Time
Days:	Monday - Friday
Tel:	+1 510 337 6600
Email:	SalesSupportUS@clearcom.com

        (2) Europe, the Middle East and Africa:

Hours:	0800 - 1700 GMT + 1
Days:	Monday - Friday
Tel:	+ 44 1223 815000
Email:	SalesSupportEMEA@clearcom.com

    iv) Note: AWRs are not available for UHF WBS Analog wireless intercom systems. UHF WBS Analog wireless intercom systems out-of-box failures must be returned to Alameda for repair.

    v) Note: Out-of-box failures returned after 90 days will be repaired and not replaced unless approved by Clear-Com Management.

    vi) Note: AWRs are not available after 90 days of receipt of product unless an AWR Warranty Extension is purchased at the time of product purchase.

vii) Note: Shipping charges, including duties, taxes, and insurance (optional), to Clear-Com's factory is the responsibility of the Customer. Shipping AWRs from Clear-Com is at Clear-Com's expense (normal ground or international economy delivery). Requests for expedited shipping (E.g. "Next-Day Air") and insurance are the responsibility of the Customer.

REPAIR POLICY

a) Repair Authorizations: All products sent to Clear-Com or a Clear-Com Authorized Service Partner for repair must be identified by a Repair Authorization (RA) number (see above).

b) The Customer will be provided with an RA number upon contacting Clear-Com Customer Services as instructed below.

c) The RA number must be obtained from Clear-Com via phone or email prior to returning product to the Service Center. Product received by the Service Center without a proper RA number is subject to return to the Customer at the Customer's expense.

d) Return for Repair

   i) Customers are required to ship equipment at their own cost (including transportation, packing, transit, insurance, taxes and duties) to Clear-Com's designated location for repair.

      (1) Clear-Com will pay for the equipment to be returned to the Customer when it is repaired under warranty.

      (2) Shipping from Clear-Com is normal ground delivery or international economy. Requests for expedited shipping (E.g. "Next-Day Air") and insurance are the responsibility of the Customer.

   ii) **Clear-Com does not provide temporary replacement equipment ("loaner") during the period the product is at the factory for repair.** Customers should consider a potential prolonged outage during the repair cycle, and if required for continuous operations purchase minimum spare equipment required or purchase an AWR Warranty Extension.

   iii) No individual parts or subassemblies will be provided under warranty, and warranty repairs will be completed only by Clear-Com or its Authorized Service Partners.

   iv) Customers requesting a non-warranty repair will be provided an estimate of the total repair cost prior to the return of the equipment. In the event that Clear-Com is unable to estimate

the cost of repair, the Customer may elect to return the product to the factory for an estimate. The Customer is responsible for shipping costs both to and from the factory in the event they choose not to accept the estimate.

v) The Customer must provide either a purchase order for the repair work, or will be required to make an advance payment (as a debit against the Dealer's line of credit, or credit card) prior to the repaired product being returned to the Customer.

vi) For requesting a Repair Authorization number:

   (1) North and South America, Asia-Pacific, and US Military:

Hours:	0800 - 1700 Pacific Time
Days:	Monday - Friday
Tel:	+1 510 337 6600
Email:	CustomerServicesUS@clearcom.com

   (2) Europe, the Middle East and Africa:

Hours:	0800 - 2000 Central European Time
Days:	Monday - Friday
Tel:	+49 40 853 999 700
Email:	TechnicalSupportEMEA@clearcom.com

vii) Note: Clear-Com's Limited Warranty does not cover normal wear and tear. The Customer will be charged the full cost of the repair if their equipment has been tampered with by non-approved personnel, or has been subject to damage through electrical failure, liquid damage or mishandling. The Customer Service Center will provide the Customer with a cost estimate for any such repairs prior to undertaking the work.

Clear-Com
Technical Support & Repair Policy