

User Guide

Eclipse® 9.0 Production Maestro® Pro



Part Number:399G205 Rev A

Date : April 10, 2017

Document Reference

Production Maestro Pro User Guide

Part Number: 399G205 Revision: A

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1 Introduction

Production Maestro Pro (PM-Pro) allows you to control small or large networked intercom systems. It is a PC or tablet based centralized routing application that offers quick, intuitive drag and drop audio routing control, and real time audio metering. You can:

- Create and manage audio across one or more matrices.
- Dynamically configure and assign IFBs.
- Re-label keys to ports, conferences and IFBs.
- Dynamically reconfigure conferences, to meet the rapidly changing requirements of the operating environment (for example, broadcast studios, IFBs, sports venues, MCR areas and Command and Control centers).
- Create, edit and run macros to save time in setting up conferences and venues.
- Host conferences across multiple matrices (linked by fiber or trunk connections).
- Monitor and adjust audio levels in real-time using on-screen meters.

This User Guide describes how to install, use and maintain this powerful conference management tool.

Note: To find out more about PM Pro as you work, see **Help** in the top right hand corner of your PM Pro screen.

1.1 Licensing

PM Pro includes a 30 day trial period. During the trial period, you can use PM Pro without a license on your Eclipse network. When the trial period expires, you must enter a **passcode** in your *Eclipse HX Configuration Software* (EHX) to continue using PM Pro.

PM Pro licenses are available for **up to 10 users** for each matrix in your Eclipse network. Site licenses are available.

Note: Each matrix that PM Pro connects to must have its own passcode in EHX. Passcodes are entered in **EHX > Preferences**.

For further information, contact your Clear-Com representative.

1.1.1 Validating licenses

PM Pro repeatedly validates the license on the connected matrix, while the program is being used. If the matrix license ceases to be valid, PM Pro disconnects from that matrix.

If you require more licenses / passcodes after adding either matrices to your Eclipse HX system, or PM Pro users, then you should provide your Clear-Com representative with all the matrix IDs (from **EHX > Event Log**) in the linked set.

Your Clear-Com representative will then issue a new passcode for each matrix ID.

If PM Pro does not find a valid license on either the target matrix, or one of the target matrices in a linked set an error message is displayed at the top of the canvas in **red**. **For example:**

Your Production Maestro Pro demo period has expired on System 1 (Hardware id 1, Passcode 0000-0000-0000-0000). Please contact your Clear-Com distributor to purchase Production Maestro Pro licenses.

Other warning messages concerning licensing (for example, a warning that the demo period is about to expire) are displayed in orange.

The license key must be downloaded to the matrix by entering it into **EHX > Configuration > Preferences** and downloading a map to the matrix.

1.2 System requirements

The **minimum** system requirements to run PM Pro on a Windows PC are:

Specification	Description / Value
Processor	1GHz
Memory	1GB RAM
Hard disk	1GB minimum.
Input devices	CD-ROM drive
Display resolution	SVGA
User entry	Keyboard, Mouse
Network	IEEE 802.3 Ethernet card
NET framework version	Microsoft .NET Framework 4.0 SP1 (supplied with PM Pro).
Operating systems	<ul style="list-style-type: none"> • Microsoft Windows 7 (32-bit and 64-bit). • Microsoft Windows 8.1 (32-bit and 64-bit). • Microsoft Windows 10 (32-bit and 64-bit). • Microsoft Windows Server 2008 R2 (64-bit). • Microsoft Windows Server 2012 R2 (64-bit). Operation on other platforms is no longer supported.

Table 1-1: Minimum system requirements

The **recommended** system requirements to run PM Pro on a Windows PC are:

Specification	Description / Value
Processor	2GHz or greater.
Memory	2GB RAM
Hard disk	1GB minimum.
Input devices	CD-ROM drive
Display resolution	SVGA
User entry	Keyboard, Mouse
Network	IEEE 802.3 Ethernet card
.NET framework version	Microsoft .NET Framework 4.0 SP1 (supplied with PM Pro).
Operating systems	Microsoft Windows 7 (32-bit and 64-bit). Microsoft Windows 8.1 (32-bit and 64-bit) Microsoft Windows 10 (32-bit and 64-bit) Microsoft Windows Server 2008 SP2 (32-bit and 64-bit). Microsoft Windows Server 2008 R2 (64-bit). Operation on other platforms is no longer supported.

Table 1-2: Recommended system requirements

1.3 Further information

For more information about PM Pro, see **Help** in the top right hand corner of your PM Pro screen.

For more information about EclipseHX system components (devices) referenced in this guide (including matrices, interface cards, interface modules and EHX (*Eclipse HX Configuration Software*)), see the specific documentation for that device or software.

Eclipse documentation is available from:

- Your product CD-ROM.
- The Clear-Com website (<http://www.clearcom.com/product/digital-matrix>).

For sales information, see your Clear-Com sales representative. For contact information, see Page 2 of this guide.

2 *Installing Production Maestro Pro*

This chapter describes how to install your Production Maestro Pro (PM Pro) software.

Note: Before installing PM Pro, check that your Windows PC meets the system requirements described in section **1.2 System requirements**.

Note: To find out more about PM Pro as you work, see **Help** in the top right hand corner of your PM Pro screen.

2.1 Before installing

Before installing PM Pro, check that your Windows PC meets the system requirements described in section **1.1 Licensing**.

PM Pro includes a 30 day trial period. During the trial period, you can use PM Pro without a license on your Eclipse network. When the trial period expires, you must enter a passcode in your Eclipse HX Configuration Software (EHX) to continue using PM Pro.

PM Pro licenses are available for up to 10 users for each matrix in your Eclipse network. Site licenses are available.

Note: Each matrix that PM Pro connects to must have its own passcode in EHX. Passcodes are entered in EHX >Preferences.

For further information, contact your Clear-Com representative.

2.1.1 Installing PM Pro as an update.

If you are installing PM Pro as an update to an existing PM Pro installation, you must **uninstall** your existing version of PM Pro.

Ensure that you save:

- **Your PM Pro palette and canvas screen layouts (*.ccr files)**. The current installation opens at the last project you worked on. However, you will lose your work if you do not save the configuration before updating PM Pro.
- **The EHX system configuration(s) (*.hxn files)** that relate to your PM Pro configuration(s), or an exported **.hxpmi** file based on your EHX system configuration.

2.2 Installing PM Pro

To install PM Pro to your PC:

- 1) Insert the CD-ROM into the PC. Navigate to the CD-ROM and click the relevant *.**exe** file for your machine. Click: **PMSetup**

To indicate that the **Setup** wizard has begun loading, the following screen is displayed:



Figure 2-1 Setup loading

- 2) When the **Setup** wizard has loaded, the **License Agreement** dialog is displayed:



Figure 2-2 License Agreement

Use the internal scroll bar to review the agreement. To continue with the installation, click **I Agree**.

To cancel the installation, click **Cancel**.

Note: You must accept the license agreement to install PM Pro.

- 3) The **Choose Install Location** dialog is displayed:

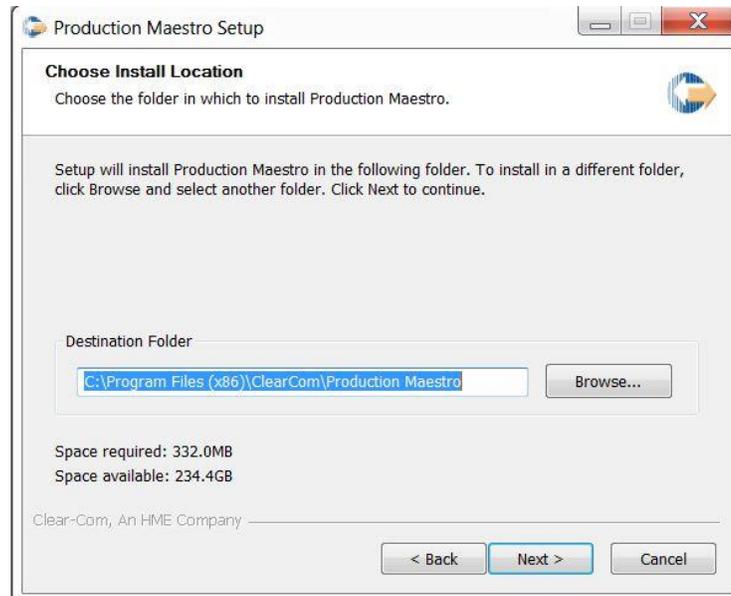


Figure 2-3 Production Maestro Setup

The default location is **Program Files > ClearCom** on the C Drive. To select a different location, click **Browse**. To continue, click **Next**.

Note: To assist your decision, the amount of space required for PM Pro, and the amount of available space on the C Drive, is displayed under the location field.

- 4) The **Choose Start Menu Folder** dialog is displayed:

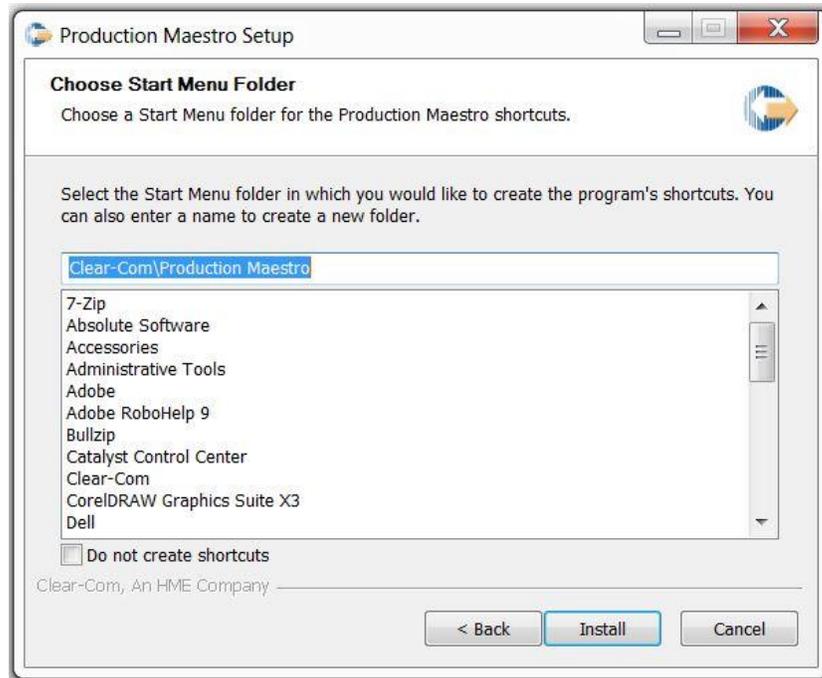


Figure 2-4 Choose Start Menu

The default Start Menu folder is **Clear-Com\Production Maestro**.

Note: You can find all the Start Menu folders in **Start > All Programs**. Shortcuts to recently used and popular programs are shown in the main Start menu.

To select an alternative folder, do one of the following:

- Select from the list of existing Start Menu folders. Use the dialog scroll bar to navigate the list.
- Enter a name into the selection field to create a new folder.

To prevent the creation of shortcuts, select **Do not create shortcuts**.

Click **Install**.

- 5) PM Pro starts to install. During installation, an installation progress bar is displayed. For more detailed information about the progress of the installation, click **Show Details**.
- 6) When the installation is complete, click **Close**.

PM Pro has now been installed to your PC. You are now ready to start PM Pro.

Note: On installing PM Pro, a firewall dialog may be displayed asking if Windows should Block or Unblock PM Pro. Select Unblock PM Pro.

3 Starting Production Maestro Pro

This chapter describes how to start Production Maestro Pro (PM Pro) (from both the Windows Start menu and the command line).

Note: You can also start PM Pro from within the EXH Configuration Software.

Note: To find out more about PM Pro as you work, see **Help** in the top right hand corner of your PM Pro screen.

3.1 Starting PM Pro from the Start menu

To start PM Pro:

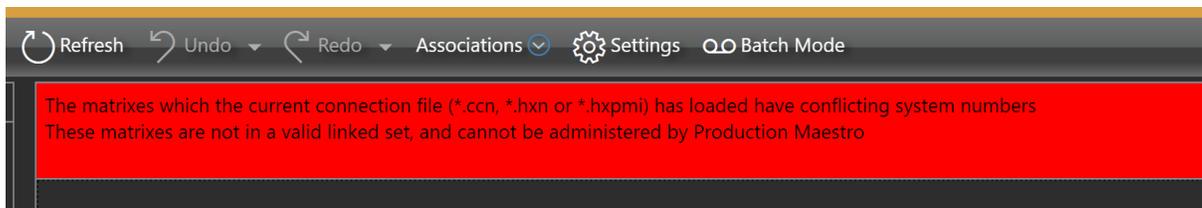
- 1) Go to **Start > All Programs > Clear-Com -> Production Maestro Pro 9.0.**
- 2) Click one of the following:
 - **Production Maestro Pro**
 - **Production Maestro Pro (Simulation)**. Simulation means that conference and port information is read only from the project (***.hxn**) file or Production Maestro Information (***.hxpmi**) file. No attempt is made to connect to a matrix.

PM Pro opens in **Assignment mode**, where assignments are made to conferences and Port viewers.

Note: **Assignment mode** is the main operational mode for PM Pro. For more information about the different operational modes, see section **4 Using Production Maestro Pro**.

Note: To change the operational mode at start up, see section **3.2 Command line options** below.

If PM Pro connects to matrices with conflicting ID numbers, the following error message appears:



3.2 Command line options

You can use the command line to modify the way PM Pro runs at start up:

Command line option	Description
/SIM	Runs PM Pro in Simulation mode. Note: An entry to run PM Pro in simulation mode is automatically created in the Start > All Programs at installation (see above).
/ADMIN	Runs PM Pro in Administrator mode. Administrator mode enables a system administrator to place restrictions on user actions through a number of additional settings. These settings are saved in the project file (provided that you save the file while in Administrator mode).
/LAN2	Uses the secondary LAN's IP addresses to connect to the <i>linked set</i> (the group of linked matrices to which PM Pro connects. This does not include PiCo).
/ASSOCIATED-PANEL	Allows the system administrator to set up a command line specifying the associated panel to be used. The format of the command line is: <code>/ASSOCIATED-PANEL=PORT.<system number>.<port number></code> Example: <code>/ASSOCIATED-PANEL=PORT.1.3</code> for port 3 on system 1.
/ASSOCIATED-METER-PORT	Allows the system administrator to set up a command line specifying which port on the matrix is connected to the PC audio input. This enables PM Pro to meter an audio level without using an LMC-64 interface card. The format of the command line is: <code>/ASSOCIATED-METER-PORT=PORT.<system number>.<port></code> Note: Different PM Pro PCs may use the same layout file (but with different ports).
Configuration file	Including a system configuration path and filename within/outside (as required by your operating system) the quoted command line causes PM Pro to automatically load that system configuration file when it is run. Either a Production Maestro Information File (*.hxpmi) or a EHX Project File (*.hxn) may be supplied, for example <code>C:\Program Files\ClearCom\Production Maestro\filename.hxpmi</code>
Project file	Including a PM Pro project (layout) path and filename (*.ccr) within/outside (as required by your operating system) the quoted command line causes Production Maestro to automatically load the project (layout) file when it is run.

Table 3-1: Command line options

Note: Project files (palette and canvas screen layouts) are saved in PM Pro as ***.ccr** format files. You can associate the ***.ccr** filename extension with PM Pro, so that clicking a ***.ccr** file automatically starts the program.

4 Using Production Maestro Pro

This chapter describes how to use Production Maestro Pro (PM Pro), including:

- Opening and saving EHX Projects (*.hxn), Production Maestro information (*.hxpmi) and PM Pro project files (*.ccr).
- Navigating and using the palette and canvas screens, in the different operational modes (**Assignment**, **Alias**, **Configure Canvas**, **Configure Palette** and **EHX**).
- Configuring and managing conferences, preset conferences and Port Viewers.
- Configuring and controlling IFBs.
- Using **Settings** to control how conferences are configured and managed.
- Using **Port Viewers** to visually monitor and assign routing to and from four-wire ports, and also create IFB systems.
- Assigning **Alias labels** to conferences and Port Viewers.
- Using **audio level meters** to meter audio levels for conferences and four-wire ports in real-time.

This chapter also provides a quick reference to color coding in PM Pro, and the main features of the PM Pro screen.

Note: The use of audio level meters usually requires at least one LMC-64 audio metering interface card in a connected matrix. However, you can use an associated meter port, or use the command line to enable some audio metering without an LMC-64 (see section **4.24 Using audio level meters (Clear-Vu®)**).

Note: To find out more about PM Pro as you work, see **Help** in the top right hand corner of your PM Pro screen.

4.1 Getting started with PM Pro

Before you can start configuring conferences, PM Pro must connect with the matrix (or matrices) using either a Production Maestro Information file (*.hxpmi) or an EHX Project File (*.hxn) (See section **4.2 Connecting to the matrices in an EHX**).

The IP addresses of the matrices are extracted from the configuration file, and IP connection made with the matrices. If an EHX Project file (*.hxn) is used to connect to the matrices, PM Pro will prompt the user to select the matrices that they wish to connect to.

When Production Maestro connects to the matrices, it obtains the current active assignments from the matrix. All assignments made by PM Pro are sent directly to the matrix. You can now start to use PM Pro to configure conferences and IFBs.

If PM Pro loses the connection to the matrices:

- The assignments you have already made remain in effect.
- Any other PM Pro client that is connected to the matrices may continue to make assignments.

Note: For information about restoring lost connections, see section **4.2.2 Restoring a lost connection**.

To protect your PM Pro projects (including such features as palette width, canvas configuration, audio level meters, settings and palette configurations), you should save your projects as *PM Pro project (or layout) files (*.ccr)*. (See section **4.4 Saving a project (layout) file**).

4.1.1 Quick reference to the PM Pro screen

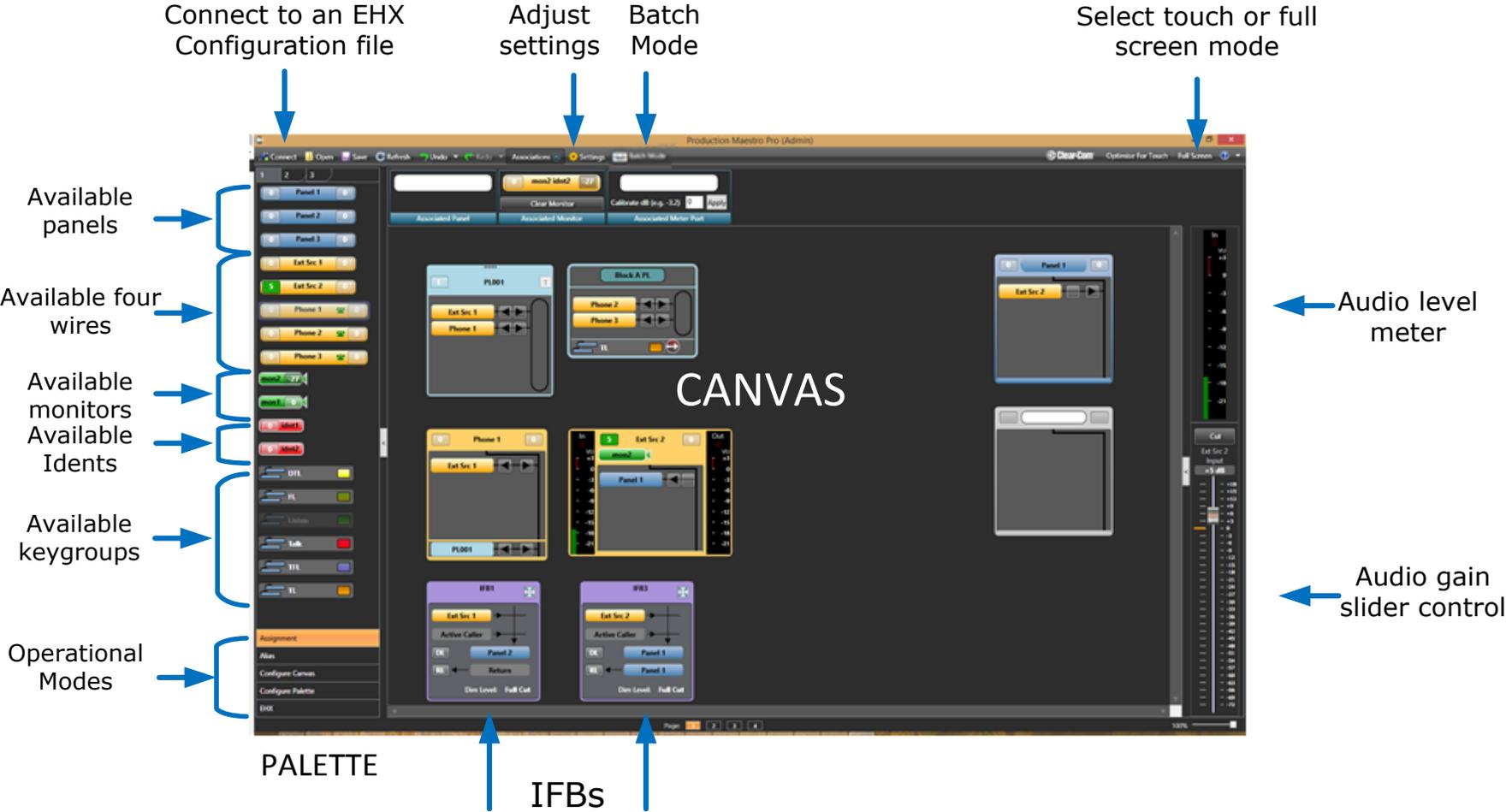


Figure 4-1: Quick reference to the PM Pro screen

4.1.2 Quick reference to color coding

Color coding is used for the rapid identification of onscreen items:

System component		Color coded icon
Four-wires and Port Viewers		
Panel		
Key group		
Split label port	Ident (Talk)	
	Monitor (Listen)	
Conference		
Preset conference		
Port viewer		
IFB		
Meter (Meter control shown)		
Note		
Alias label		
Keygroup		

Table 4-1: Color coded system components

4.1.3 Tool tips

When you move your mouse over an item on the canvas or palette, a **tool tip** is displayed with detailed information about that item.

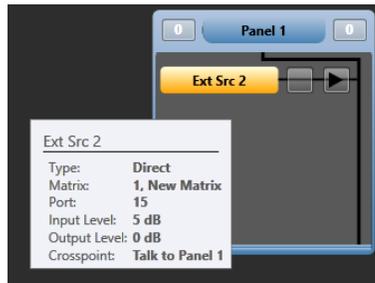


Figure 4-2: Example tool tip

4.1.4 Help

To find out more about PM Pro as you work, click **Help** in the toolbar at the top right of the screen.

The following options are displayed in the drop-down menu:

Option	Description
Content	The content of the Help files. You can navigate the Help files using the navigation tree, search, or index facilities.
Show meter status	Displays the status of the audio level meters (see section 4.24 Using audio level meters (Clear-Vu®)).
About Production Maestro Pro	<p>Version and logs information about PM Pro.</p>  <p>The dialog displays:</p> <p>The main version and build numbers (for example, Version 3.13.4 (Build 0)).</p>

Option	Description
	<p>Copyright information.</p> <p>A menu displaying version information for the component parts of PM Pro.</p> <p>The Clear-Com website address: http://www.clearcom.com</p> <p>To go to the date stamped program logs (*.txt files) on your PC, click Show Logs.</p> <p>To copy the information displayed in the dialog, click Copy Info. The copied information goes into the clipboard.</p> <p>To close the dialog, click OK.</p>

Table 4-2: Help menu options

4.2 Connecting to the matrices in an EHX system

Before you can start configuring and managing conferences, PM Pro must connect with the matrix (or matrices) Using either a Production Maestro Information File (*.hxpmi) or an EHX Project File (*.hxn)

To connect to the matrices in an EHX system:

- 1) Click **Connect** in the toolbar at the top of the screen.
- 2) A dialog opens. From the dialog, browse to the Production Maestro Information File (*.hxpmi) or EHX Project File (*.hxn). The file format is pre-selected for the selection field.
- 3) Open the Production Maestro Information File or EHX Project File. The IP addresses of the matrices in the configuration are extracted from the configuration file, and IP connections made with the matrices. If an EHX Project file (*.hxn) is used to connect to the matrices, PM Pro will prompt the user to select the matrices that they wish to connect to.

Note: Except in Simulation mode (where all data is read from the *.hxn file), no other data, such as lists of ports, is read from the *.hxn file. Information about ports, conferences and key groups is read **live** from the matrices. PM Pro clients are automatically updated with any changes that are made to the configuration in EHX.

4.2.1 Generating a Production Maestro Information File

A Production Maestro Information File (*.hxpmi) is a small file used specifically to provide information to PM Pro. Using the Production Maestro Information file allows the user to work with a much smaller file than a full EHX Project (*.hxn) file, as well as to pre-select which matrices they are interested in connecting to.

You can generate a Production Maestro Information File from EHX by selecting **File -> Save Production Maestro Information**.

4.2.2 Restoring a lost connection

If PM Pro loses the connection to a matrix:

- The names of all the devices from that matrix are changed to **????** to signal the loss of data.
- Port entities are **grayed out** to indicate that their status is unknown.

While PM Pro attempts to reconnect to the matrix, the following message is displayed in the bottom left corner of the screen:

```
Connecting to <IP address of matrix>
```

PM Pro continues to attempt to reconnect indefinitely (or until the connection is restored).

When the connection is restored, PM Pro displays the following message in the bottom left hand corner of the screen, as it reloads the connection with all the matrices in the linked set:

```
Loading <IP addresses of all matrices>
```

The onscreen display is updated with the new configuration information, and the port entities are no longer grayed out.

4.3 Opening a project (layout) file

The PM Pro project file (*.ccr) (also referred to as a layout file), stores the PM Pro screen configuration (including such features 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 PM Pro (see section **4.1 Getting started with Production Maestro Pro**).

- The alias level or routing assignments made by PM Pro.

To open a PM Pro project file (*.ccr):

- 1) Click **Open** in the toolbar at the top of the screen.
- 2) A dialog opens. From the dialog, browse to the project file (*.ccr format). The file format is pre-selected for the selection field.
- 3) Open the project file.
- 4) PM Pro loads the layout information.

4.4 Saving a project (layout) file

To save a PM Pro project file (*.ccr):

1. Click **Save** in the toolbar at the top of the screen.
2. A dialog opens. Enter the required filename and save the file to the desired location on your PC. The **Save File Type:** is pre-selected as a *.ccr.
The PM Pro layout and settings information is saved to the file.

Note: Port information is not saved to the project file, as this information is read from the matrices in the EHX configuration when opened by PM Pro.

4.5 Refreshing information from the matrices

To reload the current device information from the connected matrices, click **Refresh** in the toolbar in the top of the screen.

The information displayed by PM Pro is updated.

Note: **Refresh** may be used after communications have been interrupted between the PC and matrices.

4.6 Dragging and dropping

The majority of the actions that you perform on onscreen items (from panels and four-wires, to audio meters and conferences) are achieved by dragging and dropping items with the mouse.

Dragging and dropping is used to:

- Move items between screens (for example, from the canvas to the palette and back again).
- Assign items (such as panels, four-wires, idents, labels, meters, telephones and monitors) to conferences and Port Viewers.
- Remove / unassign items (usually by dragging the attached item away to a blank part of the screen) from conferences and Port Viewers.

To drag and drop an item:

- 1) **Click and hold** the item (such as a panel) you want to move and drag to the desired onscreen location.

Note: A dialog or message may be displayed, if the action you are attempting is either restricted or prohibited.

Note: A range of prompts and restrictions can be set up in Settings, to help control the creation and management of conferences (see section **4.23 Using the Settings screen**).

- 2) To place or release the item, release the mouse.

Note: Use the **Control** key to select more than one item. You can also use the mouse to lasso multiple items.

4.7 Undoing and redoing

Unless you have saved changes to the project file (*.ccr), most of the actions you carry out in PM Pro can be undone.

To undo the last action, click **Undo** in the toolbar at the top of the screen.

Clicking the **down arrow** associated with **Undo**, opens a drop-down list of previous actions. Selecting:

- The topmost action will undo the last action.
- An action further down the list will undo both that action and all the other actions after it, up to the top of the list.

Undone actions can also be redone.

To redo the last undone action, click **Redo** in the toolbar at the top of the screen.

Clicking the **down arrow** associated with **Redo**, opens a drop-down list of undone actions. Selecting:

- The topmost action will redo the last undone action.
- An undone action further down the list will redo both that action and all the other actions after it, up to the top of the list.

You can also press Control-Z to undo the last action, or Control-Y to redo the last action.

4.8 Getting started with the palette

The palette is docked to the left of the screen. The palette is used to assemble, organize and deploy the items (such as conferences, panels, four-wires, idents, monitors and alias labels) that you use when configuring conferences and Port Viewers. Most configuration tasks are performed on the canvas, the main working area of PM Pro (see section **4.9 Getting started with the canvas**).

The configuration tasks that you can perform with the palette and canvas vary according to the selected **operational mode**.

Note: For a quick reference to the main features of the PM Pro screen, see section **4.1.1 Quick reference to the PM Pro screen**.

4.8.1 Scrolling the palette

To scroll the palette using the scroll bar, move your mouse over the light gray bar within the palette scroll bar.

The inner bar turns from light gray to white. Drag the inner bar up or down to scroll the canvas.

Alternatively, you can:

- **Click and hold** the arrow heads at either end of the scroll bar to scroll the palette. The arrow heads turn from light gray to white when clicked.
- **Right click** either the light gray bar within the scroll bar, or an arrow head. Select one of the following options from the dialog:
 - Top
 - Bottom.
 - **Page up** (to take you a page length up within the same palette tab).
 - **Page down** (to take you a page length down within the same palette tab).
 - Scroll up.

- Scroll down.

Note: Except in **Configure Palette** mode, the scroll bar is **not** displayed if there is only a limited number of items on the palette.

4.8.2 Resizing and hiding the palette

To resize the palette:

- 1) Move your mouse over the right-hand edge of the palette screen (the left hand edge of the canvas).
- 2) The mouse pointer tool changes to the double-headed arrow of the grab tool.
- 3) Drag the screen to the right or left to resize the palette.

Note: The canvas screen reduces in size when you expand the palette, and increases when you reduce the size of the palette.

To hide the palette, click the gray rectangle on the right hand edge of the palette screen.

Note: You can also hide the audio volume monitoring section by clicking the equivalent area to the right of the canvas.

4.9 Getting started with the canvas

The canvas screen is the larger right hand pane of the PM Pro screen. The canvas is the principal working area in PM Pro, where the majority of configuration and assignment tasks are performed.

The palette is used to assemble, organize and deploy the majority of the items (such as conferences, panels, four-wires, idents, monitors and alias labels) that you use on the canvas when configuring conferences and Port Viewers (see section **4.8 Getting started with the palette**).

The functions of the palette and the canvas vary according to the selected **operational mode**. For more information, see

Note: For a quick reference to the main features of the PM Pro screen, see section **4.1.1 Quick reference to the PM Pro screen**.

4.9.1 Changing between page views

In **Assignment**, **Alias** and **Configure Canvas** modes, you can select between 12 different canvas pages. The selected page is highlighted in orange.



Figure 4-4 The Configure Canvas page buttons

To add and remove pages, select **Configure Canvas**, and use the **Add Tab** (green) and **Remove Tab** (red). The following apply:

- If you add a page it always appears as the last page.
- You can only remove the last page. If this page contains items, a warning appears. If you continue, all items on the page are deleted. You cannot remove earlier pages, even if they are selected (orange button).
- The last page is removed even if it is not the selected page (orange button).

Note: You can also press Control+# to select a page, where # is the page number (1 to 10).

The page views are saved as separate **.CCR** files.

Note: You can use background images on each page. For more information, see section **4.9.3 Changing the canvas background image**.

4.9.2 Renaming canvas pages

You can only rename page buttons from the **Configure Canvas** page.

To rename canvas pages:

- 1) Select **Edit Canvas Names**.
All the page buttons become text boxes.
- 2) Rename the required page buttons.
- 3) Select **Confirm Canvas Names**, to complete renaming.

4.9.3 Changing the canvas background image

You can replace either or both default background images with your own customized image file(s) (for example, an image that displays your company logo,

user set up instructions, or conference information). To do so, name your customized files as follows and copy them to the PM Pro installation directory:

Canvas	Customized background image file
First	Back.jpg
Second	Back2.jpg

Table 4-3: Default canvas background image files

Note: Before you can copy your customized images to the installation directory, you must have administrator access rights.

You must close and restart Production Maestro before the changes take effect.

4.9.4 Zooming in and out of the canvas

You can zoom in on the canvas by any of the following methods:

- Rolling the mouse wheel over a blank section of canvas.
- Using the zoom slide bar at the bottom right of the screen. The canvas opens at 100% by default.
- Double-clicking the canvas.

Note: Double-clicking toggles between **Zoom-To-Fit** and **standard zoom**.

4.9.5 Scrolling the canvas

To scroll the canvas using the scroll bars, move your mouse over the light gray bar within either the lower or right hand scroll bar. The inner bar turns from light gray to white. Drag the inner bar to scroll the canvas.

Alternatively, you can:

- **Click and hold** the arrow heads at either end of the scroll bars to scroll the canvas. The arrow heads turn from light gray to white when clicked.
- **Right click** either the light gray bar within the scroll bar, or an arrow head.

In a horizontal scroll bar, select one of the following options from the dialog:

- **Scroll here** (the canvas tracks to the current position of the mouse).
- Left edge.
- Right edge.

- Page left.
- Page right.
- Scroll left.
- Scroll right.

In a vertical scroll bar, select one of the following options from the dialog:

- Top
- Bottom.
- **Page up** (to take you a page length up).
- **Page down** (to take you a page length down).
- Scroll up.
- Scroll down.

4.10 Full screen

To toggle between full screen and normal screen mode, click **Full screen** in the toolbar at the top right of the screen.

4.11 Optimise for touch

To select touch screen mode, click **Optimise for touch** in the toolbar at the top right of the screen. To return to normal mode, click **Optimise for Mouse** at the bottom right of the screen.

4.12 Operational modes

The configuration tasks you can perform in PM Pro vary according to the selected operational mode.

Operational mode	Summary
Assignment	Use Assignment mode, the main operational mode in PM Pro, to assign items (such as panels, four-wires, idents, monitors, key groups and meters) to conferences and Port Viewers in real-time. In Assignment mode, you also configure and assign routes to virtual IFBs.
Alias	Use Alias mode to create and apply alias labels to conferences and Port Viewers.
Configure Canvas	Use Configure Canvas mode to locate, organize and size conferences, preset conferences, and fixed Port Viewers on the canvas. You can also apply a meter control to conferences and Port Viewers, and add notes (such as instructions or reminders) to the canvas.
Configure Palette	Use Configure Palette mode to search the canvas for the items (such as panels, four-wires, idents, monitors and key groups) that you require for configuring conferences, IFBs and Port Viewers in Assignment mode. Add the required items to the palette. Use the palette tabs to create different sets of items.
EHX	Use EHX to automatically start the EHX Configuration Software, or switch to an active instance of the software. Note: EHX also contains a button to start or switch to Production Maestro.

Table 4-4: Summary of operational modes

Note: The system administrator can restrict users to the **Assignment** and **Alias** modes, using **Settings**. If these user restrictions are in place, the **Configure Palette** and **Configure Canvas** modes are not displayed to the user. For more information, see section **4.23 Using the Settings screen**.

4.12.1 Configure Palette mode

To place PM Pro in **Configure Palette mode**, select **Configure Palette** from the **operational modes** menu to the left of the screen.

The selected mode is highlighted in orange.

In **Configure Palette** mode, the canvas lists all the available items (panels, four-wires, idents, monitors and key groups) that you can add to the palette.

The items that you drag and drop to the palette can be used in **Assignment mode** to make assignments to conferences and Port Viewers in real-time (see section **4.12.4 Assignment mode**).

Organizing and searching for items on the Configure Palette canvas

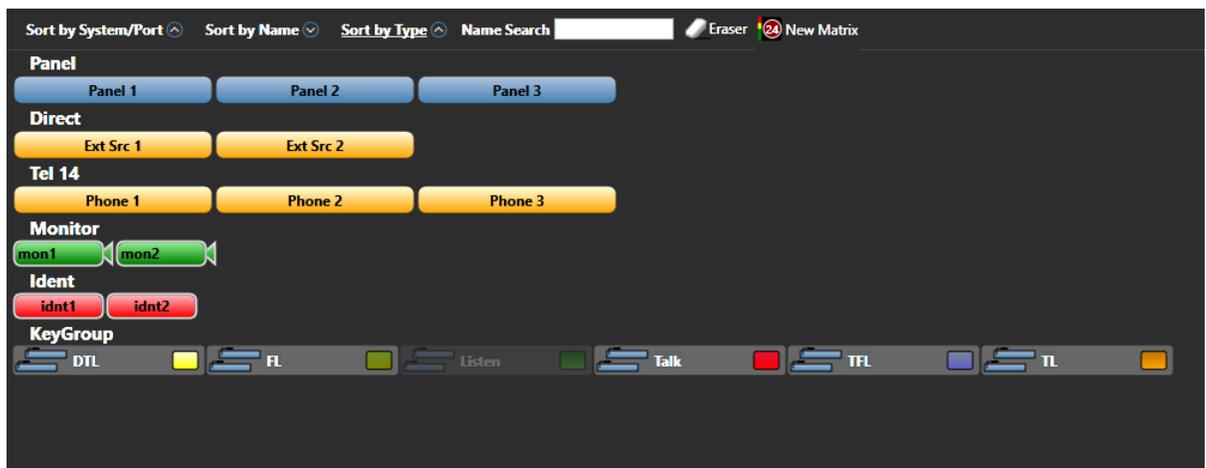


Figure 4-5: Configure Palette canvas (Sorted by System / Port)

The principle function of the **Configure Palette** canvas toolbar is to help you organize and search the listed items.

To list and organize by system or port, click **Sort by Type**.

The **Sort by Type** button is underlined in white.

The available items are:

- Organized by system / port name (for example, **System 1**).
- Listed in *ascending* name order.

To toggle between **ascending** and **descending** order, click the circled arrow next to the **Sort by System / Port** button.

To list and organize by the item name, click **Sort by Name**. The **Sort by Name** button is underlined in white.

The available items are:

- Organized by name (in **numeric order**, **letter order**, and / or **character order**, according to the item label).
- Listed in *ascending* order.

To toggle between **ascending** and **descending** order, click the circled arrow next to the **Sort by Name** button.

To list and organize by the type of item, click **Sort by Type**. The **Sort by Type** button is underlined in white.

The available items are:

- Organized by type (for example, Panel, Direct (four-wire), Ident, Monitor, Key group, FreeSpeak® Beltpack Role or FreeSpeak II™ Beltpack Role).
- Listed in *ascending* order.

To toggle between **ascending** and **descending** order, click the circled arrow next to the **Sort by Type** button

To search for an item by name, enter the name of the item (or part of the name of the item) into the **Name Search**.

The matching item(s) are listed onscreen.

Eraser tool and Meter tool

The **Configure Palette** canvas toolbar also includes the **Eraser tool** and the **Meter tool**. Both of these tools be dragged and dropped to the palette for use in **Assignment mode**.

The Eraser tool is used to roll back the changes that are made to conferences in PM Pro. For more information about the Eraser tool, see section **4.16 Erasing changes to conferences**.

The Meter tool is used for adding a meter to a four-wire on the palette. For more information, see section **4.24.1 Adding a meter to a four-wire on the palette**.

Adding items to the palette

Drag and drop the items you require (such as panels, four-wires, idents, monitors and key groups) from the canvas to the palette. Organize the items by dragging items anywhere on the palette. The items you add to the palette are those that

will be available to you in Assignment mode (see section **4.12.4 Assignment mode**).

Note: The location of the items on the palette is locked in Assignment mode. To relocate items on the palette, you must return to **Configure Palette** mode.

You can navigate between different palette configurations using the tabs at the top of the palette screen.

Add a new tab by clicking **Add Tab**.

Remove the **selected** tab by selecting **Remove**.

4.12.2 Configure Canvas mode

To place PM Pro in **Configure Canvas** mode, select **Configure Canvas** from the **operational modes** menu to the left of the screen.

The selected mode is highlighted in orange.

Configure Canvas mode is used to locate, organize and size conferences, preset conferences, and fixed Port Viewers on the canvas. You can also apply meters to conferences and Port Viewers, and add notes (such as instructions or reminders) to the canvas.

Using the Configure Canvas palette

The **Configure Canvas** palette is divided into three tabbed sections, **Conferences**, **four-wires**, **IFBs** and **Other**.

The palette opens on **Conferences**, which lists all the available conferences that can be added to the canvas for configuration.

Four-wires lists all the *fixed* four-wires that you can add to the canvas as fixed Port Viewers.

IFBs lists all the IFBs that you can add to the canvas.

Note: If the list of conferences or four-wires is particularly long, you can locate particular conference(s) using the **Name Search** facility.

The **Other** tab contains:

Facility	Comments / Description
Port Viewer 	Drag to the canvas to create an unassigned Port Viewer. You can assign four-wires to this Port Viewer in Assignment mode (see section 4.12.4 Assignment mode)
Meter control 	Drag to the canvas to assign a meter to a fixed four-wire. (see section 4.24 Using audio level meters (Clear-Vu ®))
Preset conference 	Drag to the canvas to create a preset conference. For more information about preset conferences, see section 4.14 Preset conferences .
Note 	Type your note (such as an instruction or reminder) into the note area, then drag the note to the canvas screen.

Table 4-5: Other tab facilities

Moving and resizing items on the canvas

You are free to move the conferences, Port Viewers and other items that you can add to the canvas in **Configure Canvas** mode *anywhere* on the canvas (and to keep moving those items, until you are satisfied with their location).

To resize a conference, Port Viewer or preset conference, drag the dotted edge of the item.

Note: You can only resize if the checkbox in **Settings > General > Fixed Size Viewers** is unchecked.

Note: The location and size of the conferences, Port Viewers and other items that you add to the canvas in **Configure Canvas** mode is **fixed** in Assignment mode. To adjust the size and location of these items, you must return to **Configure Canvas** mode.

4.12.3 Alias mode

To place PM Pro in **Alias mode**, select **Alias** from the **operational modes** menu to the left of the screen.

The selected mode is highlighted in orange.

In Alias mode, the palette is used to create and assemble **alias labels** for assignment to conferences, IFBs and Port Viewers.

Type the name of the label (**up to 10 characters**) into the blank label area and drag the label to the palette. You can create as many alias labels as you require.

You assign an alias label by dragging the label to the conference or Port Viewer on the canvas.

To remove an unwanted label from the palette, drag the label to the **trash can icon**.

Alias mode in Dante enabled networks

If the matrix that PM Pro is connected to forms part of a Dante network, and if **Dante Auto Alias Updates** is enabled in the EHX configuration software, the following applies:

- PM Pro automatically displays the Dante alias updates.
- For any Dante port that has **Dante Auto Alias Updates** enabled, PM Pro cannot assign its own alias label.
- For any Dante port that has **Dante Auto Alias Updates** enabled, PM Pro cannot remove the Dante alias label.
- For split ports, PM Pro can only assign alias labels if the port is also a split port in the Dante network.

4.12.4 Assignment mode

To place PM Pro in **Assignment mode**, select **Assignment** from the **operational modes** menu to the left of the screen.

The selected mode is highlighted in orange.

Assignment mode is the main operational mode for PM Pro, where assignments and other live changes (such as creating a temporary connection with the Assigned Panel) are made to conferences and Port Viewers in real-time.

Assigning items to conferences and Port Viewers

The items on the Assignment mode palette (such as panels, four-wires, idents, monitors and key groups), including the number of tabs, correspond to your configuration of the palette in **Configure Palette** (see section **4.12.1 Configure Palette mode**).

Note: The location of the items on the palette is **locked** in Assignment mode. To relocate items on the palette, you must return to **Configure Palette** mode.

To make live changes to the matrices that PM Pro is connected to, drag and drop:

- Items from the palette into conferences, IFBs and Port Viewers.
- Items from one conference, IFB or Port Viewer to another.
- Conferences into preset conferences.

Note: If you assign a direct four-wire to a conference using PM Pro rather than EHX, that four-wire will not be listed when viewing conference members on a V-Series panel. This is because such assignments are temporary rather than fixed in the EHX configuration.

Copy, Move and Exclusive assignments

When you drag items (such as panels, four-wires, idents, monitors and key groups) to conferences or Port Viewers, an icon is displayed next to the mouse pointer to indicate the type of assignment that is being made.

If you click an item on the palette and drag it (copy it) to a conference or Port Viewer, the **Copy icon** is displayed.

Assignment item. The item is transparent while it is dragged.

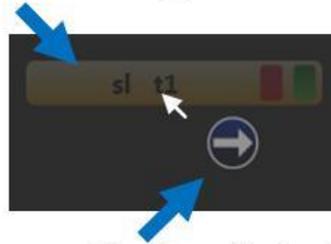


Copy icon. The icon follows the mousepoint.

Figure 4-6: Copy icon

If you click an item in a conference or Port Viewer and drag it (move it) to another conference or Port Viewer, the **Move icon** is displayed.

Assignment item. The item is transparent while it is dragged.



Move icon. The icon follows the mousepoint.

Figure 4-7: Move icon

If you want to copy (rather than move) an item from one conference or Port Viewer to another, then **right click** the item and drag. The **Copy icon** is displayed (see section **Figure 4-6: Copy icon**).

If you want to make an **exclusive assignment** from the palette to a conference or Port Viewer, right click the item in the palette and drag. The **Exclusive assignment icon** is displayed.

Exclusively assigned panels, four-wires, idents and monitors are removed from any other conference to which they have been assigned (but **not** Port Viewers to which they have been assigned).

Key groups are removed from both conferences and Port Viewers.

Assignment item. The item is transparent while it is dragged.



Exclusive assignment icon. The icon follows the mousepoint.

Figure 4-8: Exclusive assignment icon

Note: It is not possible to place a panel as both a fixed source and a destination into a conference.

4.13 Controlling input and output levels

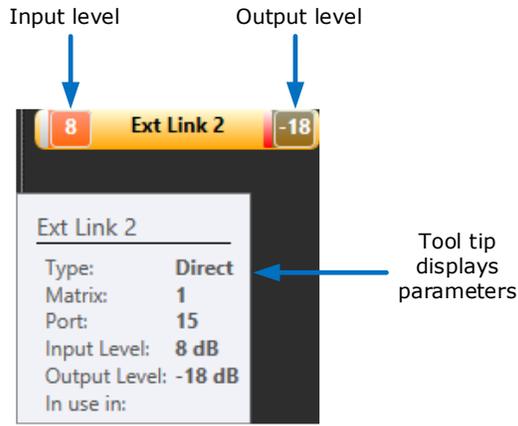


Figure 4-9: Input and Output levels

The **input** and **output** levels are displayed on panels, four-wires, idents and monitors while they are in the palette. The (output) level of idents and the (input) level of monitors is also displayed when they are assigned to conferences (but not Port Viewers).

To display the parameters for the panel, four-wire, ident or monitor, move the mouse over the item.

4.13.1 Increasing or decreasing levels

The ability to adjust the levels on panels, four-wires, idents and monitors is enabled in **Settings** (see section **4.23.1 Configuring prompts and other settings**).

To change the **input level** of the panel or four-wire (for example, a four-wire), do one of:

- Roll the mouse wheel over the selected **left-hand** level display.
- Click on the left-hand level display, and use the slider control on the right hand side of the canvas.

To change the **output level** of the item (for example, a four-wire), do one of:

- Roll the mouse wheel over the selected **right-hand** level display.
- Click on the right-hand level display, and use the slider control on the right hand side of the canvas.

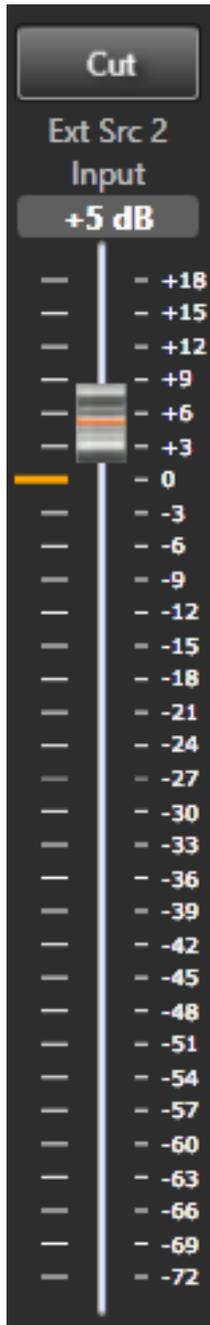
For idents and monitors, where only one level is displayed, do one of:

- Roll the mouse wheel over the level display.
- Click on the level display, and use the slider control on the right hand side of the canvas.

The color and density of the level display changes from **black** to **gray**, to transparent, to orange and finally red as you travel up through the **-72dB (Cut) to +18dB** level range (and reverses as you travel down).

Note: The color of the levels is impacted by the background color of the item (in this case, the yellow four-wire).

Note: The panel, four-wire, monitor or ident will display **-72dB** as **Cut** on the item. However, the tooltip will display the level as **-72dB**.



You can adjust the slider control by dragging the slider with a mouse.

You can also position the mouse cursor anywhere in the slider area and use a mouse wheel to increase or decrease volume.

To cut the audio, select **Cut** at the top of the slider control.

Note: You can also use the slider control to change the audio levels of IFB inputs and outputs. See section **4.25.3 Adjusting audio levels**.

Figure 4-10 Slider control

4.13.2 Cutting levels

To instantly set the level to **Cut (-72dB)**, double click the level on the item, or click the **Cut** button above the slider control. To restore the level to its previous level, double click the level on the item again. You can also set the level to **Cut (-72dB)** using the **Cut** button above the volume slider control.

4.13.3 Audio presence tally

To display an Audio Presence Tally on a four-wire on the palette, you must enable the **Audio Presence Tally** option for that four-wire in EHX.

When audio is detected on the four-wire port, the input level on the four-wire on the palette turns green.

Note: This feature is only available provided that the PC running PM Pro is on the same network segment as the matrix the four-wire port belongs to.

Note: The input level on a four-wire on the palette will also display green if a meter is applied. See section **4.24.1 Adding a meter to a four-wire on the palette**.

4.14 Preset conferences

PM Pro enables you to create preset conferences that you can copy into live conferences as required.

Assigning preset conferences to existing conferences enables you to manage multiple changes to conferences in a single assignment operation. For example, by assigning a preset conference to an existing news conference you might instantly change the communication lines to those from a different OB truck, or swap the conference to a different studio key group (erasing existing four-wire members).

Note: Preset conferences are only created within PM Pro are **not** sent to the matrix. Only when they are applied to **existing** conferences are changes sent to the matrix.

To create a preset conference:

- 1) Go to **Configure Canvas > Other tab** in the palette.
- 2) Drag and drop the preset conference icon onto the canvas.

Note: For more information about **Configure Canvas mode** and the **Other** tab in the palette, see section **4.12.2 Configure Canvas mode**.

To give the preset conference a name, using an alias label:

- 1) Go to Alias.
Type the name of the label (**up to 10 characters**) into the blank label area.
- 2) Drag the alias label to the preset conference.

Note: Creating and assigning an alias label to a preset conference is the same as for normal, EHX conferences.

Note: For more information about **Alias mode**, see section **4.12.3 Alias mode**.

To assign items (such as four-wires, monitors, idents and key groups) to a preset conference:

- 1) Go to **Assignment**.
- 2) Drag and drop available items from the palette onto the preset conference (as you would with any other conference).

To apply the preset conference to an **existing** conference:

- 1) Go to Assignment.
- 2) Drag and drop the preset conference onto the target conference.

The **contents** of the preset conference are added to the target conference. The **name** of the target conference changes to that of the preset conference.

Note: For more information about **Assignment mode**, see section **4.12.4 Assignment mode**.

4.14.1 Using Drag as Preset with conferences

You can use existing conferences in the same way as preset conferences by using the **Drag as Preset** facility.

To use **Drag as Preset** with existing conferences:

- 1) Go to Assignment.
- 2) Move your mouse over the top part (the dotted line) of the conference you want to use. The Drag as Preset facility is displayed.

- 3) Drag the conference onto the target conference to copy its 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.

4.14.2 Using Drag as Preset with preset conferences

You can also use **Drag as Preset** to copy an existing conference to a preset conference.

To **copy** the contents of an existing conference to the preset conference:

- 1) Go to Assignment.
- 2) Move your mouse over the top part (the dotted line) of the conference you want to use. The Drag as Preset facility is displayed.
- 3) Drag the conference onto the target preset conference to copy its contents to the preset conference.

The source conference is **not** changed by this operation. The name of the target conference is **not** changed by this operation.

To **replace** the contents of the preset conference with the contents of the existing conference:

- 1) Go to Assignment.
- 2) Move your mouse over the top part (the dotted line) of the conference you want to use. The Drag as Preset facility is displayed.
- 3) *Right click* the conference and then drag onto the preset conference. The contents of the preset conference are replaced by the contents of the existing conference.

Any alias label that had been assigned to the preset conference is deleted.

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

4.15 Filtering members in conferences

The ability to filter members in conferences is enabled in **Settings** (see section **4.23.1 Configuring prompts and other settings**).

If filtering is enabled, the **member filter icon** is displayed in the right hand corner of conferences in **Configure Canvas** mode.

Click the filter icon to display the types of conference members in the top bar of the conference. The number displayed with each conference member type shows you how many items of that type can be filtered.

To filter a member out of the conference, click a member. To indicate that a member has been filtered from the conference, the filter icon changes to **black**.

To restore the member to the conference, click the filter icon again.

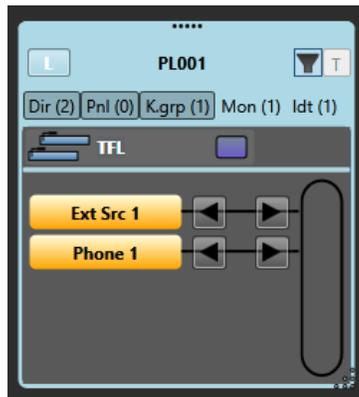


Figure 4-11: Filtered conference

Note: Filtering members is part of the conference configuration process. You can only use member filtering in **Configure Canvas** mode. Filtering does not change any assignments to a conference.

4.16 Erasing changes to conferences

The **Eraser** is used to reset conferences to the EHX configuration default, erasing any changes that were made in PM Pro.

To use the Eraser:

- 1) In **Configure Palette**, drag the Eraser from the **Configure Palette** toolbar (directly above the canvas) onto the palette.
- 2) In Assignment, drag the Eraser to a conference to erase the assignments you made in PM Pro.

Note: If you enable the Eraser leaves monitors, idents and alias names setting in Settings, any idents, monitors and alias labels that you added to the conference are preserved when you use the Eraser. All other items are erased as usual.

Note: If you enable the Prompt when erasing conference setting in Settings, a prompt is displayed asking you to confirm the erasure operation.

For more information, see section **4.23.1 Configuring prompts and other settings**.

4.16.1 Erasing changes to preset conferences

If you apply the Eraser to a preset conference, and then add that preset conference to an existing conference, the members are erased and then replaced with the members of the preset conference.

Note: Preset conferences are only created within PM Pro are **not** sent to the matrix. Only when they are applied to **existing** conferences are changes sent to the matrix.

Note: For more information about preset conferences, see section **4.14 Preset conferences**.

4.17 Controlling Talk and Listen arrows

Clicking a **Talk / Listen** arrow turns it off. The arrow is no longer displayed on the panel or four-wire.

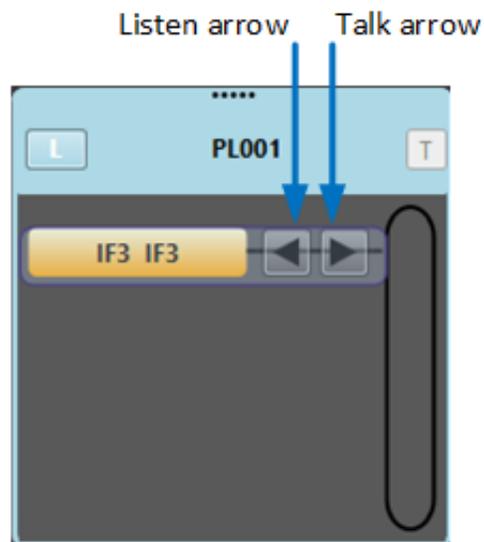


Figure 4-12 Talk and Listen arrows

Note: Permanent members of a conference cannot have their Talk/Listen arrow turns off. This can only be done in EHX.

Clicking the space where the **Talk / Listen** arrow was formerly located turns the arrow on again. The arrow is displayed again on the panel or four-wire.

Note: You must be in **Assignment mode** to turn Talk / Listen arrows on and off on panels and four-wires.

Note: If you turn off both the Talk and the Listen arrows, the panel or four-wire is effectively excluded from the conference or Port Viewer, and removed from the list of members. To restore the panel or four-wire (and Talk / Listen labels), you must reassign the item to the conference or Port Viewer.

Idents and monitors (split label ports) do not display Talk / Listen arrows (see section **4.18 Idents and monitors (split label ports)**).

Key groups display a panel on the right hand side of the item to show if the group is **active talk** (red) or **active listen** (green). However, you **cannot** change the talk or listen status of a key group in PM Pro.

4.18 Idents and monitors (split label ports)

In **Configure Palette** mode, split label ports are displayed on the canvas as:

- Paired idents (**Talk** capability (red)) and monitors (**Listen** capability (green)).

Note: You can configure the colors from **Settings > General > Show monitor in green**.

- It is possible to grant **Talk and Listen** capability to idents / 'Talk' keys in some user panels (for example, pushbutton V-Series panels) in EHX.

However, idents are always treated as **Talk only** in PM Pro.

- Four-wires.

You can assign the ident and monitor parts of a split label as separate items to a conference, IFB or Port Viewer.

The ident is added as a **Talk only** member. The monitor is added as a **Listen only** member.

If you assign a split label as a four-wire to a conference, it is added as *separate* **Talk only** and **Listen only** members.

If you assign a split label as a four-wire to a Port Viewer, the split label is listed as both:

- A normal four-wire in the membership list.

- An ident and a monitor at the top of the viewer.

Dragging away either the ident or the monitor from the Port Viewer is equivalent to turning off either the **Talk** or **Listen** button on the four-wire (the Talk or Listen button on the four-wire is no longer displayed).

Turning off a Talk / Listen button on the four-wire will also result in the ident / monitor disappearing from the top of the Port Viewer.

If you click the space where the Talk or Listen button was displayed on the four-wire:

- The ident or monitor is restored to the top of the Port Viewer.
- The Talk or Listen button reappears on the four-wire in the membership list.

Note: For more information about Talk and Listen buttons, see section **4.17 Controlling Talk and Listen**.

If you drag and drop a split label as a four-wire into an available / unassigned fixed Port Viewer, then it is displayed in the same way as any other four-wire.

Note: For more information about Port Viewers, see section **4.19 Port Viewers**.

4.19 Port Viewers

Port Viewers enable you to visually monitor routing to and from a four-wire port, and also to assign entities to four-wires (sometimes known as **XY routing**). An entity can be a four-wire, panel, telephone, ident or monitor.

In **Configure Canvas** mode, you can create:

- A **pre-populated** Port Viewer by dragging to the canvas one of the four-wires listed under the **Configure Canvas > Directs**.

The target four-wire for the viewer cannot be changed.

- An **unpopulated (empty)** Port Viewer by dragging to the canvas the Port Viewer icon from the **palette > Other tab**.

To populate the viewer, drag and drop a four-wire to the viewer in **Assignment mode**. The target four-wire for the viewer can be changed for any other four-wire.

Note: For more information about creating Port Viewers, see section **4.12.2 Configure Canvas mode**.

The Port Viewer displays:

- The **conferences** of which the monitored four-wire is a member.
- All the **ports** (panels, four-wires, idents, monitors and key groups) the monitored four-wire is connected to.



Figure 4-13: Port Viewer (conferences and port connections)

The connections list of the Port Viewer is automatically updated whenever a port is assigned to (or removed from) a conference of which the monitored four-wire is a member.

To connect an additional port (such as a panel, four-wire, ident, monitor or key group) to the monitored four-wire, drag and drop the item into the Port Viewer.

The new port is displayed in the connections list for the Port Viewer, and a new **talk and listen crosspoint** is created between the new port and the monitored four-wire.

The matrices are updated by PM Pro with the new configuration.

Note: You can copy, move, or exclusively assign panels, four-wires, idents, monitors or key groups to a Port Viewer. For more information about making assignments, see section **4.12.4 Assignment mode**.

You can assign an alias label to a Port Viewer in exactly the same way as conferences. For more information, see section **4.12.3 Alias mode**.

For more information about using audio meters with Port Viewers, see section **4.24 Using audio level meters (Clear-Vu ®)**.

4.19.1 Remote crosspoints display

PM Pro displays **remote** crosspoints (crosspoints that are remote to the matrices that PM Pro is connected to) in the Port Viewer in the same way as **local** crosspoints.

4.20 Setting up a temporary connection between an Associated Panel and a conference

To set up a temporary connection between a local panel and any current conference:

- 1) From the toolbar, select **Meters**, and drag and drop a panel from the palette onto the **Associated Panel** segment of the **Meters** screen. The panel is now an **Associated Panel**.



Figure 4-14: Example Associated Panel segment

- 2) To connect the Associated Panel with a conference on the canvas screen, **click and hold** the **T button** in the top right of the conference display. The Associated Panel is added to the conference list, and the **T button** turns red. Release the **T button** to break the connection with the Associated Panel.

4.21 Setting up an associated monitor

You can associate a monitor with a PM Pro session. Usually, this will be a speaker unit (monitor split port).

- 1) Drag and drop the monitor port onto the **Meters > Associated Monitor** area.
- 2) You can adjust the input and output volume by selecting the right-hand or left-hand area respectively and then using the mouse wheel or the audio slider control.

If **Hide cursor metering** is not selected (default), you can select **Monitoring Enabled** to the right of the canvas and this will route any dynamically metered audio to the associated monitor port as well as to the meter.

4.22 Setting up an Associated Meter Port

You can use a four-wire port as an audio meter, connected directly to the PC running PM Pro, when you assign that four-wire port to **Associated Meter Port** status. This is useful if you do not have an LMC 64 card fitted in your matrix.

To set up an Associated Meter Port:

- 1) Ensure that the four-wire port to be used as an audio meter is directly connected to the PC running PM Pro.

The following table shows the pin connection from a four-wire port (RJ-45 connector) to a 3.5mm microphone jack on the PC:

Four-wire port pins	PC 3.5mm audio jack
1	N / C
2	N / C
3	N / C
4	Tip
5	Ring
6	N / C
7	N / C
8	N / C

Table 4-6: Four-wire port to 3.5mm microphone jack on the PC

In **Settings**, drag and drop a direct four-wire port from the palette onto the **Associated Meter Port** segment of the Settings screen.

Note: Once the four-wire port has been assigned as the Associated Meter Port, it is treated by PM Pro as **audio meter zero**.

Calibrate the audio meter, by entering the required audio threshold in dB (for example, - **3.2**). Click **Apply**.

4.23 Using the Settings screen

The **Settings** screen is used to:

- Enable prompts and various other settings that help you manage the configuration of conferences.
- Select what is visible on the canvas in IFB display modes

To open the **Settings** screen, select **Settings** in the toolbar. You can now select:

- General
- IFB Display
- Advanced

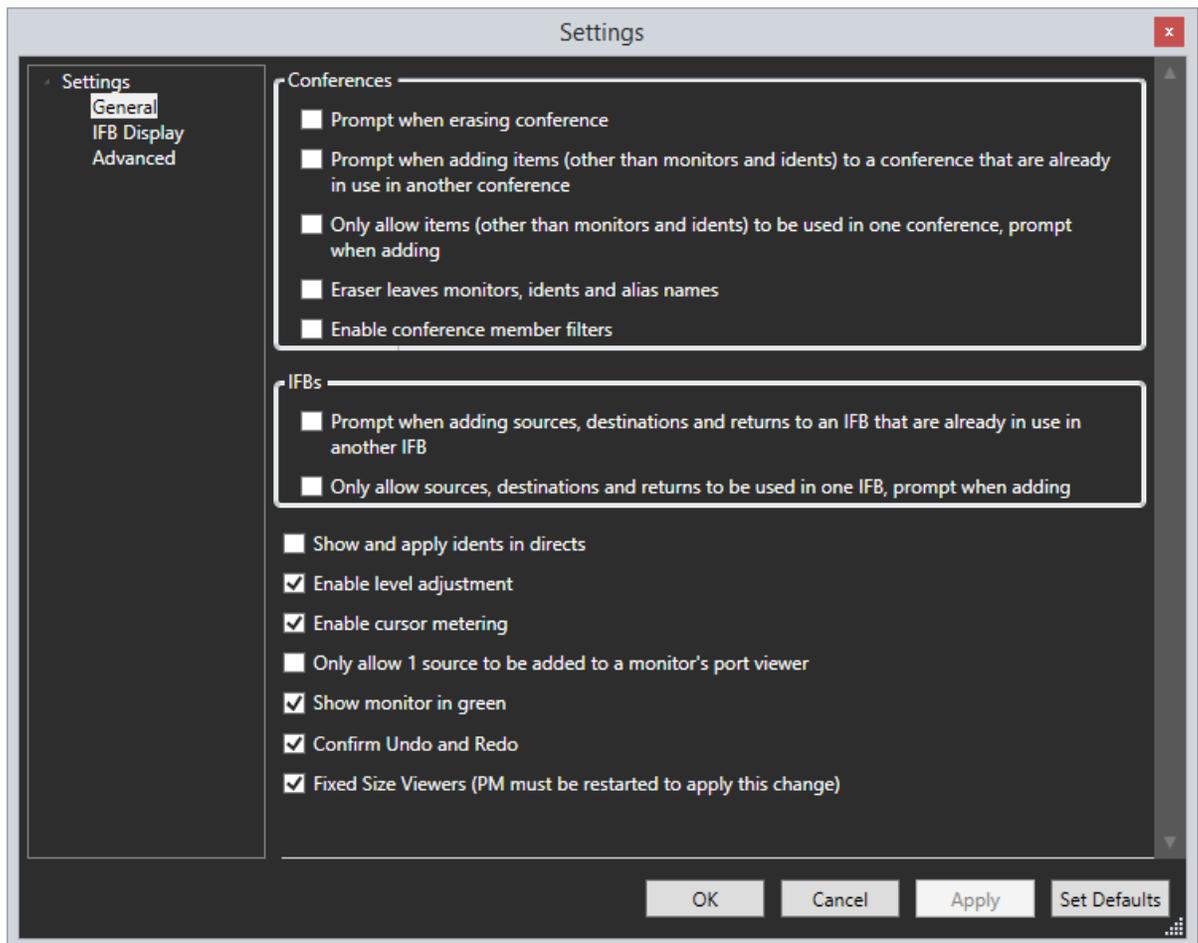


Figure 4-15 General settings

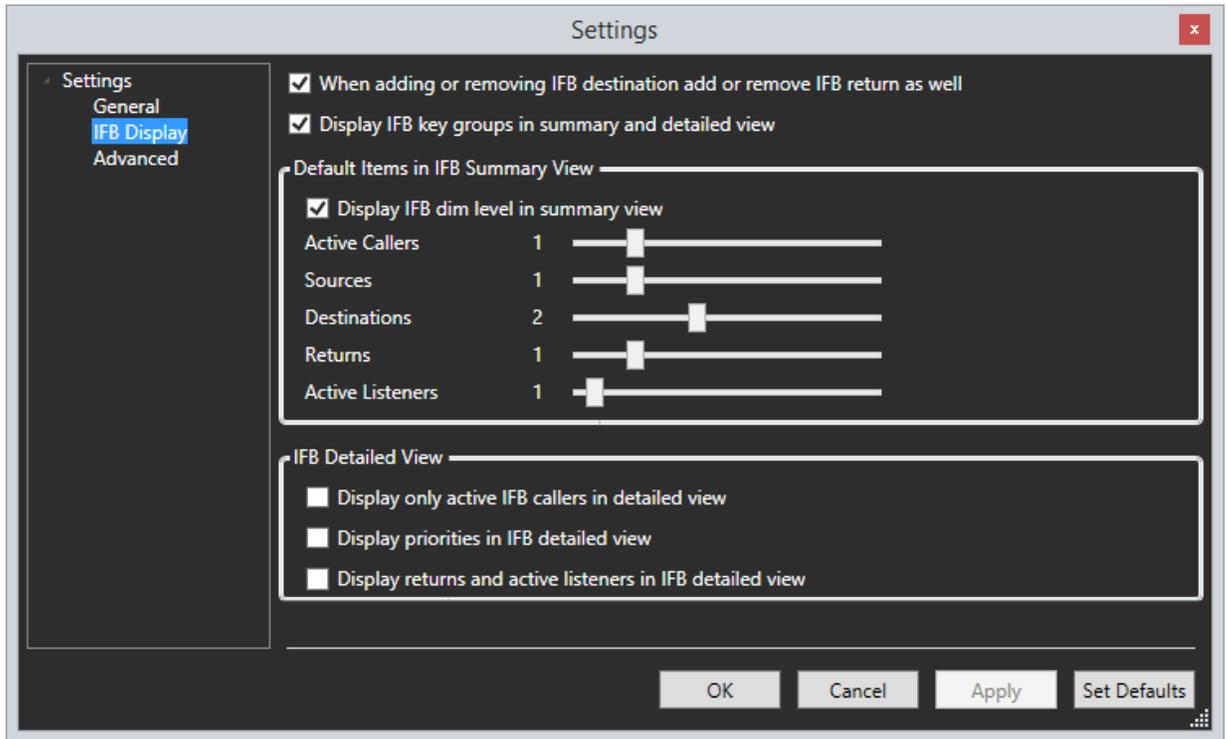


Figure 4-16 IFB Display settings

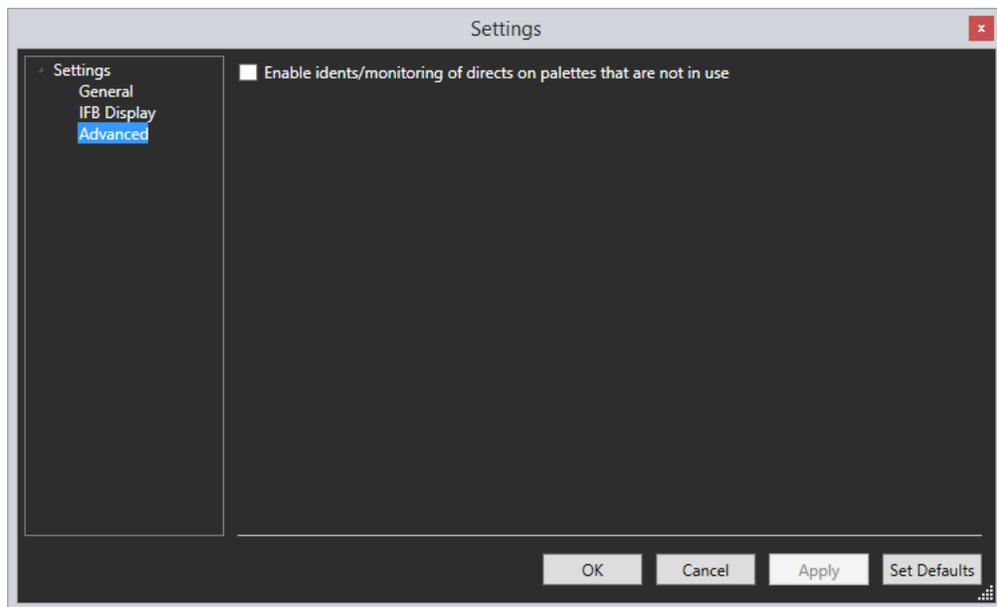


Figure 4-17 Advanced settings

4.23.1 Configuring prompts and other settings

The **General**, **IFB** and **Advanced Settings** segments of the **Settings** screen list prompts and other controls / settings to help you manage the configuration of conferences.

Note: To select or deselect a setting, click the checkbox next to it.

Note: The list of settings comprises:

General	Comments / Description
Prompt when erasing conference (default: off)	The Eraser is used to reset conferences to the EHX configuration default, erasing any changes that were made in PM Pro. Note: To use this tool in Configure Canvas , add the tool to the palette from the Configure Palette toolbar. When the erase tool is dragged to a conference, a dialog is displayed asking you to confirm its erasure. To leave the conference unchanged, click Cancel . To continue with the erasure, click Erase . For more information about the Eraser, see section 4.16 Erasing changes to conferences .
Prompt when adding items (other than monitors and idents) to a conference that are already in use in another conference (default: off) Note: If you are using a macro, this setting does not function. See section 4.26 Batch Mode .	A dialog is displayed to warn you that items you want to add to a conference (such as panels and four-wires), are already in use by another conference. To cancel the item assignment, click Cancel . To complete the assignment, click Apply anyway . Note: Operational issues may arise if you assign items that are already in use. For example, if a port is present in multiple conferences, all the audio from those conferences will be present on that port. The audio interference this causes can make it difficult to use that port for conference communications.
Only allow items (other than monitors and idents) to be used in one place, prompt when adding (default: off).	This setting does not permit you to add items, such as ports, panels and meters, to more than one conference. This setting avoids the operational issues caused by such conflicts (see row above).

General	Comments / Description
<p>Note: If you are using a macro, this setting does not function. See section 4.26 Batch Mode.</p>	<p>A dialog is displayed to warn you that the item(s) are already in use in another conference.</p>
<p>Eraser leaves monitors, idents and alias names (default: off).</p>	<p>When you use the Eraser Tool in Configure Palette mode to reset conferences to the EHX configuration default, any monitors, idents and aliases that were added are preserved. All other changes that you made in PM Pro are erased.</p> <p>For more information about the Eraser, see section 4.16 Erasing changes to conferences.</p>
<p>Enable conference member filters (default: off)</p>	<p>When this setting is enabled, the member filter icon is displayed in the right hand corner of conferences in Configure Canvas mode.</p> <p>To use the member filter, see section 4.15 Filtering members in conferences.</p> <p>Filtering members is part of the conference configuration process. You can only use member filtering in Configure Canvas mode.</p>
<p>Prompt when adding sources, destinations and returns to an IFB that are already in use in another IFB.</p> <p>Note: If you are using a macro, this setting does not function. See section 4.26 Batch Mode.</p>	<p>Displays a warning if you add sources, destinations or returns to an IFB if they are used in a different IFB. You can either cancel or copy the entity to another IFB.</p>
<p>Only allow sources, destinations and returns to be used in one IFB, prompt when adding.</p> <p>Note: If you are using a macro, this setting does not function. See section 4.26 Batch Mode.</p>	<p>Displays a warning if you add sources, destinations or returns to an IFB if they are used in a different IFB. You can move to the new IFB removing it from the old IFB or cancel the change.</p>

General	Comments / Description
Show and apply idents in directs (default: off)	An ident is applied and displayed on four-wires / panels used in conferences.
Enable level adjustment (default: on)	Enables you to adjust the audio levels on panels, four-wires, monitors and idents (see section 4.13 Controlling input and output levels).
Enable cursor metering (default: off)	Allows you to visually monitor audio from an associated monitor.
Only allow 1 source to be added to a monitor's port viewer (default: off)	To prevent issues arising from competing audio sources, you can restrict the number of sources that can be added to a monitor in a Port Viewer to a single audio source.
Show monitor is green (default: on)	Displays monitors as green.
Confirm Undo and Redo	Displays a warning for Undo and Redo.
Fixed Size Viewers (PM must be restarted to apply this change)	Allows you to specify whether port viewers and conferences can be resized. To apply the change, you must save the layout, restart PM and then open the saved layout. Now the change will be visible.

IFB	Comments / Description
When adding or removing IFB destination add or remove IFB return as well (default: on)	Automatically creates an IFB return to the caller.
Display IFB key groups in summary or detailed view (default: on)	Allows you to see the IFB key groups on the canvas.
Display IFB dim level in summary view	Allow you to display or hide IFB dim level in summary view.
Number of active callers displayed	Allows you to use slider controls to determine how many entities are displayed in IFBs in summary view.
Number of sources displayed	
Number of destinations displayed	
Number of returns displayed	

IFB	Comments / Description
Number of active listeners displayed	
Display only active IFB callers in detailed view (default: off)	Allows you to hide potential callers in detailed view.
Display priorities in IFB detailed view (default: off)	Allows you to show or hide priorities in detailed view.
Display returns and active listeners in IFB detailed view	Allows you to show or hide returns and active listeners in detailed view.

Advanced setting	Comments / Description
Enable idents / monitoring of directs on palettes that are not in use	Enables you to assign idents and monitors] to four-wires on the palette, in both Configure Palette and Assignment modes.

Table 4-7: Settings

Note: When you select **OK** from the **Settings** screen, the settings are saved locally. These settings reload automatically the next time that you start PM Pro. The settings are also stored in the .CCR file, and are applied every time you load the .CCR file.

To return to the system default settings, select **Set Defaults**.

4.23.2 Setting user restrictions in Administrator mode

When PM Pro is started in **Administrator mode** (see section **3.2 Command line options**), the **User Restrictions** segment is displayed in the **Settings** screen. The settings in this segment enable a system administrator to restrict the changes that users can make to the project file (*.ccr).

Note: To save any user restrictions to the project file, the project file **must** be in **Administrator mode**. Any user restrictions are lost if the system administrator switches to another operating mode, and then saves the file.

Note: To select or deselect a setting, click the checkbox next to it.

The list of **User Restrictions** settings comprises:

Setting	Comments / Description
Remove configure palette and canvas	When PM Pro is not in Administrator mode, Configure Canvas mode and the Settings button

Setting	Comments / Description
	<p>are removed. Only the Assignment and Alias Label modes are available to the user.</p> <p>This means that the user cannot:</p> <ul style="list-style-type: none"> • Add conferences, Port Viewers, or preset conferences to the canvas, or remove them. • Change the items / devices available to them on the palette. • Change any prompts or other settings. • Assign or modify the Assigned Panel. <p>The user continues to have full control of the conferences and Port Viewers already on the canvas. The user can:</p> <p>Assign items from the palette, and assign aliases. Remove items from both conferences and Port Viewers (even if those items are not present in the palette and / or have been assigned by another user).</p>
Restrict to items on palette	<p>Except in Administrator mode, the user cannot modify the members of conferences and Port Viewers, if they are not present on the palette.</p> <p>Note: Conference members that are not on the palette are displayed in a semi-transparent state to show that they cannot be modified.</p>
Prevent level adjustment	<p>Except in Administrator mode, the user cannot modify port input or output levels.</p> <p>When the user tries to use the mouse wheel to adjust port levels, the level appears to change, but then reverts to the original setting as soon as the adjustment ceases. No level change is sent to the matrix.</p>
Remove cursor [<i>dynamic</i>] meter	<p>Except in Administrator mode, the user does not have access to the dynamic / cursor audio levels meter, located to the right of the canvas screen (see section 4.24.7 Dynamic meter).</p> <p>This restriction may be imposed to prevent the unnecessary usage of system resources.</p>

Table 4-8: User restrictions

4.24 Using audio level meters (Clear-Vu ®)

You can apply Clear-Vu ® audio level meters to conferences and four-wire ports in real-time with PM Pro. The meter setups can be saved to the project (layout) file (*.ccr). Audio level meters can be added to four-wire ports in the palette in a reduced format.

This facility normally requires at least one **LMC-64 audio metering card** to be fitted to the matrix.

Note: You can set up a single audio meter **without** an LMC-64 card in **Settings > Associated Meter Port**. For more information, see section **4.22 Setting up an Associated Meter Port**.

You can configure the number of audio meters provided by an LMC-64 card to **16, 32, 48** or **64** meters in EHX. The same audio meter data can be used by multiple PM Pro clients, which means that multiple assignments of the same audio meter will not use up additional meters.

The total number of available meters:

- Is displayed in PM Pro within the red circle of the meter.
- Updated on all PM Pro clients, every time a meter is applied.

You can still assign meters to a four-wire or conference when zero free meters are reported, provided that the four-wire or conference:

- Already has a meter assigned to it.
- 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, the following message is displayed:

```
There were not enough free meters to fulfil the request.
```

Because the audio level information is broadcast by the LMC-64 cards, the PM Pro 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).

Note: PM Pro does **not** require the IP address of the LMC-64 card.

Warning: *The use of meters consumes PC system resources. If extensive use is being made of audio level metering, a minimum specification PC may not be suitable (see section **1.2 System requirements**).*

Meter functions	Comments / Description
Input meter	Input meters display the audio level into the matrix from a port, after input level adjustment has been applied.
Output meter	Output meters display the audio output level from the matrix to a port after output level adjustment has been applied.
Conference meter	Conference meters display the mixed audio level. Conference members can hear their own audio output if their output level is set to 0dB.

Table 4-9: Meter functions

4.24.1 Adding a meter to a four-wire on the palette

To add a meter to a four-wire on the palette:

- 1) In **Configure Palette**, add the required four-wire to the palette.
- 2) To add an **input meter**, drag the meter from the **Configure Palette** toolbar to the **left-hand** side of the four-wire:
 - The left-hand side of the four-wire turns green.
 - The meter scale is displayed at the **top** of the four-wire.
- 3) To add an **output meter**, drag the meter from the **Configure Palette** toolbar to the **right-hand** side of the four-wire.
 - The right-hand side of the four-wire turns green.
 - The meter scale is displayed at the **bottom** of the four-wire.

Note: You cannot perform output level metering on ports that are **not** on the same system as the LMC-64 card.

Note: If you are performing cross-system metering in a fiber-linked Eclipse system (the port being metered and the LMC-64 card are in different matrices), Clear-Com recommends placing the LMC-64 card in the matrix where most metering is likely to occur.

4.24.2 Removing a meter from a four-wire on the palette

To remove a meter from a four-wire port on the palette:

- 1) Go to **Configure Palette**.

- 2) Drag the audio meter away from the four-wire and drop it on the palette.

4.24.3 Adding a meter to a four-wire on the canvas (pre-populated Port Viewer)

You can add a meter to a four-wire that has been dragged to the canvas, to form a pre-populated Port Viewer.

You can find a list of the available four-wires under the four-wire tab of the palette in **Configure Canvas**. All the four-wire ports present in the system configuration are displayed under the four-wires tab, except four-wire ports configured as either monitors or idents.

Note: You cannot add a meter to an unpopulated (empty) Port Viewer, even after you have assigned a four-wire to that viewer. You can meter activity on this kind of viewer, however, by using the dynamic (cursor) meter (see section **4.24.7 Dynamic meter**).

Note: For more information about pre-populated and unpopulated (empty) Port Viewers, see section 4.18 Idents and monitors (split label ports).

To add an audio meter to a four-wire on the canvas (pre-populated Port Viewer):

- 1) In **Configure Canvas > four-wire tab**, add the four-wire to the canvas.
- 2) Select the **Other tab**. The meter control is displayed in the list of available items.
- 3) To add an **input meter**, drag the meter control to the **left-hand** side of the pre-populated Port Viewer.

The meter is displayed on the left-hand side of the viewer:

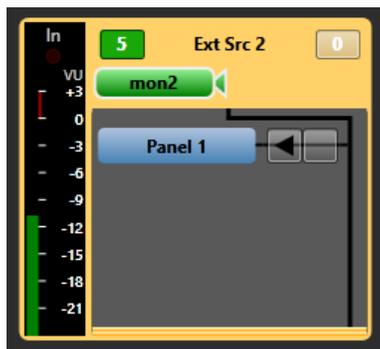


Figure 4-18: Pre-populated Port Viewer with input meter

- 4) To add an **output** meter, drag the meter control to the **right-hand** side of the pre-populated Port Viewer.

The meter is displayed on the right-hand side of the viewer:



Figure 4-19: Pre-populated Port Viewer with output meter

Note: You cannot perform output level metering on ports that are **not** on the same system as the LMC-64 card.

Note: If you are performing cross-system metering in a fiber-linked Eclipse system (the port being metered and the LMC-64 card are in different matrices), Clear-Com recommends placing the LMC-64 card in the matrix where most metering is likely to occur.

4.24.4 Removing a meter from a four-wire on the canvas (pre-populated Port Viewer)

To remove a meter from a four-wire you have dragged to the canvas (pre-populated Port Viewer):

- 1) Go to **Configure Canvas**.
- 2) Drag the attached audio meter away from the Port Viewer and drop it on the canvas.

4.24.5 Adding a meter to a conference

You can only add output meters to conferences, to measure the audio levels being heard by the members of the conference. To add a meter to a conference:

- 1) In **Configure Canvas > Conferences tab**, add the conference to the canvas.

- 2) Select the **Other tab**. The meter control is displayed in the list of available items.
- 3) To add the **output meter**, drag the meter control to the conference. The meter is displayed on the right-hand side of the conference:

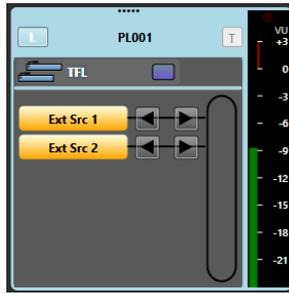


Figure 4-20: Conference with output meter attached

4.24.6 Removing a meter from a conference

To remove a meter from a conference:

- 1) Go to **Configure Canvas**.
- 2) Drag the attached audio meter away from the conference and drop it on the canvas.

4.24.7 Dynamic meter

The dynamic meter (also referred to as the cursor meter) is used to dynamically meter audio levels while in **Assignment** mode.

In **Assignment** mode, if Cursor metering is enabled, and the monitoring enabled button is selected, any level control or monitoring point selected will trigger dynamic metering

- Move the cursor to the item you want to meter.
- To meter the input level of any port, select the level control to the left of the port name.
- To meter the output level of any port, select the level control to the right of the port name.
- To meter a conference, select the **L** control.

- To meter the return feed of an IFB, select the **RL** control, to listen to the IFB feed as heard by the destinations, select the **DL** control.

Note: Unlike the fixed four-wire meters (see section **4.24.3 Adding a meter to a four-wire on the canvas (pre-populated Port Viewer)**) the dynamic meter allows metering of four-wires placed in a Port Viewer.

To access and use the meter:

- 1) In **Assignment mode**, reveal the meter by clicking the meter toggle bar to the right of the canvas screen.
- 2) Click the meter icon to attach the meter to the mouse point. The meter icon follows the mouse point, wherever it is moved on the screen.
- 3) Move the meter over the item (the conference, four-wire or Port Viewer) on the canvas or palette you want to meter:
 - To meter the **input** of a four-wire on either the palette or canvas, move the meter over the **left-hand side** of the four-wire.
 - To meter the **output** of a four-wire on either the palette or canvas, move the meter over the **right-hand side** of the four-wire.
 - To meter the **input** of a four-wire placed in a Port Viewer on the canvas, move the meter over the **left-hand side** of the four-wire.
 - To meter the **output** of a four-wire placed in a Port Viewer on the canvas, move the meter over the **right-hand side** of the four-wire.
 - To meter a conference on the canvas, move the meter **over the conference**.
- 4) After a short delay (500ms), the heading above the large meter on the right of the screen changes to match the point you want to meter, and metering begins.
- 5) The audio level is displayed on the scale to the right of the canvas screen.
- 6) To stop, minimise the metering area, or unselect the monitoring enabled button.

Note: To prevent the unnecessary usage of system resources, system administrators can restrict users from using the dynamic meter. See section **4.23.2 Setting user restrictions in Administrator mode**.

4.25 Virtual Interruptible Foldbacks

Eclipse HX 9.0 offers a new, much-enhanced architecture for interruptible foldbacks (IFBs). IFBs are now created and configured as virtual software entities

This section explains how to:

- Display IFBs
- Interpret the IFB information available within PM Pro
- Dynamically control and configure IFBs

PM Pro 9.0 uses virtual IFBs. These virtual entities have a number of advantages over more traditionally configured interfaces. They:

- Are easier to configure without the need for complicated cabling
- Support multiple sources, destinations and returns.
- Support multiple callers. The callers to the IFB destination, typically the talent such as a news anchor, are given a priority level from 1 – 5 (level 5 has highest priority).
- Allow members of a key group to trigger the IFBs.
- Allow monitoring of program feeds anywhere in the system without the need for patch panels. This enables troubleshooting of audio feeds.

Note: A program feed is typically a mix of audio. Listeners at different locations hear different program feeds as required.

You create IFBs in the EHX Configuration Software. These IFBs are then visible within PM Pro, where you can configure them.

An IFB allows a caller to cut or dim the audio from a configured source to a configured destination. This is typically used in broadcasts where an anchor (destination) listening to a program feed (source) can be interrupted by a director (caller). The anchor will receive audio from the director while the program feed is either dimmed or muted. If the caller priority is set to 1, the audio is mixed with the program feed.

An IFB contains the following components:

- Source – the audio that is heard when the IFB is not triggered.
- Destination – where the audio is routed.
- Dim level – the extent to which the source audio is reduced.

- Caller – an audio source that triggers the IFB. The IFB destination now hears the Caller audio, and the Source audio is dimmed or muted according to the Dim level setting. Callers are prioritized from 1 (lowest) to 5 (highest) to determine who has precedence in the feed. The default priority is 3.
- Return/Listen:
 - A return listen enables the caller to hear the anchor/talent.
 - A destination listen can be used to monitor program feeds. The destination listen allows a caller to monitor the audio sent to the anchor.

Typical IFB use in a broadcasting scenario is illustrated in Figure 4-21 and Figure 4-22.

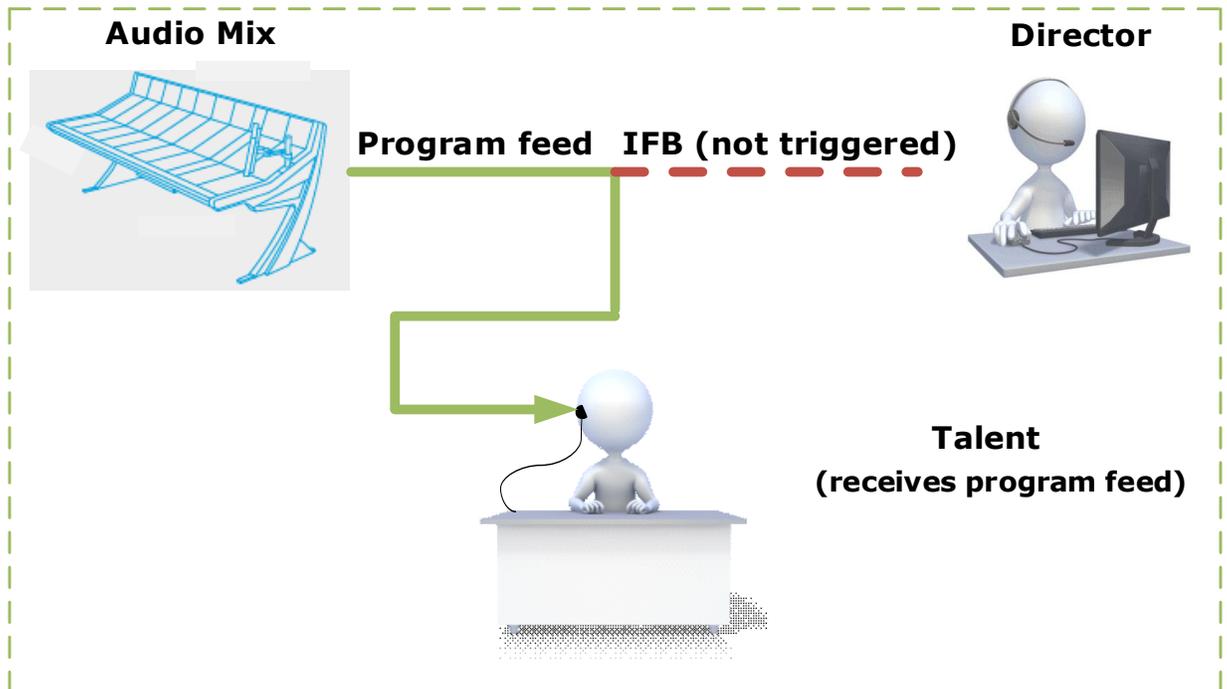


Figure 4-21 Broadcast scenario with no IFB trigger.

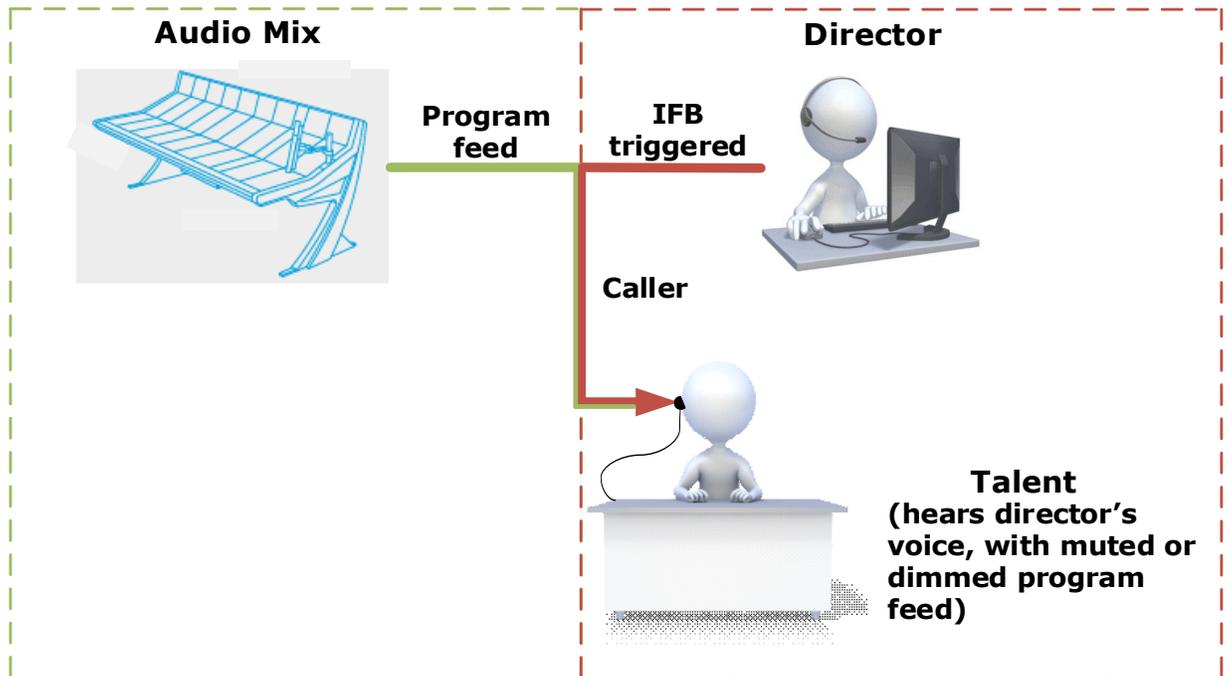


Figure 4-22 Broadcast scenario with IFB trigger

Audio mix

The program feed usually consists of a mix minus combination of audio. This means different listeners in the broadcast location are fed different audio mixes as required. Figure 4-23 shows a broadcasting application with audio mixing, where:

- **Mix minus 1** is Anchor 1 + Anchor 2 minus Remote
- **Mix minus 2** is Anchor 2 + Remote minus Anchor 1
- **Mix minus 3** is Anchor 1 + Remote minus Anchor 2

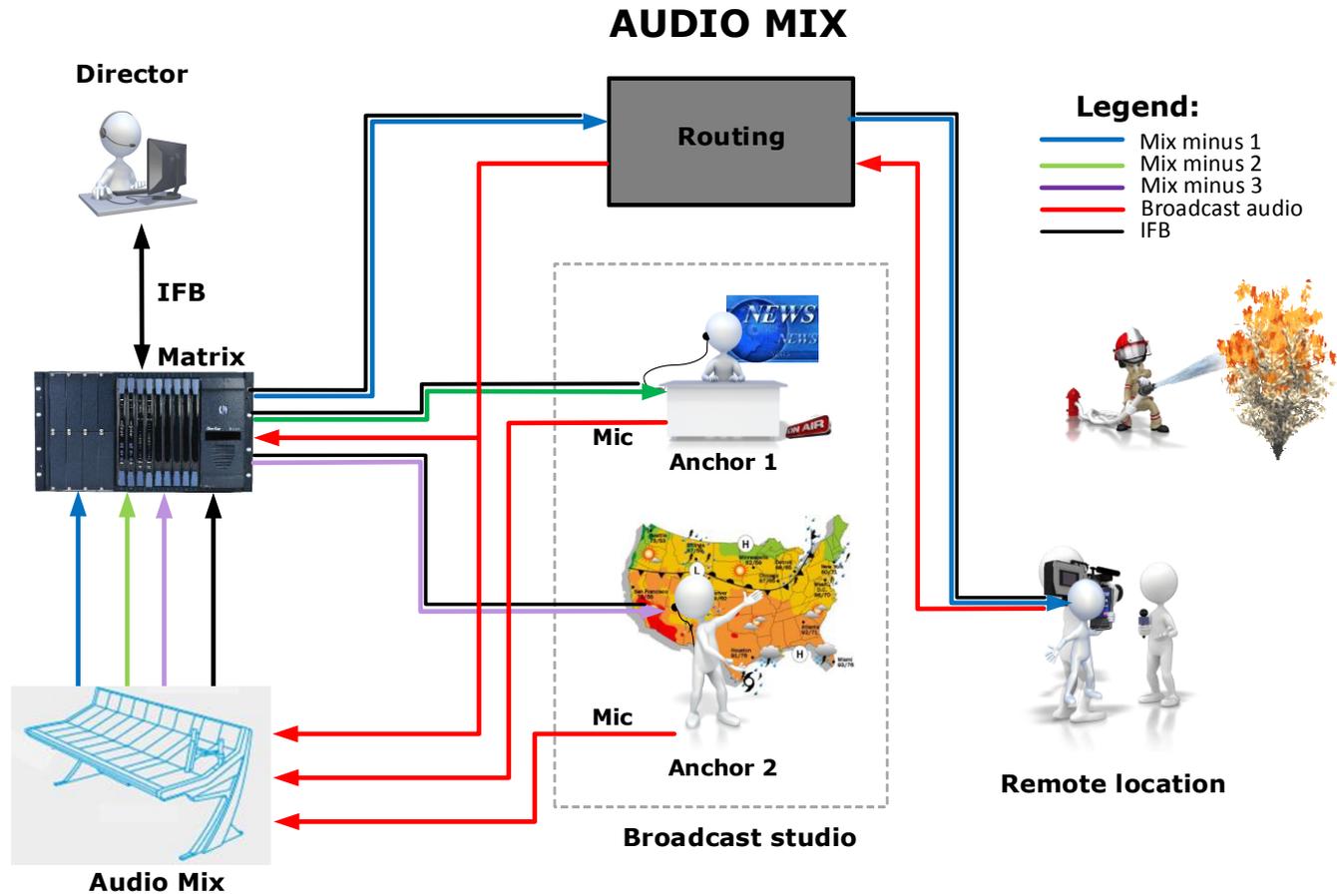


Figure 4-23 Audio mix in broadcasting application

4.25.1 Displaying and selecting IFBs

To display IFBs:

- 1) Select **Configure Canvas**.
- 2) At the top of the palette, select **IFBs**.

A list of available IFBs appears.

Note: The IFBs that appear are created in the EHX Configuration Software. You can dynamically configure and route them from PM Pro.

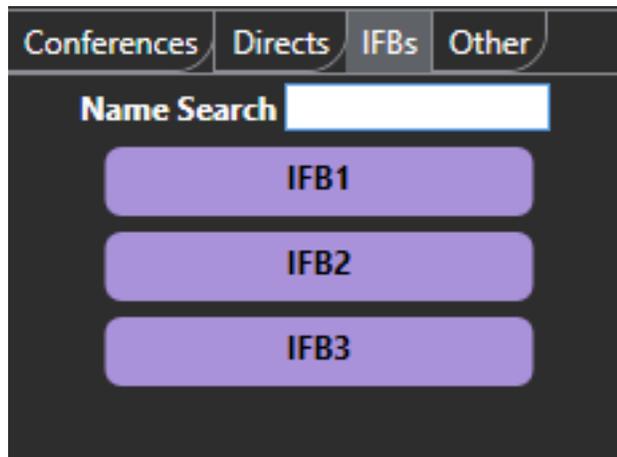


Figure 4-24 List of available IFBs

You can drag an IFB from the palette to the canvas in the same way as a conference or port viewer.

Note: Use the **Control** key to select more than one IFB.

4.25.2 Dragging IFBs to the canvas

If you drag an IFB to the canvas, it displays in summary view:

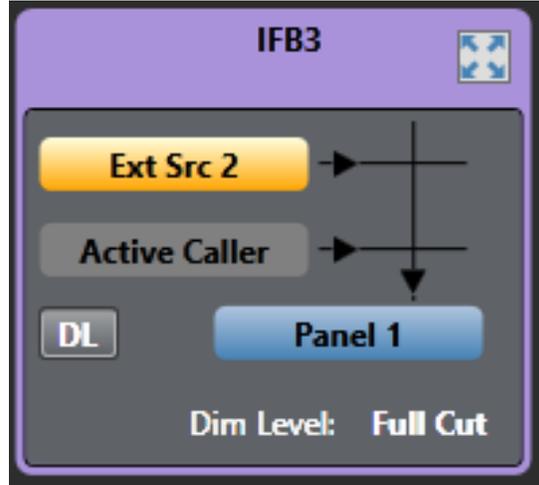
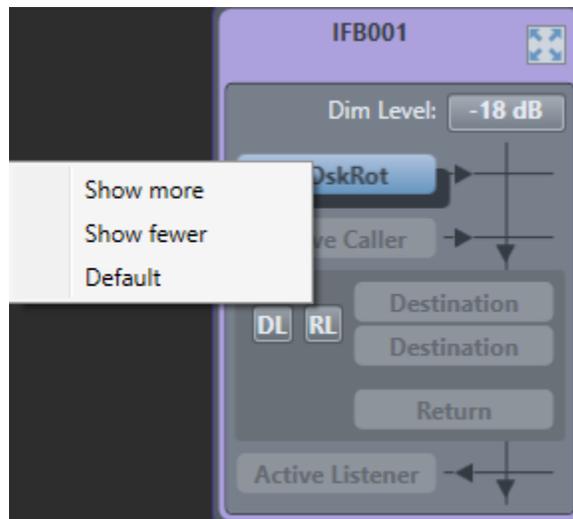


Figure 4-25 IFB in summary view

Note: In **Assignment** or **Alias** mode, you can also display an IFB in detail view. See section **4.25.4 Viewing an IFB in Detail view**.

If an IFB has more than one Source or Destination, the corresponding port on the IFB screen displays with a gray shadow.

Note: If you right-click on the port, the following context menu appears:



Select **Show more** or **Show fewer** to make more or fewer sources and destinations visible.

You can also drag and drop a Key Group to an IFB from another IFB, a port viewer or a conference.

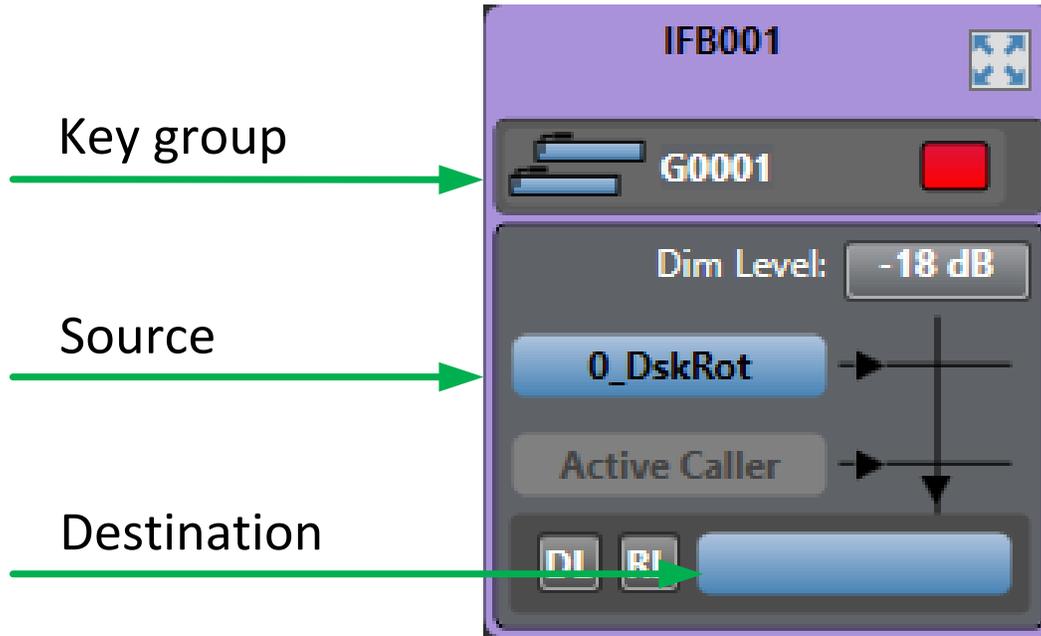


Figure 4-26 IFB with Key Group

The information displayed in the IFB in summary view depends on what you select in the **Settings > IFB Display > Default Items in IFB Summary View**. You can choose to view or hide:

- The IFB dim level

You can also use the slider controls to determine how many of the following appear:

- Active Callers
- Sources
- Destinations
- Returns
- Active Listeners

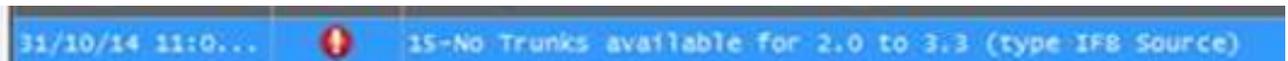
The IFB summary and Detailed views can show the current Active listeners for an IFB (configurable in the respective Settings areas). Active listeners are ports that are currently listening to the IFB, that is hearing the audio from the ports defined as Returns for that IFB. This only occurs if the listen is triggered via an IFB listen key or via a Route configured as Listen to IFB Return. It does not occur if a listen key to a port that is also configured as a Return is pressed.



For more information, see section **4.23 Using the Settings screen.**

Note: All IFB elements can be located on different matrices.

If no trunk is available for a remote IFB element a message like the following is displayed in the Event log of the Matrix that owns the IFB.



The IFB on the PM canvas will also Pulse between its normal colour and a dimmed colour when there is a remote IFB element (Source, Caller etc.) that is not being routed due to no trunk being available.

When you have positioned your IFBs in the canvas, switch to **Assignment** mode to add or remove sources, destinations or returns.

To add a source, destination or return:

- 1) Ensure that PM Pro is in **Assignment** mode.
- 2) Drag the port from the palette to the source, destination or return area on the IFB. If one or more ports are already positioned on the source or destination area, they are replaced by the drag and drop. If it is dropped onto an empty IFB entity location (shown by a grayed port outline with the entity type written in it, for example Source) then it is added to the other assignments.

Note: Use the **Control** key to select multiple ports.

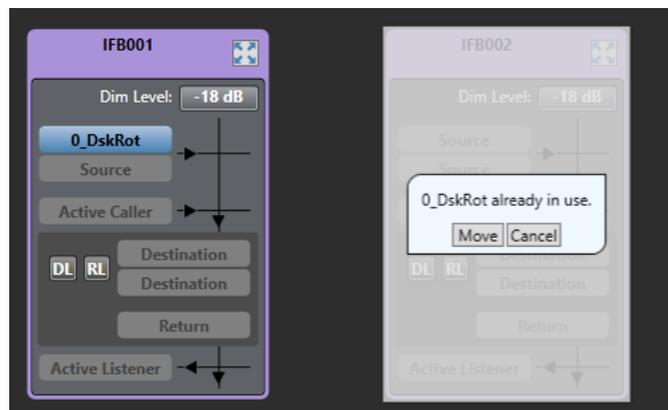
Note: Any port added as an IFB destination is automatically added to the IFB returns if this feature is enabled in **Settings**.

Note: If **Prompt when adding sources, destination or returns to an IFB that are already in use in another IFB** is enabled in the **Settings** screen under IFBs, a warning message appears if you attempt to add a port that is already used in another IFB:



- 3) Click **Apply anyway** to complete the assignment. The port will now be assigned to multiple IFBs. Or **Cancel**.

If **Only allow sources, destinations and returns to be used in one IFB, prompt when adding** is enabled in the **Settings** screen under IFBs, a warning message appears if you attempt to add a port that is already used in another IFB:



- 4) Click **Move** to complete the assignment or **Cancel**. Clicking **Move** will move the port from its present position to the new IFB.

To remove a source, destination or return:

- 1) Ensure that PM Pro is in **Assignment** mode.
- 2) Drag the port from the source, destination or return area to the palette.
If there is more than one source, destination or return, only the displayed port is removed.

4.25.3 Adjusting audio levels

From summary view, you can adjust the IFB dim level.

Note: Ensure that you first select **Settings > IFB Display** and then select **Display IFB dim level in summary view**.

- 1) Select the **Dim Level**.
- 2) Use the dim level meter to adjust the dimming. You can either drag the slider control to the required level, or use your mouse wheel.



Figure 4-27 Dim level button and meter

Note: If you have a monitor port, you can dynamically monitor the Destination Listen (DL) and Return Listen (RL), but you cannot adjust the audio levels. For more information, see section **4.21 Setting up an associated monitor**.

4.25.4 Viewing an IFB in Detail view

In **Assignment** view, you can open an IFB in Detail view. This shows an expanded version of the IFB. In this view you can see the audio crosspoints that exist in the IFB. To open an IFB in Detail view from summary view, either:

- Click on the expand button
- Double-click anywhere on the title area at the top of the IFB window.

Figure 4-27 and 4-28 show the IFB detailed views.

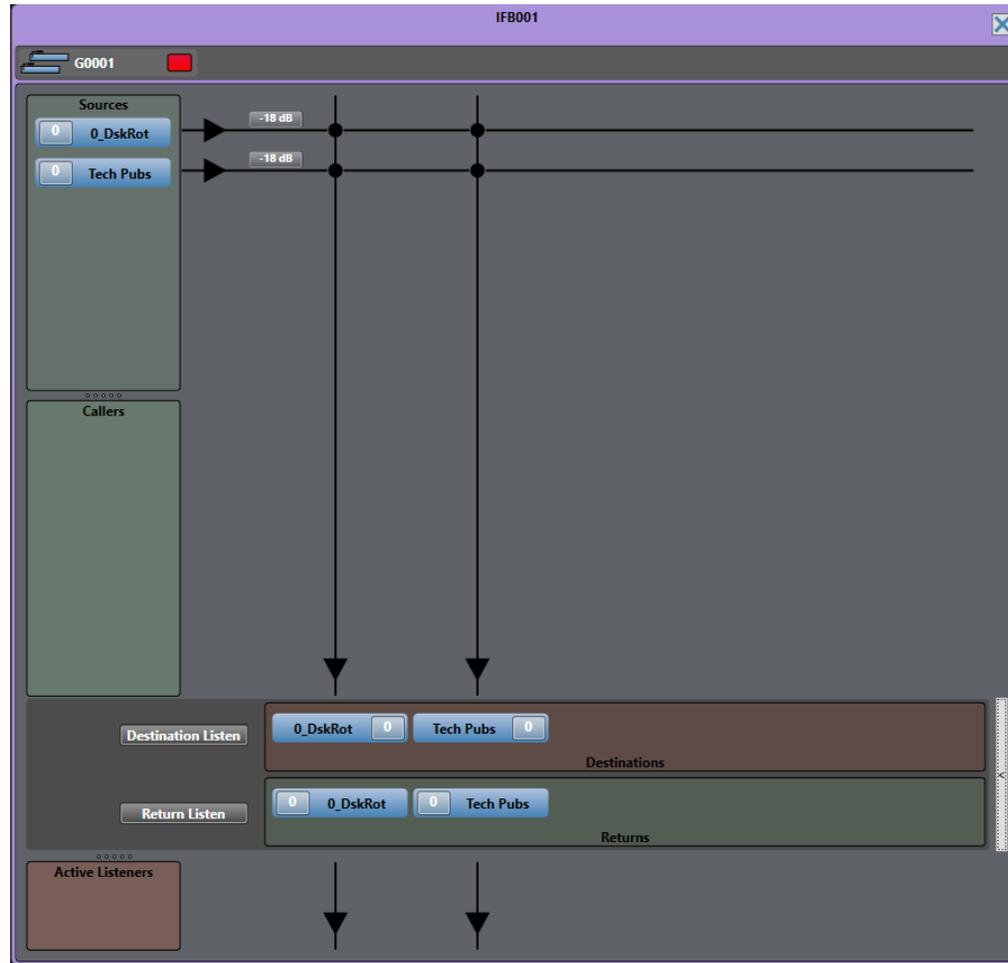


Figure 4-28 IFB in detailed view

The information displayed in the IFB in Detail view depends on what you select in the **Settings > IFB Display > IFB Detailed View**. You can choose to display:

- Only the active IFB callers
- The IFB priorities
- The advanced IFB detailed view. This view shows the IFB return routing to the caller.
- Active listeners.

For more information, see section **4.23 Using the Settings screen**.

In detailed view you can:

- View, add and remove sources, destinations and returns

Note: You can view the IFB priority for sources. Select **Settings > IFB Display > Display priorities in IFB detailed view**.

- View a list of active and potential callers. This list is sorted alphanumerically. An active caller displays with a crosspoint to the destination.

Note: You can choose not to display potential callers in the **Callers** list. Select **Settings > IFB Display > Display only active IFB callers in detailed view**.

- Adjust port input gain on callers and sources
- Adjust port output gains on destination and port input gains on return listeners.
- Adjust IFB dim levels

Note: You can also adjust port input and output gains from the canvas. See section **4.13 Controlling input and output levels**.

Add and remove sources, destinations and returns by drag and drop as for the summary view.

Use the level meter to adjust port gains as for the summary view.

When an IFB caller is active, the source and any other caller of lower priority are dimmed.

Audio from IFB callers with the same priority is mixed.

Dynamic metering is available on the input and output levels of the ports. In the IFB, Destination Listen and Return Listen metering points are also available.

4.26 Batch Mode

From Batch Mode, you can record, edit and run macros that enable you to quickly set a conference or venue. It also enables you to easily reapply PM Pro actions in the event of a matrix reset. In Batch Mode you can:

- Record a macro
- Edit a macro
- Run a macro forwards or backwards
- Save a macro to a storage file
- Load a macro from a storage file
- Delete a macro
- Concatenate macros

Each macro consists of a series of recorded actions. You can include any action that has a direct affect on the matrix such as adding ports or changing audio levels. Every action that you record appears in the Batch Mode window on the right-hand side of screen.

Note: In Simulation Mode, you can record and save a macro offline for later use in an online configuration.

Note: Macros created using Batch Mode will NOT apply the some of the settings specified in **4.23 Using the Settings screen**. For more information, refer to this section.

4.26.1 Viewing the Batch Mode screen

To see the Batch Mode screen, select **Batch Mode** on the main menu bar. The screen appears to the right of the canvas. Select **Batch Mode** again to remove the screen.

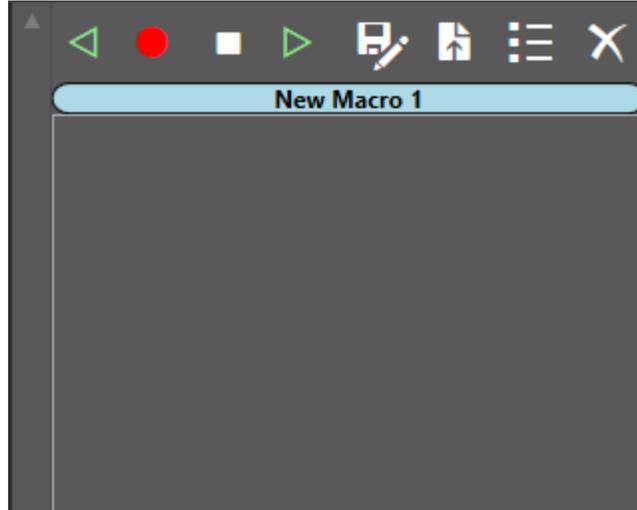


Figure 4-30 Batch Mode screen

The screen contains a row of icons along the top, and a window that displays any macro steps that are recorded.

4.26.2 Recording and running a new macro

To record a new macro:

- 1) Select **Batch Mode** on the main menu bar.



Figure 4-31 Menu bar

The Batch Mode screen appears.

- 2) In the title bar, edit the default macro name as required.

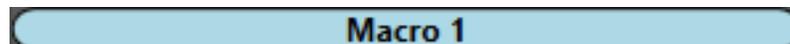


Figure 4-32 Title bar

- 3) Click 

Note: When macro recording is active, the Record icon flashes.

- 4) Start using Production Maestro as normal. All the actions that affect the Matrix will be recorded. Each step appears listed the Batch Mode window.
- 5) To stop recording the macro. Click 

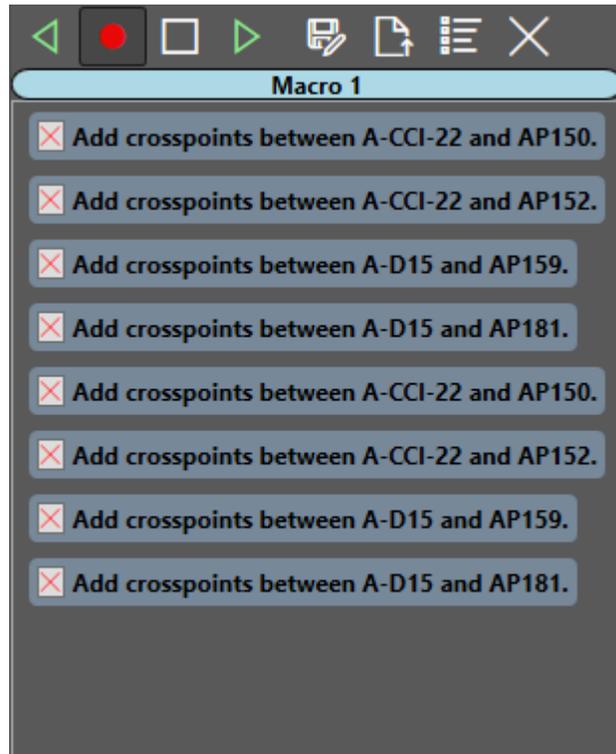


Figure 4-33 An example of a macro

4.26.3 Saving a macro

To save a macro:

- 1) Click 
 - 2) Navigate to a location to save the macro.
- Note:** PM Pro macros are saved in `.hxpmm` format.

4.26.4 Loading and running a macro

To load a macro that has already been recorded:

- 1) Click , and navigate to the location where the macro is stored.
- 2) Select the macro and click **Open** or double-click the macro. The macro is loaded into PM Pro.
- 3) To run the macro, click .
- 4) To run the macro in reverse, click .
- 5) To stop the macro. Click .

4.26.5 Deleting a macro

To delete a macro that is loaded into PM Pro:

Click .

Note: This will delete the macro from PM Pro. If the macro is saved to another location, you can still retrieve it.

4.26.6 Editing macros

You can add or remove steps from an existing macro. To do so:

- 1) Click , to locate and load the required macro.
- 2) To add one or more steps:
 - a) click  to begin recording, and then add any required steps. These are appended to the existing steps in the macro.
 - b) When you are finished adding steps, click  to stop.
- 3) To remove steps from a macro:

a) From the Batch Mode window, select the step to be removed.

b) Click .

4.26.7 Concatenating macros

To append the steps in one macro to the steps in another:

- 1) Click  to locate and load the first macro.
- 2) Click  and navigate to the location of the second macro.
- 3) Select the macro and click **Open** or double-click the macro. The steps of the second macro are appended to those of the first.

5 *Installing Production Maestro Pro on an iOS handheld device*

You can use Production Maestro Pro on a handheld device. Devices currently supported include:

- iPad
- iPhone

To use PM Pro on a handheld device you must:

- 1) Install Microsoft Remote Desktop on the handheld device from your device's application store.
- 2) Install a virtual machine on your PC for each handheld device.
- 3) Install PM Pro on each virtual machine.
- 4) Use Microsoft Remote Desktop to log into the virtual machine assigned to the device.

5.1 **Installing Microsoft Remote Desktop**

To install Microsoft Remote Desktop:

- 1) Open your device's application store.
- 2) Search for Microsoft Remote Desktop.
- 3) Select **Install**.

5.2 **Installing a virtual machine on your PC**

Note: You require a virtual machine for each handheld device that runs PM Pro.

Each virtual machine requires approximately 2 Gigabytes of RAM. Before installing virtual machines, ensure that you have sufficient memory. For example, with 8 Gigabytes of RAM, you could install up to three virtual machines and retain 2 Gigabytes of RAM for other applications.

To install a virtual machine:

- 1) In the left hand side of the Windows 8.1 taskbar, right click on the **Windows** icon, and then select **Programs and Features**.
- 2) In the right hand side of the screen, select **Turn windows features on or off**.

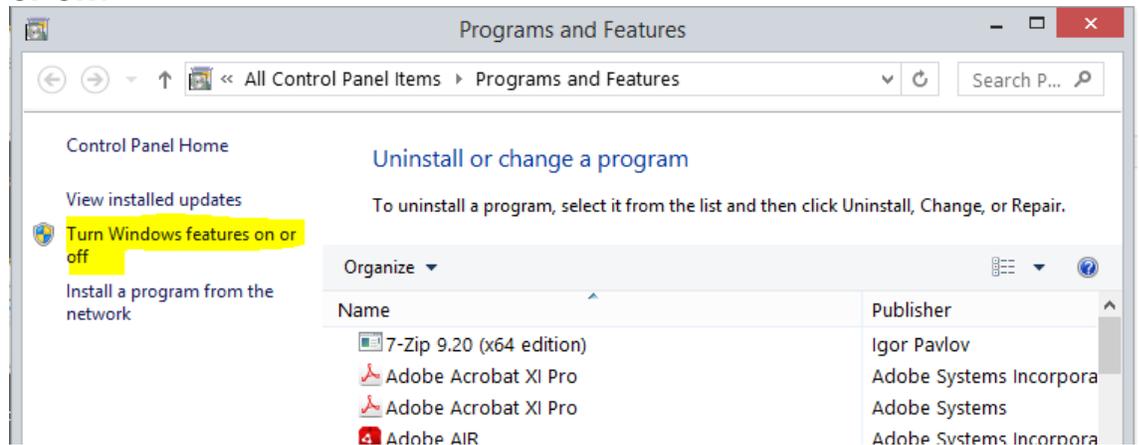


Figure 5-1 Programs and Features

- 3) In the **Windows Features** screen, select **Hyper-V** and then **OK**.

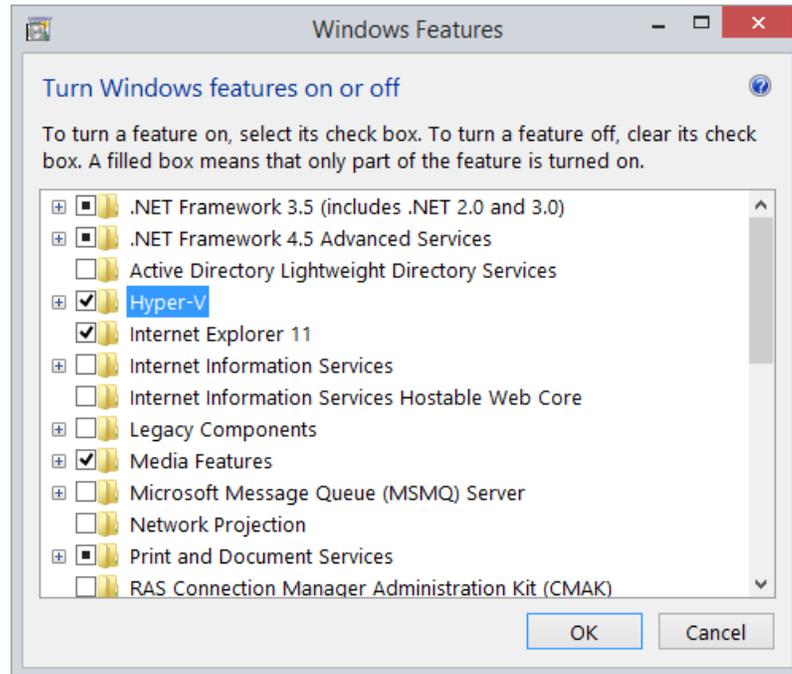


Figure 5-2 Windows Features

- 4) Start Hyper-V Manager.
- 5) From the left hand hand of the **Introduction** screen, select **Hyper-V Manager**, and then select **Connect to Server ...**
- 6) Select **Local computer**.

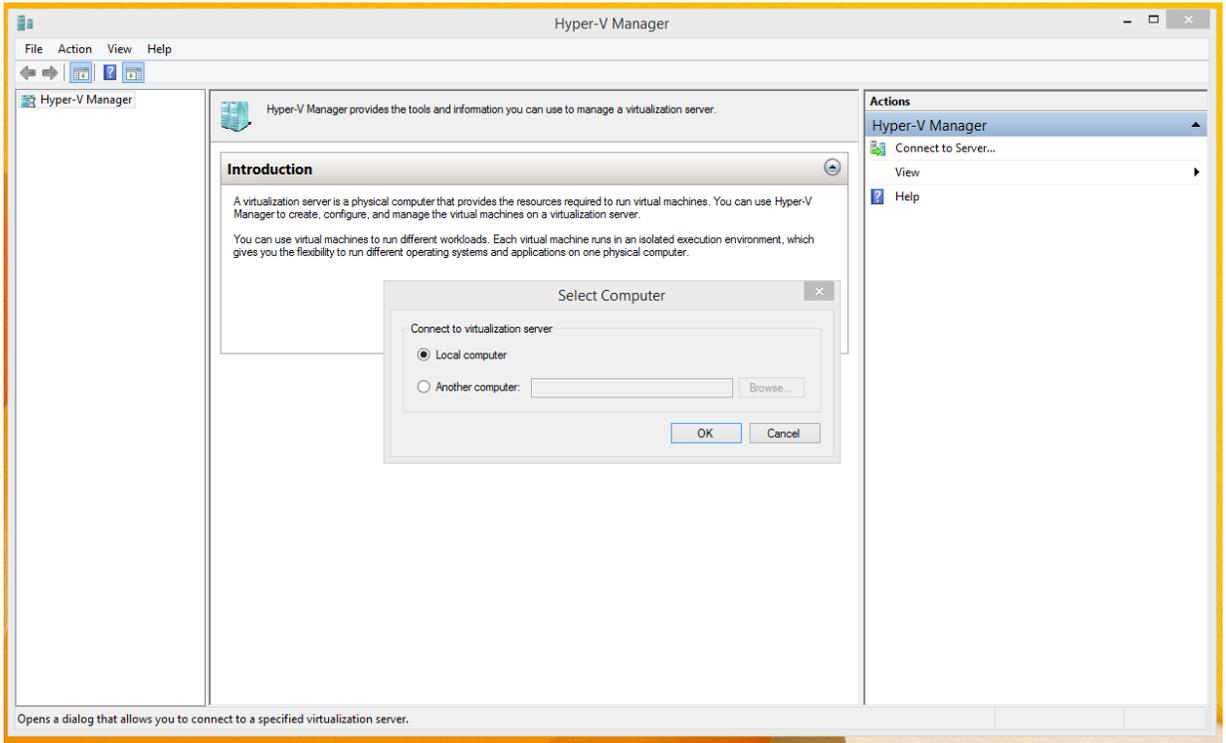


Figure 5-3 Hyper-V Manager

- 7) From the right hand side of the **Hyper-V Manager** screen, select **Virtual Switch Manager...**

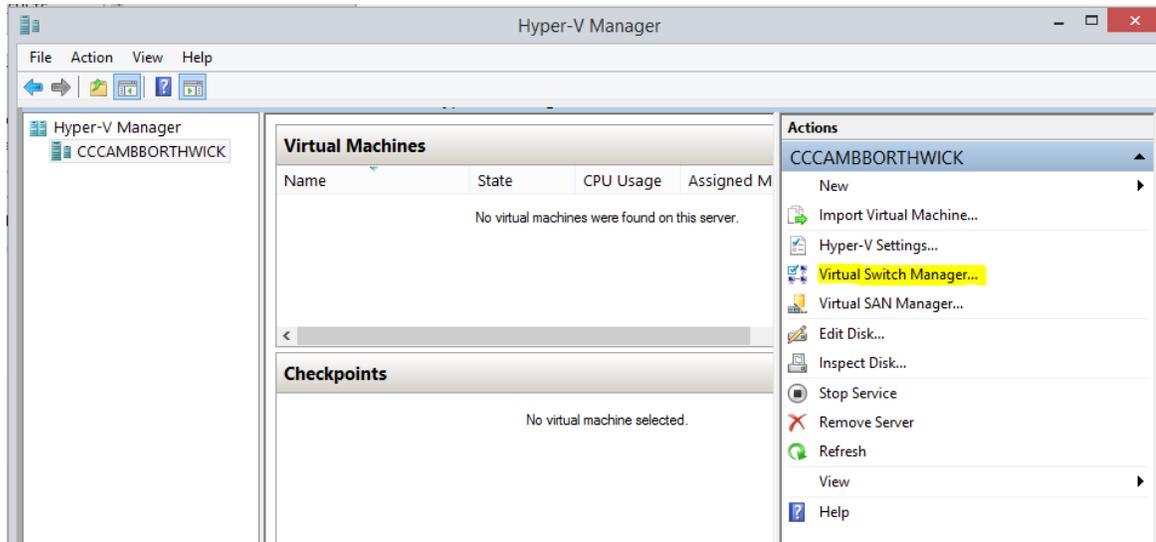


Figure 5-4 Hyper-V Manager

- 8) From the **Virtual Switch Manager** screen, select **External** and then **Create Virtual Switch**.

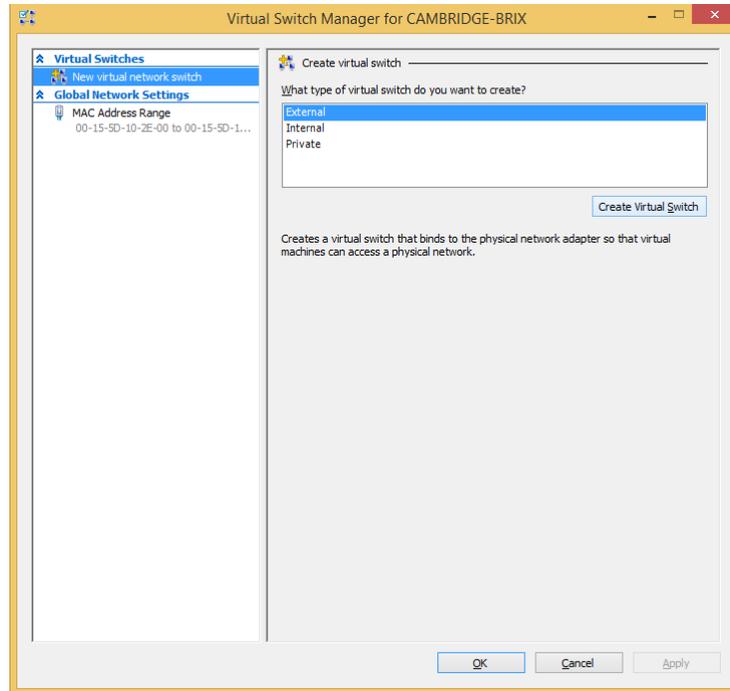


Figure 5-5 Virtual Switch Manager

- 9) From the **Virtual Switch Properties** window:
- Enter a name for the virtual switch
 - Select **External Network**, and then, from the drop down list, select the wired control that is installed on your system.
 - Select **Allow management operation system to share this network adaptor**.

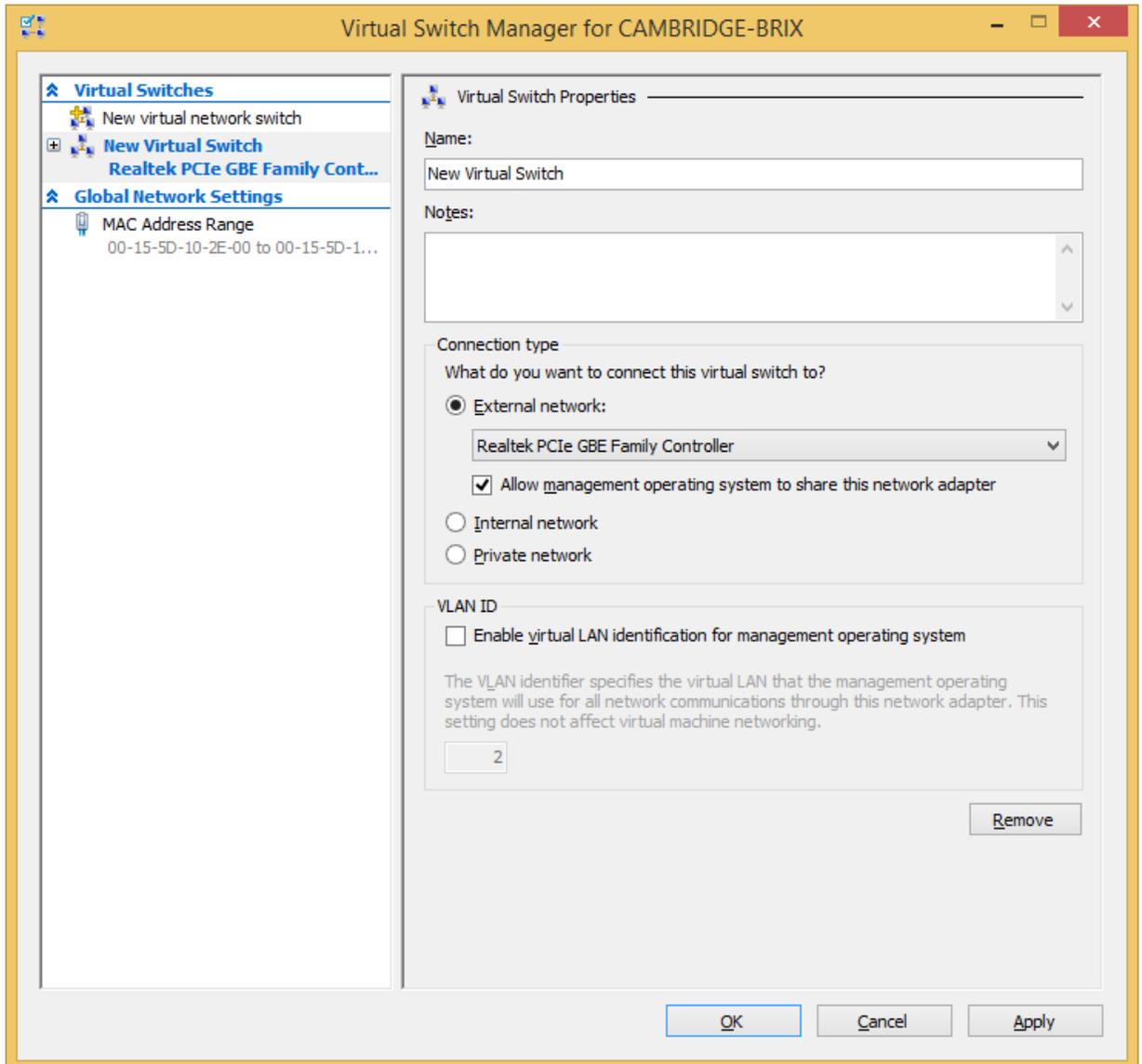


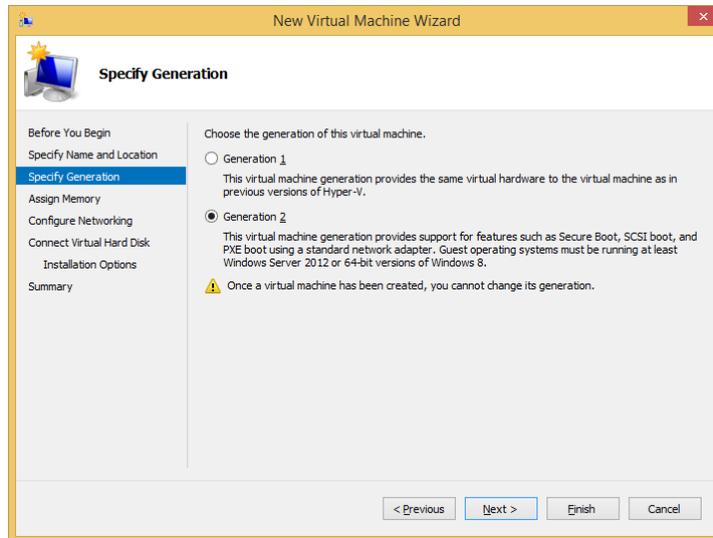
Figure 5-6 Virtual switch options

- 10) The **Apply Networking Changes** warning dialog appears. To continue, select **Yes**.
- 11) If you have a virtual machine already installed on your system, from the Hyper-V Manager screen, select **Import Virtual Machine ... and follow**

the instructions from the wizard. You will be asked to navigate to the location of the virtual machine.

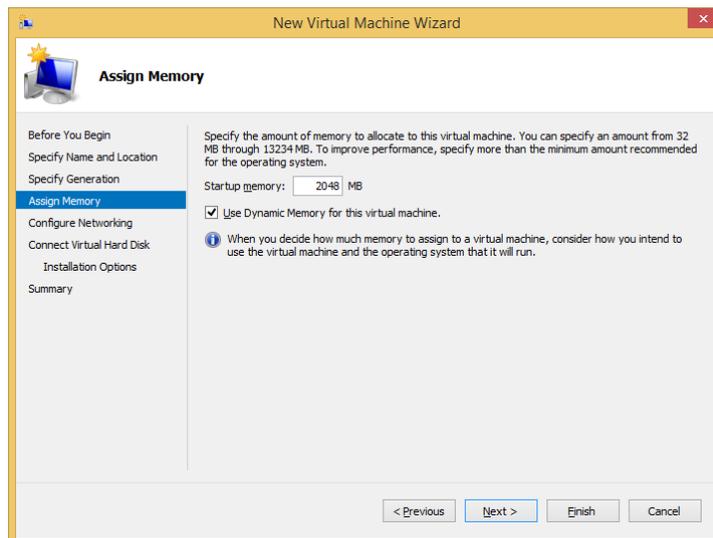
If you do not have a virtual machine already installed on your system, select **New > Virtual Machine ...** and follow the instructions from the wizard.

Note: When asked to specify a generation, select **Generation 2**.



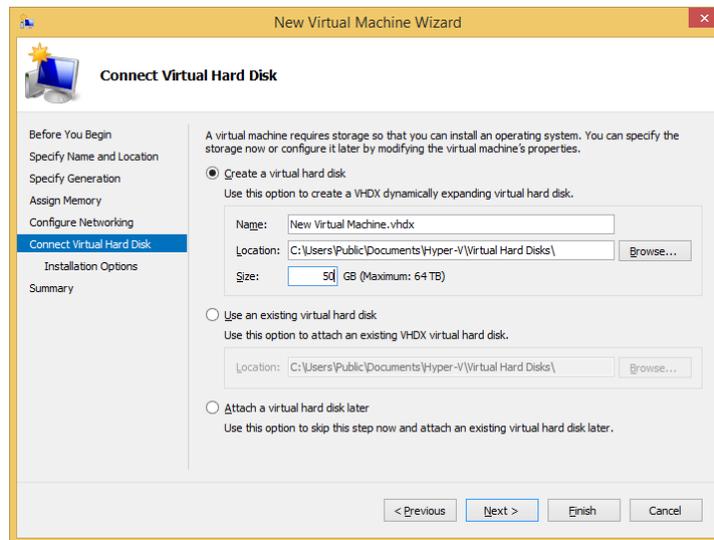
When asked to assign memory, enter **2048** in the **Startup memory** field.

Note: You can install a minimum of 1024 MB.

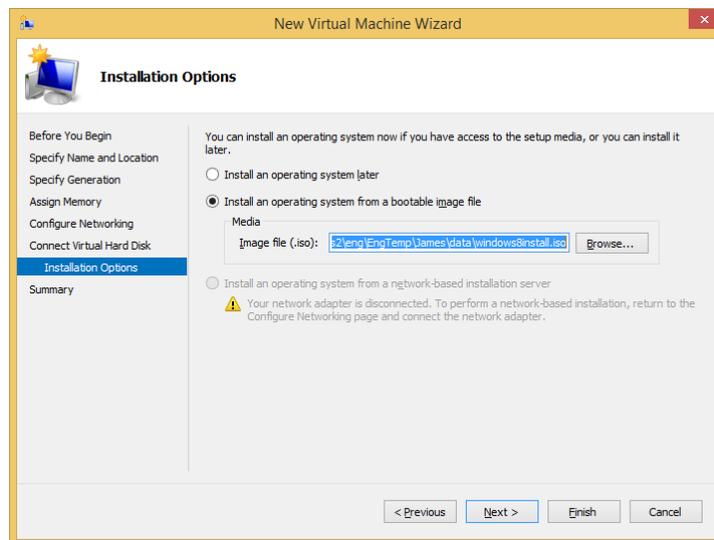


In **Configure Networking**, select the virtual switch that you created earlier.

In **Connect Virtual Hard Disk**, enter **50** in the **Size** field.



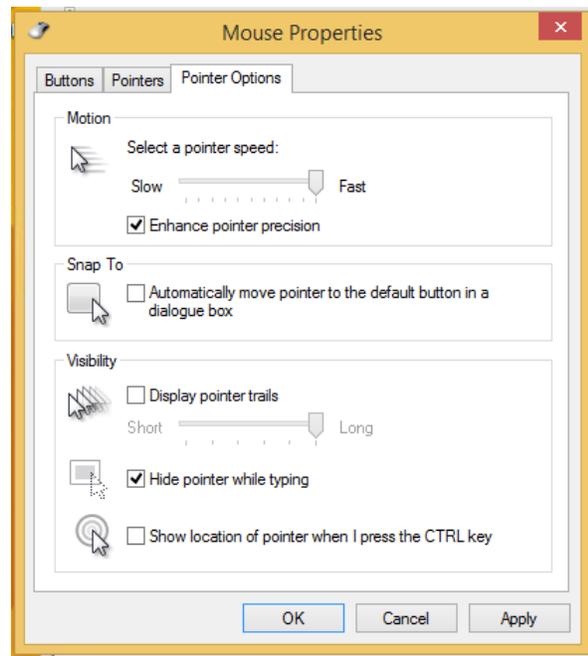
In **Installation Options**, select a bootable Windows installation file (.iso).



12) Select **Start Virtual Machine**.

13) Follow the instructions to install and configure Windows 8.1.

Note: After Windows 8.1 is loaded, for ease of use, select **Control Panel > Mouse > Pointer Options** and increase the pointer speed.



14) Install PM Pro on the new virtual machine. For more information, see section **2 Installing Production Maestro Pro**.

15) Start PM Pro, and assign it to the Startup menu.

5.3 Using PM Pro on a handheld device

- 1) Start the **Microsoft Remote Desktop** application.
- 2) Enter the IP address of the virtual machine that you installed in section 5.2, your User Name and Password.
- 3) PM Pro is now visible on your handheld device.

6 Glossary

Term	Definition
Analog Port	Any of the matrix 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.
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 the Production Maestro Pro software which can have any user labeled background.
Category-5 (CAT-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: The metal housing for the circuit cards and power supplies. The circuit cards. The power supplies. The rear panel connectors which connect the matrix hardware to panels and interfaces.
Conference	An internal matrix virtual partyline or busbar where many panels and interfaces can talk onto or listen from the party line without talking to themselves.

Term	Definition
Destination	A device such as an intercom panel, belt-pack, or interface to which audio signals are sent. The device from which audio signals are sent is called a source.
E-DANTE64-HX	A matrix interface card that is enabled to work with Dante network protocols and software, allowing you to transport many channels of high quality audio via a Clear-Com matrix to multiple Dante enabled devices using standard Ethernet network structure (up to 64 channels per E-DANTE64 card).
EHX	EHX is the EclipseHX configuration software. EHX guides the operation of the 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.
FreeSpeak II™	Digital wireless communications product.
Full 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.
Hopping	Refers to making a trunk connection through other matrices to a destination matrix.
IFB	<p>Interruptible Foldback. The term foldback refers to sending program audio / feed, 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.</p> <p>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.</p>

Term	Definition
Interface module	A piece of electronic hardware designed to convert the four-wire signals of a central matrix port to some other form of communication, such as 2-wire partyline, telephone, etc. The interface module is connected to a central matrix port. The external non-four-wire device is then connected to the interface module.
i-Series	The i-Series family of user panels includes two display stations, two non-display stations, two expansion panels, and a level-control panel. Eclipse also supports V-Series panels (see below).
ISO	The ISO function, short for panel ISOLation, allows a panel operator to call a destination, interrupting all the other audio paths for that destination, and establish a private conversation. When the call is completed the destination's audio pathways are restored to their original state before the interruption.
Key group	Key groups provide a way of assigning a label to multiple panels simultaneously even within a networked matrix system. Once the Key groups have been defined using EHX, all the keys within a Key group can be changed with a single assignment in Production Maestro Pro (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.
MADI	Multichannel Audio Digital Interface. The MADI or AES10 electronic communications protocol defines the data format and electrical characteristics of an interface carrying multiple channels of digital audio.
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, key group and Monitor selection screen in Production Maestro Pro.

Term	Definition
Panel	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.
Partyline	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, the program audio is the audio that is broadcast on air.
Rack Unit (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 (44.45mm) of vertical mounting space, 2 RU is 3.5 inches (88.9mm), 3 RU is 5.25 inches (133.35mm), and so on.
Remote panel	Any intelligent intercom device connected to the back-panel ports of the matrix. This term does not refer to devices connected through interfaces.
Sidetone	The sound of the panel operator's voice, as heard in their own earphone(s) as they speak.
Source	In this guide, the term source refers to a device (such as an intercom panel, interface, or belt-pack) that sends audio into the matrix. The device to which audio is sent is called a destination.
Virtual IFB	A new IFB model included in Eclipse 8.7 and above.
VOX	In the Eclipse system, when audio at a panel exceeds a threshold, a light is activated at the panel's port card to visually cue the operator. The threshold level is set in the EHX configuration software.
V-Series	User panels used with Eclipse systems, providing advanced intercom facilities. Available in rack mount and desktop formats. i-Series user panels are also supported (see above).