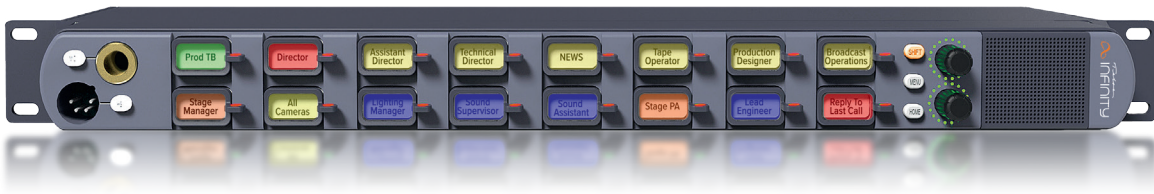


TELOS INFINITY MP-16

Digital Intercom Master Panel



INTRODUCTION

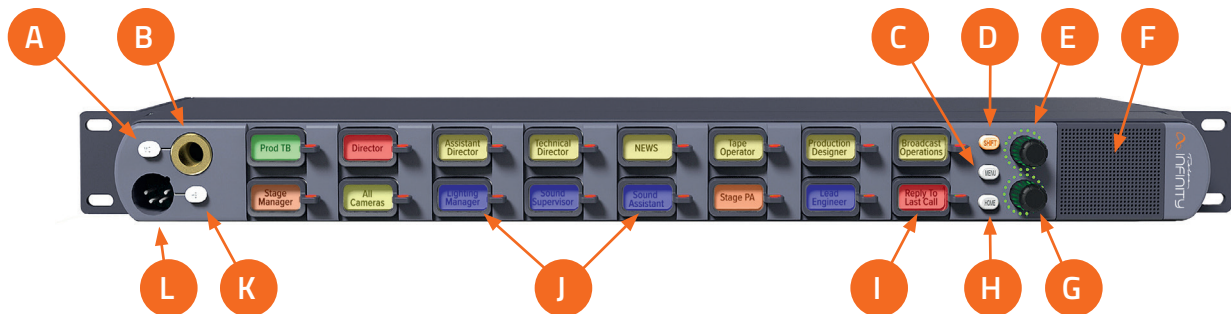
The INF-MP-16 is a digital intercom panel designed to work as part of the Telos Infinity 'matrix-free' IP networked Intercom system. Telos Infinity supports all expected features such as point-to-point communications, groups, partylines, and IFBs.

The MP-16 connects over a supporting 1000Mbps Ethernet network with 24-bit/48 KHz uncompressed digital audio carried as Audio over IP (AoIP) using the Livewire+® AES67 industry standard.

The MP-16 is powered by PoE (Power over Ethernet) either directly from the network switch or via an external PoE source. Additionally, a screw-lock 12VDC inlet is included on the rear panel, which may be used as primary power if PoE is not available, or as part of a redundant power design (recommended and encouraged).

HARDWARE

Front Panel



Mic Selection Switch (A)

Microphone Input (B)

A front panel socket supports an optional screw-in gooseneck microphone. The adjacent switch enables or disables the front panel gooseneck microphone.

Menu Key (C)

The Menu Key puts the unit into Menu Mode. When operating in Menu mode, the Contact Keys change function to display menu options and parameters which user adjustable.

Shift Key (D)

The MP-16 is capable of supporting more than 15 contacts. When more contacts are programmed to the MP-16 than it can display on the front panel at one time, the additional contacts may be grouped into different layers, or Shift Pages. The Shift Key scrolls through the different Shift Pages (layers) of contacts, only accessing pages that have been assigned a contact until finally returning to the first page at the end of the cycle.

Main Output Volume Control (E)

The top rotary encoder on the unit provides the volume control function for the main output (either the internal speaker, headset or the rear panel output when configured to output incoming talkback). Rotating the encoder clockwise increases the volume. Rotating the encoder counter-clockwise decreases the volume. Pushing the encoder in mutes/unmutes the listening function.

Internal Speaker (F)

An internal speaker is fitted within the MP-16, allowing the unit to be used without a headset. The speaker is mounted into a sealed baffle, designed to optimize speech reproduction.

Aux Output Volume Control (G)

The bottom rotary encoder provides the volume control function for the Auxiliary output on the rear panel. This functions in the same manner as the Main Output Volume Control described above.

Home Key (H)

The Home Key acts as an “escape” key and returns the unit to normal operating mode and to the 1st shift page, from wherever the unit may be in the menu or shifted page structure.

Contact Keys (J)

Each of the contacts has its own key. Pressing the key down enables the Talk function and pressing the key up enables the Listen function or answers an incoming call.

Last Caller Key (I)

The bottom right key of the MP-16 displays the last contact which has called the panel and keeps a list of the last 20 incoming callers received.

Headset Selection Switch (K)

Headset Input (L)

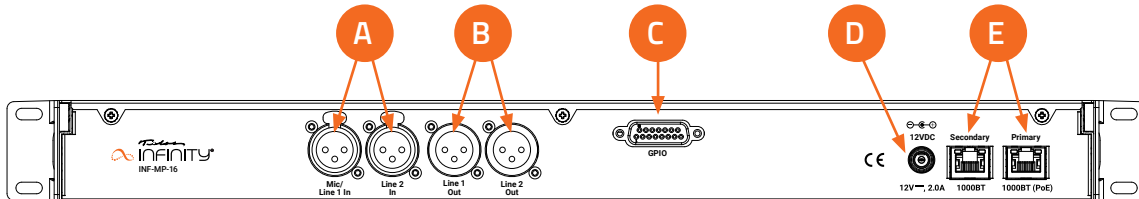
This male XLR connector will be either 4-pin (standard) or 5-pin (option), depending on how the unit is ordered. The 4-pin XLR supports a single earmuff (mono) headset with microphone. The 5-pin XLR supports a dual earmuff (dual mono or stereo) headset with microphone.

Note:

The MP-16 automatically detects when a headset is connected and will change the listening mode and microphone input to the headset instead of the internal speaker and front panel gooseneck microphone input.

Rear Panel

The rear panel of the MP-16 comprises the following connectors:



Analog Inputs (A)

Two female 3-pin XLR connectors are provided. They can be configured to accept either a mono microphone input (left XLR only), or as a stereo line input. Phantom Power is supported when the input is configured for microphone use.

Analog Line Outputs (B)

Two male 3-pin XLR connectors are included which provide a +4 dBu line level output. They can be configured to output either an audio source, assigned from the Livewire+ AES67 network, or the talkback/comms audio sent to the internal speaker. It is also possible to assign a combination of the two when the external XLR connectors are set in dual mono mode.

GPIO (C)

A DB-15 socket connector provides 5 GPIO Inputs and 5 GPIO Output pins. The pinout is consistent with other Telos Alliance products. GPIO connections are user assignable.

DC Input (D)

A secure screw-lock +12 VDC input is included. This may be used to provide a redundant power source (recommended) or primary power if a PoE source is not available.

Network Connections (E)

Two 1000-based T network connections are provided. One Ethernet port is for the input and PoE, and the other port may be configured as a separate control or a network “through” for connecting to Expansion Panels.

BASIC OPERATION

Talking

To talk to a desired contact, simply press the lever on the contact key down in the “Talk” direction. The Talk key operates in one of two modes, depending on the assigned user action:

- Momentary (also called “Push to Talk”): Press and hold the Talk key for longer than $\frac{1}{2}$ of a second. The talk function will be enabled (on) as long as the Talk key is pressed. As soon as the Talk key is released, the talk function will be disabled.
- Latched: Pressing the Talk key quickly (less than $\frac{1}{2}$ of a second) will latch the talk function on. Pressing the Talk key again will disable the talk function.

When the Talk function is active, the contact key display turns red and displays either a talk arrow, or Talk LED located next to that channel’s Talk key will be lit.



Figure 1 - Talk + Auto Listen key type with the Talk Function active

Listening

By default, incoming calls are automatically answered, and the caller’s audio is heard without any user interaction. However, it is possible to configure contact keys to simply signal an incoming call request and make the user manually answer the call (much like a telephone call).

When an incoming call is received, the contact’s key will blink green for 3 seconds, and will light solid green for as long as the listen function is active.



Figure 2 - Example indication of listening to the Director

Adjusting the Main Listening Volume

To adjust the listening volume of the headset, internal speaker, or rear panel output (main output signal), rotate the Main Output volume control, the top encoder.

Turn the volume control clockwise (to the right) to increase the volume. Turn the volume control counter-clockwise (to the left) to decrease the listening volume. Press the encoder to mute or unmute the output. The LEDs around the encoder flash when muted.

Adjusting the Listening Volume of an Individual Contact

The listening level for each individual contact may be adjusted in the overall "mix" of contacts that is listened to. To adjust the listening level for an individual contact:

1. Press and hold the contact key up in the listen (up) direction
2. Rotate the main volume encoder to the desired level while holding the contact key up in the listen direction
3. A volume indicator graphic will appear on the contact key while adjusting mix level

Adjusting the Rear Panel Analog Output Listening Volume

To adjust the listening level of the rear panel Aux audio output (Aux audio), rotate the bottom encoder. This encoder functions the same as the Main Output Volume Control located directly above it.

CONFIGURATION

Because the requirements and configurations for every intercom system are unique, the MP-16 ships from the factory completely un-programmed. It is pre-configured for use with a DHCP server equipped network. This means that before the unit is ready to be used, it must be configured and programmed appropriately. There are several methods available for accomplishing this. The most intuitive and quickest method using the Dashboard application is described here. Please refer to the MP-16 User Guide for an in-depth description of the alternate methods.

Dashboard

The easiest method of configuring Infinity Intercom systems and programming MP-16 devices is to use the Dashboard application running on a Windows™ PC.

Dashboard automatically scans the network for Infinity devices and other Livewire+ AES67 audio sources and destinations, such as xNodes or Axia Broadcast Mixing Consoles.

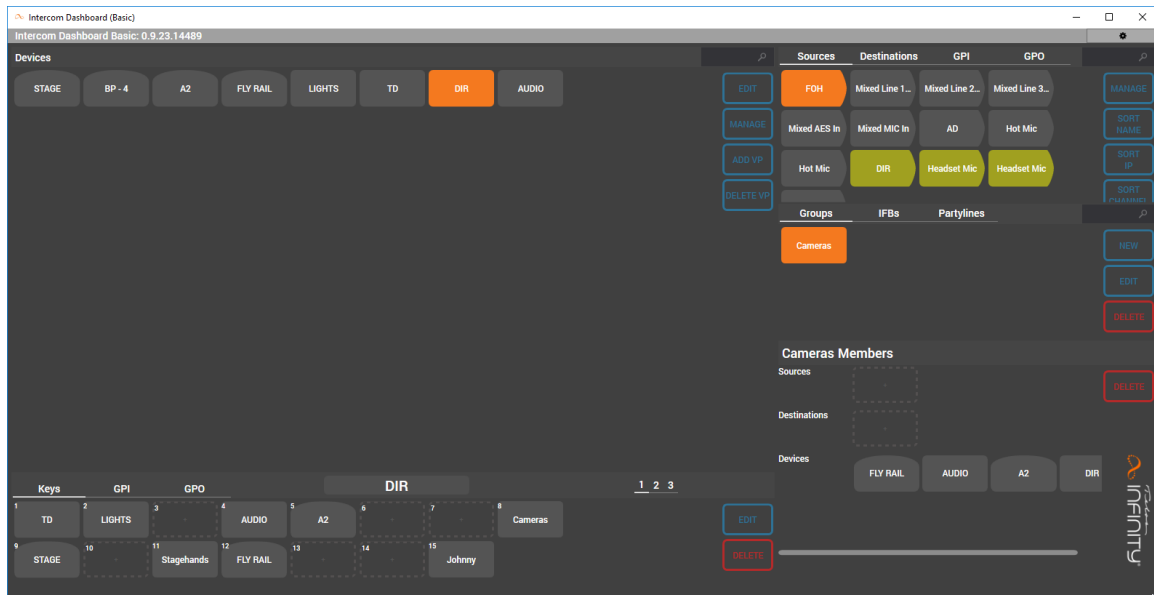


Figure 3 - Example Dashboard screen

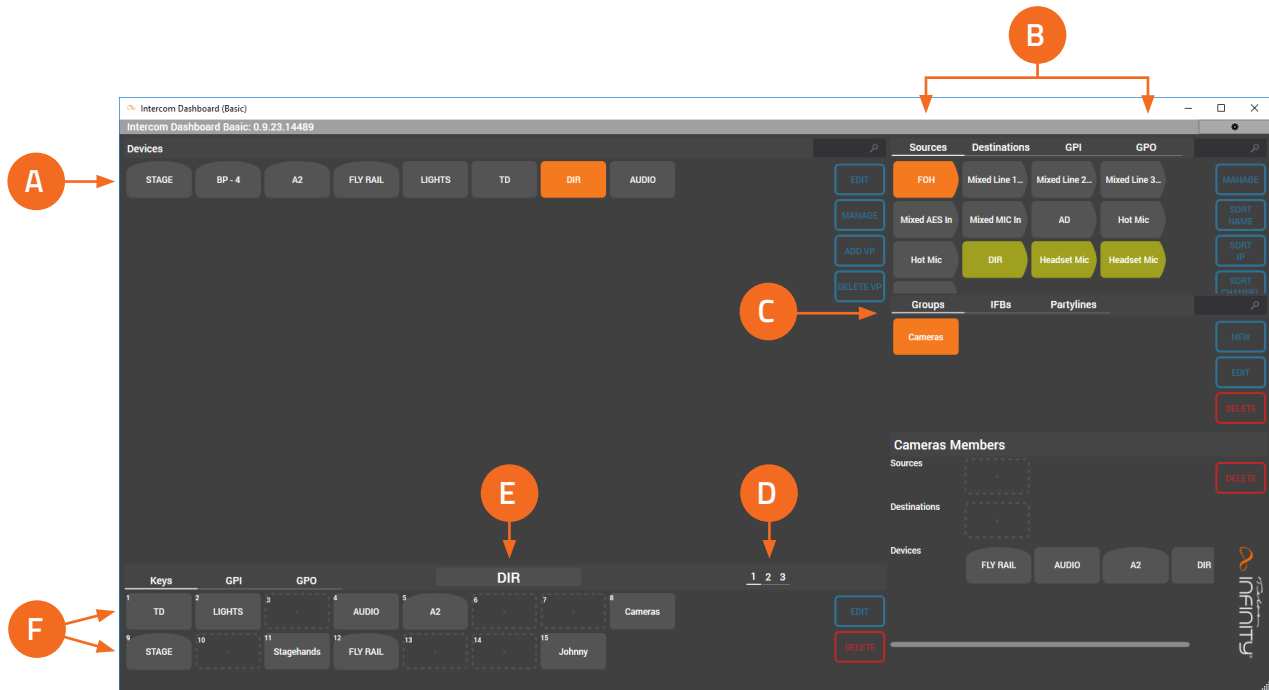


Figure 4 - Anatomy of the Dashboard Screen

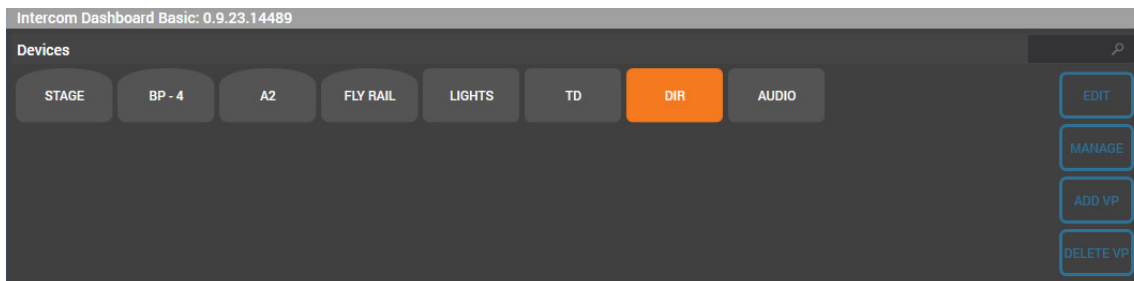
Figure 4

(A) Infinity Intercom Devices, (B) Livewire+ Source / Destination and GPI/ GPO, (C) Groups/IFB/Partyline configuration, (D) Shift Page Selection, (E) Panel Name, (F) Panel Keys

To configure the MP-16:

Click on the device to be configured.

To set the IP Configuration, click on the "Manage" button.



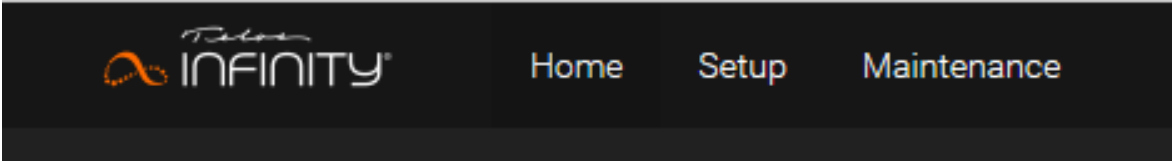
The device's webpage will open in your computers default web browser.

Default login in details are:

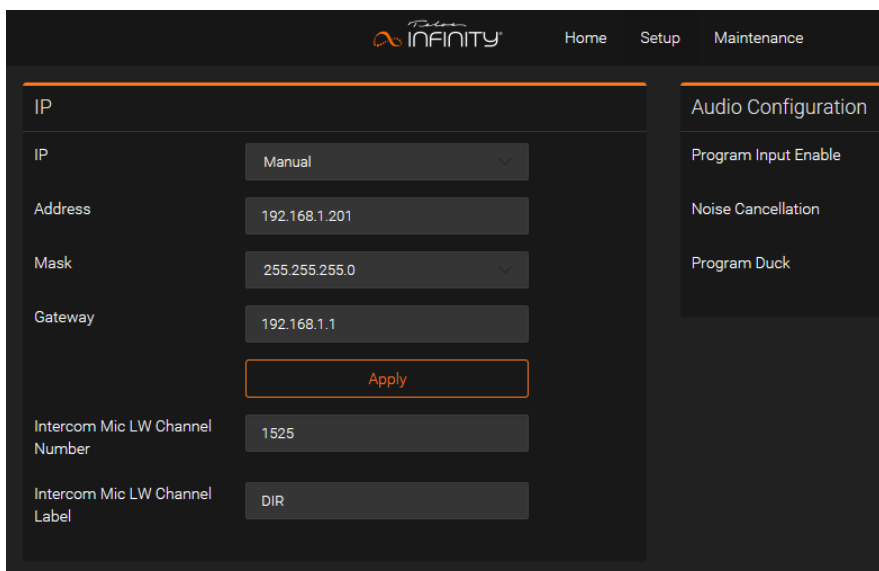
User Name = user

Password = (no password)

Once at the unit's Home page, select the "Setup" tab



Once on the Setup page, configure the IP settings as desired, but be sure to press "Apply" once you are satisfied with the changes selected.



Return to Dashboard once the IP settings are correct. If using Dashboard Basic, it may be necessary to close and re-open the application so that it re-scans the network for any updates that may have been made.

To program keys, simply drag the device desired on to the appropriate Panel (contact) Keys in the bottom left portion of the Dashboard window. Groups, Partylines, and IFBs can be assigned to keys as well, simply by dragging and dropping them on to a key. Creating Groups, Partylines, and IFBs is described below.

Panel Keys

Key Allocation

Panel Keys communicate to connected endpoints using one of the following allocations:

- Peer to Peer (Panel to Panel/BP)
- Group
- Partyline
- IFB
- Virtual Port
- Source (Listen Only)

Key Type

There are five types of key that can be allocated to Telos Infinity panel contact keys:

- Talk + Auto Listen
- Force Listener
- Talk Only
- Listen Only
- Disabled

When programming a panel, all Peer to Peer, Group, Partyline, IFB and Virtual Port keys will default to Talk + Auto Listen. This mode ensures that all keys have bi-directional communication with the associated peers and members. It also enables the listener to switch off their 'listen' function if they choose. The Force Listener key is assigned to a Talker key when the use case seeks to prevent the listener from turning their key off and missing an important call.

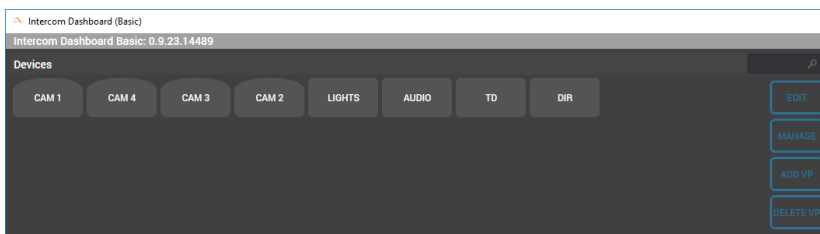
Creating a Virtual Port

A Virtual Port (VP) allows for other audio sources and destinations to be associated with a contact. A couple of examples of where Virtual Ports may be used are:

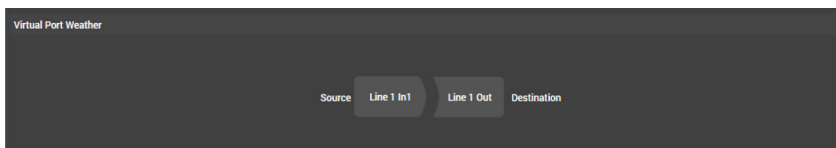
- RF microphone input via an xNode.
- xNode output to feed a powered speaker.

To create a Virtual Port:

- In the "devices" window, click on "ADD VP"



- Name the Virtual Port, press "OK"
- Select the Virtual Port
- Drag and drop the desired source and destination on the Source and Destination for the Virtual Port

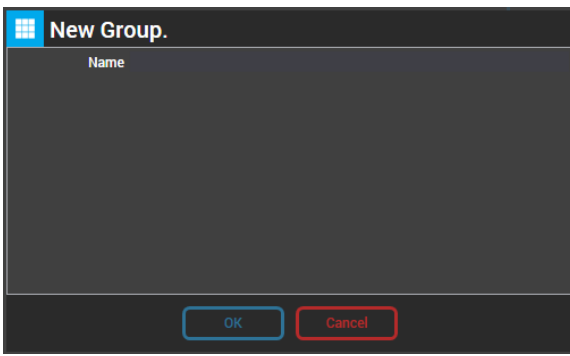


Creating a Group or a Partyline

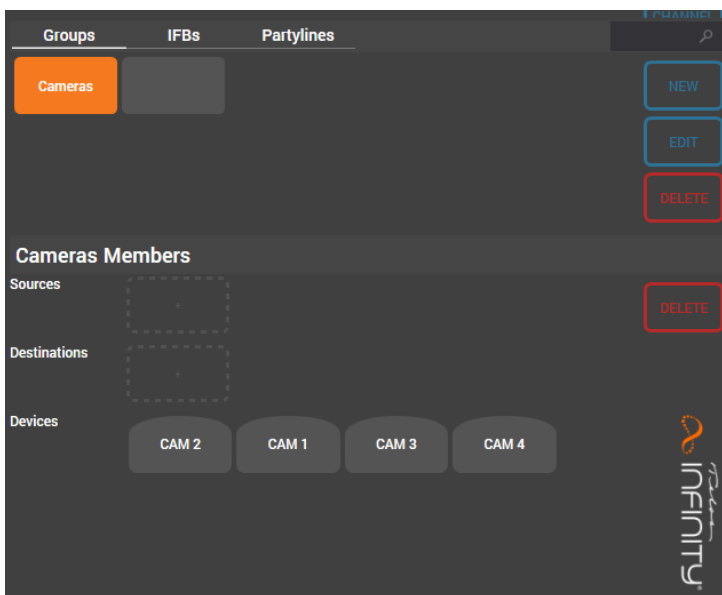
The process of creating either a Group or a Partyline is the same, though the inner workings of groups and partylines are slightly different.¹ Because the process for creating them is the same, only the process of creating a Group will be described.

To create a group:

- Click on "Groups":
- Press "New"
- Name the Group and click on "OK"



- To add members to the group, drag and drop the devices that are desired to be in the group on to the "devices" section in the "members" area. The example below includes adding 4 camera belt packs to the Cameras group



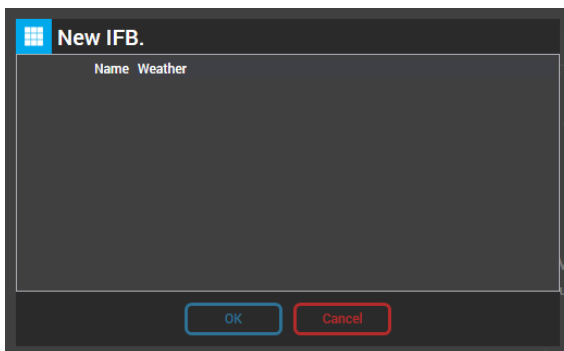
¹ Groups allow those outside of the group to talk and listen to members of the Group, whereas Partylines allow everyone to hear and talk to each other. For further explanation, refer to the MP-16's owner's manual.

To add a Group, or Partyline to a Panel's contact key, drag and drop the Group or Partyline on to the desired contact key.

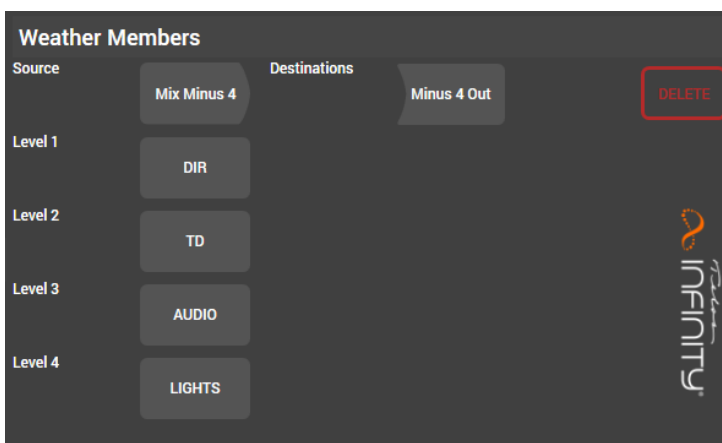
Creating an IFB

To create an IFB:

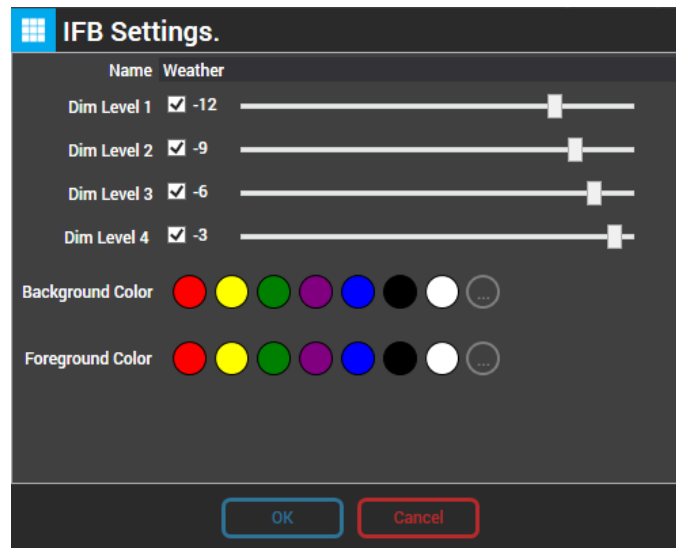
- Click on "IFBs:"
- Press "New"
- Name the IFB and click on "OK" (in this example, the IFB is named "Weather")



- Drag and drop the appropriate contribution source (on-air talent's microphone input) to the IFB "Reverse Source".
- Drag and drop the desired IFB signal source (typically a mix minus output of a mixing console) on to the "Source" in the IFB Member's area.
- Drag and drop the desired IFB output destination (often a device like the output from an xNode) on to the Destination in the IFB Member's area.
- add interrupters by dragging and dropping contacts on the Level squares in the desired level in the IFB Member's area. Level 1 is the highest priority level of interrupter.



The amount that the program source signal is attenuated when an interrupter is talking to the IFB is adjustable. To adjust the dim level, or attenuation, level, select the "Edit" in the zone where the IFB was initially created. To use an adjustable dim level, ensure that "Dim Level" is checked. If unchecked, the program source audio is completely muted when an interrupter is talking.



To add an IFB to a Panel's contact key, drag and drop the IFB on to the desired contact key.

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