Logitek

Logitek Electronic Systems

Mosaic Reference Manual

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Document Revisions

Date	Revision	Author	Notes
November, 2013	0.5	John Davis	Preliminary release of Mosaic manual
December, 2013	1.0	John Davis	First release

Contents

1 Introduction

About this Manual

This manual describes the installation and operation of the **Logitek** *Mosaic* control surface.

Intended Audience

This manual is aimed at Engineers responsible for installing, configuring and supporting a **Logitek Networked Console System** with the *Mosaic* surface.

In the context of a system installation, or to become familiar with the entire **Logitek Networked Console System**, the reader should also reference:

- JetStream Reference Manual
- AEConfig or JetSet Reference Manual
- CommandBuilder Reference Manual

Manual Conventions

The following conventions are used in this manual:

This text indicates a menu choice to be made, with an arrow separating a multi-level selection, eg Control Panel ➢ Users & Passwords. This can be a menu choice in a Logitek application, or within Windows.

➥ ***Indicates a "see-also" section in this manual, or another Logitek manual.***

The exclamation symbol signifies an important note or critical information.

```
This text represents a command, script block example,
instruction to be typed, or directory path.
```

🎧 TIP: A useful tip from our knowledge base!

About the Mosaic

The *Mosaic* control surface from **Logitek Electronic Systems** brings you the flexibility of a router based audio console system with the look, feel and easy handling that novice operators will understand, and experienced console operators will appreciate.

The *Mosaic* offers full access to the sources available on **Logitek's JetStream** routers, along with simple bus selection and intuitive monitor controls. The *Mosaic* is compatible with the **Logitek Audio Engine** provided that the engine has an AE-C6 card with version 3.77 or higher.

The *Mosaic* surface can be configured from 4 to 24 faders in 4 fader increments. There is also a Monitor Module containing the monitoring functions and optional softkey and selector modules may be added for additional flexibility. The module types include:

- ***M2-FADER*** **4 Fader Module**
- ***M2-MONITOR*** **Monitor Control Module**
- ***M2-NSOFT*** **Narrow Softkey Button Module**
- ***M2-WSOFT*** **Wide Softkey Button Module**

In addition, the ***CL-METER*** Meter Bridge is available. The bridge can mount to the rear of the console frame, or in split console configurations may be mounted to the countertop.

The main frame is available in a number of different sizes to accommodate the variety of fader numbers. The frame is designed to be mounted on a desk for semi-permanent installation, but as no cutouts are required it can easily be relocated.

System Requirements

Mosaic is designed to connect to a **Logitek JetStream** running DSP version 4.x and above and the AE-32 Audio engine using v3.87 or higher. Contact **Logitek Electronic Systems** or your reseller if you are unsure of compatibility, or are adding a *Mosaic* surface to a pre-existing **Logitek** facility.

System Architecture

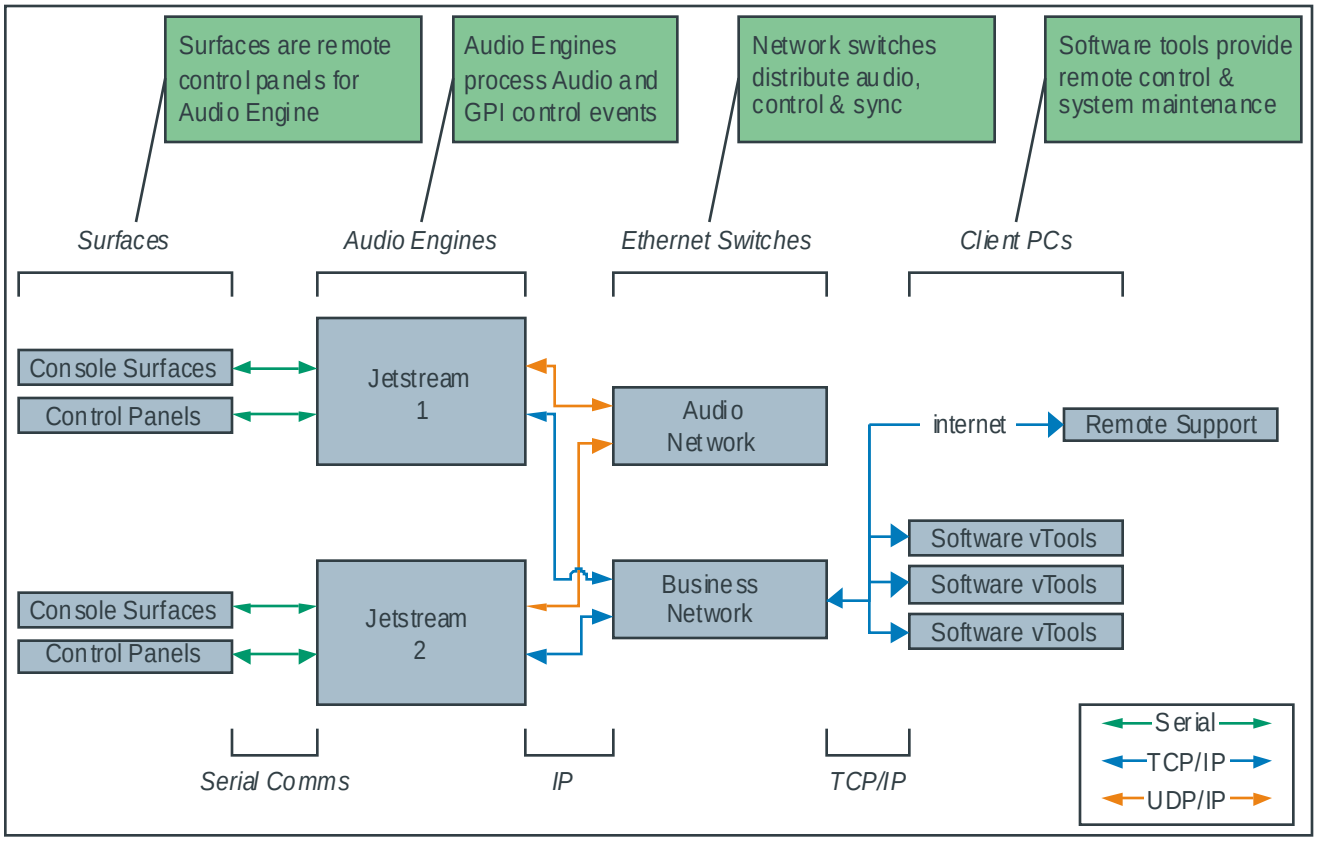


Figure 1 - Logitek System Architecture (v4.x)

Put simply, the Mosaic surface is just a remote control panel for the JetStream. Unlike traditional analog consoles, no audio passes through the Mosaic or its faders (with the exception of the cue speaker audio). The Mosaic talks to the JetStream using the Logitek Command Protocol, with all audio processing occurring inside the router. The mixing, routing and processing of audio is not

dependent upon the embedded PC included with the JetNet Audio Networking Module. However, additional functionality, such as macro buttons, scene snapshots, intercoms, delay control and software tools interface to the system using the JetStream Server application that is bundled with the module.

Compatibility Matrix

Mosaic is designed for use with the **JetStream Router** v4.x and **AE-32 Audio Engine** v3.77 and higher.
The *Mosaic* retains compatibility with other surfaces for the majority of its features.

Following is the minimum software release version/date that is required for *Mosaic* support.

Component	General Support	Additional Features
JSM-DSP Controller	v1.41	
JetStream Server	v4.0	
CommandBuilder	v3.6	
AEConfig	v3.6	
JetSet	V1.0	

2 Unpacking

This section details what you should do when unpacking your newly arrived *Mosaic* surface.

Parts List

The exact list of parts received will vary depending on your order, but should generally include:

- 1 x *Mosaic* Power Supply
- 1 x fully assembled *Mosaic* frame, containing modules as ordered
- 1 x meter bridge assembly (option)

You will receive a parts list with the system that is specific to the modules on your order.

Unpacking

Carefully unpack the cartons whilst looking for any signs of shipping damage. You may wish to save the shipping cartons until the operation of the system is verified.

Report any damage to the shipping carrier immediately. Verify that the contents of each box match the packing list and report any discrepancies immediately to **Logitek** in writing.

Contacting Logitek

In the event of a shipping problem, you can contact **Logitek Electronic Systems** in several ways:

U.S. Mail	Logitek Electronic Systems, Inc. 5622 Edgemoor Drive Houston, Texas 77081 USA
Telephone	877-231-5870 +1-713-664-4470 (outside U.S. and Canada)
Fax	+1-713-664-4479
Email	support@logitekaudio.com
Website	www.logitekaudio.com

International customers should contact their local authorized **Logitek** dealer for assistance.

3 Physical Installation

The *Mosaic* surface is designed to be mounted on a desk in a semi-permanent studio installation. The **Meter Bridge**, if optioned, can be screwed to the back of the *Mosaic*.

Power Supply Unit

The **Power Supply Unit** is an external supply. It is one rack unit high and contains dual power supplies with dual inlets.

There are two IEC connectors on the rear of the **Power Supply Unit**. A power cable is supplied only for US installations. International customers may contact their reseller for the supply of power cables if required.

As the power supplies are of switch-mode type, there is no voltage selection required.

There are also two DB-25 connectors on the back of the power supply. One is for GPI inputs and the other is for GPI outputs.

Mosaic Frames

A number of *Mosaic* frame sizes are available, depending on the total number of faders. A fader module is 4 slots wide. The monitor module and wide softkey module are 2 slots wide. The narrow softkey module is one slot wide. Single slot blank panels are used to fill any gaps if required.

The frame will be shipped with the modules connected and fitted as ordered. These modules are not intended to be moved, however **Fader** modules are interchangeable. The internal COM port connections determine the device addressing for each modules.

The Mosaic frame is 20 inches (508 mm) deep and 3 inches (76.2 mm) high without meter bridge. With a meter bridge, the frame is 7 ¼ inches (184.15 mm) high. Frame widths are as follows:

M2-F10 10 Slot Frame

- 14.75 inches (374.65 mm) wide

M2-F12 12 Slot Frame

- 17.55 inches (445.77 mm) wide

M2-F18 18 Slot Frame

- 25.95 inches (659.13 mm) wide

M2-F22 22 Slot Frame

- 31.55 inches (801.37 mm) wide

M2-F30 30 Slot Frame

- 42.75 inches (1085.85 mm) wide

Meter Bridge (CL-Meter)

A hardware LED **Meter Bridge** is available as an option. The **Meter** includes two high-resolution meters – one for Program bus and one switched.

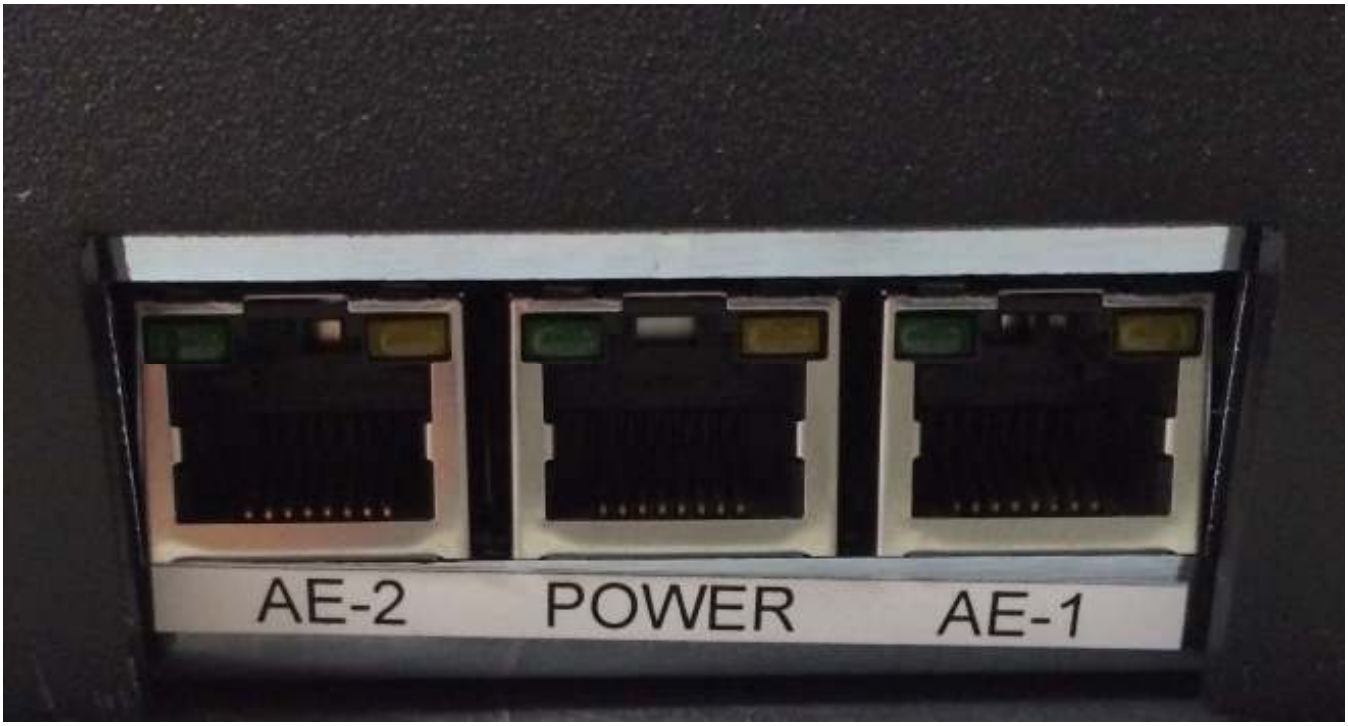
TIP: If the Mosaic is powered on without being connected to the JetStream, no meter LEDs will illuminate. This is normal operation; the center dot LEDs will turn on after being connected to the JetStream and the rest of the LEDs will light as console begins to receive meter data.

Mounting

- The **Meter** option is supplied separately and attaches to the back of the **Mosaic** frame with screws (included).
- The RJ-11 cable from the **Meter** plugs into the Mosaic tray card at the far right into the jack labeled "Meter."
- The **Meter** is hinged. Gently tighten the black center screw on the rear of the hinge to lock the meter into place at the desired angle.

Illustration 1: Mosaic 12 with CL-Bridge

Connections



The *Mosaic* frame contains the control circuitry for the console. It connects to the **Logitek JetStream Router** via a serial link. For redundancy, the control surface may be connected to two JetStreams (main and backup)

IMPORTANT: At the time of this writing, the redundant JetStream feature has not been fully developed. The JetStream does not currently support this planned feature, and software updates to both JetStream and console may be necessary once this future feature is finished.

AE-1: This is the main data connection. This RJ-45 cable connects to the surface port on the primary JetStream router or Audio Engine. If only one router is in use, this is the only data connection needed.

POWER: This RJ-45 cable provides power from the Mosaic Power Supply.

AE-2: This is the backup data connection. The redundant JetStream feature is not currently functional and this port should be left empty.

While we use RJ-45 patch cables to send data from the JetStream to the surface, this is RS-485 data plus an AES pair for cue and not Ethernet data. Do not connect these data cables to a network switch.

You can use a dedicated CAT5 patch cable or existing structured cabling for the data connection. If using structured cabling systems, care should be exercised to ensure the serial connections are not confused with other network outlets and that the link is not unintentionally "un-patched".

The connection to the power supply should be a straight through RJ-45 connection and not pass through wiring blocks or other interconnects for best results. The power cable between surface and power supply passes 12 volts.

PSU

The Mosaic is powered by a rack mounted external power supply included with the console. Dual power inlets supply dual power supplies. A RJ-45 connector is used to send power and GPIO information from the supply to the surface.

DB-25 connectors are provided on the Mosaic Power Supply for GPI Input and Output connections. A ground lug is provided on the chassis for your convenience.

GPIs

The *Mosaic* **Surface** has 12 GPI inputs and 12 GPI outputs for control of local studio devices.

GPI outputs are driven by optically-isolated, non-polarized, solid state switches, rated at 500ma to a maximum voltage of 24V AC/DC, with surge to 2A. These solid state devices do not conduct at low voltage, so cannot switch an audio input. However, they are suitable for most control signals, and avoid problems with relay contacts being damaged by surges. Caution should be exercised to avoid overloading the switches. If driving a high current device, we recommend using an external relay.

The GPI inputs are a current source to +3.3VDC that is pulled to ground to activate. This makes it suitable for control by push-button, relay or open collector. A diode protects against static and over voltage up to 18V. See the wiring diagram for polarity information if using non-standard activation methods. A common ground is provided for input connection.

As wiring schemes vary from station to station, these cables are not supplied with the surface, but are available from **Logitek Electronic Systems** or your local Logitek dealer.

➥ *See Appendix B for connector pinouts.*

Internal Module Connections

Inside the frame, four RJ11 port connectors are provided for connecting to each **Fader** module. These are provided as a straight-through flat cable.

On small surfaces, there is one tray card. Faders connect to the appropriate ports marked 1-4, 5-8, 9-12, 13-16, 17-20.

The **M2-NSOFT** or **M-2WSOFT** connect to the RJ-11 port marked WSOFT.

The **Monitor** module connects to the RJ-11 port marked Monitor.

The **Meter** connects to the RJ-11 port marked Meter.

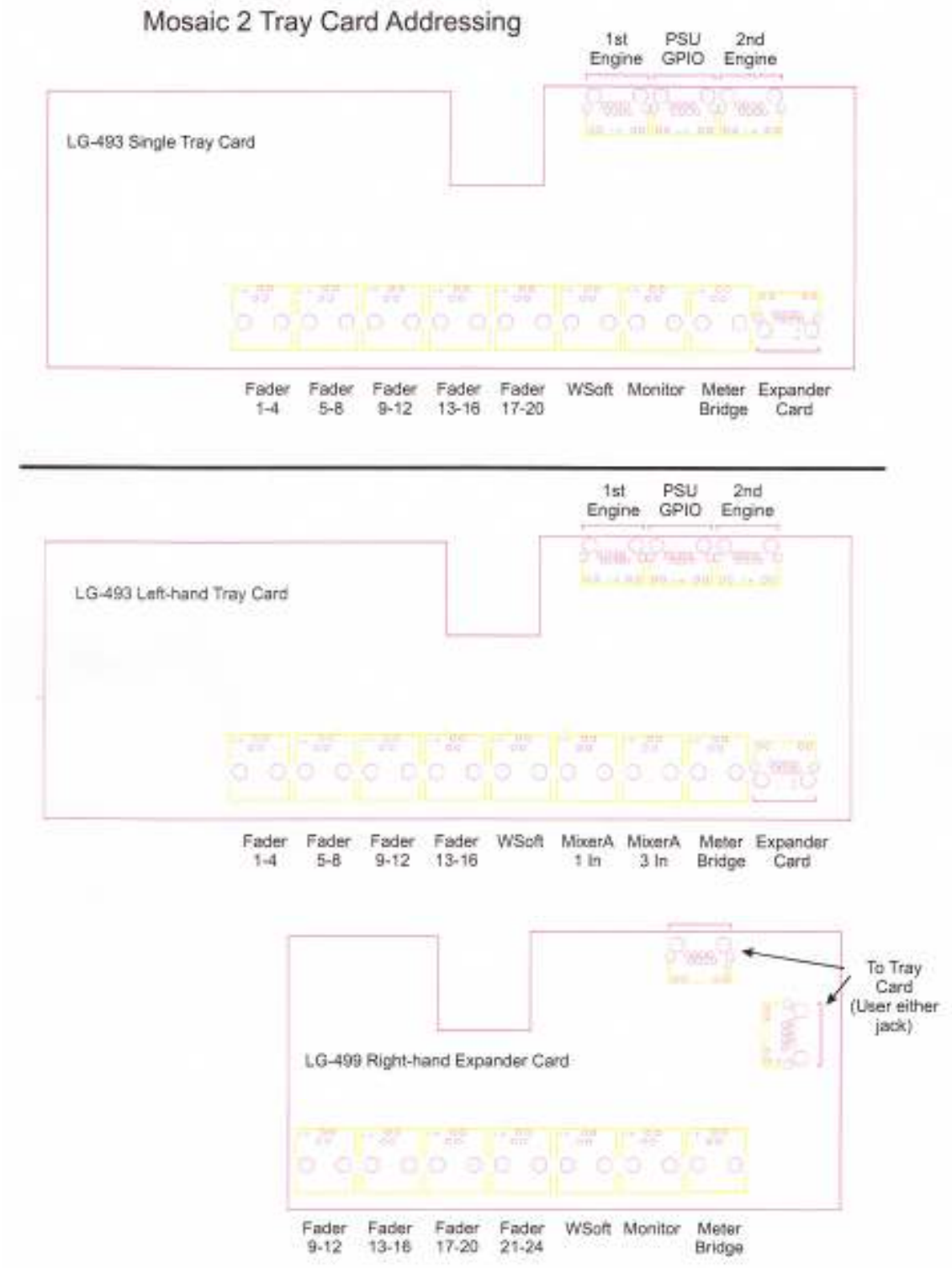
On large surfaces there are two tray cards, connected by an expansion cable. In large frames, this is mounted to the same tray. In split frame consoles, one card is in each tray, and the expansion cable connects the two frames.

On the left frame, connect the appropriate faders to jacks 1-4, 5-8, 9-12, 13-16. The W-SOFT port may be used for the Wide Softkey panel. The Mixer A1 In port is used to connect M2-NSOFT narrow softkey panels. The device number for this panel would be device 2d on port 1 (55 on port 2). The Mixer A3 In port is used to connect a second M2-NSOFT narrow softkey panel (device 2f port 1, 57 port 2). The meter bridge port is used to connect the external meter bridge.

On the right frame, connect the appropriate faders to jacks 9-12, 13-16, 17-20, and 21-24. The WSOFT port is for the M2-WSOFT module. The monitor is for the M2-MON module. The meter bridge port is for the external bridge.

Note that some fader ports, the wide soft port, and the meter bridge port appear on both tray cards. These ports share the same addresses. Use the port closest to where the module is installed. The ports are duplicated for the purpose of split frame configurations. Two duplicate expansion jacks are on the right hand card; use the jack that is most convenient to connect either the two tray cards within one frame or the two tray cards between split frames.

The following diagram shows the different card configurations.


Mosaic 2 Tray Card Addressing
1st Engine
PSU GPIO
2nd Engine
LG-493 Single Tray Card
Fader 1-4
Fader 5-8
Fader 9-12
Fader 13-16
Fader 17-20
WSoft
Monitor
Meter Bridge
Expander Card
1st Engine
PSU GPIO
2nd Engine
LG-493 Left-hand Tray Card
Fader 1-4
Fader 5-8
Fader 9-12
Fader 13-16
WSoft
MixerA 1 In
MixerA 3 In
Meter Bridge
Expander Card
To Tray Card (User either jack)
LG-499 Right-hand Expander Card
Fader 9-12
Fader 13-16
Fader 17-20
Fader 21-24
WSoft
Monitor
Meter Bridge

4 Configuration

This chapter covers basic configuration information, relating specifically to the *Mosaic* surface. **JetStream** setup and configuration is covered in detail in the following manuals:

- *Logitek JetStream Reference Manual*
- *Logitek AEConfig Reference Manual*

JetStream Configuration

Configuration of the **JetStream Router** is done in *JetSet*.

➥ ***See the JetStream Reference Manual for information on configuring JetStreams***

Audio Engine Configuration

Configuration of the Audio Engine is done in *AE Config*.

Set the port that the console will be connected to on the Hardware Configuration page to accept a Mosaic console with the appropriate number of faders.

The picture that AE Config will draw will be the previous generation of Mosaic, but the addressing and features will be the same.

➥ ***See the Audio Engine Reference Manual for information on configuring Audio Engines.***

CommandBuilder Triggers

The *Mosaic* surface contains many programmable buttons and features. These features are scripted in "triggers" in *CommandBuilder,* and executed by *JetStream Server*.

➥ ***See the CommandBuilder User's Manual for information on writing Triggers.***

The *CommandBuilder* manual includes details and examples of *Mosaic* specific features, such as Monitor Hotkeys, Softkey Buttons and more. The programming of these features does require a certain level of familiarity with the system. If you need assistance, please contact **Logitek Electronic Systems** or your reseller.

Device & Bus Addressing

Each device (such as a fader input or button panel) requires its own **Device Number**. Within that device, each button, lamp and feature has a **Bus Number**. Together, the **Device** and **Bus Numbers** allow the **JetStream** and **Surface** to communicate.

When configuring the *Mosaic's* programmable buttons in *CommandBuilder*, you will require the **Device Number** and **Bus Number** for each button or lamp. The information below will help you determine the addressing scheme in use on your *Mosaic*.

Modules

Module	How Addressing is determined	Max Modules Supported
Mosaic-MON	Uses the standard Monitor, Headphones, Guest/Studio & Cue Gain addressing	1
Mosaic-FADER	Device Set determined by COM port allocation (pre-defined)	6 modules (24 faders)
Mosaic-METER	Uses standard PGM Meter addressing	1

Device Numbers

In *Mosaic* v1.x the **Device Number** of a module is determined by its firmware and position.

Wide Softkey Addressing

The twelve softkeys at the top of the wide softkey module follow the **Numix** Bridge Button addressing scheme, therefore the `Bridge Button` and `Bridge Lamp` keywords in **Command Builder** may be used.

The softkey buttons for a console connected to JetStream port 1 are on device 28 and the lamps are on device 27. For port 2, use device 50 for buttons and 4F for lamps. For port 3, use device 64 for buttons and 63 for lamps. Bus numbers are 32-43.

For example, button #1 on a console connected to JetStream port 1 is `device 28 bus 32` and its corresponding lamp is `device 27 bus 32.` Alternatively, it is valid to address button #1 on port 1 as `surf 1 bridgebutton 1` and its corresponding lamp as `surf 1 bridgelamp 1`. Command Builder will translate those keywords into the appropriate device and bus numbers.

The exception to buttons on the Wide Softkey being device 27 is the set of buttons for profanity delay control. These buttons are on device 30 (Router 1 In). If on port 2, it would correspond to device 58.

Profanity Delay Operation

Unlike other Logitek audio consoles, Command Builder triggers are not required to make the profanity delay function on the Mosaic console. Pressing the In button sends a start command to the delay, pressing the Out button sends a stop command to the delay system, and pressing the dump button sends a Dump command. If you need additional commands to fire off of those functions, you may write commands to device 30, bus 24, 25, and 27 for the appropriate buttons, but you do not need to write TALK START, TALK STOP, and TALK DUMP commands. The delay time will appear in the window automatically.

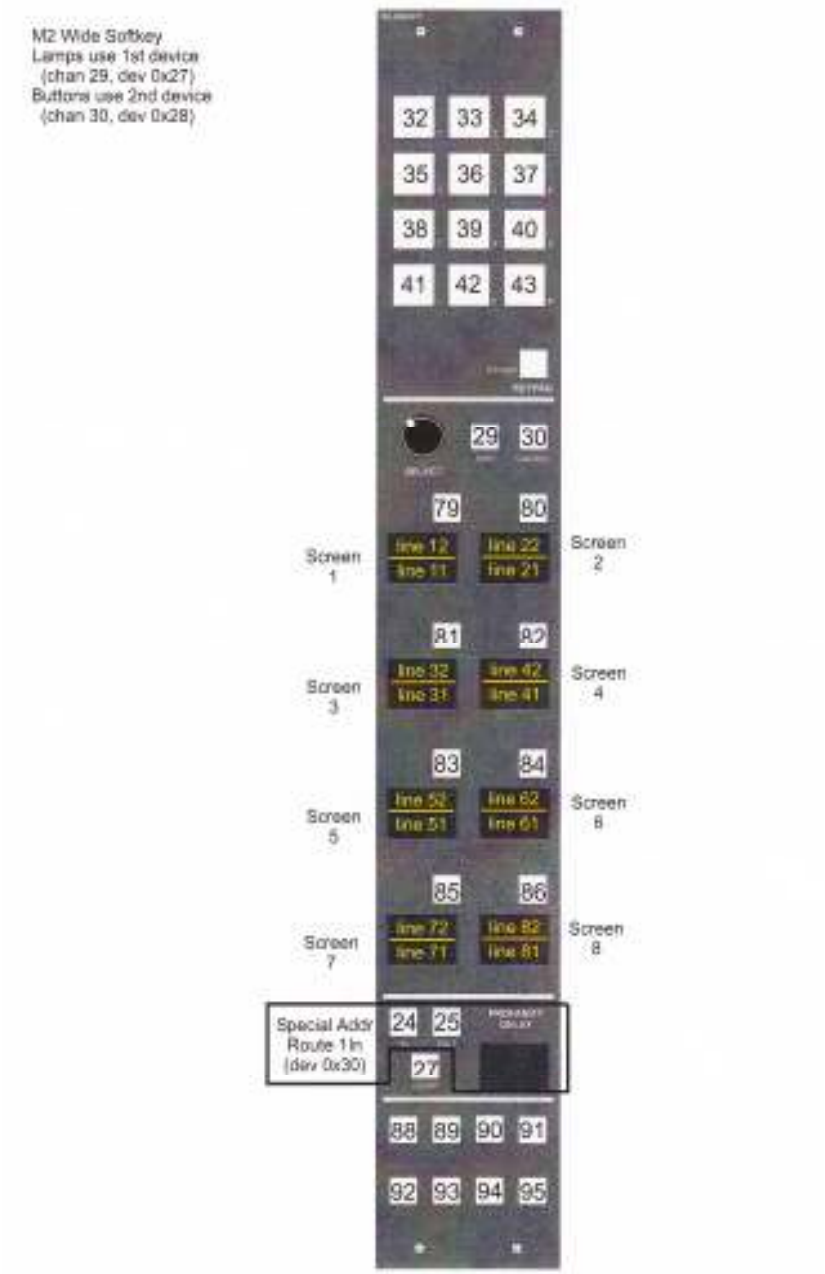
Routing the Delay into the Air Chain

In Surface Settings in your router configuration software, make sure you have routed Program Out into Router 1 In. In your Output Selections in the router configuration software, route Port(x) Router 1 Out into any output that should get delay, such as transmission. Port(x) Program Out will be pre-delay audio and should be routed anywhere that needs pre-delay audio, such as music on hold for telephone hybrids, monitors and headphones.

Router Positions on the Wide Softkey Panel

The Wide Softkey Panel offers 8 router positions that can be used to change routes to devices such as remote codecs, audio recorders, IFB systems, or any other purpose. These selectors are programmed using Command Builder. A discussion of how to do this follows after the diagram.

Wide Softkey Bus Numbers & Screen Position Diagram



Using Command Builder to program the Router Positions

There are two types of triggers that may be used to program the WSOFT routers: Variable Select and Route Select.

A Variable Select allows you to perform multiple commands, including routes, from a pick list. The pick list is defined as part of the trigger.

A Route Select allows you to choose a destination on the router and route any allowed source to that destination. The pick list is defined by the sources ticked as allowed in the Output Selections page of the configuration software.

The Command Builder manual defines these commands in further detail. There are special keywords that should be used in these triggers. An example of each type of trigger is provided below. When you look in the manual, you will see that there is a MOSAIC keyword in both Variable Select and Route Select commands, however that is used with the first generation console and not this board. We will use the DISPLAY keyword and the new SOURCENAME keyword instead to make the magic happen.

Variable Select Trigger Example

This trigger assumes that a variable called "ISDN1" has been defined on the System Page of Command Builder.

We used channel notation in this trigger table instead of s[source] and d[destination] as is more commonly used in Command Builder. When using channel notation, you write the source as its hex address and you take the destination's hex address, convert it to decimal, subtract 10 and you get the channel number. [Why? Because a programmer said so.] In our little test world, our ISDN is connected to destination device 6E. That converts to decimal 110, subtract 10 and you get channel 100. The sources we're routing are program (device BE), Aux 1 (device BF), and Mix Minus 1 (device C7). We know those addresses either by looking in the programming spreadsheet available from support or by looking at the pop-out list on the JetStream State page in JetStream Server.

Needless to say, if you can use s[source] and d[destination] notation in Command Builder, it's easier. You still need to know that the text on the screen is device27 (assuming we're on port 1) and that the button is on device 28.

If you know your way around triggers, you'll notice that we turn on the lamp for our button when we begin but do not turn it off on ACCEPT. The console is smart enough to do that for you. We do turn the lamp off on CANCEL just to give Cancel something to do. Finally, don't skip the IF CANCEL WAIT section, or else Command Builder will throw an error. You can adjust the number of seconds you have to make a selection before it all times out by adjusting the WAIT time on the IF CANCEL.

Text after a tilde ~ is a comment

```
trigger ae1 device28 bus 79 on

   cmd ae1 text device27 line11 "ISDN1 Select" ~ writes text to the bottom line of screen 1
   cmd ae1 vISDN1 set selection mode display ( device 28 screen 1 ) ~ activates selection screen

   cmd ae1 text selection 1 "Program"
   cmd ae1 text selection 2 "Aux 1"
   cmd ae1 text selection 3 "Mix Minus"

   if accept selection = 1
    cmd ae1 route device BE to chan 100 ~ pgm is source 00be; channel 100 translates to destination 006E
    cmd ae1 sourcename device6E display ( device27 line12 pos1 )
   endif

   if accept selection = 2
    cmd ae1 route device BF to chan 100 ~ aux 1 is source 00bf; channel 100 translates to destination 006E
    cmd ae1 sourcename device6E display ( device27 line12 pos1 )
   endif

   if accept selection = 3
    cmd ae1 route device c7 to chan 100 ~ mm1 is source 00c7; channel 100 translates to destination 006E
    cmd ae1 sourcename device6E display ( device27 line12 pos1 )
   endif

   if cancel wait 5
    cmd ae1 device27 bus79 off
   endif
```

In our example, we only routed the source and wrote the name of the source to the screen. If you wanted to do more, like pulse relays or send text to other studios, you would place those commands before the ENDIF that closes the IF ACCEPT or IF CANCEL WAIT.

Route Select Trigger Example

The Route Select is a lot simpler than the Variable Select. All you really need to know here is the device number where you want to change the route, and you need some sources allowed in

Output Selections in the config software so it knows what to pick. Also, you need to set a variable that is unique to the trigger so Command Builder has a place to hang the selection.

The surface takes care of all of the lamps in this trigger. Putting the lamp off command in the IF CANCEL WAIT gives that if statement something to do.

In our example, we are changing routes on destination device 70 and we're using a variable set on the Command Builder system page called ISDN2.

```
trigger ae1 device28 bus 80 on

   cmd ae1 text device27 line 21 "ISDN2"

   cmd ae1 vISDN2 set route selection mode device70 display ( device27
screen 2 )

   if cancel wait 5
    cmd ae1 device27 bus80 off
  endif
```

Monitor Hotkey Addressing

There are four monitor hotkeys that may be addressed in Command Builder to route sources to the control room monitors, headphones, and studio monitors.

The buttons are labeled SEL1, SEL2, SEL3, and SEL4.

SEL 1 is bus 16. SEL 2 is bus 17. SEL 3 is bus 18, and SEL4 is bus 19.

The device numbers are as follows:

Port Number	Monitor	Headphones	Studio
1	Device 24	Device 25	Device 23
2	Device 4C	Device 4D	Device 4B
3	Device 62	Device 65	Device 61

Alternatively, `d[device]` notation in Command Builder, such as `d[Port1 Monitor In]` is valid and will be properly translated by Command Builder.

Switched Meter Addressing (Meter Bridges only)

The Switched meter defaults to displaying whatever source is routed to Monitor In. When bus 0 is turned on for the Monitor Meter in device, the meter will switch to whatever source is routed to the Monitor Meter In.

Monitor Meter In Device Numbers:

Port (Surface) Number	Device Number
1	2c
2	54
3	6a

To choose which sources are selectable by the switched meter, place checkmarks in the MON MTR column in Surface Settings in the configuration software.

Bus 0 for the monitor meter device must be switched via triggers in Command Builder. It can be forced on at reset or it may be turned on and off with a softkey button as desired.

Meter Bridge On Air and Mic Live Tally Lamps

Two tally LEDs are provided on the meter bridge. The Mic Live tally may be used to tell the operator that the mic is on. The On Air tally may be used to tell the operator that the console has been switched to air. The bus number of the Mic Live LED is 17 and the On Air LED is 18. The device numbers are in the chart below.

Device Numbers for Mic Live and On Air Tally Lamps

Port (Surface) Number	Device Number
1	27
2	4F
3	63

Because these LEDs are on the same device number as console GPI outputs, an easy way to program the Mic Live lamp is to enter 117 into the Mute Tally box for each Mic on port 1. For port 2 consoles, use 217. For port 3 consoles, use 317.

Wrist Rest Glow Strip

Multi-colored LED lights are mounted under the wrist rest. These lamps have a foreground color and background color. They are addressed as device 27 on port 1 (device 4F on port 2, device 63 on port 3); the background color is turned on with bus 19 and foreground color is turned on with bus 20. If the background color bus and foreground color bus are turned on at the same time, the foreground color will show.

The glow strip can be set to change with the microphone state. We suggest turning on device 27 bus 19 in the init or engine reset trigger in Command Builder and then entering 120 into the mute tally box in the config software. [For port 2, use device 4f bus 19 and 220 in the mute tally box; for port 2 use device 63 bus 19 and 320 in the mute tally box.]

To turn the lamps off, turn off both bus 19 and 20.

To set the foreground color, put this command in the init triggers in Command Builder:

```
cmd ae1 device27 chon set color mosaic RGB000015
```

To set the background color, put this command in the init triggers in Command Builder:

```
cmd ae1 device27 choff set color mosaic RGB001500
```

Adjust device numbers based on the port the console is connected to. RGB values listed below. These commands could also be placed in different triggers outside of the init/reset as desired.

Red	RGB150000	**Purple**	RGB030015
Green	RGB001500	**Light Aqua**	RGB021411
Blue	RGB000015	**Dark Aqua**	RGB000915
White	RGB151515	**Orange**	RGB151200
Crimson	RGB040000	**Yellow**	RGB091500
Blue White	RGB041215	**Magenta**	RGB150015

Other custom color combinations may be created by changing the RGB values (valid 00 – 15) but these colors seem to look the best.

Changing Colors Of Fader On/Off Buttons

The same Set Channel Color command used by the Series 1 Mosiac console described on page 139 of the Command Builder manual applies. The flash command listed on that page also applies.

```
cmd ae1 fader 1 choff set color mosaic RGB000015
cmd ae1 fader 1 chon set color mosaic RGB001500
```

The RGB values listed for the wrist rest glow strip apply for the on/off buttons.

Changing colors of Softkey Buttons

The 12 softkey buttons at the top of the wide softkey panel and 12 narrow softkey buttons may have their colors changed via assembly language commands in Command Builder.

The command has the general format of:

```
cmd ae1 asm "02 06 b1 27 bb 07 RG B0"
```

where

bb = bus number of button expressed in hex (20 – 2b)
R = red brightness 0 – F (hex)
G = green brightness 0 – F (hex)
B = blue brightness 0 – F (hex)

For narrow softkey panels, adjust the device number (27) to reflect the device number of the port where the narrow softkey is connected.

5 Operation

Your **Logitek** *Mosaic* console has been designed for easy and quick access to the functions you most need. If you've had experience with broadcast consoles before, you'll soon be at home, finding your way around quite easily.

Logitek Electronic Systems has been manufacturing broadcast consoles for decades, so we understand how to make control surfaces that are both powerful and straightforward. During the design of the *Mosaic*, customers and operators provided feedback that helped shape the final product. So we're confident you'll find the *Mosaic* a joy to use on-air.

Following is a look at each of the *Mosaic* modules, and how the standard functions are used.

The Fader Module (US/International)

All All functions for each fader are done at each channel. A multi-function select knob toggles between modes.

Buttons:
ON: Turns on the channel
OFF: Turns off the channel
Pgm: When lit, program bus is assigned to fader
A1: When lit, aux 1 is assigned to fader
A2: When lit, aux 2 is assigned to fader
A3: When lit, aux 3 is assigned to fader
A4: When lit, aux 4 is assigned to fader
IN: Toggles to last route
TB: Engages talkback to sources with associated mix minus bus. If pressed for less than a half second, this latches. If pressed for more than a half second, it becomes momentary and will turn off after the button is released.
Cue: Turns on the cue bus

Select knob modes:
Route: This is the default mode, and the select knob will glow light blue. Turn the knob to select a source on the bottom OLED screen. Press TAKE to change the route. Press CANCEL to abort changing the route. If the fader is on, this function is locked out.
Trim/Pan/Mode/Effects: When pressed, the knob will glow magenta and a cursor will appear on the top OELD screen. On the top line is trim. Turn the knob to adjust the fader's trim, from -10 to +10 dB. Press the knob to move to the second line to adjust pan from left to right. Press the knob again to advance the cursor to the third line to adjust mode (Stereo/Mono/Phase/LL/RR/Lx/xR). Press the knob again to advance to the bottom line to adjust effects. On this line, turn the knob to choose which effect to adjust (or << to go back). When you get to the effect you wish to change, press the knob to choose it and turn to adjust. CANCEL will exit the menu and TAKE has the same effect as pressing the knob.

The Fader Module (UK)

All All functions for each fader are done at each channel. A multi-function select knob toggles between modes. As is customary with UK consoles, the channel turns on and off with fader movement.

Buttons:
START: Machine start
PFL: Pre-Fader listen.
Pgm: When lit, program bus is assigned to fader
A1: When lit, aux 1 is assigned to fader
A2: When lit, aux 2 is assigned to fader
A3: When lit, aux 3 is assigned to fader
A4: When lit, aux 4 is assigned to fader
IN: Toggles to last route
TB: Engages talkback to sources with associated mix minus bus. If pressed for less than a half second, this latches. If pressed for more than a half second, it becomes momentary and will turn off after the button is released.
Cue: Turns on the cue bus

Select knob modes:
Route: This is the default mode, and the select knob will glow light blue. Turn the knob to select a source on the bottom OLED screen. Press TAKE to change the route. Press CANCEL to abort changing the route. If the fader is on, this function is locked out.
Trim/Pan/Mode/Effects: When pressed, the knob will glow magenta and a cursor will appear on the top OELD screen. On the top line is trim. Turn the knob to adjust the fader's trim, from -10 to +10 dB. Press the knob to move to the second line to adjust pan from left to right. Press the knob again to advance the cursor to the third line to adjust mode (Stereo/Mono/Phase/LL/RR/Lx/xR). Press the knob again to advance to the bottom line to adjust effects. On this line, turn the knob to choose which effect to adjust (or << to go back). When you get to the effect you wish to change, press the knob to choose it and turn to adjust. CANCEL will exit the menu and TAKE has the same effect as pressing the knob.

Wide Softkey Module

The wide softkey module provides 12 large user-defined buttons at the top of the module, 8 router positions, delay control, and 8 small user-defined buttons at the bottom of the module.

To operate the router, press the select button at the desired OLED screen and turn the select knob to pick the desired option. Press TAKE to accept the selection or CANCEL to abandon it.

To operate the delay, press IN to ramp in to the delay, press OUT to ramp out of the delay, and press DUMP to dump the buffer.

Programming information for this module is provided in the previous chapter.

Monitor Module

The monitor module controls all monitoring functions:

GUEST/STUDIO section:

TB button: inserts the Talkback Mic (as defined in JetSet/AE Config Surface Settings) into the Guest/Studio monitor bus
FOL MON: When turned on, the route to GUEST/STUDIO will follow routing changes to the MONITOR section.
MUTE: mutes the Guest/Studio monitor bus.

To change the route, press on the Guest/Studio knob. The knob will turn green and the take light will light up. Turn the knob until you see what you would like to listen to. Press Take to accept. To cancel, press the Guest/Studio knob again. It will exit the mode and turn blue. If FOLLOW MONITOR is engaged, changing the route with the knob will turn FOLLOW MONITOR off.

When the knob is blue, it controls the volume.

SEL1 – SEL4 buttons: when pressed, these will change the route to the Guest/Studio monitor bus if they were programmed via Command Builder as described in the previous chapter.

HEADPHONE section:

MONO: sets the headphones to mono
FOL MON: When turned on, the route to the headphones will follow routing changes to the MONITOR section.
SPLIT: Sends the bus being monitored to the left and cue to the right.

To change the route, press on the Headphone knob. The knob will turn green and the take light will light up. Turn the knob until you see what you would like to listen to. Press Take to accept. To cancel, press the Headphone knob again. It will exit the mode and turn blue. If FOLLOW

MONITOR is engaged, changing the route with the knob will turn FOLLOW MONITOR off.

When the knob is blue, it controls the volume.

SEL1 – SEL4 buttons: when pressed, these will change the route to the Headphone monitor bus if they were programmed via Command Builder as described in the previous chapter.

MONITOR section:

5.1: Puts the monitor speakers in 5.1 mode. (not currently supported)
MONO: Puts the monitor speakers in mono mode
DIM: reduces the volume to the monitor speakers
MUTE: mutes the monitor speakers

To change the route, press on the Monitor knob. The knob will turn green and the take light will light up. Turn the knob until you see what you would like to listen to. Press Take to accept. To cancel, press the Headphone knob again. It will exit the mode and turn blue.

When the knob is blue, it controls the volume.

SEL1 – SEL4 buttons: when pressed, these will change the route to the control room monitor bus if they were programmed via Command Builder as described in the previous chapter.

METER knob:

Turning this knob changes selections in the switched meter on the meter bridge. See the previous chapter to learn how to configure and enable/disable the switched meter.

TONE GEN section:

Changes the frequency of the JetStream's built in tone generator between 10K, 1K, 400 Hz, or an ID (recorded audio file). The ID feature is a planned feature for future development and is not currently in operation. The tone generator is currently supported.

CUE section (UK PFL):

The knob changes the volume of the Cue bus. The TO MONITOR button inserts the CUE bus into the control room monitors. On UK consoles, this section is labeled PFL.

6 Maintenance

The *Mosaic* uses multi-layer boards with surface mount technology. As such, the majority of the console is not user-serviceable. However, there are some basic tasks that can be performed by suitably qualified technical personnel.

Warranty

Logitek Electronic Systems will honor the warranty of the system when conducting field maintenance, provided:

- Repairs or updates only relate to recommended and documented procedures
- Care is taken and procedures are followed
- Repairs are conducted by suitably trained or experienced service personnel

If you do not feel comfortable performing maintenance or repairs, please do not proceed. If you would like advice prior to attempting a repair, please contact **Logitek Electronic Systems** or your reseller.

Firmware Updates

Each module strip has internal memory that is field upgradeable. **Logitek Electronic Systems** or your local Logitek dealer may from time-to-time supply firmware updates to add new features or fix bugs.

Component Replacement

The *Mosaic* uses standard faders which can be replaced by station technicians.

Fader Replacement

The *Mosaic* uses a Penny & Giles fader.

Model No. **PGF3210/D/U/--A**

No audio is carried through the fader, just control signals. The fader can be easily replaced with a spare from Logitek or an electronics supplier.

To replace a fader:

1. Remove the four screws from the required module.
2. Carefully remove the module from the frame.
3. Disconnect the fader from the main board.
4. Remove the slider cap.
5. Remove the two hex screws that mount the fader to the module.
6. Fit the replacement fader to the module using the two hew screws.
7. Replace the slider cap.
8. Reconnect the fader connector, ensuring the same polarity as the other faders on the module.
9. Replace the module in the frame, and screw it back in.

Module swap-out

If you need to swap a module with an on-site spare, you can simply unscrew the module, disconnect it, connect the replacement and screw it in. Modules are fully hot-swappable – they will refresh their status shortly after powering up.

More Assistance

If you would like more assistance with maintenance and service, please contact **Logitek** or your reseller.

Appendix A Release Notes

Known Issues

The following issues have been reported and are under investigation.

There are no known issues at this writing.

Appendix B Pinouts

To JetStream (DATA)

Connection to the **JetStream** is via a RJ45 connector mounted on the rear of the frame. Straight through CAT5 cabling is used.

Pin	Connection
1	Cue -
2	Cue +
3	RS485 RX-
4	RS485 TX-
5	RS485 TX+
6	RS485 RX+
7	No connect
8	Ground

GPIs

GPI connections are on two DB25 connectors on the power supply. One DB-25 is for inputs and one is for outputs. We recommend terminating GPIs to Krone style or M66 termination blocks.

GPI Inputs

Pin	Connection	Pin	Connection
1	GPI In 1	**14**	Ground
2	GPI In 2	**15**	Ground
3	GPI In 3	**16**	Ground
4	GPI In 4	**17**	Ground
5	GPI In 5	**18**	Ground
6	GPI In 6	**19**	Ground
7	GPI In 7	**20**	Ground
8	GPI In 8	**21**	Ground
9	GPI In 9	**22**	Ground
10	GPI In 10	**23**	Ground
11	GPI In 11	**24**	Ground
12	GPI In 12	**25**	Ground
13	No Connect		

GPI Outputs

Pin	Connection	Pin	Connection
1	GPI Out 1A	**14**	GPI Out 1B
2	GPI Out 2A	**15**	GPI Out 2B
3	GPI Out 3A	**16**	GPI Out 3B
4	GPI Out 4A	**17**	GPI Out 4B
5	GPI Out 5A	**18**	GPI Out 5B
6	GPI Out 6A	**19**	GPI Out 6B
7	GPI Out 7A	**20**	GPI Out 7B
8	GPI Out 8A	**21**	GPI Out 8B
9	GPI Out 9A	**22**	GPI Out 9B
10	GPI Out 10A	**23**	GPI Out 10B
11	GPI Out 11A	**24**	GPI Out 11B
12	GPI Out 12A	**25**	GPI Out 12B
13	No Connect		

Two Year Limited Warranty

Logitek Electronic Systems, Inc. warrants its professional equipment (excluding Logitek Software, which is covered by a separate warranty) against defects in materials and workmanship for two years pursuant to the following terms and conditions. The warranty extends to the original purchaser only.

LOGITEK will repair or replace, at its option, at its factory without charge professional equipment if a defect in materials or workmanship develops during the first two years following purchase, when the equipment is returned to the factory or LOGITEK authorized service centers freight prepaid with a description of the nature of the failure. No reimbursements can be made for repair charges that are not factory authorized. After repair or replacement, LOGITEK will return the equipment to the purchaser freight prepaid.

In the event that any part of this professional equipment becomes defective during the first two years following purchase, and purchaser wishes to attempt repair, purchaser may obtain a replacement part by notifying LOGITEK of the part of the equipment which has failed. LOGITEK will thereafter ship a replacement part, freight prepaid. LOGITEK may require the purchaser to return the defective part to LOGITEK freight prepaid as a condition of such replacement, either before or after LOGITEK ships the replacement part. LOGITEK shall not be responsible for any other charges or liabilities associated with purchaser-made repairs.

No part or equipment shall be considered defective if it fails to operate due to exposure to extreme temperatures or excessive moisture in the atmosphere.

Light bulbs, batteries, potentiometers or other equipment not manufactured by Seller shall carry only the warranty, if any, of the original equipment manufacturer in effect at the time of shipment of this order; and Seller's obligation under this warranty shall be limited to such adjustment as Seller may obtain from the original manufacturer.

This limited warranty is void if equipment is modified or repaired without authorization; subjected to misuse, abuse, accident, water damage or other neglect; or has had its serial number defaced or removed. No obligation is assumed by LOGITEK to update previously manufactured equipment. Specifications are subject to change without notice. **EXCEPT AS SPECIFICALLY PROVIDED HEREIN, LOGITEK MAKES NO WARRANTY, REPRESENTATION, PROMISE, OR GUARANTEE, EITHER EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE, WITH RESPECT TO THE EQUIPMENT, USER DOCUMENTATION OR RELATED TECHNICAL SUPPORT, INCLUDING THEIR QUALITY, PERFORMANCE, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT WILL LOGITEK BE LIABLE FOR INDIRECT, SPECIAL, INCIDENTAL, TORT, ECONOMIC, COVER, OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF OR INABILITY TO USE LOGITEK PRODUCTS, EQUIPMENT, OR SERVICES, INCLUDING, WITHOUT LIMITATION, DAMAGES OR COSTS RELATING TO THE LOSS OF PROFITS, BUSINESS, GOODWILL, DATA OR COMPUTER PROGRAMS, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO CASE SHALL LOGITEK 'S LIABILITY FOR MONEY DAMAGES EXCEED THE AMOUNT PAID BY YOU FOR THE LOGITEK EQUIPMENT OUT OF WHICH SUCH CLAIM AROSE. THE FOREGOING LIMITATIONS SHALL NOT APPLY TO CLAIMS RELATING TO DEATH OR PERSONAL INJURY WHICH ARISE OUT OF PRODUCTS DEEMED TO BE CONSUMER GOODS UNDER APPLICABLE LAW**.

Some states or provinces do not allow the exclusion or limitation of implied warranties or limitation of liability for incidental or consequential damages, so the above exclusion or limitation may not apply to you.

The warranty and remedies set forth herein are exclusive and in lieu of all others, oral or written,express or implied. No Logitek dealer, distributor, agent, or employee is authorized to make any modification or addition to this warranty.