


Numix

Digital

Audio Consoles



A dashed black arc with a red square at each end, positioned above the letter 'i' in the word 'Logitek'.
Logitek

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Logitek Digital Audio Consoles

Introduction

Logitek Digital Consoles represent a new concept for broadcast audio consoles. Logitek consoles centralize all audio mixing, routing, and distribution functions to one location in a facility. Once a Logitek system is in place, adding new inputs, outputs, or even new studios is very easy.



The heart of Logitek Digital Consoles is the Audio Engine. This is a digital matrix with equal numbers of input and output channels ranging from 8x8 to 64x64 in one engine. This matrix is capable of mixing, routing, creating mix-minuses and all other traditional functions of consoles. The Audio Engine erases the differences to the user between digital and analog sources or destinations. The Audio Engine can accept digital and/or analog sources and feed digital and/or analog destinations.

The part of the system in the hands of the user, what looks like an audio console, is a control surface for the Audio Engine. This can be your sleek, ergonomic Numix or other surfaces such as the more traditional ROC 10. The Audio Engine can also be directly controlled by a personal computer using VMix Computer software. Each Audio Engine can accept commands from up to three consoles or two computers depending on the studio and control surface configuration.

Unpacking

Carefully unpack the Audio Engine and Control Surface cartons looking for any signs of shipping damage. You may wish to save the shipping cartons until the operation of the system is verified and you are sure there is no hidden shipping damage. Report any damage to the shipping carrier immediately.

The Audio Engine and Control Surface are boxed separately. Each box contains a separate packing list showing the contents. Verify that the contents of each box matches the packing list and report any discrepancies to Logitek in writing immediately.

Here are the ways you may use to contact Logitek:

Regular mail	Logitek Electronic Systems, Inc. 5622 Edgemoor Drive Houston, Texas 77081
Telephone	877-231-5870 (Support) 800-231-5870 (Sales) 713-664-4470 (Outside U.S. And Canada)
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Email	help@logitekaudio.com
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Numix Control Surface

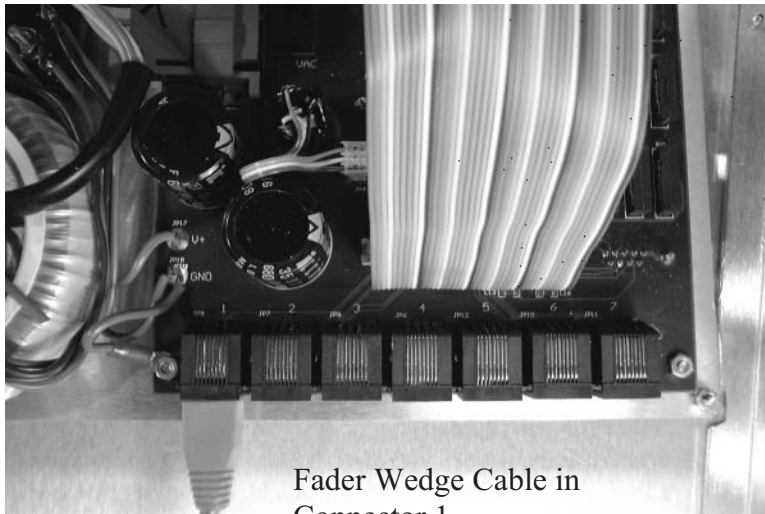
Installation

The Numix control surface is designed to drop through a hole cut in a table or cabinet. The unit is supported by flanges along the front and rear. No support is required along the sides or underneath the console. Cutout instructions may be found in the appendix. The wooden end panels are painted gray at the factory. These may be exchanged for bare wood panels suitable for staining. Consult the factory for details.



Consoles up to 12 faders will arrive completely assembled. Larger consoles, however, will arrive in two pieces that must be connected together before use. To do this, remove the top panel of the two trays that will be connected together by removing the six screws along the edges, four screws on the top surface and two along the rear bridge. Line up the mounting holes on the sides of each tray and use the six screws supplied to bolt the two sections together.

If you wish to change the physical position of the Selector wedge, remove the top panels of all wedges to be changed, remove the screws holding the wedge trays together and move them to the correct positions. Note that Fader wedges are not unique and need not be moved to re-assign functions. If you move the Selector wedge, you must move both the top panel and power supply in the bottom of this tray which must be located with the Selector wedge.



Fader Wedge Cable in Connector 1

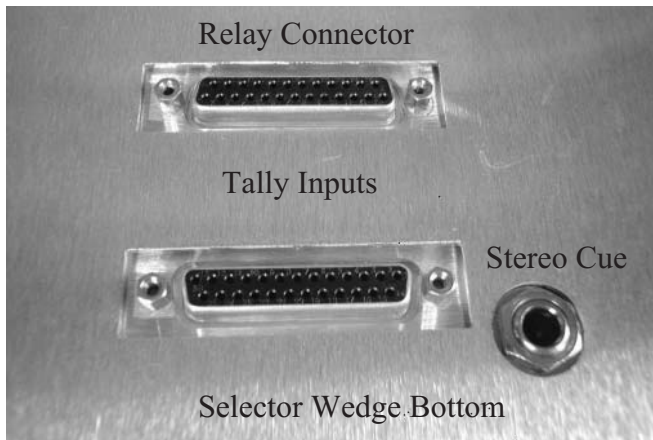
A category 5 network cable from each fader unit must be connected to the power supply card located in the Selector wedge tray. Feed the cables supplied through the holes in the side wall of each tray to make this connection. RJ-45 sockets on the power supply card are numbered from 1 to 7. Plug the far left fader wedge into connector 1. Plug the fader wedge to the right of number 1 into connector 2 and so on. The faders will then automatically number themselves on power-up. The console may now be set into the mounting surface.

External connection of the Numix is easy and requires only two to five cables. The first is a standard computer style AC power cord designed for IEC power standard. If you require special power cables, contact your local dealer or Logitek. Unless marked otherwise, the Numix is factory set for 110 VAC power. The unit can be set for 220VAC by changing the switch on the power supply to the position marked “**220VAC**”. This card is mounted inside the Selector wedge next to the power entry socket. The fuse holder is adjacent to the power connector and contains a 1.3 amp fuse for 110 VAC use or a .63 amp fuse for 220 VAC use.



To Audio Engine

The second cable is the data cable which connects to the Audio Engine. This cable has a male DB-9 connector on each end. On the control surface, this connector is attached to the DB-9 connector on the under side of the Selector wedge. The wiring list for this cable is shown in the Appendix. Maximum length of the cable is 300 meters or 1000 feet. These cables can be ordered through Logitek in the length you need. If you create your own



cable the recommended wiring for this connection is Category 5 network cable.

The two DB-25 sockets are used to connect 12 remote control outputs and 12 remote control inputs to the Numix. The wiring list for these cables is shown in the Appendix. The DB-25 at the back is relay outputs for remote control and the DB-25 near the DB-9 is for remote control or tally inputs. To be useful, these remote controls must first be set up using the **AEConfig** console configuration program. The operation of this program is described in the Audio Engine Manual.

The GPI is activated in configuration by entering the relay or input number in the appropriate box in the Engine Configuration Program. The Numix Inputs and Outputs are called with numbers 101 to 112 for a Control Surface on Engine Port 1, 201 to 212 for a Surface on Port 2, and 301 to 312 for a Surface on Port 3. Remember Engine GPI Inputs and Outputs use numbers 1 to 15.

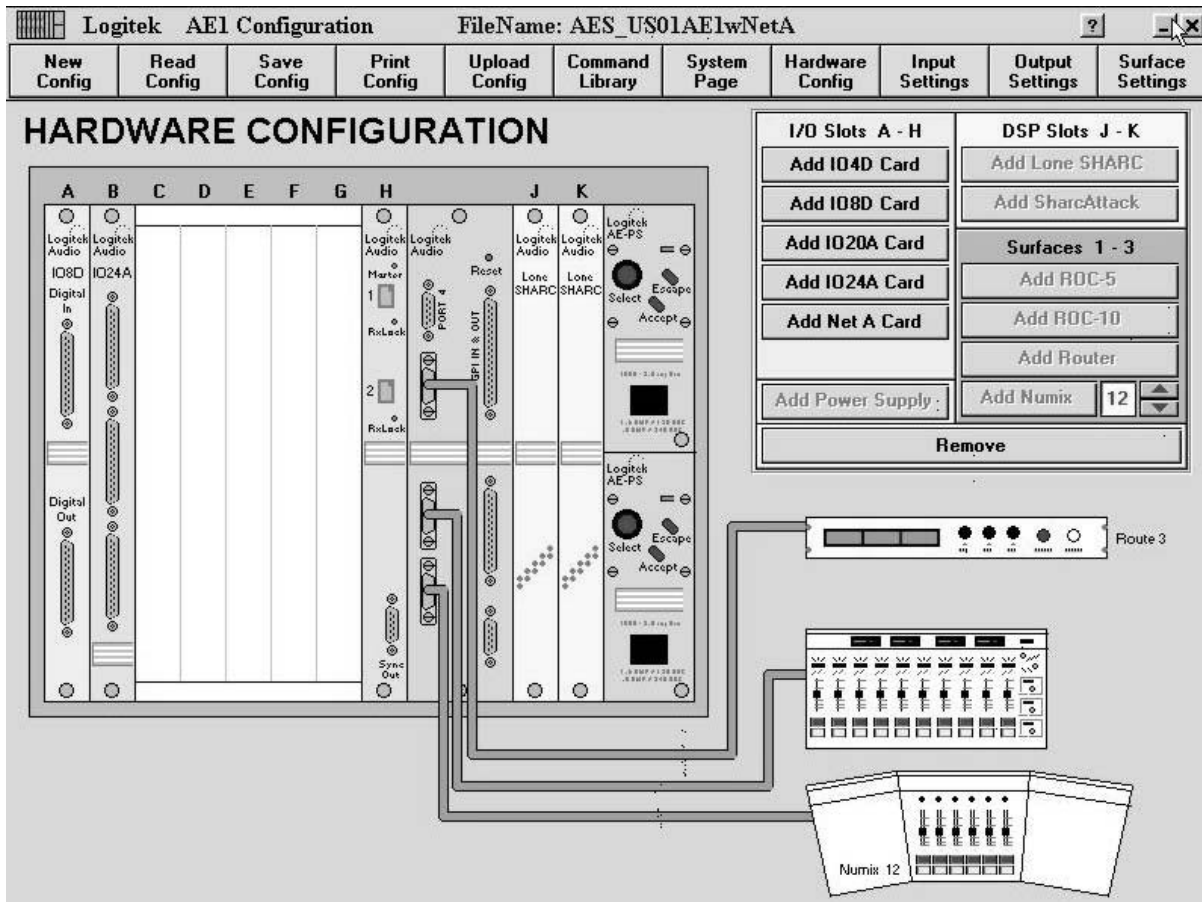
The last connector is a standard 1/4 inch phone jack. Stereo cue speakers can be connected here. Tip is left channel, ring is right channel and sleeve is the common. The nominal output is 4 watts per channel. The internal cue speaker can be disabled by removing the Selector wedge cover and unplugging the speaker connector in the bridge. Cue audio is normally mono from the Audio Engine unless it is set to stereo in the configuration process on the **System Page**.

Configuration of the Numix and Audio Engine is described in the Audio Engine manual which should be included with all Logitek Digital Consoles. This document describes wiring connections and use of the Engine configuration software.

Initial Power-Up

The Numix will startup with all controls in a neutral position. If the surface is connected to the Audio Engine then the engine will reset all the switches and router assignments to the current values for the Control Surface port. The Control Surfaces reflect the configuration of the Audio Engine port to which they are attached so that the Control Surfaces may be easily interchanged.

Configuration of the Control Surface port is accomplished in conjunction with configuration of the Audio Engine. The configuration software runs under Windows 95/98/NT and requires an available RS232 serial port on the computer to connect to Port 4 on the AE-C2 card in the Audio Engine. See the section in the Audio Engine Manual covering operation of the software for details on Control Surface setup.



In the event of loss of power at the Control Surface, all switches and indicators are returned to the same state as before the power loss when the power returns. The same is true of power loss at the Audio Engine. When power returns the Audio Engine will return to the same state as before the power failure. When power is restored, the Audio Engine boot-up time is only two seconds.

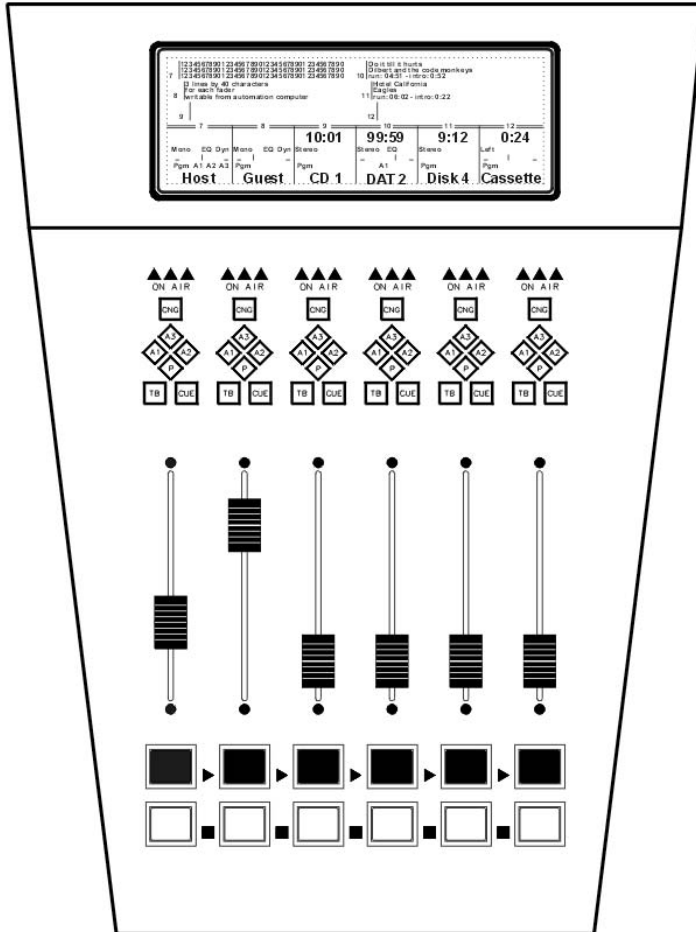
Loss of power at the Control Surface will not interrupt audio unless the current audio source ends and the next audio source fader is OFF. The Control Surfaces also incorporate a “Watchdog” timer which checks the processor several times a second. In the event of a software error which locks up the Control Surface, the lockup will be released by this watchdog in less than one second. To minimize the chance of program interruptions, use of an uninterruptible power supply (UPS) is recommended for the Audio Engine. The Numix control surfaces consume approximately 25 -100 watts of power, depending on the number of fader wedges installed. Select a UPS size to provide the protection time you need.

Operation

The Numix control surface is designed to exploit the flexibility inherent in Logitek Audio Engine. However, training time is much the same as for any other console since many of the differences are seen in the configuration process and are not obvious to the operator. Following is a description of the user operated controls.



Fader Wedge



Layout of the faders can be seen at left. Since the faders are only controls, no audio passes through them. They only contain a control voltage which is used to change digital levels in the Audio Engine. The faders operate as step attenuators with 256 steps from top to bottom. Penny & Giles faders are standard. Motorized faders are optional and will allow level changes made by the Audio Engine or automation system to physically change the fader position.

Faders may also have “click down” cue switching by checking the **Cue @ Inf** box in the configuration software. When the fader is brought to within .1 inch of the bottom of its travel, the selected input will be sent to the cue amplifier. This function acts in parallel with the blue cue button and the blue indicator leds will always be lit when the cue bus feed is active. The **Cue @ Inf** is enabled or disabled for each input not for the fader. The “click down” cue action will depend on the input selected.

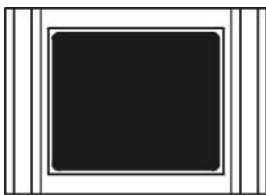


Faders may also have “fader start” program and control switching by checking the **Fader Start** box in the configuration software. When the fader is brought to within .1 inch of the bottom of its travel, the fader will be turned off. When the fader is moved above the .1 inch point the fader is turned on again. This action is in parallel with the main **On** and **Off** buttons. Either the fader or the buttons may be used to turn the channel on and off. Any control commands specified for the **On** and **Off** buttons will also be executed by the fader start system. **Fader Start** is enabled or disabled for each input and not for the fader. The **Fader Start** action will depend on the input selected.

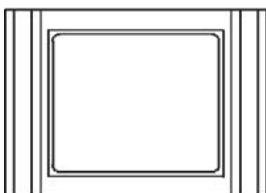


Since audio does not pass through the physical faders, they will not become noisy with wear. Any “scratchiness” of the fader as it moves is averaged out with a special processing algorithm in the system. If a fader becomes worn, you will notice a slowing of the fader response to level changes. This is a sign that it is time to service the fader.

Replacement faders are available complete with ribbon cables and connectors for quick repairs. Faders can be easily removed by removing the six screws holding the wedge top panel in place and removing the two screws holding the fader to the top panel. Secure the new fader following the reverse order. See the Appendix for a list of Logitek part numbers for use in ordering replacements.



ON
Button



OFF
Button

Each fader has illuminated **OFF** and **ON** push buttons at the lower end of the fader. These buttons operate in series with the Program and Aux mix bus controls. The red **ON** button must be lit AND the mix bus name must appear on the display screen above the fader AND the fader must be potted up before an input will be fed to an output bus. **ON/OFF** Buttons are momentary and illuminated with LEDs. Remote controls such as start and stop or auxiliary actions such as muting or mix-minus can be attached to an input by the configuration program and activated by the **ON** and **OFF** buttons. These attached functions will follow any change of inputs from fader to fader.

Replacement buttons, lens caps and LEDs are available from Logitek. Part numbers are listed in the Appendix.



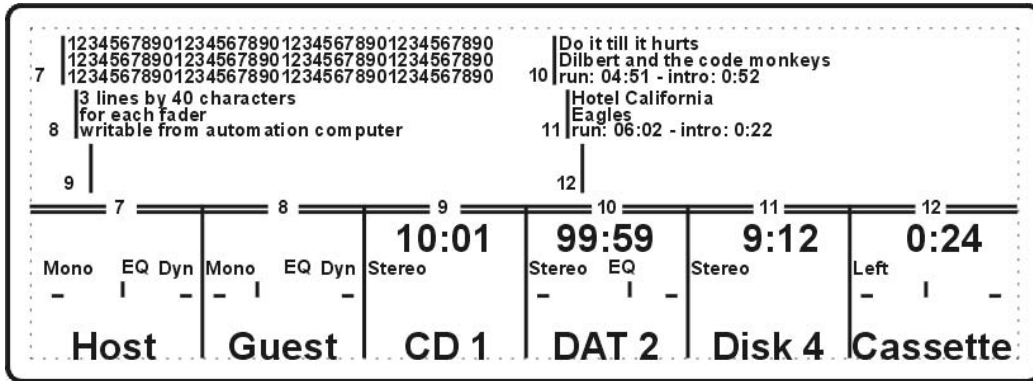
The **Cue** bus button is directly above the fader. Pressing the **Cue** button will connect the input signal to the internal cue bus. Pressing the **Cue** button a second time will turn the cue signal off. The cue bus is normally fed a pre-fader signal so that the same level will be heard no matter where the fader gain is set. A post-fader signal can be selected by checking the **Pre-Fader/Post-Fader** box in the configuration software. **Pre-Fader/Post-Fader** is part of the input definition and may change with the input selected. Stereo Cue is available on the phone jack on the bottom panel of the Selector Wedge. As noted earlier, “click-down” Cue can be enabled for each input.

The TB button is a momentary Push-to-Talk button which will feed the Talkback Mic audio to the mix-minus bus assigned to the input in AEConfig. When the button is released the mix-minus resumes. This allows multiple and individual intercom feeds to various destinations. This will only be active if a mix-minus bus has been assigned to the input in AEConfig.

Four bus select buttons are located above the Cue and TB buttons. The fader may be assigned to Program, Aux1, Aux2, or Aux3 mix buses at any time and in any combination. The buttons are lighted to show currently active selections.

Above the Cue button is a row of three red indicators marked **ON AIR**. These will light when the fader channel has been turned on with the red **On** button and the channel has been assigned to the **Program** bus. This indicator warns the operator which faders are “live to air” when the console is being used for several functions at once.

Pressing the green **Change** button assigns the fader channel to the change function area of the **Selector Wedge**. Pressing the **Change** button while it is active will cancel any changes in progress and disconnect the fader channel from the **Selector Wedge**. If another fader channel is using the change function area



when the **Change** button of a different fader is pressed, then any current changes will be canceled and the new fader will be assigned to the **Selector Wedge**. Use the **Change** button to change the input selection, output bus assignments, stereo mode, pan position or EQ settings. See the **Selector Wedge** section for details.

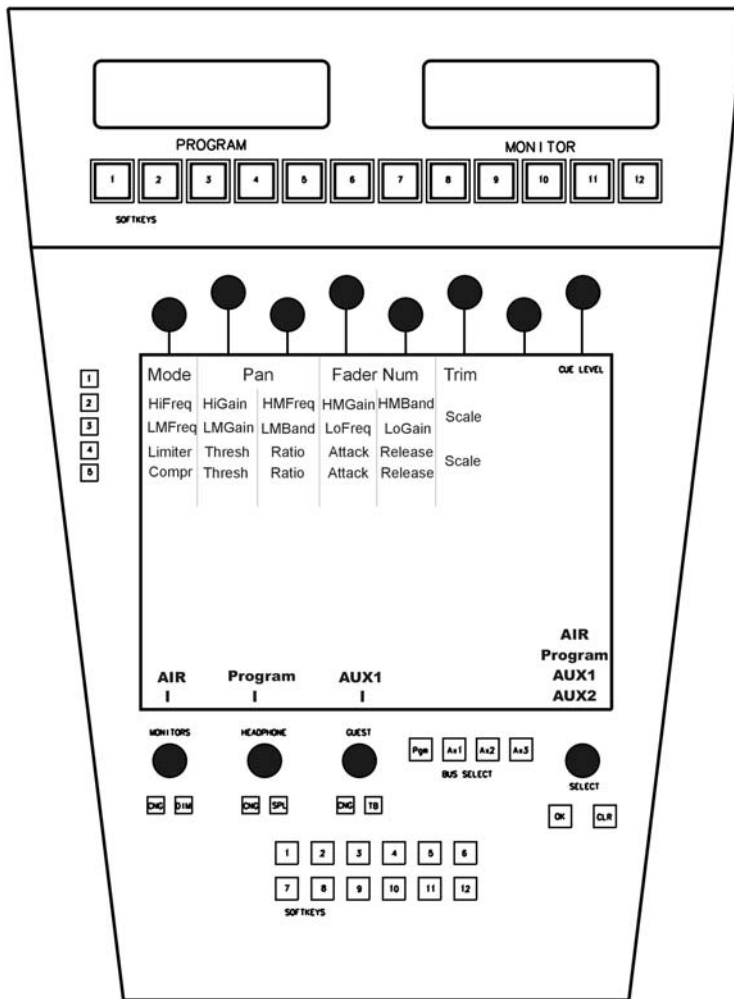
The display screen above the faders is divided into two sections. The lower section has a current settings box for each fader channel with the fader number at the top. Under the fader number is a program count up timer. The timer counts up from 00:00 when the red **On** button is pressed and is set to blanks when the yellow **Off** button is pressed. The timer may be turned off permanently for an input by checking the **Timer Start No** box for that input in the configuration program.

If Mode, EQ, or Dynamics are enabled for an input the next line will show those items below the timer.

If the input selected is allowed to adjust the pan/balance setting then the current setting will be shown in a rectangular box under the timer. If pan is not allowed then this area will be blank.

The bottom line of the display shows the name of the input source assigned to the fader channel. The top half of the display screen may be used by automation systems to write segment title and timing information.

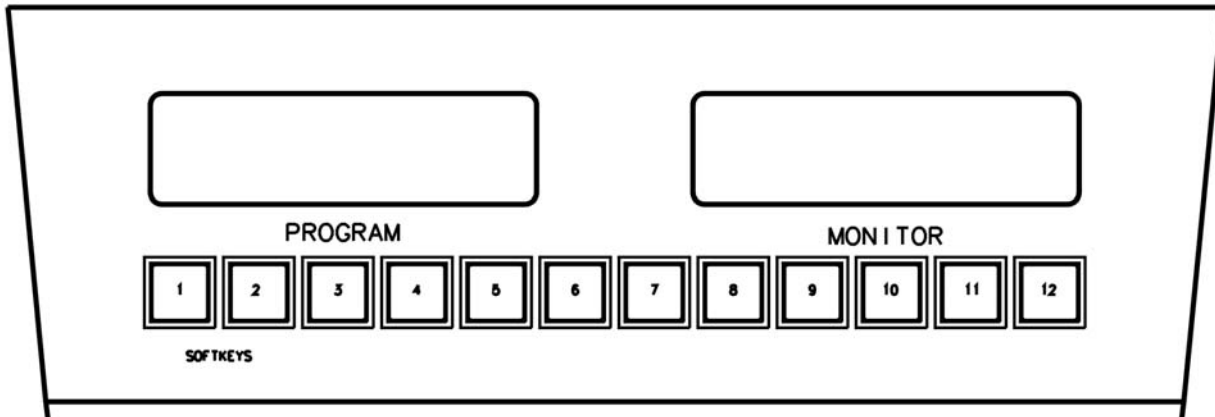
Selector Wedge



The Selector Wedge is the electrical although not entirely the functional center of the Numix control surface. Control and selection menus and buttons are located on this wedge which are used with all Fader Wedges that are part of the control surface. All Fader Wedges are connected to this wedge with a category 5 network cable which carries all power and data connections to the Fader Wedges.

The Selector Wedge may be physically separated from any or all of the Fader Wedges. The exact physical layout of the wedges may be varied to meet the ergonomic needs of the operators.

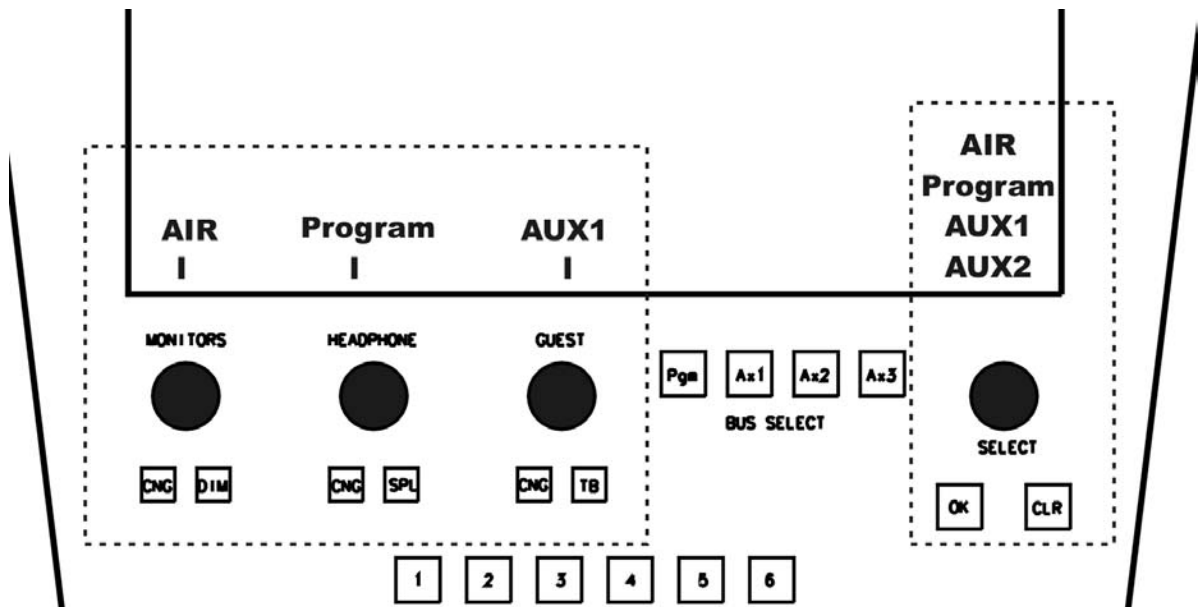
The color LCD display in the Selector Wedge is divided into several functional areas related to the controls surrounding the display.



The Numix has two sets of left and right meters. One set is labeled “Program” and follows the outputs assigned as the Program Output bus. The other set is labeled “Monitor” and follows the choice made on the Monitor Control Selector. The meters are multi-colored LED type which simultaneously show standard VU levels as a solid green bar and peak levels as a single red dot. The reference level is adjustable. The zero VU reference level can be set for analog outputs from -20 to +8 db by entering the desired level as a number in the **Normal Signal Level** box in the **Output Settings Editor** of the configuration software. Different outputs can have different reference levels set during configuration. The digital output zero VU corresponds to -20 dBFS and cannot be changed. Other meter scales are available on request such as BBC, European PPM, and VU only scale. Please contact Logitek for more details.

Three Monitor drivers are provided on the Numix and are labeled **Headphones, Monitors** and **Guest**. The action of each is the same. A level control is present with each as well as a **Change** push button. A common display screen at the lower left of the Selector screen shows the current source selections of each monitor section along with a vertical bar which indicates the current gain level. The monitor gain controls are rotary encoders without end stops, so there is no direct relationship between knob position and gain level.

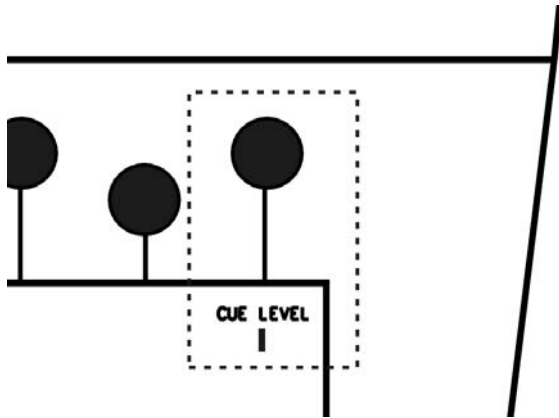
The **DIM** pushbutton near the **MONITORS** control reduces the speaker volume by 20 decibels from the current audio level. Normal level will return with a second push of the button.



The headphone section has an extra button labeled **SPL**. Pressing this button will cause the selected source to be presented to the left headphone output while the cue bus will be presented to the right headphone output. Pressing the button again will return the headphone to normal operation.

The button **TB** near the **GUEST** control will include talkback audio in the output of the Guest circuit. Normally this audio is included only in the control surface Cue audio. A second press of the button removes the talkback audio.

To change the source of a monitor driver, press the Change (**CNG**) button to the left of the monitor volume control knob. The **Selection List** for the control will appear at the lower right corner of the display and will show that the selection mode is active. These choices are preset during configuration. Use the **Select** knob under the Selections display to scroll through the available choices. When the desired choice is highlighted on the display, press the **OK** button to change to the new source. Quit the selection process without making changes by pressing the **CLR** button under the Selections display, or by pressing the **Change** button next to the monitor gain control again.

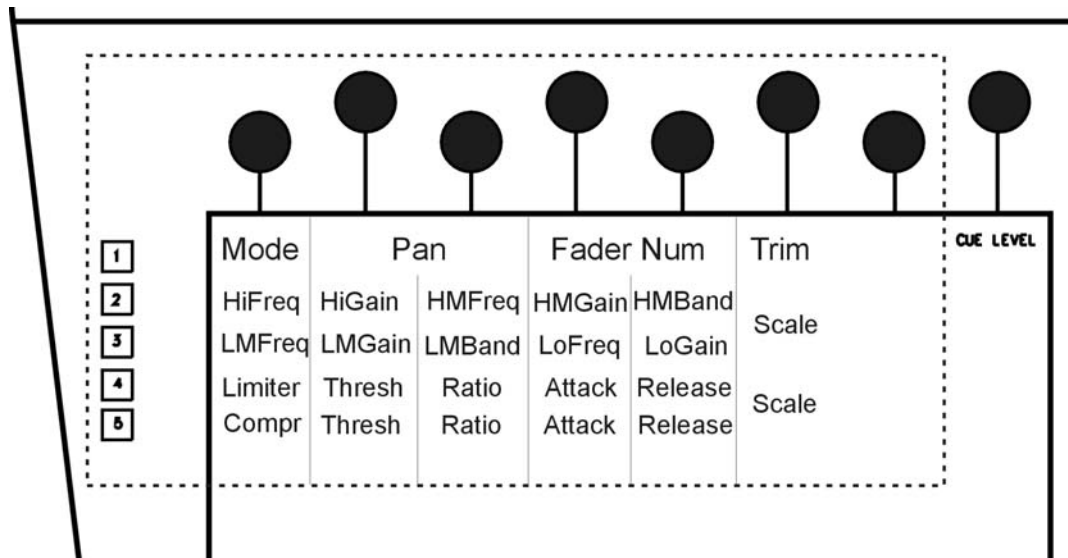


The **Cue** knob controls the volume of the local cue speaker which has its own amplifier. Cue audio is returned to the Control Surface from the Audio Engine as digital data on the Control Surface cable. It is converted to analog at the Control Surface. The cue gain level is indicated at the top right corner on the display.

Fader Channel Functions

The **Selections Grid** display makes up a central control section that is shared by the input faders. The grid is rather like a spreadsheet with five buttons to select the row and seven selection knobs to select the contents in each column. The actual items shown for each fader will vary depending on what input is selected and the properties of that input as set in **AEConfig**.

When an input fader **Change** button is pressed the fader number will be written to the grid display and the Input function at the lower right corner of the display will be activated and a list of available sources will be shown on the Selections display. The list of sources is specified using the configuration program. Turn the **Select** knob under the Selections display until the desired source is highlighted. If there are more sources than will fit on one screen, up and down arrows will appear along the right hand side of the Selections display. When the end of the first page list is reached, further rotation of the Select knob will turn to the next page of the list. Press the **OK** button to assign the highlighted source to the fader. Press the **CLR** button to exit the Input function without changing anything. The fader channel must be turned off (yellow button illuminated) before the input can be changed unless the Lock Inputs selection is set to NO on the System page of AEConfig.



Pressing the **Row 1** button will activate the row to allow Mode, Pan, and Trim controls. The fader number with Change Active is listed under controls 4 and 5. The Mode control, rotary control number 1, selects the choice for how the input source is connected to the stereo mix buses. Highlight the desired mode using the **Select #1** knob to make the highlighted mode active. The active mode is also shown on the status display above the fader. The Mode function must be activated from the **AE Configuration Program**.

Mode processing is performed after the EQ section but before the pan and fader sections. Stereo mode connects left input to left output and right input to right output. Mono mode, for stereo inputs, mixes the left and right inputs together and feeds the sum to the left and right outputs. A single input is automatically in mono mode and will be duplicated and sent to both the left and right outputs. Left mode feeds the left input to both the left and right outputs. Right mode feeds the right input to both left and right outputs. Ph Rev mode sends the left input to the left output and sends inverted right input to the right output.

The **Pan** function will display the current pan position by a vertical bar within the box below controls 2 and 3. When the pan setting is at the center neutral position the vertical bar will line up with the marker along the reference line to form one long bar. Turn the Select knob number 3 to change the pan setting. These changes are immediately sent to the Audio Engine and the fader wedge display. The **Pan** function must be activated from the **AE Configuration Program**.

The **Inp Trim** function adjusts the input reference level using Selector control number 6. Turn the **Select** knob to raise or lower the normal input level for the current input. The range is from -10 to +10 db. This allows setting the normal operating point of a fader to a convenient position when source levels are higher or lower than expected.

Rows 2 and 3 of the **Change Grid** allow access to the equalization functions. The equalizer is a four band system with high and low variable shelf controls and two middle bands with variable frequency and bandwidth. The **EQ** function for an input must be activated from the **AEConfig** Program before these rows will display..

The controls for row number two are:

- Control #1 - High band frequency (default 10,000 Hz)
- Control #2 - High band gain
- Control #3 - High-mid band frequency (default 5,000 Hz)
- Control #4 - High-mid band gain
- Control #5 - High-mid band bandwidth
- Control #6 - EQ system scaling

The controls for row number three are:

- Control #1 - Low-mid band frequency (default 1,000 Hz)
- Control #2 - Low-mid band gain
- Control #3 - Low-mid band bandwidth
- Control #4 - Low band frequency (default 100 Hz)
- Control #5 - Low band gain
- Control #6 - EQ system scaling

Control #7 is not presently used for the EQ system.

Rows 4 and 5 provide adjustments for the Limiter and Compressor functions respectively. The audio processing functions must be enabled for a given input in AEConfig before these rows will display on the Change Grid.

Controls for row 4 are:

Control #1 - No function, limiter label on display.

Control #2 - Limiter threshold

Control #3 - Limiter compression ratio

Control #4 - Limiter attack time

Control #5 - Limiter release time

Control #6 - Limiter/compressor system scaling

Controls for row 5 are:

Control #1 - No function, compressor label on display

Control #2 - Compressor threshold

Control #3 - Compressor compression ratio

Control #4 - Compressor attack time

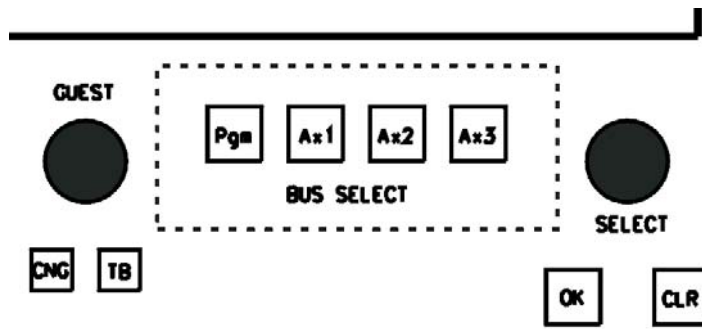
Control #5 - Compressor release time

Control #6 - Limiter/Compressor system scaling

Control #7 is not presently used for the Limiter/Compressor system.

Press one of the five row buttons to activate any control on that row. Press the Change button on any fader to end the current grid display.

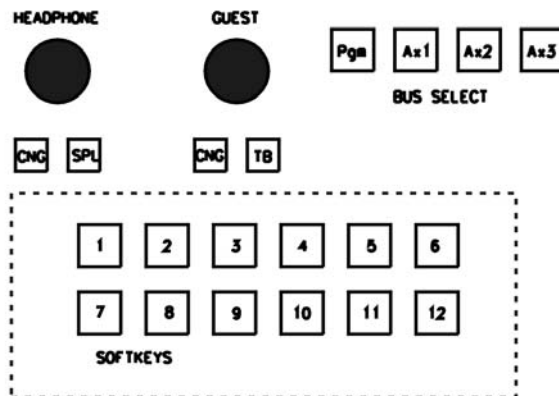
The four output bus assign buttons are push-on, push-off. Active buses are highlighted and listed on the display screen above the fader. Inactive buses are not highlighted and do not appear on the display above the fader.

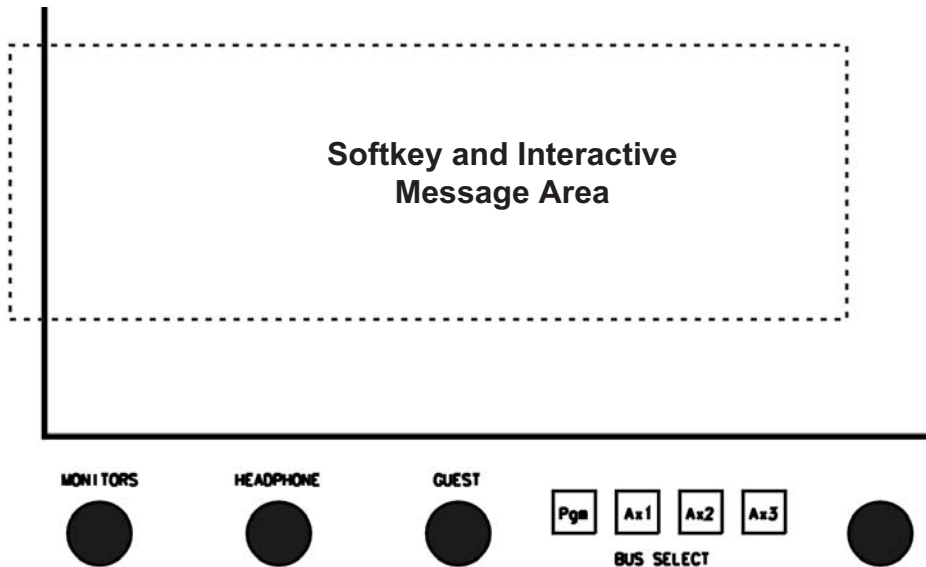


Soft Keys

Button presses on the 24 soft keys are reported to the Audio Engine and any connected automation systems. These buttons can be used to trigger any internal action or remote control the system is able to perform. Automation systems can write directly to the display in the center area of the LCD. These buttons and the display must be enabled by custom commands in the **AEConfig Command Library** or by use of **Supervisor** and **Command Builder**. Call Logitek for details on the **Command Library**.

Twelve softkeys are located below the VU meters and another 12 are below the Monitor and Bus controls.





The rightmost section of the Softkey display area is used for interactive messages to allow user confirmation of programmed functions. The **OK** and **CLR** buttons at the lower right of the display are used for **YES** and **NO** responses respectively.

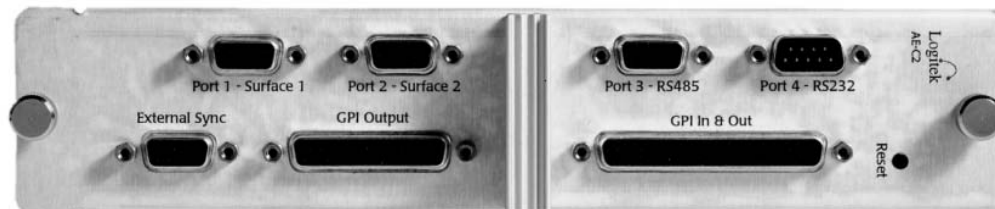
Button Wedge

The optional 24 button wedge provides 24 push buttons and LEDs that can be configured through the use of Command Builder. The buttons function as input devices and the associated LEDs are output devices. The Button Wedge may be connected to expansion socket 5 or socket 6 on the Selector Wedge power supply board. The buttons and LEDs will then function as the first two devices allocated to that socket. The first DSP device number is for the LEDs and the second is for the buttons. So for socket 5 these are devices 35 and 36 (23H and 24H) for control surface 1 and devices 75 and 76 (4BH and 4CH) for control surface 2. For socket 6 the devices are 41 and 42 (29H and 2AH) for control surface 1 and 81 and 82 (51H and 52H) for control surface 2. The bus numbers are 16 to 39 (10H to 27H) in all cases.

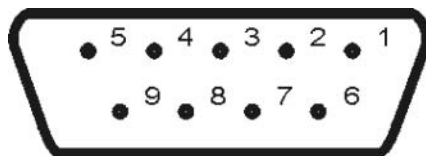
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Appendix

Control Surface Data Cable



Category 5 LAN cable is recommended with a DB9 male at each end. 3 of the 4 twisted pair are used. Ports 1, 2 or 3 are used on the Communications Controller Card. The rear view of the male connector is shown. Pinout is the same at both ends. Port 3 has no Cue audio connection so pins 1 and 6 are not connected on this port and only two pairs are used. All ports operate at 38.4 Kbps, 8 data bits, 1 stop bit and even parity. Note that a Numix Control Surface cannot be used on Port 3.



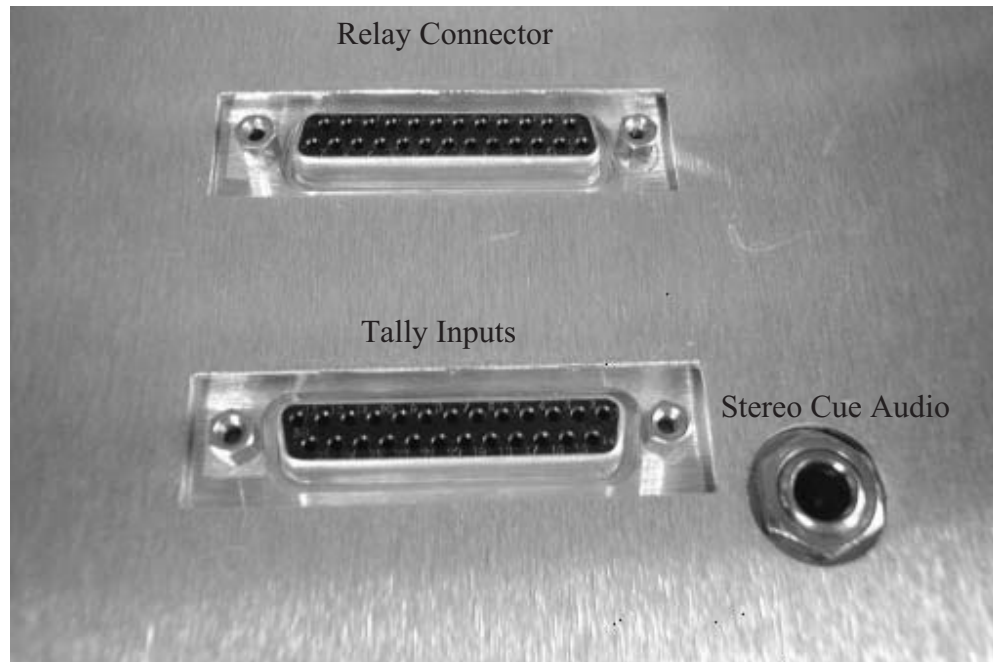
Engine Ports 1 and 2

Pin	1	pair 1 Cue +	6	pair 1 Cue -
	2	pair 2 TX +	7	pair 2 TX -
	3	pair 3 RX +	8	pair 3 RX -
	4	no connect	9	no connect
	5	enclosure ground		



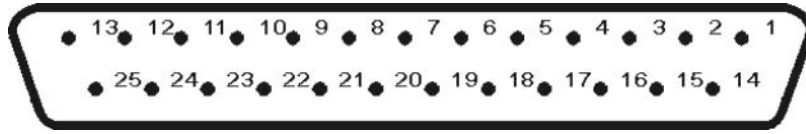
Connection on the bottom of the Numix Selector Wedge follows the same pinout as on the Audio Engine. The Control Surface connector is shown above.

Control Surface GPI



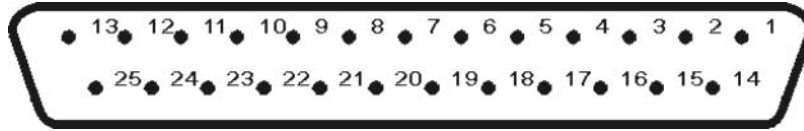
The Numix Control Surface provides 12 logic input/tallyback connections along with 12 closures for external device control. The 12 device control relays are on one DB-25 connector, the input/tallyback connections are on the second DB-25. The contacts of the internal relays are rated at 50 volts DC maximum and 500 milliamps maximum. Higher currents will require the internal relays to switch an added outboard relay. Interface cables in both cases are made with male connectors. The rear view of the male connector is shown.

The GPI is activated in configuration by entering the relay or input number in the appropriate box in the Engine Configuration Program. The Numix Inputs and Outputs are called with numbers 101 to 112 for a Control Surface on Engine Port 1, 201 to 212 for a Surface on Port 2, and 301 to 312 for a Surface on Port 3.



Numix GPI Relay Connector

Pin	1	Relay 1 A	Pin	14	Relay 1 B
	2	Relay 2 A		15	Relay 2 B
	3	Relay 3 A		16	Relay 3 B
	4	Relay 4 A		17	Relay 4 B
	5	Relay 5 A		18	Relay 5 B
	6	Relay 6 A		19	Relay 6 B
	7	Relay 7 A		20	Relay 7 B
	8	Relay 8 A		21	Relay 8 B
	9	Relay 9 A		22	Relay 9 B
	10	Relay 10 A		23	Relay 10 B
	11	Relay 11 A		24	Relay 11 B
	12	Relay 12 A		25	Relay 12 B
	13	no connect			



Numix GPI Control/Tally Input Connector

Near 1/4 inch phone jack

Pin	1	GPI In 1	Pin	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		25	Ground
	12	GPI In 12		15	Ground
	13	no connect			

Numix Control Surface Specifications

User Controls

Faders	6 per Fader Wedge, 100 mm Penny & Giles
Maximum Fader Wedges per Surface	4 powered by Selector Wedge
Fader Controls	OFF and ON pushbutton with LED lighting
Monitor Controls	3 Rotary Encoder, Programmable Input
Meters	2 stereo pair, -40 to +20 VU (-60 to 0 dbfs digital) and peak
Talkback Controls	2 user programmable
Timer	Count-up for each fader, Defeatable Automatic Fader control
Soft Keys	6 user definable, with user definable display
Function Keys	12, with Function parameter selection menus and controls

Audio Control

Mix Buses	4 stereo with 2 automatic mono mixes
N-1 (Clean Feeds)	3 Pre-programmed, more by custom programming
Cue Bus	Mono, Internal Speaker, Stereo using External Speaker
Functionality	User definable. Includes pre-defined submixer and signal routes.
Input EQ/Processing	Optional, Definable per input

External Connections

Power	110 volt or 220 volt switchable, 120 watts at maximum configuration
Fuse	1.3 amp (110 volt) or .63 amp (220 volt)
Communications Port	RS-485, DB-9 female connector, connects to Logitek Audio Engine
GPI Inputs	12, +5v to ground
GPI Outputs	12, Dry contact relays, Maximum 50v DC 500 ma.
Functionality	User definable.
Stereo Cue	¼ inch TRS phone jack, 4 watts maximum per channel
Dimensions	Actual, - 13.25" w (rear) x 16.5" d x 6.7" h x 9.25" w (front) (33.6 cm w x 41.9 cm d x 17.3 cm h x 23.5 cm w), Each Wedge
Meter Bridge Height	3.7" (9.4 cm) above table surface
Weight	Fader Wedge - 8.5 lbs., Selector Wedge - 12 lbs.

Numix Spare Parts Kit

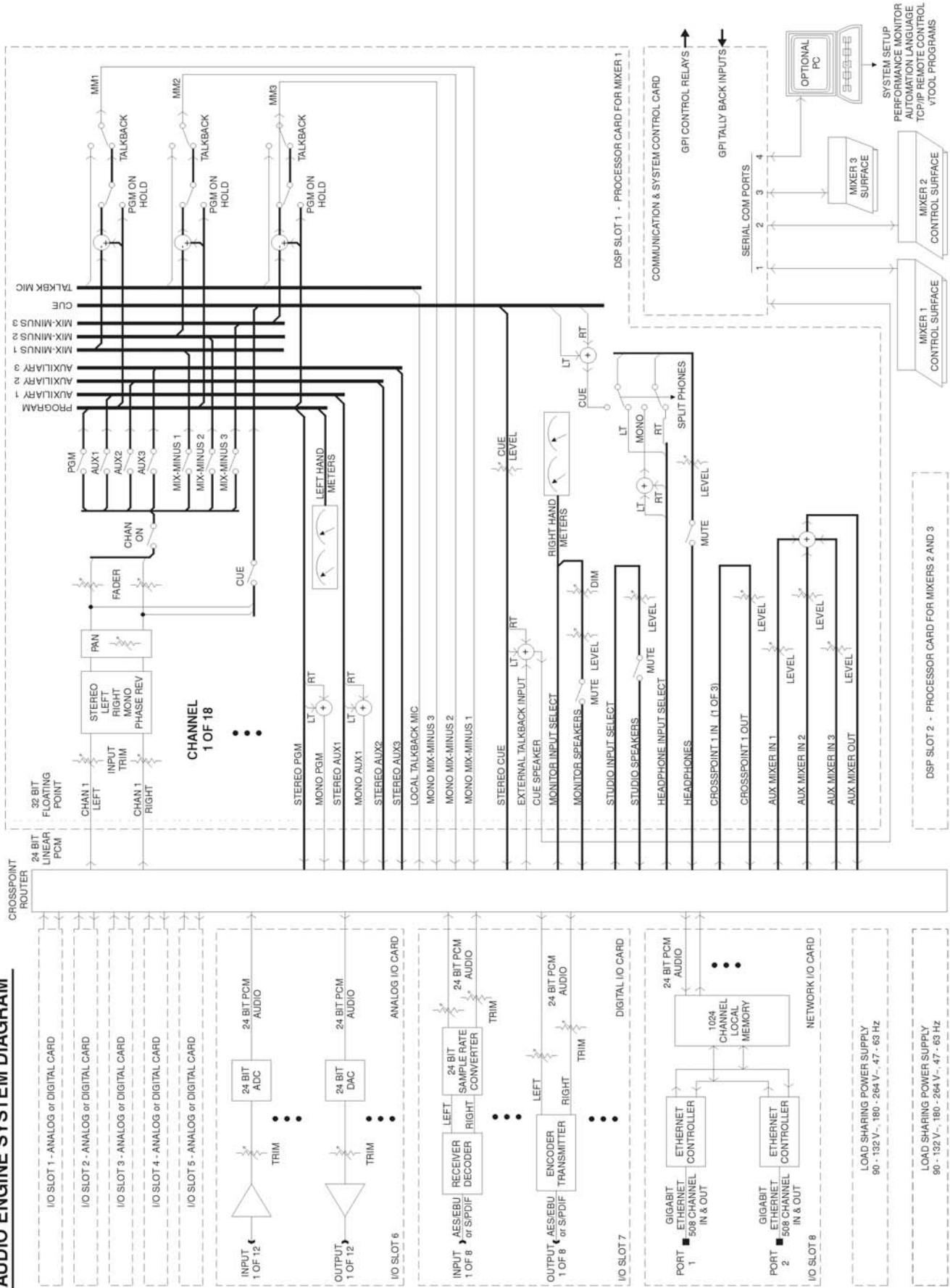
Part number: NUMIX-SPARE

Kit Contents:

- 2 each slide potentiometers
- 2 each ON/OFF pushbuttons
- 1 each Red LED bulb
- 1 each Yellow LED bulb
- 1 each rotary encoder control
- 2 each black oval pushbuttons
- 1 each Bus Assign card
- 1 each Mode Select card
- 2 each 1.3 and .63 amp 20mm slo-blo fuses

*** Specifications are subject to change ***

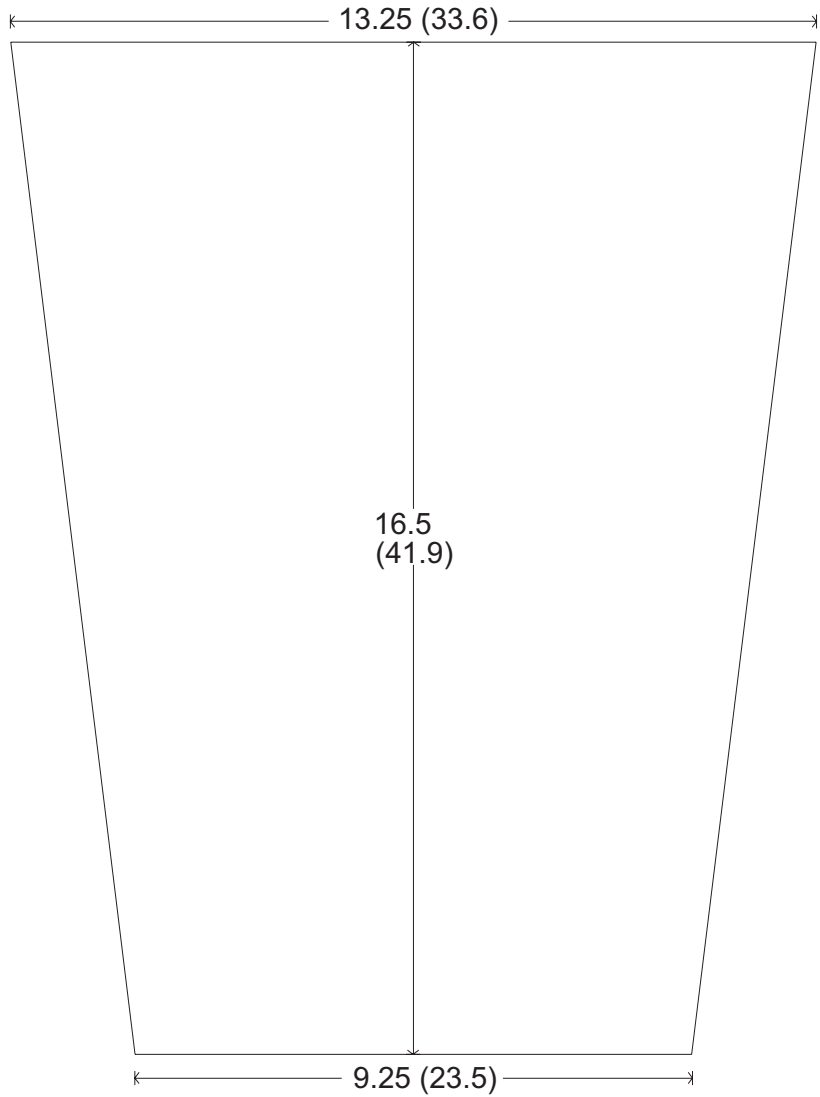
AUDIO ENGINE SYSTEM DIAGRAM



Numix Installation Cutout

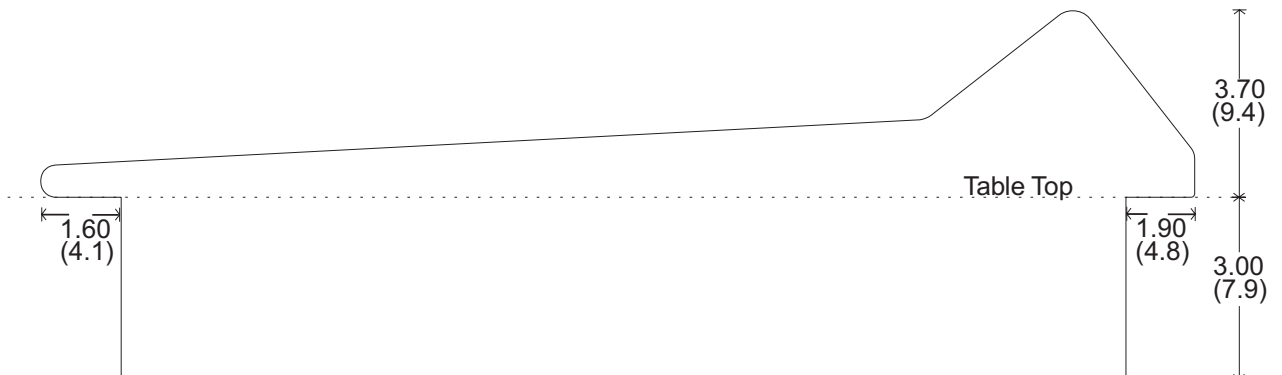
Numix Wedge Dimensions

-- measurements in inches (cm) --



Meter & Selector Tray Size

Add ¼ inch of space on the front, back and sides



Logitek Electronic Systems

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