LXE

Digital Control Surface

Quick Start Guide

WheatNetIP LXE Surface Setup GUI 1.6.3 and higher
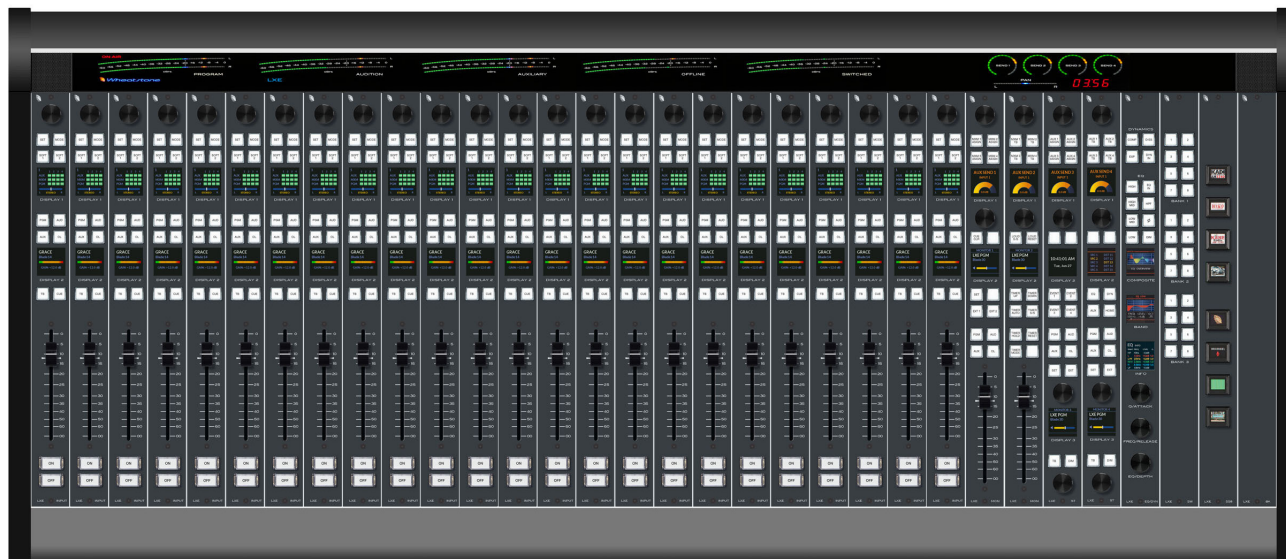
Installation and Configuration

Introduction

Wheatstone's new LXE console brings control surface configuration to a new level. Going far beyond the usual "any source to any fader" network concept, the LXE is a fully flexible control interface, where every switch, fader, and rotary control is programmable to perform any available function. This means console architecture is completely customizable to client requirements, and limitations to functionality are no longer a factor. Physically compact, the LXE is available in several different form factors including countertop, countertop sunken, and split frames (split sections are not confined to one room, they can actually be in different studios).

LXE Surface Setup GUI allows every switch on the surface to be programmed for function, mode, and even color (switches are RGB led illuminated). In fact, built-in software allows every button to be scriptable, letting you create powerful macros for as many controls as you want. Multiple full color OLED displays on each panel keep pace with ongoing operations, and event recall allows painless one touch console reconfiguration at the press of a button. With its inherent control flexibility and ability to access thousands of signals (sources and destinations are limited only by the size of the network) the LXE takes facility work flows and audio control to a new level.

The LXE can have up to 32 physical motorized faders, with full DSP processing available on all 32 channels. Surface(s) interface seamlessly into the WheatNet-IP Intelligent Network, and utilize BLADE-3s for audio, control and associated logic data flowing on single CAT6 interconnecting cables. The system can ingest and convert virtually all audio formats: analog, microphone, AES/EBU, SPDIF, AoIP, MADI, SDI and even AES67. Loudness metering, phase control, and full EQ/Dynamics are included.

LXE's new GUI has pre-built screens for everything you normally use – metering, clocks, timers, dynamics, EQ, assigns, and more. All are touch-screen accessible with gestures you're used to using on your smart devices. And, the GUI is just as customizable as the LXE surface. Using our ScreenBuilder-LXE software, you simply drag and drop objects and define their functions via a simple wizard interface. You can store multiple custom screens, if you like, to go with your custom LXE setups.
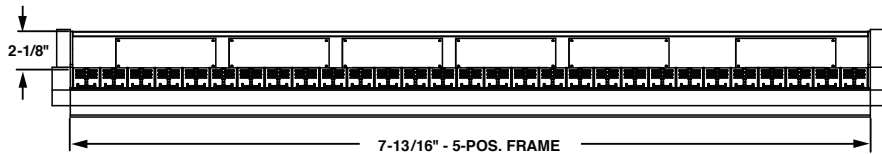
Control Surface Placement

The LXE modular control surface is designed for countertop mounting or drop-in installation in counter top.

Although the rubber feet on the bottom keep the surface from being easily moved when simply placed on the counter, pre-drilled holes have been provided so that screws may be used to mount the surface securely to the countertop. Locate the LXE on the counter, and remove the screws (two per module) that hold the second and next to the last modules in place (for the 33/37/45-positions frame remove also module in the middle). Carefully remove these modules from the frame. Attach the mainframe to the counter top, using the holes provided in the bottom of the chassis and screws appropriate to the counter material, and reinstall the removed modules.

Countertop Frames

2-1/8"

CUTOUT DIMENSIONS
5-POS. FRAME - 8 -1/16" x 18-1/2"
9-POS. FRAME - 14-3/32" x 18-1/2"
13-POS. FRAME - 20-1/8" x 18-1/2"
17-POS. FRAME - 26-1/4" x 18-1/2"
21-POS. FRAME - 32-3/16" x 18-1/2"
25-POS. FRAME - 38-7/32" x 18-1/2"
29-POS. FRAME - 44-1/4" x 18-1/2"
33-POS. FRAME - 50-3/8" x 18-1/2"
37-POS. FRAME - 56-5/16" x 18-1/2"
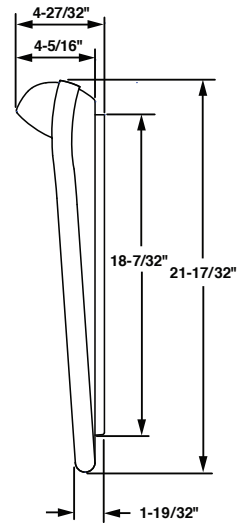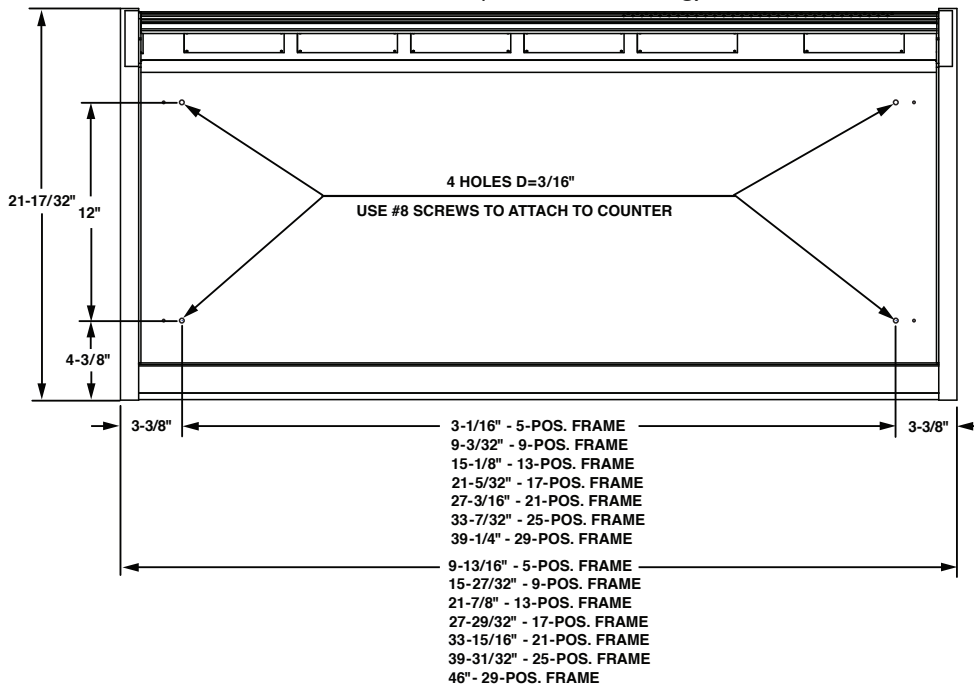45-POS. FRAME - 68-3/8" x 18-1/2"

7-13/16" - 5-POS. FRAME
13-27/32" - 9-POS. FRAME
19-7/8" - 13-POS. FRAME
25-29/32" - 17-POS. FRAME
31-15/16" - 21-POS. FRAME
37-31/32" - 25-POS. FRAME
44" - 29-POS. FRAME (shown on drawing)
50-1/16" - 33-POS. FRAME
56-1/16" - 37-POS. FRAME
68-1/8" - 45-POS. FRAME

LXE 5/9/13/17/21/25/29(shown on drawing)-POS. FRAME

4-27/32"
4-5/16"

21-17/32"
12"

4 HOLES D=3/16"

USE #8 SCREWS TO ATTACH TO COUNTER

18-7/32"
21-17/32"

4-3/8"

1-19/32"

3-3/8"

3-1/16" - 5-POS. FRAME
9-3/32" - 9-POS. FRAME
15-1/8" - 13-POS. FRAME
21-5/32" - 17-POS. FRAME
27-3/16" - 21-POS. FRAME
33-7/32" - 25-POS. FRAME
39-1/4" - 29-POS. FRAME

3-3/8"

9-13/16" - 5-POS. FRAME
15-27/32" - 9-POS. FRAME
21-7/8" - 13-POS. FRAME
27-29/32" - 17-POS. FRAME
33-15/16" - 21-POS. FRAME
39-31/32" - 25-POS. FRAME
46" - 29-POS. FRAME

LXE 33(shown on drawing)/37/45-POS. FRAME

21-17/32"
12"

6 HOLES D=3/16"
USE #8 SCREWS TO ATTACH TO COUNTER

4-3/8"

3-3/8"

22-21/32" - 33-POS. FRAME
25-21/32" - 37-POS. FRAME
31-11/16" - 45-POS. FRAME

22-21/32" - 33-POS. FRAME
25-21/32" - 37-POS. FRAME
31-11/16" - 45-POS. FRAME

3-3/8"

52-1/16" - 33-POS. FRAME
58-1/16" - 37-POS. FRAME
70-1/8" - 45-POS. FRAME

Wedges Frames

2-7/8"

7-13/16" - 5-POS. FRAME
13-27/32" - 9-POS. FRAME
19-7/8" - 13-POS. FRAME
25-29/32" - 17-POS. FRAME
31-15/16" - 21-POS. FRAME
37-31/32" - 25-POS. FRAME
44"- 29- POS. FRAME (shown on drawing)
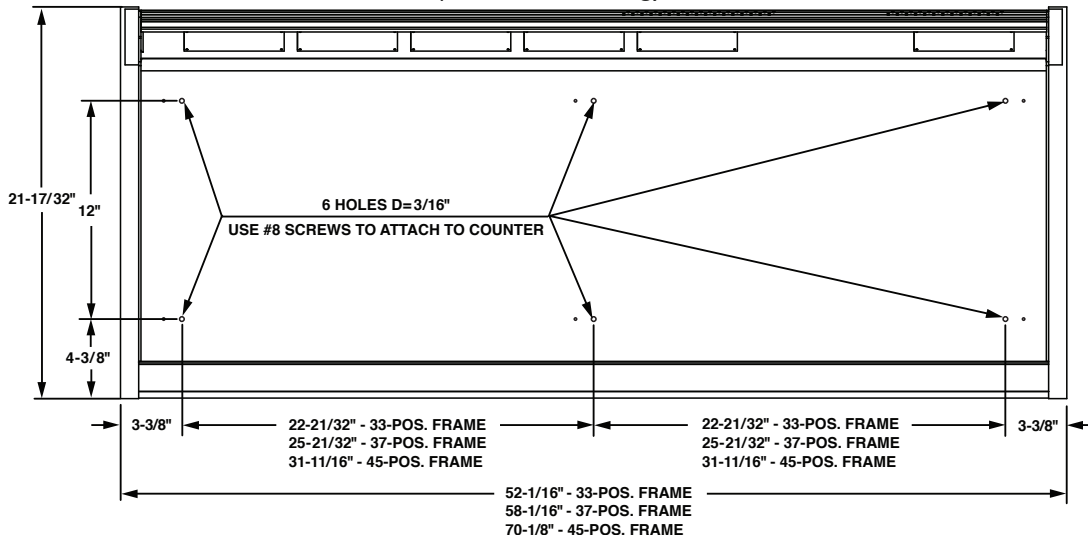50-1/16" -33-POS. FRAME
56-1/16" -37-POS. FRAME
68-1/8"- 45-POS. FRAME

CUTOUT DIMENSIONS
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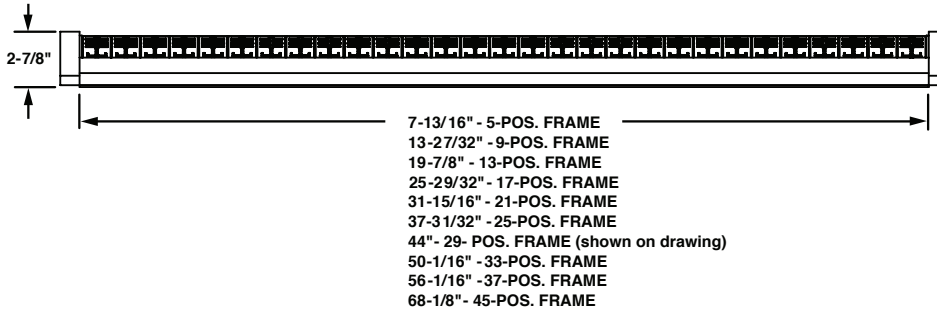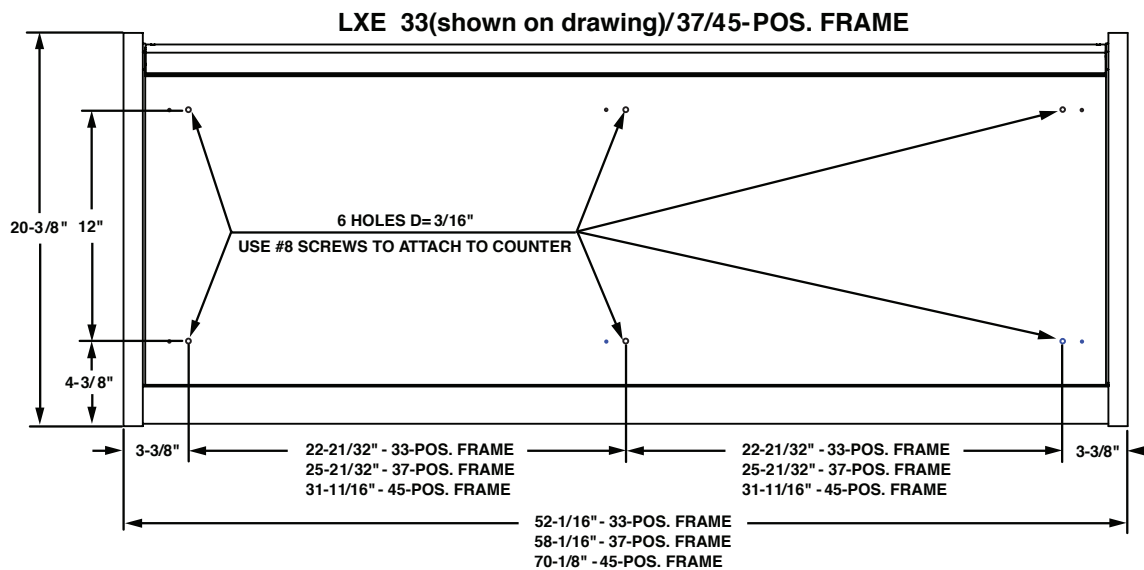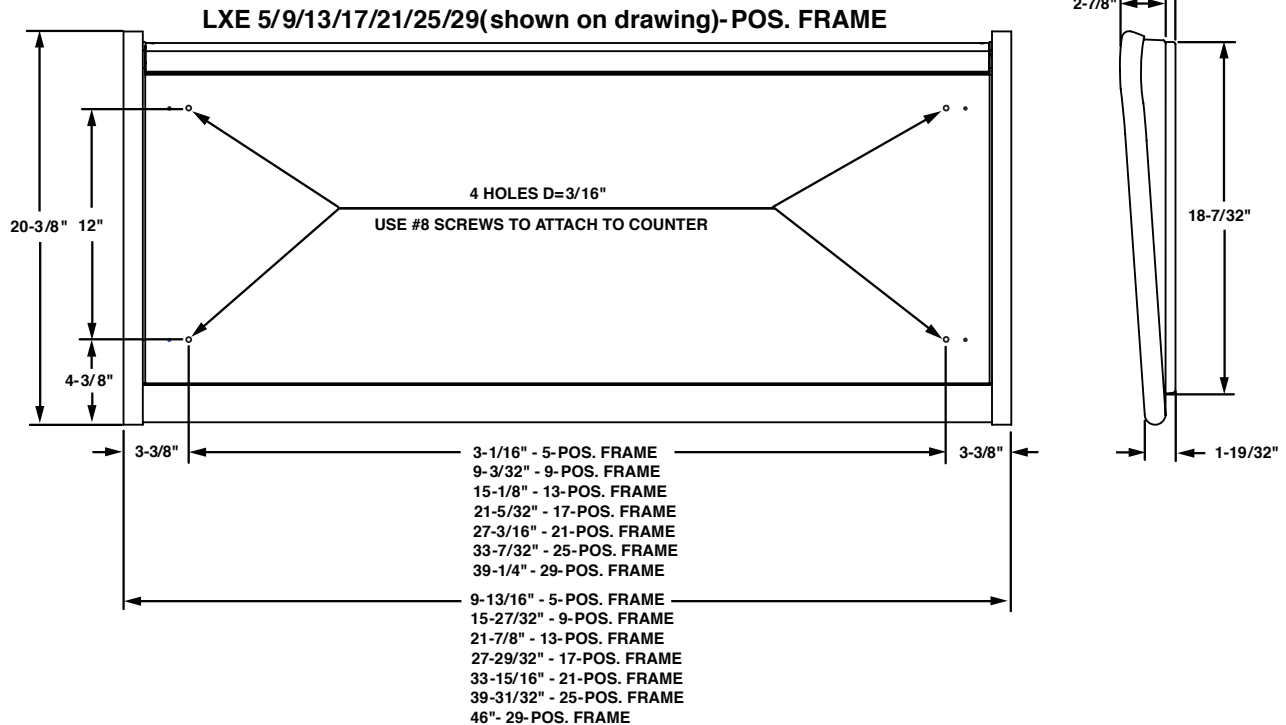### LXE 5/9/13/17/21/25/29(shown on drawing)-POS. FRAME

2-11/32"

2-7/8"

18-7/32"

4 HOLES D=3/16"

USE #8 SCREWS TO ATTACH TO COUNTER

20-3/8 " 12"

4-3/ 8"

3-3/8"

1-19/32"

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Power Supply

Front view of the PS-1600 rackmount power supply

Rear view of the PS-1600 rackmount power supply

The LXE control surface is powered by a Wheatstone Model PS-1600 rackmount power supply. This unit occupies a single 19" wide rack space. Convection cooled, it requires ample ventilation space above and below it.

If failsafe redundant supplies have been ordered, you will be installing two PS-1600 units.

Note the power supply (supplies) should be mounted in an equipment rack within fifteen feet of the control surface (but no closer than 3 feet). Avoid locating any high gain equipment too near the rackmount supplies, to avoid magnetic interference into that equipment.

Once the supply is rackmounted, it should be connected to the control surface using the factory supplied DC power cable.

Unscrew the LXE's rear panel to access its power connectors that mounted on the bracket on the right side of the chassis. The cable has two DC plugs on it.
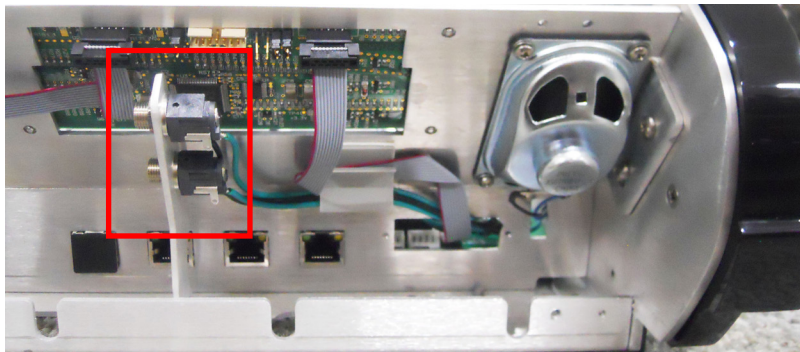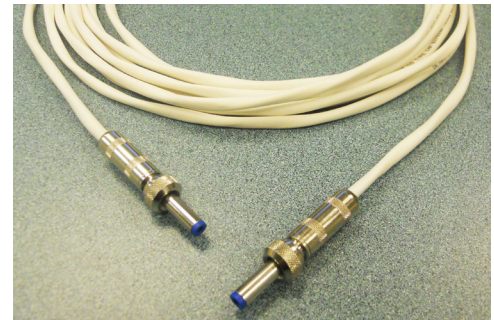
In case of redundancy use two PS-1600 units. If you are using one supply, connect it to one of the control surface connectors (it doesn't matter which one). If you are using the failsafe option (two PS-1600 supplies), connect one end of a power supply cable to either control surface power connector and connect the other end of the cable to one of the two power supply units. Then use the other cable to connect the second power supply to the remaining control surface power supply connector.

Note each power supply is fitted with a 3-wire grounded AC cord that should be plugged into a "clean" AC power source, that is, an AC source that feeds only the control room audio gear. This source should be a separate feed from those powering lighting, air-conditioning, or any other non-audio machinery. The third pin ground wire of the AC source should be tied to the central system ground point.

The power feed recommended in the text is often installed and referred to in studios as an "isolated AC ground" outlet. It is usually orange in color.

Failsafe Dual Redundant Supply

Wheatstone failsafe power supply systems use two PS-1600 power supplies for each piece of powered equipment. Though either is capable of running a full load on its own, in failsafe operation both units run in tandem: if one fails, the other takes over, assuring uninterrupted operation.

In order for failsafe systems to perform as designed, always have BOTH rackmount supplies powered up and connected to their associated equipment.

Connections
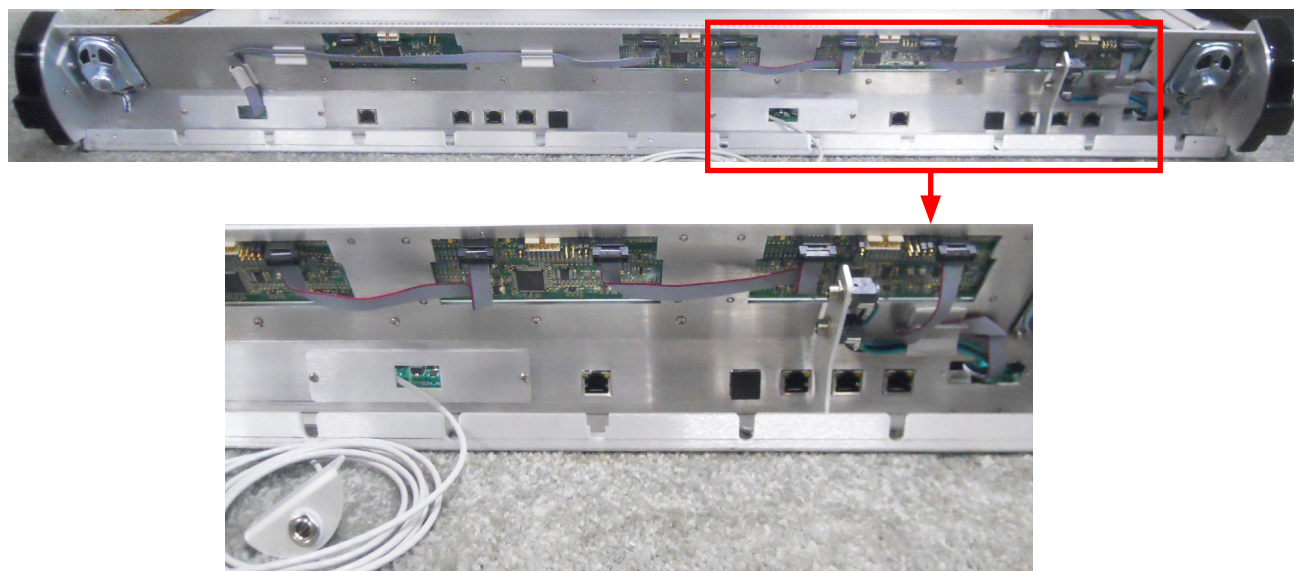
Wiring to and from the LXE control surface is made via connectors mounted on the rear of the control surface.

Unscrew the rear panel to make power supply, headphone connections.

Headphone connection is made via factory supplied cable with a TRS headphone jack connected to a bracket that can be mounted to the counter for your convenience, and a 3-pin JST plug that plugs into the Panel Host board (PH12-LXE/PH8-LXE/PH4-LXE).

There are several RJ-45 connectors on the rear of the LXE control surface. This number will vary depending on the size of the surface. Chose only one of the open connectors for the connection to a standard Ethernet network switch via a straight (pin to pin) CAT6 cable.

Warning!

If you connect more than one of the available Ethernet ports to your network switch, you will cause a spanning tree loop in the switch and the switch will disable the extra ports to which you have connected to.

Energizing

Assuming the LXE control surface mainframe is properly placed and it's PS-1600 power supply (or supplies) are correctly rack mounted and connected to the control surface, you may now energize the rack mount power supply by plugging it into the AC mains.

Note: To de-energize the control surface, unplug the rack mount power supply's AC cord from the AC mains. *Never de-energize the control surface by disconnecting the cable that connects the control surface and power supply together.*

Surface Scanning

At power-up the LXE performs a scan to identify the module positions in the control surface. If you rearrange the module layout you must restart the control surface.

Getting Started

The LXE control surface comes with an Embedded Graphical User Interface (GUI) program, intended to be straightforward in use, with controlling and displaying graphics, production tools, and set up screens. The LXE HDMI monitor is divided into several sections. The upper left is the METERING PANE for the main program buses. The lower left side is used to display the Loudness or Phase metering. The middle metering section displays metering for the Aux Send Busses and Mix-Minus Send Busses. This middle metering section is configurable to allow for maximum flexibility. On the right side of the screen there are analog and digital clocks, timers, and event information. All controls of the GUI's main screen are in fixed positions, except that the FUNCTION PANE area contents change according to selected function.

Connect the user-supplied HDMI touch monitor or other display to the HDMI connector on the Mix Engine's rear panel, power up the surface and the Mix Engine BLADE and the GUI will appear.
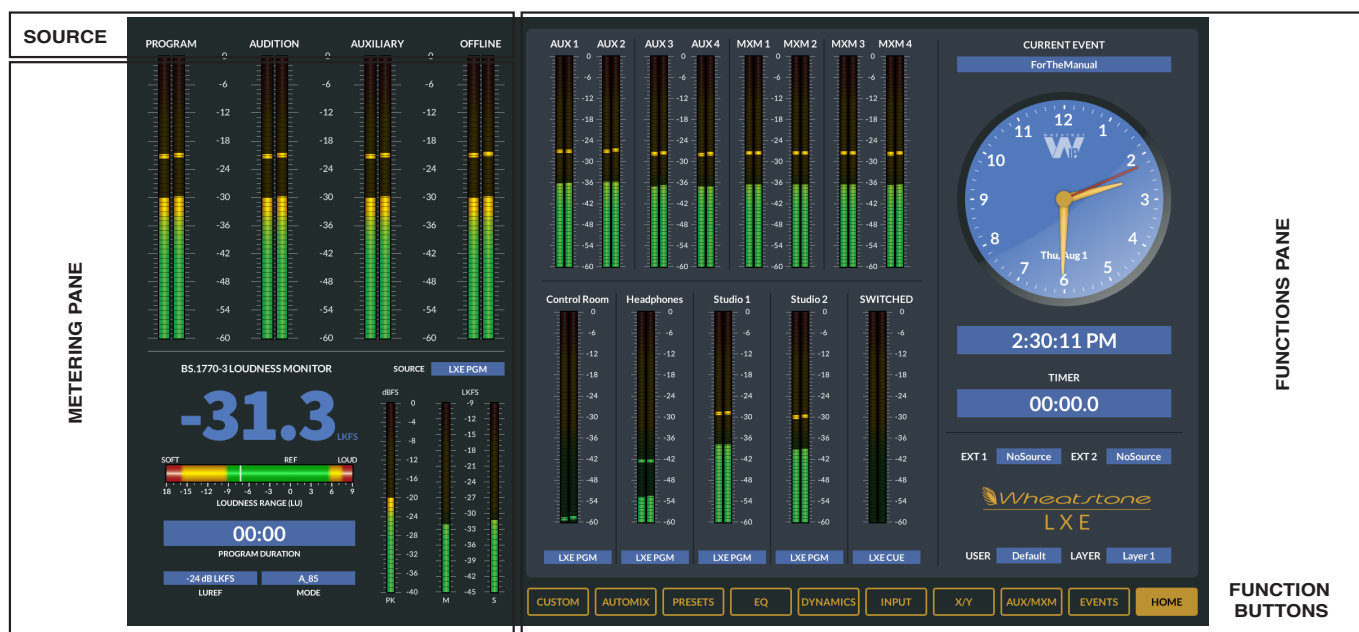
Button Navigation

The LXE GUI features a "button" navigation architecture to easily access features with a minimum number of clicks. This section introduces you to the buttons; detailed function information is included in the module sections.

The Function buttons are located across the bottom of the function display area. You may access any desired screen by simply clicking or touching the appropriate buttons

| CUSTOM | AUTOMIX | PRESETS | EQ | DYNAMICS | INPUT | X/Y | AUX/MXM | EVENTS | HOME |

Home Button – Displays Timer, Clock, Current Event, Switched Meter, Metering of Program, Auxiliary, and Mix-Minus busses, External Source for monitors, and User and Layer information.

Events Button – The LXE can store a "snapshot" of the entire control surface in a file called an EVENT. The Event Pane is divided into two sections. The Event Recall section lets you recall previously saved Events. The Event Editor is a manager for creating, editing, and deleting Events. Optional permissions let you limit access to Event Recall and Event Editor functions.

Aux/MixMinus Button – Displays controls for the four Aux Master outputs and the Mix-Minus Outputs.

X/Y Router Button – Opens up the XY router screen.

Input Button – Displays interactive Source, Mode, Phase, Pan, and Aux Send settings for the selected channel. Note you must press an Input fader's SET button to show the settings for that channel, or click on a CHANNEL SELECT button in the upper left side of the Input screen on the HDMI display to access any fader.

Dynamics Button – Here you can set the available dynamic settings for the selected channel. Expansion and Compression settings are set based on the Input fader's SET button or click on a CHANNEL SELECT button in the upper left side of the Dynamic screen.

EQ Button – Here you can set the available EQ settings for the selected channel. EQ In, High and Low Pass Filters, Lo and High Shelf settings are set based on the Input fader's SET button or click on a CHANNEL SELECT button in the upper left side of the EQ screen.

Presets Button – Here you can assign dynamics, EQ, Stereo Mode, Pan position or Aux Send or any combination to an input fader, or all input faders as desired in a recallable preset for any single or all faders on the LXE surface.

AutoMix Button – Here you can access the surface's AutoMix Function. AutoMix allows for Automatic Mixing of channels to one or more Program busses

Custom Button – Here you can launch custom built screens based on our popular Screen Builder Product.

Users

When the surface boots, it enters user profile that was last accessed. *Look in the lower right of the screen, under the Wheatstone LXE logo to see the current user profile. From the Factory the user Default will be loaded.*

Pressing or clicking on the Current User will open a list of users defined in the LXE Surface Setup GUI. From the Factory, only one user exists called "Default." The Default user will have full access and control over all surface functions.

Once a given user profile is selected, that setting will persist through a power cycle or surface reset.

More detail on user profiles can be found in the LXE Surface GUI Setup.

Network Settings

When your surface is connected to the WheatNet-IP network for the first time it will need to be configured to connect with a mix engine.
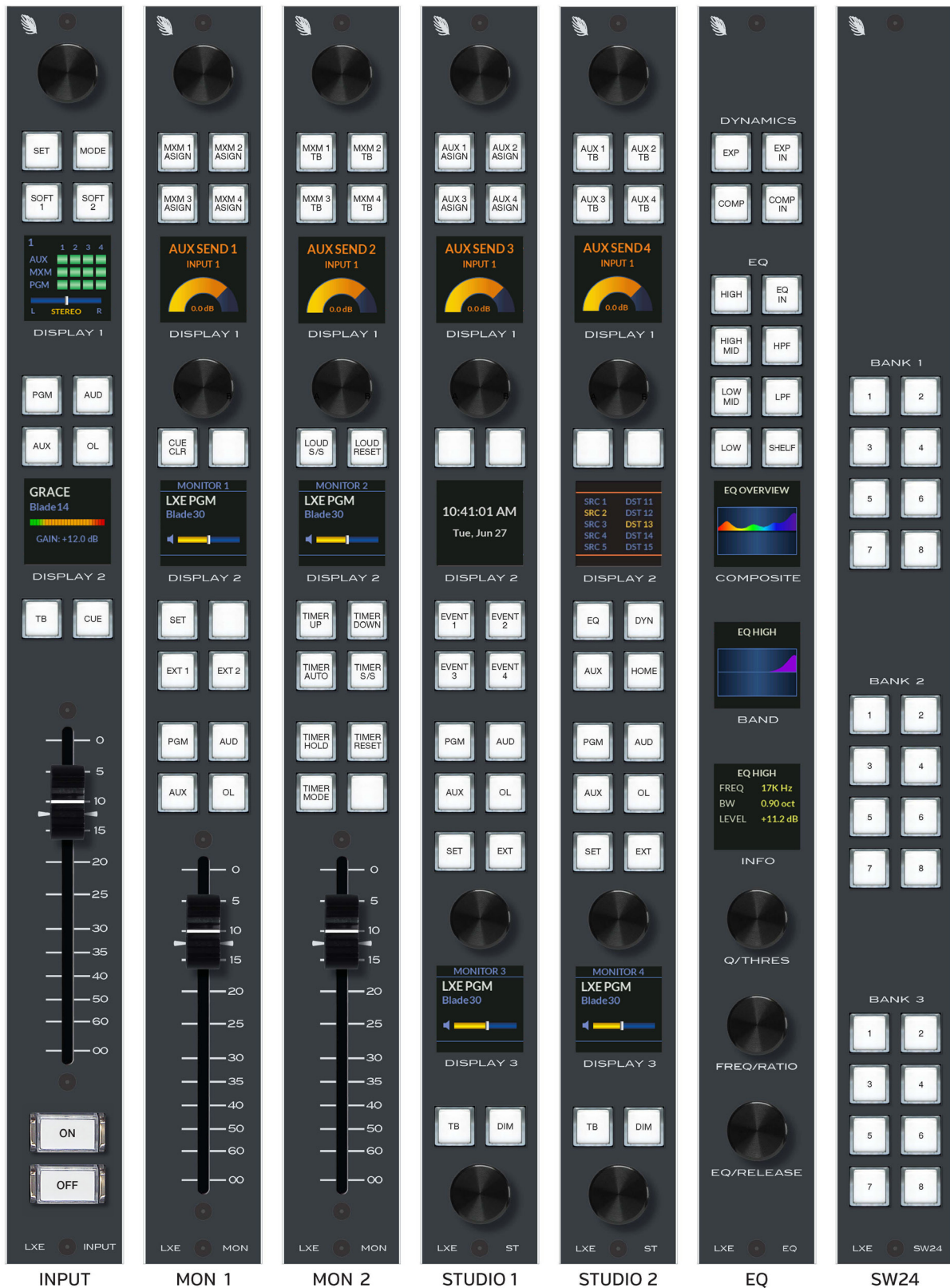
The Surface Host (Linux host inside the Mix Engine) requires a network connection as well as the LXE surface. The LXE surface will use Link-Local addresses to communicate internally and to its associated host, therefore no IP configuration is required for the LXE Surface.

The LXE surface Host will come configured with a default IP address of 192.168.87.90. To change the IP address to something other than factory default, from the Hardware menu of the LXE setup GUI you will need to select Setup Host. Select the surface you wish to change from the list and modify the properties of the surface. From here you can set the Name, Locations, and Network settings. Pressing enter in each field applies the settings. Reboot the surface once your changes have been applied. You can confirm the change by using the locator function in Navigator or the LXE setup GUI. You may also press "<ctrl> I" on the Surface host keyboard (if connected) to launch the Info screen. If using a touch screen/mouse this information is displayed by clicking the Wheatstone LXE logo in the lower right of the surface GUI.

Surface Software Version

In the event that you need to consult the factory about the LXE control surface, you may need to have the surface software version number available. Press "<ctrl> I" on the keyboard or by clicking the Wheatstone LXE logo in the lower right of the surface GUI to display the current running version of software.

LXE Modules

INPUT	MON 1	MON 2	STUDIO 1	STUDIO 2	EQ	SW24

INPUT

SET | MODE
SOFT 1 | SOFT 2

1
AUX   1 2 3 4
MXM
PGM
L   STEREO   R
DISPLAY 1

PGM | AUD
AUX | OL

GRACE
Blade 14
GAIN: +12.0 dB
DISPLAY 2

TB | CUE

0
5
10
15
20
25
30
35
40
50
60
∞

ON
OFF

LXE   INPUT

MON 1

MXM 1 ASIGN | MXM 2 ASIGN
MXM 3 ASIGN | MXM 4 ASIGN

AUX SEND 1
INPUT 1
0.0 dB
DISPLAY 1

CUE CLR |

MONITOR 1
LXE PGM
Blade 30
DISPLAY 2

SET |
EXT 1 | EXT 2
PGM | AUD
AUX | OL

0
5
10
15
20
25
30
35
40
50
60
∞

LXE   MON

MON 2

MXM 1 TB | MXM 2 TB
MXM 3 TB | MXM 4 TB

AUX SEND 2
INPUT 1
0.0 dB
DISPLAY 1

LOUD S/S | LOUD RESET

MONITOR 2
LXE PGM
Blade 30
DISPLAY 2

TIMER UP | TIMER DOWN
TIMER AUTO | TIMER S/S
TIMER HOLD | TIMER RESET
TIMER MODE |

0
5
10
15
20
25
30
35
40
50
60
∞

LXE   MON

STUDIO 1

AUX 1 ASIGN | AUX 2 ASIGN
AUX 3 ASIGN | AUX 4 ASIGN

AUX SEND 3
INPUT 1
0.0 dB
DISPLAY 1

10:41:01 AM
Tue, Jun 27
DISPLAY 2

EVENT 1 | EVENT 2
EVENT 3 | EVENT 4
PGM | AUD
AUX | OL
SET | EXT

MONITOR 3
LXE PGM
Blade 30
DISPLAY 3

TB | DIM

LXE   ST

STUDIO 2

AUX 1 TB | AUX 2 TB
AUX 3 TB | AUX 4 TB

AUX SEND 4
INPUT 1
0.0 dB
DISPLAY 1

SRC 1	DST 11
SRC 2	DST 12
SRC 3	DST 13
SRC 4	DST 14
SRC 5	DST 15
DISPLAY 2

EQ | DYN
AUX | HOME
PGM | AUD
AUX | OL
SET | EXT

MONITOR 4
LXE PGM
Blade 30
DISPLAY 3

TB | DIM

LXE   ST

EQ

DYNAMICS
EXP | EXP IN
COMP | COMP IN

EQ
HIGH | EQ IN
HIGH MID | HPF
LOW MID | LPF
LOW | S-HELF

EQ OVERVIEW
COMPOSITE

EQ HIGH
BAND

EQ HIGH
FREQ   17K Hz
BW   0.90 oct
LEVEL   +11.2 dB
INFO

Q/THRES
FREQ/RATIO
EQ/RELEASE

LXE   EQ

SW24

BANK 1
1 | 2
3 | 4
5 | 6
7 | 8

BANK 2
1 | 2
3 | 4
5 | 6
7 | 8

BANK 3
1 | 2
3 | 4
5 | 6
7 | 8

LXE   SW24

By now you have read that the LXE is fully customizable. Each encoder, button, and screen can be programmed to any desired function. This is great news, as your mixing surface will not have the limiting factors as in the past. With this said, we should point out that when we build your LXE at the factory, it will be "pre programmed" with the most basic functions so that you don't have to spend hours learning the custom parts to just get the surface up and running. In the Sections below we will cover the new features added to each module and note how each button and switch and OLED screen should function using a "factory" image or setup. Most but not all functions will be similar to our legacy surfaces.

Input Module

The LXE features a new design for input modules. The new design incorporates a rotary encoder on each input panel, 2 full color OLED displays to give operators quick at a-glance information about Program, Aux and Mix Minus assignments, Stereo Position, Source Selection, cue status and more. All encoders, displays, and buttons have been programmed with factory configuration unless otherwise specified. If a custom configuration is needed, each is custom definable using the LXE Surface Setup GUI. Please refer to the LXE Surface Setup GUI part of the manual for more details on customizing input module displays, buttons and rotary encoders.

Below we will describe the factory defined functions, giving a quick overview of what each control does, and how it is used. For more information on these features and other customizable function please refer to the surface user manual.

Rotary Encoder

Each input fader has an Encoder at the top that has been factory configured to be a X Controller. Rotating the encoder allows you to look through the list of available sources. Press the encoder to TAKE the selected source. Taking the source changes the text color from red to white indicating that source has now been assigned to the input fader.

Depending on how the LXE is configured, you may be able to select any source in the system or you may have a subset of sources for one or more of the inputs. This is based on the Visibility settings in the LXE Surface Setup GUI, under the User Options Visibilities tab.

SET Button

The SET button is located at the top of the module under the new rotary encoder. Pressing the SET button switches the LXE surface GUI screen to the INPUT screen for this fader, where you can change the programmed source, select the fader mode, adjust panning, and set up Aux Sends, Mix Minus.

Once lit, the SET button stays lit until you light SET on a different fader, or deselect the fader.

Input Screen

When you press an Input fader's SET button the LXE Surface GUI display switches to the Input screen for that channel. You can click on various buttons to configure the channel for your application.

A typical Input Source screen is shown below followed by descriptions for each of the functions.

Channel Select

The input fader number for which the set button is pressed is displayed here. You may also navigate to other input fader by clicking on the grey CHANNEL SELECT button. Select the desired fader number and the screen will update with the new information.

Source Window

The source box on the input screen shows you the current source assigned to that fader. Clicking in the SOURCE field on the LXE Surface GUI screen opens the INPUT SOURCE SELECTOR window. Select the LOCATION on the left, which will display the list of sources on the right. The LOCATION information comes from the Location field in your Wheatnet-IP BLADE System labels location field.

Highlight a location, then a source, then press TAKE to apply the source to the Fader Input.

You may use the Visibility feature in the LXE Surface Setup GUI, to limit the signal list the user "sees" when selecting sources. This feature is especially useful in large systems with many sources. This is described in the LXE Surface Setup GUI section.

Mode Button

Each Input Module has a MODE Button. Use this button to quickly change the input fader mode from STEREO, MONO, LEFT ONLY, RIGHT ONLY or SURROUND without the need to put the module into SET MODE.

Mode Controls and Indicators

There are four available input fader modes: Stereo, Mono, Left only, and Right only.

You can choose the desired mode by pressing MODE Button on the LXE Input module. The channel's MODE indicators in the OLED DISPLAY 1 (by default) will change to reflect the new mode.

To choose the desired mode using the LXE Surface GUI screen click on the desired mode, and the channel's MODE indicators on the OLED DISPLAY 1 will change to reflect the new mode.

STEREO – Selects stereo mode; Left in feeds fader L, right in feeds fader R. If a mono source is selected, it will feed both L and R.

MONO – Selects mono mode. If a stereo source is selected it is summed to mono and reduced by 6dB.

LEFT (left only) – Passes only the left channel of a stereo source to both L and R.

RIGHT (right only) – Passes only the right channel of a stereo source to both L and R.

Pan

L/R - Slider moves the signal left to right.

Phase

A pair of buttons, one for left and one for right, located on the LXE Surface GUI "INPUT" screen, are provided to allow for the reversal of absolute phase of the source signal input.

Soft Buttons

Each fader strip has been factory configured with two programmable (SOFT) buttons. These buttons are programmed in the new LXE Surface Setup GUI application. See the LXE Surface Setup GUI part of the manual for more information on programming these or any other buttons.

Assign Switches

Program assign switches place the selected source signal to any combination of the surface's four stereo outputs – PGM (program), AUD (audition), AUX (auxiliary), and OL (off line). The button will be lit when the source is assigned to its respective bus. To remove a source from the bus, press the button again; the light will go off to indicate that the source is no longer assigned to that bus.

The OL Bus

The OL bus has a special function in relation to a channel's Bus Minus output. Each signal that can be assigned to a channel will specify which bus (PGM, AUD, AUX, or OL) provides the base Bus Minus mix (that is, which bus the Bus Minus output is a mix-minus of) when that channel is on. When the channel is off, however, the base Bus Minus mix may be the same as when the channel is on, or may be configured to utilize the OL bus instead. This allows the Bus Minus output to have different content when the channel is off than it does when the channel is on.

Both the base Bus Minus mix and the use of the OL bus as base when the channel is off are configured in the VDip settings. VDip settings are located in the LXE Surface Setup GUI under the USER Options Tab.

MXM Assign Indicators

Each channel can be assigned to any combination of the four MIX-MINUS busses. The MXM ASSIGN 1-4 in OLED DISPLAY 1 gives the operator a quick indication of what mix-minus busses the source is assigned to.

Channels are assigned to these MXMs in the following manner: press the SET button on the input fader section and then press the desired MXM ASSIGN button, located on the Headphone module or Input Screen on the LXE Surface GUI.

Note that you are normally assigning the channel, and not the source, to the MXM bus.

OLED Displays

The LXE Surface features two color OLED Displays. As with everything on the LXE, these displays can be customized as to what they will display to the user. From the Factory these will display the following:

OLED DISPLAY 1

Input Assignments: Fader number, AUX, MXM, and PGM assigns, Signal MODE (i.e. STEREO) and panned position if used.
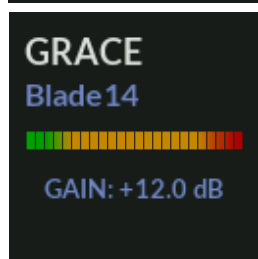
OLED DISPLAY 2

Input Source Meter

Shows Selected Source Name, Input Gain Value, and EQ or DYN, Cue applied to the fader.

TB Button

The TB Switch routes the TB audio, typically the operator's microphone, to the BUS MINUS output for that channel, allowing the operator to talkback to the talent hearing that BUS MINUS signal.

CUE Button

The CUE switch assigns the selected source to the CUE bus, letting the control surface operator monitor the channel's pre-fader signal.

Bus-Minus / Direct Outputs

Each fader has a dedicated Bus-Minus output that includes all active faders on its selected source bus, except for itself. These auto generated mix-minus signals may be routed to feed telephone hybrids, remote operator feeds, or other devices as required. Bus-Minus mix outputs for each surface fader appear as Sources in the Surface signal area of Navigator. A typical Bus-Minus output signal name is LXEBM01 but the exact name depends on the fader and surface ID number.

Any of the four output busses, four Aux busses, or four Mix Minus busses may be selected in the User options VDip settings (see the LXE Surface Setup GUI to assign VDips) as the source bus.

Another selection that can be made in VDip is to repurpose the fader's Bus Minus output as a Direct Output. This option might be used if multitrack recording is needed.

Fader

Channel output level is set by a 100mm, professional, conductive plastic linear fader. If the signal feeding the busses goes into clipping briefly the OVERLOAD light will flash briefly. If the signal is continually clipping the OVERLOAD will flash steadily. Clipping can be stopped by moving the fader down, or reducing the signal level in some other fashion.

Channel ON Button

The channel ON switch turns the channel signal ON and fires any channel ON (START) logic mapped to the fader's source signal. By default the Machine Start LIO function is disabled. In order to send the Machine Start LIO to a remote device this must be enabled in the LXE Surface Setup GUI. The switch LED lights to indicate the channel is ON and the ON-AIR LED will light on the meterbridge if configured in the Surface VDips.

Channel OFF Button

The channel OFF switch turns the channel signal OFF and fires any channel OFF (STOP) logic mapped to the fader's source signal. By default the Machine Stop LIO function is disabled. In order to send the Machine Stop LIO to a remote device this must be enabled in the LXE Surface Setup GUI. The switch LED lights to indicate the channel is OFF.

Output Section

Each LXE control surface has two Monitor modules, and one Studio module. There are two Studio module types, either can control any of the Monitor feeds. Additional Monitor and Studio Modules can be added if needed.

As we discussed in the Input section, the LXE surface is fully customizable down to each button/switch, OLED Screen and Rotary Encoder. The descriptions provided here are what the LXE Surface will have programmed from a factory default perspective.

Although they are individual modules, they are designed to function as a group. For example, one of the four AUX Send 1 - AUX Send 4 Level controls is located on the top of each module. In this guide we will describe the controls and functions of these modules as a group starting from the top of the modules and going down.

Rotary Encoder

This encoder is programmed from the factory to be the Master level control for the AUX Bus.

AUX Busses

The control surface has four AUX busses, which can be used to create record feeds, extra mix-minus busses, etc. The Aux Send 1 - 4 Assign buttons are just below the Encoder on the Studio module. Input to an Aux Send control can also be accessed using the Aux assignment section of the main Input screen of the LXE Surface GUI. Each AUX BUS feed has Mode, Pre-fader and Pre-On switches, and On/Off controls. A virtual AUX BUS knob indicates relative level. Use the physical Aux SEND knobs on the top of modules or the mouse on the screen to adjust levels. All adjustments can be saved to a Channel, a Source, an Event, or a Preset.
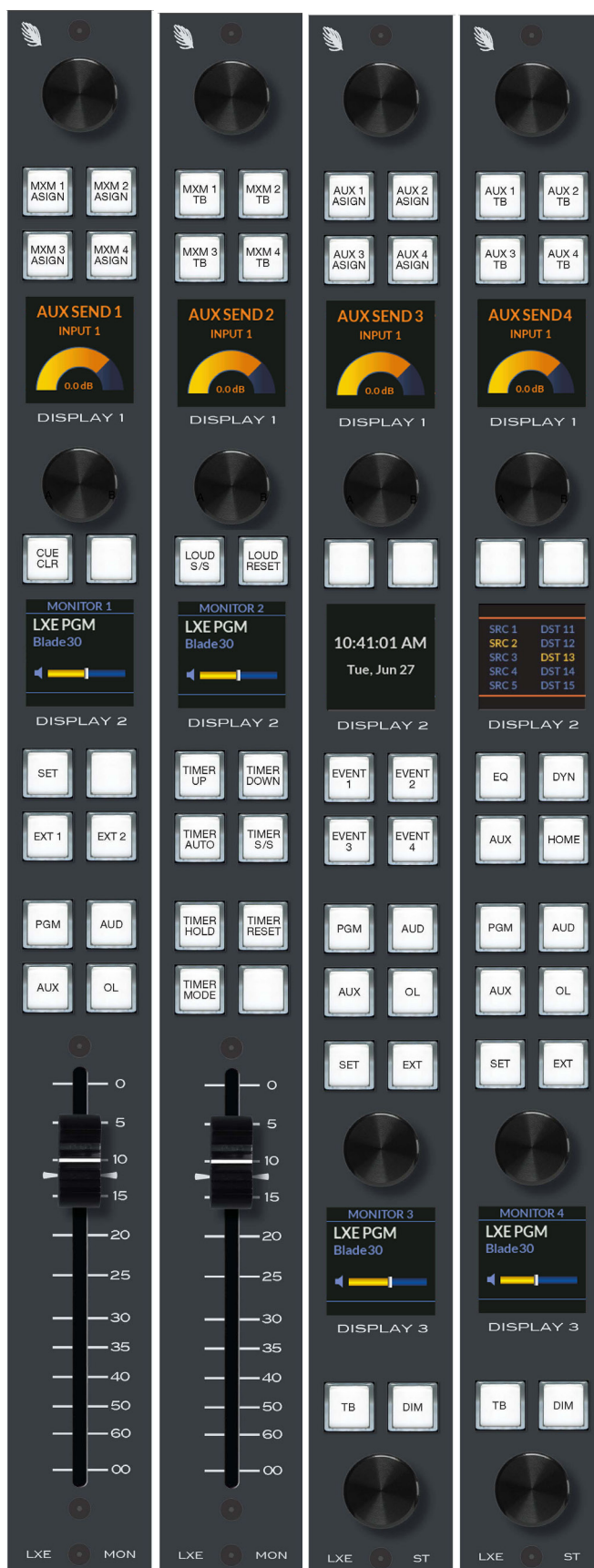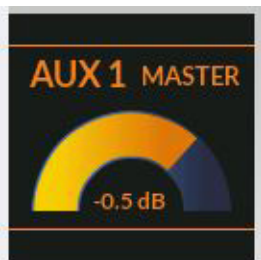
The Aux SEND LED indicators are displayed on the meterbridge, and additionally in OLED DISPLAY 1.

Pressing the AUX/MXM button in the LXE Surface GUI switches the screen to the AUX and MIX MINUS MASTERS screen with four AUX MASTERS level controls and ON buttons.

AUX Talkback

If your LXE surface is equipped with a second Studio Module, interrupt an Aux bus signal with the surface's predefined TB signal by pressing the AUX 1 - 4 TB switch located on Studio module below the Encoder. This allows the control surface operator to communicate with the Talent or location receiving that Aux send.

Note that the talkback source, typically a host mic, must first be cross-connected to the surface's TB input using either Navigator software or the LXE's X/Y Router button. The TB signal may be any source signal in the router including MXM or Aux busses. The LXE's TB input signal is a factory defined surface Destination signal with the name LXETkBk.

MXM ASSIGN Buttons

These physical buttons are used to route input fader strips to MIX MINUS busses. Press the SET button on any channel. If that channel is assigned to feed an MXM bus, the corresponding MXM ASSIGN switch and OLED indicator on the fader strip will be lit. Pressing an MXM ASSIGN switch will toggle that channel's signal into or out of the corresponding MXM bus. The Mix-Minus 1 - 4 Assign buttons are just below the Level control on the first Monitor module.

MXM Master Controls

Click the Aux/MixMinus Button on the LXE Surface GUI screen to bring up the MIX MINUS MASTERS controls. Each MXM Master has a PRE-FADER and PRE-ON switch as well as a virtual Level control.

PRE-FADER – Normally any signal feeding a Mix Minus does so with a post-fader signal. Selecting the PRE FADER button for a given Mix-Minus bus globally configures the MXM bus to tap off the input strip audio before the fader.

PRE-ON – Normally any signal feeding a mix-minus does so with a post-ON switch signal. Selecting the PRE-ON button for a given Mix-Minus bus globally configures the MXM bus to tap off the input strip audio before the channel ON switch.

Note: Mix Minus Invert and Follow Source functions have moved exclusively to the LXE Surface Setup GUI. See the LXE Surface Setup GUI part of the manual for more details.

MXM Talkback

To interrupt a mix-minus output with the surface's predefined talkback signal, press any of the four MXM TB momentary switches located on the second Control Room module. Note that the Talkback source, typically a host mic, must first be cross connected to the surface's TB input using either Navigator software or the LXE's built in Route function. The TB signal may be any Source signal in the router including the MXM or AUX busses. The LXE's TB input signal is a factory defined surface Destination signal with the name LXETkBk. There is only one TB bus input on the LXE Surface.

OLED Display 1

OLED Display 1 located near the top of each module is color OLED display factory defaulted to display the AUX 1-4 Master Send Levels.
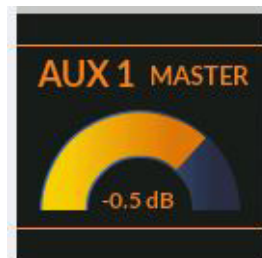
Source Select

The LXE Control Room module houses a SOURCE SELECT rotary encoder and TAKE button.

The SOURCE SELECT rotary encoder serves a primary function: as a Source signal selector for fader modules in SET MODE.

By turning this knob, the available inputs are displayed in the OLED DISPLAY 2 display for the selected channel. When the desired input source is scrolled into the SOURCE window, pressing the TAKE button will cause that source to be programmed for the selected module. If you fail to press TAKE, the display will revert to its original setting after a timeout of approximately 4 seconds, and the original source remains programmed.

CUE CLEAR Button

This button is programmed from the factory to clear any input fader module that is in the CUE listen mode.

Other Buttons on this row, may or may not be labeled or programmed for any given function. Use the LXE Surface Setup GUI to apply functions to these buttons.

OLED Display 2

A second color OLED Display is used to display additional information in the output section. The Monitor and Studio Modules will be factory default to display the Monitor Bus information applied to that module. For example, if LXEPGM source is assigned to the Monitor 1 then this source will be displayed along with a volume level associated with that monitor.

The Studio 1 DISPLAY 2, from the factory will be configured to display CUE Level and a Clock with the current time displayed.

The Studio 2 DISPLAY 2, may have any Monitor or other output item displayed as a factory default.
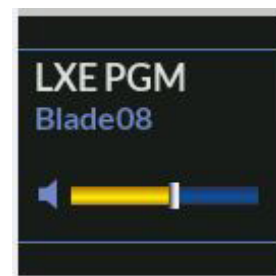
SET Button on Monitor 1 Module

Allows setting Sources to the EXT Destinations. Used in Conjunction with the Rotary Encoder Source Select above it.

Ext 1 and Ext 2 on Monitor 1 Module

Use to assign Ext 1 or 2 to the Monitor 1.

Loudness Buttons on Monitor 2 Module

Loudness Buttons control Timer Start/Stop, Loudness Timer Count UP, or DOWN, and Loudness Timer Reset.

Event Recall Buttons on Studio 1 Module

These buttons are programmed to recall Events 1 - 4.

LXE Surface GUI Shortcut Buttons on Studio 2 Module

These buttons are used to switch the LXE Surface GUI screens between the EQ, DYN, AUX/MXM and HOME Screens.

Source Selection for Monitor 1 Module

Buttons are programmed for Selection of Surface outputs PGM, AUD, AUX, and OL to the CR Monitor.

LXE Timer Buttons

Timer AUTO, START/STOP, HOLD and RESET Functions for the LXE Timer.

Program Assignments for Studio 1 Monitor

Buttons for PGM, AUD, AUX and OL.

Set Button to change Source applied to EXT Button.

EXT Button use to change from PGM, AUD, AUX, or OL to the EXT Signal assigned.

Program Assignments for Studio 2 Monitor

Buttons for PGM, AUD, AUX and OL.

Set button to change Source applied to EXT button.

EXT Button use to change from PGM, AUD, AUX, or OL to the EXT Signal assigned.

Studio 1 Middle Rotary Encoder

Programmed to Control the CUE BUS Audio Level.

Studio 2 Middle Rotary Encoder

May or may not be labeled or programmed for any given function. Use the LXE Surface Setup GUI to apply functions to these buttons.

Studio 1 OLED Display 3

Displays Monitor Source and Volume level.

Studio 2 OLED Display 3

Displays Monitor Source and Volume level.

Studio TB and Dim Buttons on Studio 1 and 2 Modules

TB Switch puts TB Source into the Studio 1 Monitor Destination

DIM Switch Dims the Monitor Destination while selected.

Optional LXE Modules

EQ/Dynamics Module

This optional module allows you to set and control Fader EQ and DYNAMICS settings without the need to have or use the Surface GUI Screen to apply the settings. If you do have an HDMI Monitor for the Surface GUI, the GUI screen will switch to appropriate screens when the EQ/DYN module is active. The color OLED's, Buttons and Rotary Encoders allow the user to make changes and see a graphical result on the surface, in addition to the specific values used for each applied Dynamic or EQ settings applied.

The buttons on this module are factory programmed and cannot be changed.

The top four buttons control the Dynamics parameters to be applied. These buttons are labeled from left to right: EXP, EXP IN, COMP, and COMP IN.

Below this four button group are the EQ controls: HIGH, EQ IN, HIGH MID, HPF, LOW MID, LPF, LOW, and SHELF.

These buttons work in concert with the SET button on the LXE Input module to apply EQ or DYNAMICS to that selected Fader.

EXP – Activates the Expander controls on the EQ/DYN module.

EXP IN – Enables the Expander on the selected LXE Input module. If this button is not lit, while in SET MODE on the Input module, the Dynamics parameters are NOT applied to the Input module.

COMP – Activates the Compressor controls on the EQ/DYN module.

COMP IN – Enables the Compressor on the selected LXE Input module. If this button is not lit, while in SET MODE on the input module, the Compressor are NOT applied to the Input module.

HIGH – Activates the EQ High Frequency controls on the EQ/DYN module.

EQ IN – Enables EQ on the selected LXE Input module. If this button is not lit, while in SET MODE on the input module, the EQ Parameters are NOT applied to the Input module.

HIGH MID – Activates the Mid High EQ Parameters on the EQ/DYN module.

HPF – Activates the High Pass Filter Parameters on the EQ/DYN module.

LOW MID – Activates the Low Mid EQ Parameters on the EQ/DYN module.

LPF – Activates the Low Pass Filter Parameters on the EQ/DYN module.

LOW – Activates the Low EQ Parameters on the EQ/DYN module.

SHELF – Used in conjunction with the LOW and HIGH buttons.

When you select one of the Dynamics or EQ controls, the OLED displays will change to display the applied settings for the selected parameter.

Rotary Encoder Functions

Below the OLED displays, are three rotary encoders that will allow you to change the values for each setting. Additional control parameters can be accessed by pressing the encoder to change the parameter it is controlling.
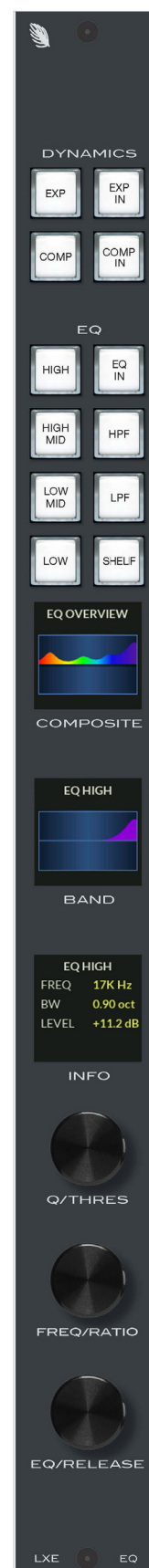
SW 24 Module

Another optional module is the SW 24 for the LXE surface. It contains 3 Banks of 8 buttons each for a total of 24 Programmable Buttons.

These buttons are configured in the LXE Surface Setup GUI. For more details on setup of these programmable buttons, consult the LXE Surface Setup GUI part of the manual.
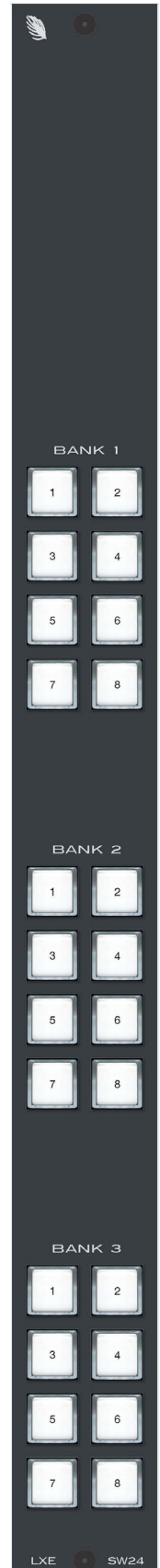
Meters

The METERS section consists of up to of five VU meter pairs on the control surface's meterbridge.

VU Meter Pairs

VU meter pairs (PROGRAM, AUDITION, AUXILIARY, OFFLINE and SWITCHED) are stereo LED bargraph type meters. Note that the LXE small frames will not have as many meter pairs.

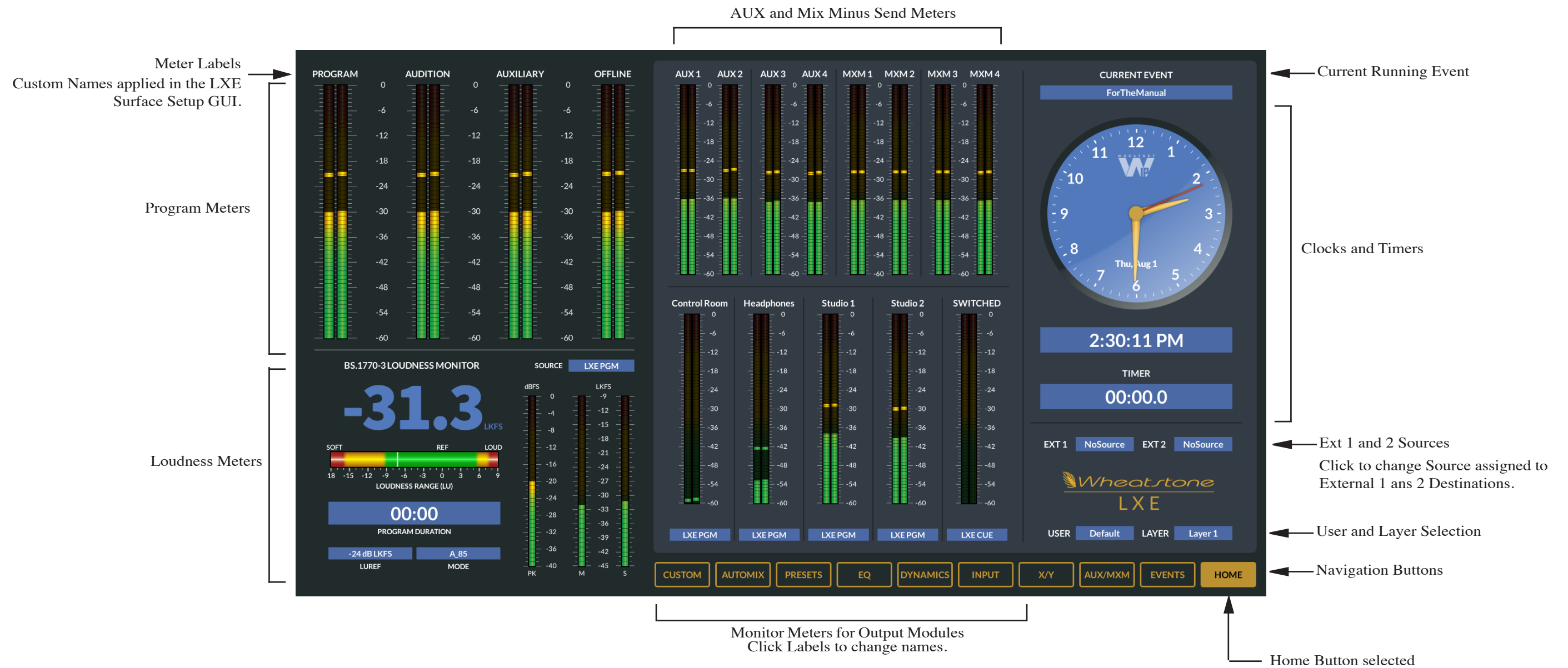The level of the signal being metered is indicated by the number of display elements that are lighted. The more elements lighted, the stronger is the signal being displayed. The right eight LEDs in each bargraph are red to indicate when the signal level is approaching a clipping (distorted) level. The next ten LEDs are yellow, indicating a normal level range, and the remaining LEDs are green. The top member of the pair indicates the level of the signal's left channel, while the bottom member of the pair indicates the level of the signal's right channel.

The switched meter displays the signal level of a user selected source – any source on the WheatNet-IP system – or the CUE signal level when an input fader's CUE switch is activated.

Meters are now programmed in the LXE Surface Setup GUI. Refer to the LXE Surface Setup GUI part of the manual for details on how to program the LXE Surface Meters. From the factory, this is already completed for you for PROGRAM, AUDITION, AUXILIARY if available, and SWITCHED.

Meter Labels
Custom Names applied in the LXE
Surface Setup GUI.

Program Meters

Loudness Meters

AUX and Mix Minus Send Meters

PROGRAM   AUDITION   AUXILIARY   OFFLINE

AUX 1 AUX 2 AUX 3 AUX 4 MXM 1 MXM 2 MXM 3 MXM 4

CURRENT EVENT
ForTheManual

Current Running Event

Clocks and Timers

Thu, Aug 1

2:30:11 PM

TIMER
00:00.0

BS.1770-3 LOUDNESS MONITOR

-31.3 LKFS

SOURCE LXE PGM

SOFT   REF   LOUD
18 -15 -12 -9 -6 -3 0 3 6 9
LOUDNESS RANGE (LU)

00:00
PROGRAM DURATION

-24 dB LKFS   A_85
LUREF   MODE

dBFS   LKFS

Control Room Headphones Studio 1 Studio 2 SWITCHED

LXE PGM   LXE PGM   LXE PGM   LXE PGM   LXE CUE

EXT 1 NoSource   EXT 2 NoSource

Wheatstone
LXE

USER Default   LAYER Layer 1

CUSTOM AUTOMIX PRESETS EQ DYNAMICS INPUT X/Y AUX/MXM EVENTS HOME

Ext 1 and 2 Sources
Click to change Source assigned to
External 1 ans 2 Destinations.

User and Layer Selection

Navigation Buttons

Home Button selected

Monitor Meters for Output Modules
Click Labels to change names.

PROGRAM   AUDITION   AUXILIARY   OFFLINE

BS.1770-3 LOUDNESS MONITOR   SOURCE   LXE PGM

-31.5 LKFS

SOFT   REF   LOUD
18 -15 -12 -9 -6 -3 0 3 6 9
LOUDNESS RANGE (LU)

00:00
PROGRAM DURATION

-24 dB LKFS   A_85
LUREF   MODE

dBFS   LKFS
PK   M   S

CURRENT EVENT
ForTheManual

EVENTS
ForTheManual
SweetWheat

EVENT RECALL
ARM
UNDO
TAKE

EVENT EDITOR
NEW   SAVE TO
RENAME   DELETE

2:30:28 PM
TIMER
00:00.0

Wheatstone
LXE

USER Default   LAYER Layer 1

CUSTOM AUTOMIX PRESETS EQ DYNAMICS INPUT X/Y AUX/MXM EVENTS HOME

← Current Event - Last event taken.

← Event Recall
    Select from available events.
    To load an event, select from the
    list, click Arm, then Take.
    Click UNDO to go back to the
    Previously loaded Event.

← Event Editor
    This section allows you to:
    Create a NEW event.
    SAVE TO – Save current surface state to an existing
    Event.
    RENAME – Rename an Existing event.
    DELETE – Remove an existing event.

Events Manager Button – "Events" are
snapshots of the entire control surface. All
faders, switches, sources, EQ, Dynamics, and
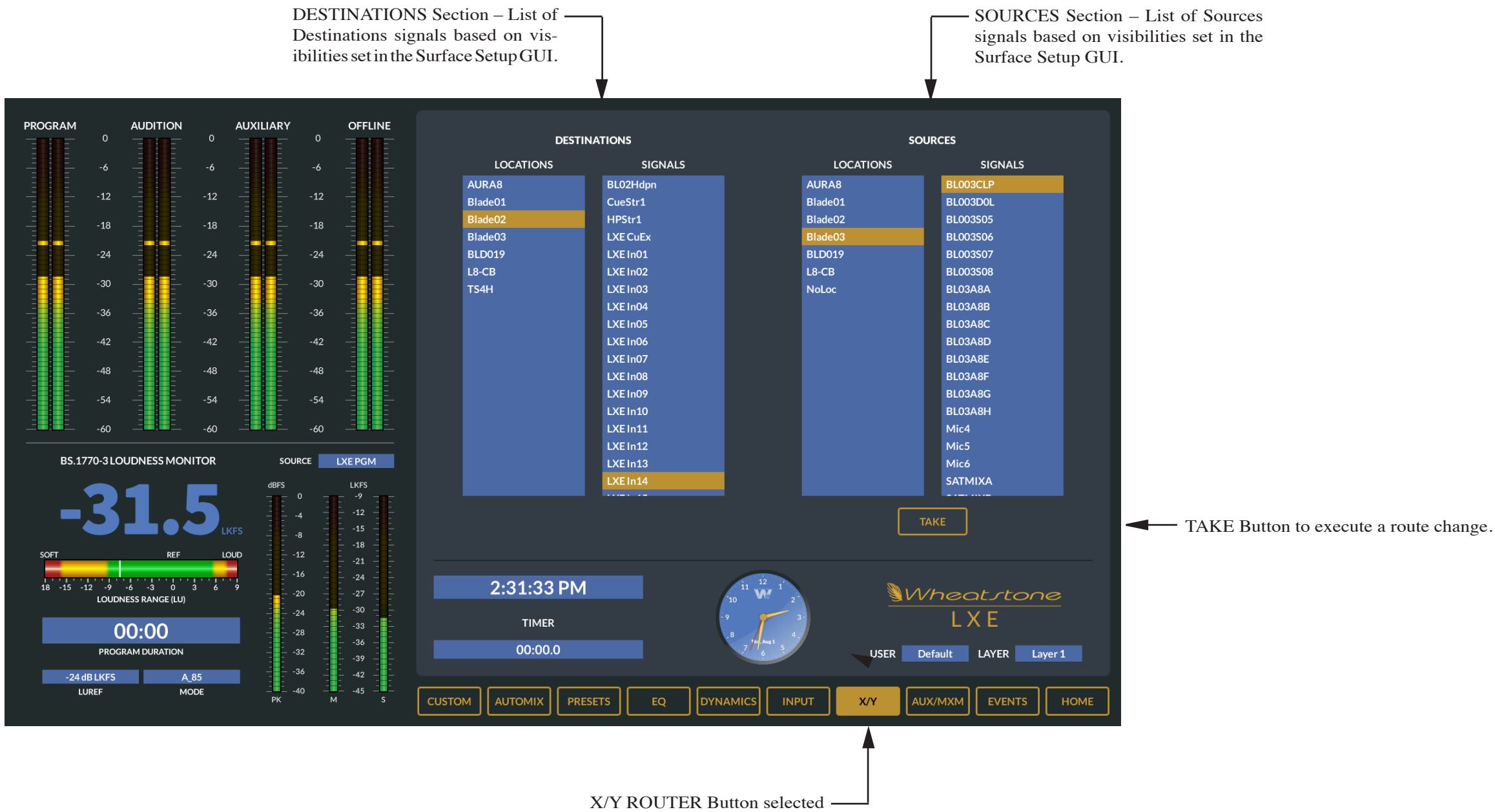etc... are stored and recalled from the Events
Manager.

AUX MASTERS Section – Separate ON/OFF and Master volume for each Aux bus.

MIX MINUS MASTERS Section – Master volume and control for Mix Minus Busses.
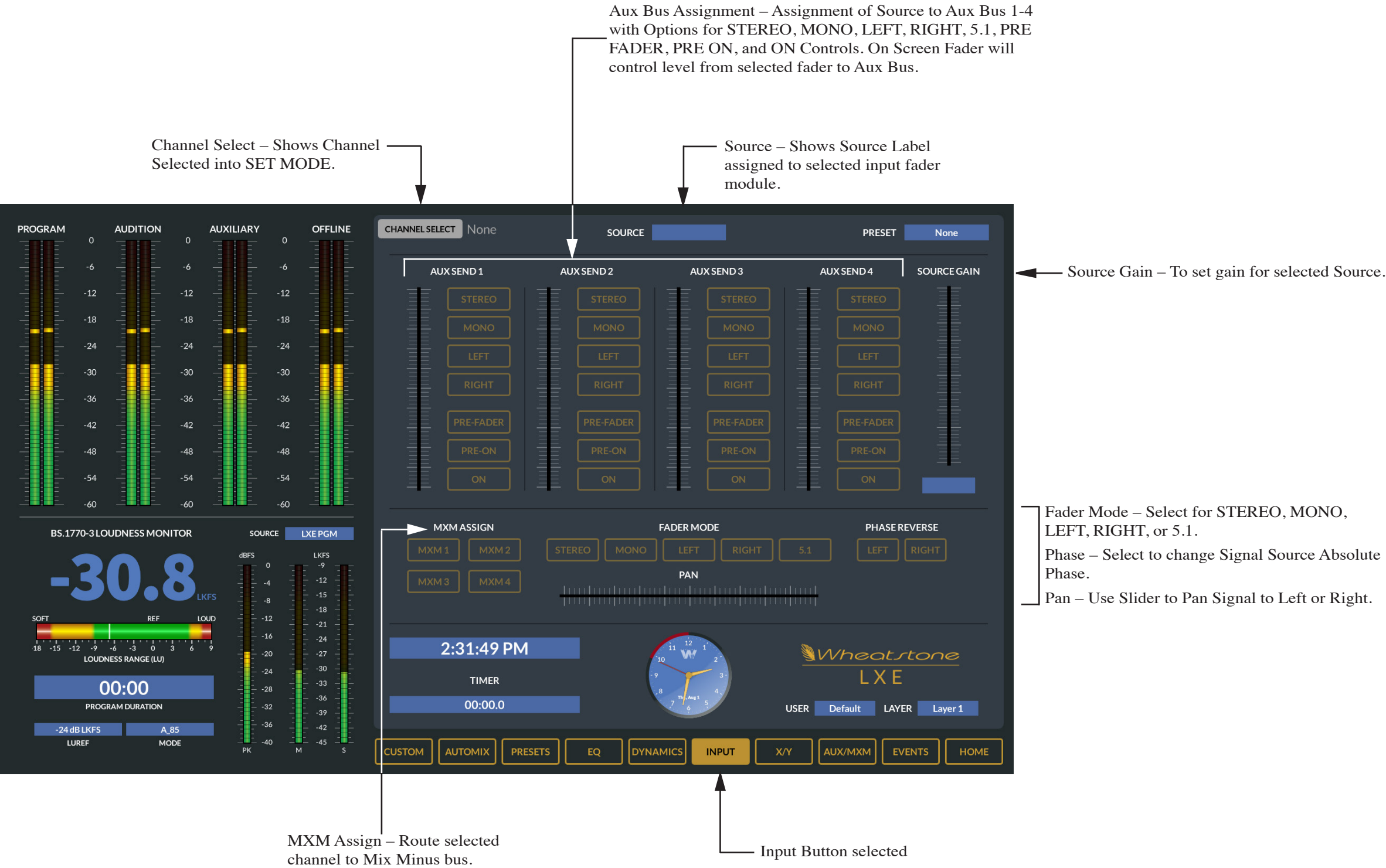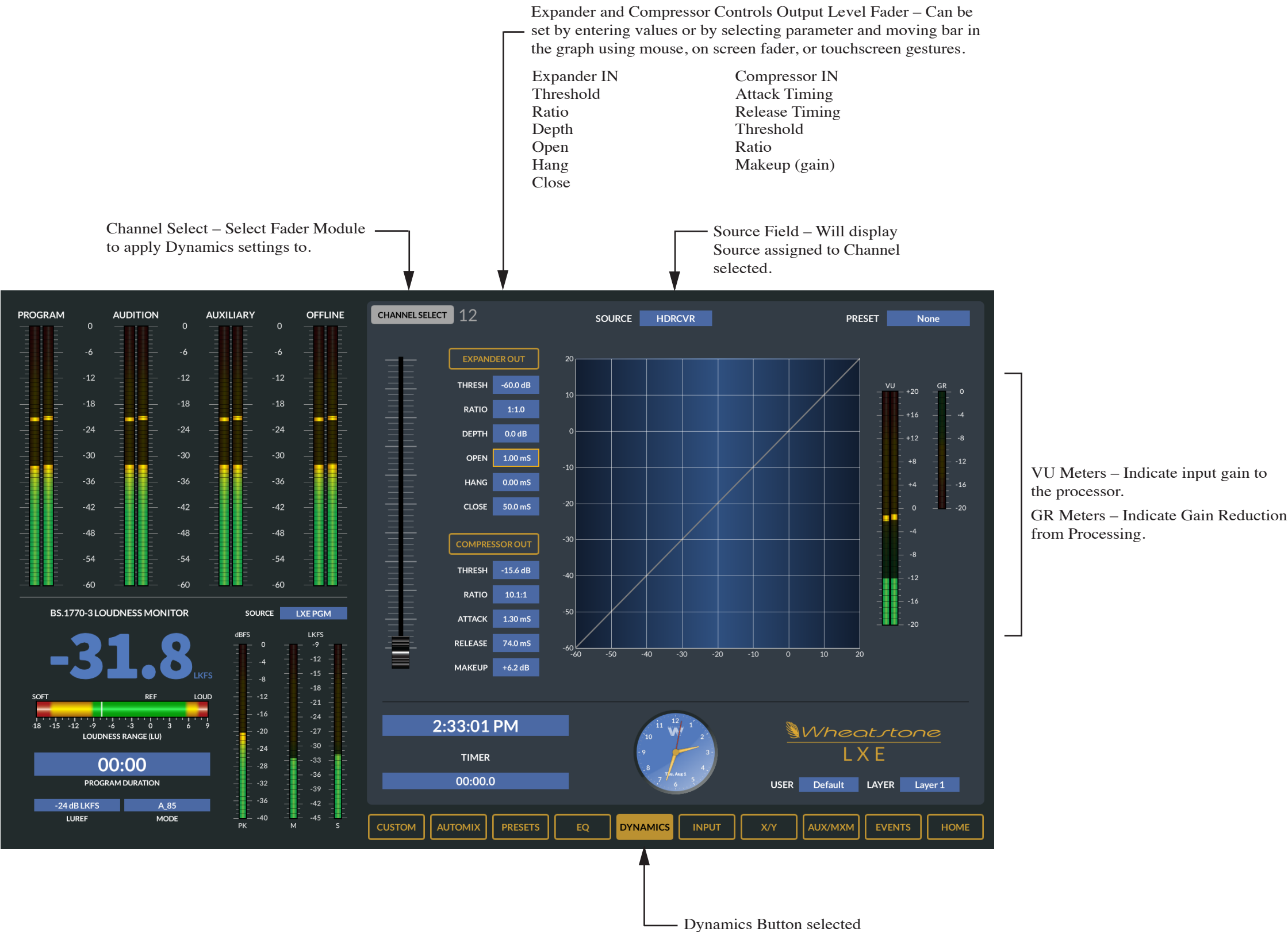
PROGRAM AUDITION AUXILIARY OFFLINE

AUX MASTERS

MIX MINUS MASTERS

AUX 1 AUX 2 AUX 3 AUX 4 MXM 1 MXM 2 MXM 3 MXM 4

+20 +16 +12 +8 +4 0 -4 -8 -12 -16 -20

ON ON ON ON

PRE-FADER PRE-FADER PRE-FADER PRE-FADER

PRE-ON PRE-ON PRE-ON PRE-ON

Mix Minus Pre Fader and Pre 0n Controls – Select the appropriate buttons to allow the Mix Minus busses to be either Pre Fader, Pre ON or BOTH.

BS.1770-3 LOUDNESS MONITOR

SOURCE LXE PGM

-31.8 LKFS

SOFT REF LOUD
18 -15 -12 -9 -6 -3 0 3 6 9
LOUDNESS RANGE (LU)

00:00
PROGRAM DURATION

-24 dB LKFS A_85
LUREF MODE

dBFS
0 -4 -8 -12 -16 -20 -24 -28 -32 -36 -40
PK

LKFS
-9 -12 -15 -18 -21 -24 -27 -30 -33 -36 -39 -42 -45
M S

2:30:40 PM
TIMER
00:00.0

11 12 1 10 2 9 3 8 4 7 6 5
Thu Aug 1

Wheatstone
LXE

USER Default LAYER Layer 1

CUSTOM AUTOMIX PRESETS EQ DYNAMICS INPUT X/Y AUX/MXM EVENTS HOME

AUX/MXM Button selected

LXE AUX/MXM Screen

DESTINATIONS Section – List of
Destinations signals based on vis-
ibilities set in the Surface Setup GUI.

SOURCES Section – List of Sources
signals based on visibilities set in the
Surface Setup GUI.

TAKE Button to execute a route change.

X/Y ROUTER Button selected

Aux Bus Assignment – Assignment of Source to Aux Bus 1-4 with Options for STEREO, MONO, LEFT, RIGHT, 5.1, PRE FADER, PRE ON, and ON Controls. On Screen Fader will control level from selected fader to Aux Bus.

Channel Select – Shows Channel Selected into SET MODE.

Source – Shows Source Label assigned to selected input fader module.

PROGRAM	AUDITION	AUXILIARY	OFFLINE

CHANNEL SELECT   None

SOURCE

PRESET   None

AUX SEND 1	AUX SEND 2	AUX SEND 3	AUX SEND 4	SOURCE GAIN
STEREO	STEREO	STEREO	STEREO	
MONO	MONO	MONO	MONO	
LEFT	LEFT	LEFT	LEFT	
RIGHT	RIGHT	RIGHT	RIGHT	
PRE-FADER	PRE-FADER	PRE-FADER	PRE-FADER	
PRE-ON	PRE-ON	PRE-ON	PRE-ON	
ON	ON	ON	ON	

Source Gain – To set gain for selected Source.

Fader Mode – Select for STEREO, MONO, LEFT, RIGHT, or 5.1.

Phase – Select to change Signal Source Absolute Phase.

Pan – Use Slider to Pan Signal to Left or Right.

BS.1770-3 LOUDNESS MONITOR

SOURCE   LXE PGM

-30.8 LKFS

SOFT   REF   LOUD
18 -15 -12 -9 -6 -3 0 3 6 9
LOUDNESS RANGE (LU)

00:00
PROGRAM DURATION

-24 dB LKFS   A_85
LUREF   MODE

MXM ASSIGN

| MXM 1 | MXM 2 |
| MXM 3 | MXM 4 |

FADER MODE
STEREO MONO LEFT RIGHT 5.1

PHASE REVERSE
LEFT RIGHT

PAN

2:31:49 PM

TIMER

00:00.0

Wheatstone
LXE

USER   Default   LAYER   Layer 1

CUSTOM AUTOMIX PRESETS EQ DYNAMICS INPUT X/Y AUX/MXM EVENTS HOME

MXM Assign – Route selected channel to Mix Minus bus.

Input Button selected

Expander and Compressor Controls Output Level Fader – Can be set by entering values or by selecting parameter and moving bar in the graph using mouse, on screen fader, or touchscreen gestures.

Expander IN	Compressor IN
Threshold	Attack Timing
Ratio	Release Timing
Depth	Threshold
Open	Ratio
Hang	Makeup (gain)
Close	

Channel Select – Select Fader Module to apply Dynamics settings to.

Source Field – Will display Source assigned to Channel selected.

VU Meters – Indicate input gain to the processor.

GR Meters – Indicate Gain Reduction from Processing.

Dynamics Button selected

PROGRAM AUDITION AUXILIARY OFFLINE

CHANNEL SELECT 12 SOURCE HDRCVR PRESET None

EXPANDER OUT
THRESH -60.0 dB
RATIO 1:1.0
DEPTH 0.0 dB
OPEN 1.00 mS
HANG 0.00 mS
CLOSE 50.0 mS

COMPRESSOR OUT
THRESH -15.6 dB
RATIO 10.1:1
ATTACK 1.30 mS
RELEASE 74.0 mS
MAKEUP +6.2 dB

VU GR

BS.1770-3 LOUDNESS MONITOR SOURCE LXE PGM

-31.8 LKFS

SOFT REF LOUD
LOUDNESS RANGE (LU)

00:00
PROGRAM DURATION

-24 dB LKFS A_85
LUREF MODE

2:33:01 PM
TIMER
00:00.0

Wheatstone LXE

USER Default LAYER Layer 1

CUSTOM AUTOMIX PRESETS EQ DYNAMICS INPUT X/Y AUX/MXM EVENTS HOME

Channel Select – Used to select Channel to apply EQ settings.

Source Field – Will display Source assigned to Channel selected.

EQ Level Fader – Changes color based on the Band selection. Used to change Frequency, Bandwidth, or Level when selected in the GUI.

EQ Graph – Graphical Representation of EQ parameters.
Parameters can be modified using touch gestures or mouse click and drag.

Meters – Post EQ Meter allows user to see source signal level after EQ parameters are applied.

EQ IN – Turns the EQ ON or OFF for selected channel.

HPF OUT – Turns High Pass Filter ON or OFF.

HPF Frequency Selection – Click to change the HPF Frequency Point.

BAND Selections – Used to Select EQ Frequency, Octave and dB boost or cut levels.

LPF OUT – Low Pass Filter, Select to turn ON or OFF.

LPF Frequency – Select the LPF Frequency parameter.

Flat – Click the Flat button to reset ALL Bands to).0dB level or default level.

LO SHELF – Click to add a LO Shelf Filter to the EQ.

HI SHELF – Click to add a HI Shelf Filter to the EQ.

EQ Button selected

Screen elements

PROGRAM AUDITION AUXILIARY OFFLINE

CHANNEL SELECT 12 SOURCE HDRCVR PRESET None

FREQ: 16.1 Hz | 42.9 Hz | 2K Hz | 1.94K Hz | 15.5K Hz | 1K Hz
HPF IN BW: 1.15 oct | 1.52 oct | 0.79 oct | 1.20 oct LPF OUT
LEVEL: +3.5 dB | +0.9 dB | +2.1 dB | +2.7 dB FLAT
LO | LO/MID | HI/MID | HI

LO SHELF EQ IN HI SHELF

BS.1770-3 LOUDNESS MONITOR SOURCE LXE PGM

-31.8 LKFS

SOFT REF LOUD
18 -15 -12 -9 -6 -3 0 3 6 9
LOUDNESS RANGE (LU)

00:00
PROGRAM DURATION

-24 dB LKFS A_85
LUREF MODE

2:33:10 PM
TIMER
00:00.0

Wheatstone
LXE

USER Default LAYER Layer 1

CUSTOM AUTOMIX PRESETS EQ DYNAMICS INPUT X/Y AUX/MXM EVENTS HOME

List of Saved Presets available to recall.

Channel Select – Shows selected channel.

Source – Shows source connected to selected fader.

Preset – Shows currently loaded preset if any.

Recall a Preset – Select from the list of saved presets and apply to currently selected input fader or all input faders.

Modify – Rename and or Delete saved presets.

Create – Select the functions desired as part of the preset.

New Preset – Creates a "New Preset" to the list of presets.

Save To – Saves the current selected functions to a named preset.

Presets Button selected

Main and Assign Buttons - Switch between Main and Assign Screen.

Assign Button - Changes screen to Group Assignment to assign groups to a Program Mix.

Input List - Lists Inputs to assign to AutoMix Groups.

Page Arrow - To Display the next group of input faders.

Input top label - Shows AutoMix Contribution Level to AutoMix Group

AutoMix Group Assignment buttons - Assign Input to AutoMix Group 1-4

Input bottom label - Shows source assigned to Channel Input.

Input top label - Shows AutoMix Contribution Level to AutoMix Group

AutoMix Group Assignment buttons - Assign Input to AutoMix Group 1-4

Input bottom label - Shows source assigned to Channel Input.

AutoMix Button selected

LXE AutoMix Screen

PROGRAM   **AUDITION**   **AUXILIARY**   **OFFLINE**

0   0   0
-6   -6   -6
-12   -12   -12
-18   18
-24   24
-30   30
-36   36
-42   42
-48   48
-54   54
-60   60

SCRIPT SELECTOR

CANCEL   SELECT

BS.1770-3

LXE PGM

-3

LKFS
-9
-12
-15
-18
-21
-24
-27
-30
-33
-36
-39
-42
-45

SOFT

18 -15 -12 -9 -6 -3 0 3 6 9
LOUDNESS RANGE (LU)

-16
-20
-24
-28
-32
-36
-40

00:00
PROGRAM DURATION

-24 dB LKFS   A_85
LUREF   MODE

PK   M   S

Wheatstone
L X E

USER Default LAYER Layer 1

CUSTOM AUTOMIX PRESETS EQ DYNAMICS INPUT X/Y AUX/MXM EVENTS HOME

Use this button to load Custom
Screen Builder screens to the
LXE Surface GUI.

LXE Surface Setup GUI

In the LXE Surface Quick Start Guide, we refer to the LXE Surface Setup GUI application to use to Set the Surface IP, Set the Engine Host Blade and to access functions that are not available in the LXE Surface GUI.

This Guide is not a full manual for the LXE Surface Setup GUI, but a quick start guide to help you install and use the application to initially setup your LXE Surface using some factory default settings.

The LXE Surface Setup GUI part of the manual will have a complete guide to cover all details in the LXE Surface Setup GUI application.

Installation Media

Your system shipped with an USB with the LXE Surface Setup GUI installation package on it. If you did not receive or cannot locate the installation media, please contact Wheatstone Technical Support to obtain a download link.

Software Installation Pre Requisites

Windows 7 or later PC.

On your PC you will need a Network Interface Card configured and connected to Wheatnet-IP Network. This usually means a static IP Address assigned to this Network Interface Card. This address must be unique and not used elsewhere on the Wheatnet-IP network. Connect this Network Interface Card to the Wheatnet-IP Network Switch. Power up the LXE Engine Blade and ensure the Surface Host Network Interface is connected to the Wheatnet-IP Switch.

From the factory, your surface will have an IP address of 192.168.87.90. For the initial setup and to allow the Surface Setup GUI to find this surface your configuration PC will need to be assigned a unique IP in the same subnet of the Surface Host…ie 192.168.87.91 or an address that is unused on the network.

In the event that you are installing into an existing Wheatnet-IP System, and the default address of 192.168.87.90 is already in use, you may elect to use a small work group switch that is isolated from the main Network to do the initial setup and change the IP of the Surface Host to work in your main networks IP Scheme. Connections to this isolated switch would be the Configuration PC, the Surface Host from the Engine Blade, and the Surface Frame.

Note: Some PC's may be Multi Homed. Multi Homed means that there are more than 1 Network Interface cards installed and connected to different Ethernet Networks. If your target PC is Multi homed, leave the GATEWAY setting blank on the Wheatnet-IP Network Interface Card. Typically in this scenario, one of the Network Interface connections has an Auto Assigned IP address that allows for connection to user business networks and can resolve Internet addresses and protocols. A Gateway is usually assigned to this Auto Assigned Network Interface. Leaving the Gateway IP blank on the Wheatnet-IP Network Interface prevents issues on the PC trying to resolve disparate Gateways.

Install LXE Surface Setup GUI

Locate the Install Package from the shipped media or download.
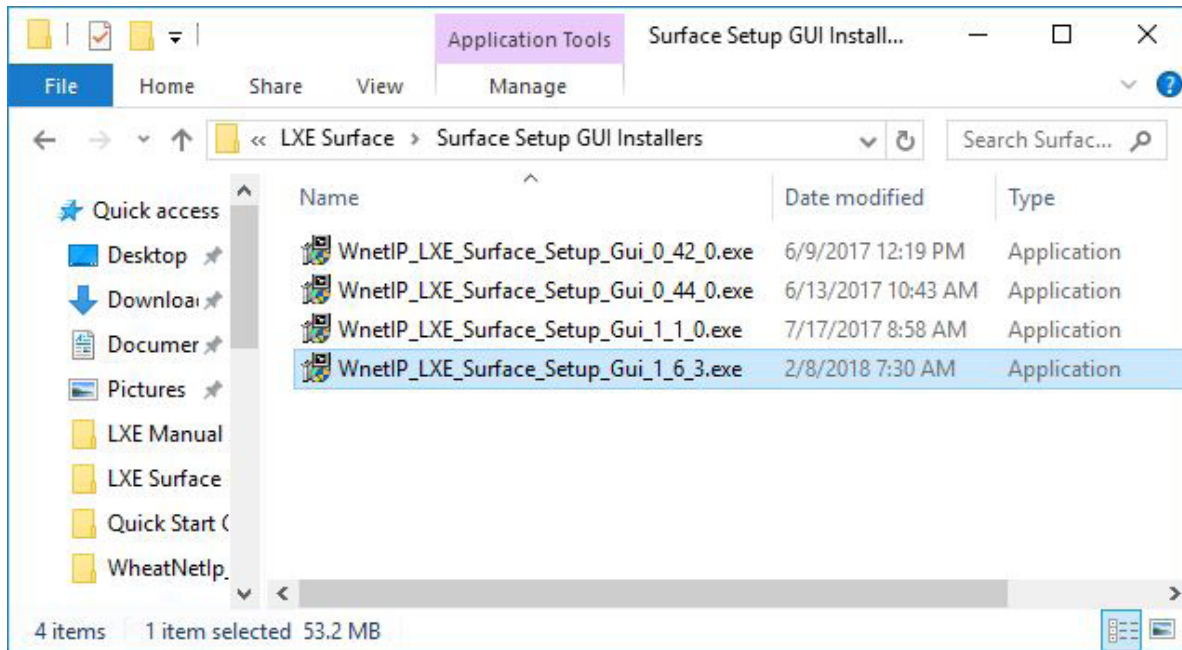
Double Click the WnetIP_LXE_Surface_Setup_GUI_X_XX_X.exe where, X represents the version of the software, to start the Installation Routine.

Click the I Agree button to accept the License Agreement.
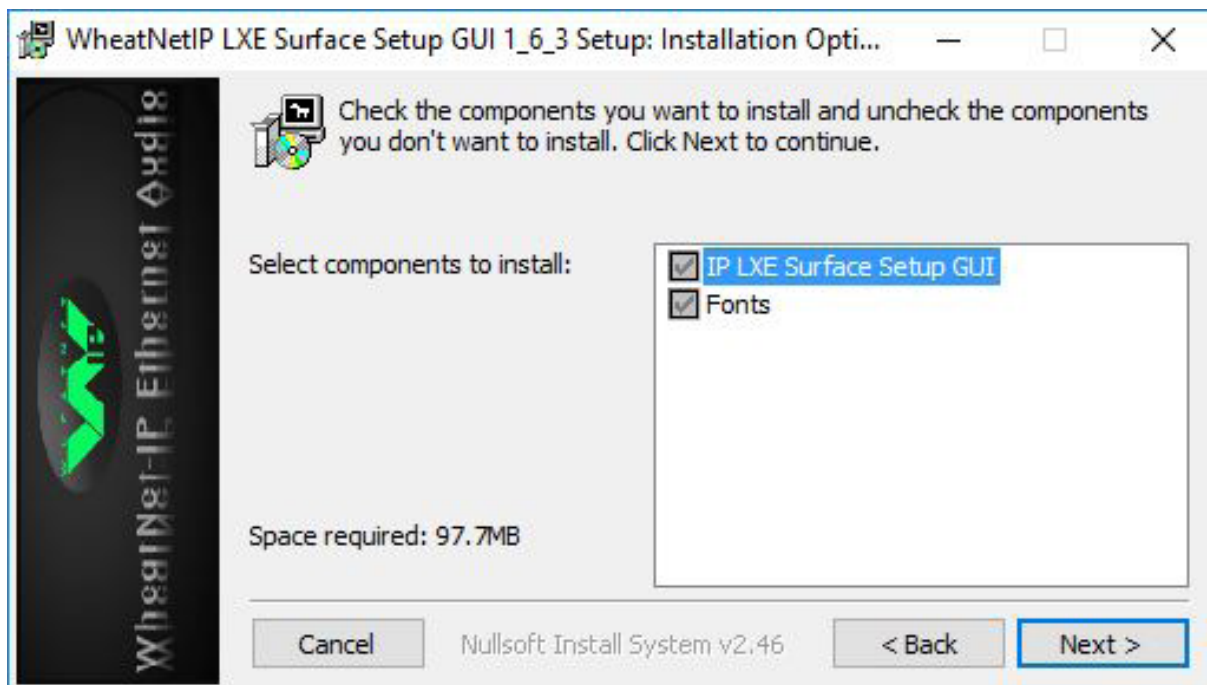
Click Next to Install the Selected Components.
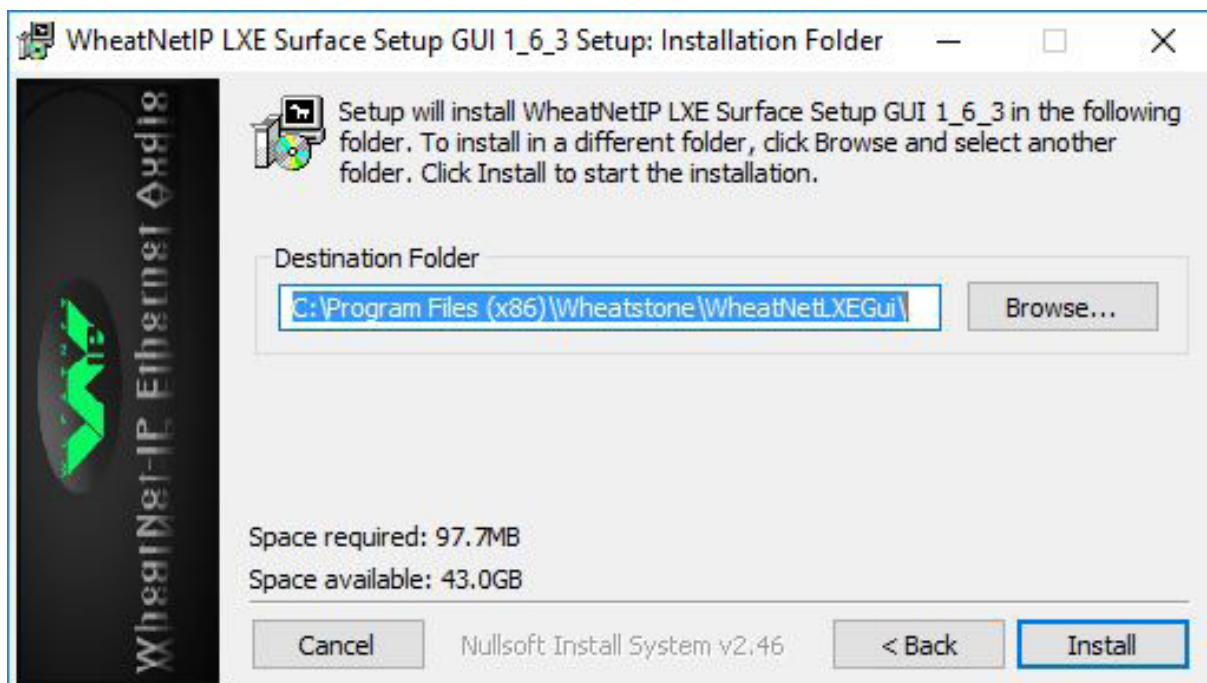
Verify the installation directory. Click Install to continue.
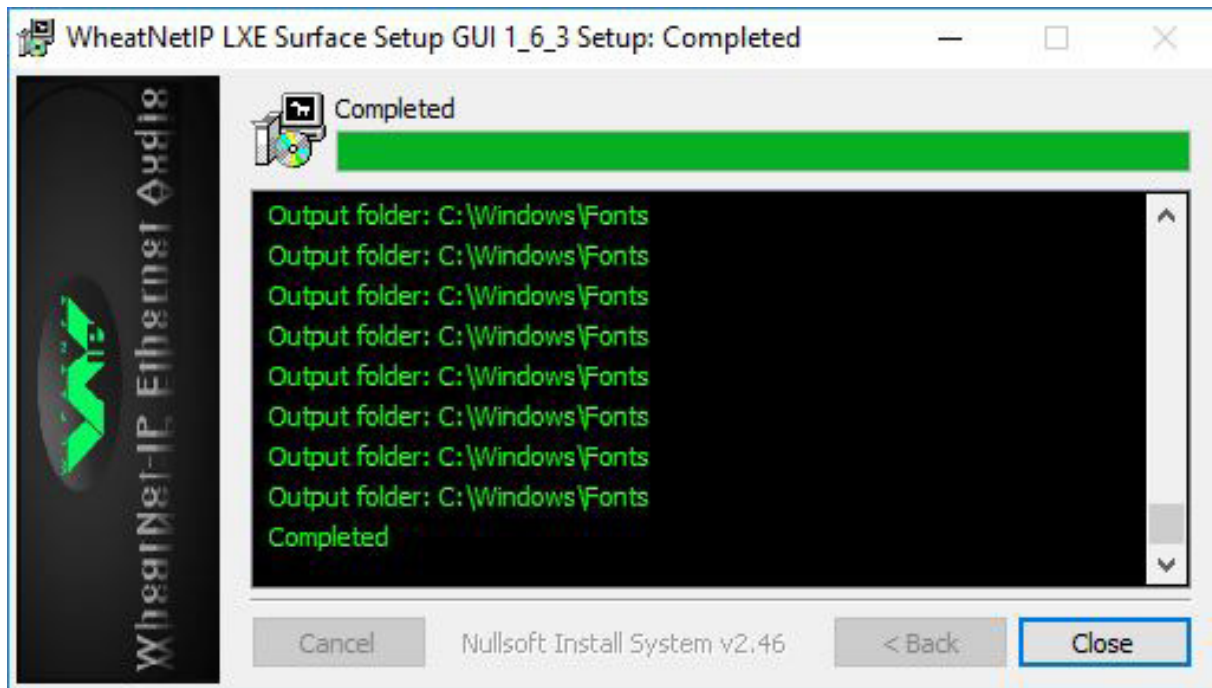
When the Installation steps are completed, click Close to finish and close the installer.

Launch the LXE Surface Setup GUI

When you launch the LXE Surface Setup GUI, you will be present with this screen.
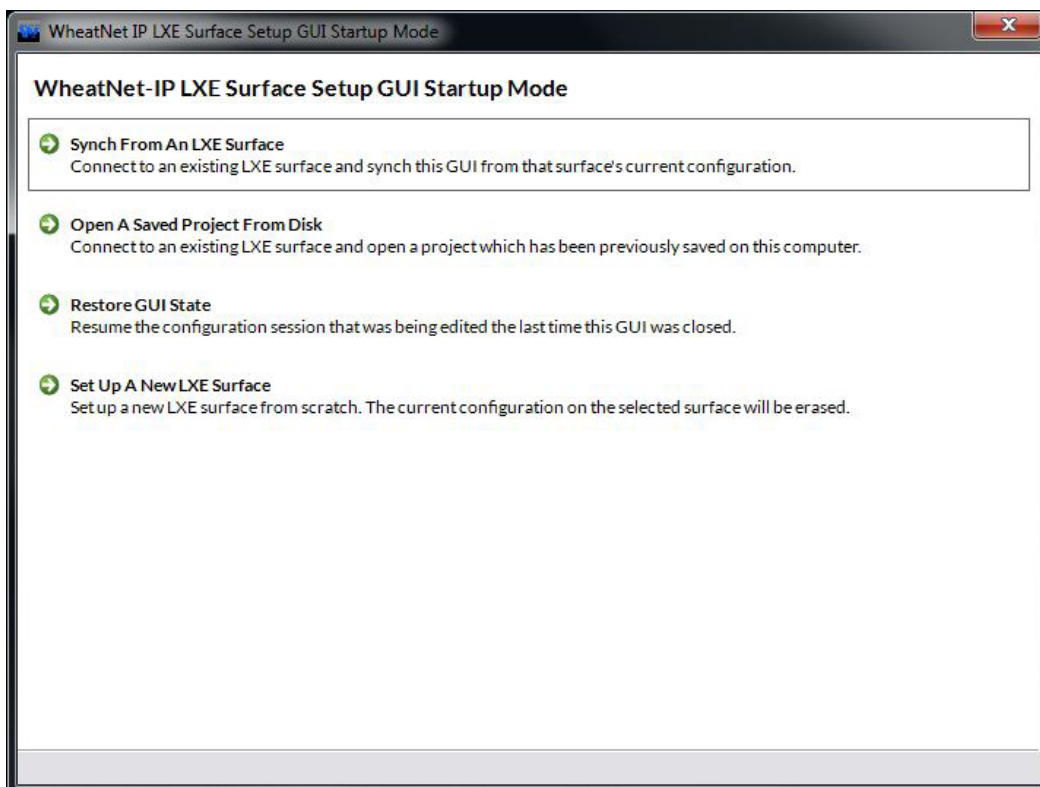
For the purpose of this Guide choose Synch from LXE Surface Option.

In this case, we are connecting to a surface that has a factory default IP and configuration settings. This option allows us to retrieve this information from the surface, and allow you to make necessary changes to fit your installation.

When you select this option, the LXE Surface Setup GUI scans the networks that the PC is connected to for LXE Surface Hosts.
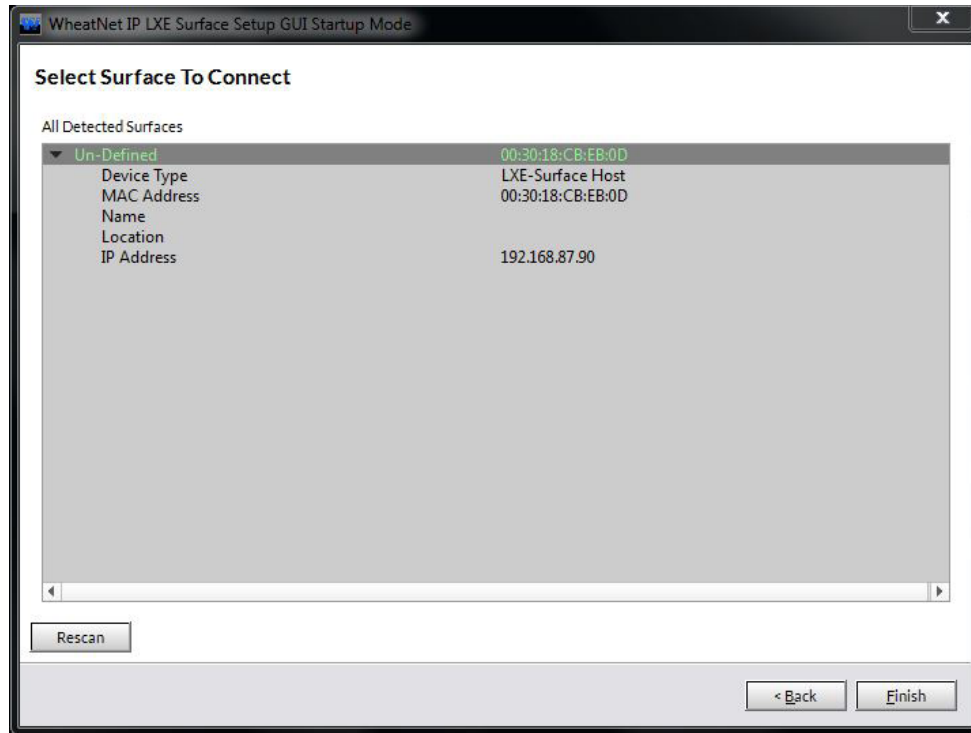
Select the Undefined Surface, and click Finish.
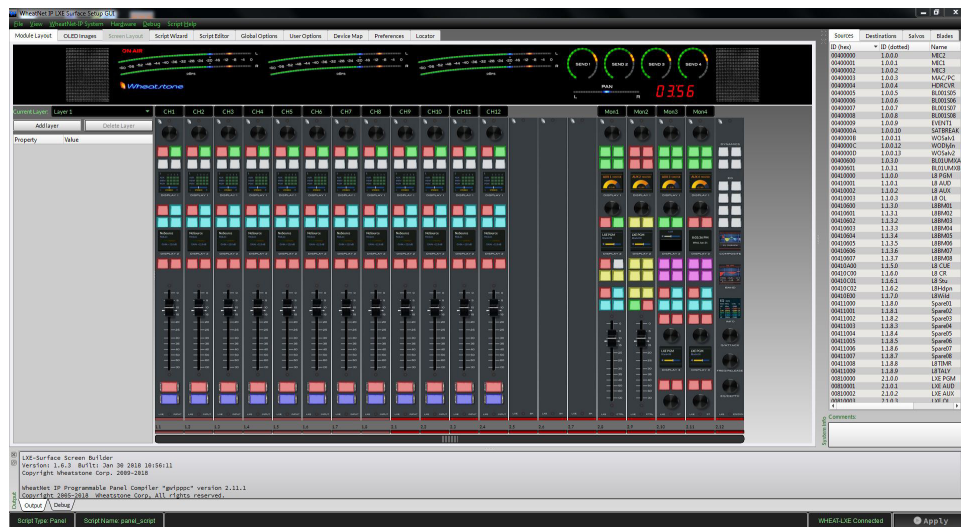
If the application is successful in synchronizing with the target Surface host, you should see a representation of your surface module layout in the Module Layout Tab. Additionally, you will see the word Connected in the LXE Surface Setup GUI Status bar in the lower right hand corner of the GUI.

As you can see, there are many menus, and tab options for the LXE Surface Setup GUI. The LXE Surface Setup GUI part of the manual will cover these in detail. For the purpose of this Quick Start Guide, we just need to know how to change the IP address, add the associated panel hosts, and give this Surface a name so that it is later easily identified in the system. Additionally if Engine Host Blade has not been associated with the surface or the Blade's ID and IP address have changed, we will need to make that association here in the GUI.

First we should verify that the Module Panel Hosts are correctly associated with the Surface host via their Link Local Addresses.

Click the Hardware Menu item in the LXE Surface Setup GUI.

Click Setup Surface Panels option.
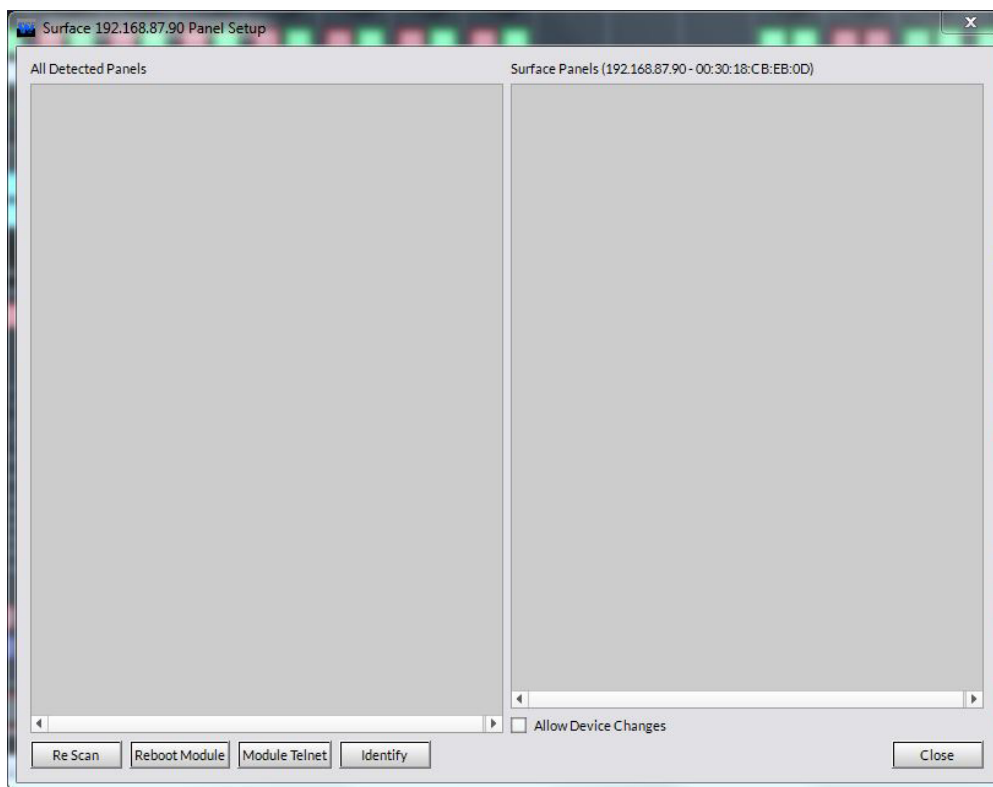
Click the Rescan Button.

Once the Scan is complete you should see 1 or more Module Panel host entries on the left side. If the panels are associated with the Surface Host, they should also appear on the right pane. This should be the case from the factory.
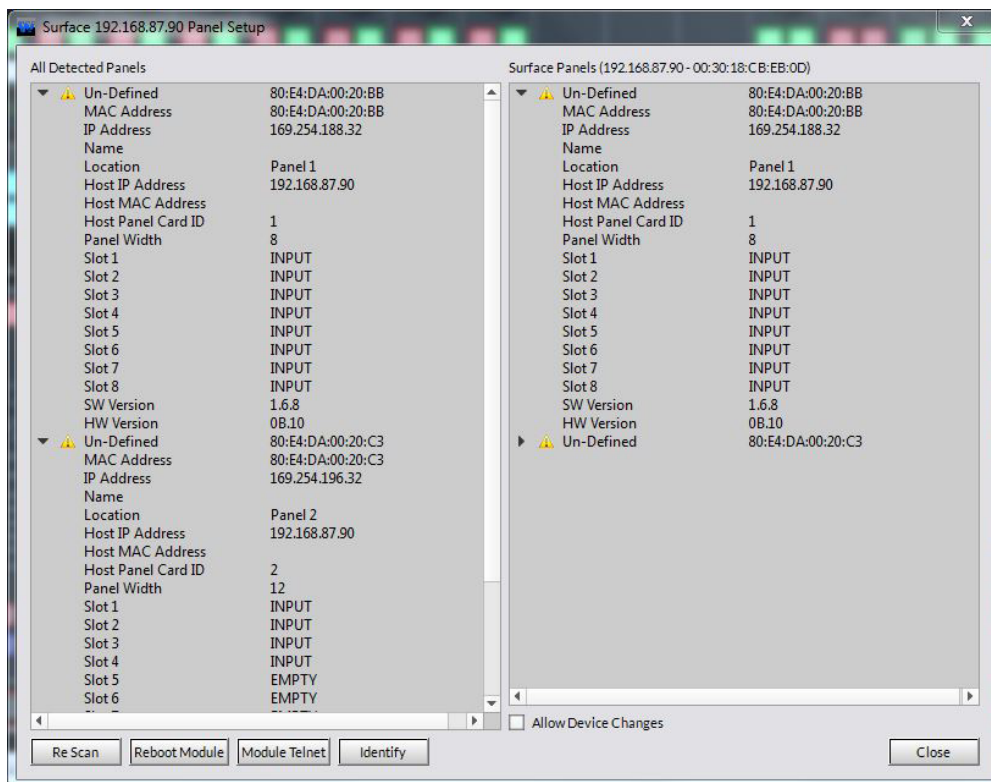
You can click the Triangle to expand the information list for each panel.

If you do not have any panel hosts in the right hand pane, click each one in the available pane to place it in the Surface panels pane.

Check the box Allow Device Changes. This will allow you to do customizations later on, and allow us to make changes for initial setup purposes.

When you select this box you will get a popup message
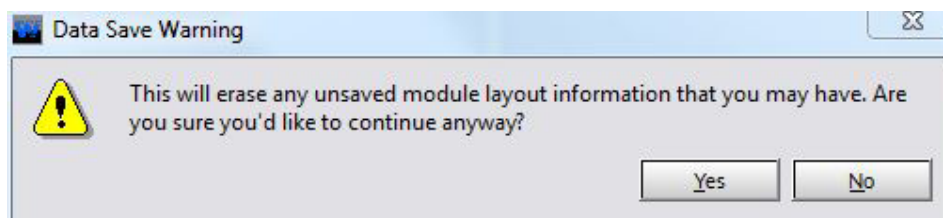
Click Close to complete this step.

To Change the IP Address for the Surface Host, Click the Locator Tab at the far right of the Tab Navigation bar.

Click the Ping (or Refresh) Button to get a list of WheatNet-IP devices on the network. Note that if you are on your main WheatNet-IP network you might get a long list of blades, surfaces, and other WheatNet-IP devices, in addition to the LXE Surface Host and Panel Hosts. If your network is isolated while doing this setup, then you will only see the LXE Devices in the Locator results. In our example below we are using the main WheatNet-IP network as you can see other devices in the list.
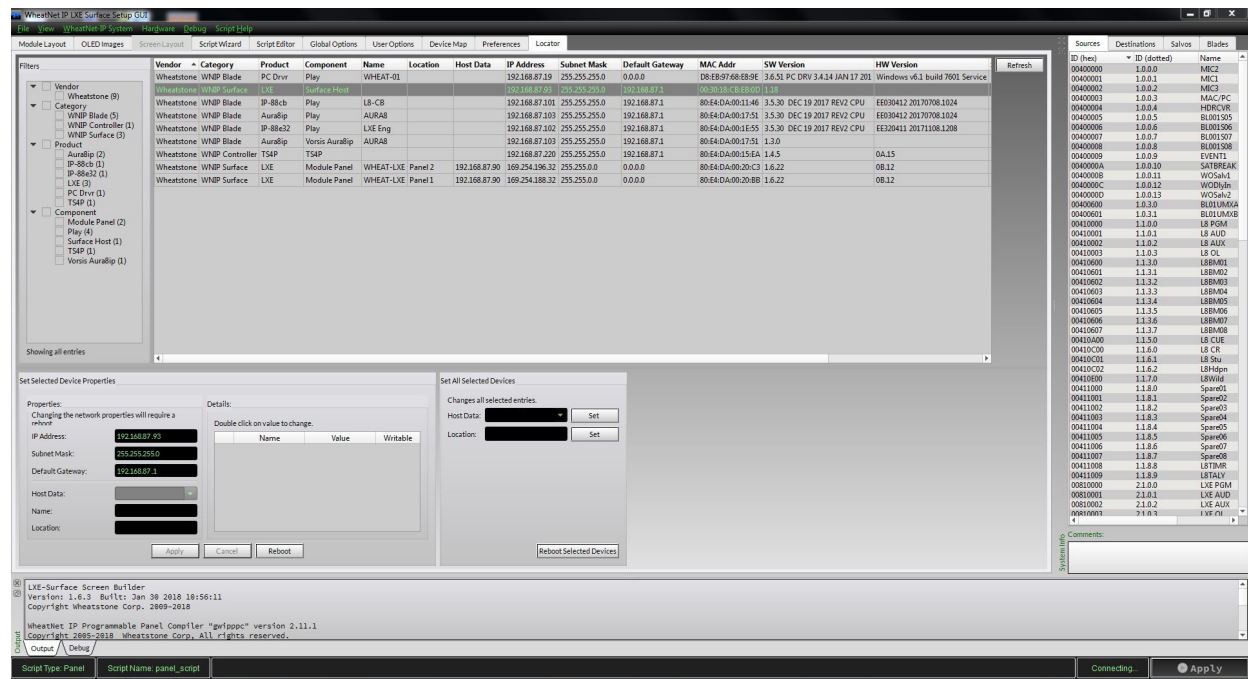
Find in the list and click on the LXE Surface Host with the IP address of 192.168.87.90.

Notice in the Bottom half of the screen is now changed to allow edits to the Surface Host that is selected above.
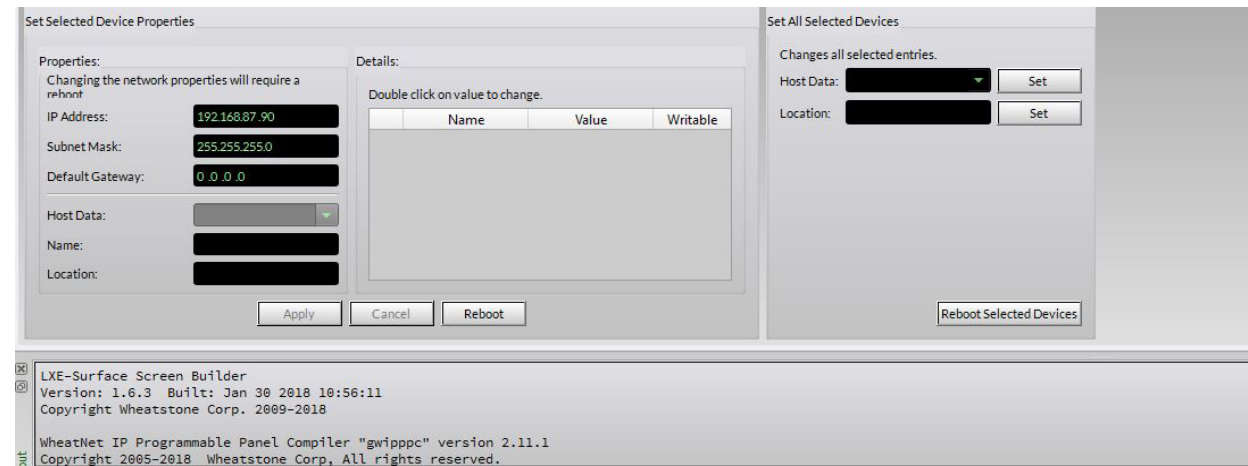
Click in the Address Field and change the IP address of the surface to suit your installation.

Then click Apply, then Reboot. You will be prompted to confirm you want to restart the Surface Host to apply the change of IP address.

To confirm the IP address has changed, click the Refresh Button. (or Clear, then Ping on older versions).
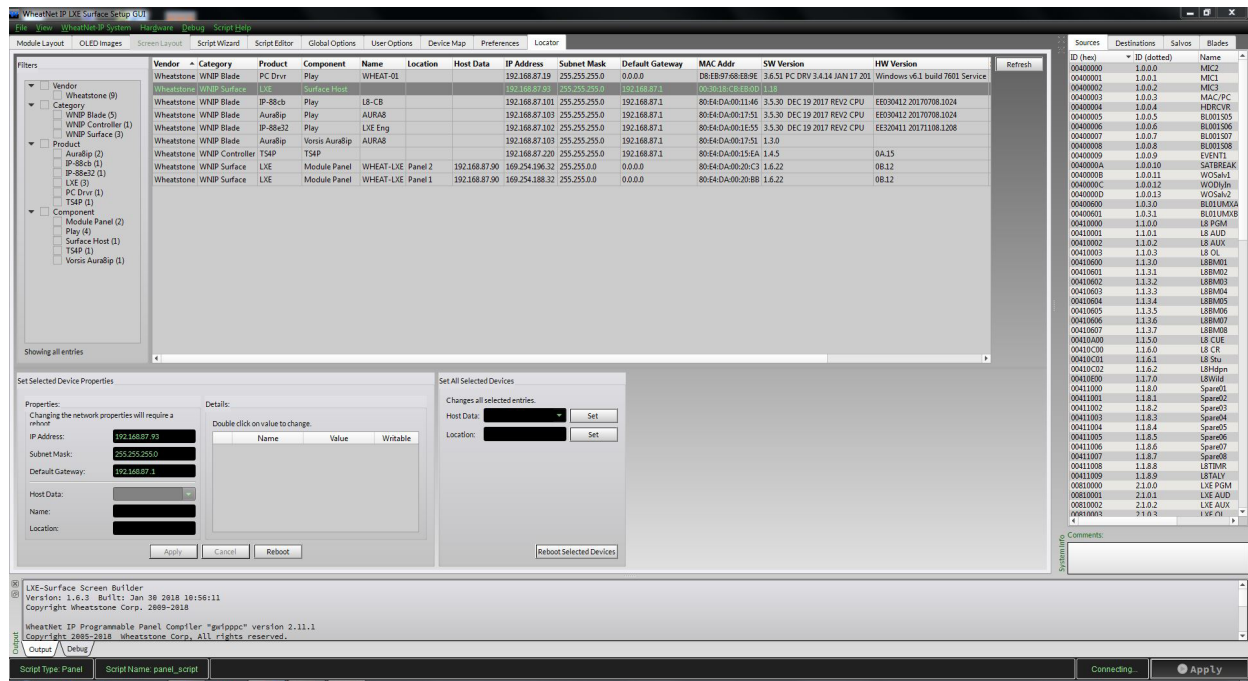
Note that now the IP has changed, the Module Panels are still associated with the old Surface Host IP.

To correct this condition, select the Module Panel Hosts from the List above (Highlight all that are paired with this surface). Use the Shift or CTRL key and click the appropriate module panel hosts.

Once you have selected all of the Module Panels, in the Set all Selected Devices panel below, drop the Host Data selector down and scroll to and select the new Surface Host IP Address.

Click the SET Button.

Note that the Surface will change from trying to connect to the old IP to Connected to the new IP, but the Surface Setup GUI may still show Connecting/Disconnected.

At this point, we should restart the Module Panels, by clicking Reboot Selected Devices. You will receive a pop up asking if you are sure. Click Yes and the Module Panels will restart.
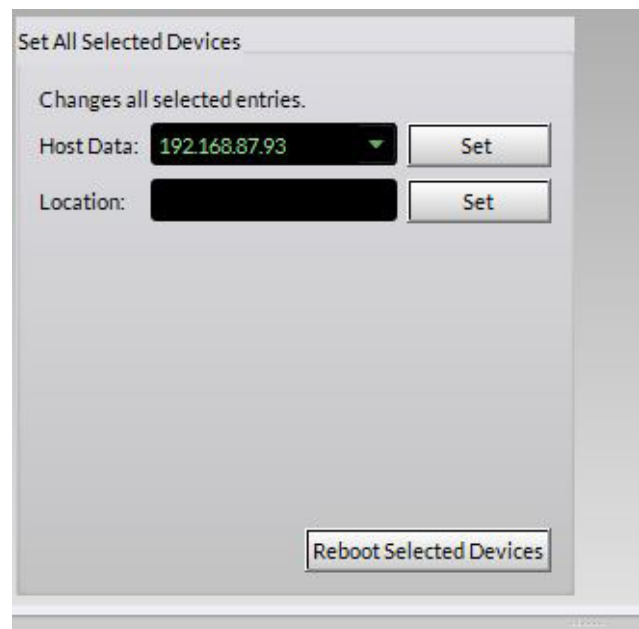
Once restarted, clicking the Refresh (Clear and Ping) should return a list with the new information correctly displayed for the new IP.

Vendor	Category	Product	Component	Name	Location	Host Data	IP Address	Subnet Mask	Default Gateway	MAC Addr	SW Version	HW Version
Wheatstone	WNIP Blade	PC Drvr	Play	WHEAT-01			192.168.87.19	255.255.255.0	0.0.0.0	D8:EB:97:68:E8:9E	3.6.51 PC DRV 3.4.14 JAN 17 201	Windows v6.1 build 7601 Service
Wheatstone	WNIP Surface	LXE	Surface Host				192.168.87.93	255.255.255.0	192.168.87.1	00:30:18:CB:EB:0D	1.18	
Wheatstone	WNIP Blade	Aura8ip	Play	AURA8			192.168.87.103	255.255.255.0	192.168.87.1	80:E4:DA:00:17:51	3.5.30 DEC 19 2017 REV2 CPU	EE030412 20170708.1024
Wheatstone	WNIP Blade	IP-88cb	Play	L8-CB			192.168.87.101	255.255.255.0	192.168.87.1	80:E4:DA:00:11:46	3.5.30 DEC 19 2017 REV2 CPU	EE030412 20170708.1024
Wheatstone	WNIP Blade	IP-88e32	Play	LXE Eng			192.168.87.102	255.255.255.0	192.168.87.1	80:E4:DA:00:1E:55	3.5.30 DEC 19 2017 REV2 CPU	EE320411 20171108.1208
Wheatstone	WNIP Blade	Aura8ip	Vorsis Aura8ip	AURA8			192.168.87.103	255.255.255.0	192.168.87.1	80:E4:DA:00:17:51	1.3.0	
Wheatstone	WNIP Controller	TS4P	TS4P				192.168.87.220	255.255.255.0	192.168.87.1	80:E4:DA:00:15:EA	1.4.5	0A.15
Wheatstone	WNIP Surface	LXE	Module Panel	WHEAT-LXE	Panel 1	192.168.87.93	169.254.188.32	255.255.0.0	0.0.0.0	80:E4:DA:00:20:BB	1.6.22	0B.12
Wheatstone	WNIP Surface	LXE	Module Panel	WHEAT-LXE	Panel 2	192.168.87.93	169.254.196.32	255.255.0.0	0.0.0.0	80:E4:DA:00:20:C3	1.6.22	0B.12

Now if you take a look at the status bar in the lower left part of the screen, the GUI will still show the Disconnected/Connecting Status. This is valid, because we've not connected the LXE Surface Setup GUI to the new Surface Host IP address.
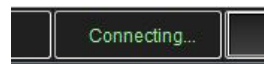
To do this, close the application and start it again. Select Synch from Surface and select the Surface from the list.

Once connected you will be on the Module Layout Tab with a representation of your Surface displayed, and the Status in the Status Bar will say Connected.

The next step in this guide is to give your Surface a friendly name, and also descriptor in the Location field.

Again this is done from the Locator Tab.

Select the LXE Surface Host in the list of devices.

While selected, in the Set Selected Device Properties Pane click in the Name Field and give your Surface a friendly name that will make it easily identifiable.

Click Apply.

Refresh (Clear and Ping) the list at the top and confirm the new Name/Location has been added.

Engine Blade Association

At this point, if you have not added your LXE Engine Blade to a Blade Network, you should do that now. Give it an ID and IP Address and connect it to the main WheatNet-IP Network.

If you were on an isolated network to configure your surface, you should now also connect the Surface, Surface Host, and Configuration PC to the main WheatNet-IP Network.

Once the Blade has been added to the WheatNet-IP Network and the Surface, and Surface hosts are also on the network we can now associate the surface with its Engine Blade.

To do this, open the LXE Surface Setup GUI application and connect to your Surface as in previous steps. Once connected and your surface layout is displayed and your status bar indicates connected do the following.

Click the WheatNet-IP System Menu Item.

Click System Scan.

Enter a Host Blade IP Address. (This can be any Blade in your system)

After entering the IP address click the Start Scan Button

Click Finish to Use the accumulated System Information.
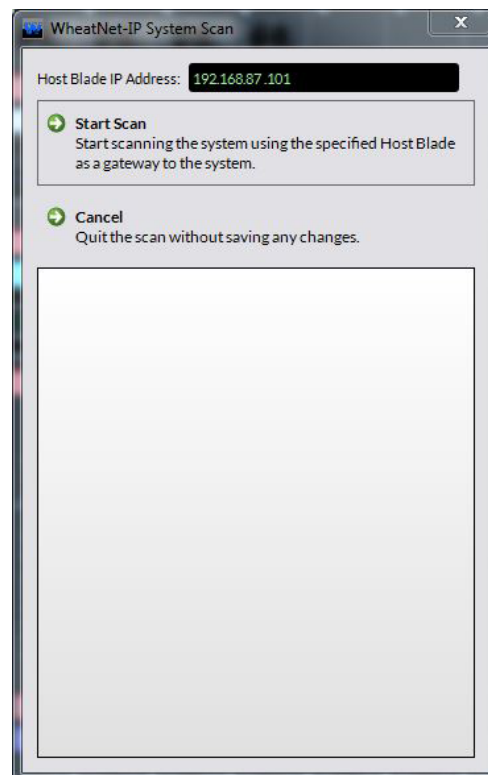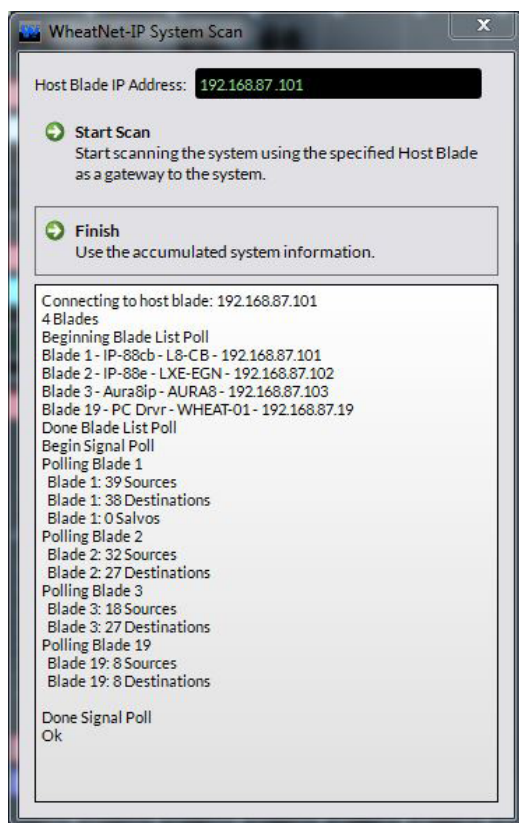
Click Save to save the accumulated System Information to disk.
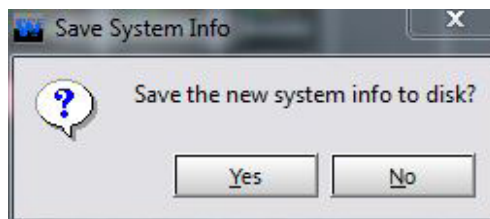
Save the sysinfo file in the default path.

Note that the system scan may take a few moments to complete depending on the size of your existing WheatNet-IP system.

Once this step is complete we can now tell the Surface which Engine (host blade) to connect to.

Click the Global Options Tab in the Primary Mix Engine Blade Info section.

These fields may either be blank or have incorrect Blade ID and IP address. In either case we need to point the Surface to the correct Mix Engine ID and IP.

Use the Select Button to the right of the Blade ID Field.

Select the appropriate Blade from the Picker Window.

If you have a "Secondary Mix Engine" to associate with this surface, repeat the above steps to add the "Secondary Mix Engine" association.

Once you have selected the Mix Engine(s) host blades click the Apply Button in the bottom right hand corner of the LXE Surface Setup GUI Status bar.

You will receive a pop up message stating that all of the configuration files on the surface will be overwritten, would you like to continue? Click Yes to this message.

At this point, you may also be prompted to restart the surface host. If prompted you can reboot the surface host from the Locator Tab or by selecting the Hardware Menu, then selecting Reboot Surface Option. Click yes to confirm rebooting of the surface.

Once restarted your LXE Surface should now have a factory default configuration/ layout of the surface panels, a new IP Address assigned to suit your installation, and Blade ID/IP assigned and all connected to your main WheatNet-IP Network.

One last step and you can then start to assign sources to faders, and connecting cross points for outputs and getting some sound out of your system.

In order to assign sources, we need to set Visibilities in the LXE Surface Setup GUI so that the sources can be browsed on the LXE Surface and the LXE Surface GUI.

To set visibilities:

- Open the LXE Surface Setup GUI and use the Synch from existing LXE Surface Option.
- Once connected and your surface layout is displayed click the User Options Tab. Notice to the left are Vertical configuration Tabs for the User Options context.
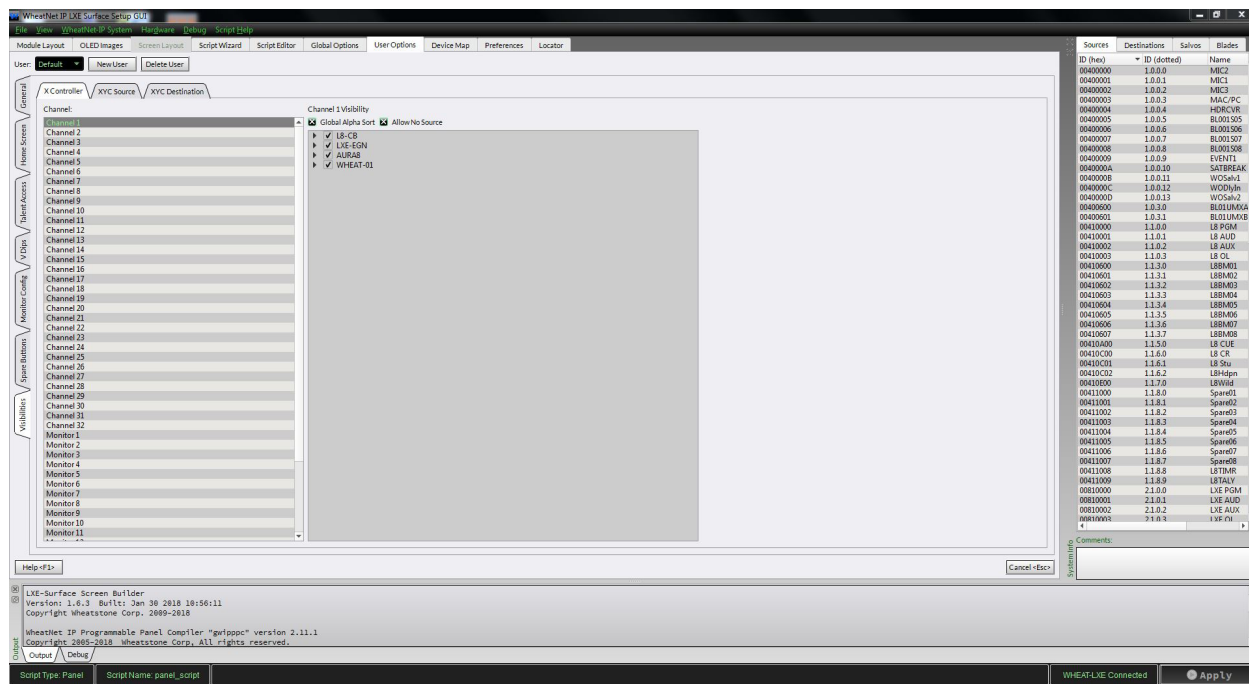
Inside the Visibilities context you will see Tabs for X controller, XYC Source and XYC Destination. The X Controller will be the Input Modules on the Surface. The XYC Source and XYC Destinations tabs will control visibilities in the LXE Surface GUI XYC screens.

For the X controller, you can set the visibilities on Channel 1. If you want to repeat those same visibilities right click on Channel 1 and select Copy.

Right click again and select Paste All.

This will set Visibilities to all of the X controller channels, including the Monitors, and External destinations.

Or optionally you can set each one of these destinations individually.

When an item is checked on the right pane that means the source is visible to that destination.

Once you have your visibilities set, click Apply at the lower right hand corner of the LXE Surface Setup GUI application.

Click Yes to the message that pops up to push the new configuration to the surface.

Now your surface is ready to be assigned sources to faders and mixes to outputs to generate audio.

For a more detailed description on all features and functions in the LXE Surface Setup GUI application, please read the LXE Surface Setup GUI part of the manual.