Logitek Electronic Systems

Artisan Reference Manual

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Logitek Electronic Systems, Inc.
5622 Edgemoor Drive
Houston, Texas 77081

Tel 713-664-4470
Fax 713-664-4479

Email help@logitekaudio.com
Web www.logitekaudio.com

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Document Revisions

Date	Revision	Author	Notes
January 2007	1.0	Paul Dengate Ben Hietbrink	First release of Artisan manual
February 2007	1.01	Paul Dengate	Correction – Bus Numbers (p22) are 16 to 19 for MTK-MON hotkeys

Contents

1 Introduction

About this Manual

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

Intended Audience

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

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

- Audio Engine Installation & Operation Manual
- AEConfig Reference Manual
- Supervisor Reference Manual
- CommandBuilder Reference Manual

The content of this manual relevant to console operators (Chapter 5) is also duplicated in the separate *Artisan Operator's Manual*. This provides technical operators with a brief overview of using the surface without being buried in installation information.

Manual Conventions

The following conventions are used in this manual:

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

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

The exclamation symbol signifies an important note or critical information.

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

TIP: A useful tip from our knowledge base!

About Artisan

Art meets technology in the *Artisan* digital console, the latest in control surface designs from **Logitek Electronic Systems**. As with its namesake, the *Artisan* is a craftsman of audio. It is composed of a series of modules to provide the highest possible flexibility in design and operation while bringing you an attractive visual centerpiece for your broadcast installations.

First released in 2006, *Artisan* was designed as a full-featured, easily configurable console for live TV & radio production or small performance groups. The *Artisan* surface is based on a series of modules that can be configured to suit the user's requirements. These modules include:

- ***MTK-FADER*** **Fader Module** (2 slot width)
- ***MTK-MASTER*** **Master Module** (4 slot width)
- ***MTK-MON*** **Monitor Module** (2 slot width)
- ***MTK-EFFECTS*** **Effects Module** (2 slot width)
- ***MLX-WSOFT*** **Wide Softkey Module** (2 slot width)
- ***MLX-NSOFT*** **Narrow Softkey Module** (1 slot width)
- ***MLX-BLANK*** **Blank Module** (1 slot width)

Level monitoring is on a PC-based screen, allowing flexible configuration of screen size and meter layout. In addition, a low-profile **Monitor Bridge** is available in both wide and narrow form factor.

The main frame is available in a number of different sizes to accommodate a variety of console sizes and fader numbers. The frame is designed to be sunken into a desk for permanent installation. These sizes are:

- ***MTK-F24*** **24 Slot Frame**
- ***MTK-F32*** **32 Slot Frame**
- ***MTK-F42*** **42 Slot Frame**

Figure 1 – Artisan 22-Fader Console

Designed with local television news broadcasting and advanced radio production in mind, the *Artisan* has a number of features not previously available on **Logitek** consoles, including:

- Two **Master** program busses (one may be 5.1) with pre-fader, pre-effects and post-fader/effects outputs
- Eight **Sub-Master** mix busses with pre-fader, pre-effects and post-fader/effects outputs
- Four **Aux** mix busses with pre-fader, pre-effects and post-fader/effects outputs
- Twenty-four dedicated mono **Mix Minus** busses (can be grouped for stereo)
- **Input Delay** adjustment on every fader – up to 0.5 seconds in 10ms increments
- **Blend** mode – weighted mono-sum of two mono sources on a single fader
- **5.1** mode – enables surround sound source on a single fader
- **Surface Profile** snapshot – capture & recall all surface settings & parameters
- **Pop-Up** VGA graphic interface to assist with parameter adjustment and snapshots
- *vScreen* **Meter Bridge** for user designable VGA meter displays and graphic interfaces

Figure 2 - Artisan Modules

System Requirements

Artisan is designed to connect to a **Logitek Audio Engine** running DSP version 3.x or later. *Artisan* functions require *SHARCAttack* DSP cards in the **Audio Engine**.

The **Audio Engine** provides all of the audio routing, processing and mixing functionality, with the *Artisan* acting as a remote control. PCs running **Logitek** *Supervisor* and *vScreen* software provide interfaces for configuration, support, external control and flexible level metering.

System Architecture

Put simply, the *Artisan* surface is just a remote control panel for the **Audio Engine**. Unlike traditional analog consoles, no audio passes through the *Artisan* or its faders (with the exception of the cue speaker audio). The *Artisan* talks to the **Audio Engine** using the **Logitek Command Protocol**, with all audio processing occurring inside the **Audio Engine**.

The mixing, routing and processing of audio is not dependant upon PCs. However, additional functionality, such as macro buttons, scene snapshots, intercoms, screen metering and other software tools interface to the system using the *Supervisor* PC application.

The *Artisan* surface contains many programmable buttons, which require scripting using *CommandBuilder*. The functionality for these buttons is then executed by *Supervisor*. In an on-air critical environment, we recommend running a *Dual Supervisor* configuration for redundancy.

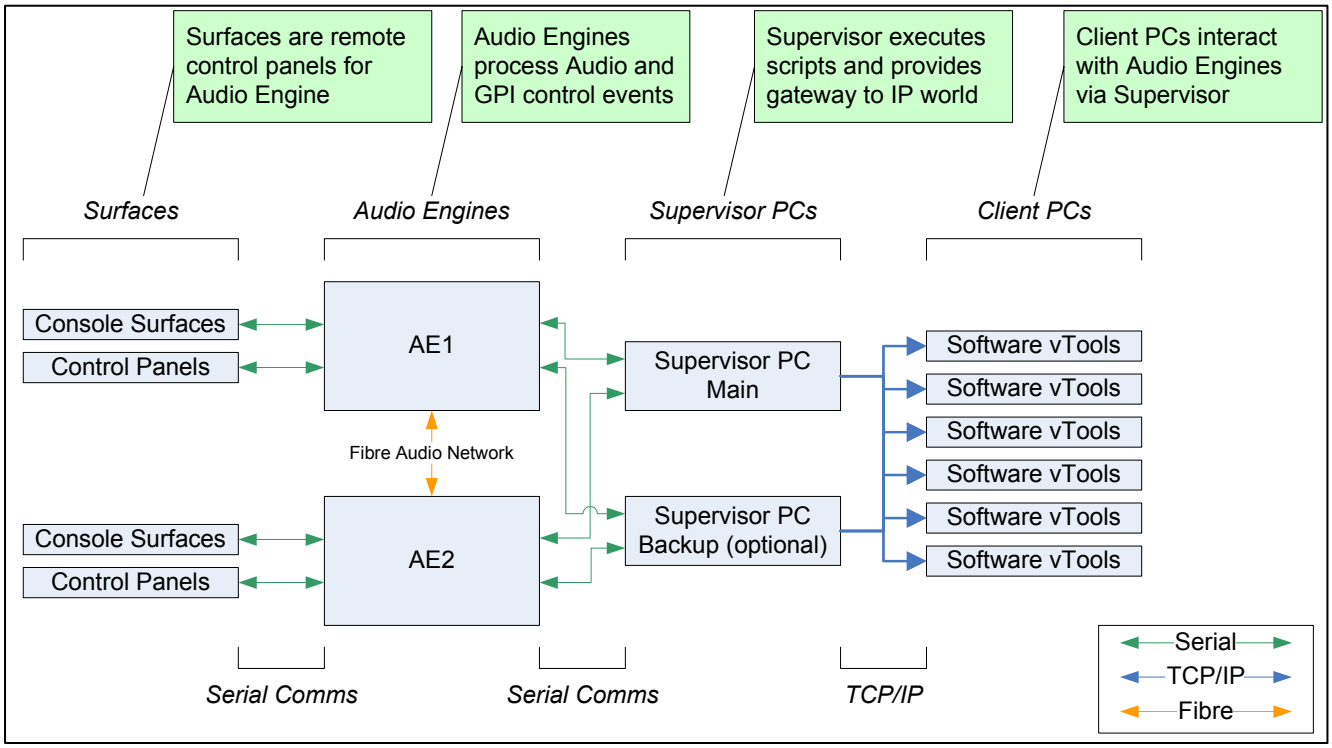


Figure 3 - Logitek System Architecture

System Components

A base *Artisan* system is comprised of:

- 1 x **Artisan** control surface
- 1 x **Artisan** power supply (redundant)
- 1 x **Logitek Audio Engine**
- 1 x PC running **Logitek** application software w/RS-232 connection to **Engine**

The **Logitek Audio Engine** is fitted with:

- 1 x **AE-C6** controller card (required)
- 2 x **SA-DSP** processor cards (required)
- 2 x **AE-PS** power supplies (1 required – 2nd optional)
- Up to 8 I/O cards (as specified by customer)
  - **IO-24A** analog I/O cards (12 mono in / 12 mono out)
  - **IO-8D** digital I/O cards (8 AES in / 8 AES out)
  - **NETA** network card (1 per engine) – 500 channel fiber-optic network to share inputs & outputs across multiple engines (optional)

Facilities running multiple *Artisan* consoles can share audio between **Engines**, using the **NETA** network card. Additional **Engines** can be added to expand I/O if required. An *Artisan* **Audio Engine** can also share audio with **Audio Engines** running **Logitek's** radio surfaces.

Compatibility Matrix

Artisan is designed for use with **Logitek Audio Engine** 3.x or later. If running a facility with both **Logitek** *Artisan* and radio consoles together, please note some cards require *Artisan*-specific software.

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

Component	General Support	Additional Features
AE-C6 Controller Card	Artisan-381 v3.91	-
SharcAttack DSP	Artisan-380 v1.30	-
Supervisor	v3 December 2006	-
CommandBuilder	v3 December 2006	-
AEConfig	v3 January 2007	-
vScreen	v3 December 2006	-
vChange	v3 December 2006	-
vSnapshot	v3 December 2006	-

➥ *See Appendix A for Artisan firmware release notes and version information.*

2 Unpacking

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

Parts List

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

- 1 x *Artisan* Power Supply fitted with two PSU modules
- 1 x fully assembled *Artisan* frame, containing modules as ordered
- 1 x wide or narrow meter bridge assembly (option) with 2 x mounting brackets
- 2 x "Telco" cables to link console to PSU
- 1 x Hex tool to allow removal of modules and faders

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

In addition, you will receive **Logitek Audio Engine** parts, as per your order.

➥ *See the Audio Engine Installation & Operation Manual for information on Engine components.*

Unpacking

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

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

Contacting Logitek

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

U.S. Mail	Logitek Electronic Systems, Inc. 522 Edgemoor Drive Houston, Texas 77081
Telephone	877-231-5870 713-664-4470 (outside U.S. and Canada)
Fax	713-664-4479
Email	help@logitekaudio.com
Website	www.logitekaudio.com

3 Physical Installation

The *Artisan* surface is designed to be mounted in a desk cutout in a permanent studio or control booth installation.

A PC flat-screen is mounted behind the console. The mounting arrangements for this will depend on the screen purchased and studio furniture.

The optional low-profile **Meter Bridge** can be screwed to the desk or mounted to the *Artisan* frame using the supplied mounting brackets and screws.

Power Supply Unit

The **Power Supply Unit** is a 2-RU sized rack mount box, designed for mounting in an under-desk studio rack. If the supplied 10' (3m) cables are not long enough to allow for convenient mounting, custom length cables are readily available.

The **Power Supply** is suitable for mounting in a studio environment and has been designed to be silent. The modules are a low-noise type and all electronics are solid-state (no mechanical relays).

The **Power Supply** contains two switch-mode supply modules, with a power indicator for each module on the front panel.

Power inlet is via a single IEC connector on the rear of the **Power Supply Unit**. A power cable is supplied only for US installations. International customers may contact their reseller for the supply of power cables if required.

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

Artisan Frames

A number of *Artisan* frame sizes are available, depending on the total number of faders and control modules. Each module takes up either one, two or four "slots" in the frame. The **Master** module takes four slots. The **Fader**, **Monitor**, **Effects** and **Wide Softkey** modules take two slots. The **Narrow Softkey** and **Blank Panel** take up one slot.

The frame will be shipped with the modules connected and fitted as ordered. These modules can be moved if desired. If moving modules, please retain the same internal COM port connections as the surface shipped with. If the COM port connections are changed, the device addressing for those modules will change.

Artisan Cutouts

The *Artisan* frame should be fitted into a desk, using the cutout sizes below. The height of the cutout remains the same for each frame size – only the width varies.

MLX-F24

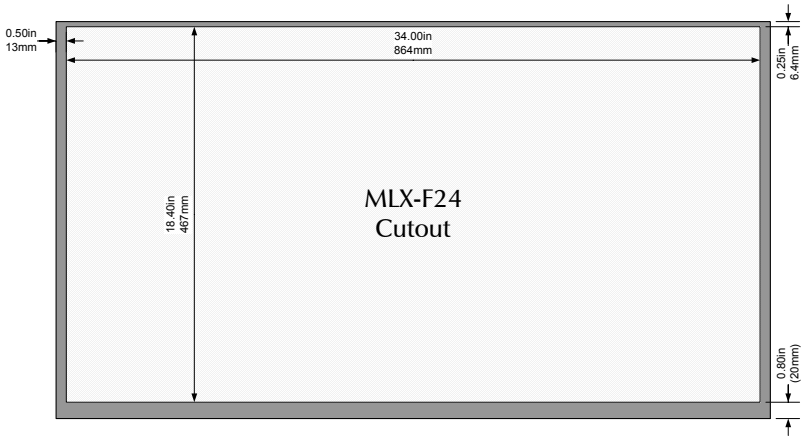


Figure 4 - MLX-F24 Cutout

The **MLX-F24** has capacity for 24 units. Suggested configurations include:

- Effects / 14 faders / Master / Monitor / Wide Softkey
- Effects / 12 faders / Master / Monitor / Wide Softkey / Narrow Softkey / Blank

The required desk cutout for the **MLX-F24** is 34.0 x 18.4in / 864 x 467mm.

MLX-F32

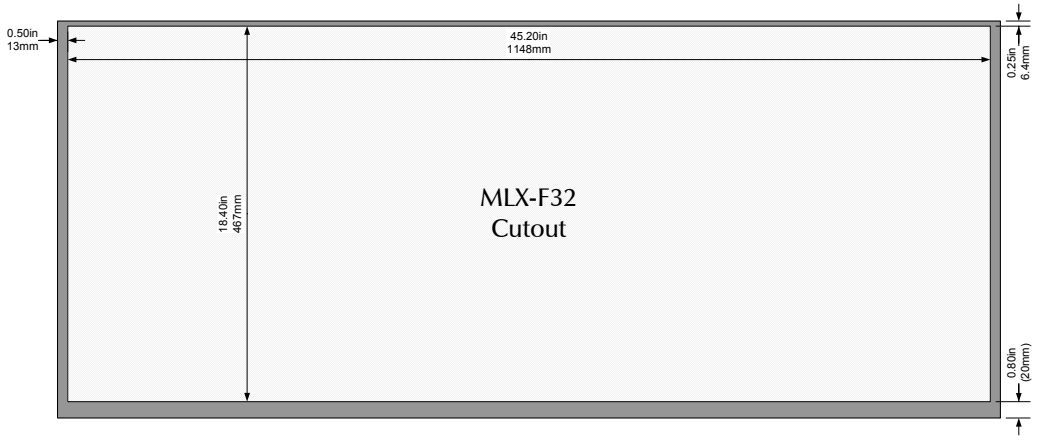


Figure 5 - MLX-F32 Cutout

The **MLX-F32** has capacity for 32 units. Suggested configurations include:

- Effects / 22 faders / Master / Monitor / Wide Softkey
- Narrow Softkey / Effects / 20 faders / Master / Monitor / Wide Softkey / Blank
- Blank / Effects / 20 faders / Master / Monitor / Wide Softkey / Blank

The required desk cutout for the **MLX-F32** is 45.2 x 18.4in / 1148 x 467mm.

MLX-F42

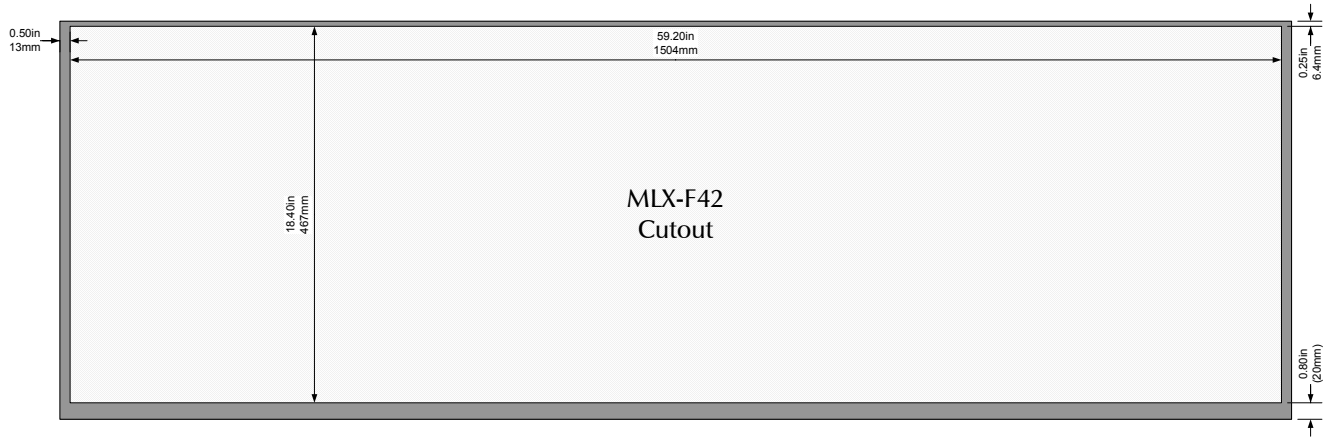


Figure 6 - MLX-F42 Cutout

The **MLX-F42** has capacity for 42 units. Suggested configurations include:

- Blank / Effects / 30 faders / Master / Monitor / Wide Softkey / Blank
- Narrow Softkey / Effects / 30 faders / Master / Monitor / Wide Softkey / Blank
- Blank / Effects / 30 faders / Master / Monitor / Wide Softkey / Blank

The required desk cutout for the **MLX-F42** is 59.2 x 18.4in / 1504 x 467mm.

vScreen Meter Bridge

The *Artisan* **Surface** is designed to run with **Logitek** *vScreen* software on a PC with flat-panel monitor. *vScreen* provides flexible meter layouts and screen sizes. A 20″ widescreen monitor running at a resolution of 1680 x 1050 in landscape orientation is recommended.

A default layout optimized for 1680 x 1050 is included. Screen layouts can be custom-made using *vScreen Designer* software. **Logitek Electronic Systems** or your reseller can also provide screen design and customization services as an option with your purchase.

vScreen requires a dedicated PC running Windows. Other **Logitek** software will also be installed to support *Artisan* fader **Pop-up** and console **Snapshot** save & recall.

In addition an *Artisan* system can interface with a **Miranda** *Kaleido* multi-screen processor, to provide video monitoring of incoming sources with real-time input level meters, plus *Artisan* output bus metering. Up to 10 layouts can be stored and recalled to suit different show formats.

If space, heat or noise is a concern in the audio suite, we recommend mounting the PC in an equipment room and using a high-quality KVM extender.

➥ *For more information on vScreen setup, consult the vScreen Reference Manual.*

Figure 7 - Artisan vScreen / Miranda Kaleido demo at NAB 2006

Low Profile Meter Bridges

Two sizes of low-profile **Meter Bridges** are also available, as used on the *Mosaic* radio console. These are intended for environments where metering requirements are more basic. The *Mosaic* style low-profile bridge does not require PC hardware, and connects directly to the *Artisan*.

The **Wide Bridge** includes one high-resolution stereo program meter, and 6 color LCD screens for text, clocks and other meters. The **Narrow Bridge** also includes the high-resolution meter, with two color LCD screens.

Mounting

- *Artisan* **Meter Bridges** have mounting brackets that bolt directly to the rear of the console frame, removing the need for separate mounting holes in the furniture.

Narrow Bridge

- 13″ W x 3.8″ H x 2.6″ D (330 mm x 97 mm x 66 mm)
- The standard mounting adds 2.4″ (61 mm) to the height

Figure 8 - Narrow Meter Bridge

Wide Bridge

- 23.6″ W x 3.8″ H x 2.6″ D (599 mm x 97 mm x 66 mm)
- The standard mounting adds 2.4″ (61 mm) to the height

Figure 9 - Wide Meter Bridge

Connections

The *Artisan* **Power Supply Unit** contains the control and GPI circuitry for the console. It connects to the **Logitek Audio Engine** via a serial link. The **Power Supply Unit** connects to the **Surface** using two 25-pair "Telco" cables. These cables carry the communication between each module and the **Power Supply Unit**.

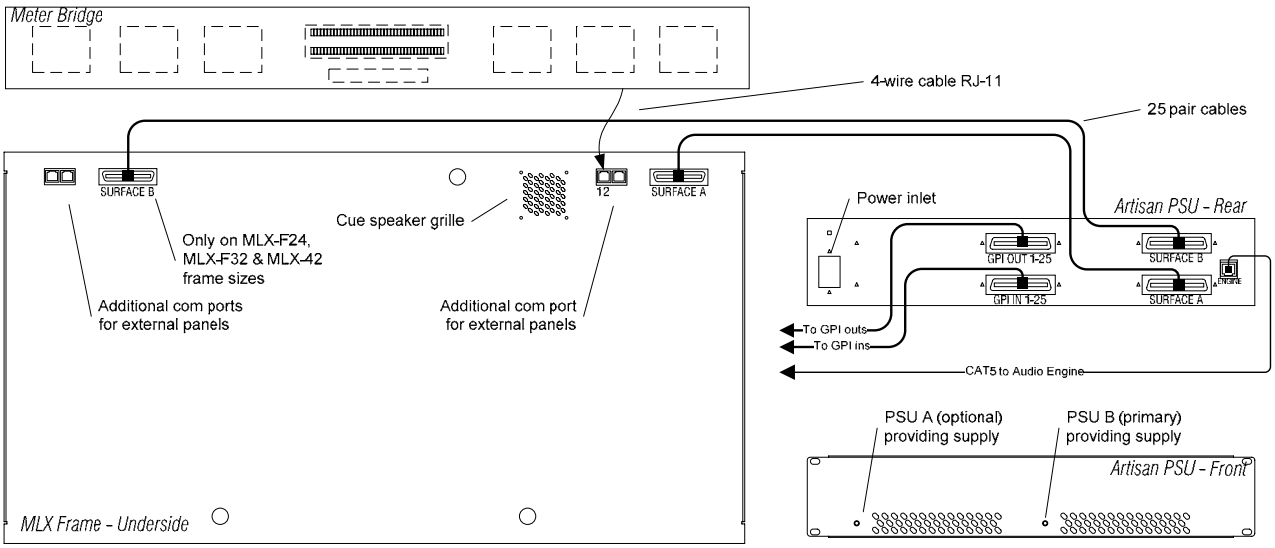


Figure 10 - Artisan Connection Diagram

Surface to PSU

For all *Artisan* frames, two 25-pair Telco cables connect the **Power Supply Unit** to the **Surface**.

The required cables will be supplied with your *Artisan*. The standard length of these cables is 10' (3m).

If the supplied cables are not long enough, you can order Telco style cables from **Logitek Electronic Systems** or a local supplier. The connectors are standard Telco style 50-pin Centronics Male plugs, wired straight through (all pairs connected).

Alternative wiring schemes may reverse or drop pairs, so please ensure you specify straight through wiring if purchasing custom-made cables.

➥ *See Appendix B for connector pinouts.*

Surface to Meter Bridge

The **Meter Bridge** has a short 4-wire cable with an RJ-11 connector on the end. This is plugged into the port labeled COM12 on the underside of the frame. The cable length is suitable to mount the **Meter Bridge** behind the *Artisan* frame. If alternative wiring is required, this can be replaced with a custom made cable using flat telephone cable and RJ-11 connectors.

> 🎧 TIP: The above only applies if using a physical Meter Bridge.

Internal Module Connections

Inside the frame two 25-pair connectors are broken out to individual RJ-11 port connections. There is generally no requirement to replace these cables, as the lengths are made to suit the position of each module.

PSU to Audio Engine

The *Artisan* **Power Supply Unit** connects to the **Logitek Audio Engine** using a balanced serial link. Standard CAT5 or better cabling is recommended.

Systems are supplied with the **Audio Engine AE-C6** controller card, which connects using an RJ45 at the **Audio Engine** and the *Artisan*.

The *Artisan* is supplied with a CAT5 patch lead, to connect the **AE-C6** to the *Artisan* Power Supply Unit. This lead is sufficient for testing purposes; however, the **Audio Engine** will normally be located away from studios.

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

➥ *See Appendix B for connector pinouts.*

GPIs

The *Artisan* **Surface** has 25 GPI inputs and outputs for control of local studio devices. These GPI connections are located on the rear of the *Artisan* **Power Supply Unit**.

GPI outputs are driven by optically-isolated, non-polarized, solid state switches, rated at 500ma at 50V AC/DC, with surge to 2A. These solid state devices do not conduct at low voltage, so cannot switch an audio input. However, they are suitable for most control signals, and avoid problems with relay contacts being damaged by surges. Caution should be exercised to avoid overloading the switches. If driving a high current device, we recommend driving an external relay or switch.

The GPI inputs are a current source to +5VDC that is pulled to ground to activate. This makes it suitable for control by push-button, relay or open collector. A diode protects against static and over voltage. See the wiring diagram for polarity information if using non-standard activation methods.

GPI connectors are on Telco style 50-pin Centronics. As wiring schemes vary from station to station, these cables are not supplied with the surface, but are available from **Logitek Electronic Systems**. They can also be purchased from local suppliers in the required form.

Wiring is straight-through style, with Pair 1 corresponding to GPI #1 and so on. A male AMP style 50-pin connector is required to connect to the *Artisan* **Power Supply Unit**. We suggest ordering a single-ended cable with tails for punch-down to Krone style block or similar. There is one connector for GPI inputs and another for GPI outputs.

➥ *See Appendix B for connector pinouts.*

4 Configuration

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

- *Logitek Audio Engine Installation & Operation Manual*
- *Logitek AEConfig Reference Manual*

COM Port Configuration

The *Artisan* contains 12 **COM Ports** per 25-pair connector from the **Power Supply Unit**. These ports are internally mounted to connect to each module, with one external **COM Port** to connect to the optional **Meter Bridge**. **COM Ports** are numbered A1-A12 (first 25-pair link) and B1-B12 (second 25-pair link).

By default, the **Device Address** to **COM Port** map is set inside the *Artisan* **Power Supply Unit** firmware, and will suit most installations. The defaults are shown on the following page. **COM Port** mapping can be changed using hex commands sent from *Supervisor*. These are stored in the power supply's non-volatile RAM, so don't need to be sent each power up.

➥ *See Appendix E for Artisan configuration commands.*

Audio Engine Configuration

Configuration of the **Audio Engine** is done in *AEConfig*. Configuration is as per other **Logitek Surfaces** – detailed in the Logitek *AEConfig* Reference Manual. **Logitek Electronic Systems** or your reseller can provide assistance with building configurations.

🎧TIP: Support for *Artisan* surfaces and 5.1 audio requires *AEConfig* January 2007 or later.

➥ *See the AEConfig User's Manual for information on configuring Audio Engines.*

CommandBuilder Triggers

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

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

The *CommandBuilder* manual includes details and examples of *Artisan* specific features, such as Monitor Hotkeys, Colored On/Off Lamps, Multi-brightness lamps and more. The programming of these features does require a certain level of familiarity with the system. If you need assistance, please contact **Logitek Electronic Systems** or your reseller.

Device & Bus Addressing

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

When configuring the *Artisan's* programmable buttons in *CommandBuilder*, you will require the **Device Number** and **Bus Number** for each button or lamp. The information below will help you determine the addressing scheme in use on your *Artisan*. As the layout of the *Artisan* is extremely flexible, the addressing will vary and is usually unique to your facility.

Please note that addressing is configurable, and any defaults listed may have been overridden.

Modules

Module	How Addressing is determined	Max Modules Supported
MTK-EFFECTS	Always connected to Port A1 - Device Number changes in real time to mirror the module that last had the CNG or FX button pushed	1
MTK-FADER	Device Number pair determined by COM port allocation (configurable) Low device = left fader, High device = right fader	15 modules (30 faders) subject to available ports
MTK-MASTER	Uses Master Bus Input addressing from DSP table (device33 – 41) Should be connected to Port B8	1
MTK-MON	Uses Monitor addressing from DSP table (device42 – 49) Should be connected to Port B9	1
MLX-WSOFT	Uses device51 (lamps) and device52 (switches) Should be connected to Port B10	1
MLX-NSOFT	Device Pair determined by COM port allocation (configurable) Low device = lamps, High device = switches	Limited by available ports
MLX-WBRIDGE MLX-NBRIDGE	Uses device53 for Left LCD screens and device54 for Right LCD screens Should be connected to Port A12 on underside of Artisan	1

Device Numbers

The **Device Number** allocated to **COM Ports** is user configurable. An international set of default mappings is installed in the ROM, but this map is adjustable using `ASM` commands in your **Init Trigger**.

When using **Device** addressing, we recommend you use the `SURF# CHAN#` notation in *CommandBuilder*. This provides more flexibility for future changes, and allows you to relocate the surface or re-use the code on another port by finding and replacing the `SURF#` instances.

Shown below is the hex equivalent of the channels of a **Surface** connected to **Audio Engine** Port 1.

Default Device Numbers

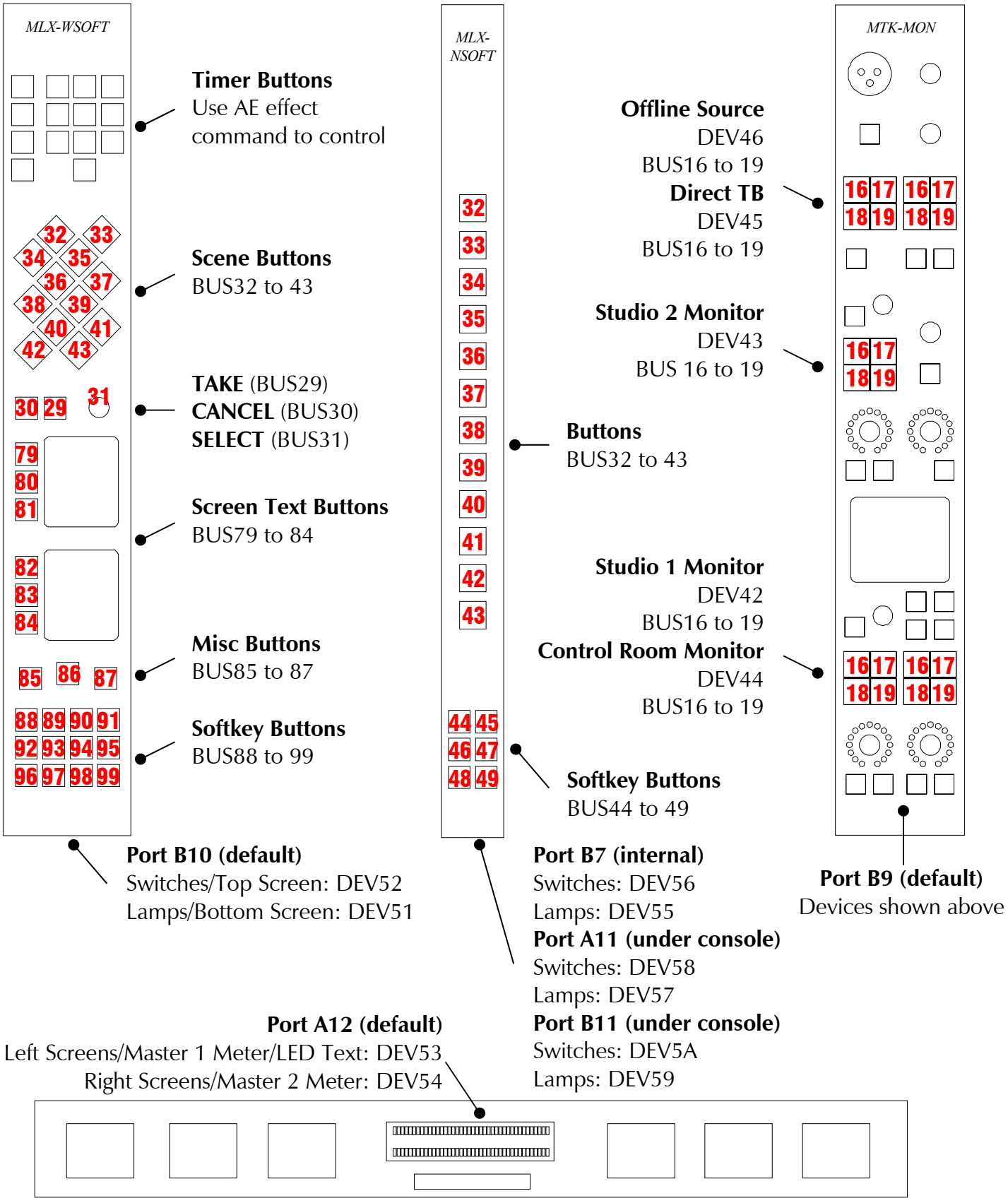
Following is the default **Device COM Port** map that ships with the *Artisan*.

These defaults are designed to suit most standard consoles, up to 30 faders. In some cases it may be necessary to override the default mapping to support non-standard requirements.

Port	Connector	Standard Module	Alternative	Channel (dec)	Port 1 Device (hex)
1	A 1	Effects Module		Dynamically assigned	Dynamically assigned
2	A 2	Fader 1/2		1 & 2	OB & OC
3	A 3	Fader 3/4		3 & 4	OD & OE
4	A 4	Fader 5/6		5 & 6	OF & 10
5	A 5	Fader 7/8		7 & 8	11 & 12
6	A 6	Fader 9/10		9 & 10	13 & 14
7	A 7	Fader 11/12		11 & 12	15 & 16
8	A 8	Fader 13/14		13 & 14	17 & 18
9	A 9	Fader 15/16		15 & 16	19 & 1A
10	A 10	Fader 17/18		17 & 18	1B & 1C
11	A 11 (under)	External Softkey	Narrow Softkey	77 & 78	57 & 58
12	A 12 (under)	Meter Bridge A		73 & 74	53 & 54
13	B 1	Fader 19/20		19 & 20	1D & 1E
14	B 2	Fader 21/22		21 & 22	1F & 20
15	B 3	Fader 23/24		23 & 24	21 & 22
16	B 4	Fader 25/26		25 & 26	23 & 24
17	B 5	Fader 27/28		27 & 28	25 & 26
18	B 6	Fader 29/30		29 & 30	27 & 28
19	B 7	Narrow Softkey		75 & 76	55 & 56
20	B 8	Master Module		41 - 55	33 - 41
21	B 9	Monitor Module		56 - 63	42 - 49
22	B 10	Wide Softkey		71 & 72	51 & 52
23	B 11 (under)	External Softkey	Narrow Softkey	79 & 80	59 & 5A

TIP: Only one *Artisan* surface is supported per **Audio Engine**. When addressing *Artisan* modules with CHAN notation, always use SURF1 as the surface.

Bus Numbers


MLX-WSOFT
MLX-NSOFT
MTK-MON
Timer Buttons
Use AE effect command to control
32 33 34 35 36 37 38 39 40 41 42 43
Scene Buttons
BUS32 to 43
30 29 31
TAKE (BUS29)
CANCEL (BUS30)
SELECT (BUS31)
79 80 81
Screen Text Buttons
BUS79 to 84
82 83 84
Misc Buttons
BUS85 to 87
85 86 87
88 89 90 91 92 93 94 95 96 97 98 99
Softkey Buttons
BUS88 to 99
Port B10 (default)
Switches/Top Screen: DEV52
Lamps/Bottom Screen: DEV51
32 33 34 35 36 37 38 39 40 41 42 43
Buttons
BUS32 to 43
44 45 46 47 48 49
Softkey Buttons
BUS44 to 49
Port B7 (internal)
Switches: DEV56
Lamps: DEV55
Port A11 (under console)
Switches: DEV58
Lamps: DEV57
Port B11 (under console)
Switches: DEV5A
Lamps: DEV59
Offline Source
DEV46
BUS16 to 19
Direct TB
DEV45
BUS16 to 19
Studio 2 Monitor
DEV43
BUS 16 to 19
Studio 1 Monitor
DEV42
BUS16 to 19
Control Room Monitor
DEV44
BUS16 to 19
16 17 18 19
Port B9 (default)
Devices shown above
Port A12 (default)
Left Screens/Master 1 Meter/LED Text: DEV53
Right Screens/Master 2 Meter: DEV54

5 Operation

At first glance, your **Logitek** *Artisan* may appear a little daunting. But if you've had experience with broadcast or production consoles before, you'll soon be at home, finding your way around quite easily.

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

As much of the *Artisan* is user-programmable, the specifics of how you use some functions will depend on your configuration. Following is a look at each of the modules, how the standard functions are used, and what some of the user-programmable options are.

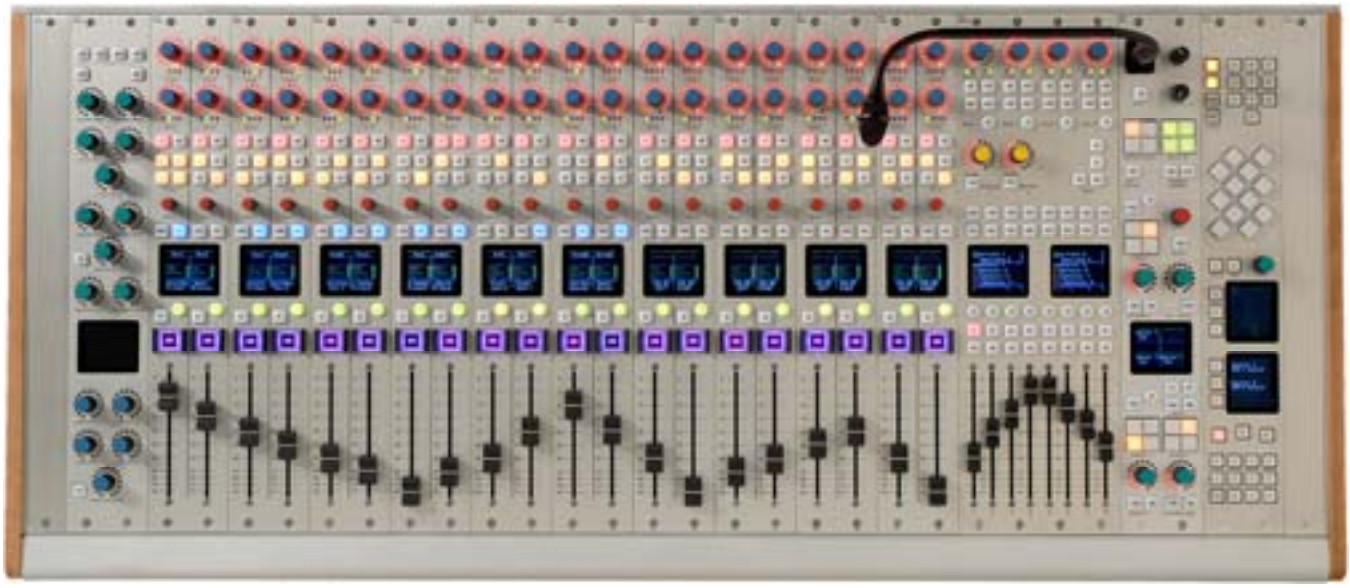
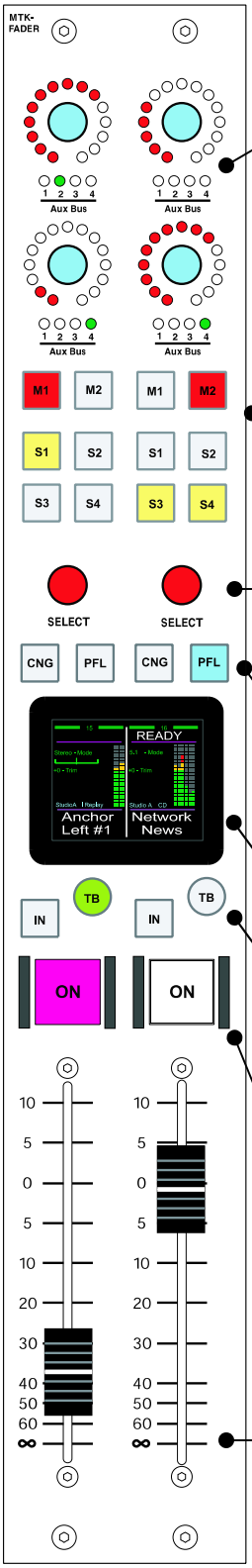


Figure 11 - Artisan 20 fader, Effects, Master, Monitor & Wide Softkey Modules in 32 Slot Frame

Artisan Fader Modules

MTK-FADER (Fader Module)



Each input can simultaneously feed any two of the four **Aux Mix** busses. Press down on an **Aux Bus** wheel to cycle between the five options; **Offline**, **Aux 1**, **Aux 2**, **Aux 3** or **Aux 4**.
Turning the wheel will adjust the level being sent to the selected bus. The level is depicted by the *Ring of Fire* LEDs.
Independent bus switching (pre-ON/pre-FADER) is set at **Master Module**.

The **M1**, **M2**, **S1**, **S2**, **S3** and **S4** buttons provide direct access to the two **Master** (M1 & M2) mix busses and four **Sub-master** (S1 - S4) mix busses. **Sub-master** busses 5 through 8 can be accessed via the **CNG** function. The controls for any bus can be de-activated in the system configuration to prevent changes by the operator.

The **SELECT** stick and the **CNG** button along with the LCD screen are used to change most fader settings.
Rotate the **SELECT** stick to scroll through available inputs.
Press the **SELECT** stick to "take" the current input or exit **CNG** mode.
Toggle the **SELECT** stick to move the menu cursor up & down through the LCD menu selections. Rotate while in a menu to adjust parameters.

Press the **PFL** button to hear the input on either the cue speaker (**PFL MON** off) or **Control Room Monitor** (**PFL MON** on). Press again to turn **PFL** off for that fader. Press **CNG** to enter/exit the screen menu. When you press **CNG**, that fader will also be selected on the **Effects Module** and will pop-up on the console VGA screen.

See the following page for more information on the *Artisan* fader screen.

Pressing **TB** sends the talkback mic to any **Mix Minus** output associated with the source. Press the button momentarily to lock on, or hold it down for Push-to-talk.
The **IN** button will, by default, swap between the current and previously selected sources, but can also be programmed to select a default source.

Each fader has an illuminated **ON** push button for that channel. This is a toggle switch and is illuminated when the channel is on.
The **ON** button can have GPI remote control of sources, if configured in your **Audio Engine**. The button color is programmable via software.

Moving the **FADER** up or down will increase or decrease respectively the level of the assigned source. Fader range is from infinity to +10dB.
When the fader level has been changed by recalling a snapshot, the current level will be displayed to the right of the **S8** indicator. Moving the fader will not alter the level until the fader passes through that value.

MTK-FADER (Fader Module) – Screens

The **Fader Module** has an LCD color screen shared between two faders. Illustrated below is the section for a single fader. The *Artisan* is also supplied with *vChange*, a software tool which allows the fader screen to be replicated onto a PC screen for larger display.

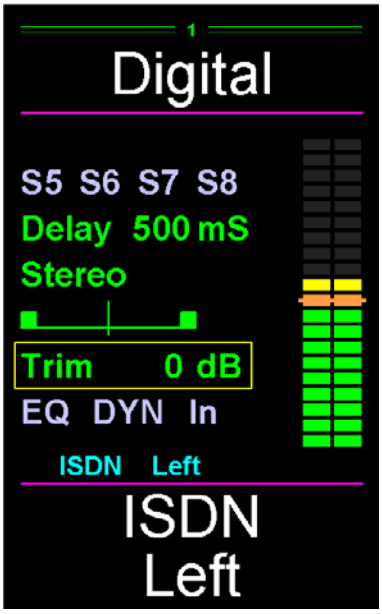


Figure 13 - Function Screen

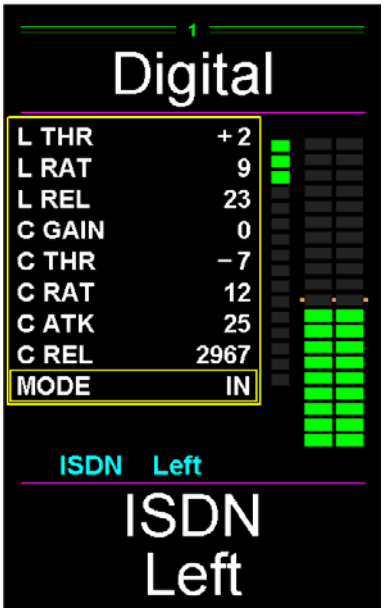


Figure 14 - Dynamics Screen

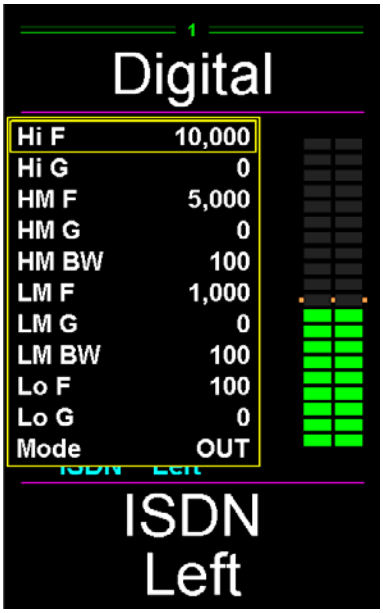


Figure 12 - EQ Screen

Fader Number

Faders are numbered from left to right starting at `1`.

Alias / Label

An **Alias** can be assigned to a source device and will be displayed on any fader that has that source as an input. A **Label** can be written to a specific fader from a **Trigger**. Both can only be a maximum of 8 characters on the **Surface** and are displayed at the top section of the **Fader Screen**. An **Alias** can be 16-characters in length in *vScreen*, but only the first 8 characters display on the Surface.

➥ *See the CommandBuilder manual for more information on Aliases and Labels.*

Input Meter

Input level meters are provided for each fader by default (from the **SA-DSP** card). This meter can be configured to be either pre-fader or post-fader. Post-fader is set by turning on `BUS20` for that fader. This setting can be set in the **Init Trigger** or changed as required in other **Triggers**.

Gain Reduction Meter

A gain reduction meter is provided for each fader. This meter only appears when **Dynamics** is turned on, and shows the amount of gain reduction being applied by the compressor and limiter.

S5, S6, S7, S8

S5 to **S8** are additional **Sub-master** mix busses. To assign or de-assign a fader to **Sub-master** 5-8, move the **SELECT** stick to highlight the appropriate mix bus, and then rotate the stick to toggle the assignment on and off.

Delay

Use the **SELECT** stick to toggle to the **Delay** menu selection and rotate the encoder to adjust the delay time. Delay of up to 0.5 seconds is available, in 10ms increments.

Mode

Move the **SELECT** stick to highlight the input mode. Then turn the stick to move between the options of; **STEREO**, **MONO**, **BLEND**, **PHASE**, **LL**, **RR**, **Lx** and **xR**. The mode is changed as you make the selection. Press down on the stick to accept and exit the menu. This function may not be enabled on certain inputs, depending on your **Audio Engine** configuration.

Pan / Blend Balance

After highlighting the **PAN** function, turn the **SELECT** stick to move the balance left or right by turning the stick counter-clockwise or clockwise. In **STEREO** or **MONO** mode, the source is panned as you turn the stick. In **BLEND** mode the emphasis between the two mono sources is adjusted. Press down on the stick to accept and exit the menu. This function may not be enabled on certain inputs, depending on your **Audio Engine** configuration

Trim

After highlighting the **TRIM** function, turn the **SELECT** stick to move the **TRIM** between **-60 dB** and **+20 dB** by turning the stick counter-clockwise or clockwise. The trim level is adjusted as you turn the stick. Press down on the stick to accept and exit the menu. This function may not be enabled on certain inputs, depending on your **Audio Engine** configuration.

EQ

To edit the **EQ** settings for an input, move the **SELECT** stick to select the **EQ** function. Turn the stick to toggle between **EQ** in and out. Press down on the stick to bring up the **EQ** settings menu. Move the stick to select a parameter, and then turn the stick to adjust. The parameters are:

Hi F	High Frequency	4,000	to	20,000	Hz
Hi G	High Gain	-18	to	+18	dB
HM F	High-mid Frequency	1,000	to	20,000	Hz
HM G	High-mid Gain	-18	to	+18	dB
HM BW	High-mid Bandwidth	10	to	4,000	Hz
LM F	Low-mid Frequency	30	to	8,000	Hz
LM G	Low-mid Gain	-18	to	+18	dB
LM BW	Low-mid Bandwidth	10	to	4,000	Hz

Lo F	Low frequency	30	to	1,000	Hz
Lo G	Low Gain	-18	to	+18	dB
Mode	In or Out				

Press down on the stick again to save and exit the menu.

🎧 TIP: EQ adjustments can be adjusted more easily on the **MTK-EFFECTS** module, if fitted. When you press the CNG button on a Fader module, it will be selected to the Effects module.

DYN

To edit the dynamics (limiter and compressor) settings for an input, use the **SELECT** stick to select the **DYN** function. Turn the stick to toggle between dynamics in and out. Press down on the stick to bring up the dynamics settings menu. Move the stick to select a parameter, and then turn the stick to adjust. The parameters are:

L THR	Limiter Threshold	-20	to	+20	dB
L RAT	Limiter Ratio	1	to	40	
L REL	Limiter Release Time	10	to	1000	mSec
C GAIN	Compressor Gain	0	to	21	dB
C THR	Compressor Threshold	-40	to	0	dB
C RAT	Compressor Ratio	1	to	40	
C ATK	Comp. Attack Time	5	to	68	mSec
C REL	Comp. Release Time	100	to	6000	mSec
Mode	In or Out				

Press down on the stick to save and exit the menu.

🎧 TIP: Dynamics adjustments can be adjusted more easily on the **MTK-EFFECTS** module, if fitted. When you press the CNG button on a Fader module, it will be selected to the Effects module.

IN

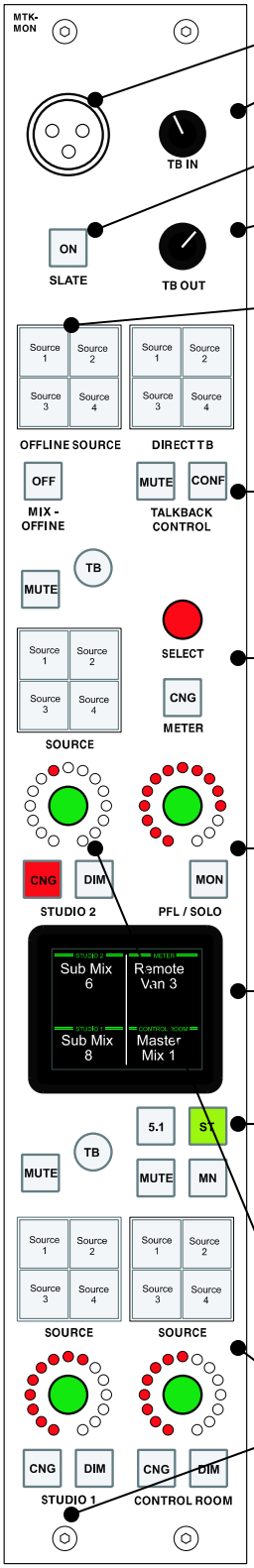
Use the **IN** function to select other sources that have been permitted for that fader. If only one source has been allowed for a fader, then no list will be available.

When not in **CNG** mode, simply turn the **SELECT** stick to scroll through the list of inputs. You can also reach the **IN** function by moving the stick to highlight **IN**, then pressing **TAKE**.

Once you have found the source that you wish to route to that fader, press the **SELECT** stick to accept the change. Press the **CNG** button to cancel the change.

Artisan Control Modules

MTK-MON (Monitor Module)



XLR jack for gooseneck **Talkback Mic**.

Use the **TB IN** knob to increase or decrease the level of **Talkback Return**.

The **SLATE** button sends the **Talkback Mic** to all **Master**, **Sub-master** and **Aux** busses for recording of slate audio.

Use the **TB OUT** knob to increase or decrease the **Talkback Mic** level.

Four **OFFLINE SOURCE** buttons allow quick access to commonly used sources to be sent to the **Mix Minus** outputs when the console is “offline”. Use the **MIX- OFFLINE** button below to toggle the **Mix Minus** outputs on or offline. This feature can also be GPI controlled from an on-air tally.

Four **DIRECT TB** buttons allow quick access to commonly used intercom destinations. Push-to-talk and Hold-lock are support. Press the **CONF** button to talk to all **DIRECT TB** destinations simultaneously. Press **MUTE** to toggle the **Talkback Mic** muting.

Turn the **SELECT** knob to select the source for the **Switched Meter**. Press the knob to take the source.
The **CNG** button enters/cancels the select menu.

Turn the **PFL/SOLO** knob to adjust the gain for **PFL** to the cue speaker. Toggle the **MON** button to switch **PFL** between the cue speaker and the **Control Room** monitors. When **PFL** is routed to monitors, gain is adjusted by the **Control Room** pot and not the **PFL/SOLO** pot.
Busses on **SOLO** are always routed to the **Control Room** monitors.

See the following page for more information on the *Artisan* monitor screen.

These four buttons control the operation of the **Control Room** monitors. Select either of **5.1** (Surround Sound), **Stereo**, **Mono** or **Mute**.

Studio 1, **Studio 2**, **Control Room** gain, source, talkback and control:
Use the knob to adjust the gain, indicated by the *Ring of Fire* LEDs.
Press **CNG**, then rotate the knob to select from available input sources.
Press **CNG** again to take the selected source.
Use the **DIM** buttons to toggle a pre-set reduction in monitoring level.
Four **SOURCE** buttons allow quick access to commonly used sources.
The **LCD** screen displays the current source and level for each output.
Use the **MUTE** buttons to mute the monitoring output.
Use the **TB** buttons as a push-to-talk to break talkback into each of the monitor outputs.

MTK-MON (Monitor Module) – Screen

The **Monitor Module** has an LCD color screen which displays sources for the **Studio 1**, **Studio 2**, **Switcher Meter** and **Control Room** sends. Pictured below is the screen showing various sources.

Figure 15 - MTK-MON Screen

For each input, the following information is displayed.

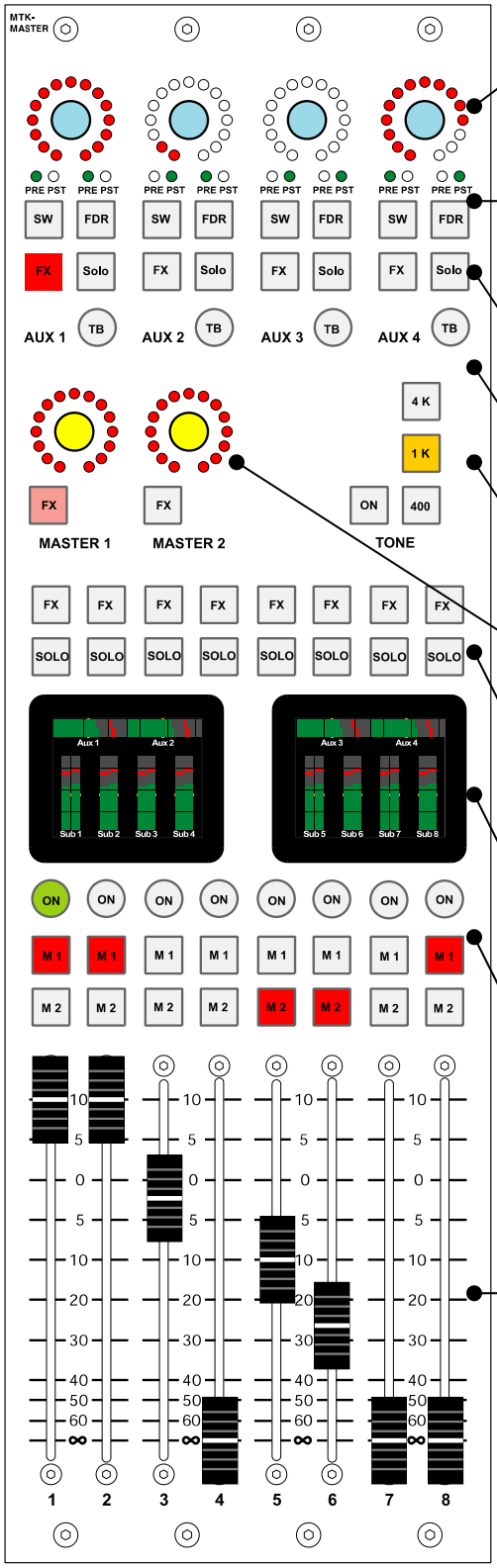
Current Source

This is displayed in large white text. The *Artisan* supports a 16-Character **Device Name**, shown as 2 lines of 8 characters.

Source List

When the gain/input knob is turned after **CNG** has been pressed, a box will appear to display the source list. Turn the knob to scroll through the list and press the **CNG** button again to accept the new source input.

MTK-MASTER (Master Module)



Aux bus master gain control for **Aux 1** through **Aux 4**. Level is indicated by *Ring of Fire* LEDs.

For each **Aux** bus, toggle the **SW** button to change between pre & post-switch (main on/off switch) **Aux** bus operation. Toggle the **FDR** button to change between pre & post-fader **Aux** bus operation. The green **PRE** & **PST** LEDs above each button indicate the currently selected mode.

Press **FX** to assign an **Aux** bus output to the **Effects** module for EQ and dynamics processing. Press **SOLO** to hear only that bus output on the **Control Room** monitor.

Press the **TB** button to talkback to an **Aux** output.

Select from 4K, 1K or 400 Hz tone at unity gain. Press **ON** to switch the tone to the **Master**, **Sub-master** and **Aux** bus outputs.

Master bus gain control. Level is indicated by *Ring of Fire* LEDs. Press **FX** to assign a **Master** bus output to the **Effects** module for EQ and dynamics processing.

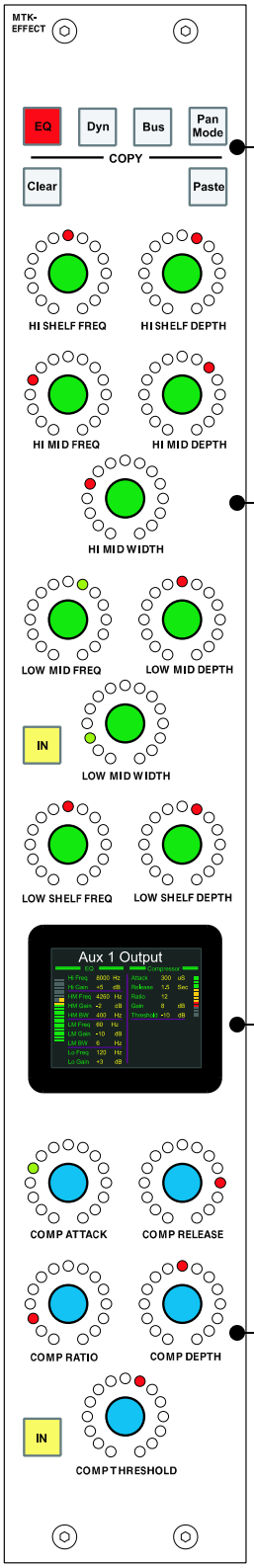
Press **FX** to assign a **Sub-master** bus output to the **Effects** module for EQ and dynamics processing. Press **SOLO** to hear only that bus output on the **Control Room** monitor.

Left screen shows **Sub 1-4**, **Aux 1 & 2** output meters. Right screen shows **Sub 5-8**, **Aux 3 & 4** output meters.

The **ON** button for **Sub-master** busses **1-8** determines the on/off state of the **Sub-master** direct outputs and the **Sub-master** sends to the **M1** & **M2 Master** busses. Toggle **M1** and **M2** to assign/de-assign the **Sub-master** to **Master** mix busses.

The eight faders control gain for each of the **Sub-master** mix busses.
Fader range is from infinity to +10dB.
When the fader level has been changed by recalling a snapshot, the current level will be displayed on screen. Moving the fader will not alter the level until the fader passes through that value.

MTK-EFFECTS (EQ and Dynamics Module)



Press the **EQ**, **Dyn**, **Bus** or **Pan Mode** buttons to store the type of settings for the input channel or mix bus currently assigned to the effects panel.
Press **Clear** to erase the stored contents.
Press **Paste** to copy all the stored settings to the input channel or mix bus currently assigned to the **Effects** module.

Adjustments for **Hi Shelf Frequency**, **Hi Shelf Depth**, **Hi Mid Frequency**, **Hi Mid Depth**, **Hi Mid Width**, **Low Mid Frequency**, **Low Mid Depth**, **Low Mid Width**, **Low Shelf Frequency**, **Low Shelf Depth**.
Press down on one of the ten equalizer knobs to toggle between coarse; fine; and ultra-fine adjustment for that setting. The *Ring of Fire* LEDs show red for coarse, green for fine, and yellow for ultra-fine control.
Press the **IN** button to switch equalization in or out for the signal path.

The full color LCD screen shows the current values for each of the **EQ** & **Compressor** parameters. The name of the input channel or output bus being adjusted is shown on the top line. An input meter and gain reduction meter is also shown.

Adjustments for **Compressor Attack Time**, **Compressor Release Time**, **Compressor Ratio**, **Compressor Depth**, **Compressor Threshold**.
Press down on one of the ten equalizer knobs to toggle between coarse; fine; and ultra-fine adjustment for that setting. The *Ring of Fire* LEDs show red for coarse, green for fine, and yellow for ultra-fine control.
Press the **IN** button to switch the compressor in or out for the signal path.

MTK-EFFECTS (EQ and Dynamics Module) – Screen

The **Effects Module** has an LCD color screen which displays the parameters being edited for the current fader or mix bus. Shown below is an example of the **Effects Module** changing **Fader 1**.

Figure 16 - MTK-EFFECTS Screen

The following information is displayed.

Current Source

The fader or bus being edited is displayed in large green text on the top line of the screen.

EQ Parameters

Parameters for the equalizer are shown on the left half of the screen. See the **MTK-FADER** module (page 26) for descriptions and ranges of each parameter.

Dynamics Parameters

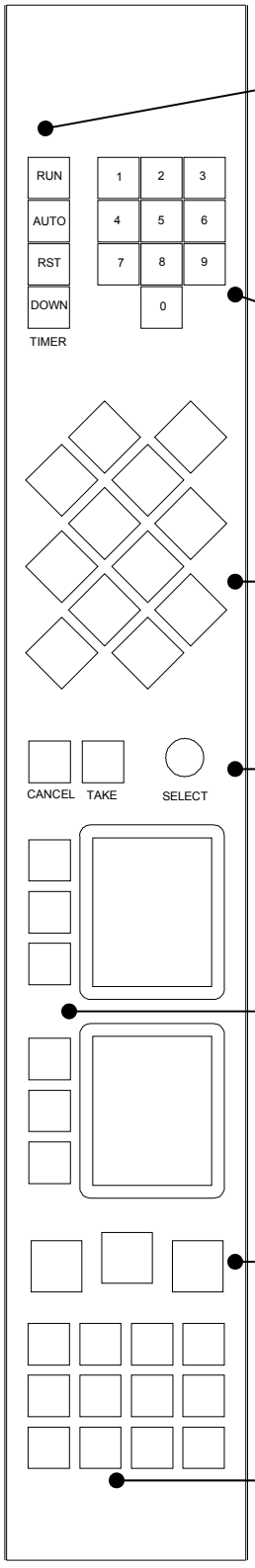
Parameters for the dynamics processor are shown on the right half of the screen. See the **MTK-FADER** module (page 27) for descriptions and ranges of each parameter.

TIP: Limiter parameters are shown on the MTK-EFFECTS screen, however there are no direct controls on this module. Limiter adjustments can be made via the MTK-FADER menu.

Fader Label

The **Device Name** for the fader being edited is show on the bottom of the screen as one line of 16 characters.

MLX-WSOFT (Wide Softkey Module)



These buttons control the timer display on the **Meter Bridge** or *vScreen*.
RUN is used to toggle the timer running.
AUTO mode will reset the timer each time an input is turned on (where that input is not set to ***Timer Disable*** in *AEConfig*).
RST will take the counter back to zero.
DOWN will enable the number keypad to enter a countdown time.

When the timer control is set to **DOWN** mode, use the numeric keypad to enter a countdown time. To enter a time, the timer must not be running, and must be in **DOWN** mode. Use the **RST** key to clear unwanted time entries.

The 12 diamond buttons are programmable in *CommandBuilder*. Their use will depend on your facility's requirements and setup. A common use for these buttons is to set console "scene" snapshot layout hotkeys. They may also be used to setup various console default settings. The lamps in the buttons support 16 brightness levels.

The **CANCEL** and **TAKE** buttons, along with the **SELECT** wheel, are used to make menu or route choices in conjunction with the two screens.

The two screens and six buttons are user programmable. A common use is to setup up to six "route select" functions for making record selections or feeding destination devices. In this case, each of the six buttons will bring up a source selection list for that device. Use the **SELECT** wheel to make a selection, and either **TAKE** to accept the source, or **CANCEL** to exit the menu. Examples of the menu display are shown on the following page.

These 3 Softkeys are programmable through *CommandBuilder*.
The lamps in the buttons support 16 brightness levels.

These 12 Softkeys are programmable through *CommandBuilder*. A common usage is as intercom buttons. The lamps in the buttons support 16 brightness levels.

➥ ***Refer to the CommandBuilder manual for information on programming functions.***

MLX-WSOFT (Wide Softkey Module) – Screens

The **Wide Softkey Module** has two LCD color screens, which are used to display user-defined text. Pictured below are the screens showing the **Route Select** function, which is programmed with the *CommandBuilder* scripting application.

Figure 17 - Route Select normal

Pictured are the screens showing the normal operation of the **Route Select** mode.

The text next to each button shows the currently routed source for that particular destination.

It is possible to use only one screen for **Route Selections**, and another for showing other text or menu selections.

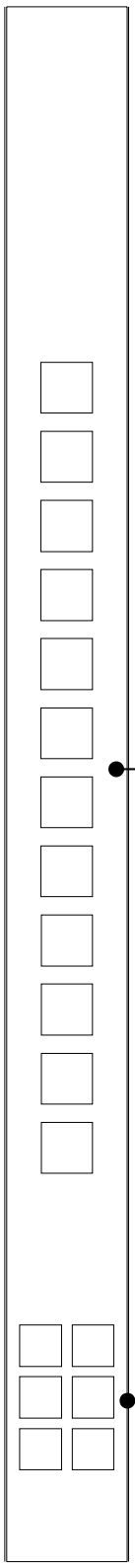
Figure 18 - Route Select choice list

To change a **Route Select**, press the button for the destination you wish to change. The lamp will light, and a list of sources will be displayed on the top screen. Use the **SELECT** wheel to make a selection, and **TAKE** to accept the choice. Use **CANCEL** to exit the menu without making a change.

When a route is made, the source name will be displayed next to the button.

To use the **Route Select** function, you will need to setup the appropriate outputs and allowed sources in *AEConfig*. You will then need **Route Select Triggers** programmed in *CommandBuilder*. The *CommandBuilder* manual includes examples of how to write these **Triggers**.

MLX-NSOFT (Narrow Softkey Module)



This module is totally configurable and has no default operation. It is programmed using **Triggers** in *CommandBuilder*. Refer to the *CommandBuilder* manual for more information on programming **Triggers** for these buttons.

These 12 keys are programmable through *CommandBuilder*. Possible uses include control and remote record start/stop & tally.
The lamps in the buttons support 16 brightness levels.

These 6 Softkeys are programmable through *CommandBuilder*. Possible uses include additional intercom buttons (eg for outside sources, orderwire lines, etc), or to show status information from external GPIs (eg program fail). The lamps in the buttons support 16 brightness levels.

Artisan Software

The *Artisan* **Surface** is designed to be used with a large wide-screen format PC to run **Logitek** software. The following applications work in conjunction with the **Surface** to enhance the user experience.

Figure 19 - vScreen, vChange & vSnapshot in operation

vScreen

vScreen is a suite of software applications that allow you to design and display custom interfaces for your **Logitek** system. The three programs included are:
vScreenDesigner, *vScreenPlayer* and *vScreenCombiner*.

vScreenDesigner provides an interface for designing screen layouts. A *vScreen* design may contain such things as meters, faders, buttons, text messages, date & time displays, countdown timers, and graphic images.

A common application of *vScreen* is to power a customisable meter bridge for the *Artisan* surface. You will receive a number of example layouts when you purchase *vScreen* with the *Artisan*.

vScreenPlayer is the application for displaying finished designs. *vScreenPlayer* runs on a Windows XP PC with a suitable screen mounted behind the *Artisan* console. The PC running *vScreenPlayer* communicates with the **Logitek Audio Engine** via an IP connection to the *Supervisor* PC.

vScreen can provide the background VGA display for a **Miranda** *Kaleido* video-wall, allowing metering from the *Artisan* to be shown as part of incoming and outgoing video monitoring.

Up to 10 different *vScreen* designs can be combined to provide different layouts for different programs or formats. These are combined using *vScreenCombiner*, and can be user-recalled in a variety of manners.

As the configuration and operation of *vScreen* will vary from station-to-station, it is not possible to cover all applications of the software in this manual.

➥ ***For more information on designing, configuring and using vScreen layouts, see the vScreen Reference Manual.***

vChange

vChange is a pop-up PC screen for use with the *Artisan* console surface. This provides a large format mimic of the color LCD screens.

vChange provides additional visibility of the LCD screens and is designed to pop-up only when a "change" is in progress. Therefore, *vChange* can sit in the background and will only appear when necessary. It automatically minimizes when a change operation is complete.

vChange is view-only – all fader changes and menu selections are made at the *Artisan*, and the changes are displayed in large format on *vChange*.

vChange is particularly useful when used in conjunction with the *Artisan* EQ & Dynamics functions. *vChange* provides EQ and dynamics curves to assist the user in making adjustments to processing.

🎧 TIP: *vChange* is designed to be used on the same screen/PC as the *vScreen* Meter Bridge for the *Artisan*. However, it can be run on a different PC or 2nd screen if desired.

➥ ***For more information on configuring vChange, see the vTools Reference Manual.***

vSnapshot

vSnapshot captures the entire profile of the surface at the time the ***CAPTURE*** button is pressed, prompting you to save a profile. By default, **MLX-WSOFT** diamond buttons 11 & 12 are used for ***CAPTURE*** & ***RECALL*** respectively.

TIP: You may change the buttons assigned to capture and recall using Triggers.

When you execute the ***CAPTURE*** function, all bus assignments, ON/OFF status, EQ and DYN parameters, etc. along with current fader levels are stored in a profile that you determine. When executed, you will be presented with a screen as shown below.

Figure 20 - vSnapshot

When a profile is recalled, the stored fader levels may be different to the current fader levels on the surface at the time of recall. The recalled level is displayed as a numeral above and to the right of the **S5 S6 S7 S8** line. The level of the physical fader on the surface is displayed to the left of the recalled value. The physical fader is inactive until it passes through the value set by the recall (when the two numbers match). Once this occurs, the two numbers representing the recalled and physical fader values disappear and the physical fader now resumes normal control of the fader level.

➥ *For more information on configuring vSnapshot, see the vTools Reference Manual.*

6 Maintenance

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

Warranty

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

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

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

Firmware Updates

Each module strip has a firmware chip that is field upgradeable. **Logitek Electronic Systems** or your value-added reseller may from time-to-time supply firmware updates to add new features or fix bugs. A list of firmware versions is contained in Appendix A.

Each module type has specific firmware that only runs on that module. When fitting updated firmware ROMs, take care to use the correct chip for that module. Firmware chips are labeled with the module code and version number.

A PLCC extractor tool is recommended for removing ROMs. Due to the physical layout of the *Artisan* modules, you may only be able to extract the ROM from one side at a time (depending on the size/profile of the extractor tool). Take care to not bend the pins of the chip when removing it.

Figure 21 - Fader Module underside

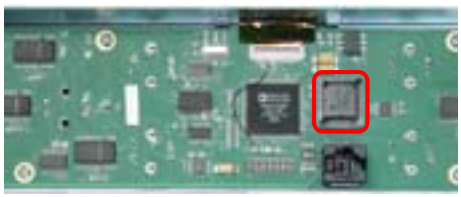


Figure 22 - Effects Module underside

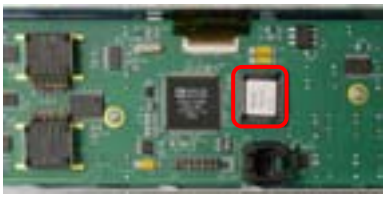


Figure 23 - Monitor Module underside

Figure 24 - Wide Softkey Module underside

Figure 25 - Narrow Softkey Module underside

Tools Required

- Hex/Allen Key –1/16″ and 3/32″
  (this tool is provided with each surface)
- PLCC Extractor tool

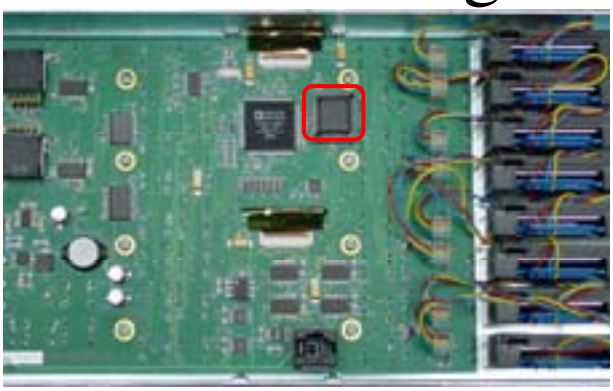


Figure 26 - Master Module underside

Procedure

It is not essential that the *Artisan* be completely powered off during a ROM upgrade, however, the individual module should be disconnected before removing the chip.

1. Remove the two, four or eight hex screws from the required module.
2. Carefully remove the module from the frame.
3. Disconnect the COM cable from the RJ-11 connector.
4. Use the PLCC extractor to carefully remove the existing ROM chip. Depending on the extractor used, you may only be able to use one side of the tool – if so, exercise caution so the pins are not bent.
5. Insert the new ROM chip ***by aligning the notched corner of the chip with the notched corner of the socket*** and gently pressing it in.
6. Reconnect the module COM cable.
7. Replace the module in the frame, and screw it back in.

> ⚠ Anti-static precautions should be taken when replacing firmware chips.
>
> In addition, care should be taken with the module components to ensure no damage is done.

In addition to the module strips, the **Power Supply Unit** and **Meter Bridge** also contain a ROM chip. The replacement procedure is the same, except for the panel removal.

- The **Power Supply Unit** ROM is accessed by removing the top lid of the box. To prevent damage and because this unit contains live mains, disconnect from mains before removing the lid.
- The **Meter Bridge** ROM is accessed by removing the rear panel of the bridge. Take care not to damage the screws when removing this panel.

Figure 28 - Meter Bridge inside

Figure 27 - PSU inside

Component Replacement

The *Artisan* spares kit contains commonly used physical components, including faders and switches, which can be replaced by station technicians.

➥ *See Appendix D for a full list of components in the Artisan Spares Kit.*

Fader Replacement

The *Artisan* uses a Penny & Giles digital fader of one of the following types:

Model No	PFG8110/D/U----/A	or	PGF3210/D/U/--A (metal shelled version)
Spec No	D468111	or	D25413

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

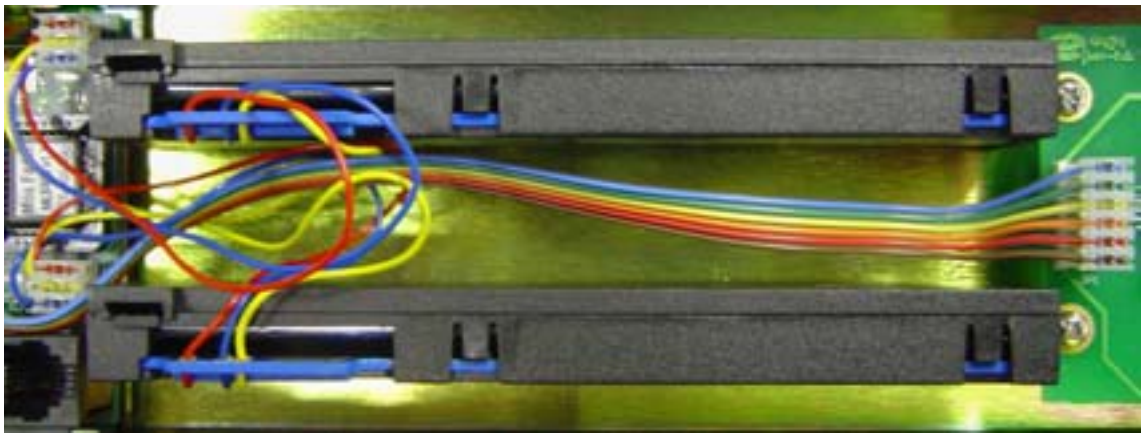


Figure 29 - Faders from underside of module

To replace a fader:

1. Remove the four hex screws from the required module.
2. Carefully remove the module from the frame.
3. Disconnect the fader from the main board.
4. Remove the slider cap.
5. Remove the two hex screws that mount the fader to the module.
6. Fit the replacement fader to the module using the two hew screws. Before tightening the screws, adjust the fader position so that the sliding bar is centered in the slot and does not rub against the module panel anywhere.
7. Replace the slider cap.
8. Reconnect the fader connector, ensuring the same polarity as the other fader on the module.
9. Replace the module in the frame, and screw it back in.

TIP: The above procedure also applies to faders on the **MTK-MASTER** module.

Module swap-out

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

Softkey Button LED Repair

The small *Artisan* buttons used for bus assignments and Softkeys contain an LED which can sometimes be subject to movement by the button shell. In some cases, the LED may become dislodged from the PCB below.

It is possible to conduct field repairs to re-solder the LEDs to the PCB. However, this requires removing the knob caps, screen connectors and boards. This procedure can be delicate and time consuming. Please contact **Logitek Electronic Systems** or your reseller for advice before conducting this procedure. In many cases it may be easier to arrange replacement modules or boards rather than attempt a field repair.

More Assistance

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

You can also post questions and review other users' experiences at the **Logitek** support forum. See www.logitekaudio.com and follow the links to Tech Support Forum.

Appendix A Release Notes

Upgrade Strategies

Upgrading firmware

To update firmware on the *Artisan*, follow the procedure in Chapter 6.

As at December 2006, *Artisan* updates do not break compatibility with previous versions, and special upgrade strategies are not required.

Current Versions

Following are the currently released firmware versions of the *Artisan* surface.

Module	Date	Version	Notes
MTK-420 (Fader)	December 2006	2.0	Artisan v2 Public Release
MTK-422 (Monitor)	December 2006	2.0	Artisan v2 Public Release
MTK-423 (Master)	December 2006	2.0	Artisan v2 Public Release
MTK-424 (Effects)	December 2006	2.0	Artisan v2 Public Release
MLX-407 (Wide Softkey)	November 2005	2.1	Artisan/Mosaic v2 Public Release
MLX-408 (Narr Softkey)	November 2005	2.1	Artisan/Mosaic v2 Public Release
MTK-410 (PSU)	December 2006	2.15	Artisan v2 Public Release
MLX-412 (Bridge)	November 2005	2.1	Artisan/Mosaic v2 Public Release

This table was last updated in December 2006.

Version History

The first public release of *Artisan* v2.x firmware was in December 2006.

The following release notes detail the additions and fixes to each module in the *Artisan*.

MTK-420 (Fader Module)

Version	Date	Notes
2.0	December 2006	v2.x Public Release

MTK-422 (Monitor Module)

Version	Date	Notes
2.0	December 2006	v2.x Public Release

MTK-423 (Master Module)

Version	Date	Notes
2.0	December 2006	v2.x Public Release

MTK-424 (Effects Module)

Version	Date	Notes
2.0	December 2006	v2.x Public Release

MTK-410 (Power Supply / Comms)

Version	Date	Notes
2.15	December 2006	v2.x Public Release

The following modules are also available for the *Mosaic* and contain the same firmware.

MLX-407 (Wide Softkey Module)

Version	Date	Notes
1.6	April 2005	v1.x Public Release
2.0	November 2005	v2.x Beta Release Added support for specified number of flashes in B1 flash command Timer control buttons are now also sent to Supervisor as AE commands
2.1	November 2005	v2.x Public Release

MLX-408 (Narrow Softkey Module)

Version	Date	Notes
1.4	March 2005	v1.x Public Release
2.0	November 2005	v2.x Beta Release Added support for specified number of flashes in B1 flash command
2.1	November 2005	v2.x Public Release Fixed issue with Intensity B1 command incorrectly turning on or flashing lamps

MLX-412 (Meter Bridge)

Version	Date	Notes
1.5	April 2005	v1.x Public Release
2.0	November 2005	v2.x Beta Release Added support for timer to be controlled from Supervisor with AE type 64 commands Added support for second timer Added support for small timer mode (no seconds oval) Locations for Timer, Clock, Meters and Delay time now settable with AE commands Added support for six horizontal meters on chan35-40 Improved seconds oval on clocks and timers Fixed bug in seconds oval when changing from down to up mode All 16 characters of source name are now shown in timer when in auto mode
2.1	November 2005	v2.x Public Release Restored default position of clock to screen 1 of Wide Meter Bridge Fixed problem where delay time display does not always update correctly Delay display is now erased after an Engine is reset (causing delay to be emptied) Fixed issue with timer running slow Fixes issue with components not erasing prior locations when moved to new location

Known Issues

The following issues have been reported and are under investigation.

Artisan v2.x

Module	Issue Description	Resolution / Workaround
MTK-420 (Fader)	Request – 5.1 input metering	Feature request in development
MTK-420 (Fader)	Request – set Default Route at module via IN button	Feature request in development
MTK-422 (Monitor)	Request – set Default Route at module via hotkey buttons	Feature request in development
MTK-422 (Monitor)	Request – display Switched Meter on LCD screen	Feature request in development
MTK-423 (Master)	Request – dim Sub-master M1 & M2 buttons when ON button inactive	Feature request in development
MTK-424 (Effects)	Request – 5.1 input metering	Feature request in development

This table was updated in December 2006.

Appendix B Specifications

Artisan Frames

MLX-F24 (24 slot frame)

Dimensions 34.0″ W x 18.4″ D (864 mm x 467 mm)

MLX-F32 (32 slot frame)

Dimensions 45.2″ W x 18.4″ D (1148 mm x 467 mm)

MLX-F42 (42 slot frame)

Dimensions 59.2″ W x 18.4″ D (1504 mm x 467 mm)

Artisan Modules

Fader Module (MTK-FADER)

Width 2 slots
No of faders 2
Features The Fader Module provides the following features:

- RGB-illuminated on/start button
- Penny & Giles® conductive plastic faders with soft rubber caps
- 2 dedicated Aux bus sends with gain control and Ring of Fire level indicator
- Direct assignment buttons for 2 Master and 4 Sub-Master busses, with menu access to a further 4 Sub-Master busses
- Dedicated controls for default/last input selection, talkback insertion and PFL bus
- LCD screen and two rotary controls allow access to the input router control, input mode control, input delay time, input trim level, pan/balance control, additional bus assigns, 4-band equalizer and dynamics processor
- Color LCD screen also displays input meters (stereo & 5.1) and a 16-character source name

Monitor Module (MTK-MON)

Width 2 slots
Features The Monitor Module provides the following features:

- In-built XLR jack for talkback microphone
- Gain controls for talkback in & out, two studio & control room monitor, plus cue speaker
- Four direct talkback locations with mute & conference control
- Talkback to studio monitor outputs
- Four source selection hotkey buttons for input routing for Offline Source, Studio 1 monitor, Studio 2 monitor and Control Room monitor
- Full input routing capability on Studio 1 monitor, Studio monitor, Control Room monitor & Switched Meter.
- Full color LCD screen displaying 16-character source names for monitoring destinations
- Ring of Fire LEDs indicate level for monitoring destinations

EQ & Dynamics Effects Module (MTK-EFFECTS)

Width 2 slots

Features The Effects Module provides the following features:

- Provides quick access to all EQ & dynamics controls for currently selected fader
- Controls for 4-band EQ with Ring of Fire LED indicators – low-shelf, high-shelf and two parametric sections
- Controls for compressor with Ring of Fire LED indicators
- In/out control for EQ & compressor
- Full color LCD screen displaying level meter, gain reduction meter and all parameters
- Copy & paste functionality
- Coarse/fine/ultra-fine adjustment

Master Module (MTK-MASTER)

Width 4 slots

No of faders 8

Features The Master Module provides the following features:

- Four Aux bus gain controls with Ring of Fire level indicator, pre/post-fader mode and pre/post-switch mode selection
- Talkback, solo and FX-select buttons for four Aux busses & eight Sub-master busses
- FX-select buttons for two Master busses
- Three-frequency tone generator control
- Two Master bus gain controls with Ring of Fire level indicator
- Penny & Giles® conductive plastic faders with soft rubber caps for 8 Sub-master busses
- Full color LCD screen displaying level meters for four Aux busses & 8 Sub-master busses
- Direct assignment buttons for Sub-master to two Master busses

Narrow Softkey Module (MLX-NSOFT)

Width 1 slot

Features The Narrow Softkey Module provides the following features:

- 12 programmable buttons with red illumination
- 6 programmable buttons with yellow illumination
- Solid illumination or three different flash speeds
- Each programmable button can be set to one of 16 brightness levels

Wide Softkey Module (MLX-WSOFT)

Width 2 slots

Features The Wide Softkey Module provides the following features:

- 15 programmable buttons with red backlighting
- 18 programmable buttons with yellow backlighting
- Solid illumination or three different flash speeds
- Each programmable button can be set to one of 16 brightness levels
- Timer controls
- Two full color LCD screens that display record router information as well as user text

Meter Bridges

vScreen Meter Bridge

Dimensions Flexible resolution & size – 20″ 1680x1050 flatscreen in widescreen landscape recommend
Requires Windows XP PC running **Logitek** *vScreen* software

Features The vScreen Meter Bridge provides the following features:

- Customizable meter displays showing up to 30 Fader Inputs, 4 Aux busses, 8 Sub-master busses; 2 Master busses and 1 switchable meter
- Supplied with 1680x1050 example layout (can be edited to suit other sizes)
- Option to interface to Miranda Kaleido to provide metering background for video monitor wall
- Up to 10 different screen layouts can be selected or remotely switched on one profile
- 40-LED stereo bar graph meter, tri-color LEDs simultaneously showing peak and VU levels

Narrow Meter Bridge (MLX-NARROW)

Dimensions 13″ W x 3.8″ H x 2.6″ D (330 mm x 97 mm x 66 mm)

Features The Narrow Meter Bridge provides the following features:

- 40-LED stereo bar graph meter, tri-color LEDs simultaneously showing peak and VU levels
- 16 character LED display shows meter source or programmable text
- Two full color backlit LCD screens can be user programmed to display auxiliary bus meters, clock, up/down timer, talk delay operation, user text or user graphics

Wide Meter Bridge (MLX-WIDE)

Dimensions 23.7″ W x 3.8″ H x 2.6″ D (602 mm x 97 mm x 66 mm)

Features The Wide Meter Bridge provides the following features:

- 40-LED stereo bar graph meter, tri-color LEDs simultaneously showing peak and VU levels
- 16 character LED display shows meter source or programmable text
- Six full color backlit LCD screens can be user programmed to display auxiliary bus meters, clock, up/down timer, talk delay operation, user text or user graphics

Artisan Power Supply

Dimensions 19″ W x 3.5″ H x 7″ D (483 mm x 89 mm x 178 mm)
Voltage 110 - 230 VAC, automatically selected
Frequency 50/60 Hz
Consumption 65 W
Connections 2 ports for connection to surface, 2 ports for GPI inputs and outputs, 1 RJ45 for Audio Engine
Interfaces Includes 25 switch closure inputs and 25 relay outputs

Appendix C Pinouts

To Audio Engine

Connection to the **Audio Engine** is via a RJ45 connector mounted on the rear of the **Power Supply Unit**. When connecting to an **AE-C6** Controller Card, straight through CAT5 cabling can be used.

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

GPIs

GPI connections are on 25-pair Centronics Telco cables. We recommend terminating GPIs to Krone style (or similar) termination blocks.

GPI Inputs

Pin	Connection	Pin	Connection
1	GPI In 1	**26**	Ground
2	GPI In 2	**27**	Ground
3	GPI In 3	**28**	Ground
4	GPI In 4	**29**	Ground
5	GPI In 5	**30**	Ground
6	GPI In 6	**31**	Ground
7	GPI In 7	**32**	Ground
8	GPI In 8	**33**	Ground
9	GPI In 9	**34**	Ground
10	GPI In 10	**35**	Ground
11	GPI In 11	**36**	Ground
12	GPI In 12	**37**	Ground
13	GPI In 13	**38**	Ground
14	GPI In 14	**39**	Ground
15	GPI In 15	**40**	Ground
16	GPI In 16	**41**	Ground
17	GPI In 17	**42**	Ground
18	GPI In 18	**43**	Ground
19	GPI In 19	**44**	Ground
20	GPI In 20	**45**	Ground
21	GPI In 21	**46**	Ground
22	GPI In 22	**47**	Ground
23	GPI In 23	**48**	Ground
24	GPI In 24	**49**	Ground
25	GPI In 25	**50**	Ground

GPI Outputs

Pin	Connection	Pin	Connection
1	GPI Out 1	**26**	GPI Out 1
2	GPI Out 2	**27**	GPI Out 2
3	GPI Out 3	**28**	GPI Out 3
4	GPI Out 4	**29**	GPI Out 4
5	GPI Out 5	**30**	GPI Out 5
6	GPI Out 6	**31**	GPI Out 6
7	GPI Out 7	**32**	GPI Out 7
8	GPI Out 8	**33**	GPI Out 8
9	GPI Out 9	**34**	GPI Out 9
10	GPI Out 10	**35**	GPI Out 10
11	GPI Out 11	**36**	GPI Out 11
12	GPI Out 12	**37**	GPI Out 12
13	GPI Out 13	**38**	GPI Out 13
14	GPI Out 14	**39**	GPI Out 14
15	GPI Out 15	**40**	GPI Out 15
16	GPI Out 16	**41**	GPI Out 16
17	GPI Out 17	**42**	GPI Out 17
18	GPI Out 18	**43**	GPI Out 18
19	GPI Out 19	**44**	GPI Out 19
20	GPI Out 20	**45**	GPI Out 20
21	GPI Out 21	**46**	GPI Out 21
22	GPI Out 22	**47**	GPI Out 22
23	GPI Out 23	**48**	GPI Out 23
24	GPI Out 24	**49**	GPI Out 24
25	GPI Out 25	**50**	GPI Out 25

To Surface

Connection from *Artisan* PSU to Surface is via two 25-pair cables. Generally, there is no need to make your own cables. However, the pinouts are shown for reference.

Surface A

Pin	Connection	Pin	Connection
1	TX 1	**26**	+24V
2	RX 1	**27**	Ground
3	TX 2	**28**	+24V
4	RX 2	**29**	Ground
5	TX 3	**30**	+24V
6	RX 3	**31**	Ground
7	TX 4	**32**	+24V
8	RX 4	**33**	Ground
9	TX 5	**34**	+24V
10	RX 5	**35**	Ground
11	TX 6	**36**	+24V
12	RX 6	**37**	Ground
13	TX 7	**38**	+24V
14	RX 7	**39**	Ground
15	TX 8	**40**	+24V
16	RX 8	**41**	Ground
17	TX 9	**42**	+24V
18	RX 9	**43**	Ground
19	TX 10	**44**	+24V
20	RX 10	**45**	Ground
21	TX 11	**46**	+24V
22	RX 11	**47**	Ground
23	TX 12	**48**	+24V
24	RX 12	**49**	Ground
25	Cue Spkr -	**50**	Cue Spkr +

Surface B

Pin	Connection	Pin	Connection
1	TX 13	**26**	+24V
2	RX 13	**27**	Ground
3	TX 14	**28**	+24V
4	RX 14	**29**	Ground
5	TX 15	**30**	+24V
6	RX 15	**31**	Ground
7	TX 16	**32**	+24V
8	RX 16	**33**	Ground
9	TX 17	**34**	+24V
10	RX 17	**35**	Ground
11	TX 18	**36**	+24V
12	RX 18	**37**	Ground
13	TX 19	**38**	+24V
14	RX 19	**39**	Ground
15	TX 20	**40**	+24V
16	RX 20	**41**	Ground
17	TX 21	**42**	+24V
18	RX 21	**43**	Ground
19	TX 22	**44**	+24V
20	RX 22	**45**	Ground
21	TX 23	**46**	+24V
22	RX 23	**47**	Ground
23	No connect	**48**	No connect
24	No connect	**49**	No connect
25	No connect	**50**	No connect

Appendix D Spares Kit

A spares kit is available from **Logitek Electronic Systems**.

This kit contains mechanical parts that may need to be replaced in the life of a console.

Contents

The *Artisan* spares kit contains the following:

- 1 x Talkback gain pot for MTX-MON module
- 2 x Large softkey module switch for MTK-MON, MLX-WSOFT & MLX-NSOFT modules
- 1 x Fader On/Off switch
- 1 x Small fader/softkey module switch
- 1 x Mechanical encoder for MTK-FADER & MTK-EFFECTS modules
- 1 x Mechanical joystick encoder for MTK-FADER module
- 1 x Penny & Giles fader

Appendix E Additional Protocol Commands

This section documents **Logitek Protocol** commands specific to the *Artisan* surface. These commands add additional support for functions such as meter bridge feature locations, timer controls and advanced feature sets.

The standard set of **Logitek Protocol** commands (such as channel on; channel off; input route; fader level; etc, is documented in the **Logitek Protocol Reference**.)

Artisan Busses

These **Bus** settings supplement/replace the standard busses available in the **Logitek** system. Please note the *Artisan* uses assignment **Busses** that differ from **Logitek** radio consoles.

Bus Assignments

BUS0	On/Off Switch	**BUS6**	Sub-master 3
BUS1	Master 1	**BUS9**	Sub-master 4
BUS2	PFL/CUE	**BUS10**	Sub-master 5
BUS3	Master 2	**BUS11**	Sub-master 6
BUS4	Sub-master 1	**BUS12**	Sub-master 7
BUS5	Sub-master 2	**BUS13**	Sub-master 8

TIP: **Aux Sends** are not controlled by **Bus Assignments** but can be externally controlled using the **Set Effects** command documented later in this appendix.

Fader Functions

BUS17 Channel On button lamp address

The above **Bus** is used to address *Artisan* **Color** or **Flash** commands to the fader ON button. The lamp state is not addressed by this command; instead it is tied to the channel's **BUS0** state.

BUS37 Select mode for "IN" button – OFF = last input / ON = default input
BUS38 Master 1 bus lock (ON = locked)
BUS39 Master 1 bus lock (ON = locked)
BUS40 Sub-master 1 bus lock (ON = locked)
BUS41 Sub-master 2 bus lock (ON = locked)
BUS42 Sub-master 3 bus lock (ON = locked)
BUS43 Sub-master 4 bus lock (ON = locked)
BUS44 Sub-master 5 bus lock (ON = locked)
BUS45 Sub-master 6 bus lock (ON = locked)
BUS46 Sub-master 7 bus lock (ON = locked)
BUS47 Sub-master 8 bus lock (ON = locked)

The above busses are used to set a lock on **Bus** assignment buttons on the *Artisan*. If the bus is on, the respective assignment button for that channel will not operate on the **Surface**.

These **Busses** could be set inside a **Trigger** to prevent an operator from changing assignments on certain faders. This is useful when network/clean feed mixes must be made, and you do not wish the console operator to override or accidentally change an assignment.

Monitor Devices

BUS16 Monitor Hotkey 1 (upper left)
BUS17 Monitor Hotkey 2 (upper right)
BUS18 Monitor Hotkey 3 (lower left)
BUS19 Monitor Hotkey 4 (lower right)

The above **Busses** are used to address the four hotkey buttons for the **Studio 1**, **Studio 2**, **Control Room** & **Offline Source** select buttons.

The standard **Device** numbers for *Artisan* monitoring is as follows.

DEVICE42 Studio 1 Monitor
DEVICE43 Studio 2 Monitor
DEVICE44 Control Room Monitor
DEVICE46 Offline Source

🎧 TIP: The **Monitor Hotkeys** can be programmed to perform actions inside **Triggers**, or assigned a source route via **ASM** commands in the **Init Trigger**. The latter is the recommend mode of operation – the required commands are detailed on the following pages.

Artisan Feature Commands

The following **Feature Commands** use the `AE` (**Set Effects**) command to change the function of certain *Artisan* features.

TIP: The following commands can be sent to the *Artisan* using *CommandBuilder's* ASM command. Some commands also have direct keyword support in *CommandBuilder*. See the *CommandBuilder Reference Manual* for more information.

To build a command, lookup each byte in order (sequence #) adjusting the values where applicable. To be a valid command, the number of bytes to follow must be correct. Where a default value is shown, this is for reference only and these byte values must still be set.

`<00>` denotes a byte in hex. All decimal values must be converted to hex.

Lamp Flash

Used to flash a lamp in Artisan buttons. (v1.x and later)

Seq	Byte	Description	Notes
1	<02>	Start byte	
2	<06>	Bytes to follow	
3	<B1>	Command = Flag	
4	<d#>	Device Number	Device Number of Lamp section of module
5	<b#>	Bus Number	Bus Number of Lamp (hex)
6	<06>	Type = Set Flash	
7	<dt>	Data = Flash Rate	<02> = Slow <03> = Medium <05> = Fast (do not use other values)
8	<dt>	Data = Flash Times	<00> to <FF> Number of times to flash (hex) <00> = continuous

The follow example will set a fast flash 255 times on a **Narrow Softkey** module on CHAN77:

```
02 06 B1 57 30 06 05 FF
```

TIP: Flash Times is supported only in *Artisan* v2.x firmware.

Lamp Intensity

Used to set the intensity of Artisan button lamps, without affecting lamp on/off state. (v1.x and later)

Seq	Byte	Description	Notes
1	<02>	Start byte	
2	<06>	Bytes to follow	
3	<B1>	Command = Flag	
4	<d#>	Device Number	Device Number of Lamp section of module
5	<b#>	Bus Number	Bus Number of Lamp (hex)
6	<07>	Type = Set Color/Bright	
7	<dt>	Data = Not Used	<00> for this command
8	<dt>	Data = Intensity	<00> to <0F>

The follow example will set maximum intensity on a **Narrow Softkey** module on CHAN77:

```
02 06 B1 57 30 07 00 0F
```

Lamp Color

Used to set the color of the lamps in Artisan Fader On button. (v2.x and later)

Seq	Byte	Description	Notes
1	<02>	Start byte	
2	<06>	Bytes to follow	
3	<B1>	Command = Flag	
4	<d#>	Device Number	Device Number of Lamp section of module
5	<b#>	Bus Number	Bus Number of Lamp (hex) <11> = Channel ON Button
6	<07>	Type = Set Color/Bright	
7	<dt>	Data = Red / Green	1st 4 bits = RED value (0 to F hex) 2nd 4 bits = GREEN value (0 to F hex)
8	<dt>	Data = Blue / Flash Rate	1st 4 bits = BLUE value (0 to F hex) 2nd 4 bits = FLASH rate (see below)

Flash Rate	Notes
0 = Default	Restores default lamp function (ie lamp is illuminated if that is the current fader state)
2 = Slow	On/off cycle = 1 second
3 = Medium	On/off cycle = 0.5 second
5 = Fast	On/off cycle = 0.25 second

The follow example will set the Fader 1 button to maximum RGB values and fast flash:

```
02 06 B1 0B 11 07 FF F3
```

TIP: This command format has changed from v1.x firmware, to support the FLASH rate. The new format has 4 bits for RGB colors (0 to F) followed by the flash rate.

TIP: This command allows the lamp to flash, even if the channel is off. This is useful for EOM or ready indicators. On reset to no flash, the lamp returns to its correct state.

Set Default Route

Used to set the default route for the IN / LAST buttons and Monitor Hotkeys. (v2.0 and later)

Seq	Byte	Description	Notes
1	<02>	Start byte	
2	<06>	Bytes to follow	
3	<AE>	Command = Set Effect	
4	<d#>	Device Number	Device Number in hex (eg Fader number, St 1, St 2, Control Room, Offline Source)
5	<3E>	Type = Default Route	
6	<b#>	Bus Number	<01> = LAST / IN button <10> to <13> = Monitor Hotkeys (16-19 decimal)
7	<sh>	Source High	Source Device high byte
8	<sl>	Source Low	Source Device low byte

The follow example will set the default route for the IN button on Port 1 Fader 1 (**Device** OB) to **Source Device** 0100:

```
02 06 AE 0B 3E 01 01 00
```

TIP: BUS37 must be turned ON for this device to enable the IN button to function as the default route selector. If BUS37 is OFF, the IN button will operate in "swap" mode.

The follow example will set the default route for the **Control Room** monitor hotkey 1 (top left) button on Port 1 (**Device** 44) to **Source Device** 0100:

```
02 06 AE 44 3E 10 01 00
```

TIP: **Source Device** numbers can be found in *AEConfig's* ***Input Settings*** page, or the **Device Table** of *Supervisor's* ***Engine State Vector*** page.

Set Aux Bus

Used to control the two Aux Bus sends on a fader module. (v2.0 and later)

Seq	Byte	Description	Notes
1	<02>	Start byte	
2	<04>	Bytes to follow	
3	<AE>	Command = Set Effect	
4	<d#>	Device Number	Fader Device Number in hex
5	<ty>	Type Byte	<33> = Aux Send A (top) <34> = Aux Send B (bottom)
6	<dt>	Data Byte = Aux Bus	<00> = Off <01> to <04> = Aux1 to Aux4 Bus

The following example will set **Fader 1** to send to **Aux 2** via the bottom (B) **Aux Send** control:

```
02 04 AE 0B 34 02
```

Timer Control

Used to control the Artisan timer displays. (v2.0 and later)

Seq	Byte	Description	Notes
1	<02>	Start byte	
2	<06> <15>	Bytes to follow Bytes to follow	<06> bytes for Timer Command <15> bytes for Timer Reset (includes ASCII text label)
3	<AE>	Command = Set Effect	
4	<d#>	Device Number	Device Number of Meter Bridge in hex (53 = Port 1)
5	<40>	Type = Timer Control	
6	<t#>	Timer Number	<01> = Timer 1 <02> = Timer 2
7	<cm>	Command Byte	See table below
8	<dt>	Data Byte / ASCII Byte 1	See table below
9-23	<dt>	ASCII Data Bytes 2-16	For Command <03> and <04>, bytes 8-23 are the 16 character device name printed inside the timer as 2 x8 character strings. For other Commands, these bytes are omitted.

Command Byte	Data Byte
<01> = Run	<00> = Stop <01> = Run
<02> = Auto Reset	<00> = Off <01> = On
<03> = Fader Reset	16 character source name (only works in Auto Mode)
<04> = Manual Reset	16 character source name (working in Auto & Manual modes)
<05> = Direction	<00> = Up <01> = Down
<06> = Keypad Digit	0 to 9 for each keypad digit – 1 command per digit press

The follow example will set Timer #1 into run mode:

```
02 06 AE 53 40 01 01 01
```

Clear Meter Bridge LCD Screen

Used to clear an LCD screen on the Meter Bridge. (v2.0 and later)

Seq	Byte	Description	Notes
1	<02>	Start byte	
2	<04>	Bytes to follow	
3	<AE>	Command = Set Effect	
4	<d#>	Device Number	Device Number of Meter Bridge in hex (53 = Port 1)
5	<32>	Type = Clear LCD	
6	<dt>	Data Byte = LCD #	<01> to <06> = LCD screen number, from left to right

This is used where it is necessary to clear all text & graphics from a **Meter Bridge** LCD screen.

The following example will clear **LCD #1** on an *Artisan* **Wide Meter Bridge**:

```
02 04 AE 53 32 01
```

Surface Configuration – Clock Control & Position

Used to control the position and settings of the Artisan time-of-day clock. (v2.0 and later)

Seq	Byte	Description	Notes
1	<02>	Start byte	
2	<09>	Bytes to follow	
3	<AE>	Command = Set Effect	
4	<d#>	Device Number	Device Number of Meter Bridge in hex (53 = Port 1)
5	<41>	Type = Surface Config	
6	<0B>	Command = Set Clock	
7	<dt>	Data Byte = Mode	<00> = Off <01> = On (default = 01)
8	<dt>	Data Byte = Type	<00> = Big <01> = Small (default = 00)
9	<dt>	Data Byte = X Pos	<00> to <FF> = Left edge of first digit, in pixels (default = 21h / 33d)
10	<dt>	Data Byte = Y Pos	<00> to <FF> = Bottom edge of first digit, in pixels (default = 50h / 80d)
11	<dt>	Data Byte = LCD #	<01> to <06> = LCD screen number, from left to right (default = 01)

The following example will put the *Artisan* clock in its default position on LCD screen #1:

```
02 09 AE 53 41 0B 01 00 21 50 01
```

TIP: The *Artisan* clock should be addressed to CHAN73 LINE15, and then positioned using the command above. If the clock data is sent to another line, the clock will display as a standard text clock as per *Numix* and *Remora* surfaces.

Surface Configuration – Timer Control & Position

Used to control the position and settings of the Artisan timers. (v2.0 and later)

Seq	Byte	Description	Notes
1	<02>	Start byte	
2	<09>	Bytes to follow	
3	<AE>	Command = Set Effect	
4	<d#>	Device Number	Device Number of Meter Bridge in hex (53 = Port 1)
5	<41>	Type = Surface Config	
6	<cm>	Command = Timer No.	<15> = Timer 1 Control <16> = Timer 2 Control
7	<dt>	Data Byte = Mode	<00> = Off <01> = On (default = 01)
8	<dt>	Data Byte = Type	<00> = Big <01> = Small (default = 00)
9	<dt>	Data Byte = X Pos	<00> to <FF> = Left edge of first digit, in pixels (default = 21h / 33d)
10	<dt>	Data Byte = Y Pos	<00> to <FF> = Bottom edge of first digit, in pixels (default = 50h / 80d)
11	<dt>	Data Byte = LCD #	<01> to <06> = LCD screen number, from left to right (default = 05)

The following example will enable Timer #1 in big mode in its default position on LCD screen #5.

```
02 09 AE 53 41 15 01 00 21 50 05
```

Surface Configuration – COM Port Setup

Used to set the map of COM ports to device numbers. (v2.0 and later)

Seq	Byte	Description	Notes
1	<02>	Start byte	
2	<06> <07>	Bytes to follow Bytes to follow	<06> bytes when sending to one COM Port (default scenario) <07> bytes when also duplicating to a second COM Port
3	<AE>	Command = Set Effect	
4	<d#>	Device Number	Lowest numbered device assigned to COM Port
5	<41>	Type = Surface Config	
6	<AA>	Command = Set COM	
7	<dt>	Data Byte = COM Port	<01> to <17> = COM Port Number in hex (1-23 decimal)
8	<dt>	Data Byte = Devices	<00> to <0F> = Number of Devices on this port (1-15 decimal) <02> = Fader, Wide Softkey & Narrow Softkey modules require 2 Devices <02> = Meter Bridge on Artisan requires 2 Devices <08> = Meter Bridge on Mosaic requires 8 Devices <08> = Monitor Module requires 8 Devices <0F> = Master Module on Artisan requires 15 Devices
9	<dt>	Data Byte = COM Port (Duplicate Port)	<01> to <17> = COM Port Number in hex (1-23 decimal) This is an optional 2nd COM Port to duplicate the data to.

This is used where it is necessary to remap the default COM Port to device allocations.

The following example will set **Com Port 1** to use two **Device Numbers**, starting at `0B`:

```
02 06 AE 0B 41 AA 01 02
```

The following example will set **Com Port 21** to use eight **Device Numbers**, starting at `23`, and copy data to **Com Port 11**.

```
02 07 AE 23 41 AA 15 08 11
```

TIP: After issuing a **COM Port** mapping change, it is recommended you do a power cycle reset on the Artisan surface.

TIP: Copying data to a duplicate port can be useful on large systems where **MLX-WSOFT** and **MLX-NSOFT** modules need to share **Device Numbers** with other modules.

Surface Configuration – Reset to Defaults

Used to set the Artisan functions to their default locations. (v2.0 and later)

Seq	Byte	Description	Notes
1	<02>	Start byte	
2	<05>	Bytes to follow	
3	<AE>	Command = Set Effect	
4	<d#>	Device Number	Any device number on surface (suggest using Fader 1)
5	<41>	Type = Surface Config	
6	<55>	Command Byte	<55> = Defaults
7	<01>	Data Byte = Set Defaults	<01> = Set Defaults

The following example will set the *Artisan* features to default locations and clear feature locations from non-volatile memory:

```
02 05 AE 2C 41 55 01
```

TIP: After issuing this command, a power-cycle reset is required. This command should not be left in **Init Triggers** or **Surface Reset Triggers**. It is designed to be used once only when a NV-RAM clear is required.