

logic control

Hardware

User's Manual

>> Version 2.0, November 2002

>> English Edition

Logic control

Declaration of Conformity

Product Name: Logic Control, Logic Control XT

Responsible Party: Mackie Designs Inc.
16220 Wood-Red Road NE
Woodinville, WA 98072
USA

The importer hereby declares that the above mentioned product complies with Part 15 of FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

Caution

Unauthorized changes or modifications to this system can void the users authority to operate this equipment.

Note

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Canadian Notice

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

AVIS Canadien

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

EG Konformitätserklärung/ EC Declaration of Conformity

Produkt/Product: Logic Control, Logic Control XT

Hersteller/Manufacturer: Mackie Designs Inc.
16220 Wood-Red Road NE
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Der Importeur bestätigt, dass das oben genannte Produkt mit den folgenden EG-Richtlinien zur Angleichung der Rechtsvorschriften der Mitgliedstaaten übereinstimmt:

The importer hereby declares that the above mentioned product is in conformity with the requirements of the European Council Directives on the approximation of the laws of the Member States relating to:

Low Voltage Directive: 73/23/EEC

Zur Beurteilung hinsichtlich der Gerätesicherheit wurde der Europäische Standard EN 60950:1997/IEC 950 angewendet.

Conformity is based upon compliance of the product with the European Safety Standard EN 60950:1997/IEC 950 and includes all European country deviations

Electromagnetic Compatibility Directive: 89/336/EEC as it pertains to information technology equipment

Zur Beurteilung hinsichtlich der Elektromagnetischen Verträglichkeit wurden die folgenden harmonisierten Vorschriften angewendet:

Conformity is based upon compliance of the product with the following European Electromagnetic Standards:

- Electromagnetic Emissions: EN 55022 Class B
- Electromagnetic Immunity: EN 55024

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- BS EN55022 (1998) Class B, radio disturbance limits for information technology equipment (ITE)
- EN61000-3-2 (2001), harmonic emissions
- EN61000-3-3 (1995 W/A1 1998), voltage fluctuations and flicker emissions
- BS EN55024 (1998), Immunity standard series for ITE, according to basic standards below
 - EN61000-4-2 (1995), Electrostatic Discharge Immunity,
 - EN61000-4-3 (1997), RF Immunity to Radio Fields
 - EN61000-4-4 1995, Electrical Fast Transient Burst Immunity,
 - EN61000-4-5 (1995), surge immunity,
 - EN61000-4-6 (1996), conducted immunity,
 - EN61000-4-8 1994, magnetic immunity,
 - EN61000-4-11 (1994), voltage dips and interrupts immunity



Peter Watts
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1 Welcome ...

... and thank you for your purchase of the Emagic Logic Control.

This manual will introduce you to the concept and functionality of the Logic Control units, and how they integrate with Logic. Please read it thoroughly to make the most of your new controller(s).

 **IMPORTANT:** While all possible care has been taken with the compilation of this manual, there may be some omissions or changes to Logic that were not known at the time of writing. We ask that you consult the readme documentation and/or online help files which accompany your copy of Logic Platinum. These documents—if included—will detail any changes made to the program which may affect the operation of the Logic Control.

Descriptions of the functions that the Logic Control addresses are covered in the Logic reference manual. Please consult it, or the online help system, if you are unfamiliar with any of the terminology or Logic functions outlined in this manual.

 It should be noted that the Logic Control units can also be used with SoundDiver—Emagic's MIDI editor/librarian software. Please refer to the separate SoundDiver documentation for details on the integration of the Logic Control system with this program.

Using a mouse and computer keyboard to do things normally done on an analog mixer can be disconcerting. Clicking an onscreen fader or knob, and dragging the mouse to achieve a silky smooth fade or pan move is difficult, if not impossible, for many users.

Logic Control provides you with hands-on control of virtually all of Logic's real-time parameters. Move a fader and Logic's on-screen fader will move with it. Similarly, when you make a fader move on-screen, the Logic Control fader moves. Adjust EQ by turning one of Logic Control's **V-POT** knobs and Logic will update instantly. In fact, what used to take multiple mouse-

clicks and/or key presses can now be achieved with the push of a button, the turn of a knob or a quick fader movement.

You can use Logic Control to:

- control all transport functions
- adjust MIDI, audio instrument, bus, master and audio channel volume and pan levels
- control channel EQ parameters
- select and control all effect and audio instrument parameters
- select, solo, mute and arm tracks
- set and adjust send parameters
- remotely switch between screensets
- scrub MIDI and audio
- zoom in on individual tracks
- create, delete and move between markers, and much more.

The Logic Control XT expands on the number of tracks, parameters etc. that can be controlled with individual faders, knobs and switches. The XT units are basically identical to the channel strip section (fader, **V-POT** and LCD) of the Logic Control unit. You may add as many XT units as you wish to your Logic system, provided enough MIDI in and out ports are available.

All of your fader and **V-POT** moves can be recorded and will faithfully play back in real-time. As the Logic Control units are equipped with motorized faders, remote controlled buttons, knobs and LEDs, your automation data will be reflected on the Logic Control's surface instantly. This keeps you completely informed about all levels—for tracks, pan, parameters, EQs etc.

The feedback you receive on the 2 row, by 55 character LCD is so good, in fact, that you may find you rarely look at your computer monitor. This facility may also be particularly useful in situations where computer fan noise is an issue; a common problem for project studios not equipped with a vocal booth. This allows you to isolate, and remotely control, your Logic system while singing or performing acoustically in another room.

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For live use, the Logic Control units are ideal. The performing musician now need only take a laptop, equipped with suitable audio and MIDI interfaces (Emagic EMI 2I6 and MT4, for example), a keyboard and a Logic Control to a live event. The backlit LCD is ideal for darkened stage use. The largely metal construction, Penny and Giles™ faders and solid buttons and switches are built to withstand the rigors of touring.

Given that Logic's Track Automation facilities can be active, even when not in record mode, you can capture your "live" realtime changes for later recall. This ensures that you'll never again lose that "once-in-a-lifetime" performance—on stage or in the studio.

We have every confidence that the Logic Control system will provide you with many years of inspiration, fun, reliability and productivity.

Your Logic media production environment will never be the same!

Your EMAGIC Team

2 What's in the Box?

Your Logic Control/Logic Control XT box contains the following components:

- this manual
- a registration card
- an update CD

Please complete the registration card as soon as possible and send it to the Emagic distributor in your country or territory.


Once registered, you will have access to ...

- a regular update and support service via the Internet:
<http://www.emagic.de>, including the *Infoweb* online support database
- support via our Hotline:
In the USA: e-mail: support@emagicusa.com
phone: 1-530-477 1050
In Germany: e-mail: support@emagic.de
phone: +49- (0)41 01-4 95-1 10
- qualified service technicians, in the unlikely event that anything goes awry with your hardware. To this end, we ask that you keep all packaging for your Logic Control unit(s), just in case. The factory packaging was designed to protect your hardware during transit. Should you experience any technical difficulties that require repairs or servicing during the warranty period, please contact your local Emagic distributor for further information.

3 Getting Started

To make use of the Logic Control unit, you will require:

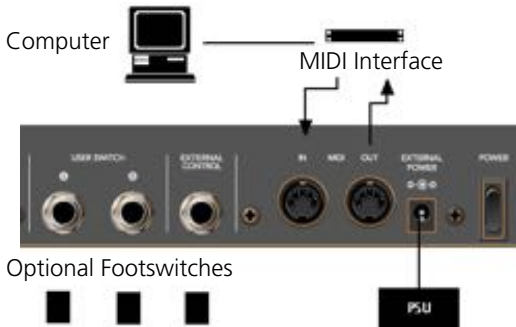
- an installed copy of Logic Platinum—Version 5.1 (or higher). See the included update CD. If you don't yet have a license of Logic 5 and the XSKey, please first purchase an update to Version 5.
- a free MIDI in *and* out port for *each* Logic Control or Logic Control XT unit, on any suitable MIDI interface, e. g. if using a Unitor 8 or AMT 8, which feature 8 MIDI in and 8 MIDI out ports, with one Logic Control and one Logic Control XT, you will need to use 2 of the Unitor8/AMT8's MIDI ins and 2 of its MIDI outs.

 A “suitable” MIDI interface features drivers which support SysEx communication. Please consult the documentation that shipped with your MIDI interface.

The number of units which can be run simultaneously is dependent on the availability of free MIDI in and out ports in your MIDI system. In a “standard” setup, a single Logic Control unit will be used alone, or accompanied by one or more Logic Control XT units. It is also possible to make use of several Logic Control and several XT units to create *Control Surface Groups*, as discussed in *Control Surface Groups* section, from page 20 onwards.

Connecting the Unit(s)

Connect your Logic Control and/or Logic Control XT units as shown in the diagram below.



As mentioned above, *each* Logic Control or Logic Control XT unit must have a discrete MIDI in *and* MIDI out connection. Do *not* “daisy-chain” other MIDI devices via MIDI THRU to the MIDI in or out ports used by the Logic Control units as this may result in data errors.

About the Power Supply Unit (PSU)


The PSU which came with your Logic Control unit is rated at 7.5V, 4.0 Amps, with a positive tip. Do not use any other power supply with the Logic Control units as this may result in permanent damage. Any attempt to use another power supply with either unit will automatically void your warranty.

Should you have a problem with the power supply unit, immediately disconnect it from the Logic Control and wall socket to avoid damage or electrical shock. There are no user-serviceable parts in the power supply unit (or the Logic Control units). If you have a problem with your Logic Control or power supply unit, please contact the local Emagic distributor in your region or territory.

Optional Footswitches and pedals

You may use optional foot switches to remotely control the start/stop and other functions of the Logic Control. This may be useful for guitarists or other two-handed playing. The foot switch sockets can use momentary foot pedals with either a positive or negative polarity. By default:

- **USER SWITCH A** is assigned to *Start/Stop*.
- **USER SWITCH B** is assigned to *Record*. (note that a track must be selected and armed for recording to take place)
- **EXTERNAL CONTROL** is assigned to the **MASTER** fader level. Only use an expression pedal with this socket.

 The polarity of the foot switches is determined by the Logic Control when powered up. Therefore it is useful to first connect the foot switches, then power up.

Power Up

Once everything is connected, press the power switch found to the rear left of your Logic Control and Logic Control XT units. Once powered, the displays will illuminate and the LCD will display a welcome message. Of note is the firmware version number found in the bottom right hand corner of the display. Each fader will slide to the top, and back to the bottom, of its travel. This self-diagnostic power-on procedure indicates that your Logic Control units are functioning correctly.

Your computer and MIDI interface can be powered up before or after the Logic Control units. Logic can be launched either before or after the units have completed initialization.

About Software and Firmware

The Logic Control and Logic Control XT units have no “intelligence” of their own. Their functionality is host software-based, making them *completely* reliant on Logic to tell them what to do/how to behave. What this means is that the Logic Control cannot perform any function that Logic itself cannot

Important!

do. It also means that if Logic is not booted, the Logic Control units will do nothing at all.

The plus side of this approach is that the units represent the ultimate in upgradable hardware. As new functions are added to Logic, Logic Control will also be able to access and control them.


The Logic Control units do, however, have a form of software called “firmware”. This firmware is much like the BIOS found in your computer. New “behaviors”—at a hardware level—such as an improved control of the fader servo motors and changes to the display can be made via firmware updates.

The firmware is stored on an EEPROM (Electrically Erasable Programmable Read Only Memory) chip. It can be updated via a simple MIDI dump procedure, in the form of a MIDI file.

Should new firmware become available, you can simply download the appropriate MIDI file and play it to your Logic Control unit(s), which will be updated accordingly. The steps required to perform a firmware update will be outlined in the readme file which accompanies the file. Please read this *before* attempting any update.


Quick Start

Once Logic is launched, any connected (and powered) Logic Control units will automatically be detected. The LCD above the **V-POTs** will indicate the tracks (shown from left to right) as they appear—from top to bottom—in the Arrange window Track List of your Autoload song. The two character *Mode Display* will display **Pn**, the *Position/Time Display* will display **! ! ! !**, assuming that your Autoload song starts at this position.

-  Please note that if running multiple units, the order of channels/tracks (from left to right) needs to be defined. The easiest way to do this is to launch Logic, and then switch on the units from left to right, with a delay of about 5 seconds between powering up each unit. This only

needs to be done once—and the setup will automatically be created in the right order. Once the setup is defined, the order in which you power up Logic or the Logic Control units doesn't matter.

Should your Autoload song have the *Cycle* mode enabled or *muted* objects etc., the corresponding LEDs on the Logic Control will be illuminated to reflect each track's current status.

 It should be noted that the default settings and displays indicated above may be slightly different on your unit. The reasons for any such differences include: Firmware changes, software changes made by Emagic and user changes, as discussed in the *Setup Window Parameters* section, from page 20 onwards.

If the auto-detection phase completed correctly, you're ready to go!

If not, see the following chapter for setup information. We strongly recommend that you read this chapter. It contains a number of additional topics pertaining to the set up of default behaviors for the Logic Control units.

If your setup is OK, and you're the type who would prefer to figure things out by playing with the front panel of the Logic Control, please skip ahead to the *View Modes* section on page 33.

Although the Logic Control is intuitive to use, this topic area will provide you with information on accessing parameters and functions that may not be apparent at first glance. Feel free to use it as a reference manual while experimenting.

4 Software/Hardware Setup

This section looks at the software options available in Logic for the detection of the Logic Control units. This section also covers a number of changes which can be made to customize the default behavior of the units.

Installation: The Setup Window

As mentioned above, any connected (and powered) Logic Control units will automatically be detected when Logic is launched. Logic is already prepared to support other hardware user interfaces which don't feature an automatic detection like Logic Control does, therefore you can add such additional units via the Setup window. This is accessed via the **Setup** option in the **Options > Control Surfaces** menu.

Installation is very easy: all you need to do is select the devices that Logic is to install, and Logic does the rest.

- To do so, select **New > Install**, and in the ensuing *Install* window, select the desired device from the list.
- Press the **Scan** (or **Add**) button. The selected unit(s) will appear onscreen as shown above.
- Optionally, you can also click *Scan all*. This will search for any user interface units on *all* MIDI ports. Please be aware that this may take a while.
- The *Scan* function, *Setup* window and *Install* window can all be accessed directly in the **Options > Control Surfaces** menu.

Installation: The Install Window



The Install window is where you can ask Logic to scan for devices, or where you can install them manually.

Selecting the Models


First, select the desired device(s) in the *Install* window before you scan or manually add them. You may select one or more models. If you select more than one model, Logic carries out the desired operation for each model in turn. Logic displays the icon of the selected device below the buttons.

What you can select:

- To select just one model, click its line and press *Scan* or *Add*.
- To select more than one model, simply press the *Scan All* button. Scanning all ports may take a little while.


Scanning

Click the *Scan* button to start the process. You can also double-click the name. Logic will then analyze your MIDI system, and will automatically install the devices it finds, inclusive of the correct connection settings.

-  This option is preferable to manual installation, as Logic is able to gather the maximum information about the devices, and human-error (incorrectly set MIDI parameters or connections) is avoided.

Scan All


If you don't want to select the models to be scanned manually, simply click this button. Logic will then scan for all supported models. This can take some time.

-  The *Scan All* function is also directly available via **Options > Control Surfaces > Scan**. This will automatically scan all MIDI ports for supported devices.



Manually Adding Devices to the Setup

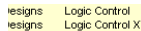
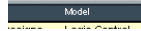
You can also manually add the selected devices to the Setup. In this scenario, you will then need to manually set their MIDI in and out port parameters.

To manually add the selected devices to the Setup, click the *Add* button.

-  If a device of the selected type already exists in the Setup, you will be asked whether or not you really want to add the new device. You will need to manually alter the MIDI in and out ports in the device parameters to match those of the connected unit.

Done

Once you have completed the scanning or installation of the devices, click *Done*. The window will close. You may also press  (Apple: .



Setup Window Parameters

Control Surface Groups

If you have multiple control surface units, you define how they relate to each other, and can build *Control Surface Groups*. A *Control Surface Group* is a number of Logic Control and Logic Control XT units which are combined to create a single, unified (and larger) control surface.

You can build up to 20 *Control Surface Groups*. Each “group” can consist of any number of physical units. The only limiting factor is the number of available MIDI in/out ports.

When multiple Logic Control XT and/or multiple Logic Control units are combined, you can define the *Control Surface Group* parameters, which reflect the current status of its proper-

ties. This is discussed in the *Control Surface Group Parameters* section on page 22.

- To build a *Control Surface Group* out of several units, simply arrange them in a single horizontal row by click-hold and dragging each icon to the desired onscreen location.
- To use two control surfaces independently, arrange them in separate rows—i. e. one above the other.

Example with two Logic Control, and three Logic Control XT units: Computer icon connected to two rows, as below:



The top row, consisting of Logic Control XT # 1, Logic Control XT #2 and Logic Control #1 form a single *Control Surface Group* with 24 channels. XT #1 controls channels 1 to 8, XT #2 controls channels 9 to 16, and Logic Control #1 handles channels 17 to 24.

Logic Control #2 and Logic Control XT #3 form a second *Control Surface Group*, displaying channels 1 to 8 and 9 to 16.

Each *Control Surface Group* has individual settings, such as flip mode, fader bank offset, plug-in parameter bank offset etc. This allows you to access, edit and automate different sections of Logic's mixer.

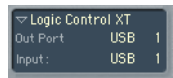
In our example, the three units in the top row could be used for control over audio tracks and MIDI channels. The two units in

the lower row could be used for buses and outputs, or could edit a plug-in. The physical placement of units, and the way you use them, is entirely up to you.

The placement of your XT units in relation to the Logic Control should be the same on-screen as in the real-world. Simply drag'n drop the desired icon horizontally in your *Control Surface Group* to do so.

Port Selection


Each Logic Control unit must be connected to an independent MIDI in and out port. The automatic setup or *Scan* procedure should have automatically found, and set, the correct MIDI in/out port settings for each unit.



In the event that the MIDI in or out port identification is incorrect, you can manually select the appropriate one for the Logic Control or XT unit. To do so, click-hold on the input and output flip menus, and select the desired port of your MIDI interface.

Control Surface Group Parameters

The following parameters are shown in the *Setup* window. They apply to the *Control Surface Group* which is associated to the selected device, and allow you to set them up to meet your needs. This ability is of great benefit when multiple *Control Surface Groups* have been created.

-  All *Control Surface Group* parameters can also be changed by operating the Logic Control. They are displayed in the Setup window for information purposes only.

Control Surface Group 1	
Flip Mode	Off
Display Mode	Name
Clock Display	Beats
Track View Mode	Track
Track View Fader Bank	0
Global View Fader Bank	0
Track Parameter	Pan
Sumound Parameter	Angle
EQ Band	1
EQ Parameter	Type
EQ Parameter Page	0
Send Slot	1
Send Parameter	Destination
Send Parameter Page	0
Insert Slot	1
Plug-In Parameter Page	0
Instrument Parameter Page	0
Track Name Format	Name
Parameter Page Shift Mode	by page
Relative Change Mode	Default

Any changes to settings in the *Setup* window are saved in a preferences file, which is independent of the Logic program preferences:

- “Logic Control Surfaces Prefs” in the Preferences folder of the System folder (Mac OS).
- “Logic Control Surfaces.PRF” in the “Control Surface Plug-Ins” folder (Windows).

Flip Mode

There are four “flip” or “swap” modes.

- **Off**—disables Flip mode, making the fader act as a volume control.
- **Duplicate**—makes both the fader and **V-POT** active for the currently selected **V-POT** parameter.
- **Swap**—swaps the fader and **V-POT**, making the fader e. g. a Pan control, and the **V-POT** a channel volume control.
- **Mute**—disables the faders. This is useful for situations where recording is taking place in the same room as the Logic Control, and you wish to avoid the mechanical noise of the faders. Any existing automation data will still function as per normal.

Display Mode

This parameter determines which information is shown in the LCD if there is not enough space for both.

- **Value**—displays the parameter value
- **Name**—displays the parameter name

Clock Display

- **Beats**—Forces the song position display to show Bars/Beats/Sub Division/Ticks
 - **SMPTE**—As above, but in Hours/Minutes/Seconds/Frames
- Please see the *Display Zone* section, from page 66 onwards.

Track View Mode

- **Track**—displays channels in their order of appearance in the Track Mixer window. Instruments used by multiple tracks are merged into one channel.
- **Global**—displays all objects of the selected type(s)—e. g. MIDI, Audio Bus channels etc.
- **Extended Track**—displays channels in their order of appearance in the Track List of the Arrange window.

Track/Global View Fader Bank

These parameters affect the *Global* and *Track View* modes by shifting the channels by the defined amount. To explain, imagine that you were looking at Audio tracks 1—8 in the Arrange window. These would appear as channels 1—8 in *Track View* mode on the Logic Control. Using the **Track View Fader Bank** parameter, you could offset this view by a defined number of channels, looking at Audio tracks 3—11, for example. The **Global View Fader Bank** parameter does the same thing, but offsets channels in *Global View mode*.

Track Parameter

Defines the current Track Assignment behavior for the **V-POT**. Options are:

- **Volume**—adjusts channel volume

- **Pan**—adjusts channel panorama
- **Mode**—adjusts/selects channel mode (mono/stereo)
- **Input**—adjusts/selects channel input source
- **Output**—adjusts/selects channel output (main outs/buses/surround)
- **Automation**—adjusts/selects channel automation mode

Surround Parameter

Defines the current Pan/Surround Assignment behavior for the **V-POTs**. Options are:

- **Angle**—adjusts surround angle
- **Diversity**—adjusts surround diversity (direction)
- **LFE**—alters LFE level
- **Mode**—switches between the various Surround formats

EQ Band

EQ Band allows bands **1—4** to be selected as the current band in *EQ Multi Channel View*. The EQ bands are accessed by pressing the **UP/DOWN CURSOR KEYS**.

EQ Parameter

Related to the selected band, defined by the **EQ Band** parameter. This determines the current EQ Assignment behavior for the **V-POT(s)** in *EQ Multi Channel View*:

- **Type**—determines the type of EQ (Parametric, Shelving etc.)
- **Frequency**—determines the frequency of the selected band
- **Gain**—changes the gain of the selected EQ band
- **Q**—changes the Q factor of the selected band
- **Bypass**—bypasses the selected EQ band

EQ Parameter Page

Defines the first EQ parameter displayed in *EQ Channel Strip View*. This is useful if a single Logic Control is used, and all 4 EQ bands are active on a channel. In this situation, 16 indi-

vidual EQ parameters are available, but only eight of them can be assigned across the **V-POTS**.

Send Slot

Determines the currently selected *Send* slot with the **V-POT(s)**. Normally, a value of **1** would be used, as this accesses the first (top) *Send* on each channel. A value of **2** accesses the second *Send*, and so on, up to the eighth *Send*. The Send slots are accessed by pressing the **UP/DOWN CURSOR** buttons.

Send Parameter

Defines the currently displayed **V-POT** *Send* parameter when in the *Send Multi Channel view*.

- **Destination**—**V-POT** is used to determine the Bus channel number for the Send slot.
- **Level**—**V-POT** is used to adjust the Send level
- **Position**—Sets Pre and Post fader modes
- **Mute**—Mutes/Unmutes the selected Send slot.

Send Parameter Page

Much like the EQ parameters described above, up to 32 parameters are available in *Send Channel Strip View* on a given channel (8 Send slots multiplied by the four parameters listed above).

Send Parameter Page determines the current page for these parameters. When multiple Sends are used on a single channel, their parameters are accessed by switching “pages” with the **LEFT/RIGHT CURSOR KEYS**.

Insert Slot

Determines the current value for the selection of a *Plug-In* slot with the **V-POT(s)** in *Plug-in Channel Strip View*. Normally, a value of **1** would be used, as this accesses the first (top) *plug-in* slot on each channel. A value of **2** accesses the second *plug-in* slot, and so on, up to the eighth slot. The Insert slots are accessed by pressing the **UP/DOWN CURSOR KEYS**.

Plug-In Parameter Page

Determines the current plug-in parameter page. The first parameter/value shown on the page is assigned to **V-POT 1**. The second value on the page to **V-POT 2**. a. s. o.

Instrument Parameter Page

Determines the current Audio Instrument parameter page. The first parameter/value shown on the page is assigned to **V-POT 1**. The second value on the page to **V-POT 2**. a. s. o.

Track Name Format

Changes the track name display to show the track name alone, or the track name, and its track number. As an example, a track named “Audio1” may actually be placed on track 12 in the Arrange window. When a value of **#:Name** is toggled, “Audio1” would be displayed as “12:Au1”.

Parameter Page Shift Mode

Defines whether the parameter is shifted by an entire “page” or by one parameter. “Pages” are discussed in *View Modes* section, from page 33 onwards.

Relative Change Mode

This determines the behavior of assignments with a relative value change mode (on the **V-POTs**).

- **Coarse**—the parameter can be adjusted in coarse steps. See *Relative control resolution* section on page 29.
- **Full**—the parameter value is set to its minimum if delta < 0. If greater than 0, it is set to the maximum.
- **Fine**—the value is incremented/decremented in fine steps—one tick/by one “unit”.

Coarse is the mode used by default.

Holding down the **⌘/ALT** button sets the **V-POTs** to **fine** mode. In this mode, the adjustable resolution is ignored, and the highest possible resolution is used instead. As an example,

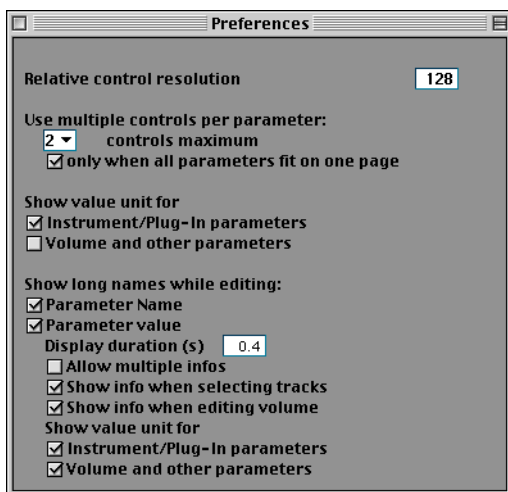
using the **Sample Delay** parameter: every **V-POT** rotation tick in/ decreases the value by 1 ms, no matter what the value of the resolution.

Full mode is enabled while holding down the **OPTION** button. This way, you can jump to the last track by pressing **OPTION** and **BANK RIGHT**, for example.



5 Preferences and Defaults

The **Options > Control Surfaces** menu contains the **Setup** and **Install** windows, and the **Scan** function, covered in the *Software/Hardware Setup* chapter, from page 18. The remaining menu options are: **Preferences** and **Rebuild Defaults**.



Relative control resolution

This defines the default resolution of controls which change values in a relative manner. See the *Relative Change Mode* section on page 27 for further details.

Default is 128 steps. As an example: adjusting the **Sample Delay** (value range 0 to 4000 ms) in/decreases the value by 40 ms with every **V-POT** rotation “tick”, if resolution is set to 100.

Use multiple controls per parameter:

These parameters determine whether one, or multiple, **V-POTs** are used per parameter when editing plug-ins or audio instruments.

When multiple **V-POTs** are used per parameter, the **V-POTs** are subdivided into groups (e. g. 1/2, 3/4, 5/6, 7/8). The first **V-POT** of

each sub-division controls the parameter shown in the display. The remaining **V-POT**(s) are inactive.

Using more than one **V-POT** per parameter shows fewer parameters at any given time, but you gain space on the LCD to cater for longer parameter names and values. The more Logic Control XTs you have, the more you benefit from this feature.

X controls maximum—This parameter defines the maximum number of **V-POTs** which will be used for a single parameter.

- **1**—parameters are always displayed using one **V-POT** per parameter, each with up to 6 characters for parameter name and value.
- **2**—on each unit, 4 parameters are assigned to **V-POTs** 1, 3, 5 and 7; each with up to 13 characters for parameter name and value.
- **4**—on each unit, 2 parameters are assigned to **V-POTs** 1 and 5; each with up to 27 characters for parameter name and value.
- **8**—on each unit, 1 parameter is assigned to **V-POT** 1, with up to 55 characters for parameter name and value.
- The default setting is “2”.

Only when all parameters fit on one page—When this option is checked, the defined number of **V-POTs** are only used when there are sufficient **V-POTs** available to show all parameters without changing pages. As an example:

- You have a Logic Control and two Logic Control XTs, providing you with 24 **V-POTs**.
- A plug-in with 13 parameters will be shown with one **V-POT** per parameter. Eleven **V-POTs** will remain unused.
- A plug-in with 11 parameters will be shown with two **V-POTs** per parameter. Two **V-POTs** will remain unused (and of course the inactive **V-POTs** of the abovementioned sub-divisions).

When the option is unchecked, multiple **V-POTs** are used for each parameter, which may require scrolling. This might not be the case if only one **V-POT** was used for each parameter.

Show value unit for

Allows you to adjust whether parameter values will be appended by the measurement “unit”, where applicable—e. g. “Hz” or “%”. You can set this option separately for **Instrument/Plug-in parameters** and **Volume and other parameters**

Show long names while editing:

- **Parameter Name**—While you edit a parameter, the upper LCD line displays the full parameter name, rather than an abbreviated form of it.
- **Parameter Value**—While you edit a parameter, the lower LCD line displays the full parameter value. If the according **Show value unit for** parameter box (see below) is checked, it will be appended by the measurement “unit”, where applicable—e. g. “dB”, “Hz” or “%”.

The following options only have an effect if at least one of the two parameters above is active.

- **Display duration(s)**—Use the mouse as a slider on the field to adjust the time (in seconds) that parameter names and values remain on the LCD display, following selection/adjustments.
- **Allow multiple infos**—This determines the behavior when you edit multiple parameters simultaneously. When *enabled*: the long name info remains in the display, until the most recently edited parameter’s display times out. This may cause overlapping text. When *disabled*: the long name display is only shown for the most recently edited parameter. This can cause flicker.
- **Show info when selecting tracks**—When this option is checked, and you select a track, you will see “Selected” in the upper row, and the selected track’s name in the lower row of the LCD. You can disable this feature, if you find it disconcerting.
- **Show info when editing volume**—When this option is checked, and you edit a track’s volume, you will see “Volume” in the upper row and the new volume value in the

lower row. You can disable this feature, if you find it disconcerting.

- **Show value unit for**— Same as equally named options above, but for display while editing. Again, you can set this option separately for **Instrument/Plug-in parameters** and **Volume and other parameters**

Rebuilding Defaults

The **Options > Control Surfaces > Rebuild Defaults** menu option rebuilds the factory default settings for all connected Logic Control unit(s). This is required if the internal assignment table has been changed.


6 View Modes

Before taking a look at the front panel of the Logic Control, we'd like to cover a simple—but very important—concept.

Logic Control works in three discrete *View* modes.

- *Track View*—layout like in the Track Mixer window (**Global** switch off).
- *Global View*—layout like in the Track Mixer window (**Global** switch on).
- *Extended Track View*—layout like in the Arrangement window.

These modes are mutually exclusive, so if you're in one *View* mode, you cannot be in the other.

 It is important to note that the *Track* vs. *Global View* modes is a property of the *Control Surface Group*, not a global setting. So one group can display the busses, while the other shows tracks, for example.


Switching View Modes

To toggle between *Track* and *Global View* modes, repeatedly press the **GLOBAL VIEW** button, located directly above the **MASTER** fader on the Logic Control.



Global View mode is indicated by the green LED to the right of the button. When deactivated, the Logic Control will instantly switch to *Track View* mode.


All faders, V-Pots, switches, LEDs and LCDs will update to reflect the current *View* mode. All settings of the *Track* and *Global View* modes are retained, so you can freely toggle between the two modes, and pick up from where you left off.

 However if one of the *Channel Strip View* modes was active, the *Logic Control* switches back to the corresponding *Multi Channel View* mode, as you most probably first want to select a different track.

Track View

Track View is the default mode of the Logic Control.

Track View is simply the view of all tracks, as they appear in the Arrange window's Track List, e. g.—Track 1 = Channel 1 on the Logic Control, Track 2 = Channel 2, a. s. o.

 It should be noted that if multiple tracks “point” to the same underlying object, then only the first track will be displayed. If you want to see all of them, select *Extended Track View*.

It does not matter if the tracks point to MIDI, Audio (this includes Buses etc.) or Audio Instrument objects, which exist in the Environment of the song. This allows you to make use of the Logic Control faders and **V-POTS** for *any* control task in Logic. This also extends to *Volume, Pan, Mute* and *Solo* control of external MIDI devices, as well as the parameters of the internal audio engine.

Global View

Global View limits the display to *all* Environment objects of a particular “*class*”, even if no corresponding tracks exist in the Arrange window. As an example, in an Environment that contains:

- 5 multi-timbral (16-channel) MIDI devices (i. e. 5 multi instrument objects)
- 64 Audio Tracks
- 16 Audio Instrument tracks
- 8 Buses
- 8 Inputs
- 8 Outputs

Global View gives you direct access to the **Volume, Pan, Mute** and **Solo** parameters of all 80 MIDI channels, 64 audio tracks etc. as outlined above.



Note the light gray legend which links the **GLOBAL VIEW** button to the eight buttons in the “Global View” zone of the Logic Control front panel.

Simply press the button which corresponds to the object “class” that you wish to view.

You can select multiple classes by clicking on multiple buttons simultaneously.

 The **OUTPUTS** button activates both output and master objects.

 The **USER** button is reserved for future Logic features.

The Track Mixer window’s contents automatically follows the **GLOBAL VIEW** button’s state and also sets the object filters according to the object classes activated in *Global View*. You can disable this behavior with menu item **View > Follow Control Surface**.

Extended Track View

Extended Track View is similar to *Track View*, with one exception: Namely, if multiple tracks play back via the same environment object, all of them will be displayed on separate channel strips. This is helpful when used in conjunction with the nudge commands, for example.

Extended Track View is engaged by pressing the **SHIFT** and **GLOBAL VIEW** buttons simultaneously. It is active as long as the **GLOBAL VIEW** button’s LED is blinking.

Folders

In *Track View* and *Extended Track View*, Logic Control always displays the track of a certain folder—by default those of the “root” folder, i. e. the top level folder.

Folder tracks use the instrument “Folder” which has no parameters at all. Therefore the **V-SELECT** is available for other purposes than setting track parameters. Pressing the **V-SELECT** of a folder track enters the folder.


Alternatively you can select the folder track with **SELECT** and enter the folder with the **ENTER** button.


You can leave a folder and return to the folder level above with the **CANCEL** button.

The following topics cover a couple of “viewing” options that work in all View modes.

Channel Views

The channels section (i. e. the channel strips) can be in two fundamental view “modes”—*Multi Channel* and *Channel Strip View*. Normally, switching between these modes only affects the **V-POTS**, with the other channel controls always remaining in *Multi Channel View*.

-  Please note that there are some exceptions to this: in special view modes, the faders and **SOLO** and **MUTE** buttons have alternate uses/meanings.
- *Multi Channel View*—shows one parameter for eight tracks (normally a section of the Track Mixer window). If your *Control Surface Group* consists of a Logic Control and additional Logic Control XTs, you will see more than eight tracks. The section can be shifted to the next/previous group of channels with the **FADER BANK** buttons.

 Please note that when in *Multi Channel view*: the display will automatically update when another **FADER BANK** is selected. Please read the *Fader Bank Zone* section on page 64.

- *Channel Strip View*—shows eight (or more) parameters of the selected track. The display will automatically update when another track is selected.

Switching between **Multi Channel** and **Channel Strip** views is achieved by pressing the **ASSIGNMENT** button whose LED flashes.

When pressing an **ASSIGNMENT** button which is not currently selected, the assignment mode changes, and the according *Multi Channel View* is activated. Exception: switching between *Instrument Edit View* and *Plug-in Edit View*.

Pages

Logic Platinum features 4 EQ bands per audio channel. Each EQ has four (4) parameters. It also offers (up to) 16 Buses. Many of Logic's plug-ins—effects and Audio Instruments—plus those of third-party manufacturers, feature dozens of parameters.

Every one of these parameters can be accessed by the Logic Control.

To give you an example of how this works, imagine a plug-in that contains, say, 16 parameters and you are using a single Logic Control.



Once you've switched to the appropriate "*Channel Strip Edit View*" of the plug-in you wish to adjust, you can directly affect parameters 1 to 8 by using **V-POTs** 1 to 8. You can then switch by a "page" to access parameters 9 to 16.

Simply press the **LEFT/RIGHT CURSOR** keys to step up/down to the next "page" of parameters.



The current/total number of pages (e.g. "Page 1/3") is displayed in the top right-hand corner of the LCD whenever

multiple “pages” are available—i. e. when parameter names are shown in the lower row.

-  To get to the first or last page, hold down **OPTION** while pressing the **LEFT/RIGHT CURSOR** key.
-  Switching by page is just the default. To switch by a single parameter, hold down **⌘/ALT** while pressing the appropriate cursor key.

Viewing by Name or Value

As a personal preference, or for practical reasons, you may wish to view parameters by their name, or by value. To toggle between the two *Display* formats—**Name** or **Value**—repeatedly press the **NAME/VALUE** button in the *Display* section of the Logic Control—just below the SMPTE/BEATS LEDs.



It should be noted that the **NAME/VALUE** button has a significant impact on the Multi Channel and Channel Strip views of the various *Assignment* modes. The use of the **NAME/VALUE** button in these view modes is covered throughout *The Assignment Zone* section, from page 46 onwards.

7 The Displays


Liquid Crystal Display (LCD)


The LCD is a 2 row × 55 character backlit display.

Below the display, you will see eight (8) “notched” areas which act as visual cues, making the separation of channels/parameters easier. These are numbered 1—8.

Short names

Each channel/parameter can be indicated by a name or value, up to 6 characters long, dependent on the currently selected *Display* mode. In general, the upper row of each channel/parameter will display the track name, and the lower row will display the parameter name and/or value.

 Note: 8-bit ASCII characters such as curly quotes and umlaut characters are replaced by the best-possible 7-bit ASCII equivalent, e. g. ä = ae, ö=oe, ü=ue, á = a, ø = oe, œ = oe, ß = ss, å = a.

 In case you don't like the way a track or instrument name is abbreviated, you can provide your own version, simply by appending it with a backslash (\). To get the track “My very long track name” displayed as “long” instead of “TrckNm”, the track name must be “My very long track name\long”.

Long names

In some modes, a long (i. e. full) parameter or other name will be displayed briefly on-screen, when adjusted. The display of long names, and the duration of this display, is set in the *Preferences*. These settings are discussed in the *Preferences and Defaults* section, from page 29 onwards.

Name vs. Value

To toggle between the two *Display* formats—Name or Value—repeatedly press the **NAME/VALUE** button in the *Display* section of the Logic Control—just below the SMPTE/BEATS LEDs.



The following is a brief overview of the effect the **NAME/VALUE** button has on the various display modes.

- *Multi Channel view*, display mode **Names**: upper line shows *track names*, lower line shows *parameter names*
- *Multi Channel view*, display mode **Values**: upper line shows *track names*, lower line shows *parameter values*
- *Channel Strip view*, display mode **Names**: upper line shows *view info*, lower line shows *parameter names*
- *Channel Strip view*, display mode **Values**: upper line shows *parameter names*, lower line shows *parameter values*

Assignment LED (Mode Display)

To the right of the LCD, you will find the two digit, seven-segment LED display which indicates the current *Assignment* status of the Logic Control. Throughout the manual we refer to this LED as the *Mode Display*.

The Assignment status is determined by the 6 buttons found in the light gray *Assignment* area directly below the *Mode Display*. We will discuss the use of these buttons, and the abbreviations shown in the LED, in *The Assignment Zone* section, from page 46 onwards.

Basically the display ends with a period whenever a *Channel Strip View* is active.

Song Position/SMPTE Time Display


The right-most display is a multi-digit, seven-segment LED. It is accompanied by two small LEDs to its immediate left, which provide a quick visual indication of the currently active display format: **SMPTE** or **BEATS**.

To toggle between the two *Time* formats, repeatedly press the **SMPTE/BEATS** button in the *Display* section at the top of the Logic Control—just below the SMPTE/BEATS LEDs.



When **BEATS** mode is selected, the *Position/Time Display* is divided into 4 segments, separated as follows:
Bars/Beats/Sub Divisions/Ticks

When **SMPTE** mode is selected, the *Position/Time Display* is divided into 4 segments, separated as follows:
Hours/Minutes/Seconds/Frames

 The display format can be viewed in a number of ways. This can be altered in Logic's *Display Preferences*.



Rude Solo LED


This LED indicates that either: an audio track is set to solo, or the track solo mode is enabled. It is a helpful visual aid in situations where a track has been soloed and the fader bank has been shifted—i. e. the soloed track's *Solo* LED is no longer visible.

8 The Control Surface



This chapter will introduce you to the front panel of the Logic Control. It is assumed that you are familiar with the basic use and terminology of Logic. As such, we will *not* cover the functionality and uses of the individual Logic parameters themselves. Please consult your Logic reference manual or online help files, if you require further information.

We strongly encourage you to press the buttons, turn the **V-POT** knobs etc. as you're reading through this chapter (not that you probably need much encouragement). This will help you to get a "feel" for how the Logic Control works, and how the various parts of the control surface interact with one another.

 Topics in this chapter are broken down into “Zones” of the Logic Control surface.

The Channel Strip(s)

As each channel strip is identical, the information discussed in this section applies equally to all eight channel strips on the Logic Control and Logic Control XT units.

V-POT/V-SELECT

This “soft” potentiometer can be used to adjust the send level and pan, plus any other parameter for EQ, instruments, effects etc. The **V-POT** can also be used to choose items—such as plug-ins, Audio Instruments and more—from scrollable lists, and to determine destinations for sends.



The **V-POT** also contains an integrated **V-SELECT** push button. This button generally sets a “default” parameter value (where a parameter has more than two possible values), or toggles between two parameter values (e.g on/off). The **V-SELECT** can also be used to activate a function, selected through use of the **V-POT**. As an example, the **V-POT** can be rotated in order to select an effect plug-in for a particular channel Insert slot. Once the desired effect is displayed in the LCD, a simple press downwards on the top of the **V-POT** will activate the **V-SELECT** switch. In the example given, this would select, and insert, the effect and launch the plug-in window. On occasion, the **V-SELECT** is used to switch to a special *Assignment* mode.

The current value of any parameter being adjusted by the **V-POT** is displayed on the LCD (dependent on the **NAME/VALUE** setting), and is also indicated by the ring of LEDs which surround it.



The various LED “ring” displays are shown above.

This will vary as follows, dependent on the selected parameter:

- Connected series of LED segments from left to right (e.g. send level)
- Single segment (e.g. panorama, frequency)
- Connected series of LED segments, starting in the center position and fanning to the left OR right (e.g. EQ gain)
- Series of connected LED segments, starting in the center position and fanning to the left AND right (e.g. Q-Factor)
- An LED dot *below* the **V-POT** indicates when the parameter value is in the centered/default position

Holding down the **⌘/ALT** button sets the **V-POTS** to high resolution parameter adjustment mode, where applicable.



Holding down the **OPTION** button toggles the **V-POT** between the minimum/maximum parameter value.




Rec/Rdy (Record/Ready) Switch

This switch arms or disables the channel for recording. Each channel features an independent *Rec/Rdy* LED which illuminates when a track is “armed” for recording.

Holding down the **OPTION** button, while pressing any **REC/RDY** button will disarm *all* tracks.



-  In *Global View*, if you arm an audio channel which is currently not used by any track in the song, and then start recording, you will be asked if you want to create a new track with this audio channel in the current recording folder.

Signal LED

Indicates the presence of any outgoing MIDI or audio signal. When recording, the presence of an incoming signal will be indicated.


Solo Switch

For isolating a channel’s signal. Each channel features an independent *Solo* LED which illuminates when a track is soloed.

The *Rude Solo* LED—just to the right of the *Position/Time Display* LED—also illuminates whenever any track is soloed.

Holding down the **OPTION** button, while pressing any **SOLO** button will disable solo for *all* tracks.




-  In the “Send Destination/Level” views (see the *Send Assignment Modes* section, from page 55 onwards), the SOLO button controls the Pre/Post mode selection—in both Multi Channel and Channel Strip views.

Mute Switch

Used to defeat the track’s signal. Each channel features an independent *Mute* LED which illuminates when a track is muted.

Holding down the **OPTION** button, while pressing any **MUTE** button will unmute *all* tracks.



-  In the “EQ Frequency/Gain” and “Send Destination/Level” views, the MUTE button controls the EQ bypass or Send mute function. This affects both Multi Channel and Channel Strip views.

Select Switch

This switch is used to select a channel for channel-based editing or assignment commands. Each channel features an independent SELECT LED which illuminates when a track is selected.

When holding down the **SHIFT** button, pressing any channel **SELECT** button will set the track’s volume to unity level (0 dB).

-  While holding down **SHIFT**, a **SELECT** button’s LED indicates if the track’s volume is set to 0 dB.

Touch-Sensitive Motor Fader

These 100mm faders are for controlling the channel’s levels. They transmit 1,024 discrete “steps” as a 10 Bit value, making their use very smooth. When **FLIP** is activated, the parameter currently assigned to the **V-POT** can be controlled with the fader.



This allows you to more easily control pans, aux returns, MIDI track parameters, EQs, Plug-in, Audio Instrument or other channel parameter levels/values. Please see *Flip Mode* section on page 23, for further information. The eight faders move relative to the activity of the currently chosen *Bank* of on-screen faders. The *Fader Bank* is shifted when one of the **FADER BANK** buttons is pressed.

Fader Behavior in Other Modes

- In *Flip mode*: duplicates or swaps with V-Pot of same channel.
- In *Surround Angle/Diversity View*: adjust surround diversity
- In *EQ Frequency/Gain View*: adjust gain of selected EQ band
- In *Send Destination/Level Multi Channel View*: adjust send level of selected send
- In *Send Destination/Level Channel Strip View*: adjust send level of send on selected track

The Assignment Zone

The small light gray area just below the *Mode Display* contains six buttons.

These **ASSIGNMENT** buttons work in both *Track* and *Global View* modes. View modes are discussed in *View Modes* section, from page 33 onwards.

When these buttons are pressed, the *Mode Display*, plus the LED associated with each button, will update to reflect the currently selected assignment “mode”. The LCD will also update to display the parameters relevant to the selected *Assignment*. These parameters, are, of course assigned to the corresponding **V-POTS**.

All **ASSIGNMENT** buttons work as toggle switches, which means that if you click them repeatedly, they will switch between the *Multi Channel* and *Channel Strip View* modes.



- *Multi Channel View*—you see the same parameter for multiple channels. In *Multi Channel View*, the *Mode Display* does not show a period—e. g. **P 1**
- *Channel Strip View*—you see multiple parameters for a single channel. In *Channel Strip View*, the *Mode Display* shows a period to the right—e. g. **P 1.**

Switching between Multi Channel and Channel Strip views is achieved by pressing the *selected* **ASSIGNMENT** button multiple times.

When pressing an **ASSIGNMENT** button which is not currently selected, the *Assignment* mode changes, and the view switches to *Multi Channel View*. Exception: switching between *Instrument Edit View* and *Plug-in Edit View* retains *Channel Strip View*.

The **NAME/VALUE** button also has an effect on what is shown on the LCD when in the Multi Channel and Channel Strip views. More information can be found in *Display Zone* section, from page 66 onwards.

Changing Parameters and Values



Individual parameters can be adjusted via the associated **V-POT** (or fader, if the **FLIP** button is active), located directly below the parameter entry in the LCD.

To do so, simply grab and turn the desired **V-POT**. Once the required parameter value is visible in the LCD, simply release the knob.

Press the **V-SELECT** button to set the default value (for parameters which have more than 2 values), or to toggle between two values for parameters with only two possibilities (e. g on/off).

Some parameters require that a “confirmation” be made, such as Plug-ins, Audio Instruments, Sends, Inputs and Outputs etc. For these types of parameters, press the **V-SELECT** switch (press down on the top of the **V-POT**) to activate/select the desired value. In the case of a plug-in or Audio Instrument, this will automatically launch the *Plug-In window* in Logic. For a Send,

the confirmed channel **Send destination** will be activated in Logic's Mixer(s).

-  When a value has been pre-selected, but not confirmed/instantiated (such as Send Destination, Plug-In insertion etc.) the value will flash until the **V-SELECT** switch is pressed.
-  An exponential increase in value changes will occur as a **V-POT** is rotated faster.

Track Assignment Modes

The **TRACK** button selects *Assignment* modes which allow the editing of a number of global track parameters. It toggles between all displayed channels and the individual parameters of the selected channel (*Track Multi Channel View* or *Track Channel Strip View*). The parameters in *Track Multi Channel View* include: **Volume, Pan, Track Mode, Track Input, Track Output** and **Automation**. In *Track Channel Strip View* however you get an overview of the most important track parameters: **Volume, Pan, Instrument, Insert 1, Insert 2, Send 1 Level, Send 2 Level** and **Send 3 Level**.

Multi Channel View

Track Multi Channel View allows you to edit a single “global” track parameter for all tracks: **Volume, Pan, Track Mode, Input, Output** or **Automation**. The parameter being edited will be displayed briefly when switching to this mode.

- The *Mode Display* will show **tr** (for “Track”).
The upper LCD row shows track names.

```
Audio1 Audio2 Audio3 Audio4 Audio5 Audio6 Audio7 Audio8
Volume Volume Volume Volume Volume Volume Volume Volume
```

By pressing **NAME/VALUE**, you can toggle the display mode and instead see the parameter values in the lower row:

```
Audio1 Audio2 Audio3 Audio4 Audio5 Audio6 Audio7 Audio8
+0.1dB -1.8dB +0.1dB -30.0 +0.0dB -50.2 -24.7 -1.2dB
```


As these display variants can be toggled in all *Multi Channel Strip Views* similarly, the following will only show displays in **Value** mode.

- Turning the **V-POTS** change the associated track parameter
- Pressing a **V-SELECT** sets the parameter to its default value
- **CURSOR LEFT/RIGHT** buttons switch to the next or previous track parameter. The selected parameter will be displayed briefly in the upper LCD row.



Channel Strip View

Track Channel Strip view allows you to edit all parameters listed above, for the selected track.

- The *Mode Display* will show **Tr.** (for “track channel strip”).
- The upper LCD row shows the name of the track and “Track parameters”.

```
Track 1 "Audio 1"                                Track parameters
Volume Pan      Inst    Ins.1  Ins.2  Send 1 Send 2 Send 3
```

By pressing **NAME/VALUE**, you can toggle the display mode and instead see the parameter names in the upper row and parameter values in the lower row:

```
Volume Pan      Inst    Ins.1  Ins.2  Send 1 Send 2 Send 3
+0.5dB 0        ES2     Dstrtn AutFit -54.0  -27.0  -∞ dB
```

As these display variants can be toggled in all *Channel Strip Views* similarly, the following will only show displays in **Value** mode.

- **V-POT/V-SELECT 1**—edits **Volume**. The lower LCD row shows the current track volumes, either in dB or numeric format, depending on the settings of the Environment objects.
- **V-POT/V-SELECT 2**—edits **Pan** position. The lower LCD row shows the current track pan value ranging from **-64** to **+63**. A value of **0** is the centered position. If **Surround** is selected as the **Output** value, this controls the **Surround Angle**.
- **V-POT 3**—selects the **Instrument** of Audio Instrument tracks. Confirm with **V-SELECT 3**.

- **V-POT/V-SELECT 4** and **5**—select the **Plug-in** of inserts 1 and 2 of Audio and Audio Instrument tracks. Confirm with **V-SELECT**.
- **V-POT/V-SELECT 6** to **8**—edit **Send Level** of Sends 1 to 3.

Shortcuts Menu

Holding down the **TRACK** button accesses a further sub-menu in the LCD.

Volume Pan TrkMod Input Output Auto Setup

- The Mode Display will show **₋** (for “Track_”)
- **V-SELECT 1** or **F1**—switches to *Track Multi Channel View* and selects **Volume**.
 - ❖ The LCD’s lower line shows the current volume of the tracks, in dB or numerically, depending on the Environment Objects’ setting in Logic.
 - ❖ Turning a **V-POT** changes the **volume**;
 - ❖ pressing a **V-SELECT** sets the **volume** to **Unity** (val **90/0.0dB**)
- **V-SELECT 2** or **F2**—switches to *Track Multi Channel View* and selects **Pan**.
- **V-SELECT 3** or **F3**—switches to *Track Multi Channel View* and selects **Track Mode**
- **V-SELECT 4** or **F4**—switches to *Track Multi Channel View* and selects **Input**
- **V-SELECT 5** or **F5**—switches to *Track Multi Channel View* and selects **Output**
- **V-SELECT 6** or **F6**—switches to *Track Multi Channel View* and selects **Automation Mode**
- **V-SELECT 8** or **F8**—switches to *Track Setup Channel Strip View* (see below).

Track Setup Channel Strip View

In this mode rarely used parameters can be edited for the selected track.

Track 1 "Audio 1"
EQ1TYP EQ2TYP EQ3TYP EQ4TYP ChMode ChIn ChOut Setup
Autmtn


- **V-POT 1 to 4**—edits **EQ Type** of EQ bands 1 to 4.
- **V-SELECT 1 to 4**—toggles **EQ Bypass** of EQ bands 1 to 4.
- **V-POT/V-SELECT 5**—edits **Track Mode** (mono, stereo, left, right).
- **V-POT/V-SELECT 6**—selects the **Track Input**. Confirm with **V-SELECT 6**.
- **V-POT/V-SELECT 7**—selects the **Track Output**. Confirm with **V-SELECT 7**.
- **V-POT/V-SELECT 8**—edits **Automation Mode**.

Pan/Surround Assignment Modes

Briefly pressing the **PAN/SURROUND** button toggles between *Pan/Surround Multi Channel* and *Pan/Surround Channel Strip View*.

Multi Channel View

Pan/Surround Multi Channel view allows you to edit one pan/surround parameter on all tracks: **Angle** or **pan** (on non-surround tracks), **Radius** (diversity), **LFE**, **surround mode** (on surround tracks). The parameter being edited will be displayed briefly when switching to this mode. Regardless of which surround parameter is selected and active, *non-surround* tracks always display the standard **Pan** editing control.

 In a song that has both surround and non-surround tracks, you can edit a specified surround parameter for surround tracks, while the **V-POT** of non-surround tracks will edit Panning, as usual.

- The *Mode Display* will show **Pn** (for “Pan”).
- The upper LCD row shows track names
- Turning the **V-POTs** changes the pan/surround parameter
- The **Surround Angle** parameter rotates between 0 and 359 degrees, avoiding any angle limit.
- Pressing a **V-SELECT** sets the parameter to its default value
- **CURSOR LEFT/RIGHT** switches to the next or previous surround parameter. The selected parameter will be displayed briefly in the upper LCD row.



Channel Strip View

Pan/Surround Channel Strip View allows you to edit all surround parameters for the selected track.

- The *Mode Display* will show **Pr** (for “Pan/Surround channel strip”).
- The upper LCD row shows the name of the track and “Pan/Surround”.

```
Track 1 "Audio 1"                               Pan/Surround
SrrAng SrrDvr SrrLFE Mode
```

- **V-POT/V-SELECT 1**—edits **angle** (or **pan** on non-surround tracks)
- **V-POT/V-SELECT 2**—edits **diversity**
- **V-POT/V-SELECT 3**—edits **LFE level**
- **V-POT 4**—selects the **surround mode**. Confirm with **V-SELECT 4**.

Alternate Mode Options

Holding down the **PAN/SURROUND** button accesses a further sub-menu in the LCD:

```
Angle  Radius LFE      Mode                CStrip      Ang/Dv
```

- **V-SELECT 1 or F1**—switches to *Pan/Surround Multi Channel View* and selects **angle**
- **V-SELECT 2 or F2**—switches to *Pan/Surround Multi Channel View* and selects **diversity**
- **V-SELECT 3 or F3**—switches to *Pan/Surround Multi Channel View* and selects **LFE level**
- **V-SELECT 4 or F4**—switches to *Pan/Surround Multi Channel View* and selects **surround mode**
- **V-SELECT 6 or F5**—switches to *Pan/Surround Channel Strip View*
- **V-SELECT 8 or F6**—switches to *Surround Angle/Diversity Multi Channel View*:
 - ❖ the *Mode Display* will show **Rd** (for “Angle/Diversity”)
 - ❖ the upper LCD row shows track names

- ❖ the lower LCD row shows the surround angle currently assigned to each track
- ❖ turning a **V-POT** changes the **surround angle** (or adjusts **pan position** on non-surround tracks)
- ❖ pressing a **V-SELECT** sets the **surround angle** to its default
- ❖ the faders edit surround **diversity**

EQ Assignment Modes

Briefly pressing the **EQ** button toggles between *EQ Multi Channel View* or *EQ Channel Strip View*.

Multi Channel View

EQ Multi Channel View allows you to edit one equalizer parameter for all tracks: **EQ type**, **Frequency**, **Gain**, **Q** or **EQ bypass**. The EQ “band” number, and parameter being edited will be displayed for one second when switching to this mode.

- The *Mode Display* will show **E 1** to **E 4**, dependent on the selected EQ band number.
- The upper LCD row shows track names
- Turning the **V-POTs** changes the EQ parameter
- Pressing a **V-SELECT** sets the parameter to its default value
- **CURSOR UP/DOWN** switches to the next or previous EQ *band*.
- **CURSOR LEFT/RIGHT** switches to the next or previous EQ *parameter*. The selected parameter will be displayed briefly in the upper LCD row.



Channel Strip View

EQ Channel Strip view allows you to edit all EQ parameters—in all bands—for the selected track.

- The *Mode Display* will show **E 9**. (for “EQ channel strip”).
- The upper LCD row shows the name of the track, “EQs”, the page number and total number of pages—e.g. “Page 1/2”.

```
Track 1 "Audio 1"           EQs           Page 1/2
EQ1Type EQ1Frcy EQ1Gn  EQ1 Q  EQ2Type EQ2Frcy EQ2Gn  EQ2 Q
```

- **V-POT 1**—edits the **EQ type** of odd-numbered EQs
- **V-SELECT 1**—edits the **EQ bypass** of odd-numbered EQs
- **V-POT/V-SELECT 2**—edits **frequency** of odd-numbered EQs
- **V-POT/V-SELECT 3**—edits **gain** of odd-numbered EQs
- **V-POT/V-SELECT 4**—edits **Q** of odd-numbered EQs
- **V-POT 5**—edits the **EQ type** of equally-numbered EQs
- **V-SELECT 5**—edits the **EQ bypass** of equally-numbered EQs
- **V-POT/V-SELECT 6**—edits **frequency** of equally-numbered EQs
- **V-POT/V-SELECT 7**—edits **gain** of equally-numbered EQs
- **V-POT/V-SELECT 8**—edits **Q** of equally-numbered EQs
- **CURSOR LEFT/RIGHT** switches to the next or previous EQ band. The number of EQ bands displayed on the LCD depends on the number of Logic Control (XT) units (two EQ “bands” per unit) available.





Alternate Mode Options

Holding down the **EQ** button accesses a further sub-menu in the LCD:

- The *Mode Display* shows **E₋** or **E₊**, dependent on whether you were in EQ Multi Channel or EQ Channel Strip view

Bypass Type Freq Gain Q CStrip Fr/GnM Fr/GnC

- **V-SELECT 1 or F1**—switches to *EQ Multi Channel View* and selects **EQ Type**
- **V-SELECT 2 or F2**—switches to *EQ Multi Channel View* and selects **Frequency**
- **V-SELECT 3 or F3**—switches to *EQ Multi Channel View* and selects **Mode**
- **V-SELECT 4 or F4**—switches to *EQ Multi Channel View* and selects **Q-Factor**
- **V-SELECT 5 or F5**—switches to *EQ Multi Channel View* and selects **Bypass**
- **V-SELECT 6 or F6**—switches to *EQ Channel Strip View*
- **V-SELECT 7 or F7**—switches to *Frequency/Gain Multi Channel View*. In this mode you can edit the **Frequency** and **Gain** parameters of a specific EQ band (1 to 4) for *all tracks*.

- ❖ the *Mode Display* will show **F 1** to **F 4**, depending on the selected EQ band
 - ❖ the upper LCD row shows track names
 - ❖ the lower LCD row shows the **Frequency** of the selected EQ
 - ❖ turning a **V-POT** changes **EQ Frequency**
 - ❖ pressing a **V-SELECT** sets the **EQ Frequency** to its default value
 - ❖ use the **MUTE** buttons to **Bypass** the EQ
 - ❖ use the faders adjust the **EQ Gain**
 - **V-SELECT 8 or F8**—switches to *Frequency/Gain Channel Strip View*. In this mode you can edit the **Frequency** and **Gain** parameters for all EQ bands of *the selected track*. Each pair of channel strips corresponds to one of the EQ bands.
 - ❖ the *Mode Display* will show **F 8**.
 - ❖ **V-POTs** 1, 3, 5 and 7 control EQ 1, 2, 3, 4 **Frequency**
 - ❖ **V-POTs** 2, 4, 6 and 8 control EQ 1, 2, 3, 4 **Q Factor**
 - ❖ **FADERS** 1/2, 3/4, 5/6 and 7/8 control EQ 1, 2, 3, 4 **Gain**
 - ❖ **MUTE** buttons 1/2, 3/4, 5/6 and 7/8 control EQ 1, 2, 3, 4 **Bypass**
-  Note that in this mode, the faders form a frequency response curve, if the EQ bands have ascending frequency values.
-  You can edit another track's EQs by simply selecting the track, without leaving this view mode.

Send Assignment Modes

Briefly pressing the **SEND** button toggles between *Send Multi Channel* or *Send Channel Strip View*.

Multi Channel View

Send Multi Channel view allows you to edit one *Send* parameter for all tracks: **Destination**, **Level**, **Position** and **Mute**. The *Send* “slot” number, and parameter being edited will be displayed for one second when switching to this mode.

- The *Mode Display* will show **5 I** to **5B**, depending on the selected *Send* “slot”.
- The upper LCD row shows track names
- Turning the **V-POTs** changes the *Send* parameter
- Pressing a **V-SELECT** confirms the pre-selected **Send Destination** and set the other send parameters to their default.
- **CURSOR UP/DOWN** switches to the next or previous *Send* “slot”.
- **CURSOR LEFT/RIGHT** switches to the next or previous *Send* parameter. The selected parameter will be displayed briefly in the upper LCD row.



 Tip: Ensure that the **ZOOM** button isn't active when using the **CURSOR** keys.

Channel Strip View

Send Channel Strip view allows you to edit all *Send* parameters for the selected track.

- The *Mode Display* will show **5E**. (for “Send channel strip”).
- The upper LCD row shows the name of the track, “Sends”, the page number and total number of pages—e.g. “Page 1/4”

```
Track 1 "Audio 1"           Sends           Page 1/2
Snd3Ds Send 3  Snd3Ps Snd3Mt Snd4Ds Send 4  Snd4Ps Snd4Mt
```

- **V-POT/V-SELECT 1**—edits **Destination** of odd-numbered *Sends*
- **V-POT/V-SELECT 2**—edits **Level** of odd-numbered *Sends*
- **V-POT/V-SELECT 3**—edits **Position (pre/post)** of odd-numbered *Sends*
- **V-POT/V-SELECT 4**—edits **Mute** of odd-numbered *Sends*
- **V-POT/V-SELECT 5**—edits **Destination** of even-numbered *Sends*
- **V-POT/V-SELECT 6**—edits **Level** of even-numbered *Sends*
- **V-POT/V-SELECT 7**—edits **Position (pre/post)** of even-numbered *Sends*
- **V-POT/V-SELECT 8**—edits **Mute** of even-numbered *Sends*

- With the horizontal Cursor buttons you shift pages. The number of *Sends* which are displayed simultaneously depends on the number of Logic Control XT's you have.



Alternate Edit Mode Options

Holding down the **SEND** button accesses a further sub-menu in the LCD:

- The *Mode Display* shows **5_** or **5_.**, depending on whether you were in *Send Multi Channel* or *Send Channel Strip View*

```
Dest   Pos   Level  Mute   CStrip CSt2   Ds/LvM Ds/LvC
```

- **V-SELECT 1** or **F1**—switches to *Send Multi Channel View* and selects **Destination**
- **V-SELECT 2** or **F2**—switches to *Send Multi Channel View* and selects **Send Level**
- **V-SELECT 3** or **F3**—switches to *Send Multi Channel View* and selects **Position**
- **V-SELECT 4** or **F4**—switches to *Send Multi Channel View* and selects **Mute**
- **V-SELECT 5** or **F5**—switches to *Send Channel Strip View*
- **V-SELECT 6** or **F6**—switches to *Send Channel Strip 2 View*:
This mode is similar to *Send Channel Strip View*, however the parameters are arranged in a different way. You can control one parameter of all *Send* “slots” for the selected track.
 - ❖ The *Mode Display* will show **5E.** (for “Send channel strip”).
 - ❖ The upper LCD row shows the name of the track, “Sends”, the page number and total number of pages—e. g. “Page 1/4”

```
Track 1 "Audio 1"           Sends           Page 1/2
Snd1Ds Snd2Ds Snd3Ds Snd4Ds Snd5Ds Snd6Ds Snd7Ds Snd7Ds
```

- ❖ **V-POT/V-SELECT 1** to **8**—edits the displayed parameter
- ❖ With the horizontal Cursor buttons you shift pages. The number of parameters which are displayed simultaneously depends on the number of Logic Control XT's you have.



- **V-SELECT 7 or F7**—switches to *Destination/Level Multi Channel View*:

In this mode you can control one *Send* “slot” for all tracks. Each channel strip corresponds to the track shown in the upper LCD row.

- ❖ the *Mode Display* will show **d l** to **dB**, depending on the selected *Send*
- ❖ the upper LCD row shows track names
- ❖ the lower LCD row shows the destination of the selected *Send*
- ❖ turning a **V-POT** pre-selects the **Send Destination**
- ❖ pressing a **V-SELECT** confirms the pre-selected **Send Destination**
- ❖ the **SOLO** buttons edit **Send Position**—**SOLO** LED on means “Pre Fader”
- ❖ the **MUTE** buttons edit **Send Mute**
- ❖ the faders edit **Send Level**

- **V-SELECT 8 or F8**—switches to *Destination/Level Channel Strip View*:

In this mode you can control all *Send* slots for the selected track. Each channel strip corresponds to the *Send* number embossed below the LCD.


- ❖ the *Mode Display* will show **dL**.
- ❖ turning a **V-POT** pre-selects the corresponding **Send Destination**
- ❖ pressing a **V-SELECT** confirms a preselected **Send Destination**
- ❖ the **SOLO** buttons edit **Send Position**—**SOLO** LED on means “Pre Fader”
- ❖ the **MUTE** buttons edit **Send Mute**
- ❖ the faders edit **Send Gain**

- ❗ If one or more *Sends* are activated on multiple channels, you can switch between them in the *Channel Strip Views* by simply pressing the **SELECT** button for the desired channel.




Plug-In Assignment Modes

Pressing **PLUG-IN** toggles between *Plug-in Multi Channel* or *Plug-in Channel Strip View*.

-  Please note that there is one exception to this behavior: if you are in *Instrument Edit View*, pressing this button switches to *Plug-in Edit View*.

Multi Channel View

This mode shows the plug-ins associated with a particular *Insert* “slot” for all channels.

- The *Mode Display* will show **P 1** to **P 8**, dependent upon the selected Plug-In *Insert* “slot” number. Note that if an Audio Instrument channel is selected, the display will show **P 1** to **P 7**.
 - The upper LCD row shows track names.
 - The lower LCD row shows the currently selected plug-in for this insert slot. Muted plug-ins are shown with an asterisk * which precedes the plug-in name.
 - Turning the **V-POTS** pre-selects a new plug-in. Until confirmed with the **V-SELECT**, the plug-in name flashes.
 - Turning another **V-POT** will cancel any previous pre-selection and will start pre-selection on the newly selected track.
 - Pressing a **V-SELECT**:
 - ❖ confirms/activates the pre-selected plug-in (assuming that you’ve made your pre-selection by turning the **V-POT**)
 - ❖ opens a plug-in editor window, if none are opened. If a plug in window *is* opened, and link mode is enabled, the selection of another plug-in will replace the existing plug-in shown.
 - ❖ switches to *Plug-in Edit View*
-  To remove a plug-in, pre-select the value of “-----” (by turning the **V-POT** all the way counterclockwise), and press the **V-SELECT** linked to the appropriate Insert slot. Logic Control will not switch to *Plug-In Edit view*, and no Plug-In window will be launched. If one was previously opened, it will be closed (if the “chain” icon is inactive).


- The **CURSOR UP/DOWN** buttons change the currently displayed Plug-in *Insert* slot (1 to 8)
- Pressing a **V-SELECT** while the **OPTION** button is held down will mute/unmute the plug-in



Channel Strip View

This mode shows the plug-ins associated with all *Insert* “slots” for the selected channel.

- The *Mode Display* will show **PL**.
- The upper LCD row shows **Ins1Pl** through **Ins8Pl**
- The lower LCD row shows the plug-in which is currently selected for this insert slot. Muted plug-ins are indicated by an asterisk *, which precedes the plug-in name.
- Turning the **V-POTS** pre-selects a new plug-in. Until activated, the plug-in name flashes.
- Turning another **V-POT** will cancel any previous pre-selection and will start pre-selection on the newly selected track.
- Pressing a **V-SELECT**:
 - ❖ activates the pre-selected plug-in (assuming that you’ve made your pre-selection by turning the **V-POT**)
 - ❖ opens a plug-in editor window if none are opened (if a plug-in window *is* opened, and link mode is enabled, the selection of another plug-in will replace the existing plug-in)
 - ❖ switches to *Plug-in Edit View*

 To remove a plug-in, pre-select the value of “-----” (by turning the **V-POT** all the way counterclockwise), and press the **V-SELECT** linked to the appropriate Insert slot. Logic Control will not switch to *Plug-In Edit view*, and no Plug-In window will be launched. If one was previously opened, it will be closed (if the “chain” icon is inactive).

- Pressing a **V-SELECT** while the **OPTION** button is held down will mute/unmute the plug-in



Plug-in Edit View

- The *Mode Display* will show **P 1** to **P8**, depending on the number of the selected Plug-In *Insert* “slot”.

- Dependent on the **NAME/VALUE** button, the LCD display will change in the following ways between the two modes:
 - ❖ **Name** The upper LCD row shows the track's name, insert number, plug-in name, current parameter page and total number of parameter pages.
The lower LCD row shows the name of the parameter which is edited via the **V-POT** below.
 - ❖ **Value** The upper LCD row shows the name of the parameter which is edited via the **V-POT** below.
The lower LCD row shows the current value of the parameter edited with the **V-POT**. If there is sufficient onscreen space, the unit type will be added—e.g. Hz.
- Turning the **V-POTS** changes the parameter
- Pressing a **V-SELECT** sets the parameter to its default value, except where the parameter only has two values (on/off, for example). In this case, pressing the **V-SELECT** toggles between these values.
- The **CURSOR LEFT/RIGHT** buttons switch to the next or previous parameter page.



Note that when shifting by a “page”, this always “quantizes” to integer pages. As an example:

- the plug-in has 19 parameters
- Logic Control shows parameters 1 to 8
- **CURSOR RIGHT** shifts to 9 to 16
- **CURSOR RIGHT** shifts to 12 to 19
- **CURSOR LEFT** shifts back to 9 to 16, not to 4 to 11


This way, you always revert to the page positions you expect to find, and are comfortable with.

- To switch by a single parameter, rather than by “page”, hold down the **⌘/ALT** key while pressing the **CURSOR LEFT/RIGHT** button.
- The **CURSOR UP/DOWN** buttons change the currently displayed Plug-in insert slot (1 to 8)




- ❏ N.B. If you have a Control Surface Group consisting of several physical units, the parameters are distributed across their displays. The number

of parameters shown is dependent on the settings in the *Preferences*, as discussed in the *Preferences and Defaults* section, from page 29 onwards.

-  When exiting *Plug-In Edit View*, the Plug-In window will be closed (if the “chain” icon is inactive).

Compatibility

Logic Control can edit all plug-ins which have automatable parameters. The plug-in type (built-in, TDM, VST, DirectX) is irrelevant.

-  DirectX supports automatable parameters since version 8. However it is not sufficient to install this version—the DirectX plug-ins must also support the new functions.



Some plug-ins however don’t provide parameter names and/or values as text. In this case the parameters are enumerated as “Control #1”, “Control #2” etc., and the values are displayed as numbers between 0 and 1000.

Some VST plug-ins don’t allow to retrieve the value range; in this case the range 0 to 1000 is assumed. This is disturbing with switches, as they can’t be toggled with **V-POTs** nor with **V-SELECTs**. In this case hold down **OPTION** and turn the **V-POT**.

Please contact the plug-in’s manufacturer in order to get a version which supports the mentioned features.

Instrument Assignment Modes


Pressing the **INSTRUMENT** button switches to “Instrument Multi Channel” view.

-  Please note that when in *Plug-In Edit view*, pressing the **INSTRUMENT** button will switch to *Instrument Edit View*.
-  If you can’t see the Audio Instrument channels, use the **BANK** or **CHANNEL** buttons in the **FADER BANKS** zone, or switch to *Global View* by pressing the **AUDIO INSTRUMENT** button. (This assumes that you

have created at least one or more Audio Instrument channels in the Environment Audio layer).

Multi Channel View

This mode shows the *Instrument Insert* “slot” (slot 1) for all channels.

- The *Mode Display* will show *ln*.
- The upper LCD row shows track names
- The lower LCD row shows the currently selected Instrument. Muted Instrument names are preceded by an asterisk *.
- Turning the **V-POTs** pre-selects a new Instrument. Until activated, the pre-selected Instrument name flashes.
- Turning another **V-POT** will cancel any previous pre-selection and will start pre-selection on the newly selected track.
- Pressing a **V-SELECT**:
 - ❖ activates the pre-selected Instrument plug-in (assuming that you’ve made your pre-selection by turning the **V-POT**)
 - ❖ opens a plug-in editor window, if none are opened. If a plug in window *is* opened, and link mode is enabled, the selection of another Instrument plug-in will replace the existing one.
 - ❖ switches to *Instrument Edit View*
-  To remove an instrument plug-in, pre-select the value of “-----” (by turning the **V-POT** all the way counterclockwise), and press the **V-SELECT**. Logic Control will not switch to *Instrument Edit view*, and no Plug-In window will be launched. If one was previously opened, it will be closed (if the “chain” icon is inactive).
- Pressing a **V-SELECT** while the **OPTION** button is held down mute/unmutes the Instrument

Instrument Edit View

- The *Mode Display* will show *ln*.
- Dependent on the **NAME/VALUE** button, the LCD changes in the following ways:

- ❖ **Name**—The upper LCD row shows the track’s name, instrument name, current parameter page and total number of parameter pages. The lower LCD row shows the name of the parameter edited with the **V-POT** below it.
- ❖ **Value**—The upper LCD row shows the name of the parameter edited with the **V-POT** below it. The lower LCD row shows the current value of the parameter edited with the **V-POT**. If there is sufficient space left, the unit is appended.
- Turning the **V-POTs** changes the corresponding parameter
- Pressing a **V-SELECT** sets the parameter to its default value, except where the parameter only has two values (on/off, for example). In this case, pressing the **V-SELECT** toggles between these values.

Compatibility

The comments in section *Compatibility* section on page 62 also apply to software instruments.

Fader Bank Zone

This area of the Logic Control surface contains six buttons.

Bank Left/Right

Moves up or down by “banks” of channels/tracks. To quickly explain, a single Logic Control is only capable of viewing 8 tracks at a time in either *Global* or *Track View*. To see, and edit or mix more tracks, simply press the **RIGHT/LEFT BANK** buttons to switch between tracks 1—8, 9—16, 17—24 a.s.o.

The **BANK** button pair shifts the view section by the number of channels in the *Control Surface Group*. E.g. if you have a Logic Control and two Logic Control XT units, the view shifts by 24 channels.

Note that when shifting by bank, this always “quantizes” to integer banks. As an example:

- your song has 19 tracks.



- Logic Control shows tracks 1 to 8
- BANK Right shifts to 9 to 16
- BANK Right shifts to 12 to 19
- BANK Left shifts back to 9 to 16, not to 4 to 11

This way, you always revert to the bank positions you expect, and are used to.

Channel Left/Right

As per the **BANK** buttons, but moves up or down in increments of a single channel.


When holding down the **OPTION** button, pressing the **BANK LEFT** or **CHANNEL LEFT** button jumps to the first tracks, and pressing the **BANK RIGHT** or **CHANNEL RIGHT** button jumps to the last tracks in the song—as an example in a 64 track song, tracks 1 to 8 or tracks 57—64.



Flip

The **FLIP** button enables/disables the following “flip”, “swap” or “zero” modes:

- If the LED beside the **FLIP** button is off, flip/swap mode is off. The faders control volume.
- Pressing the **FLIP** button enables “flip mode” (the LED goes on): in this mode, the current assignment of the eight **V-POTS** are mirrored on the eight channel faders. Pressing the **FLIP** button again disables flip mode.

 Turning a **V-POT** in this mode will also move the corresponding fader.

- Pressing the **FLIP** button while the **SHIFT** button is held down enables “swap mode” (the LED will flash): in this mode, the encoder assignments are *swapped* with the fader assignments. Pressing **SHIFT** + **FLIP** again disables swap mode. As the LCD’s lower row shows the current value of the encoders, it will show volumes in this mode.
- Pressing **FLIP** without **SHIFT** held reverts to flip mode.
- Pressing **CONTROL** + **FLIP** switches to zero mode. Pressing **CONTROL** + **FLIP** again disables zero mode. In this mode the

faders are set to zero and don't move. Useful for acoustic/microphone recordings if Logic Control is located in the recording booth, and you don't want to hear/capture any motor noise.

Both flip and swap mode work in all view modes.

Flip mode has the following advantages:




- you can edit any type of parameter with a fader, rather than a **V-POT**, which allows more accurate edits
- you can edit with touch-sensitive faders. The **V-POTs** are not touch-sensitive, and thus don't allow existing (controller automation) movements to be overwritten by a constant value.

Global View

This button is discussed in *Global View* section, from page 34 onwards.

Master Fader

Controls the level of the *Master* fader in Logic's Mixer. This reduces the level of all tracks, but does not affect their relative positions.

-  The MASTER fader is non-functional if no Master Volume object exists in the Environment Audio layer of the open song.
-  To set the automation mode of the Master output, you need to select this object. To do so, press the **OUTPUTS** button and select the master output with the corresponding **SELECT** button.
-  If you use multiple audio systems simultaneously, the MASTER fader controls only the first audio system's Master Volume (in the order as seen in the Audio Preferences window).

Display Zone

These buttons affect what you see in the LCD and *Position/Time Display*.

Name/Value

To toggle between the two *Display* formats—**Name** or **Value**—repeatedly press the **NAME/VALUE** button in the *Display* section of the Logic Control—just below the SMPTE/BEATS LEDs. For more information, see the *Liquid Crystal Display (LCD)* section, from page 39 onwards.



Pressing the **NAME/VALUE** button, while holding the **SHIFT** button, cycles through these three level meter modes:

- **Vertical**—In this mode, the sixth (last) character of each channel in both LCD rows is overlaid by a vertical level meter bar. When the level meter is not visible, the text character reappears. We chose the last, rather than the first, character for the level meter, as this character is blank in many cases, so no valuable information is “blocked out” by the level meter.
- 📘 Tip: if it disturbs you that the dB letter of the dB unit flickers when levels are displayed, you should switch off display if units. See *Show value unit for* section on page 31.
- **Horizontal**—with Peak Hold. In this mode, the second row is replaced by horizontal level meter bars. Peak Hold is shown as a hollow box which disappears after 3 seconds. Overload (clipping) is displayed as an asterisk. It remains on the LCD until cleared (see below).
- **Off**—In this mode, no level meters are displayed in the LCD.

In all three modes, the **SIGNAL** LEDs function as per usual, indicating the presence of a signal.

- 📘 N. B. The MIDI bandwidth required for the display of level meters is the same in all three modes—and is very low. The *Position/Time Display* updates require much more MIDI bandwidth than the level meters.

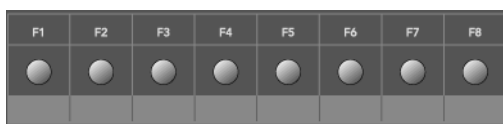
Pressing the **NAME/VALUE** button, while holding the **CONTROL** button, clears Overload (clipping) in both Logic’s Environ-

ment/Track Mixer, and the horizontal level meters on the Logic Control.

SMPTE/Beats

To toggle between the two *Time* formats, repeatedly press the **SMPTE/BEATS** button in the *Display* section at the top of the Logic Control—just below the SMPTE/BEATS LEDs. For more information, see the *Song Position/SMPTE Time Display* section on page 40.

The Function Key Zone



The eight Function Keys—**F1** to **F8**—are assigned as follows:

- **F1** to **F7** recalls screensets 1 to 7
- **F8** closes the top-most window, with “floating” windows closed first.

With the **SHIFT** key held down, the *Function* keys toggle particular windows:

- **F1**—Arrangement
- **F2**—Track Mixer
- **F3**—Event Editor
- **F4**—Score
- **F5**—Hyper Editor
- **F6**—Matrix Editor
- **F7**—Transport
- **F8**—Audio

In some other “modes”, the *Function* keys perform other duties, such as shortcuts to *Markers*. Please see the *Marker* section on page 74. Also see the table towards the back of this manual.

The Global View Zone

The *Global View* mode is activated by pressing any of the **GLOBAL VIEW** buttons. When any is activated, the green LED to the right of the **GLOBAL VIEW** button will illuminate.



Pressing multiple **GLOBAL VIEW** buttons simultaneously will display the objects of the selected types. To do so:

Hold down any **GLOBAL VIEW** button, and add or remove other object types by repeatedly pressing the other desired **GLOBAL VIEW** buttons. The display order of the objects matches the order of these buttons on the front panel of the Logic Control. As an example: to see the busses and the outputs, hold down **BUSSES**, and then press **OUTPUTS**.

Further information on *Global View* is found in the *Global View* section on page 34.

Function Button Zone

There are three areas in this zone—*Modifiers*, *Automation* and *Utilities*.

Modifier Buttons

The four buttons in this area are similar to those found on your Mac OS or Windows computer keyboard (however independent from them). Many of Logic's functions behave differently when one or more "modifier" key(s) is pressed, in conjunction with another key or mouse click. This also applies to the Logic Control. All "modified" Logic Control commands are covered in each function's description.



A generic, and brief, description of each button follows:

- **SHIFT**—an alternate function/meaning for a button
- **OPTION**—the function applies to all objects. For relative value changes: the value is set to the minimum or maximum, depending on whether you increase/decrease it.
- **CONTROL**—used little in the initial release version of Logic 5
- **⌘/ALT**—fine tuning variation of the function.

Automation Buttons



The five buttons in this area activate/deactivate the various automation modes of Logic. These work in conjunction with the channel **SELECT** switches. Simply choose the channel you wish to automate, select the *Automation* mode via one of these six buttons, and move the corre-



sponding fader. The modes are outlined below:

- **READ/OFF**—Pressing this button repeatedly toggles between the “Read” and “Off” automation modes.
 - ❖ **Off**—Automation is off. The fader will neither send nor receive automation data. Existing automation data remains untouched. It will still behave as a fader, however, and will adjust the volume or pan position etc. as usual.
 - ❖ **Read**—The fader will read (follow) any existing automation data, but will not write data, regardless of any movements you make with the mouse or external control device.
- **TOUCH**—Writes new parameter changes when the fader is “touched” or **V-POT** turned during playback. Any existing track automation data (of the current fader type) will be replaced by new movements as long as the control is active—i. e. the fader is being touched or **V-POT** is being turned.
- **LATCH**—Similar to Touch mode, but the control remains activated, even when the fader is no longer being “touched” or **V-POT** being turned. In other words, following the release of the fader, the current fader value will replace the existing

automation data for as long as the sequencer is in playback mode. Press **STOP** to finish.

- **WRITE**—Overwrites *all* existing automation data, or creates new automation data. Only use it if you wish to destroy all existing automation data.
- **TRIM**—Not enabled in the release version of Logic 5.
Please consult the readme files of updated versions.

When the **OPTION** key is held down, pressing one of the *Automation* buttons chooses the selected automation mode for *all* tracks. When an automation mode has been selected for all tracks, the button's LED will illuminate whenever the **OPTION** key is held.



i N. B.—This is slightly different for the “Off” automation mode, when holding down the **OPTION** button. While doing so, all automation “writing” buttons will be turned off, but this does not necessarily mean that all tracks are actually in **Off** mode—they could also be in different modes. To ensure that you have set all tracks to **Off** mode, press **READ/OFF** twice (its LED goes on, then off), while holding down the **OPTION** key.

Group

Not enabled in the release version of Logic 5.
Please consult the readme files of updated versions.

Utilities Buttons

Save


Saves the current Song file. When pressed, a file save dialog will open on your computer screen, waiting for you to enter a file-name as per usual.

The Logic Control LCD will display *There is a file select dialog on the screen and the Position/Time Display* will show **ALERT**. All LEDs will go off.



Once the file save has been confirmed—in *Logic*—the Logic Control will return all controls to their status prior to invoking the *Save* command.

Once the song has been saved and given a name, you may freely use the **SAVE** button to save any subsequent changes. This will happen without the alert messages and file save dialog appearing onscreen.

 As a general working tip, you should always save your autoloading song under a different name as the first step in any project. If this practice is adhered to, you will be able to simply press the SAVE button on the Logic Control to incrementally save your work.

The SAVE LED illuminates as soon as any save-able change has been made in Logic.

Holding down the **OPTION** button while pressing **SAVE** opens the “Save As.” file select box.



Undo

Pressing the **UNDO** button undoes the last undoable editing step. As Logic 5.1 supports virtually unlimited multiple undo/redo, The green **UNDO** LED does not illuminate to indicate an undo-able step, but to indicate that Redo is available. This warns you that performing an undoable editing step would render all Redo steps unavailable.

Holding down the **SHIFT** button while pressing **UNDO** performs a “Redo”.

Holding down the **OPTION** button while pressing **UNDO** opens the Undo History window.

Cancel

If an alert is open on-screen, it triggers the Cancel (or Abort) button. More information on alerts is found in *About Alert Messages* section on page 85. Pressing the **CANCEL** button when no alert is opened will launch the Toolbox at the current on-screen position of the mouse cursor. Alternately, it will perform

any function currently assigned to the computer keyboard **esc** key.

If no alert is open, and Logic Control currently displays the contents of a folder track, the **CANCEL** button lets you leave the folder.

With **CANCEL** you can also cancel a blinking pre-selection of a parameter value.

Enter

If an alert is open, the **ENTER** button triggers the default button. See *About Alert Messages* section on page 85 for more information.

If no alert is open, and the selected track is a folder track, the **ENTER** button enters this folder.

The Transport Zone

This section of the Logic Control features twelve (12) buttons. All are equipped with a dedicated LED to indicate their current status.




It should be noted that these buttons can be used independently, or in conjunction with one another, to navigate and edit your songs.

The functionality of these buttons is as follows:

Marker

With the help of the **MARKER** button you can jump to, create and delete markers.

 Marker and Nudge Mode are mutually exclusive; activating one deactivates the other.

Small Marker Mode

Hitting the **MARKER** button reassigns the behavior of the **FAST FWD** and **REWIND** buttons. They let you jump to the next or previous marker.

Pressing the **MARKER** button again returns to the default behavior of the **FAST FWD** and **REWIND** (see *Rewind* section on page 80 and *Fast Fwd* section on page 81).

Small Marker Mode is useful if you want to jump to markers, but still use the **V-POTS** for other purposes.

Large Marker Mode

When pressing the **MARKER** button while holding down **SHIFT**, the LCD will update to display three options, assigned to the first three **V-SELECT**s.

- **V-POT 1**—**Cr w/o**—Creates a marker without rounding to the nearest bar.
- **V-POT 2**—**Create**—Creates a marker rounded to the nearest bar.
- **V-POT 3**—**Delete**—Deletes the marker above the current SPL location.

To create or delete a marker at the current song position, simply press the appropriate **V-SELECT** switch.

The creation or deletion of markers is best used in conjunction with the **JOG/SCRUB WHEEL**. Simply move to the desired song position by dialing with the wheel, and then press the appropriate **V-POT**.

- For coarse placement, simply use the wheel to move the SPL.
- For fine placement, press the **SCRUB** button, and then use the wheel to place the SPL. (Only appropriate if creating or deleting an un-rounded marker).

More information on the **JOG/SCRUB WHEEL** is found in *The Jog/Scrub Wheel Zone* section on page 84.

Large Marker Mode is terminated by pressing **MARKER**.


Temporary Marker Mode

If you want to enter *Marker Mode* temporarily (to quickly perform a few marker functions), hold down the **MARKER** button and press one or more of the above **V-SELECTs**: this will execute the marker function and leave marker mode as soon as you release the **MARKER** button.

- When in this mode—with the **MARKER** button held—pressing the Function keys **F1—F8** “jumps” to the first 8 markers. As an example, to go to marker 3, press-hold **MARKER** and press **F3**.
- To jump between markers, with (or without) the **MARKER** button held, simply press the **REWIND** or **FAST FWD** buttons.

Nudge

With the help of the **NUDGE** button, you can nudge selected regions, sequences and events.

-  Marker and Nudge Mode are mutually exclusive; activating one deactivates the other.

Small Nudge Mode

Hitting the **NUDGE** button reassigns the behavior of the **FAST FWD** and **REWIND** buttons. They nudge the selected regions, sequences or events by the value defined in the *Large Nudge Mode* (see below).

Pressing the **NUDGE** button again returns to the default behavior of the **FAST FWD** and **REWIND** (see *Rewind* section on page 80 and *Fast Fwd* section on page 81).

Small Nudge Mode is useful if you want to nudge objects, but still use the **V-POTs** for other purposes.

Large Nudge Mode

When pressing the **NUDGE** button while holding down **SHIFT**, the LCD will update to display eight options, assigned to the **V-POTs** and **V-SELECTs**. All these functions allow you to *move* the selected objects (audio region, MIDI sequence or events).

As an indicator, the position of the first selected region, sequence or event is displayed above **V-POTs** 3 and 4. If nothing is displayed, either a window is active which does not allow to select regions, sequences or events, or none are selected.

The functions are as per the following:

- **V-POT 1**—Nudge—selects the nudge value used by the **REWIND** and **F.FWD** buttons. These buttons move the selected object(s) backwards/forwards by the defined value.
- **V-SELECT 2**—Pickup—moves to the current song position line location.
- **V-POT 3**—Bar— moves by 1 bar.
- **V-POT 4**—Beat—moves by the current song denominator value (beats).
- **V-POT 5**—Format—moves by the current song format value (sub-divisions—1/16th etc.).
- **V-POT 6**—Ticks—moves by single ticks.
- **V-POT 7**—Frames—moves by one SMPTE frame.
- **V-POT 8**—Frame/2—moves by a half SMPTE frame.
- The cursor buttons always emulate the computer keyboard's cursor keys. This allows you to easily select an object.

Large Nudge Mode is terminated by pressing **NUDGE**.

Temporary Nudge Mode

If you want to use **NUDGE** temporarily (for one or two “nudges”), hold down the **NUDGE** key, and user one or more of the above **V-POT**s: this will execute the nudge function and leave “nudge” mode as soon as you release the **NUDGE** button.

In *Temporary Nudge Mode*, the cursor buttons always emulate the computer keyboard’s cursor keys. This allows you to easily select an object.

The Nudge value for the **REWIND** and **F.FWD** buttons can also be defined with the function buttons:

- **F1**—sets **Ticks**
- **F2**—sets **Format**
- **F3**—sets **Beat**
- **F4**—sets **Bar**
- **F5**—sets **Frames**
- **F6**—sets **Frames/2**

Cycle

Activates/deactivates **Cycle** mode. By default, the cycle region will fall between the first two *Markers*.



Subsequent *Markers* can act as left/right boundaries for further cycle regions.

To “jump” between cycle regions—defined by the *Markers*:

- Press the **MARKER** button, to activate it.
- Press the **CYCLE** button, and when active, press the **REWIND** or **FAST FWD** buttons.

Quickly define a cycle locator

To set the left or right locator to the current song position, hold down **CYCLE** and press **REWIND** or **FAST FWD**. This also enables **Cycle**.

So the fastest way to define a new cycle region is:

- navigate to the left locator with the **JOG/SCRUB WHEEL**

- press **CYCLE + REWIND**
- navigate to the right locator with the **JOG/SCRUB WHEEL**
- press **CYCLE + FAST FWD**

Cycle View

Pressing the **SHIFT + CYCLE** buttons activates *Cycle View* mode:

- The *Mode Display* displays **CH**
- **V-POT/SELECT 1**—shows and edits the current Cycle status (**off** or **on**); you can also use the **CYCLE** button
- **V-SELECT 2—BusSel**— sets the current Cycle region by the selection made in the Arrange window—i. e. the selected regions or sequences
- **V-POT 3—Move**— moves the current Cycle region by a bar with each “click” when turning the **V-POT**
- The display shows the left and right locators above **V-POTs 5** and **7**
- Pressing **V-SELECT 5** picks up the current song position for the left locator
- Turning **V-POT 5** changes the left locator in bars
- Turning **V-POT 6** changes the left locator in beats (denominator steps).
- Pressing **V-SELECT 7** picks up the current song position for the right locator
- Turning **V-POT 7** changes the right locator in bars
- Turning **V-POT 8** changes the right locator in beats (denominator steps)

To return to a regular *Assignment* mode, press one of the **ASSIGNMENT** buttons.

Drop

Activates/deactivates **Drop-In** mode.

To “jump” between drop-in regions:

- Press the **MARKER** button, to activate it.
- Press the **DROP** button, and when active, press the **REWIND** or **FAST FWD** buttons.



Quickly define a Drop locator

To set the Drop In or Drop Out locator to the current song position, hold down **DROP** and press **REWIND** or **FAST FWD**. This also enables **Drop**.


So the fastest way to define a new Drop region is:

- navigate to the Drop In locator with the **JOG/SCRUB WHEEL**
- press **DROP + REWIND**
- navigate to the Drop Out locator with the **JOG/SCRUB WHEEL**
- press **DROP + FAST FWD**

Drop View

Pressing **SHIFT + DROP** buttons activates *Drop View*:

- The *Mode Display* shows **dr**
- **V-POT/SELECT 1** shows and edits the current Drop status (**off** or **on**); you can also use the **DROP** button
- **V-POT 3—Move**— moves the current Drop region by a bar with each “click” when turning the **V-POT**
- The display shows the Drop In and Drop Out locators above **V-POTs 5 and 7**
- Pressing **V-SELECT 5** picks up the current song position for the Drop In locator
- Turning **V-POT 5** changes the Drop In locator in bars
- Turning **V-POT 6** changes the left locator in beats (denominator steps)
- Pressing **V-SELECT 7** picks up the current song position for the Drop Out locator
- Turning **V-POT 7** changes the Drop Out locator in bars
- Turning **V-POT 8** changes the right locator in beats (denominator steps)

 Changing a drop locator with Logic Control enables **Drop** mode.

To return to a regular *Assignment* mode, press one of the **ASSIGNMENT** buttons.

Replace

Activates/deactivates **Replace** mode.



Click

Enables/Disables MIDI (or computer) metronome click. There are independent click settings for play and record. The click settings are enabled or disabled, dependent on the current Record state (see the “MIDI/Monitor Metronome Click” key command)

Pressing **SHIFT** + **CLICK** buttons toggles both **External Sync Mode** and **Transmit MMC**.

Solo

The **SOLO** button behaves as per the *Solo* key command. Individual channels can be soloed via the channel **SOLO** switches on each channel strip. Subsequent objects (sequences or audio regions) can be selected and solo-ed along with the selected channels. Each channel features an independent SOLO LED which illuminates when a track is soloed. The RUDE SOLO LED—just to the right of the *Position/Time Display*—also illuminates whenever any track is soloed.

Pressing **SHIFT** + **SOLO** buttons enables the **Solo Lock** mode.

Rewind

Rewinds/shuttles through the song. If pressed repeatedly while rewinding, the rewind speed will be accelerated with each button push. If the **FAST FWD** button is pressed while **REWIND** is engaged, the fast rewind will be slowed. Repeated presses of the **FAST FWD** button will slow down, stop, and eventually reverse the shuttle direction. Pressing the **STOP** button will halt the rewind. Using the **JOG/SCRUB WHEEL** will also exit shuttle mode.



When one of the *Marker Modes* is activated, repeated presses of the **REWIND** button will move the *Song Position Line (SPL)* to the previous marker.

When one of the *Nudge Modes* is activated, the **REWIND** button will move the selected object(s) backward by the value defined in *Large Nudge Mode*.


Fast Fwd

Fast forwards/shuttles through the song. If pressed repeatedly while fast forwarding, the shuttle speed will be accelerated with each button push. If the **REWIND** button is pressed while **FAST FWD** is engaged, the fast forward will be slowed. Repeated presses of the **REWIND** button will slow down, stop, and eventually reverse the shuttle direction. Pressing the **STOP** button will halt the fast forward. Using the **JOG/SCRUB WHEEL** will also exit shuttle mode.



When one of the *Marker Modes* is activated, repeated presses of the **FAST FWD** button will move the *Song Position Line* to the next marker.

When one of the *Nudge Modes* is activated, the **FAST FWD** button will move the selected object(s) forward by the value defined in *Large Nudge Mode*.

 As a tip, you can combine Markers with Cycle regions by pressing the respective buttons on the Logic Control. This, in conjunction with the “stepping” between markers mentioned above (using the **REWIND** and **FAST FWD** buttons) will move the SPL, and will automatically set a cycle region between adjacent markers. Try this, and other options, with various button combinations.

Stop

Stops all other Transport functions. Pressing the **STOP** button a second time will return to the song start point, or the beginning of the nearest cycle region, if *Cycle* is active. Repeated presses will toggle between the two.



Play

Plays from the current song position. If pressed repeatedly, it will jump to the beginning of the nearest cycle region, if *Cycle* is active.



SHIFT + PLAY works as a *Pause* command.


Record

Activates recording on the selected MIDI, Audio or Audio Instrument track.

A special note for Audio tracks: When the *first* Audio track is armed by pressing the **REC/RDY** switch on the desired channel, a file save dialog will open on your computer screen, waiting for you to enter a filename as per usual. The Logic Control LCD will display *There is a file select dialog on the screen* and the *Position/Time Display* will show **ALERT**. All LEDs will go off.

Once the file name has been entered—in *Logic*—the Logic Control will return all controls to their status prior to invoking the **REC/RDY** command.

Once the “default” audio file name has been entered, you may freely select and “arm” any Audio track, and then press the **RECORD** button. This will happen without the alert messages and file save dialog appearing onscreen.

 As a general working tip, you should also define a “default” audio file name, *after* saving your autoload song under a different name. These should be the first steps when creating any project.

The Cursor/Zoom Key Zone

This collection of five buttons serves a number of purposes.

Normal operation

When the **ZOOM** button’s LED is off, these buttons select the current parameter, shift the current parameter page or Send/EQ/Insert slot, depending on the current **V-POT** assignment.

When holding down the **OPTION** button, the **CURSOR LEFT/RIGHT** buttons scroll to the first/last page, and the **CURSOR UP/DOWN** buttons scroll to the first/last slot.



When holding down the **⌘/ALT** button, the **CURSOR LEFT/RIGHT** buttons shift the parameter display by only one parameter instead of by one page.

In *View* modes which don't need the cursor keys to shift pages or slots, they emulate the computer keyboard's cursor keys.

Example: *Track Multi Channel View*.

In *Large Nudge Mode* and *Temporary Nudge Mode*, the cursor buttons always emulate the computer keyboard's cursor keys. This allows you to easily select an object.

Zoom mode

Pressing the **ZOOM** button enables *Zoom mode*. The **CURSOR** buttons can then be used to change the vertical or horizontal zoom factor of the active window.

In the *Arrange* window:

- **OPTION** and **CURSOR UP/DOWN** changes the zoom factor of the selected track.
- **OPTION** and **CURSOR LEFT** resets the zoom factor of the selected track
- **OPTION** and **CURSOR RIGHT** resets the zoom factor of all tracks which are of the same class (audio, MIDI etc.) as the selected track.



Computer cursor key emulation


To use the cursor buttons as a replacement for the computer keyboard cursor keys, hold down the **SHIFT** key.

By pressing **SHIFT** and **ZOOM**, the cursor keys go to *Permanent Cursor Key Mode*, i. e. they mimic the computer cursor keys without the need to hold down **SHIFT**.

The Jog/Scrub Wheel Zone

The **JOG/SCRUB WHEEL** and **SCRUB** button can be used to navigate through the song, which is useful for a number of *Transport* tasks. Simply turn the dial to use it. The following *Scrub* modes change the behavior of the **JOG/SCRUB WHEEL**.

- **SCRUB** mode **off**: the **JOG/SCRUB WHEEL** moves the SPL
- **SCRUB** mode **on**: the **JOG/SCRUB WHEEL** performs scrubbing. “Scrubbing” allows you to hear the data of the selected track while scrolling/moving through the song.

 Audio tracks are normally played back with 100% original speed. If you prefer 200%, choose menu item **Audio > Audio Hardware & Drivers**, open the DAE section and set **Max. Scrub Speed** to **Double**.


 Note: You can also use the **SCRUB** button for *Pause* functionality.

9 About Alert Messages

Alert messages are simply dialog or message boxes in Logic. As examples, file save dialogs, authorization warnings, edit confirmations or error messages.

When these windows “pop up” on-screen, the Logic Control will respond in the following way:

- all LEDs are deactivated,
- the upper LCD row shows the beginning of the alert text

 Note: 8-bit ASCII characters such as curly quotes and umlaut characters are replaced by the best-possible 7-bit ASCII equivalent, e. g. ä = ae, ö=oe, ü=ue, á = a, ø = oe, œ = oe, ß = ss, å = a.


- the first eight buttons (usually 1 or 2) of the alert are displayed in the lower LCD line, aligned to the right
- the *Position/Time Display* shows **MESSAGE, ALert**, **AbtEnt Ion** or **CRUE Ion**, depending on the icon in the alert
- if the alert text does not fit in the LCD’s upper row, it will start scrolling after 3 seconds. When the text has scrolled to the end, it will remain onscreen for 3 seconds and will then recommence.

You can scroll the alert text manually with the jog wheel. Once you start doing so, automatic scrolling is disabled

In addition to the Jog Wheel, all **V-POTs** can be used to scroll the alert text. They also show the current scroll position.

- By pressing one of the **V-SELECTs**, you trigger the appropriate button/function in the alert—if applicable.
- The **ENTER** button triggers the default button in the alert, where applicable.
- The **CANCEL** button triggers the button labelled “Cancel” or “Abort” in the alert, where applicable.

After the alert has disappeared, all controls and displays will return to their previous state.

-  For file select boxes, only the text `There is a file select dialog on the screen` appears. The **ENTER** and **CANCEL** buttons don't work in this case; you have to end the dialog with the mouse or computer keyboard.

10 Tips

Way back at the beginning of this manual we said “Your Logic media production environment will never be the same!”.

This, as we’re sure you’re starting to realize, was not an unrealistic claim.

Logic Control changes the way you work, and is most effective if you make a few small changes to your working methods. The following is a small collection of good working practices which will help you to work more smoothly and efficiently with the Logic Control system.

Customize your Autoload Song

- Set up *Screensets 1—7* to your liking. These can be accessed directly via the *Function Keys*—**F1** to **F7**. *Function Key 8 (F8)* will close the top-most window.
- We suggest that a full-screen Arrange window, with *Track Automation View* set to on, is among your *Screensets*.
- A full-screen *Track Mixer* window is also recommended.

Get Into the Habit of Using Markers

Not much more can be said. *Markers* allow you to quickly “jump” from location to location in a “project”. The Logic Control features a number of shortcuts which allow you to rapidly switch between *Markers*.

Markers are very useful for the creation/selection of *Cycle* regions and a number of other tasks, such as *Drop In* and *Replace*.

If you tend to follow a particular song structure, or like to work in “chunks” of bars (4, 8, 16 bars etc.), then set up a number of *Markers* at suitable locations in your Autoload song.

Set A Default Song File Name and Path

The **SAVE** button on the Logic Control will automatically launch the File Save dialog. Once the song has been saved

once, pressing the **SAVE** button will incrementally save the song without launching the File Save dialog window.

As soon Logic boots, and the Autoload song is loaded, you should make it a routine to:

- create a new “project” folder, and name it
- save the autoload song—with the same or a similar name to the folder—into the “project” folder via the **Save As..** menu option.

Set A Default Audio File Name and Path

When an audio track is armed, Logic will ask you to specify a default file name and path. If this is done at the start of your sessions, it won't interrupt your creative flow while recording.

After saving the Autoload—under its new name—into the “project” folder, you should make it a routine to:

- press the “A” key on your computer keyboard
- set a default audio file name—ideally of the same or a similar name to that of the project/song
- set the path for the audio files to the “project” folder

Once you've completed the Song and File Save steps, press the **SAVE** button on the Logic Control, and start recording.

11 Functions and Menus

Channel Strip (× 8):

Logic Control	Modifier	Function/Comments
V-Pot	—	Modify parameter displayed in LCD.
	OPTION	Set parameter to minimum or maximum value.
	⌘/ALT	Modify parameter at high resolution.
V-Select	—	Set parameter displayed on LCD to default value, or: Switch between two possible values.
		<i>flashing pre-selection:</i>
	—	Enter the pre-selected value.
		<i>menu options:</i>
	—	Enter whatever option is visible in display.
		<i>If track is folder:</i>
	—	Enter folder.
REC/RDY	—	Toggle Record Enable of track.
	OPTION	Disable Record Enable for all tracks.
SOLO	—	Toggle Solo of track.
	OPTION	Disable Solo for all tracks.
		<i>In Send Destination/Level Multi Channel View:</i>
	—	Toggle pre/post status of selected send.
		<i>In Send Destination/Level Channel Strip View:</i>
	—	Toggle pre/post of send on selected track.
MUTE	—	Toggle Mute of track.
	OPTION	Disable Mute for all tracks.
		<i>In EQ Frequency/Gain View:</i>
	—	Toggle bypass of selected EQ band.
		<i>In Send Destination/Level Multi Channel View:</i>
	—	Toggle bypass of selected send.
		<i>In Send Destination/Level Channel Strip View:</i>
	—	Toggle mute of send on selected track.

Logic Control	Modifier	Function/Comments
SELECT	—	Select track.
	SHIFT	Set track volume to unity level (0 dB).
FADER	—	Adjust volume.
		<i>In Flip Mode “Duplicate”:</i>
	—	Same function as V-Pot of same channel.
		<i>In Flip Mode “Swap”:</i>
	—	Swap function with V-Pot of same channel.
		<i>In Surround Angle/Diversity View:</i>
	—	Adjust surround diversity.
		<i>In EQ Frequency/Gain View:</i>
	—	Adjust gain of selected EQ band.
		<i>In Send Destination/Level Multi Channel View:</i>
	—	Adjust send level of selected send.
		<i>In Send Destination/Level Channel Strip View:</i>
	—	Adjust send level of send on selected track.

ASSIGNMENT Section:

Hold down to shown soft-button menu; release to switch V-Pots to Multi Channel or Channel Strip views for:

Logic Control	Modifier	Function/Comments
TRACK	—	Track parameters
PAN/SURROUND	—	Pan/Surround parameters
EQ	—	EQ parameters
SEND	—	Send parameters
PLUG-IN	—	Plug-in selection or Plug-in editor
INSTRUMENT	—	Instrument selection or Instrument editor
BANK ⇐⇒	—	Shift fader bank left/right by number of channel strips.
	OPTION	Shift fader bank to beginning or end.
CHANNEL ⇐⇒	—	Shift fader bank left/right by one channel.
	OPTION	Shift fader bank to beginning or end.
FLIP	—	Toggle flip mode between “off” and “duplicate”.
	SHIFT	Toggle flip mode between “off” and “swap”.
	CONTROL	Toggle flip mode between “off” and “zero” (i. e. motors off).
GLOBAL VIEW	—	Toggle between Track View and Global View.
	SHIFT	Toggle between Track View and Extended Track View.

DISPLAY Parameters

Logic Control	Modifier	Function/Comments
NAME/VALUE	—	Toggle between parameter name and parameter value display.
	SHIFT	Cycle through level meter displays: vertical, horizontal and off.
	OPTION	Toggle between track name and track number:name display.
	CONTROL	Clear clip/overload flags.
SMPTE/BEATS	—	Toggle between SMPTE and Beat format in clock display.

Function Buttons

Logic Control	Modifier	Function/Comments
F1	—	Recall screen set 1.
	SHIFT	Toggle Arrange window.
	TRACK	Switch to Multi Channel View—Volume.
	PAN/ SURROUND	Switch to Multi Channel View—Pan/surround angle.
	EQ	Switch to Multi Channel View—Bypass.
	SEND	Switch to Multi Channel View—Destination.
	MARKER	Create Marker without rounding
	NUDGE	Nudge value: Tick
F2	—	Recall screen set 2.
	SHIFT	Toggle Track Mixer window.
	TRACK	Switch to Multi Channel View—Pan.
	PAN/ SURROUND	Switch to Multi Channel View—Pan/surround radius.
	EQ	Switch to Multi Channel View—EQ Type.
	SEND	Switch to Multi Channel View—Level.
	MARKER	Create Marker with rounding
	NUDGE	Nudge value: Format

Logic Control	Modifier	Function/Comments
F3	—	Recall screen set 3.
	SHIFT	Toggle Event Editor window.
	TRACK	Switch to Multi Channel View—Track Mode.
	PAN/ SURROUND	Switch to Multi Channel View—Pan/surround LFE.
	EQ	Switch to Multi Channel View—Frequency.
	SEND	Switch to Multi Channel View—Position.
	MARKER	Delete Marker
	NUDGE	Nudge value: Beat
F4	—	Recall screen set 4.
	SHIFT	Toggle Score window.
	TRACK	Switch to Multi Channel View—Input.
	PAN/ SURROUND	Switch to Multi Channel View—Pan/surround mode.
	EQ	Switch to Multi Channel View—Gain.
	SEND	Switch to Multi Channel View—Mute.
	NUDGE	Nudge value: Bar
F5	—	Recall screen set 5.
	SHIFT	Toggle Hyper Edit window.
	TRACK	Switch to Multi Channel View—Output.
	PAN/ SURROUND	Switch to Channel Strip View.
	EQ	Switch to Multi Channel View—Q Factor.
	SEND	Switch to Channel Strip View.
	NUDGE	Nudge value: Frame

Logic Control	Modifier	Function/Comments
F6	—	Recall screen set 6.
	SHIFT	Toggle Matrix Editor window.
	TRACK	Switch to Multi Channel View—Automation.
	PAN/ SURROUND	Switch to Angle/Diversity View.
	EQ	Switch to Channel Strip View.
	SEND	Switch to Channel Strip 2 View.
	NUDGE	Nudge value: 1/2 Frame
F7	—	Recall screen set 7.
	SHIFT	Toggle Transport window.
	EQ	Switch to Frequency/Gain Multi Channel View.
	SEND	Switch to Destination/Level Multi Channel View.
F8	—	Close top-most floating window.
	SHIFT	Toggle Audio window.
	TRACK	Switch to Track Setup View.
	EQ	Switch to Frequency/Gain Channel Strip View.
	SEND	Switch to Destination/Level Channel Strip View.

GLOBAL VIEW Buttons

Logic Control	Modifier	Function/Comments
MIDI	—	Switch to Global View and show MIDI instruments.
	SHIFT	Set to fader bank no. 1 (e. g. tracks 1 to 8).
INPUTS	—	Switch to Global View and show audio input objects.
	SHIFT	Set to fader bank no. 2 (e. g. tracks 9 to 16).
AUDIO TRACKS	—	Switch to Global View and show audio track objects.
	SHIFT	Set to fader bank no. 3 (e. g. tracks 17 to 24).
INSTRUMENTS	—	Switch to Global View and show audio instrument objects.
	SHIFT	Set to fader bank no. 4 (e. g. tracks 25 to 32).
AUX	—	Switch to Global View and show aux objects.
	SHIFT	Set to fader bank no. 5 (e. g. tracks 33 to 40).
BUSSES	—	Switch to Global View and show bus objects.
	SHIFT	Set to fader bank no. 6 (e. g. tracks 41 to 48).
OUTPUTS	—	Switch to Global View and show outputs and master objects.
	SHIFT	Set to fader bank no. 7 (e. g. tracks 49 to 56).
USER	—	Currently unassigned.
	SHIFT	Set to fader bank no. 8 (e. g. tracks 57 to 64).

MODIFIERS—while held down:

SHIFT	Switch to second function.
OPTION	Apply function to all tracks or set parameter to minimum/maximum.
CONTROL	
⌘/ALT	Enable fine mode; shift parameter page by 1 parameter instead of page.

AUTOMATION Buttons

Logic Control	Modifier	Function/Comments
READ/OFF	—	Set selected track’s automation to Read or Off.
	OPTION	Set all tracks’ automation to Read or Off.
TOUCH	—	Set selected track’s automation to Touch.
	OPTION	Set all tracks’ automation to Touch.
LATCH	—	Set selected track’s automation to Latch.
	OPTION	Set all tracks’ automation to Latch.
WRITE	—	Set selected track’s automation to Write.
	OPTION	Set all tracks’ automation to Write.
TRIM		Currently unassigned.
GROUP		Currently unassigned.

UTILITIES Buttons

Logic Control	Modifier	Function/Comments
SAVE	—	Save Song.
	OPTION	Save Song as ...
UNDO	—	Undo.
	SHIFT	Redo.
	OPTION	Open Undo History.
CANCEL	—	Leave folder.
		<i>Flashing pre-selection:</i>
	—	Cancel pre-selection.
		<i>In alerts:</i>
	—	Execute “Cancel” button.
ENTER	—	Enter folder of selected track.
		<i>In alerts:</i>
	—	Execute default button.

TRANSPORT Buttons

Logic Control	Modifier	Function/Comments
MARKER	—	Toggle Small Marker Mode.
	SHIFT	Toggle Large Marker Mode
NUDGE	—	Toggle Small Nudge Mode.
	SHIFT	Toggle Large Nudge Mode
CYCLE	—	Toggle Cycle.
	SHIFT	Switch to Cycle View.
DROP	—	Toggle Drop.
	SHIFT	Switch to Drop View.
REPLACE	—	Toggle Replace.
CLICK	—	Toggle playback or record metronome click.
	SHIFT	Toggle internal/external sync and MMC.
SOLO	—	Toggle track solo (of selected track).
	SHIFT	Enable Solo Lock
REWIND ◀◀	—	Shuttle rewind.
	MARKER	Go to previous marker.
	NUDGE	Nudge left by chosen value.
	CYCLE	Engage Cycle and set left locator to SPL.
	DROP	Engage Drop and set Drop In to SPL.
	<i>In Marker Mode:</i>	
	—	Go to previous marker.
	<i>In Nudge Mode:</i>	
	—	Nudge left by chosen value.

Logic Control	Modifier	Function/Comments
F.FWD ►►	—	Shuttle forward.
	MARKER	Go to next marker.
	NUDGE	Nudge right by chosen value.
	CYCLE	Engage Cycle and set right locator to SPL.
	DROP	Engage Drop and set Drop Out to SPL.
	<i>In Marker Mode:</i>	
	—	Go to previous marker.
	<i>In Nudge Mode:</i>	
	—	Nudge right by chosen value.
STOP ■	—	Stop.
PLAY ►	—	Play.
	SHIFT	Pause.
RECORD ●	—	Record.

Cursor Keys & Scrub Wheel

Logic Control	Modifier	Function/Comments
CURSOR ◀ ▶	<i>If in Multi Channel View:</i>	
	—	Select previous/next parameter or of current View.
	<i>If in Channel Strip EQ, Send View or Plug-in/Instrument Edit View:</i>	
	—	Shift current editor page by 1 page.
	⌘/ALT	Shift current editor page by 1 parameter.
	<i>Otherwise (always in Nudge mode):</i>	
	—	Mimic computer keyboard cursor left/right keys.
	<i>In Zoom mode:</i>	
	—	Change horizontal zoom level.
SHIFT	Reset individual track zoom of current track (Cursor left) or all tracks of same class (Cursor right).	

Logic Control	Modifier	Function/Comments
CURSOR ▲ ▼		<i>In Channel Strip EQ-, Send View- or Plug-In/Instrument Editor View:</i>
	—	Select previous/next EQ band, Send or insert slot.
		<i>Otherwise (always in Nudge mode):</i>
	—	Mimic computer keyboard cursor up/down keys.
		<i>In Zoom Mode:</i>
	—	Change vertical zoom level.
ZOOM	SHIFT	Change individual track zoom of current track.
ZOOM	—	Toggle between default cursor button behavior (see above) and Zoom mode.
	SHIFT	Toggle between default cursor button behavior and permanently mimicking computer keyboard cursor keys.
SCRUB	—	Toggle scrub mode.
JOG WHEEL	—	Move song position line.
		<i>In Scrub Mode:</i>
	—	Scrub.

External Inputs

Logic Control	Modifier	Function
USER SWITCH A	—	Play/Stop
USER SWITCH B	—	Drop In/Out
EXTERNAL CONTROL	—	Master Volume

12 Specifications

Logic Control (Base Unit)

Display

- 55 × 2-digit (LCD) backlit multi-function display for detailed parameter information and metering
- Built-in screensaver function
- 2-digit, 7-segment display for mode displays
- 10-digit, 7-segment display for song position information using SMPTE or bar/beats/ticks
- 1 × button to toggle the LCD between parameter name/value and to activate the level meters
- 1 × button to toggle the 7-segment display between SMPTE and bar/beats/format/ticks
- 2 × LEDs show the current 7-segment display status
- 1 × LED shows the current Solo status

Per channel (8 channels)

- 1 × motorized 100mm touch-sensitive Penny & Giles faders with 10Bit resolution (1024 steps)
- 1 × **V-POT**: digital endless rotary knob with position indicator and integrated push button for parameter adjustments of, for example, pan, EQ, send levels, etc.
- 4 × buttons with integrated colored LED for channel functions such as: Record, Solo, Mute and Channel Selection
- Signal Present LED shows if an audio or MIDI signal is present

Master Fader

- 1 × motorized 100mm touch-sensitive Penny & Giles fader with 10Bit resolution (1024 steps)

Controller

- 6 × buttons with status LED to directly select parameter groups for Track, Pan/Surround, EQ, Send, Plug-In, Instrument
- 8 × buttons to directly select sections of Logic's mixer such as audio tracks, MIDI tracks, inputs, busses etc.
- 4 × buttons to shift the displayed mixer channels to the left and right, either one channel at a time or in banks
- 1 × button with status LED for the channel fader/**V-POT** flip: swaps the assignments of fader and **V-POTS**
- 1 × button with status LED to toggle between track view and global view
- 4 × buttons with status LED to activate automation modes such as Read, Write, Touch and Latch
- 4 × buttons to select utility functions such as: "Save Song", "Undo", "Cancel" or confirm in dialogs
- 4 × buttons to access additional functions through modifier keys
- 8 × freely definable user keys
- 2 × currently unassigned buttons for future use

Transport Controls

- 5 × Transport buttons with status LED for Forward, Rewind, Stop, Play, Record
- 1 × Jog/Scrub wheel for precise location of any song position and audio scrubbing
- 1 × Scrub button with status LED to activate the scrub function
- 1 × Marker and 1 × Nudge button with status LED to extend the functionality of the Forward/Rewind buttons
- 4 × Navigation buttons to quickly navigate through plug-in slots and parameter pages
- 1 × Zoom button to switch the navigate buttons to zoom

Internal Processor

- High-speed RISC micro controller
- Firmware can be updated via MIDI dump

Connections

- 1 × MIDI in, 1 × MIDI out
- 2 × assignable foot switch inputs to control, for example, Start/Stop and Punch In/Out
- 1 × assignable external control signal input to connect a volume pedal
- Power supply jack

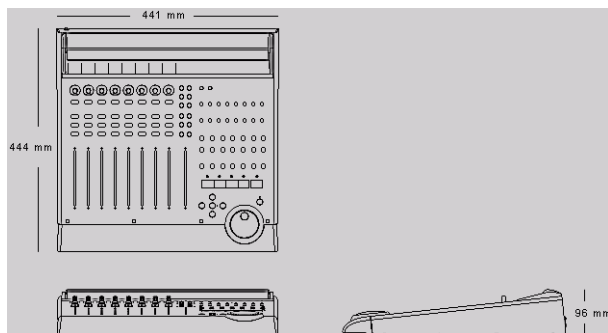
Power Supply (supplied)

- International (100—250V) external power supply for standard power cords
- Rear-mounted power switch

Weight and Construction

- Logic Control weighs 5.05 kg (unpacked)
- High quality, sturdy 1mm steel chassis and case
- Comfortable, durable wrist rest

Dimensions



Logic Control XT (Extension Unit)

Display

- 55 × 2-digit (LCD) backlit multi-function display for detailed parameter information and metering
- Built-in screensaver function

Per channel (8 channels)

- 1 × motorized 100mm touch-sensitive Penny & Giles faders with 10Bit resolution (1024 steps)
- 1 × **V-POT**: digital endless rotary knob with position indicator and integrated push button for parameter adjustments of, for example, pan, EQ, send levels, etc.
- 4 × buttons with integrated colored LED for channel functions such as: Record, Solo, Mute and Channel Selection
- Signal Present LED shows if an audio signal is present

Internal Processor

- High-speed RISC micro controller
- Firmware can be updated via MIDI dump

Connections

- 1 × MIDI in, 1 × MIDI out
- Power supply jack

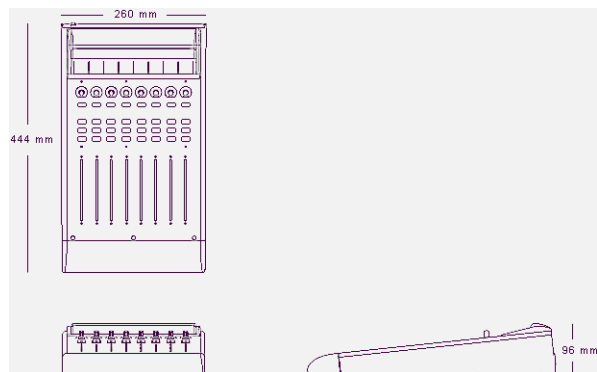
Power Supply (included)

- International (100—250V) external power supply for standard power cords
- Rear-mounted power switch

Weight and Construction

- Logic Control XT weighs 3.45 kg (unpacked)
- High quality, sturdy 1mm steel chassis and case
- Comfortable, durable wrist rest




Dimensions



13 MIDI Implementation

The following information is important for software vendors who want to create a software integration for Logic Control/XT.

This documentation covers firmware version v1.0.

-  Note: All numbers are in hexadecimal format
-  Variable bytes are shown in *italics* and use characters other than a—f as a placeholder
-  All channel messages use running status messages. Once an initial 3-byte message has been sent, the status byte is dropped from proceeding transmitted channel messages to conserve bandwidth.

SysEx Message Header

The following documentation uses the place holder “<Hdr>” whenever the SysEx header is transmitted or received. It has the following form:

F0	MIDI SysEx status byte
00 00 66	Mackie 3-byte SysEx manufacturer ID
<i>ii</i>	Model ID
10	Logic Control
11	Logic Control XT

A device ID is not required, as each unit needs a dedicated MIDI cable.

Global Control Messages

Host Connection and Initialization

Received:

<Hdr> 00 F7	Device Query
<Hdr> 02 ss ss ss ss ss ss ss rr rr rr rr F7	Host Connection Reply
<Hdr> 0F 7F F7	Go Offline

Transmitted:

<Hdr> 01 ss ss ss ss ss ss ss // // // // F7	Host Connection Query
<Hdr> 03 ss ss ss ss ss ss ss F7	Host Connection Confirmation
<Hdr> 04 ss ss ss ss ss ss ss F7	Host Connection Error

Parameters:

ss	Serial number (7 bytes ASCII text, non null-terminated)
//	Challenge code (4 bytes)
rr	Response code (4 bytes)

Offline Mode

Logic Control employs a query system to maintain connection to the host software. When Logic Control is initially powered up, it defaults to Offline mode. In Offline mode, Logic Control’s faders move to their lowest setting, and the LCD reads “EMAGIC LOGIC CONTROL -- by MACKIE”. After power-on, Logic Control also transmits a system exclusive Host Connection Query message that is used by the host to detect a connection, and what type of device is connected (Logic Control/Logic Control XT).

Communications Initialization

When the host software receives a Host Connection Query message (containing a serial number and a random challenge code), it should transmit a Host Connection Reply command within 300ms to initialize Logic Control. The command must

contain the same serial number and the correct response code for the challenge code. Here is the algorithm (*I1..I4* = challenge code bytes 1..4, *r1..r4* = response code bytes 1..4):

```
r1 = 0x7F & (I1 + (I2 ^ 0xa) - I4);
r2 = 0x7F & ((I3 > 4) ^ (I1 + I4));
r3 = 0x7F & ( I4 - (I3 < 2) ^ (I1 I2));
r4 = 0x7F & (I2 - I3 + (0xF0 ^ (I4 < 4)));
```

Logic Control will in turn respond with either a Host Connection Confirmation message containing the serial number and switch to Online mode—where it will await further instructions from the host, or reply with a Host Connection Error message in case the response code was wrong.

Online Mode

Once the connection between Logic Control and the host software has been made, Logic Control stays in Online Mode until it receives a Go Offline message.

Firmware version request

Received:

<Hdr> 13 00 F7	Version request
----------------	-----------------

Transmitted:

<Hdr> 14 vv vv vv vv vv F7	Version reply
	vv 5 ASCII bytes containing version string, e.g. "V1.0".

Notes:

- When Logic Control receives a version request message, it sends the version reply message.

Reset Messages

Received:

<Hdr> 61 F7	Faders to minimum (Sends all faders to the bottom of their throw)
<Hdr> 62 F7	All LEDs off (Turns off all LEDs on Logic Control)
<Hdr> 63 F7	Reset (Re-Boots Logic Control into Offline mode)

Transmitted:

None

Configuration Messages

Received:

<Hdr> 0A <i>tt</i> F7	Transport button click
<Hdr> 0B <i>//</i> F7	LCD back light saver
<Hdr> 0C <i>mm</i> F7	Touchless movable faders
<Hdr> 0E <i>ii ss</i> F7	Fader touch sensitivity

Transmitted:

None

Parameters:

<i>tt</i>	00 = no transport button click 01 = transport button click (default)
<i>//</i>	00 = LCD back light off 01..7F = LCD back light on, with time out in minutes (default: 0F = 15 minutes)
<i>mm</i>	00 = fader movements are only transmitted if the fader has been recognized as touched 01 = fader movements are also transmitted if the fader has not been recognized as touched (e.g. with finger nail or pen)
<i>ii</i>	Fader ID (00 thru 07; Master = 08)
<i>ss</i>	Fader touch sensitivity (00..05; default: 03)

Common Control Messages

Faders

Received:

<i>Ei, ll, hh</i>	Move fader to position
-------------------	------------------------

Transmitted:

<i>Ei, ll, hh</i>	Fader moved by user
-------------------	---------------------

Parameters:

<i>i</i>	Fader ID (00 thru 07; Master = 08)
<i>ll</i>	Fader position value low 7 bits (00—7F)
<i>hh</i>	Fader position value high 7 bits (00—7F)

Example: E0, 40, 55 = Fader Ch. 1, position (55 << 7) + 40

Notes:

- Message format for transmitted fader position is the same as for received position.
- Only the high 10 of the 14 transmitted bits are required. So positions 0..1023 (decimal) are transmitted as 0000..03FF (*Ei* 00 00 .. *Ei* 7F 7F)

Switches

Received:

None

Transmitted:

90, <i>ii</i> , <i>ss</i>	Switch pressed/released by user	
	<i>ii</i>	Switch ID (See <i>Control Surface Layout and IDs</i> section on page 119.)
	<i>ss</i>	Switch State
	00	switch or fader released
	7F	7F = switch pressed

Example:

90, 0F, 7F = SOLO Ch. 8 is pressed

90, 0F, 00 = SOLO Ch. 8 is released

Notes:

- LEDs and switches use the same control message. This way, an LED has the same ID as its corresponding switch.

LEDs**Received:**

90, <i>ii</i> , <i>ss</i>	Set LED status
---------------------------	----------------

Transmitted:

None

Parameters:

<i>ii</i>	LED ID (See <i>Control Surface Layout and IDs</i> section on page 119.)
<i>ss</i>	LED State (7F = on, 00 = off, 01 = flashing)

Example:

90, 08, 7F = Turn LED 08 on

90, 08, 00 = Turn LED 08 off

Notes:

- Switches and LEDs use the same control message. In this way, an LED always shares the same ID as its corresponding switch.

V-Pots

Received:

None

Transmitted:

B0, 1 <i>i</i> , XX	V-Pots turned by user	
	<i>i</i>	V-Pot ID (00—07)
	XX	delta value in the form of (0 <i>s</i> <i>v v v v v v v</i>)
	<i>s</i>	direction bit: 0 = clockwise, 1 = counter clockwise
	<i>vv</i>	number of ticks

Examples:

- B0, 10, 01 = V-Pot Ch. 1 is being turned clockwise by one tick.
- B0, 17, 47 = V-Pot Ch. 8 is being turned counter-clockwise by 7 ticks.

V-Pot LED ring

Received:

B0, 3*i*, XX Set LED ring display

Transmitted:

None

Parameters:

<i>i</i>	V-Pot number (0 thru 7)
<i>XX</i>	V-Pot display control byte in the form of (0 <i>p</i> <i>x</i> <i>x</i> <i>v</i> <i>v</i> <i>v</i> <i>v</i>):
<i>p</i>	V-Pot display center LED state, (1 = on, 0 = off)
<i>xx</i>	V-Pot mode (00 thru 03; see diagrams below)
<i>vv</i>	V-Pot display position value 00 = all LEDs in ring off; 01 thru 0B see diagrams below

Example:

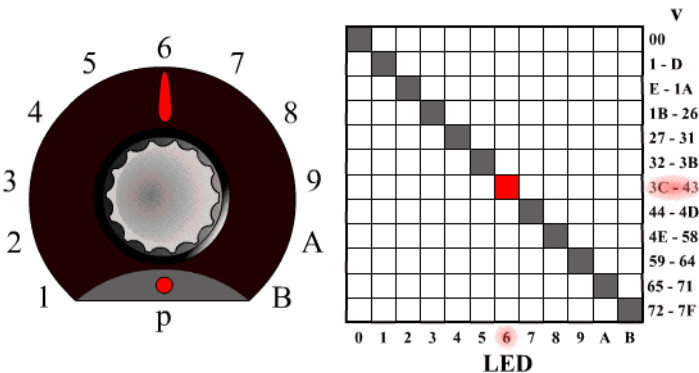
- B0, 31, 06 = V-Pot 2 display shows LEDs at position 6

Notes:

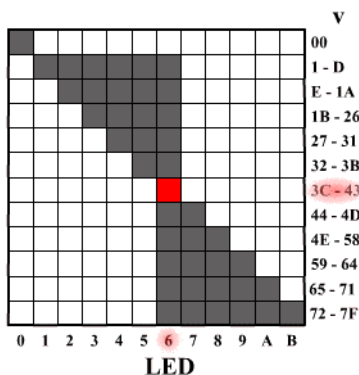
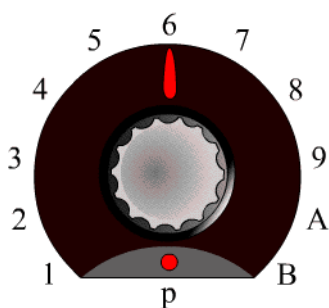
- In any V-Pot display mode, a received LED position value of 00 will turn off all of the V-Pot LEDs.

V-pot display modes available:

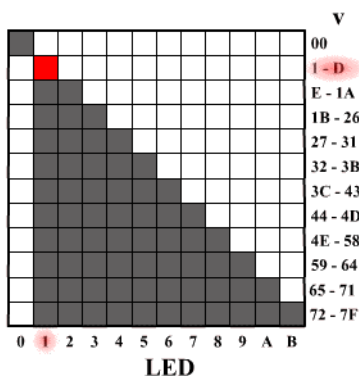
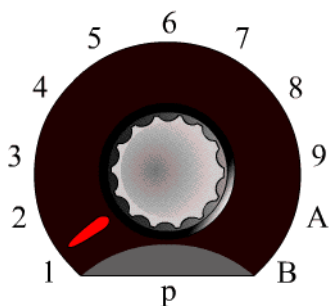
Mode 0 - Single Dot



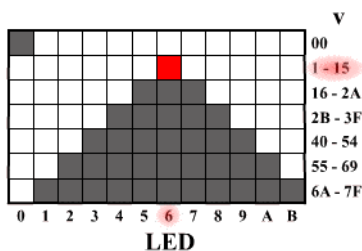
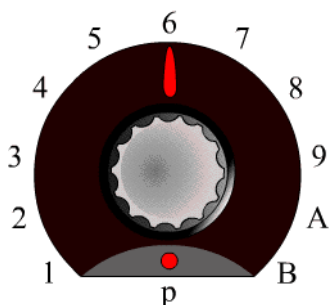
Mode 1 - Boost/Cut



Mode 2 - Wrap



Mode 3 - Spread



External Controller

Received:

None

Transmitted:

B0, 2E, <i>w</i>	External Controller changed	
	<i>w</i>	External Controller position value (00—7F)

Example:

- B0, 2E, 07 = External Controller value = 07

Jog Wheel

Received:

None

Transmitted:

B0, 3C, XX	Jog wheel turned by user	
	XX	delta value in the form of (0 s v v v v v v)
		s direction bit: 0 = clockwise, 1 = counter clockwise
	<i>w</i>	number of ticks

Examples:

- B0, 3C, 01 = Jog forward
- B0, 3C, 41 = Jog reverse

LCD

Received:

<Hdr>, 12, oo, yy, ..., F7	Update LCD
----------------------------	------------

Transmitted:

None

Parameters:

oo	Display offset to write from: 00 thru 37 for upper line, 38 thru 6F for lower line.
yy	Data: ASCII equivalents for display characters written from left to right, including line wrapping between upper and lower line. Up to 112 data bytes may be sent in one message.

Example:

The following message writes “Hello” to top left of the LCD on a Logic Control master section:

F0 00 00 66 10 12 00 48 65 6C 6C 6F F7

Notes:

- There are 7 displayed characters per channel, with the exception of channel 8, which displays only the first 6 characters. Internally however, the LCD stores 2 x 56 characters.
- In most cases you will use the LCD in a scribble-strip fashion (text above each channel). In this case, you should use only the first six characters per channel to leave space between channel text.
- The lower line can be switched into meter mode. See *Metering* section on page 118 for further details.
- While the LCD switches between horizontal and vertical metering mode, it ignores LCD messages. After you sent an LCD metering mode change message, you should delay LCD messages for at least 600 ms.

7-Segment Displays

Time Code/BBT Display:

Received:

<Hdr>, 10, yy, ..., F7	Update multiple characters
B0, 4i, yy	Update single character

Transmitted:


None

Parameters:

i	Digit ID: 0 = right-most, 9 = left-most
yy	Data bytes representing character to be written (See <i>7-Segment Display Character table</i> : section on page 117). Up to ten characters can be sent in the SysEx message.

Examples:

- The following message writes “109.02.01.126” to the Time Code display (note decimal points)
F0 00 00 66 10 10 36 32 31 71 30 72 30 79 30 31 F7
- B0 40 30 41 31 = writes “10” into the last two digits.

 **IMPORTANT:** The digits in the Time Code display and Assignment display are written RIGHT-TO-LEFT to help conserve bandwidth.

Assignment 7-segment display:

Received:

<Hdr>, 11, yy, yy, F7	Update multiple characters
B0, 4i, yy	Update single character

Transmitted:


None

Parameters:

i	Digit ID: A= right, B = left
yy	Data bytes representing character to be written (See 7-Segment Display Character table: section on page 117). Two characters can be sent in the SysEx message

Example:

- B0 4B 10 4A 4E writes “Pn.” to the Assignment display.

 **IMPORTANT:** The digits in the Time Code display and Assignment display are written RIGHT-TO-LEFT to help conserve bandwidth.

7-Segment Display Character table:

	0x	1x	2x	3x
x0	@	P		0
x1	A	Q	!	1
x2	B	R	"	2
x3	C	S	#	3
x4	D	T	\$	4
x5	E	U	%	5
x6	F	V	&	6
x7	G	W	'	7
x8	H	X	(8
x9	I	Y)	9
xA	J	Z	*	:
xB	K	[+	;
xC	L	\	,	<
xD	M]	-	=
xE	N	^	.	>
xF	O	_	/	?

Hint:

- Characters @ (40h) thru ` (60h) = (ASCII value) – 40h
- Characters ! (21h) thru ? (3Fh) = ASCII value

Notes:

- The decimal point on each 7-segment character can be lit by adding 40 Hex to the value of the data.

Metering**Received:**

D0, XX	Peak level
<Hdr>, 20, ii, mm, F7	Channel meter mode
<Hdr>, 21, yy, F7	Global LCD meter mode

Transmitted:

None

Parameters:

XX	Meter level in the form of (0 h h h / / / /):		
	hh	Channel to be addressed (0 thru 7)	
	//	Meter level:	
		0 thru C	= level meter 0%..100% (Overload not cleared!)
		E	= set overload
		F	= clear overload
ii	Channel ID (0..7)		
mm	mode bit map in the form of (0 0 0 0 0 / p s):		
	/	Enable level meter on LCD	
	p	Enable peak hold display (horizontal only)	
	s	Enable Signal LED	
yy	00 = horizontal 01 = vertical		

Notes:

- There is only one level meter per channel. For stereo tracks, use the maximum of left and right levels.
- Only transmit peak levels. Logic Control automatically decreases the level meter bars, and switches off the Signal Present LED with time. This way, MIDI bandwidth takes up only a fraction compared to implementations where the current level (and peak level) has to be transmitted constantly.
- Decay rate is approximately 300ms per meter division (1.8 seconds to fall from 100% to 0%).
- The LCD meter value and the duration of the Signal Present LED are controlled by the same data byte.
- While the LCD switches between horizontal and vertical metering mode, it ignores LCD messages. After you sent an LCD metering mode change message, you should delay LCD messages for at least 600 ms.

Control Surface Layout and IDs

ID	Switch	LED	Function
00	•	•	REC/RDY Ch. 1
01	•	•	REC/RDY Ch. 2
02	•	•	REC/RDY Ch. 3
03	•	•	REC/RDY Ch. 4
04	•	•	REC/RDY Ch. 5
05	•	•	REC/RDY Ch. 6
06	•	•	REC/RDY Ch. 7
07	•	•	REC/RDY Ch. 8
08	•	•	SOLO Ch. 1
09	•	•	SOLO Ch. 2
0A	•	•	SOLO Ch. 3
0B	•	•	SOLO Ch. 4
0C	•	•	SOLO Ch. 5

MIDI Implementation

ID	Switch	LED	Function
0D	•	•	SOLO Ch. 6
0E	•	•	SOLO Ch. 7
0F	•	•	SOLO Ch. 8
10	•	•	MUTE Ch. 1
11	•	•	MUTE Ch. 2
12	•	•	MUTE Ch. 3
13	•	•	MUTE Ch. 4
14	•	•	MUTE Ch. 5
15	•	•	MUTE Ch. 6
16	•	•	MUTE Ch. 7
17	•	•	MUTE Ch. 8
18	•	•	SELECT Ch. 1
19	•	•	SELECT Ch. 2
1A	•	•	SELECT Ch. 3
1B	•	•	SELECT Ch. 4
1C	•	•	SELECT Ch. 5
1D	•	•	SELECT Ch. 6
1E	•	•	SELECT Ch. 7
1F	•	•	SELECT Ch. 8
20	•		V-Select Ch. 1
21	•		V-Select Ch. 2
22	•		V-Select Ch. 3
23	•		V-Select Ch. 4
24	•		V-Select Ch. 5
25	•		V-Select Ch. 6
26	•		V-Select Ch. 7
27	•		V-Select Ch. 8
28	•	•	ASSIGNMENT: TRACK
29	•	•	ASSIGNMENT: SEND
2A	•	•	ASSIGNMENT: PAN/SURROUND
2B	•	•	ASSIGNMENT: PLUG-IN

ID	Switch	LED	Function
2C	•	•	ASSIGNMENT: EQ
2D	•	•	ASSIGNMENT: INSTRUMENT
2E	•		FADER BANKS: BANK Left
2F	•		FADER BANKS: BANK Right
30	•		FADER BANKS: CHANNEL Left
31	•		FADER BANKS: CHANNEL Right
32	•	•	FLIP
33	•	•	GLOBAL VIEW
34	•		NAME/VALUE
35	•		SMPTE/BEATS
36	•		F1
37	•		F2
38	•		F3
39	•		F4
3A	•		F5
3B	•		F6
3C	•		F7
3D	•		F8
3E	•		GLOBAL VIEW: MIDI TRACKS
3F	•		GLOBAL VIEW: INPUTS
40	•		GLOBAL VIEW: AUDIO TRACKS
41	•		GLOBAL VIEW: AUDIO INSTRUMENT
42	•		GLOBAL VIEW: AUX
43	•		GLOBAL VIEW: BUSSES
44	•		GLOBAL VIEW: OUTPUTS
45	•		GLOBAL VIEW: USER
46	•		SHIFT
47	•		OPTION
48	•		CONTROL
49	•		CMD/ALT
4A	•	•	AUTOMATION: READ/OFF

MIDI Implementation

ID	Switch	LED	Function
4B	•	•	AUTOMATION: WRITE
4C	•	•	AUTOMATION: TRIM
4D	•	•	AUTOMATION: TOUCH
4E	•	•	AUTOMATION: LATCH
4F	•	•	GROUP
50	•	•	UTILITIES: SAVE
51	•	•	UTILITIES: UNDO
52	•		UTILITIES: CANCEL
53	•		UTILITIES: ENTER
54	•	•	MARKER
55	•	•	NUDGE
56	•	•	CYCLE
57	•	•	DROP
58	•	•	REPLACE
59	•	•	CLICK
5A	•	•	SOLO
5B	•	•	REWIND
5C	•	•	FAST FWD
5D	•	•	STOP
5E	•	•	PLAY
5F	•	•	RECORD
60	•		Cursor Up
61	•		Cursor Down
62	•		Cursor Left
63	•		Cursor Right
64	•	•	Zoom
65	•	•	Scrub
66	•		User Switch A
67	•		User Switch B
68	•		Fader Touch Ch. 1
69	•		Fader Touch Ch. 2

ID	Switch	LED	Function
6A	•		Fader Touch Ch. 3
6B	•		Fader Touch Ch. 4
6C	•		Fader Touch Ch. 5
6D	•		Fader Touch Ch. 6
6E	•		Fader Touch Ch. 7
6F	•		Fader Touch Ch. 8
70	•		Fader Touch Master
71		•	SMPTE LED
72		•	BEATS LED
73		•	RUDE SOLO LIGHT
76		•	Relay click

MIDI Implementation Chart

Function	Transmitted	Recognized	Remarks
ChannelDefault: Changed:	1 1	1 1	Each Logic Control unit should be installed on a separate MIDI port..
ModeDefault:	X	X	
Messages:	X	X	
Altered:	X	X	
Note Number True Voice:	O 0—127 X	O 0—127 X	
VelocityNote On: Note Off:	O v = 1—127 X v = 00	O v = 1—127 X v = 00	
After TouchKeys: Chan's:	X X	X O	used for motor faders
Pitch Bend	O	O	
Control Change	O	O	
Program Change True #:	X	X	
SYSTEM EXCLUSIVE:	O	O	
SYSTEM COMMON:	X	X	

Mode 1: OMNI ON, POLY Mode 2: OMNI ON, MONO O: Yes
Mode 3: OMNI OFF, POLY Mode 4: OMNI OFF, MONO X: No

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