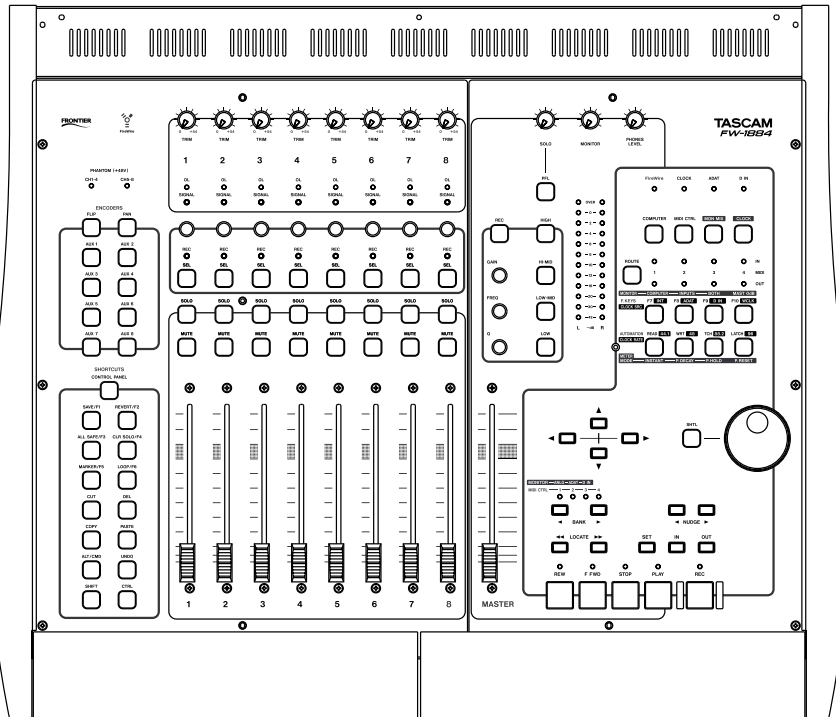# TASCAM
TEAC Professional Division

FRONTIER
DESIGN GROUP

FW-1884

Professional Control Surface / FireWire Audio-MIDI Interface

OWNER'S MANUAL

The following marking is located on the bottom of the unit:

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

This appliance has a serial number located on the rear panel. Please record the model number and serial number and retain them for your records.

Model number _____

Serial number _____

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

Important Safety Precautions

IMPORTANT (for U.K. Customers)

DO NOT cut off the mains plug from this equipment.
If the plug fitted is not suitable for the power points in your home or the cable is too short to reach a power point, then obtain an appropriate safety approved extension lead or consult your dealer.

If nonetheless the mains plug is cut off, remove the fuse and dispose of the plug immediately, to avoid a possible shock hazard by inadvertent connection to the mains supply.

If this product is not provided with a mains plug, or one has to be fitted, then follow the instructions given below:

IMPORTANT: The wires in this mains lead are coloured in accordance with the following code:

GREEN-AND-YELLOW	: EARTH
BLUE	: NEUTRAL
BROWN	: LIVE

WARNING: This apparatus must be earthed.

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

The wire which is coloured GREEN-and-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured GREEN or GREEN-and-YELLOW.

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

When replacing the fuse only a correctly rated approved type should be used and be sure to re-fit the fuse cover.
IF IN DOUBT — CONSULT A COMPETENT ELECTRICIAN.

For CANADA

This class A digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la class A est conforme à la norme NMB-003 du Canada

CE Marketing Information

a) Applicable Electromagnetic Environment: E4

b) Peak inrush current: 7A

For U.S.A

TO THE USER

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
Operation of this equipment in a residental area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CAUTION
Changes or modifications to this equipment not expressly approved by TEAC CORPORATION for compliance could void the user's authority to operate this equipment.

For the consumers in Europe
WARNING
This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

Pour les utilisateurs en Europe
AVERTISSEMENT
Il s'agit d'un produit de Classe A. Dans un environnement domestique, cet appareil peut provoquer des interférences radio, dans ce cas l'utilisateur peut être amené à prendre des mesures appropriées.

Für Kunden in Europa
Warnung
Dies ist eine Einrichtung, welche die Funk-Entstörung nach Klasse A besitzt. Diese Einrichtung kann im Wohnbereich Funkstörungen versursachen; in diesem Fall kann vom Betrieber verlang werden, angemessene Maßnahmen durchzuführen und dafür aufzukommen.

1 Read these instructions.

2 Keep these instructions.

3 Head all warnings.

4 Follow all instructions.

5 Do not use this apparatus near water.

6 Clean only with dry cloth.

7 Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8 Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9 Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. Grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10 Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11 Only use attachments/accessories specified by the manufacturer.

12 Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13 Unplug this apparatus during lightning storms or when unused for long periods of time.

14 Refer all serving to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

• Do not expose this apparatus to drips or splashes.

• Do not place any objects filled with liquids, such as vases, on the apparatus.

• Do not install this apparatus in a confined space such as a book case or similar unit.

• The apparatus draws nominal non-operating power from the AC outlet with its POWER switch in the off position.

Table of Contents

1 – Introduction

1.1   Overview

Thank you for choosing the TASCAM FW-1884. We designed the FW-1884 to be an all-in-one solution for your computer-based digital audio workstation system. Its integrated design incorporates a high-resolution professional multi-channel audio interface and integrated zero-latency input monitor mixer, a fully independent 4 x 4 MIDI interface and routing matrix, and a highly programmable, ergonomically designed control surface for your audio software.

The FW-1884 was designed to be the nerve center of your digital audio environment. Its versatile control surface features nine touch-sensitive motorized faders, transport and multi-function controls for direct, immediate communication between your audio software and you. Its full complement of analog mic and line inputs, ADAT and S/PDIF inputs and outputs provides a high resolution, 24 bit audio front end for input and output of your digital audio workstation. With eight analog

and ten digital outputs it can accommodate various surround modes, and its integrated free-standing mixer provides the connectivity you need for your entire studio. Its fully configurable 4 x 4 MIDI routing matrix requires no external software. And it connects to your Windows™ or MacOS™ computer with a single FireWire™ connection.

Please take some time to look through this owners manual and familiarize yourself with the FW-1884's features and operation. We suggest you pay particular attention to the operational notes for your software application(s) of choice. You may also want to refer to your software's documentation in many cases, for a clear understanding of how certain features are integrated. Your experience with the FW-1884 will be greatly enhanced by a good working knowledge of your audio software.

1.2   Features

The audio input section is fully 24-bit and can accommodate sample rates of up to 96 kHz. It is capable of inputting up to 18 simultaneous channels of audio to your computer. It features eight analog XLR inputs with professional quality microphone preamps and switchable phantom power, as well as eight line inputs with channel inserts. Digital inputs are available in ADAT lightpipe, TOSLink™ and S/PDIF coaxial configurations.

The output section offers eight balanced line level analog outputs. Outputs 1 and 2 can be used alone to provide a two-channel mix output, or up to eight outputs can be used independently to configure a multi-channel surround mix. ADAT lightpipe, TOSLink and S/PDIF coaxial digital outputs are also featured.

The MIDI section features a fully independent 4 x 4 MIDI patchbay. Routing and configuration can be easily controlled via the FW-1884's front panel. For synchronization to external devices, word clock input and output is offered on 75 Ω coaxial BNC connectors.

The FW-1884's control surface is intuitively designed to integrate with all major digital audio workstation software. Its nine touch-sensitive faders respond instantly to your commands and update just as quickly. Its transport controls, shuttle wheel and generous array of application-dedicated switches puts deep control of your audio software at your fingertips.

The FW-1884 is supported under Windows XP and Windows 2000, as well as MacOS 9.2.2 or later, and MacOS X.2.4 (Jaguar) or later. In addition, your computer must be fitted with an IEEE-1394 (FireWire™) interface. (**NOTE**: Some manufacturers may use a different nomenclature to refer to their FireWire™ connections, such as Sony's "iLink", or simply "1394".)

The FW-1884 comes with a high-quality six-pin to six-pin interface cable. We strongly suggest you use this cable, or one of equal quality, for optimum audio performance. If your computer is fitted with a 4-pin interface, you will need to obtain a 4-pin to 6-pin IEEE 1394 cable, available at most computer dealers.

The FW-1884 is supplied with a 2 m (6-foot) cable. If you wish to use a longer cable, the length should not be more than 4.5 m (15 feet) and the cable should be the best possible quality available to avoid data loss, which results in audio dropouts.

1 – Introduction

NOTE

Despite the fact that you can connect and disconnect the FW-1884 to and from the computer with power turned on, we strongly recommend that all connections and disconnections are made without the DAW software using the FW-1884 running. If the DAW software is running when connections are made or broken, it may result in your computer crashing, or "freezing" and possible loss of data. This also applies to turning the power of the FW-1884 on and off when it is connected—turn on the power before launching the DAW software, and quit the software before turning off the FW-1884.
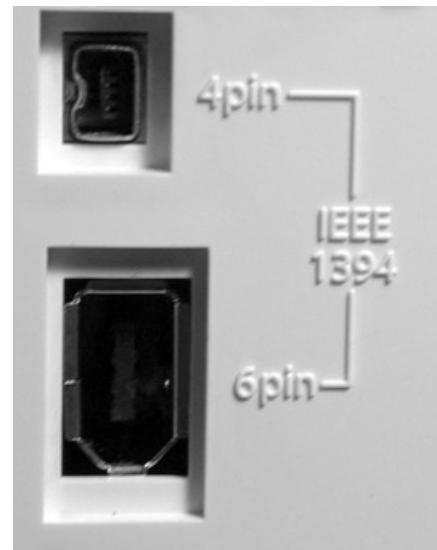
1.3   System Requirements

The FW-1884 is supported under Windows XP and Windows 2000. The FW-1884 is not supported under Windows 98 or Windows ME.

In the case of Windows 2000, you must be running SP3 or SP4 and then install the supplied Hotfix. Windows 2000 SP5 includes the Hotfix, so there is no need to install it separately. For Windows XP, you must be running SP1 and then install the supplied Hotfix. Windows XP SP2 includes the Hotfix, so there is no need to install it separately.

On the Mac, the FW-1884 is supported under MacOS 9.2.2 or later, and Mac OSX version 10.2.4 or later. Earlier versions of Mac operating systems are not supported.

1.4   In The Box

The FW-1884's box contains the items listed below. When opening the package please be certain all the items listed are included. If any items are missing, please consult your TASCAM dealer.

- FW-1884
- Power cable
- IEEE 1394 6-pin to 6-pin cable

- A CD-ROM containing the driver and utility software and documentation for the FW-1884 (Windows and Mac compatible).
- This manual
- The Setup Guide
- Warranty card.

1.5 Nomenclature Used In The Manual

Within this manual, the following typographic conventions are used:

• The name of a control or connector on the unit is written in the following way: **LINE/MIC**.

• The name of a control or connector on another unit is written in the following way: **AUX IN**.

• When referring to the screen display of the host computer, we refer to any prompts, messages, etc. in the following typeface: `Press any key to continue.`

• If you have to type something into the computer, we write it this way: **FILENAME.EXT**.

• The names of keys to be pressed on the computer keyboard are written in this typeface with square brackets enclosing them **[F1]**.

• Keys that are to be pressed together are joined by a + symbol, so that **[Ctrl]+[F1]** means press and hold the Control key and press the F1 key.

1.6 Software application notes

Since much of the FW-1884's operation pertains directly to your DAW software, TASCAM has prepared a series of application notes on using the FW-1884 with a number of different DAW programs. These application notes are included on the FW-1884 CD-ROM, and are available online in PDF format on the TASCAM website at www.tascam.com.

To read them, you will need an application capable of displaying PDF files, such as the Adobe Acrobat Reader (version 4 or above), available for free download from the Adobe Web site at www.adobe.com.

Since software applications and operating systems often evolve and develop after their initial release, we suggest you check the TASCAM site regularly for updated information. It's also a good idea to check your software manufacturer's website regularly, for information and version updates.

1.7 Special notes for touch-faders

The usual rules regarding precision electronic equipment naturally apply to the FW-1884. In addition, note the following that apply to the touch-sensitive faders:

The faders need a human finger to operate their touch-sensitivity. Do not use a pencil, ruler, etc. to operate them. Even using your fingernails may not activate the touch-sensitivity.

The humidity and temperature of your environment affects the touch-sensitivity of the faders. Under normal working conditions you should experience no issues. However, extremes of temperature and/or humidity may sometimes cause operational problems.

1.8 Copyright, etc.

Windows, Windows XP, and Windows 2000 are trademarks of Microsoft Corporation.

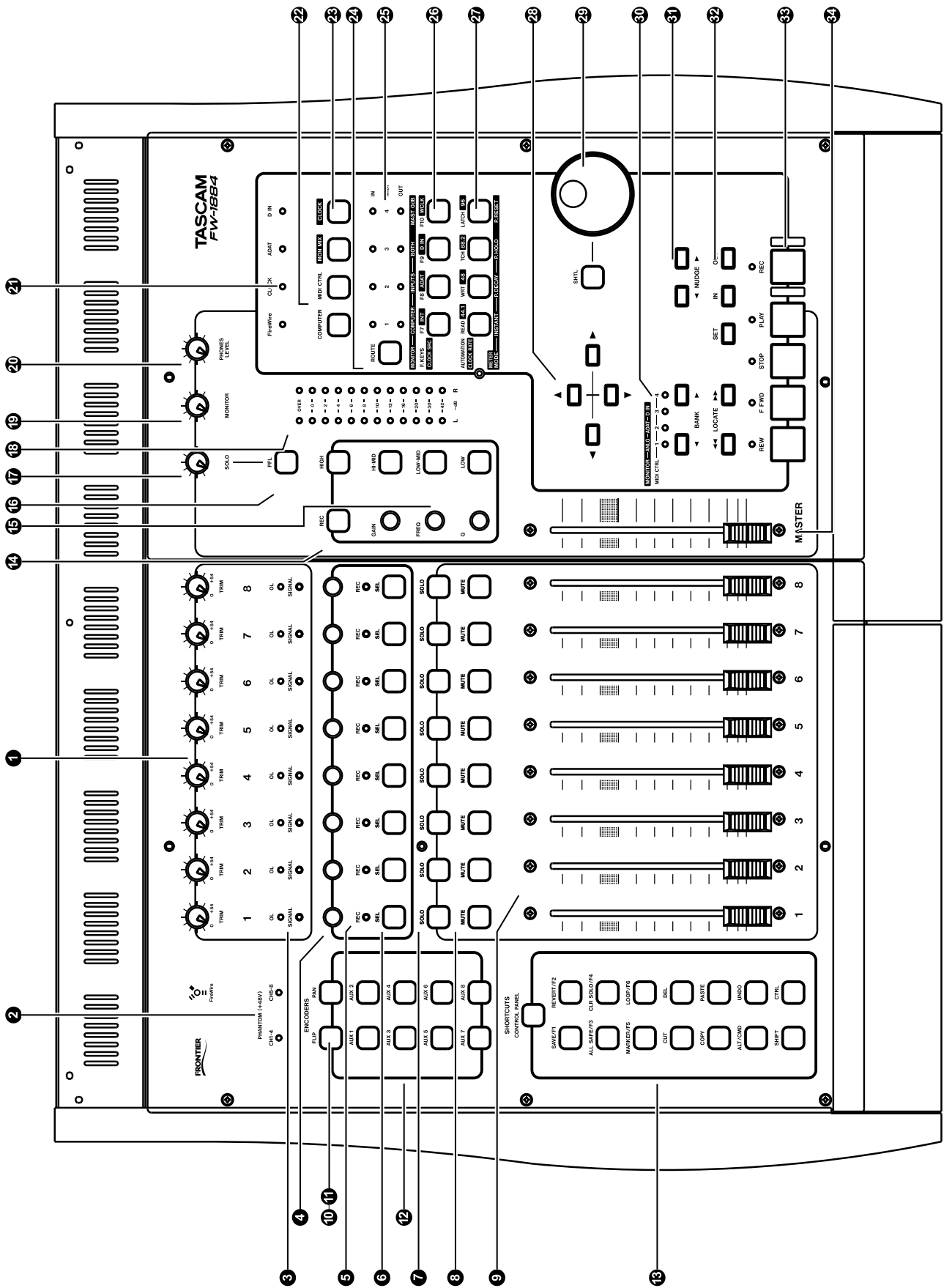Macintosh, MacOS, MacOS X and FireWire™ are trademarks of Apple Computer.

i.LINK is a trademark of Sony Corporation.

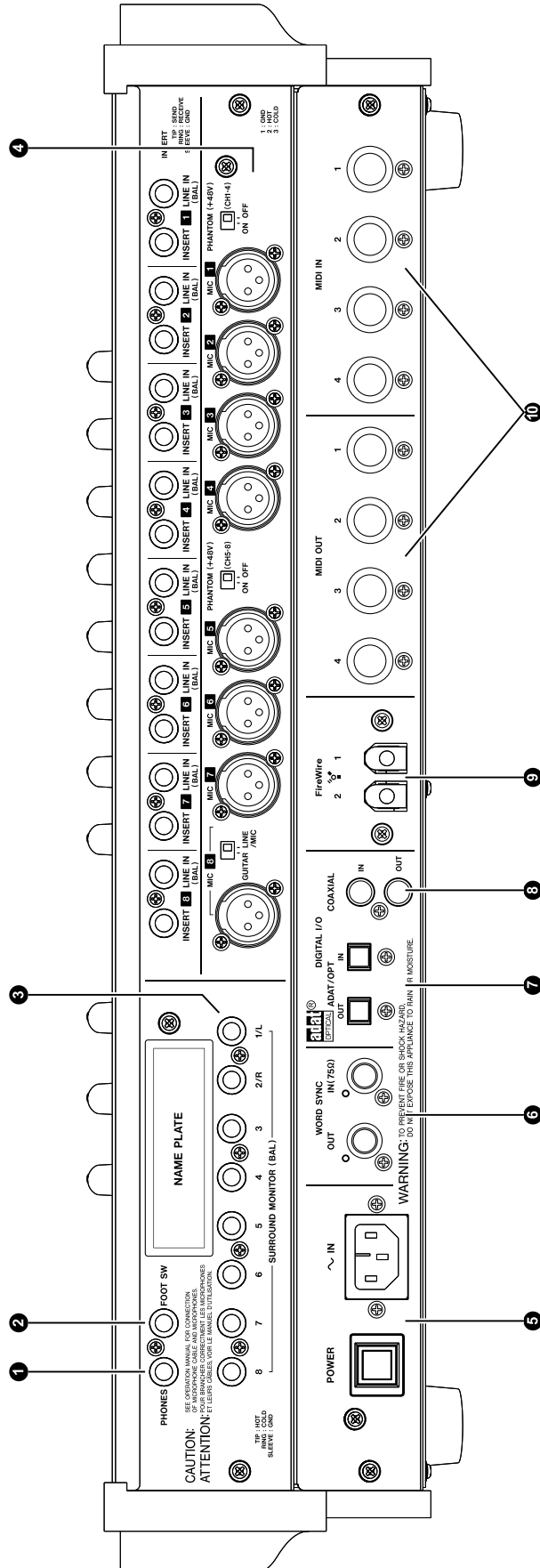HUI and Mackie CONTROL are trademarks of Mackie Designs.

All other trademarks are the property of their respective holders.

2.1   Front Panel Illustration.

2.2 Rear Panel Illustration

2.3 Front Panel Control Descriptions

1. Trim Pots 1-8 – These are analog level controls for the input level of the Mic (XLR) and line inputs 1 – 8. Their function is the same regardless of the control surface mode selected. It's important to note that the best signal-to-noise ratios are achieved by maximizing the level of analog inputs at the A/D converters. For the mic and line inputs of the FW-1884, the trim controls provide the means for optimizing these levels. For a complete discussion of this issue, please refer to Section section 4.3.3, "Setting Input Levels"

2. Phantom Power Indicator LEDs – These LEDs light to indicate +48 V phantom power to the XLR microphone inputs. Phantom power is switchable in two groups of four channels, channels 1-4 and channels 5-8. The LEDs are unaffected by control mode selection.

3. Signal and OL LEDs 1-8 – The signal LEDs light to indicate the presence of an audio signal on the corresponding analog input. The OL LEDs light to indicate a signal peaking at –2.5dBFS or higher by default. (This level is adjustable between 0.0 dBFS and 5.0 dBFS, in 0.5 dB increments, via the FW-1884's control panel.) This indicates an overloaded input – reduce the input level to that channel until this light goes out. These LEDs indicate signal level to the eight analog inputs regardless of the control surface mode selected.

4. Channel Rotary Encoders – In COMPUTER Control mode, these rotary encoders affect the application parameter currently selected by the Encoder keys. In most cases, the **PAN** and **AUX 1-8** Encoder keys correspond to the associated Pan and Aux Send parameters in the host application. Refer to the Application Notes for your software for details.

In MON MIX mode, these encoders function exclusively as PAN controls, and the associated PAN encoder key is always lit.

In MIDI CTL mode, these encoders send out continuous controller commands.

5. Channel REC LEDs – In COMPUTER Control mode, these LEDs light or blink to indicate that the selected channel(s) are in record-ready or record status. Refer to the Application Notes for your software for details.

In MON MIX mode, these LEDs are used to show that channel's PAN location. Rotating an encoder will cause the SEL and REC LEDs to shift left/right as you move.

In MIDI CTL mode these LEDs have no function.

6. Channel SEL Keys and LEDs – In COMPUTER Control mode, these keys select the associated channel as active in the host application. The **EQ** controls will typically address the host application's **SEL**ected channel. In most cases, holding the **REC** key and pressing one or more channel **SEL** keys will arm the host application's associated channels for recording. Refer to the Application Notes for your software for details.

In MON MIX mode, pressing a channel's **SEL** key causes the **REC** indicators to show the selected channel's pan position (indicator 1 is lit with pan position at full left, indicator 8 is lit at hard right, indicators 4 and 5 are lit together when panned center, etc.).

In MIDI CTL mode, these keys send out specific controller commands.

7. Channel SOLO keys – In COMPUTER Control mode, these keys will solo their respective channels, while muting the audio on all other channels in the host application. Any number of channels can be soloed simultaneously. (Note that in COMPUTER Control mode, the operation of the SOLO function is dictated by the host application. For more information please refer to the Application notes for your DAW software application.)

In MON MIX mode, the **SOLO** keys function is identical, but only affecting the FW-1884's built-in monitor mixer. The SOLO mode (Pre-Fader Listen or Solo-in-Place) is selected by the **PFL** key. The PFL function applies only to the monitor mix SOLOs.

In MIDI CTL mode, these keys send out specific controller commands.

8. Channel MUTE keys – In COMPUTER Control mode, these keys will mute the audio of the selected channel. Any number of channels can be muted simultaneously.

In MON MIX mode, the MUTE keys function is identical, but only affecting the monitor mix.

In MIDI Control mode, these keys send out specific controller commands.

9. Channel Faders – In COMPUTER Control mode, the channel faders send continuous controller information to banks of eight channels in the host application's software mixer. The current bank is selected by the **BANK** keys.

In MON MIX mode, the channel faders control the monitor level of the audio inputs, as selected by the BANK keys:

Bank 1 = analog inputs

Bank 2 = ADAT inputs

Bank 3 = S/PDIF inputs (channels 1 and 2 only. Channels 3-8 are inactive.)

NOTE: The faders do not affect the input level to the host computer.

In MIDI control mode, the channel faders send out continuous MIDI controller commands.

10. FLIP key – In COMPUTER Control mode, this key will switch the control parameters of the Channel Faders and their associated Channel Rotary Encoders. (Example: if the Rotary Encoder is set to Aux Send function, pressing the **FLIP** key will cause the encoder to control the channel level, while the channel fader will control the Aux Send function.)

In MON MIX mode, this key has no function.

In MIDI CTL mode, this key sends out specific MIDI controller commands.

11. PAN key – In COMPUTER control mode, when the PAN key is pressed, the Channel Rotary Encoders will control the Panning function for the currently selected bank of eight channels in the host application.

In MON MIX mode this key has no function, but remains lit since the channel encoders only function as PANs.

In MIDI CTL mode, this key sends out specific MIDI control commands.

12. AUX keys 1-8 – In COMPUTER Control mode, when an AUX key is pressed, the Channel Rotary Encoders will control the Auxilliary Send level for the selected bank of eight channels in the host application.

In MON MIX mode, these keys have no function.

In MIDI CTL mode, these keys send out specific MIDI controller commands.

13. SHORTCUT KEYS:

CONTROL PANEL – This key will open the FW-1884's Control Panel on the host computer. Pressing the key a second time will close the Control Panel. It will function as long as the host computer is connected and running, whether or not an application is active. This key functions globally, regardless of selected control surface mode.

SAVE/F1 – In COMPUTER Control Mode, this key is normally mapped to the host application's Save function. Refer to the Application Notes for your software for details.

In MON MIX mode, this key has no function.

In MIDI CTL mode, this key sends out specific MIDI controller commands.

REVERT/F2 – In COMPUTER Control Mode, this key is normally mapped to the host application's Revert function. Refer to the Application Notes for your software for details.

In MON MIX mode, this key has no function.

In MIDI CTL mode, this key sends out specific MIDI controller commands.

ALL SAFE/F3 – In COMPUTER Control Mode, this key is normally mapped to the host application's All Safe function (deactivating any tracks armed for recording). Refer to the Application Notes for your software for details.

In MON MIX mode, this key has no function.

In MIDI CTL mode, this key sends out specific MIDI controller commands.

CLR SOLO/F4 – In COMPUTER Control Mode, this key is normally mapped to the host application's Clear Solo function (disengaging any Soloed channels). Generally, holding **SHIFT** and pressing this key will clear all mutes. In both cases, the key will affect all channels, even those which are not currently visible. Refer to the Application Notes for your software for details.

In MON MIX mode this key will clear all soloed input monitor channels, even on channel fader banks that are not currently visible. Holding **SHIFT** and pressing this key will clear all mutes, even on channel fader banks that are not currently visible.

In MIDI Control mode, this key sends out specific MIDI control commands.

MARKER/F5 – In COMPUTER Control Mode, this key is normally mapped to the host application's Place Marker function. Refer to the Application Notes for your software for details.

In MON MIX mode, this key has no function.

In MIDI CTL mode, this key sends out specific MIDI controller commands.

LOOP/F6 – In COMPUTER Control Mode, this key is normally mapped to the host application's Activate/Deactivate Loop (repeat) mode function. Refer to the Application Notes for your software for details.

In MON MIX mode, this key has no function.

In MIDI CTL mode, this key sends out specific MIDI controller commands.

CUT – In COMPUTER Control Mode, this key is normally mapped to the host application's Cut function. Refer to the Application Notes for your software for details.

In MON MIX mode, this key has no function.

In MIDI CTL mode, this key sends out specific MIDI controller commands.

DEL - In COMPUTER Control Mode, this key is normally mapped to the host application's Delete function. Refer to the Application Notes for your software for details.

In MON MIX mode, this key has no function.

In MIDI CTL mode, this key sends out specific MIDI controller commands.

COPY – In COMPUTER Control Mode, this key is normally mapped to the host application's Copy function. Refer to the Application Notes for your software for details.

In MON MIX mode, this key has no function.

In MIDI CTL mode, this key sends out specific MIDI controller commands.

PASTE – In COMPUTER Control Mode, this key is normally mapped to the host application's Paste function. Refer to the Application Notes for your software for details.

In MON MIX mode, this key has no function.

In MIDI CTL mode, this key sends out specific MIDI controller commands.

ALT/CMD – This is a modifier key. When held, it modifies the behavior of other selected keys. Its behavior is entirely dependent on the host application support; in some cases it will replicate the behavior of the associated key on your computer keyboard, while in others it may modify the FW-1884's surface controls. Refer to the Application Notes for your software for details.

This key always sends messages to the host computer, regardless of which control mode is selected for the rest of the control surface.

UNDO – In COMPUTER Control Mode, this key is normally mapped to the host application's Undo function. Refer to the Application Notes for your software for details.

In MON MIX mode, this key has no function.

In MIDI CTL mode, this key sends out specific MIDI controller commands.

SHIFT – This is a modifier key. When held, it modifies the behavior of other selected keys. Its behavior is entirely dependent on the host application support; in some cases it will replicate the behavior of the SHIFT key on your computer keyboard, while in others it may address the FW-1884's surface controls. Refer to the Application Notes for your software for details.

This key always sends messages to the host computer, regardless of which control mode is selected for the rest of the control surface.

In MON MIX mode, holding **SHIFT** and pressing **CLR SOLO** clears all mutes.

CTRL – This is a modifier key. When held, it modifies the behavior of other selected keys. Its behavior is entirely dependent on the host application support; in some cases it will replicate the behavior of the CONTROL key on your computer keyboard, while in others it may address the FW-1884's surface controls. Refer to the Application Notes for your software for details.

This key always sends messages to the host computer, regardless of which control mode is selected for the rest of the control surface.

14. REC key – In COMPUTER Control mode, this is a modifier key. When pressed and held, it modifies the behavior of other selected keys. Its behavior is entirely dependent on the host application support. Typically, holding the **REC** key and pressing a channel **SEL** key will arm the selected DAW channel(s) for recording. Refer to the Application Notes for your software for details.

In MIDI CTL and MON MIX modes, this key is inactive and sends no data.

15. EQ Controls - In COMPUTER Control mode, the EQ functions are normally mapped to the corresponding parameters on the host application software. Refer to the Application Notes for your software for details.

In MON MIX mode, the EQ controls have no function.

In MIDI CTL mode, the four EQ band keys send out specific MIDI messages, while the three rotary encoders send out specific continuous controller commands.

The following descriptions apply in COMPUTER control mode only:

FREQUENCY – Normally mapped to the frequency control of the selected band on the host application's EQ section.

Q (Bandwidth) – Normally mapped to the Q (bandwidth) control of the selected band on the host application's EQ section.

GAIN - Normally mapped to the Gain control of the selected band on the host application's EQ section.

LOW key – Normally selects the Low band of the host application's EQ section.

LOW MID key – Normally selects the Low Mid band of the host application's EQ section.

HIGH MID key – Normally selects the High Mid band of the host application's EQ section.

HIGH key – Normally selects the High band of the host application's EQ section.

16. PFL key – In COMPUTER Control mode, this key has no function. Solo monitoring of tracks from the host audio application is handled by the host application, and soloed tracks appear as outputs from the host application.

In MON MIX mode, this key toggles the state of the Solo function from PFL (Pre-Fader Listen) to Solo-In-Place. Refer to section 4.3, "Monitor Mix Mode – (General Notes)" for further details.

In MIDI CTL mode, this key has no effect.

17. Solo level control – This is an analog level control for the output level of the Solo buss. It functions independently of Control mode selection, and only affects the level of the Monitor Mix channels when soloed in PFL mode.

18. Stereo LED level meters – The twelve-segment stereo LED meters display the level of the monitor buss stereo output, before the Monitor Level output. The signal are metered before the Monitor Level control, so its position will not affect the level at the LEDs The meters can monitor Inputs only, DAW channels only, or both sources simultaneously. Three metering modes – Instantaneous, Peak Decay or Peak Hold – are available. For more information on metering functions, refer to section 3.7, "Monitoring and Metering Modes".

19. Monitor level control – This is an analog level control for the output level of the Monitor buss. It can affect all eight analog outputs, or only analog outputs 1 and 2, depending on the settings selected in the FW-1884 Control Panel. For more information refer to section 5.1, "Control Panel". Its function is the same regardless of the control mode selected.

20. Headphone level control – This is an analog level control for the level of the Headphone output. Its function is the same regardless of the control mode selected.

21. Clock input LEDs – These LEDs show the current status of the digital clock master.

- **FireWire** – FireWire™ (indicates valid FireWire™ connection to the host computer)
- **CLOCK** – Internal Crystal Clock
- **ADAT** – ADAT Lightpipe Input
- **D IN** – S/PDIF digital input

22. Surface Mode Selection keys - These keys function globally to select the Control Surface Mode. For more information on the FW-1884's various Control modes, please refer to section 3.1, "Control Surface Modes", and to the Application notes for your software.

COMPUTER Control mode key – Selects the Computer Control mode. In this mode, the FW-1884's control surface modifies the control parameters of the host audio software. For more information, refer to section 4.1, "Computer Control Mode – (General Notes)".

MIDI CTL mode key – Selects the MIDI Control mode. In this mode, the FW-1884's control surface sends out specific static and continuous MIDI messages which can address external devices and applications. For more information, refer to section 4.2, "MIDI Control Mode – (General Notes)".

Mon Mix Control mode key – Selects the Monitor Mix mode. In this mode, the FW-1884's control surface is used to adjust the input-monitoring levels of audio inputs from its analog, ADAT and S/PDIF input sources. For more information, refer to section 4.3, "Monitor Mix Mode – (General Notes)".

23. Clock mode key – When pressed and held, this key displays the current clock source using the LEDs of the keys labeled **CLOCK SOURCE,** and the current sample rate using the LEDs of the keys labeled **CLOCK RATE**. Pressing and holding this key while pressing any of the **CLOCK SOURCE** or **CLOCK RATE** keys will change the respective setting. It functions in all control surface modes. For more information refer to section 3.6, "Clock System Controls".

24. ROUTE key – This key is used to enter MIDI Routing mode. Pressing it once, followed by selecting a MIDI input key (**F7**-**F10**) will call up a display of the current MIDI routing scheme, shown on the **F7 – F10** and **AUTOMATION** keys as well as the MIDI In and Out LEDs. For more information, refer to section 3.5, "MIDI Routing Controls". This key functions independently, regardless of which Control mode is selected.

25. MIDI input LEDs – These four LEDs show the status of the FW-1884's four MIDI inputs. The presence of MIDI data at any of the FW-1884's MIDI input ports will illuminate that port's associated LED for about a quarter-second. A continuous stream of MIDI data will keep the LED lit.

These LEDs also light steadily in MIDI Routing mode to show currently active MIDI mapping.

MIDI output LEDs - These four LEDs show the status of the FW-1884's four MIDI outputs. The presence of MIDI data at any of the FW-1884's MIDI output ports will illuminate that port's associated LED for about a quarter-second. A continuous stream of MIDI data will keep the LED lit.

These LEDs also light steadily in MIDI Routing mode to show currently active MIDI mapping.

26. F-KEYS/CLOCK SRC Keys – In COMPUTER Control mode, these four Function keys and their associated LEDs perform multiple functions; their behavior is entirely dependent on the host application support. Refer to the Application Notes for your software for more details.

In MON MIX mode, these keys are used to display and select the monitoring source(s) and to zero the monitor faders and levels. Refer to section 4.3, "Monitor Mix Mode – (General Notes)".

In MIDI CTL mode, these keys send out specific MIDI controller commands.

These four keys also function globally, in conjunction with the **ROUTE** key, to display and make changes to the MIDI routing of the FW-1884's hardware MIDI inputs. Additionally, they function globally in conjunction with the **CLOCK** key to display and select the incoming clock source.

27. AUTOMATION/CLOCK RATE Keys – In COMPUTER Control mode, the function of these four keys is dependent on the host application support. Typically, they are used to control mixdown automation and fader modes in your DAW's internal mixer. Refer to the Application Notes for your software for more details.

In MON MIX mode, these keys are used to display and select the current Metering Mode, and to reset meter peak-hold displays.

In MIDI CTL mode, these keys send out specific MIDI controller commands.

These four keys also function globally, in conjunction with the **ROUTE** key, to display and make changes to the MIDI routing of the FW-1884's hardware MIDI outputs. Additionally, they function globally in conjunction with the **CLOCK** key to display and select the incoming clock rate.

28. ARROW keys - The **ARROW** keys always address the host computer, regardless of which control mode is selected for the rest of the control surface. Their function is defined by the host application soft-

ware. Typically, they are used to navigate through the GUI (Graphic User Interface) of the application screen. Refer to your software's application notes for further details.

29. SHTL key - The **SHTL** (shuttle) key always sends messages to the host computer, regardless of what control mode is selected for the rest of the control surface. Its function is defined by the host application software. Typically, it is used as a modifier for the DATA WHEEL, changing it, for example, from Shuttle to Scrub mode. Refer to your software's application notes for further details.

DATA WHEEL – The **DATA WHEEL** always sends messages to the host computer, regardless of which control mode is selected for the rest of the control surface. Its function is defined by the host application software. Refer to your software's application notes for further details.

30. BANK keys - In COMPUTER Control mode, the ◄ **BANK** ► keys send a message to the host software application, to address the next lower or higher bank of eight faders, respectively. Used with an application-defined modifier key, they can also be used to jump in single channel increments. The amount of banks is wholly dependent on the host application's parameters. Refer to your software's application notes for further details.

In MIDI CTL mode, these keys address the channel controls only (**FADERS, Encoders, SOLO, MUTE** and **SEL** keys), providing the capability to send four separate sets of commands with these controls. In this mode there are always four banks.

In MON MIX mode, these keys bank between three sets of inputs: (1) Analog Inputs 1-8, (2) ADAT Inputs 1-8, and (3) Digital Inputs L and R. (In bank 3, channels 3-8 are inactive.) In this mode, there are always three banks.

31. NUDGE keys – The **NUDGE** keys always address the host computer, regardless of which control mode is selected for the rest of the control surface. Their function is defined by the host application software. Typically, they are used to move selected audio

parts by pre-set increments within an arrangement. The **NUDGE** ► key moves the part forward, while the ◄ **NUDGE** key moves it backward. Refer to your software's application notes for further details.

32. LOCATE keys – The **LOCATE** keys always address the host computer, regardless of which control mode is selected for the rest of the control surface. In most cases, pressing the ◄◄ **LOCATE** key will move the transport to the left or first locate point, while pressing the **LOCATE** ►► key will move the transport to the right or second locate point. Typically, when the **SET** key is held and one of these keys is pressed, it will store a new locate point at the transport's current location. Refer to your software's application notes for further details.

IN and OUT keys – The **IN** and **OUT** keys always address the host computer, regardless of which control mode is selected for the rest of the control surface. Their function is defined by the host application software. Typically, they are used to locate to or store drop-in and drop-out points for automated recording. In most cases, when **IN** or **OUT** is pressed, the transport will move to the stored location. As well, when the **SET** key is held and one of these keys is pressed, it will typically store a new In or Out point at the transport's current location. Refer to your software's application notes for further details.

SET key - The **SET** key always sends messages to the host computer, regardless of which Control Mode is selected for the rest of the control surface. The **SET** key is a modifier key – press and hold **SET**, and push either of the two **LOCATE** keys, or the **IN** or **OUT** key to store a new Locate or In/Out point at the present cursor position. Refer to your software's application notes for further details.

33. Transport Controls – The Transport controls always address the host computer, regardless of which control mode is selected for the rest of the control surface. The various transport keys (**STOP, PLAY, RWD, FFWD** and **REC**) always send the associated transport commands to the host application software. This is useful if, for example, you want to adjust Monitor inputs while playing back existing channels in your DAW application, and to monitor inputs with zero latency.

34. Master Fader – The Master Fader is a global control, functioning in the same manner regardless of which control mode is selected. Any movement of the master fader is always communicated simultaneously to the host computer, the MIDI control surface and the monitor mixer. There is always one and only one master fader for the entire system.

Additionally, the Master Fader can control the level of the ANLG 1:2 outputs of the computer. A setting in the FW-1884 control panel determines whether output directed to ANLG 1:2 is passed through to the outputs at unity gain, or whether the FW-1884 will apply Master Fader gain to the ANLG 1:2 stream.

The Master Fader's control of the DAW output may be disabled within the FW-1884's Control Panel if desired. Refer to section 4.1, "Computer Control Mode – (General Notes)", for more information.

2.4   Rear Panel Control Descriptions

1. Headphone Outputs – Headphone level output on a balanced stereo ¼" connector.

2. Footswitch Inputs – Accommodates a standard momentary contact-closure footswitch on ¼" connector. This input automatically detects the polarity of a connected footswitch upon power-up.

3. Monitor Outputs 1-8 – Eight balanced +4 dBU line-level ouputs on ¼" TRS jacks. The outputs can be used for all modes of surround and multichannel mixdown as supported by most major DAW application software, up to eight outputs. For standard two-channel monitoring, outputs 1 and 2 are used, with the remaining outputs available for direct outs, effects sends, etc. Refer to section 5.1, "Control Panel" for further details.

4. Mic Inputs 1-8 – Balanced XLR inputs at +4 dBu featuring high-quality mic preamps. These inputs are wired in parallel with their associated Line Inputs.

Line Inputs 1-8 – Balanced line level (+4 dBu) ¼" TRS analog inputs. These inputs are wired in parallel with their associated Mic Inputs.

Inserts 1-8 – Individual channel inserts. These are ¼" TRS (tip-ring-sleeve) jacks which allow you to insert an external processor into the signal chain. The insert point is placed between the input (after the mic/line trim) and the analog-to-digital converter. A standard insert cable with TRS plug is required. Check with your music retailer.

Phantom Power switches – These two switches supply +48V phantom power to the mic inputs, for use with condenser microphones. Phantom power is switchable in two groups of four channels.

NOTE

While most modern dynamic mics are unaffected by phantom power, some ribbon mics may suffer damage if phantom power is sent to them. When in doubt, avoid plugging ribbon mics into an input where phantom power is activated.

5. AC Power Input – Connect the supplied IEC power cable to this input. CAUTION – do not use anything but an IEC-approved power cable.

Power Switch – Push-on push-off recessed power switch.

6. Word Clock Input – Coaxial BNC connector for input of external Word Clock signal from another device. This input is 75 Ohm terminated.

Word Clock Output – Coaxial BNC connector for output of the FW-1884's Word Clock signal to another device.

7. ADAT Lightpipe and 2-channel Input – Fiber-optic input to accommodate eight-channel ADAT and two-channel digital lightpipe formats.

ADAT Lightpipe and 2-channel Output – Fiber-optic output to accommodate eight-channel ADAT and two-channel digital lightpipe formats.

8. D-In Coaxial Input – S/PDIF coaxial digital input on RCA connector.

D-In Coaxial Output – S/PDIF coaxial digital output on RCA connector.

9. FireWire™ (IEEE-1394) Connections – These connect the FW-1884 to the host computer, providing audio, MIDI and control surface communication. Two connections are provided, making it possible to connect additional FireWire™-compatible devices to the buss. The two connections are redundant; either one may be used to connect to your computer.

**10. MIDI Inputs 1-4** – MIDI inputs on standard 5-pin DIN connectors.

MIDI Outputs 1-4 – MIDI outputs on standard 5-pin DIN connectors.

3 – Functional Overview

3.1 Control Surface Modes

The FW-1884 control surface is extremely versatile, and can be used to control a computer application, to control an audio input monitor mix, and to send MIDI messages to external devices via its MIDI outputs.

The FW-1884's control surface is always in one of three modes: Computer Control Mode, MIDI Control Mode or Monitor Mix Mode. Each mode has a dedicated illuminated key, labeled **COMPUTER**, **MIDI CTRL**, and **MON MIX**, respectively. Only one of these keys may be selected and illuminated at one time. Pressing one of these keys activates its designated mode and illuminates its associated LED.
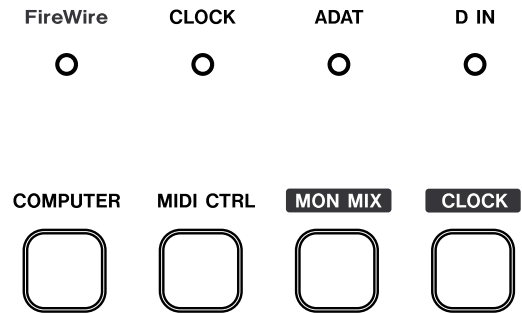
For more information on Control Surface modes, please refer to section 4, "Control Surface Modes and Operation", and to the Application Notes for your software.

3.2 Global Controls

Certain controls operate globally; that is, they function the same way regardless of which control surface mode is selected. These controls are:

MASTER FADER – Any movement of the master fader is always communicated to the host computer, the MIDI control surface and the monitor mixer. There is always one, and only one master fader for the entire system.

ROUTE key – This is used to route data from the MIDI inputs to the MIDI outputs. It also performs other functions as detailed elsewhere in this manual.

PFL key – This key is always used to toggle the state of the Solo function from PFL (Pre-Fader Listen) to Solo-In-Place. For more details on this function, please refer to section 4.3, "Monitor Mix Mode – (General Notes)".

CONTROL SURFACE MODE keys – These three keys are used to select the current control surface mode. This is their only function. Only one control surface mode (and hence only one key) can be selected at a time.

CONTROL PANEL key – This key always opens the FW-1884 control panel on the host computer, assuming it is connected and powered on.

"Hidden" functions The following functions are not printed on the control surface panel, but are available in all modes.

SHIFT+CTRL+P.RESET (LATCH)

Reset meter peaks

SHIFT+MIDI CTRL

Enter MIDI Programming mode if host computer is attached

3.3 Dedicated Computer Controls

Some surface controls are computer-dedicated; that is, they always send a MIDI data signal to the host computer (assuming it is connected), regardless of which control surface mode is currently selected. These controls are:

• Transport keys (**STOP, PLAY, REW, F FWD, RECORD**)
• **DATA WHEEL** and **SHTL** (shuttle) key
• Arrow keys
• ◄◄ **LOCATE** ►►
• **SET**
• **IN** and **OUT**

• ◄ NUDGE ►
• SHIFT, CTRL, ALT/CMD
• CLOCK
• CONTROL PANEL

Input to the **Footswitch Jack** also communicates with the host computer at all times. If you have a footswitch device connected to this jack, activating it will always send a command to the host computer.

Note that in MIDI CTL mode these controls also send programmable MIDI messages to the FW-1884's MIDI outputs.

3.4 Dedicated Modifier Keys

There are four dedicated modifier keys on the FW-1884's control surface: **SHIFT, CTRL, ALT/CMD** and **REC**. These keys have no effect when pressed alone. However, when they are pressed and held, they will modify the functions of a number of other keys when pressed. These functions are always dictated by the host application software.

In most DAW applications, pressing and holding the **REC** key and then pressing a channel **SEL** key will generally arm the selected track(s) for recording.

The **SHIFT, CTRL** and **ALT/CMD** keys will perform various functions, depending on the host application being addressed.

3.5 MIDI Routing Controls

There are eight LEDs used to display MIDI activity on a given MIDI port. The upper row of four red LEDs represents the four MIDI inputs, and the lower row of four green LEDs represents the four MIDI outputs. The presence of MIDI data at any of these MIDI ports will illuminate that port's associated LED for about a quarter-second. A continuous stream of MIDI data will keep the LED lit.

The FW-1884 can route any of its MIDI inputs to any one or more of its MIDI outputs. This full any-to-any routing is always operational, even when the FW-1884 is not connected to a host computer.

**To configure the FW-1884's MIDI input/output routing scheme:**

1 First press the ROUTE key, located left of the MIDI LEDs. The ROUTE key and routing LEDs will flash, as will keys F7 through F10.

2 Press the Function key corresponding to the MIDI input you wish to select – F7 for MIDI input 1, F8 for MIDI input 2, F9 for MIDI input 3 and F10 for MIDI input 4. The Function keys will stop flashing. (The ROUTE key will continue to flash until you exit MIDI routing mode.)

One or more of the lower row of keys (READ, WRT, TCH or LATCH) will be lit, indicating the outputs chosen for the selected MIDI input – READ for MIDI output 1, WRT for MIDI output 2, TCH for MIDI output 3 and LATCH for MIDI output 4.

3 Select any or all available MIDI ports. Their corresponding LEDs will light, and MIDI messages from the selected input port will now be routed to the selected output port(s).

**4** Repeat this procedure for any other MIDI inputs whose routings you want to change.
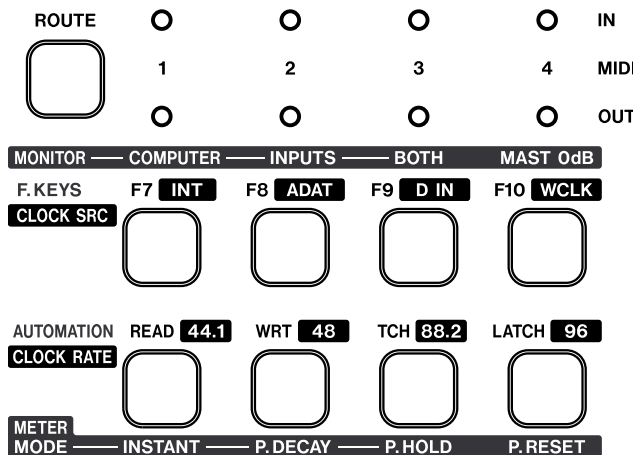
While in MIDI routing mode, selecting any input key will display its selected MIDI outputs. Additionally, all MIDI indicator LEDs will glow steadily to display routing information.

To exit MIDI routing mode, press the **ROUTE** key again. All LEDs will stop flashing and Function keys will return to normal mode.

3.6   Clock System Controls

The FW-1884's audio clock can be checked or changed directly from the control surface. To display the current clock settings, press and hold the **CLOCK** key. The clock source and expected sample rate will be displayed, as shown below:
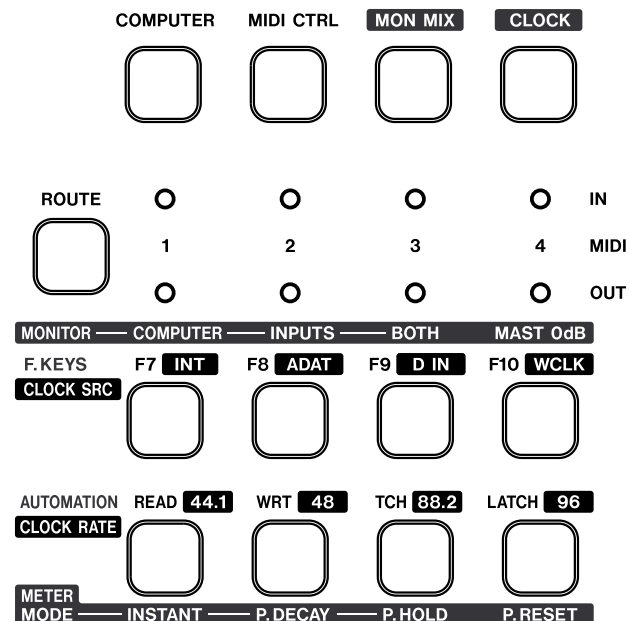
Clock Source

- **INT/F7** – Internal Clock
- **ADAT/F8** – ADAT Input
- **D IN/F9** – S/PDIF Input
- **WCLK/F10** – Word Clock

Expected Sample Rate

- **44.1** – 44.1 kHz
- **48** – 48 kHz
- **88.2** – 88.2 kHz
- **96** – 96 kHz

While holding down the **CLOCK** key, pressing any of the above keys will immediately change the clock source and/or expected sample rate.

If the selected clock source does not have a usable clock signal, the corresponding LED will not light. Instead, the **CLOCK** LED will flash to indicate a problem, and the unit will switch to its own Internal clock and await a valid clock signal. If the sample rate is off by 3% or more, the FW-1884 will switch to the incoming clock, and the nearest sample rate LED will blink slowly.

To exit this mode, release the **CLOCK** key. Function keys will return to normal mode.

3.7 Monitoring and Metering Modes

The FW-1884's twelve-segment stereo LED meters monitor the stereo buss output, before the **Monitor Level** control. The signal source for the meters is selectable in MON MIX mode with the **F7**-**F9** keys, as follows:
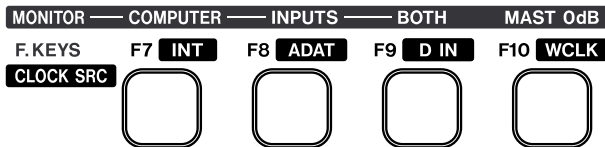
- **F7** – Computer only
- **F8** – Inputs only
- **F9** – Computer and Inputs (default setting)

Refer to section 4.3, "Monitor Mix Mode – (General Notes)", for more details on monitor source selection.

The meters can be configured to any of three functional modes. The **AUTOMATION/CLOCK RATE** keys function to display and select these modes, with their values silkscreened below the keys. The three modes are:
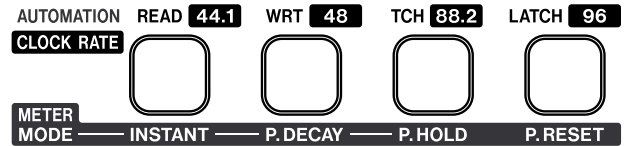
- **INSTANT** – Instantaneous
- **P DECAY** – Peak Decay (default setting)
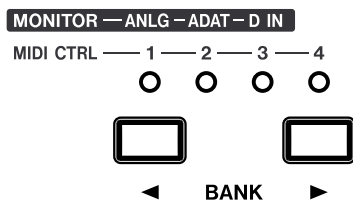- **P HOLD** – Peak Hold

To display or change the current metering mode, press the **MON MIX** key. The currently selected metering mode's associated LED will light. Pressing the **INSTANT, P DECAY**, or **P HOLD** key will change the metering mode.

While in MON MIX mode, pressing the **P RESET** key will reset any presently held peak display. The meter peaks can also be cleared in COMPUTER or MIDI CTL mode by holding **SHIFT** and **CTRL** and pressing the **P RESET** key.

4 – Control Surface Modes and Operation

As mentioned previously in this manual, the FW-1884's control surface actually functions in three different control modes: COMPUTER Control Mode, MIDI Control Mode or MONitor MIX Mode. While all three modes share certain global functions, each mode is quite different in its functionality and focus.

Bank Switch Behavior Each mode has a dedicated illuminated key, labeled **COMPUTER**, **MIDI CTRL**, and **MON MIX**, respectively. Only one of these keys may be selected and illuminated at one time. Pressing one of these keys activates its designated mode and illuminates its associated LED.

```
MONITOR — ANLG – ADAT – D IN
MIDI CTRL —— 1 —— 2 —— 3 —— 4
            ○    ○    ○    ○

         [    ]        [    ]

         ◄      BANK      ►
```

In COMPUTER Control mode, the host application interprets the banking keypresses and controls the BANK LEDs. Therefore, the number of banks implemented and the specific actions in response to BANK key presses are application-specific. (For example, a control surface plug-in may use the bank switches to navigate between 4 sets of 8 faders so that you can manage the settings of a 32-input mixer defined within the software.)

In MIDI CTRL mode there are always four banks of user-defined messages. Refer to section 4.2, "MIDI Control Mode – (General Notes)", for more details.

In MON MIX mode there are three banks which correspond to different groups of FW-1884 audio inputs. Refer to section 4.3, "Monitor Mix Mode – (General Notes)", for more details.

Each control surface mode recalls its most recently selected bank when you return to it. For example, if you have bank 2 selected in MIDI CTRL mode, and switch to COMPUTER control mode where bank 1 is selected, when you next return to MIDI CTRL mode, bank 2 will be selected.

4.1   Computer Control Mode – (General Notes)

As its name implies, COMPUTER Control mode is designed to communicate with the host computer, to control your Digital Audio Workstation (DAW) application software. When the FW-1884 is in COMPUTER control mode, all fader and encoder movements and all keypresses are transmitted to the host computer and interpreted by the host application software (with the exception of certain global keys like control surface mode controls).

In addition, the host computer can send information back to the FW-1884 to update fader positions and light LEDs.

In COMPUTER Control mode, the FW-1884 can communicate with the host computer in a number of different protocols (e.g. Native Mode, Mackie Control Emulation Mode, etc.). General details of each of these modes can be found in the sections which follow. For more specific details refer to the Application notes for your software.

4.1.1   Native Protocol

Native Protocol is the FW-1884's default CONTROL surface mode. In this mode, the FW-1884's controls transmit MIDI messages as detailed in the documentation on the CD-ROM.

Select Native Mode protocol when using the FW-1884 to control applications with native support and a separately-installed software plug-in; these include Cakewalk SONAR, MOTU Digital Performer and others.

Some applications are supported in Native mode only, others in Mackie Control emulation mode only, and some are supported in both modes. We recommend you check the TASCAM website at www.tascam.com for current information and support status.

To set the FW-1884 to Native protocol:

1 **Open the FW-1884 Control Panel**

2 **Select the Settings tab**

3 **In the drop-down CONTROL PROTOCOL menu, select FW-1884 NATIVE.**
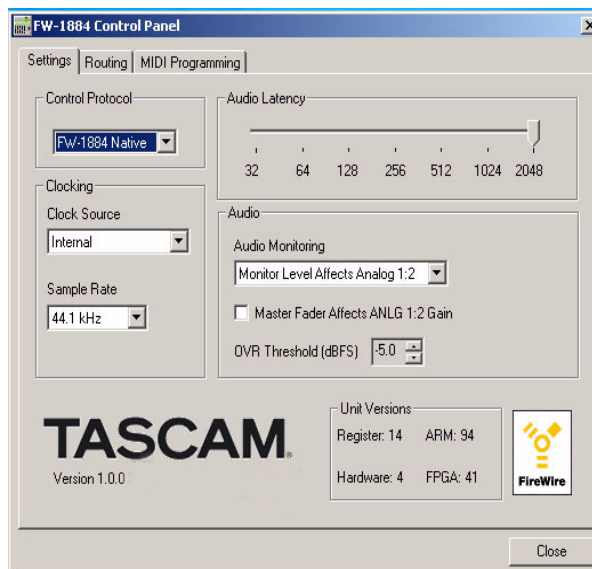
For more detailed information on specific implementation within the host application, please refer to the application notes for your software of choice.
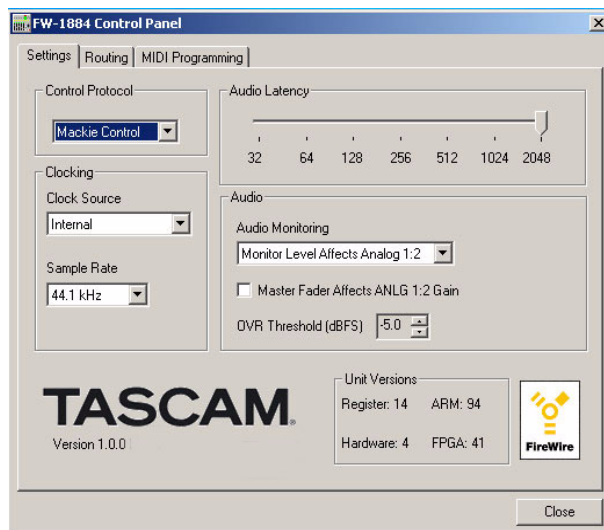
4.1.2 Mackie Emulation Protocol

The FW-1884 can be used to emulate the control messages sent by the Mackie Control™. When in Mackie Control Emulation mode, the audio and MIDI functionality of the FW-1884 are unchanged, but the MIDI messages transmitted and recognized by most of the control surface are changed to closely pattern those of the Mackie Control. This enables you to use the FW-1884 with software applications which may not yet directly support the FW-1884's Native Mode, but do support the Mackie Control.

To set up the FW-1884 in Mackie Emulation protocol:

1 **Open the FW-1884 Control Panel**

2 **Select the Settings tab**

3 **In the drop-down CONTROL PROTOCOL menu, select MACKIE CONTROL EMULATION.**

For detailed information on how the FW-1884's control surface maps to controls within specific applications, please refer to the application notes for the corresponding FW-1884 application note.

4 – Control Surface Modes and Operation

4.1.3 HUI Emulation Protocol

The FW-1884 can be used to emulate the control messages sent by the Mackie HUI™ (Human User Interface). When in HUI Emulation mode, the audio and MIDI functionality of the FW-1884 are unchanged, but the MIDI messages transmitted and recognized by most of the control surface are changed to closely pattern those of the Mackie HUI. This enables you to use the FW-1884 with software applications which may not yet directly support the FW-1884's Native Mode, but do support the HUI.

To set up the FW-1884 in HUI Emulation protocol:

1 Open the FW-1884 Control Panel

2 Select the Settings tab

3 In the drop-down CONTROL PROTOCOL menu, select HUI EMULATION.
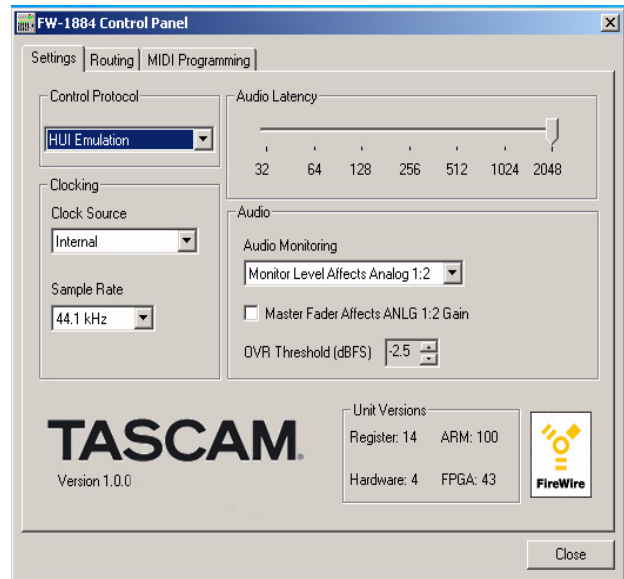
For detailed information on how the FW-1884's control surface maps to controls within specific applications, please refer to the application notes for the corresponding FW-1884 application note.

4.2 MIDI Control Mode – (General Notes)

In MIDI CTRL mode, the FW-1884's keys, encoders and faders can be used to control external MIDI devices by transmitting MIDI messages to its four MIDI outputs.

In MIDI CTRL mode there are four banks, which you can switch between using the ◄ BANK ► keys. With the exception of the master fader, each of the four banks can represent a separate and independent layer of channel faders, encoders and keys. The master fader is global to all banks and all control surface modes.

In MIDI CTRL mode, most of the FW-1884's surface controls can be programmed to send out messages. Only the following keys can NOT be programmed:

• CONTROL PANEL
• SHIFT
• CTRL
• ROUTE

• REC
• CLOCK
• CONTROL SURFACE keys

In addition, note that the eight channel strip controls (**FADER, MUTE, SOLO, SEL** and the channel **ENCODER**) are all bankable – that is, each of these controls is capable of sending four separate layers of control messages, depending on which bank is selected with the **BANK** keys.

The FW-1884's MIDI control messages are pre-programmed, as described in the documentation on the CD-ROM. However, you can reprogram any or all of the controls and customize them for your particular MIDI setup. This is done through the FW-1884's control panel, under the MIDI PROGRAMMING tab.

While in MIDI CTRL surface mode, **SHIFT+CTRL+F8** resets the MIDI surface programming to factory default settings.

It is important to note that some controls are dedicated computer controls, meaning that they always transmit a signal to the host computer, even in MIDI CTL mode. These controls are:

- Transport keys (**STOP**, **PLAY**, **REW**, **F FWD**, **RECORD**)
- **DATA WHEEL** and **SHTL** (shuttle) key
- **Arrow** keys
- ◄◄ **LOCATE** ►►
- **SET**

- **IN** and **OUT**
- ◄ **NUDGE** ►
- **SHIFT**, **CTRL**, **ALT/CMD**
- **CLOCK**
- **CONTROL PANEL**

Unless you are an experienced MIDI programmer, we recommend you exercise caution in assigning MIDI functions to these keys which could cause potential operational conflicts.

4.2.1   Customizing MIDI Control Messages

Open the FW-1884's Control Panel by pressing the **CONTROL PANEL** key on the FW-1884. Select the MIDI PROGRAMMING tab. This tab has a single display window. If your FW-1884 is not powered on and connected to the computer, the window will display **No FW-1884 Detected**. Once the FW-1884 is powered on and connected, the display will look like this:
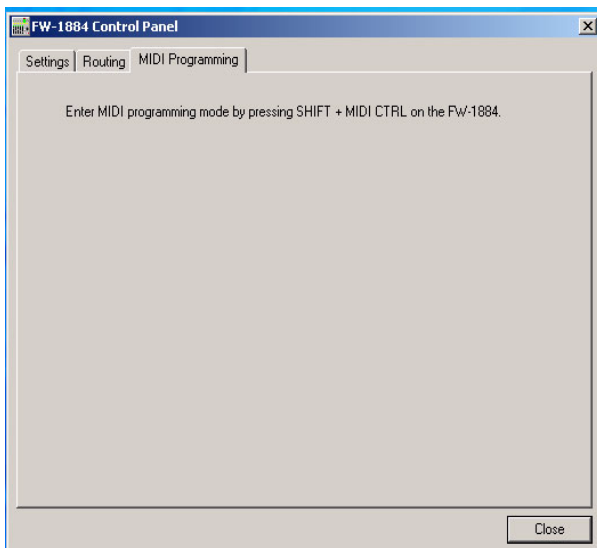
To enter MIDI Programming mode, hold **SHIFT** and press the **MIDI CTRL** key; the **MIDI CTRL** key will blink. (Note that this will only work if the FW-1884 is connected to a host computer.) The FW-1884's Control Panel will open to the MIDI PROGRAMMING tab. (You can leave MIDI Programming mode at any time by pressing the **MIDI CTRL** key again or selecting any other control surface mode.)

Once you have entered MIDI Programming mode, the MIDI PROGRAMMING tab window on the FW-1884's control panel will display the programming information for one of the MIDI control keys, encoders or faders. You can display the programming information for any control by activating it: press a key, move an encoder, touch or move a fader, and that control's programming information is displayed.

Changes that you make to the programmed MIDI messages take effect immediately. Further, they are remembered even when the FW-1884's power is turned off.

4.2.2 Programming Keys

If you press one of the keys used in MIDI CTRL sur-face mode, it will light up and the FW-1884's control panel will display something like this:
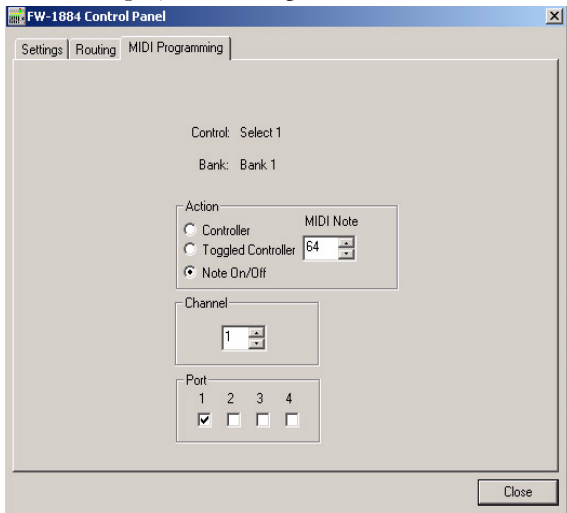
To change the MIDI output(s): Checking or un-checking the four Port boxes will select or de-select the corresponding MIDI output. MIDI messages gener-ated by the key that you're programming will be sent to each port whose associated box is checked. Uncheck all four ports to make a key inactive.

To change the MIDI channel: Use the up and down arrows of the Channel indicator box to change the MIDI channel. Alternatively, you can type in a MIDI channel number from 1 through 16.

To change the MIDI message type: These MIDI con-trol keys are capable of transmitting one of three possi-ble MIDI messages. The message type is selected in the control panel:

- **Controller On/Off** – a controller value of 127 is transmitted when the key is pushed, and a value of 0 is transmitted when it is released. You can program the controller number.
- **Toggled Controller On/Off** – a controller value of 127 is transmitted when the key is pushed. Nothing is transmitted when it is released. When the key is pushed again, a value of 0 is transmitted; again, noth-ing is transmitted when it is released. You can pro-gram the controller number.
- **Note On/Off** – a 'note on' message is transmitted when the key is pushed, and a 'note off' message is transmitted when it is released. You can program the note number.

To change the MIDI controller or note: Use the up and down arrows of the Controller indicator box to change the MIDI controller number. Alternatively, you can type in a MIDI controller number from 0 through 127.

4.2.3 Programming Encoders

The eight channel encoders, as well as the three EQ encoders, can all be reprogrammed. To display the programmed message for an encoder, just turn it slightly. You will see a display something like this:
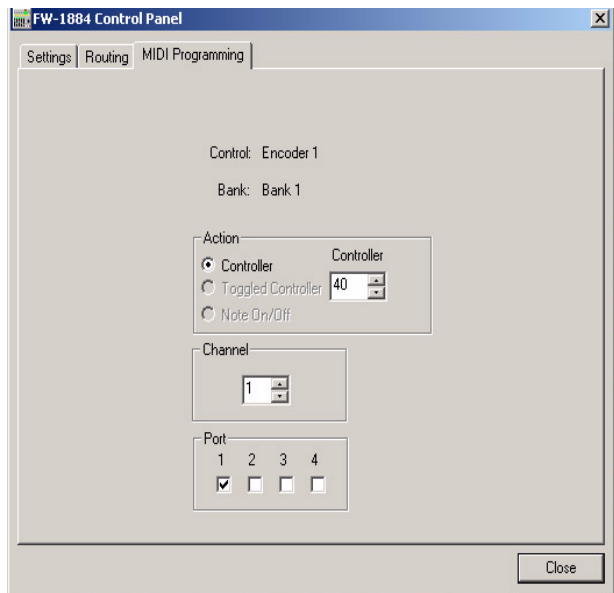
To change the MIDI output(s): Checking or un-checking the four Port boxes will select or de-select the corresponding MIDI output. MIDI messages generated by the key that you're programming will be sent to each port whose associated box is checked.
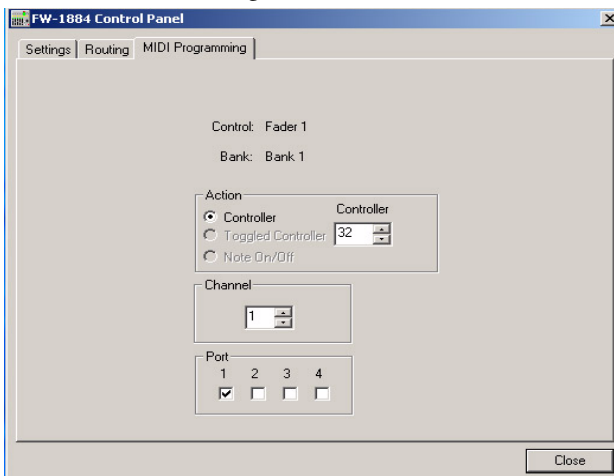
To change the MIDI channel: Use the up and down arrows of the Channel indicator box to change the MIDI channel. Alternatively, you can type in a MIDI channel number from 1 through 16.

To change the MIDI controller number: Use the up and down arrows of the Controller indicator box to change the MIDI controller number. Alternatively, you can type in a MIDI controller number from 0 through 127.

Encoders send continuous controller messages only, so the **NOTE ON/OFF** and **TOGGLED CONTROL-LER** options on the FW-1884's control panel are grayed out.

4.2.4 Programming Faders

The eight channel faders, as well as the master fader, can all be reprogrammed. To display the programmed message for a fader, simply touch the fader. The display should look something like this:

(When you touch the master fader, you will see that its programming information does not include bank information since it is a single, global control that is active in all banks.)

To change the MIDI output(s): Checking or un-checking the four Port boxes will select or de-select the corresponding MIDI output. MIDI messages generated by the key that you're programming will be sent to each port whose associated box is checked.

To change the MIDI channel: Use the up and down arrows of the Channel indicator box to change the MIDI channel. Alternatively, you can type in a MIDI channel number from 1 through 16.

To change the MIDI controller number: Use the up and down arrows of the Controller indicator box to change the MIDI controller number. Alternatively, you can type in a MIDI controller number from 0 through 127.

Faders can only be MIDI controllers, and the **NOTE ON/OFF** and **TOGGLED CONTROLLER** options on the FW-1884's control panel are greyed out.

4.2.5   Banking

You can use the ◄ **BANK** ► keys to shift through the four banks of controls. As mentioned earlier, only the channel strip controls – faders, channel **MUTE, SOLO** and **SEL** keys, and channel encoders – are bankable. All other surface controls are unaffected by the banking commands.

For specific information on the FW-1884's MIDI Control Protocol, refer to section 5.1.3, "MIDI PROGRAMMING TAB" and the documentation supplied on the CD-ROM.

"Hidden" functions

These functions available in MIDI Control mode are not marked on the control surface.

SHIFT+Encoder

Fine (not coarse) control of MIDI controller output value

SHIFT+CTRL+F8

Reset the MIDI surface programming to default values and write it to FLASH memory

## 4.3   Monitor Mix Mode – (General Notes)

The FW-1884 can be used as a stand-alone 18x2 mixer in MON MIX mode. The primary benefit of MON MIX mode is to provide a means of monitoring your audio inputs in a zero-latency environment. By using MON MIX mode to monitor the audio from your inputs along with the audio return from your DAW application, it is possible to overdub tracks to your DAW software with none of the audio processing delays inherent in DAW applications.

4.3.1   Audio I/O and the Monitor Mixer

In MON MIX mode, there are three banks which correspond to the three types of audio inputs available on the FW-1884. The three banks are labeled above the **BANK** switches as follows:

• **ANLG** – Controls the monitor levels of the eight analog inputs

• **ADAT** – Controls the monitor levels of the eight ADAT inputs

• **D IN** – Controls the monitor levels of the S/PDIF digital inputs
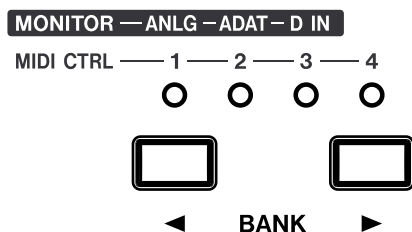
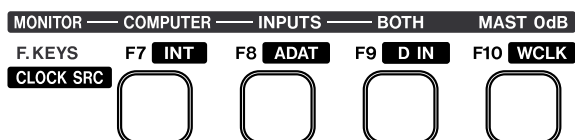Note that in the third, or **D IN** bank, channels 3-8 are inactive.

It is important to understand that in MON MIX mode, the FW-1884's channel strips are addressing the monitor levels of the FW-1884's 18 inputs. While you will still hear the audio return from your DAW computer, and the FW-1884's transport controls will still control your DAW's transports, moving the faders will have no effect on your DAW's internal (software) mixer.

Another important point to note is that, in MON MIX mode, the faders do not affect the levels the inputs sent to your DAW. The levels to the DAW inputs from analog inputs 1-8 (Bank 1) are controlled solely by their respective **TRIM POTS**. The eight ADAT inputs (Bank 2) and the two digital inputs (Bank 3) are passed to your DAW application at unity gain; their level must be regulated at the digital source.

4.3.2   Monitoring Setups

When the FW-1884 is in MON MIX mode, the **F7**, **F8** and **F9** keys determine what source you are hearing on **Analog Outputs 1/L** and **2/R**. This is useful for isolating the audio coming from your DAW or from external inputs. When the MON MIX key is pressed, the **F7**, **F8** or **F9** key will light to show the currently selected input source:

```
MONITOR —— COMPUTER —— INPUTS —— BOTH        MAST 0dB
  F.KEYS      F7  INT    F8  ADAT   F9  D IN   F10  WCLK
 CLOCK SRC
```

- **F7** – COMPUTER – only the audio from the host computer is monitored. This can be useful if you're doing a mixdown of your DAW tracks and want to mute the monitor mixer without losing its settings.
- **F8** – INPUTS – only the audio from the FW-1884's 18 audio inputs is monitored. This can be useful for setting up live inputs or tracking into your DAW.
- **F9** – BOTH – audio from the host DAW and the FW-1884's inputs are monitored.

The default setting is BOTH.

To set a channel's monitor level to zero (unity gain): Hold **SHIFT** and press the channel **SEL** key.

To set the Master monitor level (Master Fader) to zero (unity gain): Press the **MAST 0dB/F10** key.

To set all monitor mix levels to zero (unity gain): Press and hold the **SHIFT** and **CTL** keys and then press **MAST 0dB/F10**.

4.3.3   Setting Input Levels

As previously stated, the MON MIX mode can be very useful for recording live tracks into a DAW application. Here's a typical scenario for recording and overdubbing using MON MIX mode:

- **Connect your analog and/or digital source(s) to the FW-1884's inputs.**
- **In COMPUTER control mode, arm your DAW tracks for recording and meter the input level to those tracks using the DAW's level meters.**
- **Select MON MIX to access the monitor mixer control surface mode.**
- **Press the F8 key to monitor the inputs without hearing your existing DAW tracks.**

- **Solo an input channel by pressing that channel's SOLO key.**
- **Press the PFL key to monitor the channel in Pre-Fader Listen mode.**
- **Adjust the channel's trim pot (if it is an analog input) or the digital source (if it is a digital input) until the input meter in your DAW shows a level that is hot, but not clipping.**
- **Repeat this procedure for all active input channels.**

Once you're done setting up levels, you can return to COMPUTER control mode and begin recording.

4.3.4   SOLO modes

In MON MIX mode, the FW-1884 offers two distinct modes for soloing inputs – PFL (Pre-Fader Listen) and SIP (Solo In Place). Each has its particular uses, as described below. Pressing the PFL key toggles between Solo-in-Place and Pre-Fader-Listen modes.

```
        SOLO
          |
          |
          |
         PFL
```

In MON MIX mode, soloing any channel will cause the CLR SOLO key to flash.

In Solo-in-Place, the Mute status of any soloed input can be toggled. Pressing the MUTE key of an unsoloed input has no effect.

If you change banks, the flashing CLR SOLO key is a reminder that a Solo is still active.

If you change Control Surface modes while an input Solo is active, the MON MIX key flashes unless the monitor source is set to COMPUTER output only.

NOTE

In MON MIX mode, SOLOs and MUTEs are activated by key-down actions. They are deactivated by key-up actions. This acts like the keys of an analog mixer, allowing sets of keys to be unSOLOed or unMUTEd by holding them down, then releasing them all at once.

PFL (Pre-Fader Listen) – in this mode, channels placed in Solo mode are monitored from a point before the fader, irrespective of their level and position in the overall mix. Since PFL mode routes the soloed channel(s) to a separate solo buss, changes made to soloed inputs do not affect the overall mix. PFL mode is often used for setting input gain levels when tracking.

The level of channels soloed in PFL mode is controlled by the **SOLO** knob directly above the **PFL** key.

The stereo meters reflect the input level of channels that are PFL soloed.

Solo-in-Place (default) – in this mode, channels placed in Solo mode are heard in the context of their relationship to the entire mix; that is, level and pan settings are retained. Since Solo-in-place mode functions by muting all non-soloed tracks, changes made in this mode will affect the overall mix.

It is important to note that the PFL function only affects inputs in MON MIX mode. Soloing of DAW tracks in COMPUTER control mode is handled entirely by the host application software, and is independent of the FW-1884's SOLO buss.

"Hidden" functions

These functions available in monitor mix mode are not marked on the control surface.

SELECT

Display channel's pan position on SELECT/REC LEDs

SHIFT+SELECT

Set channel fader to unity

SHIFT+CLR SOLO

Clear mutes

SHIFT+GAIN Encoder

Adjust touch fader sensitivity

SHIFT+CTRL+F7

Write all mixer parameters to FLASH memory (normally done at power-down)

SHIFT+CTRL+F8

Reset all the mixer parameters to default values

SHIFT+CTRL+F10

Set all monitor faders to unity

5.1   Control Panel

The FW-1884's control panel is where you can display and adjust settings which determine how the FW-1884 communicates with your computer and other external devices. To open the Control Panel, press the **CONTROL PANEL** shortcut key on the FW-1884's control surface.

SHORTCUTS
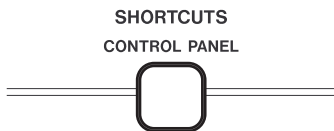
CONTROL PANEL

You can also open the Control Panel in Windows by clicking on Start – Control Panel and selecting the FW-1884 Control Panel icon. On the Mac in OS9, it is in the Control Panels menu (under the Apple menu). Under MacOS X, "Core Audio" is added to the Control Panel.
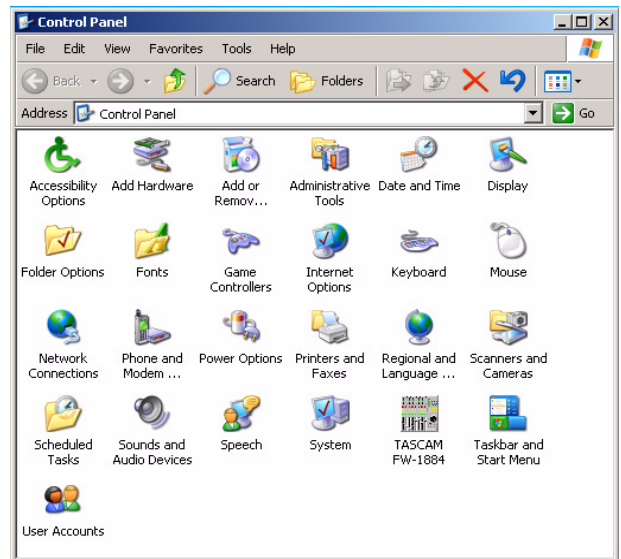
5.1.1   SETTINGS TAB
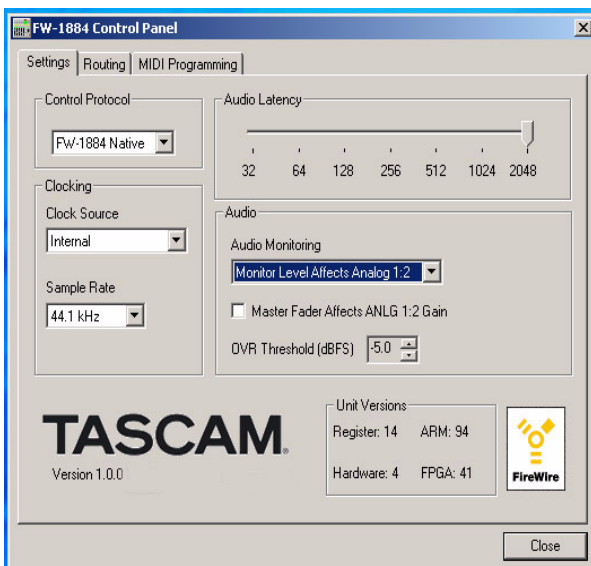
Control Protocol This is where you select how the FW-1884's MIDI commands are interpreted by the host software application. You can choose between the FW-1884's Native Protocol, Mackie Control™ emulation protocol, or Mackie HUI™ emulation protocol. Additional protocols may be added in future driver updates.

Clock Source This is where you select the digital clock input source. It duplicates the function of the **CLOCK** and **CLOCK SRC** (**F7**-**F9**) keys. Changes made on the FW-1884's control surface are immediately reflected in this window. For more information on this function, refer to section 3.6, "Clock System Controls".

Sample Rate This is where you select the expected incoming sample rate to the FW-1884's digital input. It duplicates the function of the **CLOCK** and **CLOCK RATE** (**READ/44.1, WRT/48, TCH/88.2** and **LATCH/96**) keys. Changes made on the FW-1884's control surface are immediately reflected in this window. For more information on this function, refer to section 3.6, "Clock System Controls".

Audio Latency This setting is for selecting the buffer size of the FW-1884's audio performance. The FW-1884's driver temporarily stores input and output audio samples in buffers. Larger buffer sizes will produce higher latencies but will result in greater system stability, and protection against other system activities causing clicks, pops and other audio artifacts.

NOTE

Note that if you are using the FW-1884's MON MIX mode to monitor your inputs, you will already have zero-latency monitoring. In this case, we recommend setting the buffer size to 1024 or 2048 for maximum system stability.

Audio Monitoring This setting determines how the **Monitor Level** control affects the FW-1884's monitor outputs. The Audio Monitoring selection is used to specify which of the analog outputs will be affected by the FW-1884's **Monitor Level** control. For stereo monitoring applications, only the **Analog 1** and **Analog 2** outputs will be connected to an amp and speakers. By setting this control to "Monitor Level Affects Analog 1:2" the **Monitor Level** control will only affect those outputs, leaving the remaining outputs 3 through 8 available for use as effects sends or direct outputs, with the digital streams from the computer passed through to them at unity gain.

If, on the other hand, you want to monitor in surround mode, setting this control to "Monitor Affects Analog 1:8" puts all of the analog outputs under the control of the **Monitor Level** control.

Master Fader Affects ANLG 1:2 Gain The "Master Fader Affects ANLG 1:2 Gain" switch determines whether the computer generated audio sent to the ANLG 1:2 outputs will be affected by the Master fader of the FW-1884. (The default setting is OFF.) Turn this switch "on" when the DAW application you're using doesn't process "Master Fader" MIDI messages originating from the FW-1884 surface. In this case, the FW-1884's internal mixer will change the gain of the ANLG 1:2 outputs according to the setting of the Master fader. Leave this switch "off" when your DAW application responds to the "Master Fader" MIDI message by changing the gain of the ANLG 1:2 using the host processor.

NOTE

IMPORTANT: Do not leave this switch in the "on" position if your DAW application does in fact alter the gain of the audio signal in response to Master fader messages from the FW-1884. In this situation, Master fader gain would be applied twice - once in the host application, and once by the FW-1884's internal mixer.

OVR Threshold This setting determines the level at which the FW-1884's meters register an "over," or clipping level. It can be varied between 0.0 and –5.0 dBFS, in .5 dBFS increments.

Version Information This box displays the currently running version of the FW-1884's drivers and firmware.

5.1.2   ROUTING TAB
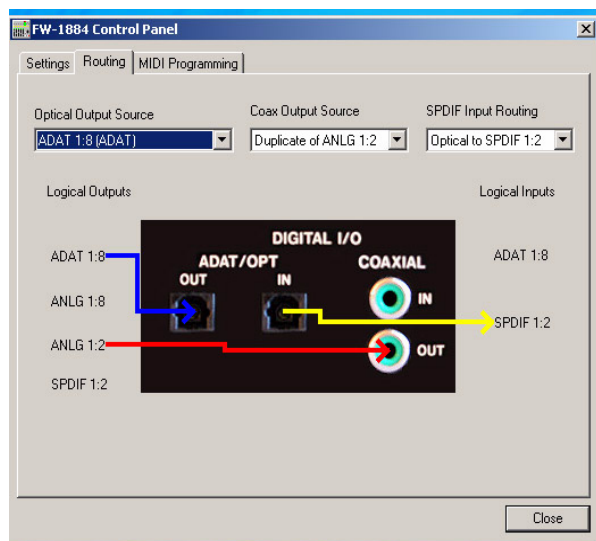
Optical Output Source This menu selects the source of the audio output appearing at the FW-1884's ADAT optical outputs. The selections are:

ADAT 1-8 – The audio output is determined within your DAW application software. Audio which has been routed to the FW-1884's **ADAT** outputs within your DAW will appear at the ADAT lightpipe output.

Duplicate of Analog 1-8 (**ADAT**) – The audio output is identical to that being sent to the FW-1884's analog outputs 1-8. This is particularly useful if, for example, you wish to monitor a multi-channel mixdown with a surround monitoring setup and send the same multi-channel mix to a digital multitrack recorder.

Duplicate of Coax Output (**TOSLINK**) – The audio output is the same as that being sent to the FW-1884's analog outputs 1 and 2, and is sent out the lightpipe in two-channel TOSLINK protocol. This can be useful for sending a two-track mix to a mixdown recorder equipped with an optical two channel input.

Coax Output Source This menu selects the source of the audio output appearing at the FW-1884's coaxial digital output. The selections are:

S/PDIF 1:2 – The audio output is determined within your DAW application software. The FW-1884's S/PDIF outputs are seen as separate outputs within your DAW application. With this setting, audio which has been routed to these outputs appears at the FW-1884's two-channel digital (**D OUT**) outputs.

Duplicate of Analog 1:2 – The audio output is identical to that being sent to the FW-1884's analog outputs 1 and 2. This is useful if, for example, you wish to send the stereo mix you are monitoring to a two channel digital mixdown recorder.

S/PDIF Input Routing This menu selects the source of the audio input appearing at the FW-1884's two-channel digital (**D IN**) digital inputs. The selections are:

COAX to S/PDIF 1:2 – The digital audio signal being input to the FW-1884's coaxial digital input is routed to the two-channel digital **D IN** inputs.

Optical to S/PDIF 1:2 – A two-channel digital audio signal in TOSLINK format, being input to the FW-1884's optical digital input, is routed to the two-channel digital **D IN** inputs. (Note that the ADAT inputs will not be available to your DAW application if you use the optical input connector in TOSLINK mode.)

5.1.3 MIDI PROGRAMMING TAB
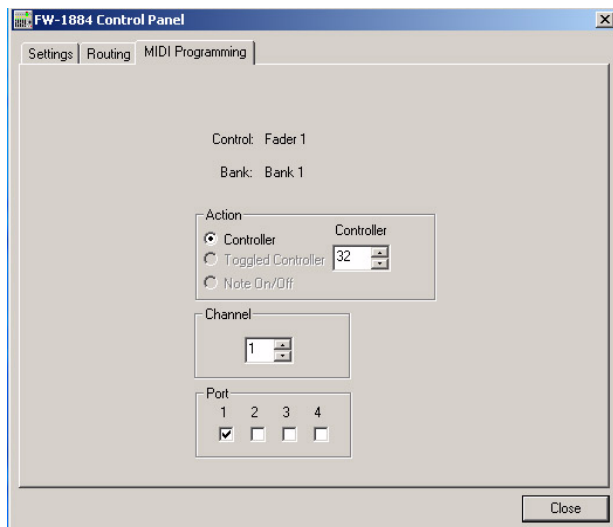
This tab is used to program the FW-1884's control surface in MIDI CTL mode. For detailed information on using this function, please refer to section 4.2, "MIDI Control Mode – (General Notes)".

Here's a quick scenario: Enter MIDI programming mode … firmware sets subcode quadlet to "start of programming" command, "0xC0000080".

The host software starts up the MIDI Prog tab of the control panel, with everything blank/grayed-out.

Now press the MUTE2 key while in Bank2 on an ES unit, and the subcode quadlet is written as "0x09414CE7".

The host driver senses the change in the subcode quadlet and the control panel displays its programming information, something like:

> **Control: Mute 2**
> **Bank: 2**
> **X   Note on/off103 (decimal)**
> **O   Controller**
> **O   Toggled Controller**
> **Channel: 12**
> **Port   1   234**
> **   O   OxO**

Now if you click the "up" arrow next to the channel number, the control panel updates to:

> **Control: Mute 2**
> **Bank: 2**
> **X   Note on/off103**
> **O   Controller**
> **O   Toggled Controller**
> **Channel: 13**
> **Port   1   234**
> **   O   OxO**

An asynchronous quadlet write is sent with a value of "0x09414DE7".

When you exit MIDI programming mode the subcode quadlet is set to "0xC0010080".

The host software detects the subcode change and blanks/grays-out the MIDI Prog tab.

The FW-1884 is a complex device with a number of inter-related components. If you experience problems with your FW-1884, here are a few suggestions to check first:

6.1   Audio Issues

I hear no sound, but the output meters display signal.	You have a valid audio signal appearing at the FW-1884's output buss. Check your output connections and amplifier.
I hear no sound and the output meters dislpay no signal.	Are your audio sources connected to the correct inputs on the FW-1884?
	Do you have the correct monitor source selected?
If your audio source is an analog input	Is the channel trim pot adjusted correctly?
If your audio source is a condenser microphone	Do you have phantom power enabled?
If your audio source is a digital input	Do you have a valid digital source connected?
	Are the correct word clock settings selected?
If your audio source is your DAW application	Do you have the correct outputs selected within the host application?
If you're running Windows 2000 or Windows XP	Does the FW-1884 appear as an audio device in Device Manager?
If you're running MacOS9	Does the FW-1884 appear as an audio device in your System folder?
The FW-1884 appears as an audio device in my system, but it doesn't show up in my DAW's list of audio outputs	Do you have its ASIO driver installed in the correct location? (Some DAW applications, such as Digital Performer, require the ASIO driver to be installed within the DP directory.)
My audio is distorted.	Is your input level to hot?
My audio has clicks and pops	Do you have the correct clock source selected?

6.2   Control surface issues

No Control Surface Response	Is the FireWire LED illuminated to indicate a valid connection?
	Does the FW-1884 appear as a MIDI device in your Device Manager?
	Is your DAW application correctly configured for an external controller?
	Do you have the MIDI I/O ports set to "FW-1884 Control" on MIDI input and output?
	If you are running in Native Protocol, do you have the appropriate plugin (SONAR, Digital Performer, etc.) installed in the correct folder?
	If you are running MacOS 9, do you have FreeMIDI or OMS configured correctly?
	If you see no response to fader movements, do you have the correct fader bank selected and visible on screen?

Incorrect Surface Response	If you are running in Mackie Control Emulation or Mackie HUI Emulation protocol, do you have Mackie Control selected in your DAW application?
	Do you have the correct COMPUTER Control Sur-face protocol selected in the FW-1884's Control Panel?

6.3   Contacting Us

In the event you experience problems with your FW-1884, please contact your dealer or your local TEAC/TASCAM distributor. Contact information may be found at the back of this manual, or on the TASCAM website at www.tascam.com.

7.1   Specifications

Analog I/O

Mic input 1-8 (Balanced)

Connector:	3-pin XLR jack x 8 (1: GND, 2: Hot, 3: Cold)
Input impedance	: 2.2k ohm
Adjustable Input range	: –56dBu (TRIM max) to –2 dBu (TRIM min)
Maximum gain	: +54 dB

Line input 1-8 (Balanced)

Connector:	1/4 inch TRS jack x 8
Input impedance	: 10k ohm at LINE/MIC
	1M ohm at GUITAR (LINE Input: 8 Switchable)
Adjustable input range	: –42 dBu (TRIM max) to +12 dBu (TRIM min.)
Maximum gain	: +54 dB

Insert 1-8 (Unbalanced)

Connector:	1/4 inch TRS jack with tip SW x 8 (T=SEND, R=RETURN, S=GND)

Send

Impedance	: 100 ohm
Normal level	: -2 dBu
Maximum level	: +14 dBu

Return

Impedance:	10k ohm
Normal level	: -2 dBu
Headroom	: 16 dB

Line/Mic or Guitar select SW

Line/Mic	10k ohm / 2.2k ohm
Guitar	1M ohm

Stereo / Surround monitor output (Balanced)

(Analog output terminal for Master / Monitor. In DAW Controller mode, Stereo / Surround Mode can be switched over from control panel on PC. Stereo L-R and Surround1-2 are used commonly.)

Connector:	1/4 inch TRS jack x 8
Output impedance:	100 ohm
Nominal output level	: +4 dBu
Maximum output level	: +20 dBu

Phones output (Stereo)

Connector:	1/4 inch TRS jack (T = L, R = R, S = GND) x 1
Max output power:	52 mW + 52 mW (32 ohm)

Digital I/O

Digital input (Coaxial)

2ch serial digital audio signal input terminal. ADAT/Optical Input terminal is selectable. In the case of Hi sampling, Hi-speed mode is supported.

Connector:	RCA jack x 1
Input impedance:	75ohm
Format:	AES3-1992 or IEC60958
Audio bit length:	24bit

Digital output (Coaxial)

2ch serial digital audio signal output terminal. ADAT/Optical Output is selectable. In the case of Hi sampling, Hi-speed mode is supported.

Connector:	RCA jack x 1
Output impedance	: 75ohm
Format:	IEC60958 (Selectable)
Audio bit length:	24bit

ADAT/Optical input (Light-pipe)

ADAT optical format digital multi audio or 2CH serial audio signal input terminal. In the case of 2CH serial audio signal, DIGITAL IN (COAXIAL) is selectable.

Connector:	Light-pipe optical x 1
Format:	ADAT OPTICAL at ADAT AES3-1992 or IEC60958 (automatically detected) at Optical
Audio bit length	: 24bit

ADAT/Optical output (Light-pipe)

ADAT optical format digital multi audio or 2CH serial audio signal output terminal. In the case of 2CH serial audio signal, DIGITAL OUT (COAXIAL) is selectable.

Connector:	Light-pipe optical x 1
Format:	ADAT OPTICAL at ADAT
	IEC60958 at Optical
Audio bit length	24bit at ADAT
	24bit at Optical

Misc. I/O

Word sync input

Word clock signal input terminal

Connector:	BNC x 1
Input impedance	: 75 ohm
Input level	TTL level

Word sync output

Word clock signal output for Word sync

Connector:	BNC x 1
Output level	TTL level

MIDI input 1-4

MIDI input terminal

Connector:	5-pin DIN connector – conforms to MIDI specifications x 4
Format	: MIDI

FireWire™

IEEE 1394 digital interface

Connector:	IEEE 1394 connector x 2
Format:	IEEE 1394
Transmit rate:	400Mbps

Footswitch

Punch In/Out of DAW application

Connector:	Normally-open 1/4-inch TS jack

Overall System Specifications

Sampling frequency

Internal clock	: 44.1kHz / 48.0kHz / 88.2kHz / 96.0kHz
External clock:	Word sync input / Digital input / ADAT input

AD/DA converter

Analog to Digital

Resolution	24 bit
Dynamic range:	103 dB Fs=44.1kHz, A-weight

AD input level

Maximum	+8.1dBu (0dBFs)
Nominal	-7.9dBu (-16dBFs)

Digital to Analog

Resolution	: 24 bit
Dynamic range	103 dB Fs=44.1kHz, A-weight

Analog output level

Maximum	: +7.8dBu (0dBFs)
Nominal	: -8.2dBu (-16dBFs)

CODEC: AK4528 specifications

ADC

Resolution:	24 bit
Dynamic range:	103 dB Fs=44.1kHz, A-weight
Group delay:	31 samples

DAC

Resolution:	24 bit
Dynamic range	110 dB Fs=44.1kHz, A-weight
Group delay:	30 samples
DAC: AK4380VT specifications	

CODEC: AK4528 specifications

DAC	
Resolution	: 24 bit
Dynamic range:	100 dB Fs=44.1kHz, A-weight, -60dB output
Group delay	: 19.1 samples

Signal delay

< 1.5 ms	Fs = 48.0kHz, LINE IN to STEREO OUTPUT
< 0.75 ms	Fs = 96.0kHz, LINE to STEREO OUTPUT

Analog I/O

THD (Level: +4dBu)

< 0.005 %	20 Hz - 20 kHz, LINE IN to INSERT SEND
<0.008%	1 kHz, LINE IN to STEREO OUTPUT

Frequency response (@ nominal level)

20Hz - 20kHz	±0.5dB, MIC/LINE IN to INSERT SEND
20Hz – 40kHz	+0.5dB / –1.0 dB, MIC/LINE IN to INSERT SEND
20Hz - 20kHz	±0.5 dB LINE IN to SURROUND/STEREO MONIisR OUTPUT
20Hz – 40kHz	+0.5dB / –1.5 dB, LINE IN to SURROUND/STEREO MONITOR OUTPUT

Noise level (20Hz – 20kHz, TRIM max, 150 ohm)

< -124 dBu (EIN)	MIC IN to INSERT SEND
< –64dBu	LINE IN to STEREO OUTPUT
< –64dBu	LINE IN to SURROUND MONITOR OUTPUT

Crosstalk (@ 1kHz)

> 80dB	STEREO/SURROUND MONITOR OUTPUTS

Power requirements

100V AC, 50/60Hz	100V / 200V type
120V AC, 60Hz	
230V AC, 50Hz	
240V AC, 50Hz	

Power consumption

23 W

Dimensions

W 22.9 x H 5.4 x 18.9
W 582mm x H 136mm x D 481mm

Weight

22.7 lbs (10.3 kg)

7.2   Dimensional drawing
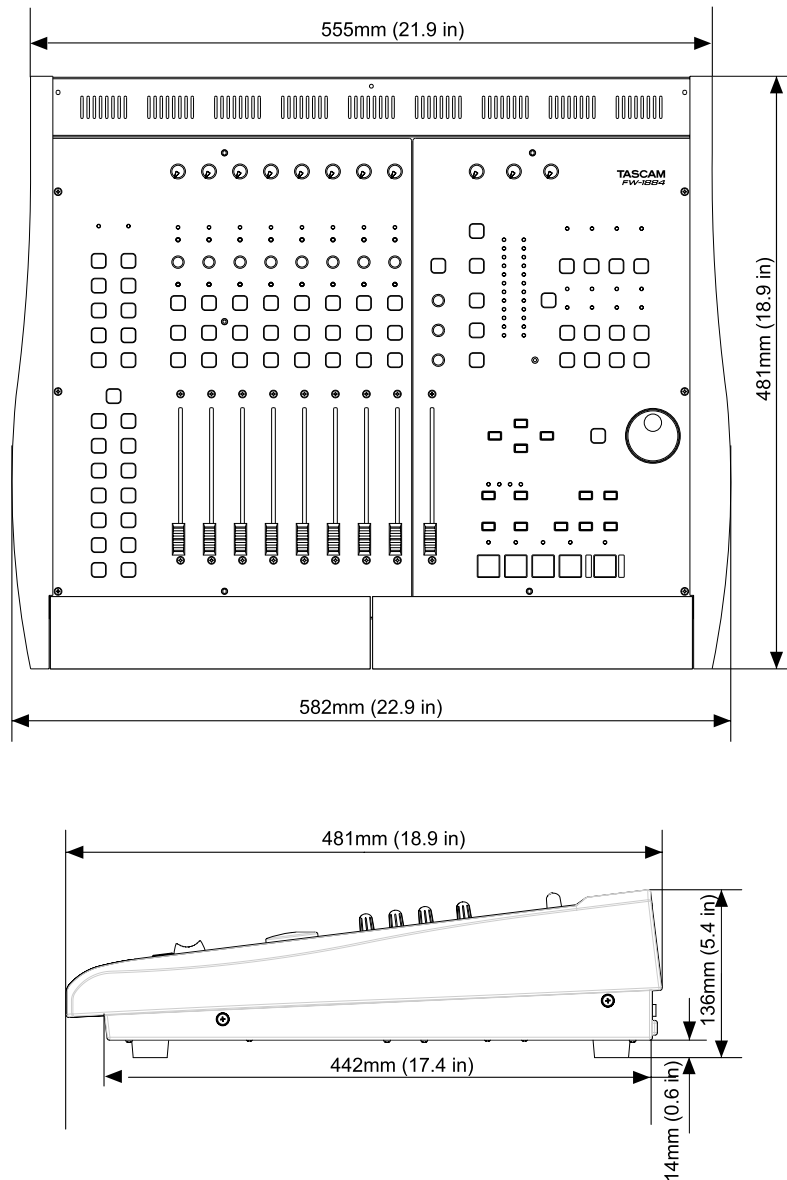
7.3   FW-1884 "Hidden" Functions

Listed below are the FW-1884's "hidden" functions (that is, those functions not silk-screened onto the FW-1884's control surface.

In all control surface modes:

SHIFT+CTRL+P.RESET (LATCH)

Reset meter peaks

SHIFT+MIDI CTRL

Enter MIDI Programming mode if host computer is attached

In MIDI CTRL mode:

SHIFT+Encoder

Fine (not coarse) control of MIDI controller output value

SHIFT+CTRL+F8

Reset the MIDI surface programming to default values and write it to FLASH memory

In MON MIX mode:

SELECT

Display channel's pan position on SELECT/REC LED's

SHIFT+SELECT

Set channel fader to unity

SHIFT+CLR SOLO

Clear mutes

SHIFT+GAIN Encoder

Adjust touch fader sensitivity

SHIFT+CTRL+F7

Write all mixer parameters to FLASH memory (normally done at power-down)

SHIFT+CTRL+F8

Reset all the mixer parameters to default values

SHIFT+CTRL+F10

Set all monitor faders to unity

TASCAM
TEAC Professional Division

FW-1884