Pro Tools® | MTRX Studio
Installation Guide

Safety Instructions
Read and Keep these Instructions

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 product.

The garbage bin with a cross is intended to alert the user that the product may not be disposed of by regular garbage, but as electronic equipment.

Warning

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

Important Safety Instructions

1 Read these instructions.

2 Keep these instructions.

3 Heed all warnings.

4 Follow all instructions.

5 Do not use this equipment 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 equipment (including amplifiers) that produce heat.

9 Protect power cords from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the equipment.

10 Only use attachments/accessories specified by the manufacturer.

11 For products that are not rack-mountable: Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the equipment. When a cart is used, use caution when moving the cart/equipment combination to avoid injury from tip-over.

12 Unplug this equipment during lightning storms or when unused for long periods of time.

13 Refer all servicing to qualified service personnel. Servicing is required when the equipment 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 equipment, the equipment has been exposed to rain or moisture, does not operate normally, or has been dropped.

14 For products that are a Mains powered device:

The equipment shall not be exposed to dripping or splashing and no objects filled with liquids (such as vases) shall be placed on the equipment.

Warning! To reduce the risk of fire or electric shock, do not expose this equipment to rain or moisture.

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. A 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.

15 For products containing a lithium battery:

CAUTION! Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.

16 For products with a power switch: It should remain accessible after installation.

17 The equipment shall be used at a maximum ambient temperature of 40° C.

18 This unit is provided with a power supply cord set suitable for 120V AC input only (for U.S.A. and Canada). For other than U.S.A. and Canada, a qualified person must provide for use with this unit, an appropriate, approved power supply cord set which is in compliance with the end use country requirements and has a minimum cross-sectional area of 1.0mm2.

19 For products with more than one power cord:

CAUTION: This unit has more than one power supply cord. Disconnect two power supply cords before servicing to avoid electrical shock.

ATTENTION: Cet appareil comporte plus d'un cordon d'alimentation. Afin de prévenir les chocs électriques, débrancher les deux cordons d'alimentation avant de faire le dépannage.

20 For products with an operator-accessible fuse:

CAUTION: For continued protection against risk of fire, replace only with same type and rating of fuse.

ATTENTION: Pour ne pas compromettre la protection contre les risques d'incendie, remplacer par un fusible de même type et de même caractéristiques nominales.

Rack-Mount Safety Instructions

1 Elevated Operating Ambient—If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment might be greater than room ambient. Therefore, consider installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

2 Reduced Air Flow—Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised. Make allowances for cooling air to be available to the front panel surface and no restrictions at the rear.

3 Mechanical Loading—Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

4 Circuit Overloading—Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on over-current protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

5 Reliable Earthing—Reliable Earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (for example, use of power strips).

LED Safety Notices

Avid hardware might contain LED or Laser devices for communication use. These devices are compliant with the requirements for Class 1 LED and Laser Products and are safe in the intended use. In normal operation the output of these laser devices does not exceed the exposure limit of the eye and cannot cause harm.

Environmental Compliance

Proposition 65 Warning

This product contains chemicals, including lead, known to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.

Perchlorate Notice

This product may contain a lithium coin battery. The State of California requires the following disclosure statement: "Perchlorate Material—special handling may apply, see www.dtsc.ca.gov/hazardous waste/perchlorate."

Recycling Notice

EMC (Electromagnetic Compliance)

Avid declares that this product complies with the following standards:

- FCC Part 15 Class A
- EN 55032:2012, Class A
- EN 61000-3-2:2014, AC Mains Harmonic Current
- EN 61000-3-3:2013, AC Mains Voltage Variations and Flicker
- EN 55103-1:2009, Emissions Environment E4
- EN 55103-2:2009, Immunity Environment E1–E4

FCC Compliance for United States

Note: 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 residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Cables: Connections to Avid hardware must be made with shielded cables with metallic RFI/EMI connector hoods in order to maintain compliance with FCC Rules and Regulations.

Any modifications to the unit, unless expressly approved by Avid, could void the user's authority to operate the equipment.

Safety Compliance

This equipment has been tested to comply with EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 +A2:2013

Power Safety Input Rating

Pro Tools | MTRX Studio: 100-240 VAC, 50/60 Hz, 45 VA Max.

CE Compliance

CE

(EMC, Safety, and RoHS)

Avid is authorized to apply the CE (Conformite Europenne) mark on this compliant equipment thereby declaring conformity to EMC Directive 2014/30/EU, Low Voltage Directive 2014/35/EU and RoHS Recast Directive 2011/65/EU.

Contents

Chapter 1: Introduction

Pro Tools | MTRX Studio

Welcome to Pro Tools® | MTRX Studio. MTRX Studio is an extremely versatile multi-channel audio interface for Pro Tools | HDX and Pro Tools | HD Native systems. MTRX Studio supports 16- and 24-bit audio with sample rates of 44.1, 48, 88.2, 96, 176.4, and 192 kHz. MTRX Studio provides two DigiLink™ Mini ports for up to 64 input and output channels with Pro Tools. MTRX Studio provides 16 analog line inputs, 16 analog line outputs, two analog monitor outputs, two headphone outputs, and two analog inputs for microphones or instruments. It also provides a 64 I/O channels Dante® IP Audio interface and 16 channels of ADAT™ I/O, Word Clock and Loop sync synchronization, and an input for a foot switch (for various DADman functions, such as talk back remote control). Additionally, MTRX Studio provides built-in SPQ processing for room tuning, bass management, and equalizing of cue and monitor signals.

MTRX Studio can be used a traditional recording interface, with mic and line analog I/0, phantom power, and two headphone jacks on the front panel. MTRX Studio can also be used as a monitor controller output device for immersive audio post production applications with up to 9.1.6 channel layouts (though 7.1.4 is most common). Pro Mon monitor control functionality is available for EUCON™-enabled Avid devices with MTRX Studio using DADman software.

MTRX Studio Features

MTRX Studio provides up to 64 discrete channels of audio for Pro Tools with two DigiLink Mini ports (Primary and Primary/Expansion).

Analog I/O

- 2 Instrument/Microphone inputs (with preamps)
- 16 analog line inputs (DB25)
- 16 analog line outputs (DB25)
- 2 monitor outputs (balanced 1/4-inch)
- 2 stereo headphone outputs

Digital I/O

- 64x64 Dante I/O
- 16x16 ADAT I/O

Synchronization

- Sample rates of 44.1–192 kHz
- Synchronization by Internal, Word Clock, Loop Sync, ADAT, or Dante IP

Control, Routing, and Processing

- Operation using DADman software—some settings can be controlled on the front panel
- All settings controlled over Ethernet
- 512x512 cross-point matrix
- 256x32 summing (Pro | Mon) with monitor profiles
- SPQ processing with 256 filters for 16 channels of speaker EQ

System Requirements and Compatibility Information

Avid can only assure compatibility and provide support for hardware and software it has tested and approved.

For complete system requirements and a list of qualified computers, operating systems, hard drives, and third-party devices, visit www.avid.com/compatibility.

Conventions Used in Pro Tools Documentation

Pro Tools documentation uses the following conventions to indicate menu choices, keyboard commands, and mouse commands:

Convention	Action
File > Save	Choose Save from the File menu
Control+N	Hold down the Control key and press the N key
Control-click	Hold down the Control key and click the mouse button
Right-click	Click with the right mouse button

The names of Commands, Options, and Settings that appear on-screen are in a different font.

The names of physical switches on MTRX Studio are in displayed **in bold text**.

The following symbols are used to highlight important information:

User Tips are helpful hints for getting the most from your Pro Tools system.

⚠ *Important Notices include information that could affect your Pro Tools session data or the performance of your Pro Tools system.*

⇧ *Shortcuts show you useful keyboard or mouse shortcuts.*

📖 *Cross References point to related sections in this guide and other Avid documentation.*

Resources

The Avid website (www.avid.com) is your best online source for information to help you get the most out of your Avid system.

Account Activation and Product Registration

Activate your product to access downloads in your Avid account (or quickly create an account if you do not have one). Register your purchase online, download software, updates, documentation, and other resources.

www.avid.com/register

www.avid.com/account

Support and Downloads

Contact Avid Customer Success (technical support), download software updates and the latest online manuals, browse the Compatibility documents for system requirements, search the online Knowledge Base or join the worldwide Avid user community on the User Conference.

www.avid.com/support

Training and Education

Study on your own using courses available online, find out how you can learn in a classroom setting at an Avid-certified training center, or view video tutorials and webinars.

www.avid.com/education

Video Tutorials

The *Get Started Fast with Pro Tools* series of online videos provide tutorials to help if you are new to Pro Tools. They also provide videos for the experienced user that introduce new features found in the latest versions of Pro Tools.

www.avidblogs.com/get-started-fast-with-pro-tools/

Products and Developers

Learn about Avid products, download demo software, or learn about our Development Partners and their plug-ins, applications, and hardware.

www.avid.com/products

Chapter 2: Installation

Installing Pro Tools | MTRX Studio involves the following:

1 Unpacking MTRX Studio

2 Rack mounting MTRX Studio (optional)

3 Connecting cables

4 Registering your MTRX Studio

5 Downloading and installing software

6 Authorizing Pro Tools DigiLink I/O License with iLok License Manager

7 Configuring network settings

What's in the Box?

Before you get started installing Pro Tools | MTRX Studio, unpack the box, which contains the following:

- MTRX Studio
- 1 Activation card
- 1 IEC power cable
- 2 BNC cables (for connecting Loop Sync or Word Clock)
- This printed installation guide

Keep the activation card on hand to register your MTRX Studio and access software downloads and firmware updates. Set the power cable and BNC cables aside until you are ready to start connecting cables. Remove the MTRX Studio from the box and packaging, and place it on a hard and dry surface.

Rack Mounting MTRX Studio

If you install MTRX Studio into a 19-inch rack, be sure to leave plenty of room for ventilation. MTRX Studio, as with all Avid audio interfaces, needs room at the sides, as well as above and below, to maintain proper air flow for cooling. Do not block the sides of the unit or disconnect the internal fan. If the units are rack-mounted in a case, remove the case lids or doors before operating the system. Failure to do so can result in the units overheating very quickly, which can permanently damage sensitive components.

Connecting Cables

Once you have installed MTRX Studio in a rack (optional), you are ready to start connecting cables.

In order to meet EMC requirements and in order to obtain the highest performance of MTRX Studio, use high-quality, properly shielded cables for all external connections when installing MTRX Studio. For the power connection, a normal unshielded power cable with a proper protective earth conductor can be used.

To orient yourself with MTRX Studio back panel connections, see Chapter 5, "Pro Tools | MTRX Studio Front and Back Panels."

Connect Power

Connect the included IEC cable to MTRX Studio. Then connect the cable to a grounded AC power outlet. It is recommended that you connect to a grounded power switch or power conditioner.

Connect Ethernet

Connect the MTRX Studio directly to your computer or to your computer's network using a GigaBit Ethernet cable (not included) (see "Network Configuration" on page 8).

Connect DigiLink

Connect one or two DigiLink Mini cables (not included) to the DigiLink Mini ports on MTRX Studio. Then connect the other end of these cables to an HDX card, or an HD Native card or HD Native Thunderbolt box. See Chapter 3, "Connecting Pro Tools | MTRX Studio to an HDX or HD Native System."

Connect Clock Sync

If you are installing Pro Tools | MTRX Studio in a system with multiple audio interfaces (such as HD I/O) and/or a synchronization peripheral (such as SYNC HD), make the appropriate Loop Sync or Word Clock cable connections using the included BNC cables.

Connect Audio

Make sure that your sound system is powered off. Make the appropriate analog and digital audio cable connections for your system.

Connect a Footswitch

You can connect a footswitch (optional) to the back of MTRX Studio (1/4-inch jack) to control monitor profiles or talkback.

Register Pro Tools | MTRX Studio and Activate your Avid Master Account

Your Pro Tools | MTRX Studio includes an Activation card with a code that lets you register the unit, and access software, firmware, and documentation downloads.

To register your MTRX Studio and access MTRX Studio-related downloads through your Avid Master Account:

1 Locate the Activation card with the code that came with your MTRX Studio.

2 Visit https://www.avid.com/redemption.

3 Log in to your Avid Master Account. If you do not already have an Avid Master Account, create a new one and log in.

4 Under My Products, click the Avid Software Activation and Download link.

5 Enter the code on your Activation Card and click Activate Product.

All documentation, software, and firmware relevant to your MTRX Studio will now be available for download under My Products in your Avid Master Account.

Download Software

Once you have registered MTRX Studio, you can download software and firmware updates from your Avid Master Account. For DADman installation and configuration instructions, see Chapter 4, "Installing and Configuring DADman Software."

To download MTRX Studio software and firmware:

1 Log in to your Avid Master Account (if you are not already).

2 Under My Products, click the My Products and Subscriptions link.

3 Under the My Products tab, click Pro Tools | MTRX Studio.

4 To the right of Product Details and Download Links, click Show.

5 Click the links for any Read Me documentation about firmware and/or software updates. Review this information carefully to ensure the successful installation of DADman software, firmware updates, and proper function of MTRX Studio.

6 Click the link to download the installer for the latest version of DADman software for your operating system (macOS or Windows). DADman software is required to use MTRX Studio with Pro Tools.

📄 *For information on installing and configuring DADman, see Chapter 4, "Installing and Configuring DADman Software."*

Redeem Pro Tools DigiLink I/O License

In order to use MTRX Studio with Pro Tools, you must first authorize your iLok with the Pro Tools DigiLink I/O license (which is added to your Avid Master Account when you register MTRX Studio). Once you have registered your MTRX Studio, use iLok License Manager to authorize your iLok with the Pro Tools DigiLink I/O license.

⚠ *MTRX Studio is supported by Pro Tools | Ultimate 2019.12 or later.*

Network Configuration

MTRX Studio is equipped with two GigaBit Ethernet connectors and an internal Ethernet switch, a controller port and a port for IP Audio Dante I/O. The network connectors can operate as two "parallel" connectors for the internal switch or as dual connectors for redundant IP audio operation. When operating in parallel, controlling the unit is done using Net port 1. MTRX Studio has one to three different IP addresses. One for the unit control using DADman software and one or two for the IP audio in single or redundant mode respectively. The network configuration is managed separately for the controlling interface and for the IP audio interface, and can have different configurations. The controlling interface is used for controlling MTRX Studio from DADman, and the IP audio interface is used for interfacing IP audio in a network.

The factory default setting of the IP address of the controller port of the MTRX Studio is 10.0.7.20. The IP address can be changed manually using DADman or it can be set to be automatically assigned by a DHCP server/router in the network. If needed, MTRX Studio can be set in recovery mode with the fixed factory defined IP address (10.0.7.20) and IP discovery using DHCP. This is described in the Reconfiguration section of this guide. For a more detailed description of the network functionality, configuration, and behavior, please refer to the separate *MTRX Studio Operation Guide.pdf* (available for download from your Avid Master Account).

Starting Up or Shutting Down Your System

To ensure that the components of your Pro Tools system communicate properly with each other, you need to start them in a particular order.

Start up your Pro Tools system in this order:

1 Make sure all your equipment (including your computer) is off.

2 Lower the volume of all output devices in your system.

3 For systems with an expansion chassis, turn on the chassis.

4 Turn on any external hard drives. Wait approximately ten seconds for them to spin up to speed.

5 Turn on your network router (if it is not already on).

6 Turn on any control surfaces (such as S6).

7 Turn on any MIDI interfaces, MIDI devices, or synchronization peripherals.

8 With the volume of all output devices lowered, turn on your audio interfaces (such as MTRX Studio). Wait at least fifteen seconds for your system hardware to initialize.

9 Turn on your computer.

10 Launch Pro Tools or any third-party audio or MIDI applications.

Shut down your Pro Tools system in this order:

1 Quit Pro Tools and any other running applications.

To quit Pro Tools, choose Pro Tools > Quit (Mac) or File > Exit (Windows).

2 Turn off or lower the volume of all output devices in your system.

3 Turn off your computer.

4 Turn off your Pro Tools audio interfaces (such as MTRX Studio).

5 For systems with an expansion chassis, turn off the chassis.

6 Turn off any MIDI interfaces, MIDI devices, or synchronization peripherals.

7 Turn off any control surfaces (such as S6).

8 Turn off any external hard drives.

Chapter 3: Connecting Pro Tools | MTRX Studio to an HDX or HD Native System

Pro Tools | MTRX Studio can be configured for a wide variety of audio production workflows with Pro Tools | HDX or HD Native hardware.

HDX With HDX hardware, MTRX Studio is connected to an HDX card using one or two DigiLink Mini cables (not included). You can connect additional HD audio interfaces to your system using the second DigiLink Mini port on the back of MTRX Studio, the second DigiLink Mini Port on the HDX card, or by using additional HDX cards. See "Connecting Pro Tools | MTRX Studio to Pro Tools | HDX" on page 12.

📖 *For more information about installing HDX cards, see the Pro Tools | HDX Card Installation Guide.*

HD Native With HD Native hardware, MTRX Studio is connected to the HD Native card using one or two DigiLink Mini cables (not included). You can connect additional HD audio interfaces to your system using the second DigiLink Mini port on the back of MTRX Studio or the second DigiLink Mini Port on the HD Native card. See "Connecting Pro Tools | MTRX Studio to Pro Tools | HD Native" on page 14.

📖 *For more information about installing the HD Native card, see the Pro Tools | HD Native Installation Guide.*

📖 *For more information about installing HD Native Thunderbolt, see the Pro Tools | HD Native Thunderbolt Installation Guide.*

Studio Connections

Pro Tools | MTRX Studio can be integrated with your other equipment in several ways, depending on your needs. For examples, see "Example Studio Connections" on page 22.

Connecting Pro Tools | MTRX Studio to Pro Tools | HDX

You can use up to 64 channels of analog and digital I/O with MTRX Studio connected to an HDX card using two DigiLink Mini cables (not included).

To connect MTRX Studio to an HDX card:

1 Connect the first MTRX Studio DigiLink Mini Port to DigiLink Mini Port 1 on the HDX card using a DigiLink Mini cable (not included).

2 Connect the second MTRX Studio DigiLink Mini Port to DigiLink Mini Port 2 on the HDX card using a second DigiLink Mini cable (not included).
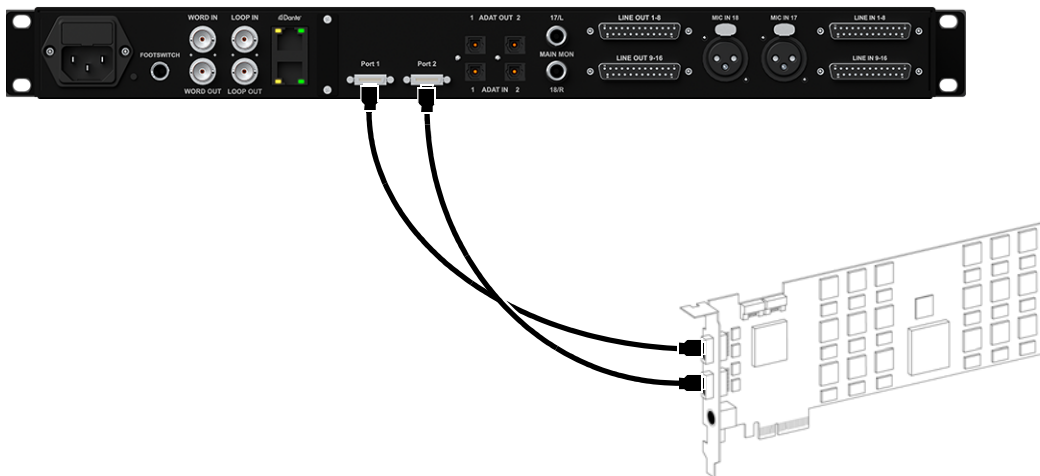

Figure 1. MTRX Studio connected to both DigiLink Mini ports on an HDX card

MTRX Studio with a MADI I/O in an HDX 2 System

The following shows MTRX Studio and MADI I/O with Loop Sync connections and DigiLink Mini connections with two HDX cards.
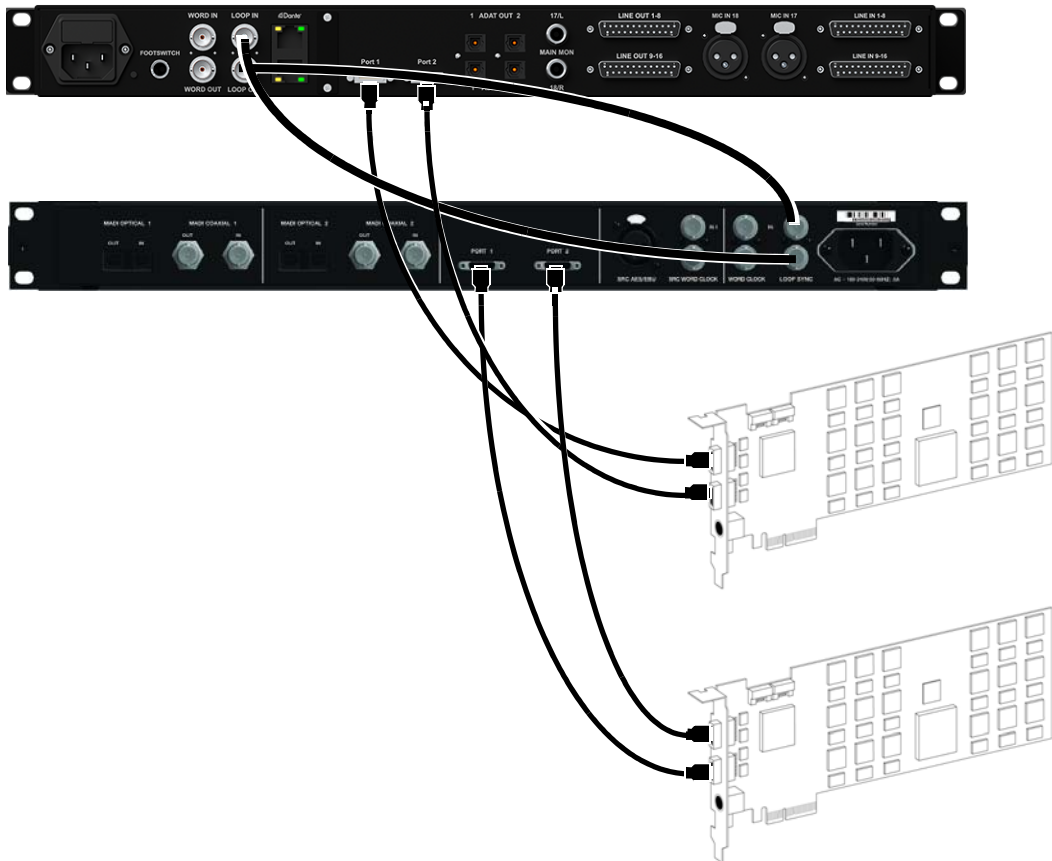

Figure 2. HDX 2 system: MTRX Studio connected to both DigiLink Mini ports on HDX card 1, MADI I/O connected to both DigiLink Mini port s on HDX card 2, Loop Sync connections between MTRX Studio and MADI I/O

Connecting Pro Tools | MTRX Studio to Pro Tools | HD Native

You can use up to 64 channels of analog and digital I/O with MTRX Studio connected to an HD Native card or HD Native Thunderbolt using two DigiLink Mini cables (not included).

To connect MTRX Studio to an HD Native card or HD Native Thunderbolt:

1 Connect the first MTRX Studio DigiLink Mini Port to DigiLink Mini Port 1 on the HD Native card or HD Native Thunderbolt using a DigiLink Mini cable (not included).

2 Connect the second MTRX Studio DigiLink Mini Port to DigiLink Mini Port 2 on the HD Native card or HD Native Thunderbolt using a second DigiLink Mini cable (not included).
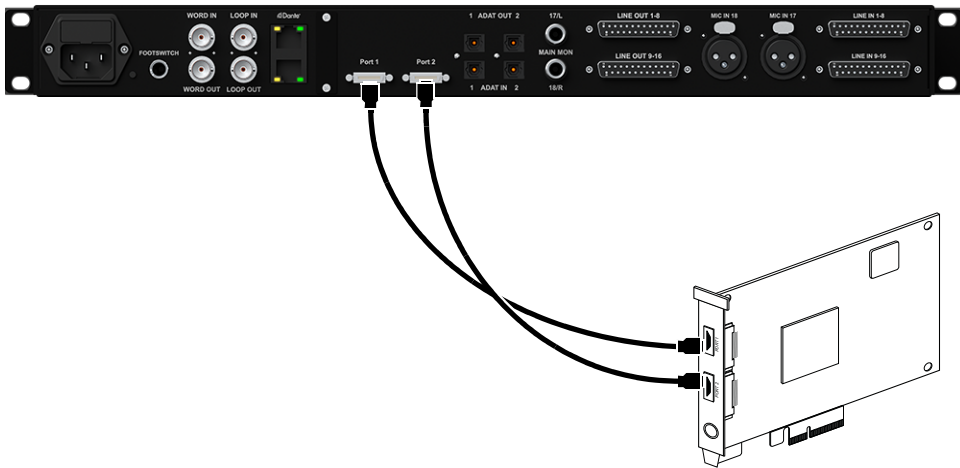

Figure 3. MTRX Studio connected to both DigiLink Mini ports on an HD Native card

Synchronization

If you are using two or more audio interfaces or a synchronization peripheral, each device must be connected to a clock source to maintain proper synchronization among the devices. MTRX Studio provides Internal clock, and can also clock to Word Clock, Loop Sync, ADAT, or Dante IP. Use Internal if MTRX is your master clock. Use Loop Sync with Pro Tools HD audio interfaces if you want to use another peripheral as the master clock (such as HD I/O or HD MADI, and SYNC HD).

📖 *To orient yourself with MTRX back panel connections, see Chapter 5, "Pro Tools | MTRX Studio Front and Back Panels."*

Example System Configurations

The following diagram shows an example music studio configuration using an Avid S1 and Pro Tools Dock for controlling DADman and Pro Tools using EuControl, analog output tuned with SPQ speaker processing for control room monitoring, Dante digital output for Cue mixes, ADAT input for 16 channels of mic preamp input (using outboard AD converters), and DB25 analog I/O for hardware inserts (outboard processing).
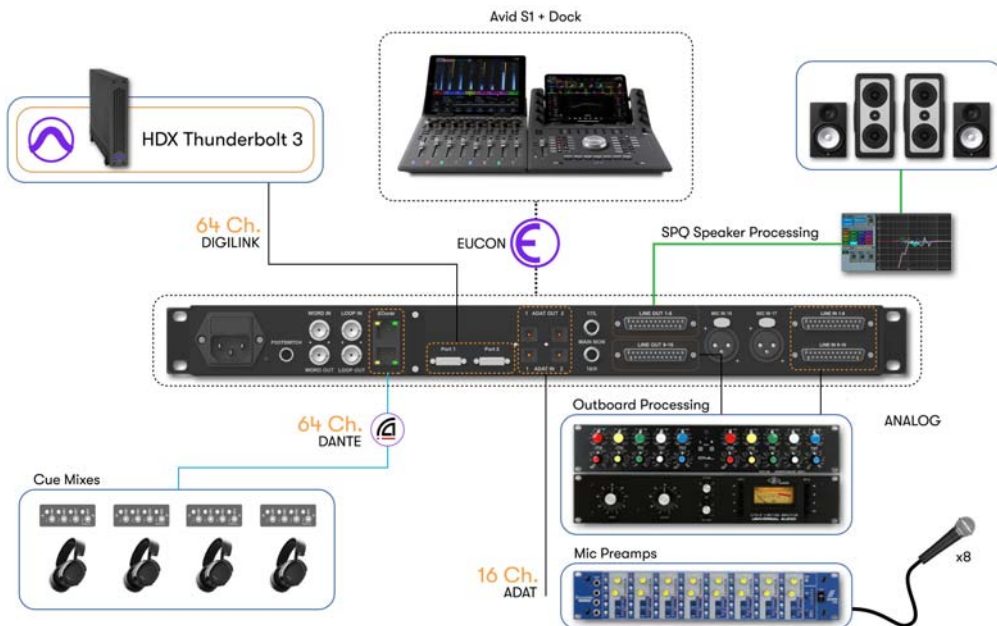
Example music studio configuration

The following diagram shows an example Dolby Atmos configuration using the Avid Control app for controlling DADman and Pro Tools using EuControl, DB25 analog output tuned with SPQ speaker processing for 7.1.4 monitoring, and Dante digital output for Dolby Atmos rendering.
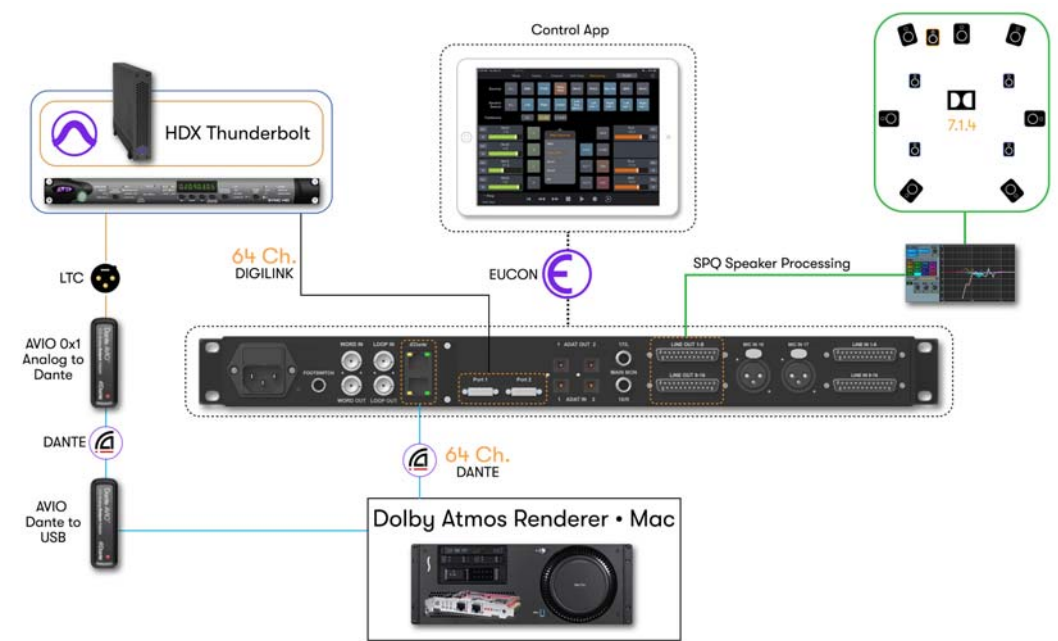
Example Dolby Atmos configuration

# Chapter 4: Installing and Configuring DADman Software

Installing DADman Software

MTRX Studio is controlled over a network connection by DADman software on your computer. Your computer and MTRX Studio must be connected on the same subnet.

To install DADman Software:

1 If you have not already done so, download the DADman Software installer for your operating system (macOS or Windows) from your Avid Master Account.

2 Once the download is complete, launch the installer and follow the on-screen instructions to complete the installation.

3 If desired, create a shortcut for DADman on the Desktop, or in the Dock (Mac) or in the Start menu (Windows).

4 Launch DADman.

5 Choose Settings > Device List.

6 Click Refresh to discover the MTRX Studio on the network. If MTRX Studio is properly connected and operational, the HW Status reads OK.
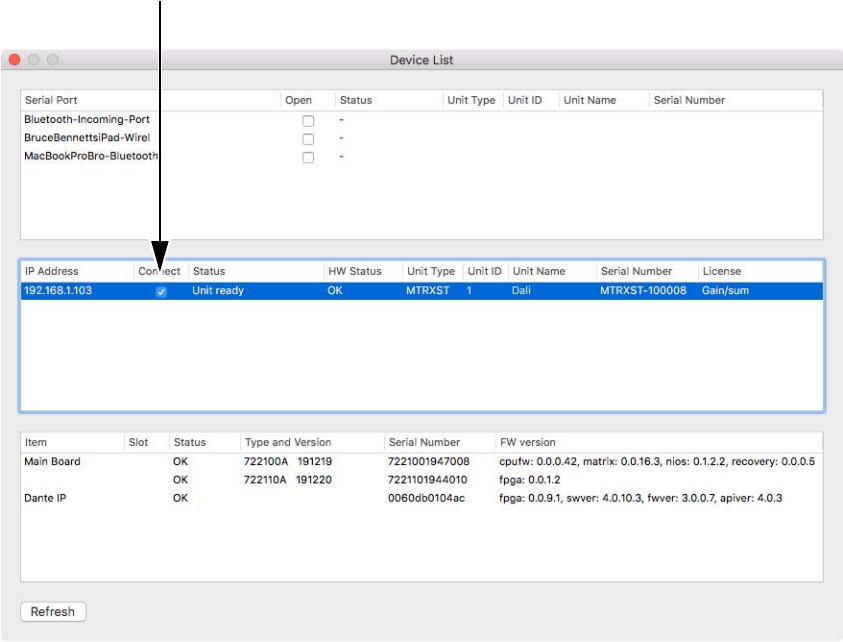
Device List dialog

7 Right-click the MTRX Studio and choose Network Settings.
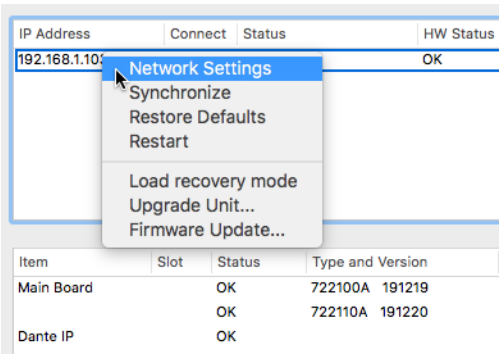
Device List, Right-click menu

8 Configure the Network Settings accordingly (see "Assigning the IP Address for your Computer and Pro Tools | MTRX Studio" on page 19).

Network Settings

Assigning the IP Address for your Computer and Pro Tools | MTRX Studio

When DADman is installed you can finalize the network configuration of the MTRX Studio.

If you have more than one MTRX Studio, connect and configure each MTRX Studio one by one.

You have the option of using fixed IP addresses or IP addresses assigned by DHCP.

💡 *When using MTRX Studio units in Pro Tools systems with EUCON peripherals (such as S6), use a dedicated Network Interface for EUCON peripherals and connect all other network devices to a separate Network Interface (for MTRX Studio/DADman, Dante audio, local network, internet, and so on). Using separate Network Interfaces is especially important when streaming audio over Dante.*

⚠ *In order for MTRX Studio to function properly, the router must be correctly configured in DADman software.*

Fixed IP Address

You must have a preferred range of IP addresses, and a network mask for the computer network and the connected MTRX Studio.

To use a fixed IP address:

1 Configure your computer IP address and network mask using the Mac System Preferences or the Windows Control Panel to 10.0.7.25 | 255.255.255.0.

2 Choose Settings > Device List, then right-click the MTRX Studio and choose Network Settings.

3 Configure the MTRX Studio with a unique IP address and preferred network mask, for example 10.0.7.21 | 255.255.255.0. In this window you can also configure the IP audio network settings.

Automatic IP address

You must have a network with a DHCP server to allocate the IP addresses.

To use an automatic IP address:

1 Configure your computer IP address to DHCP using the Mac System Preferences or the Windows Control Panel.

2 Choose Settings > Device List, then right-click the MTRX Studio and choose Network Settings.

3 Configure the MTRX Studio to use DCHP.

DADman Matrix Connections

To route audio through MTRX Studio, you need to create or import DADman settings (.dms files). You can download a default stereo DADman settings file from your Avid Master account: Stereo Default.dms.

To open a DADman settings file:

1 Choose File > Open.

2 Navigate to the DADman Settings file (.dms) you want to open and select it.

3 Click Open.

Making Routing Connections

In order to route audio to and from MTRX Studio inputs and outputs and Pro Tools, make the appropriate connections in the DADman cross-point matrix. For example, assign AD to DigiLink 1 and DA to DigiLink 1 for analog input and output with Pro Tools.
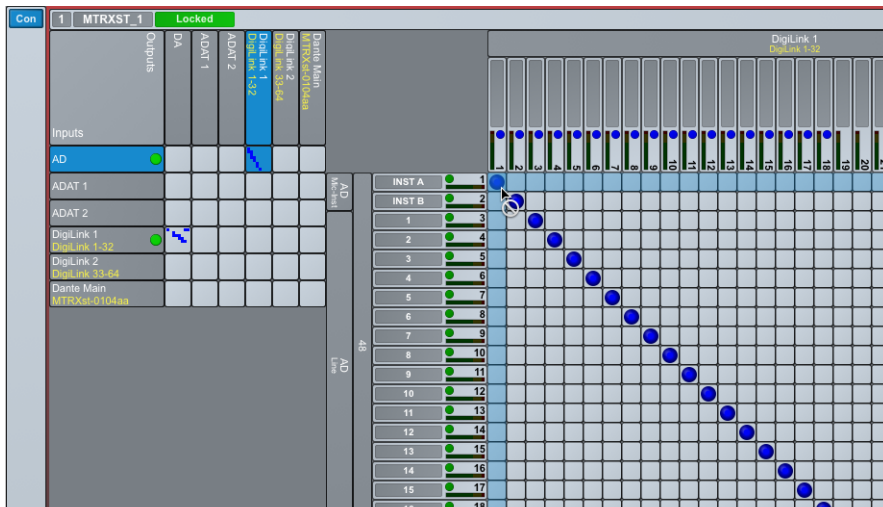
MTRX Studio AD (DB25 analog input 1–16) mapped to DigiLink Mini port 1

📖 *For information about making connections in the DADman cross-point matrix, see MTRX Studio Operation Guide.pdf*

Monitor Profiles

To use the monitoring and cue functionality of MTRX Studio, you need to create or import monitor profiles (.dmprof files). You can download a default stereo monitor profile configuration from your Avid Master account: Stereo Default.dmprof.

To import a monitor profile:

1 Choose File > Open Profile.

2 Navigate to the profile (.dmprof) you want to open and select it.

3 Click Open.

4 To see how the imported monitor profile is configured, choose Settings > Monitor Profile.
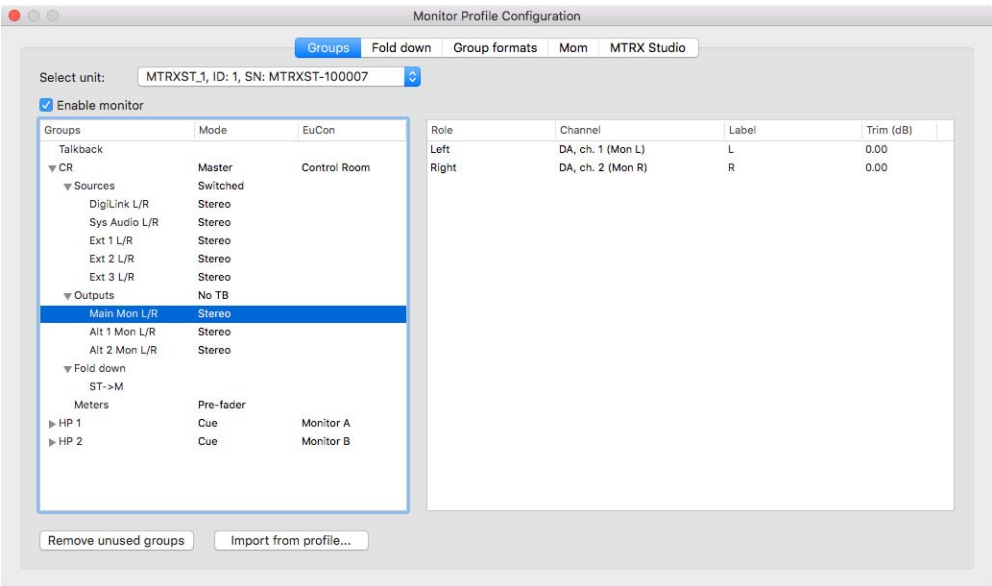
Monitor Profile Configuration window: Default Stereo Profile settings, Control Room Output assignments shown

📓 *For information about making creating and editing monitor profiles in DADman, see MTRX Studio Operation Guide.pdf*

Chapter 5: Pro Tools | MTRX Studio Front and Back Panels

Pro Tools | MTRX Studio Front Panel

Pro Tools | MTRX Studio front panel

1 Instrument inputs 1 and 2 (mono 1/4-inch). These inputs are shared with the Mic inputs on the back panel, select INST inputs to use these inputs.

2 Power button.
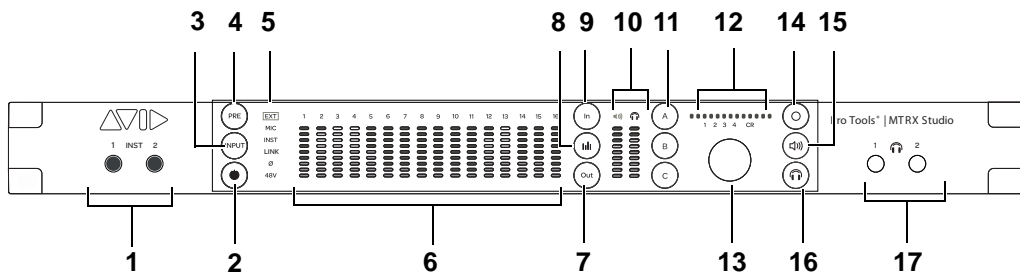
3 **INPUT** button — Toggles Mic/Inst inputs 1 and 2 between INST (front panel) or MIC (back panel) when **PRE** is activated. Press the **Select** button (14) to toggle between channels 1 and 2 (the number for the corresponding channel illuminates above the encoder (13). If the channels are linked, the **INPUT** button toggles both channels in tandem.

4 **PRE** button — When activated, the **PRE** button lights green and you can change the input settings for Mic/Inst inputs 1 and 2. Press the **Select** button (14) to switch between channel 1 and channel 2. Press **INPUT** (3) to toggle between INST (front panel) or MIC (back panel). Press the **A** button (11) to link or unlink channels 1 and 2. Press **B** to enable or disable Ø. Press **C** to switch 48V (phantom power) on or off. Use the encoder (13) and the horizontal meter (12) to adjust input levels.

5 Indicators (from top to bottom) — Displays the Mic/Inst input settings per channel when **PRE** (4) is activated.

- EXT — Lights green to indicate sync lock to an external clock source, or flashes red to indicate that sync is not locked.
- MIC — Indicates Mic input for the selected channel.
- INST — Indicates Instrument input for the selected channel.
- Link — Indicates that channels 1 and 2 are linked.
- Ø — Indicates studio phase invert for the selected channel.
- 48V — Indicates phantom power is enabled for the selected channel.

6 16 segmented LED meters indicating signal level of the selected source (analog, ADAT, or Dante) input or output.

⚠ *Note that levels for the Mic/Inst input channels (1/4-inch inputs on the front panel and XLR inputs on the back panel) are not shown in the 16 segmented LED meters. Likewise, these meters do not show the levels for the monitor outputs (1/4-inch jacks on the back panel).*

7 **OUT** button — Press to set the 16 segmented LED meters to display output levels for the selected source.

8 **Meter** button — Press to cycle between sources for the 16 segmented LED meters: analog, ADAT, and Dante (1–4). The individual sources for metering are indicated by different colors in the meters and channels numbers. The mapping is shown in table 1 below.

Meter sources

Meter button push	Color	Viewed Channels	Meter Number highlight
Mode 1	Light Blue	Analog channels	Light Blue
Mode 2	Dark Blue	ADAT channels	Dark Blue
Mode 3	Orange	Dante channels 1–16	Orange, 1 White
Mode 4	Orange	Dante channels 17–32	Orange, 2 White
Mode 5	Orange	Dante channels 33–48	Orange, 3 White
Mode 6	Orange	Dante channels 49–64	Orange, 4 White

9 **IN** button — Press to set the 16 segmented LED meters to display input levels for the selected source.

10 CR, Monitor/Cue Level meter — Shows the level of the left and right signal of the control room output or the monitor/cue output. The readout follows the selection made using the **Speaker** (15), **Headphone** (16), and **Select** (14) buttons.

11 **A**, **B**, and **C** buttons — These three buttons illuminate **A**, **B**, and **C**. When **PRE** (4) is activated, use these buttons to change the settings for the two Mic/Inst inputs. When the Pre button is not activated, the **A**, **B**, and **C** buttons are used to select configured DADman monitor profiles. The function of these can be configured access any available monitor function, such as input source selection, speaker set selection, folddown, and so on. These buttons are also layered using the **Select** button (15) along with the Level control encoder (13), and the level and channel indicators (12).

12 Level and Channel indicators — When **PRE** (4) is activated, the Level meter shows the input gain levels for the selected Mic/Line input and the Channel indicators show which channel is selected for editing (1 or 2, or both). Otherwise, these show the output level for the selected Monitor/Cue source, and which source is selected (defined in DADman).

13 Encoder — When **PRE** (4) is activated, turning the encoder adjusts the input gain level for the selected Mic/Line input. Otherwise, turning the encoder adjusts the monitor level for the selected Monitor/Cue source. The encoder can also be assigned to various functions in DADman when turned or pushed. For example, you can assign the encoder to mute and unmute the selected monitor path when pushed.

📖 *For information on assigning functions to the encoder in DADman, see the MTRX Studio Operation Guide.pdf.*

14 **Select** button — Use for selecting channels or layers. Selections are indicated by the channel indicator (12). When the MTRX Studio is connected to a monitor profile in DADman these 3 keys are controlling DADman and the function is defined in DADman. The default functionality is that the **Speaker** button (15) selects the control room (CR) as focus for the level control encoder, and the **A**, **B**, and **C** buttons (11) and the **Headphone** button (17) selects the monitors/cues as focus. Using the **Select** button (14), 4 different layers can be selected according to the configuration of the monitor profile in DADman.

15 **Speaker** button — Selects the control room (CR) as focus for the level control encoder (13) and meter (12).

16 **Headphone** button — selects the monitors/cues as focus for the level control encoder (13) and meter (12).

17 Headphone outputs 1 and 2 (stereo 1/4-inch).

Pro Tools | MTRX Studio Back Panel
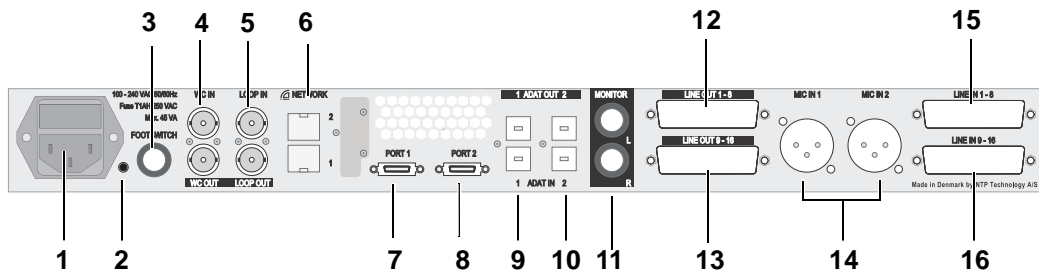

Pro Tools | MTRX Studio back panel

1 IEC power connector.

2 Reconfig button (see "Reconfig Button" on page 29).

3 Footswitch — the footswitch can used for controlling the DADman monitor profile or talkback (see the *MTRX Studio Operation Guide.pdf*).

4 Word Clock In and Out (BNC).

5 Loop Sync In and Out (BNC).

6 Ethernet 1 and 2 (network or Dante) — Two RJ45 Ethernet ports for Control and Dante (which can be set to switched or redundant mode). In redundant mode the control network must be connected to port 1.

7 DigiLink Mini port 1, primary port.

8 DigiLink Mini port 2, primary or expansion port (configured in DADman software).

9 ADAT In and Out 1.

10 ADAT In and Out 2.

11 Main Monitor Out L and R (balanced 1/4-inch).

12 Line Out 1–8 (DB25).

13 Line Out 9–16 (DB25).

14 Mic/Line In 1 and 2 (XLR and balanced 1/4-inch). These inputs are shared with the instrument inputs on the front panel, select MIC inputs to use these inputs.

In addition to front panel and DADman control, the built in Mic pres can also be controlled from Pro Tools (Mac only). For more information, see the MTRX Studio Operation Guide.pdf.

15 Line In 1–8 (DB25).

16 Line In 9–16 (DB25).

Digital I/O Connections

Ethernet, RJ45 Connector, Gigabit
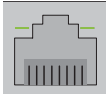
Pin 1 BI_DA+

Pin 2 BI_DA−

Pin 3 BI_DB+

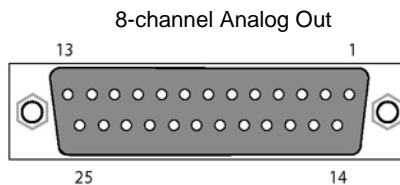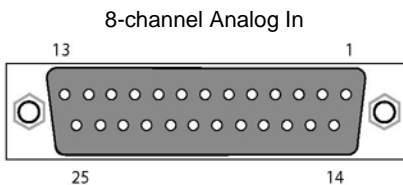**Pin 4** BI_DC+

Pin 5 BI_DC−

Pin 6 BI_DB−

Pin 7 BI_DD+

Pin 8 BI_DD−

Analog I/O Connections

Analog I/O 25-pin Female D-sub Connectors

MTRX Studio uses 25-pin D-sub connectors on the back panel for both analog line input (channels 1–8 and 9–16) and analog line output (channels 1–8 and 9–16).

8-channel Analog In   8-channel Analog Out

Connections Channels 1–8
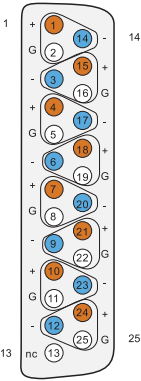
Connections for the 25-pin D-sub connector are listed in the table below. The pinning is according to the proprietary standard by Tascam.

Pin number	Function	Pin number	Function
1	AIN/OUT 8 +	14	AIN/OUT 8 –
2	GND	15	AIN/OUT 7 +
3	AIN/OUT 7 –	16	GND
4	AIN/OUT 6 +	17	AIN/OUT 6 –
5	GND	18	AIN/OUT 5 +
6	DOUT 2/6 +	19	GND
7	AIN/OUT 4 +	20	AIN/OUT 4 –
8	GND	21	AIN/OUT 3 +
9	AIN/OUT 3 –	22	GND
10	AIN/OUT 2 +	23	AIN/OUT 2 –
11	GND	24	AIN/OUT 1 +
12	AIN/OUT 1 –	25	GND
13	N.C.		

Reconfig Button

The Reconfig button on the back of MTRX Studio should not be used during normal installation. It is intended only as for recovery in case something goes wrong during programming of IP addresses or a software upgrade (such as an unintended power loss). It lets you start MTRX Studio in various basic modes so it can be restored without having to be returned to the factory.

The Reconfig button is accessed through a hole in the rear panel using a pen or a similar pointed item (such as a paper clip). A green LED is visible through the hole. When the Reconfig button is activated, the LED lights to indicate the two Recovery modes for MTRX Studio: last used IP Address and DHCP.
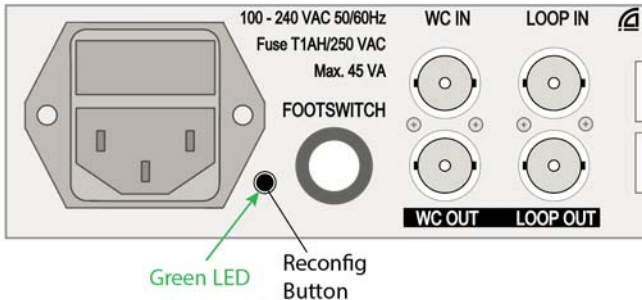
Recovery Mode

Use Recovery mode if the software in the MTRX Studio is not operative. In Recovery mode only basic boot software is operative in the unit, and new software can be downloaded using DADman software.

To enter Recovery mode using the last used IP address settings:

1 Power off MTRX Studio.

2 Press the Reconfig button using a pen or a similar (such as a paper clip) and power the unit on. Hold while the unit is powering up.

The green LED turns on and MTRX Studio enters Recovery mode. The IP address settings of the unit are the last setting used in the unit.

To switch Recovery mode to use DHCP:

■ While the unit is in Recovery mode and the green LED is on, briefly press the Reconfig button again.

The green LED turns off, but the MTRX Studio remains in Recovery mode and the IP address settings of the unit is set to DHCP. In case there is no DHCP server on the network, the MTRX Studio defaults to IP address 10.0.7.20 / 255.255.0.0 after approximately 2 minutes.

The selection of either recovery mode is fixed after selection. MTRX Studio starts with a basic boot software and IP configuration. MTRX Studio will not be operational until a proper firmware has been downloaded using the DADman software and the unit has been powered off and back on again. By enabling recovery mode with default IP address and network configuration the unit can always be identified on a network using the default setup.

⚠ *Note that the IP address referred to is the IP address of the controller/management interface of the unit. This is not the IP address of the IP audio interface. This IP address cannot be accessed in recovery or restore defaults mode.*

Restore Defaults

In Restore Defaults mode, all settings of the unit are initialized and reset to the factory programmed defaults. However, the IP address settings of the unit are remain unchanged and do *not* return to factory default.

To restore the default settings to MTRX Studio:

1 While the unit is powered on and operating normally, push and hold the Reconfig button for 10 seconds.

2 Release the Reconfig button.

When the Reconfig button is released the firmware of the unit restarts with the factory default settings and enters normal operation automatically.

Appendix A: Specifications

Audio Specifications

Microphone and Instrument Input

PCM sample rates	44.1, 48, 88.2, 96, 176.4, 192 kHz
Dynamic range (A)	> 120 dB
THD+N(A)	< −108 dB @ −3dB FS
Cross talk q	< −120 dB
Input Impedance (differential)	2 k Ohm (Mic), 1M Ohm (Inst)
Max input level	21 dBu (Mic), 15 dBu (Inst)
Input gain range/accuracy	Adjustable from −18 to 72 dB, in steps of 0.1 dB
Equivalent input noise (A)	< −125 dB (Mic), < −121 dB (Inst)

Analog Line Input

PCM sample rates	44.1, 48, 88.2, 96, 174.4, 192 kHz
Dynamic range (A)	> 120 dB
THD+N(A)	< −108 dB @ −3dB FS
Cross talk q	< −120 dB
Input Impedance (differential)	> 10 k Ohm
Maximum input level	Adjustable from 9 dBu to 24 dBu in steps of 0.1 dB

Analog Line and Monitor Output

PCM sample rates	44.1, 48, 88.2, 96, 176.4, 192 kHz
Dynamic range (A)	> 118 dB
THD+N(A)	−110 dB @ −3 dBFS
Cross talk	< 120 dB
Max output level	Adjustable from −60 dBu to 24 dBu in steps of 0.1 dB
Output Impedance	< 25 R
Max output level Line	Adjustable from −66 dBu to 18 dBu in steps of 0.1 dB
Max output level Monitor	Adjustable from −60 dBu to 24 dBu in steps of 0.1 dB

Analog Headphone Output

PCM sample rates	44.1, 48, 88.2, 96, 176.4, 192 kHz
Dynamic range (A)	> 118 dB
THD+N(A), 300 R load	< −110 dB @ −3dBFS
THD+N(A), 30 R load	< −105 dB @ −3dBFS
Cross talk	< 110 dB
Headphone impedance	30 to 600 Ohm
Output Impedance	< 1 R
Max output level	Adjustable from −80 dBu to 19 dBu in steps of 0.1 dB

Digital I/O and Synchronization

Digital I/O formats Supported sample rate	Pro Tools DigiLink, Dante IP Audio, ADAT/SMUX up to 192 kHz
Synchronization	Internal, Word Clock, Loop Sync, ADAT, and Dante

Network Interface

Interface	1000BASE-T, RJ45 connector, 4-pair connection

Electrical Specifications

Power consumption	45 VA max.
Input voltage	90–260 VAC 100–240 VAC Nominal, 47–63 Hz
Mains fuse, mounted in IEC connector	1 A, T1AH/250V
Safety compliance	N 60950-1:2006

Power supply cord must be a light sheathed flexible cord according to IEC60227 (designation 60227 IEC 52) and include a protective earth conductor having a green-and-yellow insulation. Cross-sectional areas min. 3 x 0.75mm.

Mains line plug type	Correct type acc. to standard
110–125V	UL817 and CSA C22.2 no 42
220–230V	CEE 7 page VII, SR section 107-2-D1/IEC 83 page C4
240V	BS 1363 of 1984.Specification for 13A fused plugs and switched and un-switched socket outlets

Mechanical Specifications

Chassis standard	19", 1 RU
Chassis depth, without connectors mounted	23.5 cm / 9.3"
Chassis body width	43.5 cm / 17.2"
Weight, not including I/O cards	2.8 kg / 6.5 lbs.

Environmental Specifications

Operating Temperature	0–45º C / 32–113º F
Humidity	20–85% (non-condensing)
EMC compliance	EN 55103-1, part 1: emission EN 55103-2, part 2: Immunity FCC 47 CFR part 15 (B): emission

Appendix B: Warranty Claims Information

If you experience a hardware failure within 30 days of purchase, you can return your product to your reseller for an exchange.

For warranty claims, contact Avid directly:

https://www.avid.com/learn-and-support/contact-audio-and-music-support

For non-warranty claims, visit:

http://avid.force.com/pkb/articles/faq/Avid-Audio-Product-Repairs