

MOTU 828mkII

MOTU 828 MKII FireWire Audio Interface Instruction Manual

Model: 828mkII

1. INTRODUCTION

The MOTU 828mkII is a FireWire audio interface designed to transform your computer into a powerful 24-bit, 96kHz digital audio workstation. It offers 20 inputs and 22 outputs, including 10 channels of 96kHz analog recording and playback, 8 channels of ADAT digital I/O, and stereo S/PDIF. The 828mkII can be expanded by connecting additional 828 or 896 FireWire audio interfaces. It is suitable for both studio and stage use, functioning with or without a computer.

2. SETUP

To set up your MOTU 828mkII, follow these general steps:

- Power Connection:** Connect the 828mkII to a power source using the standard IEC cable. The built-in international power supply accepts 110-220V.
- Computer Connection:** Connect the 828mkII to your computer using a FireWire cable. The interface features standard 1394 'FireWire' ports, allowing for daisy-chaining of multiple devices. No PCI or PC cards are required for installation.
- Driver Installation:** Install the necessary drivers for your operating system. The 828mkII provides cross-platform compatibility with Mac OS 9, Mac OS X (version 10.2 or later), Windows Me/2000/XP, and supports WDM/ASIO/Core Audio/Sound Manager drivers.
- Software Installation:** Install any included or recommended audio software, such as AudioDesk workstation software for Macintosh, which offers 24-bit recording/editing and 32-bit mixing/processing/mastering capabilities.
- Audio Connections:** Connect your microphones, instruments, and monitoring equipment to the appropriate inputs and outputs on the front and rear panels.

3. OPERATING INSTRUCTIONS

3.1. CueMix DSP On-Board Mixing

The 828mkII features CueMix DSP, a flexible DSP-driven 20-input/8-bus mixing and monitoring matrix. This eliminates the need for an external mixer or patchbay. You can connect various studio gear, including microphones, guitars, synths, keyboards, drum machines, and effects processors. Monitor all live inputs via the main outs, headphone jack, or other outputs with virtually no monitoring latency and no computer processor drain.

- **Monitor Mixes:** Create up to four separate stereo monitor mixes assigned to any four digital or analog output pairs. For example, you can set up distinct mixes for main outs and headphone outs, with two additional stereo buses for send/return loops to outboard gear. Each mix supports all 20 inputs (8 TRS analog, 2 mic, 8 ADAT optical digital, and stereo S/PDIF digital).
- **CueMix Bounce Back:** This feature allows you to route one of the four CueMix DSP mixes back to the computer for recording, including monitored inputs.
- **Talkback and Listenback:** CueMix Console software provides Talkback and Listenback buttons. Talkback allows an engineer to communicate with musicians, while Listenback enables musicians to speak to the control room. Dedicated mic inputs can be used for these functions.

3.2. Stand-Alone Mixing

The 828mkII can operate as a stand-alone digital mixer without a computer. You can create up to four independent stereo mixes and adjust them using the backlit LCD and front-panel controls. Every setting is accessible directly from the front panel.

3.3. SMPTE Time Code Synchronization

The 828mkII is equipped with on-board SMPTE time code synchronization features. This allows you to slave your system to SMPTE time code via a dedicated quarter-inch SMPTE input jack, eliminating the need for an external synchronizer. A SMPTE out jack is also provided for time code generation. The DSP-driven phase-lock engine ensures fast lockup times and sub-frame accuracy. The included MOTU SMPTE Console software provides tools for generating SMPTE for striping, regenerating, or slaving other devices to the computer, compatible with ASIO2 sample-accurate sync protocol.

4. FRONT AND REAR PANEL DESCRIPTION



Image: Front panel view of the MOTU 828 MKII FireWire Audio Interface, showing inputs, controls, and display.

1. **CueMix DSP Mixer Controls:** Used to create up to four stereo monitor mixes with 20 inputs each. Mixing occurs within the 828mkII, freeing computer processor resources.
2. **Volume Control:** Dual-function knob for separate volume control over main outputs and headphones.
3. **Front-Panel Mic/Guitar Inputs:** Two inputs accepting high-impedance quarter-inch or low-impedance XLR microphone inputs. Features microphone preamplifiers with switchable phantom power. Rear-panel sends allow for inserting outboard effects before digital conversion.
4. **S/PDIF I/O:** Stereo 24-bit, 96kHz S/PDIF digital input and output for connecting DAT machines or effects processors.
5. **ADAT Sync Port:** Provides sample-accurate synchronization for compatible devices, ensuring precise transfer of multiple ADAT passes.
6. **ADAT Optical I/O:** Eight channels of ADAT optical (lightpipe) input and output for connecting digital mixers, ADATs, or additional A/D/A converters. Supports four channels of 88.2 or 96kHz audio.
7. **International Power Supply:** Built-in power supply accepting 110-220V via a standard IEC cable.

8. **Word Clock:** Word clock input and output for synchronization with various digital devices or a centralized word clock source.
9. **Standard 1394 'FireWire' Ports:** Connect to your FireWire-equipped computer. The second FireWire port allows for daisy-chaining additional devices without a hub.
10. **Backlit LCD Display:** Used for configuring the system and accessing all settings when operating as a stand-alone mixer.
11. **Level Meters / Status Indicators:** Dedicated LEDs display audio levels, tach and lock status, and clock rate.
12. **MIDI Input and Output:** 16-channels of MIDI input and output via the FireWire connection, eliminating the need for an additional MIDI interface.
13. **Eight Balanced TRS Analog Ins/Outs:** 24-bit 96kHz analog inputs and outputs on balanced/unbalanced quarter-inch connectors. Input level can be switched between +4/-10 via software.
14. **Sends:** Pre-amplified analog outputs from the two front-panel inputs, allowing insertion of compressors or effects processors before digital conversion. Any input can be used as a return.
15. **Main Outputs:** Connect powered monitors directly to these jacks, with separate control for main mix and monitor levels via front-panel knobs.
16. **Hands-Free Punch In/Out:** Connect a pedal for hands-free punch in and out functionality.
17. **SMPTE I/O:** Resolve the 828mkII directly to an external analog tape deck or video source without an extra synchronizer.

5. MAINTENANCE

To ensure the longevity and optimal performance of your MOTU 828mkII, follow these maintenance guidelines:

- **Cleaning:** Regularly wipe the exterior of the unit with a soft, dry cloth. Avoid using abrasive cleaners or solvents, which can damage the finish.
- **Ventilation:** Ensure that the ventilation openings are not obstructed to prevent overheating.
- **Storage:** Store the unit in a cool, dry environment away from direct sunlight, extreme temperatures, and excessive humidity.
- **Cable Management:** Keep cables organized and free from kinks or excessive tension to prevent damage to connectors and ports.

6. TROUBLESHOOTING

If you encounter issues with your MOTU 828mkII, consider the following troubleshooting steps:

- **Power Check:** Verify that the unit is properly connected to a power source and the power switch is in the 'on' position.
- **Cable Connections:** Ensure all FireWire, audio, and MIDI cables are securely connected to their respective ports on both the 828mkII and your computer/other devices.
- **Driver Status:** Confirm that the latest drivers for your operating system are installed correctly. Check your computer's device manager (Windows) or System Information (Mac) for any driver-related issues.
- **Software Settings:** Review the audio settings within your Digital Audio Workstation (DAW) or other audio software to ensure the 828mkII is selected as the input and output device.
- **Input/Output Levels:** Check the gain and volume controls on the 828mkII and within your software to ensure appropriate levels are set.
- **Phantom Power:** If using condenser microphones, ensure 48V phantom power is activated for the

corresponding input.

- **Monitor Mixes:** If you are not hearing audio, check the CueMix DSP settings to ensure your monitor mixes are correctly configured and routed to your desired outputs.
- **System Compatibility:** Ensure your computer's operating system meets the minimum requirements for the 828mkII and its associated software.

7. SPECIFICATIONS

Feature	Detail
Item Weight	0.01 ounces
ASIN	B0002D0Q9A
Date First Available	May 18, 2006
Compatible Devices	Personal Computer
Supported Software	AudioDesk (Mac OS)
Operating System	Windows, Mac OS 9, Mac OS X (version 10.2 or later)
Brand	MOTU
Connectivity Technology	Firewire
Number of Channels	18

8. SUPPORT

For technical support, software updates, and additional information regarding your MOTU 828mkII FireWire Audio Interface, please refer to the official MOTU website or contact their customer support. Ensure your product is registered to access all available support resources and software benefits.