AUTOGRAPH

MADI-PC
MADI RECORDING SYSTEM

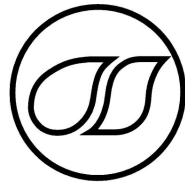# USER MANUAL
V1.0

Table of Contents

A U T O G R A P H

INTRODUCTION

Congratulations on purchasing the Autograph XMADI-PC Recording System.

Developed to address the growing need for large-scale multi-track recording, the ASR-MADI-PC is a computer based recording solution offering up to 128 Tracks of 48KHz/24bit recording and playback across two (2) independent MADI streams.

MADI (AES10-1991 Standard) is a fast growing multi-channel digital audio format that carries 56 Channels of digital audio over a single 75Ohm coaxial or fibre optic cable . Although originally designed for multi-track tape recorders this robust format is quickly gaining acceptance as the digital transport medium of choice for large to medium scale mixing console manufacturers. MADI-PC capitalises on the benefits of MADI by offering a compact and convenient recording system capable of tracking and playing back your show entirely in the digital domain.

Contained in a four (4)-unit industrial computer case, ASR-MADI-PC uses the power of Steinberg Cubase to provide a compact recording system ideal to accompany any MADI based mixing console. With just three BNC connections the recorder has access to 112 channels of audio. With a tap of the space bar the system can then playback your recording enabling you to monitor your recording as if coming directly from the same source.

This function can be put to use whether recording for a live album, outside broadcast or simply for rehearsal purposes.

Should you experience any problems with your XMAD-PC please contact:

Service Department
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London NW5 3BA
United Kingdom
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Fax. +44 (0)20 7284 1233
Email. service@autograph.co.uk
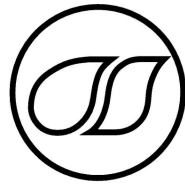
IMPORTANT SAFETLY PRECAUTIONS

This section contains definitions, warnings, and practical information to ensure a safe working environment**. Please take time to read this section before installing or using this unit. Please do not dispose of these instructions.**

General Safety

Read these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Do not expose this apparatus to rain or moisture.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves
  or other apparatus (including amplifiers) that produce heat.

- There are no user-adjustments, or user-servicable items, inside this apparatus.
  Do not remove the covers of this apparatus; doing so will invalidate your warranty.
- Adjustments or alterations to this apparatus may affect the performance such that safety and/or international compliance standards may no longer be met.

Caution
- Hazardous voltages may be present inside this apparatus.
- Do not operate this apparatus with the covers removed.
- To reduce the risk of electric shock, do not perform any servicing other than that contained in these Installation Instructions unless you are qualified to do so. Refer all servicing to qualified service personnel and ensure that all power cords are disconnected when servicing this apparatus.
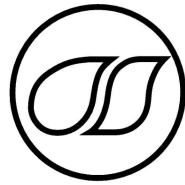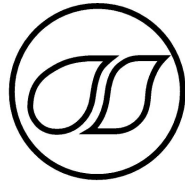
AUTOGRAPH

Power Safety

- This apparatus is fitted with a universal power supply, approved and certified for operation in this apparatus. There are no user-replaceable fuses.
- Multiple power cords may be supplied with this unit – use only the power cord appropriate to your local power wiring. Alternative power cords may be used if rated 2.5A or above and fitted with a 3-pin IEC320 connector.
- An external over-current protection device is required to protect the wiring to this apparatus. This protection device must be installed according to current wiring regulations. In certain countries this function is supplied by use of a fused plug.
- If an extension power cable or adaptor is used, ensure that the total power rating of the power cable and/or adaptor is not exceeded.
- An external disconnect device is required for this apparatus; a detachable power cord, as fitted to this equipment, is a suitable disconnect device. The power socket used for this apparatus should be located nearby and be easily accessible.
- All power cords must be disconnected to isolate this apparatus completely.
- Unplug this apparatus during an electrical storm or when unused for long periods of time.

Installation Notes

- When installing this apparatus, either fix it into a standard 19" rack or place the apparatus on a secure level surface.
- When this apparatus is rack mounted, fit all rack screws. Rack shelves are recommended for this apparatus.
- Do not operate this apparatus whilst it is covered or boxed in any way.
- Ensure that no strain is placed on the cables connecting to this apparatus. Ensure also that such cables are not placed where they can be stepped on, pulled or tripped over.

REAR PANEL DRAWINGS
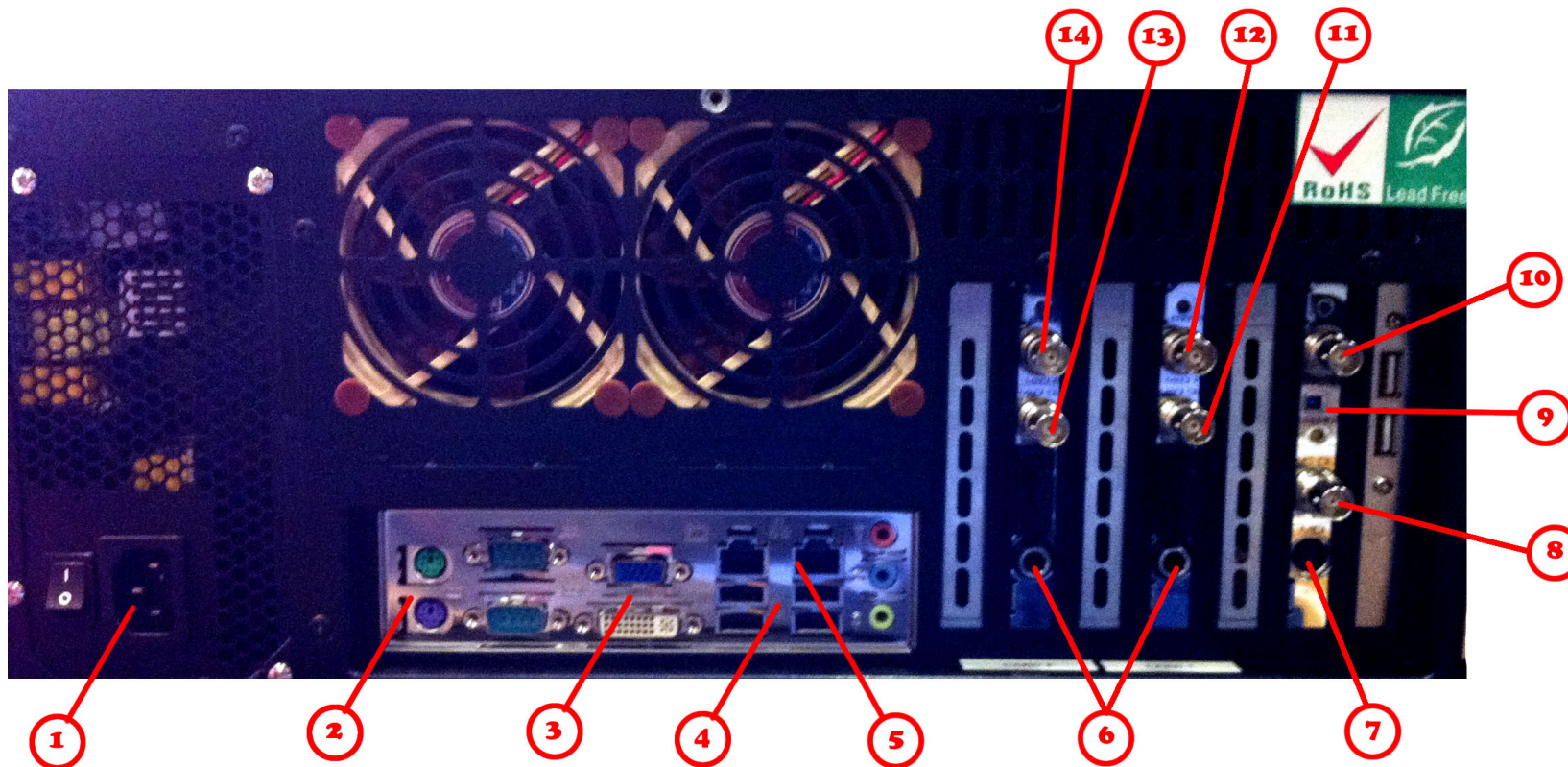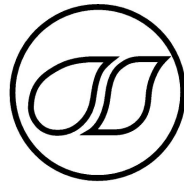
AUTOGRAPH

PANEL DESCRIPTIONS

1   Main Input and Switch
The MADI-PC requires 110Vac – 240Vac at 50Hz main supply.

2   Keyboard and Mouse PS2 Connectors
Connect a PS2 Keyboard and mouse to these connectors. (Purple: Keyboard, Green: Mouse)

3   Video Outputs (VGA or DVI)
The MADI-PC supports VGA or DVI-D monitors. A minimum resolution of 1024 x 768 is recommended.

4   USB Ports
These ports are USB2.0 compliant. USB ports can be used for connection of external drives (Audio must play from internal Audio Drive), Keyboards or mice.

5   Ethernet Ports
The MADI-PC has two Ethernet ports for transfer of files to and from the device. These ports are set to be configured by DHCP by default.

6   Analogue Monitor Outputs
These connectors offer a hi-quality analogue monitor output. The short circuit protected stereo line output provides high output level, low impedance, and is available via a 6.3 mm (1/4") TRS jack. Therefore it is also suitable for a direct use with headphones.

The analogue output is directly driven from the channels 63/64. Its output volume is controlled by the hardware output faders of channel 63/64 in the RME TotalMix mixer. Additionally the analogue output can play back any input or playback signal (submix, for example factory preset 5, 6 and 7). RME's unique Speaker Protection reduces noise when switching the computer on and off, so there is no problem even when using active monitors. In case the output should operate as line out, an adapter TRS plug to RCA phono plugs, or TRS plug to TS plugs is required.
The pin assignment follows international standards. The left channel is connected
to the tip, the right channel to the ring of the TRS jack/plug.

7.   MIDI I/O Connector
The MADI-PC offers two MIDI I/O via 5-pin DIN connectors. The MIDI ports are added to the system by the driver. Using MIDI capable software, these ports can be accessed under the name MADI MIDI. A consecutive number is added to the port name, to indicate the card number like MADI MIDI In 1 (2)
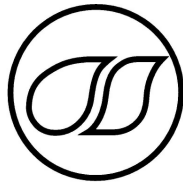
etc. The third software-only MIDI port, MADI MIDI In 3 (1) and MADI MIDI Out 3 (1), receives and transmits MIDI data via MADI. This allows for a direct communication between systems with HDSPe MADI cards. Additionally MIDI data can be transmitted from/to other RME devices with MADI ports, and both can be MIDI remote controlled without any additional line or cabling between computer (MADI card) and unit.

8   Word Clock Out

The word clock output of the MADI-PC is constantly active, providing the current sample frequency as word clock signal. As a result, in Master mode the provided word clock is defined by the currently used software. In Slave mode the provided frequency is identical to the one present at the currently chosen clock input. When the current clock signal fails, the MADI-PC switches to Master mode and adjusts itself to the next, best matching frequency (44.1 kHz, 48 kHz etc.).

9   Word Clock Termination

Ideally, the word clock signal is a 5 Volt square wave with the frequency of the sample rate, of which the harmonics go up to far above 500 kHz. To avoid voltage loss and reflections, both the cable itself and the terminating resistor at the end of the chain should have an impedance of 75 Ohm. If the voltage is too low, synchronization will fail. High frequency reflection effects can cause both jitter and sync failure.

The MADI-PC word clock input can be high-impedance or terminated internally, ensuring maximum flexibility. If termination is necessary (e.g. because the card is the last device in the chain), activate the switch TERM between the BNC jacks on the Expansion Board so that the yellow TERM LED lights up.

10   Word Clock In

The MAD-PC's transformer isolated word clock input is active when Pref. Sync Ref in the Settings dialog has been switched to Word Clock, and a valid word clock signal is present. The signal at the BNC input can be Single, Double or Quad Speed, the HDSP MADI automatically adapts to it. As soon as a valid signal is detected, the green LED is lit, and the Settings dialog shows either Lock or Sync.
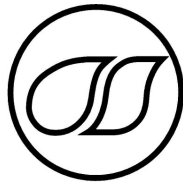
11   MADI A - Output

MADI connection for stream A output.

12   MADI A - Input

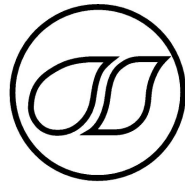MADI connection for stream A input.

13   MADI B - Output

MADI connection for stream B output.

A U T O G R A P H

14   MADI B - Input

MADI connection for stream B input.

AUTOGRAPH

MADI I/Os

The BNC input's ground-free design is built according to AES10-1991. The input impedance is 75 Ohm. It will operate error-free from about 180 mVpp on.

The BNC output is built according to AES10-1991. The output's impedance is 75 Ohm. The output voltage will be 600 mVpp when terminated with 75 Ohm.

Removable Media

The MADI-PC is fitted with a removable Drive bay in the front of the device. The drive caddy houses a 1TB 300MB/sec SATA drive for recording of audio Media. This drive may be removed and installed in another MADI-PC for quick and efficient transfer of data.

> **WARNING : This drive is not hot-swappable. Mains power should be removed before the drive is inserted or removed. Failure to do so could result in loss of data and damage to this device.**

Operating System

The MADI-PC is built on Microsoft Windows 7 SP1 operating system. The device is delivered preconfigured and with one auto logon user configured. If you should require the user credentials they are as follows:

Username: asr
Password: asr

It is recommended to leave this user in place even if creating other users. No Microsoft updates should be applied to this device unless requested to do so by a service engineer.

> **WARNING : MADI-PC is not shipped with and is not recommended to run any antivirus or anti-malware software. It is recommended that this device never be connected to the Internet and that all media used in the device be scanned by an appropriate antivirus solution before being installed in the device. Failure to do so could result in loss of data and damage to this device.**

Audio Recording Software

The MADI-PC is shipped with Steinberg Cubase 6 digital audio software. A full set of manuals is included with the device for detailed instructions on use. A 112 track template is also preconfigured to get you up and recording as soon as possible.