Appsys ProAudio

multiverter

MTA-64

MADI-TP Adapter for DiGiCo/Soundcraft/Studer/Harman

User's Manual

((en))

Table of Contents

1. GENERAL

1.1. Purpose

With the MTA-64, the multiverter becomes capable of connecting to the MADI-TP variants used in DiGiCo and Soundcraft/Studer/Harman desks, which - although not officially standardized - have gained widespread acceptance because they are built into many desks and stageboxes. The MTA-64s relay logic eliminates the need for crossover cables and allows to use standard straight (1:1) cabling in all situations.

The MTA-64 connects to the multiverter's MADI-TP port (for the audio transmission) and to the FlexLink port (for power supply and mode control). The FlexLink port is fed through on the MTA-64 to allow other extension boxes (e.g. for AVB) to connect to the multiverter simultaneously. Optionally, a second MTA-64 may be connected to the multiverter to add another MADI-TP port.

1.2. Box Contents

- 1 MTA-64 Adapter Box
- 1 Cat5 cable (1:1 straight) 0.5m / 1.7 ft
- 1 FlexLink (HDMI) cable 0.5m / 1.7 ft with locking screws
- This manual

1.3. Conventions used in this manual

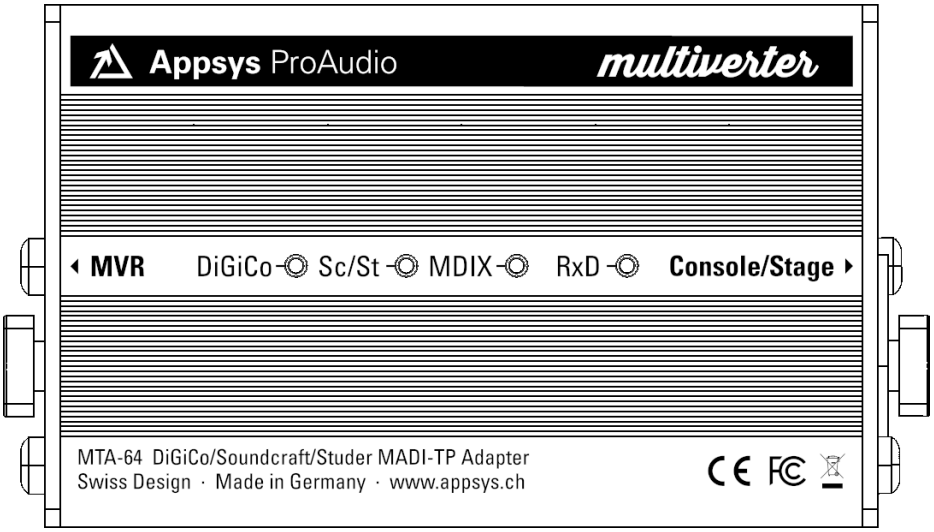
- A button on the front of the multiverter is shown like this: **Set**
- A particular LED on the front of the device is shown like this: ✲ **WCLK**
- Text indicated on the seven-segment display is shown as 02
- Operations in a particular control method are indicated by a triangle:
  ▶ **Front panel,** ▶ **Web** or ▶ **Command line**

Filled circles with an exclamation mark indicates an action that must be performed (“Required”).

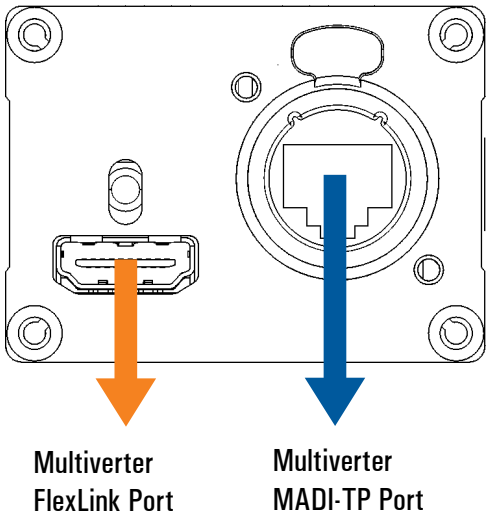
A section marked with the “information” icon indicates a useful tip.

2. DEVICE DESCRIPTION

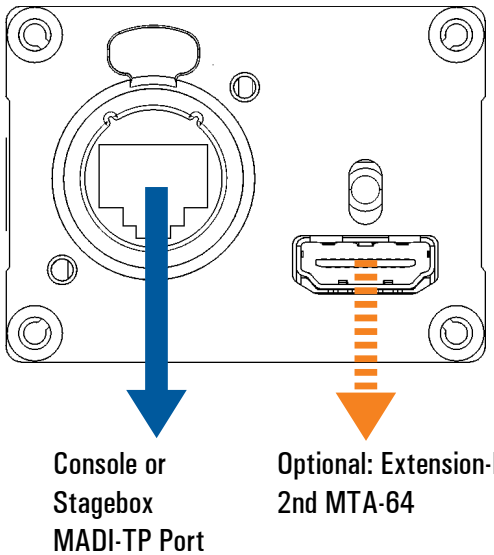
Top view



Connectors on "**MVR**" side



Connectors on "**Console/Stage**" side



2.1. LED indications

LED	Meaning
☼ DiGiCo (blue)	DiGiCo mode selected
☼ Sc/St (white)	Soundcraft/Studer/Harman mode selected
☼ MDIX (yellow)	Crossover configuration (Receive/Transmit swapped). When lit, a crossover cable is emulated on the "Console/Stage" port.
☼ RxD (green)	Receive Data OK (same as MADI-TP "green" indication on MVR front). When lit, the MTA-64 is configured correctly and receives a signal

3. PREREQUISITES

3.1. Multiverter Firmware Check

▶ MVR-mkII

All firmware versions support the MTA-64.

▶ MVR-64

The MVR-64 requires **at least firmware 4.0** for the MTA-64 to work. Please check and update if required (see below).

- To check the multiverter's firmware version: Press **Recall**, move to **☼ Function**, press **OK**, move to **☼ 12**, press **OK**, move cursor to **☼ AD**.
- If the seven-segment display shows **04** or higher, no update is required.
- If **03** or less is shown, a firmware update is required. Download the firmware update from our website and follow the instructions in the README.TXT file contained in the package.

4. OPERATION

▶ MVR-mkII

Either AES50/MADI-TP port can be used. The port's pinout (AES50 vs. MADI-TP) can be set internally in the Multiverter by jumpering (see MVR-mkII manual). The default is AES50 pinout.

NOTE: If you use AES50/MADI-TP#**2,** you will need to set the MTA-64s internal address to #2 (see 5.1 Changing the MTA-64's address via jumper).

- When the MVR-mkII is jumpered to MADI-TP pinout, use a straight cable between the MVR and the MTA-64. A Pinswap cable (5.2) may be used to connect to AES50 devices.

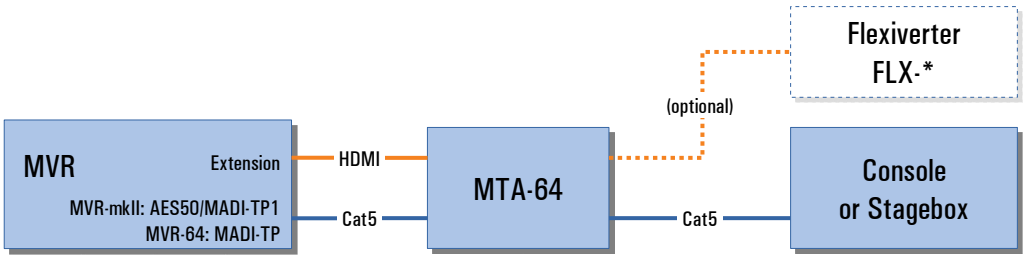
- When the MVR-mkII is jumpered to AES50 pinout, use a Pinswap cable (see section 5.2) between the MVR and the MTA-64. AES50 devices may connect using a straight cable.

▶ MVR-64

The MADI-TP port can be used directly, and the AES50 port can used as second port (using a Pinswap cable, 5.2 and jumpered to address #2, see 5.1 Changing the MTA-64's address via jumper).

4.1. Connection

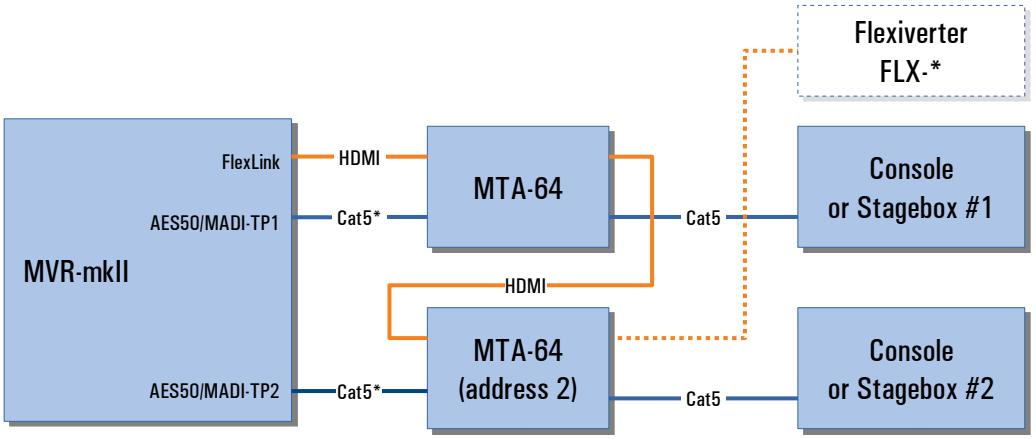
- Connect the Cat5 port on the ◂ **MVR** side to the **AES50/MADI-TP1** port (MVR-mkII) or **MADI-TP** port (MVR-64)
- Connect the Extension port on the ◂ **MVR** side to the **FlexLink** port
- Connect the Cat5 port on the **Console / Stage** ▸ side to the console or stagebox:



4.2. Connecting two MTA-64s

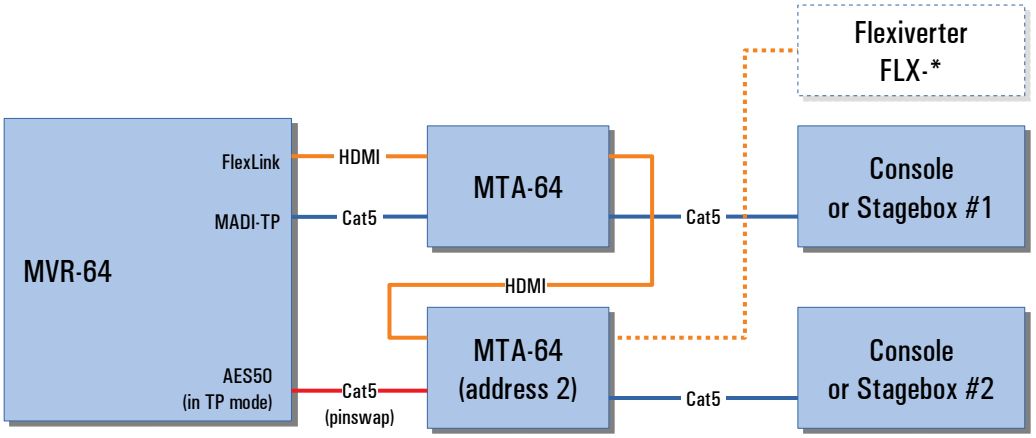
The second MTA-64 needs to be jumpered to address #2
See chapter 5."Configuring the second MTA-64" for details.

▶ MVR-mkII



*) straight Cat5 when MVR-mkII internal jumper is in MADI-TP position, or pinswap cable when MVR-mkII internal jumper is in AES50 position

▶ MVR-64



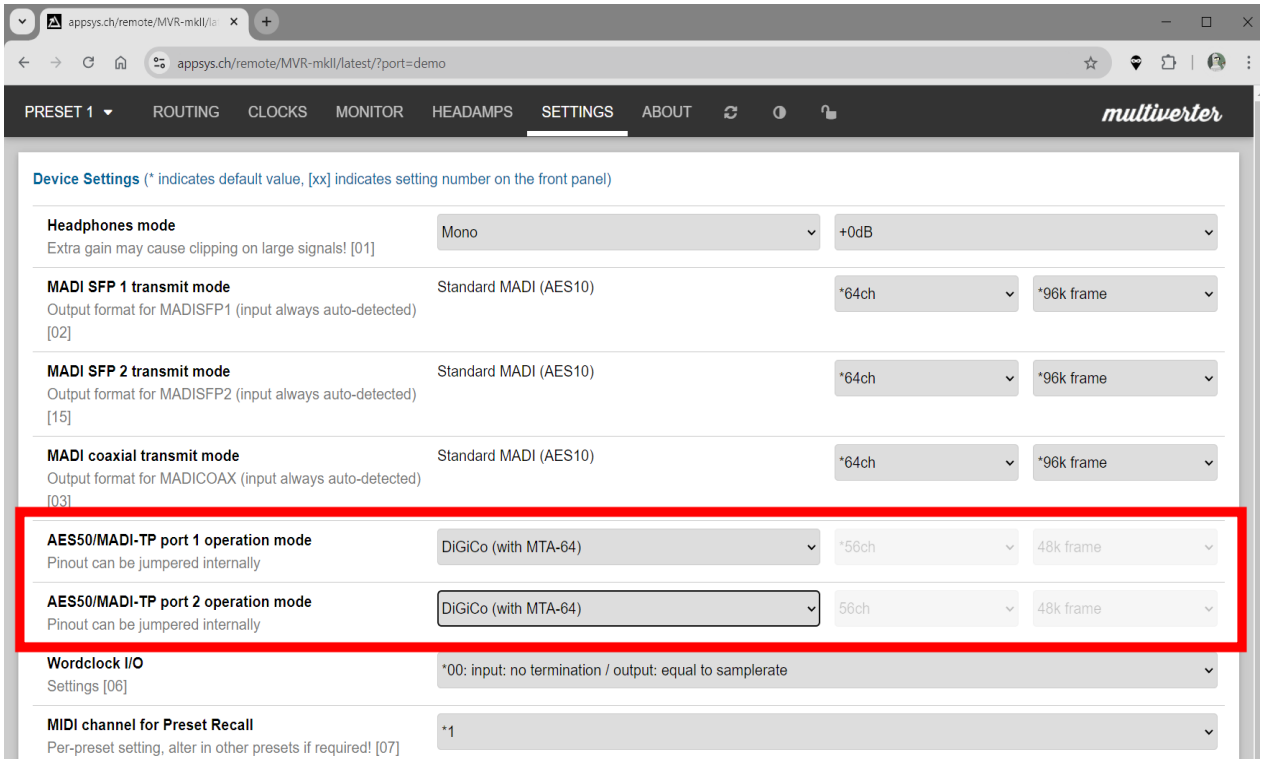
4.3. Software setup

The easiest way of setting up the MTA-64 is by using the multiverter's web configuration. Simply type the IP address of the Dante module in your web browser and open the SETTINGS page.

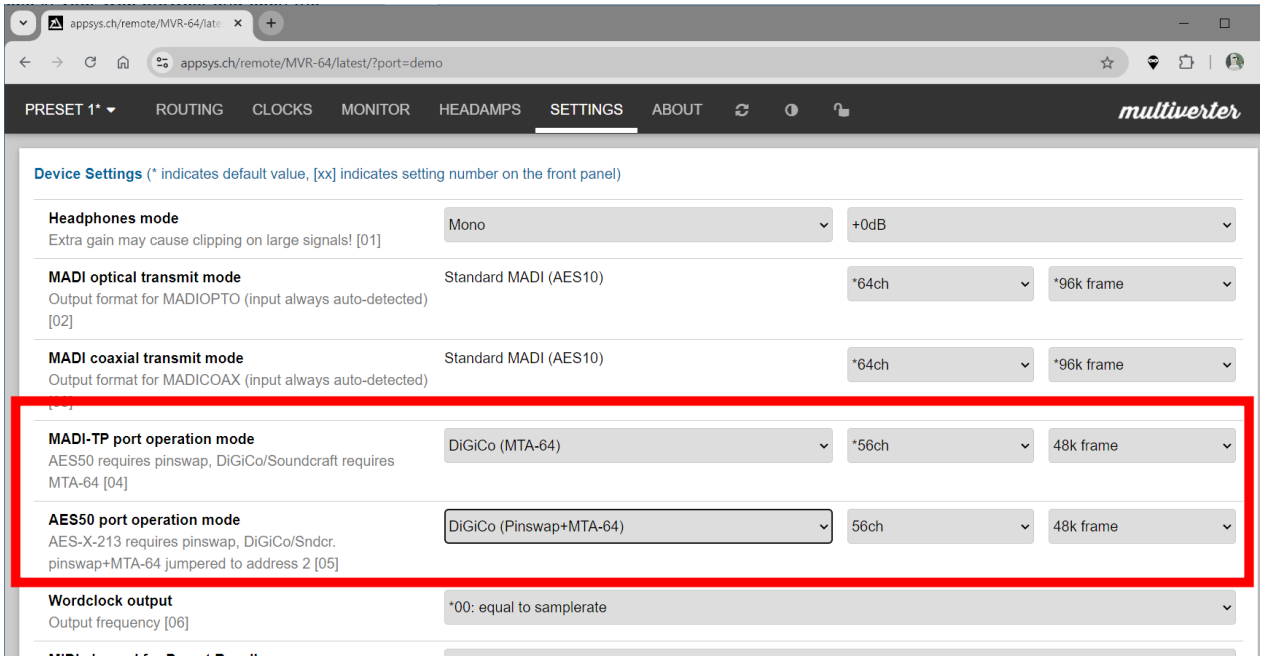
▶ Web

The settings [04] and [05] can be altered on the "SETTINGS" page:

■ MVR-mkII



■ **MVR-64**



▶ Front panel

The mode setting is available through the "Function" menu. To adjust the value:

- Press the blue **Recall** button
- Move the cursor to **⚙ Function** by turning the encoder left or right
- Confirm **OK** (push the encoder)
- The **⚙ Function** LED should now be lit.
- Move the cursor to index **⚙ 4** or **⚙ 5** and push the encoder knob*. The seven-segment display is now blinking, indicating the current mode number (see Table 1 on page 10)
- Rotate the encoder to alter the value
- Confirm **OK** (push the encoder) or press **⮌ Back** to cancel the operation.

▶ Command line

`function 04|05 <value>`

with <value> according to Table 1 on page 10 *

* Index 05 is used to configure a second MTA-64 connected to the AES50 port

Value	Mode	Num. Ch	96k frame format[1]	Pinout mode (Console / Stagebox, use Straight/MDIX)
00	AES-X213	56	48k	Auto
01			96k	
02		64	48k	
03			96k	
04	AES50	48	-	
08	DiGiCo	56	48k	Straight
09			96k	
10		64	48k	
11			96k	
12	Soundcraft/Studer	56	48k	
13			96k	
14		64	48k	
15			96k	
24	DiGiCo	56	48k	MDIX (Crossover)
25			96k	
26		64	48k	
27			96k	
28	Soundcraft/Studer	56	48k	
29			96k	
30		64	48k	
31			96k	
32	AES-X213	57	48k	Auto
33			96k	
40	DiGiCo	57	48k	Straight
41			96k	
44	Soundcraft/Studer	57	48k	
45			96k	
56	DiGiCo	57	48k	MDIX (Crossover)
57			96k	
60	Soundcraft/Studer	57	48k	
61			96k	

Table 1: Mode numbers (numbers not listed are reserved)

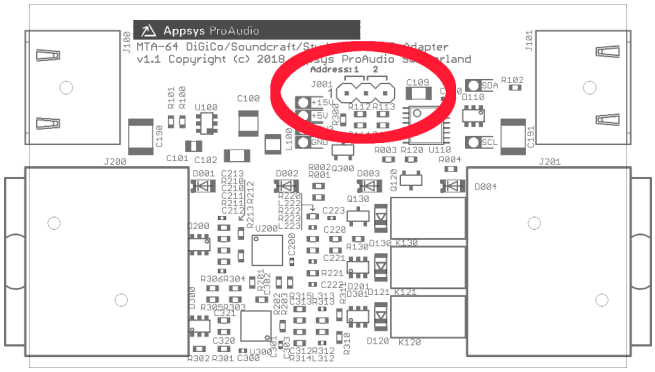
1 Applies only to 96kHz operation, ignored in 48kHz

5. CONFIGURING THE SECOND MTA-64

5.1. Changing the MTA-64's address via jumper

The second MTA-64 needs to be jumpered internally to address "2". The jumper is located on the internal PCB. To access it:

1. Remove the four screws (two upper screws on each side).
2. Remove the top cover.
3. Locate the jumper on the top and change it to position "2":

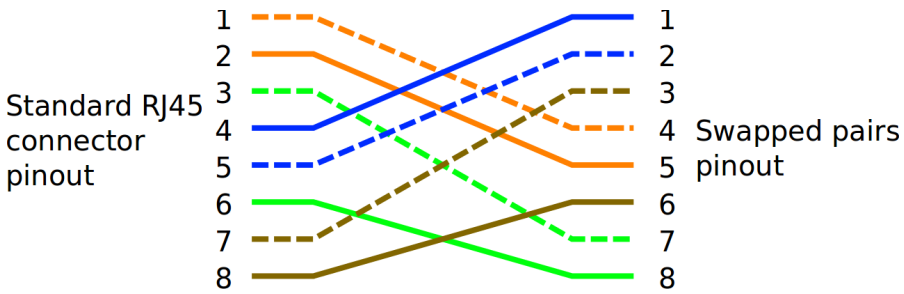


5.2. Pinswap cable

You will need this in the following cases to adapt the pinout of the MVR's Cat5 jacks:

- MVR-mkII jumpered to AES50 pinout
- MVR-64 when using the AES50 port (as second MADI-TP)
- MVR-64 when using the MADI-TP port as second AES50 port (no MTA-64)

To match the pinout, use the pin swap Cat5 cable specified below between the MVR-64 and the MTA-64:



6. SPECIFICATIONS

Parameter	Value					
Dimensions	83x39x52mm (WxHxD)					
Weight	128 g					
Operating temperature	0..+70°C, non-condensing					
Storage temperature	-40..+85°C, non-condensing					
Power consumption	+15V DC from multiverter, 2W max.					
Cable lengths	MVR to MTA-64 / Cat5	5m max.				
	MVR to MTA-64 / HDMI	5m max.				
	MTA-64 to Console/Stagebox	70..100m (depends on cable quality and counterpart)				
Channel count	Up to 64x64 in x1 modes (44.1 / 48 kHz) Up to 32x32 in x2 modes (88.2 / 96 kHz) Up to 16x16 in x4 modes (176.4 / 192 kHz)					
Sample rates	Arbitrary sample rates between 32kHz and 192kHz					
Remote Control Data	Transparent forwarding of DiGiCo remoting data (contained in ch57), Soundcraft/Studer remoting data (userbits of ch1-10) and others (RME/Ferrofish MIDI-over-MADI etc.)					
Latency	The latency added by the MTA-64 is negligible (in the nanoseconds range)					
Pinout	Pin number/ color	MVR side	Console/Stage side			
			DiGiCo	DiGiCo MDIX	Soundcraft	Soundcraft MDIX
	1 (orange/wt)		TX+	RX+	TX+	RX+
	2 (orange)		TX-	RX-	TX-	RX-
	3 (green/wt)				RX+	TX+
	4 (blue/wt)	TX+				
	5 (blue)	TX-				
	6 (green)				RX-	TX-
	7 (brown/wt)	RX+	RX+	TX+		
	8 (brown)	RX-	RX-	TX-		
	Note: The signals on the "MVR" side are electrically different from the "Console/Stage" side.					

7. APPENDIX

7.1. Warranty

We offer a full two (2) year warranty from the date of purchase. Within this period, we repair or exchange your device free of charge in case of any defect*. If you experience any problems, please contact us first. We try hard to solve your problem as soon as possible, even after the warranty period.
* Not covered by the warranty are any damages resulting out of improper use, willful damage, normal wear-out (especially of the connectors) or connection with incompatible devices.

7.2. Manufacturer contact

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CH-8004 Zürich
Switzerland

www.appsys.ch
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Mobile: +41 76 747 07 42

7.3. FCC Compliance

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

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

This equipment has been verified to comply with the limits for a class B computing device, pursuant to FCC Rules. In order to maintain compliance with FCC regulations, shielded cables must be used with this equipment. Operation with non-approved equipment or unshielded cables is likely to result in interference to radio

and TV reception. The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the user's authority to operate this equipment.

7.4. Recycling

According to EU directive 2002/96/EU, electronic devices with a crossed-out dustbin may not be disposed into normal domestic waste.
Please return the products back for environment-friendly recycling, we'll refund you the shipping fees.

7.5. Document Revision History

3: Added MVR-mkII specifics
2: Corrected 96k frame format in Table 1
1: Initial release

7.6. About this document

All trademarks mentioned in this document are property of the respective owners. All information provided here is subject to change without prior notice.

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