



Connect with Confidence

Infinea ***M-HDX*** **Receiver** Quick Reference & Setup Guide



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MAGENTA INFINEA SERIES

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FEDERAL COMMUNICATIONS COMMISSION AND INDUSTRY CANADA RADIO FREQUENCY INTERFERENCE STATEMENTS

This equipment generates, uses, and can radiate radio-frequency energy, and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This digital apparatus does not exceed the Class A limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of Industry Canada.



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1. Specifications

Cable Required: Simplex Multi Mode 50 or 62.5 micron fiber optic cable with SC connectors. Type OM3 or better is preferred for full distance performance.

Video Support: HDMI/DVI video modes to 1920x1200/1080P uncompressed

Maximum Resolution and Refresh Rate:

At 2000 ft. (610m) or less, 1920x1200/1080P

Audio

Characteristics: Channels: analog Right/Left stereo or via HDMI signal;

Serial

Characteristics: Protocol: Asynchronous; transparent to data format; transparent to data rates up to 115.2 kbps duplex; 3 wire: Tx, Rx, Gnd
Default baud rate is 9600.

USB

Characteristics: Only the transmitter side USB port is functional at this time. The transmitter USB connection acts as a virtual COM port device and is output as RS232 serial on the receiver DB9 connector. A windows driver, mhdx.inf, is required to utilize this feature. The receiver USB connector is not functional.

Connectors: TX: (1) SC fiber, (1) 3.5-mm, (1) HDMI, (1) DB9F, power
RX: (1) SC fiber, (1) 3.5-mm, (1) HDMI, (1) DB9M, power

Temperature

Tolerance: Operating: 32 to 104°F (0 to 40°C);
Storage: -4 to +140°F (-20 to +60°C)

Humidity

Tolerance: Up to 80% noncondensing

Enclosure: Steel

Power: +12 VDC @ 225mA max (each unit)
Consumption: 2.7 watts maximum

Size: 1.0" H x 4.0" W x 3.75" D (2.5 x 10.1 x 9.5 cm)

Weight: 1.0 lb. (0.45 kg)

EDID/DDC: Pass through from Rx to Tx (TX only will provide a mock DDC profile to the source until a receiver with an actual display connected is detected. Then the displays DDC/EDID is used).

HDCP: Version 1.1

HDMI: Version 1.3

2. Introduction

2.1 Overview

Magenta's Infinea M-HDX series extends digital video, audio, and RS232 signals over a single multi mode fiber optic cable (simplex multi mode).

Video types supported are DVI/HDMI digital video. Audio is analog line level stereo via the 3.5 mm connectors or embedded digital audio via the HDMI connector. Serial is RS232 (serial can be input to the transmitter via the DB9 connection or USB B connection if the virtual COM driver mhdX.inf is installed on the host PC).

The M-HDX serial uses the Magenta SAP II serial control protocol used to configure RS232 parameters. It is not necessary to use the SAP II protocol for RS232 communication between transmitter and receiver - the SAP II protocol is only used to change certain RS232 configuration options such as the baud rate (default baud rate is 9600). Please reference the SAP II user manual for more information. Magenta serial SAP I mode is not supported in the M-HDX series.

This manual covers the Magenta Infinea M-HDX transmitter and receiver.

Note that these units are intended for point to point applications and do not support multiple display distribution or switching at this time.

WARNING

This equipment is not intended for, nor does it support, distribution through an Ethernet network. Do not connect these devices to any sort of networking or telecommunications equipment!

2.2 Compatible Cabling

Cabling for the Infinea M-HDX must be a single (simplex) multimode fiber optic cable terminated into SC type fiber optic connectors. Type OM3 or better is recommended for best performance.

3. Setup and Installation

3.1 Cabling Considerations

- We recommend mounting and connecting all cabling to the Infinea Series components before applying power.

3.2 Making the Connections

3.2.1 CONNECTIONS AND SETUP IN GENERAL

The connection and setup procedure at both transmitter and receiver ends is as follows:

At the transmitter end:

1. Connect the source video to the M-HDX transmitter video input port, which is an HDMI connector labeled VIDEO IN.
2. Make your audio/serial connections via the 1/8" (3.5mm) audio connector and DB9 serial connector. The USB B connector can be used to input RS232 serial as well if the host PC has the driver mhdx.inf installed. This signal is output on the DB9 connector of the receiver as a standard RS232 signal.
3. Connect the fiber optic cable to the transmitters Fiber Out port.
4. Apply power

At the receiver end:

1. Connect the VIDEO OUT HDMI connector to the display unit and attach any audio and/or serial cabling (Note: the USB connector is not implemented at this time on the receiver).
3. Connect the fiber optic cable to the Fiber In connection.
4. Apply power.

Status LED's (applies to Tx and Rx):

ON	Indicates unit is powered on.
USB ACT	TX only: USB Active
STATUS	EDID/DDC, HDCP active
LINK	Link between transmitter and receiver has been established
Video ACT	Indicates a valid video signal
Serial TX	Serial transmit data activity
Serial RX	Serial receive data activity

3.2.2 CONNECTIONS ON THE M-HDX UNITS

Figure 3-1 shows the M-HDX transmitter connections, and Figure 3-2 shows the M-HDX receiver connections.

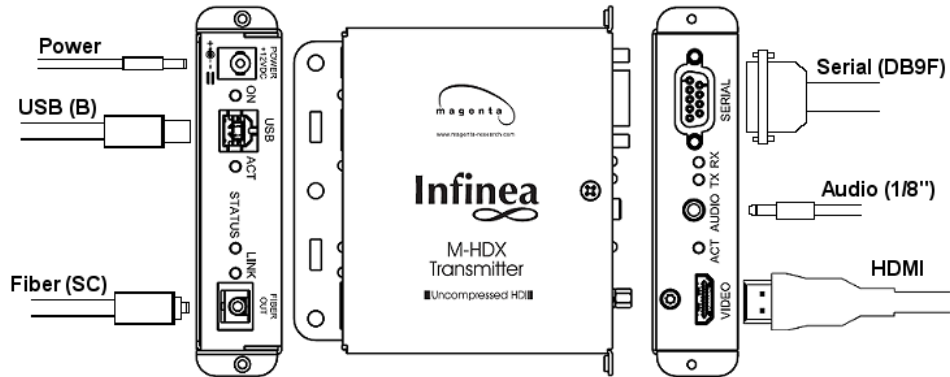


Figure 3-1. Connections on the M-HDX Transmitter.

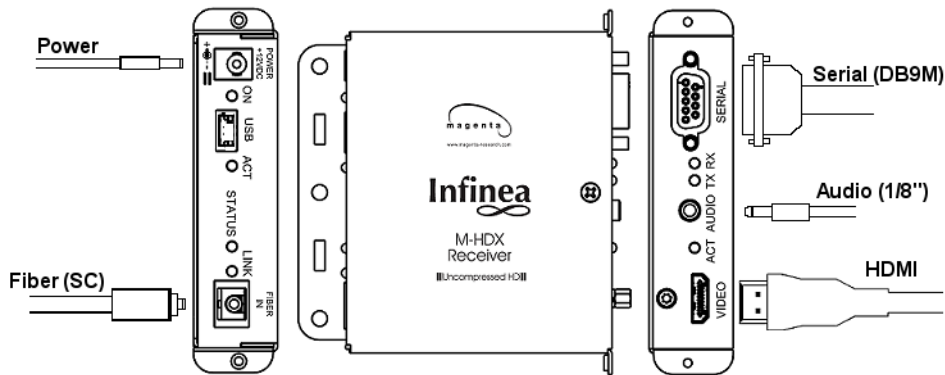


Figure 3-2. Connections on the M-HDX Receiver.

4. Troubleshooting

4.1. Common Problems

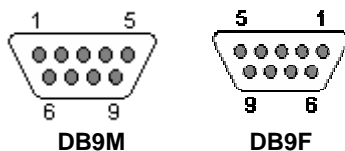
Below are solutions to the most common installation errors.

- Problem:** No video signal at the receiver or poor video quality:
Solution:
- Check that both units are powered.
 - Is the display device powered on and functioning?
 - Check to ensure display settings (resolution, refresh rate, etc) are compatible with input signal.
 - The display adapter may not have read the displays EDID/DDC information. Disconnect and reconnect the HDMI cable at the display end. Note that HDMI/HDCP signals between video source and display can take some to time to negotiate and refresh.
- Problem:** Poor audio quality:
Solution:
- Powered speakers are required. Make sure speaker power is ON.
 - Check input source levels from the source device. Make sure the audio source is not overdriven or underdriven.
- Problem:** Serial communication doesn't work correctly:
Solution:
- Are the serial devices connected properly? Are the serial parameters correct for source/destination devices?
 - Are the serial cables terminated correctly? If a null-modem cable is used, it must be placed at the receiver end.
 - M-HDX uses 3 wire (TX,RX,GND) signals via the DB9 connectors (see Appendix A for pinout).

Appendix A. Cabling Pinouts

Table A-1. RS232 DB9 connection (female on transmitter, male on receiver).

In most typical applications, a straight through serial cable is used to connect the controlling device to the transmitter. If the display requires transmit and receive pins swapped with a null modem cable, this cable must be placed between the receiver unit and display end.

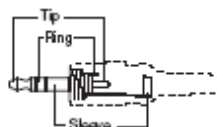


Pin	3 wire SAP (M)	3 wire SAP (F)
1		
2	RX	TX
3	TX	RX
4		
5	Ground	
6		
7		
8		
9	+5VDC, 250mA, fused*	

* Pin9 on transmitter and receiver outputs 5VDC, 250mA for use of serial devices that may need to be powered such as RS232 to bluetooth adapters.

Table A-2. 1/8" (3.5 mm) Audio/Serial Connection

Pin	Signal
Tip	Left Audio+
Ring	Right Audio+
Sleeve	GND



Appendix B. Mounting Options

The M-HDX units feature various mounting options for mounting a single transmitter or single receiver. Figure B-1 shows the built in mount bracket, which can be used to mount a single unit on a wall or in a 19" rackmount bracket. Figure B-2 shows the 4-Unit Rackmount Bracket (PN 400R3668-01), which holds four units in a 19" x 1U rack. Blank plates for the 19" rackmount bracket are available also (PN 400R3669-01)

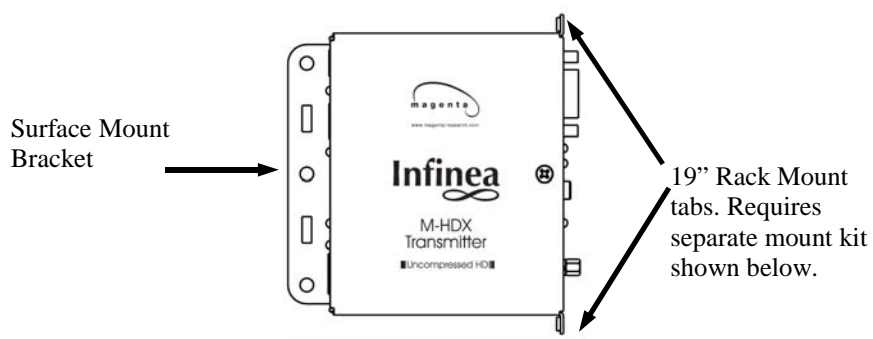


Figure B-1. Transmitter / Receiver Mounting Bracket.

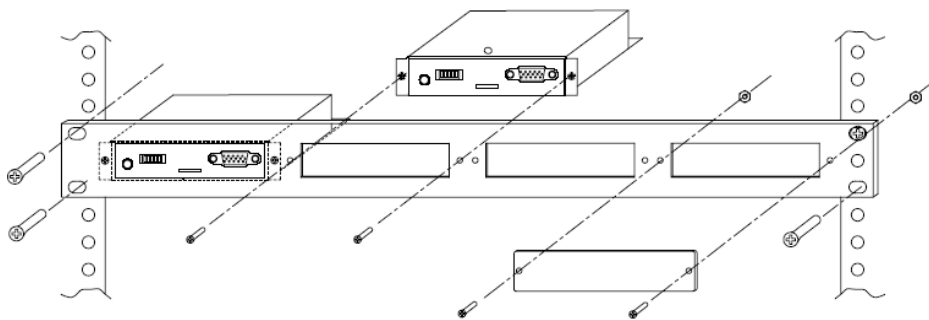


Figure B-2. 19" Rack Mounting kit.



NOTES





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