

ASP-FIBRS2

HDMI Fiber Extender with Serial



SAFETY INSTRUCTIONS

Please review the following safety precautions. If this is the first time using this model, then read this manual before installing or using the product. If the product is not functioning properly, please contact your local dealer or Aurora for further instructions.



The lightning symbol in the triangle is used to alert you to the presence of dangerous voltage inside the product that may be sufficient to constitute a risk of electric shock to anyone opening the case. It is also used to indicate improper installation or handling of the product that could damage the electrical system in the product or in other equipment attached to the product.



The exclamation point in the triangle is used to alert you to important operating and maintenance instructions. Failure to follow these instructions could result in injury to you or damage to the product.



Be careful with electricity:

- **Power outlet:** To prevent electric shock, be sure the electrical plug used on the product power cord matches the electrical outlet used to supply power to the Aurora product. Use only the power adapter and power connection cables designed for this unit.
- **Power cord:** Be sure the power cord is routed so that it will not be stepped on or pinched by heavy items.
- **Lightning:** For protection from lightning or when the product is left unattended for a long period, disconnect it from the power source.



Also follow these precautions:

- **Ventilation:** Do not block the ventilation slots if applicable on the product or place any heavy object on top of it.
Blocking the air flow could cause damage. Arrange components so that air can flow freely. Ensure that there is adequate ventilation if the product is placed in a stand or cabinet. Put the product in a properly ventilated area, away from direct sunlight or any source of heat.
- **Overheating:** Avoid stacking the Aurora product on top of a hot component such as a power amplifier.
- **Risk of Fire:** Do not place unit on top of any easily combustible material, such as carpet or fabric.
- **Proper Connections:** Be sure all cables and equipment are connected to the unit as described in this manual.
- **Object Entry:** To avoid electric shock, never stick anything in the slots on the case or remove the cover.
- **Water Exposure:** To reduce the risk of fire or electric shock, do not expose to rain or moisture.
- **Cleaning:** Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- **ESD:** Handle this unit with proper ESD care. Failure to do so can result in failure.

FCC

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interferences received, including interference that may cause undesired operation.



Trademarks

All trademarks in this document are the properties of their respective owners.

TABLE OF CONTENTS

PACKAGE CONTENTS	1
INTRODUCTION.....	2
About.....	2
Features	2
INSTALLATION	3
Setup.....	3
Connection Diagram	4
Fiber Usage	5
CONNECTOR PIN DEFINITION	6
HDMI.....	6
RS-232.....	6
APPENDIX 1 Troubleshooting.....	7
APPENDIX 2 Technical Specifications.....	8
APPENDIX 4 Warranty	9

PACKAGE CONTENTS

Please make sure the following items are included within your package. Contact your dealer if any items are missing or damaged.

- ASP-FIBRS2-TX (Transmitter)
- ASP-FIBRS2-RX (Receiver)
- 5V DC Power Wall Adapter x 2
- User Manual x 1

Note: Go to www.auroramm.com for latest manual and firmware

INTRODUCTION

About

The ASP-FIBRS2 HDMI Fiber Extender offers an easy way to extend full HD HDMI with serial 300 meters away over a single core multi-mode fiber. The conveyed video is uncompressed to ensure the best video and audio quality. The ASP-FIBRS2 also supports RS-232 which can transmit and receive serial data between a controller and display (ex. flat screen display or projector). The ASP-FIBRS2 is the perfect solution for public displays, digital signage and home entertainment applications.

Features

- ◆ Uses only one single core multi-mode fiber to connect the local video source and remote peripherals at up to 300 meters distance.
- ◆ HDCP compliant.
- ◆ Supports maximum 1080p, 60Hz HDMI video resolution.
- ◆ Provides RS-232 connection to connect the serial devices remotely including the serial touch panels.
- ◆ Supports DDC2B function.
- ◆ Supports HDMI and DVI displays

** Refer to Technical Specifications Section.*

INSTALLATION

Setup

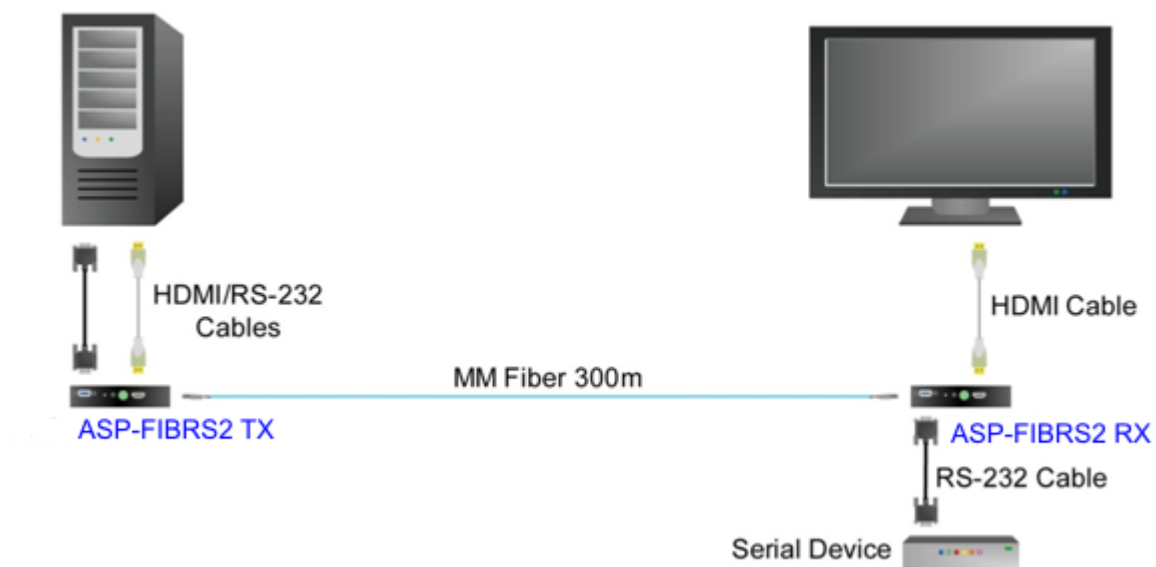
1. Connect your HDMI source to the HDMI input connector on ASP-FIBRS2-TX side.
2. Connect your HDMI display to the HDMI output connector on ASP-FIBRS2-RX side.
3. Plug the fiber to both TX and RX SC Duplex fiber connectors.
4. If serial control is required, connect the serial cabling at each end.
5. Power up your HDMI source, display and the ASP-FIBRS2.
6. When connection is built, the Data Indicator will blink rapidly and video will be shown on the display side.

7. RS232 baud rate setup:

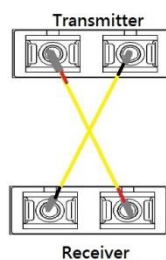
The default baud rate for RS232 connection is 9600. To change the baud rate, follow the steps below: Keep in mind if the unit has been set to a different baud rate you will need to try the various baud rates until the unit responds.

- a) Power off Rx / Tx
- b) Connect Rx and Tx together via Fiber.
- c) Connect PC to Rx RS-232 Port (via Null Cable)
- d) Setup PC terminal program at 9600-N-8-1 (Default Baud, or other as applicable if different)
- e) Power up Rx and Tx.
- f) Immediately send multiple [CNTL + C] when first applying power to the receiver unit. If there is no response after 5 sec then the unit is set to a different baud rate (Or send 0x03 via Hercules: \$03)
- g) You will see message regarding "Pressing Enter for 115200".
- h) Change terminal program to 115200-N-8-1.
- i) Send new baud using the command: soip 0 x y (x = 2400 – 115200) (y = 2400-115200)
- j) Now reboot the unit. They will now be at the new baud rate.

Connection Diagram



Duplex connectors must be crossed connection:



Fiber Usage

1. 300m transmission distance is tested and guaranteed with bundled fiber which is made of Corning OM3 level multi-mode fiber.
2. The fiber is designed to be deployed without damaging existed home or office decoration. It is fragile and **not** suitable to be deployed in the pipeline inside the building.
3. Folding or knotting the fiber will damage it.



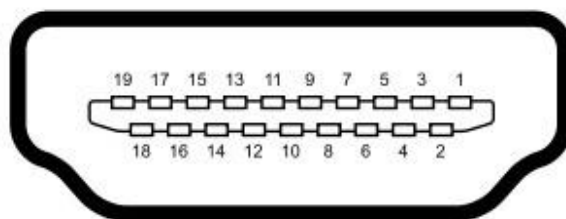
4. User could deploy the fiber in a circle shape with diameter larger than 5cm.



Circle Diameter @ 5cm

CONNECTOR PIN DEFINITION











HDMI



Type A (Receptacle) HDMI

Pin 1	TMDS Data2+	Pin 8	TMDS Data0 Shield	Pin 15	SCL
Pin 2	TMDS Data2 Shield	Pin 9	TMDS Data0–	Pin 16	SDA
Pin 3	TMDS Data2–	Pin 10	TMDS Clock+	Pin 17	DDC/CEC Ground
Pin 4	TMDS Data1+	Pin 11	TMDS Clock Shield	Pin 18	+5 V Power
Pin 5	TMDS Data1 Shield	Pin 12	TMDS Clock–	Pin 19	Hot Plug Detect
Pin 6	TMDS Data1–	Pin 13	CEC		
Pin 7	TMDS Data0+	Pin 14	Reserved (N.C. on device)		

RS-232

DTE Device (Computer)		DB9	DTE to DCE Connections	DCE Device (Modem)		DB9	
Pin#	DB9	RS-232 Signal Names		Signal Direction	Pin#	DB9	RS-232 Signal Names
#1	Carrier Detector (DCD)	CD			#1	Carrier Detector (DCD)	CD
#2	Receive Data (Rx)	RD			#2	Receive Data (Rx)	RD
#3	Transmit Data (Tx)	TD			#3	Transmit Data (Tx)	TD
#4	Data Terminal Ready	DTR			#4	Data Terminal Ready	DTR
#5	Signal Ground/Common (SG)	GND			#5	Signal Ground/Common (SG)	GND
#6	Data Set Ready	DSR			#6	Data Set Ready	DSR
#7	Request to Send	RTS			#7	Request to Send	RTS
#8	Clear to Send	CTS			#8	Clear to Send	CTS
#9	Ring Indicator	RI			#9	Ring Indicator	RI
Soldered to DB9 Metal - Shield		FGND			Soldered to DB9 Metal - Shield		FGND

The female DB9 is a DCE pin-out.

The male DB9 is the DTE pin-out.

APPENDIX 1 Troubleshooting

Problem	Solution
1. No Video Signal.	<ul style="list-style-type: none">a. Check that the power plug is properly inserted into a functioning power outlet.b. Make certain fiber cable is correct specificationc. Make certain fiber is nulled
2. No Serial	<ul style="list-style-type: none">a. Check the baud rateb. Verify the RS-232 cables are correct.

APPENDIX 2 Technical Specifications

Model Name	ASP-FIBRS2	
Technical	ASP-FIBRS2-TX	ASP-FIBRS2-RX
Role of usage	Transmitter [TX] 850nm Multimode	Receiver [RX] 850nm Multimode
HDMI compliance	HDMI 1.3b	
HDCP compliance	Yes	
Video bandwidth	Single-link 225MHz [6.75Gbps]	
Video support	480i / 480p / 720p / 1080i / 1080p60	
Audio support	Surround sound (up to 7.1ch) or stereo digital audio	
Transmission Media	50/125 Multi-Mode Fiber (OM3 Level)	
Extension Distance	300 Meters (984 ft)	
Input	1x HDMI	Fiber SC Duplex female
Output	Fiber SC Duplex female	1x HDMI
Serial connector	1x DB9 female (pin 2 TX, 3 RX, 5 GND)	1x DB9 male (pin 2 TX, 3 RX, 5 GND)
HDMI connector	Type A [19-pin female]	
Optical	ASP-FIBRS2	
Optical Power	-10dbm	
RX Sensitivity	-16dbm	
Forward CH0	850nm	
Forward CH1	1310nm	
Backward BCH	1550nm	
Mechanical	ASP-FIBRS2	
Housing	Metal enclosure	
Dimensions [L x W x H]	Model	
	Package	
Weight	Model	350g [11oz]
	Package	
Fixedness		
Power supply	5V DC	
Power consumption	1 Watt [max]	
Operation temperature	-10~50°C	
Storage temperature	-20~75°C	
Relative humidity	10~85% RH [no condensation]	
Regulatory Approvals	FCC Class B, CE Class B, RoHS	
Package Contents	1x ASP-FIBRS2 [TX & RX] 1x 5V power adapter 1x User Manual	

Specifications subject to change without notice.

APPENDIX 4 Warranty

Limited 3 Year Warranty

Aurora Multimedia Corp. ("Manufacturer") warrants that this product is free of defects in both materials and workmanship for a period of 3 years as defined herein for parts and labor from date of purchase. This Limited Warranty covers products purchased in the year of 2009 and after. Motorized mechanical parts (Hard Drives, DVD, etc), mechanical parts (buttons, doors, etc), remotes and cables are covered for a period of 1 year. Touch screen displays are covered for 1 year; touch screen overlay components are covered for 90 days. Supplied batteries are not covered by this warranty. During the warranty period, and upon proof of purchase, the product will be repaired or replaced (with same or similar model) at our option without charge for parts or labor for the specified product lifetime warranty period.

This warranty shall not apply if any of the following:

- A. The product has been damaged by negligence, accident, lightning, water, act-of-God or mishandling; or,
- B. The product has not been operated in accordance with procedures specified in operating instructions; or,
- C. The product has been repaired and or altered by other than manufacturer or authorized service center; or,
- D. The product's original serial number has been modified or removed; or,
- E. External equipment other than supplied by manufacturer, in determination of manufacturer, shall have affected the performance, safety or reliability of the product.
- F. Part(s) are no longer available for product.

In the event that the product needs repair or replacement during the specified warranty period, product should be shipped back to Manufacturer at Purchaser's expense. Repaired or replaced product shall be returned to Purchaser by standard shipping methods at Manufacturer's discretion. Express shipping will be at the expense of the Purchaser. If Purchaser resides outside the contiguous US, return shipping shall be at Purchaser's expense.

No other warranty, express or implied other than Manufacturer's shall apply.

Manufacturer does not assume any responsibility for consequential damages, expenses or loss of revenue or property, inconvenience or interruption in operation experienced by the customer due to a malfunction of the purchased equipment. No warranty service performed on any product shall extend the applicable warranty period. This warranty does not cover damage to the equipment during shipping and Manufacturer assumes no responsibility for such damage.

www.auroramultimedia.com

Aurora Multimedia Corp.

205 Commercial Court

Morganville, NJ 07751

Phone: 732-591-5800 Fax: 732-591-6801