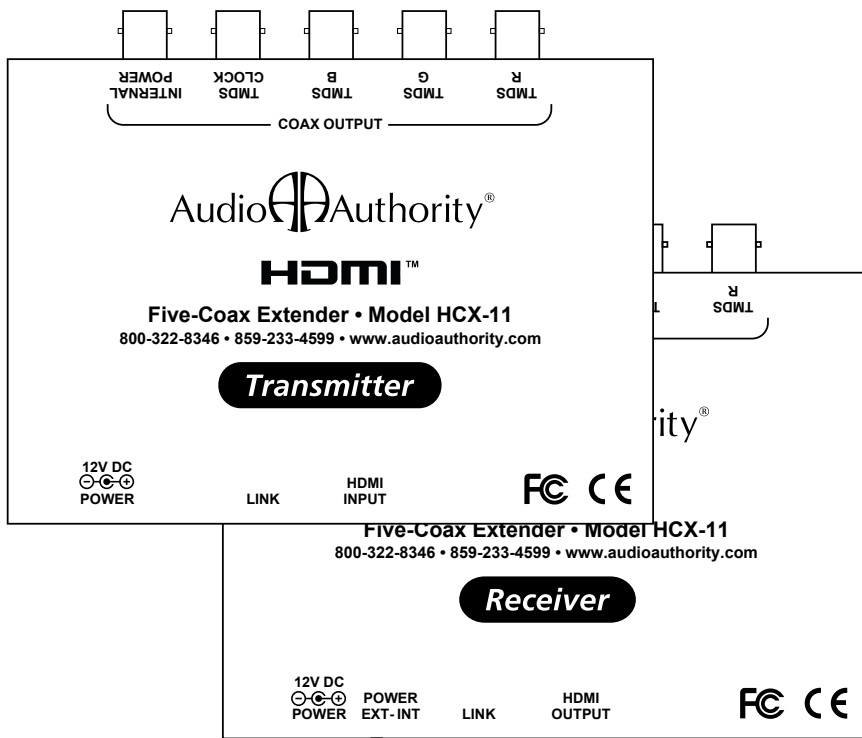


# User Manual

## Model HCX-11 HDMI Coax Extender



Audio Authority®



## **WARNINGS**

- Read these instructions before installing or using this product.
- To reduce the risk of fire or electric shock, do not expose this unit to rain or moisture.
- This product must be installed by qualified personnel.
- Do not open the cover—there are no user-serviceable parts inside.
- Do not expose this unit to excessive heat.
- Install only in dry, indoor locations.
- Clean the unit only with a dry or slightly dampened soft cloth.

## **LIABILITY STATEMENT**

Every effort has been made to ensure that this product is free of defects. Audio Authority cannot be held liable for the use of this hardware or any direct or indirect consequential damages arising from its use. It is the responsibility of the user of the hardware to check that it is suitable for his/her requirements and that it is installed correctly. All rights are reserved. No parts of this manual may be reproduced or transmitted by any form or means electronic or mechanical, including photocopying, recording or by any information storage or retrieval system without the written consent of the publisher.

Audio Authority reserves the right to revise any of its hardware and software following its policy to modify and/or improve its products where necessary or desirable.

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# Model HCX-11

## HDMI Coax Extender

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## 1.0 INTRODUCTION

Thank you for purchasing this HDMI extender from Audio Authority. This transmitter/receiver unit is designed to extend HDMI version 1.3 signals to remote locations over five coaxial cables, with power for the receiver from the transmitter unit via the fifth cable. For long distances, a power supply may be connected to the receiver. The HCX-11 is capable of high-bandwidth formats including 1080p, 36\* bit Deep Color, and lossless audio. The coaxial jacks accept secure, BNC type terminations.

Audio Authority offers an extensive line of audio and video switchers, converters, distribution amps and extenders available for purchase online at [www.audioauthority.com](http://www.audioauthority.com) or through authorized dealers.

## 1.1 FEATURES

- Maximum cable length is 325 feet for 1080p with 24\* bit color
- Maximum cable length is 245 feet for 1080p with 36\* bit color
- Receiver can be powered from the transmitter's power supply\*\*
- Only four coaxial cables are required when receiver is externally powered
- Requires high quality RG6 or RG59 coaxial cables with BNC terminations
- HDTV resolutions: 480i through 1080p @ 60Hz
- Locking power connector ensures system stability

## 2.0 GETTING THE BEST RESULTS

Many factors influence the quality and reliability of HDMI signal transmission. The following are the main factors to consider, and basic precautions that will ensure the best possible performance.

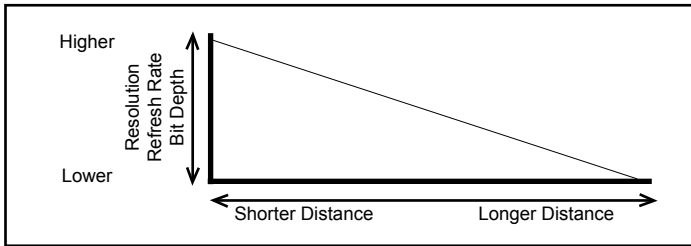
- **Source resolution and video/sound quality.** Sources, such as satellite receivers or cable boxes may output at low resolutions or deliver extremely compressed video material, yielding poor results. Consider the sources when planning and troubleshooting your system.
- **Output display devices.** The quality of the output signal depends largely upon the type and quality of the HDMI display devices used.
- **HDMI cable length.** Use of high resolutions, refresh rate, or Deep Color increases the bandwidth requirements of the HDMI cables and the coax

\* 36 and 24 bit color refers to the sum of all channels (e.g. 36 bit = 12 bits per TMDS color channel).

\*\* Internal receiver power depends on cable length and quality, see page 6.

extender system, and as a result, limits maximum cable run length. In general, use cable lengths 9 feet or less. There is one exception to this rule: if the system must pass only 24 bit signals the *source* may be connected to the HCX-11 via an 18 foot HDMI cable. When transmitting 36 bit signals, both input and output HDMI connecting cables should be nine feet or less. See FEATURES for maximum coaxial cable lengths.

- **HDMI cables.** HDMI cable design and quality are extremely important in long cable runs where capacitance can severely degrade performance. Use premium cables; low quality cables are susceptible to interference. Always use locking cables or good strain relief methods to prevent cables from becoming loose over time.



To the extent that high resolutions, refresh rate, or deep color are used, cable run length is diminished.

- **Interference.** Nearby electrical devices can have an adverse effect on signal quality. For example, older computer monitors often emit very high electromagnetic fields that can interfere with the performance of adjacent video equipment.

### 3.0 CHECKING PACKAGE CONTENTS

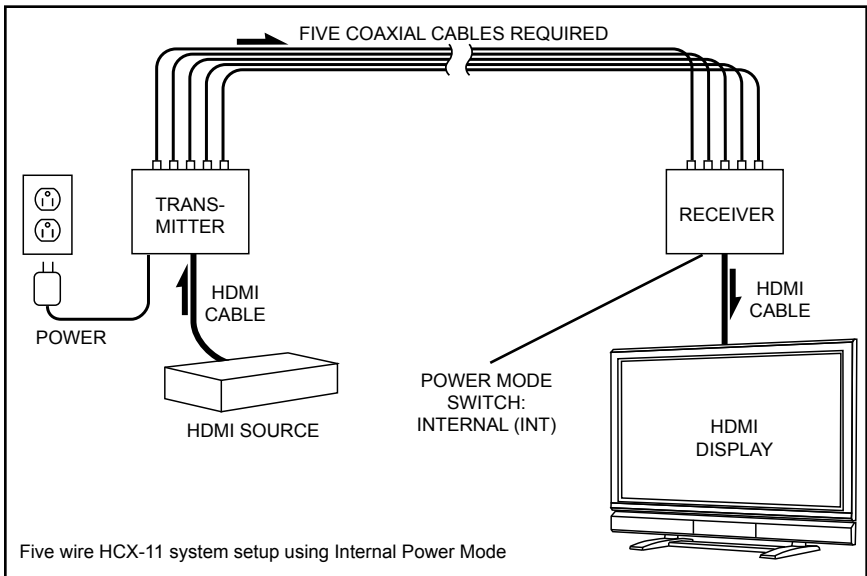
Before installing the HCX-11 system, please make certain the following items are in the shipping carton:

- HCX-11 transmitter
- HCX-11 receiver
- Two 12V DC power adapters
- User manual

Note: Please retain the original packing material in case you need to return the unit. If you find any items are missing, contact Audio Authority immediately. Have the model number and invoice available for reference when you call.

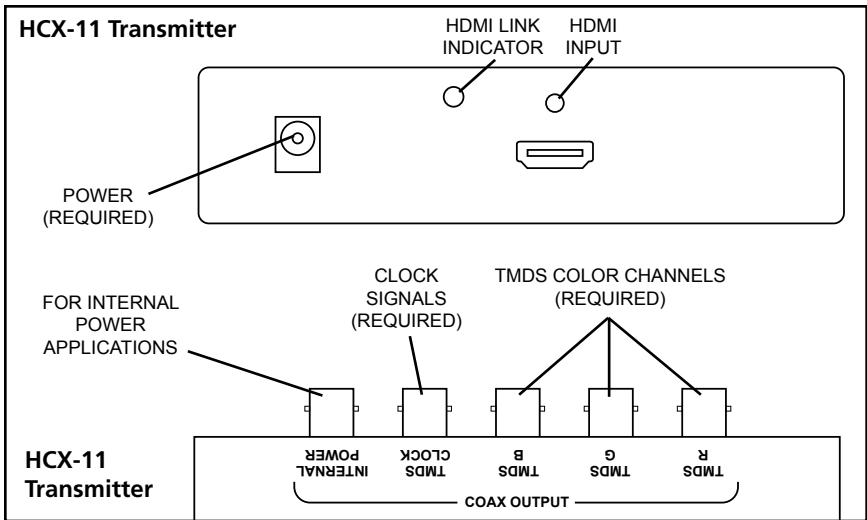
## 4.0 INSTALLATION

- Before installing the HCX-11 Extender, connect the HDMI source directly to the display using a short, high quality HDMI cable. This precaution is to verify that the display is compatible with the source, and that the source is producing a resolution that the display can accept.
- Using Internal Power Mode: The receiver may be powered through a fifth coaxial cable from the transmitter, with **no power supply** connected to the receiver. Internal power mode (shown below) may be used up to 150 feet, and often much farther depending on the type and quality of coaxial cable.
- Using External Power Mode: External power requires only four coaxial cables and power supplies for both units (not shown).

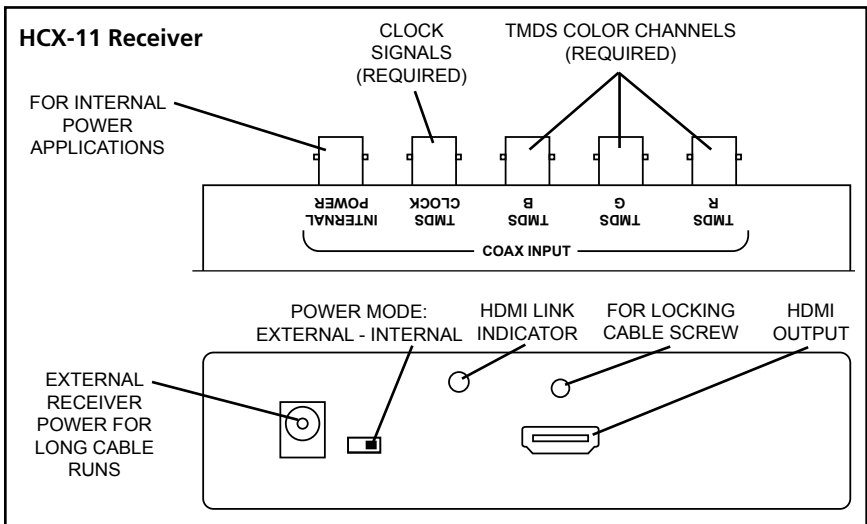


## 5.0 CONNECTING THE HARDWARE

- Turn off the HDMI video source and the HDTV display.
- Connect the source to the transmitter with a high quality HDMI cable no longer than nine feet for 36 bit signals, or 18 feet for 24 bit signals (see page 4 and 5).
- Install and terminate five, identical length, RG-6 or RG-59 cables (install four cables if using external power). Mark all coaxial cables on both ends before installation to avoid hookup mistakes.



- Connect the coaxial cables from the transmitter's coax outputs to the receiver's coax inputs. Be careful to connect each cable to the correct jack.
- Set the receiver's POWER MODE switch to Internal (INT) unless the receiver will have its own power supply.



- Connect the receiver's HDMI output to the display using a short, high quality cable no longer than nine feet for 24 bit and 36 bit signals (see pages 4 and 5).
- Plug in the provided AC adapter(s): first to the HCX-11 transmitter (and receiver, if external power is used), and then to active AC power outlet(s).
- It is recommended to apply power in this sequence: HCX-11 Transmitter and receiver, then the HDMI source, then the video display. The HDMI LINK indicator confirms video is being transmitted.

## **6.0 TROUBLESHOOTING GUIDE**

- Make sure the display can accept the resolution and refresh rate output by the source. Adjust the source output resolution and refresh rate if necessary. Always test the source and display via a direct HDMI connection before installation.
- Check the HCX-11 power connection(s) and verify the AC power outlet(s).
- If you encounter problems using the five-cable internal power configuration, try disconnecting the INTERNAL POWER coax cable at both ends, and use a power supply at the receiver end. Remember to set POWER MODE switch to External (EXT). If this solves the problem, either the coax cable is at fault, or the distance is too long for internal power.
- Use a cable tester to verify continuity in all coaxial cables, and good BNC terminations.
- Check the HDMI cable connection points to see if the connectors have become loose. Use good strain relief methods to insure a reliable connection.
- Inspect the HDMI cables for damage, and/or substitute a known good cable.
- Make certain you are using the highest quality, and the shortest length HDMI cables possible. See page 5 for HDMI cable length guidelines.
- Make certain the coaxial cables are connected to the correct jacks at both ends.
- Check the cable lengths to be sure they are within the limits found on page 4.
- Do not use inferior quality cables; good quality RG-6 or RG-59 type coaxial cables must be used. Using RG-59 may not allow maximum cable lengths.

If problems persist, contact the Audio Authority Technical Service department via email: [support@audioauthority.com](mailto:support@audioauthority.com), or call 800-322-8346 or 859-233-4599.



## 7.0 SPECIFICATIONS

Tx-HDMI Input	HDMI connector
Rx-HDMI Output	HDMI connector
Tx – RG-6 output	(5) via BNC
Rx – RG-6 input	(5) via BNC
Video Connector Usage	HDMI video/audio/clock via (4) RG-6 or RG-59 cables
Internal Power Transmission	12VDC via (1) coax cable (up to 150 ft distance)
Compliance	HDMI v1.3, HDCP 1.1, DVI 1.1
Data Rate	2.25Gbps
TMDS Clock Speed	225MHz
Maximum Resolution	Up to 1920x1200, 1080p/60Hz, VGA to WUXGA
Color Space	RGB 24~36, Y444 24~36, Y422 16~24
Deep Color	1080p with 36* bit color
Audio Supported	PCM2, PCM 5.1, PCM 7.1, Dolby 5.1, DD+, Dolby Digital TruHD, DTS-HD
Maximum Range Using RG-6	1080p and 24* bit color: 325 ft (100 meters) 1080p and 36* bit Deep Color: 245 ft (75 meters)
Operating Temperature	+32° to +122° F (0° to +50° C)
Operating Humidity	10% to 90%, non-condensing
Storage Temperature	12° to +158° F (-10° to +70° C)
Storage Humidity	10% to 90%, non-condensing
Limited Warranty	1 year parts and labor
Regulatory Approvals	Transmitter and receiver: FCC, CE, RoHS Power supply: UL, CUL, CE, PSE, GS, RoHS
Coaxial Cable Requirements	High quality, 75 ohm RG-6 or RG-59 cables
Dimensions (H-W-D)	1.2 x 4.9 x 4.33 inches (30x125x110mm)
Weight (Transmitter)	0.59 lbs (270g)
Weight (Receiver)	0.59 lbs (270g)
Power Requirement	External supply, 12VDC@1A
Accessories Included	(2) power adapters User manual

\* 36 and 24 bit color refers to the sum of all channels (e.g. 36 bit = 12 bits per TMDS color channel).

## **8.0 LIMITED WARRANTY**

If this Audio Authority product fails due to defects in materials or workmanship within one year from the date of the original sale to the end-user, Audio Authority guarantees that we will replace the defective product at no cost. Freight charges for the replacement unit will be paid by Audio Authority (ground service only). A copy of the invoice showing the item number and date of purchase (proof-of-purchase) must be submitted with the defective unit to constitute a valid in-warranty claim.

Units that fail after the warranty period has expired may be returned to the factory for repair at a nominal charge, if not damaged beyond the point of repair. All freight charges for out-of-warranty returns for repair are the responsibility of the customer. Units returned for repair must have a Return Authorization Number assigned by the factory.

This is a limited warranty and is not applicable for products which, in our opinion, have been damaged, altered, abused, misused, or improperly installed. Audio Authority makes no other warranties either expressed or implied, including limitation warranties as to merchantability or fitness for a particular purpose. Additionally, there are no allowances or credits available for service work or installation performed in the field by the end user.

## **8.1 WARRANTY SERVICE PROCEDURES**

If you suspect a product defect, contact Audio Authority's Technical Service Department at 800-322-8346 or 859-233-4599 for assistance in verifying the problem. If a defect or potential defect is suspected, a replacement unit will be shipped immediately on a defect-exchange basis and a Return Authorization Number will be issued for the return of the defective product. Replacement units are sent out at the Manufacturer's Suggested Retail Price which is debited to the Customer's Credit Card at the time of shipment. Once we receive the defective unit back at the factory, it will be evaluated under the conditions of this warranty and if found to be in-warranty, a full credit will be issued to the Customer's Credit Card. Return freight charges for the defective unit are the customer's responsibility. Please contact our Technical Service Department for complete details concerning all in and out of warranty service matters.

We appreciate your confidence in our products and services and will always strive to meet or exceed your needs.

## **9.0 REGULATORY COMPLIANCE**

The HCX-11 has been tested for compliance with CE and FCC rules and regulations. The power supplies included have been tested for compliance with UL, CUL, CE, PSE, and GS regulations and guidelines. This product and its power supplies are RoHS compliant.

## **10.0 CONTACT INFORMATION**

If you have questions or require assistance with this product in areas not covered by this manual, please contact Audio Authority using the information below.

Audio Authority Technical Service  
800-322-8346 M-F 8:30 AM to 5:00 PM, EST  
International: 859-233-4599 Fax: 859-233-4510  
Send email to: [support@audioauthority.com](mailto:support@audioauthority.com)

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