OMX-HDMI-COAX
User Guide

HDMI to RF Extender User's Manual

Introduction

This product is designed to convert HDMI signal to HD digital TV signal based on DVB-T CATV transmission mode. Being different from traditional analog CATV signal, it uses 64QAM mode to realize the HD signal to HD digital TV signal conversion and transmit via coaxial cables for long distance; Besides, according to CATV splitter, it is easy to built one to multiple and multiple to multiple video matrix.

With the advantages of good image quality, strong resistance to interference and hundreds channels available, it can be widely applied in CCTV, outer large screen, shopping mall advertisement, media education and digital KVM fields etc.

IMPORTANT SAFETY INSTRUCTION

1. Do not mix up transmitter TX and receiver RX before installation.

2. Use DC5V power supply only. Make sure specification matched if using adapters not supplied by factory.

3. When use cables shorter than 100m to test, it needs to connect an attenuator for at least 20dB in series to get image output.

1.PACKAGE CONTENTS

| HDMI to RF sender TX*1pcs	RF to HDMI receiver RX*1pcs	DC5V 1A*2pcs	User's manual*1pcs

2.INSTALLATION REQUIREMENTS

1. HDMI source device(computer graphics card, DVD,PS3, HD monitor equipment etc)

2. SDTV, HDTV or projector with HDMI port.

3. RG6(75-5) or upper level coaxial cables

4. Refer to appendix I the signal attenuation for different type coaxial cables to different channels.

5. Refer to appendix 2 the frequency for channel specification.

3.Interfaces

1.TX rear panel
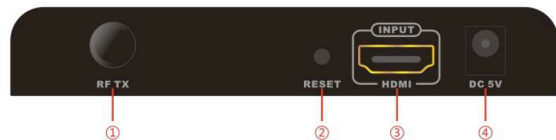
(1) RF TX: RF signal send
(2) RESET: Press to reset
(3) HDMI INPUT: HDMI signal input
(4) DC5V: DC 5V power input
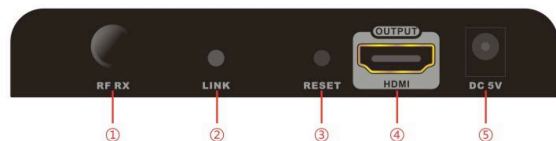
2. RX rear panel

(1) RF RX: RF signal receive
(2) LINK: Connection led indicator
(3) RESET: Press to reset
(4) HDMI OUTPUT: HDMI output
    DC5V: DC 5V power input

4.Channel parameters Settings

There are 0-99 channel controlled by 2 buttons. Button 1 can select tens digit and button 2 for single digit. Combination of tens digits and single digits makes 99 channels totally. TX and RX can build connection only when they are set to same channel parameters and RX HDMI port outputs the corresponding A/V content.

5.Connection

1.Coaxial cable length calculation: firstly search in appendix 2 for the channel receive sensitivity.

Then calculate cable length according to appendix 1 information.

For example, channel 5(177.5MHz) receive sensitivity is -80dBm. Check appendix 1, 100m RG6(75-5) cable attenuation

is around 9.42dBm(177.5MHz is close to 211MHz). Based on this, 9.42dBm(100M)*8=75.36dBm(800M)

Take stability and performance difference for cables into consideration, 700m RG6 cable is recommended.

2.CATV splitter: when using CATV splitter for one to multiple and multiple to multiple connections, it needs to consider distribution loss, insertion loss and different type cables loss to every channels to calculate cable distance. Choose splitter with low loss(distribution loss and insertion loss), high isolation, strong shielding 5-1000MHz and bidirectional transmission to build video matrix net..

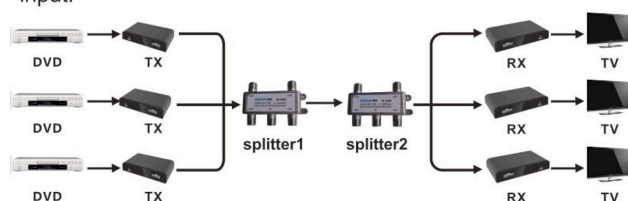**3.**One TX to one RX connection

4.Connect with CATV splitter to achieve one TX to multiple RXs
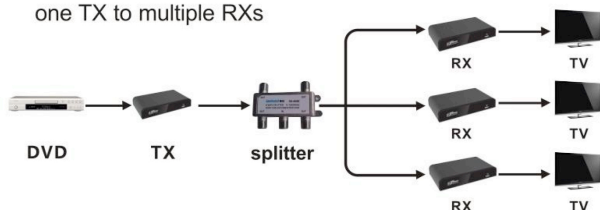
5.Connect with CATV splitter to achieve multiple TXs to multiple Rxs.

In below diagram, the splitter 1 need to take "OUT" as input and "IN" as output; splitter 2 is "OUT" for output and "IN" for input.

6.RFQ

1)Q: There is a picture but no sound?

    A: Reset TX or re-up TX electricity

2)Q: Image is not normal after switching channel (splash screen, disturbance, mosaic etc)

    A: Reset or re-up electricity. Check coaxial cable connection or change other channel to test.

3)Q: Black screen with "NO SIGNAL" on screen.

    A: If LINK led is not light on, check if TX and RX channel setting is the same;

Adjust to low channel to test if coaxial cable is too long.

If coaxial cable is shorter than 100m, add 20dB attenuator in series to weaken the signal.

7.SPECIFICATION

Items	Specifications	Note
Power supply	DC5V1A	2pcs
Support input resolution	480i@60Hz, 480P@60Hz, 576i@50Hz, 576P@50Hz, 720P@50/60Hz,1080i@50/60Hz, 1080P@50/60Hz;	
Support output resolution	480i@60Hz, 480P@60Hz, 576i@50Hz,576P@50Hz, 720P@50/60Hz,1080i@50/60Hz, 1080P@50/60Hz;	
Support HDMI graphics resolution	Up to 1920x1080@60HZ	
video encoding	H.264	
Audio encoding	MPEG2	
Coaxial cable	RG6,RG7,RG11 etc	
frequency point	100-1000M	
Effective bit rate	Max 31.6M bits	
insertion loss	<2dBm	
RF TX output consumption	+0dBm	
RF RX sensitivity	It is different for every frequency point. Please refer to Appendix2	
RF connector	imperial system (75Ω Type F)	
Transmission delay	500ms	
Power consumption	Tx: <3.5W; Rx: <3W	
Working temperature	0℃-50℃	
Storage temperature	-10℃~70℃	
Working humidity	10%-80% RH (not solidified)	
Storage humidity	0%-90% (not solidified)	
Product dimension	LxWxH: 130x68x24(mm)	

Appendix 1: Coaxial cable attenuation table: take 100m coaxial cable for an example.Or search in http: //www.net-comber.com/cable-loss.html

Enter cable length: 100, 250, or 555.55, in feet or meters. | 100 | CALC | | Clear

Cable Loss in decibels (dB)

FEET (ft)				Frequency	METERS (M)			
RG59/U	RG6/U	RG7/U	RG11/U	MHz	RG59/U	RG6/U	RG7/U	RG11/U
0.77	0.57	0.56	0.36	5	2.53	1.87	1.84	1.18
1.88	1.5	1.22	0.95	55	6.17	4.92	4	3.12
3.59	2.87	2.29	1.81	211	11.78	9.42	7.51	5.94
3.89	3.12	2.49	1.98	250	12.76	10.24	8.17	6.5
4.05	3.24	2.59	2.06	270	13.29	10.63	8.5	6.76
4.27	3.43	2.74	2.17	300	14.01	11.25	8.99	7.12
4.5	3.61	2.89	2.29	330	14.76	11.84	9.48	7.51
4.64	3.72	2.98	2.36	350	15.22	12.2	9.78	7.74
4.88	4	3.2	2.53	400	16.01	13.12	10.5	8.3
5.3	4.28	3.41	2.69	450	17.39	14.04	11.19	8.83
5.5	4.51	3.61	2.85	500	18.04	14.8	11.84	9.35
5.9	4.76	3.8	3.01	550	19.36	15.62	12.47	9.88
6.18	4.98	3.99	3.16	600	20.28	16.34	13.09	10.37
6.96	5.62	4.5	3.58	750	22.83	18.44	14.76	11.75
7.54	6.09	4.87	3.9	870	24.74	19.98	15.98	12.8
7.9	6.39	5.11	4.1	950	25.92	20.96	16.77	13.45
8.09	6.54	5.25	4.23	1000	26.54	21.46	17.22	13.88

Appendix 2: Channel parameters

Channel (0-99)	Band	Center Frequency [MHZ]	BW [MHZ]	Rx Sensitivity (dBm)
0	default	177.5MHz	7	-80
1	user defined	240	8	-79
2	Special (VHF low band)	149.5	7	-80
3	Special (VHF low band)	156.5	7	-80
4	Special (VHF low band)	163.5	7	-80
5	VHF III	177.5	7	-80
6	VHF III	184.5	7	-80
7	VHF III	191.5	7	-79
8	VHF III	198.5	7	-75
9	VHF III	205.5	7	-75
10	VHF III	212.5	7	-79
11	VHF III	219.5	7	-79
12	VHF III	226.5	7	-80
13	Special (UHF hyper band)	410	8	-79
14	Special (UHF hyper band)	418	8	-79
15	Special (UHF hyper band)	426	8	-79
16	Special (UHF hyper band)	434	8	-79
17	Special (UHF hyper band)	442	8	-79
18	Special (UHF hyper band)	450	8	-79
19	Special (UHF hyper band)	458	8	-79
20	Special (UHF hyper band)	466	8	-79
21	UHF IV	474	8	-79
22	UHF IV	482	8	-79
23	UHF IV	490	8	-78
24	UHF IV	498	8	-76
25	UHF IV	506	8	-71
26	UHF IV	514	8	-76
27	UHF IV	522	8	-77
28	UHF IV	530	8	-74
29	UHF IV	538	8	-77
30	UHF IV	546	8	-78
31	UHF IV	554	8	-76
32	UHF IV	562	8	-78

33	UHF IV	570	8	-78
34	UHF IV	578	8	-78
35	UHF IV	586	8	-75
36	UHF IV	594	8	-64
37	UHF IV	602	8	-76
38	UHF V	610	8	-78
39	UHF V	618	8	-78
40	UHF V	626	8	-78
41	UHF V	634	8	-78
42	UHF V	642	8	-75
43	UHF V	650	8	-76
44	UHF V	658	8	-77
45	UHF V	666	8	-77
46	UHF V	674	8	-78
47	UHF V	682	8	-77
48	UHF V	690	8	-77
49	UHF V	698	8	-78
50	UHF V	706	8	-77
51	UHF V	714	8	-77
52	UHF V	722	8	-77
53	UHF V	730	8	-76
54	UHF V	738	8	-70
55	UHF V	746	8	-64
56	UHF V	754	8	-77
57	UHF V	762	8	-78
58	UHF V	770	8	-78
59	UHF V	778	8	-78
60	UHF V	786	8	-78
61	UHF V	794	8	-78
62	UHF V	802	8	-78
63	UHF V	810	8	-79
64	UHF V	818	8	-79
65	UHF V	826	8	-77
66	UHF V	834	8	-77
67	UHF V	842	8	-76
68	UHF V	850	8	-77
69	UHF V	858	8	-77
70	UHF V	866	8	-77
71	UHF V	874	8	-77
72	UHF V	882	8	-77
73	UHF V	890	8	-77
74	UHF V	898	8	-74
75	UHF V	906	8	-74
76	UHF V	915	8	-74
77	UHF V	924	8	-74
78	UHF V	930	8	-70
79	UHF V	938	8	-70
80	UHF V	946	8	-70
81	user defined	240	8	-79
82	user defined	250	8	-79
83	user defined	260	8	-79
84	user defined	270	8	-79
85	user defined	280	8	-79
86	user defined	290	8	-79
87	user defined	330	8	-79

88	user defined	340	8	-79
89	user defined	350	8	-79
90	user defined	360	8	-79
91	user defined	370	8	-79
92	user defined	380	8	-79
93	user defined	390	8	-79
94	user defined	400	8	-79
95	user defined	410	8	-79
96	user defined	420	8	-79
97	user defined	430	8	-79
98	user defined	440	8	-79
99(0x99)	UHF IV	474	8	-79

Disclaimer

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