



HDMI to RF Extender User's Manual

Overview:

This product is designed to convert an HDMI source to an HD digital signal via coaxial cable. This conversion is different than standard CATV, as it uses 64QAM mode to convert the HDMI source to a HD digital TV signal. This type of signal can transmit over long distances on coaxial cable, and gives the user the ability to split and combine several signals with a common CATV splitter/combiner. With the advantages of good image quality, resistance to interference, and hundreds of channels available, it can be used in many applications including: CCTV, outdoor projection screens, shopping malls, advertising, education, and digital KVM.

Specifications:

Items	Specifications
Power supply	DC5V1A
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 frequency point	RG6, RG7, RG11 etc 100-1000MHz
Effective bit rate	Max 31.6M bits
insertion loss	<2dBm
RF Output (33-11970)	+0dBm
RF input sensitivity (33-11975)	-64dB ~ -80dB depending upon frequency - See Appendix 2
RF connector	imperial system (75Ω Type F)
Transmission delay	500ms
Power consumption	Tx: <3.5W; Rx: <3W
Product dimension	LxWxH: 130x68x24(mm)

Interfaces:

Transmitter Rear Panel

Part #: 33-11970



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

Receiver Rear Panel

Part #: 33-11975



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

Channel Settings:



There are 100 channels, numbered from 0-99. Channel selections controlled by two buttons on the front of each unit. Button 1 can select the tens digit, and button 2 can select the ones digit. The units will only work properly when they are tuned into the same channel.

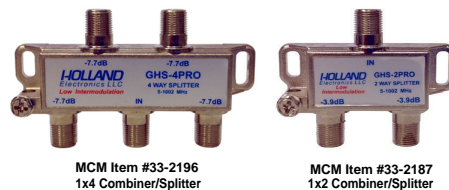
Installation Instructions:

In appendix 4, find the frequencies you will be using (Attempt to keep all channels 30MHz apart.) Once you have selected your frequencies, refer to appendix 1 to help determine the amount of attenuation you will be from your cable run. When starting out, the signal output will be 0db, the ultimate goal, is to keep the signal between -20 ~ -80 dB. The maximum recommended amount of cable that is able to be run with no splitters is 2300 ft. of RG6 cable.

When running multiple sources or televisions, you will want to use splitters/combiners to get the amount of inputs and outputs you need. Refer to appendix 2 to factor in the amount of attenuation from each splitter/combiner you use.

If you are still not within the suggested signal source range, refer to appendix 3 for in-line attenuators that can be connected to your line. These attenuators can be linked together to get a specific value.

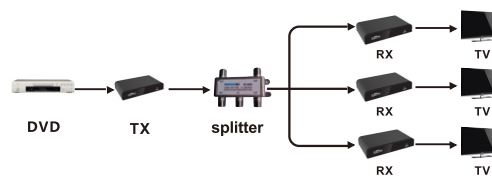
Examples:



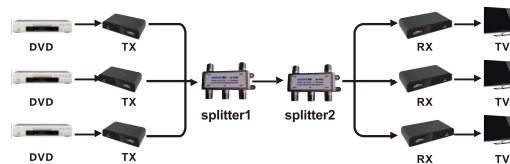
1. One transmitter to one receiver



2. One transmitter with a splitter in line to multiple receivers



3. Connect multiple transmitters to a combiner, you then connect the combiner to a splitter which is then connected to multiple receivers



Note: Transmitters and receivers are sold individually

Appendix

Appendix 1:

Attenuation Per 100'		
Frequency	RG-6/U	RG-59/U
200MHz	2.8dB	3.5dB
300MHz	3.7dB	4.6dB
400MHz	4.0dB	4.8dB
500MHz	4.5dB	5.5dB
600MHz	5.0dB	6.1dB
750MHz	5.6dB	6.7dB
780MHz	6.0dB	7.5dB
950MHz	6.3dB	7.9dB

Appendix 2:

Splitters/Combiners		
# of Outputs	Amount of Loss	MCM Part #
2-Way	3.5 dB	33-2187
4-Way	7 dB	33-2196

For additional splitters/combiners search our website at www.MCMelectronics.com

Appendix 3:

Attenuators	
Amount of Attenuation	MCM Part #
-3 dB	33-2750
-6 dB	33-2755
-8 dB	33-2760
-10 dB	33-2765
-12 dB	33-2770
-16 dB	33-2775
-20 dB	33-2780

Appendix 4:

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

Warranty:

This device is warranted against manufactures defects for a period of one year from the date of purchase from the dealer. This warranty extends solely to the repair or replacement of this product and does not cover additional costs, including but not limited to installation or removal of the product or any incidental or consequential damages.

Nor does it cover damage due to improper use, storage or application of this device. Should a service issue arise within the one year period, please contact the dealer in which this device was purchased. It will be the sole decision of Stellar Labs to repair or replace any device found to be defective during this period.