

HS-T1 / HS-J1 Full HD Digital TV Modulator

HD-SDI/HDMI to DVB-T/ISDB-T/ISDB-Tb



HS-x1 is the most cost-effective solution to distribute HDMI or HD-SDI video to unlimited standard TV's without requiring any special adapter.

The video input source from either HDMI/DVI or HD-SDI is encoded in MPEG2 or H.264 streams, modulated with the open industrial standard EN 300-744 DVB-T/ARIB STD-B31 ISDB-T/ABNT NBR 15601 ISDB-Tb, and then transmitted over cable or air.

All DVB-T/ISDB-T/ ISDB-Tb compliant receivers, including SetTopBox, Digital TV, PC/NB USB DTV dongle, or DTV capture card can receive, and watch the video from a HV-102 via the standard coaxial cable or antenna.

HS-T1 supports EN 300-744 DVB-T modulation while HV-102J supports ARIB STD-B31 ISDB-T/ABNT NBR 15601 ISDB-Tb modulation.

Features

Low Cost HD Video Distribution

Compliant to existing HD TV sets, no extra adapter required, and no restriction on the number of receivers. All the peripherals like splitter, amplifier, connector...etc are the same as those for regular TV.

Versatile video inputs and formats

Support HD-SDI and HDMI/DVI video input.

Besides H.264/MPEG2 HD, MPEG2 SD format is also supported and complaint to existing SD TV sets or STB's.

Easy to Configure

Channel number can be configured with the built-in keypad switch easily.

More advanced configurations can be set from an external host like PC/NB or Tablet/Pad thru USB interface.

Robust, Reliable and Long Distance

Easily transmit 1080p video over a single 3C2V/RG59 cable for at least 500 meters long without adding any repeater.

For wireless applications, the line of sight transmission distance may reach 50~100 meters at 0dBm RF radiation power and up to several kilo meters at 20 dBm. The real distance depends on the antenna design and receiver quality.

Differential RF output is also available for RF signal distribution with twisted pairs (telephone or Ethernet RJ-45) instead of heavy coaxial cables.

Daisy-chain Connection (Bus-Topology)

Multiple HS-x1 with different channel configurations can share a single cable. It can dramatically reduce the cable deployment cost and effort.

Real time protocol and Low latency

No frame drop in QEF (Quasi-Error-Free) condition, and low transmission latency

General Specifications:

Input	Video: HD-SDI, HDMI 1.3 (with HDMI loop-thru) Audio: HD-SDI or HDMI PCM audio-in (PCM audio-in supports up to stereo 96KHz, 24bits)		
Compression	Video: H.264 or MPEG2 Audio: AAC or MPEG		
Resolution	Input	HD-SDI	1920x1080x60P 1920x1080x30P 1280x720x60P 1280x720x30P
		HDMI	720x480x30I (NTSC, D1) 720x576x25I (PAL, D1) 1280x720x24P 1280x720x50I/1280x720x50P 1280x720x60I/1280x720x60P 1920x1080x24P 1920x1080x50I/1920x1080x50P 1920x1080x60I/1920x1080x60P
	Output	H.264	1920x1080x24P/1920x1080x25P/1920x1080x30P 1600x1080x24P/1600x1080x25P/1600x1080x30P 1440x1080x24P/1440x1080x25P/1440x1080x30P 1280x1080x24P/1280x1080x25P/1280x1080x30P 1280x720x24P/1280x720x25P/1280x720x30P 704x576x25P (PAL, D1)/704x480x30P (NTSC, D1) 352x576x25P (PAL, Half D1) 352x480x30P (NTSC, Half D1) *Note
		MPEG2	1600x1080x24P/1600x1080x25P/1600x1080x30P 1440x1080x24P/1440x1080x25P/1440x1080x30P 1280x1080x24P/1280x1080x25P/1280x1080x30P 1280x720x24P/1280x720x25P/1280x720x30P 704x576x25P (PAL, D1) 704x480x30P (NTSC, D1) 352x576x25P (PAL, Half D1) 352x480x30P (NTSC, Half D1) *Note
Power	DC 9~24V Power Consumption 0.7A@12V		
Dimension WxDxH	195mmx125mmx40mm		
Weight	735g		
Operating Temperature	-10°C ~ 60°C		

*Note: output formats supported depend on the video input formats. The frame rate should be consistent and the encoded video frame size should be less or equal to the original input.

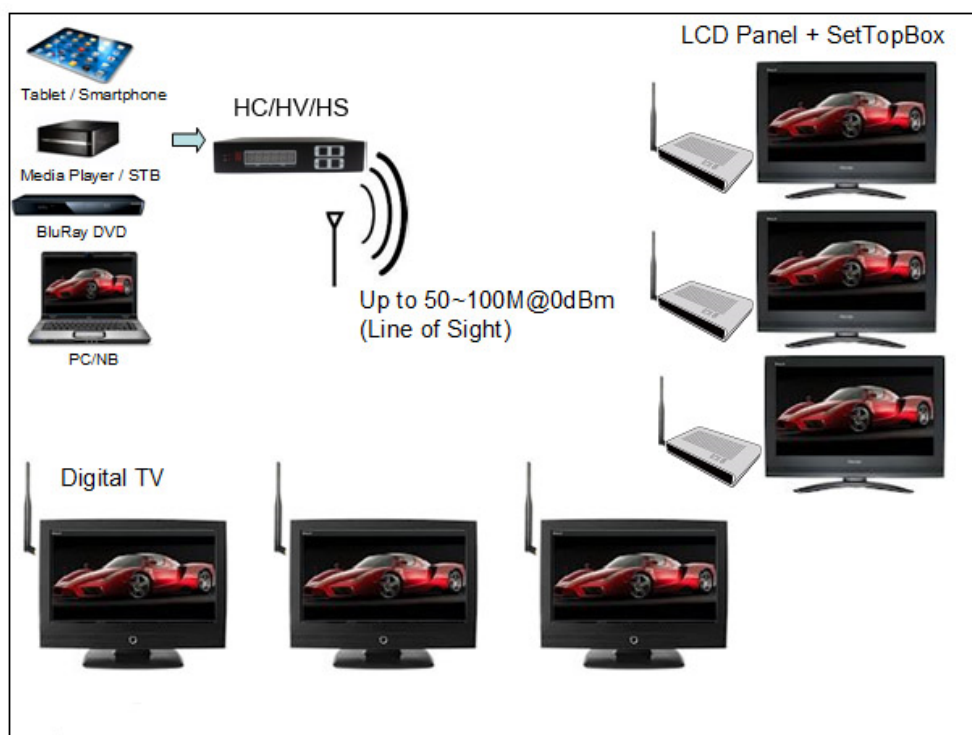
Digital TV RF Transmitter Specifications:

Parameter	Value	
TV Standard	HS-T1	DVB-T EN-300 744
	HS-J1	ISDB-T ARIB STD-B31,ISDB-Tb ABNT NBR 15601
RF connector	75-Ω F-type connector and two-wire terminal for twisted pairs (differential RF output)	
Bandwidth	HS-T1	2/3/4/5/6/7/8 MHz
	HS-J1	6MHz
FFT	HS-T1	2K, 8K
	HS-J1	2K, 4K, 8K
Code rate	1/2, 2/3, 3/4, 5/6, 7/8	
Guard interval	1/4, 1/8, 1/16 or 1/32	
Frequency range	50~950MHz, 1200~1350MHz step size 1KHz DVB-T channels: VHF 6M BW/UHF 6M BW: Channel: CH7~CH83 VHF 7M BW/UHF 7M BW: Channel: CH5~CH69 VHF 8M BW/UHF 8M BW: Channel: CH5~CH69 ISDB-T channels: (STD-B21) UHF band: UHF 13ch~62ch, VHF band VHF 1ch~12 ch MID band c13ch~c22 ch, SHB band c23ch~c63 ch	
Segment & Layer	HS-T1	n/a
	HS-J1	13 Seg or 1 Seg
Time Interleaver	HS-T1	n/a
	HS-J1	Not supported
RF Output Level	50-950 MHz -3 dBm (105 dBuV) typically 1200-1350 MHz -30~-40 dBm (68~78 dBuV) typically (Differential output less by 6~7 dB)	
Digital Gain/Attenuator for Fine Tuning	Range: +5dB~-10dB , Step size 1dB	
MER	50~950MHz, 35 dB Typically / 1200~1350MHz, 30dB Typically	
Spectrum Shoulder (Adjacent channel)	45dB	
Phase noise	<-92dBc @ 10kHz	
Carrier Suppression	>42dB	

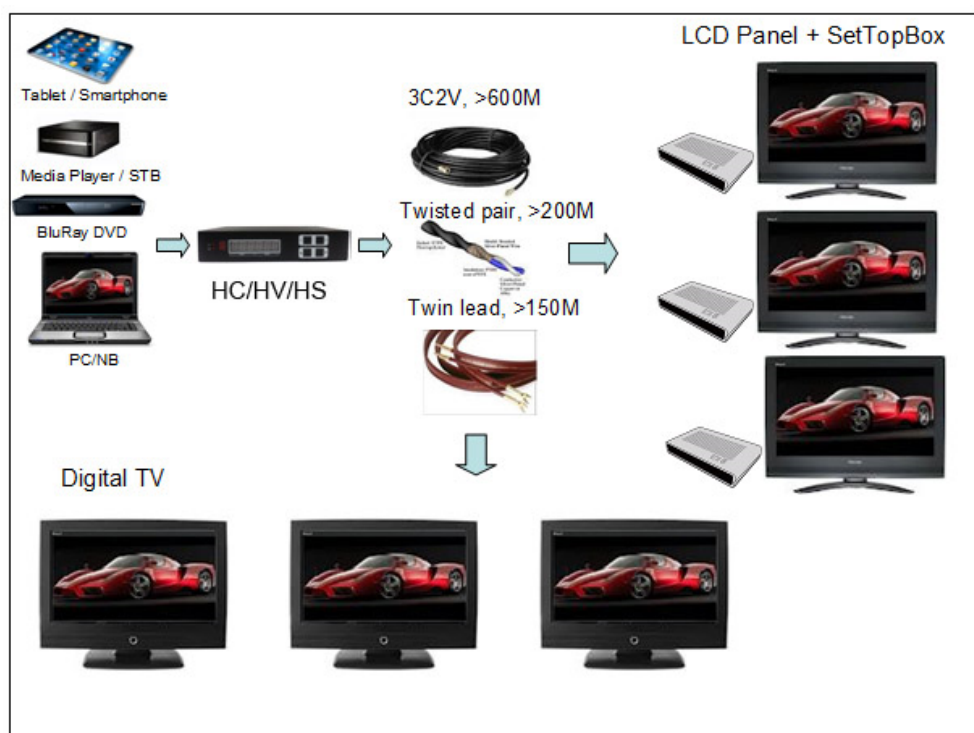
Specifications are subject to change without prior notice.

***: There could be MER loss in high gain/attenuation level.

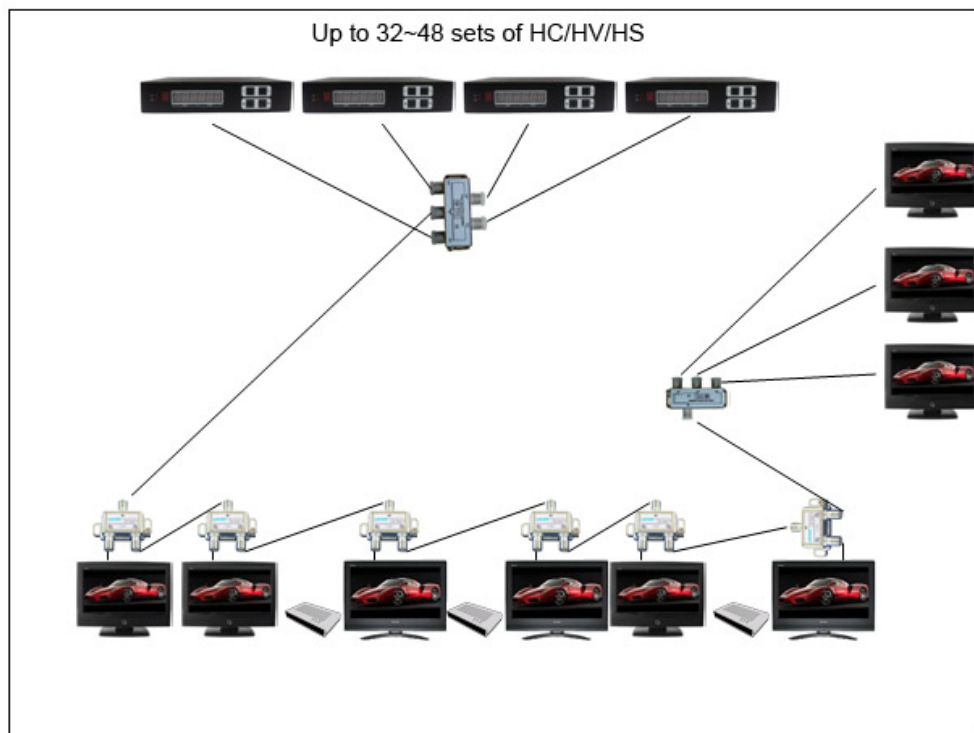
Application Scenario-Wireless



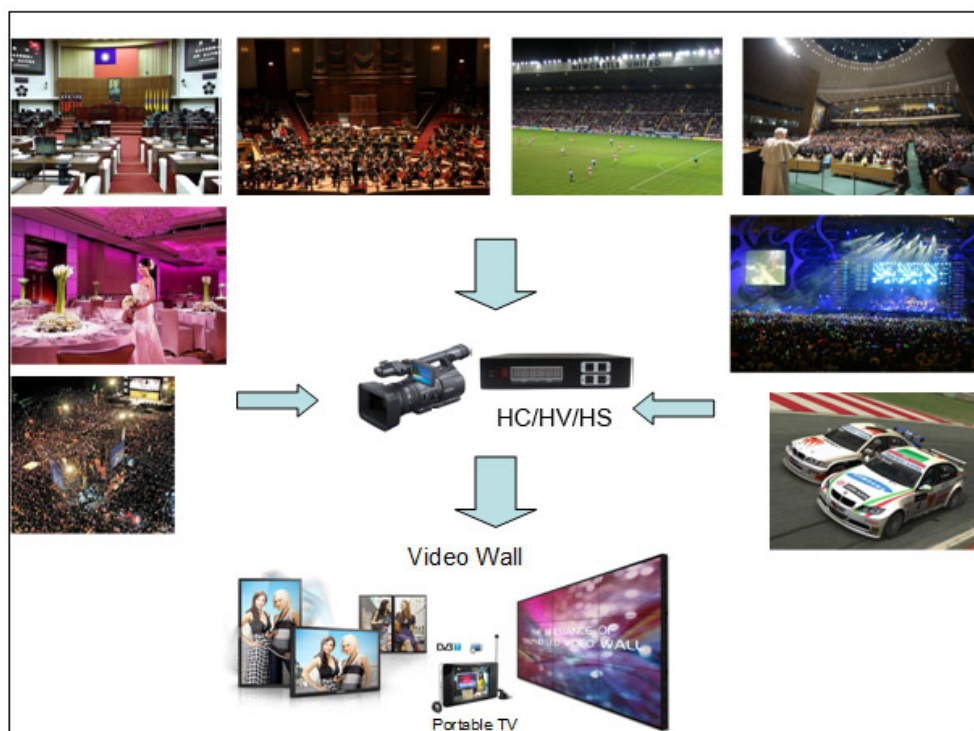
Application Scenario-Wired



System Deployment Example – Daisy-Chain Bus Topology



Application – Live Video Broadcast



Application – Digital Signage



Application – Entertainment HD Video Distribution

