

HS-T1N / HS-J1N

Professional 4-band (100MHz~2500MHz)

Full HD Digital TV Modulator

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



HS-x1N is the most cost-effective solution to distribute HDMI/DVI 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 HS-x1N via the standard coaxial cable or antenna.

Features

High Performance Wide Frequency Range Support

- Direct digital conversion to 100-2500 MHz for excellent signal quality
- Professional grade modulation error rate (MER)

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 HDMI/DVI and HD-SDI video input.
- Besides H.264/MPEG2 HD, MPEG2 SD format is also supported and compliant 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 20dBm. 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-x1N 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 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:

Features	Descriptions	
TV Standard	HS-T1N	DVB-T EN-300 744
	HS-J1N	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	DVB-T	2/3/4/5/6/7/8 MHz
	ISDB-T	6MHz
FFT	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	100-2500 MHz, tuning step 1KHz	
Segment & Layer	DVB-T	n/a
	ISDB-T	13 Seg or 1 Seg
Time Interleaver	DVB-T	n/a
	ISDB-T	Not supported
RF Output Level	-3~-5 dBm (103-105 dBuV) @100-470 MHz -5~-8 dBm (100-103 dBuV) @470-950 MHz -14 dBm (94 dBuV) @950-1900MHz -18 dBm (90 dBuV) @1900-2500MHz	
Digital Gain/Attenuator for Fine Tuning	Range: +0dB~-25dB , Step size 1dB	
MER	Typically, @-5 dB attenuation by ADRF6755, >35dB@V-band , >35dB@470-950MHz,>33dB@950-1900MHz,>30dB@1900-2500MHz	
Spectrum Shoulder (Adjacent channel)	45dB	
Phase noise	<-92dBc @ 10kHz	
Carrier Suppression	>42dB	

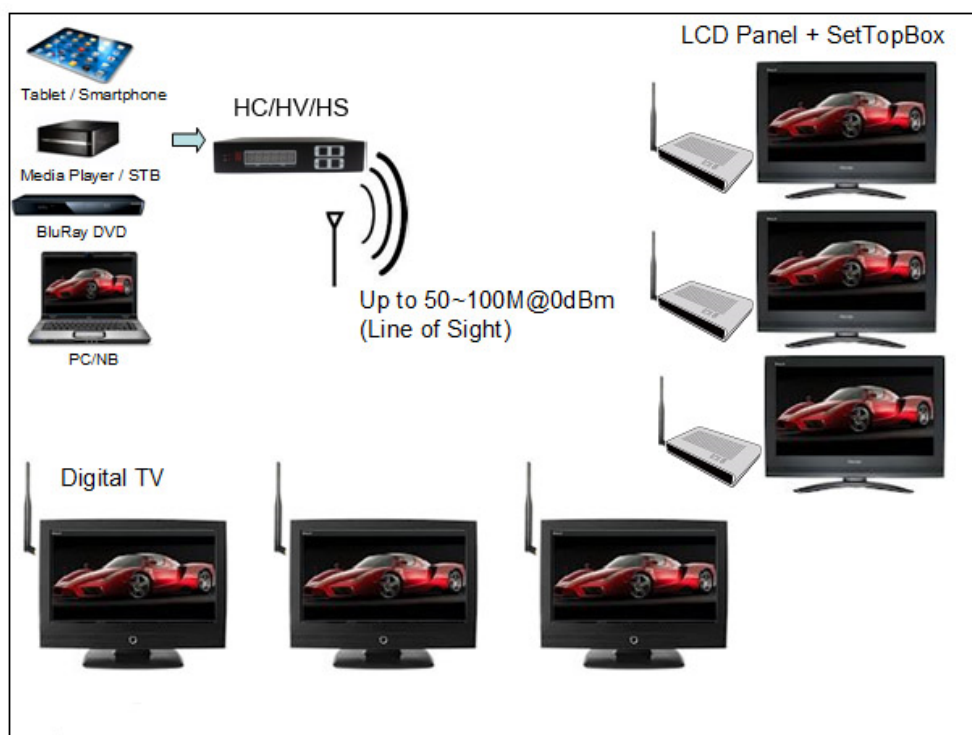
***: There could be MER loss in high gain/attenuation level.

Network Features:

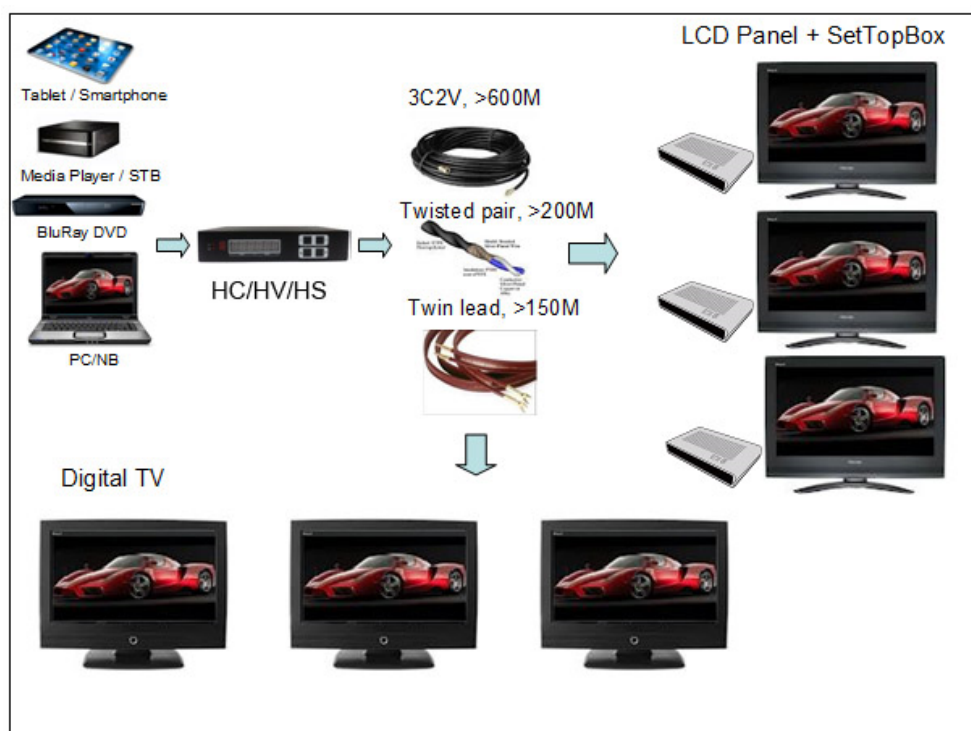
Feature	Descriptions
Remote Management	Web Server for remote access 1.Transmission Configurations , 2.Status Monitor
Video Streaming Output	RTSP streaming input DVBT/ISDBT TV RF output, Video: H.264 or MPEG2, Audio: AAC or MPEG, Support RTSP TS or PES Payload

Specifications are subject to change without prior notice.

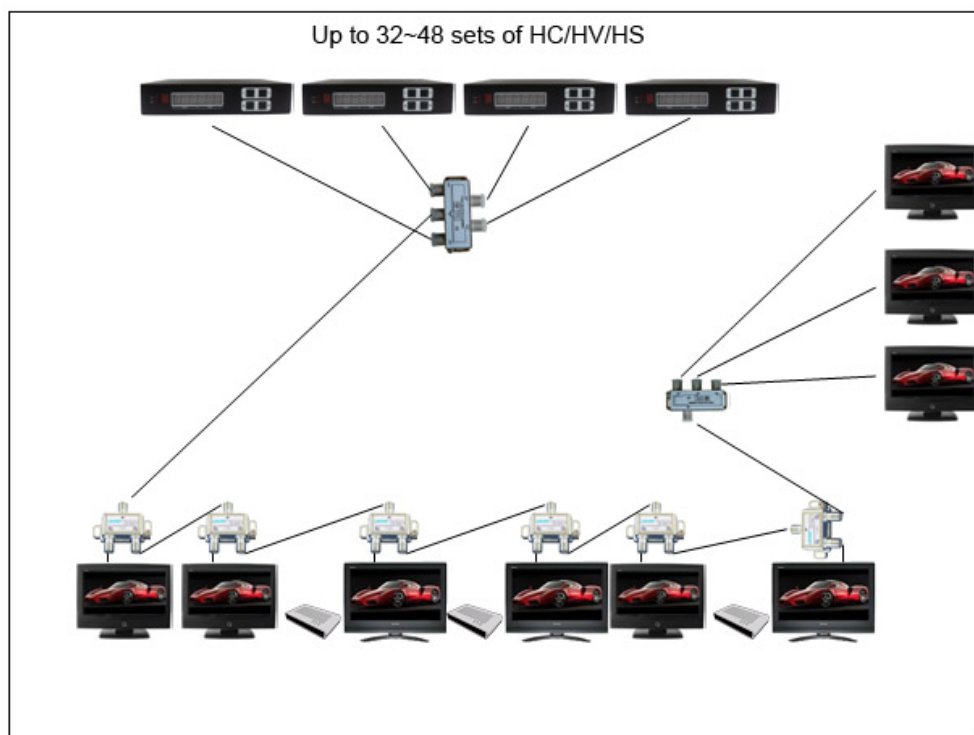
Application Scenario-Wireless



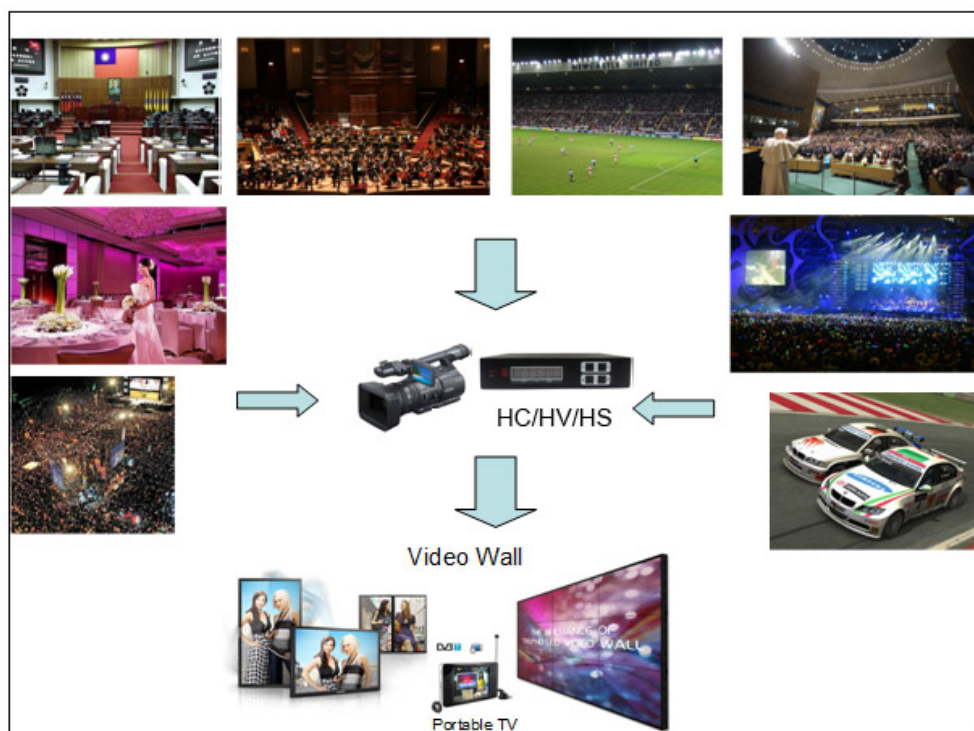
Application Scenario-Wired



System Deployment Example – Daisy-Chain Bus Topology



Application – Live Video Broadcast



Application – Digital Signage



Application – Entertainment HD Video Distribution

