

HiDES Easy HD Expressway!

HV-122 Full HD 2-Way **Diversity** Digital TV Receiver

TV/1.2GHz/2.4GHz bands support For HAM and FPV



HV-122 is a 1080 Full HD diversity receiver box which receives and decodes DVB-T (ETSI EN 300 744) HD/SD terrestrial broadcast signals. It features the video output of HDMI and Composite (CVBS) for DVB-T.

HV-122 is designed with 2-way diversity antenna reception, which can enhance high mobility support and mitigate multi-path effect.

Besides remote controller, HV-122 can be configured and controlled thru its UART port by an external host.

HV-122 can decode the mux'ed UART data in received streams and output thru its local UART port.

Besides standard TV channel bandwidth (5/6/7/8MHz), HV-122 can tune 1/1.5/2/2.5/3/4 MHz bandwidth channels.

Depending on the model options, HV-122 supports standard TV-band (170-860MHz), 2.4G-band (2100~2550MHz), U-band (700~2700MHz) , All-band (50~2700MHz)

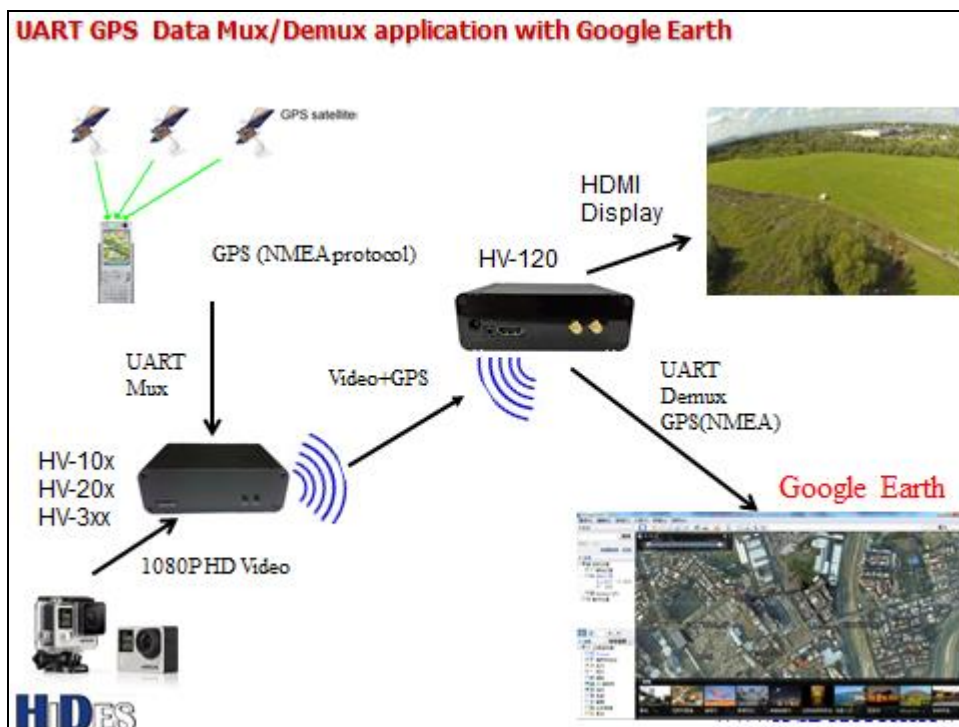
Features

- Standalone Digital DVB-T receiver
- Support 1080 Full HD H.264 and MPEG2 decoding
- Frequency Band Support
 - HV-122-TV 170~860MHz
 - HV-122-2.4G 2100~2550MHz
 - HV-122-A 700~2700MHz

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- HV-122-B 50~2700MHz
- Two Antenna SMA connectors
- Composite video output/ Stereo Analog (L/R) output
- Digital HDMI audio and video output
- On-Screen Display Menu
- Automatic or manual channel scan
- 1/1.5/2/2.5/3/4/5/6/7/8 MHz Bandwidth support
- **12V active antenna supported (up to 500mA)**
- **Demultiplex UART data in received TS transmitted by Hides transmitter.**
- **Decrypt encrypted TS data transmitted by Hides transmitter.**



- **UART control interface for external host**

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- Order Information :

Model Number	RF-in filter for >1GHz band	Frequency Band Supported
HV-122	N/A	170~862 MHz
HV-122-2.4G	2.4G Saw Filter*	2100~2550MHz*
HV-122-A	N/A	700~2700MHz**
HV-122-B	N/A	50~2700MHz**

- *There is a saw filter in the RF front end. The saw filter limits the reception range but minimize ACI (adjacent channel interference)
- **When the saw filter removed, full band range is supported but poorer ACI.

Specifications :

RF Inputs				
Frequency	HV-122: 170~862 MHz			
	HV-122-2.4G: 2100~2550MHz			
	HV-122-A: 700~2700MHz			
	HV-122-B: 50~2700MHz			
Bandwidth	Single Antenna	1/1.5/2/2.5/3/4/ 5/6/7/8 MHz		
	Diversity Antenna	2.5/3/4/ 5/6/7/8 MHz		
Demodulation	COFDM (ETSI EN 300 744 DVB-T)			
FFT mode	2K, 4K, 8K			
Constellation	QPSK, 16QAM, 64QAM			
Guard interval	1/4, 1/8. 1/16, 1/32			
Inner coding rate	1/2, 2/3, 3/4, 5/6, 7/8			
RF Performance (single antenna only)	Pmax	>+5 dBm		
	Pmin @ FFT:2K, 16QAM,CR:2/3 GI:1/8	Bandwidth	Sensitivity	
		1 MHz	<-99 dBm	
		1.5 MHz	<-98 dBm	
		2 MHz	<-96 dBm	
		2.5 MHz	<-95 dBm	
		3 MHz	<-95 dBm	
		4 MHz	<-94 dBm	
		5 MHz	<-92 dBm	
		6 MHz	<-91 dBm	
7 MHz	<-90 dBm			
8 MHz	<-90 dBm			

<p>Mobility TU6/RA6/Doppler Performance</p>	<p>Results</p> <p>Typical Urban Reception (TU6) Results</p> <p>The following results are the Doppler Frequency to achieve the point of failure of 1 picture artefact or error in a 20 second time period.</p> <table border="1"> <thead> <tr> <th>Modulation Mode</th> <th>typ</th> </tr> </thead> <tbody> <tr> <td>8K 64QAM, FEC 1/2 and Guard Band 1/8</td> <td>45Hz</td> </tr> <tr> <td>8K 64QAM, FEC 2/3 and Guard Band 1/8</td> <td>26Hz</td> </tr> <tr> <td>2K 64QAM, FEC 2/3 and Guard Band 1/32</td> <td>128Hz</td> </tr> <tr> <td>2K 16QAM, FEC 3/4 and Guard Band 1/32</td> <td>195Hz</td> </tr> </tbody> </table> <p>Rural Area Reception (RA6) Results</p> <p>The following results are the Doppler Frequency to achieve the point of failure of 1 picture artefact or error in a 20 second time period.</p> <table border="1"> <thead> <tr> <th>Modulation Mode</th> <th>typ</th> </tr> </thead> <tbody> <tr> <td>8K 64QAM, FEC 1/2 and Guard Band 1/8</td> <td>30Hz</td> </tr> <tr> <td>8K 64QAM, FEC 2/3 and Guard Band 1/8</td> <td>20Hz</td> </tr> <tr> <td>2K 64QAM, FEC 2/3 and Guard Band 1/32</td> <td>86Hz</td> </tr> <tr> <td>2K 16QAM, FEC 3/4 and Guard Band 1/32</td> <td>119Hz</td> </tr> </tbody> </table> <p>0dB Echo With Doppler Reception (0dB) Results</p> <p>The following results are the Doppler Frequency to achieve the point of failure of 1 picture artefact or error in a 20 second time period.</p> <table border="1"> <thead> <tr> <th>Modulation Mode</th> <th>typ</th> </tr> </thead> <tbody> <tr> <td>8K 64QAM, FEC 1/2 and Guard Band 1/8</td> <td>50Hz</td> </tr> <tr> <td>8K 64QAM, FEC 2/3 and Guard Band 1/8</td> <td>43Hz</td> </tr> <tr> <td>2K 64QAM, FEC 2/3 and Guard Band 1/32</td> <td>160Hz</td> </tr> <tr> <td>2K 16QAM, FEC 3/4 and Guard Band 1/32</td> <td>233Hz</td> </tr> </tbody> </table>	Modulation Mode	typ	8K 64QAM, FEC 1/2 and Guard Band 1/8	45Hz	8K 64QAM, FEC 2/3 and Guard Band 1/8	26Hz	2K 64QAM, FEC 2/3 and Guard Band 1/32	128Hz	2K 16QAM, FEC 3/4 and Guard Band 1/32	195Hz	Modulation Mode	typ	8K 64QAM, FEC 1/2 and Guard Band 1/8	30Hz	8K 64QAM, FEC 2/3 and Guard Band 1/8	20Hz	2K 64QAM, FEC 2/3 and Guard Band 1/32	86Hz	2K 16QAM, FEC 3/4 and Guard Band 1/32	119Hz	Modulation Mode	typ	8K 64QAM, FEC 1/2 and Guard Band 1/8	50Hz	8K 64QAM, FEC 2/3 and Guard Band 1/8	43Hz	2K 64QAM, FEC 2/3 and Guard Band 1/32	160Hz	2K 16QAM, FEC 3/4 and Guard Band 1/32	233Hz
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Video	
Formats	MPEG-2 MP@ML, MPEG-2 MP@HL MPEG4 AVC/H.264 MP@L4.1 , MPEG4 AVC/H.264 HP@L4.1
Output	Digital HD video, CVBS
Aspect ratio	4:3 and 16:9 (Letter Box, Pan & Scan)
Audio	
Decode	MPEG-1 layer I/II, MP3, MPEG-2 layer II, MPEG-2 AAC, MPEG-4 HE-AAC
Sampling rate	32KHz, 44.1KHz, 48KHz

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Output	Stereo line-out and HDMI digital output	
Front panel		
IR remote		
7-segment LED display: Status		
LED :Power and Channel lock status		
Rear panel		
Power-in (DC Jack or Micro-USB)		
Two SMA RF-in		
CVBS/Audio-L/Audio-R Jack		
Digital HD video		
Power Supply	HV-122-TV	12 VDC Typical Consumption 5.4 Watt (450mA)
	HV-122-2.4G	12 VDC
	HV-122-A	Typical Consumption 6.48 Watt (540mA)
Dimension	W(105 mm) x D(75 mm) x H(35 mm) (Bare bone PCBA size: 100mmx70mm)	
Weight	185g (Bare bone PCBA weight 65g)	

Specifications are subject to change without prior notice.