

DRP 393 DVB MPEG-4 RECEIVER/DECODER

DRP 393 is a DVB-Receiver/Decoder in a 19" housing (1RU) designed for stand alone operation in professional CATV Headend- and broadcast systems.

The DVB Receiver/Decoder receives digital TV program streams with encoded MPEG-2 or MPEG-4 data from ASI, L-Band (DVBS/S2)*, DVB-T/T2*, DVB-C*, IP* and decodes it to a MPEG transport stream (ASI, IP) and Video/Audio signals.

*) The additional frontend to the standard ASI-IN must be selected according to customer needs.

Two integrated Common Interfaces (CI) for Conditional Access Modules (CAM) like VIACCESS, CONAX or IRDETO ... allow the decoding of encrypted TV programs.

Subsequent to demodulation and forward error correction (FEC), the MPEG transport stream is available at the electrical ASI and IP outputs. Single- and multi-decryption is performed automatically. The TV program directed through the CAM will then be

available within the data streams in a decrypted form. Internally the MPEG transport stream is routed to a MPEG decoder, which is demultiplexing the transport stream and decodes one VIDEO signal and up to 4 (stereo) AUDIO signals of a TV program. This feature allows the "AUDIO description" functionality: To compose the AUDIO signal from two AUDIO-PIDs (used by German Broadcasters). Service selection is performed automatically.

Embedded Teletext is extracted and inserted into the VIDEO signal. VPS information is generated and inserted according to ETSI EN301775 or out of the PDC descriptor (EIT-A). VITS, WSS, VPS, TT supported as well as DVB-Subtitling.

VIDEO and AUDIO signals are available via high quality analog interfaces (VIDEO: composite (CVBS), AUDIO: mono, stereo or dual sound). S/P-DIF AUDIO output available. For 16:9 input format and selected 4:3 VIDEO

output format an automatic conversion to letterbox format is performed.

High definition (HD) signals are rescaled automatically to SD format to the VIDEO (CVBS) output.

An SFP-Slot for the IP-Output enables the streaming of the transport stream with UDP into IP networks (Option).

Test ports for transport stream (ASI), VIDEO and AUDIO can be accessed at the frontpanel. Receive signal quality and status information are indicated by LEDs and the graphical LC-display.

Basic operation modes and parameters like IP-address are selectable by a thumb wheel within setup and diagnostic menus, displayed by the LCD module.

Via 10/100BaseT connection, an integrated Webserver allows the remote- or local control and configuration over LAN/WAN networks. For the monitoring of the device within a Network Management System (NMS) an SNMP agent is applicable.



FEATURES

ASI -> MPEG-4 -> A/V

- **Input, Output:**
 - ASI-Input
 - 4 x Stereo Audio Output, SPDIF
 - Video-Output
 - 2 x ASI-Output with single service decryption
- **MPEG Decoder**
 - Video Decoding: MPEG-2, MPEG-4, H.264AVC
 - Processing of audio programs (DVB-Radio)
 - Audio-Decoding: MPEG-1, MPEG-2 (LAYER II), MPEG-4, AAC, Dolby Digital (AC3), Dolby Digital + Letterbox mode (16:9)
 - HD to SD Rescaling to Video Out
 - VBI-Insertion (VPS, WSS, VITS, Ttxt)
 - 5.1 Surround Sound to Stereo conversion
 - Audio Description Support
 - Support of all standard CAM
- **Common Interface**
 - 2 Conditional Access Modules (DVB-CI)
 - Supporting of all standard CA Modules
- **Operation/Control**
 - Direct entry by display, Thumb wheel
 - LAN/WAN integrated Web-Server, SNMP-Agent
 - Logbook
- **Provides Monitoring and Test functions** via Control system and Test ports

DVB-FRONTENDS (Option)

DVB-> MPEG-4 -> A/V

- **DVB-S/S2 Demodulator:**
 - Input frequency: 950 ... 2,150 MHz
 - LNB Remote power supply 0V/14V/18V with 22 kHz switching signal (75 Ohm input)
 - DVB-S/S2 Demodulation and channel decoding fully DVB compliant (EN 300421/EN 302307)
 - Suitable for MCPC & SCPC
 - Input F-type connector
- **DVB-T (T2) Demodulator:**
 - COFDM Demodulation and channel decoding fully DVB compliant (ETS 300 744)
 - 2K- and 8K- Mode with 7 and 8 MHz bandwidth
 - Input frequency: 47 ... 862 MHz
 - F connector: 75 Ohm input
 - DVB-T2 on request
- **DVB-C Demodulator:**
 - Input frequency range: 47 ... 862 MHz
 - QAM Demodulation and channel decoding fully DVB compliant (ETS 300 429)
 - Symbol rates variable from 1.7 ... 7.0 Msymbols/s
 - 16, 32, 64, 128, 256 QAM
 - Data rates up to 51.5 Mbps

Options

IP-> MPEG-4 -> A/V, IP, HD/SD-SDI

- **HD/SD-SDI-Output**
 - with Embedded Audio
 - additional AES/EBU Audio Output (XLR)
- **CA-Support:**
 - Multi Decryption incl. Decryption Management System (DMS)
 - BISS-Decryption Mode 0, Mode-1, BISS-E
 - NDS Licence
 - CI + Licence
- **IP Frontend**
 - IP Reception of transport streams
 - Encapsulated with UDP, RTP
 - Unicast, Multicast
- **IP Output Streaming**
 - Unicast, Multicast
 - MPTS
 - SPTS
- **SFP-Modules:**
 - GbE optical (LC)
 - GbE electrical (RJ45)



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TECHNICAL DATA

Input ASI-Input: Connector, Impedance	BNC, 75 Ohm	Monitoring MPEG TS test output Test video output Connector, Impedance Test audio output Connection	DVB/ASI (EN 50083-9) Composite (CVBS) BNC female, 75 Ohm Mono, stereo (left/right), dual sound 6.3 mm female, unbalanced -20 dB max. 256 entries
DVB-S/S2 (Option): Input Frequency range Input signal level LNB remote power supply, Selectable Connector, Impedance	acc. EN 300421/EN 302307 950 ... 2,150 MHz -25 ... -65 dBm 0 V/14 V/18 V, 500 mA max., 22 kHz signal 75 Ohm Input F-type connector	Log file function	
DVB-S: Symbol rates variable Code rates	1 ... 45 MSps 1/2, 2/3, 3/4, 5/6, 7/8	Subtitling	DVB-Subtitling
DVB-S2: Symbol rates QPSK Symbol rates 8PSK Code rates FEC Block length	2 ... 36 MSps 2 ... 30 MSps 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 64800	VITS	VITS generation on Line 17, 18, 330, 331 Line 331: optional ramp or EBU Line 329, selectable sinx/x (enable/disable)
DVB-T (T2) (Option) FEC (T)	acc. Bluebook A122 Convolutional Coding + Reed Solomon 1/2, 2/3, 3/4, 5/6, 7/8 LPDC + BCH	VPS dataline	insertion of Line 16 (enable/disable)
FEC (T2)	1/2, 3/5, 2/3, 3/4, 4/5, 5/6 QPSK, 16 QAM, 64 QAM, (256 QAM)	WSS	WSS insertion w/respect of video output aspect ratio
Modes Guard Interval	1/4, (19/256), 1/8, (19/128), 1/16, 1/32, (1/128)	Testsignal generator	colorbar for Video 1 kHz Testtone for Audio
DVB-C (Option) Input frequency range Modulations	acc. to EN 300 429 47 ... 862 MHz 16, 32, 64, 128, 256 QAM	Environment Operating temperature	5 ... 45 °C
Signal Processing MPEG video decoder PAL resolution	MPEG-2/MPEG-4 max. 720 x 576 @ 25 Hz HD to SD Rescaling on Video-Output	Power Supply acc. to DIN/VDE 0804 Mains voltage	100 ... 240 VAC 50 ... 60 Hz, 0.4 ... 0.22 A
MPEG audio decoder	MPEG-1, MPEG-2 (Layer II), MPEG-4, AAC, Dolby Digital (AC3), Dolby Digital +	Mechanical Housing Dimension (W x H x D)	19" x 1RU 483 mm x 45 mm x 315 mm
Conditional Access	acc. EN 50221 2 x DVB-CI Common Interface: support of all standard CAM	OPTIONAL: HD/SD-SDI	Digital A/V-Outputs with embedded audio (5.1 downmix), additional AES/EBU audio output
Outputs MPEG TS data output Connector, Impedance Analog Video output Video formats Output level Connector, Impedance Analog audio output (up to 4) Output level	DVB/ASI (EN 50083-9) 2 x BNC port, 75 Ohm Component (CVBS) PAL, NTSC 1 V _{pp} BNC female, 75 Ohm Mono, Stereo (left/right), dual sound +6 dBm (1.546 V on 600 Ohm XLR) (-6 dBFS), balanced XLR -30 dB ... +10 dB S/P-DIF on BNC, AC3 passthru	IP Frontend (Option) Input Format	GbE SFP, electrical RJ45, optical LC GbE, UDP, Uni- and Multicast Option: RTP, MPEG pro
Adjustment range Digital Audio Output:		IP Output Streaming (Option) Output Format	GbE SFP, electrical RJ45, optical LC GbE, UDP, Uni- and Multicast Option: RTP, MPEG pro
Operation/Control Display, Keypad LAN/WAN	RJ 45 10/100 Mbit Direct entry via thumbwheel integrated Web-Server, SNMP-Agent	SFP-Modules	GbE optical (LC) GbE electr. RJ45
Conditional Access Module		CA-Support (Option)	NDS-Licence CI+ Licence
Order-No. Name CA-Modul Type		BISS (Option)	Mode 0, Mode-1, BISS-E
F030.01 DCA 311 Viaccess		Multi-Decryption (Option)	Multiservice Descrambling, min 16 PIDs Depending on CAM
F031.01 DCA 312 Irdeto			
F032.01 DCA 313 Mediaguard (Seca)			
F033.01 DCA 314 Conax			
F038.01 DCA 315 Alphacrypt			
F034.01 DCA 316 Cryptoworks			

Subject to change without notice

BLANKOM Digital GmbH

TecCenter • 31162 Bad Salzdetfurth/Germany
Phone: +49(0) 50 63/27 11 0 • Fax: +49(0) 50 63/27 11 60
www.blankom-digital.de

Associated BLANKOM Products

- **IRD Family** (DRP 373, 375, 385, 364)
- **DRD Family** (DRD 694, 695, 699)
- **EQM 100/101/102** EDGE QAM MODULATORS