

# DRD 700 QUAD Multistream Processor

DRD 700 is able to receive, decrypt and multiplex 4 independent transport streams. The output signals are available at the 4x2 ASI or the 2 IP-GbE-SFP interfaces. For the reception different receiving options like DVB-S/S2, DVB-T/C, DVB-T/T2 or ISDB-T can be chosen. Furthermore, 2 ASI-Inputs and the redundant IP-GbE-SFP interface are also selectable for the reception of transport streams. For Multi-Service Decryption 4 DVB-CI interfaces for CAM modules can be routed as needed.

The multiplexer allows the multiplexing of up to 4 new DVB-compliant transport streams including EIT tables (MPTS). Additionally, more than 28 selected services can be streamed as single program transport streams (SPTS) for IPTV applications. Forward error correction Pro-MPEG is selectable for reception and streaming in non reliable IP networks. For the configuration a separate control port is available for the access of web server and SNMP agent. LCD display and a navigation wheel allows basic configuration at the device.

DRD 700 is ideally suited for receiving and streaming signals for IPTV applications.



- Different DVB frontends
- SPTS/MPTS
- IP streaming
- Pro-MPEG FEC
- Up to 4 DVB-T2 or ISDB-T inputs

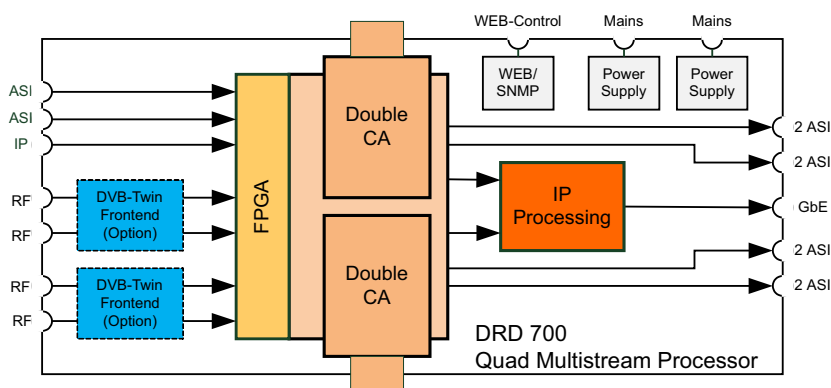
DVB IPTV  
DVB S2  
DVB T2  
DVB T  
DVB C  
ISDB-T



## Features

- 2x DVB-Twin-Frontends DVB-S/S2, DVB-T/C or DVB-T/T2
- 2x ASI Inputs
- 2x IP-GbE-SFP-Interfaces for IP-Input or IP-Output-Streaming (Option Redundancy)
- Service filtering and DVB-compliant
- 4 x Multiplexing including EIT
- Multistream Demultiplexing
- 4 x DVB-CI slots for CAM modules for Multi-Service-Decryption
- IP-Output-Streaming MPTS/SPTS
- 4 x 2 ASI Outputs
- Web/SNMP server (IP-Control port)
- Redundant power supply

## Block Diagram



## Rear View



## DRD 700 QUAD Multistream Processor



### Technical Details

|                                 |  |
|---------------------------------|--|
| <b>ASI</b>                      |  |
| Input:                          | 2x ASI (in conformance with EN 50083-9), 75 Ohm, BNC   |
| Output                          | 4x 2 ASI (in conformance with EN 50083-9), 75 Ohm, BNC   |
| Reflection / return loss        | > 18 dB  |
| Format                          | 188 Byte/ 204 Byte   |
| <b>IP Streaming Interface</b>   |  |
| Connector                       | 2x IP-GbE-SFP-Interfaces for IP-Input or IP-Output-Streaming   |
| Dataformat                      | SFP: electrical RJ45 or optical LC<br>UDP, Uni- und Multicast ( RTP, FEC ProMPEG CoP#3)  |
| IP-Input-Streaming              | Max. 4 MPTS/SPTS IP-streaming inputs (Option)  |
| IP-Output-Streaming             | Max. 4 MPTS and >28 SPTS IP streaming output channels (2013), SAP/SDP support, EIT demultiplexing  |
| IP-Redundancy                   | Switching criteria: link-loss, sync-loss for input streaming (Option), parallel output on 2nd SFP (Option)                                     |
| <b>Processing</b>               |  |
| Filtering                       | PID- and Service filtering (Option)  |
| Multiplexing transport streams  | DVB-compliant Multiplexing of up to 4 transport streams (Option)   |
| <b>Input Data/rates</b>         |  |
|                                 | max. 200 Mbps total; max 100 Mbps per input port (Note: encrypted signals are limited to 72 Mbps by the CAM)                                   |
| <b>Multistreaming</b>           |  |
|                                 | DVB-S2 demultiplexing according to EN 302307 Annex H.2 (only with DVB-S2 frontend)   |
| <b>Multi-Service-Decryption</b> |  |
| Hardware CA systems             | 4x DVB-CI slot (CAM)<br>DVB-CI compliant CA systems with CAM:<br>Viaccess, Conax, Irdeto, Seca, Mediaguard, Nagravision, Sky, NDS (on request) |
| <b>BISS</b>                     |  |
| by CAM                          | Mode 0, Mode 1, BISS-E (option) dependent of service, max. 8 PIDs  |
| <b>Control-Port</b>             |  |
| Ethernet Format                 | IP control port, RJ45, LAN,10/100M TCP/IP, SNMP agent, TFTP, Web server, Software Download   |
| Alarm                           | Potential-free relay contact   |
| <b>General</b>                  |  |
| Power consumption               | 2 x 100V <sub>AC</sub> to 240 V <sub>AC</sub>  |
| Redundant Power Supply          | 100 V <sub>AC</sub> to 240 V <sub>AC</sub> 50/60 Hz  |
| EMC                             | EN 50083-2, FCC Part 15, class A   |
| Safety                          | EN 60950-1   |

### TECHNICAL DATA DVB-S/S2 Frontends (Options)

|  | OPD135-09   |
|--|---|
|  | DVB-S/S2  |
|  | EN 300 421/ EN 302 307  |
| Number of inputs (per frontend)                        | 2   |
| Modulation   | QPSK, 8PSK;<br>16APSK, 32APSK (1 input only)                                |
| Input frequency  | 950 MHz to 2150 MHz   |
| Lock-in range  | ± 5 MHz   |
| Retaining range  | ±12 MHz   |
| Input impedance, connector                             | 75 Ω, F   |
| LNB supply:  |   |
| Voltage (switchable)                                   | 13V / 18V   |
| Current (short-circuit proof)                          | ≤ 500 mA  |
| Input level  | 44 to 84 dBμV   |
| Bandwidth (MHz)  | 36  |
| Symbol rate  | 1 to 50 MS/s (QPSK, 8PSK)<br>1 to 40 MS/s (16APSK)<br>1 to 30 MS/s (32APSK) |
| Lock in range  | ≤ ± 100 ksp/s   |
| Roll off   | 20, 25, 35 %  |
| FEC-Code rates (depending upon the type of modulation) | 1/4; 1/3; 2/5; 1/2; 3/5; 2/3; 3/4; 4/5; 5/6; 8/9; 9/10                      |
| FEC-Frame  | Normal (64800bits), Short (16200bits)                                       |

### TECHNICAL DATA DVB-T/C & DVB-T/T2 Frontends (Options)

|                                 | OPD135-03                             |                                       | OPD135-04                             |
|---------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
|                                 | DVB-T<br>EN 300 744                   | DVB-C<br>EN 300 429                   | DVB-T2<br>EN 300 755                  |
| Number of inputs (per frontend) | 2                                     |                                       |                                       |
| Modulation                      | COFDM, QPSK, 16-QAM, 64-QAM           | 16-, 32-, 64-, 128-, 256-QAM          | COFDM, QPSK, 16-QAM, 64-QAM, 256 QAM  |
| Input frequency                 | 47 to 862 MHz                         |                                       |                                       |
| Input impedance, connector      | 75 Ω, F                               |                                       |                                       |
| Input level                     | -31 to +39 dBμV<br>-80 dBm to -10 dBm | -11 to +39 dBμV<br>-60 dBm to -10 dBm | -31 to +39 dBμV<br>-80 dBm to -10 dBm |
| Bandwidth (MHz)                 | 6/ 7/ 8                               | 2/ 4/ 6/ 7/ 8                         | 6/ 7/ 8                               |
| Symbol rate                     | All for 7 MHz and 8 MHz bandwidth     | 2 Msps ...<br>7 Msps                  | All for 7 MHz and 8 MHz bandwidth     |
| FFT                             | 2k, 8k                                |                                       | 1k, 2k, 4k, 8k<br>16k, 32k            |
| FEC-Code rates                  | 1/2, 2/3, 3/4, 5/6, 7/8               |                                       | 1/2, 3/5, 2/3, 3/4, 4/5, 5/6          |
| Guard Intervall                 | 1/4, 1/8, 1/16,                       |                                       | 1/4, 1/8, 1/16,                       |

### Software Options

#### BLANKOM Antennentechnik GmbH

Hermann-Petersilge-Str. 1  
07422 Bad Blankenburg/Germany  
Tel.: +49(0) 3 67 41/60 0 · Fax: +49(0) 3 67 41/60 100  
info@blankom.de

#### HilKOM Digital GmbH

TecCenter  
31162 Bad Salzdetfurth/Germany  
Phone: +49(0) 50 63/27 11 0  
Fax: +49(0) 50 63/27 11 60

info@hilkom-digital.de

#### IP-Input Streaming (APA135-51 - Type)

Reception of up to 4 MPEG2 transport streams encapsulated in UDP over IP interface

#### IP-GbE-Redundancy (Bundle with SFP-Modul ODP 135-30 - Type)

(SFP module required)  
Redundancy for GbE-SFP-Interface (Switching criteria link-loss, sync-loss)

#### Processing (APA135-59 - Type)

Service- and PID filtering and multiplexing of up to 4 new transport streams out of the input signals according to DVB

#### NDS (APA135-56 - Type)

Due to the NDS Certification procedure NDS decryption is an option.

#### BISS decryption (Option DCA315) by CAM

BISS (Basic Interoperable Scrambling System) Descrambler, 8 Services, Mode 0, Mode 1, BISS-E