

# DMP300

## Multi-module DTV Head-end Processor



**DMP300** Today's new generation digital systems demand powerful, flexible, multipurpose video processing and compact solutions that allow the service provider to support new network architectures.

This 1RU case comes with 6 independent hot-swappable module slots. Each module can be configured individually based on the applications including ISDB-T, DVB-T, DVB-C, ATSC **modulating, trans-coding, encoding, multiplexing, decoding, and descrambling** processing and the combination of all these functions.

This is the next generation of intelligent headend processing equipment where the combination of compactness and flexibility leads to a cost-effective solution. Based on our experience, DMP300 brings operational and economic benefits in Video delivery applications, especially adequate for the new generation CATV system.

### Advantage

- Adopt completely independent module design; enhance the stability of independent work of each module.
- Web management: One NMS port can manage 6 modules simultaneously
- Novel design, convenient for operators to realize true backup and redundancy for one piece of equipment without occupying more space.

### Features

- Support flexible combination of different type of modules
- Support up to 6 modules
- Bi-directional Transport: GE1/GE2. SFP1/SFP2+ for IP stream input and output, Unicast/Multicast
- Doesn't support multiplexing function: It can combine TSs from different modules and output these TSs through one module or GE1/GE2 SFP1/SFP2 port
- Output per module: 1 or Multiple MPTS/SPTS
- LED in the front panel show IP address
- Support Web management, Updates via web
- Single or Redundancy power supply for option

## TECHNICAL SPECIFICATIONS

### 4 CVBS/SDI Encoding Module ENC3143



#### Module Specifications

Input 4 CVBS (DB9 to RCA) or 4 SDI (BNC)  
 Output 1MPTS and 4 SPTS output over UDP/RTP, unicast and multicast

#### Video Encoding

Video format MPEG-2, MPEG4 AVC/H.264  
 Image format PAL, NTSC SD signal (Only for CVBS input)

#### Resolution

Input 720\*576 -50i  
 Output 720\*576/352\*288/320\*240/320\*180/176\*144/160\*120/160\*90-50Hz  
 Input 720\*480 -60i  
 Output 720\*480/352\*288/320\*240/320\*180/176\*144/160\*120/160\*90-60Hz

Rate Control CBR/VBR  
 GOP structure IPPP, IBPBP, IBBPB, IBBBP  
 Video bitrate 0.5~5Mbps

#### Audio Encoding

Audio format MPEG1 Audio Layer 2, LC-AAC, HE-AAC  
 Sampling rate 48KHz  
 Bit-rate 48/56/64/80/96/112/128/160/192/224/256/320/384 Kbps

Support Logo, Caption, QR Code insertion

### 4 CVBS Encoding Module



#### Module Specifications

Input 4 CVBS video, 4 Stereo Audio (DB9 to RCA)  
 Output 1MPTS and 4 SPTS output over UDP/RTP, unicast and multicast

#### Video Encoding

Video format MPEG-2 (4:2:0)  
 Image format PAL, NTSC SD signal

#### Output resolution

720\*480\_60i, 544\*480\_60i, 352\*480\_60i, 352\*240\_60i,  
 320\*240\_60i, 176\*240\_60i, 176\*120\_60i, 720\*576\_50i,  
 704\*576\_50i, 640\*576\_50i, 352\*288\_50i, 320\*288\_50i,  
 176\*288\_50i, 176\*144\_50i  
 GOP structure IP, IBP, IBBP, IBBBP  
 Video bitrate 0.1Mbps~8Mbps per channel  
 CC (closed caption) Support

#### Audio Encoding

Audio format MPEG-1 Layer 2, DD AC3 (2.0)  
 Sampling rate 48KHz  
 Audio bitrate 128/192/256/320/384kbps each channel

Support Logo, Caption, QR Code insertion

### 8 CVBS Encoding Module



#### Module Specifications

Input 8 CVBS video, 8 Stereo Audio (DB15 to RCA), or 8 ch analog audio input to work as audio encoder module  
 Output 1 MPTS and 8 SPTS output over UDP/RTP, unicast and multicast

#### Video Encoding

Video format MPEG4 AVC/H.264  
 Image format PAL, NTSC SD signal  
 Resolution 720\*576i, 720\*480i  
 Rate Control CBR/VBR  
 GOP structure IPP  
 Video bitrate 1~7Mbps each channel

#### Audio Encoding

Audio format MPEG-1 Layer 2  
 Sampling rate 48KHz  
 Bit-rate 64/128/192/224/256/320/384Kbps each channel

Support Logo, Caption, QR Code insertion

### 2 HDMI/SDI Encoding/Transcoding Module



#### Module Specifications

Input 2\*HDMI, 2\*BNC for CC (Closed Caption) input - V1  
 Input 2\*HD/SD SDI - V2  
 Output 1\*MPTS output over UDP, Unicast/Multicast

#### Video Encoding

Video format MPEG2 & MPEG4 AVC/H.264  
 Input resolution 1920\*1080\_60P, 1920\*1080\_50P, 1920\*1080\_60i,  
 1920\*1080\_50i, 1280\*720\_60p, 1280\*720\_50P,  
 720\*480\_60i, 720\*576\_50i

Aspect ratio 16:9, 4:3  
 Video bitrate 0.8~19Mbps  
 Support CC (closed caption)

#### Audio Encoding

Audio format MPEG1 Layer II, MPEG2-AAC, MPEG4-AAC, Dolby Digital AC3 (2.0) encoding (Optional); AC3 (2.0/5.1) passthrough  
 Sampling rate 48KHz  
 Audio bitrate 64Kbps-320kbps each channel

#### Video Transcoding

2\*MPEG2 HD → 2\*MPEG2/H.264 HD; 4\*MPEG2 HD → 4\*MPEG2/H.264 SD;  
 2\*H.264 HD → 2\*MPEG2/H.264 HD; 4\*H.264 HD → 4\*MPEG2/H.264 SD;  
 4\*MPEG2 SD → 4\*MPEG2/H.264 SD; 4\*H.264 SD → 4\*MPEG2/H.264 SD

#### Audio Transcoding

MPEG-1 Layer 2, AC3 (Optional) and AAC any-to-any

### 8 HDMI Encoding Module ENC3281



#### Module Specifications

Input 8\*HDMI  
 Output 1\*MPTS and 8\*SPTS output over UDP/RTP/RTSP, Unicast/Multicast

#### Video Encoding

Video format MPEG-4 AVC/H.264  
 Input resolution 1920×1080\_60P, 1920×1080\_60i, 1920×1080\_50P, 1920×1080\_50i, 1280×720\_60P, 1280×720\_50P, 720×576\_50i, 720×480\_60i,  
 Output resolution 1920×1080\_30P, 1920×1080\_25P, 1280×720\_30P, 1280×720\_25P, 720×576\_25P, 720×480\_30P,  
 GOP structure IP...P (P Frame adjustment, without B Frame)  
 Video Bit-rate 1Mbps~13Mbps each channel  
 Rate Control CBR/VBR

#### Audio Encoding

Audio format MPEG1 Layer II, LC-AAC, HE-AAC and AC3 Pass through, support audio gain adjustment  
 Sampling rate 48 KHz  
**Audio Bit-rate**  
 MPEG-1 Layer 2 48/56/64/80/96/112/128/160/192/224/256/320/384 kbps  
 LC-AAC 48/56/64/80/96/112/128/160/192/224/256/320/384 kbps  
 HE-AAC 48/56/64/80/96/112/128 kbps

Support Logo, Caption, QR Code insertion

### 4 HDMI/SDI Encoding Module ENC3741



#### Module Specifications

Input 4×HDMI (1.4) /SDI input, HDCP 1.4  
 Output 1 MPTS and 4 SPTS output over UDP/RTP/RTSP

#### Video Encoding

Video format HEVC/H.265 & MPEG 4 AVC/H.264

#### Resolution

|                 | Input                      | Output                       |  |
|-----------------|----------------------------|------------------------------|--|
|                 |                            | HEVC/H.265                   | MPEG-4 AVC/H.264                             |
| ENC3741SV1      | 4*1080P-50                 | 4*1080P-50                   | 4*1080P-25<br>2*1080P-50                     |
|                 | 4*1080P-60/59.94           | 4*1080P-60,<br>4*1080P-59.94 | 4*1080P-30                                   |
|                 |                            |                              | 4*1080P-29.97<br>2*1080P-60<br>2*1080P-59.94 |
|                 | 4*1080I-50                 | 4*1080P-50,<br>4*1080P-25    | 4*1080I-50<br>4*1080P-25<br>2*1080P-50       |
|                 | 4*1080I-60/59.94           | 4*1080P-60,<br>4*1080P-30    | 4*1080I-60<br>4*1080P-30<br>2*1080P-60       |
|                 | 4*720P-50                  | 4*720P-50                    | 4*720P-50                                    |
| 4*720P-60/59.94 | 4*720P-60,<br>4*720P-59.94 | 4*720P-60<br>4*720P-59.94    |  |

|                 | Input                      | Output                       |  |
|-----------------|----------------------------|------------------------------|--|
|                 |                            | HEVC/H.265                   | MPEG-4 AVC/H.264                       |
| ENC3741SV2      | 4*1080P-50                 | 4*1080P-50                   | 4*1080P-50                             |
|                 | 4*1080P-60/59.94           | 4*1080P-60,<br>4*1080P-59.94 | 4*1080P-60                             |
|                 |                            |                              | 4*1080P-59.94                          |
|                 | 4*1080I-50                 | 4*1080P-50,<br>4*1080P-25    | 4*1080P-25<br>4*1080P-50<br>4*1080I-50 |
|                 | 4*1080I-60/59.94           | 4*1080P-60,<br>4*1080P-30    | 4*1080P-30<br>4*1080P-60<br>4*1080I-60 |
|                 | 4*720P-50                  | 4*720P-50                    | 4*720P-50                              |
| 4*720P-60/59.94 | 4*720P-60,<br>4*720P-59.94 | 4*720P-60<br>4*720P-59.94    |  |

Chroma 4:2:0  
 Bit rate (each channel) 0.5Mbps~20Mbps (H.265); 4 Mbps~20Mbps (H.264)  
 Rate Control CBR/VBR  
 GOP structure IBBP, IPPP

#### Audio Encoding

Audio format MPEG-1 Layer 2, LC-AAC, HE-AAC, HE-AAC V2, AC3 Passthrough  
 Bit-rate (each channel) 48Kbps~384Kbps (MPEG-1 Layer 2 & LC-AAC);  
 24 Kbps~128 Kbps (HE-AAC); 18 Kbps~56 Kbps (HE-AAC V2)  
 Sampling rate 48KHz  
 Audio Gain adjust Support

Support Logo, QR Code insertion--Optional as per order

### 4 HDMI/SDI Encoding Module ENC3741



#### Module Specifications

Input 4×SDI/HDMI (1.4) input, HDCP 1.4

#### Video Encoding

Video format HEVC/H.265 & MPEG 4 AVC/H.264

#### Resolution

HDMI VI & SDI

| Input            | Output           |                                      |
|------------------|------------------|--------------------------------------|
|                  | HEVC/H.265       | MPEG-4 AVC/H.264                     |
| 4*1080P-50       | 4*1080P-50       | 2*1080P-50                           |
| 4*1080P-60/59.94 | 4*1080P-60/59.94 | 2*1080P-60/59.94                     |
| 4*1080I-50       | 4*1080P-50       | 4*1080I-50<br>2*1080P-50             |
| 4*1080I-60/59.94 | 4*1080P-60/59.94 | 4*1080I-60/59.94<br>2*1080P-60/59.94 |
| 4*720P-50        | 4*720P-50        | 4*720P-50                            |
| 4*720P-60/59.94  | 4*720P-60/59.94  | 4*720P-60/59.94                      |

HDMI V2:

| Input               | Output              |                     |
|---------------------|---------------------|---------------------|
|                     | HEVC/H.265          | MPEG-4 AVC/H.264    |
| 4*2160P_25/30/29.97 | 2*2160P_25/30/29.97 | 1*2160P_25/30/29.97 |
| 4*1080P_50/60/59.94 | 4*1080P_50/60/59.94 | 2*1080P_50/60/59.94 |
| 4*720P_50/60/59.94  | 4*720P_50/60/59.94  | 4*720P_50/60/59.94  |

Chroma 4:2:0  
 Bit rate 0.5Mbps~20Mbps (H.265); 4 Mbps~20Mbps (H.264)  
 Rate Control CBR/VBR  
 GOP structure IBBP, IPPP

#### Audio Encoding

Audio format MPEG-1 Layer 2, LC-AAC, HE-AAC, HE-AAC V2, AC3 Passthrough  
 Sampling rate: 48KHz  
 Bit-rate (each channel) 48Kbps~384Kbps (MPEG-1 Layer 2 & LC-AAC)  
 24 Kbps~128 Kbps (HE-AAC), 18 Kbps~56 Kbps (HE-AAC V2)  
 audio gain adjust Support

Support Logo, QR Code insertion--available on HDMI V1

## 2 Tuner Descrambling Module IRD1340M



|            |  |
|------------|--|
| Stream in  | 2 Tuner input, F Type, 16 IP inputs from data port, UDP/RTP, unicast and multicast, IGMP V2/V3 |
| Stream out | 1 MPTS and 16 SPTS outputs over UDP/RTP/RTSP, Unicast/Multicast                                |
| DVB-CI     | 2 independent common interface slots   |

### Multiplexing

|             |  |
|-------------|--|
| Maximum PID |  |
| Remapping   | 256 output pids  |
| Function    | PID remapping (automatically or manually)<br>Accurate PCR adjust<br>Generate PSI/ SI table automatically |

### Descrambling

|                 |  |
|-----------------|--|
| CAM/CI Quantity | 2  |
| BISS Mode       | Mode 1, Mode E, up to 120Mbps, 32 BISS key |

### Version1: DVB-S/S2/S2X Tuner

|                 |   |
|-----------------|---|
| Stream in       | 2 Tuner input   |
| Tuner input     | DVB-S/S2/S2X  |
| Symbol rate     | QPSK/8PSK/16APSK 0.5~45 Msp/s;<br>8APSK/32APSK: 0.5~40Msp/s |
| Input Frequency | 950-2150MHz   |

### DVB-S

|                  |                         |
|------------------|-------------------------|
| Constellation    | QPSK                    |
| FEC Demodulation | 1/2, 2/3, 3/4, 5/6, 7/8 |

### DVB-S2

|                  |   |
|------------------|---|
| Constellation    | QPSK/8PSK/16APSK/32APSK                 |
| FEC Demodulation |   |
| QPSK             | 1/2, 2/3, 3/4, 5/6, 3/5, 4/5, 8/9, 9/10 |
| 8PSK             | 3/5, 2/3, 3/4, 5/6, 8/9, 9/10           |
| 16APSK           | 2/3, 3/4, 4/5, 5/6, 8/9, 9/10           |
| 32APSK           | 3/4, 4/5, 5/6, 8/9, 9/10                |

### DVB-S2X

|                  |   |
|------------------|---|
| Constellation    | QPSK/8PSK/8APSK/16APSK/32APSK   |
| FEC Demodulation |   |
| QPSK             | 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10, 13/45, 9/20, 11/20   |
| 8PSK             | 3/5, 2/3, 3/4, 5/6, 8/9, 9/10, 23/36, 25/36, 13/18  |
| 8APSK            | 5/9-L, 26/45-L  |
| 16APSK           | 2/3, 3/4, 4/5, 5/6, 8/9, 9/10, 1/2-L, 8/15-L, 5/9-L, 26/45, 3/5, 3/5-L, 28/45, 23/36, 2/3-L, 25/36, 13/18, 7/9, 77/90 |
| 32APSK           | 3/4, 4/5, 5/6, 8/9, 2/3-L, 32/45, 11/15, 7/9, 9/10  |
| Diseqc function  | Support   |

### Version2: DVB-C (J.83 A/C)/J.83B/ DVB-T/DVB-T2/ISDB-T switchable

|             |   |
|-------------|---|
| Stream in   | 4 frequencies input (each RF in interface for 2 frequencies locking), F Type, |
| Tuner input | DVB-C (J.83 A/C)/J.83B/ DVB-T/DVB-T2/ISDB-T switchable                        |

### Standard DVB-C (J.83 A/C); J.83B

|                 |  |
|-----------------|--|
| Input Frequency | 60MHz~890MHz                               |
| Symbol rate     | 1000~9000Ksps                              |
| Constellation   | 16/32/64/128/256 QAM; 64/256 QAM for J.83B |

### Standard DVB-T/T2

|              |                    |
|--------------|--------------------|
| Frequency In | 60MHz~890MHz       |
| Bandwidth    | 5/6/7/8M bandwidth |
| PLP Index    | 0~255 for DVB-T2   |

### Standard ISDB-T

|                 |           |
|-----------------|-----------|
| Input Frequency | 60-890MHz |
|-----------------|-----------|

## 4 FTA Tuner Module



### Module Specifications

|                 |  |
|-----------------|--|
| Stream in       | 4 Tuner input, F Type  |
| Stream out      | 1 MPTS out for mux, 4 MPTS out for 4 tuner input pass through over UDP/RTP/RTSP, unicast/multicast |
| Tuner input     | DVB-S/S2/S2X   |
| Symbol rate     | QPSK/8PSK/16APSK 0.5~45 Msp/s;<br>8APSK/32APSK: 0.5~40Msp/s  |
| Input Frequency | 950-2150MHz  |

### DVB-S

|                  |                         |
|------------------|-------------------------|
| Constellation    | QPSK                    |
| FEC Demodulation | 1/2, 2/3, 3/4, 5/6, 7/8 |

### DVB-S2

|                  |   |
|------------------|---|
| Constellation    | QPSK/8PSK/16APSK/32APSK                 |
| FEC Demodulation |   |
| QPSK             | 1/2, 2/3, 3/4, 5/6, 3/5, 4/5, 8/9, 9/10 |
| 8PSK             | 3/5, 2/3, 3/4, 5/6, 8/9, 9/10           |
| 16APSK           | 2/3, 3/4, 4/5, 5/6, 8/9, 9/10           |
| 32APSK           | 3/4, 4/5, 5/6, 8/9, 9/10                |

### DVB-S2X

|                  |   |
|------------------|---|
| Constellation    | QPSK/8PSK/8APSK/16APSK/32APSK   |
| FEC Demodulation |   |
| QPSK             | 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10, 13/45, 9/20, 11/20   |
| 8PSK             | 3/5, 2/3, 3/4, 5/6, 8/9, 9/10, 23/36, 25/36, 13/18  |
| 8APSK            | 5/9-L, 26/45-L  |
| 16APSK           | 2/3, 3/4, 4/5, 5/6, 8/9, 9/10, 1/2-L, 8/15-L, 5/9-L, 26/45, 3/5, 3/5-L, 28/45, 23/36, 2/3-L, 25/36, 13/18, 7/9, 77/90 |
| 32APSK           | 3/4, 4/5, 5/6, 8/9, 2/3-L, 32/45, 11/15, 7/9, 9/10  |

|                 |         |
|-----------------|---------|
| Diseqc function | Support |
|-----------------|---------|

### Multiplexing

|                            |  |
|----------------------------|--|
| Max number of managing PID | 256  |
| Function                   | PID remapping (automatically/ manually)<br>Accurate PCR adjust<br>PID pass-through |

### Descrambling

|           |  |
|-----------|--|
| BISS Mode | Mode 1, Mode E; up to 120Mbps, 32 BISS Key |
|-----------|--|

### 8 FTA Tuner Module IRD1518S



Stream in 8 Tuner input, F Type,  
Stream out 8 MPTS passthrough out for 8 tuner input, or 2 MPTS out after multiplexing, or 512 SPTS out over UDP/RTP/RTSP, Unicast/Multicast

#### Multiplexing

Maximum PID 256 output pids  
Remapping PID remapping (automatically or manually), Accurate PCR adjusting, Generate PSI/ SI table automatically  
Function

#### Descrambling

BISS Mode Mode 1, Mode E; up to 120Mbps, 32 BISS Key

#### Version1: DVB-S/S2/S2X Tuner

Tuner input DVB-S/S2/S2X  
Symbol rate QPSK/8PSK/16APSK 0.5~45 Msp/s;  
8APSK/32APSK: 0.5~40Msp/s  
Input Frequency 950-2150MHz

#### DVB-S

Constellation QPSK  
FEC Demodulation 1/2, 2/3, 3/4, 5/6, 7/8

#### DVB-S2

Constellation QPSK/8PSK/16APSK/32APSK  
FEC Demodulation QPSK 1/2, 2/3, 3/4, 5/6, 3/5, 4/5, 8/9, 9/10  
8PSK 3/5, 2/3, 3/4, 5/6, 8/9, 9/10  
16APSK 2/3, 3/4, 4/5, 5/6, 8/9, 9/10  
32APSK 3/4, 4/5, 5/6, 8/9, 9/10

#### DVB-S2X

Constellation QPSK/8PSK/8APSK/16APSK/32APSK  
FEC Demodulation QPSK 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10, 13/45, 9/20, 11/20  
8PSK 3/5, 2/3, 3/4, 5/6, 8/9, 9/10, 23/36, 25/36, 13/18  
8APSK 5/9-L, 26/45-L  
16APSK 2/3, 3/4, 4/5, 5/6, 8/9, 9/10, 1/2-L, 8/15-L, 5/9-L, 26/45, 3/5, 3/5-L, 28/45, 23/36, 2/3-L, 25/36, 13/18, 7/9, 77/90  
32APSK 3/4, 4/5, 5/6, 8/9, 2/3-L, 32/45, 11/15, 7/9, 9/10  
Support Diseqc function

#### Version2: DVB-C (J.83 A/C)/J.83B/ DVB-T/DVB-T2/ISDB-T switchable

Tuner input DVB-C (J.83 A/C)/J.83B/ DVB-T/DVB-T2/ISDB-T switchable

#### Standard DVB-C (J.83 A/C); J.83B

Input Frequency 60MHz~890MHz  
Symbol rate 1000~9000Ksps  
Constellation 16/32/64/128/256 QAM; 64/256 QAM for J.83B

#### Standard DVB-T/T2

Frequency In 60MHz~890MHz  
Bandwidth 5/6/7/8M bandwidth  
PLP Index 0~255 for DVB-T2

#### Standard ISDB-T

Input Frequency 60-890MHz

### 2 HD-SDI Decoding Module IRD3745



#### Module Specifications

ASI input/output 2 ASI bi-directions, BNC 75Ω  
IP Stream input support

IP output 1 MPTS output over UDP, Unicast/Multicast

#### Decoding

Video/Audio Out 2 HD/SD SDI output  
Video Format MPEG-2, MPEG-4 AVC/H.264  
Resolution 480i, 480p, 576i, 576p, 720p@50/59.94/60, 1080i@50/59.94/60  
Chroma 4:2:0  
Audio Format MPEG1 Layer2, LC-AAC, HE-AAC, AC3 (2.0/5.1), AC3 Passthrough,  
Support Dual Audio Out  
Support CC/Subtitle

### 4 HDMI Decoding Module IRD3741



#### Module Specifications

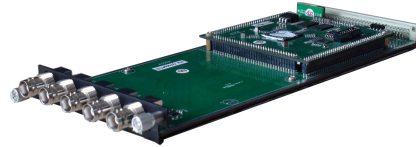
Input 8 IP (MPTS/SPTS) input over UDP/RTP thru stream connector, Unicast/Multicast  
Output 4 HDMI output

#### Decoding

Video/Audio Out 4 HDMI output with 1 channel stereo audio embedded in each port  
Video Format MPEG-2, MPEG-4 AVC/H.264, HEVC/H.265, AVS, AVS+  
Audio Format MPEG 1 Layer 2, LC-AAC, HE-AAC, AC3 (2.0), DRA  
Resolution 480i, 480p, 576i, 576p, 1280×720\_50p, 1280×720\_60p, 1920×1080\_50i, 1920×1080\_50p, 1920×1080\_60i, 1920×1080\_60p

Support manually upscale/downscale resolution

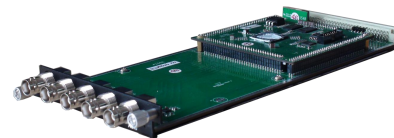
### 5 ASI Multiplexing Module



#### Module Specifications

ASI inputs/outputs 5 ASI bi-direction, BNC 75Ω (manually set input or output)  
IP inputs/outputs the DMP300 chassis (data ports or other modules)  
Stream in maximum 5 ASI input, 256 IP inputs over UDP/RTP thru the DMP300 chassis  
Re-multiplexing PID remapping, PCR correction, generate PSI/ SI table automatically  
Stream out maximum 5 ASI output, 5 MPTS out over UDP/RTP thru the DMP300 chassis

### ASI TS Switch Module



#### Module Specifications

Input 3 ASI  
Output 2 ASI output (output 1 for one of the switch streams out, output 2 for main input stream)  
TS packet 188/204  
Switch Mode Manually/Auto  
Support monitor program status (bitrate, continuous counting, synchronization status)  
Support channel mode and program mode switching  
Support to switch back to the main stream manually or automatically once the main stream recovers

### IP Multiplexing Module DCM760



#### Module Specifications

|                 |  |
|-----------------|--|
| IP input        | 512 SPTS or MPTS input over UDP, RTP, Unicast and Multicast thru GE1 Ethernet Port (100/1000M) |
| Re-multiplexing | PID remapping, PCR correction, generate PSI/ SI table automatically                            |
| Stream Out      | 512 SPTS output over UDP, RTP, Unicast and Multicast through GE2 Ethernet Port (100/1000M)     |

### 4 ASI/IP Multiplexing Module DCM770



#### Module Specifications

|                    |   |
|--------------------|---|
| ASI inputs/outputs | 4 ASI bi-direction, BNC 75Ω (manually set input or output)  |
| IP inputs/outputs  | 2 GE Ports in the module (100/1000Mbps self-adaption) and the DMP300 chassis (data ports or other modules)                      |
| Re-multiplexing    | PID remapping, PCR correction, generate PSI/ SI table automatically   |
| Stream In          | maximum 4 ASI input, 768 IP inputs over UDP/RTP (256 IP inputs thru GE1, GE2 in the module and the DMP300 chassis respectively) |
| Stream Out         | maximum 4 ASI output, 4 MPTS output over UDP/RTP thru GE1, GE2 in the module and thru the DMP300 chassis                        |

### ASI/IP Mux-Scrambler Module DCM771



#### Module Specifications

|                        |   |
|------------------------|---|
| ASI inputs/outputs     | 4 ASI bi-direction, BNC 75Ω   |
| IP inputs/outputs      | 2 Ethernet Port (100/1000M)   |
| Stream connector input |   |
| Re-multiplexing        | PID remapping, PCR correction, generate PSI/ SI table automatically |
| Stream In              | maximum 4 ASI input, 32 IP input per channel over UDP/RTP           |
| Stream Out             | maximum 4 ASI output, 4 IP (MPTS) output over UDP/RTP/RTSP          |

#### Scrambling

|                   |                                    |
|-------------------|------------------------------------|
| Max simulcrypt CA | 4                                  |
| Standard          | ETR289, ETSI 101 197, ETSI 103 197 |
| Connection        | Local/remote connection            |

### 16/32 QAM Modulating Module IPM6000C



#### Module Specifications

|                    |   |
|--------------------|---|
| Data input         | 512*3 IP input over UDP/RTP from 2 GE Ports (RJ45/SFP) and internal stream connector board, unicast/multicast |
| Data output        | 16 or 32 IP output over UDP/RTP/RTSP, unicast/multicast, 2 GE Ports (RJ45/SFP)                                |
| Trans Rate         | Max 840Mbps/GE Port   |
| RF output (F type) | 16/32 channels of multiplexing, scrambling and modulation.  |

#### Multiplexing

|                       |  |
|-----------------------|--|
| Maximum PID Remapping | 256 output pids per channel  |
| Function              | PID remapping (automatically or manually)<br>Accurate PCR adjusting<br>generate PSI/SI table automatically |

#### Scrambling

|                   |                                    |
|-------------------|------------------------------------|
| Max simulcrypt CA | 6                                  |
| Standard          | ETR289, ETSI 101 197, ETSI 103 197 |
| Connection        | Local/remote connection            |

#### Modulation

|                 |  |
|-----------------|--|
| Standard        | EN300 429/ITU-T J.83A/B/C MER: ≥40dB   |
| RF frequency    | 50~960MHz, 1KHz step   |
| RF output level | -20~+10dBm (87~117 dBμV), 0.1dB step for all carriers                              |
| Symbol Rate     | 3600~7200Ksps, 1ksps stepping<br>5057Ksps (J.83B, 64QAM), 5361Ksps (J.83B, 256QAM) |

#### Constellation& Bandwidth

|             |   |
|-------------|---|
| J.83A:      | 16/32/64/128/256QAM, 8M                               |
| J.83B/C:    | 64/256QAM, 6M   |
| IPM6000C-16 | 16 non-adjacent carrier outputs within 192M bandwidth |
| IPM6000C-32 | 32 non-adjacent carrier outputs within 384M bandwidth |

### 48 QAM Modulating Module M60



#### Module Specifications

|             |   |
|-------------|---|
| Data input  | 512*3 IP input over UDP/RTP from 2 GE Ports (RJ45/SFP) and internal stream connector board, unicast/multicast   |
| Data output | 48 IP output over UDP/RTP/RTSP, unicast/multicast, 2 GE Ports (RJ45/SFP), GE1 for IP #1-#24, GE2 for IP #25-#48 |
| Trans Rate  | Max 840Mbps/GE Port   |

#### Multiplexing

|                       |  |
|-----------------------|--|
| Maximum PID Remapping | 256 output PIDs per channel  |
| Function              | PID remapping (automatically or manually)<br>Accurate PCR adjusting<br>generate PSI/SI table automatically |

#### Scrambling

|                   |                                    |
|-------------------|------------------------------------|
| Max simulcrypt CA | 6                                  |
| Standard          | ETR289, ETSI 101 197, ETSI 103 197 |
| Connection        | Local/remote connection            |

#### Modulation

|                 |  |
|-----------------|--|
| Standard        | EN300 429/ITU-T J.83A/B/C  |
| MER             | ≥40dB  |
| RF frequency    | 50~960MHz, 1KHz step   |
| RF output level | -20~+10dBm (87~117 dBμV), 0.1dB step for all carriers                              |
| Symbol Rate     | 3600~7200Ksps, 1ksps stepping<br>5057Ksps (J.83B, 64QAM), 5361Ksps (J.83B, 256QAM) |

#### Constellation& Bandwidth

|           |  |
|-----------|--|
| J.83A:    | 16/32/64/128/256QAM, 8M  |
| J.83B/C:  | 64/256QAM, 6M  |
| RF output | 2 F type output ports for 48 non-adjacent carriers, 75Ω<br>Carrier 1~24 out thru RF1, 25~48 thru RF2,<br>each RF supports 384M bandwidth |

### 8/16 ISDB-Tb Modulating Module IPM6000I



#### Module Specifications

|                    |   |
|--------------------|---|
| Data input         | 512*3 IP input over UDP/RTP from 2 GE Ports (RJ45/SFP) and internal stream connector board, unicast/multicast |
| Data output        | 8/16 IP output over UDP/RTP/RTSP, unicast/multicast, 2 GE Ports (RJ45/SFP)                                    |
| Trans Rate         | Max 840Mbps/GE Port   |
| RF output (F type) | 8/16 channels of multiplexing and modulation.   |

#### Multiplexing

|             |   |
|-------------|---|
| Maximum PID |   |
| Remapping   | 256 input per channel   |
| Function    | PID remapping (automatically or manually)<br>Accurate PCR adjusting<br>generate PSI/ SI table automatically |

#### Modulation

|                   |   |
|-------------------|---|
| Standard          | ARIB STD-B31  |
| Bandwidth         | 6M  |
| Constellation     | QPSK, 16QAM, 64QAM  |
| Guard Interval    | 1/32, 1/16, 1/8, 1/4                                      |
| Transmission Mode | 2K, 4K, 8K  |
| Code rate         | 1/2, 2/3, 3/4, 5/6, 7/8                                   |
| MER               | ≥40dB   |
| RF frequency      | 50~960MHz, 1KHz step                                      |
| RF output level   | -20dBm~+10dBm (87~117dbuV), 0.1dB stepping                |
| RF Output         | 8/16 non-adjacent carrier outputs within 192M bandwidth   |
| IPM6000I-8        | 8 non-adjacent ISDB-T carrier output + 8 IP MPTS output   |
| IPM6000I-16       | 16 non-adjacent ISDB-T carrier output + 16 IP MPTS output |

### 8/16 DVB-T Modulating Module IPM6000T



#### Module Specifications

|             |   |
|-------------|---|
| Data input  | 512*3 IP input over UDP/RTP from 2 GE Ports (RJ45/SFP) and internal stream connector board, unicast/multicast |
| Data output | 8/16 IP output over UDP/RTP/RTSP, unicast/multicast, 2 GE Ports (RJ45/SFP)                                    |
| Trans Rate  | Max 840Mbps/GE Port   |

#### Multiplexing

|                |   |
|----------------|---|
| Channel Number | 8/16 multiplexing channels  |
| Maximum PID    |   |
| Remapping      | 256 input per channel   |
| Function       | PID remapping (automatically or manually)<br>Accurate PCR adjusting<br>generate PSI/ SI table automatically |

#### Modulation

|                    |  |
|--------------------|--|
| Standard           | ETSI EN300 744   |
| MER                | ≥40db  |
| RF Frequency       | 50~960MHz, 1KHz step                                     |
| Constellation      | QPSK/16QAM/64QAM Bandwidth: 6/7/8 MHz                    |
| Trans mode         | 2K/4K/8K   |
| FEC                | 1/2, 2/3, 3/4, 5/6, 7/8                                  |
| RF Output Level    | -20~+10dbm (for all carriers), 0.1dB stepping            |
| RF Output (F type) | 8/16 non-adjacent carrier outputs within 192M bandwidth  |
| IPM6000T-8         | 8 non-adjacent DVB-T carrier output + 8 IP MPTS output   |
| IPM6000T-16        | 16 non-adjacent DVB-T carrier output + 16 IP MPTS output |

### 8 ATSC Modulating Module IPM6000A



#### Module Specifications

|             |   |
|-------------|---|
| Data input  | 512*3 IP input over UDP/RTP from 2 GE Ports (RJ45/SFP) and internal stream connector board, unicast/multicast |
| Data output | 8 IP output over UDP/RTP/RTSP, unicast/multicast, 2 GE Ports (RJ45/SFP)                                       |
| Trans Rate  | Max 840Mbps/GE Port   |

#### Multiplexing

|                |   |
|----------------|---|
| Channel Number | 8 multiplexing channels   |
| Maximum PID    |   |
| Remapping      | 256 input per channel   |
| Function       | PID remapping (automatically or manually)<br>Accurate PCR adjusting<br>generate PSI/ SI table automatically |

#### Modulation

|                    |  |
|--------------------|--|
| Standard           | ATSC A/53  |
| MER                | ≥40db  |
| RF Frequency       | 50~960MHz, 1KHz step                                 |
| Constellation      | 8VSB   |
| Bandwidth          | 6MHz   |
| FEC                | RS(208 188)+Trellis                                  |
| RF Output Level    | -20~+10dbm (for all carriers), 0.1db stepping        |
| RF Output (F Type) | 8 non-adjacent carrier outputs within 192M bandwidth |

#### Equipment Specifications

|                    |   |
|--------------------|---|
| Dimension(W×L×H)   | 482mm×410mm×44mm  |
| Environment        | 0~45℃(work); -20~80℃ (Storage)                            |
| Power requirements | AC 110V± 10%, 50/60Hz, AC 220 ± 10%, 50/60Hz              |
| Power Supply       | Single or Redundancy power supply for option as per order |