



OmniHub 6



OmniHub 6D



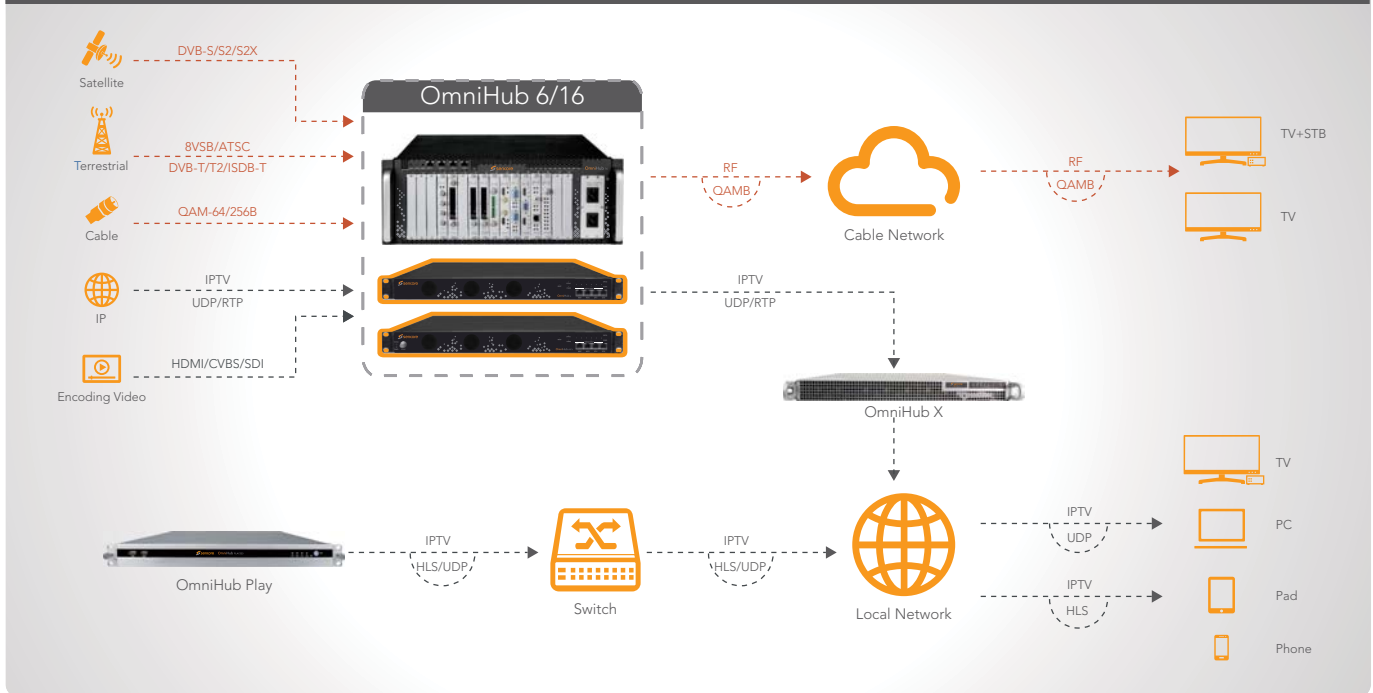
OmniHub 6RFX

## INTRODUCTION

OmniHub 6 is the next generation of modular video processing by Sencore. The chassis comes with a single or dual power supply option and accommodates up to six modules. Using a built-in IP switch and diverse range of hot-swappable input/output options, OmniHub 6 is a highly flexible solution perfect for a variety of applications including Hospitality, Education, Government, MDU, and more. Offering an excellent balance of performance VS value, the Omnihub 6 is ideal for dense multi-channel encoding, signal reception, digital turn around, and simultaneous IPTV + QAM distribution without an excessive price tag. Backed by a US based support team and a intuitive Web-Interface, the OmniHub platform is easy for any organization to deploy and operate.

## APPLICATION

# OmniHub IPTV Solution



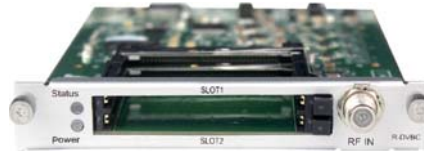
## FEATURES

- 19" 1RU standard rack unit
- Optional dual power supplies (OmniHub 6D)
- Optional 8-CH adjacent QAM/DTMB/OFDM modulation module on front panel (OmniHub 6RFX)
- 4 GbE Ethernet ports on front panel (2 for management, 2 for IP stream in/out)
- Supports 120 IP inputs and 120 IP outputs, SPTS/MPTS
- 6 slots for hot-swappable functional modules on rear panel
- Supports up to 24 HDMI HD encoding
- Supports up to 48 CVBS SD encoding
- Supports reception of up to 24 coax channel frequencies (QAM-B, DVB-S/S2/S2X, 8VSB)
- User-friendly web-interface setup and module upgrades
- Simple installation and easy configuration

| Chassis  |  |
|--|--|
| 1RU with 6 slots for hot-swappable modules         |  |
| Dual redundant power supplies                      |  |
| Service-level multiplexing                         |  |
| 4 x Gigabit RJ45 (embedded):                       |  |
| • MPEG TS over UDP/RTP multicast/unicast SPTS/MPTS |  |
| • Max. 120 inputs and 120 outputs                  |  |

| Physical & Environment        |  |
|-------------------------------|--|
| Input Voltage                 | 100~240 VAC/50-60Hz                                  |
| Power Consumption             | Max. 120W  |
| Chassis Dimension (W x H x D) | 480mm x 44mm x 430mm (18.90" x 1.73" x 16.93"), 1 RU |
| Operating Temperature         | 0°C~50°C (32°F ~ 122°F)                              |
| Storage Temperature           | -10°C~70°C (14°F ~ 174.2°F)                          |
| Operating Humidity            | <95%   |
| MTBF                          | ≥100,000 hours                                       |

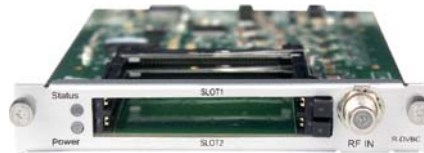
## SPECIFICATIONS



OHR6-DVBC-00

| DVBC-C            |   |
|-------------------|---|
| Input             | 4 channels via 1 RF female connector  |
| CI                | 2 x PCMCIA CI slots   |
| CAM               | Descrambled channel quantity depends on CAM capability, 2 CAMs could be different |
| QAM Mode          | Annex A/C   |
| Frequency Range   | 47~862MHz   |
| Bandwidth         | 6/7/8MHz  |
| Constellation     | 16QAM/32QAM/64QAM/128QAM/256QAM   |
| Symbol Rate       | 3.6~6.952Ms/s   |
| Signal Level      | 40~80dBuV   |
| CA System         | Supports mainstream CAS   |
| Power Consumption | Max. 9.5W   |

| DTMB              |   |
|-------------------|---|
| Input             | 4 channels via 1 RF female connector  |
| CI                | 2 x PCMCIA CI slots   |
| CAM               | Descrambled channel quantity depends on CAM capability, 2 CAMs could be different |
| Modulation Mode   | TDS-OFDM  |
| Frequency Range   | 47~862MHz   |
| Constellation     | 4QAM-NR/4QAM/16QAM/32QAM/64QAM  |
| Signal Level      | -65~-25dm   |
| CA System         | Supports mainstream CAS   |
| Power Consumption | Max. 9.5W   |



OHR6-DVBC-ISDBT-01

| DVBC Annex B      |   |
|-------------------|---|
| Input             | 4 channels via 1 RF female connector  |
| CI                | 2 x PCMCIA CI slots   |
| CAM               | Descrambled channel quantity depends on CAM capability, 2 CAMs could be different |
| QAM Mode          | Annex B   |
| Frequency Range   | 47~862MHz   |
| Bandwidth         | 6MHz  |
| Constellation     | 64QAM, 256QAM   |
| Symbol Rate       | 5.057Ms/s (64QAM)<br>5.360Ms/s (256QAM)   |
| Signal Level      | 40~80dBuV   |
| CA System         | Supports mainstream CAS   |
| Power Consumption | Max. 9.5W   |

| ISDB-T            |   |
|-------------------|---|
| Input             | 4 channels via 1 RF female connector  |
| CI                | 2 x PCMCIA CI slots   |
| CAM               | Descrambled channel quantity depends on CAM capability, 2 CAMs could be different |
| Frequency Range   | 177.143-863.143 MHz   |
| Bandwidth         | 6/7/8MHz  |
| Constellation     | DQPSK, QPSK, 16QAM, 64QAM   |
| FEC               | 1/2, 2/3, 3/4, 5/6, 7/8, Automatic  |
| Signal Level      | -80~-20dBm  |
| CA System         | Supports mainstream CAS   |
| Power Consumption | Max. 9.5W   |

## SPECIFICATIONS



OHR6-DVBS2FTA-00

| DVB-S/S2          |   |
|-------------------|---|
| Input             | C/Ku Band, 4 channels via 4 RF female connectors                                  |
| LNB Power         | Independent power supplies for LNB-1 & LNB-3                                      |
| LNB Voltage       | 13V/18V   |
| LNB Current       | Max. 400mA  |
| Constellation     | QPSK, 8PSK  |
| Frequency Range   | 950~2150MHz   |
| Signal Level      | -70~-20dBm  |
| Roll-off Factor   | 0.15, 0.20, 0.25, 0.35  |
| Symbol Rate       | DVB-S: 1~45MSPS<br>DVB-S2: 1~45MSPS   |
| FEC               | DVB-S: 1/2, 2/3, 3/4, 5/6, 7/8<br>DVB-S2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 |
| Power Consumption | Max. 25W  |



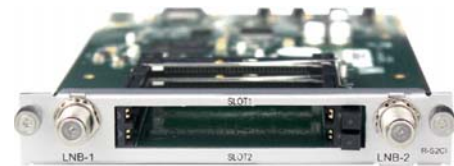
OHR6-DVBS2FTA-01

| DVB-S/S2/S2X      |   |
|-------------------|---|
| Input             | C/Ku Band, 4 channels via 4 RF female connectors  |
| LNB Power         | Independent power supplies for each LNB   |
| LNB Voltage       | 13V/18V   |
| LNB Current       | Max. 400mA  |
| Constellation     | DVB-S: QPSK, 8PSK<br>DVB-S2: QPSK, 8PSK, 16APSK, 32APSK<br>DVB-S2X: QPSK, 8PSK, 16APSK, 32APSK, 64APSK                                      |
| Frequency Range   | 950~2150MHz   |
| Signal Level      | -70~-20dBm  |
| Roll-off Factor   | 0.15, 0.20, 0.25, 0.35  |
| Symbol Rate       | DVB-S: 1~45MSPS<br>DVB-S2: 1~45MSPS<br>DVB-S2X: 1~34 MSPS   |
| FEC               | DVB-S: 1/2, 2/3, 3/4, 5/6, 7/8<br>DVB-S2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10<br>DVB-S2X: 11/15, 7/9, 4/5, 5/6<br>(Normal FEC FECFRAME) |
| Power Consumption | Max. 30W  |



OHR6-DVBS2CI-00

| DVB-S/S2          |  |
|-------------------|--|
| Input             | C/Ku Band, 4 channels via 2 RF female connectors<br>CH1 & CH2 via LNB-1<br>CH3 & CH4 via LNB-2 |
| LNB Power         | Independent power supplies for each LNB  |
| LNB Voltage       | 13V/18V  |
| LNB Current       | Max. 400mA   |
| CI                | 2 x PCMCIA CI slots  |
| CAM               | Descrambled channel quantity depends on CAM capability, 2 CAMs could be different              |
| Constellation     | QPSK, 8PSK   |
| Frequency Range   | 950~2150MHz  |
| Signal Level      | -70~-20dBm   |
| Roll-off Factor   | 0.15, 0.20, 0.25, 0.35   |
| Symbol Rate       | DVB-S: 1~45MSPS<br>DVB-S2: 1~45MSPS  |
| FEC               | DVB-S: 1/2, 2/3, 3/4, 5/6, 7/8<br>DVB-S2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10              |
| CA System         | Supports mainstream CAS  |
| Power Consumption | Max. 22W   |



OHR6-DVBS2CI-01 (Coming soon)

| DVB-S/S2/S2X      |   |
|-------------------|---|
| Input             | C/Ku Band, 4 channels via 2 RF female connectors<br>CH1 & CH2 via LNB-1<br>CH3 & CH4 via LNB-2  |
| LNB Power         | Independent power supplies for each LNB   |
| LNB Voltage       | 13V/18V   |
| LNB Current       | Max. 400mA  |
| CI                | 2 x PCMCIA CI slots   |
| CAM               | Descrambled channel quantity depends on CAM capability, 2 CAMs could be different   |
| Constellation     | DVB-S: QPSK, 8PSK<br>DVB-S2: QPSK, 8PSK, 16APSK, 32APSK<br>DVB-S2X: QPSK, 8PSK, 16APSK, 32APSK, 64APSK                                      |
| Frequency Range   | 950~2150MHz   |
| Signal Level      | -70~-20dBm  |
| Roll-off Factor   | 0.15, 0.20, 0.25, 0.35  |
| Symbol Rate       | DVB-S: 1~45MSPS<br>DVB-S2: 1~45MSPS<br>DVB-S2X: 1~34 MSPS   |
| FEC               | DVB-S: 1/2, 2/3, 3/4, 5/6, 7/8<br>DVB-S2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10<br>DVB-S2X: 11/15, 7/9, 4/5, 5/6<br>(Normal FEC FECFRAME) |
| CA System         | Supports mainstream CAS   |
| Power Consumption | Max. 22W  |

## SPECIFICATIONS



OHR6-DVBS2FTA-00A

| DVB-S/S2          |   |
|-------------------|---|
| Input             | C/Ku Band, 8 channels via 8 RF female connectors                                  |
| LNB Power         | Independent power supplies for LNB-1<br>LNB-3, LNB-5 and LNB-7                    |
| LNB Voltage       | 13V/18V   |
| LNB Current       | Max. 400mA  |
| Constellation     | QPSK, 8PSK  |
| Frequency Range   | 950~2150MHz   |
| Signal Level      | -70~-20dBm  |
| Roll-off Factor   | 0.15, 0.20, 0.25, 0.35  |
| Symbol Rate       | DVB-S: 1~45Msps<br>DVB-S2: 1~45Msps   |
| FEC               | DVB-S: 1/2, 2/3, 3/4, 5/6, 7/8<br>DVB-S2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 |
| Power Consumption | Max. 25W  |



OHR6-DVBS2FTA-01A

| DVB-S/S2/S2X      |   |
|-------------------|---|
| Input             | C/Ku Band, 8 channels via 8 RF female connectors  |
| LNB Power         | Independent power supplies for each LNB   |
| LNB Voltage       | 13V/18V   |
| LNB Current       | Max. 400mA  |
| Constellation     | DVB-S: QPSK, 8PSK<br>DVB-S2: QPSK, 8PSK, 16APSK, 32APSK<br>DVB-S2X: QPSK, 8PSK, 16APSK, 32APSK, 64APSK<br>*DVB-S2X and 64APSK are licensed features |
| Frequency Range   | 950~2150MHz   |
| Signal Level      | -70~-20dBm  |
| Roll-off Factor   | 0.15, 0.20, 0.25, 0.35  |
| Symbol Rate       | DVB-S: 1~45Msps<br>DVB-S2: 1~45Msps<br>DVB-S2X: 1~34 Msps   |
| FEC               | DVB-S: 1/2, 2/3, 3/4, 5/6, 7/8<br>DVB-S2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10<br>DVB-S2X: 11/15, 7/9, 4/5, 5/6<br>(Normal FEC FECFRAME)         |
| Power Consumption | Max. 30W  |



OHR6-DVBT2CI-00

| DVB-T/T2          |  |
|-------------------|--|
| Input             | 4 channels via 1 RF female connector   |
| CI                | 2 x PCMCIA CI slots  |
| CAM               | Descrambled channel quantity depends on CAM capability, 2 CAMs could be different    |
| Frequency Range   | 47~862MHz  |
| Bandwidth         | 6/7/8MHz   |
| Constellation     | DVB-T: QPSK/16QAM/64QAM<br>DVB-T2: QPSK/16QAM/64QAM/256QAM                           |
| Guard Interval    | DVB-T: 1/4, 1/8, 1/16, 1/32<br>DVB-T2: 1/4, 1/8, 1/16, 1/32, 1/128<br>19/256, 19/128 |
| FFT Size          | DVB-T: 2K, 8K<br>DVB-T2: 1K, 2K, 4K, 8K, 16K, 32K                                    |
| Signal Level      | -80~-20dBm   |
| CA System         | Supports mainstream CAS  |
| Power Consumption | Max. 8W  |



OHR6-8VSB-00

| 8VSB              |                                      |
|-------------------|--------------------------------------|
| Input             | 4 channels via 4 RF female connector |
| Frequency Range   | 50~860MHz                            |
| Bandwidth         | 6MHz                                 |
| Modulation        | 8VSB                                 |
| Signal Level      | -80~-20dBm                           |
| Power Consumption | Max. 9.5W                            |

## SPECIFICATIONS



OHP6-CAM-00

| CI                |   |
|-------------------|---|
| Standard          | EN 50221  |
| Interface         | 2 x PCMCIA CI slots   |
| CAM Scrambling    | Support Xcrypt CAMCAS   |
| CAM Descrambling  | Supports mainstream CAS<br>Descrambled channel quantity depends on CAM capability,<br>2 CAMs could be different |
| Power Consumption | Max. 8W   |



OHP6-EIT-00

| EIT multiplexing      |   |
|-----------------------|---|
| Standard              | DVB standard  |
| Inputs                | DVB-S/S2/S2X/T/T2/C/ISDB-T/DTMB/IP  |
| Outputs               | QAM A/C/OFDM/ISDB-T/DTMB/IP   |
| Processing Capability | Re-multiplexing of incoming EPG data<br>32 TS stream input, 16 TS stream output |
| EIT Table Generation  | PID 18 with EIT P/F and EIT Scheduled data                                      |
| TDT/TOT Table         | Pass through to the output TS   |
| Power Consumption     | 4W  |



OHM6-8VSB-R01/R01A

| 8VSB              |   |
|-------------------|---|
| Output            | 4/8 frequencies via 1 RF female connector 75Ω |
| Standard          | ATSC A/35                                     |
| Frequency Range   | 50~860 MHz                                    |
| Bandwidth         | 6MHz  |
| Constellation     | 8VSB  |
| Output Level      | Max. 105dBμV                                  |
| MER               | ≥40dB   |
| Power Consumption | 4CH: Max. 12W; 8CH: Max. 14W                  |



OHM6-OFDM-R01/R01A

| OFDM              |   |
|-------------------|---|
| Output            | 4/8 frequencies via 1 RF female connector 75Ω |
| Standard          | ETSI EN 300744                                |
| Frequency Range   | 47~862MHz                                     |
| Bandwidth         | 8MHz  |
| Constellation     | QPSK/16QAM/64QAM                              |
| Guard Intervals   | 1/4, 1/8, 1/16, 1/32                          |
| FFT Size          | 2K, 8K  |
| Code Rates        | 1/2, 2/3, 3/4, 5/6, 7/8                       |
| Output Level      | Max. 105dBμV                                  |
| MER               | ≥32dB   |
| Power Consumption | 4CH: Max. 23W; 8CH: Max. 27W                  |



## SPECIFICATIONS



OHM6-DTMB-R01/R01A

| DTMB              |   |
|-------------------|---|
| Output            | 4/8 frequencies via 1 RF female connector 75Ω |
| Standard          | DTMB GB20600-2006                             |
| Frequency Range   | 47~862MHz                                     |
| Constellation     | 4QAM-NR/4QAM/16QAM/32QAM/64QAM                |
| Output Level      | Max. 105dBμV                                  |
| MER               | ≥32dB   |
| Power Consumption | 4CH: Max. 23W; 8CH: Max. 27W                  |



OHM6-QAMA-R01/R01A

| QAMA              |   |
|-------------------|---|
| Output            | 4/8 frequencies via 1 RF female connector 75Ω |
| Standard          | ITU-T J.83 Annex A/C                          |
| Frequency Range   | 47~862MHz                                     |
| Bandwidth         | 6/7/8MHz                                      |
| Constellation     | 16QAM/32QAM/64QAM/128QAM/256QAM               |
| Symbol Rate       | 3.6~6.9 Ms/s                                  |
| Output Level      | Max. 105dBμV                                  |
| MER               | ≥32dB   |
| Power Consumption | 4CH: Max. 23W; 8CH: Max. 27W                  |



OHM6-QAMB-R01/R01A

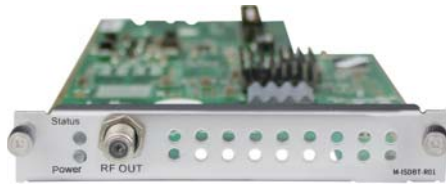
| QAMB              |   |
|-------------------|---|
| Output            | 4/8 frequencies via 1 RF female connector 75Ω |
| Standard          | ITU-T J.83 Annex B                            |
| Frequency Range   | 47~862MHz                                     |
| Bandwidth         | 6/7/8 MHz                                     |
| Constellation     | 64QAM/256QAM                                  |
| Symbol Rate       | 3.6~6.9 Ms/s                                  |
| Output Level      | Max. 105dBμV                                  |
| MER               | ≥32dB   |
| Power Consumption | 4CH: Max. 23W; 8CH: Max. 27W                  |



OHM6-QAMA/B-R00

| QAM               |   |
|-------------------|---|
| Output            | 16 non-adjacent frequencies via 1 RF female connector 75Ω |
| 1 x RJ45          | Reserved for scrambling                                   |
| Standard          | ITU-T J.83 Annex A/B/C                                    |
| Frequency Range   | 47~862MHz   |
| Bandwidth         | 6/7/8MHz  |
| Constellation     | 16QAM/32QAM/64QAM/128QAM/256QAM                           |
| Symbol Rate       | 3.6~6.9Ms/s   |
| Output Level      | Max. 106dBμV  |
| MER               | >40dB   |
| Power Consumption | QAMA: Max. 22W; QAMB: Max. 28W                            |

## SPECIFICATIONS



OHM6-ISDB-T-R01/R01A

| ISDB-T            |  |
|-------------------|--|
| Output            | 4/8 frequencies via 1 RF female connector, 75Ω |
| Standard          | ARIB STD-B31                                   |
| Frequency Range   | 57-860MHz                                      |
| Bandwidth         | 6MHz   |
| Constellation     | QPSK, 16QAM, 64QAM                             |
| Transmission Mode | 2K   |
| RS Code           | RS(204.188)                                    |
| FEC               | 1/2, 2/3, 3/4, 5/6, 7/8                        |
| Guard Interval    | 1/4, 1/8, 1/16, 1/32                           |
| Hierarchy Mode    | Layer A  |
| Segment Mode      | Full Seg                                       |
| Output Level      | Max. 104dBμV                                   |
| MER               | ≥40dB  |
| Power Consumption | 4CH: Max. 23W; 8CH: Max. 27W                   |



OHM6-MOD-02

| IPOAM                 |   |
|-----------------------|---|
| IP input              | 2x100/1000Mbps ports, 1xSFP+/10Gbps port                  |
| IP Encapsulation      | MPEG TS over UDP/RTP                                      |
| MPEG TS               | MPTS and SPTS   |
| I/O Processing        | Up to 512 channels either via 2xGbE input or 10GbE input  |
| Addressing            | Unicast and multicast                                     |
| IGMP Version          | IGMP v2, IGMP v3  |
| QAM Output            |   |
| Output                | 1xRF port, max 32 non-adjacent channels QAM modulation    |
| Standard              | ITU-T J.83 Annex A/C                                      |
| QAM Constellation     | 64/256 QAM, configurable for each frequency               |
| Symbol Rate           | 3.6~7Mbauds   |
| Output Level          | 90dBuV~115dBuV according to modulation frequency quantity |
| Output Range          | 57~858MHz   |
| Bandwidth             | 6/7/8MHz  |
| MER                   | ≥43dB(equalized)  |
| PCR Correction        | Support   |
| Multiplexing          |   |
| Table Supported       | SI/PSI  |
| PID Processing        | Pass-through, remapping, filtering                        |
| EIT Processing        | Pass-through  |
| External Data         | EPG, PID and SI insertion                                 |
| Scrambling            |   |
| Interface             | 1x100/1000 Mbps port                                      |
| Scrambling algorithms | CSA   |
| SCS                   | Internal  |
| CAS Connections       | Up to 4 different CA systems                              |
| Supported CAS         | Support major CA systems                                  |
| Max. TS rate          | 1.6Gbps   |
| EMM Bitrate           | Up to 3Mbps   |



## SPECIFICATIONS



OHE6-HDMI-00

| HDMI                  |   |
|-----------------------|---|
| Input                 | 4 channels via 4 HDMI female connectors (HDMI 1.4)  |
| Video                 | H.264/AVC HD: MP/HP@L4.0<br>SD: MP/HP@L3.0<br>MPEG-2 SD: MP@ML  |
| Resolution            | SD: 576i50, 480i59.94<br>HD: 1080p-25/30/50/59.94/60<br>1080i-50/59.94/60<br>720p-50/60<br>*Output resolution supports up to 1920*1080p30 |
| Bitrate Control       | CBR   |
| Video Bitrate         | 1,000~14,000Kbps  |
| GOP Structure         | IBBP, IPPP, IBP   |
| GOP Size              | 6~63  |
| Aspect Ratio          | Automatic or Manual   |
| Audio                 | MPEG-1 Layer II, AC3 (optional), AAC (optional)   |
| Audio Bitrate         | 32~384Kbps  |
| Audio Mode            | Stereo (2.0, including downmix)   |
| Audio Sampling Rate   | 48kHz   |
| Audio Volume Leveling | -20dB~20dB  |
| Power Consumption     | Max. 12W  |



OHE6-HDMI-02C

| HDMI              |  |
|-------------------|--|
| Input             | 2 channels via 2 HDMI or 2 component Female connectors (HDMI1.4)<br>CC/Component input via DB15 port                             |
| Video             | H.264/AVC HD: MP/HP@L4.0, SD: MP/HP@L3.0<br>MPEG-2 SD: MP @ML HD: MP@HL  |
| Resolution        | SD: 576i50, 480i59.94<br>HD: 1080p-25/30/50/59.94/60<br>1080i-50/60<br>720p-50/60<br>* The maximum output resolution is 1080i60. |
| Bitrate Control   | CBR  |
| Bitrate           | 1,000~18,000Kbps   |
| GOP Structure     | IBBP, IPPP, IBP  |
| GOP Size          | 6~63   |
| Audio             | MPEG-1 Layer II, AC3, AAC  |
| Audio Mode        | Stereo (2.0, including downmix)  |
| Sampling Rate     | 48kHz  |
| Power Consumption | Max. 16W   |



OHE6-HDMI-02

| HDMI              |   |
|-------------------|---|
| Input             | 2 channels via 2 HDMI Female connectors (HDMI1.4)<br>CC via RCA connector   |
| Video             | H.264/AVC HD: MP/HP@L4.0, SD: MP/HP@L3.0<br>MPEG-2 SD: MP @ML HD: MP@HL   |
| Resolution        | SD: 576i50, 480i59.94<br>HD: 1080p-25/30/50/59.94/60<br>1080i-50/60<br>720p-50/60<br>*The maximum output resolution is 1080i60. |
| Bitrate Control   | CBR   |
| Bitrate           | 1,000~18,000Kbps  |
| GOP Structure     | IBBP, IPPP, IBP   |
| GOP Size          | 6~63  |
| Audio             | MPEG-1 Layer II, AC3, AAC   |
| Audio Mode        | Stereo (2.0, including downmix)   |
| Sampling Rate     | 48kHz   |
| Power Consumption | Max. 16W  |



OHE6-SDI-01

| SDI               |  |
|-------------------|--|
| Input             | 2 channels via 2 SDI SDI via BNC connector   |
| Video             | H.264/AVC HD: MP/HP@L4.0, SD: MP/HP@L3.0<br>MPEG-2 SD: MP @ML HD: MP@HL  |
| Resolution        | SD: 576i50, 480i59.94<br>HD: 1080p-25/30/50/59.94/60,<br>1080i-50/60<br>720p-50/60<br>*The maximum output resolution is 1080i60. |
| Bitrate Control   | CBR  |
| Bitrate           | 1,000~18,000Kbps   |
| GOP Structure     | IBBP, IPPP, IBP  |
| GOP Size          | 6~63   |
| Audio             | MPEG-1 Layer II, AC3, AAC  |
| Audio Mode        | Stereo (2.0, including downmix)  |
| Sampling Rate     | 48kHz  |
| Power Consumption | Max. 16W   |

# SPECIFICATIONS



OHE6-HDMI-05

| HEVC                  |   |
|-----------------------|---|
| Input                 | 4 channels via 4 HDMI female connectors (HDMI 1.4)  |
| Video                 | H.264/AVC MP/HP@4.2<br>H.265/HEVC MP@L4.1   |
| Resolution            | HD:<br>1080p-29.97/30/50/59.94/60<br>1080i-29.97/30/50/59.94/60<br>720p-50/59.94/60<br>SD:<br>576i50<br>576p50<br>480i-59.94/60<br>480p-59.94/60<br>*Output supports progressive only |
| Bitrate Control       | CBR   |
| Video Bitrate         | 600~20000 Kbps  |
| GOP Structure         | IPPP  |
| GOP Size              | 1~60  |
| Aspect Ratio          | Automatic or Manual   |
| Audio                 | MPEG-1 Layer II, AC3 (optional), AAC (optional)   |
| Audio Bitrate         | 32~192 Kbps   |
| Audio Mode            | Stereo 2.0  |
| Audio Sampling Rate   | 48kHz   |
| Audio Volume Leveling | -20dB~20dB  |
| OSD Overlay           | Text, Image, QR Code  |
| Power Consumption     | Max. 15W  |



OHE6-HDMI-06

| HEVC                  |   |
|-----------------------|---|
| Input                 | 4 channels via 4 HDMI female connector (HDMI 1.4)   |
| Video                 | H.264/AVC HD: MP/HP@L4.0/4.1/4.2<br>H.265/HEVC HD: MP(High Tier)@L4.0/4.1                                       |
| Resolution            | Input: 1080i-50/59.94/60, 1080P-50/59.94/60,<br>720P-50/59.94/60<br>Output: 1080P-50/59.94/60, 720P-50/59.94/60 |
| Bitrate Control       | CBR   |
| Video Bitrate         | 3-20Mbps  |
| GOP Structure         | IPPP, IBBP  |
| Aspect Ratio          | Automatic or manual (4:3, 16:9)   |
| Audio                 | MPEG-1 Layer II, AC3 (optional), AAC (optional)   |
| Audio Bitrate         | 32~384 Kbps   |
| Audio Mode            | Stereo  |
| Audio Sampling Rate   | 48KHz   |
| Audio Volume Leveling | -20dB~20dB  |
| OSD Overlay           | 2*Logo/QR code overlay (40*40 to 256*256)<br>Or 1*static OSD overlay  |
| Power Consumption     | Max.20W   |



OHE6-HDMI-05A

| HEVC                  |   |
|-----------------------|---|
| Input                 | 8 channels via 8 HDMI female connectors (HDMI 1.4)  |
| Video                 | H.264/AVC MP/HP@4.2<br>H.265/HEVC MP@L4.1   |
| Resolution            | HD: 1080p-29.97/30<br>1080i-29.97/30/50/59.94/60<br>720p-50/59.94/60<br>SD: 576i50<br>576p50<br>480i-59.94/60<br>480p-59.94/60<br>*Output supports progressive only, and resolution supports up to 1080p30. |
| Bitrate Control       | CBR   |
| Video Bitrate         | 600~20000 Kbps  |
| GOP Structure         | IPPP  |
| GOP Size              | 1~60  |
| Aspect Ratio          | Automatic or Manual   |
| Audio                 | MPEG-1 Layer II, AC3 (optional), AAC (optional)   |
| Audio Bitrate         | 32~192 Kbps   |
| Audio Mode            | Stereo 2.0  |
| Audio Sampling Rate   | 48kHz   |
| Audio Volume Leveling | -20dB~20dB  |
| OSD Overlay           | Text, Image, QR Code  |
| Power Consumption     | Max. 20W  |



OHE6-CVBS-03

| CVBS                 |  |
|----------------------|--|
| Interface            | Input 2 channels via 2 CVBS CVBS via BNC connector |
| Video                | H.264/AVC SD: MP/HP@L3.0<br>MPEG-2 SD: MP @ML      |
| Bitrate Control      | CBR  |
| Bitrate              | 1,000~6,000Kbps                                    |
| GOP Structure        | IBBP, IPPP, IBP                                    |
| Audio                | MPEG-1 Layer II                                    |
| GOP Size             | 6~63   |
| Resolution           | SD: 576i50, 480i59.94                              |
| Audio Mode           | Stereo (2.0, including downmix)                    |
| Sampling Rate        | 48kHz  |
| Power Consumption    | Max. 16W   |
| Closed Caption Input | Support  |

# SPECIFICATIONS



OHE6-CVBS-00

| CVBS                  |  |
|-----------------------|--|
| Input                 | 6 channels via 2 DB15 connector each DB15 for 3 channels<br>2 x RCA-DB15 adaptor cables come along with module |
| Video                 | H.264/AVC SD: MP/HP@L3.0<br>MPEG-2 SD: MP@ML   |
| Resolution            | SD: 576i50, 480i59.94  |
| Bitrate Control       | CBR  |
| Bitrate               | 1,000~6,000Kbps  |
| GOP Structure         | IBBP, IPPP, IBP  |
| GOP Size              | 6~63   |
| Aspect Ratio          | Automatic or Manual  |
| Audio                 | MPEG-1 Layer II  |
| Audio Bitrate         | 32~384Kbps   |
| Audio Mode            | Stereo (2.0, including downmix)  |
| Audio Sampling Rate   | 48kHz  |
| Audio Volume Leveling | -20dB~20dB   |
| Power Consumption     | Max. 17W   |

\* Does NOT support PAL-N



OHE6-CVBS-R01

| CVBS                  |   |
|-----------------------|---|
| Input                 | 8 channels via 2 DB15 connectors each DB15 for 4 channels<br>2 x RCA-DB15 adaptor cables come along with module |
| Video                 | H.264/AVC SD: MP/HP@L3.0/3.1/3.2  |
| Resolution            | SD: 576i50, 480i59.94   |
| Bitrate Control       | CBR   |
| Bitrate               | 600~6,000Kbps   |
| GOP Structure         | IPPP  |
| GOP Size              | 1~99  |
| Aspect Ratio          | Automatic or Manual   |
| Audio                 | MPEG-1 Layer II   |
| Audio Bitrate         | 32~384Kbps  |
| Audio Mode            | Stereo (2.0, including downmix)   |
| Audio Sampling Rate   | 48kHz   |
| Audio Volume Leveling | -20dB~20dB  |
| OSD Overlay           | Text, Image, QR Code  |
| Power Consumption     | Max. 11W  |



OHE6-CVBS-R01A

| CVBS                  |   |
|-----------------------|---|
| Input                 | 16 channels via 4 DB15 connectors, each DB15 for 4 channels<br>4 x RCA-DB15 adaptor cables come along with module |
| Video                 | H.264/AVC SD: MP/HP@L3.0/3.1/3.2  |
| Resolution            | SD: 576i50, 480i59.94   |
| Bitrate Control       | CBR   |
| Bitrate               | 1,000~8,000Kbps   |
| GOP Structure         | IPPP  |
| GOP Size              | 1~99  |
| Aspect Ratio          | Automatic or Manual   |
| Audio                 | MPEG-1 Layer II   |
| Audio Bitrate         | 32~384Kbps  |
| Audio Mode            | Stereo (2.0, including downmix)   |
| Sampling Rate         | 48kHz   |
| Audio Volume Leveling | -20dB~20dB  |
| OSD Overlay           | Text, Image, QR Code  |
| Power Consumption     | Max. 18W  |

\* Does NOT support PAL-N



OHP6-EAS-00

| EAS               |   |
|-------------------|---|
| Input             | Digital EAS input (SCTE-18) via 1 x RJ45 port<br>Analogue EAS input via 3PIN contact closure<br>CVBS input via 1 x RCA connector<br>Audio L/R input via 2 x RCA connector<br>TS input via 1 x BNC connector |
| Video             | H.264 SD: MP/HP@L3.0<br>MPEG-2 SD: MP @ML (By default)  |
| Resolution        | SD: 480i59.94   |
| ASI               | 500Kbps to 100Mbps  |
| Contact Closure   | 3PIN Connector with Dry Contact or 5~24V DC input for EAS trigger   |
| RJ45              | 10/100M Ethernet for SCTE-18 digital EAS input  |
| Bitrate Control   | CBR   |
| Bitrate           | 5,00~8,000Kbps  |
| GOP Structure     | IBBP, IPPP, IBP   |
| GOP Size          | 6~63  |
| Audio             | MPEG-1 Layer II, AC3, AAC   |
| Audio Mode        | Stereo (2.0, including downmix)   |
| Sampling Rate     | 48kHz   |
| Power Consumption | Max. 5.5W   |



## INTRODUCTION

The most powerful video headend packed in 4 RU! Perfect for hotels, schools, hospitals, and MDUs yet flexible and feature rich to meet the needs of professional and commercial CATV and IPTV systems.

## POWERFUL & COMPACT

With up to 16 hot-swappable modules, the OmniHub 16 makes it easy to support high-density delivery requirements including receiving, descrambling, encoding, multiplexing and modulating.

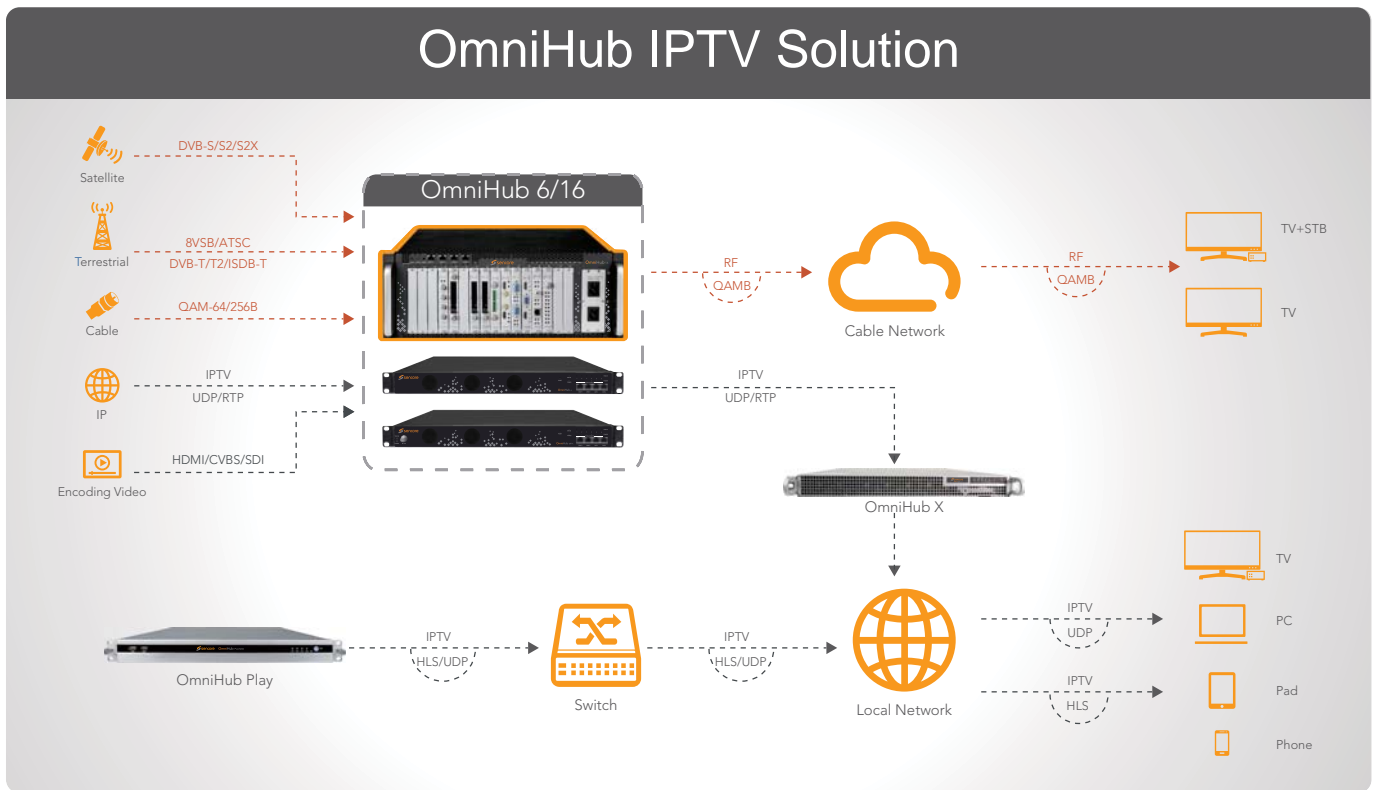
## RELIABLE & ENVIRONMENT FRIENDLY

OmniHub 16 provides service-level monitoring. Combine this with dual power supplies, and you are ready for 24/7 non-stop operation. With this condensed form factor and low power consumption, OmniHub 16 saves more space while lowering operating costs for years to come.

## FEATURES

- Dense design: 4 RU with up to 16 functional modules
- Supports 120 IP inputs and 120 IP outputs, SPTS/MPTS
- Service level multiplexing
- PSI/SI analysis and regeneration
- Low noise design
- Supports reception of up to 64 coax channel frequencies (QAM, DVB-S/S2/S2X, 8VSB and more)
- Up to 64 channels HD encoding (via HDMI inputs)
- Up to 96 channels SD encoding (via CVBS inputs)
- Up to 256 QAM modulated frequency outputs
- Hot-swappable modules
- Service-level monitoring
- Dual redundant power supplies
- Flexible and scalable
- User-friendly web-interface setup and module upgrades
- Low power consumption and high reliability with MTBF (Mean Time Between Failure)  $\geq 100,000$  hours

## APPLICATION



OmniHub 16 is the next generation of modular video processing by Sencore. The chassis comes with dual power supply and accommodates up to sixteen modules. Using a built-in IP switch and diverse range of hot-swappable input/output options, OmniHub 16 is a highly flexible solution perfect for a variety of applications including Hospitality, Education, Government, MDU, and more. Offering an excellent balance of performance VS value, the OmniHub 16 is ideal for dense multi-channel encoding, signal reception, digital turn around, and simultaneous IPTV + QAM distribution without an excessive price tag. Backed by a US based support team and a intuitive Web-Interface, the OmniHub platform is easy for any organization to deploy and operate.

| Chassis  |  |
|--|--|
| 4RU with 16 slots for hot-swappable modules  |  |
| Dual redundant power supplies  |  |
| Service level multiplexing   |  |
| 4 x Gigabit RJ45 (embedded) :  |  |
| <ul style="list-style-type: none"> <li>• MPEG TS over UDP/RTP multicast/unicast</li> <li>• SPTS/MPTS</li> <li>• Max. 120 inputs and 120 outputs</li> </ul> |  |

| Physical & Environment        |  |
|-------------------------------|--|
| Input Voltage                 | 100~240 VAC/50-60Hz                                  |
| Power Consumption             | Max. 350W  |
| Chassis Dimension (W x H x D) | 480mm x 177mm x 345mm (18.90" x 6.97" x 13.58"), 4RU |
| Operating Temperature         | 0°C~50°C (32°F ~ 122°F)                              |
| Storage Temperature           | -10°C~70°C (14°F ~ 174.2°F)                          |
| Operating Humidity            | <95%   |
| MTBF                          | ≥100,000 hours                                       |

## SPECIFICATIONS



OHR-DVBC-00

| DVBC-C            |   |
|-------------------|---|
| Input             | 4 channels via 1 RF female connector  |
| CI                | 2 x PCMCIA CI slots   |
| CAM               | Descrambled channel quantity depends on CAM capability, 2 CAMs could be different |
| QAM Mode          | Annex A/C   |
| Frequency Range   | 47~862MHz   |
| Bandwidth         | 6/7/8MHz  |
| Constellation     | 16QAM/32QAM/64QAM/128QAM/256QAM   |
| Symbol Rate       | 3.6~6.952Ms/s   |
| Signal Level      | 40~80dBuV   |
| CA System         | Supports mainstream CAS   |
| Power Consumption | Max. 9.5W   |

| DTMB              |   |
|-------------------|---|
| Input             | 4 channels via 1 RF female connector  |
| CI                | 2 x PCMCIA CI slots   |
| CAM               | Descrambled channel quantity depends on CAM capability, 2 CAMs could be different |
| Modulation Mode   | TDS-OFDM  |
| Frequency Range   | 47~862MHz   |
| Constellation     | 4QAM-NR/4QAM/16QAM/32QAM/64QAM  |
| Signal Level      | -65~-25dm   |
| CA System         | Supports mainstream CAS   |
| Power Consumption | Max. 9.5W   |



OHR-DVBC-ISDBT-01

| DVBC Annex B      |   |
|-------------------|---|
| Input             | 4 channels via 1 RF female connector  |
| CI                | 2 x PCMCIA CI slots   |
| CAM               | Descrambled channel quantity depends on CAM capability, 2 CAMs could be different |
| QAM Mode          | Annex B   |
| Frequency Range   | 47~862MHz   |
| Bandwidth         | 6MHz  |
| Constellation     | 64QAM, 256QAM   |
| Symbol Rate       | 5.057Ms/s (64QAM)<br>5.360Ms/s (256QAM)   |
| Signal Level      | 40~80dBuV   |
| CA System         | Supports mainstream CAS   |
| Power Consumption | Max. 9.5W   |

| ISDB-T            |   |
|-------------------|---|
| Input             | 4 channels via 1 RF female connector  |
| CI                | 2 x PCMCIA CI slots   |
| CAM               | Descrambled channel quantity depends on CAM capability, 2 CAMs could be different |
| Frequency Range   | 177.143-863.143 MHz   |
| Bandwidth         | 6/7/8MHz  |
| Constellation     | DQPSK, QPSK, 16QAM, 64QAM   |
| FEC               | 1/2, 2/3, 3/4, 5/6, 7/8, Automatic  |
| Signal Level      | -80~-20dBm  |
| CA System         | Supports mainstream CAS   |
| Power Consumption | Max. 9.5W   |



## SPECIFICATIONS



OHR-DVBS2FTA-00

| DVB-S/S2          |   |
|-------------------|---|
| Input             | C/Ku Band, 4 channels via 4 RF female connectors                                  |
| LNB Power         | Independent power supplies for LNB-1 & LNB-3                                      |
| LNB Voltage       | 13V/18V   |
| LNB Current       | Max. 400mA  |
| Constellation     | QPSK, 8PSK  |
| Frequency Range   | 950~2150MHz   |
| Signal Level      | -70~-20dBm  |
| Roll-off Factor   | 0.15, 0.20, 0.25, 0.35  |
| Symbol Rate       | DVB-S: 1~45Msp<br>DVB-S2: 1~45Msp   |
| FEC               | DVB-S: 1/2, 2/3, 3/4, 5/6, 7/8<br>DVB-S2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 |
| Power Consumption | Max. 25W  |



OHR-DVBS2FTA-01

| DVB-S/S2/S2X      |   |
|-------------------|---|
| Input             | C/Ku Band, 4 channels via 4 RF female connectors  |
| LNB Power         | Independent power supplies for each LNB   |
| LNB Voltage       | 13V/18V   |
| LNB Current       | Max. 400mA  |
| Constellation     | DVB-S: QPSK, 8PSK<br>DVB-S2: QPSK, 8PSK, 16APSK, 32APSK<br>DVB-S2X: QPSK, 8PSK, 16APSK, 32APSK, 64APSK                                      |
| Frequency Range   | 950~2150MHz   |
| Signal Level      | -70~-20dBm  |
| Roll-off Factor   | 0.15, 0.20, 0.25, 0.35  |
| Symbol Rate       | DVB-S: 1~45Msp<br>DVB-S2: 1~45Msp<br>DVB-S2X: 1~34 Msp  |
| FEC               | DVB-S: 1/2, 2/3, 3/4, 5/6, 7/8<br>DVB-S2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10<br>DVB-S2X: 11/15, 7/9, 4/5, 5/6<br>(Normal FEC FECFRAME) |
| Power Consumption | Max. 30W  |



OHR-DVBS2CI-00

| DVB-S/S2          |  |
|-------------------|--|
| Input             | C/Ku Band, 4 channels via 2 RF female connectors<br>CH1 & CH2 via LNB-1<br>CH3 & CH4 via LNB-2 |
| LNB Power         | Independent power supplies for each LNB  |
| LNB Voltage       | 13V/18V  |
| LNB Current       | Max. 400mA   |
| CI                | 2 x PCMCIA CI slots  |
| CAM               | Descrambled channel quantity depends on CAM capability, 2 CAMs could be different              |
| Constellation     | QPSK, 8PSK   |
| Frequency Range   | 950~2150MHz  |
| Signal Level      | -70~-20dBm   |
| Roll-off Factor   | 0.15, 0.20, 0.25, 0.35   |
| Symbol Rate       | DVB-S: 1~45Msp<br>DVB-S2: 1~45Msp  |
| FEC               | DVB-S: 1/2, 2/3, 3/4, 5/6, 7/8<br>DVB-S2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10              |
| CA System         | Supports mainstream CAS  |
| Power Consumption | Max. 22W   |



OHR-DVBS2CI-01 (Coming soon)

| DVB-S/S2/S2X      |   |
|-------------------|---|
| Input             | C/Ku Band, 4 channels via 2 RF female connectors<br>CH1 & CH2 via LNB-1<br>CH3 & CH4 via LNB-2  |
| LNB Power         | Independent power supplies for each LNB   |
| LNB Voltage       | 13V/18V   |
| LNB Current       | Max. 400mA  |
| CI                | 2 x PCMCIA CI slots   |
| CAM               | Descrambled channel quantity depends on CAM capability, 2 CAMs could be different   |
| Constellation     | DVB-S: QPSK, 8PSK<br>DVB-S2: QPSK, 8PSK, 16APSK, 32APSK<br>DVB-S2X: QPSK, 8PSK, 16APSK, 32APSK, 64APSK                                      |
| Frequency Range   | 950~2150MHz   |
| Signal Level      | -70~-20dBm  |
| Roll-off Factor   | 0.15, 0.20, 0.25, 0.35  |
| Symbol Rate       | DVB-S: 1~45Msp<br>DVB-S2: 1~45Msp<br>DVB-S2X: 1~34 Msp  |
| FEC               | DVB-S: 1/2, 2/3, 3/4, 5/6, 7/8<br>DVB-S2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10<br>DVB-S2X: 11/15, 7/9, 4/5, 5/6<br>(Normal FEC FECFRAME) |
| CA System         | Supports mainstream CAS   |
| Power Consumption | Max. 22W  |

## SPECIFICATIONS



OHR-DVBS2FTA-00A

| DVB-S/S2          |   |
|-------------------|---|
| Input             | C/Ku Band, 8 channels via 8 RF female connectors                                  |
| LNB Power         | Independent power supplies for LNB-1 LNB-3, LNB-5 and LNB-7                       |
| LNB Voltage       | 13V/18V   |
| LNB Current       | Max. 400mA  |
| Constellation     | QPSK, 8PSK  |
| Frequency Range   | 950~2150MHz   |
| Signal Level      | -70~-20dBm  |
| Roll-off Factor   | 0.15, 0.20, 0.25, 0.35  |
| Symbol Rate       | DVB-S: 1~45Msps<br>DVB-S2: 1~45Msps   |
| FEC               | DVB-S: 1/2, 2/3, 3/4, 5/6, 7/8<br>DVB-S2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 |
| Power Consumption | Max. 25W  |



OHR-DVBS2FTA-01A

| DVB-S/S2/S2X      |   |
|-------------------|---|
| Input             | C/Ku Band, 8 channels via 8 RF female connectors  |
| LNB Power         | Independent power supplies for each LNB   |
| LNB Voltage       | 13V/18V   |
| LNB Current       | Max. 400mA  |
| Constellation     | DVB-S: QPSK, 8PSK<br>DVB-S2: QPSK, 8PSK, 16APSK, 32APSK<br>DVB-S2X: QPSK, 8PSK, 16APSK, 32APSK, 64APSK<br>*DVB-S2X and 64APSK are licensed features |
| Frequency Range   | 950~2150MHz   |
| Signal Level      | -70~-20dBm  |
| Roll-off Factor   | 0.15, 0.20, 0.25, 0.35  |
| Symbol Rate       | DVB-S: 1~45Msps<br>DVB-S2: 1~45Msps<br>DVB-S2X: 1~34 Msps   |
| FEC               | DVB-S: 1/2, 2/3, 3/4, 5/6, 7/8<br>DVB-S2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10<br>DVB-S2X: 11/15, 7/9, 4/5, 5/6<br>(Normal FEC FECFRAME)         |
| Power Consumption | Max. 30W  |



OHR-DVBT2CI-00

| DVB-T/T2          |  |
|-------------------|--|
| Input             | 4 channels via 1 RF female connector   |
| CI                | 2 x PCMCIA CI slots  |
| CAM               | Descrambled channel quantity depends on CAM capability, 2 CAMs could be different    |
| Frequency Range   | 47~862MHz  |
| Bandwidth         | 6/7/8MHz   |
| Constellation     | DVB-T: QPSK/16QAM/64QAM<br>DVB-T2: QPSK/16QAM/64QAM/256QAM                           |
| Guard Interval    | DVB-T: 1/4, 1/8, 1/16, 1/32<br>DVB-T2: 1/4, 1/8, 1/16, 1/32, 1/128<br>19/256, 19/128 |
| FFT Size          | DVB-T: 2K, 8K<br>DVB-T2: 1K, 2K, 4K, 8K, 16K, 32K                                    |
| Signal Level      | -80~-20dBm   |
| CA System         | Supports mainstream CAS  |
| Power Consumption | Max. 8W  |



OHR-8VSB-00

| 8VSB              |                                      |
|-------------------|--------------------------------------|
| Input             | 4 channels via 4 RF female connector |
| Frequency Range   | 50~860MHz                            |
| Bandwidth         | 6MHz                                 |
| Modulation        | 8VSB                                 |
| Signal Level      | -80~-20dBm                           |
| Power Consumption | Max. 9.5W                            |

## SPECIFICATIONS



OHP-CAM-00

| CI                |   |
|-------------------|---|
| Standard          | EN 50221  |
| Interface         | 2 x PCMCIA CI slots   |
| CAM Scrambling    | Support Xcrypt CAMCAS   |
| CAM Descrambling  | Supports mainstream CAS<br>Descrambled channel quantity depends on CAM capability,<br>2 CAMs could be different |
| Power Consumption | Max. 8W   |



OHP-EIT-00

| EIT multiplexing      |   |
|-----------------------|---|
| Standard              | DVB standard  |
| Inputs                | DVB-S/S2/S2X/T/T2/C/ISDB-T/DTMB/IP  |
| Outputs               | QAM A/C/OFDM/ISDB-T/DTMB/IP   |
| Processing Capability | Re-multiplexing of incoming EPG data<br>32 TS stream input, 16 TS stream output |
| EIT Table Generation  | PID 18 with EIT P/F and EIT Scheduled data                                      |
| TDT/TOT Table         | Pass through to the output TS   |
| Power Consumption     | 4W  |



OHM-8VSB-R01/R01A

| 8VSB              |   |
|-------------------|---|
| Output            | 4/8 frequencies via 1 RF female connector 75Ω |
| Standard          | ATSC A/35                                     |
| Frequency Range   | 50~860 MHz                                    |
| Bandwidth         | 6MHz  |
| Constellation     | 8VSB  |
| Output Level      | Max. 105dBμV                                  |
| MER               | ≥40dB   |
| Power Consumption | 4CH: Max. 12W; 8CH: Max. 14W                  |



OHM-OFDM-R01/R01A

| OFDM              |   |
|-------------------|---|
| Output            | 4/8 frequencies via 1 RF female connector 75Ω |
| Standard          | ETSI EN 300744                                |
| Frequency Range   | 47~862MHz                                     |
| Bandwidth         | 8MHz  |
| Constellation     | QPSK/16QAM/64QAM                              |
| Guard Intervals   | 1/4, 1/8, 1/16, 1/32                          |
| FFT Size          | 2K, 8K  |
| Code Rates        | 1/2, 2/3, 3/4, 5/6, 7/8                       |
| Output Level      | Max. 105dBμV                                  |
| MER               | ≥32dB   |
| Power Consumption | 4CH: Max. 23W; 8CH: Max. 27W                  |

## SPECIFICATIONS



OHM-DTMB-R01/R01A

| DTMB              |   |
|-------------------|---|
| Output            | 4/8 frequencies via 1 RF female connector 75Ω |
| Standard          | DTMB GB20600-2006                             |
| Frequency Range   | 47~862MHz                                     |
| Constellation     | 4QAM-NR/4QAM/16QAM/32QAM/64QAM                |
| Output Level      | Max. 105dBμV                                  |
| MER               | ≥32dB   |
| Power Consumption | 4CH: Max. 23W; 8CH: Max. 27W                  |



OHM-QAMA-R01/R01A

| QAMA              |   |
|-------------------|---|
| Output            | 4/8 frequencies via 1 RF female connector 75Ω |
| Standard          | ITU-T J.83 Annex A/C                          |
| Frequency Range   | 47~862MHz                                     |
| Bandwidth         | 6/7/8MHz                                      |
| Constellation     | 16QAM/32QAM/64QAM/128QAM/256QAM               |
| Symbol Rate       | 3.6~6.9 Ms/s                                  |
| Output Level      | Max. 105dBμV                                  |
| MER               | ≥32dB   |
| Power Consumption | 4CH: Max. 23W; 8CH: Max. 27W                  |



OHM-QAMB-R01/R01A

| QAMB              |   |
|-------------------|---|
| Output            | 4/8 frequencies via 1 RF female connector 75Ω |
| Standard          | ITU-T J.83 Annex B                            |
| Frequency Range   | 47~862MHz                                     |
| Bandwidth         | 6/7/8 MHz                                     |
| Constellation     | 64QAM/256QAM                                  |
| Symbol Rate       | 3.6~6.9 Ms/s                                  |
| Output Level      | Max. 105dBμV                                  |
| MER               | ≥32dB   |
| Power Consumption | 4CH: Max. 23W; 8CH: Max. 27W                  |



OHM-QAMA/B-R00

| QAM               |   |
|-------------------|---|
| Output            | 16 non-adjacent frequencies via 1 RF female connector 75Ω |
| 1 x RJ45          | Reserved for scrambling                                   |
| Standard          | ITU-T J.83 Annex A/B/C                                    |
| Frequency Range   | 47~862MHz   |
| Bandwidth         | 6/7/8MHz  |
| Constellation     | 16QAM/32QAM/64QAM/128QAM/256QAM                           |
| Symbol Rate       | 3.6~6.9Ms/s   |
| Output Level      | Max. 106dBμV  |
| MER               | >40dB   |
| Power Consumption | QAMA: Max. 22W; QAMB: Max. 28W                            |

## SPECIFICATIONS



OHM-ISDB-T-R01/R01A

| ISDB-T            |  |
|-------------------|--|
| Output            | 4/8 frequencies via 1 RF female connector, 75Ω |
| Standard          | ARIB STD-B31                                   |
| Frequency Range   | 57-860MHz                                      |
| Bandwidth         | 6MHz   |
| Constellation     | QPSK, 16QAM, 64QAM                             |
| Transmission Mode | 2K   |
| RS Code           | RS(204.188)                                    |
| FEC               | 1/2, 2/3, 3/4, 5/6, 7/8                        |
| Guard Interval    | 1/4, 1/8, 1/16, 1/32                           |
| Hierarchy Mode    | Layer A  |
| Segment Mode      | Full Seg                                       |
| Output Level      | Max. 104dBμV                                   |
| MER               | ≥40dB  |
| Power Consumption | 4CH: Max. 23W; 8CH: Max. 27W                   |



OHM-MOD-02

| IPQAM                 |   |
|-----------------------|---|
| IP input              | 2x100/1000Mbps ports, 1xSFP+/10Gbps port                  |
| IP Encapsulation      | MPEG TS over UDP/RTP                                      |
| MPEG TS               | MPTS and SPTS   |
| I/O Processing        | Up to 512 channels either via 2xGbE input or 10GbE input  |
| Addressing            | Unicast and multicast                                     |
| IGMP Version          | IGMP v2, IGMP v3  |
| QAM Output            |   |
| Output                | 1xRF port, max 32 non-adjacent channels QAM modulation    |
| Standard              | ITU-T J.83 Annex A/C                                      |
| QAM Constellation     | 64/256 QAM, configurable for each frequency               |
| Symbol Rate           | 3.6~7Mbauds   |
| Output Level          | 90dBuV~115dBuV according to modulation frequency quantity |
| Output Range          | 57~858MHz   |
| Bandwidth             | 6/7/8MHz  |
| MER                   | ≥43dB (equalized)   |
| PCR Correction        | Support   |
| Multiplexing          |   |
| Table Supported       | SI/PSI  |
| PID Processing        | Pass-through, remapping, filtering                        |
| EIT Processing        | Pass-through  |
| External Data         | EPG, PID and SI insertion                                 |
| Scrambling            |   |
| Interface             | 1x100/1000 Mbps port                                      |
| Scrambling Algorithms | CSA   |
| SCS                   | Internal  |
| CAS Connections       | Up to 4 different CA systems                              |
| Supported CAS         | Support major CA systems                                  |
| Max. TS rate          | 1.6Gbps   |
| EMM Bitrate           | Up to 3Mbps   |
| Power Consumption     | Max. 45W  |

## SPECIFICATIONS



OHE-HDMI-00

| HDMI                  |   |
|-----------------------|---|
| Input                 | 4 channels via 4 HDMI female connectors (HDMI 1.4)  |
| Video                 | H.264/AVC HD: MP/HP@L4.0<br>SD: MP/HP@L3.0<br>MPEG-2 SD: MP@ML  |
| Resolution            | SD: 576i50, 480i59.94<br>HD: 1080p-25/30/50/59.94/60<br>1080i-50/59.94/60<br>720p-50/60<br>*Output resolution supports up to 1920*1080p30 |
| Bitrate Control       | CBR   |
| Video Bitrate         | 1,000~14,000Kbps  |
| GOP Structure         | IBBP, IPPP, IBP   |
| GOP Size              | 6~63  |
| Aspect Ratio          | Automatic or Manual   |
| Audio                 | MPEG-1 Layer II, AC3 (optional), AAC (optional)   |
| Audio Bitrate         | 32~384Kbps  |
| Audio Mode            | Stereo (2.0, including downmix)   |
| Audio Sampling Rate   | 48kHz   |
| Audio Volume Leveling | -20dB~20dB  |
| Power Consumption     | Max. 12W  |



OHE-HDMI-02C

| HDMI              |  |
|-------------------|--|
| Input             | 2 channels via 2 HDMI or 2 component Female connectors (HDMI1.4)<br>CC/Component input via DB15 port                             |
| Video             | H.264/AVC HD: MP/HP@L4.0, SD: MP/HP@L3.0<br>MPEG-2 SD: MP @ML HD: MP@HL  |
| Resolution        | SD: 576i50, 480i59.94<br>HD: 1080p-25/30/50/59.94/60<br>1080i-50/60<br>720p-50/60<br>* The maximum output resolution is 1080i60. |
| Bitrate Control   | CBR  |
| Bitrate           | 1,000~18,000Kbps   |
| GOP Structure     | IBBP, IPPP, IBP  |
| GOP Size          | 6~63   |
| Audio             | MPEG-1 Layer II, AC3, AAC  |
| Audio Mode        | Stereo (2.0, including downmix)  |
| Sampling Rate     | 48kHz  |
| Power Consumption | Max. 16W   |



OHE-HDMI-02

| HDMI              |   |
|-------------------|---|
| Input             | 2 channels via 2 HDMI Female connectors (HDMI1.4)<br>CC via RCA connector   |
| Video             | H.264/AVC HD: MP/HP@L4.0, SD: MP/HP@L3.0<br>MPEG-2 SD: MP @ML HD: MP@HL   |
| Resolution        | SD: 576i50, 480i59.94<br>HD: 1080p-25/30/50/59.94/60<br>1080i-50/60<br>720p-50/60<br>*The maximum output resolution is 1080i60. |
| Bitrate Control   | CBR   |
| Bitrate           | 1,000~18,000Kbps  |
| GOP Structure     | IBBP, IPPP, IBP   |
| GOP Size          | 6~63  |
| Audio             | MPEG-1 Layer II, AC3, AAC   |
| Audio Mode        | Stereo (2.0, including downmix)   |
| Sampling Rate     | 48kHz   |
| Power Consumption | Max. 16W  |



OHE-SDI-01

| SDI               |  |
|-------------------|--|
| Input             | 2 channels via 2 SDI SDI via BNC connector   |
| Video             | H.264/AVC HD: MP/HP@L4.0, SD: MP/HP@L3.0<br>MPEG-2 SD: MP @ML HD: MP@HL  |
| Resolution        | SD: 576i50, 480i59.94<br>HD: 1080p-25/30/50/59.94/60,<br>1080i-50/60<br>720p-50/60<br>*The maximum output resolution is 1080i60. |
| Bitrate Control   | CBR  |
| Bitrate           | 1,000~18,000Kbps   |
| GOP Structure     | IBBP, IPPP, IBP  |
| GOP Size          | 6~63   |
| Audio             | MPEG-1 Layer II, AC3, AAC  |
| Audio Mode        | Stereo (2.0, including downmix)  |
| Sampling Rate     | 48kHz  |
| Power Consumption | Max. 16W   |



# SPECIFICATIONS



OHE-HDMI-05A

| HEVC                  |   |
|-----------------------|---|
| Input                 | 4 channels via 4 HDMI female connectors (HDMI 1.4)  |
| Video                 | H.264/AVC MP/HP@4.2<br>H.265/HEVC MP@L4.1   |
| Resolution            | HD:<br>1080p-29.97/30/50/59.94/60<br>1080i-29.97/30/50/59.94/60<br>720p-50/59.94/60<br>SD:<br>576i50<br>576p50<br>480i-59.94/60<br>480p-59.94/60<br>*Output supports progressive only |
| Bitrate Control       | CBR   |
| Video Bitrate         | 600~20000 Kbps  |
| GOP Structure         | IPPP  |
| GOP Size              | 1~60  |
| Aspect Ratio          | Automatic or Manual   |
| Audio                 | MPEG-1 Layer II, AC3 (optional), AAC (optional)   |
| Audio Bitrate         | 32~192 Kbps   |
| Audio Mode            | Stereo 2.0  |
| Audio Sampling Rate   | 48kHz   |
| Audio Volume Leveling | -20dB~20dB  |
| OSD Overlay           | Text, Image, QR Code  |
| Power Consumption     | Max. 15W  |



OHE-HDMI-06

| HEVC                  |   |
|-----------------------|---|
| Input                 | 4 channels via 4 HDMI female connector (HDMI 1.4)   |
| Video                 | H.264/AVC HD: MP/HP@L4.0/4.1/4.2<br>H.265/HEVC HD: MP(High Tier)@L4.0/4.1                                       |
| Resolution            | Input: 1080i-50/59.94/60, 1080P-50/59.94/60,<br>720P-50/59.94/60<br>Output: 1080P-50/59.94/60, 720P-50/59.94/60 |
| Bitrate Control       | CBR   |
| Video Bitrate         | 3-20Mbps  |
| GOP Structure         | IPPP, IBBP  |
| Aspect Ratio          | Automatic or manual (4:3, 16:9)   |
| Audio                 | MPEG-1 Layer II, AC3 (optional), AAC (optional)   |
| Audio Bitrate         | 32~384 Kbps   |
| Audio Mode            | Stereo  |
| Audio Sampling Rate   | 48KHz   |
| Audio Volume Leveling | -20dB~20dB  |
| OSD Overlay           | 2*Logo/QR code overlay (40*40 to 256*256)<br>Or 1*static OSD overlay  |
| Power Consumption     | Max.20W   |



OHE-HDMI-05

| HEVC                  |   |
|-----------------------|---|
| Input                 | 8 channels via 8 HDMI female connectors (HDMI 1.4)  |
| Video                 | H.264/AVC MP/HP@4.2<br>H.265/HEVC MP@L4.1   |
| Resolution            | HD: 1080p-29.97/30<br>1080i-29.97/30/50/59.94/60<br>720p-50/59.94/60<br>SD: 576i50<br>576p50<br>480i-59.94/60<br>480p-59.94/60<br>*Output supports progressive only, and resolution supports up to 1080p30. |
| Bitrate Control       | CBR   |
| Video Bitrate         | 600~20000 Kbps  |
| GOP Structure         | IPPP  |
| GOP Size              | 1~60  |
| Aspect Ratio          | Automatic or Manual   |
| Audio                 | MPEG-1 Layer II, AC3 (optional), AAC (optional)   |
| Audio Bitrate         | 32~192 Kbps   |
| Audio Mode            | Stereo 2.0  |
| Audio Sampling Rate   | 48kHz   |
| Audio Volume Leveling | -20dB~20dB  |
| OSD Overlay           | Text, Image, QR Code  |
| Power Consumption     | Max. 20W  |



OHE-CVBS-03

| CVBS                 |  |
|----------------------|--|
| Interface            | Input 2 channels via 2 CVBS CVBS via BNC connector |
| Video                | H.264/AVC SD: MP/HP@L3.0<br>MPEG-2 SD: MP @ML      |
| Bitrate Control      | CBR  |
| Bitrate              | 1,000~6,000Kbps                                    |
| GOP Structure        | IBBP, IPPP, IBP                                    |
| Audio                | MPEG-1 Layer II                                    |
| GOP Size             | 6~63   |
| Resolution           | SD: 576i50, 480i59.94                              |
| Audio Mode           | Stereo (2.0, including downmix)                    |
| Sampling Rate        | 48kHz  |
| Power Consumption    | Max. 16W   |
| Closed Caption Input | Support  |

# SPECIFICATIONS



OHE-CVBS-00

| CVBS                  |  |
|-----------------------|--|
| Input                 | 6 channels via 2 DB15 connector each DB15 for 3 channels<br>2 x RCA-DB15 adaptor cables come along with module |
| Video                 | H.264/AVC SD: MP/HP@L3.0<br>MPEG-2 SD: MP@ML   |
| Resolution            | SD: 576i50, 480i59.94  |
| Bitrate Control       | CBR  |
| Bitrate               | 1,000~6,000Kbps  |
| GOP Structure         | IBBP, IPPP, IBP  |
| GOP Size              | 6~63   |
| Aspect Ratio          | Automatic or Manual  |
| Audio                 | MPEG-1 Layer II  |
| Audio Bitrate         | 32~384Kbps   |
| Audio Mode            | Stereo (2.0, including downmix)  |
| Audio Sampling Rate   | 48kHz  |
| Audio Volume Leveling | -20dB~20dB   |
| Power Consumption     | Max. 17W   |



OHE-CVBS-R01

| CVBS                  |   |
|-----------------------|---|
| Input                 | 8 channels via 2 DB15 connectors each DB15 for 4 channels<br>2 x RCA-DB15 adaptor cables come along with module |
| Video                 | H.264/AVC SD: MP/HP@L3.0/3.1/3.2  |
| Resolution            | SD: 576i50, 480i59.94   |
| Bitrate Control       | CBR   |
| Bitrate               | 600~6,000Kbps   |
| GOP Structure         | IPPP  |
| GOP Size              | 1~99  |
| Aspect Ratio          | Automatic or Manual   |
| Audio                 | MPEG-1 Layer II   |
| Audio Bitrate         | 32~384Kbps  |
| Audio Mode            | Stereo (2.0, including downmix)   |
| Audio Sampling Rate   | 48kHz   |
| Audio Volume Leveling | -20dB~20dB  |
| OSD Overlay           | Text, Image, QR Code  |
| Power Consumption     | Max. 11W  |

\* Does NOT support PAL-N



OHE-CVBS-R01A

| CVBS                  |   |
|-----------------------|---|
| Input                 | 16 channels via 4 DB15 connectors, each DB15 for 4 channels<br>4 x RCA-DB15 adaptor cables come along with module |
| Video                 | H.264/AVC SD: MP/HP@L3.0/3.1/3.2  |
| Resolution            | SD: 576i50, 480i59.94   |
| Bitrate Control       | CBR   |
| Bitrate               | 1,000~8,000Kbps   |
| GOP Structure         | IPPP  |
| GOP Size              | 1~99  |
| Aspect Ratio          | Automatic or Manual   |
| Audio                 | MPEG-1 Layer II   |
| Audio Bitrate         | 32~384Kbps  |
| Audio Mode            | Stereo (2.0, including downmix)   |
| Sampling Rate         | 48kHz   |
| Audio Volume Leveling | -20dB~20dB  |
| OSD Overlay           | Text, Image, QR Code  |
| Power Consumption     | Max. 18W  |

\* Does NOT support PAL-N



OHP-EAS-00

| EAS               |   |
|-------------------|---|
| Input             | Digital EAS input (SCTE-18) via 1 x RJ45 port<br>Analogue EAS input via 3PIN contact closure<br>CVBS input via 1 x RCA connector<br>Audio L/R input via 2 x RCA connector<br>TS input via 1 x BNC connector |
| Video             | H.264 SD: MP/HP@L3.0<br>MPEG-2 SD: MP @ML (By default)  |
| Resolution        | SD: 480i59.94   |
| ASI               | 500Kbps to 100Mbps  |
| Contact Closure   | 3PIN Connector with Dry Contact or 5~24V DC input for EAS trigger   |
| RJ45              | 10/100M Ethernet for SCTE-18 digital EAS input  |
| Bitrate Control   | CBR   |
| Bitrate           | 5,00~8,000Kbps  |
| GOP Structure     | IBBP, IPPP, IBP   |
| GOP Size          | 6~63  |
| Audio             | MPEG-1 Layer II, AC3, AAC   |
| Audio Mode        | Stereo (2.0, including downmix)   |
| Sampling Rate     | 48kHz   |
| Power Consumption | Max. 5.5W   |