

CMP100

Media Platform



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 CMP100 makes it easy to support high-density delivery requirements including receiving, descrambling, encoding, multiplexing and modulating.

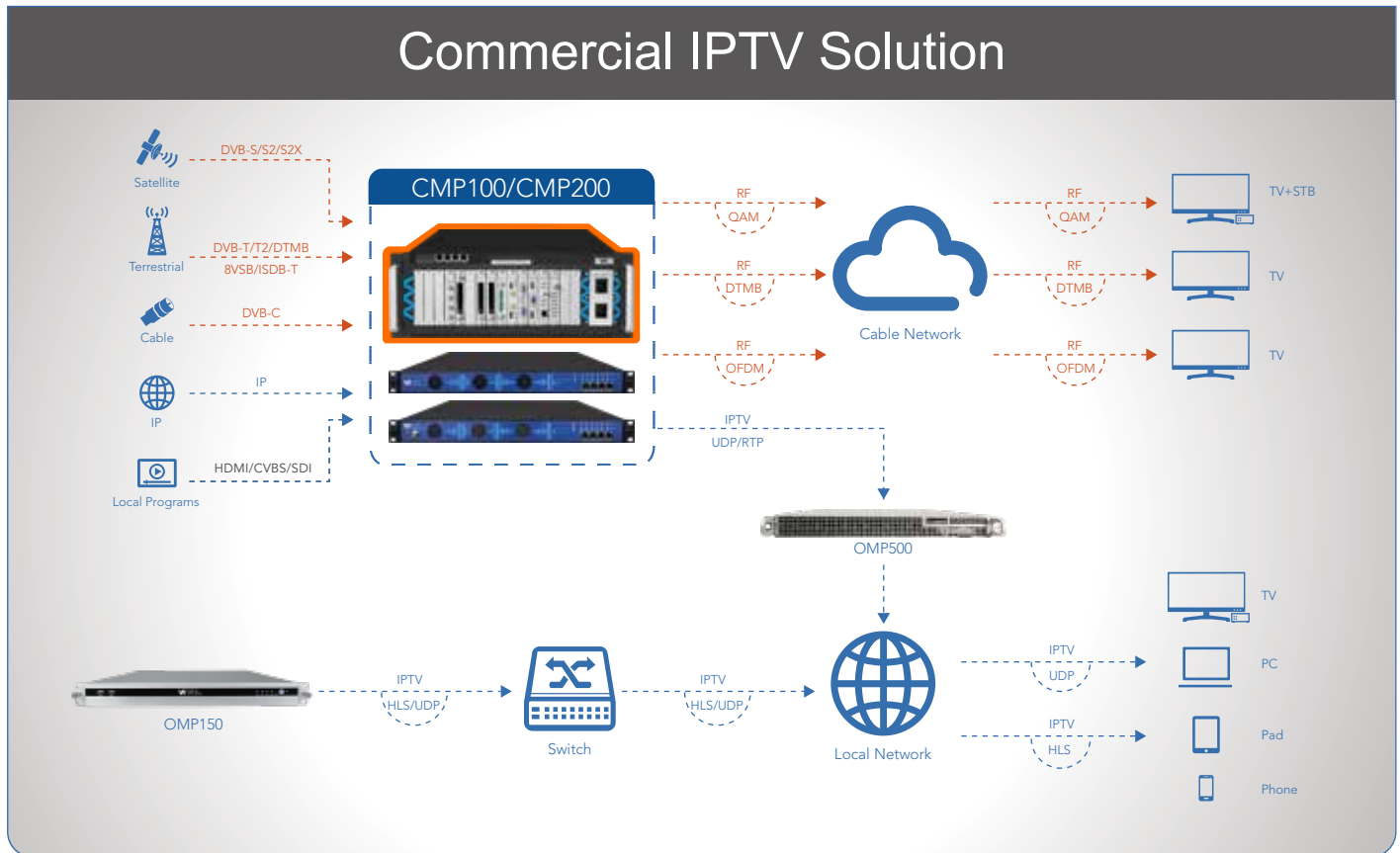
RELIABLE & ENVIRONMENT FRIENDLY

CMP100 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, CMP100 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



CMP100 is the next generation of modular video processing by Wellav. 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, CMP100 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 CMP100 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 worldwide based support team and an intuitive Web-Interface, the CMP100 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"> • 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. 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



CR2-DVBC-00:
DVB-C/DTMB Receiver Module

| DVB-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. 9W |

| 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 |
| Power Consumption | Max. 9W |



CR2-DVBC-01:
DVBC Annex B/ISDB-T Receiver Module

| 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) 5.360Ms/s (256QAM) |
| Signal Level | 40~80dBuV |
| CA System | Supports mainstream CAS |
| Power Consumption | Max. 9W |

| 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 | 6/8MHz |
| 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. 9W |



CR2-DVBS2FTA-01:
DVB-S/S2/S2X FTA Receiver Module

| 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 DVB-S2: QPSK, 8PSK, 16APSK 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 DVB-S2: 1~45Msps DVB-S2X: 1~34 Msps |
| FEC | DVB-S: 1/2, 2/3, 3/4, 5/6, 7/8 DVB-S2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 DVB-S2X: 11/15, 7/9, 4/5, 5/6 (Normal FEC FECFRAME) |
| Power Consumption | Max. 38W |



CR2-DVBS2FTA-01A
DVB-S/S2/S2X FTA Receiver Module

| 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 DVB-S2: QPSK, 8PSK, 16APSK, 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 DVB-S2: 1~45Msps DVB-S2X: 1~34 Msps |
| FEC | DVB-S: 1/2, 2/3, 3/4, 5/6, 7/8 DVB-S2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 DVB-S2X: 11/15, 7/9, 4/5, 5/6 (Normal FEC FECFRAME) |
| Power Consumption | Max. 70W |



CR2-DVBS2CI-01:
DVB-S/S2/S2X with CI Receiver Module

| DVB-S/S2/S2X | |
|-------------------|---|
| Input | C/Ku Band, 4 channels via 2 RF female connectors CH1 & CH2 via LNB-1, CH3 & CH4 via LNB-2 |
| LNB Power | CH1 & CH2 share LNB-1, CH3 & CH4 share LNB-2 |
| 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 DVB-S2: QPSK, 8PSK, 16APSK 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 DVB-S2: 1~45Msps DVB-S2X: 1~34 Msps |
| FEC | DVB-S: 1/2, 2/3, 3/4, 5/6, 7/8 DVB-S2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 DVB-S2X: 11/15, 7/9, 4/5, 5/6 (Normal FEC FECFRAME) |
| CA System | Supports mainstream CAS |
| Power Consumption | Max. 22W |



CR2-DVBT2CI-00:
DVB-T/T2 with CI Receiver Module

| 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 DVB-T2: QPSK/16QAM/64QAM |
| Guard Interval | DVB-T: 1/4, 1/8, 1/16, 1/32 DVB-T2: 1/128 |
| FFT Size | DVB-T: 2K, 8K DVB-T2: 8K, 16K, 32K |
| Signal Level | -80~-20dBm |
| CA System | Supports mainstream CAS |
| Power Consumption | Max. 8W |



CR2-8VSB-00:
8VSB Receiver Module

| 8VSB | |
|-------------------|--|
| Input | 4 channels via 4 RF female connector |
| Frequency Range | Off-Air:57MHz - 803MHz; STD: 57MHz - 816MHz; IRC: 57MHz - 816MHz; HRC:55.75MHz - 859.75MHz |
| Bandwidth | 6MHz |
| Modulation | 8VSB |
| Signal Level | -80~-20dBm |
| Power Consumption | Max. 9.5W |



CP2-CAM-00:
CI Scrambler/Descrambler module

| CI | |
|-------------------|---|
| Standard | EN 50221 |
| Interface | 2 x PCMCIA CI slots |
| CAM Scrambling | Support Xcrypt CAMCAS |
| CAM Descrambling | Supports mainstream CAS Descrambled channel quantity depends on CAM capability, 2 CAMs could be different |
| Power Consumption | Max. 6W |



CP2-EIT-00
Processing Module

| Encoding | |
|--------------------------------------|---|
| Input | DVB-S/S2/S2X/T/T2/C/ISDB-T/DTMB/IP |
| Output | QAM/OFDM/ISDB-T/DTMB/IP |
| Standard | DVB standard |
| Processing Capability | 32 TS stream input, 16 TS stream output Up to 100 services depending on the EIT complexity of signal source |
| Content Processing | Automatic update for Original Network ID, TS ID and Service ID |
| EIT Table Generation | EIT table with PID 18 will be generated after the processing |
| TDT/TOT Table | TDT/TOT table with PID 20 will be passed through to the output |
| EIT Enable/Disable Control | Module Level, TS Level, Service Level |
| Supported EIT Module in Each Chassis | 1 |
| Status Display | Service name and service list Signal source and output module EIT multiplexing success/failure display at service level |
| Configuration | Configuration can be exported and imported to the module |
| Software Upgrade | Web-based software upgrade |
| Log | Support Enable/Disable control, Live logging and log file export |
| License | License control is available for authorization time control |
| Power Consumption | Max. 5W |



CM2-8VSB-R01/R01A:
8VSB Modulation Module

| 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 |



CM2-DTMB-R01/R01A:
DTMB Modulation Module

| DTMB | |
|-------------------|---|
| Output | 4/8 frequencies via 1 RF female connector 75Ω |
| Standard | DTMB GB20600-2006 |
| Frequency Range | 47~862MHz |
| Constellation | 4QAM/16QAM/32QAM/64QAM |
| Output Level | Max. 105dBμV |
| MER | ≥32dB |
| Power Consumption | 4CH: Max. 12W; 8CH: Max. 14W |



CM2-OFDM-R01/R01A:
OFDM Modulation Module

| OFDM | |
|-------------------|---|
| Output | 4/8 frequencies via 1 RF female connector 75Ω |
| Standard | ETSI EN 300744 |
| Frequency Range | 47~862MHz |
| Bandwidth | 6/7/8MHz |
| Constellation | QPSK/16QAM/64QAM |
| Guard Intervals | 1/4, 1/8, 1/16, 1/32 |
| FFT Size | 2K |
| Code Rates | 1/2, 2/3, 3/4, 5/6, 7/8 |
| Output Level | Max. 105dBμV |
| MER | ≥32dB |
| Power Consumption | 4CH: Max. 12W; 8CH: Max. 14W |



CM2-QAMB-R01/R01A:
QAMB Modulation Module

| QAMB | |
|-------------------|---|
| Output | 4/8 frequencies via 1 RF female connector 75Ω |
| Standard | ITU-T J.83 Annex B |
| Frequency Range | 48~862MHz |
| Bandwidth | 6/8MHz |
| Constellation | 64QAM/256QAM |
| Symbol Rate | 5.057 Ms/s (64QAM), 5.360 Ms/s (256QAM) |
| Output Level | Max. 105dBμV |
| MER | ≥40dB |
| Power Consumption | 4CH: Max. 12W; 8CH: Max. 14W |



CM2-QAMA-R01/R01A:
QAMA Modulation Module

| 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 | 4.035~6.9 Ms/s |
| Output Level | Max. 105dBμV |
| MER | ≥32dB |
| Power Consumption | 4CH: Max. 12W; 8CH: Max. 14W |



CM2-ISDB-T-R01/R01A:
ISDB-T Modulation Module

| ISDB-T | |
|-------------------|--|
| Output | 4/8 frequencies via 1 RF female connector, 75Ω |
| Standard | ARIB STD-B31 |
| Frequency Range | 47~862MHz |
| 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. 12W; 8CH: Max. 14W |



CM2-QAMA-02/02A
IQAM Module

| IQAM | |
|-----------------------|---|
| IP input | 2x100/1000Mbps ports |
| IP Encapsulation | MPEG TS over UDP/RTP |
| MPEG TS | MPTS and SPTS |
| I/O Processing | Up to 512 channels either via 2xGbE input |
| Addressing | Unicast and multicast |
| IGMP Version | IGMP v2, IGMP v3 |
| QAM Output | |
| Output | 1xRF port, max 16/32 agile channels QAM modulation |
| Standard | ITU-T J.83 Annex A/B/C |
| QAM Constellation | 64/256 QAM, configurable for each frequency |
| Symbol Rate | 3.6~6.956Mbauds |
| Output Level | 90dBuV~115dBuV according to modulation frequency quantity |
| Output Range | 47~862MHz |
| 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 |



CM2-QAMA/B-R00:
QAM Modulation Module

| QAM | |
|-------------------|---|
| Output | 16 agile frequencies via 1 RF female connector 75Ω |
| 1 x RJ45 | Reserved for scrambling |
| Standard | ITU-T J.83 Annex A/B |
| Frequency Range | 47~862MHz |
| Bandwidth | Annex A: 6/7/8MHz Annex B: 6MHz |
| Constellation | Annex A: 16QAM/32QAM/64QAM/128QAM/256QAM Annex B: 64QAM/256QAM |
| Symbol Rate | Annex A: 4.4~6.9Ms/s Annex B: 5.056Mbauds(64QAM), 5.361Mbauds(256QAM) |
| Output Level | Max. 105dBμV |
| MER | >40dB |
| Power Consumption | Max .21W |



CM2-QAMA-03
QAM Modulation Module

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



CM2-OFDM-03
OFDM Modulation Module

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



CM2-ISDBT-03
ISDBT Modulation Module

| ISDB-T | |
|-------------------|---|
| Output | 8 frequencies via 1 RF female connector 75Ω |
| Standard | ETSI EN 300744 |
| Frequency Range | 47~862MHz, non adjacent |
| Bandwidth | 6MHz |
| Constellation | QPSK/16QAM/64QAM |
| Guard Intervals | 1/4, 1/8, 1/16, 1/32 |
| Transmission Mode | 2K |
| Code Rates | 1/2, 2/3, 3/4, 5/6, 7/8 |
| Output Level | Max .105dBuV |
| MER | ≥40dB |
| Power Consumption | Max. 23W |



CM2-DTMB-03
DTMB Modulation Module

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



CM2-QAMB-03
QAMB Modulation Module

| QAMB | |
|-------------------|---|
| Output | 8 frequencies via 1 RF female connector 75Ω |
| Standard | ITU-T J.83 Annex B |
| Frequency Range | 47~862MHz, non adjacent |
| Bandwidth | 6/7/8 MHz |
| Constellation | 64QAM/256QAM |
| Symbol Rate | 5.057MBaud: 64QAM 5.361MBaud: 256QAM |
| Output Level | Max. 108dBμV |
| MER | ≥40dB |
| Power Consumption | Max. 23W |



CE2-HDMI-R01:
Commercial HDMI Encoder Module

| HDMI | |
|-----------------------|--|
| Input | 4 channels via 4 HDMI female connectors (HDMI 1.4) |
| Video | H.264/AVC HD: MP/HP@L4.2 (1080P) H.264/AVC HD: MP/HP@L3.1(720P) SD: MP/HP@L3.0 (480/576) |
| Resolution | Input: 1080p@25/29.97/30/50/59.94/60, 1080i@50/59.94/60, 720p@50/59.94/60, 720x576i, 720x480i Output: 1080p@29.97/30, 720p@50/59.94/60, 720x576i, 720x480i *Output resolution supports up to 1920*1080p30 |
| Bitrate Control | CBR |
| Video Bitrate | 600~12,000Kbps |
| GOP Structure | IPPP |
| GOP Size | 1~60 |
| Aspect Ratio | Automatic or Manual |
| Audio | MPEG-1 Layer II, AC3 (optional), AAC (optional) |
| Audio Bitrate | 96~192Kbps |
| Audio Mode | Stereo (2.0, including downmix) |
| Audio Sampling Rate | 48kHz |
| Audio Volume Leveling | -20dB~20dB |
| Power Consumption | Max. 12W |



CE2-HDMI-02:
HDMI Encoder Module with CC

| HDMI | |
|-------------------|---|
| Input | 2 channels via 2 HDMI Female connectors (HDMI1.4) CC via RCA connector |
| Video | H.264/AVC HD: MP/HP@L4.0, SD: MP/HP@L3.0 MPEG-2 SD: MP @ML HD: MP@HL |
| Resolution | Input: 1080p@25/29.97/30/50/59.94/60, 1080i@50/59.94/6, 720p@50/59.94/60, 720x576@50i, 720x480@60i Output: 1080p@29.97/30, 1080i@50/59.94/60, 720p@50/59.94/60, 720x576@50i/25p, 720x480@60i/30p *The maximum output resolution is 1080i60. |
| Bitrate Control | CBR |
| Bitrate | 800~18,000Kbps |
| GOP Structure | IBBP, IPPP, IBP |
| GOP Size | 18~48 |
| Audio | MPEG-1 Layer II, AC3, AAC |
| Audio Mode | Stereo (2.0, including downmix) |
| Sampling Rate | 48kHz |
| Power Consumption | Max. 17W |



CE2-HDMI-02C:
HDMI Encoder Module with YPbPr/CC

| HDMI | |
|-------------------|---|
| Input | 2 channels via 2 HDMI or 2 component Female connectors (HDMI1.4) CC/Component input via DB15 port |
| Video | H.264/AVC HD: MP/HP@L4.0, SD: MP/HP@L3.0 MPEG-2 SD: MP @ML HD: MP@HL |
| Resolution | Input: 1080p@25/29.97/30/50/59.94/60, 1080i@50/59.94/6, 720p@50/59.94/60, 720x576@50i, 720x480@60i Output: 1080p@29.97/30, 1080i@50/59.94/60, 720p@50/59.94/60, 720x576@50i/25p, 720x480@60i/30p *The maximum output resolution is 1080i60. |
| Bitrate Control | CBR |
| Bitrate | 800~18,000Kbps |
| GOP Structure | IBBP, IPPP, IBP |
| GOP Size | 18~48 |
| Audio | MPEG-1 Layer II, AC3, AAC |
| Audio Mode | Stereo (2.0, including downmix) |
| Sampling Rate | 48kHz |
| Power Consumption | Max. 17W |



CE2-HDMI-R05
HEVC HDMI Encoder Module (4-CH)

| HDMI | |
|-----------------------|--|
| Input | 4 channels via 4 HDMI female connectors (HDMI 1.4) |
| Video | H.264/AVC MP/HP@4.1 (1080P) H.264/AVC MP/HP3.1 (720P) H.265/HEVC MP@L4.1 (1080P) H.265/HEVC MP@L3.1 (720P) |
| Resolution | HD: 1080p-29.97/30/50/59.94/60, 1080i-29.97/30/50/59.94/60, 720p-50/59.94/60 SD: 576i50, 576p50, 480i-59.94/60 *Output supports progressive only |
| Bitrate Control | CBR |
| Video Bitrate | 600~10000 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. 19W |



CE2-HDMI-05A:
HEVC HDMI Encoder Module (8-CH)

| HEVC | |
|-----------------------|---|
| Input | 8 channels via 8 HDMI female connectors (HDMI 1.4) |
| Video | H.264/AVC MP/HP@3.1 (720P) H.265/HEVC MP@L3.1 (720P) H.264 MP/HP@L4.2 (1080P) H.265/HEVC MP@L4.1 (1080P) |
| Resolution | HD: 1080p-29.97/30, 1080i-29.97/30/50/59.94/60 720p-50/59.94/60 SD: 576i50, 576p50, 480i-59.94/60, 480p-59.94/60 *Output supports progressive only, and resolution supports up to 1080p30. |
| Bitrate Control | CBR |
| Video Bitrate | 600~10000 Kbps |
| GOP Structure | IPPP |
| GOP Size | 1~60 |
| Aspect Ratio | Automatic or Manual |
| Audio | MPEG-1 Layer II, AC3 (optional), AAC (optional) |
| Audio Bitrate | 96~192 kbps |
| Audio Mode | Stereo 2.0 |
| Audio Sampling Rate | 48kHz |
| Audio Volume Leveling | -20dB~20dB |
| OSD Overlay | Text, Image, QR Code |
| Power Consumption | Max. 21W |



CE2-SDI-01:
SDI Encoder Module

| 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 MPEG-2 SD: MP @ML HD: MP@HL |
| Resolution | SD: 576i50, 480i59.94 HD: 1080p@25/29.97/30, 1080i@50/59.94/60, 720p-50/60 *The maximum output resolution is 1080i60. |
| Bitrate Control | CBR |
| Bitrate | 800~18,000Kbps |
| GOP Structure | IBBP, IPPP, IBP |
| GOP Size | 6~63 |
| Audio | MPEG-1 Layer II, AC3, AAC |
| Audio Mode | Stereo (2.0, including downmix) |
| Audio Channel | 2 x audio pairs for each channel |
| Sampling Rate | 48kHz |
| Power Consumption | Max. 16W |



CE2-HDMI-06
Professional HDMI Encoder Module

| HEVC | |
|-----------------------|--|
| Input | 4 channels via 4 HDMI female connector (HDMI 1.4) |
| Video | H.264/AVC HD: MP/HP@ L4.0/4.1/4.2/5.0/5.1/5.2 H.265/HEVC HD: MP (High Tier) @L4.0/4.1/4.2/5.0/5.1/5.2 |
| Resolution | Input: 1080i-50/59.94/60, 1080P-25/29.97/30/50/59.94/60, 720P-50/59.94/60 Output: 1080P-25/29.97/30/50/59.94/60, 720P-50/59.94/60 |
| Bitrate Control | CBR |
| Video Bitrate | 600Kbps-12Mbps |
| GOP Structure | IPPP, IBBP |
| Aspect Ratio | 16:9 |
| Audio | MPEG-1 Layer II, AC3 (optional), AAC (optional) |
| Audio Bitrate | 32~192 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) Or 1*static OSD overlay |
| Power Consumption | Max.20W |

Notes: CE2-HDMI-06 will forcefully output 4 HD programs with same video resolution which follows the largest video resolution among the input source and SD encoding is not supported yet.



CE2-CVBS-00:
Professional CVBS Encoder Module

| CVBS | |
|-----------------------|--|
| Input | 6 channels via 2 DB15 connector each DB15 for 3 channels 2 x RCA-DB15 adaptor cables come along with module |
| Video | H.264/AVC SD: MP/HP@L3.0 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 | 15 |
| Aspect Ratio | Automatic or Manual |
| Audio | MPEG-1 Layer II |
| Audio Bitrate | 64~384Kbps |
| Audio Mode | Stereo (2.0, including downmix) |
| Audio Sampling Rate | 48kHz |
| Audio Volume Leveling | 0dB~8dB |
| Power Consumption | Max. 17W |



CE2-CVBS-R01:
Commercial CVBS Encoder Module

| CVBS | |
|-----------------------|---|
| Input | 8 channels via 2 DB15 connectors, each DB15 for 4 channels 4 x RCA-DB15 adaptor cables come along with module |
| Video | H.264/AVC SD: MP/HP@L3.0 |
| Resolution | SD: 576i50, 480i59.94 |
| Bitrate Control | CBR |
| Bitrate | 1,000~8,000Kbps |
| GOP Structure | IPPP |
| GOP Size | 1~60 |
| Aspect Ratio | Automatic or Manual |
| Audio | MPEG-1 Layer II |
| Audio Bitrate | 32~192Kbps |
| 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



CE2-CVBS-03
CVBS Encoder Module

| CVBS | |
|----------------------|--|
| Interface | Input 2 channels via 2 CVBS CVBS via BNC connector |
| Video | H.264: High/Main/Baseline/2.2-4.2 |
| Resolution | 720x576@50i、720x480@60i |
| Bitrate Control | CBR |
| Bitrate | 800~20,000Kbps |
| CC | CEA 608/708(Under development) |
| Audio | MPEG-1 Layer II/AC3/MPEG2_AAC/MPEG2_AAC4 |
| GOP Structure | IBBP, IPPP, IBP |
| GOP Size | 18~48 |
| Audio Bitrate | 32~384Kbps |
| Audio Mode | Stereo (2.0, including downmix) |
| Sampling Rate | 48kHz |
| Closed Caption Input | Support |
| Power Consumption | Max. 16W |



CP2-EAS-00:
EAS Processing Module

| EAS | |
|-------------------|---|
| Input | Digital EAS input (SCTE-18) via 1 x RJ45 port Analogue EAS input via 3PIN contact closure CVBS input via 1 x RCA connector Audio L/R input via 2 x RCA connector TS input via 1 x BNC connector |
| Video | H.264 SD: MP/HP@L3.0 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 |



CP2-IP-00:
Multi-protocol IP Module

| IP | |
|--|--|
| Network | 3 x RJ45 ports, 100/1000M |
| Input Protocols | UDP/RTP/SRT/RIST/Zixi/ *RTMP/RTMPS (future option) |
| Output Protocols | UDP/RTP/SRT RIST/Zixi/RTMP/RTMPS (future option) |
| Processing Capability For Typical Applications | HLS to UDP – up to 20 input streams, max 150mbps SRT to UDP – up to 20 input streams, max 150mbps UDP to SRT – up to 20 streams, max 150mbps |
| Number of Gateways | Default: 10 gateways, UDP/RTP/HLS input, UDP/RTP output Notice: Additional license are required to support more gateways and network protocols |
| Power Consumption | Max. 16 W |

*HDMI/USB: Only for module debugging function use, not for input/output



CP2-IP-02
Multi-channel IP Module

| IP | |
|-------------------|---|
| Ethernet | 2 x RJ45, 100/1000Base-T |
| Input | UDP/RTP via Unicast/Multicast |
| Output | UDP/RTP via Unicast/Multicast |
| Channels | DATA 1: 128 input & output DATA 2: 120 input & output |
| Effective Bitrate | Maximum 700Mbps (Single input or output) Maximum 420Mbps (Simultaneous input and output) |
| Power Consumption | Max. 7 W |



CP2-ASI-00:
5-Port ASI Module

| ASI | |
|---------------------------------|--|
| Connector | 5 x ASI port, BNC female |
| Bit rate | 500Kbps to 150Mbps |
| Reception/ Transmission mode | Byte mode(Continuous mode) |
| Packet Length | 188 Bytes or 204 Bytes |
| Working mode | 3 ASI input ports, 2 ASI output ports by default, each port can be redefined as ASI input or ASI output port |
| Multiplexing | Support PSI/SI or PSIP table regeneration PID filtering External PID insertion |
| Power Consumption | Max. 12 W |

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