



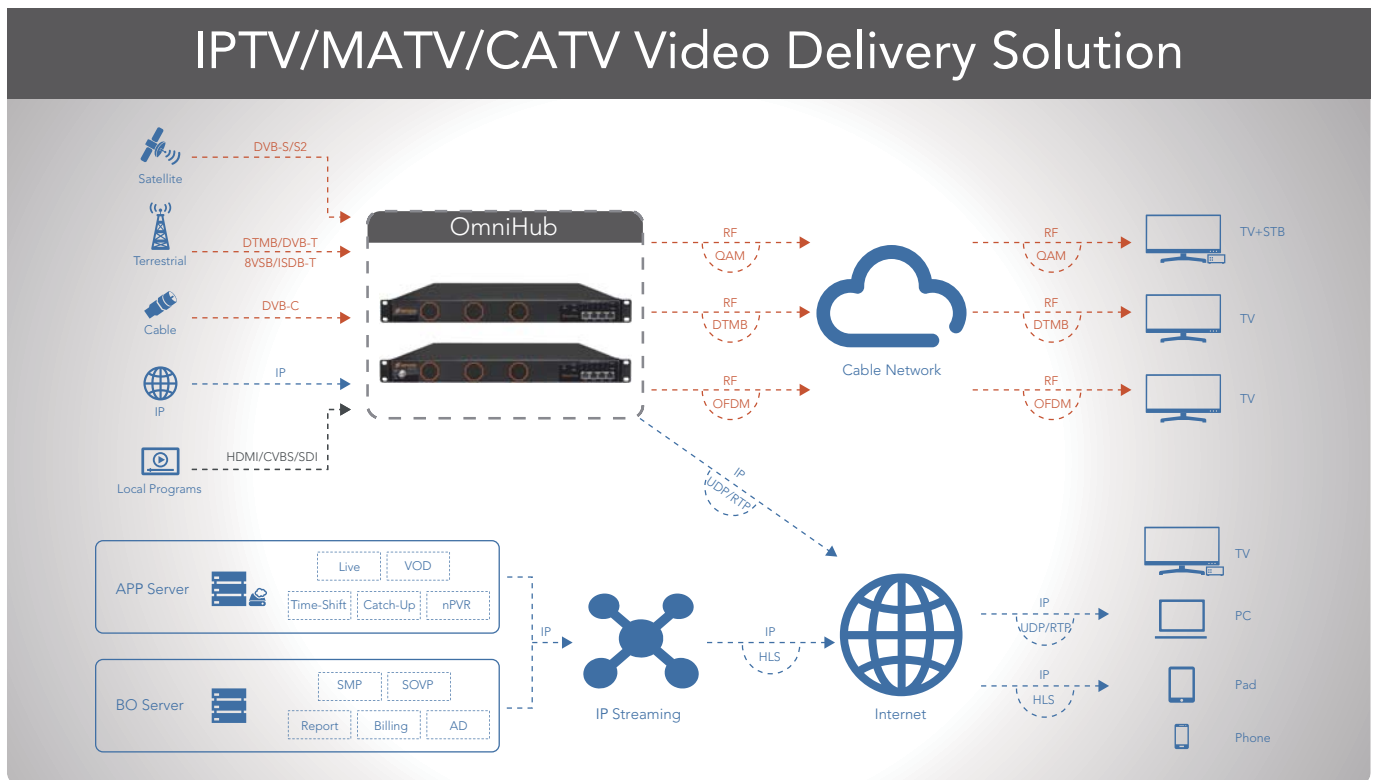
CMP201



CMP203

## INTRODUCTION

OmniHub is a new generation of media platform in modular design that focuses on both cost-effective commercial TV market and traditional DTV market. Thanks to the benefit of high-density, strong-performance and large-flexibility, OmniHub product can meet all the major video delivery requirements of signal receiving, descrambling, encoding, multiplexing, modulation and IP processing in one unit. With optional commercial/broadcast encoder, multi-mode receiver/modulator module, it can be configured flexibly to meet any video delivery requirements. Due to its compact design and powerful function, it can be widely used at hotel, hospital, community, club, campus and DTV headend room, where massive programs are required to be processed in a cost-effective way.



## FEATURES

- 19" 1RU standard rack unit
- Optional modulation module on front panel (8 CH QAM/DTMB/OFDM)
- 4 GbE Ethernet ports on front panel (2 for management, 2 for data traffic)
- 6 slots for hot-swappable functional modules on rear panel
- Support up to 24 HDMI HD encoding
- Support up to 48 CVBS SD encoding
- Support up to 24 DVB-C/DTMB/DVB-S/S2 receiving
- Support up to 40 CH modulation output
- Web-based network management and software upgrade with user-friendly GUI
- Configuration takes effect immediately without reboot
- Simple installation and easy configuration

## SPECIFICATIONS



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

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



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

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	47~862MHz
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

## SPECIFICATIONS



DVB-S/S2 FTA Receiver Module

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, 16APSK
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
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-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/256QAM
Guard Interval	DVB-T: 1/4, 1/8, 1/16, 1/32 DVB-T2: 1/4, 1/8, 1/16, 1/32, 1/128 19/256, 19/128
FFT Size	DVB-T: 2K, 8K DVB-T2: 1K, 2K, 4K, 8K, 16K, 32K
Signal Level	-80~-20dBm
CA System	Supports mainstream CAS



DVB-S/S2 with CI Receiver Module

DVB-S/S2	
Input	C/Ku Band, 4 channels via 2 RF female connectors CH1 & CH2 via LNB-1 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, 16APSK
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
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
CA System	Supports mainstream CAS



DVB-S/S2 FTA Receiver Module

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, 16APSK
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
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

## SPECIFICATIONS



8VSB Receiver Module

8VSB	
Input	4 channels via 4 RF female connector
Frequency Range	50~860MHz
Bandwidth	6MHz
Modulation	8VSB
Signal Level	-80~-20dBm



QAM Modulation Module

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
Return Loss	>12dB



OFDM Modulation Module

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. 100dBμV
MER	≥32dB
Return Loss	>12dB



QAMA Modulation Module

QAMA	
Output	4/8 frequencies via 1 RF female connector 75Ω
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	3.6~6.9 Ms/s
Output Level	Max. 100dBμV
MER	≥32dB
Return Loss	>12dB

## SPECIFICATIONS



DTMB Modulation Module

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. 100dBμV
MER	≥32dB
Return Loss	>12dB



QAMB Modulation Module

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. 100dBμV
MER	≥32dB
Return Loss	>12dB



Professional HDMI Encoder Module

HDMI	
Input	4 channels via 4 HDMI female connectors (HDMI 1.4)
Video	H.264/AVC HD: MP/HP@L4.0 SD: MP/HP@L3.0 MPEG-2 SD: MP@ML
Resolution	SD: 576i@25fps, 480i@29.97fps HD: 1080p@25/30fps, 1080i@50/60fps 720p@50/60fps
Bitrate Control	CBR/VBR
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, AAC (optional), AC3 (optional)
Audio Bitrate	32~384Kbps
Audio Mode	Stereo (2.0, including downmix)
Audio Sampling Rate	48kHz
Audio Volume Leveling	-20dB~20dB



Commercial HDMI Encoder Module

HDMI	
Input	4 channels via 4 HDMI female connectors (HDMI 1.4)
Video	H.264/AVC HD: MP/HP@L4.0/4.1/4.2 SD: MP/HP@L3.0/3.1/3.2
Resolution	SD: 576i@25fps, 480i@29.97fps HD: 1080p@25/30fps, 1080i@50/60fps 720p@50/60fps
Bitrate Control	VBR
Video Bitrate	600~12,000Kbps
GOP Structure	IPPP
GOP Size	1~99
Aspect Ratio	Automatic or Manual
Audio	MPEG-1 Layer II, AAC (optional), AC3 (optional)
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

## SPECIFICATIONS



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	SD: 576i@25fps, 480i@29.97fps HD: 1080p@25/29.97/50/59.94 1080i@50/60fps, 720p@50/60fps *For mpeg-2 encoding, the maximum input resolution is 1080i@60fps
Bitrate Control	CBR
Bitrate	1,000~18,000Kbps
GOP Structure	IBBP, IPPP, IBP
GOP Size	6~63
Audio	MPEG-1 Layer II, AAC (optional), AC3 (optional)
Audio Mode	Stereo (2.0, including downmix)
Sampling Rate	48kHz



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	SD: 576i@25fps, 480i@29.97fps HD: 1080p@25/29.97/50/59.94 1080i@50/60fps, 720p@50/60fps *For component input or mpeg-2 encoding the maximum input resolution is 1080i@60fps
Bitrate Control	CBR
Bitrate	1,000~18,000Kbps
GOP Structure	IBBP, IPPP, IBP
GOP Size	6~63
Audio	MPEG-1 Layer II, AAC (optional), AC3 (optional)
Audio Mode	Stereo (2.0, including downmix)
Sampling Rate	48kHz



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: 576i@25fps, 480i@29.97fps
Bitrate Control	CBR/VBR
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



Commercial CVBS Encoder Module

CVBS	
Input	8 channels via 2 DB15 connectors each DB15 for 4 channels 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: 576i@25fps, 480i@29.97fps
Bitrate Control	VBR
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

## SPECIFICATIONS



Commercial CVBS Encoder Module

CVBS	
Input	16 channels via 4 DB15 connectors, each DB15 for 4 channels 4 x RCA-DB15 adaptor cables come along with module
Video	H.264/AVC SD: MP/HP@L3.0/3.1/3.2
Resolution	SD: 576i@25fps, 480i@29.97fps
Bitrate Control	VBR
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



SDI Encoder Module

SDI	
Input	2 channels via 2 SDI or CVBS SDI or CVBS via BNC connector Audio via phoenix 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: 576i@25fps, 480i@29.97fps HD: 1080p@25/29.97/50/59.94 1080i@50/60fps, 720p@50/60fps *For mpeg-2 encoding, the maximum input resolution is 1080i@60fps
Bitrate Control	CBR
Bitrate	1,000~18,000Kbps
GOP Structure	IBBP, IPPP, IBP
GOP Size	6~63
Audio	MPEG-1 Layer II, AAC (optional), AC3 (optional)
Audio Mode	Stereo (2.0, including downmix)
Sampling Rate	48kHz



EAS Processing Module

EAS	
Input	Digital EAS input (SCTE-18) via 1*RJ45 port Analogue EAS input via 3PIN contact closure CVBS input via 1*RCA connector Audio L/R input via 2*RCA connector TS input via 1*BNC connector
Video	H.264 SD: MP/HP@L3.0 MPEG-2 SD: MP @ML (By default)
Resolution	SD: 480i@29.97fps
ASI	500Kbps to 100Mbps
Contact Closure	3PIN Connector with Dry Contact or 5~12V 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, AAC-LC/HE, AC3
Audio Mode	Stereo (2.0, including downmix)
Sampling Rate	48kHz