OmniHub

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• COMPACT • POWERFUL • AFFORDABLE

INTRODUCING THE OMNIHUB

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

RELIABLE & ENVIRONMENT FRIENDLY

Omnihub has module level redundancy and 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 saves more space while lowering operating costs for years to come.

PRODUCT FEATURES

- Dense modular design: 4 RU with up to 16 functional modules
- Service level multiplexing
- PSI/SI analysis and regeneration
- Web-based configuration
- Flexible and scalable
- Low noise design
- Up to 64 receive frequencies DVB-C/S/S2/DTMB
- 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

RELIABILITY FEATURES

- Hot-swappable modules
- Service level monitoring
- Dual redundant power supplies
- Low power consumption and high reliability with MTBF (Mean Time Between Failure) ≥100,000 hours

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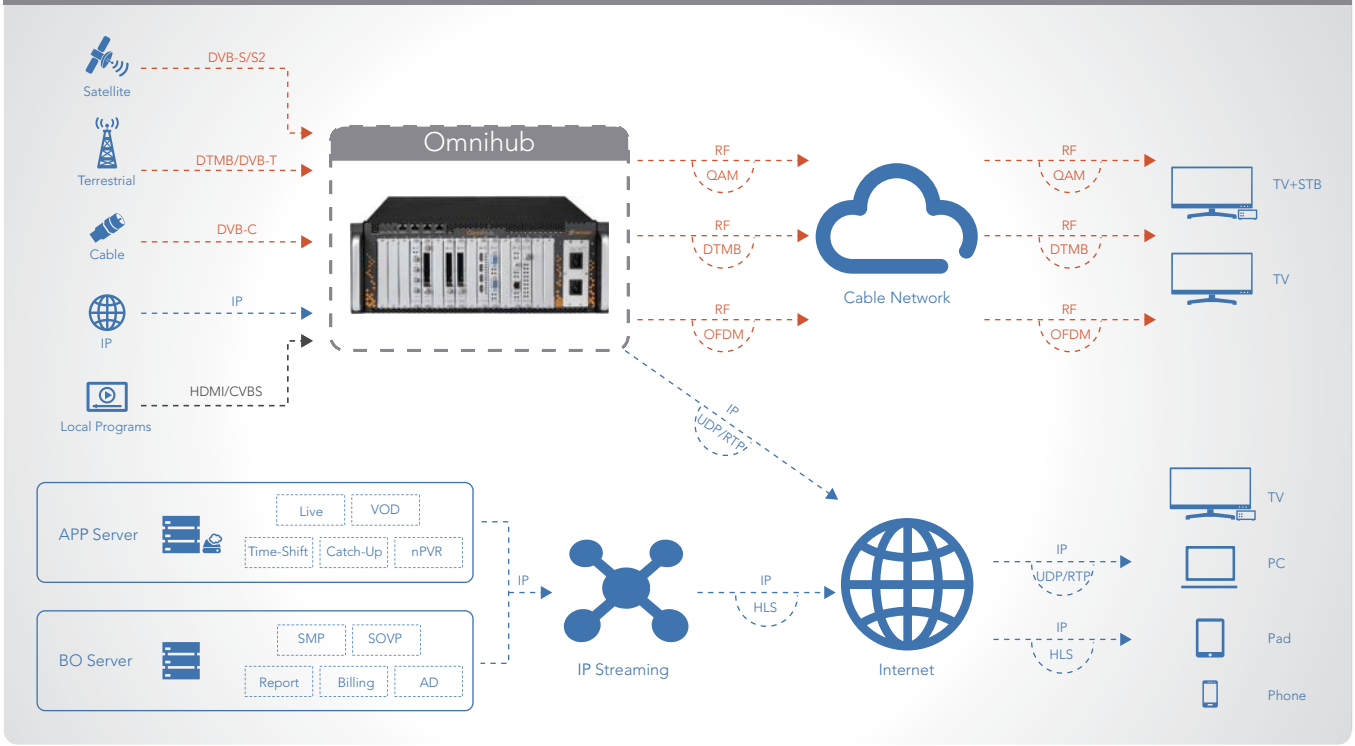
OmniHub | SOLUTION

IPTV/MATV/CATV Video Delivery Solution



The Omnihub is the perfect choice for MATV/CATV/IPTV systems that require cost-effective distribution and centralized processing.

The above example displays the following:
Omnihub receives signals from DVB-C, DVB-S/S2, DTMB, IP or baseband content, descrambles encrypted programs utilizing embedded CIs. The programs are then encoded, multiplexed into new steams and modulated to DTMB/QAM frequencies. The output frequencies are then easily delivered through traditional coaxial cable network or RJ45 outputs to an IP network. The IP output supports streaming content via UDP/RTP to Internet/Intranet. This allows operators the ability to deliver content to users' PC/TV or mobile devices. All of this in 4 RU, saving your space and operating costs. What's more, Omnihub seamlessly integrates with existing or third-party devices/systems (VOD, ad insertion or billing systems) offering a complete solution in less space and less operating expense.

Chassis
16 hot-swappable slots
Dual redundant power supplies
Service level multiplexing
4 x Gigabit RJ45 (embedded) : • MPEG TS over UDP/RTP multicast/unicast • SPTS/MPTS • Max. 128-CH inputs and 128-CH outputs (altogether) • Max. 840Mbps effective bandwidth (altogether)

Physical & Environment	
Input Voltage	90~240 VAC
Power	350W
Chassis Dimension	480mm x 177mm x 345mm (W x H x D), 4 RU
Operating Temperature	0°C~50°C
Storage Temperature	-10°C~70°C
Operating Humidity	<95%
MTBF	≥100,000 hours

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OmniHub | SPECIFICATIONS

DVB-C/DTMB Receiver Module (CR-DVBC-00)

DVB-C Mode	
Input	4 channels via1 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	47~862 MHz
Constellation	16QAM/32QAM/64QAM/ 128QAM/256QAM
Symbol Rate	3.6~6.952 Ms/s
Bitrate per RF Input	Up to 55 Mbps
Signal Level	40~80 dBuV
CA System	Supports mainstream CAS
Bandwidth	6/7/8 MHz

DTMB Mode	
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	47~862 MHz
Constellation	4QAM-NR/4QAM/ 16QAM/32QAM/64QAM
Bitrate per RF Input	Up to 32.486 Mbps
Signal Level	-65~-25 dm
CA System	Supports mainstream CAS

DVB-T/T2 Receiver Module
(CR-DVBT2-00)

DVB-S/S2 FTA Receiver Module
(CR-DVBS2FTA-00A)

Input	4 channels via 1 RF female connector
Frequency Range	47~862 MHz
Bandwidth	6/7/8 MHz
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~-20 dBm

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-2 shares power with LNB-1, LNB-4 with LNB-3, LNB-6 with LNB-5, LNB-8 with LNB-7
LNB Voltage	13V/18V
LNB Current	Max. 400mA
Constellation	QPSK, 8PSK, 16APSK
Frequency Range	950~2150 MHz
Signal Level	0.15, 0.20, 0.25, 0.35
Symbol Rate	DVB-S: 1~45 Msps DVB-S2: 1~45 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

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OmniHub | SPECIFICATIONS

DVB-S/S2 FTA Receiver Module (CR-DVBS2FTA-00)

Input	C/Ku Band, 4 channels via 4 RF female connectors
LNB Power	Independent power supplies for LNB-1 & LNB-3, LNB-2 shares power with LNB-1, LNB-4 with LNB-3
LNB Voltage	13V/18V
LNB Current	Max. 400mA
Constellation	QPSK, 8PSK, 16APSK
Frequency Range	950~2150 MHz
Signal Level	-70~-20 dBm
Roll-off Factor	0.15, 0.20, 0.25, 0.35
Symbol Rate	DVB-S: 1~45 Msps DVB-S2: 1~45 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

OFDM Modulation Module (CM-OFDM-01/01A)

Output	4/8 frequencies via 1 RF female connector 750
Standard	ETSI EN 300744
Frequency Range	47~862 MHz
Bandwidth	6/7/8 MHz
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. 95dBμV
MER	≥32dB
Return Loss	>12dB

DVB-S/S2 with CI Receiver Module (CR-DVBS2CI-00)

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	950~2150 MHz
Signal Level	-70~-20 dBm
Roll-off Factor	0.15, 0.20, 0.25, 0.35
Symbol Rate	DVB-S: 1~45 Msps DVB-S2: 1~45 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
CA System	Supports mainstream CAS

DTMB Modulation Module (CM-DTMB-01/01A)

Output	4/8 frequencies via 1 RF female connector 750
Standard	DTMB GB20600-2006
Frequency Range	47~862 MHz
Constellation	4QAM-NR/4QAM/16QAM/ 32QAM/64QAM
Output Level	Max. 95dBμV
MER	≥32dB
Return Loss	>12dB

OmniHub | SPECIFICATIONS

Professional HDMI Encoder Module (CE-HDMI-00)

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
Bitrate	1,000~14,000 Kbps
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

Commercial HDMI Encoder Module (CE-HDMI-01)

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
Bitrate	1,000~12,000 Kbps
GOP Structure	IPPP
GOP Size	1~99
Audio	MPEG-1 Layer II
Audio Mode	Stereo (2.0, including downmix)
Sampling Rate	48kHz

Professional CVBS Encoder Module (CE-CVBS-00)

Input	6 channels via 2 DB15 connectors, 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	1,000~6,000 Kbps
GOP Structure	IBBP, IPPP, IBP
GOP Size	6~63
Audio	MPEG-1 Layer II
Audio Mode	Stereo (2.0, including downmix)
Sampling Rate	48kHz

Commercial CVBS Encoder Module (CE-CVBS-01)

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	1,000~8,000 Kbps
GOP Structure	IPPP
GOP Size	1~99
Audio	MPEG-1 Layer II
Audio Mode	Stereo (2.0, including downmix)
Sampling Rate	48kHz

OmniHub | SPECIFICATIONS

QAM Modulation Module (CM-QAMA/QAMB-00)

Output	16 non-adjacent frequencies via 1 RF female connector 750
1 x RJ45	Reserved for scrambling
Standard	ITU-T J.83 Annex A/B/C
Frequency Range	47~862 MHz
Bandwidth	6/7/8 MHz
Constellation	16QAM/32QAM/64QAM/ 128QAM/256QAM
Symbol Rate	3.6~6.9 Ms/s
Output Level	Max. 106dBμV
MER	>40dB
Return Loss	>12dB

DVBC Annex B/ISDB-T Receiver Module (CR-DVBC-01)

DVBC Annex B	
Input	4 channels via1 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	47~862 MHz
Bandwidth	6 MHz
Constellation	64QAM, 256QAM
Symbol Rate	5.057 Ms/s (64QAM), 5.360 Ms/s (256QAM)
Signal Level	40~80 dBuV
CA System	Supports mainstream CAS
ISDB-T Mode	
Input	4 channels via1 RF female connector
CI	2 x PCMCIA CI slots
CAM	Descrambled channel quantity depends on CAM capability, 2 CAMs could be different
Frequency Range	47~862 MHz
Bandwidth	6/7/8 MHz
Constellation	DQPSK, QPSK, 16QAM, 64QAM
FEC	1/2, 2/3, 3/4, 5/6, 7/8, Automatic
Signal Level	-80~-20 dBm
CA System	Supports mainstream CAS

QAMA Modulation Module (CM-QAMA-01/01A)

Output	4/8 frequencies via 1 RF female connector 750
Standard	ITU-T J.83 Annex A/C
Frequency Range	47~862MHz
Bandwidth	6/7/8 MHz
Constellation	16QAM/32QAM/64QAM/ 128QAM/256QAM
Symbol Rate	3.6~6.9 Ms/s
Output Level	Max. 95dBμV
MER	≥32dB
Return Loss	>12dB

8VSB Receiver Module (CR-8VSB-00)

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