

The **CableVista** Edge Decoder performs MPEG decoding, modulation and upconversion for up to 24 NTSC or 12 PAL channels in a compact 1 RU chassis. The CableVista supports a variety of output card types in the same chassis including: Baseband NTSC/PAL, RF NTSC/PAL, RF NTSC with Off Air Reference. The CableVista provides customers with the highest degree of flexibility available. With numerous redundancy features, hot-swappable components and flexible software, the CableVista is a key element in today's Digital Simulcast network.



Optimized for Gigabit Ethernet Networking

- Full line rate GbE video transport allowing full use of GbE links

"Pay as You Grow" Modularity

- Modular design allows for more output cards to be added as demand grows

High Availability

- Output cards are hot swappable allowing installation or replacement on active systems
- Costly service outages are minimized, uptime is maximized
- Enhanced system reliability: redundant GbE ports, cooling fans, dual power supplies
- Input Stream Redundancy with failover/failback options at either Stream or Program level

Extremely High Density

- Up to 12 Base Band or 24 RF channels in 1RU
- Fully tested and interoperable with industry leading networking equipment

Key Features

- Multiple output card types available:
 - » MPEG to Base Band (*NTSC or PAL*)
 - » MPEG to RF Channels (*NTSC or PAL*)
- DVB and/or SCTE-27 subtitling Option (*CV1107+ processor card only*)
- Optional EAS support as per SCTE 18 (*NTSC output cards only*)
 - » Alternate firmware load to support subtitling and/or chassis redundancy instead of EAS (*must be specified at time of order*)
- Chassis redundancy (*NTSC output cards only*)
 - » see *N+M Chassis Redundancy Option* below
- Modular chassis fits up to 6 output cards and can provide:
 - » Up to 12 Base Band channels decoded in 1RU
 - » Up to 24 RF channels decoded in 1RU

(Also possible to mix output cards of different types in a single chassis)
- Internal CLI Tagging (*NTSC version only*)
- VITS insertion (*NTSC output cards only*)
- Off Air Reference/Phase Lock (*CV1116RF/OAPL+*)
- GbE Redundancy
- ASI Inputs
- GbE or ASI daisy chaining of several CableVista units possible
- All modules and power supplies are hot-swappable
- IGMPv3 support
- Configuration and control via Web page interface (*Configuration and control also available through RS232 or SNMP*)
- Field upgradable firmware to incorporate new features

General Specifications

GbE Input

Interface	GbE (1+1 Redundant) SFP module (optical or copper)
Data Rate	1 Gbps
Format	MPEG-2 Transport Streams 188-byte TS Packets Unicast and Multicast

ASI Input

Number of Input Ports	2
Connector	BNC Jack, 75 Ω
Data Rate per port	210 Mbps
Packet Data Format	188 or 204 bytes/packet
Standard	EN50083-9

ASI Output for Loop Through

Number of Output Ports	1
Connector	BNC Jack, 75 Ω
Data Rate per port	210 Mbps
Packet Data Format	188 or 204 bytes/packet
Standard	EN50083-9

Video & Audio

Video Format	MPEG-2, MP@ML up to full D1 resolution
Audio Formats	Dolby Digital (AC-3) MPEG-1 layer 2 (Musicam)

Management & Control

Interface	RJ-45 (10/100 Ethernet) RS-232 (CV1107+ Console Port) USB (CV1108+ Console Port)
Protocols	SNMP, Web Based Interface, DHCP/BootP, TFTP, IGMPv3, Telnet
Data Rate per port	210 Mbps
Packet Data Format	188 or 204 bytes/packet
Standard	EN50083-9

Power / Mechanical / Environment

Input Frequency Range	50/60 Hz
Input Voltage Range	100 to 240 VAC
Power Consumption	331 W maximum (decoding of 24 channels)
Chassis (H x W x D)	1.75" x 19" x 23"
Weight (fully loaded chassis)	26 lbs
Operating Temperature Range	10°C to 40°C
Humidity Range (non-condensing)	10-90%

N+M Chassis Redundancy Option (one group per server)

- ♦ Requires CV1107+ Processor Board
- ♦ Requires specific firmware to be installed
- ♦ Requires external Redundancy Server to be installed at each site
- ♦ All Primary and Backup system groups are required to have the same Output Module card types installed in the same slot positions

NTSC Modules

Emergency Alert Messaging

Standard	As per SCTE 18
In-Band Reception	via GbE Input
Out-of-Band Reception	via 10/100 Ethernet

VITS Insertion

Test Patterns	NTC7 or NTC Composite, SMPTE Color, Bars, Multiburst, Sin(x)/x, FCC Composite, Modulated Ramp, Black Burst, Shallow Ramp, 120 IRE Bar, Gated CTB
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VBI Lines	10 - 20
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CLI Tagging

Modulation Type	AM or Carrier Frequency Offset
AM Modulation Freq.	1 to 30 Hz
Depth of AM Modulation	0 to 90%
Carrier Freq. Range	54 to 900 MHz 88 to 900 MHz (CV1146RF only)
Carrier Freq. Offset	-12.5 kHz or -25 kHz
Carrier Freq. Power Offset	-14 dB to 3 dB

Closed Caption / VBI Processing

Input Format	As per ANSI/SCTE 20 2004 or ANSI/SCTE 21 2001
Closed Captioning Format	As per EIA608 (Line 21)

Optional Configurations

- ♦ Dual Power Supplies for Redundancy
- ♦ -48VDC Power Supply
- ♦ Output Modules: Minimum 2 up to a maximum of 6
- ♦ Any combination of the following output cards can be used in the same CableVista chassis:
CV1120BB+, CV1116RF/OAPL+, CV1126RF+, CV1146RF+

PAL Modules

Teletext / VBI Processing

Input Format	As per EN 301 775
Teletext (WST-B) Output	As per ITU-R BT 653-2 (Line 7 to 22)
WSS Output	As per EN 300 294
VPS Output	As per EN 300 231 (CV1128RF/PBGF card)

VITS Insertion

Test Patterns	CCIR331 Modulate Pedestal, CCIR17, Combination, CCIR18 Multiburst, Sinx/x, Modulated Staircase, CCIR330
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VBI Lines	10 - 20
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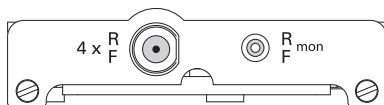
Closed Caption / VBI Processing

Input Format	As per ANSI/SCTE 20 2004 or ANSI/SCTE 21 2001
Closed Captioning Format	As per EIA608 (Line 21)

Optional Configurations

- ♦ Dual Power Supplies for Redundancy
- ♦ -48VDC Power Supply
- ♦ Output Modules: Minimum 2 up to a maximum of 6
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CV1121BB+, CV1128RF/PBGN+, CV1128RF/PBGF+

CV1146RF+

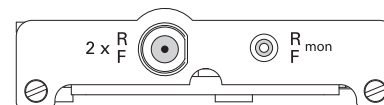
**Digital Video / Audio Source**

Video Format	MPEG2, MP@ML 4:2:0 chroma sampling 4:3 aspect ratio
Video Resolution	720x480, 704x480, 544x480, 528x480, 352x480
Video Bitrate	Up to 15 Mbps
Audio Formats	MPEG1 layer 2 (MUSICAM) Dolby® Digital (AC3)
Audio Bitrate	MPEG Audio 512 kbps max Dolby Audio 512 kbps max
Audio Sample Rates	32 kHz, 44.1 kHz, 48 kHz
Audio Downmix	Multichannel downmix to stereo or mono as necessary

Analog RF Output

RF Channels per Module	4 x NTSC Adjacent frequency channel block
Connector	F-type, female
Impedance	75 Ω
Frequency Range	54 to 900 MHz (channel restrictions below 88 MHz. See manual for restrictions)
Level Adjustment Range	50 to 60 dBmV (wrt block)
Attenuation Step Size	0.1dB
In Channel Return Loss	-14 dB (54 to 900 MHz)
Out of Channel Return Loss	-12 dB (20 MHz to 1GHz)
Inband Carrier to Noise (wrt Block Power)	-71 dBc
Out of Band Carrier to Noise (average wrt Block Power)	-76 dBc
RF Monitor	MCX, female
RF Monitor Impedance	75 Ω
Audio	Licensed BTSC/SAP

CV1126RF+

**Digital Video / Audio Source**

Video Format	MPEG2, MP@ML 4:2:0 chroma sampling 4:3 aspect ratio
Video Resolution	720x480, 704x480, 544x480, 528x480, 352x480
Video Bitrate	Up to 15 Mbps
Audio Formats	MPEG1 layer 2 (MUSICAM) Dolby® Digital (AC3)
Audio Bitrate	MPEG Audio 512 kbps max Dolby Audio 512 kbps max
Audio Sample Rates	32 kHz, 44.1 kHz, 48 kHz
Audio Downmix	Multichannel downmix to stereo or mono as necessary

Analog RF Output

RF Channels per Module	2 x NTSC Adjacent frequency channel block
Connector	F-type, female
Impedance	75 Ω
Frequency Range	54 to 900 MHz
Level Adjustment Range	50 to 60 dBmV (wrt block)
Attenuation Step Size	0.1dB
In Channel Return Loss	-14 dB (54 to 900 MHz)
Out of Channel Return Loss	-12 dB (20 MHz to 1GHz)
Inband Carrier to Noise (wrt Block Power)	-71 dBc
Out of Band Carrier to Noise (average wrt Block Power)	-76 dBc
RF Monitor	MCX, female
RF Monitor Impedance	75 Ω
Audio	Licensed BTSC/SAP

CV1116RF/OAPL+

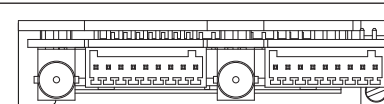
**Digital Video / Audio Source**

Video Format	MPEG2, MP@ML 4:2:0 chroma sampling 4:3 aspect ratio
Video Resolution	720x480, 704x480, 544x480, 528x480, 352x480
Video Bitrate	Up to 15 Mbps
Audio Formats	MPEG1 layer 2 (MUSICAM) Dolby® Digital (AC3)
Audio Bitrate	MPEG Audio 512 kbps max Dolby Audio 512 kbps max
Audio Sample Rates	32 kHz, 44.1 kHz, 48 kHz
Audio Downmix	Multichannel downmix to stereo or mono as necessary

Analog RF Output

RF Channels per Module	1 x NTSC
Connector	F-type, female
Impedance	75 Ω
Frequency Range	54 to 900 MHz
Level Adjustment Range	50 to 60 dBmV (wrt block)
Attenuation Step Size	0.1dB
In Channel Return Loss	-14 dB (54 to 900 MHz)
Out of Channel Return Loss	-12 dB (20 MHz to 1GHz)
Inband Carrier to Noise (wrt Block Power)	-71 dBc
Out of Band Carrier to Noise (average wrt Block Power)	-76 dBc
RF Monitor	MCX, female
RF Monitor Impedance	75 Ω
Audio	Licensed BTSC/SAP

CV1120BB+

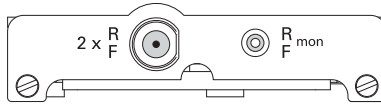
**Digital Video / Audio Source**

Video Format	MPEG2, MP@ML 4:2:0 chroma sampling 4:3 aspect ratio
Video Resolution	720x480, 704x480, 544x480, 528x480, 352x480
Video Bitrate	Up to 15 Mbps
Audio Formats	MPEG1 layer 2 (MUSICAM) Dolby® Digital (AC3)
Audio Bitrate	MPEG Audio 512 kbps max Dolby Audio 512 kbps max
Audio Sample Rates	32 kHz, 44.1 kHz, 48 kHz
Audio Downmix	Multichannel downmix to stereo or mono as necessary

Analog Base Band Output

Channels per Module	2 x NTSC Base Band
Video Connector	Mini-BNC Jack, 75 Ω
Audio Connector	Terminal Block with 600 Ω balanced output
Primary Audio	2 channel stereo
Secondary Audio	Monaural; intended for SAP

CV1128RF/PBGN+ CV1128RF/PBGF+



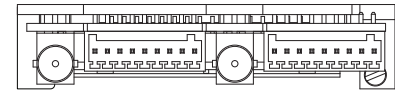
Digital Video / Audio Source

Video Format	MPEG2, MP@ML 4:2:0 chroma sampling 4:3 aspect ratio
Video Resolution	720x576, 704x576, 544x576, 528x576, 352x576
Video Bitrate	Up to 15 Mbps
Audio Formats	MPEG1 layer 2 (MUSICAM) Dolby® Digital (AC3)
Audio Bitrate	MPEG Audio 512 kbps max Dolby Audio 512 kbps max
Audio Sample Rates	32 kHz, 44.1 kHz, 48 kHz
Audio Downmix	Multichannel downmix to stereo or mono as necessary

Analog RF Output

RF Channels per Module	2 x PAL B/G Adjacent frequency channel block
Connector	F-type, female
Impedance	75 Ω
Frequency Range	54 to 900 MHz
Level Adjustment Range	50 to 60 dBmV (wrt block)
Attenuation Step Size	0.1dB
In Channel Return Loss	-14 dB (54 to 900 MHz)
Out of Channel Return Loss	-12 dB (20 MHz to 1GHz)
Inband Carrier to Noise (wrt Block Power)	-67 dBc
Out of Band Carrier to Noise (average wrt Block Power)	-72 dBc
RF Monitor	MCX, female
RF Monitor Impedance	75 Ω
Audio	2 channel decoding Nicom (CV1128RF/PBGN+) FM/FM (CV1128RF/PBGF+)

CV1121BB+



Digital Video / Audio Source

Video Format	MPEG2, MP@ML 4:2:0 chroma sampling 4:3 aspect ratio
Video Resolution	720x576, 704x576, 544x576, 528x576, 352x576
Video Bitrate	Up to 15 Mbps
Audio Formats	MPEG1 layer 2 (MUSICAM) Dolby® Digital (AC3)
Audio Bitrate	MPEG Audio 512 kbps max Dolby Audio 512 kbps max
Audio Sample Rates	32 kHz, 44.1 kHz, 48 kHz
Audio Downmix	Multichannel downmix to stereo or mono as necessary

Analog Base Band Output

Channels per Module	2 x PAL B/G Base Band
Video Connector	Mini-BNC Jack, 75 Ω
Audio Connector	Terminal Block with 600 Ω balanced output
Primary Audio	2 channel stereo
Secondary Audio	Monaural; intended for SAP