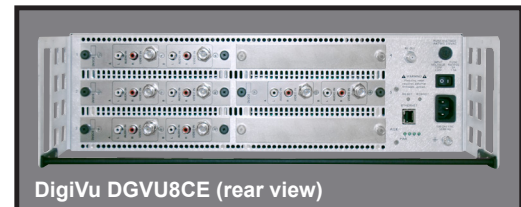




Multichannel MPEG-2/H.264 SD/HD Encoder/Multiplexer (DigiVu) - QAM Output:

Features:

- ▶ Compact & flexible audio/video encoding solution for digital transmission and/or insertion applications
- ▶ A cost-effective & space-efficient encoding, multiplexing & transmission (QAM or GigE) platform ideal for digital simulcast applications or digital delivery of PEG or hub site specific programming
- ▶ Scalable 3RU (19" rack mount) solution: up to 10 SD (or 5 HD) A/V programs can be directly encoded/multiplexed with QAM output or up to 8 SD (or 4 HD) A/V programs with IP output
- ▶ Hot-pluggable 1-channel & 2-channel encoder cards available for easy upgrade & unit configuration
- ▶ Possibility of mixing HD & SD encoder cards within the same chassis
- ▶ Hot-pluggable QAM Demodulator card available for QAM processing functionality
- ▶ Hot-pluggable IP output card (copper/SFP optical) available
- ▶ Plug-in cards are externally accessible & easily replaceable; no need to open or remove unit from rack
- ▶ Fully integrated system components & QAM Modulator with Agile Wideband RF Upconverter (15-975 MHz)
- ▶ Front accessible & replaceable fans with inline fan connector
- ▶ HTTP-based GUI allows for easy set-up & control without the need for proprietary software installation
- ▶ Remote access & SNMP monitoring available via integrated RJ45 Ethernet interface
- ▶ Includes the following operational modes (set through GUI): IP output only, IP+QAM output simultaneously, & QAM output only (please see appropriate spec sheet for IP/QAM specs)



Ordering Information

Part Number	Description
DGVU*CE	Multichannel Digital QAM Out Encoder with * MPEG-2 SD A/V Baseband Inputs (* = Number of Inputs, ie. 1, 2, 3, 4, 5, 6, 7, 8, 9 or 10), NTSC/AC-3 Dolby®.
DGVU*CEM	Multichannel Digital QAM Out Encoder with * MPEG-2 SD A/V Baseband Inputs (* = Number of Inputs, ie. 1, 2, 3, 4, 5, 6, 7, 8, 9 or 10), PAL/MPEG-1 Layer II.
DGVU*CEH	Multichannel Digital QAM Out Encoder with * MPEG-2/H.264 SD/HD DV1HDA Cards Installed (* = Number of Cards, ie. 1, 2, 3, 4 or 5).
DGVUBASE	DigiVu QAM Out 3RU Base Unit/chassis (no plug-in cards installed).
DV1CE	Separate 1-channel MPEG-2 SD Encoder Plug-in Card (1 Video + 2 Audio Inputs), NTSC/AC-3 Dolby.
DV1CEM	Separate 1-channel MPEG-2 SD Encoder Plug-in Card (1 Video + 2 Audio Inputs), PAL/MPEG-1 Layer II.
DV2CE	Separate 2-channel MPEG-2 SD Encoder Plug-in Card (2 Video + 4 Audio Inputs), NTSC/AC-3 Dolby.
DV2CEM	Separate 2-channel MPEG-2 SD Encoder Plug-in Card (2 Video + 4 Audio Inputs), PAL/MPEG-1 Layer II.
DV1HDA	Separate 1-channel MPEG-2/H.264 SD/HD Encoder Plug-in Card (Component/VGA).
DV2DA	Baseband Audio/video Distribution Amplifier (2-way split).
DVDMQMB	Separate QAM-B Demodulator Plug-in Card (Add/drop functionality).
DVDMQMAC	Separate QAM-A/C Demodulator Plug-in Card (Add/drop functionality).
DVGIGE	Separate Gigabit Ethernet Output Plug-in Card SFP/RJ45.
DGVUPWRSUP	Replacement Power Supply for DigiVu.
DVFTXM^	Optical Transmitter Module, Single 10 dBm Output Port, ^ ITU Wavelength (^ = 16,17...46), SC/APC Connector.
NOTE: Dolby is a registered trademark of Dolby Laboratories. Manufactured under license from Dolby Laboratories.	

Multichannel MPEG-2/H.264 SD/HD Encoder/Multiplexer (DigiVu) - QAM Output:

DigiVu - QAM Output Specifications

BASE PLATFORM SPECIFICATIONS	
CHASSIS OVERVIEW	
DIMENSIONS	3RU, 19" Rack Mount: 5.25"H x 19.0"W x 16.5"D (13.34H x 48.26W x 41.91D cm)
WEIGHT (Max)	14.9 lbs (6.8 kg)
EXPANSION CARD SLOTS	6 (slot #6 (AUX) can only be populated with DV2DA)
ENCODED PROGRAMS	Up to 10 SD (or 5 HD) into one QAM Channel Up to 8 SD (or 4 HD) with Gigabit Ethernet Output Card Module Up to 8 SD (or 4 HD) with Demodulator Card Module Scalable (plug-in cards with 1 or 2 encoders per card)
POWER SUPPLY	IEC Connector/ 90-264 VAC, 50/60 Hz
POWER CONSUMPTION	81W
DEVICE MANAGEMENT	HTTP/SNMP Network Interface (RJ45)
OPERATING TEMPERATURE	0°C to +50°C (+32°F to +122°F)
HUMIDITY	0-95% (without condensation)
TS MULTIPLEXER	
PACKET SIZE	188 Bytes
TS SUPPORT	QBA, AF
PROGRAM NUMBER & TS NUMBER	User Settable (Program #: 1-65535; TS ID: 1-65535)
PSI / SI / PSIP INFORMATION TABLE	PAT, PMT, SDT, NIT, MGT, CVCT
SETTABLE PIDs	PMT, PCR (0x0015-0x1FFE; dec. 21-8190)
QAM MODULATOR/RF UPCONVERTER	
QAM MODULATION	ITU-T J.83 Annex A/Annex B/Annex C
MODULATION FORMAT	16, 32, 64, 128, 256 QAM
RF QAM OUTPUT POWER AT RF OUT	57.5 +/- 1.5 dBmV
ATTENUATOR	0-26 dB
ATTENUATOR STEP	1.0 dB
RF QAM FREQUENCY OUTPUT RANGE⁽¹⁾	45-870 MHz ⁽¹⁾
SUPPORTED CHANNEL PLANS	STANDARD, HRC, IRC
FREQUENCY STEP	250 kHz
RF QAM CHANNEL BANDWIDTH	6 MHz (Annex B) Max. 8 MHz (Annex A/C)
EXCESS BANDWIDTH	Annex B: 12% (256 QAM), 18% (64 QAM) Annex A: 15% Annex C: 13%
SYMBOL RATE	Annex B: Automatically Set with Selected Modulation Format 5.360537 MSymb/s - 256 QAM 5.056941 MSymb/s - 64 QAM Annex A/C: max. 7 MSymb/s
MER EQUALIZED⁽²⁾	> 40 dB ⁽²⁾
FREQUENCY OFFSET	< 2ppm
SYMBOL RATE OFFSET	< +/- 50 Hz
CARRIER SUPPRESSION	> 55 dB
SIGNAL/NOISE	> 45 dB
SPURIOUS	-60 dB
TS PROCESSING	Null Packet Insertion & PCR Correction
FEC	ITU-T J.83 Annex B; DVB-C EN300429 & ITU-T J.83 Annex A/C
RF INTERFACES	
RF OUT	F, 75 Ω
RF OUT TEST	F, 75 Ω (-20 dB)
RF OUT RETURN LOSS	> 15 dB
NOTES:	
(1) Extended Tune Range 15-975 MHz. Contact ATX for details.	
(2) Measured with Rohde & Schwarz EFA (FW Ver 05.33).	

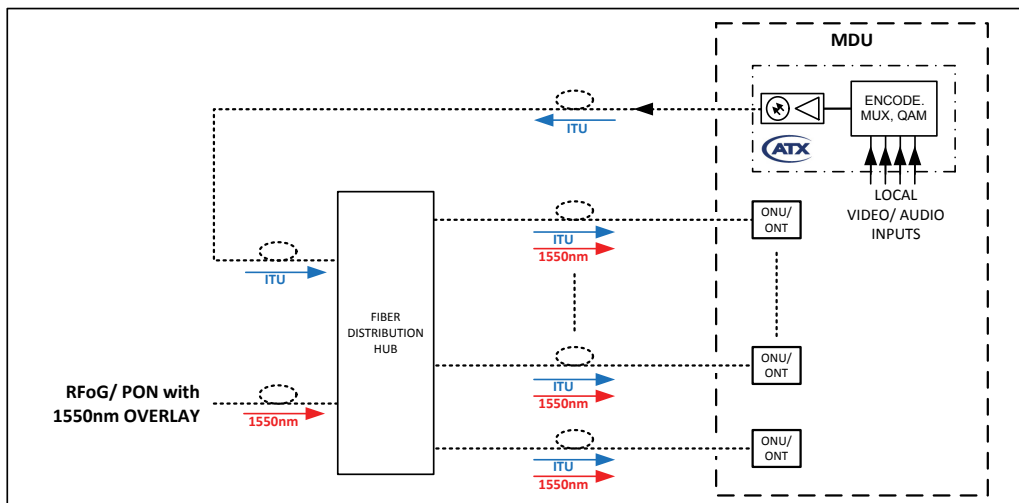
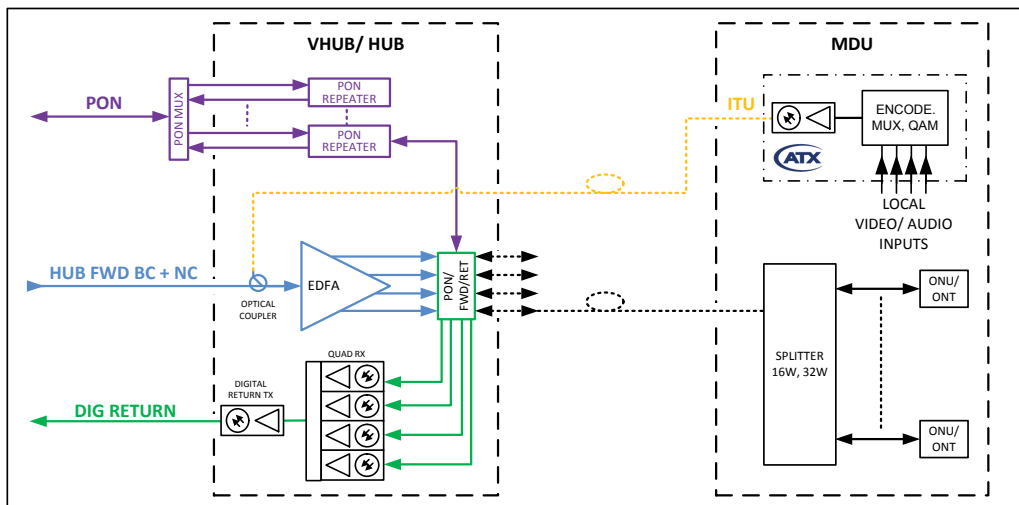
Multichannel MPEG-2/H.264 SD/HD Encoder/Multiplexer (DigiVu) - QAM Output:

DigiVu - QAM Output Specifications (cont'd)

OPTICAL TRANSMITTER MODULE SPECIFICATIONS		DVFTXM
INPUT		
CONNECTOR	F, 75 Ω	
MAXIMUM RF LEVEL	48 dBmV (Single QAM Carrier at 45-870 MHz) ⁽¹⁾	
RETURN LOSS	18 dB (min)	
OUTPUT		
CONNECTOR	SC/APC, 1 Port	
OPTICAL POWER	10.0 +/- 1.0 dBm	
WAVELENGTH	User Specified: ITU ch 16-46*	
MONITOR		
STATUS	Front LED	
POWER	7.5W (max)	
PHYSICAL		
DIMENSIONS	6.5"H x 1.2"W x 4.5"D (16.5H x 3.0W x 11.5D cm)	
WEIGHT	0.7 lbs (0.3 kg)	
NOTES:		
(1) Extended Tune Range 15-975 MHz. Contact ATX for details.		
* See Ordering Information. Wavelength must be provided at time of ordering.		



Typical Application Diagrams



Multichannel MPEG-2/H.264 SD/HD Encoder/Multiplexer (DigiVu) - QAM Output:

DigiVu - QAM Output Specifications (cont'd)

HD/SD ENCODER CARD SPECIFICATIONS		DV1HDA	
VIDEO INPUTS			
COMPONENT			
CONNECTOR	3x RCA Female		
CHROMA FORMAT	YPbPr 4:2:2		
RESOLUTIONS	480p_60 (59.94)		
	576p_50		
	720p_60 (59.94)		
	720p_50		
	1080i_60 (59.94) 1080i_50		
PC - VGA			
CONNECTOR	DE-15 Female, 15-Pin, 3 Rows		
CHROMA FORMAT	RGB 4:4:4		
RESOLUTIONS	640 x 480, 60 Hz		
	800 x 600, 60 Hz		
	1280 x 720, 60 Hz		
	1024 x 768, 60 Hz		
	1280 x 1024, 60 Hz		
	1366 x 768, 60 Hz		
	1400 x 1050, 60 Hz		
	1920 x 1080, 60 Hz		
AUDIO INPUTS			
ANALOG L/R			
CONNECTOR	TRS 3.5 mm Female, 2x RCA Adapter Female		
DIGITAL SPDIF			
CONNECTOR	1x RCA (Coaxial) Female		
AUDIO STANDARD	IEC 61937:AC3 (Pass Through)		
MAX CHANNELS	6 (5.1) Pass Through		
VIDEO PROCESSING			
ENCODING	MPEG-2	H.264	
ENCODE LEVEL	MPEG-2 HD MP @ HL	High Profile Level 5	
CHROMA	4:2:0	4:2:0	
BIT RATE	1-25 Mbps	1-25 Mbps	
COMPONENT VIDEO RESOLUTIONS	480p_60 (59.94)		
	576p_50		
	720p_60 (59.94)		
	720p_50		
	1080i_60 (59.94)		
	1080i_50		
VGA RESOLUTIONS	640 x 480, 60 Hz		
	800 x 600, 60 Hz		
	1280 x 720, 60 Hz		
	1024 x 768, 60 Hz		
	1280 x 1024, 60 Hz		
	1366 x 768, 60 Hz		
	1400 x 1050, 60 Hz		
	1920 x 1080, 60 Hz		
VIDEO PID SETTING	Yes (0x0015-0x1FFE; dec. 21-8190)		
VBI PROCESSING	Closed Captions		
AUDIO PROCESSING			
AUDIO ENCODER			
ENCODE STANDARD	Dolby® Digital AC-3 ATSC A/52 (2.0)		
SAMPLE RATE	48 kHz		
BIT RATE	192, 256, 384 kbps		
AUDIO PID SETTING	Yes (0x0015-0x1FFE; dec. 21-8190)		
DIGITAL AUDIO PASS THROUGH			
AC-3 (2.0/5.1) PASS THROUGH	Yes (S/PDIF)		
PHYSICAL			
DIMENSIONS	6.5"H x 0.75"W x 3.0"D (16.5H x 1.9W x 7.6D cm)		
WEIGHT	0.33 lbs (0.15 kg)		
NOTE:			
Dolby is a registered trademark of Dolby Laboratories. Manufactured under license from Dolby Laboratories.			



Multichannel MPEG-2/H.264 SD/HD Encoder/Multiplexer (DigiVu) - QAM Output:

DigiVu - QAM Output Specifications (cont'd)

SD ENCODER CARD SPECIFICATIONS		DV1CE / DV1CEM	DV2CE / DV2CEM
VIDEO			
INPUT	CVBS, NTSC / PAL ⁽¹⁾		
INPUT INTERFACE	1x BNC, 75 Ω	2x BNC, 75 Ω	
ENCODING FORMAT	MPEG-2, 4:2:0, MP@ML		
ENCODING BIT RATE TYPE	CBR		
VIDEO ADJUSTMENTS	Brightness, Contrast, Saturation		
VIDEO PROCESSING	TBC		
RESOLUTION	HORIZONTAL	720, 704, 544, 528, 480, 352	
	VERTICAL	480, 576	
FRAME RATE	29.97fps, 25fps ⁽¹⁾		
VIDEO ENCODING BIT RATE	1-8 Mbps		
GOP STRUCTURE	IBBP - Length 15		
VIDEO PID SETTING	Yes (0x0015-0x1FFE; dec. 21-8190)		
VBI PROCESSING	Closed Captions		
AUDIO			
INPUT	Analog, Unbalanced		
INPUT INTERFACE	2x RCA (pair L/R)	4x RCA (2x pair L/R)	
ENCODING FORMAT	Dolby Digital AC-3, MPEG-1 Layer II ⁽¹⁾		
MODES	Stereo, Mono		
SAMPLING RATE	48 kHz		
ENCODING BIT RATES	192, 256, 384 kbps		
AUDIO PID SETTING	Yes (0x0015-0x1FFE; dec. 21-8190)		
PHYSICAL			
DIMENSIONS	6.5"H x 0.75"W x 3.0"D (16.5H x 1.9W x 7.6D cm)		
WEIGHT	0.33 lbs (0.15 kg)		
NOTES:			
(1) DV1CE & DV2CE provide NTSC/Dolby Digital AC-3 encoding (29.97fps); DV1CEM & DV2CEM provide PAL/MPEG-1 Layer II encoding (25fps). Dolby is a registered trademark of Dolby Laboratories. Manufactured under license from Dolby Laboratories.			

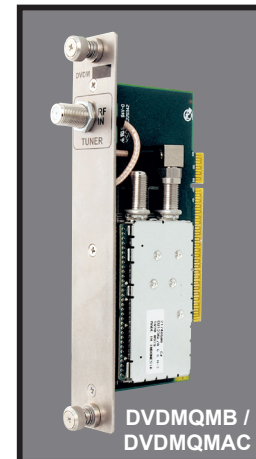


DV1CE / DV1CEM



DV2CE / DV2CEM

DEMODULATOR PLUG-IN CARD SPECIFICATIONS		DVDMQMB	DVDMQMAC
QAM MODULATION	QAM-B (ITU-T J.83 Annex B)	QAM-A/C (ITU-T J.83 Annex A/C)	
MODULATION FORMAT	64, 256 QAM	16, 32, 64, 128, 256 QAM	
INPUT INTERFACE	F, 75 Ω		
RF QAM FREQUENCY INPUT RANGE	54-864 MHz	47-862 MHz	
FREQUENCY STEP	250 kHz		
CHANNEL BANDWIDTH	6 MHz	8 MHz	
RF QAM INPUT POWER INTO DEMODULATOR CARD	10 dBmV ± 2 dBmV		
INTERMEDIATE CENTER FREQUENCY	44 MHz	36.15 MHz	
OSCILLATOR PHASE NOISE (@10 kHz)	-88 dBc (min)		
RF AGC RANGE (Typ)	45 dB		
OSCILLATOR VOLTAGE AT DEMODULATOR CARD RF INPUT (Max)	< -45 dBmV (40 MHz < f < 900 MHz)		
PHYSICAL			
DIMENSIONS	6.5"H x 0.75"W x 3.0"D (16.5H x 1.9W x 7.6D cm)		
WEIGHT	0.33 lbs (0.15 kg)		



DVDMQMB / DVDMQMAC

GIGABIT ETHERNET CARD SPECIFICATIONS		DVGIGE
PHYSICAL		
COPPER PORTS	2x RJ45	
SFP PORTS	2x SFP Cage	
POWER CONSUMPTION (w/ 4 Active Ports)	~ 4W	
DIMENSIONS	6.5"H x 0.75"W x 3.0"D (16.5H x 1.9W x 7.6D cm)	
WEIGHT	0.33 lbs (0.15 kg)	
BIT RATES & STANDARDS		
RJ45 PORTS	10/100/1000BASE-T & 10/100/1000BASE-TX	
SFP PORTS	1000BASE-LX	
IP OUTPUT CHARACTERISTICS		
TRANSPORT LAYER	UDP, RTP	
STREAMING PROTOCOL	Multicast, Unicast	
NETWORK	DHCP, VLAN Tagging (IEEE 802.1Q)	
ENCAPSULATION	1-7 TS Packets per Ethernet Frame	
TRANSMISSION	SPTS, MPTS	
NULL STUFFING	OFF, ON (User Settable Limit)	



DVGIGE

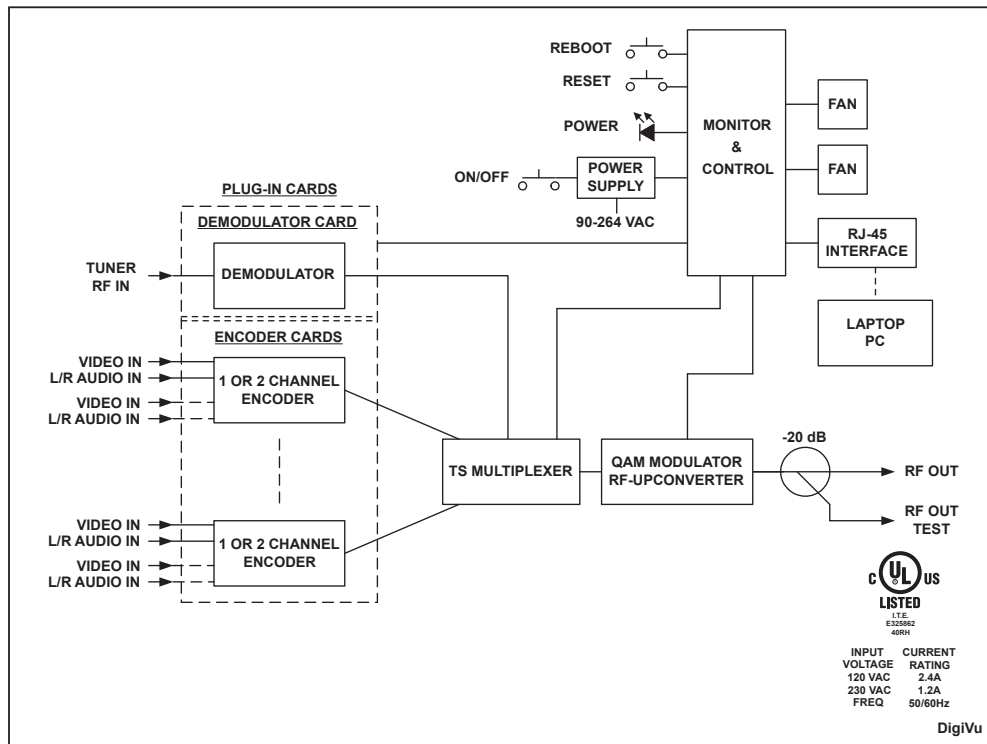
Multichannel MPEG-2/H.264 SD/HD Encoder/Multiplexer (DigiVu) - QAM Output:

DigiVu - QAM Output Specifications (cont'd)

A/V DA (2-WAY SPLIT) CARD SPECIFICATIONS	DV2DA
VIDEO	
INPUT/OUTPUT	CVBS (PAL/NTSC)
INPUT/OUTPUT INTERFACES	1x BNC (75 Ω) / 2x BNC (75 Ω)
INPUT IMPEDANCE	75 Ω
OUTPUT IMPEDANCE	75 Ω
VIDEO INSERTION LOSS (0.3 - 12.0 MHz)	< 0.4 dB
INPUT/OUTPUT RETURN LOSS	> 30 dB
OUTPUT TO OUTPUT ISOLATION	> 60 dB
OUTPUT TO INPUT ISOLATION	> 60 dB
VIDEO BANDWIDTH	> 10 MHz
AUDIO	
INPUT/OUTPUT	Analog Unbalanced
INPUT/OUTPUT INTERFACES	1 Pair L/R / 2 Pairs L/R (Terminal Block x6)
GAIN (1-20 kHz)	0 dB
INPUT IMPEDANCE	22 Ω
OUTPUT IMPEDANCE	200 Ω
AUDIO BANDWIDTH	50 Hz to > 20 kHz
PHYSICAL	
DIMENSIONS	6.5"H x 0.75"W x 3.0"D (16.5H x 1.9W x 7.6D cm)
WEIGHT	0.33 lbs (0.15 kg)



Functional Schematic



DigiVu® is a registered trademark of ATX in the United States and/or other countries. Products or features contained herein may be covered by one or more U.S. or foreign patents. Dolby® and other non-ATX product and company names mentioned in this data sheet are the property of their respective companies.

Specifications subject to change without notice.

