

DV6000 VIDEO TRANSPORT MODULES

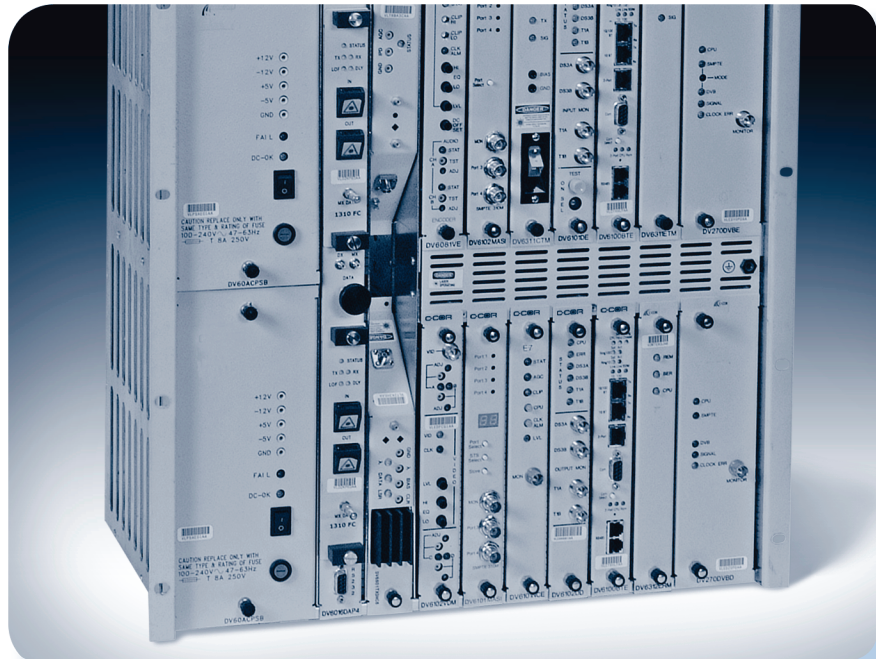
DV6000 Universal Digital Transport System

DV6000 Universal Digital Transport Features

- 16 interface card slots
- 11RU high chassis
- 110/220VAC and -48VDC powering options
- 1310nm, 1550nm, and DWDM transmitters
- Optical budget options to over 36dB
- Supports diverse network configurations for maximum efficiency and protection (point-to-point, point-to-multipoint, star, rings, star-over-ring, counter-rotating rings, etc.)
- 2.38 Gbps or SONET/SDH multiplexed outputs
- Widest variety of interface cards
- Largest installed base

Interfaces

- NTSC/PAL
- QAM IF/Analog IF
- SDI/SDTI
- DVB-ASI/SMPTE 310
- 10/100BaseT
- DS3/T1 (E3/E1)
- RS-232/422/485
- OC-48C/STM-16c



The DV6000 Universal Digital Transport System is the original and most widely installed member of the DV Family of products.

Functioning as a time division multiplexer (TDM), the DV6000 combines the digital signals created by the shelf's 16 individual interface cards. The resulting digital signal is transmitted at a rate of 2.38Gbps over one or more fiber optic cables. With over 36dB of optical budget, 38 available DWDM wavelengths, compact optical repeaters, and EDFA usage, the DV6000 can create networks transporting hundreds of channels over thousands of kilometers without sacrificing signal quality. Additionally, DV6000 systems can be configured into several protected architectures for a variety of video, data, and voice services in order to accommodate networks requiring fiber protection and/or equipment redundancy.

## DV6000 UNIVERSAL DIGITAL FIBER OPTIC TRANSPORT SYSTEM

### Specifications

#### Physical Specifications

##### Dimensions

Module	Width, in.	Height, in.	Depth, in.	Weight, lbs
Shelf (489 x 483 x 279.4mm)	19	19.25	11	38
Power Supply	4	9.75	9.3	10 (AC), 9 (DC)
Controller (DAP2, DAP3, DAP4)	1.25	19	9.3	6
Optical TX or RX	1.33	9	9.3	5
Encoder/Decoder	1.25	9	9.3	2
Double-width Encoder/Decoder	2.5	9	9.3	5

##### Environmental Requirements

Storage Temperature, °C	-20 to 70
Operating Temperature, °C	0 to 50
Relative Humidity, % noncondensing	0 to 95

##### Shelf Connector Types

BNC (16 primary, 16 loop-through)	Video, BTSC audio, DS3/E3
Terminal Strip (16 sets of 4)	Analog Audio, RS-232, T1/E1
Dry Contact Closure (2 sets)	Major/minor shelf alarms Current Rating: 500mA max. (resistive), 250mA max. (all other loads) Voltage Rating: 80VDC, 40 VAC, max.
2 x 5 Pin Header	RS-485 interface for remote status monitoring
Power Connectors	2 male AC Power connectors and 2 –48VDC screw terminals

##### Rackmounted Fan Physical Specifications

Dimensions, inches	19 W x 1.75 H x 8.34 D
Weight, lbs	10, approx.

##### Rackmounted Fan Electrical Specifications

	Voltage, VAC	Power, W	Fuse, A	Airflow, cfm	Acoustics Level, dBA
DV6911FAN	110/220, 60Hz	54	2	300	51.5
DV6922FAN	220, 50Hz	44	1	250	48.2
DV-6948-FAN	–48VDC	18	1.5	300	50

#### Power Specifications

##### Power Requirements

DV6048PSB01	–36 to –72VDC (–48VDC nom.)
DV60ACPSB01	90 to 265VAC (110/220VAC nom.) @ 47 to 63Hz

##### Power Dissipation

DV60ACPSB01	376W, max.
Fully Loaded Shelf	300W, max.

#### Optical Specifications

##### Standard Transmitters

Bit Rate	2.38Gbps
Optical Wavelengths	1310nm, 1550nm
Laser Type	DFB
Optical Connectors	FC/UPC, SC/UPC, SC/APC (8° angle polished), FC/APC (8° angle polished)
Optical Output Power	0dBm

**Specifications (cont'd)****DWDM Transmitters**

Bit Rate	2.38Gbps
Optical Wavelength	ITU Grid Channels 21–59
Laser Type	DFB
Optical Connectors	FC/UPC, SC/UPC, SC/APC (8° angle polished), FC/APC (8° angle polished)
Optical Output Power	6.5dBm
Wavelength Stability	±0.05nm
Extinction Ratio	8 ± 1 min. (9dB)
Dispersion Penalty (Note 1)	~2dB @ 3200ps/nm

**Receivers**

Receiver Photodiode Type	InGaAs APD
Optical Receiver Sensitivity (Note 2)	–30dBm
Optical Receiver Maximum Input Power	–12dBm

**Ordering Information**

Notes: 1. Based on standard SMF28 fiber assuming a loss of 0.25dB/km at 1550nm.

2. Assuming BER of 10<sup>-9</sup>.

*Specifications subject to change without notice.*

**Part Number****Description****DV6000 Universal Equipment Shelf**

DV6016ES 16-channel universal equipment shelf (11RU)

**DV6000 Repeater Shelf and Modules**

DV6016RPS DV6000 repeater shelf: six slot optical shelf. Accommodates redundant DV6000 power supplies. Holds up to six DV6000 optical transmitters, receivers, DV to SONET/SDH transceivers, or optical switch modules for as many as three separate repeat functions in the same shelf.

DV6016RPC Repeater shelf controller controls the DV6120DS dual optical switch and provides a network management interface for the repeater shelf and its contained modules. Includes CD-ROM with RPC configuration tool software (DVSWCD).

**DV6000 Power Supplies**

DV60ACPSB01 AC power supply: 110/220VAC auto-ranging supply for DV6000, DV6128, and DV6000 repeater shelf.

DV6048PSB01 –48VDC power supply: –48VDC modular supply for DV6000, DV6128, and DV6000 repeater shelf.

**DAP4 Combined Optics and Controller Modules**

DV6016DAP4 DV6000 DAP4 controller module

DV46301/(DV46301SC) DV6000 DAP4 optical transceiver, 1310nm, FC/UPC connector/(SC/UPC connector)

DV46501/(DV46501SC) DV6000 DAP4 optical transceiver, 1550nm, FC/UPC connector/(SC/UPC connector)

DV46xxxxyy DV6000 DAP4 CWDM optical transceiver, 1470 to 1610nm (xxx=last 3 digits), FC/UPC connector (yy=blank), SC/UPC connector (yy=SC)

DV46101/(DV46101SC) DV6000 DAP4 receiver only module, FC/UPC connector/(SC/UPC connector)

DV46300E DV6000 DAP4 electrical transceiver

DV4BLANK DV6000 DAP4 optical transceiver blank panel

**DV6000 Transmitters and Receivers**

DV6301TXDxxx02 (Note 1) DV6000 transmitter module: 1310nm, 0dBm output.

DV6501TXDxxx02 (Note 1) DV6000 transmitter module: 1550nm, 0dBm output.

DV6501TXDHCyyxxx (Notes 1 through 5) DV6000 transmitter module: ITU DWDM Channels 21–59, 100GHz, 6.5dBm output.

DV6302RCQxxx02 (Note 1) DV6000 Receiver Module: 1310nm/1550nm/ITU, InGaAs APD, –30dBm sensitivity.

DV6302ERCQ DV6000 Electrical Receiver Module: Receives electrical clock and data signal.

Ordering Information (cont'd)

Part Number	Description
<b>DV to SONET/SDH Transceivers</b>	
DV4S1310	DV to SONET/SDH optical transceiver, 1310nm, LC connector.
DV4S1550ITU21	DV to SONET/SDH optical transceiver, ITU channel 21, LC connector.
DV4S1550ITU23	DV to SONET/SDH optical transceiver, ITU channel 23, LC connector.
DV4S1550ITU25	DV to SONET/SDH optical transceiver, ITU channel 25, LC connector.
DV4S1550ITU27	DV to SONET/SDH optical transceiver, ITU channel 27, LC connector.
DV4S1550ITU31	DV to SONET/SDH optical transceiver, ITU channel 31, LC connector.
DV4S1550ITU35	DV to SONET/SDH optical transceiver, ITU channel 35, LC connector.
DV4S1550ITU39	DV to SONET/SDH optical transceiver, ITU channel 39, LC connector.
<b>DV6000 System Accessories</b>	
DV6016BPO	Blank panel for optical TX/RX slot.
DV6016BPV	Blank panel for encoder/decoder slot.
DV6016BPP	Blank panel for power supply slot.
HDV-6151-CBL	10-foot RS-232-C cable for local DAP3, DAP4, and DV6400 programming with PC computer. DB-9 female to DB-9 male connectors.
HDW-100461	1RU high ventilation spacer. Required between each DV6016ES shelf and other electronics equipment.
HWTSD0103PLNM 1	RU high ventilation spacer with fiber cable channels. Required between each DV6016ES shelf and other electronics equipment.
DV6911FANA	19-inch rackmount fan, 110VAC operation.
DV6922FAN	19-inch rackmount fan, 220VAC operation.
DV-6948-FAN	19-inch rackmount fan, -48VDC operation.
CASS10	10-inch SMB-SMB right angle plug jumper.
CASS36	36-inch SMB-SMB right angle plug jumper.
CASS60	60-inch SMB-SMB right angle plug jumper.
CASSPB45	Inverted data cable set (A/B SMB-SMB right angle plug jumper).
DV6000COMKIT	Line-powered RS-232 to RS-485 converter kit. Also contains cables and adapter to communicate from PC to one DV6000 shelf.
DVSWCD	Replacement DV6000 product family software CD-ROM. Contains DAP2, RPC, and DV6300/DVFE configuration tools; DAP3, SAS, and DV6400 Craft software; and all DAP4 firmware and documentation.

Notes:

1. FC/UPC optical connectors are standard; specify "xx" or "xxx" only if different connector type is desired. [SC = SC/UPC, ASC = SC/APC (8° angle polished), and APC = FC/APC (8° angle polished)]
2. "yy" equals ITU DWDM channel number (21 through 59). 3. DV6501TXDHCyyxxx version TXs should now be used in placed of legacy DV6501TXDER version TXs.
4. DV6501TXDHCyyxxx version TXs should now be used in placed of legacy DV6501TXDHCtxxx02 (t=1-8) version TXs.

