

VDX SERIES VIDEO AND RF SWITCHING SYSTEMS

CYTEC's VDX Series of Video and RF Switching Systems are based on a solid state switch fabric and are available in nonblocking, full fan-out configurations of 16x16 and 32x32, with bandpass to 200 MHz. Input and output buffers can be added to the basic switch fabric allowing a broad range of both 75 and 50 ohm impedance signals to be switched. Control options include RS232 Serial, IEEE488 GPIB, TCP/IP 10BaseT LAN. A Manual Control Keypad option is available.

TYPICAL APPLICATIONS INCLUDE:

- Programmable Routing of T3/DS3, Video or Low Level RF (Antenna Downlink, IF, etc).
- Broadcast Video to Multiple Locations.
- Signal Distribution for Communications and Test.
- Automated Patch Panels.



VDX/32x32 Chassis w/ Keypad Manual Control

VDX CHASSIS

The VDX Chassis are standard 19" rack mount with either RS232 or IEEE488 Control and BNC Connectors. Any input to any or all outputs.

The following chassis are available:

VDX/16x16 Mainframe - 3.5" high and 15.6" depth
16x16 Matrix - (any input to any or all outputs)

VDX/32x32 Mainframe- 5.25" high and 15.6" depth
32x32 Matrix (any input to any or all outputs)

VDX/32x32-E Expansion Chassis - is used for building larger systems. Multiple VDX Chassis can be controlled from one MESA Control Chassis shown in the **MESA Bulletin**.

CONTROL OPTIONS

IF-3P RS232 SERIAL

This Module has all the RS232 features detailed in Applications Bulletin AP-5.

IF-4P IEEE488 BUS (TALK/LISTEN)

This Module has all the IEEE488 features detailed in Applications Bulletin AP-5.

IF-6 TCP/IP LAN/RS232 INTERFACE

This Module uses TCP/IP to furnish control from a Local Area Network as described in AP-5

Please see the reverse side for complete Specifications.

VDX/16x16 MAINFRAME

This Chassis consists of a single ended Solid State 16x16 Matrix that routes 75 ohm signals up to 200 MHz in a nonblocking (any input to any output) and full fan-out (one input to several or all outputs) configuration. The basic unit holds the necessary power supplies and the switch matrix module. The system is completed by adding the desired control module and any required input or output buffers. The buffers are optional, and when used, supply impedance matching and/or signal level transformations. This design allows a large variety of signal types to be switched.

VDX/32x32 MAINFRAME

This Chassis is a nonblocking, full fan-out solid state matrix. **Crosstalk** is less than -60dB at 10MHz and **Bandpass** is DC to 180 MHz(-3 dB). Typical applications include 75 ohm Video or DS3/T3 Switching. Input and Outputs buffer amplifiers can be added to the basic switch fabric allowing a broad range of both 75 and 50 ohm impedance signals to be switched.

VDX/32x32-E EXPANSION CHASSIS

This Chassis has all the features of the VDX/32x32 Mainframe but is controlled and powered by a MESA Control Chassis as detailed in the **MESA Bulletin**.

Custom configurations are available on request. Please contact our Technical Sales Department for application assistance.

**CONTACT 1-800-346-3117 OR WWW.CYTEC-ATE.COM
FOR TECHNICAL ASSISTANCE**

SPECIFICATIONS AND BUFFER OPTIONS

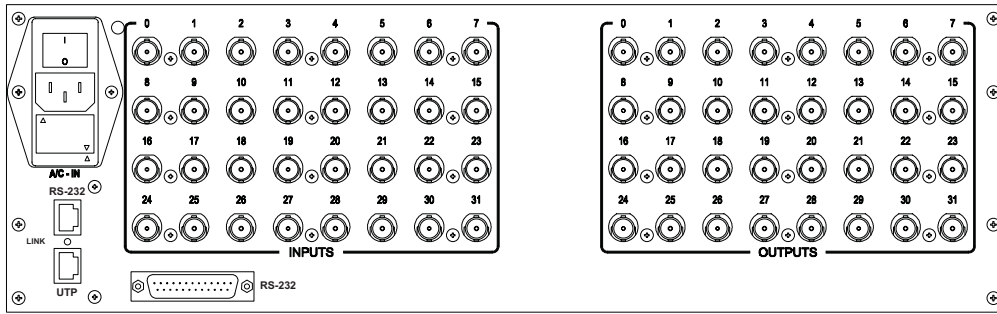


Fig. 2

VDX/32x32 Mainframe with RS232 and LAN Control and BNC Signal Connections

VDX SERIES MATRIX

The VDX Series is intended to switch small signal levels in a non-blocking (any input to any output), full fan out (any input to any or all outputs) configurations. The heart of the system is a solid state 32x32 switch fabric. When used without buffer amplifier modules, the system conforms to all of the specifications shown below. When used with input and/or output buffers, the specifications are determined by the buffer stages.

VDX SPECIFICATIONS (75 ohms, no buffers)

Connections BNC Signal Connections, AC input and Remote Control input are on rear panel shown in Fig.2. Alternate signal connectors including SMA, SMB and SMC optionally available.

ENVIRONMENTAL

Operating Temperature 0° to 70° C
Storage Temperature -25° to 80° C
Humidity 95% RH noncondensing to 30° C

POWER

AC Input Selectable 100-130 or 200-240 Volts AC, 50-60 Hz.

DC Supply Type Low Noise Linear

Consumption 150 Watts Maximum for 32x32 Matrix

BANDPASS

Small Signal Flatness 200 MHz (-3dB) for 200 mVpp
 0.1dB at 60 MHz

Large Signal Flatness 80 MHz (-2dB) for 2.0 Vpp
 0.1dB at 45 MHz

Slew Rate 0.375 V/ns

CROSSTALK / ISOLATION

Crosstalk -50 dB at 5 MHz
 -60 dB at 10 MHz Non Adjacent
 -46 dB at 10 MHz Adjacent Channels
 -95 dB at 10 MHz

Isolation

MISCELLANEOUS

Switching Speed 50 ns plus any computer delay

Characteristic Impedance 75 Ohms (unbuffered)
 50 Ohms buffered

VDX-2

INPUT and OUTPUT BUFFERS

Optional Buffers are available for all Input and/or Output Channels. These buffers serve up to three different purposes:

- 1) They transform impedances to allow the solid state switch fabric to be used for systems with other than 75 ohms characteristic impedance.
- 2) Input Buffers can be used to reduce signals to levels where they can be safely switched by the matrix.
- 3) Output Buffers can have preset gains to boost signals to required voltages.

A typical buffer is shown schematically in Fig. 3. Resistors **Rs** and **Ri** set the input impedance and also attenuate the input signal (if needed), while **Rout** determines the output impedance. The circuit is typically built with one of several standard small signal Op Amps, but custom amplifiers are also possible. The specifications for a typical small signal amplifier are shown below.

BUFFER SPECIFICATIONS

| | |
|--|--|
| Bandpass (-3dB) | 175 MHz w/ $V_{out}=2V_{pp}$ 165 MHz w/ $V_{out}=5V_{pp}$ |
| Preset Gains (A_v) | 2 to 16 |
| Output Current | 70 mA typical |
| Rise Time | 0.375 V/ns typical |

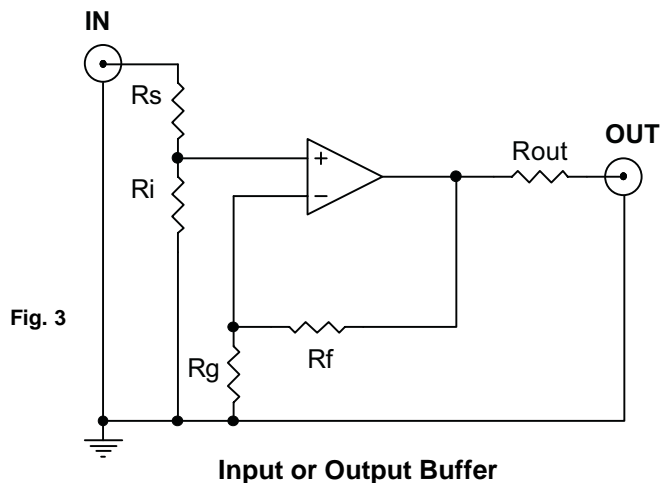


Fig. 3

Input or Output Buffer

WARRANTY

CYTEC Corp. warrants that all products are free from defects in Workmanship and Materials for a period of five years and that all switches are guaranteed for their Rated Operations.