

## DX SERIES

### SOLID STATE DIGITAL SWITCHING SYSTEMS

CYTEC's DX Series Switching Systems are based on solid state switch fabric. The Standard DX system is designed to switch TTL, CMOS, LVTTTL, IRIG, RS232 and RS422. Input and output buffers are used to convert to RS422 and/or RS232 signal levels. The DX is capable of switching data rates to 80 Mbps NRZ. The DX Matrix is a nonblocking, full fan-out configurations from 64x64 up to 256x256. Control options include RS232/ IEEE488, LAN or LCD Keypad Manual Control.

#### DX/256X256 CHASSIS

The DX/256X256 Series are 19" rack mounting units and are built as either Mainframe or Expansion Chassis. The Solid State Digital Matrix is modular, capable of being expanded from a 64x64 to a 256x256 by adding the desired number of input and output modules. The configurations occur in 64 channel increments so typical configurations will be 64x448, 128x384, 256x256, etc. Other possible configurations such as dual 12x12 clock and data matrices or multi chassis clock and data systems are also available. The DX Series Matrix is completely nonblocking and full fan-out.



DX/256x256 Mainframe Rear View

#### DX/256X256 MAINFRAME

The Standard Mainframes are built with power supplies, user specified Control Module and optionally Keypad LCD Display Manual Control. The system is completely modular by adding the desired number of DX/64 Input and Output Switch Modules defined on page 2 of the bulletin.

#### DX/256x256-E EXPANSION CHASSIS

The expansion chassis is identical to the mainframe in size and function. The expansion chassis, however, is built without a dedicated control module, manual control or power supplies. Instead, it is designed to be both powered and controlled by one of CYTEC's MESA Control Chassis detailed in the **MESA Bulletin**. Ribbon Expansion Cables connect the expansion chassis to the MESA.

#### CUSTOM CHASSIS

Custom configurations are available upon request. Most custom systems wire out the rear panel Input/Output connections to a required connector type that is different from the standard 64 pin male header or 78 pin female D Connectors. This wiring is priced on the basis of labor and materials.

#### CONTROL MODULES

##### IF-5 IEEE488/RS232 CONTROL MODULE

This module provides remote control via both RS232 Serial and IEEE488 Talk/Listen interfaces as detailed in Applications Bulletin AP-5.

##### IF-6 LAN INTERFACE

This optional module allows control over a 10BaseT Ethernet Local Area Network via TCP/IP protocols as described in Applications Bulletin AP-5.

#### MANUAL CONTROL

##### MC-2 WITH LCD DISPLAY

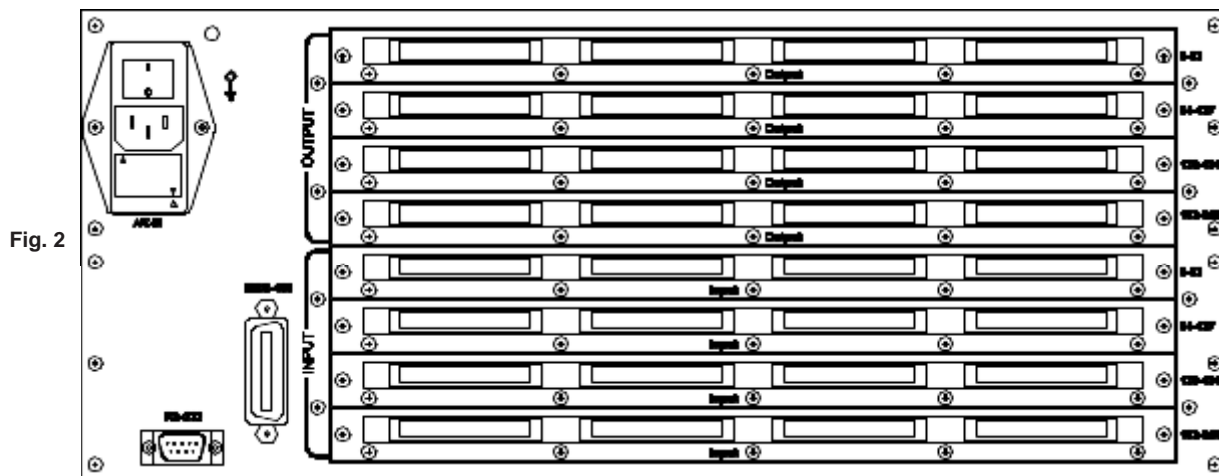
This local control supplies a front panel Keypad and LCD Display that lets the operator control any switch and verify switch status.

##### VMCS

This Virtual Manual Control Software allows a remote operator using a PC to view matrix Status and control switches using a full Graphical User Interface.

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

# SPECIFICATIONS AND BUFFER OPTIONS



DX/256x256 Mainframe Rear View with IEEE488 and RS232 Control

## DX/256x256 SERIES MATRIX

The DX Series is intended to switch almost any digital stream data stream in a nonblocking (any input to any output without disturbing previously set paths), full fan out (any one input to any or all outputs) configurations. The Basic system is intended to switch TTL or CMOS signal levels.

When used without buffer modules, the system conforms to all TTL/LVTTL specifications below

### DX SPECIFICATIONS (signal w/o buffers)

|                                   |           |            |
|-----------------------------------|-----------|------------|
| <b>Input Voltage High (VIH) :</b> | 2.1V Min  | 5.25V Max  |
| <b>Input Voltage Low (VIL)</b>    | -0.3V Min | 0.8V Max   |
| <b>Output Voltage High (VOH)</b>  | 2.4V Min  | 3.7V Max   |
| <b>Output Voltage Low (VOL)</b>   | -----     | 0.4V Max   |
| <b>Data Rate</b>                  | -----     | 80Mb/s Max |
| <b>Output Current</b>             | -----     | 80mA Max   |

## CONNECTIONS

**Signal Connections:** Standard 68 pin male header or 78 pin female D connectors. Patch panels can be provided to convert 68 pin male header or 78 pin female "D" to BNC, SMA or customer specified connector.

|                      |                           |
|----------------------|---------------------------|
| <b>AC Input:</b>     | Universal, US Standard AC |
| <b>RS232:</b>        | D9 Male                   |
| <b>GPIB:</b>         | IEEE488                   |
| <b>10BaseT LAN:</b>  | RJ45                      |
| <b>LAN to RS232:</b> | RJ45                      |

## GENERAL SPECIFICATIONS

**Dimensions** - 19" rack mount, 7" (4U) high and 20" deep  
**Weight** - <45 lbs (20.41 Kg)  
**AC Input** -100 to 130 VAC or 200 to 260 VAC, 47/63 Hz,  
**Operating Temperature** - 0 to 50 °C  
**Storage Temperatures** - -25 to 65 °C  
**Switching Speed** - 50 ns + Control Interface Delay  
**Humidity** - 95% RH noncondensing to 30° C

## INPUT and OUTPUT BUFFERS

Optional Input and/or output buffer modules convert the system to RS-422 and/or RS-232 levels. Each buffer module has sixty-four (64) channels so a fully buffered 256x256 system has four input buffers and four output buffers. When these modules are used, the specifications of the system are determined by the input and/or output buffers present.

The RS-422 input and output buffer modules have two options for connectors, 68 pin male header or 78 pin female "D" connector.

### DX SPECIFICATIONS (signal with buffers)

|  |                  |
|--|------------------|
| <b>RS-422 Input Buffer Characteristic:</b> |                  |
| <b>Common Mode Input Voltage (Vcm)</b>     | -7V < Vcm < +7V  |
| <b>Differential Voltage Swing</b>          | 200 mV Min       |
| <b>Input Resistance</b>                    | 6.8 KOhm Typical |
| <b>Data Rate</b>                           | 20 Mb/s Max      |

|   |                       |
|---|-----------------------|
| <b>RS-422 Output Buffer Characteristic:</b> |                       |
| <b>Common Mode Output Voltage</b>           | 1.8V Typical          |
| <b>Output Voltage High (VOH)</b>            | 2.5V Min / 3.4V Max   |
| <b>Output Voltage Low (VOL)</b>             | .3V Typical / .5V Max |
| <b>Data Rate</b>                            | 20 Mb/s Max           |
| <b>Output Current</b>                       | 150 mA Max            |

|  |                     |
|--|---------------------|
| <b>RS-232 Input Buffer Characteristic:</b> |                     |
| <b>Input Voltage Range</b>                 | -25V Min / +25V Max |
| <b>Input Voltage High (VIH)</b>            | 2.17V Min           |
| <b>Input Voltage Low (VIL)</b>             | 1.06V Max           |
| <b>Data Rate</b>                           | 200 kb/s Typical    |
| <b>Input Resistance</b>                    | 5.0k Ohms Typical   |

|  |                       |
|--|-----------------------|
| <b>RS-232 Output Buffer Characteristic :</b> |                       |
| <b>Output Voltage High (VOH)</b>             | +5V Min / +8V Max     |
| <b>Output voltage Low (VOL)</b>              | -8V Typical / -5V Max |
| <b>Data Rate</b>                             | 120 kb/s Typical      |
| <b>Output Current</b>                        | ±10mA Typical         |

## WARRANTY

CYTEC Corp. warrants that all products are free from defects in Material or Workmanship for a period of five years