

VXI Switching and Scanning



Features

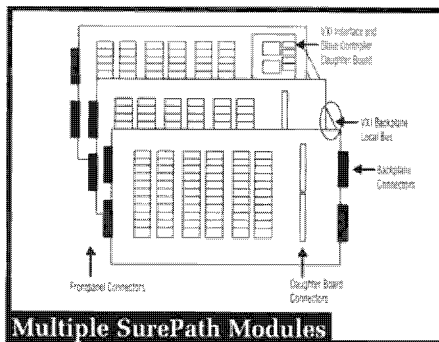
VXI SWITCHING

- Relay Switching in SPST and SPDT Configurations
- Relay Scanners Offer 1-wire, 2-wire, and 4-wire Configurations up to 240 Channels Per Module
- Relay Matrix with 256 Cross Points, Latching Configurations
- 1.3 GHz RF Multiplexer Offers Eight One x Four Multiplexers in a Single Slot
- Relay Drivers/Solenoid Controllers to 50 V DC and 300 mA



Applications

- RF Multiplexer
- Scanner/Multiplexer
- Relay Switch
- Matrix Switching
- Relay Switching Up to 10 A



Block diagram of a SurePath configuration.

Tektronix SurePath™ Family of Relay Switching

The SurePath VXI switching architecture from Tektronix combines exceptional reliability, uncompromising performance, and increased channel density with superb value to provide you with world-class signal switching and routing to meet the demands of manufacturing test applications.

The VX4351 40-Channel 10 A SPST Relay Switching Module is a high-current VXI switching module that extends the power handling capability of Tektronix' SurePath routing and switching technology from 2 to 10 A. The VX4351 allows automotive and defense/aerospace engineers to easily, accurately and reliably test at a high current without the need for externally mounted relays. The VX4351 features interchangeable socketed relays that create a fully integrated test solution and improve ease of use.

The SurePath family consists of the following switching modules and a VXI Interface and Slave Control daughter board:

VX4320 RF MULTIPLEXER

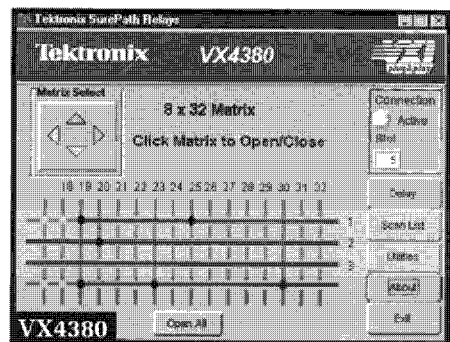
Eight 1x4 RF multiplexers in a tree configuration give uncompromising RF switching performance and channel density.

VX4330 SCANNER/MULTIPLEXER

Provides high channel density and superior signal switching capability. Programmable configurations: 240 1-wire, 120 2-wire, or 60 4-wire channels.

VX4350 SPDT RELAY SWITCHING MODULE

64 channels of 2 A, 220 V DC/250 V AC switching provides superior Tektronix SurePath Family of Relay Switching application flexibility.



256 Cross Point Switch.

VX4351 40-CH 10 A SPST RELAY SWITCHING MODULE

40 channels of 10 A, SPST, 250 V DC/V AC switching provide unmatched Tektronix SurePath Family of Relay Switching application flexibility. Programmable as a 20-channel DPST configuration.

VX4380 256 CROSS POINT SWITCH MATRIX

Configure as four individual 4x16, or single 16x16, 8x32, or 4x64 matrices. Other two- and four-wire configurations including multi-module applications are possible.

THE SUREPATH FAMILY

SurePath modules use an innovative relay control architecture to reduce cost, improve reliability, simplify programming, and speed test program execution. Each SurePath module is controlled over the VXI local bus by a VXI Interface and Slave Control daughter board. The daughter board can control up to twelve SurePath modules. Only one daughter board or VX4101A MultiPac™ Instrument is required per VXI chassis. However, maximum flexibility in test system design is ensured when each SurePath module is fitted with the optional daughter board. This results in fully independent operation. Whether you choose to implement your SurePath switching subsystem with a single or multiple daughter boards, there is no loss of throughput or execution speed.



See Tektronix on the World Wide Web:
<http://www.tek.com>



Tektronix measurement products are manufactured in ISO registered facilities.



For product detail, request a VXI Catalog by completing the business reply card in the back of this catalog.

VXI Switching and Scanning



64-CH SPDT Relay Switching.

CABLE ACCESSORIES

The SurePath family offers an extensive array of system integration accessories that will enable you to fabricate your own cables or select a pre-configured cable assembly from Tektronix. Available accessories include connector kits, crimp and disassembly tools, and fully documented cable assemblies of various lengths.

QUALITY

All SurePath modules have been rigorously tested and certified to MIL-T-28800E, IEC 1010, UL 3111, and EC92 quality standards. SurePath modules are IEEE-488.2, SCPI, and VXIplug&play-compliant.

SWITCH CONFIGURATIONS

In virtually all automatic test applications, the test engineer must evaluate signal routing and switching requirements. The VXI platform or architecture offers a variety of integration options for the test engineer to consider. Tektronix offers a wide array of different switching solutions ranging from matrices, scanners, multiplexers, RF switching, and an assortment of general purpose independent relay switches. Tektronix offers a switching solution for virtually any ATE requirement needing high density, excellent signal fidelity, and ease of integration and programming. All of our relay switching products offer a full line of accessories and cable assemblies. A pre-wired cable can significantly reduce your system integration efforts by freeing up test engineering resources to concentrate on "Value Added" contributions.

SCANNER/MULTIPLEXER

In scan mode the VX4330 can be programmed to allow one channel to be closed at a time. An analogy for its operation is a rotary switch that allows you to select one

SWITCHING AND SCANNING SELECTION GUIDE

Type	Configuration	No. of Channels	I _{switch max}	V _{max} DC/AC
Relay Switching				
VX4350 SurePath	SPDT	64	2 A	220/250
VX4351 SurePath	SPST	40	10 A	250/250
VX4357	SPDT	32	5 A	48/250
Scanner/Multiplexer				
VX4330 SurePath	Programmable	120 2-wire	2 A	220/250
Matrix				
VX4380 SurePath	Selectable	256-cross Points	2 A	220/250
RF Switch				
VX4320 SurePath	Tree	8 groups of 1x4	10 W	28 V DC
Relay Control				
73A308	Open Collector	80 outputs	300 mA	50 V DC
VX4101A SurePath	Open Collector	8 outputs	100 mA	35 V DC

of many positions. When the command to close a channel is received, any channel currently closed is opened and then the commanded channel is closed. This is called "break-before-make" operation.

In multiplexer mode, the VX4330 allows multiple channels to be opened or closed. Tektronix offer 1-wire, 2-wire and 4-wire scanners and multiplexers.

GENERAL PURPOSE RELAY SWITCHING

The switch card, which provides independent switches, is the most versatile. A switch card can be manually configured to act like a scanner or a matrix card. It can also be programmed to have any number of switches open or close at any given time. Each switch on the card is controlled by individual Open and Close commands.

Tektronix offers two versions of general purpose relay switching modules – high density or high current. The VX435x Family (VX4350, VX4351 and VX4357) gives the highest performance in a variety of switching configurations. Contact ratings up to 1,000 VA AC, 90 WDC are available in SPST, SPDT, and DPST configurations. The VX4351 offers 40 channels of 10 A relay switching.

SWITCH MATRIX

A switch matrix module has a number of switches pre-configured in columns and rows. Complex switching systems can be assembled using combinations of matrix switch modules. The VX4380 (2 A) provides a programmable cross-point type relay matrix for signal connection between any row and any column.

RF SWITCHING

The VX4320 is a single-slot C-size VXI module intended to switch RF and high-frequency signals. The VX4320 provides eight independent channel groups, each configured as a one-by-four coaxial multiplexer with a 50 Ω characteristic impedance.

RELAY DRIVERS

The 73A308 Relay Driver Module provides 80 open collector output drivers for control of external relays. Each channel can sink up to 300 mA at up to 50 V.

The VX4101A MultiPac™ Instrument includes six instrument functions, including a SurePath master and eight relay drivers. Each relay driver can sink up to 100mA at up to 35 V.

SIGNAL CHARACTERISTIC CONSIDERATIONS

When selecting the best solution to your switching needs, you must consider the characteristics of the signals you need to switch. Some signal characteristics you may need to consider when selecting a switching card are:

- Number of Channels
- Maximum Current
- Maximum Voltage
- Maximum Frequency

Please refer to the above Switching/Scanning Selection Guide to aid you in making the best choice for your application.