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Find the *Universal Switching VXIRMR242F016B* at our website: ***Click HERE***

Specification Sheet VXI-RMR242F-002

Twenty-Four Section 1x2 SMA Type DC-26.5GHz
VXIbus Switching Module
Model VXI-RMR242F-B

August 2000

General

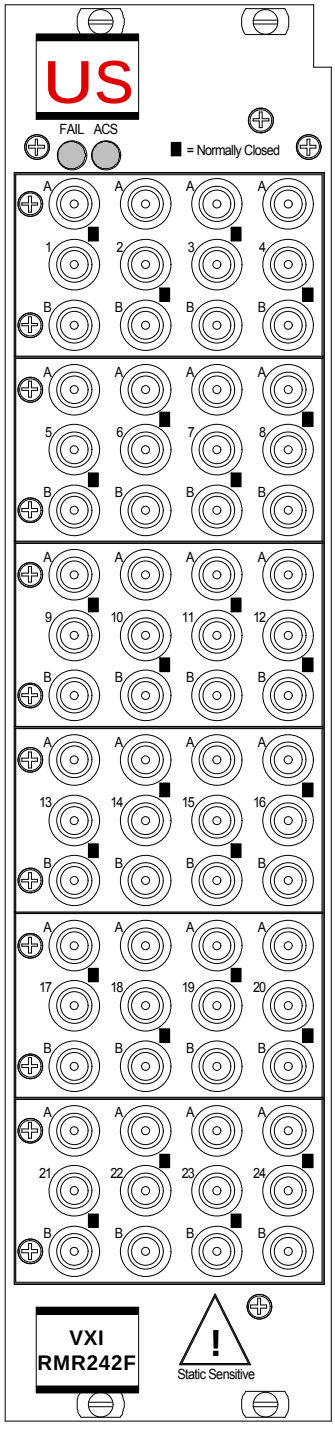
The new "B" version of the relay-based VXI-RMR242F coaxial microwave switching module provides a flexible medium density configuration for many applications. It contains multiple 26.5GHz relay sections for use in ATE stations, communication sites or other demanding applications requiring compact high performance microwave switching.

It provides up to twenty-four individual 1x2 relay sections within a single C2 sized VXI module. Each relay element is individually shielded from each other and the internal control/status circuitry. A unique control driver method reduces the amount of power the module requires from the host VXI mainframe, reducing cooling requirements and increasing reliability.

Ultra-high reliability relay elements (>5,000,000 operations) are coupled with control and status circuitry. Sections can be field replaced without special tools since each section is connectorized.

The number of sections included is determined by the model number. A reduced configuration must be sent back to the factory to be further populated.

The new "B" version provides 5 times the reliability, increase in bandwidth from 18GHz to 26.5 GHz, increased isolation, lower loss and lower DC power draw from the host mainframe.



Applications

- Antenna routing
- ATE systems
- Communication installations
- Switching high speed ECL/PECL data
- Satellite control centers
- Ground station IF signal routing

Features

- Fast register-based control
- High reliability relay elements
- DC to 26.5GHz bandpass (min)
- High performance stainless steel SMA signal connectors
- Field replaceable plug-in relay elements
- Rugged aluminum shielded C2 sized enclosure
- Built-in control and status circuitry
- Individually shielded sections
- LabVIEW drivers included

Configurations

- VXI-RMR242F-004B . . . . . .Four 1x2
- VXI-RMR242F-008B . . . . . .Eight 1x2
- VXI-RMR242F-012B . . . . . .Twelve 1x2
- VXI-RMR242F-016B . . . . . .Sixteen 1x2
- VXI-RMR242F-020B . . . . . .Twenty 1x2
- VXI-RMR242F-024B . . . . . .Twenty-four 1x2

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Construction

The diagram below shows the overall physical configuration of the VXI-RMR242F module. The top and bottom of the module contains venting slots for flow through cooling for proper operation in extreme temperature environments. The rugged aluminum enclosure provides a shielded environment internally for low noise signals. The module also provides aluminum slides for additional grounding for host VXI mainframes that provide conductive module slides.

Easily accessible during installation, the module has both the Logical Address and IRQ/function DIP-switches located on the side of the module (detailed below). Also located on the side is a set of status LED to indicate various module functions during troubleshooting.

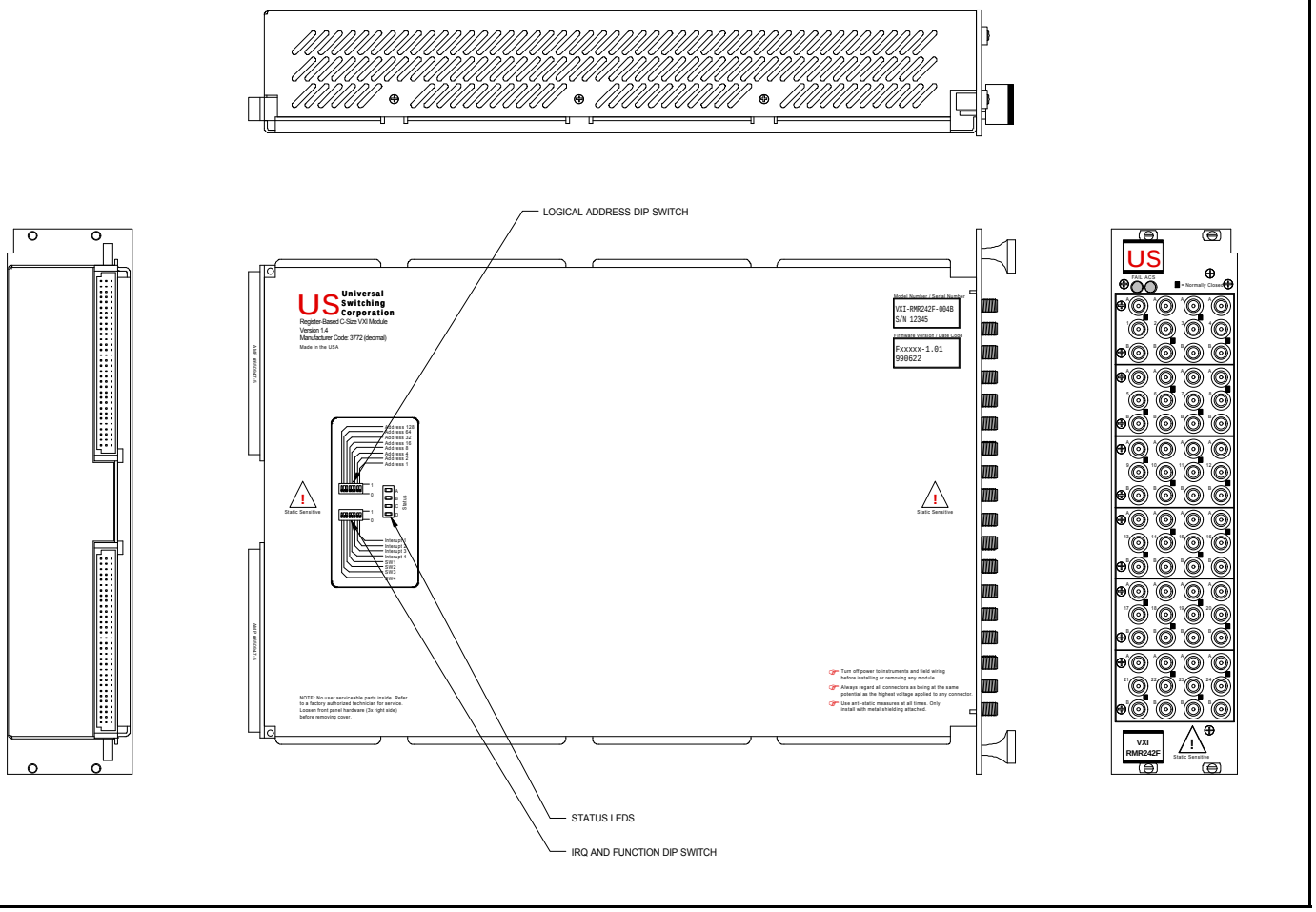
The module faceplate provides two additional status LED's. A red LED is labeled ERR to indicate error conditions, and a blue LED illuminates when the module is addressed by the VXI slot 0 controller.

Module control is register based providing fast easy control of the module's functions. LabVIEW drivers can be provided to simplify the control of the module.

Example Module Usage

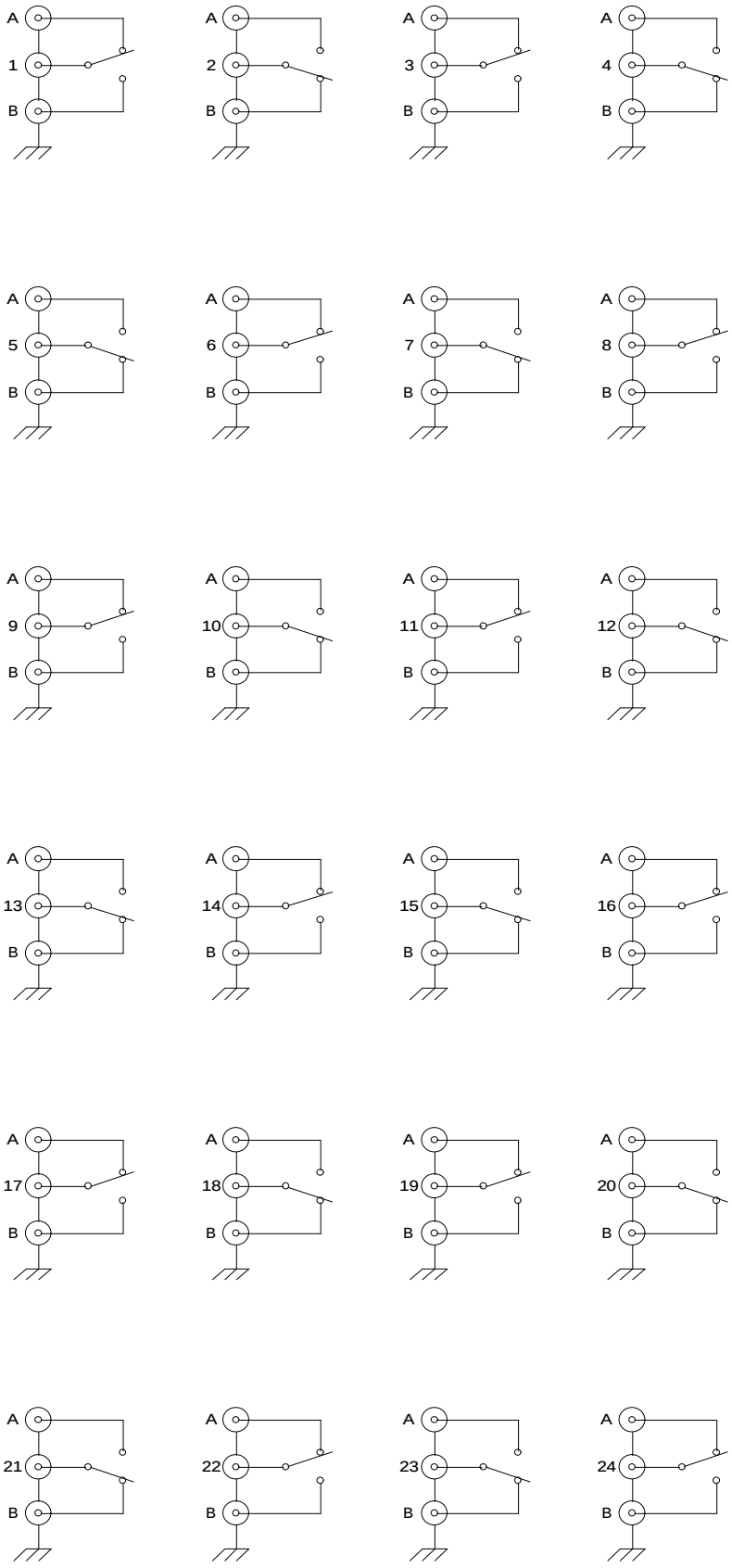
Many different applications can be served by the VXI-RMR242F VXI switch module. The module provides a versatile building block for selecting between two different sources for a number of microwave or digital signals. The fail-safe (normally closed portion) can be used for redundant system designs where signals must pass even though power has been lost to the module.

Universal Switching Corporation builds systems utilizing this and other modules to meet customer applications. Many other possibilities can be realized when coupled with other VXI switching modules too. Interconnection cabling can be provided by the factory using high performance 30GHz semi-flex cabling insuring the best possible performance.



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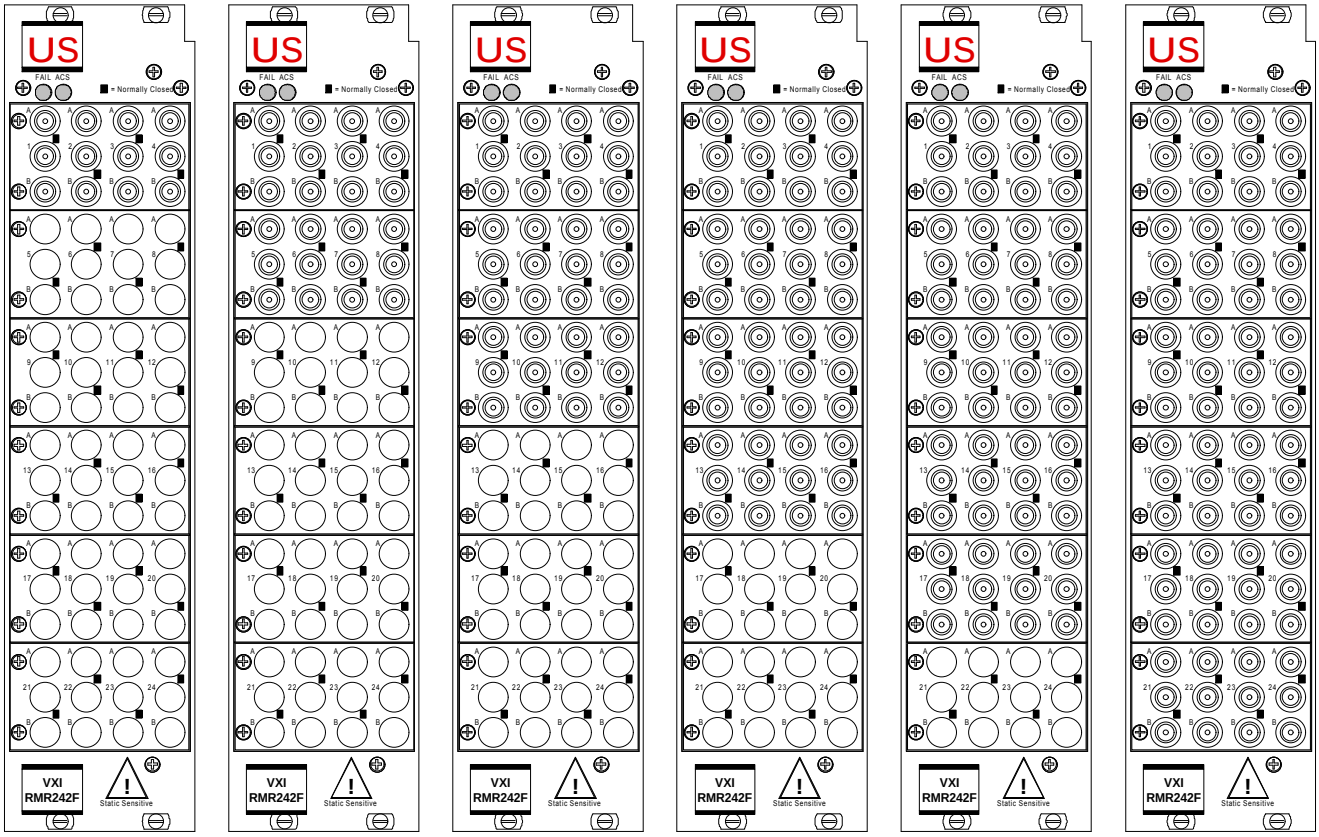
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NOTE: *Power-off default positions shown above.*

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VXI-RMR242F-004B VXI-RMR242F-008B VXI-RMR242F-012B VXI-RMR242F-016B VXI-RMR242F-020B VXI-RMR242F-024B



Signal Specifications

Switching elements . . . . . .Relay-based
Operating mode . . . . . .Failsafe (fallback)
Configuration . . . . . .Up to twenty-four 1x2's
Signal type . . . . . .Analog, bi-directional
Signal connector . . . . . .Stainless steel female SMA
Frequency range . . . . . .DC - 26.5GHz (min)
Impedance . . . . . .50 ohm
Insertion loss . . . . . .<0.10dB @ 4GHz
<0.20dB @ 8GHz
<0.50dB @ 18GHz
<0.70dB @ 26.5GHz
Repeatability . . . . . .<0.10dB max
Crosstalk isolation (min) . . .>80dB @ 4GHz
>75dB @ 8GHz
>70dB @ 18GHz
>60dB @ 26.5GHz
VSWR . . . . . .<1.15 : 1 @ 4GHz
<1.25 : 1 @ 8GHz
<1.35: 1 @ 18GHz
<1.50: 1 @ 26.5GHz
Maximum power . . . . . .100 watts @ 2.5GHz
40 watts @ 18GHz
Switching speed . . . . . .<50mS (plus control time)

General Specifications

Module size . . . . . .Dual (C2)
Control type . . . . . .Register based (V1.4)
Sparing . . . . . .Field replaceable elements
Construction . . . . . .Shielded aluminum case
Mating SMA torque . . . . . .8 inch pounds MAX
DC power . . . . . .+5V @ 1A plus 75mA/closure
+12V @ 100mA (50mS duration)
Weight . . . . . .<4lbs
Operating temp . . . . . .0 to +70C
Non-operating temp . . . . .-20 to +85C
Humidity . . . . . .0 to 95% (NC @ +25C)
Contact life . . . . . .>5,000,000 operations (per port)
MTBF . . . . . .>90,000 hours
(per MIL-HDBK-217F, N1
ground benign @ +25C)

Universal Switching's policy is one of continuous development, and consequently the company reserves the right to vary from the descriptions and specifications shown in this publication.

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