



HIGH VALUE 1:N REDUNDANT SWITCHOVER UNIT



OPTIONS

- 50 ohm IF impedance
- Remote RS422, RS232 bus control
- Automatic/switchback operation (for use in systems without remote control)

FEATURES

- Redundant protection for up to 8 converters (field expandable)
- Two redundant power supplies in the RSU
- Fault status indication for each of the on-line converters and the standby converter
- Fault status indication for the RSU (power supplies and switch matrix operation)
- Four converter operating modes (on-line, off-line, standby and not used)
- Individual priority levels for each converter
- Automatic frequency update of an on-line converter when used with an RS485 remote bus
- Complete control and monitoring capability over a remote bus (RS485 standard, RS232 and RS422 optional)
- Control and status monitoring of the standby converter over the remote bus
- Front panel digital display of DC voltages
- Compensation for gain differences between an on-line and the standby converter

The Redundancy Switching Unit (RSU) monitors the status of up to eight frequency converters. When a fault is detected, the defective converter is automatically taken off line and replaced by the standby synthesized frequency converter. The converters are connected by a switch matrix located on the rear panel. A defective converter is taken off line by physically removing its input/output signal lines and connecting them to the standby

converter via the switch matrix. This ensures continuous operation while the fault is corrected or allows for routine maintenance without disrupting signal transmission. The RSU may also be monitored and controlled from a system controller over a remote bus. Except for DC voltage monitor and remote bus data format, all front panel controls and indications are available to a controller over the remote bus.

MODEL NUMBERS *

Model	Switch 1 Frequency Range	Switch 2 Frequency Range	Switch 1 Connectors	Switch 2 Connectors
** RSUN-B/B-LC	50-180 MHz	50-180 GHz	BNC	BNC
RSUN-B/S-LC	50-180 MHz	0.95-18.4 GHz	BNC	SMA
** RSUN-S/S-LC	0.95-18.4 GHz	0.95-18.4 GHz	SMC	SMA
RSUN-B-LC	50-180 MHz	N/A	BNC	N/A

* 1:N Redundant Switchover Units are available in 1:1 up to 1:8 configurations.

** If this switch is being used to switch frequency tunable upconverters or downconverters, please consult the factory.

RF SPECIFICATIONS

Frequency	Insertion Loss (Maximum)	Amplitude Flatness/40 MHz (Maximum)	Return Loss (Minimum)	Isolation (Minimum)
50-180 MHz	0.3 dB	0.2 dB	20 dB	60 dB
0.95-4 GHz	0.3 dB	0.2 dB	18 dB	60 dB
4-8 GHz	0.4 dB	0.3 dB	16 dB	60 dB
8-12.4 GHz	0.5 dB	0.3 dB	14 dB	55 dB
12.4-18.1 GHz	0.6 dB	0.5 dB	12 dB	50 dB

Notes: RF specifications apply to a single switch.

IF switch (50-180 MHz) is 75 ohm impedance. 50 ohm IF impedance is available with Option 15.

FUNCTIONS

FRONT PANEL FUNCTIONS

Commands (keypad entry)	Set operating frequencies	Monitor (LCD display)	Converter number
	Set converter status -		Converter frequency
	on line		Converter priority
	off line		Converter address
	standby		Converter attenuation
	not used		Converter status
	Set converter priority		DC voltages
	Set remote address	Monitor (LED)	RSU serial data format
	Set local/remote mode of operation		Alarms, converters 1 to 8
	Set attenuation of standby		Alarm, standby converter
	converter		Alarm, power supplies
	Set RSU serial data format		Alarm, RSU
			Status, converters 1 to 8

REAR PANEL FUNCTIONS

Converter alarm input required.....	Contact closure for converter fault (open contact optional)
Converter status provided	Contact closure/open

GENERAL SPECIFICATIONS

STANDBY CONVERTER REQUIREMENTS ... Standby converter must conform to MITEQ RS422/485 protocol

PRIMARY POWER REQUIREMENTS

Voltage	90-250 VAC
Frequency	47-63 Hz
Power consumption	20 W typ., steady state, 120 W peak during switchover

PHYSICAL

Weight	35 pounds
Overall dimensions	19" x 7" panel height x 22" maximum (chassis depth 20" excluding protrusions)
RF signal connectors	SMA female
IF signal connectors	BNC female
Remote status connector	DB-25P
Remote interface connector	DE-9S (standard RS485), DE-9S for RS422, DB-25P for RS232
Local interface connector	DE-9S
Converter alarm input connectors	DE-9P

ENVIRONMENTAL

Operating	
Ambient temperature	0 to 50°C
Relative humidity	Up to 95% at 30°C
Atmospheric pressure	Up to 10,000 feet
Nonoperating	
Temperature	-50 to +70°C
Relative humidity	Up to 95% at 40°C
Atmospheric pressure	Up to 40,000 feet
Shock and vibration	Normal handling by commercial carriers

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OPTIONS

1. Change sense of converter alarm input to be contact open for converter fault.
3. Automatic/switchback operation (for use in systems without remote control). The RSU polls each of the on-line converters over a dedicated RS485 bus. Frequency settings entered from a converter front panel are automatically updated to the RSU. A faulted converter will be switched back on line if the fault condition is cleared. This option is also useful when the user would like to change the status of an on-line converter from on line to standby from a remote location. This done by artificially creating a fault at the RSU alarm input.
15. 50 ohm IF impedance.
17. Remote control.
 - A. RS422
 - C. RS232

Note: Missing option numbers are not provided for this product.

SPECIAL NOTE ON ORDERING

The RSU may be ordered with a configuration accommodating two to eight channels. This **must** be specified with order. Although the number of channels can be expanded in the field, MITEQ recommends ordering the maximum expected capability.

Note: For literature describing local control (front panel) and remote control (bus protocols), refer to MITEQ's Technical Note 25T004.

