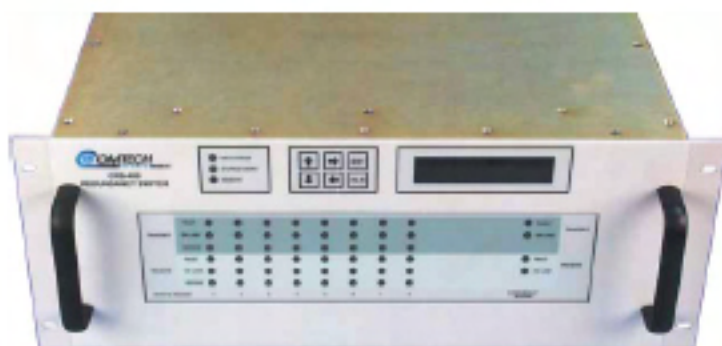


CRS-400
1:8 Redundant Switch



CRS-280L
1:N Redundant Switch



INTRODUCTION

The CRS-400 1:8 Modem Redundancy Switch provides fully automatic redundancy of traffic circuits for the SDM-2020 Modulators and Demodulators. The data interface currently supported is HSSI. Other features include:

- 1 backup modulator, demodulator, or both
- Up to 8 traffic modulators or demodulators
- Optional HSSI and IF cables
- RS-485 remote communication cables to each modulator or demodulator
- Optional: CRS-280L 1:N Redundant switch (70/140 MHz IF)
- Independent or dependent operation

KEY RELIABILITY FEATURES

- Dual, independent, AC power supplies
- Passive back-plane for signal path
- Normal traffic is not interrupted upon power failure
- Data and clock are provided to the redundant modulator or demodulator when in bridged mode
- Programmable modem priority
- Programmable switching delay
- Programmable independent/dependent switch modes
- High speed remote control

COMPONENTS

The main chassis of the CRS-400 houses all of the necessary assemblies for the redundancy subsystem:

- Front panel keypad and 24 character by 2 line vacuum fluorescent display
- Front panel traffic and backup channel status LEDs
- Redundant power supplies
- Controller
- Traffic Modem Interface (TMI) up to 8
- Redundant Modem Interface (RMI)

OPERATION

The CRS-400 will copy the configuration of all active traffic modulators or demodulators into the controller through the RS-485 ribbon cable. In Automatic Mode, normal traffic is switched to the redundant modulator or demodulator if a failure occurs in the online unit.

Single Transponder Operation

The simplest redundancy configuration uses the CRS-400 plus modulators and demodulators in conjunction with IF power splitters and combiners to create a cost effective redundancy subsystem.

Multiple Transponder Operation

The CRS-280L IF Switch is used in conjunction with the CRS-400 when a system operates with multiple satellite transponders. The CRS-280L individually switches each transmit and receive IF channel, and routes the backup IF to replace the appropriate channel. The CRS-280L supports 70/140 MHz modem IF frequencies.

OPTIONAL CRS-280L IF SWITCH

The CRS-280L is a single 4 UI panel mounted at the rear of a cabinet to provide IF interfacing for multi-transponder operation. The IF interface panel includes:

- Tx IF interface from each modulator
- Tx IF interface to each up converter
- Tx IF test point
- Rx IF interface to each demodulator
- Rx IF interface from each down converter
- Individual low loss switches for each IF path
- M&C control interface to CRS-400



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System

Type	1:8 Redundancy Switch system.
Operating Modes	Fully automatic or manual Force redundant unit to bridge traffic Select traffic unit as active or inactive. Select inactive to bypass any switching actions for the specific modulator or demodulator. Programmable hold-off to backup and hold-off to restore, from 2 to 99 seconds
Redundant Channel Signal Source	Any one of the 8 traffic paths, both Rx IF, and Tx data
Switching Conditions	Independent or dependent switching of prime to back-up following a modulator or demodulator fault.
IF Switching	Switch controls Tx Carrier On/Off state for each modem. External splitters and combiners are required. Optional: CRS-280L 1:N Redundant Switch for multi-transponder operation.
Switching Time	15 seconds max (with hold-off time set to 2)
Data Interfaces	HSSI, female SCSI-2 type connector
Front Panel	Vacuum fluorescent display, 2 lines, 24 characters Tactile keypad LED system status display showing, for all channels: <ul style="list-style-type: none">- Unit Status- On-line/Off-line Status- Bridge Status
Audible Alarm	May be turned On or Off, extra relay available
Common Faults	Dry relay contacts
Power Supply	Two independent inputs: 100 to 250 volts AC, Auto-Sensing Fused IEC connectors, 25 Watts max

Dimensions	4U chassis, 10.8 in. deep (275 mm)
Weight	18.5 lbs. (8.4 kg.)
Modems Supported	SDM-2020
Monitor & Control	All switch functions via front panel or remote interface
EMC and Safety Standards	EN 55022 CLASS B, Conducted and radiated emissions EN 50082-1, Radiated electromagnetic field immunity EN 60950, Standard for Safety requirements of Information Technology Equipment FCC Part 15 Class B
Environmental, Operating temperature range	0 to 40° C (32 to 104° F)

CRS-280L IF Switch (Optional) – See Separate Data Sheet

Frequency	70 / 140 MHz
Connector Type	Transmit and receive: BNC female
Impedance: Standard	75 Ω
Optional	50 Ω
Typical IF Switch Loss	Transmit loss 0.5 dB. Receive loss 4 dB (power divider)
Power	From CRS-400
Dimensions and Weight	4U chassis 2.0 in. deep (275 mm) 5 lbs. (2.2 kg.)
Environmental, Operating temperature range	0 to 40° C (32 to 104° F)



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