



INTRODUCTION

The CRS-300 1:10 modem redundancy switch provides fully automatic or manual redundancy of CDM-600 satellite modems.

The protection system consists of a maximum of 10 traffic modems, a redundant modem, and the CRS-300 redundancy switch. A CRS-280 IF switch is available if multiple satellite transponders are used. A CRS-350 ESC switch is available for open network ESC redundancy switching.

COMPATIBILITY

The CRS-300 supports interface types of EIA-422, V.35, EIA-232, LVDS, G.703 balanced or unbalanced and HSSI, offering users the flexibility of mixing data interface types within the same redundancy group.

KEY RELIABILITY FEATURES

- Dual, independent AC power supplies
- Passive back-plane for signal path
- Normal traffic is not interrupted upon power failure
- Non-interruption of user data when other traffic modem Interface circuit cards are removed
- Data and clock are provided to the redundant modem when in bridged mode
- Programmable hold-off times to backup or restore



SUPERIOR FUNCTIONALITY

The configuration of each traffic modem is stored in the CRS-300 controller. This information is used to program the redundant modem if the traffic modem fails.

The modem information is copied to the controller through an EIA-232 pair in the data cable. Each modem in the system is configured for address zero, allowing for EIA-232 communications to each modem from the controller.

The CRS-300 controls the traffic and redundant modem IF output. All modem outputs are On if the CRS-280 IF switch is used in the system.

The downlink path through the CRS-280 is completely passive.

External monitor and control may be connected to the controller board. Each modem may be monitored or controlled through the remote interface.

The data and clock signals to and from a traffic modem are routed through a Traffic Modem Interface (TMI), via a set of relays. This allows the data signals to pass directly through to the traffic modem in the event of a power failure. If the system's power supplies are lost, or if a TMI carrying traffic is removed, no interruption of traffic takes place.

The bridge mode may be used to verify the user data on a specific traffic modem. The redundant modem locks to the traffic modem receive IF input signal.

The operator can program a delay interval for the backup modem to wait before coming on line when a traffic modem failure occurs. This is useful for circuits subject to frequent or short outages.



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System Specifications

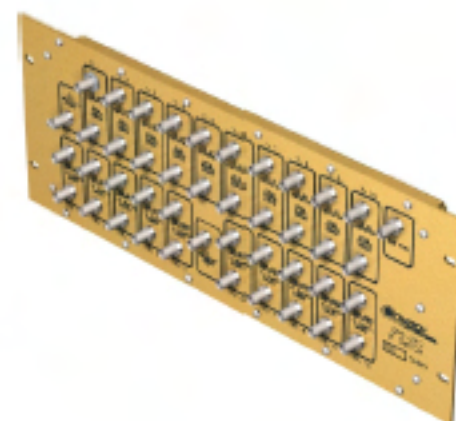
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| SystemType | 1:N redundancy switch system, N=10 max, bridging architecture. |
| Operating Modes | C161 control processor Fully automatic or manual Force traffic modem to redundant modem Force redundant modem to bridge traffic modem Remove selected traffic modem from control Programmable hold-off to backup and hold-off to restore from 0 to 99 seconds |
| Redundant Modem Signal Source Switching Conditions | Any one of the 10 traffic paths (bridge mode), both RX IF, and TX data Switch to redundant modem following a unit fault, TX traffic alarm or RX traffic alarm |
| IF Switching | CRS-300 without CRS-280 IF switch; IF ON / OFF control through the switch controller. CRS-300 with CRS-280; all modem outputs on all the time. |
| Switching Time | 7 seconds max (Delay interval set to zero) |
| Modem Interface | 25-pin 'D' type male connector carrying data, alarm and remote control signals 15-pin 'D' subminiature type male connector |
| Front Panel | Vacuum fluorescent display, 2 lines, 24 characters, tactile keypad LED system status display showing, for all modems: Unit fault RX traffic alarm TX traffic alarm on-line/off-line status Bridge status |
| Audible Alarm | Can be programmed to activate following various changes of state |
| Common Faults | Dry relay contacts |
| Power Supply | Two independent inputs: 100 to 250 volts AC, Autosensing Fused IEC connectors, 25 Watts maximum |
| Dimensions and Weight | 4U chassis - 10.8 in. deep (275 mm), 18.5 lbs. (8.4 kg.) |
| Compatible Modems | CDM-600 |
| EMC and Safety Standards: | EN 55022 CLASS B (Emissions) EN 50082-1 (Immunity) EN 60950 (Safety) FCC Part 15 Class B |
| Environmental | Operating temperature range 0° to 40° C |
| User Data Interfaces (Listed by TMI Type) | <ul style="list-style-type: none"> • CRS-320 TMI (EIA-422, 232, LVDS) <ul style="list-style-type: none"> (1) 25-pin 'D' type female connector EIA-422/530 DCE, EIA-232 (sync. or async.) V.35 DCE, X.21 DCE and DTE, Differential Signal (LVDS) • CRS-330 TMI (G.703 Bal/Unbal.) <ul style="list-style-type: none"> (1) 15-pin 'D' type female connector G.703 Balanced (DDI, DDO, IDI, IDO) (4) BNC type female connectors G.703 Unbalanced (DDI, DDO, IDI, IDO) • CRS-340 TMI (EIA-422, 232, LVDS, G.703) <ul style="list-style-type: none"> (1) 25-pin 'D' type female connector EIA-422/530 DCE, EIA-232 (sync. or async.) V.35 DCE, X.21 DCE and DTE, Differential Signal (LVDS) (1) 15-pin 'D' type female connector G.703 Balanced (DDI, DDO, IDI, IDO) (2) BNC type female connectors G.703 Unbalanced (DDI, IDO) • CRS-370 TMI (HSSI) <ul style="list-style-type: none"> (1) SCSI-2 type female connector HSSI |

Available Options

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| RMI | Redundant Modem Interface. One RMI (CRS-310) is required per switch. |
| TMI | Terrestrial Modem Interface. One TMI per primary channel is required up to a maximum of 10. Mixing of TMI types is allowed. |
| CRS-280 IF Switch | IF Redundancy Switch companion to CRS-300, which supports 1:N operation |
| CRS-350 ESC Switch | Engineering Service Channel companion to CRS-300. One CRS-380 ESC Interface module is required per primary modem. |
| Data Cables | Data cable sets for connecting between the modem and switch are available. |
| ESC Cable Sets | ESC cable sets for connecting between the switch and the modem are available. |
| IF Cables | IF cable sets for connecting between the switch and the modem are available. |

CRS-280 IF Switch (Optional)

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|------------------------|-----------------------------------------------------------|
| Frequency | 70 / 140 MHz |
| Connector Type | Transmit/Receive: BNC female |
| Impedance | 75 Ohm Standard 50 Ohm Optional |
| Typical IF Switch Loss | Transmit loss 0.5 dB Receive loss 4 dB (power divider) |



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| Power | From CRS-300 |
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| Dimensions and Weight | 4U chassis 1.23 in. deep (33 mm) 5 lbs. (2.2 kg) |
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| Environmental | Operating temperature range 0 to 40° C |
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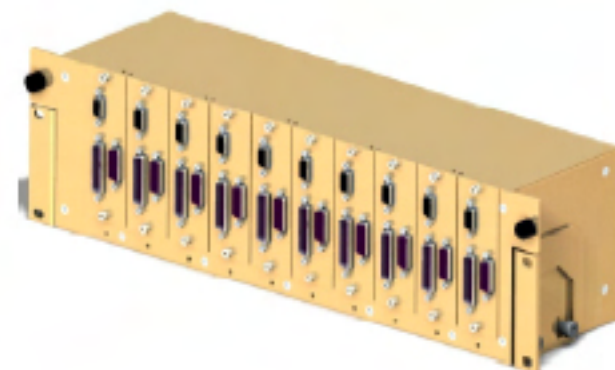
CRS-350 ESC Switch (Optional)

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| Connector Types | 25-pin D male, ESC, overhead signals 15-pin D female, IDR Alarms 9-pin D female, Audio |
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| Power | From CRS-300 |
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| Dimensions and Weight | 3U chassis 4.84 in. deep (123 mm) 5 lbs. (2.2 kg) |
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| Environmental | Operating temperature range 0 to 40° C |
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