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Modems and Corresponding Redundancy Switches

Application Note

Part # AN/Modem to Switch Matrix.doc

Compatibility Matrix

This Application Note provides a matrix of Comtech EF Data modems and the corresponding 1:1 and M:N redundancy switches that support them. Contact the Comtech EF Data sales department for ordering or for additional information.

Modem	1:1 Configuration	M:N Configuration	Notes Applied
CDM-500, CDM-550 CDM-550T, CDM-IP-550	CRS-100	CRS-200 (1:10) CRS-280 (1:10)	1, 4
CDM-570	CRS-180	CRS-300 (1:10) CRS-280 (1:10)	1, 4
CDM-600	CRS-150	CRS-300 (1:10) CRS-350 (1:10) CRS-280 (1:10)	3, 4
CDM-570L	CRS-170A	CRS-300 (1:10) CRS-280L (1:10)	1, 4
CDM-625	CRS-170A/180	CRS-300 (1:10) CRS-350 (1:10) CRS-280(L) (1:10)	3, 4, 10
CDM-600L CLM-9600L	CRS-150 with CRS-170A	CRS-300 (1:10) CRS-350 (1:10) CRS-280L (1:10)	3, 4
CDM-Qx	Built-in or CRS-311	CRS-300 (1:10) CRS-280(L) (1:10)	4, 5
CDM-700	CRS-170A/180	CRS-300 (1:10) CRS-280(L) (1:10)	4
CDM-710	CRS-170A/180	CRS-300 (1:10) CRS-280(L) (1:10)	4,
SLM-5650 / 5650A	CRS-311	CRS-300 (1:10) CRS-350 (1:10) CRS-280(L) (1:10)	3, 4, 10
SDM-100, 308, 309, 650	SMS-301 SMS-651	SMS-658 (2:8) SMS-758 (2:8) SMS-7000 (2:8)	2, 6, 8
SDM-300, SDM-300A SLM-3650, SLM-7650	SMS-301	SMS-7000 (2:8)	7
SDM-300L3	SMS-301 & CRS-170A	CDM-280L & (1:8) SMS-7000 (1:8)	7, 9
SDM-2020M/D (70/140 MHz)	SMS-451 SMS-301	SMS-458B(G.703) (1:4) CRS-400 (HSSI) (1:8) CRS-280 (1:8)	2, 7
SDM-2020D (L-Band)	SMS-301	CRS-400 (HSSI)& CRS-280L	
SDM-6000, 8000 SLM-8650	SMS-651 SMS-301	SMS-658 (2:8) SMS-758 (2:8) SMS-7000 (2:8)	2, 7, 8
SDM-9000	SMS-451	SMS-458B (1:4)	

Note Context

1. No 1:N for CDM-IP-550 or 570
2. Type of switch depends upon the data interface.
3. The CRS-300 and CRS-350 are used together in the ESC application mode only.
4. The CRS-300 and CRS-280(L) are used together as a data and IF switch (as needed)
5. Customer has a choice for 1:1 Redundancy,
6. SMS 451 supports HSSI, ASI, and G.703.
7. SMS-301 supports LVDS (Tx only), EIA-530, Parallel RS-422.
8. SMS-7000 replaces the SMS-658, and 758 switches. The SMS-301 replaces the SMS-651.
9. The SMS-7000 with CRS-280L combination is 1:8.
10. Limited to 1 port of bridged Ethernet

Note: Recent updates are highlighted.

Overview

Comtech EF Data switches are designed to provide fully automatic protection of traffic circuits in case of equipment failure and are intended for hub applications. Several switch designs are interoperable with other switches in a system for providing protection for specific modes of operation.

The 1:1 or M:N switch is capable of controlling different modem models, but it is important to use the right switch with each type of modem. In simple terms, the redundant modem has to be capable of doing everything that a traffic modem might be set up to do. This is important also when considering options that may be installed in the modems.

Example: Where protection of the IDR overhead signals (backward alarms, audio ESC, data ESC, etc) is desired, the CRS-350 module can be added to the CRS-300.

If all modems within a group are connected to the same up/down-converter, no external IF switching is required. However, where operation with more than one up/down-converter is required, add the CRS-280 IF switch, which permits connection to as many converters as there are traffic modems (or in the case of L-Band modems, the CRS-280L switch is selected).

The Comtech EF Data switches are designed to support all of the interface types available on the satellite modems, which include EIA-422/530, V.35, Sync EIA-232, G.703 balanced or unbalanced, LVDS, HSSI and GigE.

Note: The CRS-300 allows the user to mix traffic modems with different data interface types within the same redundancy group, (see CRS-300 User Manual for some limitaions)