

D-Matrix Switch

Digital Switch



Overview

The Kratos RT Logic Digital Matrix (D-Matrix) chassis provides a quick and easy solution to implement digital switching and monitoring within the Telemetry and Autometrux framework. It provides a fast array of configurations that can be used to propagate and convert digital RS-422 and TTL signals to multiple users and test points. The boards inside the chassis are based off Xilinx Spartan 3 Field-Programmable Gate Array (FPGA) and provide an Ethernet control interface. The D-Matrix comes in three different configurations of matrix switches, each pictured below.

Application

Many times in test systems and ground equipment, requirements exist to route and fan digital signals to units under test, multiple external users, remote and local test points, and internal rack signal routing. The D-Matrix meets these requirements. It can be used on both red and black applications where digital signals are routed to various components used for data processing, monitoring, and signal extraction.

The D-Matrix can route baseband signals to monitoring panels that provide the users with a visual go/no-go indication with no signal degradation to mission traffic. The D-Matrix switch can be used to match end-user unique impedance requirements and provide unique signal conditioning. The D-Matrix provides a low-cost solution to digital signal routing of Telemetry, Tracking, and Commanding (TT&C) rack assemblies and systems provided that the D-Matrix specifies a single location to route all baseband digital signals within a larger system.

