



Serial Interface Option Module

530-A Serial Interfaces for the PacketAssure iQ

- Integrates circuit-switching with IP networking for maximum mission flexibility
- Industry-leading performance extends service life in the field
- Easily inserted into a packet network using PacketAssure's iQ Manager
- Detailed configuration parameters maximize control of delay and jitter characteristics
- Dual operating modes and asymmetric operation support existing service agreements
- Automatically adjusts Class of Service parameters to ensure optimal bandwidth allocation

The Ultra Electronics DNE Technologies Serial Interface Option Module (IOM) adds a high performance, legacy capability to the PacketAssure iQ Service Delivery Manager. This module enables co-existence between circuit- and packet-based networking in a single PacketAssure platform, making way for an all-IP communications infrastructure when required.

The Serial IOM is a hot-swap capable, field-replaceable component of the PacketAssure iQ that provides four ports of legacy TIA/EIA-530-A traffic, each operating at over 30 user-selectable rates from 600 bps to 22 Mbps. Designed to the same form factor as all other PacketAssure iQ Interface Option Modules, the Serial IOM installs into any iQ chassis slot for maximum configuration flexibility. Each of the four ports can be separately provisioned to operate in one of two operating modes: Access Mode and Transport Mode.

In Access Mode, incoming synchronous data from the port is hardware-

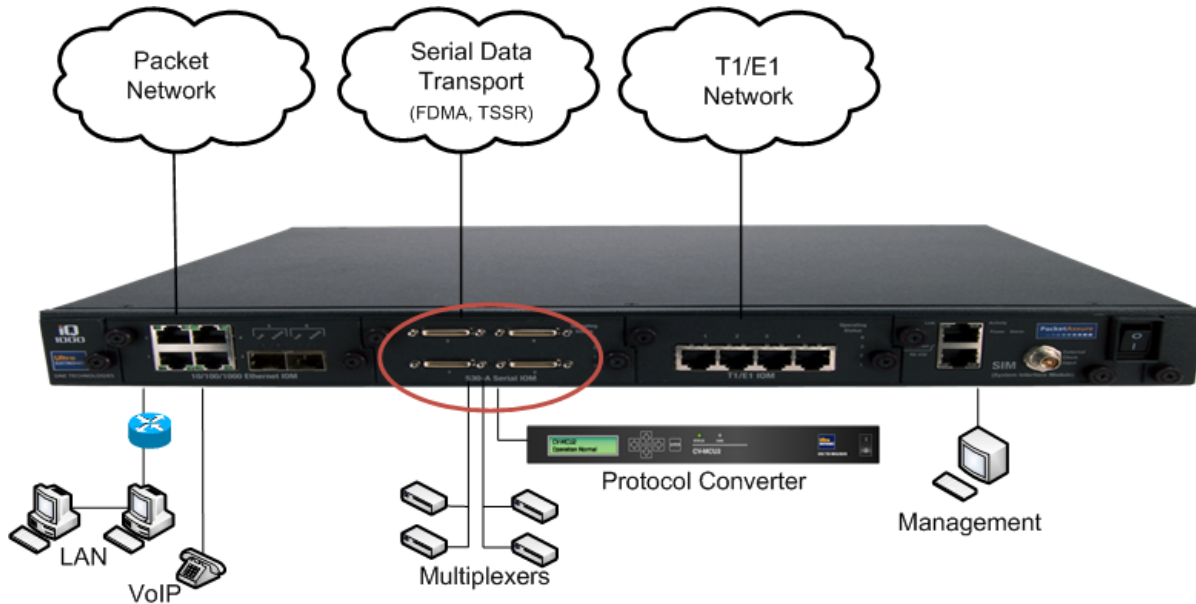
encapsulated into Real-time Transport Protocol (RTP), UDP, IP and Ethernet payloads. Additionally, the transport of Startup and Keep-Alive information is encapsulated in the payload of Real-time Transport Control Protocol (RTCP) packets. Each Access Mode configuration allows the user to easily select optimal Packet Delay Variation (PDV) settings.

In Transport Mode, Ethernet frames of any content or size are tagged and bit-stuffed using a high efficiency "HDLC like" protocol to delineate packets. This permits the transport of IP packets across serial transport devices such as FDMA modems, LoS radios, troposcatter radios or Type 1 bulk encryptors at speeds up to 22 Mbps per port. Transport Mode also supports a capability called Adaptive Transport, Auto CoS (ATAC) that adjusts Class of Service (COS) parameters based on changes to link quality, without operator intervention. ATAC supports 23 data rates from 64 Kbps to 22 Mbps, and includes a library of preconfigured CoS profiles to ensure rapid

setup. Once ATAC is set up, the system runs without further operator intervention, regardless of link quality changes, creating an autonomous Quality of Service solution for serial-based transport. A Transport Mode-configured port detects Loss of Signal (LOS), Loss of Frame (LOF) and line defects at the physical interface; and may be configured to cause attached cryptographic

equipment to resynchronize when LOF conditions are met over consecutive measurement intervals.

The Serial Interface Option Module is the definitive solution to adapt and evolve legacy, circuit-switched traffic into IP networking.



The serial interface option module packetizes serial data traffic for IP transport across packet, serial or T1/E1 facilities. It also allows for converged Ethernet and Serial applications to be transported across a serial data transport such as FDMA modem or serial-based radio

Specifications	
Operating Modes	Unstructured CES Access Mode; Framed Ethernet (Transport) Mode with optional Adaptive Transport, Auto CoS (ATAC); user-selectable per individual port
CES Operating Rates (bps)	600, 2400, 4800, 9600, 16K, 19.2K, 32K, 38.4K, 64K, 128K, 256K, 288K, 384K, 512K, 576K, 768K, 1.024M, 1.152M, 1.536M, 2.048M, 3.072M, 4.096M, 4.608M, 5.120M, 6.144M, 8.192M, 10.240M, 12.288M, 16.384M, 18.432M, 20.000M, 22.000M; symmetric/asymmetric
Transport Operating Rates (bps)	64K, 128K, 256K, 288K, 384K, 512K, 576K, 768K, 1.024M, 1.152M, 1.536M, 2.048M, 3.072M, 4.096M, 4.608M, 5.120M, 6.144M, 8.192M, 10.240M, 12.288M, 16.384M, 18.432M, 20.000M, 22.000M; symmetric/asymmetric
Physical Ports	Four ports per module; each port conforms to EIA-530A; mechanical connection is via a 36-pin Micro-D connector
LEDs	One per port: indicates port enabled, disabled, major/minor alarm condition, or diagnostic mode
Protocols / Standards	Unstructured CES, RTP, RTCP; ANSI TIA/EIA-530-A-1992, ANSI TIA/EIA-334-C-2000, ANSI TIA/EIA-422-B-1994, EIA RS-423-1975



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