CTR 8740
TRANSPORT ROUTER

DATASHEET [ETSI]

The CTR 8740 is a next generation Converged Transport Router that supports Carrier Ethernet, IP/MPLS and Segment Routing, as well as High Availability and Strong Security features. CTR 8740 enables affordable networking for microwave, millimeter-wave and fiber applications. It is compact and easy to use, 5G-ready, and supports native NETCONF/YANG management for SDN automation.

Resilient and Secure

State-of-the-art design delivers lower Total Cost of Ownership than alternative solutions, and integrated microwave awareness further lower CAPEX and OPEX by removing the need for a separate microwave indoor unit.

CTR 8740 delivers robust high availability support for protection against hardware failures, IP/MPLS segment routing for faster network convergence and increased scalability; and strong-security capabilities, such as TACACS+, local user account management and management Access Control List.

Simplifying Transport Networks

CTR 8740 is designed to simplify transport networks. With its versatile IP/MPLS feature set, CTR 8740 enables a single low-cost solution for both fiber and microwave transport sites to reduce the number of devices that need to be installed.

CTR 8740 provides microwave-aware aggregation and routing for any radio architecture deployment, including all-indoor, split-mount, and trunking. A high-capacity switching fabric allows deployment in access, pre-aggregation or aggregation applications, in a variety of topologies. Fewer parts enables simplified ordering, management and maintenance.

Advanced Layer 2 CE, Layer 3 IP/MPLS and Segment Routing support addresses evolving backhaul needs for mobile, mission critical, WISP and enterprise networks.

Patented Aviat 10 Gbit/s Layer-1 Link Aggregation (L1LA) delivers robust multi-channel links from 2+0 to 16+0, with maximum throughput efficiency and seamless protection for critical traffic.

Optional High Availability (HA) support ensures robust protection against hardware failure and no single point-of-failure, with graceful restart, non-stop forwarding.

Hardware Platform

Base Hardware Chassis	
1 RU height chassis includes:	-48 VDC power supply - dual input
	Local management & console ports (RJ-45 & USB-C)
	2x USB-3 port (USB-C) including support for WiFi
	Ethernet user interface (details below)
	10 GE stacking protection
	Replaceable fan module with built-in 4x fan redundancy
	Redundant power supply module

User Interfaces	
4x 1000 Base-T (RJ-45)	
8x 1000 Base-X (SFP) unpopulated ports	Single-mode-LX (1013 nm), -ZX (1550 nm) optical
3x 1000 / 2500 / 10000 Base-X (SFP+) unpopulated ports	Multi-mode - SX (850 nm) optical
	1000 Base-T (RJ-45)
	SDH/SONET (1310 nm) optical TSOP options

Radio & Networking

Radio Networking	
All-outdoor radios	Aviat WTM 4000 & STR 4500 series
Fixed & adaptive coding modulation	QPSK to 4096 QAM
Layer-1 Link Aggregation (L1LA)	WTM 4000, STR 4500: 1x 8+0 or 2x 4+0/ 4x 2+0
N+0 Space Diversity Trunking	STR 4500
Co-Channel operation with XPIC	WTM 4000
Adaptive Dual Channel (A2C+)	WTM 4100
4x4 LOS MIMO	WTM 4200

Synchronization	
Internal Stratum-3 clock as standard or optional high accuracy Stratum-2[1]	
Synchronous Ethernet[1]	ITU-T G.8262
ESMC / SSM	ITU-T G.8264
Precision Time Protocol – TC & BC[1]	IEEE 1588v2

Carrier Ethernet / L2 Services

Non-blocking switch	68 Gbit/s
QoS	8 COS Scheduling, policing Storm control, shaping
QOS mapping	PCP (802.1p), DSCP, H-QoS[1]
VLANs	IEEE 802.1Q IEEE 802.1ad (Q-in-Q)
Spanning tree protocols	STP, RSTP, MSTP
L2 link aggregation	802.1AX
Ethernet ring protection	ITU-T G.8032v2
Ethernet OAM	IEEE 802.1ag, ITU-T Y.1731
Congestion avoidance	RED
Jumbo frames	to 10 KB

IP / MPLS Services

IP Addressing	IPv4 & IPv6
Routing type	Unicast routing with IP static and dynamic routing Equal Cost Multipath IP Routing and MPLS load sharing Segment Routing (OSPF) with Fast Re-route (Local/Remote LFA, ECMP)[2] IPv6 for management (OSPFv3[1])
Gateway Protocols	IS-IS, OSPF (interior) BGP with Route Reflector, iBGP, eBGP (exterior)
Signaling	Label Distribution Protocol (LDP) and T-LDP LSP protection with BFD Micro-BFD over LAG
Services supported	Layer 2 VPN services over LDP signaled tunnels (VPLS and VPWS) Layer 3 VPN services are supported using BGP
Diagnostics	VRF & LSP Ping and Traceroute
Traffic Engineering	Supports RSVP-TE extensions [1]

Element & Network Management

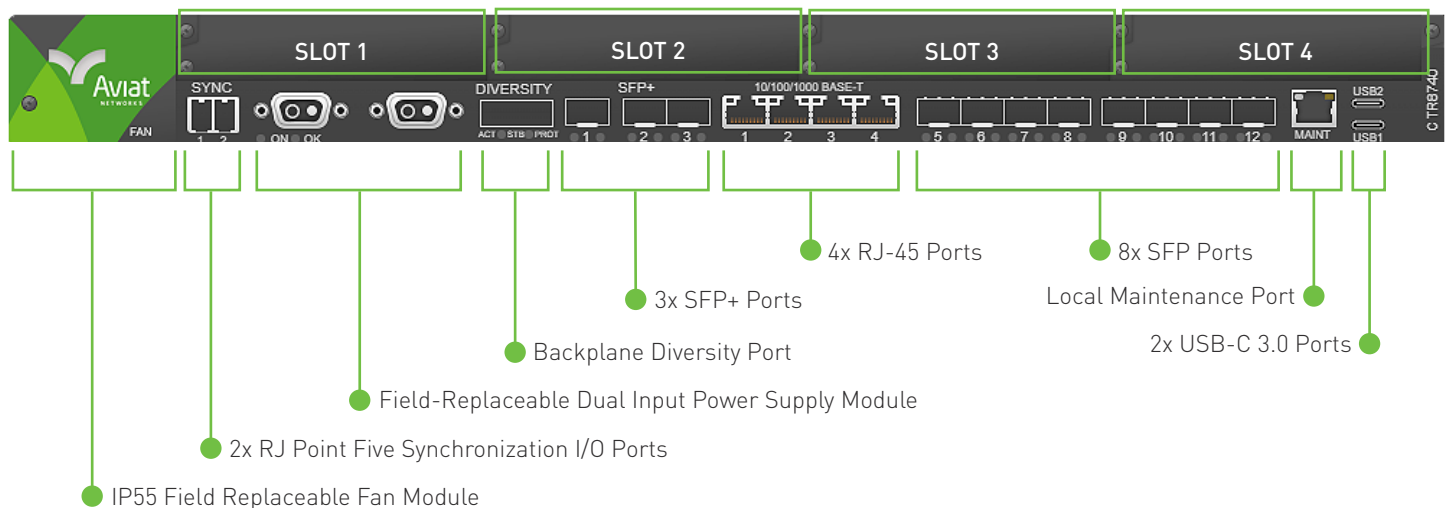|	
Local configuration	via CLI or Web GUI
Aviat ProVision+ EMS	
NETCONF / YANG	
SNMP v2c / v3[1] MIB support (read only)	
HTTPS, SSH & TACACS + client	
SNTPv4, embedded real time clock	

Operating Environment & Power	
Operating temperature	-5° to 55° C [23° to 131° F]
Humidity	5 to 93%
Altitude	4,500 m [15,000 ft]
Base chassis input voltage range	-40 VDC to -57 VDC
Power consumption	45 W to 70 W

Mechanical		
Chassis	1 RU	44 mm x 445 mm x 240 mm [1.7 in x 19 in x 9.4 in]
Plug-in module		18.27 mm x 104.3 mm x 230 mm [0.72 in x 4.1 in x 9.0 in]
Chassis weight		4.5 kg [9.9 lb]

Standards Compliance	
EMC	EN 301 489-1, EN 301 489-4, EN 55032 Class A, EN 300 386
Operation	EN 300 019, Class 3.2
Safety	IEC/EN 60950-1, IEC/EN 62368-1

4x RJ-45 Ports
8x SFP Ports
3x SFP+ Ports
Local Maintenance Port
Backplane Diversity Port
2x USB-C 3.0 Ports
Field-Replaceable Dual Input Power Supply Module
2x RJ Point Five Synchronization I/O Ports
IP55 Field Replaceable Fan Module

Notes:
[1]   To be confirmed in a later release.
[2]   Available with part number CTE-740-002.

Disclaimer

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