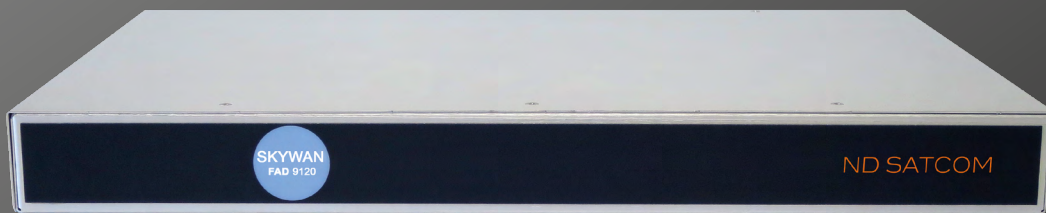




INSTALLING  
RELIABILITY



[www.ndsatcom.com](http://www.ndsatcom.com)

# UNIVERSAL ACCESS DEVICES FAD 9120

The SKYWAN family of VSAT networking products is complemented by the FAD 9120, a compact high performance universal access device of latest technology. The FAD 9120 is an entry-level standalone chassis designed for network convergence at the branch office level.

The FAD 9120 is a high speed, low cost, flexible and compact unit that supports 8 analog or 60 digital telephony channels in a multitude of application scenarios. The universal access device provides concentration and switching of packetised voice as well as data from the LAN ports and/or the serial interfaces. Being specifically adapted to the SKYWAN VSAT system, the combination of both defines the state of the art for voice quality in packetised transmissions over satellite. Bandwidth usage is minimised through efficient compression and dynamically call set-up.

Extension interface cards add optional hardware interfaces to the unit. They provide a physical interface to external devices and networks, scalable to the needs of your application. The interface cards slide into slots located at the rear of the unit. The FAD 9120 uses the same interface boards as the FAD 9220/9230, however the FAD 9120 has a low profile chassis requiring only 1 Rack Unit of space. Consequently, the FAD 9120 interface cards must also be low profile using different faceplate than the FAD 9220/9230. Replacement kits are available to convert regular interface cards into low profile interface cards by exchanging the faceplate.

Designed to provide maximum network performance and reliability in low-bandwidth environments, the FAD 9120 reduces network infrastructure costs and simplifies WAN connectivity for mission-critical applications. The FAD 9120 provides a safe migration path from legacy TDM or Frame Relay networks to IP-centric networks. It includes support for the latest VoIP (SIP) and Eurocae WG67 ED-136/137 standards and robust IP/Ethernet QoS, with eight classes of service and 16 levels of prioritisation to ensure that mission-critical applications always receive sufficient bandwidth. In addition, specialty features are available for handling the particulars of radar, voice push-to-talk (PTT) and VHF voice applications common to Air Traffic Control and governmental networks.

## KEY FEATURES

- Delivers premium QoS over minimum bandwidth capacity for voice services
- Support of analogue and digital voice, full support of QSIG (supplementary services)
- Full range of legacy protocols i.e. HDLC, Async, SDLC, BSC, bit transparent
- Support of IP routing: RIP, OSPF



REAR VIEW WITH INTERFACES AND EXTENSIONS SLOTS



LOW PROFILE AND REGULAR INTERFACE CARDS

**TECHNICAL SPECIFICATIONS – FAD 9120**

**SYSTEM DETAILS**

Universal Serial Port	RS232/V.24, V.35, X.21/V.11, RS449/V.36, RS530
Ethernet Port	2 x 10/100 BaseT Ethernet ports, RJ-45 connectors
Expansion Slots	2
Performance Level	20,000 cells per second (15 Mbit/s)

**NETWORK CONNECTIONS**

Network Topology	Automatic node discovery and rerouting with least cost metric routing
Node Interconnection	Automatic load balancing, bandwidth on demand (over leased line), dial back-up, time-of-day connect

**TELEPHONY FEATURES**

Maximum Telephony Channels	up to 8 FXS or FXO or E&M, 4 BRI S/T ports
Digital Telephony Channels	up to 3 serial data ports, or 1 serial and 4 T1 or E1 data interfaces
Voice Compression Algorithms (5 channels per DSP)	ACELP-CN (8K/6K with fallback), G.711 (PCM 64 kbit/s), G.726 (ADPCM 16K/24K/32K/40K), G.729/G.729 a, Group III FAX: 4.8, 7.2, 9.6, 12.0, 14.4 kbit/s, Modem Relay up to 14.4 kbit/s (includes STU III support)

**LAN SUPPORT**

Ethernet Interfaces	Ethernet II and IEEE 802.2, 802.3, SNAP
Routing	Standards: IP RIP V1/V2 or Static, OSPF, NAT, Multicast IGMP V1/V2, IPX RIP and SAP, LLC2, Virtual LAN, DHCP Client, BOOTP
Quality of Service	8 classes of service, 16 priority weights, association to 802.1p and DiffServ
Bridging	802.1D Spanning Tree Protocol (STP), MAC Layer, Transparent Bridging

**SERIAL PORT FEATURES**

Basic Serial Port	1 serial interface, max. speed: 6,144 kbit/s
Expansion Card	Single serial interface card, max. speed: 2,048 kbit/s
Protocols	SNA: SDLC, LLC2 or Frame Relay RFC1490 Legacy Sync: PPP, HDLC, SDLC, X.25 Frame Relay: RFC1490, UNI-DTE, UNI-DCE Asynchronous: ENQ/ACK, XON/XOFF, transparent, CTS/DTR

**PHYSICAL/ENVIRONMENTAL**

Dimensions (H x W x D)	45 mm (1 RU) x 427 mm (19") x 310 mm
Typical Weight	1.8 kg (4 lb)
Input Power/ Power Consumption	auto-sensing 100 – 240 V AC, 50/60 Hz, 50 W maximum
Operating Temperature	0 °C ... 45 °C (32 °F ... 113 °F)

Storage Temperature	-20 °C ... 65 °C (-4 °F ... 149 °F)
Relative Humidity	10 % ... 90 % non-condensing
Operating Altitude	4,572 m (15,000 feet) Note: Above 3,048 meters (10,000 feet) altitude the maximum operating temperature of the unit drops from 45 °C to 35 °C

#### REGULATORY COMPLIANCE AND AGENCY APPROVAL

EMC Emission Class A	FCC Part 15, EN55032:2012, AS/NZS CISPR32
EMC Immunity	EN55024:2010 EN60950-1:2006 + A11, A1, A12, A2
Safety	IEC 60950-1:2005 + A1, A2 UL 60950-1 CSA C22-2 N°60950-1
Telecom – Digital	IC CS-03 Issue 8 – Part 2 and Part 6, TBR 1 + TBR 2, TBR4, TBR 12 + TBR 13
Telecom – Analog	IC CS-03 Issue 8 – Part 1, TBR 15 + TBR 17, TBR 21

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