

# SkyWAN® PRODUCT FAMILY

## SkyWAN® IDU 7000 SERIES

ND SatCom SkyWAN® is an advanced MF-TDMA VSAT system for establishing wide area corporate networks.

The SkyWAN® IDU 7000 series introduces new members of the ND SatCom SkyWAN® Product Family, providing a highly efficient and robust modem technology platform for the next generation of satellite networks.

In comparison with other satellite modems, the SkyWAN® IDU 7000 terminal series prevails due to distinct features such as:

- / The most advanced and powerful modem in the TDMA market
- / Enabling mobile and transportable applications with the smallest antennas and highest performance
- / Advanced security features:
  - / Separation of network management data and user traffic
  - / Risk mitigation of unauthorized access
  - / Protection against frequency interference
- / Seamless integration with terrestrial networks using the latest IP capabilities and load balancing features
- / Includes the feature set of the SkyWAN® IDU 5000 series

### Key Features

- / Patented Turbo- $\Phi$  Coding enables reduction of antenna size and RF equipment up to 50%
- / Data rates up to 10 Mbit/s
- / Advanced security capabilities
- / IPv6 ready

// **SkyWAN® IDU 7000 series –**  
**The new standard for**  
**MF-TDMA performance //**



SkyWAN® IDU 7000



# SkyWAN® PRODUCT OVERVIEW

The SkyWAN® IDU 7000 series consists of four devices:

## SkyWAN® IDU 7000

Typically the SkyWAN® IDU 7000 is used as Master or Back-up Master station or serving as fully meshed node in the network. This requires the insertion of the Frame Plan Generator board. The 4 RU device is capable of housing three additional demodulator cards to receive up to two frequency channels simultaneously. Mini hub nodes can be established. In addition fully meshed network configurations can be supported via cross strapped transponders.



## SkyWAN® IDU 2570/2070

The slim line 2 RU, 3 slot SkyWAN® IDU 2570/2070 unit is fully compatible with the ND SatCom SkyWAN® IDU 7000 system and provides the same user interfaces. It is offered “off-the-shelf” in star topology configuration. A simple upgrade option enables a fully meshed network topology to be implemented. The SkyWAN® IDU 2570/2070 is the right choice when the customer requires only a dedicated functionality or wants to save on rack space. It can use the full range of ODU options to support disadvantaged locations or higher return channel data rates.

The IDU 2570 interacts with the RFT 5000 series whereas the IDU 2070 is able to supply a low power BUC such as the RFT 2000 series.

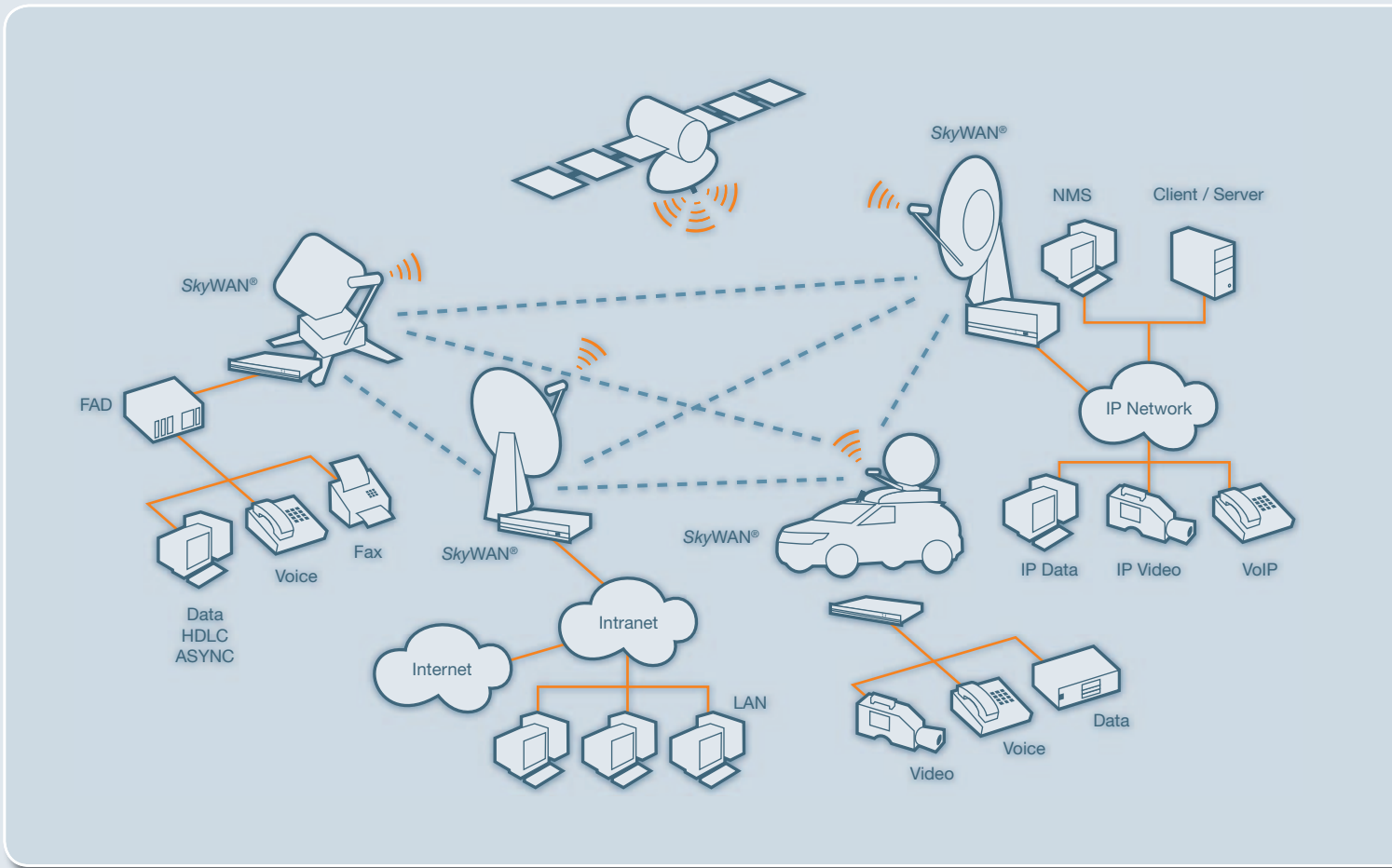


## SkyWAN® IDU 1070

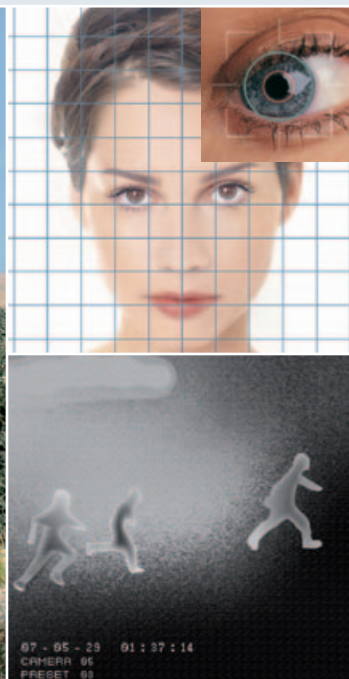
The SkyWAN® IDU 1070 is a new member of the ND SatCom SkyWAN® product family, providing a compact and cost efficient remote terminal. It is fully compatible with the existing SkyWAN® IDU 7000 terminal series and supports multiple IP interfaces. A dedicated IP interface is available for management traffic only to further enhance security. The IDU 1070 terminal is available with various built-in AC and DC options to power a wide range of ODU units.

IDU 1070 provides optimised IP networking capabilities in various network topologies and is ideally suited to support enterprise and governmental network applications where performance and size is key. Customers for Defense, Energy, GSM Backhaul, Media, Maritime and Disaster Recovery applications will benefit from its flexibility and scalability.





SkyWAN® is regarded as the most reliable and advanced Mesh DAMA (MF-TDMA) broadband VSAT system in the industry and has become the preferred choice for building satellite-based communication networks in the global market place.



## Technical Specifications

TYPE OF NETWORK			
TOPOLOGY	True full mesh / star / hybrid		
SATELLITE CHANNEL ACCESS TYPE	MF-TDMA / multiple carrier hopping / transponder hopping / transponder-cross-strapping		
ACCESS SCHEME	Bandwidth-on-Demand / real-time / non-real-time access / guaranteed throughput / QoS classes		
INDOOR UNIT			
MODEM RATES	100 KBaud – 6 MBaud / variable in 1 KBaud increments (61 Kbit/s - 10 Mbit/s) / data rate hopping		
INTERFACES PER IDU	Fast Ethernet / Ethernet / 4 Serial Line Ports		
MODULATION	QPSK / 8 PSK	CHANNEL SPACING	1.2 / 1.3 and 1.4
INTERMEDIATE RECEIVE/TRANSMIT FREQ.	950 - 1750 MHz L-Band	EB / NO	3.0 dB at FEC 1/2 with BER 10-7
FORWARD ERROR CORRECTION	Turbo- $\Phi$	FEC CODE RATES	QPSK: $1/3$ / $2/5$ / $4/9$ / $1/2$ / $3/4$ / $4/5$ / $5/6$ / $6/7$ 8PSK: $2/3$ / $3/4$ / $4/5$ / $5/6$ / $6/7$
USER INTERFACES AND SERVICES			
INTEGRATED IP ROUTER			
PHYSICAL INTERFACES	10/100 Mbits Ethernet LAN / IEEE 802.3 / RJ-45		
PROTOCOL	Dynamic Routing / OSPF / Static Routing / Multicast / Load Balancing / TCP / TCP-Acceleration / UDP / IGMP / VoIP / QoS / Diffserv / Robust Header Compression / Platinum Dynamic QoS for VoIP and Live Video		
SECURITY			
LINK ENCRYPTION (V7.1)	AES 256 Encryption with internal Key Management (optional)		
INTEGRATED FRAME RELAY SWITCH			
PHYSICAL INTERFACE	X.21 / RS-449 / RS-232C and V.35 / up to 6 Mbit/s	PROTOCOL	UNI/NNI / Isochronous / Transparent
SkyWAN® FAD VOICE / DATA SERVICES			
ANALOG VOICE / FAX INTERFACES	FXS- / FXO and E&M / Fax G3 2.4 - 14.4 Kbit/s	DIGITAL INTERFACES	E1/T1 (G.703) / ISDN BRI for voice / data / PRI
GSM	A-bis / A-ter / A / E / SS-7 / adaptive bandwidth optimization	DATA RATES	Up to 6 Mbit/s
VOICE COMPRESSION	8 Kbit/s ACELP and others	SERIAL DATA INTERFACES	1 - 3, extensions possible
PROTOCOLS	HDLC / SDLC / ASYNC / BSC / Bit transparent	ETHERNET INTERFACE	Dual 10/100 Mbit/s Ethernet LAN / IEEE 802.3
RFT 5000 FOR SkyWAN® IDU 7000/2570			
KU-BAND	10 / 20 and 30 W	POWER SUPPLY	90-260V AC / 200-350W / 48V DC
C-BAND	10 / 20 and 40 W	OPERATING TEMPERATURE	-40 °C to +55 °C
RFT 2000 FOR SkyWAN® IDU 2070			
KU-BAND	3 / 4 and 6 W	OPERATING TEMPERATURE	-40 °C to +55 °C
C-BAND	5 W		
NETWORK MANAGEMENT			
NMS PLATFORM	SkyNMS		
NMS ARCHITECTURE	Central station, additional stations may be used for monitoring		
IDU MANAGEMENT INTERFACES	/ Remote access with in-band management (from central NMS station over satellite) via SNMP / Remote access with dial-in (via public telephone network with attached modem) / Local access via integrated console port EIA-232		
LINE-UP MANAGER	Easy tool to commission remote SkyWAN® station via local console port or Ethernet port		
SECURITY NMS & STATION	Authentication of NMS station / dedicated IP Network for management / authentication of remote station		
ND SATCOM SkyWAN® IDU			
	SkyWAN® IDU 7000	SkyWAN® IDU 2570	SkyWAN® IDU 2070
DIMENSIONS (H X W X D)	4 RU x 483 mm (19") x 470 mm	2 RU x 483 mm (19") x 470 mm	
WEIGHT	11.2 kg (fully equipped with 5 cards)	7.0 kg (fully equipped with 3 cards)	
POWER SUPPLY IDU	Auto sensing 100 – 240 V +/- 10% / input frequency 47 – 63 Hz		
POWER CONSUMPTION	160 VA nominal (fully equipped with 5 cards)	80 VA nominal (without external load)	180 VA nominal (with external load of 3.5 A DC at 24 V)
OPERATING TEMPERATURE	+5 °C to +40 °C	Humidity Operation	5% - 85%
ALTITUDE	Up to 3000 m above sea level		
CERTIFICATION	IEC 60950 CB-scheme / conforms to CE regulations for safety / EMC and R&TTE		

\* SkyWAN® IDU 1070: see separate datasheet