

# MN610 (C-band) MN620 (Ku-band) IP Satellite Interactive Terminal (SIT)

# MENOS

## DESCRIPTION

The MENOS IP SIT is one of the terminal types that can be used within the MENOS satellite network environment. The terminal is intended for network members and organizations requiring high-speed Internet access or telephony services independently of the availability of terrestrial links.

The MENOS concept starts with the end-users in mind. The terminals require little maintenance, are easy to install and operate and are configured for specific applications while being made of common building blocks using standardized technologies.

## APPLICATIONS

### IP access services:

As an integrated satellite IP access platform, the MENOS IP SIT provides an 'always-on' high-bandwidth Intranet and Internet connection, both for unicast and multicast traffic. The TCP acceleration services, HTTP prefetching and caching allow for a seamless broadband internet experience.

### Secure IP VPN Operation:

Professional users have the ability to create IP Virtual Private Network (VPN) connections among several SIT's to allow secure exchange of private data. The VPN's are implemented by the tunnel mode IPsec Internet standard, encrypting and authenticating the entire IP packet contents for maximal security.

### VoIP collaboration channels:

The VoIP collaboration channels enable cost-effective SIT to SIT voice communication for daily operations, while consuming very little satellite bandwidth. The embedded Quality of Service (QoS) features of the SIT ensure that VoIP traffic is prioritized over IP access traffic. As such, optimal voice quality can be assured during phone conversations or conference calls.

The terminal is equipped with an Analogue Telephone Adapter (ATA) that is fully integrated into the VoIP sub-system.

## FEATURES

- Fully integrated, easy to install turn-key terminal system
- Sat3Play IP broadband access
  - DVB-S2 Constant Coding Modulation forward channel
  - MF-TDMA Return Channel
- Two satellite frequency bands supported
  - MN620 operating in Ku-Band
  - MN610 operating in C-Band
- Supports IP broadband applications, both unicast and multicast
- High speed IP connection with embedded acceleration:
  - DNS cache/relay for bandwidth efficiency
  - HTTP pre-fetching for faster web browsing
  - Web caching
- Integrated encryption on data available
- Fully integrated VoIP services
- Quality of Service (QoS) implementation
  - Support of four dynamic QoS traffic classes
  - Support of constant bit rate allocation reservations
- Remote monitoring and diagnostics
- Remote software upgradeable

## RELATED PRODUCTS AND DOCUMENTS

### Other MENOS products

- MN510 and MN520 Radio exchange SITs
- MN410 and MN420 TV exchange SITs

### Application notes

- MENOS applications – Broadband access



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# Specifications – MN610/620

## SATELLITE INTERFACE

### Broadband access modem

- Forward Channel:  
Modulation: DVB-S2 QPSK/8PSK CCM  
Rates : 3 to 30 Mbaud
- Return Channel:  
Modulation: 4CPM  
Rates: 512 kHz for IP rate of 466 kbps

### Outdoor unit Ku Band (MN620):

TX Frequency : 13.75 to 14.25 GHz  
TX Output power: 4 W  
RX Frequency : 11.7 - 12.75 GHz (optional 10.7 - 11.8 GHz)  
Polarisation : linear (Tx/Rx orthogonal)  
Antenna: 1.2m offset - Tx Gain: 43.3 dBi @ 14.3 GHz -  
Rx Gain: 41.8 dBi @ 12.0 GHz

### Outdoor unit C Band (MN610):

TX Frequency : 5.85 to 6.425 GHz  
TX Output power: 5 W  
RX Frequency : 3.7 to 4.2 GHz  
Polarisation: circular (Tx/Rx opposite)  
Antenna: 2.4m offset - Tx Gain: 41.95 dBi @ 6.1375 GHz -  
Rx Gain: 38 dBi @ 3.95 GHz

## TELEPHONY

- SIP Phone, G.729 codec

## IP PERFORMANCE

### IP data Throughput:

Forward: 2 Mbps Unicast, 16 Mbps Multicast  
Return: 466 kbps (4CPM 512 kHz carrier, MODCOD 2)

### Collaboration channels:

1 VoIP channel

## STANDARDS AND PROTOCOLS

### STANDARDS

EN 301790	: DVB-RCS (partially)
EN 302307	: DVB-S2
EN 301421	: DVB-S
IEEE 802.3u	: 100 Mbps HDX/FDX Ethernet

### ROUTING PROTOCOLS

RFC 768	: UDP
RFC 791	: IP
RFC 792	: ICMP
RFC 793	: TCP
RFC 826	: ARP
RFC 959	: FTP
RFC 2131	: DHCP

## ENVIRONMENT

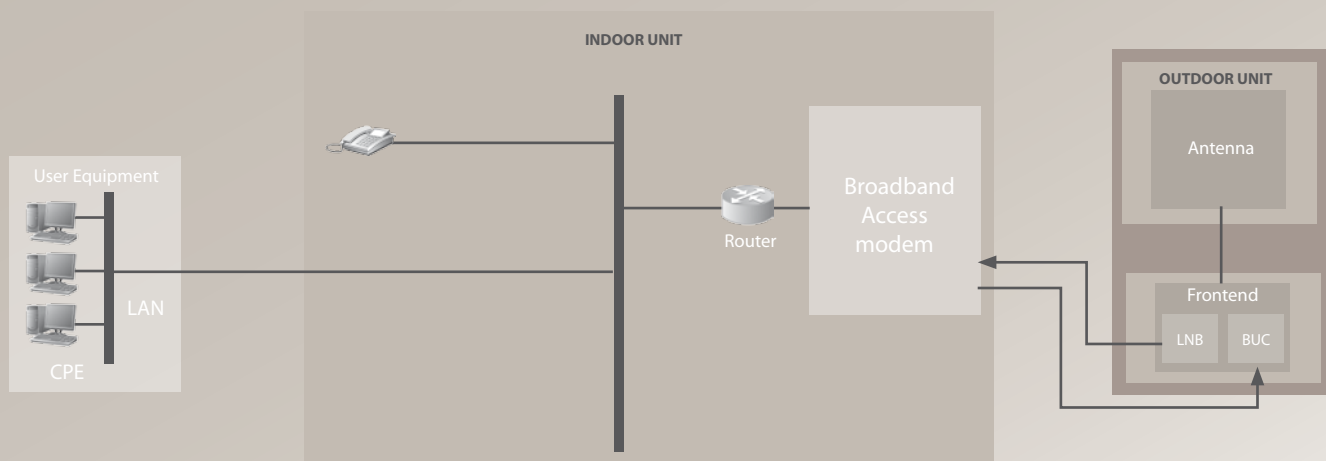
- Weight IDU: 2.6 kg
- Temperature (indoor unit)  
operational: 0 to 40 degC – non condensing  
storage: -40 to 70 deg C up to 95% condensing
- Temperature (outdoor unit) : -30 to 55 deg C
- Power Supply : 230V/6A
- Power Consumption (including BUC power consumption): max. 75 Watt

## ORDERING INFORMATION

MN610: IP terminal with C Band RF Front End + Antenna (no mount)  
MN620: IP terminal with Ku Band RF Front End + Antenna (no mount)

### Options:

AN-01: non-penetrating mount 1.2 m  
AN-03: non-penetrating mount 2.4 m  
AL-01: 2 x 100 m L-band cable  
AS-01: LNB RF range: 10.7 - 11.7 GHz  
AS-02: LNB RF range: 11.7 - 12.75 GHz  
AV-01 Grandstream ATA HT-502 as a replacement for the VoIP IP phone



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