# TP210
## Sat3Play® Ku–band 2Way Satellite Broadband Terminal

### Easy to install. Easy to use. Easy on the budget.

## Description

The Sat3Play Broadband Terminal is a state-of-the-art, 2Way satellite based high performance equipment designed to provide high speed satellite internet access.

It is perfectly fitted to service home-users, Small Office and Home Office (SOHO), Small and Medium Enterprises (SME) as well as being cost-effective for vertical applications within SCADA networks, POS or ATM..

Providing a true Broadband experience for low cost Internet access networks, Sat3Play allows ISPs or other IP based Service Providers to address their market with a truly viable business model.

The Sat3Play Broadband Terminal is capable of supporting a full range of IP services, such as VoIP, multi-casting, as well as intranet services.

For a true Broadband experience, the Sat3Play terminal incorporates the most efficient technologies available, such as DVB-S2 Adaptive Coding Modulation (ACM) in the forward link, an Adaptive Return Link with advanced 4CPM modulation and IP traffic enhancement software such as TCP acceleration, pre-fetching, compression and encryption.

Unlike many other satellite systems, Sat3Play terminals are available with a unique Point & Play® self-installation system, allowing the end-user to autonomously install the complete terminal without any specific qualification or expensive tooling. Point & Play therefore avoids the need for costly installer services, reduces field maintenance costs and improves end-user satisfaction.

Point & Play is an innovative self-installation system delivered with each Sat3Play terminal and consists of a small antenna pointing tool, combined with embedded installation software.

It allows the user to easily and correctly point the antenna towards the appropriate satellite by providing correct satellite identification and an audio feedback on both signal quality and lock, during the installation at the antenna site.

The Sat3Play terminal and Point & Play system do not require any software to be installed on the end-users' computer.

The satellite modem is fully "plug and play" and is easier to install than an average ADSL or cable modem.

Thanks to a unique design of both the compact modem and the lightweight, low power outdoor equipment (iLNB), the cost of the terminal remains affordable to the consumer market and is one of the most competitive in the market.

## The standard Sat3Play terminal consists of

- A small size, high quality, easy to install antenna (75 or 100cm)
- An interactive LNB (iLNB) combining a low noise block down converter and a 500mW transmitter
- An IP modem with Ethernet connection.
- An antenna pointing tool used within the Point & Play feature

## Key Features

- Low cost
- Easy and fast 'Point & Play' self-installation
- DVB-S2 ACM
- 4CPM true MF-TDMA Adaptive Return Link
- High speed connection with embedded acceleration, encryption and pre-fetching
- Over-the-air software upgradeability
- Over-the-air monitoring and diagnostics tools
- Low jitter for real time applictions

## Main advantages

- Low initial investment per user, thanks to very low terminal cost and unique Point & Play self- installation capability
- Low cost Internet access services enabled by highly bandwidth efficient technologies such as DVB-S2 ACM and 4CPM adaptive return link.
- High customer satisfaction ensured through true broadband experience and wide range of value-added IP services.

## Applications

- Internet / Intranet access
- Streaming video and audio with TV quality
- VoIP telephony (SIP, H.323, …)
- Content Distribution and management
- Telemetry (SCADA)
- Point of Sale terminals

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# Specifications – TP210

## INDOOR UNIT (IDU)

### FORWARD CHANNEL

- Standard:
  DVB-S2 ACM
- Carrier bit rate:
  up-to 155 Mbps
- Modulation/Coding:
  16APSK – Rate 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
  8PSK - Rate 2/3, 3/4, 5/6, 8/9, 9/10
  QPSK - Rate 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
- Symbol rate
  DVB-S2 : 5-47 Mbaud

### RETURN CHANNEL

- Access scheme:
  MF-TDMA
- Modulation/coding:
  4CPM including adaptive return link
  Modcod 0, 1, 2, 3, 4

### MODEM INTERFACES

- RF input/output:
  Two F connectors (75 Ohm)
  RF in Frequency: 950 – 2100Mhz (L-band)
  Rx Level: -65 to -25dBm
  RF out Frequency: 2750 – 3000Mhz
  Tx Level: 0 dBm
- Data interface:
  Ethernet 10/100 baseT (RJ-45)
- Management interface:
  Web GUI
- Front panel:
  LED display indicating operational status

### IP FEATURES

- Protocols:
  UDP, IP, ICMP, IGMPv2, TCP, ARP, FTP, DHCP, DNS caching/relay,
  End-to-end Dynamic Real Time QoS, Unicast, Multicast,
  intranet services.
- Performance:
  Built-in TCP-acceleration, HTTP pre-fetching,
  data compression, two-way encryption
- Throughput performance:
  Forward:   10 Mbps unicast traffic
                16 Mbps of Multicast traffic
  Return:     Up to 2Mbps
- Management:
  Over-the-air software & configuration updates,
  Over-the-air monitoring, self-test and diagnostics
  Dual satellite configuration settings

### SOFTWARE RELEASE

- Specifications valid for software release 2.1

### MECHANICAL & ENVIRONMENT

- Size & weight:
  190x50x167mm ; 0.6 kg
- Operating temperature:
  0 to 40°C
- External Power supply:
  input
        210-260 VAC, 50Hz
        100-130 VAC, 60Hz
  output
        15-18 VDC
- Mains Power consumption:
  <30W, incl. power consumption of ODU.

## Ku-BAND OUTDOOR UNIT (ODU)

### ANTENNA AND ILNB

- Size:
  Typical 75cm, or 1m
  with 500mW Ku-band Block Upconverter (iLNB)
- TX frequency:
  13.75 – 14.5 GHz extended Ku
- RX frequency :
  10,7 – 12,75 Ghz
- Polarisation:
  Linear cross polarised, selection physical mounting
- Interface:
  Two F connectors (75 ohm)

### MECHANICAL & ENVIRONMENT

- Ambient Temperature:
  -30 to +60°C
- Weather protection:
  IP67
- Humidity:
  0% to 100% (condensing)
- Solar Radiation:
  $1120W/m2$ maximum
- Rain:
  Up to 40 mm/h
- Wind:
  Up to 180 km/h

### PERFORMANCE

- Transmit characteristics:
  EIRP 36 dBW (75cm antenna)
  EIRP 38 dBW (1m antenna)
- Receive characteristics:
  G/T clear weather: 15 dB/K (75cm antenna)
  G/T clear weather: 17 dB/K (1m antenna)
  iLNB Gain (over temp. & freq): 57 to 70 dB

### STANDARDS

- EN 302307: DVB-S2
- EN 300421: DVB-S
- EN 301790: DVB-RCS
- EN 50478: SATMODE
- EN 301428: VSAT spectrum usage
- IEEE 802.3: 10/100/1000 BT Ethernet

Front

Back