The Andrew Corporation Type 123 1.2 m Class II RxTx Antenna is a rugged commercial grade product suitable for the most demanding applications. The reflector is thermoset-molded for strength and surface accuracy. Molded into the rear of the reflector is a network of support ribs which not only strengthens the antenna, but also helps to sustain the critical parabolic shape necessary for transmit performance. The reflector optics feature a long focal length for excellent cross-pol performance, required by many satellite operators.

The Az/El mount is constructed from heavy-gauge steel to provide a rigid support to the reflector. The Az/El mount secures the antenna to any 2.88”-3.00” (73-76 mm) O.D. mast and prevents slippage in high winds. A specially formulated powder paint process offers excellent protection from weather-related corrosion.

- One-piece precision offset thermoset-molded reflector.
- Long focal length optics for low cross-pol performance.
- Fine azimuth and elevation adjustments.
- Galvanized .75” (19 mm) O.D. side feed support legs and 2” (51 mm) O.D. lower feed support.
- Plated hardware for maximum corrosion resistance.
- Available with Ku-Band Co-Pol. or Cross-Pol. Feeds.
- Class II system designed for typical 2W and 4W Ku-Band Block Up-Converters (BUCs)*

*12 lb or 5.4 kg max. weight for RF electronics (BUC and LNB)
**SPECIFICATIONS**

**TYPE 123** 1.2 m RxTx Class II Antenna System

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### Type Approval Information*

- **Antenna Model**: 62-12362-01
- **Intelsat Standard**: Standard G (IESS 601)
- **Approval Code**: IA077A00

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### RF Performance

- **Effective Aperture**: 1.2 m (48 in)
- **Operating Frequency**
  - Tx: 13.75-14.50 GHz
  - Rx: 10.70-12.75 GHz
- **Polarization**: Linear, Orthogonal
- **Gain (±.2 dBi)**
  - Tx: 43.3 dBi @ 14.25 GHz
  - Rx: 41.8 dBi @ 11.95 GHz
- **3 dB Beamwidth**
  - Tx: 1.2° @ 14.3 GHz
  - Rx: 1.5° @ 12.0 GHz
- **Sidelobe Envelope (Tx, Co-Pol dBi)**
  - 1.5° < θ < 20°: 29-25 Log θ
  - 20° < θ < 26.3°: 3.5
  - 26.3° < θ < 48°: 32 - 25 Log θ
  - 48° < θ < 180°: -10
- **Antenna Cross-Polarization**: >30 dB in 1 dB Contour
- **Antenna Noise Temperature**
  - 10° El: 45°K
  - 20° El: 31°K
  - 30° El: 24°K
- **VSWR**
  - Tx: 1.3:1
  - Rx: 1.5:1
- **Isolation, Port to Port**
  - Tx: 110 dB
  - Rx: 35 dB
- **Feed Interface**
  - Tx: WR75 Cover Flange (UBR120)
  - Rx: WR75 Cover Flange (UBR120)

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### Mechanical Performance

- **Reflector Material**: Glass Fiber Reinforced Polyester
- **Antenna Optics**: One-Piece Offset Feed Prime Focus
- **Mount Type**: Elevation over Azimuth
- **Elevation Adjustment Range**: 7°-84° Continuous Fine Adjustment
- **Azimuth Adjustment Range**: 360° Continuous; ±20° Fine Adjustment
- **Mast Pipe Interface**: 2.88 in - 3.00 in (73-76 mm) Diameter
- **Wind Loading**
  - Operational: 50 mi/h (80 km/h)
  - Survival: 125 mi/h (200 km/h)
- **Temperature**: -50°C to 80°C
- **Humidity**: 0 to 100% (Condensing)
- **Atmosphere**: Salt, Pollutants and Contaminants as Encountered in Coastal and Industrial Areas
- **Solar Radiation**: 360 BTU/h/ft²
- **Shock and Vibration**: As Encountered During Shipping and Handling

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*(All specifications typical)*

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*See our web site for a complete list of type approvals.*
The SatLink 1000 is the leading DVB-RCS certified VSAT Indoor Unit, with support for DVB-S2 and DVB-S forward links. Optimized for IP networking its cost-effective design, packaging, and easy operation make it ideal for Internet access services to consumers and small businesses. Yet it has the advanced QoS, traffic acceleration, VPNs and other value-added software features required for carrier-class interactive data, voice, and video conferencing, plus multicast IP applications. Users connect via Ethernet. The SatLink 1000 supports various antennas options, plus BUCs/LNBs in C, Ku, Ka and EHF bands, including STM’s own Ku Band transceivers.

The SatLink 1000 VSAT is a member of a family of SatLink products and systems from STM enabling scalable, high-availability DVB-RCS networks optimized for Internet Protocol (IP) communications, including: VSATs, turnkey hub & gateway systems, hub components, and value-added options for advanced data, voice and video networking via satellite. STM is the technology and market leader in DVB-RCS satellite networks delivering superior performance for telecom service providers, ISPs, governments and enterprises around the world. STM also offers teleport services, installation and integration services, plus total managed network services.

Features & Benefits

- **Cost-Effective, High-Volume VSAT**
  SatLink 1000 delivers the price-performance for small business and residential broadband Internet services.

- **Bandwidth Efficiency at Many Levels**
  Advanced DVB-S2 modulation and FEC, header compression, section packing & intelligent bandwidth-on-demand algorithms enable efficient broadband applications; the unit consumes only 64 bps when idle, 0 bps in “auto-sleep” mode.

- **Comprehensive IP Networking Features**
  Satlink delivers TCP and HTTP acceleration, NAT, VPN, VLAN options, and MPLS extensions, plus a built-in DHCP server and both unicast and multicast IP routing.

- **Advanced QoS for Data, Voice, Video**
  QoS Groups for bandwidth-on-demand enable delay sensitive traffic for interactive media concurrently with bulk data, without dedicating bandwidth per VSAT.

- **Simple, Consumer-Friendly Operation**
  Engineered for plug & play operation and simple enough for self-installation, the SatLink 1000 allows all necessary software updates and remote management via satellite from the hub. Many 10,000’s of unit sold.

- **ACM and Rain Fade Mitigation**
  Adaptive Coding and Modulation (ACM) on forward links and adaptive FEC and symbol rate on return links increase bandwidth efficiency and improves link margins to mitigate rain fades.

- **Traffic Engineering for Large Networks**
  Carriers, ISPs and others gain control over bandwidth resources in large networks using SatLink VSATGroups for traffic engineering. Networks with 10,000’s of VSATs are supported.

- **BUCs up to 3 Watts with Power Control**
  Internal power for BUCs up to 3 Watts; automatic power control from the hub simplifies installation, and optimizes operation and bandwidth use.

- **Fanless, Compact Consumer Packaging**
  The SatLink 1000’s compact size, fanless operation, external power supply, and vertical mounting option makes it ideal for office desktop and residential uses.

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Specifications

Capacity
Throughput: Up to 12 Mbps of IP packets at 1500 bytes (varies with IP software features enabled)

IP QoS and Bandwidth-on-Demand
Traffic Classification: May use combination of 802.1p, DSCP, Protocol Type, IP Source Address, IP Destination Address, TCP/UDP Source Port or Destination Port
QoS Treatment: Four Service Classes (VoIP, ViC, CD, BE) split into ten QoS sub-classes with separate priority queues, congestion avoidance, and discard sub-class
Capacity Requests: RBDC, VBDC, AVBDC in combination for bandwidth-on-demand, plus CRA & FCA

IP Packet Encapsulation & Compression
Format: (Tx & Rx) DVB-RCS standard MPEG2 MPE with section packing, without regard to packet boundaries per EN 301 192 & ISO 13818-1
Header Compression: Removes up to 23 bytes (on Tx), 21 bytes on (Rx), on each encapsulated IP packet.

IP Routing and IP Stack Support
Routing: Unicast and Multicast IP
Protocols: IP, UDP, TCP, ARP, ICMP, IGMP, DHCP Server, DNS Cache, Telnet, SNMP v2c
Advanced Options: TCP Acceleration, HTTP Acceleration, NAT, GRE Tunnels, VLANs

Management Interfaces
Local: RS-232 CLI
Remote: Telnet, SNMP v2c, Web GUI
Software Upgrade: Local, TFTP or multicast via satellite

Compliance
CE: Fully compliant with R&TTE Directive
DVB-RCS: ETSI EN 301 790; SatLabs
DVB-S / S2: ETSI EN 300 421 / EN 302 307
International: Country specific certifications

Receive (DVB-S2)
Modulation: 1 to 67.5 Msps with choice of MODCODs:
- QPSK: 1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
- BPSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 (up to 63 Msps)
- 16APSK: 2/3, 3/4, 5/6, 8/9, 9/10 (up to 47 Msps)
FEC Frames: Normal (64 Kbit) and Short (16 Kbit)
Roll-off Factor: 20%, 25%, or 35%
Modes: CCM, VCM, ACM
(DVB-S mode also supported for legacy networks)

Transmit (DVB-RCS)
Symbol Rates: 125 Kbps to 3 Msps
MODCODs: (Turbo Codes FEC: 8-state and 16-state)
- QPSK: 1/2, 2/3, 3/4, 4/5, 6/7
- BPSK: 2/3, 3/4, 6/7

Physical Interfaces
Serial Port: RS-232, DB-9 (local management)
Ethernet: 10/100Tx Mbps, RJ-45 (user IP traffic)
Tx (BUC) Interface: F-type 75 Ohm; 24 VDC at up to 1.2A, plus 10 MHz reference under software control.
- Tx Output: 950 to 1450 MHz; -35 dBm to 0 dBm
- BUC control: Extended DiSEqC™
Rx (LNB) Interface: F-type 75 Ohm; LNB Power 13 or 18 VDC, 300 mA maximum
- Rx Input: 950-2150 MHz; -56 dBm to -20 dBm
- LNB Control: 22 KHz or 13/18 VDC signaling
DC Power Input: 24 VDC (from external power supply)
Front LEDs: Power, Error, Tx, Rx, Ethernet Link/Activity

Electrical, Environmental & Physical
Power Supply: 110-240 VAC, 50-60 Hz, external (incl’d)
Power Consumption: 8 W (IDU only); 30 W @ P1dB with SatLink 4033 2W transceiver
Operating Temperature: 0 to 50 °C
Storage Temperature: -20 to 85 °C
Humidity: 20% to 90% non-condensing
Size: 33 x 22 x 3.5 cm
Weight: 954 grams