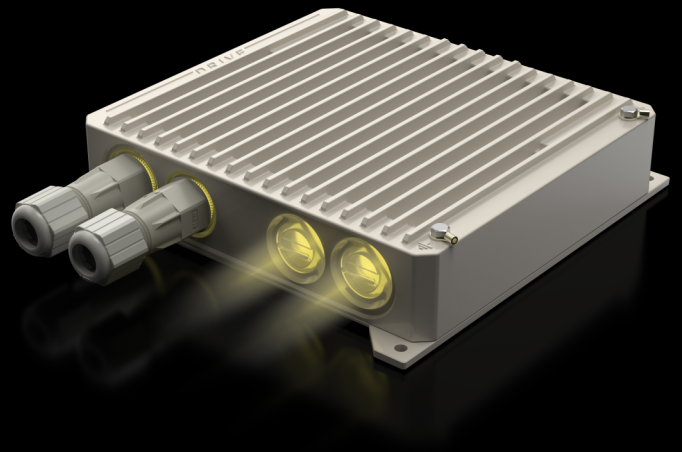


ASTRADRIVE Terminal Unit

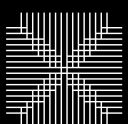
PRODUCT DATASHEET

The Terminal Unit delivers carrier-grade wireless connectivity with throughput up to 800 Mbps. New DRIVE network technology for seamless roaming at speeds of up to 400km/h.



Supports hardware and software modifications, new algorithms for aggregation and quick switching of the moving objects. Purpose-built for mission-critical applications in rail, mining and port operations, this rugged terminal ensures continuous communication while withstanding extreme conditions, heavy vibration and temperatures from -55°C to +60°C.

Net throughput	Up to 800 Mbps in 80 MHz
Transmit power	Up to 25 dBm
Recommended distances	10+ km



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TECHNICAL SPECIFICATION

Net throughput	up to 800 Mbps in 80 Mhz up to 380 Mbps in 40 Mhz up to 220 Mbps in 20 Mhz
Packet performance	180 000 pps
Transmit power	up to 25 dBm
Receiver sensitivity	down to -90 dBm
Antenna gain	2xN-type connectors
Frequency range	4900-6425 Mhz
Channel width	20, 40, 80 MHz
Center frequency adjustment step	1 MHz
Power consumption	up to 15 W
Recommended distances	10+ km



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TECHNICAL SPECIFICATION

Duplex scheme	TDD
Radio technology	MIMO 2x2 (OFDM 64/128)
Modulation coding schemes	from BPSK 1/2 to QAM256 5/6
Wired Interfaces	2x GigabitEthernet (RJ-45 or M12) 1x SFP
Power options	via Eth0: - 90-240 VAC ~ @ 50/60 Hz +/-43.56 VDC - Passive PoE or 802.3at via AUX DC-IN: - 12V - 56V
PoE out	available at Eth1
GPS module	optional
Outdoor Unit (ODU)	188x188x200 mm, 2,6 kg
Packing List	Outdoor unit Trackside station: 1 Power Supply IDU-CPE-G(24W): 1 Power Cord: 1 Quick Start Guide: 1



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RADIO FEATURES



Adaptive TDMA air protocol

- Dynamic and fixed air frame duration
- Subscriber activity aware scheduling
- Permanent channel testing



- Voice/RTP Aware Superpacketting



- Channel Time Adjustment
- Spectrum Analyzer mode
- Channel testing tools



Air frame Configurable

- From 1 to 10 ms
- Uplink / Downlink ratio Configurable from 50:50 to 92:8, in any direction



- DFS / Radar detection / Instant DFS



- Automatic Bitrate Control
- Automatic Transmit Power Control
- Automatic Distance Measurement

NETWORKING FEATURES



Switching

- Full-fledged 2nd layer switch
- VLAN 802.1Q, 802.1ad
- IGMP Snooping
- MAC/IP filtering, L2/L3 Firewall
- STP, RSTP support



Routing

- ARP protocol support
- NAT (multipool, H.323-aware)
- DHCP client/server/relay
- ODR routing protocol
- RIPv2 / OSPFv2 /static routing
- Ethernet-over-IP and IP-over-IP tunnels



Quality of Service

- IEEE 802.1p, IP TOS/DiffServ support
- 17 priority queues
- Full voice support
- Auto priority of multicast
- Traffic limiting (absolute, relative)



Own network infrastructure

- Proprietary MINT network protocol
- Pseudo-radio interface



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MANAGEMENT AND SECURITY



Management features

- Various Management Protocols: HTTP, HTTPS, SSH, Telnet, SNMP v1/2c/3 (MIB-II and proprietary MIBs)
- Graphical User Interface
- Antenna alignment tool
- Automatic software update
- Online monitoring with proprietary EMS NEXT



Safety & Security

- Storm/flood protection
- Password protection
- Secure CLI access via SSH protocol
- AES-128/256 (pending)



LED Indication

- Power status, wired link status

STANDARD COMPLIANCE



Radio

- ETSI EN 301 893 v.2.1.1
- ETSI EN 302 502 v.2.1.1
- FCC part 15.407



Safety

- EN 62368-1:2014+A11:2017
- UL 62368-22:2017
- EN 62311:2008



RoHS3

- EN IEC 63000:2018



EMC

- ETSI EN 301 489-1 v.2.2.3
- ETSI EN 301 489-17 v.3.2.4
- FCC Part 15 Class B



Lightning protection

- IEC 61000-4-2:
+/-4kV (contact discharge),
+/-8kV (air discharge)
- IEC 61000-4-4:
+/-0.5kV IEC 61000-4-5:
+/-1kV (line-to-ground),
+/-0.5kV (line-to-line)

OPERATION OPTIONS



Outdoor Unit conditions

- -40..+60°C, can be extended to -55..+60°C (models with "t" index)
- 100% humidity, condensing
- Dust and water protection: IP66, IP67
- Wind load: 160 km/h operational; 200 km/h survival



Indoor Unit conditions

- 0..+40°C
 - 95% humidity, non-condensing
-
- Cooling: fanless design corrugated aluminium