



Revolutionizing Connectivity with TerraNet mmWave Series

Bridging the connectivity barriers with TerraNet 60GHz mmWave solutions

In the era of digital transformation, the demand for high-speed, reliable connectivity is at an all-time high, driven by the growing needs of smart cities, extensive Wi-Fi deployments, and robust gigabit backhauling.

RADWIN's TerraNet solutions provide essential gigabit services needed for enhancing urban safety, broadening rural Wi-Fi access, and enhancing gigabit backhaul infrastructure. By harnessing the power of 60GHz mmWave full-band technology (57-71GHz), TerraNet complements traditional 5/6GHz networks but also enables multi-gigabit last mile connectivity with significantly lower costs and reduced deployment times.

The TerraNet solution adeptly overcomes the economic and technical challenges often encountered with fiber deployments in sparsely populated areas or when broadening existing networks. Designed for a variety of demanding settings, from vibrant urban locations to isolated rural regions, TerraNet breaks down the connectivity barriers, heralding a new era of digital inclusion and dependable connectivity.

TerraNet Product offering:



The TerraNet Series showcases the V120 and V40 Radio Units which can be used as:

- » **Point-to-Multipoint (PtMP) Base Station** or Client for establishing extensive access networks, providing wide-reaching coverage through its sophisticated 2D beamforming technology with automatic antenna alignment.
- » **Point-to-Point (PtP) master** or slave, guarantees precise, highly reliable connectivity with its targeted, high-performance link capabilities.

Product benefits:



High Data Rates:

Offering up to 2.3Gbps, TerraNet solutions support bandwidth-intensive applications with unparalleled efficiency.



Low Latency:

Critical for applications demanding real-time responsiveness, TerraNet signals allow for swift and seamless low-latency communications.



Unlicensed Spectrum Availability:

In many regions, the 60GHz spectrum is available for unlicensed use. This can contribute to reducing costs associated with spectrum licensing.



Low Interference:

In the 60GHz spectrum, the effects of oxygen absorption and the use of narrow beam antennas minimize the probability of interference between the radios. Moreover, 60GHz is less crowded than other frequencies.



Spectral Efficiency:

Make the most of the available bandwidth, supporting multiple users without compromising performance.



Directional Transmission:

With highly directional antennas, TerraNet enhances signal quality and minimizes interference, perfect for dense urban landscapes.



Easy deployment:

With its compact size and automatic antenna beam alignment at both link ends, the system ensures effortless deployment.



High availability:

Offering sub-7GHz backup through Ethernet POE output, support for multiple VBS profiles, and a ping watchdog function, guaranteeing high availability and seamless operation.

Product Highlights:

- » 57-71GHz full band coverage
- » Up to 2.3Gbps data rates
- » Beamforming antenna with auto alignment
- » Advanced security with AES+GCMP 128 bit encryption
- » Environmental resilience with IP54 rating
- » Supports up to 32 Stations per AP
- » Dynamic TDA for efficient bandwidth management
- » Compliance with FCC, CE, and other regulatory standards

Applications:

- » **Urban Connectivity:** Elevate city infrastructure with high-speed connections for security systems, traffic management, and public Wi-Fi.
- » **Rural Access:** Bring the internet's boundless opportunities to remote communities, bridging the digital divide.
- » **Smart Industry Operations:** Enable instant control and seamless data flow across manufacturing, logistics, and mining sectors with TerraNet's high-speed, low-latency connections.

Selecting the appropriate radio technology for Point-to-Multipoint (PtMP) or Point-to-Point (PtP) networks is crucial and depends on the specific needs of each deployment, such as data rate demands and environmental factors. Every option has its unique benefits.

The introduction of TerraNet signifies a notable enhancement to RADWIN's broad product lineup, introducing a compelling 60GHz mmWave connectivity solution for those in search of advanced options.

Our expert team is prepared to assist you, ensuring that whether it's TerraNet or another offering from our portfolio, your chosen technology aligns seamlessly with your project's requirements and goals.



Product Specifications:

TerraNET V120 and V40	
Architecture	Outdoor Unit with integrated beamforming antenna
Max net aggregate capacity	2.3 Gbps
Data interfaces	2.5 Gbps RJ45 (POE in) 1 Gbps RJ45 (POE out)
Radio	
Frequency range	57-71 GHz (Full band: CH 1-6); 57-66 GHz (CH 1-4)
Subscriber Units support	Up to 32 subscriber units
Range	Up to 1.2 km
Duplex technology	TDD
TDD Inter & Intra site sync.	Not supported
Uplink / Downlink ratio	Dynamic
Encryption	AES + GCMP 128 bit
Channel bandwidth	Half (1080 MHz), Full (2160 MHz)
Max Tx power	40 dBm EIRP
Antenna gain	20 dBi for V120; 22 dBi for V40
Sector azimuth beamwidth	120 degrees for V120; 40 degrees for V40
Sector elevation beamwidth	50 degrees for V120; 40 degrees for V40
Antenna alignment	Automatic
Link failover	Multiple VBS profiles with priority management
Networking	
Sub convergence layer	Layer 2 bridge
QoS	DL / UL traffic shaping
VLAN features	Management VLAN, Data VLAN tagging
MTU	1280-7900 bytes
DHCP features	DHCP server filtering, DHCP Option 82
Backup data link	Supported via POE out port
ODU Management	IPv4/IPv6, DHCPv4 client, HTTP/HTTPS, SNMPv2/v3, SYSLOG, LLDP, NTP
Power	
Power feeding	Passive PoE 38-55V compliant with 803.2at type 2 or direct +48V DC input
Max power consumption	17W without PoE out being used, and up to 30W with PoE out being used (using RW-9921-1059 POE)
Mechanical	
ODU Weight	695 g / 24.5 oz
ODU Size	Height: 11" / 28cm, Width: 4" / 10.2 cm, Depth: 2" / 5.1 cm
Environmental	
Operating temperature	-30°C to 60°C
Humidity / ingress protection	IP54
Safety	EN IEC 62368-1:2020+A11
EMC	FCC Part 15 Subpart B Class B; ICES-003 Issue 7 Class B; EN 301 489-1; EN 301 489-17

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