

Powered by StarV3[™]

Advanced Performance

All units feature advanced RF functionality and processor optimization. Our drivers are proprietary and **built for performance**, not simply stock reference drivers used by others.

Full Spectrum Support

Our Cloaking Mode 5MHz and 10MHz channel spacing and widths deliver up to **4 times the number of useable non-overlapping channels** in each frequency band compared to 'normal' 802.11 systems. Bandwidth delivery exceeds 6meg at even the smallest channel size.

High Bandwidth

The Cu100 is capable of delivering **over 30 mbps** of compressible data in standard mode. Uncompressible data throughput exceeds 20 mbps in standard mode, and 30 mbps in turbo mode.

Unrivaled Feature Set

StarV3 delivers full routing capabilities including RIP, OSPF, and **high performance mesh networking** with OLSR. A full suite of QoS, security and management tools rounds out the StarV3 feature set with an **easy to use interface**.

Cu100 Series Wireless Advanced Router Client Units

Durable high performance client units based on the efficient Infineon ADM5120 RISC processor. Cost effective performance and versatility for your unique client side deployment needs.



Product Highlights

- Industry leading robust StarV3 powered operating system from StarOS.
- An Infineon ADM5120 network processor running at 175MHz provides real power for client side deployments.
- Users can deploy any one of our 5 available radios covering the complete 900MHz through 6GHz radio spectrum, and utilize the antenna of their choice on the external N-Female connector.
- Cloaking Mode enhanced channel widths and spacing delivers maximum network design versatility for large scale mesh and access networks.
- Our rugged hinged cast aluminum outdoor enclosure system provides both ease of use and dependable performance in the most challenging environments. The integrated articulating antenna mount and optional integrated omni antenna allows for maximum deployment flexibility.
- Push button reboot with restore to factory defaults functionality eliminates the need to return misconfigured and locked units for reprogramming.
- The onboard power system protects the unit against transients and overvoltage events on both the power and Ethernet systems, and accepts a wide 20 - 48vdc input range. It dynamically delivers up to 7.5 watts of power to fully drive even the most hungry high performance radios.
- Extended operating temperature exceeding -20C through 70C allows for a wide range of deployment scenarios.
- Dual surge protected Ethernet ports with Auto MDI/MDIX and full POE support from our switching power supply system.



Cu100 Series
Configuration

The Cu100 series Wireless Advanced Router client units is available with the following choice of supported radios:

- Cu190 - 900MHz 700mW radio
- Cu120 - 20dBm SuperG radio
- Cu123 - 23dBm SuperAG radio
- Cu126 - 26dBm SuperG radio

Additional frequencies are also available. Contact us with your specific frequency needs.



Applications

- Metropolitan scale MESH networks
- Traffic management systems
- Public safety access networks
- Video surveillance systems
- Campus networks
- Carrier backbones and extensions
- Corporate security systems
- WISP access networks
- Homeland security networks

- **Your network is secured** with up to 128 bit WEP, WPA1 and WPA2, plus MAC filtering and authentication, and firewall functionality. StarV3 Cloaking Mode makes your network invisible to 'normal' units.
- Cu100 access units are fully 802.11 standards compliant and interoperable in your standards compliant network today; **easily configured** to take full advantage of the powerful StarV3 proprietary feature set in a homogenous StarV3 network.
- Star V3 enhancements deliver **reduced latency and jitter** for significantly improved VoIP, video, gaming—and overall improved network performance compared to other systems available today.
- StarV3 **Enhanced Signal Processing** implementations coupled with our unique channel spacing in Cloaking Mode increase signal survivability in polluted (urban) environments. The same signal processing also increases weak link stability making marginal links profitable.
- All customers receive **total service and support** with their configuration and deployment issues. We treat customer networks like they were our own.

Operational Features

User Interface

- ⇒ Secure SSH
- ⇒ Telnet client
- ⇒ Command Line, with factory default reset

Access Layer Density

- ⇒ Up to 250 users per radio; 50 users per radio recommended

Security

- ⇒ Advanced firewall functionality with familiar Linux syntax or custom parser
- ⇒ StarV3 Cloaking Mode channel spacing
- ⇒ RADIUS client functionality
- ⇒ MAC address filtering and authentication with both local list and radius control
- ⇒ WPA1 and WPA2 with full radius control
- ⇒ TKIP and AES ciphers
- ⇒ 40, 104, and 128 bit WEP
- ⇒ NAT and static NAT support
- ⇒ IPMAP
- ⇒ Remote system logging

Routing Functionality

- ⇒ Mesh Networking with high performance OLSR—edge node only
- ⇒ DHCP server and client with dynamic leases

Routing Functionality (cont...)

- ⇒ IEEE 802.11d bridging
- ⇒ Dynamic WDS support for true transparent bridging
- ⇒ High performance learning bridge with optional Spanning Tree Protocol
- ⇒ IEEE 802.1q VLAN
- ⇒ RIPv1 and v2, and OSPFv2 support
- ⇒ NAT and static NAT
- ⇒ Policy (source and purpose based) and static (destination based) routing support
- ⇒ VPN via proprietary distribution system with secure Ethernet over IP tunnels for up to 20 virtual VPN servers per unit
- ⇒ Multiple IP addresses per interface

Quality of Service

- ⇒ Full layer 2 and layer 3 traffic prioritization
- ⇒ Group, subnet, user, and protocol-based bandwidth shaping and prioritization with bandwidth fallback and parent class sharing
- ⇒ Simple asymmetrical/symmetrical bandwidth shaping option
- ⇒ Packet Aggregation for improved VoIP jitter and gaming latency



Wireless Networking Solutions. Ours Works.™

Technical Specifications

Radio Operation

- ⇒ Each radio independently configured and controlled
- ⇒ Full operating frequency range of currently supported radios
 - 870 - 950 MHz
 - 2312 - 2737 MHz
 - 4900 - 6120 MHz
- ⇒ Channel spacing
 - 40 MHz turbo
 - 20 MHz
 - 10 MHz
 - 5 MHz
- ⇒ Custom Frequency Scan Lists
- ⇒ Radio disable functionality

Wireless

- ⇒ Standards
 - IEEE 802.11a/b/g
 - IEEE 802.11d
 - IEEE 802.11e
 - IEEE 802.11h
 - IEEE 802.11i
 - ⇒ Enhanced StarV3 Mode
 - ⇒ Sensitivity
 - 2.4GHz = -92 dBm @ 1Mbps; -70 dBm @ 54Mbps
 - 5GHz = -90dBm @ 6Mbps; -70 dBm @ 54Mbps
 - ⇒ Connection Rates
 - 108, 96, 72, 54, 48, 36, 24, 18, 12, 11, 9, 6, 5.5, 2, 1 Mbps
 - ⇒ Advanced Features
 - Extended range with advanced digital signal processing
 - Weak signal processing and enhancement
 - Advanced Rate Control for Error Correction support
 - Adaptive Radio (AR/ANI) support
 - Enhanced receive sensitivity
 - Advanced RF filtering and blocking for enhanced channel spacing
 - Best path sequencing for advanced multipath resistance
 - Enhanced bursting
 - Enhanced compression and fast frames
 - Dynamic frequency selection (DFS) - DFS2 in final testing
 - Transmit power control (TPC and aTPC)
 - ⇒ Performance
 - 802.11a/b/g standard 20MHz Channel
 - 20 Mbps uncompressible data standard mode
 - 30 Mbps uncompressible data turbo mode
 - 30 Mbps compressible data standard mode
 - StarV3 Cloaking Mode
 - 5MHz channel spacing - over 6 Mbps uncompressible data
 - 10MHz channel spacing - over 13 Mbps uncompressible data
- Maximum Link Distance 230km

Processor

- ⇒ ADM5120 RISC network processor operating at 175MHz

Management

- ⇒ Remote firmware upgrade with full configuration preservation
- ⇒ Access unit, client, and network management displays and tools
- ⇒ Diagnostic tools including ping and throughput testing
- ⇒ Beacon real-time traffic monitor
- ⇒ Push button hardware reboot with restore to factory defaults functionality
- ⇒ SNMP support
- ⇒ SNMP Statistics

Power Supply System

- ⇒ Autosensing 120/240 VAC, 50/60Hz
- ⇒ 20 - 48 VDC input range; 24VDC typical
- ⇒ World power system enabled
- ⇒ Solar systems available in turn-key configurations

On-Board Protection Systems

- ⇒ Transient/overvoltage protection for both power and Ethernet sub-systems

Environmental

- ⇒ Extended operating temperature: -20 to +70 C
- ⇒ Humidity: 5% to 95% non-condensing

Physical

- ⇒ 3.3 pounds
- ⇒ 9.3" x 9.25" x 4.05" (237mm x 235mm x 103mm)

Warranty

- ⇒ One year limited manufacturer defect warranty for all parts and labor

Current Branch

- Atheros Adaptive Radio
- Atheros Dynamic Turbo
- Atheros Auto channel selection support
- 802.11e QoS w/bursting and aggregation
- 802.11h (DFSv1 and DFSv2 for FCC3, ETSI, and MKK4)
- Dynamic WDS with full SuperAG and 802.11e support
- 802.11i

Certification



Please note the 900MHz radio module is NOT CE marked



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The Cu100 series client units are now available, please contact us for evaluation and volume pricing.

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