

Ruggedized High Power 5.8GHz Wireless Ethernet Bridge With External Antenna

BR58-LFR Key Features

- ◆ **Throughput (best fit framing)**
 - ◆ 55 Mbps aggregate (Tx + Rcv) continuous UDP traffic @ 40 MHz Bandwidth with 108 Mbps over the air data rate
 - ◆ 37 Mbps aggregate (Tx + Rcv) continuous UDP traffic @ 20 MHz Bandwidth with 54 Mbps over the air data rate
- ◆ **Protocol** - Proprietary high performance Nstreme protocol
 - ◆ Low Protocol overhead, Polling, Policy based Packet Framing, distance independent
 - ◆ OFDM, adaptable data rate with varying power levels
 - ◆ Dynamic Frequency Selection - automatically scans spectrum and selects lowest used frequency
- ◆ **Quality of Service** - Supports extensive QoS capabilities for critical Voice and Data applications including packet marking, queues such as Byte FIFO, Packet FIFO, SFQ, RED, PCQ and HTB. Bandwidth control on wireless and Ethernet
- ◆ **Amplified** Super Range 400 mW (26 dBm) radio with adjustable power settings
- ◆ **Weatherproof** NEMA 4 cast aluminum enclosure; connector supports use of standard CAT-5 RJ45 Ethernet cable; N-Female connector for connection to an external antenna
- ◆ **POE** - Power Over Ethernet (POE) Injector and integrated surge suppressor with grounding stud.
- ◆ **Power Supply** - Universal Input (110/240 VAC) 48VDC output Power Supply. Optional low power configuration for 9VDC to 24 VDC operation; tested on vehicles with battery power
- ◆ **VLAN** – Supports 802.1Q VLAN protocol; up to 4095 VLAN interfaces per physical Wired Ethernet interface
- ◆ **VAP** - Supports multiple logical wireless channels (up to 128) with separate security settings. Each logical wireless channel (VAP) can be mapped to a VLAN ID to separate traffic and independent security and QoS configuration
- ◆ **Security** - Wired Equivalent Privacy (WEP) and WiFi Protected Access (WPA2) capable, AES Encryption
- ◆ **Firewall** - built in configurable firewall capability with NAT
- ◆ **Router** - full functionality, DHCP server and client, DNS server and client, and bridging; WLAN peer to peer user access control; RIP v1 / v2, OSPF v2, BGP v4, Universal Plug & Play
- ◆ **DSL Support** - PPoE protocol for connection to DSL modem on the wired Ethernet interface
- ◆ **Management** – Three ways to manage the bridge; Microsoft Windows based application utility, Internet Browser, or Command Line Interface using Telnet or SSH. IP or MAC addressing capability. Tools include ping; traceroute; bandwidth test; ping flood; packet sniffer; Dynamic DNS update tool

Mechanical (each side)

- ◆ 11" x 6.6" x 3.5" dimensions
- ◆ 10 lbs weight
- ◆ 15W max power consumption
- ◆ Grey cast Aluminum NEMA 4 Enclosure
- ◆ N Female connector
- ◆ Weatherproof RJ45 Connector
- ◆ Through holes for wall or pole mounting (customer supplied hardware)



Package Includes

1. 2 each Wireless Ethernet Bridge Segment cast Aluminum NEMA 4 enclosure
2. 2 each Power over Ethernet Injectors with Surge Suppressor
3. 2 each 48VDC power supply; 110/240 VAC input. CAT-5 cable can be ordered separately.
4. CDROM with Windows based configuration software.

Overview

The BR58-LFR is a ruggedized enterprise class wireless Ethernet Bridge developed to provide outstanding functionality in a solid cast aluminum box. This bridge is ideal for both short distance and long distance links. Connect two buildings in a campus or connect two remote sites up to 40 miles apart. It is easy to install with a choice of several types of antennas including parabolic dish, sector, flat panel, omni and mobile.

Each bridge segment provides an IEEE 802.3 10/100 Ethernet interface for connection to LAN/VLAN on each side. The wireless bridge comes preconfigured with default IP addresses for each segment.

Power is provided by the CAT-5 Ethernet cable using a 48VDC Power Over Ethernet module. The BR58-LFR is designed with a weatherproof Ethernet connector which allows the use of a standard CAT-5 cable and RJ45 connectors. The BR58-LFR includes a full router capability typically available only on standalone enterprise class routers. Flexibility and scalability is the key hallmark of the BR58-LFR Series with features such as full VLAN capability on the Ethernet interface.

The Alico BR58-LFR provides multiple logical wireless channels to interconnect two remote VLANs. Each logical channel is mapped to a VLAN ID and can be configured with its own security profile and QoS configuration.



Optima Series BR58-LFR Wireless Ethernet Bridge

Specifications

RF Band	5.725 GHz to 5.825 GHz - 5 Standard Channels	Ethernet Protocol	IEEE 802.3, 10/100 Mbit/s Fast Ethernet port supporting Auto-MDI/X
Channel Size	Configurable 20 MHz (Standard), or 40 MHz (Turbo Mode)	VLAN	Per IEEE 802.1Q up to 4095 VLAN IDs
Channel Selection	Manual or Dynamic Frequency Selection	VAP	Up to 128 Logical Wireless Channels (VAPs) to segregate traffic over the air with separate security profiles; map VLAN ID to VAP ID for end to end traffic segregation
Transmit Power	0 to 26 dBm, Manual or Adaptive with data rate	Quality of Service	Bandwidth control, queues, Byte FIFO, Packet FIFO, SFQ, RED, PCQ, HTB, mangle & stateful packet inspection based firewall capabilities
Receiver Sensitivity	-94 dBm at 6 Mbps to -74 dBm at 54 Mbps	Remote Management	MS Windows Utility - Winbox Web Browser - Webbox Command Line Interface - Telnet or SSH Firmware Upgrades via FTP SNMP Monitoring Configurable Logging
Over the Air Data Rate	Adaptive data rates 6, 9, 12, 18, 24, 36, 48, 54 & 108 (Turbo Mode) 54 Mbps max at 20 MHz Bandwidth 108 Mbps max at 40 MHz Bandwidth	Power	48 VDC Operation Standard (15 Watts max) 9-22 VDC low voltage Option Tested on vehicles with direct 12VDC battery operation External Universal AC Power Supply (110/240 VAC, 50/60 Hz) with POE Injector
Throughput	55 Mbps aggregate (Tx + Rcv) continuous UDP traffic @ 40 MHz Bandwidth with 108 Mbps over the air data rate 37 Mbps aggregate (Tx + Rcv) continuous UDP traffic @ 20 MHz Bandwidth with 54 Mbps over the air data rate	Environmental	Operating: -20 ⁰ C to +55 ⁰ C Storage: -40 ⁰ C to 80 ⁰ C Humidity: 5% to 95% Typical (Non-condensing)
Modulation	OFDM with BPSK, QPSK, 16 QAM & 64 QAM	Certification	FCC Part 15C, Class B Device
Forward Error Correction	Coding Rate 1/2, 1/3 and 1/4		
Hardware Encryption	AES, TKIP and WEP		
Certified Antenna Types	Parabolic dish up to 32 dBi Flat panel up to 26 dBi Sector up to 17 dBi Omni up to 15 dBi Mobile Omni up to 9 dBi		

Range Estimates

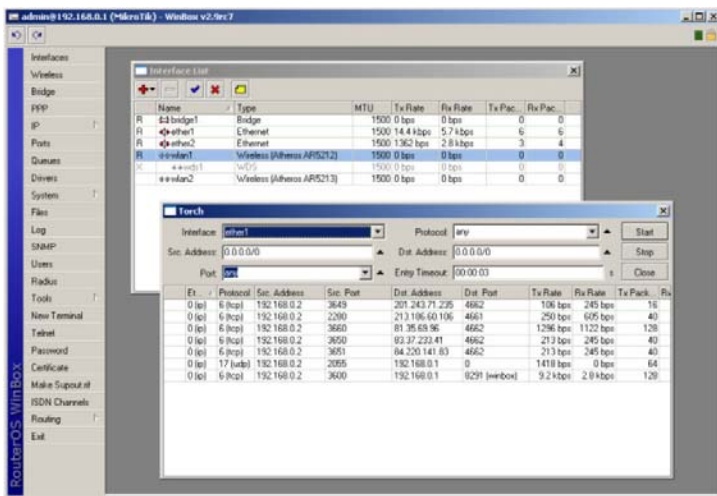
The following table lists range estimates for the Alico bridge. These are typical estimates, actual range will depend on atmospheric conditions and terrain. Conservative fade margin is shown here in these estimates.

Transmit Antenna	Gain-dBi	Receive Antenna	Gain-dBi	Data Rate	6 Mbps	11 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
3 Foot Parabolic Dish	33	3 Foot Parabolic Dish	33	fade margin-dB	40	40	40	38	35	30	30
				Range-Mi	40	32	25	20	16	11	7
26" Parabolic Dish	29	26" Parabolic Dish	29	fade margin-dB	35	35	35	33	30	25	25
				Range-Mi	32	25	20	16	13	9	6
Flat Panel	26	Flat Panel	26	fade margin-dB	33	33	33	33	30	23	20
				Range-Mi	20	16	13	8	7	6	5
Flat Panel	23	Flat Panel	23	fade margin-dB	30	30	30	28	25	20	20
				Range-Mi	14	11	9	7	6	4	3

Specifications subject to change without notice:

Provisioning & Monitoring

The BR58-LFR can be provisioned with a MS Windows based application utility called "Winbox". Other options to provision the BR58-LFR include a Telnet or SSH interface capability, using a powerful command line interface. The BR58 also supports a limited web browser functionality for basic configuration. Runtime configuration and monitoring can be performed on the BR58-LFR. Some of the monitoring functions include a Wireless Sniffer to sniff packets from the wireless network, a net watch tool, and a traffic monitor tool. The traffic monitor tool is used to execute scripts when the interface traffic crosses a threshold.



Ordering Information (Professional Installation Required)

Type	Model	Description	Part #
NEMA 4 Box Enclosure	BR58-LFR-TD	<ul style="list-style-type: none"> 5.8 GHz high power Wireless Ethernet Bridge (both ends) to include 2 each radio-routers housed in NEMA 4 die cast Aluminum enclosures with an N-Female RF and an Ethernet connector Two each AC/DC power supplies with Power Over Ethernet Injectors 	231-5800-0000

Specifications subject to change without notice:

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