

Gateway Router

GR2101a



TeraHop Gateway Router

General

The TeraHop Gateway Router (GR) is the central control and information collection and dissemination device that links all components at a site. Mounted on a pole, building, or vehicle, the Gateway Router announces its presence when first turned on and, within a few moments, the entire network including Portable Data Collectors (PDCs), PDAs and or laptops, and other Gateway Routers are fully operational providing presence and condition of all on-site assets automatically.

Operation

The Gateway Router runs internal diagnostics, identifies its location through its GPS receiver and establishes links to other GRs that may already be at the site. After a simple PDA or laptop log-in procedure, the GR allows all of the PDCs to form an ad-hoc network and collect status, condition, and routing information from all devices at the site. One GR can provide coverage over a 15 acre area with coverage automatically extended through other GRs or by the hopping capability of the PDCs. The GR and its associated application continuously monitors the status and condition of the PDCs and periodically confirms the radio link coverage to and from each device.

Overview of the Gateway Router

The GR contains a GPS receiver plus four other transceivers operating at 2.4 GHz, along with the associated processors, memory and other wired interfaces that can, for example, be connected to a cellular modem, satellite transceiver, or a land-mobile radio to provide wide-area communications. Two of the transceivers are used to communicate with PDCs. One, referred to as the Wake-up radio is used to control the PDCs and transmit short messages. The other is a high-power (Class 1) Bluetooth® radio that is used between the GR and PDCs for the bulk transfer of large messages or over-the-air software updates. The remaining two transceivers are used to communicate with other GRs and to PDAs and laptops used as application clients.

About TeraHop Networks

TeraHop Networks is a leading manufacturer of asset monitoring and portable networking devices. Companies in the construction, transportation, manufacturing, emergency response, and mining industries use TeraHop's patented, subscription-free technology to cut costs and reduce waste by monitoring the location and condition of their mobile assets and personnel. TeraHop products are ready to run right out of the box, without satellite, cellular, Wi-Fi, or cabled network communication infrastructure. Power options for TeraHop products include battery, vehicle, and line power. TeraHop provides hassle-free, reliable, and affordable asset management hardware that integrates with popular maintenance, monitoring, and tracking software platforms. Privately held, TeraHop has offices in Seattle, Washington and Alpharetta, Georgia. For more information, visit <http://www.terahop.com>, email info@terahop.com, or call (678) 455-8844.

FEATURES AND BENEFITS

Wireless Technology

- Bi-directional wireless electronic device that communicates with other GRs, TeraHop Networks' Controllers and PDCs to form a wireless network island
- Upgradeable and scalable
- Uses 2.4 GHz band

Networking

- The GR device supplies radio communications for Gateway Controllers via a high- capacity, high-reliability data link
- The Network re-forms as resources move
- The GR is well suited for mobile and temporary installations as well as fixed installations of network islands

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Technical Specifications



PHYSICAL CHARACTERISTICS:

Dimensions: 8" X 14" X 5"

Weight: 6.2 lbs.

Color: Industrial Grey

External Connections:

One (1) Ethernet port, weatherproof RJ45

One (1) Serial port, 9 Pin locking, weatherproof

Power Connection:

One (1) Weatherproof, 2 pin locking

Mounting:

Vehicle and Pole Mounting Kits

ENVIRONMENTAL PERFORMANCE:

Operating Temperature: -25°C to +55°C
(-13°F to +131°F)

Storage Temperature:
-40°C to +85°C (-40°F to +185°F)

Humidity: 100%, condensing

Shock: Designed to withstand shock and vibration for vehicular use, per MIL-STD-810C

Electrical Specifications:

12 VDC Nominal 1.5 Amps Max., Negative Ground

Designed for DC power systems, incorporating reverse-polarity, over-voltage and load-dumping protection.

Warranty:

One (1) Year

RF/BACKHAUL SUPPORT SPECIFICATIONS:

Frequency Band: 2.4 GHz for Gateway to Gateway, Gateway to PDA/Laptop communication, and Gateway to PDCs

Bluetooth® Radio: 802.15, (2.4 GHz) Class 1

TeraHop Proprietary Radio: (2.4 GHz)

Antennas: Internal (2.4 GHz)

Wired Interface: 10/100 Ethernet

Wireless Interface: 802.11g (2.4 GHz)

RF Regulatory Compliance:

FCC Part 15C, Class B

GPS RECEIVER SPECIFICATIONS:

Resolution Accuracy: Approx. 6 meters

Frequency: 1.54 GHz

Antenna: Internal to Gateway Router

RELATED PRODUCTS:

- TeraHop Portable Data Collector (PDC)
 - GPS Option
 - RFID Option
 - Locator Option
 - Sensor Options (Temp, Shock, Tilt, Run/Idle, etc)
- TeraHop IMX Server

1225 Old Alpharetta Road, Suite 210

Alpharetta, GA 30005

Tel: 678-455-8844

www.TeraHop.com

