PTP 800

OWN YOUR SLICE OF RADIO SPECTRUM

6 TO 38 GHZ POINT-TO-POINT (PTP) LICENSED ETHERNET MICROWAVE

STRIKE THE RIGHT BALANCE

More bandwidth, more bandwidth, more bandwidth! Today's converged multi-service networks need extreme capacity, availability and reliability with low latency and true affordability. Fulfilling these demands takes a real balancing act. Our Point-to-Point (PTP) 800 Series Licensed Ethernet Microwave solutions strike just the right balance of performance and cost.

FIND THE PERFECT FIT

PTP 800 solutions are designed to satisfy the demand for reliable, high-throughput Internet Protocol (IP-based) licensed-microwave solutions at an affordable price. The systems deliver up to 368 Mbps (full duplex) throughput with user-configurable channel bandwidths from 7 to 56 MHz. Operating in the 6 to 38 GHz[1] radio frequency (RF) bands, PTP 800 solutions are available in several models to address your local regulatory guidelines[2] and specific application requirements.

PTP 800 systems integrate seamlessly with our PTP license-exempt and defined-use licensed wireless Ethernet bridges, providing an array of line-of-sight (LOS), non-line-of-sight (NLOS) and ultra long-distance solutions. As a result, you can configure the solution or combination of solutions that best meets your path conditions, application requirements and budgetary guidelines.

PTP 800 Outdoor Unit (ODU)

PTP 800 Compact Modem Unit (CMU)

CAPACITY AS YOU GROW

Typically, demand for communication bandwidth grows during the life of a network. To accommodate that growth, you can purchase the PTP 800 throughput you need today and increase throughput capacity as your needs grow. This capacity-as-you-grow scalability can reduce your initial capital expenditure by not having to pay for tomorrow's needs with today's budget. Instead, you can match throughput capacity to your application requirements or, for carriers and service providers, to your developing demand and revenue stream. In addition, you can assign different throughput capacities to the up and down links.

PTP 800 Compact Modem Units are shipped with a factory-set 10 Mbps capacity cap, meaning that throughput is set to a maximum of 10 Mbps at the user Ethernet port. When you require more than 10 Mbps, you can upgrade the throughput capacity without any change to the hardware. Single-step or step-by-step capacity upgrades can be implemented at the time of system purchase and/or anytime after deployment.

ZERO-DOWNTIME ADAPTIVE MODULATION

Certain organizations such as carriers may choose to operate PTP 800 systems in a Fixed Modulation mode. However, the system's dynamic Adaptive Coding and Modulation (ACM) feature can provide performance benefits for many IP-based applications. When ACM is selected, the system automatically "up-shifts" and "down-shifts" the modulation and/or coding rate as path conditions change. This enables radio transmitters and receivers to negotiate the highest mutually sustainable data rate.

During good weather, the radio will "up-shift" to a higher modulation level and/or higher coding rate to improve spectral efficiency and increase throughput and availability. If the link's Signal-to-Noise Ratio (SNR) falls

CUSTOMER PROFILES

- Banks and Financial Institutions
- Educational Agencies
- Healthcare Organizations
- Oil and Gas Companies
- State, County and Local Governments
- Transportation Agencies
- Utility Companies
- Wireless Internet Service Providers (WISPs)
- Wireless Carriers

[1] PTP 800 models operating in the 6 to 38 GHz frequencies are available in a series of product releases.

[2] Local regulatory requirements should be confirmed prior to system purchase.

below the threshold that your link can sustain, as can occur during heavy rain, the radio will "down shift" to a lower modulation level and/or lower coding rate. The resulting improvement in receive sensitivity enables your link to continue operating.

With exceptionally smooth change steps, errorless coding and modulation technology, and a hitless algorithm, you will experience no service interruption as the modulation steps from one level to another. Many comparable systems need several seconds to adjust the modulation mode which causes outages as the radios switch modes.

FAILSAFE COMMUNICATIONS

There are many applications such as 9-1-1 dispatch, video surveillance and online stock trades for which a communication outage is just not acceptable. In such crucial situations, you will want hardware redundancy to support your vital functions with uninterrupted, real-time communications. While hardware redundancy is not required to deploy PTP 800 links, it is recommended for each link which supports a critical application or process.

PTP 800 links can be deployed as 1+1 hot standby (HSB) links, 2+0 redundant links in a ring or mesh configuration, and non-redundant links. HSB links are designed to provide full redundancy in the event of a single CMU (Compact Modem Unit) or ODU (Outdoor Unit) failure at one or both ends of a link. If a failure occurs, the secondary unit will automatically take over communications. You can also achieve redundancy by deploying PTP 800 systems in a ring or mesh configuration with two independent links and an external switch. Non-redundant links are good choices to support applications for which you would not incur significant consequences in the event of a failure. If you deploy a non-redundant link, you can later upgrade to a 1+1 or 2+0 configuration without changing your hardware

REDUCED INSTALLATION COSTS

Optimized hardware design and easy-to-follow deployment-assistance information significantly reduce deployment man-hours and costs. Designed with a split-mount architecture that includes an ODU and a CMU, the ODU and CMU are connected by a single intermediate frequency (IF) cable. The CMU's extremely small, physical footprint greatly reduces rack-space requirements. You can even mount the CMU on a wall or place it on a table if rack space is scarce or non-existent.

EASY, ACCURATE LINK PLANNING

Our easy-to-use PTP LINKPlanner tool allows you to accurately project performance characteristics prior to purchase based on your specific radio path conditions. You can plan and optimize a single link or multiple links simultaneously, obtain configuration details to speed deployment, display a comprehensive overview of your entire wireless network via Google™ Earth and receive a complete licensed-microwave Bill-of-Materials to simplify the ordering process. LINKPlanner is available as a stand-alone tool or included in our One Point Wireless portfolio.

END-TO-END WIRELESS MANAGEMENT

Our Wireless Manager is an optional feature-rich tool that simplifies management functions and reduces the time required to manage your wireless network. From one live Google™ map view, you can monitor and manage PTP, mesh, point-to-multipoint and other SNMP-enabled devices. This holistic, map-based approach is designed to speed up problem resolution in order to boost your network uptime and availability.

PTP 800 systems also contain embedded web servers to manage a link either locally or remotely and are designed to easily integrate with Web-based or SNMP-based network management systems. In addition, PTP 800 systems support both in-band and out-of-band management.

PERFORMANCE BOOSTING TOOLS

PTP 800 systems include industry-leading metrics to help you attain the best possible performance from your wireless system. Those metrics include antenna alignment information, throughput measurements, measurements of signal level and quality and troubleshooting diagnostics.

CERTIFIED INTEROPERABILITY

Today's IT networks are typically multi-vendor environments. As a result, our PTP 800 equipment is tested and MEF9 (Metro Ethernet Forum) certified as compliant with the MEF's essential specifications. So, you can be confident that your PTP 800 solution will interoperate with your existing network equipment.

PTP 800 AT WORK

PTP 800 solutions are designed to efficiently and affordably transport the data, voice and video that your high-throughput applications require while supporting a smooth migration to an IP-based network. Typical uses include:

TYPICAL USES

- Ethernet data, voice and video backhaul
- Building-to-building connectivity
- Leased-line replacement
- Network redundancy
- WiMAX/LTE backhaul
- Data overlay networks

INTERNET PROVIDER

ADD CAPACITY FOR ON-DEMAND MULTIMEDIA

Your conference center client has updated their interactive sales presentation with audio and video content. Virtual tours of new meeting and conference rooms, added business services, redecorated guest rooms and upscale restaurant and bar facilities are very elegant. However, they needed greater throughput capacity to transmit all this beautiful content on demand. You chose our PTP 800 licensed microwave solution to provide the capacity they need. Now they can promote their facilities and services in real time, and you made a profitable customer very happy.

- Replacing leased-lines to eliminate or reduce monthly leased-line charges
- Extending video surveillance beyond the constraints of a wired infrastructure
- Backhauling video from surveillance cameras to a dispatch or command center
- Establishing network redundancy for a wired or fiber network
- Improving productivity by connecting a headquarters location to a branch office, warehouse, customer service center or other facility
- Supplying added capacity for sophisticated Voice-over-IP, streaming video and multimedia applications
- Delivering high-capacity wireless backhaul for WiMAX and LTE networks
- Growing subscriber networks by establishing service in distant locations
- Providing a data overlay for an existing legacy network

CAPACITY, RELIABILITY, VALUE

Everyone wants the most value for their investment. When it comes to value, the PTP 800 shines with impressive features that can significantly reduce capital and operating expenditures, including:

- "Capacity as you grow" scalability that lets you budget to meet throughput needs
- Configurations for affordable 1+1 hot standby and 2+0 network redundancy
- Optimized system design and installation that cuts deployment man-hours and costs
- Errorless and hitless ACM that maximizes spectral efficiency, increases throughput and improves availability without service interruption
- Easy, flexible management options that integrate with your existing network management activities
- One Point Wireless that gives you a common set of tools to make wireless network design, deployment and management faster and easier (optional)
- Licensing service packages[3] that save you time and simplify RF licensing procedures
- Complete PTP portfolio that gives you tremendous flexibility to configure the solution that is ideal for your business needs, path conditions and budget

WIRELESS NETWORK SOLUTIONS

PTP 800 solutions are included in our Wireless Network Solutions portfolio. This portfolio delivers seamless connectivity that puts real-time information in the hands of users, giving you the agility you need to grow your business or better protect and serve the public. Our unrivalled wireless network solutions include indoor WLAN, outdoor wireless mesh, point-to-multipoint and point-to-point networks as well as voice over WLAN solutions. Combined with powerful software for wireless network design, security, management and troubleshooting, our solutions deliver trusted networking and anywhere access to organizations across the globe.

[3] Packages may not be available in certain geographic regions.

For more information on our PTP 800 Series solutions, refer to the PTP 800 Specifications Sheet at:
motorola.com/ptp

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