

High Speed Internet

MegaPort Series Gateway



The MegaPort Gateway is a broadband Ethernet Bridge/Router that establishes a network within a building or community. A single MPG allows service providers to easily offer broadband Internet access to up to 64 active MegaPort Outlets or users. By connecting several MPG units, the number of outlets can be increased easily. There is also an optional license upgrade to expand the users up to 250, great for hospitality environments where usage penetration is moderate. Plus, the entire system utilizes existing coaxial cable infrastructure, while interfacing and co-existing with CATV or DBS video and DOCSIS data services. This makes the MPG the only outside installation device required with a MegaPort deployment. Accompanying MegaPort Manager software, with built-in SNMP capability, allows remote management and control for system configuration and monitoring.

○ Features & Benefits

- Utilizes Existing Coaxial Infrastructure to Distribute Data Services
- Transparent to DOCSIS, CATV & DBS services
- Supports 64 Users per MegaPort Gateway, Expandable Via Optional License Upgrade
- Configurable for Bridge or Router Functions and Fully Remote Manageable
- Ideal Hospitality Solution

○ Specifications

Wan Interface

1 10/100BaseT Ethernet Port

LAN Interface

1 10/100BaseT Port for configuration

Down-Stream

One Downstream

Modulation Type: 16/64/256* QAM

Symbol Rate: Up to 6 Msym/sec

Frequency Range:

40-80 MHz Software Adjustable

48-860 MHz with External Upconverter

Transmission Level: 50 dBmV (MAX)

Bandwidth: 1.15 to 6.9 MHz

Spurious: -60 dBc

Up-Stream

One Upstream

Modulation Type: QPSK

Symbol Rate: Up to 3 Msym/sec

Frequency Range:

5-32 MHz Software Adjustable

Receive Levels:

-10 dBmV to +15 dBmV Adjustable

Spurious: Meets DOCSIS 1.1

Bandwidth: 1 to 3.75 MHz

Physical Interfaces

Coax Female F-connector

10/100BaseT Ethernet -2 Ports

Power Cable

Software

Operating System: Linux

VLAN Capabilities:

Creation of Sub-Networks Between MPOs

Class of Service:

Supports 4 Operator Defined Levels
(64 MPO Units Only)

Distance

Between Gateway to Farthest MPO:
5,000m (16,405 Feet)

Attenuation Between Gateway and MPO:

Minimum: 10 dB

Optimum: 30 dB

Electrical Specifications

Power Dissipation: 20 Watts (Typical)

MAX Power Consumption: 30 Watts

Input voltage: 100-250 VAC

Input Frequency: 50-60 Hz

Power Supply Options:

UPS, Warm Standby SBC

AC Input Voltage:

40-60 VAC Via Coax
(Factory Preset)

Dimensions

Height: 22.6 cm (8 3/4")

Width: 15.1 cm (6 1/4")

Depth: 5.7 cm (2 1/4")

Weight: 1.94 Kg (4.3 lb)

Packing Size: 35-x 21.5 x 8 cm

Environmental Specifications

Operating Temperature:

32° to 104° F (0° to 40° C)

Storage Temperature:

-40° to 158° F (-40° to 70° C)

Humidity: 5% to 95% Non-condensing

Altitude: 0 -10,000 ft

Certification

UL, CE, FCC, ICES

○ Ordering Information

Model	Stock No.	Description
MPG-1100	2681	MegaPort Gateway 1100 Ethernet Bridge/Router for High Speed Internet Access

High Speed Internet

MegaPort Series Outlets



Data

The MegaPort Outlet (MPO) revolutionizes broadband Internet access by using a permanently installable infrastructure based solution. The MPO acts like a modem and is MAC addressed to allow for easy remote software activation and deactivation. The consumer simply plugs in and is instantly connected to an always on broadband connection through the MegaPort system. In addition, installing multiple MPOs allows the ability to offer Home Networking. All this is accomplished without interference to existing TV channels or other interactive services. By reducing the maintenance costs to virtually zero by eliminating the cost of the modem hardware and retrieval, there is no better broadband solution available for MDUs.

○ Features & Benefits

- 10BaseT RJ-45 Port for Easy Customer Interfacing
- Outlets Can Be Permanently Installed Eliminating the Need for CPE Retrieval
- MAC Addressed for Remote Activation & Deactivation
- Remote Software Upgrade Capable
- Ideal Hospitality Solution

Specifications - MegaPort Outlets (MPO)

Identification

Unique MAC Address Per Outlet

RF Specifications

Coax Impedance: 75 OHM

Inverse Modulation Support

Up-Stream (To Gateway)

Modulation Type: QPSK

Symbol Rate: 3.0 Msym/sec

Frequency Range:
5-32 MHz Full Agility

Transmission Level: 48 dBmV

Automatic and Widely Adjustable
Upstream TX Level

Down-Stream (From Gateway)

Modulation Type: 16/64/256 QAM

Symbol Rate: Up to 6 Msym/sec

Frequency Range:
48-56 MHz
64-76 MHz
48-860 MHz

Receive Range: -10 to +40 dBmV

Automatic Frequency Scanning

MPO: Every 250 KHz in Frequency Range

Agile MPO: 48-860 MHz Every 250 KHz

Physical Interfaces

Coax (TV,IN): F-Connector, Female

10BaseT: RJ-45 Receptacle

Electrical Specifications

Power Consumption:

10BaseT: External Power Adapter
110/220 VAC Input, 5W Output

Distance

Between Gateway to Farthest MPO:
5,000m (16,405 feet)

Standards

10BaseT:

802.3 Full Duplex, Auto MDIX
Supports Up to 16 Ethernet Devices

Dimensions

Length: 11.4 cm (4 15/32")

Width: 7 cm (2 3/4")

Height: 4.2 cm (1 3/4") Surface Mount

Weight: 200 gr.

Packing Size: 16 x 17.5 x 5.5 cm

Environmental Specifications

Operating Temperature:

32° to 104° F (0° to 40° C)

Non-Operating Temperature:

-13° to 158° F (-25° to 70° C)

Relative Humidity:

5 to 95% non-condensing

Altitude: 0 -10,000 feet

Certification

UL, LE, FCC, ICES

○ Ordering Information

Model	Stock No.	Description
MPO-ESM-52	2673	MegaPort Outlet Ethernet Surface Mount 48-56 MHz
MPO-ESM-AG	2679	MegaPort Outlet Ethernet Surface Mount 54-860 MHz Agile, Not Stocked
MPO-ESM-44	2678	MegaPort Outlet Ethernet Surface Mount 40-48 MHz, Not Stocked
MPO-ESM-70	2677	MegaPort Outlet Ethernet Surface Mount 64-76 MHz

Modulation Schemes and Bandwidth

The MegaPort system can be set for different modulations from QPSK to QAM 256 at different symbol rates.

Setting these parameters determines the bandwidth used by the system as well as the raw data throughput.

The charts to the right displayed depict the typical system information.

* Not supported with all hardware/software. Requires ASIC2 outlets.

Symbol Rate (KS/s)	Down-Stream (Gateway to MPO)					Up-Stream (MPO to Gateway)		
	Channel Bandwidth (MHz)	QAM 16 Bit Rate (Mbps)	QAM 64 Bit Rate (Mbps)	QAM 256* Bit Rate (Mbps)	QPSK Bit Rate (Mbps)	Symbol Rate (KS/s)	Channel Bandwidth (KHz)	QPSK Bit Rate (Mbps)
1000	1.2	4	6	8		1,500	1,875	3
1500	1.8	6	9	12		3,000	3,750	6
2000	2.4	8	12	16				
2400	2.88	9.6	14.4	19.2				
3000	3.6	12	18	24				
4000	4.8	16	24	32				
5000*	6.0	20	30	40				
6000*	7.2	24	36	48				

MegaPort Manager

Exert Total Computer Based Control

The MegaPort Series MegaPort Manager software, with built-in SNMP capability, allows remote management and control for system configuration and monitoring.

Remotely activate and deactivate Outlets with complete control. Easily configure independent sub-networks and provision Outlets for Home Networking capabilities. Remotely update software and firmware for Outlets and Gateways.

Specifications - MegaPort Manager (MPM)

Network Management

- Network Management:
 - SNMP, Inbound/Outbound
 - Software Configurable as Bridge or Router Mode, DHCP Client and Server, NAT, Basic
 - Firewall, PPPOE, RIP
 - Service Control: Remote Add/Remove, Enable/Disable Outlets
 - Usage Recording: Automatic
 - Logs & Counters
 - Client Identification:
 - Auto Alarms, Diagnostics
 - Supports 4 CoS Predefined by Operator
 - Control of RF Parameters
 - Creation of VLANs Between MPOs
 - Define IP Parameters
 - Performance Monitoring

Standards Compliance

- DOCSIS and EURO DOCSIS Compatible WAN Connection
- CableHome 1.0 Compliance
- Universal Plug-n-Play (UPnP)
- Upstream Encoding Method
- Demodulation/Conversion to Ethernet Protocol and IP
- VLAN 802.1q Between Gateway and Outlets
- Downstream Physical Layer Enhanced ITU J.83, Annex A
- USB 1.1, 10BaseT, 100BaseT

Security and Encryption

- A). Physical Layer MAC
- B). Selective RF to IP Conversion Based on Destination Address
- C). VLAN
- D). Encryption