



# MA-100 Media Adaptor

The Viavi MA-100 Media Adaptor is a standalone network element that provides a managed Gigabit Ethernet (GE) service demarcation point between networks. The MA-100 reports both line- and client-side traffic using small form factor pluggable (SFP) transceivers, providing a simple, cost-effective solution for a variety of applications. It is part of an overall network solution consisting of four key components:

## MA-100

Each MA-100 is provisioned with a unique target identifier (TID) and reports alarms to the NetComplete™ element management system (EMS) element that in turn reports SNMP traps via its northbound interface to networking monitoring and analysis. The MA-100 does not require any provisioning (beyond initial commissioning of TID and management IP addresses) in order to turn up GE service traffic.

## EMS SFP (JMEP)

The EMS SFP (JMEP) is an SFP GE transceiver that monitors and reports on network operations, collects performance monitoring (PM) data, and manages communication between the MA-100 and the EMS. Each MA-100 has at least one EMS SFP installed. The MA-100 can also be used without JMEPs, in which case it acts as a legacy media converter.

## NetComplete Server

The NetComplete EMS server provides a consolidated management interface to large numbers of subtending MA-100s. It includes a northbound SNMP interface for connectivity to NMA as well as a web-based GUI application for viewing network element status and inventory information.

## Features

- Transparent traffic flow
- Supports a variety of Ethernet service OA&M features
- Trials and deployments can be implemented independent of a network EMS

## Applications

- Physical demarcation deployments
- Fault isolation
- Service activation testing
- Continuous performance monitoring

## Ethernet Service Assurance Mediator (ESAM) Server

The Viavi ESAM server runs on a separate machine (physical or virtual) from NetComplete EMS. It performs mediation functions in the management of network elements by NetComplete. ESAM's primary purpose is to provide mediation between the EMS and JMEP/MA-100. In addition, the ESAM facilitates scalability of the overall solution: a single NetComplete server can connect to up to 10 separate ESAMs to manage a large number of MA-100s.

## MA-100 Components

### Power over Ethernet (PoE)

The MA-100 is available in two versions. The baseline product requires an external 48 V DC power supply. The PoE version is powered through the RJ45 connector on the SFP.

### SFP Ports

The MA-100 has two SFP ports, labeled on the faceplate as Client and Network. In general, the MA-100 supports and is agnostic to any non-Viavi JMEP SFP/SPF+ installed. However, a non-Viavi JMEP SFP is not manageable through the MA-100. For example, the wavelength of a T-SFP installed in the MA-100 cannot be tuned. In these instances, if a non-Viavi JMEP SFP is installed in the EMS port of the MA-100 EMS, the SFP would not be managed by the EMS.

SFPs installed in the MA-100 are designated as either EMS or as adjunct SFPs.

### The EMS SFP

This EMS SFP provides the management interface back to the NetComplete EMS. Since the management interface both reads and writes information to it, the EMS SFP must always be a JMEP. Typically, the JMEP EMS SFP is installed in the default network port, and this network port is designated as the EMS port.

### The Adjunct SFP

The adjunct SFP is the second SFP installed in the MA-100 and is installed in the non-EMS designated port. Since the EMS SFP is most usually installed in the default network designated port, the adjunct SFP is typically installed in the client port. The adjunct SFP can be either a JMEP or a non-JMEP SFP. A JMEP installed in the Adjunct port will behave in the same manner as a standard SFP.

## Monitoring and Management

The MA-100 is monitored and managed in a variety of ways.

- The unit has two management access interfaces for direct monitoring and management communications, local and remote
- Local management communication is carried out via a DB9 craft access port or USB port on the front faceplate
- Remote management communications are made via the EMS SFP (JMEP) to a NetComplete EMS

In addition, the MA-100 has a total of six LEDs on its faceplate; these LEDs provide diagnostic information about the status and operation of the MA-100 without having to launch a management session. Warm/soft and cold reset functions enable quickly resetting the unit when necessary.

## Additional Features

The unit can be installed in a variety of locations including both central office standard environments and OSP environments. Multiple mounting options are available, including:

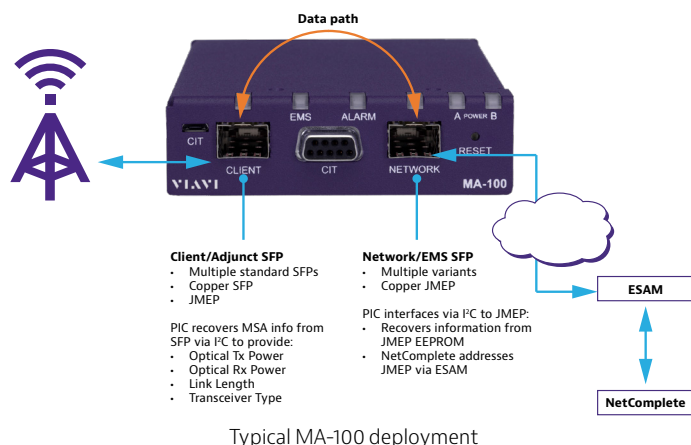
- Desktop
- Wall mount
- DIN rail
- Viavi shelf
- OSP enclosure

The MA-100 includes a DB-9 craft access port and a USB port that enable initial commissioning of some attributes, while other attributes are configured by and managed in-band (over the Ethernet network) by a remote EMS.

## Application and Deployment

Traffic flows transparently through the MA-100; it has no access to the traffic data. An EMS SFP (JMEP) installed in a MA-100 will report on the status of both itself and a client SFP installed in the unit's second port.

Using a basic CLI interface (via a serial DB9 or USB port on the front of the unit) and its faceplate LEDs, initial trials and deployments of the MA-100 can be implemented independent of a network NEMS. Further in-depth monitoring and administration of the JMEP can be carried out, if required, via the EtherASSURE EMS using the ESAM. The MA-100 communicates through the EMS SFP/JMEP with NetComplete. The MA-100 communicates through the EMS SFP/JMEP with NetComplete. In turn, limited management of the MA-100 is also carried out through the JMEP.



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