# AT-MX40F & AT-MX55F, Fiber Ethernet Micro Transceivers

**AT-MX40F/SM**, Single-Mode fiber ST micro transceiver
**AT-MX40F/ST**, Fiber ST micro transceiver
**AT-MX55F/SC**, Fiber SC micro transceiver


## KEY FEATURES

**IEEE 802.3 10FL/FOIRL compliant, Ethernet Version 1.0 and 2.0 compatible and FL/FOIRL**

**Fiber ST Single-Mode allows up to 14km in network cable distance**

**Direct AUI connection**

**Wide optic input dynamic range**

**Loopback function emulates AUI (10Base5 transceiver)**

**Sophisticated link monitor function and LED**

**6 status LED's: Transmit, Receive, Link, Collision, Jabber and Power**

**Switch selectable Signal Quality Error (SQE)/ Heartbeat test**

**Lifetime warranty**

**Free technical support**

These Micro Transceivers are the latest in Ethernet fiber-optic local area network (LAN) micro transceivers. These Micro Transceivers are plug compatible with most IEEE 802.3 hardware and implement all Ethernet transmit, receive and collision detection functions. Electrical connections and power are supplied via the Attachment Unit Interface (AUI) 15-pin D subconnector. Interface is mechanically and electrically identical to coaxial cable transceivers. Compact size and narrow chassis allow these transceivers to connect directly to almost all Data Terminal Equipment (DTE) or hubs, bringing fiber-optic cabling directly to the desktop and, in most cases, eliminating the need for an AUI cable.

These micro transceivers provide fiber optic LAN connections transparently to user's hardware and software. These micro transceivers can be combined with existing copper-based Ethernet configurations to allow coax-to-fiber and fiber-to-fiber local and remote network connections.

These fiber-optic micro transceivers contain a number of technical innovations, including an automatic receive light level adjustment. This allows any length between 0-2000 meters of fiber-optic cable to be attached without the use of optical attenuations. In addition, the transceivers monitor and report the low light level condition according to IEEE 802.3 10Base-FL/FOIRL Media Attachment Unit (MAU) specifications. With this feature, these transceivers do not require any gain or energy adjustments for installation. In addition, the new AT-MX40F/SM single mode 10mbps micro transceiver allows network managers to extend their cable distance up to 14km.

Other enhancements include an auto-reset jabber feature, which indicates a controller malfunction. If invoked, this function causes an automatic shutoff of the unit to avoid overloading the network. These Micro Transceivers also employ Surface Mount Technology (SMT) to provide a highly reliable, yet inexpensive fiber-optic micro transceiver.

These Micro Transceivers are equipped with 5 diagnostic LEDs, so status may be determined at a glance, and 1 power LED.

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## STATUS INDICATORS

Front Panel:

| | |
|---|---|
| Transmit | Indicates packet is being transmitted to the media |
| Receive | Indicates packet is being received from the media |
| Collision | Indicates a collision is detected |
| Jabber | Indicates that the jabber timer has expired |
| Link Monitor | Indicates a valid receive link exists |
| Power | Indicates power is applied to the transceiver |

## AUI INTERFACE

| Transmitter: | Typical | Range |
|---|---|---|
| Squelch Voltage | -170mv | -140 to -190mv |
| SQE Test Delay | 800ns | 600 to 1600ns |
| Duration | 1000ns | 500 to 1500ns |
| Collision Assert Delay | 200ns | 450ns |
| Jabber setup | 70ms | 20 to 150ms |
| Jabber recovery | 450ms | 250 to 750ms |
| Loopback Start-up Delay | | 500us |
| Receiver: | | |
| Start-up Delay | 350ns | |
| Steady State Delay | 15ns | 50ns |
| Signal Amplitude | ±800mv | ±550 to ±1200mv |

## FIBEROPTIC INTERFACE

| Optical: | Typical | Worst |
|---|---|---|
| Wavelength | 850nm | ± 20nm |
| Sensitivity | -32.5dBm | |
| Saturation | 170uW (-7.6dBm) | 150uW (-8.2dBm) |
| Output Power Transmitter: | | |
| 62.5/125uM | -12.0dBm | -15.0dBm |
| 100/140uM | -6.5dBm | -9.5dBm |
| 50/125um | -16.5dBm | -19.5dBm |
| Single Mode Optical: | | |
| Wavelength | 1300nm | |
| Sensitivity | -32.5dBm | |
| Output Power Transmitter: | | |
| 8-10/125uM | -14.0dBm | - 20.0dBm |

## ENVIRONMENTAL SPECIFICATIONS

| | |
|---|---|
| Operating Temp. | 0°C to 50°C |
| Storage Temp. | -20°C to 60°C |
| Relative Humidity | 5% to 80% noncondensing |

## PHYSICAL CHARACTERISTICS

| | |
|---|---|
| Dimensions | 6.9cm x 4.2cm x 1.93cm (2.70" x 1.66" x 0.76") |
| Weight | 57g (2.0oz) |

## ELECTRICAL/MECHANICAL APPROVALS

| | |
|---|---|
| EMC | FCC, TUV, Vfg-B |
| Safety | UL, CSA, TUV, IEC 825-1, CE compliant |

## ORDERING INFORMATION

**AT-MX40F/SM-05**
Single-Mode fiber optic transceiver with ST connector

**AT-MX40F/ST-05**
Fiberoptic transceiver with ST connector

**AT-MX55F/SC-05**
Fiber optic transceiver with SC connector

### Accessories

AT-ADAPT-1
For mechanical fit with some models of Sun Microsystems SPARC-station and Apple Mac. II models, via an AUI extender adapter (AT-ADAPT-1). Consult your Allied Telesyn sales representative for more details

**Product Range:** Allied Telesyn's long-term focus on price/performance networking has made it a market-leading provider of LAN, WAN and MAN network systems. Advanced Layer 3 switch and router technology perfectly complements its traditional Layer 2 switch, hub, adapter card and media conversion capabilities.

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