

1199-T32/64 Multiplexer

Operator's Manual

P/N 707026-001

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Safety and Regulatory Information

Safety

- UL1950, CSA950
- CE Mark, IEC950, EN60950, EU Low Voltage

Electro-Magnetic Interference

- This equipment has been tested and found to comply with the limits for a FCC Class A commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause interference to radio communications. Operation of this equipment in a residential area may cause harmful interference in which case the user is required to correct the interference at the user's own expense.
- This apparatus complies with the CDoC CLASS "A" limits for radio interference as specified in the Canadian Department of Communications Radio Interference Regulations. Operation in a residential area may cause unacceptable interference to radio and TV reception requiring the owner or operator to take whatever steps are necessary to correct the interference.
- Cet appareil est conforme aux normes CDoC CLASS "A: D'Interference radio tel que specifier par le Ministère Canadien des communications dans les règlements D" Interference Radio. Cet équipement ne dépasse pas les limites de Classe B d'émission de bruits radioélectriques pour les appareils numériques, telles que prescrites par le Règlement sur le brouillage radioélectrique établi par le Ministère des Communications du Canada. L'exploitation faite en milieu résidentiel peut entraîner le brouillage des réceptions radio et télé, ce qui obligerait le propriétaire ou l'opérateur à prendre les dispositions nécessaires pour en éliminer les causes.
- CE mark, EN50022, EN50082-1, EU EMC Directive

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Chapter 1. Introduction

The Twisted-Pair Wiring Multiplexer (TWA) Multiplexer provides connectivity and data concentration, via Unshielded Twisted Pair (UTP) wiring, for IBM 3270 compatible video display terminals and printers. This Multiplexer allows connection of up to sixty-fourth 3270-type devices to a MTX Communications Servers through four 25-pair UTP cables that meet the EIA/TIA 568 Specification for Category 3 or better UTP cable.

The 1199-T32/64 Multiplexer offers the following advantages:

- Fewer cables
- Fewer slots used in the Communications Server
- Fewer connections
- Improves reliability

1199-T32

The MTX 1199-T32 Multiplexer provides for the attachment of up to 32 devices via one multiplexed output port from a MTX Communications Server. Each 1199-T32 Multiplexer requires an associated MCC II board on the MTX Communications Server. The MCC II Port 0 output on the server is connected to the 1199-T32 via coaxial cable. The MCC II board must be configured for 32-port Multiplexer support.

Up to 32 devices may be attached to the 1199-T32. One coax connection enables two groups of 16 ports. Each group of 16 ports uses an EIA/TIA-568, EIA/TIA TSB-36, Category 3 or better, 25-pair UTP cable terminated at the 1199-T32 end with a 50-position RJ-21X connector. The other cable end is typically terminated to a common telephone wire punch-down block. Devices attaching via a 1199-T32 require a Balun or equivalent circuit, such as an IBM DPC-T3 or ADC Kentrox 2000 or 3000 series adapters.

1199-T64

The MTX 1199-T64 Multiplexer provides for the attachment of up to 64 devices via two multiplexed coax output ports from a MTX Communications Server, each of these connections servicing up to 32 device ports. Each 1199-T64 Multiplexer requires two (2) associated MCC II adapters on a MTX Communications Server. Alternatively, each 1199-T64 multiplexed coax port (32 device ports) may be serviced by a single MCC II adapter in different MTX Communications Servers. Each MCC II Port 0 output on the server is connected to the 1199-T64 via a coaxial cable. Each MCC II board must be configured for 32-port multiplexer support.

Up to 64 devices may be attached to the 1199-T64. Each coax connection enables two groups of 16 device ports. Each group of 16 ports uses an EIA/TIA-568, EIA/TIA TSB-36, Category 3 or better, 25-pair UTP cable terminated at the 1199-T64 end with a 50-position RJ-21X connector. The other end of the 25-pair cable is typically terminated to a common telephone wire punch-down block. Devices attaching via a 1199-T64 require a Balun or equivalent circuit, such as an IBM DPC-T3 or ADC Kentrox 2000 or 3000 series adapters.

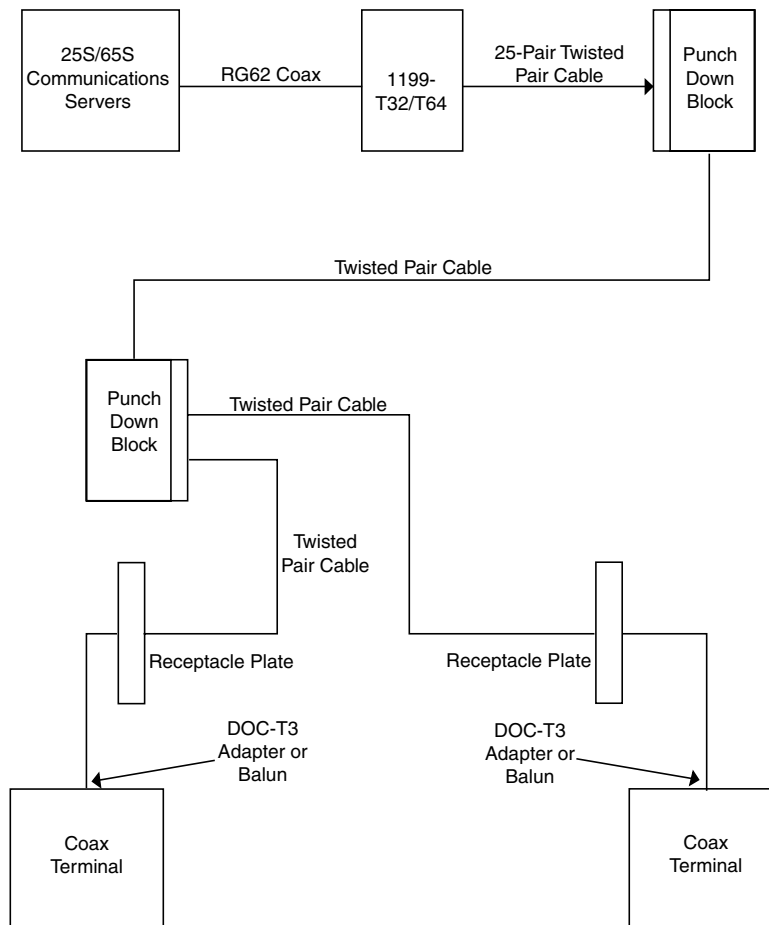


Figure 1-1: Typical 1199 Mux Network Connection

Chapter 2. Customer Installation

The 1199-T32/64 Multiplexer is designed to be customer installable. No special equipment or tools are required to unpack or install the unit.

Environmental Requirements

The following parameters must be adhered to for the proper operation of the 1199 Multiplexer:

| <u>Physical Statistics</u> | <u>1199-T32</u> | <u>1199-T64</u> |
|----------------------------|--------------------|--------------------|
| Weight: | 10.5 lb (4.8 Kg) | 10.75 lb (4.9 Kg) |
| Height: | 3.37 in (8.56 cm) | 3.37 in (8.56 cm) |
| Depth: | 15.5 in (38.1 cm) | 15.5 in (38.1 cm) |
| Width: | 17.0 in (43.18 cm) | 17.0 in (43.18 cm) |
| Power Consumption: | 12.25 W (typical) | 24.5 W (typical) |
| Heat Dissipation: | 42 BTU/hr | 84 BTU/hr |

Environmental Parameters

| | |
|--------------------|--|
| Clearance: | 3 inches(7.62 cm) on each side of the unit for cooling |
| Temperature Range: | 50° to 105°F (10° to 40.5°C) |
| Relative Humidity: | 8% to 80% (no condensation) |
| Maximum Wet Bulb: | 80°F (26.7°C) |
| Power: | 90-132 VAC or 180-264 VAC at 47 to 63 Hz |

Power Cable

For units operating at 100-120V: The power cable required for domestic units is a UL listed, GSA certified, 18/3 AWG, type SVT or SJT, cable (15-foot [4.6-meter] maximum). It is terminated on one end by a 125V, 15A grounding type attachment plug. It is terminated at the other end by a 125V, 15A parallel blade, grounding type attachment plug.

For units operating at 200-240V: The power cable required for domestic units is a UL listed, GSA certified, 18/3 AWG, type SVT or SJT, cable (15-foot [4.6-meter] maximum). It is terminated on one end by a 250V, 15A grounding type attachment plug. It is terminated at the other end by a 250V, 15A tandem blade, grounding type attachment plug.

The power cable required for international units is an 18/3 AWG, type SJT, cable (15-foot [4.6-meter] maximum). It is terminated on one end by a 250V, 15A grounding type attachment plug body. It is terminated at the other end by a 250V, 15A grounding type cord connector. The cord set is marked HAR to signify appropriate safety approvals. The socket outlet must be nearby and easily accessible, per IEC 950 Sec. 1.7.2.

Site Requirements

The installation site must provide a properly wired and grounded power outlet. Circuits connected to air conditioners or other devices that generate significant transient electrical noise should be avoided.

Electrostatic discharge in the vicinity of the unit should be minimized by avoiding high resistance floor material and carpeting that does not have anti-static properties. You should also avoid the use of plastic seats and covers, and avoid low humidity levels. The unit should be located away from areas that generate electromagnetic interference (for example, transformers, power distribution panels, and motors). The unit should not be installed where the atmosphere contains corrosive elements that may damage the unit.

Cable runs should avoid areas that produce electromagnetic interference (for example, near transformers, switching equipment, power distribution panels, and under carpets where vacuum cleaning is done). Also, heavy equipment should not be moved or rolled over the cable.

Inspecting the Package

If your multiplexer packaging appears to have been damaged in shipment, please do not open it. Rather, you should report the damage to the carrier upon delivery. If you determine that your multiplexer has concealed damage when you open the package, report the damage to your carrier as soon as possible. In both situations, you should also call MTX Customer Service to report the problem and have a replacement multiplexer shipped to you.

Call 1-888-334-4380- X6201

Unpacking the Unit

Perform the following procedure to unpack the multiplexer from the shipping carton:

1. Move the packaged unit to the area where it is to be installed (the standard power cable shipped with the unit is 6 feet [1.8 meters] in length). Place the carton in an upright position. Refer the markings on the carton.
2. Remove or cut the tape on the top of the container and open the flaps.
3. Remove the power cord and operators' manual.
4. Lift the unit from the carton and place it in its operating location.
5. Save the packing material for reshipment, such as mail-back repair.

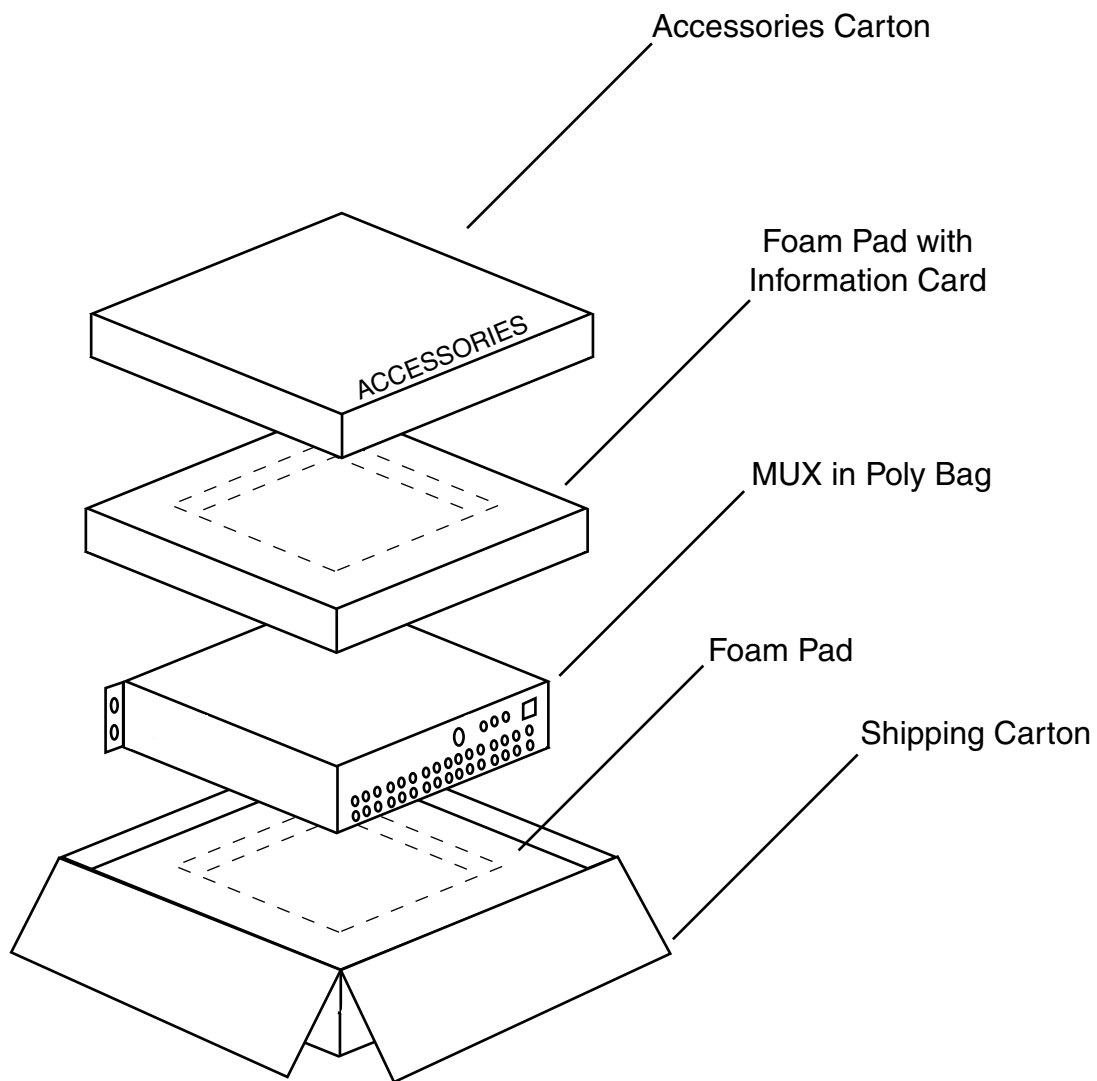
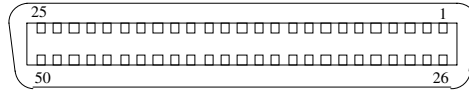


Figure 2-1: 1199-T32/64 Unpacking

Communications Cabling

The 1199-T32/64 Multiplexer cards have two groups of 16 ports. Each group of 16 ports uses a 25-pair, EIA/TIA-568, EIA/TIA TSB-36, Category 3 or better, UTP cable terminated with a 50-position connector terminating typically to a common telephone wire punch-down block. For RJ-21X connector pin to port number correspondence, refer to Figure 2.2.



TWA RJ21 CONNECTOR

| CONTROLLER PORTS | | CONNECTOR PINS | |
|------------------|----------|----------------|------|
| PORT No. | PORT No. | TIP | RING |
| 0 | 16 | 26 | 1 |
| 1 | 17 | 27 | 2 |
| 2 | 18 | 28 | 3 |
| 3 | 19 | 29 | 4 |
| 4 | 20 | 30 | 5 |
| 5 | 21 | 31 | 6 |
| 6 | 22 | 32 | 7 |
| 7 | 23 | 33 | 8 |
| 8 | 24 | 34 | 9 |
| 9 | 25 | 35 | 10 |
| 10 | 26 | 36 | 11 |
| 11 | 27 | 37 | 12 |
| 12 | 28 | 38 | 13 |
| 13 | 29 | 39 | 14 |
| 14 | 30 | 40 | 15 |
| 15 | 31 | 41 | 16 |
| | | 42 | 17 |
| | | 43 | 18 |
| | | 44 | 19 |
| | | 45 | 20 |
| | | 46 | 21 |
| | | 47 | 22 |
| | | 48 | 23 |
| | | 49 | 24 |
| | | 50 | 25 |

NOTE: 16 Ports per RJ-21 Connector. Ring connection corresponds to 3270 coax center conductor, Tip connection to coax shield. Maintain polarity for correct operation.

Figure 2-2: RJ-21X Connector Pin to Port Correspondence

1199-T32/64 Rack Mounting

The 1199-T32/64 Multiplexers are designed with holes to mount them in a standard equipment rack.. Four holes are provided for rack mounting. Refer to Figure 2-3.

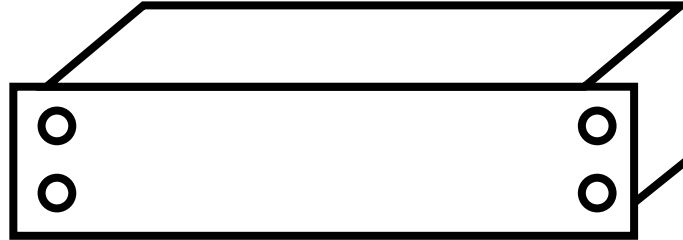


Figure 2-3. Rack Mounting

Device Connection

Ensure the multiplexer is within reach of an acceptable AC power receptacle. There is no power switch on the unit. Connecting the multiplexer to an AC power source is the last step in installation. When plugged in, the green power LED on the front panel illuminates, indicating power is applied and the unit is **ON**.

Connect the multiplexer in the following manner.

1. Connect the transmission cable from the communications server (this must be a multiplexed output port) to the BNC connector. For a 64 port TWA MUX, connect two multiplexed outputs from the communications server to the two BNC connectors on the TWA.
2. Connect the associated devices to the connectors labeled A0 and A1 on the 1199-T32, or to A0 and A1 on the top and B0 and B1 on the bottom rows of connectors for the 1199-T64.
3. Plug the equipment side of the power cord into the multiplexer power receptacle.
4. Plug the voltage side of the power cord into an appropriate AC power outlet. The installation of the multiplexer is now complete.

If your multiplexer fails to work properly during its initial installation or within 48 hours, please call the MTX IntelliCenter to report the problem and have a replacement multiplexer shipped to you.

Call 1-888-334-4380 X6022

Chapter 3. Customer Maintenance Procedures

This chapter provides instructions for preventive maintenance and determining whether problems encountered are due to the 1199-T32/64 Multiplexer or to an attached unit. Instructions for service calls and unit return are also provided.

Preventive Maintenance

Preventive maintenance for the 1199 Multiplexer is limited to keeping the unit clean and dust-free. All ventilation ports must be kept free of dirt and dust. This product is a non customer serviceable device. This product should only be serviced by an authorized service provider.

Problem Isolation Procedure

The following describes procedures in isolating functional problems to the 1199-T32/64 Multiplexer:

1. The 1199-T32/64 must be connected to the MCC II Port 0 of a communications server via coaxial cable. If it is connected to any other port, the 1199-T32/64 will be inactive.
2. For 1199-T32/64 support, the MCC II in the server must be configured for 32-port multiplexer support.

Warranty / Service

Warranty service must be performed by the assigned warranty service provider for the equipment. If you are unsure of the equipment warranty status or who can perform warranty service, please e-mail us at Intellicenter@MTX.com, or call 919-279-6022. Please include your equipment model and serial number. The serial number is located at the base of the unit.

1. If your multiplexer packaging appears to have been damaged in shipment, please do not open it. Rather, you should report the damage to the carrier upon delivery. If you determine that your multiplexer has concealed damage when you open the package, report the damage to your carrier as soon as possible. In both situations, you should also call MTX Customer Service to report the problem and have a replacement multiplexer shipped to you.

Call 1-888-334-4380- X6201

2. If you have elected to have MTX perform the installation of your multiplexer Call 1-800-777-8800 and refer to the national program code as “MTX1” and report your customer number as “8718145”. The customer service representative will then schedule your installation.
3. If your multiplexer fails to work properly during its initial installation or within 48 hours, please call Customer Service to report the problem and have a replacement multiplexer shipped to you.

Call 1-888-334-4380 X6201

4. For additional technical support, the MTX IntelliCenter is our technical support hub and can be reached by calling:

1-919-279-6022.

