

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *Ribbon / Performance Technologies / Ziatech 7112-A1-201* at our website: *Click HERE*

PARADYNE®

Model 7112 T1 SNMP DSU/CSU
Startup Instructions

Document Number 7112-A2-GN10-40

February 2000

Product Documentation on the World Wide Web

We provide complete product documentation online. This lets you search the documentation for specific topics and print only what you need, reducing the waste of surplus printing. It also helps us maintain competitive prices for our products.

Complete documentation for this product is available at **www.paradyne.com**. Select *Library* → *Technical Manuals* → *Subrate Digital Access Devices.*

Select the following document:

7112-A2-GB20
Model 7112 T1 DSU/CSU, with Internal Ethernet LAN Adapter, User's Guide

To request a paper copy of a Paradyne document:

- Within the U.S.A., call 1-800-PARADYNE (1-800-727-2396)
- Outside the U.S.A., call 1-727-530-8623

Package Checklist

Verify that your package contains the following in addition to the startup instructions:

- ❑ A Model 7112 T1 DSU/CSU
- ❑ Wall-mount ac adapter
- ❑ One RJ48C unkeyed modular cable for T1 network
- ❑ One 8-position unkeyed modular cable for Ethernet LAN access

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Cables You May Need to Order

If connecting . . .	Order a . . .
A VT100-compatible terminal to the Terminal port	Standard straight-through EIA-232 cable with DB25 plug connectors on both ends.
A PC to the Terminal port	Standard straight-through EIA-232 cable with a DB25 plug connector on one end and a DB9 socket connector on the other end.
An External Modem to the Terminal port	Standard crossover EIA-232 cable with DB25 plug connectors on both ends.
A DTE with a V.35 connector to the DTE port	Standard straight-through V.35 cable with an MS34 plug connector on one end and an MS34 socket connector on the other end.
A DCE with a V.35 connector to the DTE port	Standard V.35 crossover cable with MS34 plug connectors on both ends.

Contact your sales or service representative to order these cables. For cable details, refer to *Cables and Pin Assignments,* Appendix E, in the User's Guide.

Before Installation

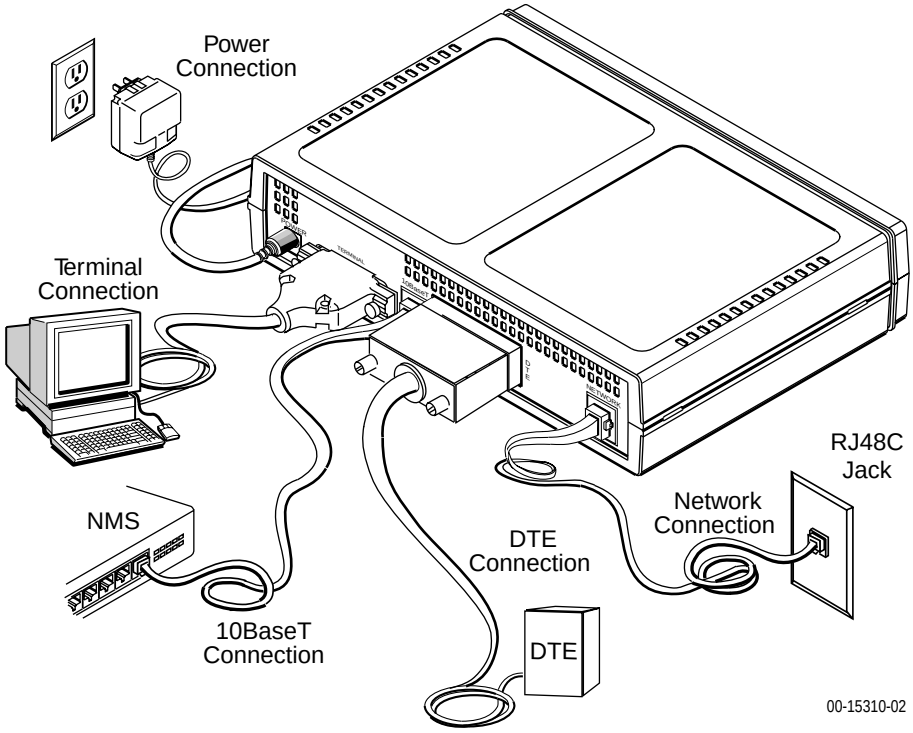
Before installation, read the *Important Safety Instructions* on page 11.

Make sure you have:

- ❑ A dedicated, grounded ac outlet within 6 feet of the unit that is protected by a circuit breaker.
- ❑ A clean, well-lit, and ventilated site that is free from environmental extremes.
- ❑ Sufficient clearance for cable connections.
- ❑ An operable network connection.
- ❑ A VT100-compatible ASCII terminal or PC.
- ❑ If desired, an operable Ethernet LAN connection for access to your Network Management System (NMS).
- ❑ If desired, an external modem and serial crossover cable.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Installing the DSU/CSU



NOTE:

The 10BaseT and network connectors are not keyed. Follow the installation procedures carefully to avoid connection errors.

▶ Procedure

To install the DSU/CSU:

1. Plug the 8-pin connector on the RJ48C network cable into the NETWORK connector on the DSU/CSU.
2. Plug the other end of the RJ48C network cable into the RJ48C modular jack.
3. Plug one end of the 34-pin V.35 cable into the DTE port of the DSU/CSU.
4. Plug the other end of the V.35 cable into the DTE.
5. Insert one unkeyed 8-pin connector on the Ethernet cable into the 10BaseT port.
6. Insert the other end of the cable into the Ethernet interface of the LAN where your NMS resides.
7. Plug the 25-pin end of an EIA-232 cable into the TERMINAL port of the DSU/CSU.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

8. Plug the other end of the EIA-232 cable into either a VT100-compatible terminal or PC.
9. Plug the end of the ac adapter into the POWER jack on the DSU/CSU.
10. Plug the ac adapter in an ac outlet.
11. Press Enter on the keyboard to display the Main Menu.

Using an External Modem

▶ Procedure

To connect an external modem instead of an asynchronous terminal or PC:

1. Use a standard serial crossover cable as shown in Figure 1 on the next page.
2. Enable auto-answer on your modem, and configure it to use standard RS-232 detection and control for LSD, DSR, and DTR. Use the following command string:

   `AT &C1 &D2 &S1 S0=1`

Table 1. AT Command String

Command	Description
&C1	Configures your modem to raise LSD after establishing a connection.
&D2	Configures your modem to drop connection when the DSU drops DTR.
&S1	Configures your modem to raise DSR when it begins to establish a connection.
S0=1	Configures your modem to automatically answer incoming calls.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

NOTE:

The Pin 17 to Pin 24 crossovers shown in Figure 1 are not required and have no effect with the Model 7112.

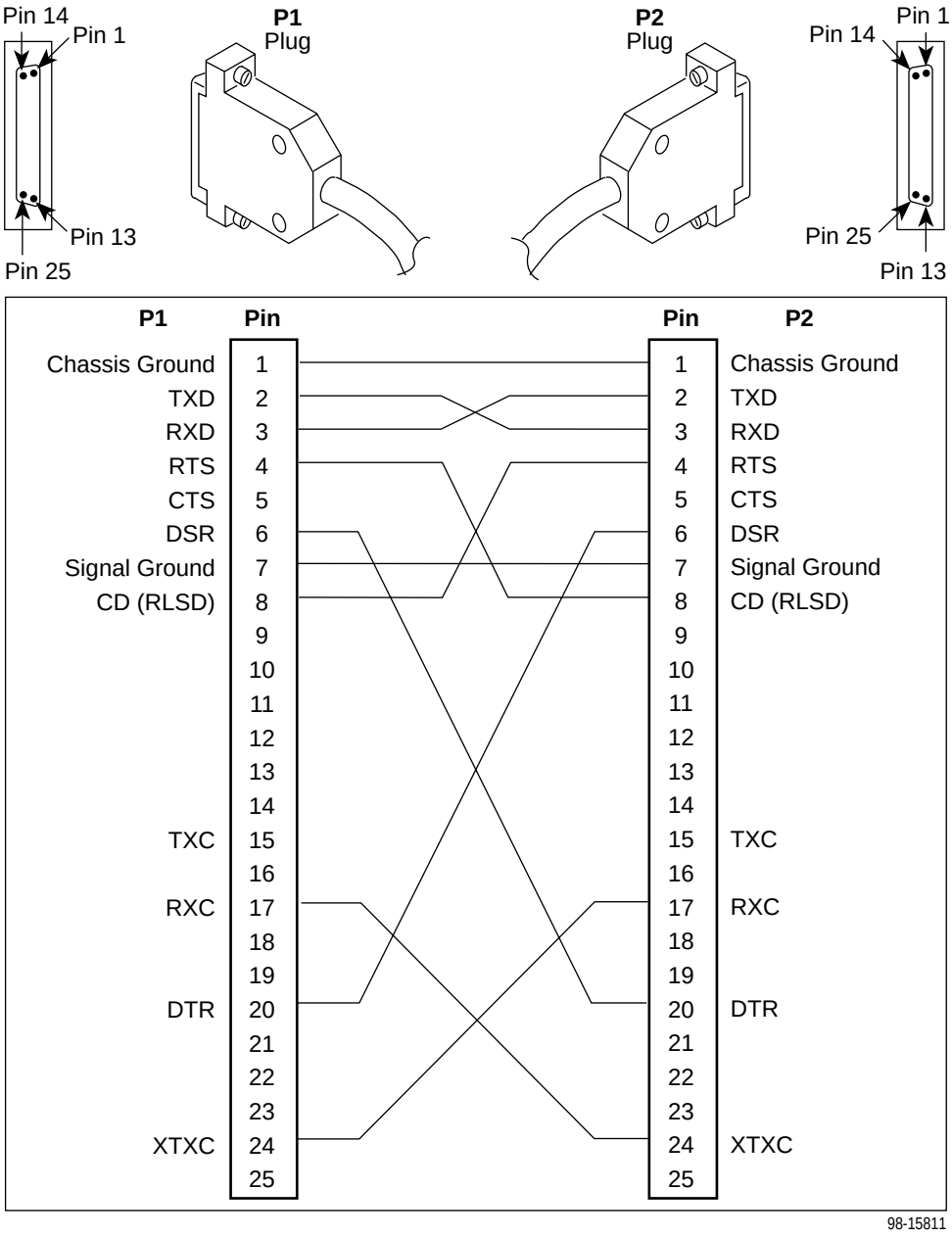


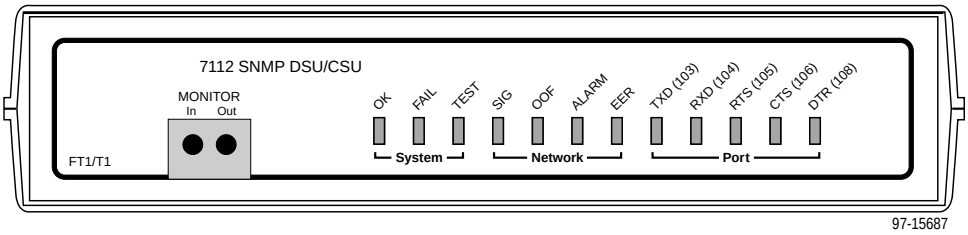
Figure 1. Serial Crossover Cable for External Modem

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Hardware Verification

❑ Verify that the OK LED is on.

❑ Verify that the FAIL is off.



❑ Verify that the User Interface Idle screen is displayed on the ASCII terminal or PC.

Press the Enter key. Verify that the Main Menu appears.

```
main                          Access Level: 1                    PARADYNE
Device Name:                                                     Model: 7112


                                  MAIN MENU

                              Status
                              Test
                              Configuration
                              Control




--------------------------------------------------------------------------------
Ctrl-a to access these functions                                        Exit
```

NOTES:

Your VT100 terminal or emulation software must be set to communicate at a rate of 9.6 kbps, using characters of 8 bits, one stop bit, and no parity.

Verifying the connection to a LAN, router, or external modem requires setup and configuration; see Chapter 3, *Configuring the DSU/CSU*, in the User's Guide.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Setting Up the ATI

The User's Guide contains details regarding the ASCII Terminal Interface (ATI). When setting up the ATI:

- ❑ Refer to Chapter 1, *About the T1 DSU/CSU*, to determine the management configuration(s) to manage the DSU with one of the user interfaces.
- ❑ Set up the device name. Refer to Chapter 3, *Configuring the DSU/CSU*.
- ❑ Establish security and Login IDs. Refer to Chapter 4, *Security*.
- ❑ Decide on an IP addressing scheme. Refer to Chapter 5, *IP Addressing.*
- ❑ Determine if you want SNMP traps generated. Refer to Chapter 8, *Messages and Troubleshooting.*
- ❑ Change configuration option settings. Refer to Appendix A, *Configuration Option Tables*, and Appendix B, *Worksheets*.
- ❑ Provide management connectivity with MIBII and enterprise-specific MIBs. Refer to Appendix C, *MIB Descriptions*, and Appendix D, *Standards Compliance for SNMP Traps*.

Configuration Options and Defaults

Tables 2 through 8 list the DSU/CSU's configuration options and the default values that have been preconfigured at the factory.

Table 2. System Options

Configuration Option	**Settings** (default in **Bold)**
Self Test	**Enable**, Disable
Test Timeout	**Enable,** Disable
Test Duration (min)	1–120 [**10**]

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Table 3. Network Interface Options

Configuration Option	**Settings** (default in **Bold)**
Primary Clock Source	**Network**, Internal, Port
Line Framing Format	**ESF,** D4
Line Coding Format	**B8ZS,** AMI
Bit Stuffing	**62411,** Part68, Disable
Line Build Out (LBO)	**0.0**, –7.5, –15, –22.5
FDL Management Link	Enable**, Disable**
FDL IP Address	**000.000.000.000** – **255.255.255.255**, clear
FDL Subnet Mask	**000.000.000.000 – 255.255.255.255**
Network Initiated Line Loopback (LLB)	**Enable,** Disable
Network Initiated Payload Loopback (PLB)	**Enable,** Disable
ANSI Performance Report Messages	**Disable,** Enable
Circuit Identifier	**< Blank >**

Table 4. Cross Connect Assignments

Configuration Option	**Settings** (default in **Bold)**
Assign By	**Block,** ACAMI, Channel
Synchronous Data Port Assignments The default is all DS0s assigned to the data port.	P(B)
	...
	P(B)

Table 5. Data Port Options

Configuration Option	**Settings** (default in **Bold)**
Port Base Rate	**Nx64,** Nx56
Invert Transmit Clock	Enable, **Disable**
Transmit Clock Source	**Internal,** External
Invert Transmit and Received Data	Enable, **Disable**
Send All Ones on Data Port Not Ready	Disable, DTR, RTS, **Both**
Action on Network Yellow Alarm	None, **Halt**
Network Init. Data Channel Loopback	**Disable,** V.54, FT1, Both
Port (DTE) Initiated Loopbacks	**Disable,** DTLB, DCLB, Both

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Table 6. Ethernet Port Options

Configuration Option	**Settings** (default in **Bold)**
Port Use	802.3, **Version 2**, Disable
IP Address	[**000.000.000.000**] – 255.255.255.255
IP Subnet Mask	**[000.000.000.000**] – 255.255.255.255
Default Gateway Address	[**000.000.000.000**] – 255.255.255.255

Table 7. Terminal Port Options

Configuration Option	**Settings** (default in **Bold)**
Data Rate (Kbps)	2.4, 4.8, **9.6**, 14.4, 19.2, 28.8, 38.4
Character Length	7, **8**
Parity	**None**, Even, Odd
Stop Bits	**1**, 2
Monitor DTR	**Enable**, Disable
Login Required	Enable, **Disable**
Port Access Level	**Level 1**, Level 2, Level 3
Inactivity Timeout	Enable, **Disable**
Disconnect Time (minutes)	range 1 – 60, **5**

Table 8. Telnet Session Options

Configuration Option	**Settings** (default in **Bold)**
Telnet Session	Enable, **Disable**
Login Required	Enable, **Disable**
Session Access Level	**Level 1**, Level 2, Level 3
Inactivity Timeout	Enable, **Disable**
Disconnect Time (minutes)	range 1 – 60, **5**

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Table 9. SNMP Options

Configuration Option	**Settings** (default in **Bold)**
General SNMP Management	
SNMP Management	Enable, **Disable**
Community Name 1	ASCII Text, **Public**
Name 1 Access	**Read**, Read/Write
Community Name 2	ASCII Text
Name 2 Access	**Read**, Read/Write
SNMP NMS Security	
NMS IP Validation	Enable, **Disable**
Number of Managers	**1**, 2, 3, 4, 5, 6, 7, 8, 9, 10
NMS *n* IP Address	**000.000.000.000** – 255.255.255.255
Access Level	**Read**, Read/Write
SNMP Traps	
SNMP Traps	Enable, **Disable**
Number of Trap Managers	**1**, 2, 3, 4, 5, 6
Trap Manager *n* IP Address	**000.000.000.000** – 255.255.255.255
Trap Manager *n* Destination	**None**, Mgmt, FDL
General Traps	Disable, Warm, AuthFail, **Both**
Enterprise Specific Traps	Enable, **Disable**
Link Traps	Disable, Up, Down, **Both**
Link Trap Interfaces	Network, Port, **Both**

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

⚠ Important Safety Instructions

1. Read and follow all warning notices and instructions marked on the product or included in the manual.
2. Slots and openings in the cabinet are provided for ventilation. To ensure reliable operation of the product and to protect it from overheating, these slots and openings must not be blocked or covered.
3. Do not allow anything to rest on the power cord and do not locate the product where persons will walk on the power cord.
4. Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous high voltage points or other risks. Refer all servicing to qualified service personnel.
5. General purpose cables may be provided with this product. Special cables, which may be required by the regulatory inspection authority for the installation site, are the responsibility of the customer.
6. When installed in the final configuration, the product must comply with the applicable Safety Standards and regulatory requirements of the country in which it is installed. If necessary, consult with the appropriate regulatory agencies and inspection authorities to ensure compliance.
7. A rare phenomenon can create a voltage potential between the earth grounds of two or more buildings. If products installed in separate buildings are **interconnected**, the voltage potential may cause a hazardous condition. Consult a qualified electrical consultant to determine whether or not this phenomenon exists and, if necessary, implement corrective action prior to interconnecting the products.
8. Input power to the ac voltage configuration of this product must be provided by a UL-listed or CSA-certified power source with a Class 2 or Limited Power Source (LPS) output.
9. In addition, if the equipment is to be used with telecommunications circuits, take the following precautions:
   - — Never install telephone wiring during a lightning storm.
   - — Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
   - — Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
   - — Use caution when installing or modifying telephone lines.
   - — Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
   - — Do not use the telephone to report a gas leak in the vicinity of the leak.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Notices

⚠ WARNING:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

The authority to operate this equipment is conditioned by the requirements that no modifications will be made to the equipment unless the changes or modifications are expressly approved by Paradyne Corporation.

⚠ WARNING:

To Users of Digital Apparatus in Canada:

This Class A digital apparatus meets all requirements of the Canadian interference-causing equipment regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du règlement sur le matérial brouilleur du Canada.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Government Requirements

Certain governments require that instructions pertaining to connection to the telephone network be included in the installation and operation manual. Specific instructions are listed in the following sections.

Notice to Users of the Telephone Network in the United States

1. This equipment complies with Part 68 of the FCC rules. On the bottom of the equipment is a label that contains, among other information, the FCC registration number for this equipment. If requested, please provide this information to your telephone company.
2. The T1 network connection should be made using a Universal Service Order Code (USOC) type RJ48C jack. The Service Order Code 6.0F should be specified to the telephone company when ordering the T1 line. In addition, the proper Facility Interface Code must be specified to the telephone company. The DSU/CSU can be configured to support any of the following framing format and line signaling techniques. The DSU/CSU configuration must correspond to the T1 line's parameters.
3. An FCC-compliant telephone cord and modular plug is provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible jack which is Part 68 compliant. See the installation instructions for details.

DSU/CSU Facility Interface Codes

Code	Description
04DU9-BN	1.544 Mbps superframe format (SF) without line power
04DU9-DU	1.544 Mbps SF and B8ZS without line power
04DU9-1KN	1.544 Mbps ANSI ESF without line power
04DU-1SN	1.544 Mbps ANSI ESF and B8ZS without line power

4. If your DSU/CSU causes harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But if advance notice is not practical, you will be notified as soon as possible. You will be advised of your right to file a complaint with the FCC.
5. Your telephone company may make changes in facilities, equipment, operations, or procedures that could affect the proper operation of your equipment. If so, you will be given advance notice so as to give you an opportunity to maintain uninterrupted service.
6. No repairs may be performed by the user. Should you experience difficulty with this equipment, refer to *Warranty, Sales, Service, and Training Information* on page 14.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Canada

Notice to Users of the Canadian Telephone Network

The Industry Canada label identifies certified equipment. This certification means that the equipment meets telecommunications network protective, operational, and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

CAUTION:

Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

Warranty, Sales, Service, and Training Information

Contact your local sales representative, service representative, or distributor directly for any help needed. For additional information concerning warranty, sales, service, repair, installation, documentation, training, distributor locations, or Paradyne worldwide office locations, use one of the following methods:

- **Internet:** Visit the Paradyne World Wide Web site at **www.paradyne.com**. (Be sure to register your warranty at **www.paradyne.com/warranty**.)
- **Telephone:** Call our automated system to receive current information by fax or to speak with a company representative.
  - — Within the U.S.A., call 1-800-870-2221
  - — Outside the U.S.A., call 1-727-530-2340

Document Feedback

We welcome your comments and suggestions about this document. Please mail them to Technical Publications, Paradyne Corporation, 8545 126th Ave. N., Largo, FL 33773, or send e-mail to **userdoc@paradyne.com**. Include the number and title of this document in your correspondence. Please include your name and phone number if you are willing to provide additional clarification.

7112–A2–GN10–40

Copyright © 2000 Paradyne Corporation. Printed in U.S.A.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP