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**Owner's Manual**

# GT100E LAN Interface

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# GT100E LAN Interface

## Owner's Manual

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## Date and Revision

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## Part Number

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# About This Manual

## Purpose

The purpose of this Owner's Manual is to provide explanations and procedures for installing and configuring the GT100E LAN Interface.

## Scope

The Manual provides safety guidelines, procedures for installing the GT100E LAN Interface, as well as information about configuring the modem. It does not provide details about the GT100E Grid Tie Inverter. You need to consult the GT100E Grid Tie Inverter Installation Manual and GT100E Grid Tie Inverter Operation and Installation Manual for this information.

## Audience

The Manual is intended for anyone who needs to install and operate the GT100E LAN Interface. Installers should be certified technicians or electricians.

## Conventions Used

The following conventions are used in this guide.



### **WARNING**

Warnings identify conditions or practices that could result in personal injury or loss of life

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### **CAUTION**

Cautions identify conditions or practices that could result in damage to the unit or other equipment.

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**Important:** These notes describe things which are important for you to know, but not as serious as a caution or warning.

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## Abbreviations and Acronyms

PBX - Private Branch Exchange

## Related Information

You can find more information about Xantrex Technology Inc. as well as products and services at **[www.xantrex.com](http://www.xantrex.com)**

# Important Safety Instructions



## WARNING

This chapter contains important safety and operating instructions. Read and keep this Owner's Manual for future reference.

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1. Before installing and using the GT100E LAN Interface, read all instructions and cautionary markings on the GT100E LAN Interface, GT100E Grid Tie Inverter, and all appropriate sections of this manual.
2. Use only attachments recommended or sold by the manufacturer. Doing otherwise may result in a risk of fire, electric shock, or injury to persons.
3. To avoid a risk of fire and electric shock, make sure that existing wiring is in good condition and that wire is not undersized. Do not operate the GT100E LAN Interface with damaged or substandard wiring.
4. Do not operate the GT100E LAN Interface if it has received a sharp blow, been dropped, or otherwise damaged in any way. If the GT100E LAN Interface is damaged, see the Warranty section.
5. Do not disassemble the GT100E LAN Interface. It contains no user-serviceable parts. See Warranty for instructions on obtaining service. Attempting to service the GT100E LAN Interface yourself may result in a risk of electrical shock or fire. Internal capacitors remain charged after all power is disconnected.
6. To reduce the risk of electrical shock, disconnect both AC and DC power from the GT100E Grid Tie Inverter before attempting any maintenance or cleaning or working on any circuits connected to the GT100E LAN Interface. Turning off controls will not reduce this risk.

# Lockout and Tag



## **WARNING: Shock hazard**

Review the system schematic for the installation to verify that all available energy sources are de-energized. DC bus voltage may also be present. Be sure to wait the full 20 minutes to allow the capacitors to discharge completely.

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Safety requirements mandate that this equipment not be serviced while energized. Power sources for the GT100E must be locked-out and tagged prior to servicing. A padlock and tag should be installed on each energy source prior to servicing.

The GT100E can be energized from both the AC source and the DC source. To ensure that the inverter is de-energized prior to servicing, lockout and tag the GT100E.

### **To lockout and tag the GT100E:**



1. Open, lockout, and tag the incoming power at the utility disconnect.
2. Open, lockout, and tag the AC disconnect switch on the enclosure. See GT100E Grid Tie Inverter Installation Manual for the location of the AC disconnect switch.
3. Using appropriate means, open, lockout, and tag incoming PV circuits.
4. Using a confirmed, accurate meter, verify all power to the inverter is de-energized. A confirmed, accurate meter must be verified on a known voltage before use. Ensure that all incoming energy sources are de-energized by checking the following locations.
  - a) AC Utility Terminals: (Bottom of A, B, C, and N)  
See GT100E Grid Tie Inverter Installation Manual for the location of these terminals.
  - b) PV Terminals: (PV+ and PV-)  
See GT100E Grid Tie Inverter Installation Manual for the location of these terminals.



# Contents

**Important Safety Instructions** -----v

**Installation and Configuration**

    Description of the LAN Interface -----1

        Data Communication Specifications -----1

            Interface Requirements -----1

            GUI Requirements -----1

    Installing -----2

        Equipment Required -----2

        Installing the LAN Interface -----3

        Turn-On Procedure -----8

    Configuring -----9

        LAN Interface Set-up -----9

        Configuring the LAN Interface -----10

        GUI to LAN Interface Communication -----10

**Warranty and Return Information** ----- WA-1



# Figures

Figure 1	Installing the LAN Interface on the GT100E	3
Figure 2	Installing the Power Supply into the Bracket	3
Figure 3	DC Cord Looped Through Toroid	4
Figure 4	Ethernet Cable Routing	4
Figure 5	Installing Ethernet Surge Protector	5
Figure 6	Ethernet Connections	5
Figure 7	Additional Ethernet Cable Routing	6
Figure 8	Finished Configuration	7
Figure 9	LAN interface Configuration Diagram	9
Figure 10	Remote Communication Set-up	10



# Installation and Configuration

## Description of the LAN Interface

The LAN network modem is an option for the GT100E Grid Tie Inverter. The LAN interface provides remote access to the GT100E through a computer network. You will have the ability to control and monitor the status of the inverter through this connection.

## Data Communication Specifications

All methods of data communications with the GT100E unit – landline modem, wireless modem, fax modem, and LAN interface – are interchangeable.

Application of the GT100E LAN interface in a manner inconsistent with these specifications may cause the modem to have improper functionality.

## Interface Requirements

You are responsible for providing a computer network to connect to the GT100E LAN interfaces.

## GUI Requirements

Xantrex PV View GUI Software

# Installing



## **WARNING: Shock hazard**

Safety requirements mandate that this equipment not be serviced while energized. Power sources for the GT100E must be locked-out and tagged (see “Lockout and Tag” on page vi) prior to servicing. A padlock and tag should be installed on each energy source prior to servicing.



## **WARNING: Shock hazard**

The terminals of the PV input may be energized if the arrays are energized. In addition, allow 20 minutes for all capacitors within the enclosure to discharge after disconnecting the GT100E Grid Tie Inverter from AC and DC sources.

## Equipment Required

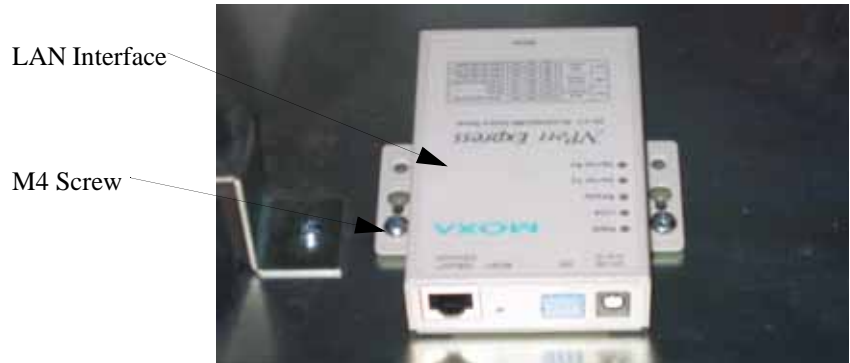
- Metric hex wrench set
- Philips Screwdriver

## Installing the LAN Interface

### To install the new LAN interface:

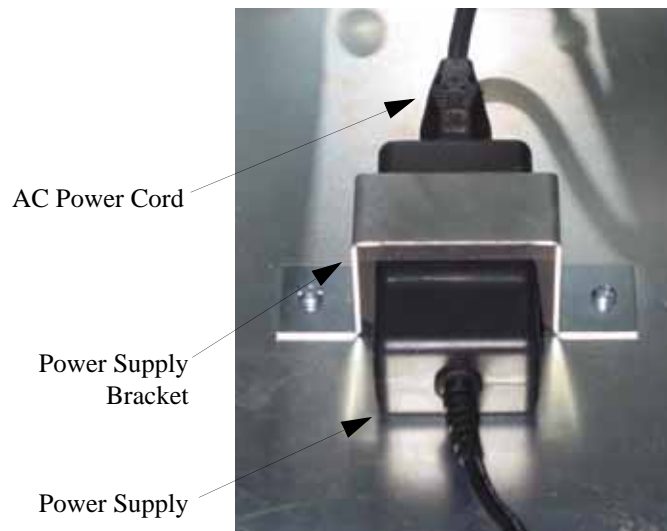


1. Install the LAN interface onto the GT100E panel using the M4 hardware, see Figure 1.



**Figure 1** Installing the LAN Interface on the GT100E

2. Mount the power supply into the power supply bracket using the M4 hardware, see Figure 2.
3. Connect the power supply to the unit's AC power cord.



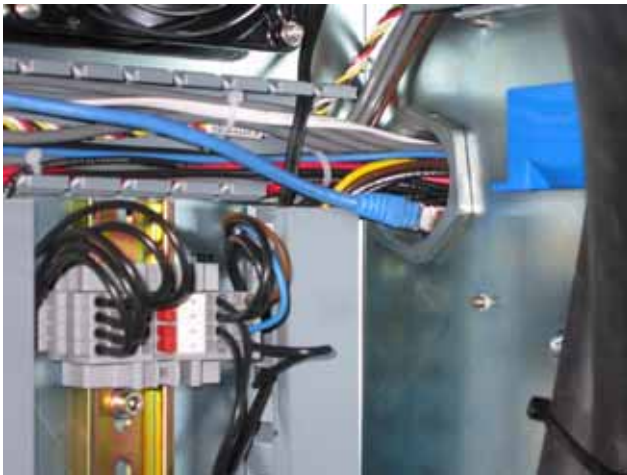
**Figure 2** Installing the Power Supply into the Bracket

4. Loop the DC cord from the power supply through the toroid 2-3 times, see Figure 3.



**Figure 3** DC Cord Looped Through Toroid

5. Route the ethernet cable through the conduit pass through on the CT panel, see Figure 4.



**Figure 4** Ethernet Cable Routing

6. Continue to push the cable through the pass through until it is seen on the bottom of the cabinet.
7. Install the ethernet surge protector onto the customer panel DIN rail, see Figure 5.





**Figure 5** Installing Ethernet Surge Protector

8. Connect the ethernet cable to the protected connection on the ethernet surge protector, see Figure 6.
9. Connect the ethernet cable from the computer network to the unprotected connection on the ethernet protector.



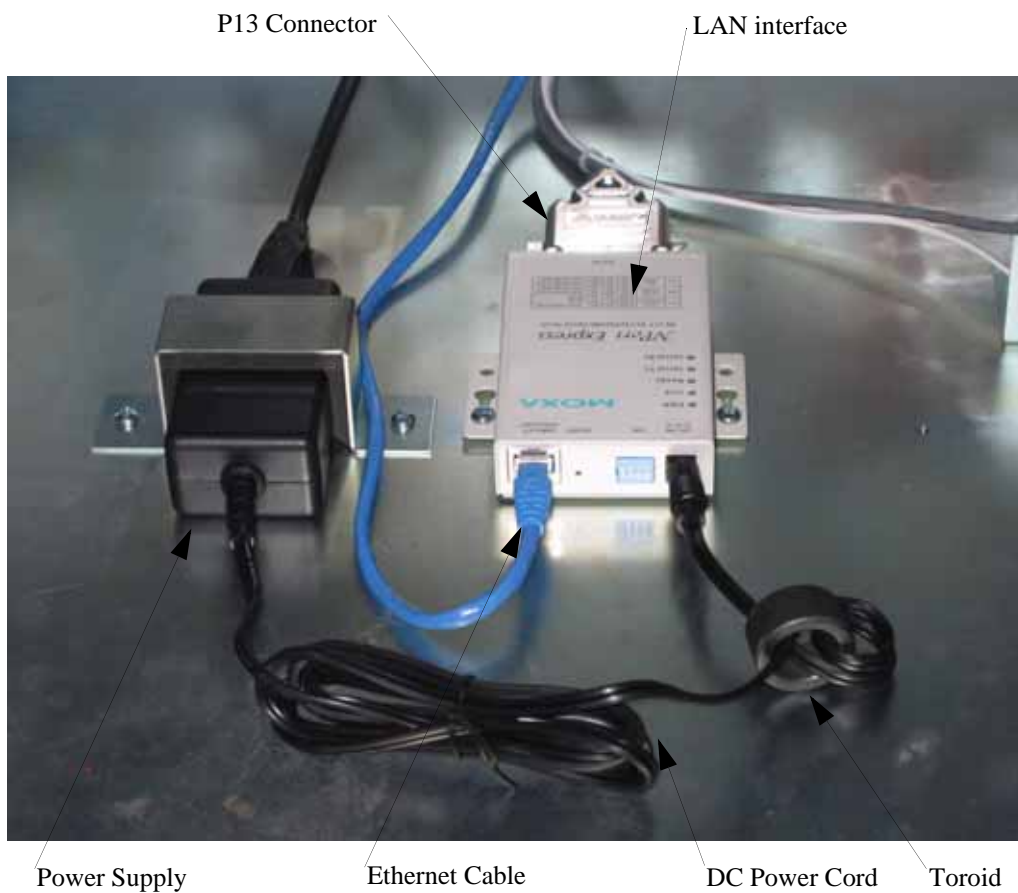
**Figure 6** Ethernet Connections

10. Remove the wire duct covers from the main panel, shown in Figure 7.
11. Route the cable through wire duct to the LAN interface.
12. Reinstall the wire duct covers.



**Figure 7** Additional Ethernet Cable Routing

13. Connect the DC cord to the LAN interface DC-IN connector.
14. Connect the P13 (25 pin D-sub) connector to the LAN interface's serial connector.
15. Connect the ethernet cable to the LAN interface's 10BaseT ethernet connector, see Figure 8.



**Figure 8** Finished Configuration

## Turn-On Procedure



### To turn on the GT100E:

1. Remove any lockout devices from the utility connection circuit breaker and PV disconnect switch.
2. Close the utility connection circuit breaker.
3. Close the AC disconnect (CB1).

Turn the ON/OFF switch to the ON position.

After a 15 second initialization period, the GT100E automatically transitions to 'Waking Up', given the PV voltage is greater than the PV V Start set point.

# Configuring

The LAN interface IP address and configuration are required before installing into the GT100E inverter.

The configuration can be performed from any desktop or laptop computer.

## Hardware

DB25 Male to DB9 Female modem cable.

## Software

NPORT Management Suite (supplied on the NPort Installation CD)

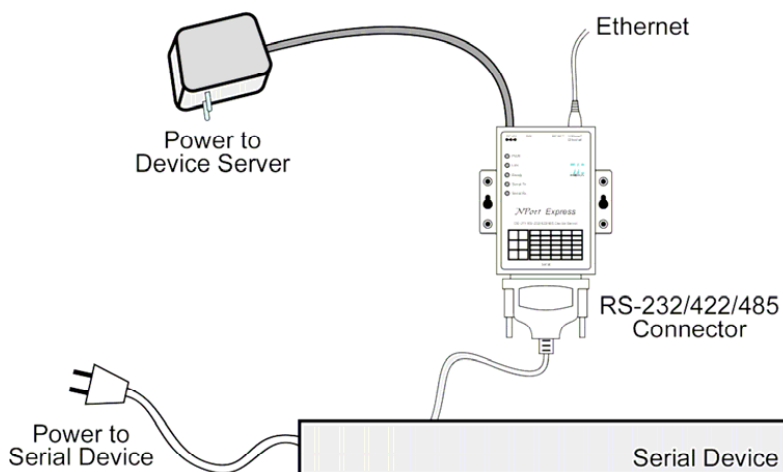
MOXA PComm Program (<http://web4.moxa.com/support/download.asp>)

## LAN Interface Set-up

### To set-up the LAN interface:



1. Plug the power adapter's DC plug into LAN interface's DC-IN jack.
2. Plug the power adapter into an electrical outlet.
3. Connect the DB25 male connector of the modem cable to the LAN interface's serial connector.
4. Connect the DB9 female connector of the modem cable to a PC RS232 port (COMM port).
5. Connect the ethernet cable from the LAN interface's 10BaseT ethernet connector to the LAN network



**Figure 9** LAN interface Configuration Diagram

## Configuring the LAN Interface

To configure the LAN interface (NPort Express) follow the instructions provided on the NPort Installation CD.

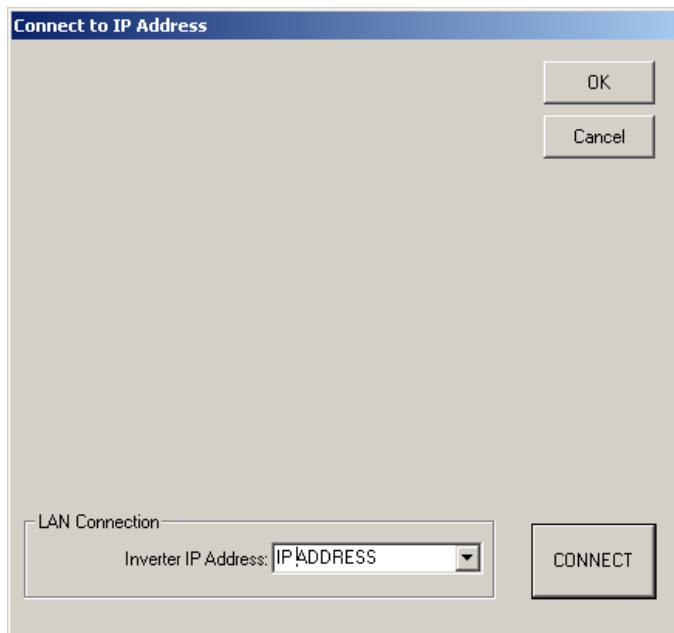
### GUI to LAN Interface Communication

The LAN interface can remotely communicate with the GT100E through the Xantrex PV View GUI Software.

#### To establish remote communication using the PV View:



1. From the PV View main page, click Communication.
2. Click Connect IP Address
3. Type the GT100E IP address



**Figure 10** Remote Communication Set-up

Refer to the PV View Help menu for complete configuration instructions.

# Warranty and Return Information

## Warranty

**What does this warranty cover and how long does it last?** This Limited Warranty is provided by Xantrex Technology Inc. ("Xantrex") and covers defects in workmanship and materials in your GT100E LAN Interface. This Warranty Period lasts for 2 years from the date of purchase at the point of sale to you, the original end user customer, unless otherwise agreed in writing. You will be required to demonstrate proof of purchase to make warranty claims.

This Limited Warranty is transferable to subsequent owners but only for the unexpired portion of the Warranty Period. Subsequent owners also require original proof of purchase as described in "What proof of purchase is required?"

**What will Xantrex do?** During the Warranty Period Xantrex will, at its option, repair the product (if economically feasible) or replace the defective product free of charge, provided that you notify Xantrex of the product defect within the Warranty Period, and provided that Xantrex through inspection establishes the existence of such a defect and that it is covered by this Limited Warranty.

Xantrex will, at its option, use new and/or reconditioned parts in performing warranty repair and building replacement products. Xantrex reserves the right to use parts or products of original or improved design in the repair or replacement. If Xantrex repairs or replaces a product, its warranty continues for the remaining portion of the original Warranty Period or 90 days from the date of the return shipment to the customer, whichever is greater. All replaced products and all parts removed from repaired products become the property of Xantrex.

Xantrex covers both parts and labor necessary to repair the product, and return shipment to the customer via a Xantrex-selected non-expedited surface freight within the contiguous United States and Canada. Alaska, Hawaii and outside of the United States and Canada are excluded. Contact Xantrex Customer Service for details on freight policy for return shipments from excluded areas.

**How do you get service?** If your product requires troubleshooting or warranty service, contact your merchant. If you are unable to contact your merchant, or the merchant is unable to provide service, contact Xantrex directly at:

### GERMANY

Telephone: 49 0180 2240400

Fax: 49 (0) 7531 8199868

Email [GTSupport.Germany@xantrex.com](mailto:GTSupport.Germany@xantrex.com)

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Direct returns may be performed according to the Xantrex Return Material Authorization Policy described in your product manual. For some products, Xantrex maintains a network of regional Authorized Service Centers. Call Xantrex or check our website to see if your product can be repaired at one of these facilities.

**What proof of purchase is required?** In any warranty claim, dated proof of purchase must accompany the product and the product must not have been disassembled or modified without prior written authorization by Xantrex.

## Warranty and Return

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Proof of purchase may be in any one of the following forms:

- The dated purchase receipt from the original purchase of the product at point of sale to the end user; or
- The dated dealer invoice or purchase receipt showing original equipment manufacturer (OEM) status; or
- The dated invoice or purchase receipt showing the product exchanged under warranty.

**What does this warranty not cover?** Claims are limited to repair and replacement, or if in Xantrex's discretion that is not possible, reimbursement up to the purchase price paid for the product. Xantrex will be liable to you only for direct damages suffered by you and only up to a maximum amount equal to the purchase price of the product.

This Limited Warranty does not warrant uninterrupted or error-free operation of the product or cover normal wear and tear of the product or costs related to the removal, installation, or troubleshooting of the customer's electrical systems. This warranty does not apply to and Xantrex will not be responsible for any defect in or damage to:

- a) the product if it has been misused, neglected, improperly installed, physically damaged or altered, either internally or externally, or damaged from improper use or use in an unsuitable environment;
- b) the product if it has been subjected to fire, water, generalized corrosion, biological infestations, or input voltage that creates operating conditions beyond the maximum or minimum limits listed in the Xantrex product specifications including high input voltage from generators and lightning strikes;
- c) the product if repairs have been done to it other than by Xantrex or its authorized service centers (hereafter "ASCs");
- d) the product if it is used as a component part of a product expressly warranted by another manufacturer;
- e) the product if its original identification (trade-mark, serial number) markings have been defaced, altered, or removed;
- f) the product if it is located outside of the country where it was purchased; and
- g) any consequential losses that are attributable to the product losing power whether by product malfunction, installation error or misuse.

## Disclaimer

### Product

THIS LIMITED WARRANTY IS THE SOLE AND EXCLUSIVE WARRANTY PROVIDED BY XANTREX IN CONNECTION WITH YOUR XANTREX PRODUCT AND IS, WHERE PERMITTED BY LAW, IN LIEU OF ALL OTHER WARRANTIES, CONDITIONS, GUARANTEES, REPRESENTATIONS, OBLIGATIONS AND LIABILITIES, EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE IN CONNECTION WITH THE PRODUCT, HOWEVER ARISING (WHETHER BY CONTRACT, TORT, NEGLIGENCE, PRINCIPLES OF MANUFACTURER'S LIABILITY, OPERATION OF LAW, CONDUCT, STATEMENT OR OTHERWISE), INCLUDING WITHOUT RESTRICTION ANY IMPLIED WARRANTY OR CONDITION OF QUALITY, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE TO THE EXTENT REQUIRED UNDER APPLICABLE LAW TO APPLY TO THE PRODUCT SHALL BE LIMITED IN DURATION TO THE PERIOD STIPULATED UNDER THIS LIMITED WARRANTY.

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IF YOU ARE A CONSUMER (RATHER THAN A PURCHASER OF THE PRODUCT IN THE COURSE OF A BUSINESS) AND PURCHASED THE PRODUCT IN A MEMBER STATE OF THE EUROPEAN UNION, THIS LIMITED WARRANTY SHALL BE SUBJECT TO YOUR STATUTORY RIGHTS AS A CONSUMER UNDER THE EUROPEAN UNION PRODUCT WARRANTY DIRECTIVE 1999/44/EC AND AS SUCH DIRECTIVE HAS BEEN IMPLEMENTED IN THE EUROPEAN UNION MEMBER STATE WHERE YOU PURCHASED THE PRODUCT. FURTHER, WHILE THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, YOU MAY HAVE OTHER RIGHTS WHICH MAY VARY FROM EU MEMBER STATE TO EU MEMBER STATE OR, IF YOU DID NOT PURCHASE THE PRODUCT IN AN EU MEMBER STATE, IN THE COUNTRY YOU PURCHASED THE PRODUCT WHICH MAY VARY FROM COUNTRY TO COUNTRY AND JURISDICTION TO JURISDICTION.

## Return Material Authorization Policy

Before returning a product directly to Xantrex you must obtain a Return Material Authorization (RMA) number and the correct factory "Ship To" address. Products must also be shipped prepaid. Product shipments will be refused and returned at your expense if they are unauthorized, returned without an RMA number clearly marked on the outside of the shipping box, if they are shipped collect, or if they are shipped to the wrong location.

When you contact Xantrex to obtain service, please have your instruction manual ready for reference and be prepared to supply:

- The serial number of your product
- Information about the installation and use of the unit
- Information about the failure and/or reason for the return
- A copy of your dated proof of purchase

Record these details on page WA-4.

## Return Procedure

Package the unit safely, preferably using the original box and packing materials. Please ensure that your product is shipped fully insured in the original packaging or equivalent. This warranty will not apply where the product is damaged due to improper packaging.

Include the following:

- The RMA number supplied by Xantrex Technology Inc. clearly marked on the outside of the box.
- A return address where the unit can be shipped. Post office boxes are not acceptable.
- A contact telephone number where you can be reached during work hours.
- A brief description of the problem.

Ship the unit prepaid to the address provided by your Xantrex customer service representative.

**If you are returning a product from outside of the USA or Canada** In addition to the above, you **MUST** include return freight funds and are fully responsible for all documents, duties, tariffs, and deposits.

**If you are returning a product to a Xantrex Authorized Service Center (ASC)** A Xantrex return material authorization (RMA) number is not required. However, you must contact the ASC prior to returning the product or presenting the unit to verify any return procedures that may apply to that particular facility and that the ASC repairs this particular Xantrex product.

## Out of Warranty Service

If the warranty period for your product has expired, if the unit was damaged by misuse or incorrect installation, if other conditions of the warranty have not been met, or if no dated proof of purchase is available, your unit may be serviced or replaced for a flat fee.

To return your product for out of warranty service, contact Xantrex Customer Service for a Return Material Authorization (RMA) number and follow the other steps outlined in "Return Procedure" on page WA-3.

Payment options such as credit card or money order will be explained by the Customer Service Representative. In cases where the minimum flat fee does not apply, as with incomplete units or units with excessive damage, an additional fee will be charged. If applicable, you will be contacted by Customer Service once your unit has been received.

## Information About Your System

As soon as you open your GT100E LAN Interface package, record the following information and be sure to keep your proof of purchase.

- ☐ ModemSerial Number \_\_\_\_\_
- ☐ Purchased From \_\_\_\_\_
- ☐ Purchase Date \_\_\_\_\_



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