

Easy-Fax 90si

Secure Facsimile

Gateway

User's Guide



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IMPORTANT SAFETY INSTRUCTIONS

- 1) Read and understand all instructions.
- 2) Follow all warnings and instructions marked on the product.
- 3) Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- 4) Do not use this product near water, for example, near a bathtub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool.
- 5) Do not place this product on an unstable cart, stand or table. The product may fall causing serious damage to the product.
- 6) This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation unless proper ventilation is provided.
- 7) This product should only be powered from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your facility, consult your dealer or local power company.
- 8) This product is equipped with a three wire grounding type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding type outlet.
- 9) Do not allow anything to rest on the power cord. Do not locate this product where the cord will be abused by persons walking on it.
- 10) Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.
- 11) Never spill liquid of any type on the product.

- 12) To reduce the risk of electric shock, do not disassemble this product, but send it to a qualified service facility when some service or repair work is required. Opening or removing covers may expose you to dangerous voltages or other risks. Incorrect reassembly can cause electric shock when the unit is subsequently used.
- 13) Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - A. When the power supply cord or plug is damaged or frayed.
 - B. If liquid has been spilled into the product.
 - C. If the product has been exposed to rain or water.
 - D. If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions because improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
 - E. If the product has been dropped or the cabinet has been damaged.
 - F. If the product develops a distinct change in performance.
14. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
- 15) Do not use the telephone to report a gas leak in the vicinity of the leak.

SAVE THESE INSTRUCTIONS



The exclamation point within a triangle is intended to alert you to the presence of important instructions contained in this manual.

FCC Information

The GFS Easy-Fax 90si Secure Facsimile Gateway is FCC approved and registered for direct connection to your telephone line. Before connecting your new 90si please read the Consumer Information and FCC Requirements section at the back of this instruction manual.

Warning: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

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1.0 Getting Started

1.1 Introduction

Congratulations! You have just joined the ranks of leading edge secure fax users with your purchase of the Easy-Fax 90si STU-III Gateway. This product is unique in many ways and represents a fundamental advancement in secure facsimile capabilities.

The Easy-Fax 90si allows any current or future commercial fax device to interface with a STU-III (or other secure telephone equipment). That leaves the choice of facsimile features in your hands. You choose the fax that best suits your needs, such as: plain paper, thermal, portable, high-volume/low-volume, computer-based fax, whatever you like !! The 90si also preserves your choices for the future by allowing you to easily and economically upgrade your fax machine as technology and requirements change.

The documentation for the 90si is divided into two parts. The **User's Guide**, which you are currently reading, will provide you with all of the information you will need to set up and operate the unit. Using words and illustrations, it will take you through each step of the installation process and help you to choose the configuration that best suits your needs. Once you have successfully installed the 90si, step-by-step instructions are provided to assist you with the operation of the Gateway.

The 90si **Reference Guide** provides specific detailed information to assist you in the unlikely event that the unit does not operate after the normal installation procedure. The Reference Guide provides instructions for the proper configuration of all currently available STU-III's. In addition, there is an explanation of 90si fault conditions as well as a glossary of secure facsimile terminology.

Thank you for your purchase of the Easy-Fax 90si - the Gateway to secure fax!

1.2 What You Get with Your 90si

Before you install the Easy-Fax 90si STU-III Gateway, you should make sure that you have received the following items:

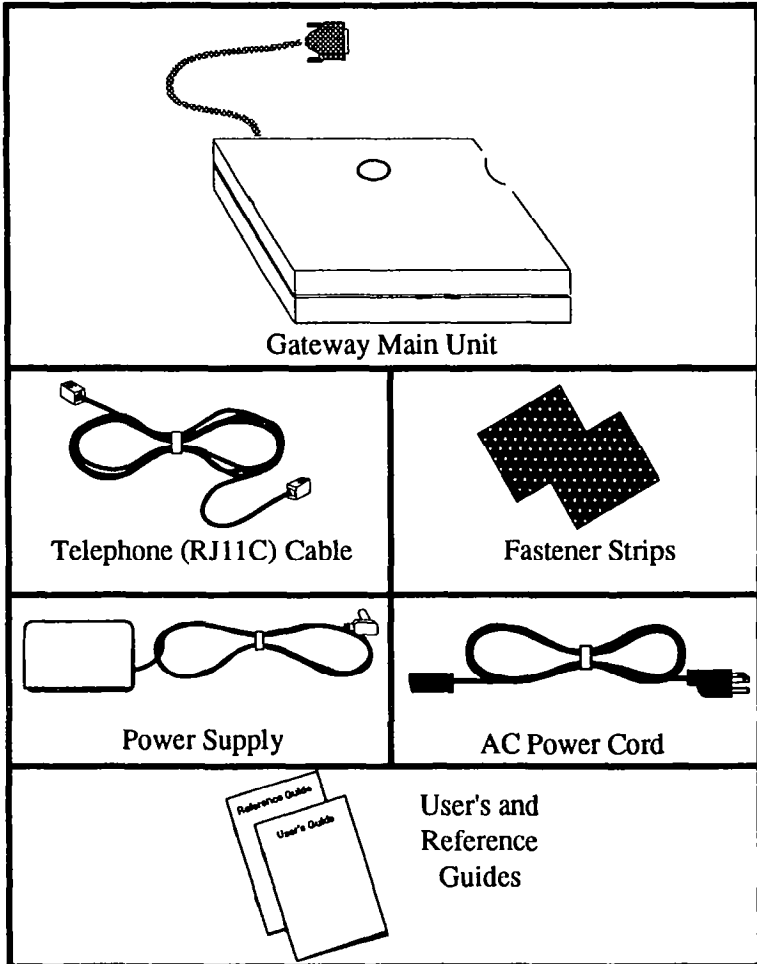


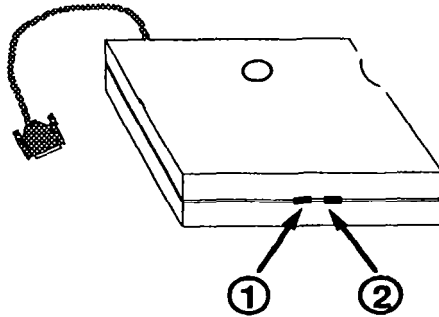
Figure 1 - What you Get

Additional items required for your 90si facsimile system are:

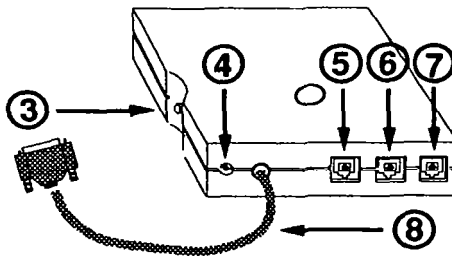
- 1) a commercial fax machine or a computer with fax capability
- 2) an operational STU-III

1.3 Looking at Your 90si

The figures below indicate the location and functions of the 90si buttons, indicators and connectors.



Front View



Back View

- | | |
|------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <p>① Power Indicator (Green)
When illuminated, indicates power is applied to the unit and self-test was successful.</p> | <p>⑥ STU-III Tel. Connector
Connects to STU-III RJ11 jack (used only in single-line, dual mode configura-</p> |
| <p>② Fault Indicator (Red)
When illuminated, indicates there has been an error.</p> | <p>⑦ Fax Connector
Connects to commercial fax machine or computer-based fax.</p> |
| <p>③ Reset Button</p> | <p>⑧ STU-III Digital Cable
Connects to STU-III data Port</p> |
| <p>④ Power Supply Connector</p> | |
| <p>⑤ Tel. Line Connector
Connects to telephone line</p> | |

Figure 2 - Buttons, Indicators and Connectors

2.0 Installation

2.1 Selecting a Transmit Protocol

Before you install the Easy-Fax 90si, consider the following:

Location:

Choose a location for the Easy-Fax 90si. Pick a spot that is within five (5) feet of your fax, STU-III, telephone line connection(s) and an AC power outlet. The 90si may be placed on your desk-top -- or out of the way if you like.

Dual Mode Option:

If you choose to use your 90si system for both secure and public (non-secure) facsimile documents, you will want to select one of the two dual mode installation options explained on page 8,

Number of Phone Lines:

If you choose to use Dual Mode, determine if you want to use separate phone numbers for secure and public fax traffic. In this configuration, people can call one number to send you a public fax and another number to send you a secure fax. It also allows public faxes to be received unattended. If only one line is available, both secure and public fax calls can still be supported. (If you are using your 90si exclusively for secure faxes, only one telephone line is required.)

Safety Precautions:

When installing the 90si, observe the following safety precautions.

- 1) Never install telephone wiring during a lightning storm.
- 2) Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- 3) Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- 4) Use caution when installing or modifying telephone lines.

2.2 Configuration Selector Controls

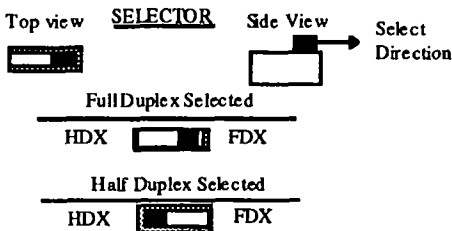
On the bottom of the Gateway are ten configuration selectors. Selectors one, two, and three are for selecting the desired transmit Protocol. Selector five selects half or full duplex operation. Full Duplex is the factory default and is recommended for most applications. Selectors six and seven must be set based on whether or not you will be using dual mode and one or two telephone lines.

Selectors four, eight, nine, and ten are factory use only and must remain with the selected factory default ().**

Selector Operation — The 90si will have one of two possible selection methods (Slide or push to select).

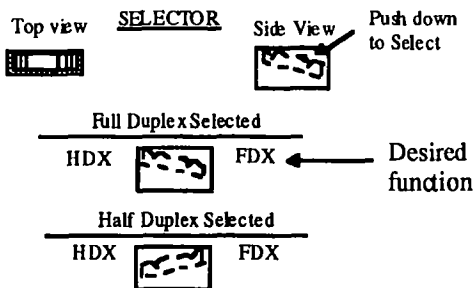
Slide Method:

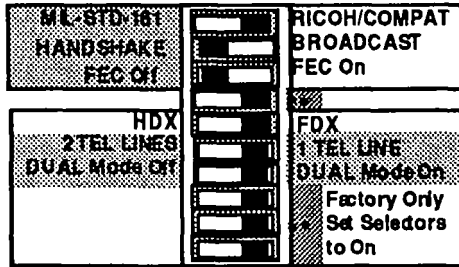
Selection is accomplished by moving the selector tab in the direction of the desired function.



Push Method:

Selection is accomplished by pressing down with a small pointed object (ball point pen, tooth pick, etc.) on the end of the selector switch next to the desired function.





Note The black square (■) indicates the slide or 'DOWN' position of the selector switch. The illustration shows 1, 4, 5, 6, 7, 8, 9, and 10 right hand options selected and 2 and 3 with left hand options selected.

1 Transmit Protocol Select

Selects between MLSTD-161 and Ricoh/Compatibility mode

2 Handshake/Broadcast Select

(Active only when MLSTD-161 is selected)

3. FEC On/Off Selector

Controls Forward Error Correction (Active only when MLSTD-161 is selected)

4 Factory only

Set to **

5 Half/Full Duplex

Selects half or full duplex communication

6 Telephone Line Selection

Selects between Single line and Dual line operation (Active only when Dual Mode On is selected)

7 Dual Mode On/Off .

Controls the ability to send and receive non-secure (Clear) faxes

8 Factory only

Set to **

9 Factory only

Set to **

10 Factory only

Set to **

Figure 3 - Configuration Selector functions (factory ship configuration illustrated)

2.3 Installing your 90si

The Easy-Fax 90si can be installed in three basic configurations. Select the one that best suits your requirements. Refer to Figure 4 for cable interconnections and selector settings required for each configuration. Only selectors 6 and 7 need be set at this time. The following is a brief description of each of the three possible configurations.

Dual Mode On - Two Telephone Lines

Use this configuration if you wish to maintain one telephone number for secure fax traffic and a separate number for Public faxes.

Dual Mode On - One Telephone Line

Use this configuration if you only have one telephone line available for both secure and Public fax calls.

Dual Mode Off (Secure Only Configuration)

Use this configuration if you wish to restrict the use of your 90si system to secure fax communications only. Only one telephone line is required for this configuration.

The following page illustrates the wiring and switch settings for the three configuration options explained above.

Wiring Diagrams

Selectors

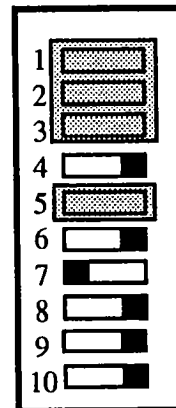
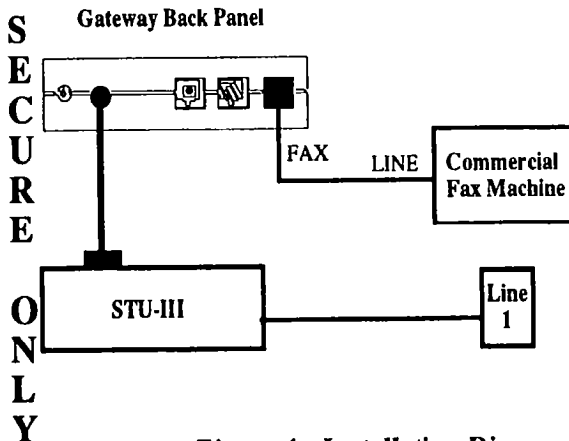
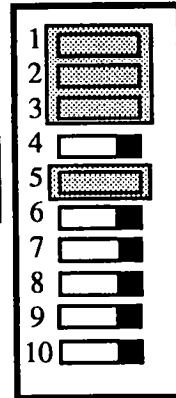
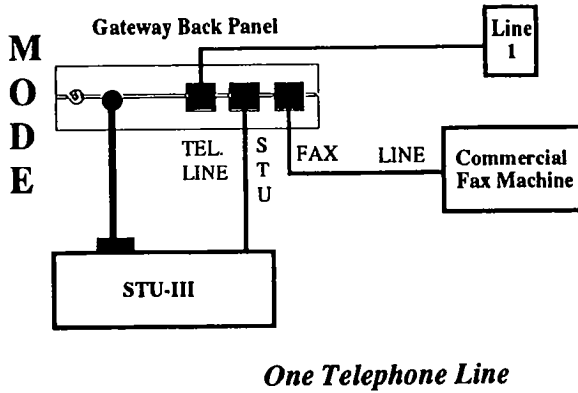
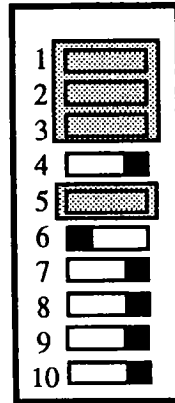
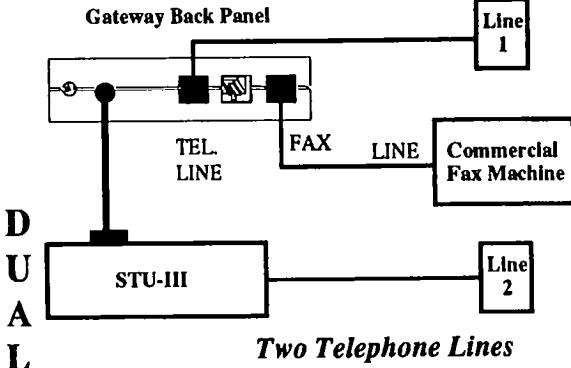


Figure 4 - Installation Diagrams

■ Indicates
Down

2.4 Selecting a Transmit Protocol

Now that you have connected the Gateway to your system, the only thing that remains is selecting the Transmit Protocol that you wish to use. The transmit protocol - RICOH/COMPATIBILITY or MIL-STD-161 - is selected using selectors 1, 2 and 3 on the configuration selector panel on the back of the unit.

Note: The 90si Gateway is capable of automatically receiving all secure fax protocols regardless of which transmit protocol is selected.

Ricoh/Compatibility Mode

The RICOH and COMPATIBILITY (RICOH/COMPAT) protocols are widely used and will provide excellent overall performance with a wide variety of secure facsimiles.

To select Ricoh/Compatibility mode, set the configuration selectors as shown below.

Note: Selectors 2 and 3 have no effect when selector 1 is set in the "RICOH/COMPAT" mode.

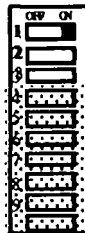


Figure 5 - Selector Setting for Ricoh/Compatibility Transmit Protocol

MIL-STD-161 Mode

The 90si comes factory set in Rocoh/Compatibility mode. To select MLSTD- 161 mode, simply set selector 1 to the left (see page 7). Once you have selected MLSTD-161 transmit protocol, you must make two additional selections explained below.

A) **HANDSHAKE** or **BROADCAST** - The 90si supports two basic signaling formats in the MLSTD-161 mode, Handshake and Broadcast. As the name implies the Handshake provides for “acknowledgements” to be exchanged between units during a transaction. On the other hand, Broadcast requires no “acknowledgements” from the receiving unit. The 90si comes factory set for Handshake. If you wish to use Broadcast, simply SET selector 2 to the right (see page 7).

B) **FEC On or FEC Off** - The 90si also supports Forward Error Correction (FEC) in the MLSTD-161 mode. FEC helps ensure reliable communication when there is significant interference on the communication line. The unit comes factory set with FEC off. To turn FEC on, simply set selector 3 to the right (see page 7).

Note: It is recommended that FEC be used ONLY when line conditions are poor.



Figure 6- Recommended switch Settings for ML-STD-161 Transmit Protocol

2.5 Setting up your STU-III

We have found that the most frequent reason for unsuccessful secure facsimile operation after installation is that the STU-III is not properly configured. Your STU-III should be set for **synchronous** data mode. The 90si will automatically adjust its speed to match the STU-III data rate.

If you need further information, Section 1.0 of the Reference Guide provides specific programming instructions for each of the currently available desk-top STU-III's. Following the instructions will ensure optimum operation of your secure facsimile system.

2.6 Location of your 90si

Once you have completed the installation procedures, you have a number of options as to where to locate the 90si. Since the 90si has been designed to minimize the need for operator contact with the unit, it can be placed almost anywhere. It can be located on your desktop or placed behind your desk.

Two fastener strips have been provided with the 90si. This allows you to mount the 90si on the side a desk, table, or mount it directly on your fax machine. To mount the 90si, remove the backing from the fastener strips. Stick one of the strips on the back of the 90si and the other on your desk, table or fax machine. Then mount the 90si by firmly pressing the two fastener strips together.

3.0 Using your 90si

3.1 Applying Power

The Easy-Fax 90si STU-III Gateway uses an external power supply. Since the 90si has no ON/OFF switch, the device is “on” as soon as power is applied.

To confirm that the 90si is properly powered and ready to operate, ensure that the Green “POWER” light is illuminated and that the Red “FAULT” indicator is extinguished.

3.2 Sending and Receiving a Facsimile

***Important:** Your commercial fax device MUST be set in auto-receive mode for your 90si system to work properly. Please read Section 2.6 of the 90si Reference Guide for additional instructions on configuring your fax machine or PCfax device prior to use.*

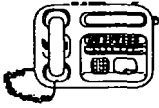
The 90si facsimile system has been designed to operate in a very simple and intuitive manner.

- 1) Secure faxes are always initiated using the STU-III terminal. The 90si will not allow public faxes to be initiated from the STU-III.
- 2) Public faxes are always initiated using the fax machine’s telephone or “one-touch” keys. The 90si will not allow secure faxes to be initiated from the fax machine.

The 90si was specifically designed this way to help avoid the inadvertent sending of sensitive/classified material in an unencrypted mode.

Sections 3.3 through 3.6 will give you step-by-step instructions for sending and receiving both secure and public faxes.

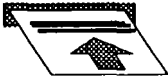
3.3 Sending a Secure Facsimile



Place a call on your STU-III



Place the STU-III's in secure data mode



Load your document in the facsimile

Take the fax machine "Off-Hook" and begin transmitting. This can be done one of two ways:



a) Lift the Fax Telephone handset off the receiver, dial a "1" and press the "START" button.

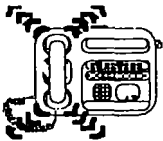
Or



b) Program any of the fax machine's "one-touch" keys to dial a "1" and designate it as the "SECURE START" key.

3.4 Receiving a Secure Facsimile

Note: Make sure your commercial fax device is in Auto-receive mode.



Answer your STU-III

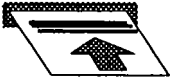


Place the STU-III's in secure data mode



Facsimile will be received automatically

3.5 Sending a Public Facsimile



To send a public fax, simply place the call as you normally would using the fax machine telephone or program keys.

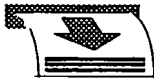
Note: The 90si will not allow you to send a public facsimile while the STV-III is in the secure data mode.

3.6 Receiving a Public Facsimile

Receiving a public fax differs depending on whether you are using one or two telephone lines.

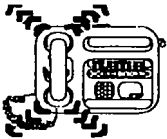
Note: Make sure your commercial fax device is in Auto-receive mode and answers on 1 or 2 rings.

Two-Line Installations



In two-line configuration, public faxes will be received unattended.

Single-Line Installations



Answer your STU-III



Once the caller indicates a public fax document, is forthcoming, depress the “asterisk” (*) key on the STU-III twice.



Your fax will be received automatically

4.0 If There's a Problem

4.1 How You Will Know

The 90si Front Panel LED's:

If the 90si encounters a problem during fax communication, the red "FAULT" front panel LED will illuminate. If this occurs, THERE IS NO NEED TO RESET THE UNIT. The indicator will extinguish automatically. Refer to Section 2.0 of the Reference Guide for more details on 90si alarm conditions and how they should be remedied.

Indicators on your Fax Machine:

Additional error indications may be displayed by your fax machine. These will usually be in the form of an audible alarm (a "beep") or visual indicator (a light or alpha-numeric display). Consult your fax machine user's manual for explanations of alarm conditions and how to restore normal operation.

4.2 When all else fails . . . call GFS

If you have gone through Section 4.1 and the problem persists, gather the following information:

90si Serial Number

Brand and Model Number of your Commercial Fax

Brand and Model Number of your STU-III

Your STU-III and/or public Fax Phone number(s)

Dip Switch Settings

Call the EASY-Fax Response Center @ 1-877-951-9800 from your STU-III. We are fully equipped and staffed to test and diagnose your problems over the phone — answer any of your questions, and get your system operational quickly.

5.0 Consumer Information and FCC Requirements

- This equipment complies with Part 68 of the FCC rules. On the bottom of the base of this equipment is a label that contains, among other information, the FCC Registration Number and Ringer Equivalence Number (REN) for this equipment. You must upon request, provide this information to your telephone company.
- The REN is useful to determine the quantity of devices you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most, but not all areas, the sum of the REN's of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company to determine the maximum REN for your calling area.
- If your 90si 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 isn't practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC.
- Your telephone company may make changes in its facilities, equipment, operations or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.
- If you experience trouble with the 90si. there are no repairs that can be made by the customer. For repair/warranty information please contact:

GFS Customer Service

<http://www.gwfs.com>

help@gwfs.com, 1-877-951-9800

The telephone company may ask that you disconnect this equipment from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning.

- This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs.
- Current FCC regulations specify that any direct connections to a telephone company line be done using only standard phone jacks and plugs that meet FCC regulations.

6.0 Warranty Information

Gateway Fax Systems warrants the 90si to be free from defects in materials and workmanship under normal use for a period of one year from the date of delivery as evidenced by a copy of the sales receipt. GFS will, at its option, repair or replace the unit at no charge provided:

- a) The unit was not damaged due to misuse or abuse.
- b) You have returned the 90si Warranty Card within 10 days of receiving your 90si.
- c) You contact GFS by phone at 1-877-951-9800 or e-mail at “help@gwfs.com” and receive a return authorization number.
- d) You ship your 90si prepaid to GFS. GFS will pay return freight.

NO OTHER WARRANTIES ARE EXPRESSED OR IMPLIED INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.