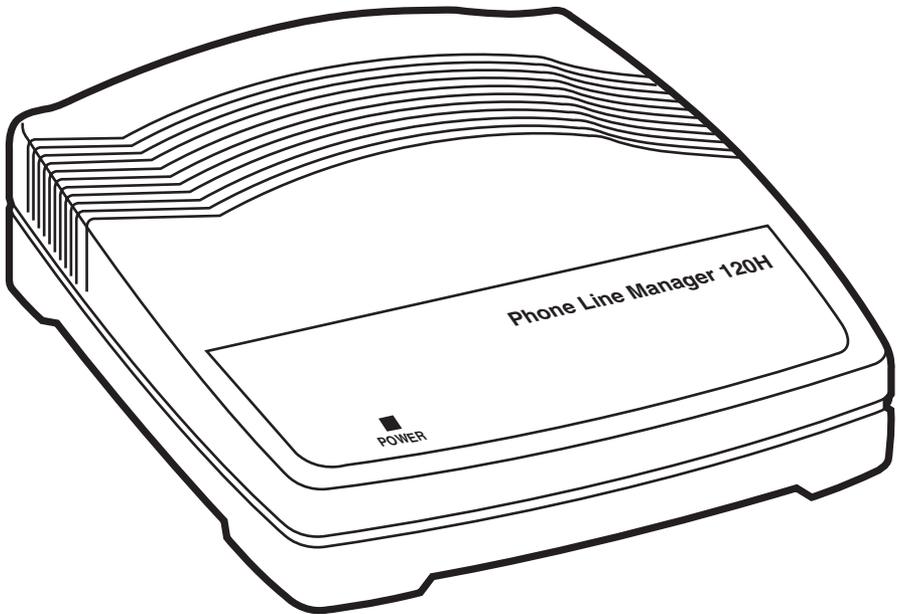




## Line Share 120H



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**CUSTOMER  
SUPPORT  
INFORMATION**

Order **toll-free** in the U.S. 24 hours, 7 A.M. Monday to midnight Friday: **877-877-BBOX**  
FREE technical support, 24 hours a day, 7 days a week: Call **724-746-5500** or fax **724-746-0746**  
Mail order: **Black Box Corporation**, 1000 Park Drive, Lawrence, PA 15055-1018  
Web site: [www.blackbox.com](http://www.blackbox.com) • E-mail: [info@blackbox.com](mailto:info@blackbox.com)

**FEDERAL COMMUNICATIONS COMMISSION  
and INDUSTRY CANADA  
RADIO FREQUENCY INTERFERENCE STATEMENT**

**Class B Digital Device.** This equipment has been tested and found to comply with the limits for a Class B computing device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. This equipment generates, uses, and can radiate radio frequency energy, and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. If this equipment does cause harmful interference to radio or telephone reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult an experienced radio/TV technician for help.

**Caution:**

**Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.**

To meet FCC requirements, shielded cables and power cords are required to connect this device to a personal computer or other Class B certified device.

*This digital apparatus does not exceed the Class B limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of Industry Canada.*

*Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de classe B prescrites dans le Règlement sur le brouillage radioélectrique publié par Industrie Canada.*

**NORMAS OFICIALES MEXICANAS (NOM)  
ELECTRICAL SAFETY STATEMENT**

**INSTRUCCIONES DE SEGURIDAD**

1. Todas las instrucciones de seguridad y operación deberán ser leídas antes de que el aparato eléctrico sea operado.
2. Las instrucciones de seguridad y operación deberán ser guardadas para referencia futura.
3. Todas las advertencias en el aparato eléctrico y en sus instrucciones de operación deben ser respetadas.
4. Todas las instrucciones de operación y uso deben ser seguidas.
5. El aparato eléctrico no deberá ser usado cerca del agua—por ejemplo, cerca de la tina de baño, lavabo, sótano mojado o cerca de una alberca, etc..
6. El aparato eléctrico debe ser usado únicamente con carritos o pedestales que sean recomendados por el fabricante.
7. El aparato eléctrico debe ser montado a la pared o al techo sólo como sea recomendado por el fabricante.
8. Servicio—El usuario no debe intentar dar servicio al equipo eléctrico más allá a lo descrito en las instrucciones de operación. Todo otro servicio deberá ser referido a personal de servicio calificado.
9. El aparato eléctrico debe ser situado de tal manera que su posición no interfiera su uso. La colocación del aparato eléctrico sobre una cama, sofá, alfombra o superficie similar puede bloquea la ventilación, no se debe colocar en libreros o gabinetes que impidan el flujo de aire por los orificios de ventilación.
10. El equipo eléctrico deber ser situado fuera del alcance de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que producen calor.

11. El aparato eléctrico deberá ser conectado a una fuente de poder sólo del tipo descrito en el instructivo de operación, o como se indique en el aparato.
12. Precaución debe ser tomada de tal manera que la tierra física y la polarización del equipo no sea eliminada.
13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.
14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.
15. En caso de existir, una antena externa deberá ser localizada lejos de las líneas de energía.
16. El cable de corriente deberá ser desconectado del cuando el equipo no sea usado por un largo periodo de tiempo.
17. Cuidado debe ser tomado de tal manera que objetos líquidos no sean derramados sobre la cubierta u orificios de ventilación.
18. Servicio por personal calificado deberá ser provisto cuando:
  - A: El cable de poder o el contacto ha sido dañado; u
  - B: Objetos han caído o líquido ha sido derramado dentro del aparato; o
  - C: El aparato ha sido expuesto a la lluvia; o
  - D: El aparato parece no operar normalmente o muestra un cambio en su desempeño; o
  - E: El aparato ha sido tirado o su cubierta ha sido dañada.

**TRADEMARKS**

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# 1. Specifications

**Data Rate** — Transparent

**Interface Type** — 2-wire (tip & ring)

**Line Type** — 2-wire dial

**Operation** — Full-duplex

**Programming** — From DTMF tones of phone

**Ringer Equivalency** — 1 B

**Indicators** — ON

**Connectors** — (4) RJ-11 female

**Power** — Input: 120 VAC

**Size** — 2.25”H x 6.5”W x 7.25”D (5.7 x 16.5 x 18.4 cm)

**Weight** — 2.4 lb. (1.1 kg)

## 2. Introduction

This guide is designed to help you install and use the Line Share 120H. Please read through this guide and select the installation procedures appropriate for your specific application before attempting to connect or operate the Line Share 120H.

### NOTE

**According to standard industry practice, surge protection is recommended for use with all electronic devices. A surge suppressor and/or line conditioning should be used on the input power supply, as well as the connected telephone line.**

**Call Waiting: Fax and modem transmissions could be disrupted by the call-waiting beep tone.**

**Call Forwarding: If call forwarding is enabled, the Line Share 120H cannot process calls on that line.**

**Phone Company Voice Mail: This service is not compatible with the Line Share 120H. However, standalone voice-mail systems work well with the Line Share 120H.**

**We recommend that call forwarding and the phone company's voice mail services be discontinued.**

The Line Share 120H is a state-of-the-art telephone line sharing device that eliminates the extra dedicated telephone lines used to operate a fax, modem, or other telephone devices.

The Line Share 120H quickly directs incoming telephone calls to one of three appropriate destinations, typically a computer modem, fax/modem, or fax machine, as well as a telephone and answering machine, or any other telephone device that responds to a standard phone company ring signal.

Please read through the rest of this guide to learn how to properly install and operate the Line Share 120H.

## 3. Installation

The Line Share 120H is a single-line device that can be installed on any type of modular or non-modular system that consists of one or more lines, with one or more phones. A modular system consists of phone cables that can be connected and disconnected from a telephone device. A non-modular system consists of cables that are hard-wired to the telephone device and cannot be disconnected from the equipment. A telephone installer may be required to install the Line Share 120H on a non-modular system.

### **NOTE**

**Many offices have a KSU or PBX phone system. The Line Share 120H works with either of these systems. Simply follow the appropriate installation instructions provided in Section 3.7.**

### **3.1 Unpacking the Line Share 120H**

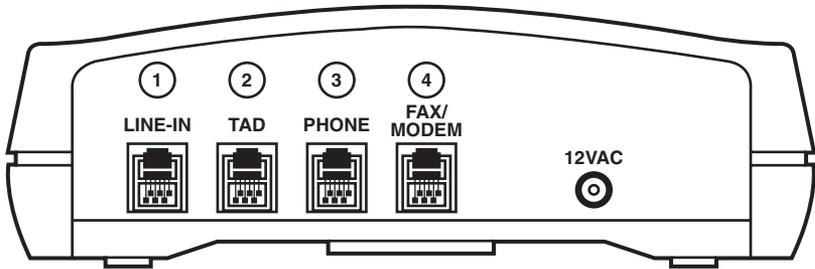
When you open the Line Share 120H box for the first time, inspect the contents. You should have the following items:

- (1) Line Share 120H
- (1) AC power adapter
- (1) telephone line cord
- This user manual

If any of these items are missing or damaged, call Black Box immediately at (724)-746-5500.

### 3.2 Ports on the Line Share 120H

The rear panel of the Line Share 120H includes four (4) modular ports and a power input port, as shown in **Figure 3-1**.



**Figure 3-1. Ports on the Line Share 120H.**

1. Connect a single telephone line from a standard telephone (wall) jack to this port.
2. Connect your telephone answering device (TAD) or integrated phone/answering machine to this port. The Line Share 120H will route all calls to the TAD and PHONE ports simultaneously.
3. Depending on the installation, a single line phone, and integrated phone/answering machine, multiple phones, or a telephone system (KSU or PBX) can be connected to this port. The Line Share 120H will route all calls to the TAD and PHONE ports simultaneously.
4. The fax machine must be connected to the FAX/MODEM port to enable the Line Share 120H to automatically transfer a fax call with a fax CalliNG (CNG) tone to the fax machine. A computer modem or fax/modem can connect to this port in lieu of a fax machine.

### 3.3 Placing the Line Share 120H

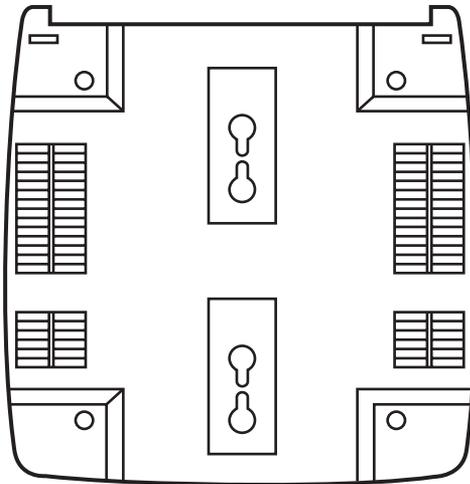
The Line Share 120H can be placed on either a flat surface, or mounted on a wall. To mount the Line Share on a wall, follow these steps:

1. Mark the positions for 2 mounting screws (not supplied) on the wall. The positions should be 3-1/4" apart (vertically). Drill the 2 holes, then thread the screws into the wall. The screws should extend 3/16". Do not over-tighten the screws.
2. Align the keyholes on the back of the Line Share with the 2 screws, then push in and press down to secure it to the wall.

#### NOTE

**If you place the Line Share 120H on a flat surface, do not place it close to any peripheral equipment. Keep it approximately 2 to 3 feet (60 to 90 cm) away from all electronic equipment.**

The Line Share 120H can be mounted on the wall with the connected telephone line cords above or below the unit.



**Figure 3-2. Bottom of the Line Share 120H.**

### 3.4 Connecting the Line Share 120H

This section explains how to install the Line Share 120H in most phone configurations that appear in a home or office. You can install the Line Share 120H in any one of the following phone configurations:

- a single phone line with a single phone
- a single phone line with multiple single-line phones
- a telephone system

Installation procedures for each of these configurations are provided in the following sections.

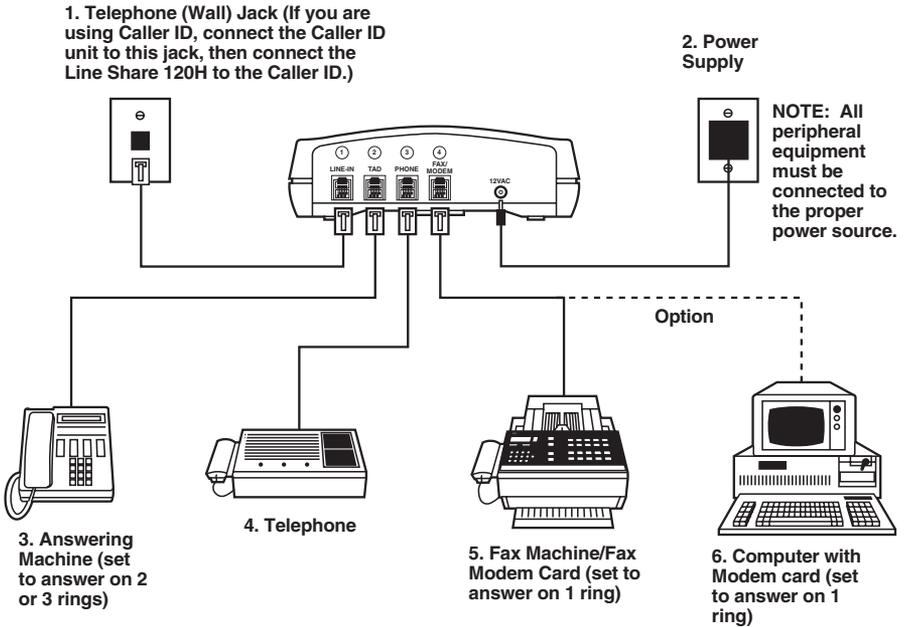
To perform the installation procedures in the following sections, you need the following equipment:

- telephone cables to connect the Line Share 120H to your telephone (wall) jack.
- extension cables—required if the connecting equipment is not located near the Line Share 120H.
- additional telephone cables—typically supplied with equipment by the manufacturer. You need additional telephone cables for as many pieces of equipment as you intend to connect to the Line Share 120H. If the equipment manufacturer does not provide the required cables, you can purchase them from your dealer.

#### 3.4.1 INSTALLATION ON A SINGLE-LINE PHONE WITH A SINGLE PHONE

**Figure 3-3** shows a complete installation for a single phone line/single phone arrangement. While the connections to the telephone (wall) jack may be different for other types of phone systems, the connections to the Line Share 120H remain the same for all phone configurations.

## LINE SHARE 120H



**Figure 3-3. Single Phone Line/Single Phone Arrangement.**

1. Plug the RJ-11 end of a telephone line cord into the LINE-IN port on the back of the Line Share 120H. Plug the other end of the telephone line cord into the telephone (wall) jack.
2. Plug the small end of the AC power cord provided with the Line Share 120H into the power input port labeled “12 VAC” on the back of the Line Share 120H. Plug the adapter into a standard AC outlet.

The green LED lights when power is applied and remains lit, indicating its ON status.

3. To connect an answering machine, plug the RJ-11 end of a telephone line cord into the TAD port on the Line Share 120H.
4. To connect a phone, plug the RJ-11 end of a telephone line cord into the PHONE port on the Line Share 120H.

- To connect a fax machine, plug the RJ-11 end of a telephone line cord into the FAX/MODEM port on the Line Share 120H.

Set your fax to answer on 1 ring.

- To connect a telephone device such as a computer modem, in lieu of a fax machine, plug the RJ-11 end of a telephone line cord into the FAX/MODEM port on the Line Share 120H.

Set the modem to answer on 1 ring.

## NOTE

The Line Share 120H has an automatic TAD Transfer feature (see Section 4.4 for more information on the TAD port). To disable this feature, connect your answering machine to the PHONE port of the Line Share 120H and connect your phone to the answering machine.

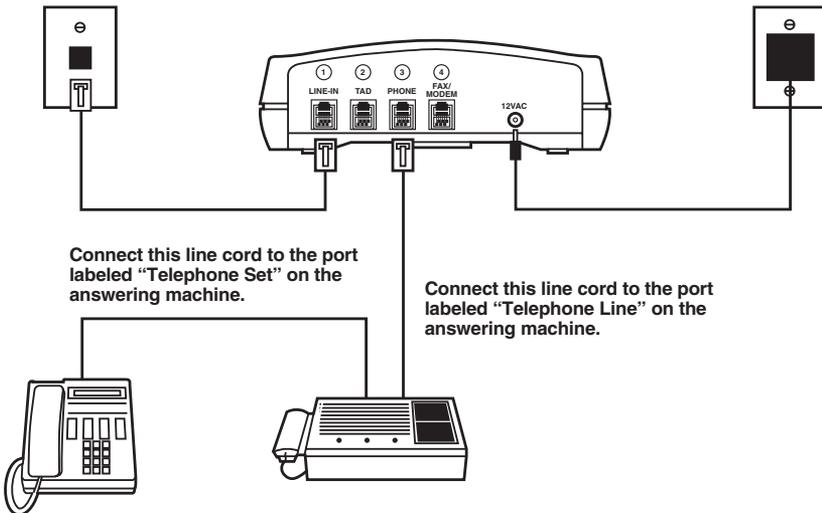
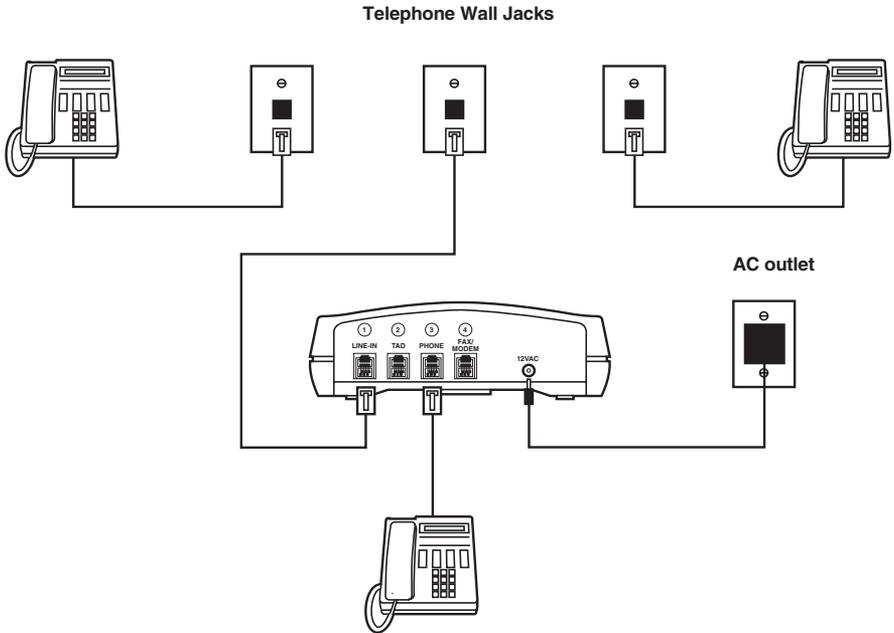


Figure 3-4. Configuration for TAD Transfer Feature Disabled.

## LINE SHARE 120H

### 3.4.2 INSTALLATION ON A SINGLE LINE PHONE WITH MULTIPLE SINGLE-LINE PHONES

You can install the Line Share 120H in a phone configuration with multiple single-line phones by adding the Line Share 120H on a single extension. If the Line Share 120H is installed as an extension, choose the extension where the unit will be located and follow the procedure provided in **Section 3.4.1**.



**Figure 3-5. Installation on a Single Phone Line with Multiple Single-Line Phones.**

### 3.4.3 INSTALLATION ON A TELEPHONE SYSTEM

A telephone system is common in a medium or large office arrangement in which calls are coming in on 2 or more lines and can be routed to any number of extensions. The system typically has features like call holding, music on hold, conference calling, and intercom paging.

**Figure 3-6** shows telephone devices connected to the Line Share 120H for a telephone system; follow the same procedures if you have a mini-telephone system in your home or small office. For the Line Share 120H to operate properly, it must be “in front” of the telephone system. In other words, it must connect directly to the incoming telephone line. Connect the other equipment as previously shown.

All equipment on that line (telephone system, fax, computer modem, and so on) must connect directly to the Line Share 120H.

### CAUTION

**You should be familiar with telephone wiring to complete this installation. If you have any questions or are not confident that you can complete this installation procedure, call for technical support.**

**Do not plug the Line Share 120H into a telephone system phone jack. You may damage your phone system.**

### NOTE

**If your phone number is a direct dial number within your company's telephone system and it accessible from external and internal locations without assistance, you might be able to connect the Line Share 120H directly to your extension. Plug the LINE-IN line cord into your extension (wall) jack. With this configuration, the Line Share 120H must be “in front” of all equipment.**

**However, your telephone system must send out analog signals to all extensions. Make sure your telephone system is compatible with this application or damage to the system may occur.**

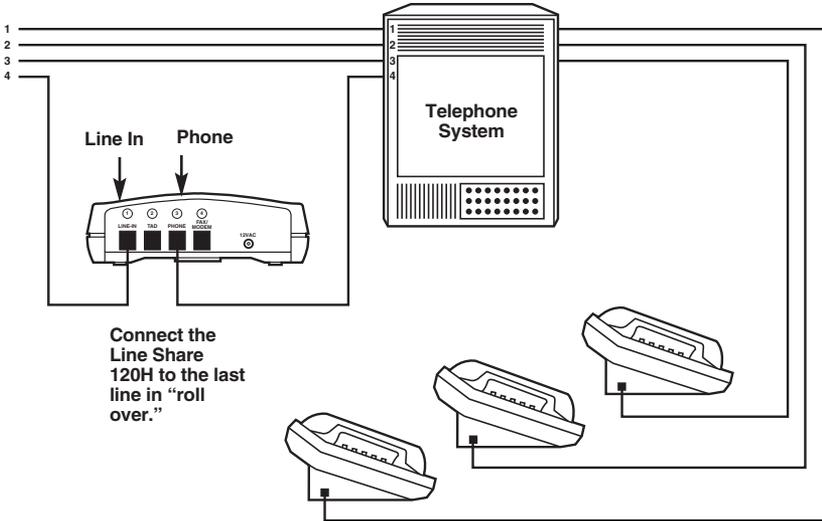


Figure 3-6. Installation on a Telephone System.

## 4. Operation

This chapter contains special operating notes that you should read before operating the Line Share 120H. The sections following the operating notes provides instructions for answering and routing your incoming calls.

### 4.1 Fax CNG Tones

Before operating the Line Share 120H, make sure that you understand the following information about fax equipment that is used with the Line Share 120H.

**Fax CNG tones:** Most faxes send audible beep tones called CNG (CalliNG) tones. This tone is a distinct beep that repeats every three seconds. Once a fax has dialed the destination fax number, it generates this tone while waiting for the receiving fax to answer.

Not all faxes transmit this signal when they place a call. Most, but not all, faxes produce this tone through their auto-dial feature or speed-dial memory position, or by the operator pressing the fax machine's start button after the number is dialed.

For best results, callers should have your fax number programmed into their fax machine's "speed dial" memory.

When you or your answering machine answer a call, you may hear a CNG tone; if the tone is present, the Line Share 120H will automatically route the call to the FAX/MODEM port.

When you or your answering machine answer a call, you may hear a CNG tone; if the tone is present, the Line Share 120H will automatically route the call to the FAX/MODEM port.

### 4.2 Standard Operations

When a call comes in, all the phones begin to ring (including extension phones, phones connected to the PHONE and TAD ports). The Line Share 120H allows 6 rings to the telephones before it automatically transfers the call to the FAX/MODEM port. If you or your answering machine answer the call before this transfer occurs, the Line Share 120H listens for the following signals:

- a CNG tone
- an access code for the FAX/MODEM port # 9 9

If the Line Share 120H detects any of these signals, it routes the call to the FAX/MODEM port.

If an unanswered call is transferred to the FAX/MODEM port, the Automatic Ring Reduction feature engages.

For calls that occur after this, the Line Share 120H will route calls to the FAX/MODEM port after 3 rings.

The Automatic Ring Reduction Reset will reset the ring count to 6 rings after 5 minutes of inactivity on the FAX/MODEM port. You can also manually reset the Line Share 120H to 6 rings by performing any of the following steps:

- Lift the receiver of any phone device on the line connected to the Line Share 120H and hang it up.
- Answer a call from any phone before the call is routed to the FAX/MODEM port.
- Place an outbound call from any phone connected on the line connected to the Line Share 120H.

### 4.3 Answering Incoming Calls

You can answer incoming calls from an extension phone or from a phone device connected to the TAD or PHONE port. You can then conduct the call normally, for as long as you like.

1. If, after answering a call, you hear silence on the line, the call is likely coming from a fax that does not produce a CNG signal. Simply transfer the call to the FAX/MODEM port by entering the appropriate access code: # 9 9 from a tone phone or 3 from a rotary/pulse dialing phone.
2. If a caller verbally requests to be connected to the fax or computer modem, you can manually route the call by entering the FAX/MODEM port access code.
3. If you hear a CNG tone or an access code for the FAX/MODEM port, after answering a call, remain on the line until your fax or modem answers, or manually route the call by entering the FAX/MODEM port access code. In either case, you must remain on the line until your fax or computer modem answers. The Line Share 120H disconnects the TAD and PHONE ports when the fax or modem answers the call.

#### NOTE

**You cannot answer a voice call from a phone connected to the fax machine or computer modem.**

### 4.4 Answering Calls with an Answering Machine

If your answering machine answers a call from the TAD port, the caller can:

- record a voice message on the TAD and/or
- transfer the call to the FAX/MODEM port

We recommend that you use your answering machine announcement message to provide callers with instructions for transferring your calls. Following is a sample announcement message that you might use:

*“(4 seconds of silence\*) Hello, this is \_\_\_\_\_. If you wish to send a fax, press # 9 9 on your tone phone, or leave a message at the tone. If you are calling from a pulse-dialing fax, remain silent after the tone and you will be transferred to the fax.”*

#### NOTE

**Callers cannot transfer a call to the FAX/MODEM port from a pulse-dialing fax.**

\*To assist the Line Share 120H in automatically transferring calls that produce a CNG tone, you should leave a four-second silent period at the beginning or end of your answering machine announcement message.

To accommodate auto-dial faxes that do not produce CNG tones, the Line Share 120H monitors the line 20 seconds after a call is answered on the TAD port. If the Line Share 120H determines that a caller is not leaving a message on your answering machine during the next five-second period, the Line Share 120H transfers the call to the FAX/MODEM port.

To accommodate these timing parameters, your outgoing message should be no less than 10 seconds, and no longer than 15 seconds.

### NOTE

**Single-cassette answering machines are not recommended for use with the Line Share 120H because of timing limitations of these types of machines.**

### NOTE

**If calls are being transferred to the FAX/MODEM port when a caller is leaving a message, you may want to instruct the caller (in your answering machine announcement message) to press the \* key from a tone phone to leave an uninterrupted message.**

## 4.5 Retrieving Answering-Machine Messages from a Remote Location

To disable the Line Share 120H and retrieve your answering-machine messages, follow these steps:

1. Dial your phone number and wait for the answering machine to answer the call.
2. After your answering machine answers the call, press \* \* on your tone phone.
3. Follow the remote-retrieval procedures for your answering machine.
4. After retrieving your messages, hang up. The Line Share 120H resets for the next call.

## 4.6 Placing an Outbound Call

You can place an outbound call from the PHONE port, unless another port is in use. If another port is in use, you will hear silence when you attempt to place a call. If the line is clear when the calling device goes off-hook, you receive a dial tone and can place the call normally.

During an outbound call, you can also receive a transmission from someone that is ready to transmit.

To route this transmission to your FAX/MODEM port, any time during a conversation, press # 9 9 from a tone phone, or 3 from a rotary/pulse dialing phone (rotary/pulse transfers are not possible until 20 seconds after dialing the last digit of the phone number).

Picking up an extension phone not connected to the TAD or PHONE port during a data or fax transmission may interrupt the call.

## 4.7 Receiving a Computer Call

Unlike a fax call, inbound computer calls do not produce any tones; they remain silent until another modem answers the call. Therefore, the caller must use tones from a tone-type device that produces tones (for example, a modem).

To receive a computer call to the FAX/MODEM port, instruct the caller to use one of the following methods. (In this example, we use a modem).

## 4.8 Dialing the Destination (Receiving) Computer through the Originating (Calling) Computer

To have the calling modem automatically “over dial” the FAX/MODEM port access code and access the modem connected to the Line Share 120H, the caller must take into consideration whether the call is local or long distance.

For remote access to the FAX/MODEM port on the Line Share 120H, instruct the caller to use the following dialing string in the modem’s software:

```
ATDT (phone number),,,#99,#99,#99,#99
```

The calling modem picks up its phone line and dials the phone number. The comma (,) tells the modem to wait about two seconds and then repeatedly dial the access code.

### NOTE

**Not all modem comma (,) commands delay dialing for a 2-second interval. See your modem user's manual and adjust the number of commas you use accordingly.**

When you or your answering machine answers, the Line Share 120H detects the tones and routes the call to the FAX/MODEM port.

For long-distance remote access to the FAX/MODEM port of the Line Share 120H, instruct the caller to use the following dialing string in the modem's software:

ATDT 1 (phone number),,,,#99,#99,#99,#99

### NOTE

**The commas entered before the #99 are set to your answering machine's 2-ring answer. Use 3 additional commas for each ring that your answering machine is set to answer above 2 rings.**

Features of the Line Share 120H are programmable to meet virtually all setup configurations. Call for technical support for more information.

## 5. Troubleshooting/Helpful Hints

- *Why are fax calls being routed to my telephone and/or answering machine?*
- The Line Share 120H is a semi-automatic line sharing device, therefore calls are routed first to the TAD and PHONE ports. When a device connected to one of these ports answers a call, the Line Share 120H then listens for fax tones to transfer the call. If you answer a call and hear a fax tone, keep the phone off-hook until your fax answers and then hang up.
- *Why can't I receive faxes when I'm away from the Line Share 120H?*
- Check the following settings and procedures:
  1. Leave a message on your answering machine for callers to press #99 to send a fax, and leave 4 seconds of silence before your message.
  2. Set your fax to answer on 1 ring.
  3. Set your answering machine to answer on 2 rings.
- *Why don't fax calls transfer to the fax when I answer the phone?*
- Some fax machines do not produce fax tones, therefore, when you receive this type of call, press #99 on your tone phone, wait for the fax to answer and then hang up.
- *Why don't fax calls transfer to the fax when my answering machine answers a call?*
- You may not have the 4-second silence at the beginning of your answering machine announcement message. If you do, contact Technical Support for more information.
- *The LED doesn't light on the Line Share 120H. What should I do?*
- Check your power connection. If power is connected properly, make sure that you are using a 12-volt AC power adapter.
- *I don't have dial tone with the phone(s) connected to the Line Share 120H. What should I do?*
- Check all of the phone-line connections and repair or replace any damaged cables.



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