

Invisible LAN Remote

Instruction Manual

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Introduction to Invisible LAN Remote

Invisible LAN Remote lets you connect to the network through a serial port or modem. Once connected, you can access all network resources, exactly as if you were attached directly to the network.

One computer on the network is set up as the remote login *host* computer. This computer is responsible for transferring data between the network and the serial link. A single host can accommodate up to four serial links. The remote login host software runs in background, so the host computer can be used for other tasks simultaneously.

A remote login *client* computer is linked to the host computer through a serial port. The client can be attached to the host through a telephone line with a modem, or it can be attached directly to the host with a null-modem cable. In either case, once the serial link is established the client computer becomes a network station. You can load the Invisible LAN operating system on the client station, and access all network resources normally.

Invisible LAN Remote is an add-on to the Invisible LAN Operating System. In this manual, we assume that you already know how to install and use the Invisible LAN Operating System.

Hardware Requirements

Invisible LAN Remote requires the following hardware:

- **Computers** — Although Invisible LAN Remote can run on any IBM-compatible computer, we recommend that the client and host computers should be 386 or higher.

- **Serial Ports** — Each computer must have a serial port.

A host computer that supports multiple serial links must have several serial ports, one for each link. Each serial port must have a separate interrupt (IRQ) level. Many serial ports only allow a choice of two interrupt levels, so you may need to get special serial port cards if you want to have more than two serial links.

The use of a 16550 chip in the serial port is optional. If you have a 16550, the software automatically detects it and uses it. In a host computer that supports multiple serial links, or is heavily used as a file server, the use of a 16550 is recommended.

- **Modems** — If you want to communicate through telephone lines, then each computer must have a modem. Although Invisible LAN Remote can work with almost any modem, for acceptable performance we recommend that the modem should be 9600 bits per second or faster, and that the modem should support V.42 (error control) and V.42bis (data compression). Refer to the text file called MODEMS.TXT for additional information on supported modems.

- **Null-Modem Cable** — If you are not using telephone lines, then you need to have a null-modem cable. The null-modem cable lets you connect the client's serial port directly to the host's serial port. Refer to the text file called MODEMS.TXT for technical requirements on null-modem cables.

Copying Files to the Hard Disk

The first thing you have to do is copy the Invisible LAN Remote program files onto your hard disk. The Invisible LAN Remote program files must be copied into the same disk directory as the Invisible LAN Operating System program files. This directory is usually called C:\NET30. You can use the Setup program to perform the copy.

Before beginning, make sure you have your Invisible LAN Remote option diskette.

To start the Setup program, type the command

SETUP30

If you are using a laptop computer with a black-and-white screen, you may find that the display is easier to read if you use the command

SETUP30 /B

In either case, you see the Setup program main menu, as shown in figure 1.

To start the copying process, select **Copy Files to Hard Disk** from the main menu. The Setup program asks you where to copy the files from, and where to put them on the hard disk, as shown in figure 2. By default, the files are copied from A:\ to C:\NET30. You can type over these directory names if you wish. For example, if you want to install the network software on drive D:, you could change the destination directory to D:\NET30.

When the names are correct, press **Enter** or **F9** to begin the copy process.

When the copy is complete, the Setup program returns to the main menu.

NETWORK SETUP MAIN MENU

Copy Files to Hard Disk
Load/Create Initialization File
Easy Configuration
Advanced Configuration
Save Initialization File
Modify CONFIG.SYS
Exit from Setup Program

Copies Invisible LAN program files to the hard disk

HELP F1 ACTIVATE Enter CANCEL Esc SELECT ↑ ↓ PgUp PgDn Home End A-Z

Figure 1. Setup Program Main Menu

COPY FILES TO HARD DISK

Files will be copied from this directory:

A:\

Files will be written to this directory:

C:\NET30

Type the directory path where the program files are located (usually A:\)

HELP F1 DONE F9 CANCEL Esc SELECT Enter ↑ ↓ Tab EDIT → ← Ins Del Home End

Figure 2. Copying Files to the Hard Disk

Quick-Start

This section describes how to get Invisible LAN Remote running as quickly as possible. Subsequent sections describe the software in more detail.

Quick-Start Setting Up The Host

To set up the host computer, proceed as follows:

- Start the Modem Configuration program by typing **RCONFIG** at the DOS prompt.
- Select **Load Settings** from the main menu.
- Select **Modem Configuration** from the main menu.
- Select the type of modem you are using, and the desired options. Use **F5** and **F6** to select from among the various modem types and options. In most cases, you should select “Generic Modem” as the modem type.
- When the modem type and option are correct, press **F9** to return to the main menu.
- Select **Save Settings** from the main menu, and then select **Exit**.
- Start the Setup program by typing **SETUP30** at the DOS prompt.
- Select **Load/Create Initialization File** from the main menu, and then select **Advanced Configuration** from the main menu.
- Select **Remote Login Host Parameters**.
- Enter **Y** for **Load Remote Login Host**, and then press **F9**.
- Press **Esc** to return to the main menu, select **Save Initialization File**, and then **Exit**.
- To start the software, type **NET30** at the DOS prompt.

Note — If you want to run Microsoft Windows on the remote login host computer, refer to the section called “Running Windows with Invisible LAN Remote” for further instructions.

Quick-Start Setting Up The Client

To set up the client computer, proceed as follows:

- Start the Modem Configuration program by typing **RCONFIG** at the DOS prompt.
- Select **Load Settings** from the main menu.
- Select **Modem Configuration** from the main menu.
- Select the type of modem you are using, and the desired options. Use **F5** and **F6** to select from among the various modem types and options. In most cases, you should select “Generic Modem” as the modem type.
- When the modem type and option are correct, press **F9** to return to the main menu.
- Select **Save Settings** from the main menu, and then select **Exit**.
- Start the Setup program by typing **SETUP30** at the DOS prompt.
- Select **Load/Create Initialization File** from the main menu.
- Select either (a) **Easy Configuration**, or (b) the **General Parameters** section of **Advanced Configuration**.
- Select **REMOTE_LOGIN** as the software version, and then press **F9**.
- Return to the main menu, select **Save Initialization File**, and then **Exit**.
- To start the software, type **NET30** at the DOS prompt.
- Type the telephone number when prompted.

Note — If you want to run Microsoft Windows on the remote login client computer, refer to the section called “Running Windows with Invisible LAN Remote” for further instructions.

Running Windows with Invisible LAN Remote

If you want to run Microsoft Windows in conjunction with Invisible LAN Remote, you need to make a change in your Windows configuration. This is necessary to prevent Windows from interfering with the operation of the serial port.

You need to make this change on both the remote login host computer, and the remote login client computer.

To configure Windows to work with Invisible LAN Remote, you need to add some lines to your SYSTEM.INI file. The SYSTEM.INI file is a text file which is located in your C:\WINDOWS directory. You can edit the SYSTEM.INI file using a text editor such as Windows Notepad. Refer to your Windows README files for additional information on editing SYSTEM.INI.

If you are using COM1 for Invisible LAN Remote, add the following lines to the **[386enh]** section of your SYSTEM.INI file:

```
COM1AutoAssign = 0
COM1Base = 0
COM1Irq = -1
```

If you are using COM2 for Invisible LAN Remote, add the following lines to the **[386enh]** section your SYSTEM.INI file:

```
COM2AutoAssign = 0
COM2Base = 0
COM2Irq = -1
```

If you are using COM3 for Invisible LAN Remote, add the following lines to the **[386enh]** section your SYSTEM.INI file:

```
COM3AutoAssign = 0
COM3Base = 0
COM3Irq = -1
```

If you are using COM4 for Invisible LAN Remote, add the following lines to the **[386enh]** section your SYSTEM.INI file:

```
COM4AutoAssign = 0
COM4Base = 0
COM4Irq = -1
```

If you are using more than one serial port for Invisible LAN Remote, as on a host that uses two or more ports, you need to include the SYSTEM.INI modifications for all the ports you are using. For example, if you are using both COM2 and COM3 for Invisible LAN Remote, you would add the following lines to the **[386enh]** section your SYSTEM.INI file:

COM2AutoAssign = 0

COM2Base = 0

COM2Irq = -1

COM3AutoAssign = 0

COM3Base = 0

COM3Irq = -1

Program Components

Invisible LAN Remote includes three memory-resident programs:

- **Serial Protocol** — The Serial Protocol runs on both the client computer and the host computer. It controls the serial port hardware and the modem, and it manages the flow of data through the serial link. The Serial Protocol also detects and corrects any errors that occur on the serial link.
- **Remote Login Host** — You run the remote login host software on the host computer. The host transfers data between the network and the serial link. The host uses TransBIOS to send and receive data on the network, and it uses the Serial Protocol to send and receive data on the serial link.
- **Remote Login Client** — You run the remote login client software on the client computer. The client provides TransBIOS and NetBIOS services, so that you can run the Invisible LAN operating system and other network applications. But instead of using a network card, the client uses the Serial Protocol to send and receive data on the serial link.

In addition to the memory-resident program, Invisible LAN Remote also includes four new application programs:

- **RCONFIG** — Configures the modem and serial port. You must run **RCONFIG** on each computer to specify the type of modem you are using.
- **RSECURE** — Sets up security on the host. You can run **RSECURE** on the host computer to define users, passwords, and callback numbers.
- **HANG_UP** — Used on the client computer to hang up the telephone.
- **RDIAG** — Displays diagnostic information about the operation of the Serial Protocol.

The Invisible LAN Setup Program (**SETUP30**) also includes some new features to support Invisible LAN Remote.

Configuring the Modem

You use the **RCONFIG** program to configure the modem and the serial port. You need to run **RCONFIG** on both the client and host computers.

Starting the Modem Configuration Program

To start the Modem Configuration program, type the following command at the DOS prompt:

RCONFIG

If you are using a laptop computer with a black-and-white screen, you may find that the display is easier to read if you use the command

RCONFIG /B

In either case, you see the modem configuration main menu, as shown in figure 3.

The Modem Configuration program is designed as a series of menus, so it is very easy to use. Most of the screens are self-explanatory, and there is plenty of on-line help available.

To select an item from the main menu, use the **up arrow** and **down arrow** keys to highlight the desired item, and then press **Enter**.

The second-to-last line on the screen shows a brief description of each item on the menu. If you want a more complete description or need additional help, press **F1**.

The last line on the screen lists the keys you can use to operate the Modem Configuration program. If you need additional help using the keyboard, press **F1** twice.

Loading Settings into Memory

Select **Load Settings** on the main menu to read the current modem configuration settings into memory.

After reading the settings into memory, the Modem Configuration program automatically returns to the main menu.

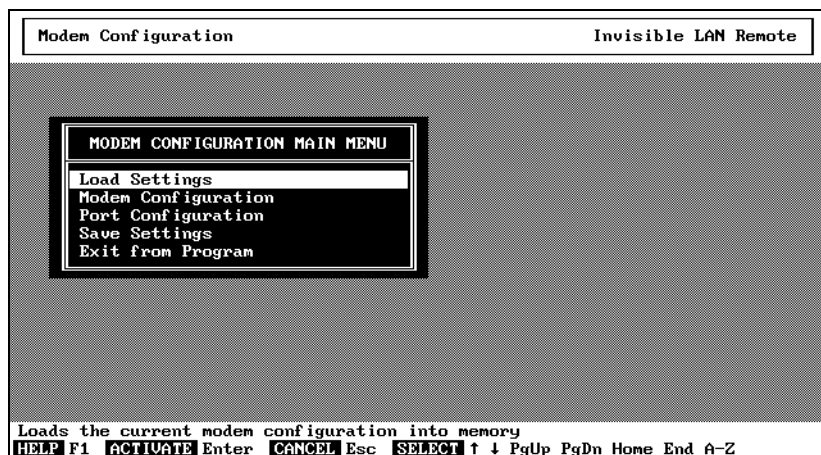


Figure 3. Modem Configuration Main Menu

Configuring the Modem (Continued)

Modem Configuration

To configure the modem, select **Modem Configuration** on the main menu. This displays the Modem Configuration screen shown in figure 4.

You use the Modem Configuration screen to specify the type of modem you are using. You can specify up to four modems, one for each serial port (COM1, COM2, COM3, and COM4). For each modem, you can select from a variety of options.

- **Modem Type.** Use **F5** or **F6** to select the type of modem you are using. The following choices are available:

“None” — The serial port is not used.

“Generic Modem” — There is a generic Hayes-compatible modem attached to the serial port. This selection works with most modems.

“Null-Modem Cable” — The serial port is connected to another computer using a null-modem cable.

In addition to the above three choices, there are other selections available for specific brands of modems. If you need help making the correct selection, press **F1**. If you need additional help, refer to the text file called MODEMS.TXT for a description of supported modem types.

On a remote login client, only one port should be used; the other three ports should be set to “None.” On a remote login host, you can use as many ports as you want.

- **Options.** Use **F5** or **F6** to select an option for each modem. The available options vary depending on the type of modem. Typically, you can choose touch-tone dialing or rotary pulse dialing, and you can choose to turn off the modem’s speaker. In the case of a null-modem cable, you can choose the baud rate.

When the modem configuration is correct, press **F9** to return to the main menu.

Technical Note — For the “Generic Modem” selection, you must preconfigure your modem as follows: (a) the modem must use a fixed DTE baud rate; (b) the modem must use the CTS signal for flow control; and (c) the modem must use the DCD signal to indicate when carrier is present. Many modems are already pre-configured correctly when they are shipped from the factory. Refer to MODEMS.TXT for additional technical information.

Modem Configuration		Invisible LAN Remote
MODEM CONFIGURATION		
COM1 Modem Type	Generic Modem	
Options	Tone Dial	
COM2 Modem Type	None	
Options		
COM3 Modem Type	None	
Options		
COM4 Modem Type	None	
Options		
Press F5 or F6 to select the type of modem you are using on COM1 HELP F1 DONE F9 CANCEL Esc SELECT Enter ↑ ↓ Tab OPTION F5=Back F6=Next A-Z		

Figure 4. Modem Configuration Screen

Technical Note — For the “Null-Modem Cable” selection, you need to use a null-modem cable wired as follows: (a) GND on one side must be connected to GND on the other side; (b) TX on one side must be connected to RX on the other side; (c) DTR on one side must be connected to DSR on the other side; and (d) RTS on one side must be connected either to CTS on the other side, or to CTS on the same side. Refer to MODEMS.TXT for additional technical information.

Configuring the Modem (Continued)

Port Configuration

Optionally, you can configure the serial port hardware. This is usually not necessary, since the software can usually detect the serial port configuration automatically. You need to configure the serial port hardware if your computer's BIOS does not detect the serial port, or if the serial port uses an interrupt level other than 3 or 4.

If you want to configure the serial port hardware, select **Port Configuration** on the main menu. This displays the Port Configuration screen shown in figure 5. You use this screen to specify the configuration for each serial port (COM1, COM2, COM3, and COM4).

- **I/O Port Address.** Type the address of the serial port hardware, in hexadecimal. Most serial ports are located at one of the following addresses: 2E8, 2F8, 3E8, or 3F8. If you leave the field blank, Invisible LAN Remote obtains the address from the computer's BIOS. If you enter an address, it overrides the address (if any) provided by the BIOS.
- **IRQ Level.** Type the interrupt level of the serial port hardware. The interrupt level can be a decimal number from 2 to 15. Most serial ports use interrupt level 3 or 4. Each serial port must have a different interrupt level. If you leave the field blank, Invisible LAN Remote assumes interrupt level 3 for I/O port addresses 200 to 2FF, or interrupt level 4 for I/O port addresses 300 to 3FF.
- **Use FIFO.** Some serial ports have a chip called a *16550 UART*. The 16550 UART has something called a *FIFO* that lets the serial port work more reliably at higher speed. Type **Y** if you want to use the FIFO, or type **N** if you don't want to use the FIFO. The default is **Y**. If you don't have a 16550 UART, then this field is ignored.

When the port configuration is correct, press **F9** to return to the main menu.

Saving Settings to Disk

After entering the configuration, select **Save Settings** on the main menu to save the information to disk. The information is stored in a file called SLINK.INI.

After saving, select **Exit** to terminate the program and return to DOS.

PORT CONFIGURATION			
	I/O Port Address	IRQ Level	Use FIFO
COM1	3F8	4	Y
COM2			Y
COM3			Y
COM4			Y

Enter the I/O port address for COM1, or leave blank to use default

HELP F1 DONE F9 CANCEL Esc SELECT Enter ↑ ↓ Tab EDIT → ← Ins Del Home End

Figure 5. Port Configuration Screen

Setting Up the Host

You use the Invisible LAN Setup program (**SETUP30**) to set up the remote login host.

To start the Setup program, type **SETUP30** at the DOS prompt. The Setup program displays the main menu shown in figure 1.

From the main menu, select **Advanced Configuration**, and then select **Remote Login Host Parameters**. The Setup program displays the Remote Login Host Parameters screen shown in figure 6.

You configure the host software by entering information on this screen. As you complete each item, you press **Enter** to proceed to the next item. If you make a mistake, you can use the **up arrow** and **down arrow** keys to highlight the item you want to correct, and then enter your correction.

In most cases, you only need to set the first parameter, **Load Remote Login Host**. The default values of the other parameters are adequate for most installations.

After entering all the desired parameters, press **F9** or **Enter** to return to the Advanced Configuration menu.

- **Load Remote Login Host.** Enter **Y** to load the remote login host software.
- **Use Shadow.** Enter **Y** to load the remote login host software into shadow RAM (memory above 640K). Enter **N** to load the remote login host software into DOS memory.
- **Lines.** Enter the number of serial lines that the remote login host should use. The host can use from 1 to 4 serial lines.
- **Sessions.** Enter the total number of simultaneous network sessions that the host needs to support. The default value of 32 is almost always adequate. If you increase this value, you also need to increase the Sessions value on the TransBIOS parameters screen.
- **Names.** Enter the total number of network names that the host needs to support. The default value of 18 is almost always adequate. If you increase this value, you also need to increase the Names value on the TransBIOS parameters screen.
- **Poll Size.** Enter the maximum amount of data that the host can handle during a network polling operation. The default value of 6000 should be adequate for networks of up to 20 or 30 stations. You may need to increase this value to get reliable polling on larger networks.

C:\NET386\NET386.INI		Invisible LAN Setup																	
<div style="border: 1px solid black; padding: 2px; margin: 2px auto; width: 80%;">ADVANCED CONFIGURATION</div> <div style="border: 1px solid black; padding: 2px; margin: 2px auto; width: 80%;"> General Network Parameters Transbios Parameters </div>																			
<div style="border: 1px solid black; padding: 5px; margin: 2px auto; width: 90%;"> <div style="border: 1px solid black; padding: 2px; text-align: center; margin-bottom: 5px;">SET REMOTE LOGIN HOST PARAMETERS</div> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">Load Remote Login Host</td> <td style="width: 10%; text-align: center;">Y</td> <td style="width: 40%;">Names (4-64)</td> <td style="width: 10%; text-align: center;">18</td> </tr> <tr> <td>Use Shadow</td> <td style="text-align: center;">N</td> <td>Poll Size (2000-10000)</td> <td style="text-align: center;">6000</td> </tr> <tr> <td>Lines (1-4)</td> <td style="text-align: center;">1</td> <td>Applications (4-64)</td> <td style="text-align: center;">16</td> </tr> <tr> <td>Sessions (4-128)</td> <td style="text-align: center;">32</td> <td>Buffers (32-64)</td> <td style="text-align: center;">40</td> </tr> </table> </div>				Load Remote Login Host	Y	Names (4-64)	18	Use Shadow	N	Poll Size (2000-10000)	6000	Lines (1-4)	1	Applications (4-64)	16	Sessions (4-128)	32	Buffers (32-64)	40
Load Remote Login Host	Y	Names (4-64)	18																
Use Shadow	N	Poll Size (2000-10000)	6000																
Lines (1-4)	1	Applications (4-64)	16																
Sessions (4-128)	32	Buffers (32-64)	40																
<div style="border: 1px solid black; padding: 2px; margin: 2px auto; width: 80%;"> Remote Login Host Parameters Memory Manager Parameters </div>																			
Enter Y to load the Remote Login Host software HELP F1 DONE F9 CANCEL Esc SELECT Enter ↑ ↓ Tab YES/NO Y N F5 F6																			

Figure 6. Remote Login Host Parameters Screen

- **Applications.** Enter the total number of TransBIOS applications that the host needs to support. The default value of 16 is almost always adequate. If you increase this value, you also need to increase the Applications value on the TransBIOS parameters screen.
- **Buffers.** Enter the number of buffers to allocate for sending and receiving data on the serial link. Each buffer uses approximately 560 bytes of memory. The default value of 40 should be adequate for 1 or 2 lines. You should probably increase this value if you have more than 2 lines.

Setting Up the Client

You use the Invisible LAN Setup program (**SETUP30**) to set up the remote login client

To start the Setup program, type **SETUP30** at the DOS prompt. The Setup program displays the main menu shown in figure 1.

The setup can be done from either Easy Configuration or Advanced Configuration. These two options are described separately below.

Easy Configuration

From the main menu, select **Easy Configuration**. The Setup program displays the Easy Configuration screen shown in figure 7.

On the Easy Configuration screen, select **REMOTE_LOGIN** as the software version. Then press **F9** or **Enter** to return to the main menu.

Advanced Configuration

If you set up the remote login client using Easy Configuration, you need to manually type the telephone number, user ID, and password each time you start the software. With Advanced Configuration, you can automate the start-up process.

To begin the process, select **Advanced Configuration** from the main menu, and then select **General Network Parameters**. The Setup program displays the General Parameters screen shown in figure 8. On the General Parameters screen, select **REMOTE_LOGIN** as the software version. Then press **F9** or **Enter** to return to the Advanced Configuration menu.

Next, select **Remote Login Client Parameters**. The Setup program displays the Remote Login Client Parameters screen shown in figure 9. You use this screen to automate the login process.

- **Telephone Number.** Enter the telephone number of the host computer. If you leave this field blank, you are prompted to enter the telephone number when you start the software. If you're using a null-modem cable, no telephone number is required. When entering a telephone number, you can use the following symbols:

C:\NET30\NET30.INI	Invisible LAN Setup
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EASY NETWORK CONFIGURATION

User Name (1-15 characters)	MIKE
Software Version (option)	REMOTE_LOGIN
Network Hardware Type (option)	
Install Electronic Mail (Y/N)	Y
Install Windows Support (Y/N)	N

Install File Server (Y/N)	N
Network Printer #1 (option)	
Network Printer #2 (option)	

Install Disk Cache (Y/N)	N
Cache Data Location (option)	
Cache Size (kilobytes)	

Use Shadow RAM for Network (Y/N)	N
Use EMS for Network (Y/N)	N

Type the name of your network station

HELP F1 **DONE** F9 **CANCEL** Esc **SELECT** Enter ↑ ↓ Tab **EDIT** → ← Ins Del Home End

Figure 7. Easy Configuration Screen

C:\NET30\NET30.INI	Invisible LAN Setup
--------------------	---------------------

ADVANCED CONFIGURATION

SET GENERAL NETWORK PARAMETERS

User Name	MIKE
Software Version	REMOTE_LOGIN
Network Hardware	
Load Server	N
Load SHARE	N
Load Cache	N
Load Redirector	Y
Load Mail	Y
Windows Support	N

Type the name of your network station

HELP F1 **DONE** F9 **CANCEL** Esc **SELECT** Enter ↑ ↓ Tab **EDIT** → ← Ins Del Home End

Figure 8. General Network Parameters Screen

Setting Up the Client (Continued)

- 0 through 9** Dials the corresponding digit.
- * #** Dials the asterisk or pound symbol. This is only allowed if the modem is configured for touch-tone dialing.
- () -** Parentheses and hyphens can be used, but they are ignored.
- ,** A comma pauses for two seconds. This is useful if you are calling from a PBX and need to dial a code number to get an outside line. For example, “9,555-1212” dials 9, pauses for two seconds, and then dials 555-1212.

- **User ID.** If security is enabled on the host, enter your user identification. If you leave this field blank, you are prompted to enter the user identification when you start the software. If security is not enabled on the host, then no user identification is required.

Note that the user identification does not have to be the same as your Invisible LAN user name.

- **Password.** If security is enabled on the host, enter your password. If you leave this field blank, you are prompted to enter the password when you start the software. If security is not enabled on the host, then no password is required.

Note that the password does not have to be the same as your Invisible LAN password.

After completing the Remote Login Client Parameters screen, press **F9** or **Enter** to return to the Advanced Configuration menu.

Finally, select **Redirector Parameters**. The Setup program displays the Redirector Parameters screen shown in figure 10. Make the following settings:

- Set **Audio Alert** to **N**.
- Set **Buffers** equal to **8**.
- Set **Buffer Size** equal to **128**.

These parameters configure the redirector properly for use with a serial link. When the settings are correct, press **F9** or **Enter** to return to the Advanced Configuration menu.

Note that if you use Easy Configuration, these three redirector parameters are set for you automatically.

C:\NET30\NET30.INI

Invisible LAN Setup

ADVANCED CONFIGURATION

General Network Parameters
Transbios Parameters
Server Parameters

SET REMOTE LOGIN CLIENT PARAMETERS

Telephone Number
User ID
Password

Remote Login Client Parameters
Remote Login Host Parameters
▼ Memory Manager Parameters

Enter the telephone number of the host computer
HELP F1 DONE F9 CANCEL Esc SELECT Enter ↑ ↓ Tab EDIT → ← Ins Del Home End

Figure 9. Remote Login Client Parameters Screen

C:\NET30\NET30.INI

Invisible LAN Setup

SET REDIRECTOR PARAMETERS

Use Shadow RAM	<input type="checkbox"/> N	Open Files (10-200)	<input style="width: 50px;" type="text" value="50"/>
Use EMS	<input type="checkbox"/> N	FCB Open Files (8-200)	<input style="width: 50px;" type="text" value="16"/>
Audio Alert	<input type="checkbox"/> N	Print Timeout (0-255)	<input style="width: 50px;" type="text" value="10"/>
Auto Remap	<input type="checkbox"/> Y	Buffers (0-16)	<input style="width: 50px;" type="text" value="8"/>
Wait for Server	<input type="checkbox"/> Y	Buffer Size (128-1536)	<input style="width: 50px;" type="text" value="128"/>
Sessions (2-32)	<input style="width: 50px;" type="text" value="8"/>	Print Buffer Size (128-1536)	<input style="width: 50px;" type="text" value="128"/>
Password <input style="width: 150px;" type="text"/>			

Enter Y to load the redirector software into shadow RAM (memory above 640K)
HELP F1 DONE F9 CANCEL Esc SELECT Enter ↑ ↓ Tab YES/NO Y N F5 F6

Figure 10. Redirector Parameters Screen

Starting Invisible LAN Remote

You use the **NET30** program to start Invisible LAN Remote. At the DOS prompt, type

NET30

The **NET30** program automatically loads both the Invisible LAN Operating System and Invisible LAN Remote. It reads your initialization file and automatically loads the appropriate programs.

The **NET30** command assumes that your initialization file is named **NET30.INI**. If you used another name, then you have to enter the name of the initialization file on the **NET30** command line. For example, if your initialization file is named **MIKE.INI**, you would use the command

NET30 MIKE

Notice that you don't type the ".INI" on the command line.

Hanging Up the Telephone on the Client

On the remote login client, you can use the **HANG_UP** program to hang up the telephone. At the DOS prompt, type

HANG_UP

When you type the **HANG_UP** command, the client software hangs up the telephone. The hangup process takes about 10 seconds. When the hangup is complete, **HANG_UP** displays a message telling you to press **Ctrl+Alt+Del** to reboot your computer.

Host Security

Invisible LAN Remote offers two levels of security. At the first level, you can specify user IDs and passwords. Any user that wants to log in to the host must supply a valid user identification and password.

At the second level, you can also specify callback telephone numbers. When a user calls in, the host automatically hangs up the telephone and calls the user back at the callback number. In this way, you can restrict the user to logging in only from a specific location.

You use the **RSECURE** program to set up security on the host computer. You need to run **RSECURE** at the host computer.

Starting the Host Security Program

To start the Host Security program, type the following command at the DOS prompt:

RSECURE

If you are using a laptop computer with a black-and-white screen, you may find that the display is easier to read if you use the command

RSECURE /B

In either case, you see the host security main menu, as shown in figure 11.

The Host Security program is designed as a series of menus, so it is very easy to use. Most of the screens are self-explanatory, and there is plenty of on-line help available.

To select an item from the main menu, use the **up arrow** and **down arrow** keys to highlight the desired item, and then press **Enter**.

The second-to-last line on the screen shows a brief description of each item on the menu. If you want a more complete description or need additional help, press **F1**.

The last line on the screen lists the keys you can use to operate the Host Security program. If you need additional help using the keyboard, press **F1** twice.

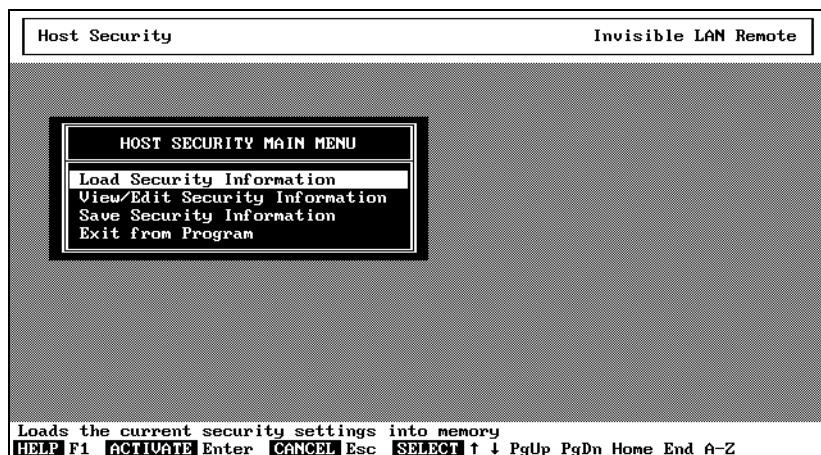


Figure 11. Host Security Main Menu



Figure 12. Remote Login Security Screen

Host Security (Continued)

Loading Settings into Memory

Select **Load Security Information** on the main menu to read the current security settings into memory.

After reading the settings into memory, the Host Security program automatically returns to the main menu.

Entering Security Information

Select **View/Edit Security Information** on the main menu. The Host Security program displays a screen showing all the users that are defined for the host, as in figure 12. Each line in the screen shows the user ID, password, and callback telephone number (if any). From this screen, you can perform three operations: adding users, modifying users, and deleting users.

- **To Add a User** — Press **Enter** to bring up the Action Menu shown in figure 13. Then select **Add User** to bring up the User Information screen shown in figure 14. Type the user identification, password, and callback telephone number. (The user ID and password are required, but the callback number is optional.) Then press **F9** or **Enter** to add the user.
- **To Modify a User** — Use the **up arrow** and **down arrow** keys to highlight the user you want to modify, and then press **Enter** to bring up the Action Menu shown in figure 13. Select **Modify User** to bring up the User Information screen shown in figure 14. You can then edit the user identification, password, and callback number. When you are done, press **F9** or **Enter** to record the modifications.
- **To Delete a User** — Use the **up arrow** and **down arrow** keys to highlight the user you want to delete, and then press **Enter** to bring up the Action Menu shown in figure 13. Then select **Delete User**.

The user ID and password do not have to be the same as the Invisible LAN user name and password. The remote login host's security system is completely independent of the file server's security system.

Entering a callback telephone number is optional. If you enter a telephone number, then the user can only call in from the specified telephone number. If you leave the field blank, then the user can call in from anywhere. When entering a telephone number, you can use the following symbols:

Host Security		Invisible LAN Remote
REMOTE LOGIN SECURITY		
ESTHER	SECRET	1-415-555-2493
MICHAEL	MYPASSWORD	
REGINA	FIRSTPASS	555-3658
REGINA	SECONDPASS	1-408-555-4582
VINCENT	SESAME	555-6792

ACTION
 Add User
 Modify User
 Delete User

Add a new user to the security list

HELP F1 **ACTIVATE** Enter **CANCEL** Esc **SELECT** ↑ ↓ PgUp PgDn Home End A-Z

Figure 13. Host Security Action Menu

Host Security		Invisible LAN Remote
REMOTE LOGIN SECURITY		
ESTHER	SECRET	1-415-555-2493
MICHAEL	MYPASSWORD	
REGINA	FIRSTPASS	555-3658

REMOTE LOGIN USER INFORMATION

User ID

Password

Telephone Number

ACTION
 er
 er

Enter the user identification (required)

HELP F1 **CANCEL** Esc **SELECT** Enter ↑ ↓ Tab **EDIT** → ← Ins Del Home End

Figure 14. User Information Screen

Host Security (Continued)

- 0 through 9** Dials the corresponding digit.
- * #** Dials the asterisk or pound symbol. This is only allowed if the modem is configured for touch-tone dialing.
- () -** Parentheses and hyphens can be used, but they are ignored.
- ,** A comma pauses for two seconds. This is useful if you are calling from a PBX and need to dial a code number to get an outside line. For example, “9,555-1212” dials 9, pauses for two seconds, and then dials 555-1212.

Note that in selecting a callback number, the host looks at both the user ID and the password. If a user needs to call in from two different locations, you can enter the user's ID into the security list twice, each with a different password and callback number. Then the user can log in with the first password from the first location, and with the second password from the second location.

When all the security settings are correct, press **Esc** to return to the main menu.

Saving Settings to Disk

After entering the security information, select **Save Security Information** on the main menu to save the information to disk. The information is stored in a file called RLHOST.DAT.

After saving, select **Exit** to terminate the program and return to DOS.