

*Terminal and Terminal Remote  
Configuration*

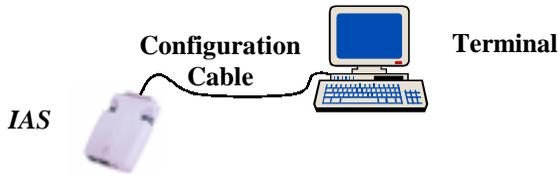
IAS Internet Access Server IAS  
IAS IAS

# **Terminal and Terminal Remote Configuration**

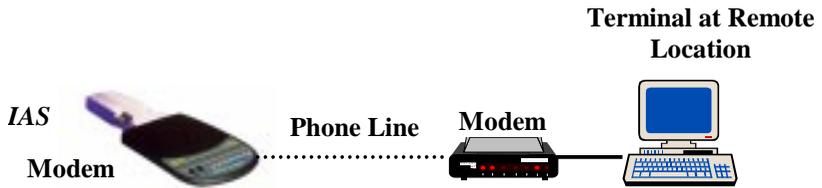
If you don't have a Windows 95 or Windows NT computer on your network the best solution would be to get one. However, it is also possible to configure the IAS using terminal or terminal remote configuration which uses any terminal emulation program. However, please be advised that it is much, much easier to configure the IAS using the Net-Device Utilities.

This manual is a guide to configuring using Terminal and Terminal Remote Configuration. The descriptions in this manual are not as detailed as the Net-Device Utilities manual as it was written on the assumption that as a Terminal Emulation Program user you already understand TCP/IP, Gateways, DNS and other important IAS topics. If you are having problems understanding any of these topics please reference your Net-Device Utilities Manual

**1** *Terminal Configuration*



**2** *Remote Terminal Configuration*



## Introduction

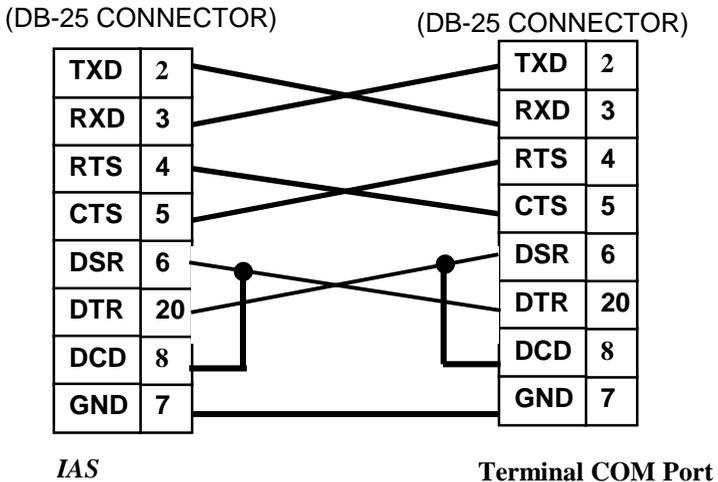
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To configure the IAS using Terminal configuration you need to have the required configuration cable (**Not included**). This configuration cable is **NOT** needed for remote terminal configuration

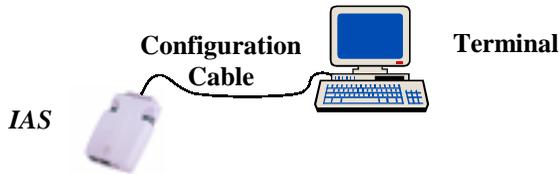
The pin-assignments of the configuration cable that are needed are given in the figure below:



If you have bought a cable from an outside source please be aware that most cables do not have this pin-assignment. A slight modification of the cable may be necessary.



## Terminal Configuration



### **To Setup the IAS for Terminal Configuration:**

- 1) Verify that your cable has the correct PIN assignments for configuring the IAS. Please see previous page
- 2) Attach one end of your **Configuration Cable** to the **IAS**
- 3) Attach the other end of your **Configuration Cable** to a COM port on your computer terminal
- 4) Plug the power adapter into the **IAS**
- 5) Plug the power adapter into the power outlet

**Note!**

The **IAS** must be in Terminal Setup mode to use Terminal Configuration. To switch the **IAS** to Terminal setup mode, on the side of the **IAS** set the switch to **Terminal**. Please also remember when you have finished configuring the IAS to set the switch back to **Normal**.

## Configuring:

**Note!**

You can configure the *IAS* using any terminal emulation program like **Hyperterminal** or **Procomm**. Although in the manual we use **Hyperterminal**, which is included in Windows 95/NT, the display screen once connected for all terminal emulation programs will be the same.

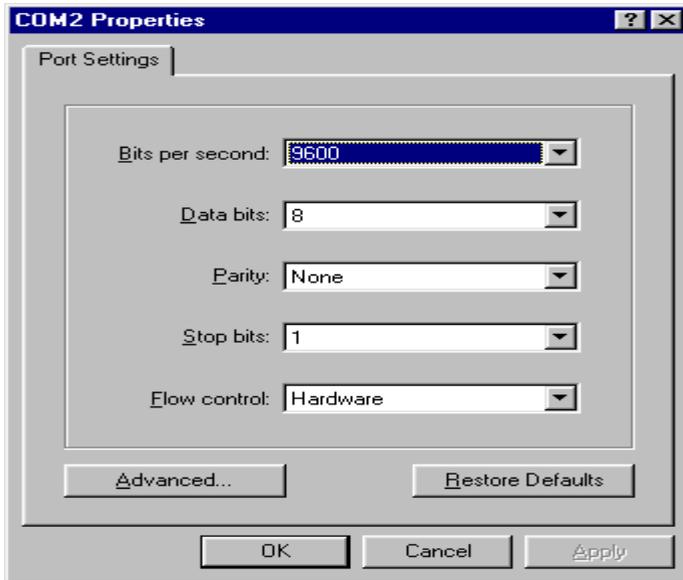
To start hyper terminal, on the Windows 95/NT **Start** button, point to **Programs**, then to **Accessories**, and open the **HyperTerminal** folder. Double click on the **Hypertrm** icon to open the Hyper Terminal program.



Enter a name for the *IAS* connection and press **OK**. In the example above we have chosen “*IAS*”.

## Terminal Configuration

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At the phone number prompt screen, in the **Connect using** options box select "**Direct to Com2**" and press **OK**.

In the **Bits per Second** options box select **9600**. Check that the **Data bits**, **Parity** and **Stop bits** are in their default values of **8**, **None** and **1** respectively. Press **OK**.

Your terminal will then establish a connection to the **IAS** at which time the Main menu will appear. If your terminal seems to be taking longer than expected to connect, press the "**Enter**" key which should bring you into the main menu.

## ***Main Menu***



```
IAS
a). IAS SETTINGS
b). UPGRADE FIRMWARE
c). GENERAL DIAGNOSTIC
```

```
SELECT:
```

Select a letter corresponding to the option that you want.

- a) *IAS* settings
- b) Upgrade software
- c) General Diagnostic

## IAS Settings

```
IAS SETTINGS
a). IAS IP ADDRESS                <213.0.0.121>
b). IAS SUBNET MASK              <255.255.255.0>
c). IAS NAME                     <IAServer>
d). IAS PASSWORD                 <>
e). MULTIPLE PORT DIAL-UP SETTING <BANDWIDTH-ON DEMAND >
f). PORT 1 SETTINGS
g). PORT 2 SETTINGS
h). DHCP SETTINGS                <ENABLED>
i). VIRTUAL SERVER               <DISABLED>
j). ROUTING TABLE
k). CLIENT FILTER SETTINGS
l). LOAD DEFAULT SETTINGS
m). APPLY AND SAVE SETTINGS
q). PREVIOUS MENU

SELECT:
```

### IAS IP ADDRESS

In this field you should give the *IAS* its IP address on your network. In the above example the *IAS* has been given the IP address is “192. 168 . 2 .1”



**Note!**

Please pick an IP address that won't conflict with any other PCs, devices, etc. on your network or there could be problems. ....And I know you don't want to have to read the Troubleshooting Section.

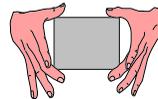
### IAS SUBNET MASK

The *IAS* Subnet Mask can usually be left as its default entry “255 . 255 . 255 . 0”. If you wish to change the *IAS* Server Subnet Mask enter a new subnet mask in this field.



### IAS NAME

Enter the name that you wish to give your *IAS* or you may leave it as its default name *IAS*.



## IAS PASSWORD

This password is required to gain access to the *IAS* manager. The *IAS* does not come with a password. If you set a password, the next time and subsequent times that you try and configure the *IAS*, the manager will ask you for a password.

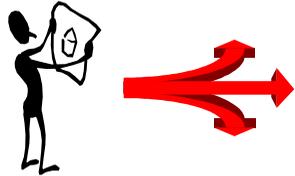


### Warning!

If you choose to enter a password pick something that is easy to remember or write it down in a safe location. If you have completely forgotten your password please contact your place of purchase

## MULTIPLE PORT DIAL-UP SETTING

If you have an *IAS* with more than one port (i.e. can connect more than one modem or ISDN TA) you can choose one of three options to regulate how and when your network clients access the multiple ports. If you have the Single port *IAS* you don't have to worry about this section.



### Option A

#### Bandwidth-on-Demand

If Internet and phone line costs are expensive you can select this option to keep costs down. This option will dial-up a new connection for a new client only when an existing connection's bandwidth is already saturated

### Option B

#### Dial-up new port after number of clients equals \_\_\_\_ .

With this option the *IAS* will dial-up a new connection for the next client when the number of clients using one connection reaches a certain number.

**Option C**

**Always direct clients to an unused port first.**

If using the Internet for your company comes at a flat rate or if costs do not matter this is the option for you. It will ensure that everybody using the *IAS* gets the fastest connection possible.

**PORT 1 SETTINGS**

**PORT 2 SETTINGS (2-Port IAS Only)**

Please see **Configuring Using a Terminal - Port Settings**

**DHCP SERVER**

Please see **Configuring Using a Terminal – DHCP Server**

**VIRTUAL SERVER**

Please see **Configuring Using a Terminal – Virtual Server**

**ROUTING TABLE**

Please see **Configuring Using a Terminal – Routing Table**

**CLIENT FILTER SETTINGS**

Please see **Configuring Using a Terminal – Client Filter**

## Port Dial-out Settings

```
PORT 1 SETTINGS
a). PORT FUNCTION                < DIAL-OUT: DIAL ON DEMAND>
b). ISP TELEPHONE NUMBER        <0w1234567>
c). ISP USER NAME              <myname>
d). ISP PASSWORD                <>
e). ISP DNS IP ADDRESS          <0.0.0.0>
f). IDLE TIMEOUT                <3 MINUTES>
g). SERIAL BAUDRATE            <115200>
h). MODEM PRE-INITIAL STRING    <AT>
i). MODEM INITIAL STRING        <AT S0=1>
j). MODEM DIALUP STRING         <ATDT>
k). MODEM HANGUP STRING         <ATH0>
l). PPP                         <ENABLED>
m). LOGIN SCRIPT                <DISABLED>
n). EDIT LOGIN SCRIPT
o). CALLBACK TELEPHONE NO. (DIAL-IN) <>
p). EXTERNAL ISP IP ADDRESS     <0.0.0.0>
q). PREVIOUS MENU

SELECT: _
```

### Note!

If you have a multiple port *IAS* you need to set the COMM PORT Dial-out settings for each port

## PORT FUNCTON

The PORT FUNCTION option lets you select one of three options for the function of the IAS:

- If you want to dedicate a port for your network client's Internet access, you should select **a) Dial-out to ISP when user accesses IAS.**
- If you want the *IAS* to dial-up a connection that will stay connected until you unplug the *IAS* or turn off the modem, select **b) Dial-out to ISP when IAS turned on.**

### Note!

Selecting this option will cancel out any idle time out setting that is inputted . This option was made for areas where phone and ISP charges do not matter or you have a leased line connection.

- If you want to dedicate a port to use for Internet surfers to access your web site, you should select **b) Wait for dial-in from ISP.**

**Note!** If you are planning to use the *IAS* to setup a web site or FTP site, you should first read the **IAS Manager, Virtual Server** section which will tell you what you need to do.

### ISP TELEPHONE NUMBER

Enter the phone number of your ISP

### ISP USER NAME

Enter the User Name of your ISP account

### ISP PASSWORD

Enter the **Password** for your ISP account

### ISP DNS IP ADDRESS

Enter the **DNS IP Address** (Domain Name Server IP Address). The DNS IP Address is usually provided by your ISP.

### IDLE TIMEOUT

This option lets you set the number of minutes that elapse with no Internet traffic before the *IAS* will automatically disconnect. If you want to set an **Idle**

**Timeout** for the *IAS* press “I” and enter the idle timeout time period in minutes.



### Serial Baudrate

In the Baudrate field select the baudrate of the Communication between the *IAS* and the modem. Normally this can be about 4 times the speed of your modem for 4 times compression modems.

**Note!** Don't set the baudrate higher than 4 times the speed of your modem or else the *IAS* may not work. For example if you have a 14.4Kpbs modem, the highest you should set it is 57.6Kbps

**MODEM PRE-INITIAL STRING**  
**MODEM INITIAL STRING**  
**MODEM DIALUP STRING**  
**MODEM HANGUP STRING**

Selections **g**, **h**, **i**, and **j** are the modem strings. These modem strings can most likely be left as their default settings which should work with most modems. If your **IAS** is having problems connecting with your modem, you may have to change the **MODEM INITIAL STRING** which can be found in your Modem manual.

**PPP**

This option was made for modems or ISDN TAs that already have PPP built-in. Unless you are sure that your modem or ISDN TA has PPP protocol built-in to, it you should leave this setting as “**Enabled**”.

**LOGIN SCRIPT**

If you wish to use a login script select **j**

**EDIT LOGIN SCRIPT**

Before you enter your login script you should first login to your ISP using your Dial-up software (eg. *Trumpet*) to gather some needed information.

**CALLBACK TELEPHONE NO. (DIAL-IN)**

**Callback Telephone No (Dial-in)** field is only appropriate if you selected the dial-in option in the **port-setting** options.

## **EXTERNAL ISP IP ADDRESS**

The External (Port) IP address is the IP address that is given to you by your ISP. IP addresses are often dynamically assigned by the ISP (ie. it changes every time you log-on). To have this address assigned by the ISP leave this field as it's default entry “**0 . 0 . 0 . 0**”. If you have been given a **static IP** address you can enter it in this field.

## **PREVIOUS MENU**

Returns to the main menu

## ***DHCP Settings***

```
DHCP SETTINGS
a). Current DHCP Setting           <Disabled>
b). IP Address Pool (IP addresses dynamically assigned to users)
c). Reserved Fixed IP Addresses
q). Previous Menu

Select: _
```

The default DHCP setting is **Enabled**. To disable DHCP press **a** from the DHCP menu.

Press **b** to go to the IP address pool menu.

```
IP Address Pool (IP addresses dynamically assigned to users)
a). Add Address Pool
b). Delete Address Pool
q). Previous Menu

Select: _
```

Press **a** to see the address pools

The default IP address range of the IP address pool is **10** to **254**. If you would like to change this range press **a**. You can enter a total of 16 IP address pools lettered **a** to **p**. To enter the first address pool, select **a** and enter the address pool.

Press **q** when you have finished entering your IP address pools to the DHCP menu

If you would like to delete an IP address pool press **b** from the IP address pool menu.

## Terminal Configuration : DHCP Settings

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To add reserved IP addresses (Static IP addresses) press **b** from the DHCP main menu.

```
Add IP Address Mapping Reservation(Index 1,...,16) :
a) . 192.168.2.2 - 00:47:58:4C:17:71
b) . 192.168.2.0 - 00:00:00:00:00:00
c) . 192.168.2.0 - 00:00:00:00:00:00
d) . 192.168.2.0 - 00:00:00:00:00:00
e) . 192.168.2.0 - 00:00:00:00:00:00
f) . 192.168.2.0 - 00:00:00:00:00:00
g) . 192.168.2.0 - 00:00:00:00:00:00
h) . 192.168.2.0 - 00:00:00:00:00:00
i) . 192.168.2.0 - 00:00:00:00:00:00
j) . 192.168.2.0 - 00:00:00:00:00:00
k) . 192.168.2.0 - 00:00:00:00:00:00
l) . 192.168.2.0 - 00:00:00:00:00:00
m) . 192.168.2.0 - 00:00:00:00:00:00
n) . 192.168.2.0 - 00:00:00:00:00:00
o) . 192.168.2.0 - 00:00:00:00:00:00
p) . 192.168.2.0 - 00:00:00:00:00:00
q) . Previous Menu

Select: _
```

Select **a** to add a reserved IP address. Enter the IP address that you want to give to this computer and press the **Enter** key. Next enter the MAC address of the computer. After you have entered each part of the MAC address press the **Enter** key to get to the next field.

In the above example we have reserved the IP address “**192 . 168 . 2 . 2**” for the computer with the MAC address of **00 : 47 : 58 : 4C : 17 : 71**.

When you have finished entering the reserved static IP addresses press **q** to return to the DHCP menu.

When you have finished inputting all your DHCP inputs, press **q** to return to the main menu.

## *Virtual Server Mapping*

The **Virtual Server** function allows outside Internet surfers to access designated sites on your network.

```
Virtual Server Mapping
a). Current Virtual Server Setting      <Disabled>
b). Add TCP Virtual Server(index 1,...,16)
c). Add TCP Virtual Server(index 17,...,32)
d). Add UDP Virtual Server(index 1,...,16)
e). Add UDP Virtual Server(index 17,...,32)
f). Delete Virtual Server(index 1,...,16)
g). Delete Virtual Server(index 17,...,32)
q). Previous Menu

Select: _
```

*To enable the Virtual server press a.*

*For each service that you want to setup on your Internet site:*

- A) Select which protocol (Either **TCP** or **UDP**) the service uses. Most services use TCP (WWW, FTP, E-mail etc..).
- B) Enter your static IP address supplied by your ISP in the External IP field.
- C) Enter the IP address of the computer or device that will act as the “server” with your Internet site on your network Internal IP field.

### *Virtual Server Mapping Example*

In the above example we have set up our Internet site with a Web page and Telnet server:

- Both services use TCP. WWW service has a port number of **80** while Telnet has a port number of **23**
- Our static IP address (**External** IP address) from our ISP is **172 . 16 . 21 . 1**
- Our Internet site server on our network has an IP address of **213 . 0 . 0 . 10**

Now anyone who tries to access our web site at IP address 172 . 16 . 21 . 1 will automatically be forwarded to our Internal network server at our internal IP address of **213 . 0 . 0 . 10**.

```
ADD TCP VIRTUAL SERVER MAPPING(INDEX 1,..,16) :
  TYPE <EXTERNAL IP ADDR> <PORT> <INTERNAL IP ADDR> <PORT>
a). TCP <0.0.0.0> 0 <0.0.0.0> 0
b). TCP <0.0.0.0> 0 <0.0.0.0> 0
c). TCP <0.0.0.0> 0 <0.0.0.0> 0
d). TCP <0.0.0.0> 0 <0.0.0.0> 0
e). TCP <0.0.0.0> 0 <0.0.0.0> 0
f). TCP <0.0.0.0> 0 <0.0.0.0> 0
g). TCP <0.0.0.0> 0 <0.0.0.0> 0
h). TCP <0.0.0.0> 0 <0.0.0.0> 0
i). TCP <0.0.0.0> 0 <0.0.0.0> 0
j). TCP <0.0.0.0> 0 <0.0.0.0> 0
k). TCP <0.0.0.0> 0 <0.0.0.0> 0
l). TCP <0.0.0.0> 0 <0.0.0.0> 0
m). TCP <0.0.0.0> 0 <0.0.0.0> 0
n). TCP <0.0.0.0> 0 <0.0.0.0> 0
o). TCP <0.0.0.0> 0 <0.0.0.0> 0
p). TCP <0.0.0.0> 0 <0.0.0.0> 0
q). PREVIOUS MENU
SELECT: _
```

When you have finished entering the virtual server information press **q** to return to the main menu.

## Routing Table

If there are no routers on your network you can skip this selection. The purpose of the Routing Table is to make sure that data packets that you wish to route to another network on your LAN are sent to their right location instead of being sent out through the Internet Access Server.



	<IP ADDRESS>	<SUBNET MASK>	<GATEWAY>
a)	<172.6.22.0>	<255.255.255.0>	<172.6.21.250>
b)	<0.0.0.0>	<0.0.0.0>	<0.0.0.0>
c)	<0.0.0.0>	<0.0.0.0>	<0.0.0.0>
d)	<0.0.0.0>	<0.0.0.0>	<0.0.0.0>
e)	<0.0.0.0>	<0.0.0.0>	<0.0.0.0>
f)	<0.0.0.0>	<0.0.0.0>	<0.0.0.0>
g)	<0.0.0.0>	<0.0.0.0>	<0.0.0.0>
h)	<0.0.0.0>	<0.0.0.0>	<0.0.0.0>

- 1) Press **a** and enter the **IP address** of the Network you wish to route to. In our example above our second network has the IP address “**172 . 6 . 22 . 0**”. The network portion is “**172 . 6 . 22**” . The “**0**” at the end does not matter unless the Netmask is set for it to matter.
- 2) Enter the **Subnet Netmask**. Normally you can use **255 . 255 . 255 . 0**”. The last digit “**0**” nullifies the meaning of the last digits of IP addresses.
- 3) Enter the **Gateway** (IP address) of your network’s router on the network that contains your **IAS**. In our example the IP address of our router is “**172 . 6 . 21 . 250**”
- 4) Repeat for other routers on your network
- 5) Press **q** to return to the main menu

## ***Load Default Settings***

Press **k** to load the default settings.

## ***Apply and Save Settings***

To apply the settings that have been configured you must press **l** to apply and save the settings.



**Warning!**

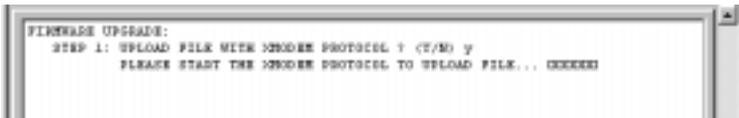
You must select this option to apply the settings that you have entered to the *IAS*. If you exit this program before selecting this option, the settings that you will have entered will be lost.

## ***Upgrade Firmware***

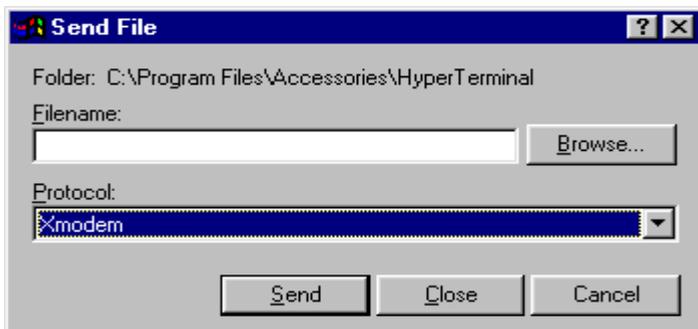
After pressing the **b** key from the main menu the **IAS** will prompt you to “**Upload file with XMODEM protocol? (Y/N)**”. The **IAS** only supports **XMODEM** Protocol. Press **Y** to continue.



A series of square will then start to appear after the prompt.



On the Hyperterminal **Transfer** menu select **Send File**.



In the **Protocol** options box select **Xmodem**. Press the **Browse** button to locate your new software and press the **Send** button to start upgrading your **IAS** firmware.

## ***General diagnostic***

The general diagnostic function will perform a check-up on your **IAS** to make sure that everything is functioning correctly.



To start the general diagnostic press **c** from the main menu.

```
HARDWARE DIAGNOSTIC:
STEP 1: TIMER TEST...4 Second Elapse
STEP 2: ETHERNET CHIP TEST...
        CHIP I/O  ADDR  : 0300H
        CHIP NODE ADDR : 00:47:57:60:0C:01
        CHIP PORT VALUE : 22H 74H 55H 54H 01H 00H 00H 40H
STEP 3: RS232 CHIP TEST...
        CHIP I/O  ADDR  : 00H
        CHIP PORT VALUE : 00H 01H C1H 03H 0BH 00H 70H
STEP 4: FIRMWARE VERSION CHECKING ...
        TERMINAL CONFIGURATION PROGRAM VERSION: n1.29
        INTERNET ACCESS SERVER PROGRAM CERSION: N1.29
<<PRESS ANY KEY... >>
```

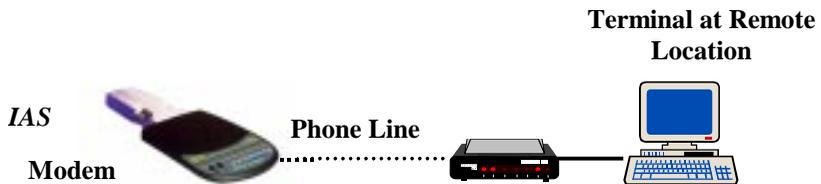
Press any key.

## Remote Configuration

It is also possible to configure the *IAS* from a remote location. This option was put into the *IAS* mainly for technical support. If you are having problems configuring your *IAS* you can ask your *IAS* technical support center to help you configure the *IAS*.

**Note!**

Remote configuration is only compatible with the terminal emulation program NOT with the Windows based *IAS Manager*.



With this method a person from a remote location can dial-in to your modem that is connected to the *IAS* and configure it from their remote location.

To configure the *IAS* by remote configuration you first must dial-in to the *IAS* using any terminal connection program like Hyperterminal or Procomm. After successful dial-in, the terminal emulation program will be displayed and you can configure the *IAS* as if you were directly connected to it.

**Note!**

The *IAS* must be in Terminal Setup Mode to configure the *IAS* from a remote location. To switch the *IAS* to Terminal Setup Mode, on the side of the *IAS* set the switch to **Terminal**

**Note!**

To see the explanation on configuring using a terminal please see the **Terminal Configuraton** Section.