

InterStar

Operation Manual

Voice Communication for Free

DSG Technology, Inc.

www.dsgtechnology.com

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Understanding Your InterStar

Congratulations! You have selected the world's most future-proof Internet Telephony product.

InterStar is an innovative and standards compliant *Voice over Internet Protocol (VoIP)* solution for corporations and individuals. InterStar allows various connection modes such as InterStar-to-InterStar, InterStar-to-IPStar, InterStar-to-Phone, and Phone-to-InterStar via Internet or other TCP/IP networks.

You start saving big budgets by owning an InterStar today! Better yet, thanks to DSG's *JustDialIt* technology, your receiver end does not need another InterStar to enjoy this advanced VoIP technology. Your long-distance and international call charges will disappear with this extraordinary device. It is the first Ethernet phone device that offers full duplex, supreme quality and low latency voice conversation via Internet/Intranet at extra-low charges.

A Brief Overview

In the past, real-time voice information is sent over the Public Switched Telephone Network (PSTN). With the Circuit-switched technology, every call takes up a dedicated bandwidth. End-to-end calls are established on the basis of a sequence of dialed digits, and the PSTN dedicates a physical path between callers. Although the telephone equipment establishes the call path at the beginning of the call, the path may change between calls, but not during any specific call.

In comparison with a PSTN, an Internet Protocol (IP) network has a packet-switched architecture. Devices transmit data in packets, and the path from end to end can vary within an established session. In addition to data, packets also contain addressing information, which routing devices used to send information to its destination. Routing devices maintain tables which instruct them how to direct packets. As networking environments change, routing devices are updated with dynamic protocols.

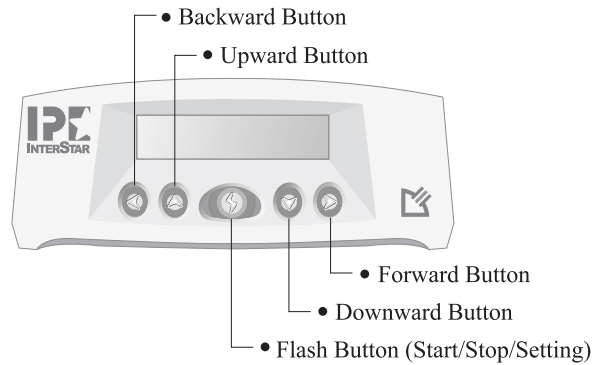
Traditionally, the PSTN was the only network supporting voice communication. With an InterStar, voice traffic can be sent over IP-based packet-switched networks!

No Computer Needed

InterStar possesses its own processor and network interface; it works intelligently! Simply enter the Internet access information into your InterStar with your phone keypads, then you are ready to talk as long as you wish via Internet. All of the communication cost will be eliminated except a local Internet connection charge.

User - Friendly Interface

With a back-lit LCD display and five buttons, InterStar is extremely easy to use and to configure. Smart setup program makes your InterStar ready to go in three minutes. You can clearly monitor all the system status from the LCD panel.



Main Features

InterStar is an amazing electronic device being made. In addition to InterStar-to-InterStar and InterStar-to-IPStar modes, the unparalleled InterStar-to-Phone and Phone-to-InterStar modes greatly enhance the capability of voice communication by using Internet or TCP/IP networks. InterStar users can save significantly on long-distance and international call charges with these features.

InterStar-to-InterStar Mode

If the party you wish to call is equipped with an InterStar, you may enter the Device ID directly and talk to the remote InterStar owner instantly. Or you may use IP Phone Book to call the receiving party with user-defined codes.



InterStar-to-IPStar Mode

Every InterStar or IPStar has a unique ID number. Make sure that your receiving IPStar user is already online, simply dial the ID number of the receiving device and you will be automatically connected. Thus your initial connection charge can be saved too!



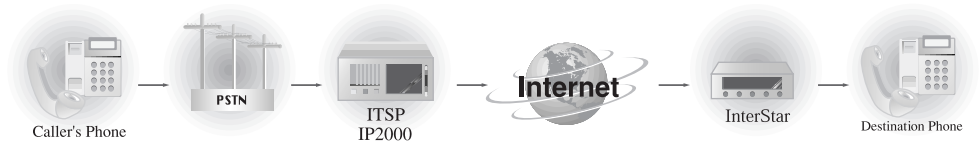
InterStar-to-Phone Mode

With great interoperability, InterStar is capable of connecting to other Internet Telephony products like *IP2000 Gateways**. With an active *Internet Telephony Service Provider** (ITSP) account, you can call all the covered areas with ultra low rates. In this mode, the receiver end does not need an InterStar.



Phone-to-InterStar Mode

For regular phone users, you can also enjoy the savings! To call an InterStar user, first you dial to the DSG IP2000 Internet Gateway, once you are connected, simply dial the six-digit device ID number and you can talk to any worldwide InterStar users!



Note: An Internet Telephony Gateway is a gate between Internet and PSTN (Public Switched Telephone Network). The Internet Telephony Gateway enables callers using Internet to talk to regular phone users without traditional telecommunication services.

Note: To use InterStar-to-Phone Mode or Phone-to-InterStar Mode, callers must apply an active ITSP account number from DSG compatible ITSPs. Please check www.dsgtechnology.com and refer to **Chapter 6 How to Get an ITSP Account** for further information.

Free Online Upgrade

The design of InterStar is extremely flexible. More and more selections and options will be added into your InterStar via the online upgrade function. You are guaranteed to enjoy the latest Internet Telephony technologies at no cost.

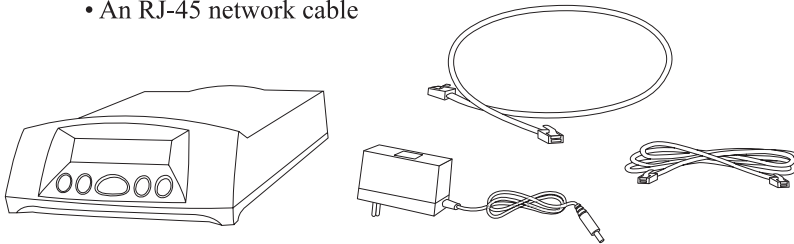
Installing Your InterStar

Connecting InterStar is as simple as connecting an answering machine.

Package Contents

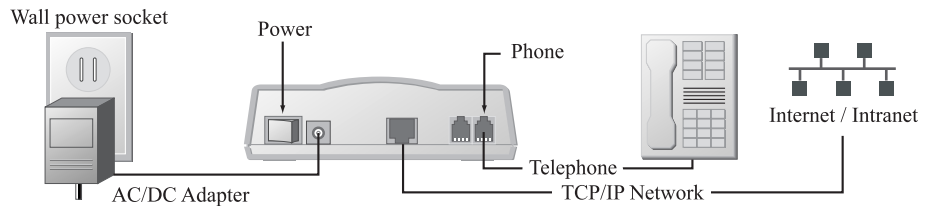
In your InterStar package, you will find:

- An InterStar
- A quick start guide
- A warranty card
- A 12V/1A DC power adapter
- An RJ-11 phone cord
- An RJ-45 network cable



Installing Your InterStar

As shown in the following graph, connecting InterStar is as simple as connecting an answering machine.



To install the InterStar

1. Plug one end of the network cable in the ethernet hub.
2. Plug the other end of the network cable in the RJ45 jack labeled ETHERNET on your InterStar.
3. Plug power adapter into an electrical outlet. Please **DO NOT** turn on the power switch yet.
4. Plug the DC adapter connector into InterStar power socket labeled DC 12V.
5. Turn on the power switch of the InterStar.

After turning the power on, you will see InterStar 's LCD screen shows:



After the system checking process, you will see InterStar 's LCD screen shows:



You can pick up your telephone handset at this stage. If you hear a ready tone that means you have successfully completed the installation.

Note:** If you see the "@" symbol flashing that means your InterStar has not successfully connected to the Internet. Please refer to **Chapter 3 InterStar Configuration Mode.

Basic Requirements to Use InterStar


Please check the following list in order to make an Internet call through your InterStar.

- An active Internet connection
 - If you have a static IP
 - ✓ Your Internet IP address
 - ✓ Your Gateway IP address
 - ✓ Subnet Mask of your Internet environment
 - If you are a PPPoE client
 - ✓ User name
 - ✓ Password
- A touch-tone phone
- An 110/230V electrical outlet

InterStar Configuration Mode

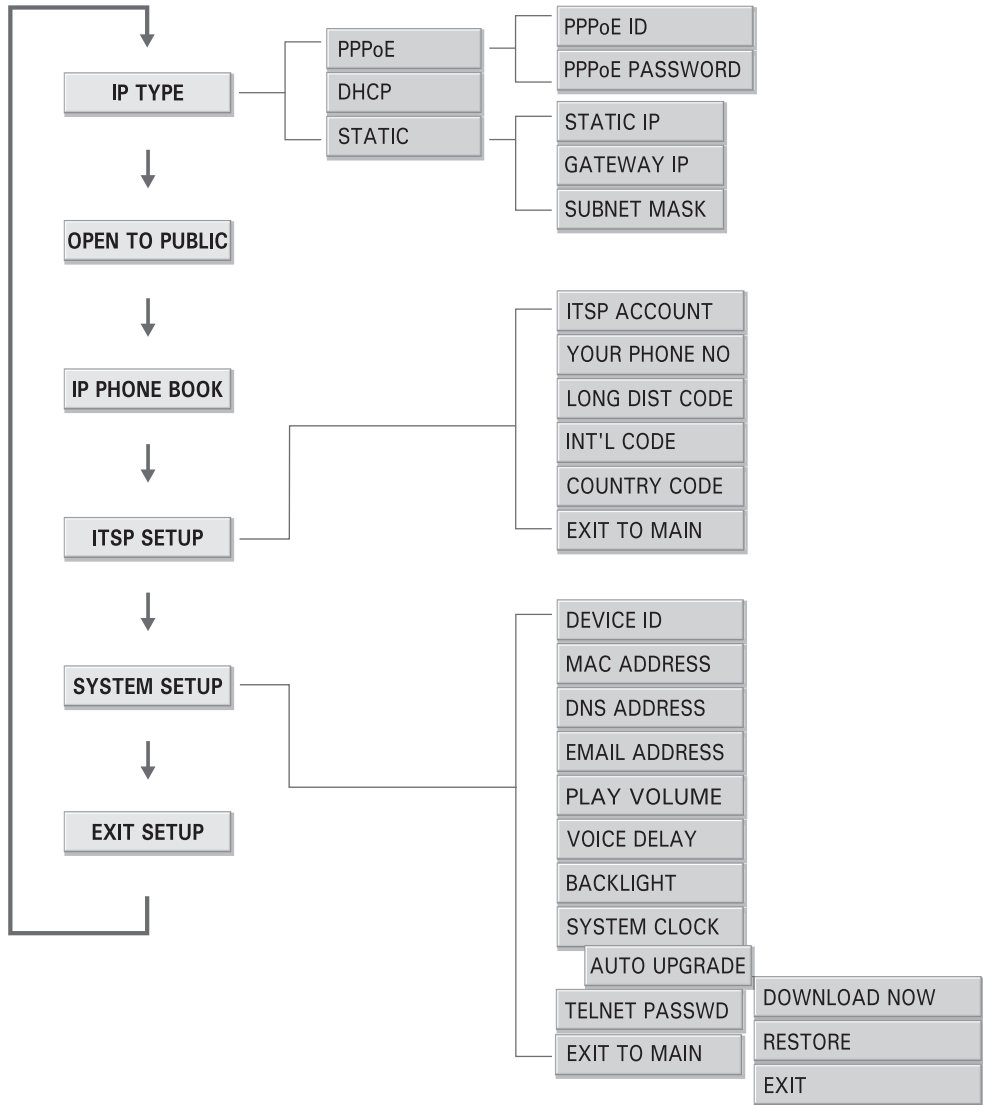
With our smart configuration program, your InterStar is ready to use in three minutes!

Entering Configuration Mode

Press and hold InterStar  for 2 seconds. InterStar will switch to Configuration Mode and display **IP TYPE**:



Structure of Configuration Mode



Using Phone Keypad to Configure InterStar

To configure your InterStar, use the keypad on the touch-tone phone to scroll the menu and to input the necessary information for InterStar as below:

Browsing the Menu

back to the previous option



go to the next option

select the option or enter the editing mode

Selecting Between Fixed Values

back to the previous value



go to the next value

save the setting and leave the editing mode

Editing the Data of an Option



backspace and
delete the character

add a space

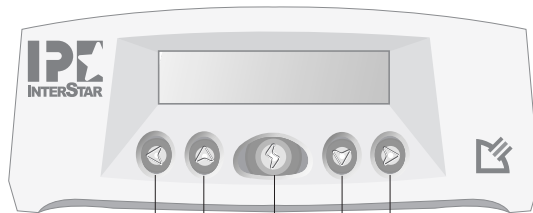
Key	Characters
1	1 ~ ! # \$ % ^ & * () _ + : ; " < > ? - = ; ' / [] { } ` \
2	2 a b c A B C
3	3 d e f D E F
4	4 g h i G H I
5	5 j k l J K L
6	6 m n o M N O
7	7 p q r s P Q R S
8	8 t u v T U V
9	9 w x y z W X Y Z
0	0 . , @

***Tips:** Performing hook-flash (momentarily depressing the hook-switch) will save the current setting and escape to upper menu level.*

Using Buttons to Configure InterStar

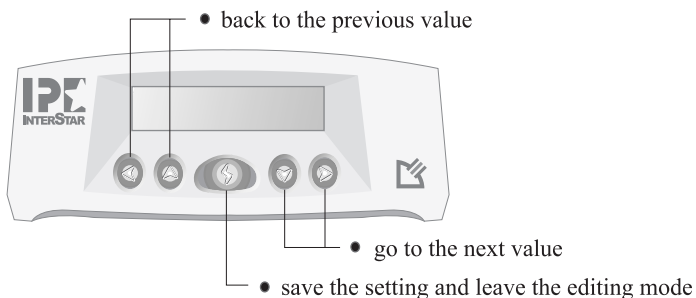
The functions of five buttons on InterStar are described as following:

Browsing the Menu

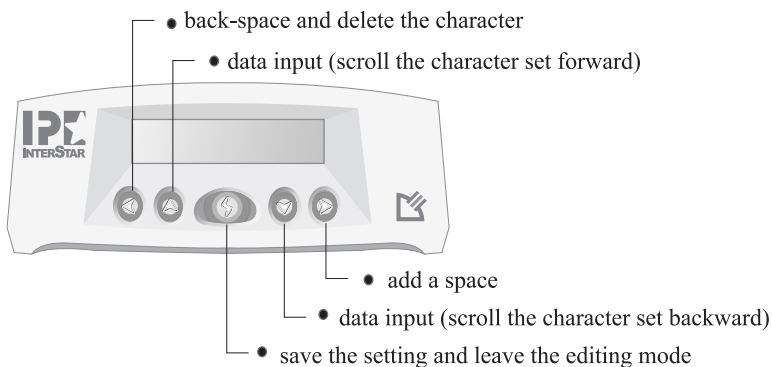


- go to the next option
- select the option or enter the editing mode
- back to the previous option

Selecting Between Fixed Values



Editing the Data of an Option



forward  → → → → → → → →

0 1 2 3 4 5 6 7 8 9 a b c d e f g h i j k l m n o p q r s t u v w x y z

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z . @ ~ ! # \$ %

^ & * () _ + | : " < > ? - = ; ' / , [] { } ` \














← ← ← ← ← ← ← ←  backward

Basic Setup (InterStar-to-InterStar / InterStar-to-IPStar Mode)

Before you start using your InterStar, you need to subscribe an Internet access line from your local ISP. It could be ADSL, Cable Modem or Leased Line. You will be given the following information: (1) Available IP address (2) Gateway IP address (3) Subnet mask.











Some DSL ISPs provide PPPoE connections with end users. If you use dial-up DSL and obtain a dynamic IP address automatically from your DSL ISP, you will be given (1) User Name (2) Password.

If you can obtain a static IP address from your ISP, setup your Internet access as below.

1. Press and hold  button for 2 seconds and the LCD screen will show **IP TYPE**. Pick up the telephone handset and press  to edit this option.
2. Press  till the LCD screen displays **STATIC**. Press  to save.
3. Press  and the LCD screen will show **STATIC IP**. Press  to edit this option. Use the keypad to input one of the IP address. Press  to save.
4. Press  and the LCD screen will show **GATEWAY IP**. Press  to edit this option. Input the gateway IP address with your telephone keypad. Please check your ISP or network administrator for this information. Press  to save.
5. Press  and the LCD screen will show **SUBNET MASK**. Press  to edit this option. Input your subnet mask with your keypad. Please check with your ISP or network manager for this information. Press  to save and exit.







If you are a PPPoE client and obtain a dynamic IP address from your DSL ISP, setup your Internet access as below.


1. Press and hold  button for 2 seconds and the LCD screen will show **IP TYPE**. Pick up the telephone handset and press  to edit this option.
2. Press  till the LCD screen displays **PPPoE**. Press  to save.
3. Press  and the LCD screen will show **PPPoE ID**. Press  to edit this option. Refer to the above character conversion chart and use the keypad to input your User ID. Press  to save.
4. Press  and the LCD screen will show **PPPoE PASSWORD**. Press  to edit this option. Input your Password from your keypad. Press  to save and exit.




If your network has a DHCP server assigning an IP address automatically when you log in, setup your Internet access as below.

1. Press and hold  button for 2 seconds and the LCD screen will show **IP TYPE**. Pick up the telephone handset and press  to edit this option.
2. Press  till the LCD screen displays **DHCP**. Press  to save and exit.



Tips: If you connect to the Internet with a dynamic IP address using PPPoE or DHCP, you could check what your IP address is by pressing  button when on-hook. Your IP address will show on the LCD screen. You can use this IP address to Telnet your InterStar.

■ ITSP Setup (InterStar-to-Phone Mode)

Tips: If you use PPPoE for connecting to the Internet, you could shutdown the Internet connection by pressing and holding  button for 2 seconds when off-hook. You will see the steady @ sign on the LCD screen turn to be a flashing @ sign. To retrieve the Internet connection, repeat the above procedure.

Note: If your network is in NAT environment, you will be able to use InterStar with pseudo or private IP addresses after performing the port mappings. Please refer to Chapter 7 How to Setup InterStar in NAT Environment.

ITSP Setup (InterStar-to-Phone Mode)



The InterStar-to-Phone mode allows your InterStar to connect to a compatible gateway, such as DSG IP2000, so that the receiving party is able to receive an Internet phone call with a regular phone. To use the **InterStar-to-Phone** mode, you may use the default account* or you need to get a valid ITSP account* and enter all of required information in ITSP Setup section.

Note: The default account is the 6-digit Device ID preset in your device when you purchase the InterStar. You may ask your retailer or dealer to credit the Device ID so you can use it instantly.

Note: Please check www.dsgtechnology.com and refer to Chapter 6 How to Get an ITSP Account for further information about applying an active ITSP account number from DSG compatible Internet Telephony Service Providers (ITSP).



Press  on **ITSP SETUP** to enter the Sub-menu.

ITSP Account ID (Required for InterStar-to-Phone Mode)

1. With **ITSP ACCOUNT** displayed, press  to edit.
2. Use the keypad on your phone or buttons on IPStar to input the account number obtained from your ITSP.
3. Press  to save and exit edit mode.





Your Phone Number (Optional)

1. With **YOUR PHONE NO** displayed, press  to edit.
2. Use the keypad on your phone or buttons on InterStar to input your phone number.
3. Press  to save and exit edit mode.





Long-distance Code (Required for InterStar-to-Phone Mode)

1. With **LONG DIST CODE** displayed, press  to edit.
2. Use the keypad on your phone or buttons on InterStar to input the code for making a domestic long-distance phone call. For instance, the long-distance code in USA is **1**.
3. Press  to save and exit edit mode.





International Code (Required for InterStar-to-Phone Mode)

1. With **INT'L CODE** displayed, press  to edit.
2. Use the keypad on your phone or buttons on InterStar to input the code for making an international phone call. For instance, the international code in USA is **011**.
3. Press  to save and exit edit mode.



Country Code (Required for InterStar-to-Phone Mode)

1. With **COUNTRY CODE** displayed, press  to edit.
2. Use the keypad on your phone or buttons on InterStar to input the country code.
For example, the country code of USA is **1**.
3. Press  to save and exit edit mode.




Exit to Main Menu

Press  on **EXIT TO MAIN** to leave **ITSP SETUP** section.




System Setup

This section consists of all settings for your InterStar device. You can adjust these settings to maximize the performance of InterStar. Press  on **SYSTEM SETUP** to enter the sub-menus.





Device ID

Every InterStar has its own unique six-digit ID. When using the InterStar-to-InterStar mode, you can talk to another online InterStar by simply entering the six-digit ID with a leading  key. This is a non-editable field.





E-mail Address (Optional)

1. With **E-MAIL ADDRESS** displayed, press  to edit.
2. Use the keypad on your phone or buttons on InterStar to input your e-mail address.
3. Press  to save and exit edit mode.





Play Volume

1. With **PLAY VOLUME** displayed, press  to edit.
2. Use the keypad on your phone or buttons on InterStar to input the level of play volume. The valid range is from 1 to 9. The default setting is 5.
3. Press  to save and exit edit mode.





Voice Delay

1. With **VOICE DELAY** displayed, press  to edit.
2. Voice delay is the variation of delayed data experienced during the packet routing and switching over Internet. Occasionally, the Internet traffic flow is not stable, you can adjust the value to **HIGH** in order to obtain a better voice quality. Use the keypad on your phone or buttons on InterStar to select the setting from **Low**, **Medium** or **High**. The default setting is Low.
3. Press  to save and exit edit mode.





Backlight

1. With **BACKLIGHT** displayed, press  to edit.
2. The LCD screen is always lit if this parameter is set to **On** or turn it off by switching this parameter to **Off**. If this parameter is set to **Automatic**, the LCD screen light is on whenever the user picks up the phone or when there is an incoming call. Use the keypad on your phone or buttons on InterStar to select from these three options. The default is set on **Automatic**.
3. Press  to save and exit edit mode.



System Clock

1. With **SYSTEM CLOCK** displayed, press  to edit.
2. Use the keypad on your phone or buttons on InterStar to input the time. InterStar uses the 24-hour setting. The valid range is from 00:00:00 to 23:59:59.
3. Press  to save and exit edit mode.



Auto-Upgrade

This function allows you to download new version of software through Internet to your InterStar. Please refer to **Chapter 5 Upgrading Your InterStar**.



Telnet Password

This function allows you to change the password when using Telnet to enter the configuration mode of InterStar. The default setting is **0000**. Please refer to **Chapter 7 How to Setup InterStar in NAT Environment**.





Exit to Main Menu

Press  to leave **System Setup** sub-menu.




Open to Public (Optional)







1. With **OPEN TO PUBLIC** displayed, press  to edit.
2. This option allows you to be visible or invisible from remote parties on the Internet. In either **ON** or **OFF** mode, you can initiate Internet phone calls. In **OFF** mode, you will not be reached by your Device ID. However you could still be reached by IP address. Use the keypad or buttons on InterStar to select the setting. The default setting is **ON**.
3. Press  to save and exit edit mode.



Note: In **OFF** mode, you won't see the @ sign shown on the LCD even though you are connected to the Internet. In **ON** mode, you can see a steady @ sign shown on the LCD screen.

Tips: You can switch to the other mode by pressing and holding  button for 2 seconds when off-hook, without the need of entering the configuration mode. You can judge your current mode by the appearance of @ sign. The temporary switch does not change the settings on InterStar.

How to Setup or Edit Your IP Phone Book

1. Press and hold  button for 2 seconds and the LCD screen will show **IP TYPE**.
2. Use the buttons on the InterStar to scroll the menu.
3. Press the  on the InterStar when you scroll to **IP PHONE BOOK**.
4. Pick up your phone and press  key to input or edit the Phone Book entries.
5. Key in the name for the entry using the character converter chart stated prior in this chapter. Press the  on your InterStar to save.
6. Key in the IP address and press the  on your InterStar to save.
7. Press the buttons on InterStar to scroll to another entry.
8. Repeat steps 4 to 7 to input more IP Phone Book entries. You can save up to 10 entries.
9. You can scroll to **EXIT TO MAIN** and press  to exit to main menu.

Tips: Performing hook-flash (momentarily depressing the hook-switch) will save the current setting and escape to upper menu level.

Making Internet Calls

With DSG JustDialIT Technology, operating InterStar is like using a regular phone!

If you have finished the configuration in Chapter 3, then you are set to go with your newly programmed InterStar.

For Internet users: There are four modes available to make an Internet phone call with your InterStar.

- InterStar-to-InterStar Mode
- InterStar-to-IPStar Mode
- InterStar-to-Phone Mode
- Phone-to-InterStar Mode

For Intranet (TCP/IP Networks) users: By setting the correct IP ADDRESS, GATEWAY IP and SUBNET MASK, you can use the InterStar-to-InterStar mode as an Internet application.

Making an InterStar-to-InterStar Call

1. Check to see that the party you wish to call is equipped with an InterStar.
2. Make sure that you and your receiving party have the InterStar connected to the Internet*.
3. Pick up the handset and you will hear a ready tone*.
4. There are 3 possible ways for you to call the receiving party:
 - a) **Dial the Device ID number of the remote InterStar***. Every InterStar has a unique six-digit ID number found at the bottom of the device. For example, if the receiving InterStar is 555888, then you dial [*][5][5][5][8][8][8] and followed by a [#] key to speed up the connecting process.
 - b) **Dial the IP Address directly**. For example: if the IP address of the receiving InterStar is 200.111.66.8, then you enter [2][0][0][*][1][1][1][*][6][6][*][8] and followed by a [#] key to speed up the connecting process.
 - c) **Dial the entry number in your IP Phone Book**. There are 10 available entries in your IP Phone Book numbered from 00 to 09. For example: if you program the 2nd entry of your IP Phone Book as 200.111.66.8, by dialing [2][#] and followed by a [0] key to confirm, you will be connected to the InterStar with the IP address 200.111.66.8. (For usage instructions, refer to the end of this chapter)
5. Hold the handset and wait for the connection. You will hear a tone indicating that the remote InterStar is ringing. Otherwise, you will hear a busy tone if the remote InterStar user is on the phone. You can see the status shown on the screen of your InterStar.
6. Once the connection is complete, you can enjoy your conversation with your party as long as you wish!

Note: A still "@" symbol on your LCD screen indicates that you are successfully connected to the Internet. Otherwise, the "@" symbol will keep flashing.

Note: You may use the same method to make an InterStar-to-InterPhone call.

Note: Ready Tone is the audio signal to indicate that InterStar is ready for dialing or receiving an Internet call.

Note: The a) method is not available for closed Intranet users.

Making an InterStar-to-IPStar Call

Your InterStar has the ability to communicate with other Internet Telephony products such as IPStar via Internet. In this mode, the party you wish to call can either be equipped with an InterStar or an IPStar. To call an IPStar user, follow the instructions below.

1. Check to see that your receiving party is equipped with an IPStar and has completed proper settings as well.
2. Make sure that your InterStar and the receiving IPStar are connected to the Internet. A still "@" symbol indicates that you have successfully connected to the Internet.
3. Pick up the handset and you will hear a ready tone. Every IPStar has its unique six-digit ID number which can be found at the bottom of the device. Simply dial the device ID number of the remote IPStar. For example: if the six-digit ID number of the receiving IPStar is 123456, then dial ***123456** and followed by a **#** key to speed up the connecting process.
4. Hold the handset and wait for the connection. You will hear a ring back tone indicating that the remote IPStar is ringing. Otherwise, you will hear a busy tone if the remote IPStar is on the phone. You can see the status shown on the screen of your InterStar.
5. Once connected to the remote IPStar user, you can enjoy the great savings while talking as long as you wish.

Note: You may use the same method to make an IPStar-to-InterStar call.

Making an InterStar-to-Phone Call

InterStar is a state-of-the-art Internet Phone device with great interoperability! It allows you to connect to a compatible gateway, such as *DSG IP2000 Internet Telephony Gateway**. In this mode, the receiving party can answer an Internet phone call with just a regular phone. To use InterStar-to-Phone mode, you need to obtain a valid *ITSP account** and to set the parameters in **ITSP Setup** section.

1. Make sure that your InterStar is setup properly and you have correctly entered all the information needed in the **ITSP SETUP** section.
2. Check to see if your InterStar have successfully connected to the Internet, which is indicated by a still "@" symbol on the screen.
3. Pick up the handset and you will hear a ready tone.
4. You may dial any long-distance or international telephone numbers as you normally would from your touch-tone phone.

For Domestic Long-Distance Calls

[Long-distance code] + [Area code] + [Telephone number]

For International Calls

[International code] + [Country code] + [Area code] + [Telephone number]

5. Hold the handset and wait for the connection. You should be able to hear a faster progress tone to indicate that your call is in the connecting process.
6. You may hangup the phone and wait for ringing, or just hold the handset. You can clearly monitor all the online status on your InterStar's LCD screen.
7. Once your receiving end picks up the phone, you may enjoy talking as long as you wish!

Note: *An Internet Telephony Gateway is a gate between Internet and PSTN (Public Switched Telephone Network). The Internet Telephony Gateway enables callers using Internet to talk to regular phone users without an InterStar.*

*Note: Please check www.dsgtechnology.com and refer to **Chapter 6 How to Get an ITSP Account** for further information about applying an active ITSP account number from DSG compatible Internet Telephony Service Providers (ITSP).*

Making a Phone-to-InterStar Call



For those users without an InterStar or IPStar, they can still talk to the InterStar or IPStar users by calling the global DSG IP2000 Internet Telephony Gateway.





1. You must apply for an active ITSP account which is available from DSG compatible ITSPs.
2. Dial to your local IP2000 Internet Telephony Gateway access phone number (please check with your dealer).
3. Follow the voice prompt and enter the ten-digit ITSP account number.
4. Another voice prompt would ask for the remote InterStar's six-digit ID number.
5. Enter the six-digit InterStar ID number and you will be connected to the remote InterStar user automatically.

How to Use Your IP Phone Book (For InterStar-to-InterStar Mode)



There are two ways to use your IP Phone Book: A) Search and B) Speed Dial

A) Search

1. Pick up your telephone handset.
2. Press the  key on your phone keypad or the  on your InterStar.

3. You will see the IP Phone Book entries starting at '00'. Use the keypad on your phone ( or ) or buttons on InterStar to scroll the entries.
4. After you have selected an entry number, press  key on your phone keypad or press the  on your InterStar to confirm.
5. You will be connected to the remote InterStar with the IP address listed on that specific entry.
6. Hold the handset to wait for connection. You will hear a faster progress tone to indicate that your call is in the connecting process. You will hear a ring back tone indicating that your remote InterStar is ringing. Otherwise, you will hear a busy tone if your remote InterStar user is on the phone. You can see the status shown on the screen of your InterStar.
7. Once your remote InterStar user picks up the receiver, you may begin your conversation.

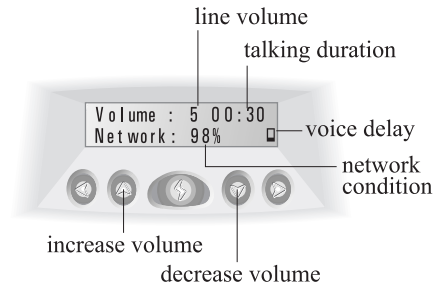
B) Speed Dial

1. Pick up your telephone handset.
2. Enter the IP Phone Book entry number you wish to call and followed by a  key to view the name and address of that entry.
3. Press  on the telephone keypad to confirm. You can see the status shown on the screen of your InterStar.
4. Once your remote InterStar user picks up the receiver, you may begin your conversation.



Monitoring the Status of InterStar

During Talking

During an Internet call, the LCD screen of InterStar will show:



Volume Control

If the volume of your InterStar is too loud and you hear some background noise, you can adjust the volume by pressing  or  to get the desired voice quality.


During Internet Connecting Process

Your InterStar's LCD screen will display the status during the Internet connecting process. A still "@" symbol indicates that you are successfully connected to the Internet.



To End an Internet Call

If you wish to end your call, you may:

- Simply hang up the phone or
- Perform a hook-flash or
- Press the  button on your InterStar to end a call

To Receive an InterStar or IPStar Call

Once your InterStar is connected to the Internet, you may accept the calls from other InterStar, IPStar or regular phone users. You cannot receive calls only when you are in the InterStar Configuration Mode.

Upgrading Your InterStar

Now with our online upgrade feature, your InterStar ensures you to enjoy the latest Internet Telephony technologies without any charge!

Upgrade Notification

You can upgrade your InterStar whenever a new software version becomes available. Whenever your InterStar is connected to the Internet Service Provider (ISP), DSG will notify you by displaying the message **UPGRADE AVAILABLE** on your InterStar LCD screen. Upgrades will enhance the performance and add more features to your InterStar. With such a convenient feature, you are guaranteed to have the most updated InterStar!

***Note:** Before the upgrading or restoring process, make sure that your InterStar has successfully connected to the Internet.*

To upgrade your InterStar with the newest software version, follow the instructions below. The upgrade process will only take about three to ten minutes depending on the Internet traffic.

1. Press InterStar  button for two seconds to enter the **Configuration Mode**.


2. Use the keypad on your phone (***** and **#**) or buttons on the InterStar to scroll the main menu.

3. Press the  button when you see **SYSTEM SETUP**.



4. Scroll the menu to **AUTO-UPGRADE** and press the  button.



5. Press the  button when you see **DOWNLOAD NOW** to start the upgrading process.



6. InterStar will proceed to connect the DSG Download Server and the screen will show the progress of the downloading process.









7. Press any button to restart your InterStar. If the new software version is downloaded successfully, InterStar will reboot itself automatically.



Restoring Original Version

InterStar has a powerful auto-recovery capability! If there is any error that occurs during the downloading process or other unexpected conditions, InterStar will automatically restore the default software version.

When you upgrade your InterStar to the new software version, InterStar will automatically store the original version as a backup. If for any reason, you wish to discard your new version and restore the old version, you may follow the steps below:

1. Press InterStar  button for two seconds to enter the **Configuration Mode**.
2. Use the keypad on your phone () and () or buttons on the InterStar to scroll the main menu.
3. Press the  button when you see **SYSTEM SETUP**.
4. Scroll the menu to **AUTO-UPGRADE** and press the  button.
5. Press the  button when you see **RESTORE** to start the restoring process.



How to Get an ITSP Account (InterStar-to-Phone/Phone-to-InterStar Mode)

InterStar is the first Ethernet Phone appliance in the world that provides Device-to-Phone capability! An InterStar is all you need for huge savings on long-distance or international calls!

The DSG Internet Telephony Network is an integrated telephony system based on Internet environment that provides various services such as **Phone-to-Phone**, **InterStar-to-Phone/Phone-to-InterStar**, **IPStar-to-Phone/Phone-to-IPStar** etc. The InterStar-to-Phone/Phone-to-InterStar modes allow your InterStar to connect to a compatible gateway, such as DSG IP2000, so that the receiving party is able to receive or make an Internet phone call with a regular phone. In order to use InterStar-to-Phone/Phone-to-InterStar modes, you have to get a valid Internet Telephony Service Provider (ITSP) account and enter the required information* into your InterStar.

Note: Before you use **InterStar-to-Phone/Phone-to-InterStar** modes, make sure that you have entered all related information needed in the **ITSP SETUP** section. Please refer to **Chapter 3 InterStar Configuration Mode** for details.

There are three ways to get an ITSP account:

- You already have a pre-programmed account when you purchase your InterStar, and you may ask the dealer or retail store to add a value to your account or
- You may apply for a new prepaid account from your dealer or retail store and enter the account number into your InterStar or
- You may also apply for an account through the Internet

Check the web site www.dsgtechnology.com. periodically to get the information about compatible ITSP list and other Internet Telephony services*. The DSG web site will show you how to apply for a valid account from our ITSP partners. You may also get the new information such as calling rates on your InterStar LCD screen dynamically when you make an Internet call.

Note: DSG is a system provider of Internet Telephony solutions and does not provide any telephony services. DSG will take no responsibility for using these services.

Checking Your ITSP Account Balance

InterStar has a built-in account balance function. You may check your account balance in the comfort of your own home!

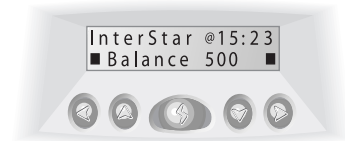
To check the default ITSP account (the pre-programmed account), follow the steps below:

1. Pick up the handset and dial **[*] + [99] + [#]** .
2. The balance of the account will be shown on the LCD screen.



To check an ITSP account (the prepaid account or the account obtained through the Internet), follow the steps below:


1. Hold up your handset and dial * + [88] + # .
2. The ITSP account balance will be shown on the LCD screen.

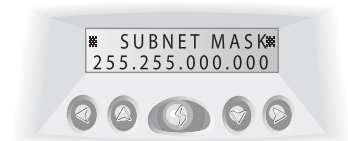


How to Setup InterStar in NAT Environment

The InterStar supports NAT (Network Address Translation). You can connect InterStar behind a firewall, NAT router or IP sharing equipment or software for better enhancement of network security and the utilization of Internet access. You can assign pseudo or private IP addresses on InterStar and perform port mappings allowing your InterStar to communicate with remote InterStar or DSG VoIP devices over the Internet.

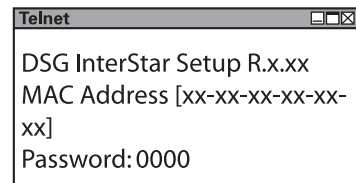
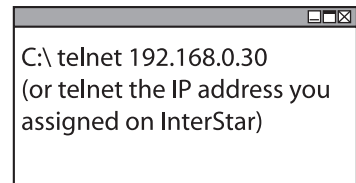
Setup Your InterStar

1. Assign specific IP sharing/NAT equipment as the gateway for InterStar and other nodes.
2. Prepare a set of IP address for InterStar.
 - 1) Available Pseudo IP Address
 - 2) Gateway IP Address
 - 3) Subnet Mask
3. Press and hold  button for 2 seconds to enter the configuration mode. Refer to *Chapter 3 InterStar Configuration* to edit the above IP information on InterStar.
4. Prepare a computer on the LAN to Telnet InterStar. Make sure the computer's TCP/IP setting is in the same subnet as the above InterStar.



Telnet Your InterStar

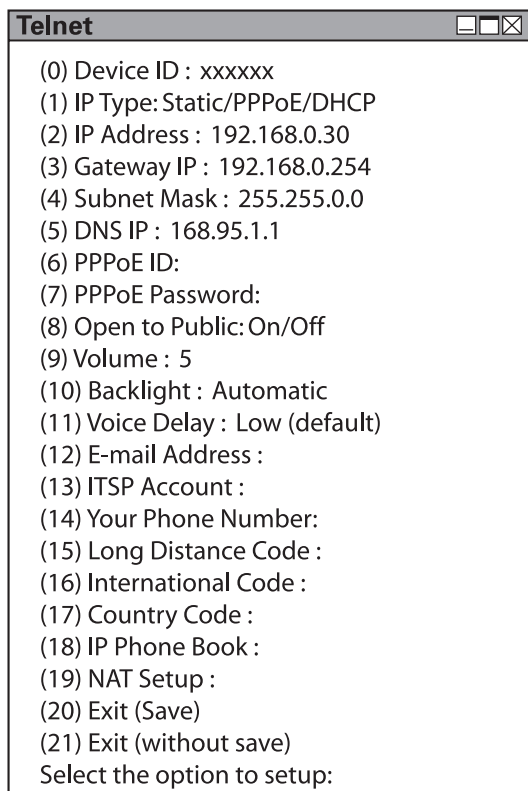
1. From your computer, run Telnet program for connecting to InterStar by its default IP address **192.168.0.30** or the IP address you have assigned.
2. After connecting to InterStar, the prompt will display the current software version, MAC address and password. The default Telnet password is **0000**. Input the default password or your specified password, if any, and press Enter to continue.



You can change Telnet password from InterStar setting item. Please refer to **Chapter 3 InterStar Configuration Mode**.

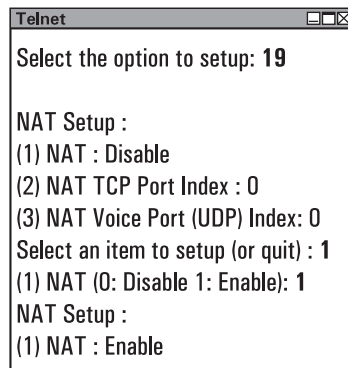
Telnet Setting Items

You can see setting items as below displayed on the Telnet window. For most setting items, you can configure directly from your InterStar. You only need to Telnet your InterStar to enable its NAT function when your InterStar is in NAT environment. i.e. you assign a private IP address to InterStar.



Enable NAT Function

1. At the prompt displays **Select the option to setup:** , type **19** and press Enter to edit **(19) NAT Setup.**
2. At the prompt displays **Select an item to setup (or quit):** , type **1** and press Enter to edit.
3. At **(1) NAT (0: Disable 1: Enable):** , type **1** to enable NAT function then press Enter.

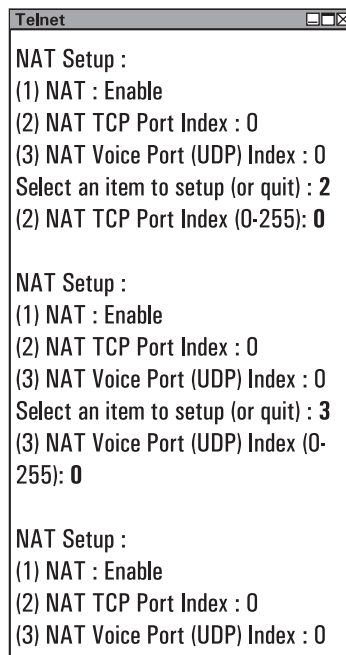


```
Telnet
Select the option to setup: 19

NAT Setup :
(1) NAT : Disable
(2) NAT TCP Port Index : 0
(3) NAT Voice Port (UDP) Index: 0
Select an item to setup (or quit) : 1
(1) NAT (0: Disable 1: Enable): 1
NAT Setup :
(1) NAT : Enable
```

Assign TCP & UDP Port Index

1. At the prompt displays **Select an item to setup (or quit):** , type **2** and press Enter to assign a specific TCP port.
2. At **(2) NAT TCP Port Index (0-255):** , type **0** to assign the first TCP port index to InterStar then press Enter.
3. At the prompt displays **Select an item to setup (or quit):** , type **3** and press Enter to assign a specific UDP port.
4. At **(3) NAT Voice Port (UDP) Index (0-255):** , type **0** to assign the first UDP port index to InterStar then press Enter.
5. You can install up to 256 units of InterStar in LAN under NAT Environment. After Telnet the specific InterStar, repeat the above procedures and assign the specific TCP and UDP ports index from 0-255 separately.



```
Telnet
NAT Setup :
(1) NAT : Enable
(2) NAT TCP Port Index : 0
(3) NAT Voice Port (UDP) Index : 0
Select an item to setup (or quit) : 2
(2) NAT TCP Port Index (0-255): 0

NAT Setup :
(1) NAT : Enable
(2) NAT TCP Port Index : 0
(3) NAT Voice Port (UDP) Index : 0
Select an item to setup (or quit) : 3
(3) NAT Voice Port (UDP) Index (0-255): 0

NAT Setup :
(1) NAT : Enable
(2) NAT TCP Port Index : 0
(3) NAT Voice Port (UDP) Index : 0
```

Exit Telnet

1. At the prompt displays **Select an item to setup (or quit):** , type **quit** and press Enter to leave **(19) NAT Setup**.
2. At the prompt displays **Select an option to setup:** , type **20** and press Enter to save and exit Telnet.

Port Mapping

After you set the NAT Port Index to InterStar, refer to the **NAT Port Index Converter** blow, write down the TCP and UDP port numbers and its correspondent IP address in order to perform the port mapping on your IP Sharing equipment or NAT router. To know how to perform port mapping, consult with your vendor of IP Sharing equipment or NAT router.

NAT Port Index Converter

NAT TCP Port Index	0	1	2	3	-----	255
NAT Voice Port (UDP) Index	0	1	2	3	-----	255
TCP Port Number	1801	1802	1803	1804	-----	2056
UDP Port Number	1102	1103	1104	1105	-----	1357

Appendix A. Technical Specifications

Dimensions	196 mm x 140 mm x 47 mm (7 7/10" X 5 1/2" X 1 4/5")
Weight	Approximately 430 g (0.95 Lbs.)
Power Input	DC12V 1A
Temperature	0-50°C (32°F~122°F)
Humidity	10% to 90% non-condensing
Internal RAM	2Mbytes
Flash Memory	1Mbytes
LCD Display	16 x 2 with backlight
Telephone Interface	one RJ11 to phone, one RJ11 to line (optional)
Voice Compression	G.723.1 compliant
Network Interface	Ethernet, RJ45
Network Protocol	TCP/IP , PPPoE,

Appendix B. Troubleshooting

Problems Making an InterStar-to-InterStar Call

- **You attempted to make an InterStar-to-InterStar call but it didn't work.**

Use our quick start guide, check that both InterStars are configured properly. During the process of making an InterStar-to-InterStar call, you can check for an online symbol "@" on the LCD screen of your InterStar to confirm your status. When one of the InterStar users dials to the receiving InterStar, you can clearly monitor the connecting process on the LCD screen. If you have made several attempts by device ID and have failed, then try using the IP Phone Book option with user-defined codes! (Refer to **Chapter 4 How To Use Your IP Phone Book**).
- **No clue on finding your InterStar's six-digit ID.**

Every InterStar has a unique six-digit device ID number and it can be found at the bottom of your InterStar device. You can also find this six-digit ID number in the configuration mode **SYSTEM SETUP/DEVICE ID**. If you are still having trouble finding this ID number, please refer to Chapter 3 for more information.
- **You entered the InterStar's six-digit ID and the screen showed "Ready for Dial".**

You probably left out a leading * key before the six-digit ID number. For example, if you want to make an InterStar-to-InterStar call to a friend with an InterStar ID 001234, enter *001234# in the 'Ready to Dial' mode to complete your call.
- **You entered your receiving InterStar's six-digit ID number and the screen showed "Party Off Line".**

Before you make an InterStar-to-InterStar call, check to see that you have entered the correct six-digit ID number of the receiving InterStar. At the same time, you may check to see if the remote InterStar you wish to connect is online by simply entering the IP Address. If your receiving party is not online, then you can try again later.


Problems Making an InterStar-to-Phone Call

- **You entered the designated phone number and the screen showed "Ready for Dial".**
You should check if the ITSP account number is entered correctly. If you need further information on ITSP account, please refer to Chapter 6 for help.
- **You entered the designated phone number and the screen showed "No Service".**
It is important that you input the correct country code, long-distance code, and international code when making an InterStar-to-Phone call since your InterStar uses these information to analyze the phone number you dialed. Another possible reason for "No Service" could be that the number you dialed is out of the service area. To obtain the detailed information on all the available countries, please refer to our web site www.dsgtechnology.com.
- **You entered the designated phone number and the screen showed "Wrong Account".**
When the screen shows "Wrong Account", it's either you have entered an invalid ITSP account, or there is no balance remaining in your ITSP account. To renew, update, or re-activate your ITSP account, contact your local distributor or visit our web site at www.dsgtechnology.com.
- **You entered the designated phone number and the screen showed "Server Busy".**
When the screen shows "Server Busy", it means that all lines are busy and temporarily unavailable. You can try calling later.

Problems during an Internet Call

- **During the call, you experienced a slight delay in your conversation.**

This is an expected Internet phone situation. The degree of voice delay depends on the Internet traffic and the routing path. InterStar's Dynamic Jitter Buffer Control algorithm will optimize the delay time automatically in the first ten seconds of your call.
- **During your call, you have difficulty hearing the other party.**

On your InterStar's LCD screen, you will see the network percentage indicator to identify if the Internet traffic is congested. You can wait to see if the traffic subsides indicated by the percentages or press the  button to end your call or try calling later.
- **During the call, the other party's voice seems slow or delays seriously (more than three seconds).**

It is a matter of the bandwidth between your InterStar and the ISP. It could be that the bandwidth is not enough to support a regular Internet call. At this point, you may end your call and place another call to see if the voice quality improves. If the voice quality remains unsteady, then set the Voice Delay in the Configuration Mode to High and try calling again.
- **If there are still other problems other than the ones stated above.**

We recommend that you use other ISPs to ensure the best Internet connection quality.