

Enjoy a  
**residential  
phone service**  
with great benefits!

[ [Click here to Enter](#) ]



# Contents

Version 3.8

<b>1</b>	<b>About Digital Voice Home</b>	<b>1</b>
<b>2</b>	<b>Technical Information</b>	<b>2</b>
<b>3</b>	<b>Setting up your Digital Voice Home Connection</b>	<b>5</b>
	a. Digital Voice Home only connection	8
	b. Digital Voice Home connection with Router	9
	c. Digital Voice Home and MaxOnline Connection using Internal Network Interface Card with Voice-enabled Cable Modem/ Integrated Wireless Voice Modem	10
	d. Digital Voice Home and MaxOnline Connection using USB Voice-enabled Cable Modem / Integrated Wireless Voice Modem	11
	e. Digital Voice Home and MaxOnline Connection using External USB Network Interface Card with Voice-enabled Cable Modem/ Integrated Wireless Voice Modem	12
<b>4</b>	<b>Troubleshooting for Voice-enabled Cable Modem</b>	<b>13</b>
	a. SBV5120i Voice-enabled Cable Modem	13
	b. Other Scenarios	15
<b>5</b>	<b>Troubleshooting for Integrated Wireless Voice Modem</b>	<b>16</b>
	a. Integrated Wireless Voice Modem	16
	b. Other Scenarios	20
<b>6</b>	<b>Setting up your Digital Voice Home connection using Dlink DVG-G5402SP Wireless Integrated Access Device</b>	<b>22</b>
	a. Connecting with your HubStation to MaxOnline broadband	24
	b. Connecting with Cable/ADSL broadband modems	25
	c. Connecting a cable or ADSL connection with built-in router	26
	d. Router Configuration	29
<b>7</b>	<b>Troubleshooting for Dlink DVG-G5402SP Wireless Integrated Access Device</b>	<b>30</b>
<b>8</b>	<b>Setting up your Digital Voice Home connection using the HG256S Wireless Home Gateway</b>	<b>31</b>
<b>9</b>	<b>Troubleshooting for Wireless Home Gateway</b>	<b>35</b>
<b>10</b>	<b>Value-Added Services Guide</b>	<b>36</b>
	a. Value Bundle	36
	b. Exclusive IDD discounts	36
	c. Privacy	37
	d. Call Control	38
	e. Call Barring	40
	f. Voicemail	41
<b>11</b>	<b>Appendices</b>	<b>43</b>
	a. Port Forwarding Setting for Motorola SBG 1000 Cable Modem Gateway	44
	b. Setting up the Firewall for Motorola SBG 1000 Cable Modem Gateway	45
<b>12</b>	<b>Glossary</b>	<b>47</b>

## DISCLAIMER

Please note that all information provided in this User Guide is correct as at date of production.

For more information, please check the latest online updates and terms and conditions at our website at [www.starhub.com/voice](http://www.starhub.com/voice)

# About Digital Voice Home

Digital Voice Home is StarHub's fixed voice service to our residential customers.

With Digital Voice Home, you have access to:

- **Free local calls to fixed and mobile lines (StarHub, SingTel and M1)**
- **IDD calls (StarHub, SingTel, M1 and others\*)**
- **Directory Enquiry and Operator Assistance services (100)**
- **Faxing**
- **Local (1800) toll-free services**
- **Local (1900) premium services**
- **International Calling Card (Application and Enquiries)**
- **StarHub Customer Service, billing and fault reporting numbers**
- **Emergency numbers\*\* (995 and 999) and more.**

You also have access to our comprehensive range of Value-Added Services such as Call Waiting, Caller Number Display, etc.





\* Digital Voice Home customer has to register with the respective IDD service provider in order to use their IDD service.

\*\* Calls to emergency numbers and 1633 are free-of-charge.

# Technical Information

## Digital Voice Home equipment overview

StarHub offers customers various options for the equipment you can use to access Digital Voice Home service. The section below shows an overview of the different types of equipment.

		Benefits
<p><b>Huawei HG256S</b></p>  <p><b>(Wireless Home Gateway)</b></p>		<p>Wireless Home Gateway is a single integrated device that can provide the following functions simultaneously</p> <ol style="list-style-type: none"> <li>1. Enable high-speed internet access to FTTH (Fibre to the Home) network.</li> <li>2. Wireless N router to enable multiple PCs/ devices to simultaneously access the internet</li> <li>3. Voice ports to enable high quality Digital Voice Home service</li> </ol>
<p><b>Motorola SBV5121i</b></p>  <p><b>Voice-enabled Cable Modem (VeCM)</b></p>		<ol style="list-style-type: none"> <li>1. Single device that has cable modem function and voice ports, thus enabling you to save on additional hardware costs</li> <li>2. Simple connection to cable point and PC</li> </ol>
<p><b>DLink DVG-G5402SP</b></p> <p>Wireless router with voice-ports</p>  <p><b>Wireless Integrated Access Device (IAD)</b></p>		<ol style="list-style-type: none"> <li>1. Integrated router with in-built voice ports to provide both Ethernet and wireless broadband access, as well as Digital Voice Home service. Require separate broadband modems.</li> <li>2. Can be used on other Service Providers' broadband network</li> </ol>
<p><b>Dlink DCM-604</b></p>  <p><b>Integrated Wireless Voice Modem (IWVM)</b></p>		<p>Integrated Wireless Voice Modem is a single integrated device that can provide following functions, simultaneously</p> <ol style="list-style-type: none"> <li>a) cable modem to enable MaxOnline Internet Access</li> <li>b) Wireless router to enable multiple PCs/ devices to simultaneously access the internet</li> <li>c) voice ports to enable Digital Voice Home service</li> </ol>

## Hardware requirements for Wireless Home Gateway

Huawei HG256S (Wireless Home Gateway)

- An IDA-approved phone (corded or cordless)
- A standard RJ-11 telephone cable to connect the telephone
- A standard 13A power point to power the Wireless Home Gateway

The Wireless Home Gateway is compatible with almost any Microsoft Windows®, Macintosh®, or UNIX® computers with a 10Base-T or 10/100Base-T Ethernet adapter

**Note:** Only equipment purchased from StarHub or its authorised resellers can be used for Digital Voice Home. Though device can work with UNIX computers, StarHub is unable to support compatibility issues related to UNIX.

## Hardware Requirements for Voice-enabled Cable Modem

- A coaxial cable to connect the VeCM to the cable point
- An IDA-approved standard or cordless telephone set (Note: Pulse dialling is not supported).
- A standard RJ-11 telephone cable to connect the telephone set to the VeCM.
- A standard 13A power point to power the VeCM.

Besides the VeCM, no other hardware is required. A standard or cordless telephone set can be connected to the phone jack of the VeCM to make voice calls.

You can buy a VeCM from any StarHub Shop. If you are a MaxOnline customer, you will have to replace your cable modem with a VeCM. The VeCM can be used to access the internet via MaxOnline and make voice calls simultaneously.

## Hardware Requirements for Wireless Integrated Access Device

- 1) Dlink DVG-G5402 wireless IAD (wireless router with voice ports)

The wireless IAD is compatible with almost any Microsoft Windows®, Macintosh®, or UNIX® computers with a 10Base-T or 10/100Base-T Ethernet adapter

**Note:** Only wireless IADs purchased from StarHub or its authorised resellers can be used for Digital Voice Home. Though device can work with UNIX computers, StarHub is unable to support due to compatibility issues related to UNIX.

- Broadband Internet connection

The broadband Internet access can either be of a cable (StarHubs' MaxOnline broadband access) or an ADSL connection, with a minimum download speeds of 512Kbps and upload speeds of 128Kbps.

**Note:** Digital Voice Home will not function with a narrowband connection. (e.g 56Kbps Dial-up access)

- An IDA-approved phone (corded or cordless)
- A standard RJ-11 telephone cable to connect the telephone set to the wireless IAD
- A standard 13A power point to power the wireless IAD.

## Hardware Requirements for Integrated Wireless Voice Modem

- Dlink DCM-604 (Integrated Wireless Voice Modem)
- Broadband Internet connection
- An IDA-approved phone (corded or cordless)
- A standard RJ-11 telephone cable to connect the telephone
- A standard 13A power point

The Integrated Wireless Voice Modem is compatible with almost any Microsoft Windows®, Macintosh®, or UNIX® computers with a 10Base-T or 10/100Base-T Ethernet adapter

**Note:** Only equipment purchased from StarHub or its authorised resellers can be used for Digital Voice Home. Though device can work with UNIX computers, StarHub is unable to support compatibility issues related to UNIX.

## Internal Wiring

If the telephone set is placed near the VeCM/IAD/Wireless Home Gateway, no additional wiring is required. Internal wiring will be required should you wish to locate the telephone set to another room. We recommend using a cordless phone if you do not wish to do any internal wiring.

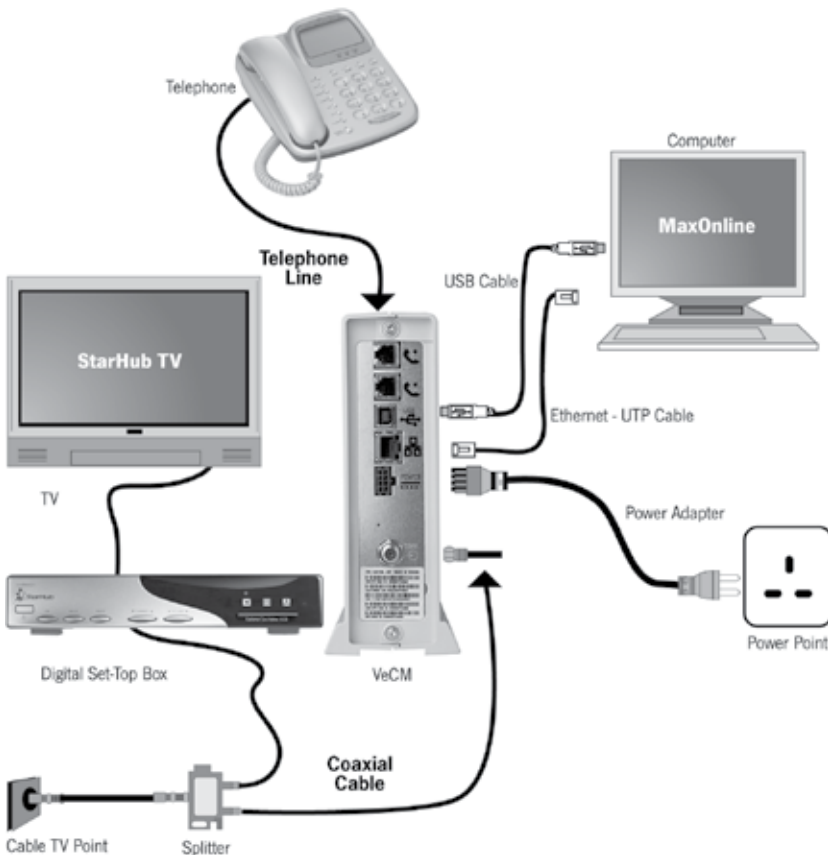
If you require additional wiring, please call our Customer Care at 1633 so that they can advise you on the appropriate type of wiring for the service. We will be happy to arrange for additional cabling for you or you may also wish to engage your own contractors for the job. Please ensure that only approved cables are used for the cabling.

# Setting Up Your Digital Voice Home Connection using Voice-enabled Cable Modem/ Integrated Wireless Voice Modem

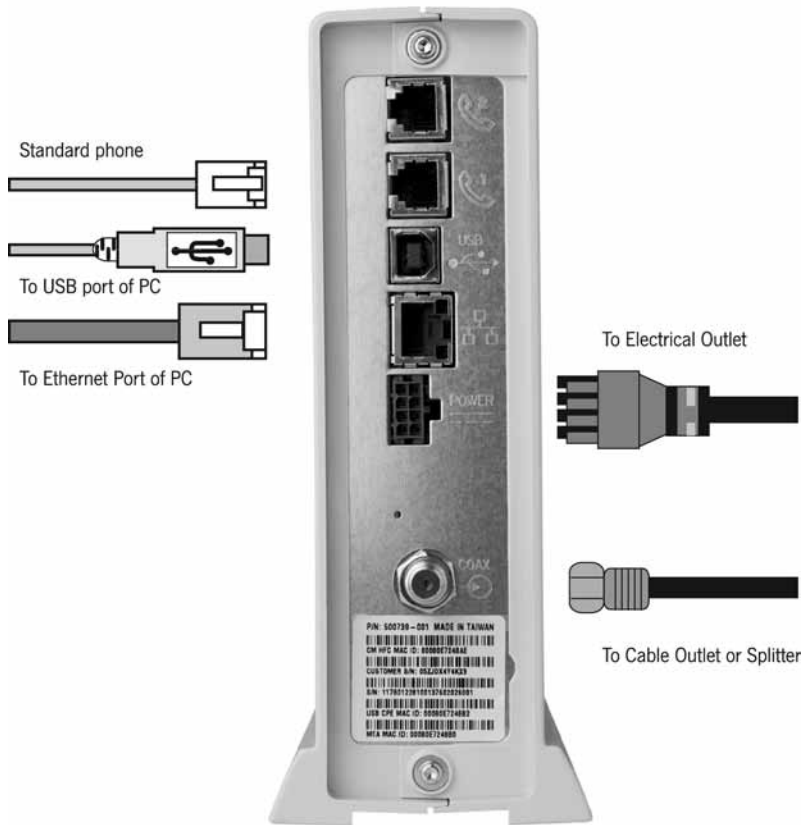
We have included some useful tips on how to set up your Digital Voice Home connection in this guide. You may wish to refer to them before deciding to call the hotline for technical assistance. Alternatively, you can visit our website at [www.starhub.com/voice](http://www.starhub.com/voice) for the latest updates.

## Using the VeCM

The VeCM allows you to access the Internet through your computer (if you are a MaxOnline user) and make voice calls through your standard or cordless phone. Please ensure that the VeCM is powered on at all times.



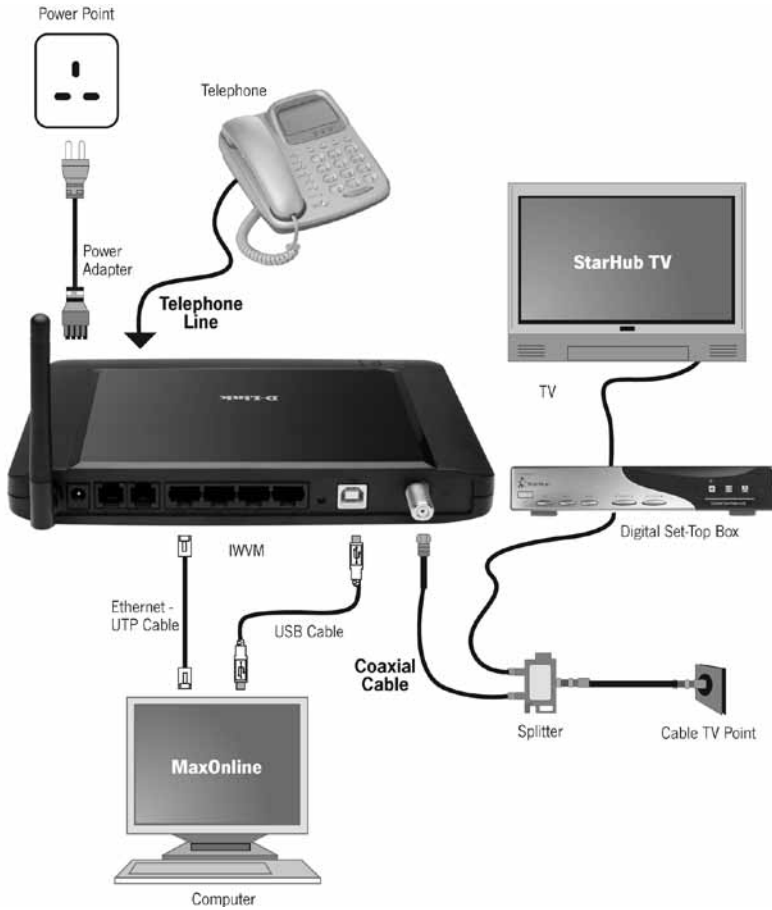
The following diagram shows the types of connection at the rear panel of the VeCM.



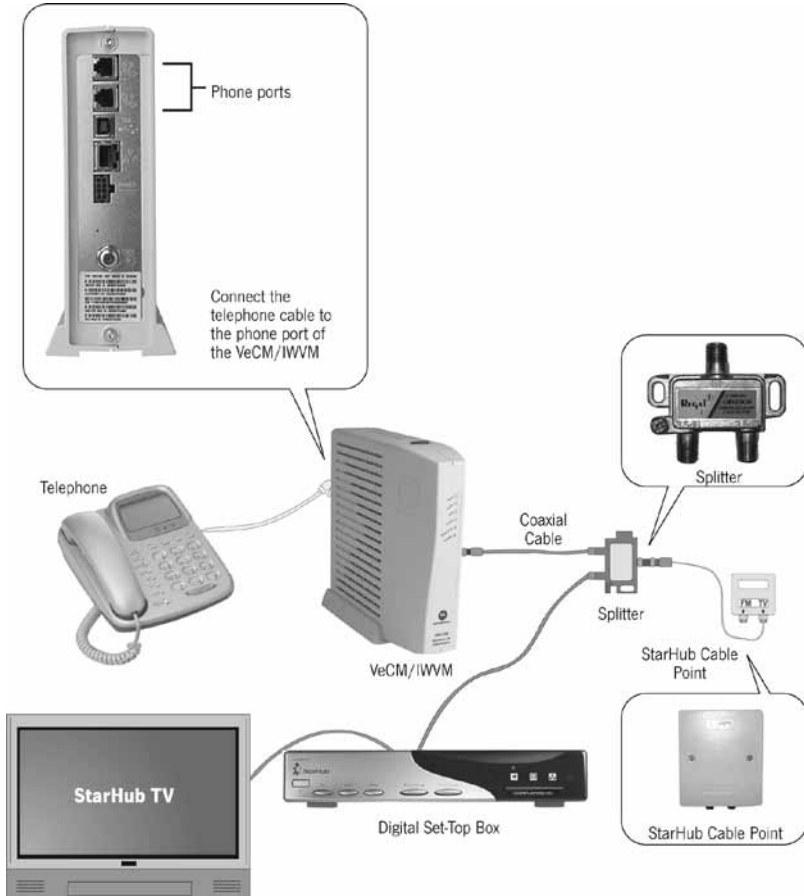
While the configuration may vary depending on the model and type of VeCM, the types of connections are similar.

### Using the Integrated Wireless Voice Modem

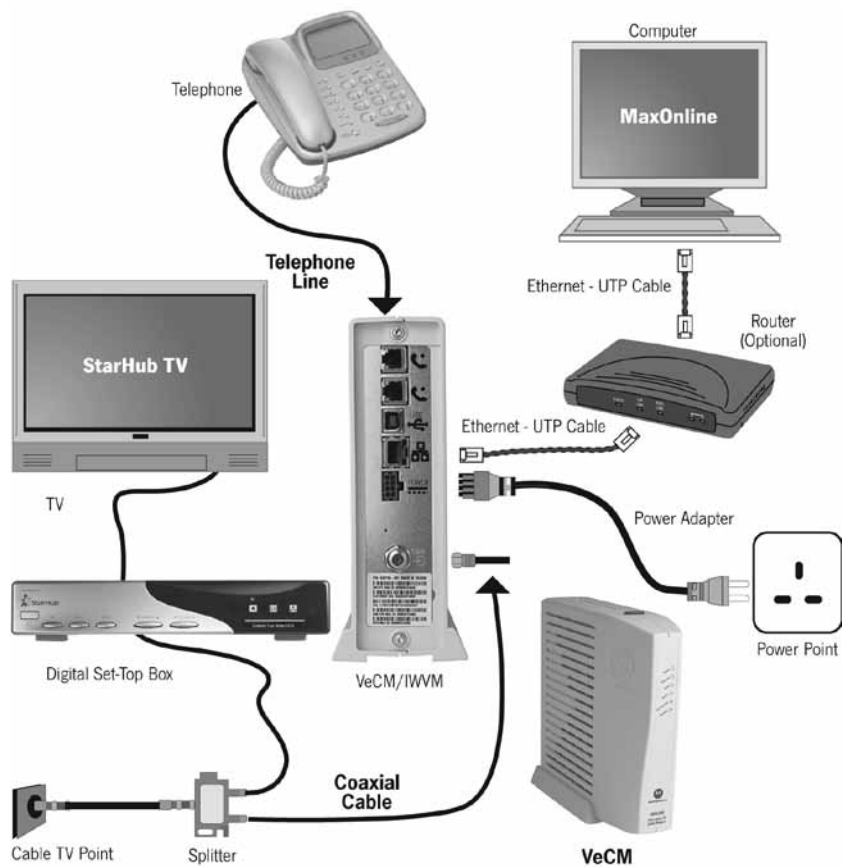
The IWVM allows you to access the Internet through your computer (if you are a MaxOnline user) and make voice calls through your standard or cordless phone. Please ensure that the equipment is powered on at all times.



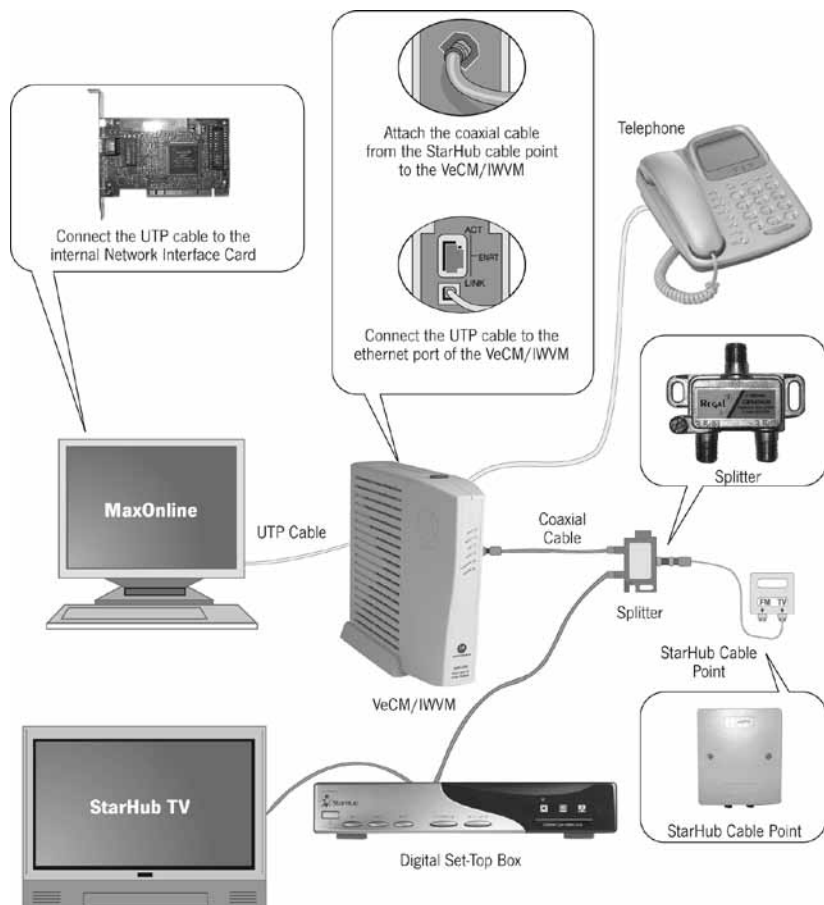
## Digital Voice Home Only Connection



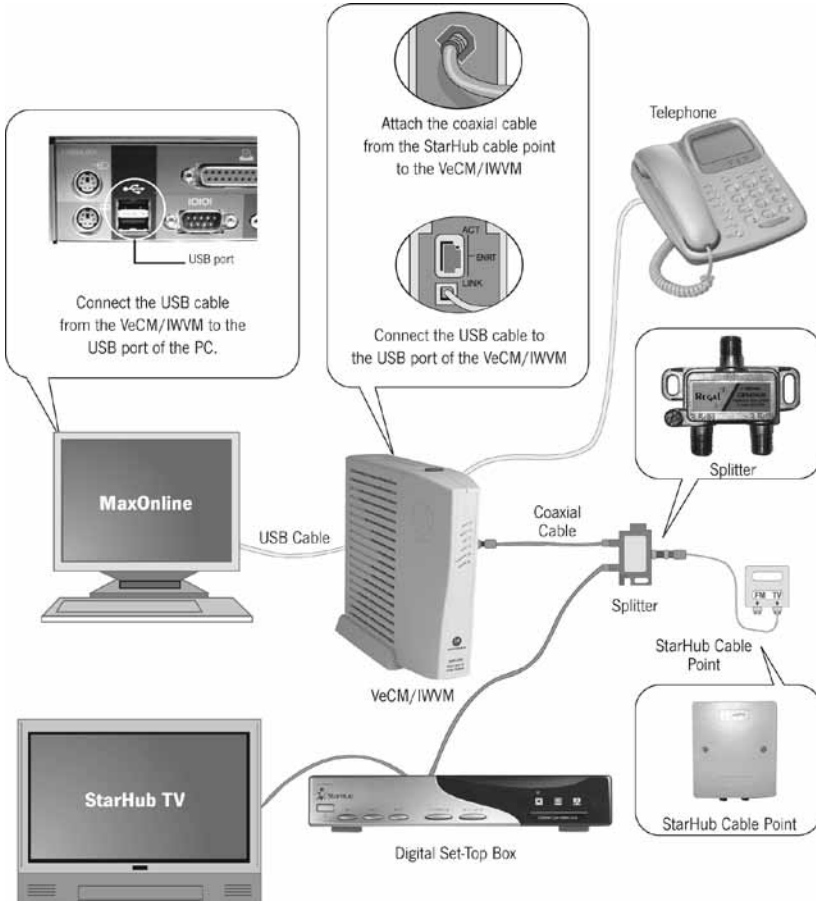
## Digital Voice Home connection with Router



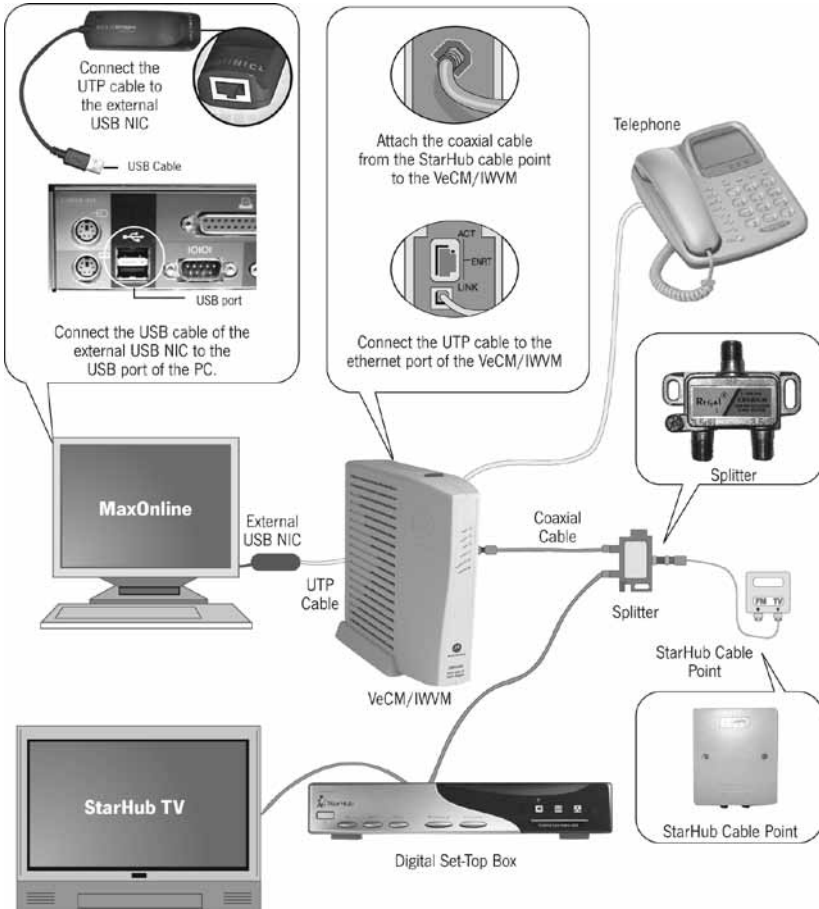
## Digital Voice Home and MaxOnline Connection using Internal Network Interface Card and Voice-enabled Cable Modem/ Integrated Wireless Voice Modem



## Digital Voice Home and MaxOnline Connection using USB Voice-enabled Cable Modem/Integrated Wireless Voice Modem.



## Digital Voice Home and MaxOnline Connection using External USB Network Interface Card and Voice-enabled Cable Modem/Integrated Wireless Voice Modem.



# Troubleshooting for Voice-enabled Cable Modem

## SBV5120i/SBV5121i Voice-enabled Cable Modem

### FRONT PANEL INDICATOR



### Panel LED Descriptions:

LED	Description
<b>Power</b>	Flashing green indicates performing start-up diagnostics. Solid green indicates power on and diagnostics completed successfully.
<b>DS</b> (Downstream)	Flashing green indicates scanning for the downstream frequency. Solid green indicates the downstream channel is acquired.
<b>US</b> (Upstream)	Flashing green indicates scanning for the upstream channel. Solid green indicates the upstream channel is acquired.
<b>Online</b>	Flashing green indicates that the VeCM is requesting for an IP address. Solid green indicates that all of the start-up diagnostics, scanning for downstream and upstream channels and IP-addressing activities have been completed.
<b>Link</b>	Flashing amber indicates that data is transmitted on the downstream or upstream connection. Solid amber indicates that a device, such as a computer or router, is connected to the USB or Ethernet connectors on the back panel.
<b>Tel 1</b>	Flashing green indicates that the telephone (Line 1) is in use (off-hook). Solid green indicates that the telephone is not in use (on-hook).
<b>Tel 2</b>	Flashing green indicates that the telephone (Line 2) is in use (off-hook). Solid green indicates that the telephone is not in use (on-hook).
<b>Standby</b>	Pressing the Standby button on top of VeCM will put the VeCM in standby mode. All front LEDs except the Standby LED would be turned off and the USB and Ethernet ports are disabled. You can still make or receive voice calls in Standby mode.

## Panel LED Diagnostics

LED	STATUS	POSSIBLE PROBLEMS	SUGGESTED ACTIONS
<b>Power</b>	Off	The power cord is not properly seated.	Check the power cord connection.
		Power outlet is not operating.	Check power outlet (use a test pen) or use another power point.
		The VeCM is faulty.	Call our Customer Care at 1633.
	Blinking	The start-up test failed.	Reset the VeCM. If the problem persists, replace the VeCM. Call our Customer Care at 1633.
<b>DS</b> (Downstream) <b>US</b> (Upstream)	Blinking	Loose connection.  Downstream or upstream channel cannot be acquired.	Check RG-6 cable connection from TV point and to VeCM for loose connection.  Bypass splitter if any.  Replace another RG-6 cable.  Call our Customer Care at 1633.
<b>Online</b>	Blinking	Registration unsuccessful.	Call our Customer Care at 1633.
<b>Tel 1 or Tel 2</b>	Off	Telephone connection is not properly connected to the telephone port.	Check the RJ-11 cable connection from the phone to the telephone port.
		Phone service has not been set up.	Call our Customer Care at 1633.

**Note:** If the Power, DS, US and Online LEDs are OFF but the Standby LED is ON, the VeCM has been put on Standby mode. Please press the Standby button located at the top of the VeCM to activate the VeCM. In Standby mode, data activity is suspended but you can still continue to make or receive voice calls.

## Other Scenarios

### No dial tone is heard

Please check the following:

- Voice-enabled cable modem (VeCM) is powered on (usually the first LED on the front panel is the Power indicator. It should display a solid green colour if it is powered up successfully).
- RJ-11 cable is connected securely to the phone jack at the rear of the VeCM. If you have a single telephone line, it should usually be connected to phone jack number 1, unless you have been advised by us otherwise.
- RJ-11 cable is connected securely to your standard telephone set or cordless telephone set.

**Note :** When the VeCM is powered on, you may have to wait for up to 40 seconds before it completes the start-up sequence and acquires a dial tone. If no dial tone is heard, try turning off then on the power supply to the VeCM. If you still can't get a dial tone, please call our Customer Care at 1633.

### Different dial tone is heard

Under certain circumstances, you may hear a dial tone that is different from the standard (continuous) dial tone.

- **Intermittent dial tone:** This dial tone is generated when you activate certain Value-Added Services. This special tone serves to remind you that you have activated a Value-Added Service. Your phone is not engaged, you can still continue to make or receive calls.
- **Stutter tone:** When you subscribe to our Voicemail service, this dial tone is generated to alert you that you have a new mail message in your mailbox.

### Pressing the telephone hook (to simulate the flash function) does not work

You may try pressing and holding the hook for a while as it may not respond when pressed quickly. If your telephone set has a flash key, we strongly recommend that you use it for more consistent results.

### Value-Added Services (such as Call Waiting) do not work

The most common cause is misinterpretation of the procedures in the Value-Added Services User Guide. Please call our Customer Care at 1633 if you need help on using our Value-Added Services.






# Troubleshooting for Integrated Wireless Voice Modem

## Integrated Wireless Voice Modem








### FRONT PANEL INDICATOR







### Panel LED Descriptions:

LED	NAME	COLOUR	INDICATE
	Power	Green	Solid indicates the power source is on
	Cable	Green	Blinking indicates TFTP/DHCP in progress. Solid indicates IWVM registered
	Tx	Green	Flashing indicates scanning for upstream frequency. Solid indicates upstream channel is acquired
	Rx	Green	Flashing indicates scanning for downstream frequency. Solid indicates downstream channel is acquired
	LAN1	Green	OFF indicates that no wired connection detected on LAN Port 1. Solid indicates wired connection detected. Blinking when there is data transfer.




## Panel LED Descriptions:

LED	NAME	COLOUR	INDICATE
<b>2</b> 	LAN2	Green	OFF indicates that no wired connection detected on LAN Port 2. Solid indicates wired connection detected. Blinking when there is data transfer.
<b>3</b> 	LAN3	Green	OFF indicates that no wired connection detected on LAN Port 3. Solid indicates wired connection detected. Blinking when there is data transfer.
<b>4</b> 	LAN4	Green	OFF indicates that no wired connection detected on LAN Port 4. Solid indicates wired connection detected. Blinking when there is data transfer.
	USB	Green	Off indicates that no USB connection detected. Solid indicates that USB connection detected. Blinking when there is data transfer.
<b>1</b> 	TEL1	Green	Off when the Line 1 is not registered. Solid indicates Line 1 is registered. Blinking when in active session.
<b>2</b> 	TEL2	Green	Off when the Line 1 is not registered. Solid indicates Line 1 is registered. Blinking when in active session.
	Wifi	Green	Off when the WIFI is turned on. Solid indicates WIFI is functioning. Blinking when data there is transferring
<b>WPS</b>	WPS	Blue	Off when there is no WPS connection. On indicates WPS connected. Blinking when WPS activating

## Panel LED Diagnostics:

LED	NAME	STATUS	POSSIBLE PROBLEM	SUGGESTED ACTION
	Power	OFF	The power cord is not properly seated	Check power cord connection
			Power outlet is not operating	Check power outlet (use a test pen) or use another power point
			The IWVM is faulty	Call our Customer Care at 1633
	Cable	Blinking	Unsuccessful Registration	Call our Customer Care at 1633
	Tx/RX	Blinking	Loose Connection	Check RG-6 cable connection from TV point and to IWVM for loose connection
			Upstream and downstream cannot be acquired	<ul style="list-style-type: none"> <li>• Bypass splitter if there is any</li> <li>• Replace the RG-6 cable</li> <li>• Call our Customer Care at 1633</li> </ul>
	LAN 1 to LAN 4	OFF	No wired connection detected	<ul style="list-style-type: none"> <li>• Check UTP cable connection</li> <li>• Check UTP cable connection from PC and to IWVM for loose connection</li> <li>• Replace the UTP cable</li> <li>• Check PC network card to ensure it is function properly</li> <li>• Connect to another PC using the same IWVM's LAN port</li> <li>• Call our Customer Care at 1633</li> </ul>

## Panel LED Diagnostics:

LED	NAME	STATUS	POSSIBLE PROBLEM	SUGGESTED ACTION
	USB	OFF	No USB connection detected	<ul style="list-style-type: none"> <li>• Check USB cable connection from PC and to IWM for loose connection</li> <li>• Check the USB driver is properly installed on the PC</li> <li>• Check to another USB slot on the PC</li> <li>• Call our Customer Care at 1633</li> </ul>
 	TEL1/ TEL2	OFF	<ul style="list-style-type: none"> <li>• Loose Connection</li> <li>• Not Registered</li> </ul>	<ul style="list-style-type: none"> <li>• Check RJ 11 connection from Phone to IWM for loose connection</li> <li>• Call our Customer Care at 1633</li> </ul>

## Other Scenarios

### No dial tone is heard

Please check the following:

- Integrated Wireless Voice Modem (IWVM) is powered on (usually the TEL1 LED on the front panel is the Power indicator. It should display a solid green colour if it is powered up successfully).
- RJ-11 cable is connected securely to the phone jack at the rear of the IWVM. If you have a single telephone line, it should usually be connected to phone jack number 1, unless you have been advised by us otherwise.
- RJ-11 cable is connected securely to your standard telephone set or cordless telephone set.

**Note :** When the IWVM is powered on, you may have to wait for up to 40 seconds before it completes the start-up sequence and acquires a dial tone. If no dial tone is heard, try turning off then on the power supply to the VeCM. If you still can't get a dial tone, please call our Customer Care at 1633.

### Different dial tone is heard

Under certain circumstances, you may hear a dial tone that is different from the standard (continuous) dial tone.

- **Intermittent dial tone:** This dial tone is generated when you activate certain Value-Added Services. This special tone serves to remind you that you have activated a Value-Added Service. Your phone is not engaged, hence you can still continue to make or receive calls.

### Pressing the telephone hook (to simulate the flash function) does not work

You may try pressing and holding the hook for a while as it may not respond when pressed quickly. If your telephone set has a flash key, we strongly recommend that you use it for more consistent results.

### Value-Added Services (such as Call Waiting) do not work

The most common cause is misinterpretation of the procedures in the Value-Added Services User Guide. Please call our Customer Care at 1633 if you need help on using our Value-Added Services.

## Other Scenarios

### Router Configuration

To access the web-based configuration utility, open a web browser such as Internet Explorer and enter the IP address of the DCM-604.



Once you enter, you should see the webpage below:

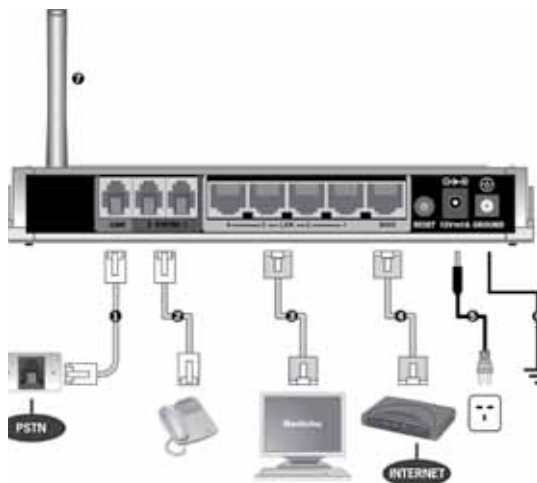
Type the username (**admin**) and password (**password**) in the respective fields.



For more information on the DCM-604 IWVM configuration, please refer to DLink website [http://www.dlink.com.sg/Starhub/downloads/DCM-604\\_Manual.pdf](http://www.dlink.com.sg/Starhub/downloads/DCM-604_Manual.pdf)

# Setting up your Digital Voice Home connection using Dlink DVG-G5402SP Wireless Integrated Access Device

The following diagram shows the typical set-up for a StarHub TV, MaxOnline and Digital Voice Home user using the Dlink DVG-G5402SP wireless IAD



1. **Line: This is an optional connection.** You may connect to this port your other service provider's telephone line using the RJ-11 cable to receive incoming calls. However, please note you will not be able to make outgoing calls via the other service provider's telephone line when connected through the wireless IAD.
2. **Phone Port (1 & 2):** The default phone port to be connected is Phone Port (1). Connect to your phones using standard phone cabling (RJ-11).
3. **LAN:** Connect to your Ethernet enabled computers using Ethernet cabling.
4. **WAN:** Connect to your broadband modem using an Ethernet cable.
5. **Power Receptor:** Receptor for the provided power adapter.
6. **Ground:** A conducting connection with the earth. Connect with the ground so as to make the earth a part of an electrical circuit using metal wire.
7. **Antenna:** Connect to a wireless network.

**WARNING: DO NOT (1) connect the phone ports to each other (FXS to FXS) or (2) connect any phone port directly to a PSTN line (FXS to PSTN) or to an internal PBX line (FXS to PBX extension). Doing so may damage your VoIP Router.**

**Use Reset Button to restore factory default settings:**

1. **Power on.**
2. **Press and hold the reset button for 5 seconds.**
3. **Release the reset button. Factory settings will be restored.**

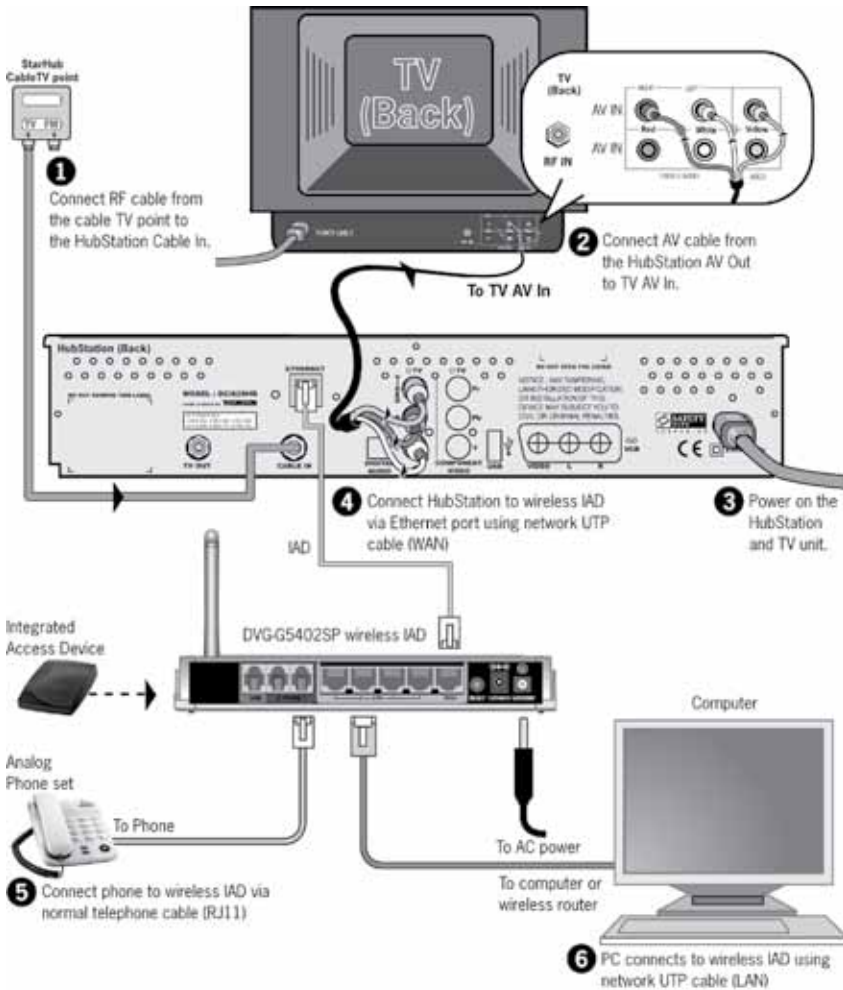
## Front Panel



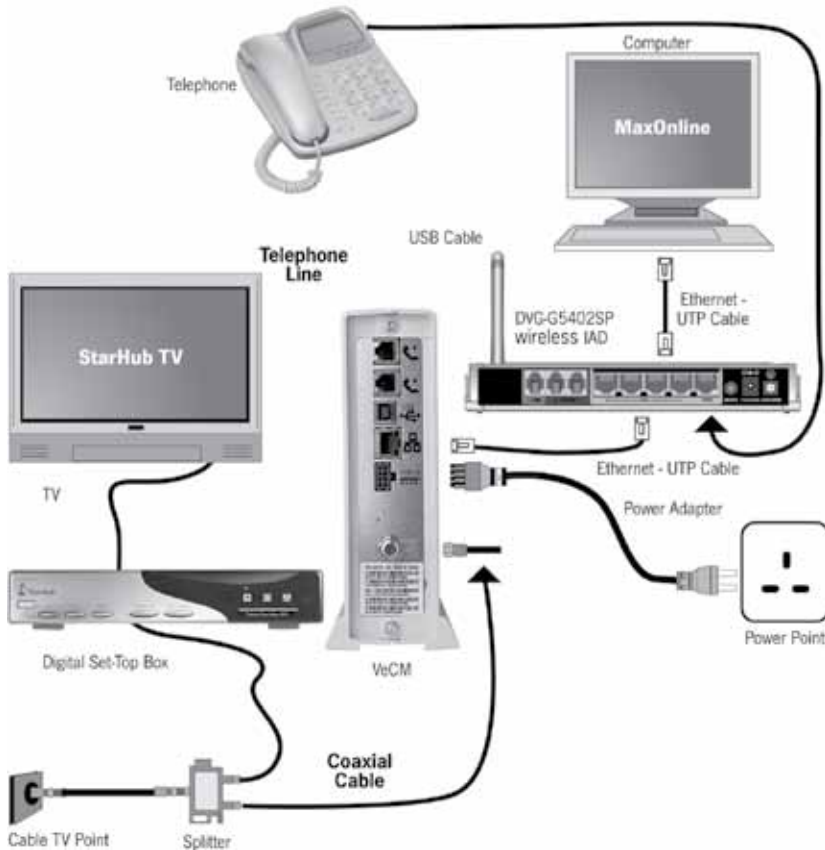
<b>Power</b>	Solid indicates a connection to a good power source.
<b>Prov./AI</b>	A blinking light indicates DVG-G5402SP is attempting to connect with the Provisioning server. Once the service connects, the LED will turn off. The LED will light solid red if the self-test or boot-up fails.
<b>Register</b>	The Register LED will light solid when DVG-G5402SP is connected to a VoIP service provider. The LED will blink if not connected to a service provider.
<b>WAN</b>	When a connection is established the 10 or 100 LED will light up solid. The LED will blink to indicate activity. If the 10 or 100 LED does not light up when a cable is connected, verify the cable connections and make sure your devices are powered on.
<b>WLAN</b>	A steady light indicates a wireless connection. A blinking light indicates that DVG-G5402SP is receiving / transmitting from/to the wireless network.
<b>LAN</b>	When a connection is established the 10 or 100 LED will light up solid on the appropriate port. The LEDs will blink to indicate activity. If the 10 or 100 LED does not light up when a cable is connected, verify the cable connections and make sure your devices are powered on.
<b>Phone</b>	This LED displays the VoIP status and Hook activity on the phone port that is used to connect your normal telephone(s). If a phone connected to a phone port is off hook or in use, this LED will light solid. When a phone is ringing, the indicator will blink.
<b>Line</b>	Light on means the line is in use off-hook

## Connecting your HubStation to MaxOnline broadband

**Note :** If you are connecting your HubStation free unlimited 1Mbps broadband Internet access, please note that the Digital Voice Home's voice quality may be affected when there is heavy Internet access/usage occurring simultaneously by 1 or more PCs connected to the wireless IAD's router. For better voice quality, we would recommend that you upgrade to MaxOnline service with higher bandwidth.



## Connecting with Cable/ADSL broadband modems



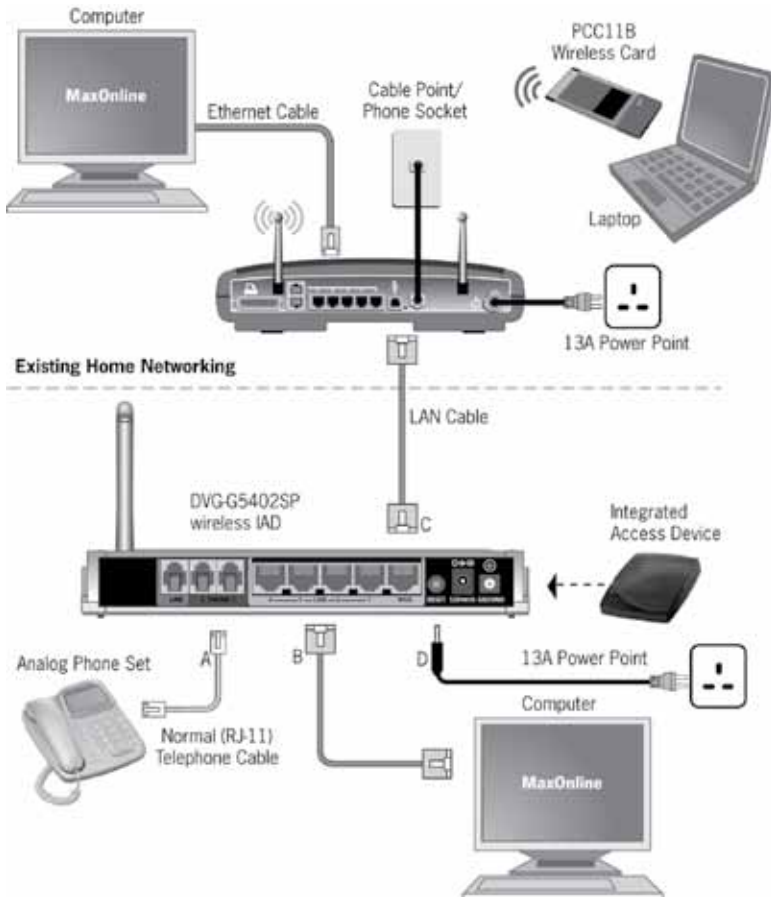
### Steps for Setting up:

1. Insert one end of the Ethernet cable into the Ethernet (LAN) port on the back panel of the DVG-G5402SP and the other end of the cable to an Ethernet Adapter or available Ethernet port on your computer.
2. Insert one end of the Ethernet cable into the WAN port on the back of the DVG-G5402SP and the other into your cable/DSL.
3. Insert a telephone cable (RJ11) into the Phone port 1, and then connect the other end of the telephone cable to your telephone.
4. Connect the power adapter to the power input at the back panel of the DVG-G5402SP and then plug the other end of the power adapter to a wall outlet or power strip. On the front of the device, the Power LED will turn On to indicate proper operation.

**Note:** Start-up may take longer if the wireless IAD re-configuration takes place or when the Internet is slow/congested.

5. Check the LED display on the front of the wireless IAD to confirm that the connections have been made.
6. Pick up the telephone handset and listen for a dial tone. If you hear a dial tone, you can now call anyone as you normally would on any telephone. If you do not hear a dial tone, check that all connections as described in this procedure are correct.

## Connecting a cable or ADSL connection with built-in router.



### Steps for Setting up:

1. Ensure that your wireless IAD is unplugged and that the power supply to your modem is turned off.
2. Connect one end of an Ethernet cable (RJ-45) to an open Ethernet LAN port on your modem with built-in router. Connect the other end of this Ethernet cable to the Internet connector on your wireless IAD.
3. Connect a telephone to your PHONE 1 connector on your wireless IAD using a RJ-11 telephone cable.
4. Plug the AC power adapter to the POWER connector on your wireless IAD and the electrical outlet. This turns your wireless IAD on.

**Note:** You should keep the wireless IAD powered on all the time in order to receive incoming calls.

5. Wait for about 1-2 minutes for the wireless IAD to start up.

**Note:** Start-up may take longer if the wireless IAD re-configuration takes place or when the Internet is slow/congested.

6. Pick up the telephone handset and listen for a dial tone. If you hear a dial tone, you can now call anyone as you normally would on any telephone. If you do not hear a dial tone, check that all connections as described in this procedure are correct.

**Note for cable modem users :**

The following cable modems with built-in routers are supported by StarHub.

- Motorola SBG1000 Cable Modem Gateway
- Linksys Wireless Cable Gateway 200

For other models, please check with Customer Care at 1633 whether they are supported.

Overcoming firewalls in the cable modem with built-in router. There may be firewall options built in the wireless Integrated cable modem cum router that may block certain network traffic and may interfere with the use of Digital Voice Home. If you experience problems with your Digital Voice Home service and are connecting through a firewall, please perform the following steps to enable UDP ports to and from the wireless IAD:

**1. Disable Firewall on the wireless Integrated cable modem cum router**

No additional settings is needed on wireless IAD and cable modem with built-in router to use Digital Voice Home

**2. When Firewall is enabled on the wireless Integrated cable modem cum router, there are 2 options available as follows:**

- Configure “Port Forwarding” for the cable modem with built-in router on UDP Port 5060/5061 and 16384-32767

Refer to Appendix 1 for setting of Port Forwarding. Please also ensure that the firewall policy on the cable modem with built-in router allow the Port specified above. (See Appendix 2: Setting up the firewall for the SBG1000). For Wireless Cable Gateway 200 cable modem with built-in router, Port Forwarding is not required on the Wireless Cable Gateway 200 even though the firewall is enabled.

- If you are using the Motorola SBG1000 cable modem cum router, bypass the wireless IAD from the Firewall policy and place the IP address of the wireless IAD MAC address, in the De-militarised Zone (DMZ) of the router.

**Note:** Please refer to Appendix 2 for Firewall settings

**Note for other ADSL service provider users :**

**Basic PPPoE set-up on wireless IAD for ADSL modem without NAT (Network Address Translation)**

To perform basic PPPoE configuration on DVG-G5402SP, please refer to Dlink website

<http://www.dlink.com.sg/starhub/downloads/DVG-G5402SP.pdf>

**Note:** For more information related to other information/setup for DVG-G5402SP, please refer to Dlink website

<http://www.dlink.com.sg/starhub/downloads/DVG-G5402SP.pdf>

If you are unable to connect to the PPPoE server, you may wish to perform the following steps:

1. Check the PPPoE settings: username and password.
2. Check the cabling between Internet port and DSL modem
3. Check the link lights between the router and the modem
4. Try new cabling between the Internet port and DSL modem

If the above fails, please contact Customer Care at 1633 for assistance.

**Overcoming firewall for ADSL modem or ADSL router**

If you have an ADSL router, there may be firewall options built in that may block certain network traffic and may interfere with the Digital Voice Home service. If you experience problems with your Digital Voice Home service, and are connecting through a firewall, please ensure that the following UDP ports are allowed to and from the wireless IAD

Digital Voice Home wireless IAD Internet ports:

- SIP ports 5060 through 5061 using UDP protocol
- TFTP port 69 using UDP protocol
- DNS port 53 using UDP protocol
- RTP ports 16384 through 32767 using UDP protocol

Since firewalls may be designed differently, please consult the ADSL modem or router user manual for further information on firewall settings.

For ADSL modem or ADSL router with NAT

The NAT (Network Address Translation) function on your router may block needed communication ports, which will interfere with the Digital Voice Home. You may need to direct certain ports to be accessible to our network in order to use Digital Voice Home.

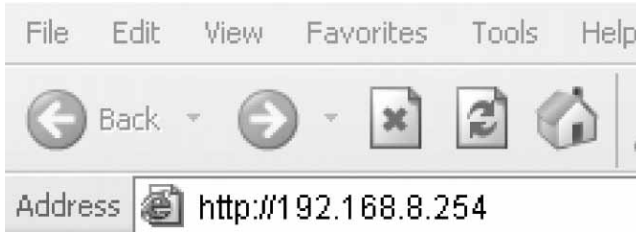
Each router manufacturer has a different process for Port Forwarding (also called Port Opening). In each case, you must always specify two port ranges to be opened:

- 5060 - 5061 (UDP)
- 16384-32767 (UDP)

These ports should be forwarded to the IP address of your Digital Voice Home. Please refer to your router manual for Port Forwarding configuration instructions.

## Router Configuration

To access the web-based configuration utility, open a web browser such as Internet Explorer and enter the IP address of the DVG-G5402SP.



Once you enter, you should see the webpage below:

Type User for the username and leave the password blank. Then click logon.



For more information on the DVG-G5402SP router configurations, please refer to Dlink website <http://www.dlink.com.sg/starhub/downloads/DVG-G5402SP.pdf>

# Troubleshooting for Dlink DVG-G5402SP Wireless Integrated Access Device

LED	STATUS	POSSIBLE PROBLEMS	SUGGESTED ACTIONS
<b>Power</b>	Off	The power cord is not properly seated.	Check the power cord connection.
		Power outlet is not operating.	Check power outlet (use a test pen) or use another power point.
		The device is faulty.	Call our Customer Care at 1633.
<b>Prov./Alm.</b>	On	The start-up test failed or Boot-up failed.	Reset the wireless DVG. If the problem persists, replace the wireless DVG. Call our Customer Care at 1633.
	Blinking	Trying to obtain IP or failed to register or provisioning failed.	Wait for a few minutes to light off. If it is still blinking, call our Customer Care at 1633.
<b>Register</b>	Blinking	Registration unsuccessful.	Call our Customer Care at 1633.
<b>WAN</b>	Off	Loose Connection.	Check RJ-45 cable connection from cable modem to wireless DVG and make sure cable modem is powered on.
<b>WLAN</b>	Off	Wireless connection is disable.	Check the wireless setting from WebUI.
		Wireless Connection is not operating.	Call our Customer Care at 1633.
<b>LAN</b>	Off	Loose Connection.	Verify the cable connections and make sure your devices are powered on.
<b>Phone1,2</b>	Off	Telephone connection is not properly connected to the telephone port.	Check the RJ-11 cable connection from the phone handset to phone port.
		Phone service has not been setup.	Call our Customer Care at 1633.

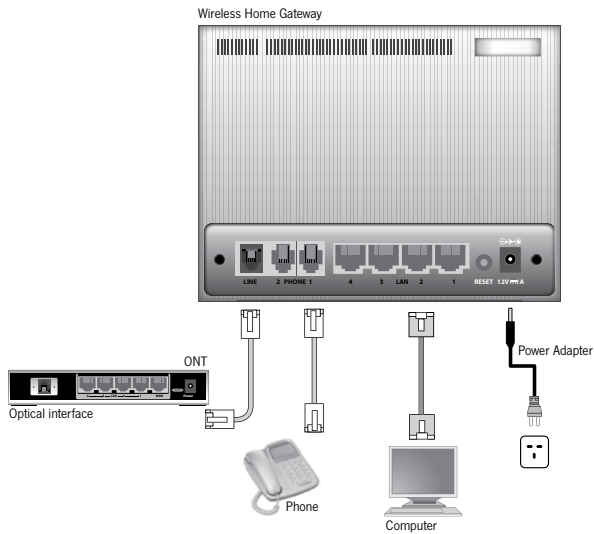
## Note:

Register LED is Off and Prov./Alm is solid red, wireless DVG is being upgraded new firmware. Upgrading process will take one or two minutes and the wireless DVG will be ready after rebooting.

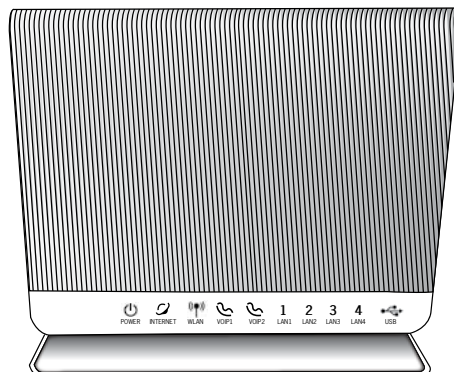
Register LED is solid green and Prov./Alm is solid red and the status is lasted for more than one minutes, the wireless DVG is abnormal and please call our Customer Care at 1633.

# Setting up your Digital Voice Home connection using the HG256S Wireless Home Gateway

The Wireless Home Gateway allows you to make voice calls through your standard or cordless phone when it is connected to the internet. Please ensure that the equipment is powered on at all times so that you can receive in-coming calls.



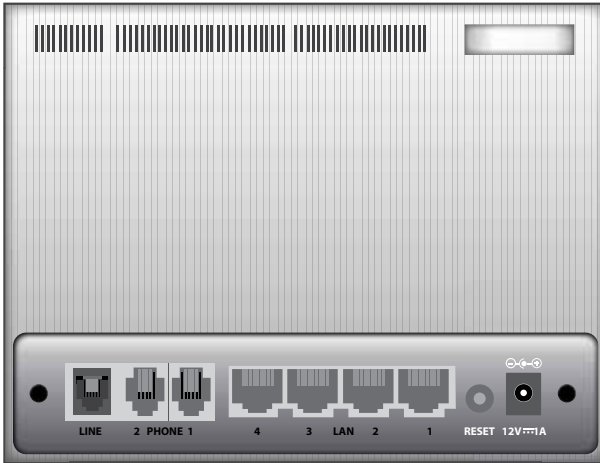
The following diagram shows the front panel of the Wireless Home Gateway



## Panel LED Descriptions

Indicator	Color	Status	Indicates
<b>POWER</b>	Green	On	The HG256s is powered on.
		Off	The HG256s is powered off.
<b>INTERNET</b>	Green	On	A connection is set up between the Internet and the WAN interface of the HG256s, but no data is being transmitted on the WAN interface.
	Red	On	A physical connection is set up, but the HG256s is not connected to the internet.
	-	Off	No network cable is connected to the WAN interface, or the HG256s is powered off.
<b>WLAN</b>	Green	Blinking	The WLAN function is enabled and data is being transmitted on the WLAN.
	Green	On	The WLAN function is enabled, but no data is being transmitted on the WLAN.
	-	Off	The WLAN function is disabled.
<b>VOIP1, VOIP2</b>	Green	On	The H256s is successfully registered with the SIP server.
	Green	Blinking	The corresponding phone is picked up.
	-	Off	The HG256s is powered off or fails to be registered with the SIP server.
<b>LAN1, LAN2, LAN3, LAN4</b>	Green	Blinking	A connection is set up between the corresponding LAN interface of the H256s and an Ethernet device (such as a PC) through a network cable, but no data is being transmitted.
	Green	On	A connection is set up between the corresponding LAN interface of the H256s and an Ethernet device (such as a PC) through a network cable, but no data is being transmitted.
	-	Off	No connection is set up between the corresponding LAN interface of the H256s and an Ethernet device (such as a PC).
<b>USB</b>	Green	Blinking	The USB connection is successfully established and data is being transmitted.
	Green	On	The USB connection is successfully established but no data is being transmitted.
	-	Off	The H256s is powered off or the USB connection is not yet established.

The following diagram shows the types of connection at the rear panel of the Wireless Home Gateway



Interface or Button	Description
<b>POWER</b>	Interface used to connect the power adapter to the HG256s.
<b>RESET</b>	To restore the factory settings of the HG256s, power on the HG256s, press and hold the RESET button for at least 3s, and then release the button.  <b>NOTE</b> When the factory settings are restored, your custom data is lost. Therefore, use the RESET button with caution.
<b>LAN1–LAN4</b>	Ethernet interfaces used to connect Ethernet devices, such as PCs, to the HG256s.
<b>PHONE1, PHONE2</b>	It is used to connect the phone to the HG256s.
<b>WAN</b>	Ethernet interface is used to connect Ethernet devices that provide Internet access interfaces.
<b>WPS</b>	Button used to enable the WPS function.
<b>WLAN</b>	It is used to enable or disable the WLAN function.
<b>ON/OFF</b>	It is used to power on or off the HG256s.

## STEPS FOR SETTING UP:

1. Ensure that the Wireless Home Gateway is unplugged and the power supply to the Wireless Home Gateway is turned off.
2. Connect the Wireless Home Gateway WAN Port to the assigned\* ONT LAN port. \*Please note that our Customer Care will advise which LAN Port on the ONT (i.e. Port 1, Port 2, Port 3 or Port 4) should be connected to the WAN Port of the Wireless Home Gateway, using the RJ45 Ethernet cable.
3. Connect a telephone to the PHONE 1 connector on the Wireless Home Gateway using a RJ-11 telephone cable.
4. Connect the AC power adapter to the POWER socket on the Wireless Home Gateway and the electrical outlet. This will power on the Wireless Home Gateway.

**Note:** You should keep the Wireless Home Gateway powered on at all time in order to receive incoming calls.

5. Wait for about 1-2 minutes for the Wireless Home Gateway to start up.

**Note:** Start-up may take longer if the Wireless Home Gateway re-configuration takes place or when the Internet is slow/ congested.

6. Pick up the telephone handset and listen for a dial tone. If you hear a dial tone, you can now call anyone as you normally would on any telephone. If you do not hear a dial tone, check that all connections as described in this procedure are correct.

# Troubleshooting for Wireless Home Gateway

## Other Scenarios

### NO DIAL TONE IS HEARD

Please check the following:

- Wireless Home Gateway is powered on (refer Power LED indicator). It should display a solid colour if it is powered up successfully).
- RJ-11 cable is connected securely to the phone jack at the rear of the Wireless Home Gateway. If you have a single telephone line, it should usually be connected to phone jack number 1, unless you have been advised by us otherwise.
- RJ-11 cable is connected securely to your standard telephone set or cordless telephone set.

**Note :** When the Wireless Home Gateway is powered on, you may have to wait for up to 40 seconds before it completes the start-up sequence and acquires a dial tone. If no dial tone is heard, try turning off then on the power supply to the Wireless Home Gateway. If you still can't get a dial tone, please call our Customer Care at 1633.

### DIFFERENT DIAL TONE IS HEARD

Under certain circumstances, you may hear a dial tone that is different from the standard (continuous) dial tone.

- Intermittent dial tone: This dial tone is generated when you activate certain Value-Added Services.

This special tone serves to remind you that you have activated a Value-Added Service. Your phone is not engaged, hence you can still continue to make or receive calls.

### PRESSING THE TELEPHONE HOOK (TO SIMULATE THE FLASH FUNCTION) DOES NOT WORK

You may try pressing and holding the hook for a while as it may not respond when pressed quickly. If your telephone set has a flash key, we strongly recommend that you use it for more consistent results.

### VALUE-ADDED SERVICES (SUCH AS CALL WAITING) DO NOT WORK

The most common cause is misinterpretation of the procedures in the Value-Added Services User Guide. Please call our Customer Care at 1633 if you need help on using our Value-Added Services.

# Value-Added Home Services Guide

Digital Voice Home comes with a full range of Value-Added Services to serve your telephony needs. The following section describes what they are and how to operate them. If you need further assistance, please call our Customer Care at 1633.

Please note that some of Digital Voice Home's Value-Added Services may work differently from those of other service operators.

## Value Bundle

Value Bundle consists of the following four popular features:

- Caller Number Display
- Call Divert
- Call Waiting
- Voicemail

To get details on these features, please refer to the individual feature description.

## Call IDD 018

There are currently three plans for discounted IDD 018 calls to the following countries - China, Hong Kong or USA (including Alaska and Hawaii):

- (a) Call IDD 018 China
- (b) Call IDD 018 Hong Kong
- (c) Call IDD 018 USA (Including Alaska & Hawaii)

Once activated for any of the above three plans you have subscribed, you may call the specified country in the usual manner as follows. No extra step is required.

**018 > Country Code > Area Code (if any) > Telephone Number**

For each country you have chosen, you will enjoy a certain amount of free IDD 018 minutes. For example, if you frequently call Hong Kong, sign up for Call IDD 018 Hong Kong and enjoy up to 200 minutes worth of extra talktime.

## Privacy

### CALLER NUMBER DISPLAY:

The phone number of an incoming caller is displayed on your phone (which must have caller ID display) or external caller ID display unit.

**Note:**

- (1) The Caller Number Display is activated by default.
- (2) If you wish to turn off Caller Number Display, you may deactivate the service.

### CALLER NUMBER NON-DISPLAY:

The person you are calling will not be able to see your phone number when you call them.

To apply for this Value-Added Service, please call our Customer Care at 1633. Once activated, this service cannot be turned off.

If you wish to unblock the caller ID for the current outgoing call only, you can key \*82 before dialing the number to unblock the caller ID.

**Note:**

- (1) De-activation is on a per-call basis, i.e. the caller ID will be blocked again for the next call.
- (2) When you subscribe to this service, you may not be able to gain access to certain services that require a Caller ID to be presented.

### PRIVATE NUMBER LISTING :

Your telephone number will not be listed in the Residential Telephone Directory and our Operator Assistance service will not disclose your telephone number to any requestor.

To apply for this Value-Added Service, please call our Customer Care at 1633. Once activated, this service cannot be turned off. To de-activate this service, you will need to call our Customer Care at 1633 to terminate it.

## Call Control

### 1) CALL DIVERT PLUS:

Your incoming calls can be diverted to another fixed or mobile number of your choice (can be local or international numbers).

**To activate** → dial: **\*72** (the number to divert to) #

**To de-activate** → dial: **\*73**

If you have subscribed to Voicemail, you can divert your calls to your Voicemail.

**To activate** → dial: **\*72** (1302) #

**To de-activate** → dial: **\*73**

### CALL WAITING:

When you are engaged on a call and someone calls you, you will hear an intermittent tone indication.

**To activate** → dial: **flash** to put the first caller on hold and talk to the second caller.

You can alternate between the 2 callers by pressing **flash**.

If the first caller terminates the call while you are on the line with the second caller, you need to return to the first line to end the call by pressing **flash**, followed by **flash** again to return to the second caller. If you do not terminate the first line, the next caller will hear an engaged tone.

To de-activate If you do not wish to be interrupted in the middle of a call, you can temporarily de-activate Call Waiting by keying **\*70**

#### Note:

Once Call Waiting is de-activated, you should hear a short intermittent tone followed by a dial tone after you have pressed **\*70**. If you do not hear a dial tone, that means the de-activation of Call Waiting service was unsuccessful.

## CALL TRANSFER PLUS:

Call Transfer Plus combines the functions of both Call Transfer and Three Party Call.

### 1) CALL TRANSFER:

While on a call with party A, you can transfer the call to party B.

**To activate** → dial: **flash (party B's number)**. Wait for party B to answer the call before you disconnect your phone. After that, parties A and B will be connected.

**Note:**

- (1) The number you transfer to must be a local fixed or mobile number (not international number).

### 2) THREE PARTY CALL:

You can talk to two other persons on different lines at the same time.

**To begin the conference** dial **(party A's number)** and after party A answers the call, call party B by pressing **flash** key, after which you will hear a secondary dial tone. Next, dial **party B's number**.

After party B answers the call, press **flash key** to activate a Three party call.

**To begin the conference while on a call with party A** while on a call with party A, call party B by pressing **flash** key. You will hear a secondary dial tone. Dial party B's number. When party B picks up the call, press **flash** key to activate a Three party call.

**Note:**

- (1) The Digital Voice Home user who initiates the conference must remain in the conference. Otherwise, all calls will be terminated.
- (2) International calls are supported.

## Call Barring

### INCOMING CALL BARRING:

This service blocks all incoming calls (except operator test calls) so that you will not be interrupted by incoming calls.

**To activate** → dial: **\*78#**

**To de-activate** → dial: **\*79#**

**Note:**

(1) All calls that are barred will be dispoisted to the voicemail.

## Voicemail

### DIVERSION TO VOICEMAIL

Your calls will be diverted to your Voicemail when :

- Your Digital Voice Home line is engaged
- You do not answer the call

**Note:** Your calls will not be diverted to your Voicemail if the VeCM is not powered on, unless you have activated Call Divert previously to direct your calls to Voicemail.

### MESSAGE RETRIEVAL

Retrieving Messages Using Digital Voice Home Line:

**Message Retrieval** → dial: **1303** and enter your (Voicemail password)# Press 1 to access the main menu.

**Note:** Default Voicemail password is 8888. The Voicemail password is different from that of the other Value-Added Services such as Outgoing Call Barring.

Retrieving Messages Using Other Lines:

**Message Retrieval** → dial: **1303** or **(+65) 9850 1303** when calling from overseas and enter your (Digital Voice Home number)#(Voicemail password)#. Press 1 to access main menu. You can also access your Voicemail from a StarHub Mobile line or another operator's fixed and mobile line.

**Note:** Default password is 8888

### OTHER VOICEMAIL FUNCTIONS

**Leaving messages in voice mailboxes of other Digital Voice Home and StarHub Mobile users** →

Dial **1302** or **(+65) 9850 1302** when calling from overseas and enter (the other party's Digital Voice Home or mobile number)#. You will hear the default or personalised greeting "You have reached mailbox number xxxx xxx. Please leave your message after the tone". (Or the personalised greeting if there is one). Leave your message after the tone.

**Personalising your Own Greeting** → Dial **1303** or **(+65) 9850 1303** when you are calling from overseas, and enter (your Voicemail password)#

Press **2** to access your greetings menu

To record your greeting, press **2** followed by **3**

To play your greeting, press **2** followed by **1**

## CHANGING YOUR VOICEMAIL PASSWORD

### Voicemail Password:

Digital Voice Home Voicemail is protected by a password (this password is different from that of your other Value-Added Services). The default password is **8888**. To change your Voicemail password :

- Dial **1303** and log into your mailbox
- Press **8** to access your Personal Options menu
- Press **2** to access your Password Options
- Press **3** to modify your password (4 to 7 digit number)
- Press **#** to confirm the new password

If you have forgotten your password, please call our Customer Care at **1633** or **(+65) 6820 1633** when you are calling from overseas to reset your password to the default password (8888).

**Note:** If you are also a StarHub Mobile customer, please note that your Digital Voice Home's voice mailbox is a separate mailbox from that of your mobile voice mailbox.

If you subscribe to both Call Waiting and Voicemail and your line is engaged, the Call Waiting feature will be activated first. If you do not initiate the Call Waiting function after about 20 seconds, your call will be transferred to your Voicemail.

# Appendix 1: Port Forwarding Setting for Motorola SBG 1000 Cable Modem Gateway

Configure “Port Forwarding” for the Motorola SBG1000 cable modem gateway on Port 5060/5061 and 16384-32767

**Note:** Please ensure that the firewall policy on the wireless Integrated cable router allows the Ports specified above.

In the menu on the left hand side of your screen, click the **Gateway** button. This will open a new menu at the top of your screen. In this new menu, click the **Port Forwarding** button.



Close to the top of the status area, you should see a **config** option. Click **config**.



Use the Template drop down box to select **Custom (default)**. Enter the name of the program you are forwarding ports for into the **Name** box.

To forward a range of ports, e.g. UDP ports 5060,5061, 16384 -32767, enter the lowest port number in the range into the **Port Start** box. Enter the highest port number in the range into the **Port End** box.

Enter the IP address to forward these ports to into the **LAN IP Address** box. This should be the IP address of the wireless IAD (Linksys SPA2102-R3 wireless Integrated Access Device) you are forwarding ports for. Check **Enable** checkbox to enable your configuration.

status | config help

Note: You must ensure your firewall policy allows traffic on the application control ports through the firewall for any Port Forwarding entry you configure.

**Note:**  
Remember to unblock the Firewall for port 16384 - 32767.

**ADD NEW PORT FORWARDING ENTRY**

Template	Custom ▾
Name	<input type="text"/>
Port Start	<input type="text"/>
Port End	<input type="text"/>
LAN IP Address	10.0.0. <input type="text"/>
Enable	<input checked="" type="checkbox"/>

Click the **Add** button to add the configuration to the table below.

STATUS WAN LAN **PORT FORWARDING** PORT TRIGGERS LOG help

status | config

This page lists all the configured Port Forwarding entries operating on your private internet LAN. A Port Forwarding entry is a CPE device on the private LAN, typically providing a well-known service (e.g., Web Server) that can be accessed from the Internet.

CONFIGURED PORT FORWARDING				
Name	Port Start	Port End	LAN IP Address	Enable
IAD	16384	32767	10.0.0.4	Yes

## Appendix 2: Setting up the Firewall for Motorola SBG1000 Cable Modem Gateway

To select a predefined policy for all packets processed by the firewall:

- On the set-up program left panel, click **Firewall**.
- Click **POLICY**.
- Click **basic** to display the options for firewall policy:

To create a custom firewall policy, first select **Custom** and click **Apply** on the Firewall > POLICY > basic Page. Then use this page to configure a custom firewall policy.

POLICY ALERT LOGS

basic advanced help

This page allows you to select one of the predefined firewall policies (high, medium, low) to be applied to all packets processed by the SBG firewall. If you select a custom policy you may modify the firewall configuration settings to suit your individual needs. Setting the firewall policy to none disables the firewall and is not recommended.

The approach taken for the predefined firewall policy settings is to provide outbound access to the Internet for the computers on your LAN. The SBG firewall uses a stateful packet filtering (SPF) engine to allow inbound responses only when an outbound session already exists. For example, if you are using a web browser on one of the computers on your LAN, outbound connections are permitted using the HTTP protocol on port 80. Inbound responses from the web server on the Internet are allowed because you have already established an outbound session.

FIREWALL POLICY	
<input type="radio"/> High	Safest configuration, highest security
<input type="radio"/> Medium	Common configuration, modest risk
<input type="radio"/> Low	Minimum security, higher risk
<input checked="" type="radio"/> Custom	Your own customized firewall policy. Press Apply, then go to the Advanced page to complete customization.
<input type="radio"/> None	No security, highest risk

Apply

**NOTE: Firewalls are not foolproof!**  
We recommend choosing the most secure policy.

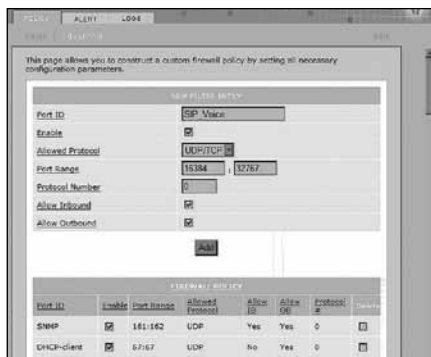
To open up the range of ports for **SIP UDP signalling ports**, eg. UDP ports 5060,5061, enter name of the Port ID of this firewall policy.

- Put a check mark into the **Enable** checkbox to enable your firewall policy.
- Select allowed protocol UDP/TCP from the drop down menu.
- Enter the lowest e.g. 5060 and the highest port number; eg. 5061 in the **Port Range**.
- Enter zero for the Protocol Number.
- Put a check mark into the **Allow Inbound** checkbox to allow incoming packets through the firewall.
- Put a check mark into the **Allow Outbound** checkbox to allow outgoing packets through the firewall.
- Click the **Add** button to add this configuration to the table below.



To open up the range of ports for **SIP UDP Voice ports**, e.g. UDP ports 16384 - 32767, enter name of the Port ID of this firewall policy.

- Put a check mark into the **Enable** checkbox to enable your firewall policy.
- Select allowed protocol UDP/TCP from the drop down menu.
- Enter the lowest e.g. 16384 and the highest port number; e.g. 32767 in the **Port Range**.
- Enter zero for the Protocol Number.
- Put a check mark into the **Allow Inbound** checkbox to allow incoming packets through the firewall.
- Put a check mark into the **Allow Outbound** checkbox to allow outgoing packets through the firewall.
- Click the **Add** button to add this configuration to the table below.



# Glossary

The following are some common terms used in our Digital Voice Home service for your easy reference.

Term	Definition
<b>Cable Modem</b>	This is a device that allows data access (such as to the Internet) via StarHub's broadband network. A cable modem typically has two connections, one to the cable wall outlet and the other to a computer.
<b>Cable Point</b>	This is the cable outlet on the wall which connects to StarHub's cable network.
<b>De-militarised Zone</b>	It is a part of the network sited between the (public) Internet and an internal network. A firewall or a router usually protects this zone with network traffic filtering capabilities whilst enabling external access to information.
<b>Digital Voice Home</b>	Digital Voice Home is StarHub's fixed voice service to our residential customers, delivered over the same quality cable network that brings StarHub TV and MaxOnline broadband services into their homes.
<b>Golden Number</b>	Golden Numbers are telephone numbers with special sequences such as "2828" etc. There is an additional charge for golden numbers.
<b>IAD</b>	Short form for "Integrated access device". It allows a user to make voice calls when it is connected to any broadband network.
<b>Integrated Wireless Voice Modem</b>	Integrated Wireless Voice Modem is a single integrated device that can provide following functions, simultaneously: a) cable modem to enable Max Online Internet Access b) Wireless router to enable multiple PCs/devices to simultaneously access the internet c) voice ports to enable Digital Voice Home service
<b>Internal Wiring</b>	A user would usually connect a standard or cordless telephone set directly to the phone jack of the VeCM to make voice calls. Additional internal wiring is required if the user needs to place the telephone set at another location.
<b>Number Portability</b>	This is known as Number Retention which allows a customer to transfer their existing SingTel residential telephone number over to StarHub's Digital Voice Home Service.
<b>PPPoE</b>	PPPoE i.e Point-to-Point Protocol over Ethernet is a network protocol for encapsulating PPP frames in Ethernet frames. It offers standard PPP features such as authentication, encryption and compression. This protocol is being used by many DSL/ADSL carriers for connecting high-speed modems to the service provider.
<b>RJ-11</b>	Short form for Registered Jack-11. This is a two-wire connector widely used to connect telephone equipment. It looks similar to the RJ-45 connector, but RJ-11 is narrower.

Term	Definition
<b>RJ-45</b>	Short form for Registered Jack-45. This is a eight-wire connector used commonly to connect computers onto a local area network (LAN), especially Ethernet networks.
<b>Silver Number</b>	Like golden numbers, silver numbers are also telephone numbers with special number sequences but they cost less than golden numbers.
<b>Value-Added Services</b>	Value-Added Services are telephony features like Call Waiting, Call Barring etc. Separate subscription and activation charges are required.
<b>VeCM</b>	Short form for "voice-enabled cable modem". A VeCM has all the functionalities of a cable modem but has additional telephony capabilities. It allows a user to have data access (such as the Internet) as well as the ability to make voice calls simultaneously.