



**talking
over
broadband**

Installation Guide

For

NexVoice Adaptor (NVA)

Empowered by Innovation

NEC



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Installing the NVA 1/1

NVA 1/1 product description

The NVA 1/1 device supplies two analogue RJ-11 ports for connection to a standard telephone service and an analogue telephone handset, and one Ethernet port for connection to a DHCP server enabled router. The NVA 1/1 is supplied by Nextep pre-configured with the NexVoice server address [http://provision.nexvoice.net.au/spa-3000.aspx?sn=\\$SN](http://provision.nexvoice.net.au/spa-3000.aspx?sn=$SN)

The NVA 1/1 is required for successful operation of a NexVoice Call Out service.

NVA 1/1 package contents

The NVA 1/1 comes supplied with the following components:

- NVA 1/1 phone adapter unit
- RJ-45 Ethernet cable
- RJ-11 telephone cable
- 5 Volt power adapter

Checklist prior to connecting the NVA 1/1

Please complete the following checklist below before connecting the NVA 1/1 to your network.

- A Dynamic Host Configuration Protocol (DHCP) server/QoS enabled router or switch with a spare RJ-45 LAN port is required to connect to the NVA 1/1 port labelled "LAN". Note that without QoS enabled, you may experience distorted voice quality.
- A working and reliable broadband Internet connection with sufficient bandwidth. Note that installation of an NVA is only to be carried by Nextep Broadband if and only if your existing or new broadband Internet connection is a Nextep supplied service.
- A standard touch-tone telephone handset to be connected to the NVA 1/1 phone adaptor unit. A telephone handset with a calling number display unit is required if the subscriber wishes to use the caller ID feature.

Connecting the NVA 1/1

You can connect the NVA 1/1 to your network using one of the configuration options below:

- Option 1 – NVA 1/1 connection to ADSL/Cable broadband Internet connection
- Option 2 – NVA 1/1 connection to ADSL/Cable broadband Internet connection via a router

Option 1 – NVA 1/1 connection to ADSL/Cable Broadband Internet connection

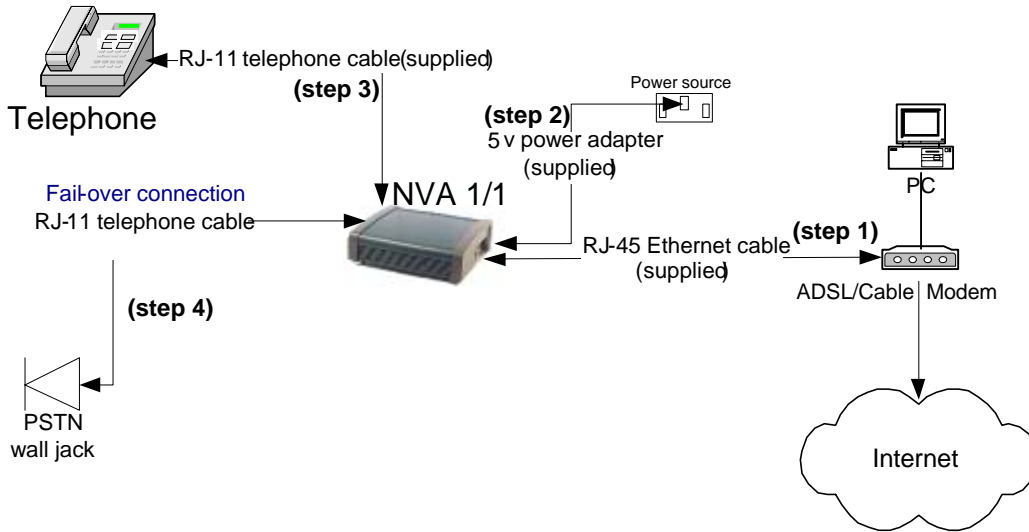


Figure 1: Connect an NVA 1/1 to an existing ADSL/Cable broadband Internet connection

Option 2 – NVA 1/1 connection to ADSL/Cable Broadband Internet connection via a router

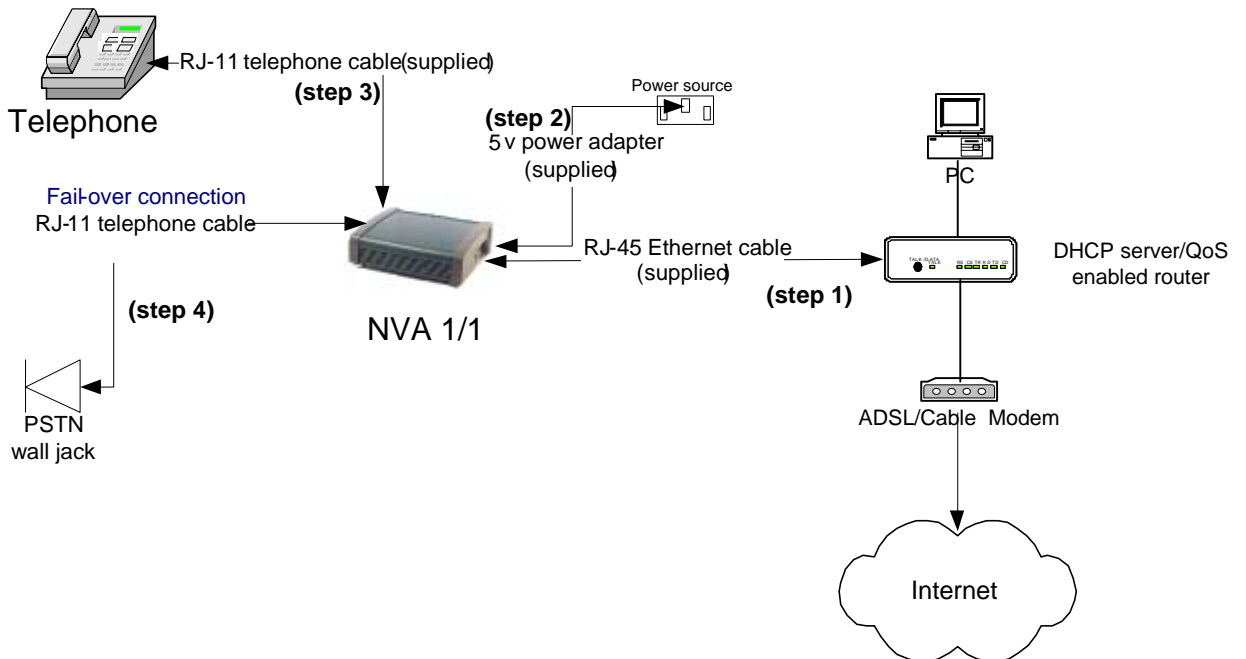


Figure 2: Connect an NVA 1/1 to an existing AD Cable broadband Internet connection

NVA 1/1 interface description

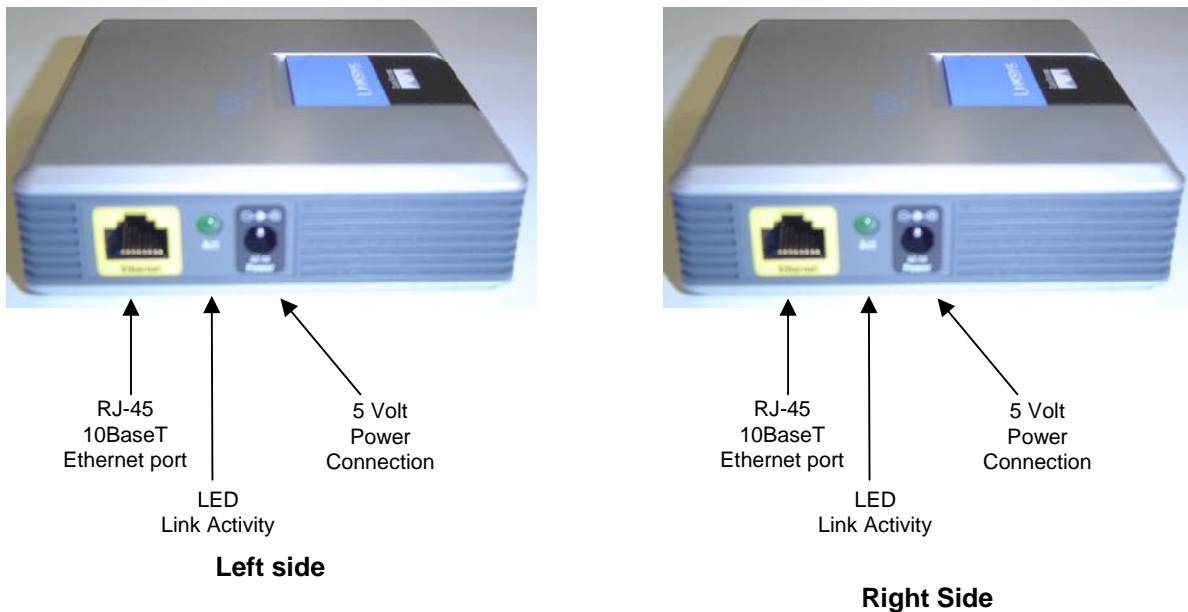


Figure 3: NVA 1/1 connection ports and LEDs

NVA Self-Install Guide:

Follow the following steps to install the NVA 1/1 to your network:

Step 1: Connect the NVA 1/1 to an IP network

Insert one end of the RJ-45 Ethernet cable into the “**LAN**” port of the NVA 1/1 and connect the other end of the cable to a broadband modem via a DHCP server enabled router.

Step 2: Connect the NVA 1/1 to a power source

- Insert the 5-volt power adapter jack into the “**DC 5V**” port of the NVA 1/1.
- Insert the power adapter plug into a 240V (50Hz) power socket and turn the power switch on.

Note: Do not mount the NVA on another modem as the device may get hot

The NVA 1/1 will power up. During the power-up cycle, the NVA undergoes a firmware boot sequence and system status check. The NVA should obtain an IP address from the DHCP server enabled router. The status LED at the **side** of the device will illuminate temporarily, before which the status-LED indicator begins to flash.

Step 3: Connect the NVA 1/1 to a phone

Insert one end of the RJ-11 telephone cable into the “**PHONE**” port of the NVA 1/1 and connect the other end of the cable to an analogue telephone handset.



To prevent accidental connection to the PSTN, DO NOT connect the RJ-11 telephone cable from the “**PHONE**” port to the PSTN wall jack

Step 4: Fail over connection to an existing PSTN line

Where an existing POTS (Plain Old Telephone Service) line is available and in close proximity to the modem/router, insert one end of another RJ-11 telephone cable in the “**LINE**” port of the NVA 1/1 and connect the other end of the cable to the PSTN wall jack. Please note: if the telephone line is being used for an ADSL Internet broadband connection then you will need to use a DSL filter.

Automatic Service Activation

- The NVA 1/1 will establish a connection with NexVoice network over the Internet to download the appropriate configuration profile for the subscribed service. This is an automatic configuration process and may last up to a few minutes. When this process has successfully completed, the status indicator will cease flashing and illuminate steadily to indicate that the respective phone service is active and ready for use.

Testing the NVA 1/1 operation

- Lift the handset of the analogue telephone and check for dial tone.
- Dial one of the test numbers below and confirm that a connection is made and the service is active.

NexVoice Service Numbers

VIC	03 851 21400
NSW	02 891 62900
QLD	07 310 51400

Testing the PSTN failover connection

- Lift the handset of the analogue telephone and press the # button.
- Dial one of the test numbers below and confirm that the existing Plain Old Telephone Service (POTS) is functioning

NexVoice Service Numbers

VIC	03 851 21400
NSW	02 891 62900
QLD	07 310 51400

Installing the NVA 1/1 at a location with multiple PSTN wall jacks

To take advantage of the failover functionality of the device, the NVA1/1 must be installed within close proximity of the broadband Internet connection and the POTS wall jack.

Should there be several phones within the same location connected in parallel, the NexVoice service will only be available at the handset where the NVA 1/1 device is installed.

In order that all parallel phones are connected to your NexVoice service, it would be necessary to connect the NVA 1/1 device **before** the first parallel phone. Please consult a qualified technician to make the necessary cabling adjustments.

Troubleshooting the NVA 1/1

Problem	Solution
NVA fails to power up.	Make sure both the NVA 1/1 is properly connected and a power adaptor is plugged into an active power socket.
Calls are being made through the PSTN instead of the NVA.	Check there is an active connection to the IP network. Check the RJ-11 telephone cable is connected from the “ PHONE ” port of the NVA to the analogue telephone.
No LAN light	Check the Ethernet cable connection and its type (straight through or cross over)
No WAN IP address via the IVR menu	Check if the DHCP enabled router is functioning

Installing the NVA 2/0

NVA 2/0 product description

The NVA 2/0 features two analogue adapter ports for connection to existing analogue telephones and two Ethernet ports for connection to a PC (LAN) and a broadband modem or router (WAN). The NVA 2/0 is supplied by Nextep preconfigured with the NexVoice server address <https://provision.nexvoice.net.au/spa-2100.aspx>

The NVA 2/0 is required for successful operation of a NexVoice Office service.

NVA 2/0 package contents

The NVA 2/0 comes supplied with the following components:

- NVA 2/0 unit
- Ethernet Cable
- 5 volt power adapter

Checklist prior to connecting the NVA 2/0

Please complete the following checklist below before connecting the NVA 2/0 to your network.

- A DHCP enabled router or switch with a spare RJ-45 LAN port is required to connect to the NVA 2/0 port labelled "WAN". If you wish to set a static IP address to the NVA 2/0, please refer to the NVA 2/0 Local Configurations and Settings in Appendix B. Note that without QoS enabled, you may experience distorted voice quality.
- A working and reliable broadband Internet connection with sufficient bandwidth. Note that installation of an NVA is only to be carried by Nextep Broadband if and only if your existing or new broadband Internet connection is a Nextep supplied service.
- An analogue telephone handset to be connected to the NVA 2/0 phone adaptor unit. A telephone handset with a calling number display unit is required if the subscriber wishes to use the caller ID feature.

Connecting the NVA 2/0

You can connect the NVA 2/0 to your network using one of the configuration options below:

- Option 1 – NVA 2/0 connection to ADSL/Cable broadband Internet connection
- Option 2 – NVA 2/0 connection to ADSL/Cable broadband Internet connection via a router
- Option 3 - NVA/20 connection to ADSL/Cable broadband Internet connection with a router connected behind the NVA 2/0

Option 1 – NVA 2/0 connection to ADSL/Cable broadband Internet connection diagram

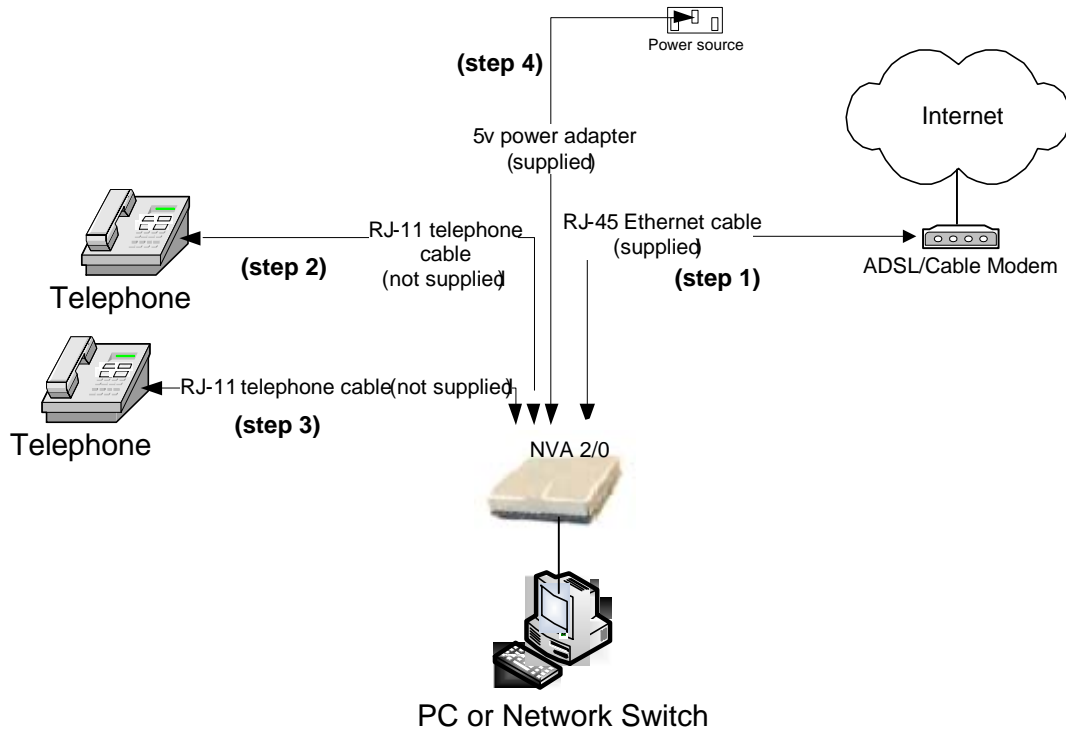


Figure 4: Connect an NVA 2/0 directly to an existing ADSL/Cable broadband Internet connection

Option 2 – NVA 2/0 connection to ADSL/Cable broadband Internet connection diagram via a router

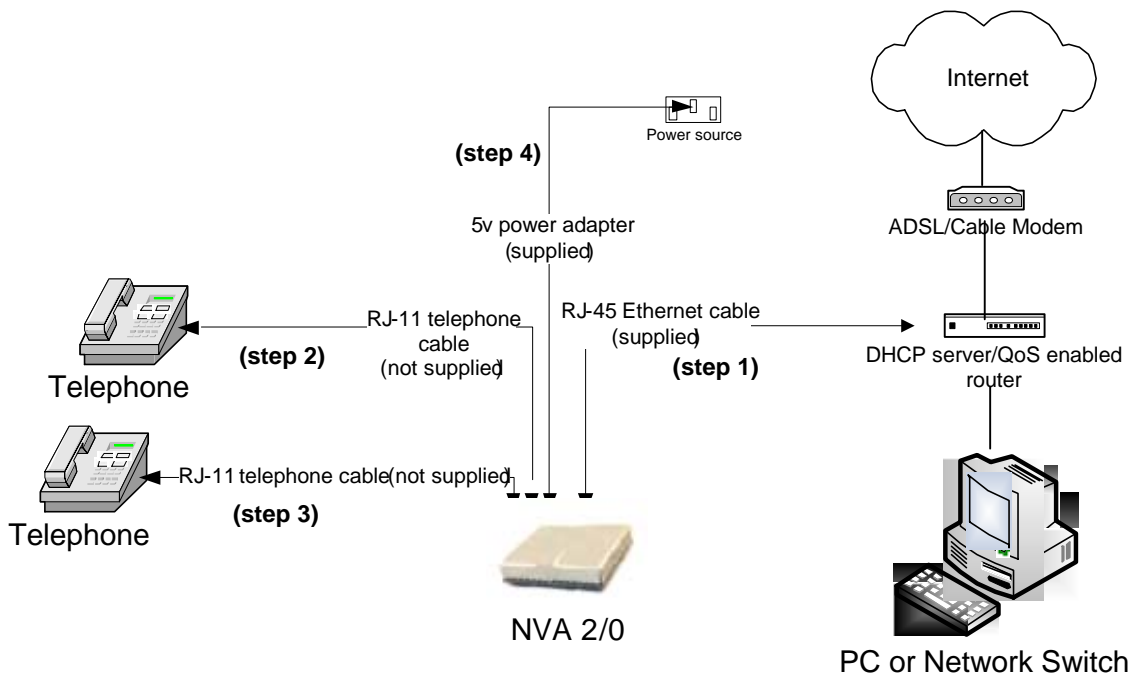


Figure 5: Connect an NVA 2/0 to an existing Cable broadband Internet connection via a router

Option 3 – NVA 2/0 connection to ADSL/Cable broadband Internet connection diagram with a router connected behind the NVA 2/0

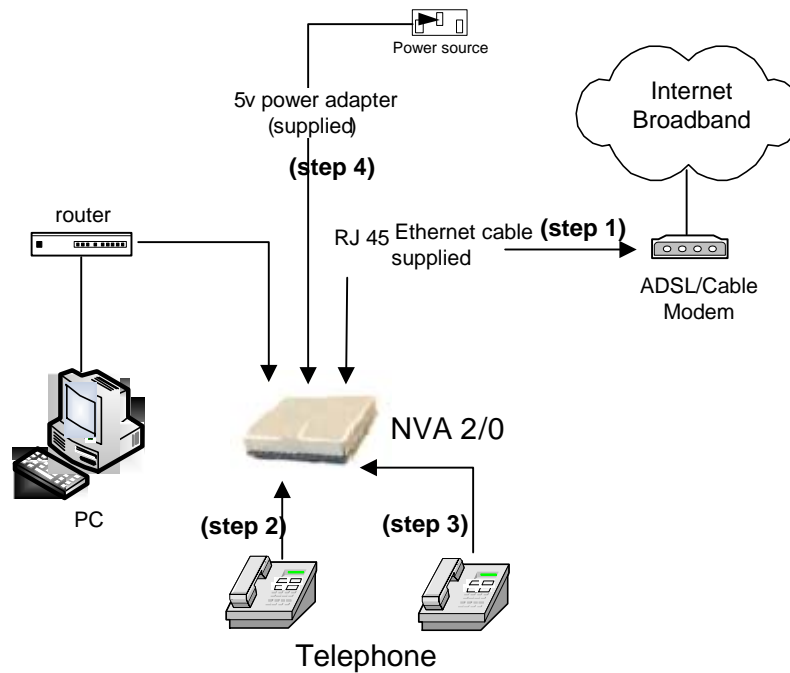


Figure 5: Connect an NVA 2/0 to an existing ADSL/Cable broadband Internet connection with a router connected behind the NVA 2/0

Table below indicates various configuration options for connecting the NVA 2/0 to an existing ADSL/Cable broadband Internet connection with a router connected behind the NVA 2/0. The NVA 2/0 is preconfigured with a “Bridge” mode by default before dispatching.

Nextep Broadband recommends the following options for self-installation. The configuration option 2 with a DHCP server enabled ADSL/Cable modem is recommended as the default option. The configuration option 1 requires the NVA 2/0 to be manually set with a static IP address via the NVA 2/0 local Configuration and setting, as set out in Appendix B.

Configuration Options	Router/PC	NVA 2/0	ADSL/Cable Modem
1	Static WAN	Bridge	NAT static on LAN port
2	DHCP client enabled on WAN port	Bridge	DHCP server enabled NAT

NVA 2/0 interface description

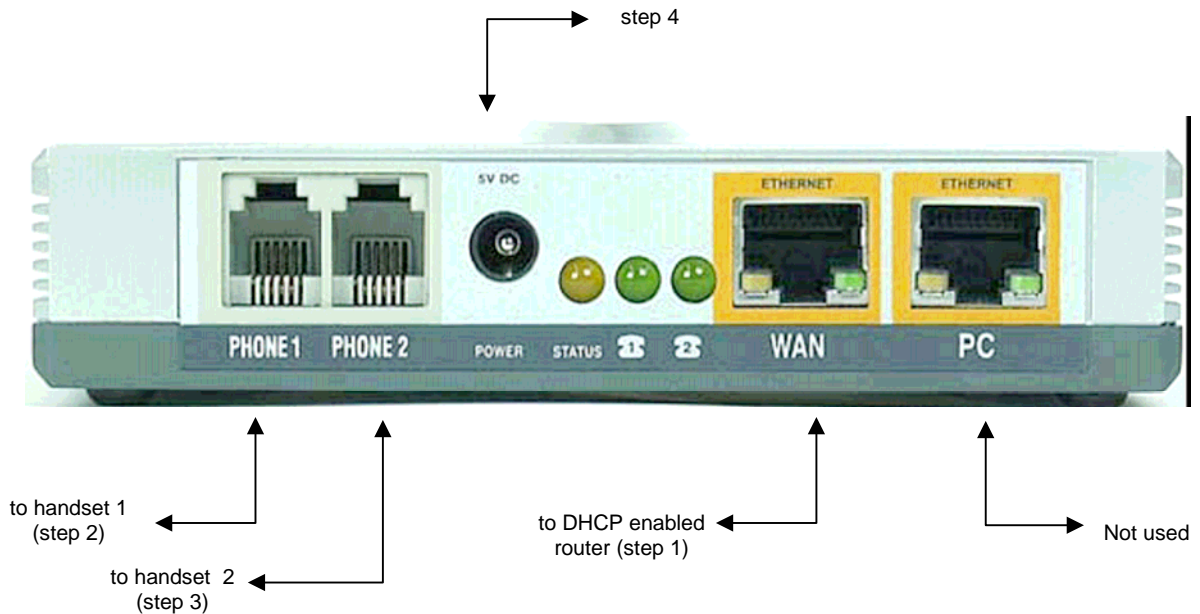


Figure 6: NVA 2/0 connection ports and LEDs

NVA Self-Install Guide:

Follow the following steps to install the NVA 1/1 to your network:

Step 1: Connect the NVA 2/0 to an IP network

- Insert one end of the RJ-45 Ethernet cable into the “WAN” port of the NVA 2/0 and connect the other end of the cable to a DHCP server enabled router.

Step 2: Connecting the NVA 2/0 to a first phone

- Insert one end of the RJ-11 telephone cable into the “PHONE1” port of the NVA 2/0 and connect the other end of the cable to an analogue telephone.



The NVA 2/0 does not support a connection to an existing POTS service. It is used for making and receiving calls over the internet only.

Step 3: Connecting the NVA 2/0 to a second phone

- Insert the RJ-11 telephone cable in the PHONE2 port on the NVA 2/0 and connect it to an analogue telephone.

Step 4: Connecting the NVA 2/0 to a power source

- Insert the 5-volt power adapter jack into the “DC 5V” port of the NVA 2/0.

- Insert the 5-volt power adapter plug into a power socket and turn the power switch on.

The NVA 2/0 will power up. During the power-up cycle, the NVA undergoes a firmware boot sequence and system status check. The NVA should obtain an IP address from the DHCP server enabled router. The LEDs at the rear of the device will illuminate temporarily, before which the orange status-LED indicator begins to flash.

Note: Do not mount the NVA on another modem as the device may get hot

Automatic Service Activation

- The NVA 2/0 will establish a connection with NexVoice network over the Internet to download the appropriate configuration profile for the subscribed service. This is an automatic configuration process and may last up to a few minutes.
- *When this process has successfully completed, the status indicator will cease flashing and a green LED will illuminate steadily to indicate that the respective phone service is active and ready for service.*

Testing Phone 1 operation

- Lift the handset of the analogue telephone connected to the “**PHONE1**” port and check for dial tone.
- Dial one of the NexVoice Service Numbers below and confirm that a connection is made and the service is active.

NexVoice Service Numbers

VIC	03 851 21400
NSW	02 891 62900
QLD	07 310 51400

Testing Phone 2 operation

- Lift the handset of the analogue telephone connected to the “**PHONE2**” port and check for dial tone.
- Dial one of the NexVoice Service Numbers below and confirm that a connection is made and the service is active.

NexVoice Service Numbers

VIC	03 8512 1400
NSW	02 8916 2900
QLD	07 3105 1400

Troubleshooting the NVA 2/0

Problem	Solution
NVA fails to power up	Make sure both the NVA 2/0 is properly connected and a power adaptor is plugged into an active power socket.
No Dial tone	Check all connections to the NVA 2/0 to ensure that the NVA and DHCP server enabled router are powered up, and an existing Internet connection is working.
No LAN light	Check the Ethernet cable connection and its type (straight through or cross over)
No WAN IP address via the IVR menu	Check if the DHCP enabled router is functioning

Appendix A: NVA 1/1 Local Configuration and Settings

Action	Code	User Input	Behavior Notes
Enter IVR Menu	****	None	Configuration menu. Please enter option followed by the pound key or hang-up to exit."
Check DHCP	100#	None	IVR will announce if DHCP is enabled or disabled
Set DHCP	101#	Enter 1 to enable Enter 0 to disable	Enter option followed by the pound key
Check IP Address	110#	None	Enter option followed by the pound key
Set IP Address	111#	Enter value using numbers on the telephone key pad. Use the * (star) key when entering a decimal point	Enter value followed by the pound key. DHCP must be "Disabled" otherwise you will hear, "Invalid Option" if you try to set up this value
Check Net mask	120#	None	Enter option followed by the pound key
Set Net Mask	121#	Enter value using numbers on the telephone key pad. Use the * (star) key when entering a decimal point	Enter value followed by the pound key. DHCP must be "Disabled" otherwise you will hear, "Invalid Option" if you try to set this value
Check Gateway	130#	None	Enter option followed by the pound key

Set Gateway	131#	Enter value using numbers on the telephone key pad. Use the * (star) key when entering a decimal point	Enter value followed by the pound key. DHCP must be "Disabled" otherwise you will hear, "Invalid Option" if you try to set this value
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Appendix B: NVA 2/0 Local Configuration and Settings

Action	Menu	Parameter(s)	Notes
Activate IVR Menu	****	None	Configuration menu. Please enter option followed by the pound key or hang-up to exit."
Check WAN IP Address	110	None	IVR will announce the IP address of the WAN port
Check WAN Network Mask	120	None	IVR will announce the network mask of the WAN port
Check WAN Gateway	130	None	IVR will announce the gateway of the WAN port
Check MAC Address	140	None	IVR will announce MAC address of the SPA-2100
Check Firmware Version	150	None	IVR will announce the firmware version running on SPA-2100
Check Primary DNS Server IP Address	160	None	IVR will announce the primary DNS server IP address
Check WAN Port Web Server Port	170	None	IVR will announce the WAN port web server port
Check LAN IP Address	210	None	IVR will announce the IP address of the LAN port
Check WAN Internet Connection Type	100	None	IVR will announce the WAN Internet Connection Type
Set WAN Internet Connection Type (see "Wan Setup" ->	101	Enter 0 to use DHCP Enter 1 to use Static IP	
"Internet Connection Settings")		Enter 3 to use PPPoE	
Set Static IP address (WAN Port)	111	Enter IP address using numbers on the telephone keypad. Use the * (star) key when enter a decimal point	WAN Internet Connection Type must be set to "Static IP", otherwise you will hear "Invalid Option" when you try to use this option
Set WAN Network Mask	121	Enter network mask using numbers on the telephone keypad. Use the * (star) key when enter a	WAN Internet Connection Type must be set to "Static IP", otherwise you will hear "Invalid Option" when you try to use this option

		decimal point	
Set WAN Gateway	131	Enter IP address using numbers on the telephone keypad. Use the * (star) key when entering a decimal point.	WAN Internet Connection Type must be set to "Static IP", otherwise you will hear "Invalid Option" when you try to use this option
Set Primary DNS Server IP Address	161	Enter IP address using numbers on the telephone keypad. Use the * (star) key when entering a decimal point.	
Enable/Disable Wan Port Web Server	7932	Enter 1 to enable Enter 0 to disable	
Reboot the SPA-2100	732668	None	The unit will reboot after you hang-up the phone
Factory Reset	73738	Enter 1 to confirm Enter * (star) to cancel	SPA will prompt for confirm, if you confirmed to do factory reset, you will hear "Option Successful," hang-up, Unit will reboot and all configuration parameters will be reset to factory default values
User Factory Reset	877778	Enter 1 to confirm Enter * (start) to cancel	SPA will prompt for confirm, if you confirmed to do user factory reset, you will hear "Option Successful," hang-up, Unit will reboot and all user writable parameters will be reset to factory default values