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NEOS 4000

4 Port GSM / 3G* Fixed Wireless Terminal

For models:

NEOS 4000-01 (GSM900/1800)
NEOS 4000-02 (GSM 850/900/1800/1900)
*NEOS 4000-3G (Next G & 3G)

Operating Manual

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Introduction

Thank you for purchasing a **NEOS4000** product from Aristel Networks Pty Ltd. The **NEOS4000** enables you to take advantage of "mobile to mobile" lower cost calls when using your fixed line telephone or telephone system. The **NEOS4000** supports four SIMs on the GSM (or 3G) network enabling 4 simultaneous calls via 4 RJ12 phone ports.

Parts list

Item	Description	Quantity required	Standard Included	Optional Not included
1	NEOS4000 W240mm x D164mm x H43mm	1	YES	
2	AC to DC12V/3A Switching Adapter	1	YES	
3	Phone Cord	4	YES	
4	Male SMA Antenna	4	YES	
5	Operating Manual	1	YES	
6	HH-004 WALL MOUNT BRACKET	2		YES
7	HH-005 RACK MOUNT BRACKET	2		YES

System architecture

Suitable for GSM networks operating in 900/1800 MHz bands and for 3G versions 850/900/2100Mhz UMTS bands & 850/900/1800/1900 GSM bands.

Australian standard dial tone, ring tone and ring cadence are included.

Comfort tone is provided during call set up.

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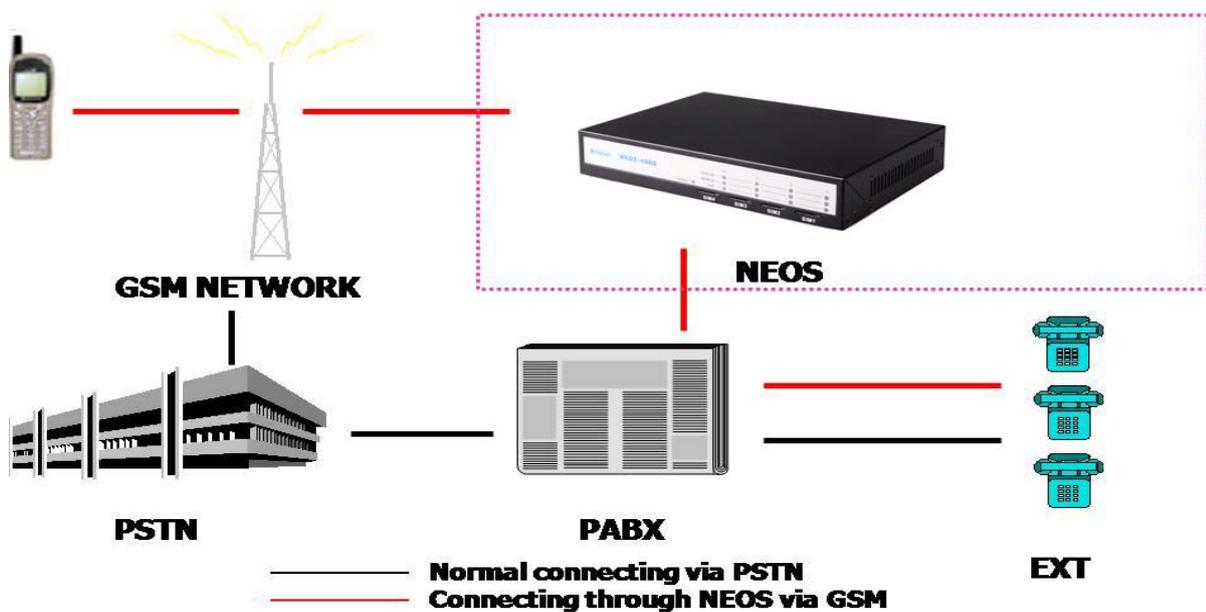
Warning

1. In the event of a mains power failure, this device may be unable to make or receive phone calls.
2. For 000 emergency calls, the PBX should be programmed to route these calls via the fixed PSTN or ISDN lines connected to the PBX systems.

Installation

1. SIM Card Installation(Fig 1)

    1.1 Disconnect the 12VDC power adapter from the NEOS4000.

    1.2 Insert the SIM card(s) (Note orientation of notched corner)

    1.3 Make sure the SIM card(s) is fully inserted.

    1.4 Reconnect the 12VDC power adapter

2. Connecting the antenna(Fig 2)

    2.1 Screw on the antenna as illustrated or connect the antenna lead (if magnetic type base and lead were supplied) to the connector marked ANT on the rear of the unit.

    2.2 Place antenna away from electrical/electronic systems (computers, microwave ovens, etc)

3. Connecting the Telephone System

    3.1 Plug the line cord(s) supplied, into the connector(s) marked PHONE PORT.

    3.2 Connect the other end of the line cord(s) to the PBX PSTN trunk port.

    3.3 Ensure that the power adaptor is connected and turned on.

    3.4 The red POWER indicator should be illuminated.
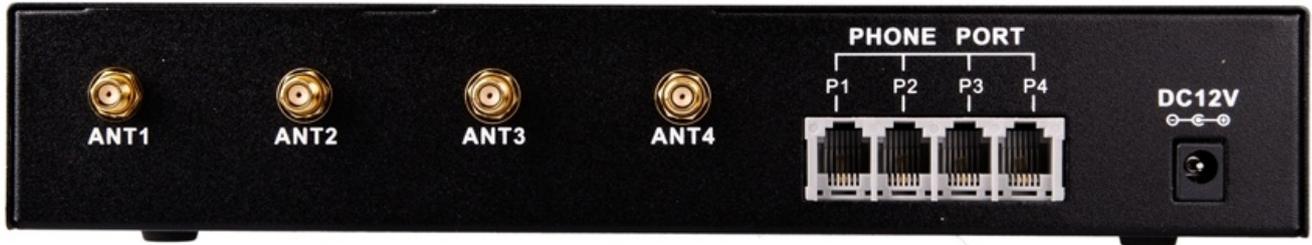
Fig 1

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Fig 2

LED status indicators

LED Position	LED Color	LED Activity	Description
POWER	RED	ON or OFF	The DC power is ON or OFF
CPE	RED	ON	The handset is off hook
CPE	RED	OFF	The handset is on hook
MOBILE	GREEN	ON	The GSM phone is idle
MOBILE	GREEN	Flashing(0.05sec ON / 0.05sec OFF)	The GSM line is in use
MOBILE	GREEN	Flashing(2.5sec ON / 0.5sec OFF)	The circuit is busy Number Unobtainable(NU) Tone
MOBILE	GREEN	Flashing(0.375sec ON / 0.375sec OFF)	The GSM line is disconnected
STATUS(GSM)	BLUE	OFF	GSM POWER OFF
STATUS(GSM)	BLUE	Flashing(0.6sec ON / 0.6sec OFF)	No SIM card or network searching
STATUS(GSM)	BLUE	Flashing(0.075sec ON / 3sec OFF)	In Service
STATUS(GSM)	BLUE	ON	GSM line is in use
STATUS(3G)	BLUE	OFF	GSM POWER OFF
STATUS(3G)	BLUE	Flashing(0.2sec ON / 0.2sec OFF)	DATA Transmission
STATUS(3G)	BLUE	Flashing(0.8sec ON / 0.8sec OFF)	In Service or GSM line is in use
STATUS(3G)	BLUE	ON	No SIM card or network searching
MOBILE & CPE	GREEN & RED	Flashing three time in one second	Set-up Mode
MOBILE & CPE	GREEN & RED	Flashing(0.25sec ON / 1.75sec OFF)	Programming Mode

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Using the NEOS4000

1. Pick up your telephone handset.
2. Listen for dial tone. (Check the system connections if no dial tone is heard)
3. Dial the desired number.

Entering programming mode

Plug a telephone (SLT) into the "PHONE PORT P1, P2, P3 or P4" socket, Lift off the handset. You will hear continuous dial tone. Dial * * * * #.   You will hear "Beep, Beep, Beep" repeated continuously.   The green and red LEDs flash. You have 8 seconds to enter the password. Enter the password (default = 1234#) you will hear a "Der" tone (this is "set-up" tone) repeated every 2 seconds. The green and the red LEDs will flash slowly.

System programming can now be commenced. See chart below. If a feature is correctly programmed, the green and the red LEDs will flash once and a Beep tone will be heard. If the input was incorrect, the green and the red LEDs will flash three times and three Beep tones will be heard. If you make an incorrect entry, hang up for less than 2 sec. to return to set-up mode. To end programming, hang-up for more than 2 sec. or press * * 0 0 #

Programming feature

Factory Default Settings - Press 9 9 9 to reset the unit back to Factory Default Settings

Feature	Function Code	Description
Setup Mode	****#	Enter the setup mode from the normal mode. Pick up the phone handset and you will hear the dial tone. Press 『****#』 to enter setup mode. Press the engineer password to enter the programming mode within 8 seconds. Any longer than 8 seconds and it will release from the setup mode and return to the normal mode.
	**00#	Cancel the programming mode and return to the normal mode. When programming is finished please press 『**00#』 to escape the setup mode and you will hear dial tone and return to the normal mode.
	SECRET	Original manufacture password. You can use the original password to enter programming mode if you lose the engineer password.
Password	0XXXXXXXX#	Set the engineer's password. It is 4 to 8 digits not including #. The default is 『1234#』. Example: Set 087654321#, the password becomes 87654321# from default 1234#.
	913	To disable press the engineer's password. Don't press the engineer's password after pressing 『****#』 to enter programming mode directly.
	914	To enable press the engineer's password. You need to press the engineer's password after pressing 『****#』 to enter programming mode.

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Permissible Dialing	915	Disable the limitation of the saved permissible dialing numbers. It is the default. You can make any call from a mobile trunk without restriction and the routing function is deactivated.
	916	Enable the limitation of the saved permissible dialing numbers. You can only call through a mobile trunk when the prefix of a number matches the permissible dialed numbers.
	80XXXXX#	Add the permissible dialing number. The permissible dialing number is 1 to 5 digits and total amount is up to 50 sets. Example: Set 800912#. The numbers of 0912xxxxxx go through a mobile trunk.
	70XXXXX#	Delete the saved permissible dialing number.
	998	Delete all the saved permissible dialing numbers.
Time limit & Call signal	900	Disable outgoing time limit. It is the default.
	911	Disable break in the call. NEOS will emit the reminding tone in 30 seconds before the end of time and maintain the call connection until the call is terminated.
	912	Enable break in the call. NEOS will emit the reminding tone in 30 seconds before the end of time and disconnect the call when time is up.
	90X	Set the time of one outgoing call. X is 1 to 9 minutes. The default is 3 minutes.
	963	Disable the polarity reversal for outgoing call. It is the default.
	964	Enable the polarity reversal for outgoing call.
	967	Disable the polarity reversal for incoming call. It is the default.
	968	Enable the polarity reversal for incoming call.
Tone Frequency	960	Set the dial tone as **425X25Hz**.
	961	Set the dial tone as **425Hz**.
	962	Set the dial tone as **400Hz+425Hz**. It is the default.
	927	Disable the pseudo ring (comfort) tone. It is silent without the reminder tone (DU DU) and pseudo ring back tone.
	928	Set the reminder tone (DU DU) after dialing.
	933	Set the reminder tone (DU DU) then pseudo ring back tone after dialing.
	934	Set pseudo ring back tone after dialing. There is no reminder tone (DU DU). It is the default.
	939	Set the pseudo ring back tone as **400Hz**.
	969	Set the pseudo ring back tone as **440Hz+480Hz**. It is the default.
	929	Set the reorder tone as **400Hz** after the calling party ends the call.
	930	Set the reorder tone as **480Hz+620Hz** after the calling party ends the call. It is the default.
Speed Dial	573	Disable speed dialing through phone book of SIM card. It is the default.
	574	Enable speed dialing through phone book of SIM card.
	52X	Set the speed dialing code. X is 0 to 9 and ＊. ＊ is default. Example: Set 574 and 52＊. When you dial ＊10 NEOS will call through the mobile using the 10th number of SIM phone book.

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Transfer Dialer	6 5 X #	Set the forward number on busy. X is the forward number from 1 to 10 digits. 65＊# cancels the function.
	6 3 X #	Enable dialer function for mobile international calls. NEOS will transfer the international call through the mobile by specified operator. 63＊# cancels the function. Example: Set 6 3 3 #. When dial 0 0 2 8 6 2 9 8 2 0 3 1 5 6, NEOS will call 0 0 3 8 6 2 9 8 2 0 3 1 5 6 through the mobile.
	5 8 X	Enable auto-add number function. X is the add number - only 1 digit. 58＊ cancels the function. It is used for a client that has no PABX and uses the virtual PBX of a network operator. Example: Before client dials **9** to seize the PSTN line then dials the called number. Set 5 8 9, the client dials ＊ to seize the line then makes a call. NEOS will add **9** before the number to make a call from PSTN.
Others	6 2 X #	Set the digits of MVPN group. X is 1 to 9 digits, ＊ cancels. 62*#.It is the default. When you call the MVPN number, you need to press # to end the dial. Example: Set 6 2 3 #. When dial 1 2 3 # NEOS will call 1 2 3 through the mobile. If you dial 1 2 3 NEOS will call 1 2 3 through PSTN.。
	9 3 1	Disable barring an incoming call. NEOS will ring when an incoming call occurs.
	9 3 2	Enable barring an incoming call. NEOS will bar the call when an incoming call occurs. It is the default.
	9 1 7	Enable call waiting. You can press HOOK or FLASH to hold the call and answer the other call.
	9 1 8	Disable call waiting. It is the default.
	9 9 9	Restore the factory defaults.
Network	6 7 X X X X X X #	Enable searching specified network. X X X + X X X is the MCC+MNC. XXXXX and XXXXXX both are available.
	5 7 2	Enable the RSSI (received signal strength indicator). When you set 572 please check the LED of MOBILE and CPE as below. Press # to escape.

MOBILE	CPE	RSSI	Network Quality
ON	ON	−51db ~ −64db	BEST
ON	OFF	−65db ~ −82db	BETTER
OFF	ON	−83db ~ −95db	GOOD
OFF	OFF	−96db ~	POOR

	9 3 7	Disable caller line identification (CLI). Enables calling party to prevent presentation of its line identity to called party.
	9 3 8	Enable caller line identification (CLI). Shows the number of calling party. It is the default.
	5 3 X	Adjust the volume of receiver. X is 0 to 4. 5 3 3 is default. It represents level 3.
	6 0 X #	Adjust the volume of transmitter. X is 0 to 4. 6 0 2 # is default. It represents level 2.
	6 4 X #	Set the code of caller ID. X：＊=cancel 1=DTMF. 2=V.23 FSK 3=BELL 202. 643#. It is the default.

Technical Programming	9 5 X X #	Set the waiting period after dialing. XX is 00 to 83 seconds. The default is 57 seconds. 9557#
	6 9 X X #	Set the time of pseudo ring back tone. XX is 01 to 99 times. The default is 20 times. 6920#
	5 4 X	Set the delay period between dialed with pseudo ring tone. X is 1 to 9 and ＊(=10), unit is 0.5 seconds. Default is 3, the time period is 1.5 seconds. 543
	5 0 X	Set the inter digital pause time. X is 0 to 9 seconds. Default is 4 seconds. Set 5 0 0 is 0.5 seconds. 504
	5 1 X	Set the send delay time. X is 0 to 9 seconds. Default is 0. It represents 0.5 seconds. 510
	9 4 X X #	Set the digit length of send number. XX is 02 to 31 digits. The default is 9431#
Hot Line	32X#	X=0, Disable the Hot Line function. X=1, Enable the Hot Line function. 320#
	33X#	X= Hot Line Number, Set the Number from 3 to 13 digits.

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A copy of the manual is available in our website: www.aristel.com.au

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