

NEOS3000A GSM Least Cost Wireless Router

For model GW-NEOS-TC35A5-Q1 or later



Operating Manual.

Introduction

Thank you for purchasing the **NEOS3000A** product from **Aristel Networks** Australia. The **NEOS3000A** allows you to take advantage of “mobile to mobile” cheaper rates when using your “land-line” telephone or telephone system. The **NEOS3000A** can distinguish between your calls to mobile numbers and your calls to land-line numbers. It will then use the least cost network for the call.

You can reprogram the system at any time should you:

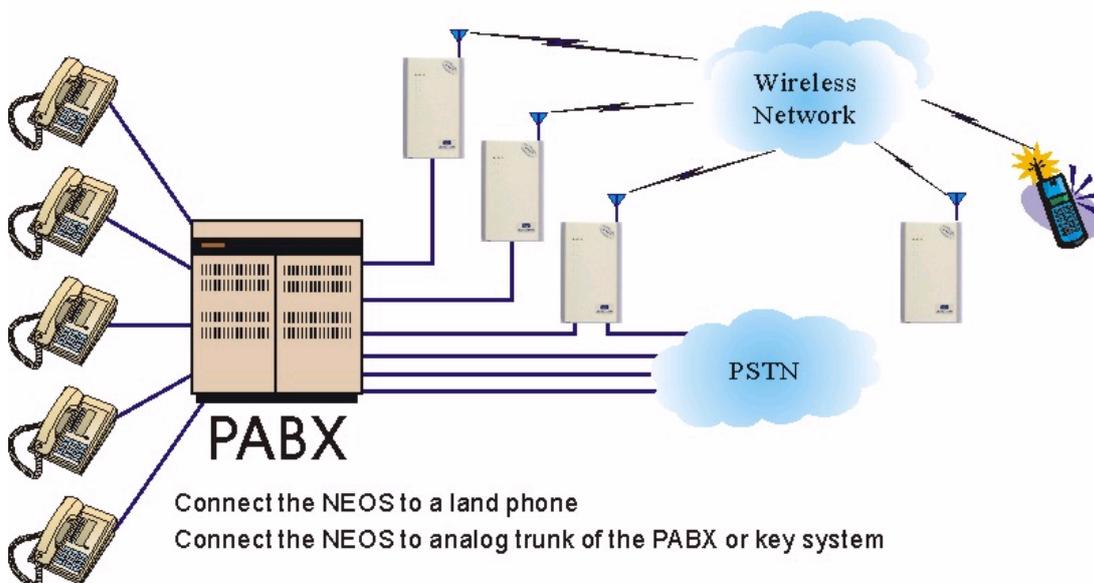
1. Change your mobile contract
2. Need more mobile phones
3. Change any of your mobile numbers
4. Or any other reason

No expensive Technician “service visit” is required for programming. You can do it yourself very simply.

Parts List

DESCRIPTION	QUANTITY REQUIRED	STANDARD (INCLUDED)	OPTIONAL (NOT INCLUDED)
NEOS3000A	1	YES	
DC 12V/1A ADAPTER	1	YES	
PHONE CORD	1	YES	
PHONE SOCKET	1	YES	
MALE SMA ANTENNA	1	YES	
OPERATING MANUAL	1	YES	
DISPLAY	1		YES
DATA CABLE	1		YES
SCM50	1		YES

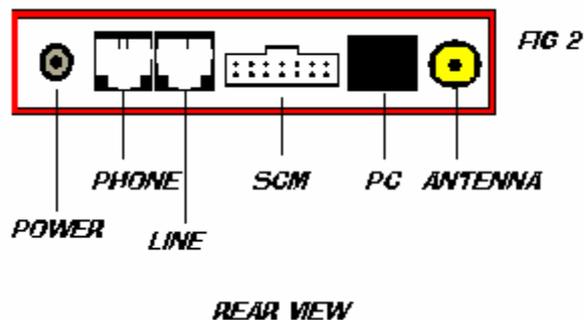
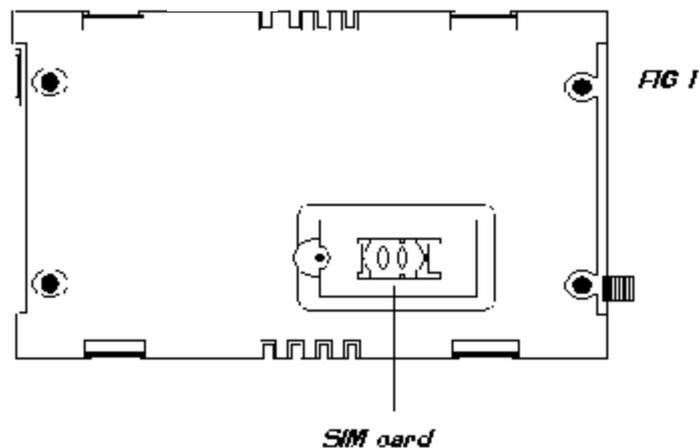
Trunk Side Application



Installation

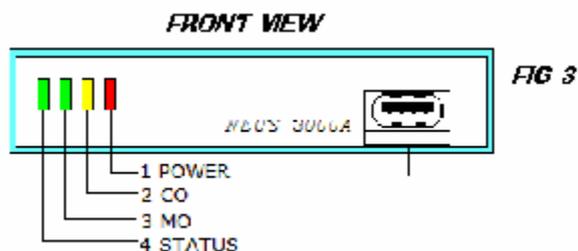
1. **SIM card installation (Fig 1)**
 - 1.1 Remove the 12V adaptor from the NEOS3000A
 - 1.2 Remove the SIM card cover from the bottom of the unit
 - 1.3 Slide the SIM card holder towards the front of the unit
 - 1.4 Lift up the holder
 - 1.5 Insert the SIM card (Note orientation of notched corner)
 - 1.6 Replace holder and slide towards the rear of the unit to lock in place
 - 1.7 Replace cover and power adaptor
2. **Connecting the Antenna (Fig 2)**
 - 2.1 Screw on the antenna cord to the connector on the front of the unit
 - 2.2 Place antenna away from electrical/electronic systems (computers, microwave ovens, etc)
3. **Connecting the Telephone line and Telephone system (Fig 2)**
 - 3.1 If connecting to a phone line, plug the line into the connector marked LINE. Plug your telephone into the connector marked PHONE. Go to step 3.3
 - 3.2 If connecting to a phone system, plug the PBX CO line connection into the connector marked PHONE.
 - 3.3 Connect the power adaptor into the connector marked PWR
 - 3.4 The red POWER indicator should be on.

Bottom view



LED status indicators (FIG 3)

LED Position	LED colour	LED Activity	Description
1	RED	ON OR OFF	DC POWER IS ON OR OFF
2	YELLOW	ON	PSTN LAND LINE IS IDLE
2	YELLOW	OFF	PSTN LANDLINE IS DISCONNECTED
2	YELLOW	CONTINUOUS FLICKER	PSTN LAND LINE IS BUSY/TALKING
3	GREEN	ON	THE MOBILE (GSM) LINE IS IDLE
3	GREEN	FLASH	THE MOBILE (GSM) LINE IS BUSY/TALKING
3	GREEN	OFF	NO SIM CARD
4	GREEN	ON	GSM LINE IS BUSY
4	GREEN	FLASH	NO SIM CARD OR NETWORK SEARCHING
4	GREEN	CONTINUOUS FLICKER	IN SERVICE
4	GREEN	OFF	GSM POWER OFF
2&3	GREEN & YELLOW	FLASH 3 PER SECOND	SET-UP MODE
2&3	GREEN & YELLOW	FLASH ¼ SEC ON & ¾ SEC OFF	PROGRAMMING MODE



Using the NEOS3000A

Stand-alone (no Telephone System)

- Programme the codes to be sent to Mobile network
- Lift off the handset
- Listen for dial tone. (Check system connections if no dial tone is heard)
- Dial the desired number

Connected as an exchange line on a Telephone System

- Select the exchange line connected to the NEOS3000A (Manual or Auto LCR)
- Listen for dial tone. (Check system connections if no dial tone is heard)
- Dial the desired number

NOTE! If using a system, the NEOS3000A can be left in the default condition. No programming is required

Entering programming mode

Plug a telephone (SLT) into the “PHONE” socket and unplug the “LINE” connection, Lift off the handset. You will hear continuous dial tone. Dial * * * * #. You will hear “Beep, Beep, Beep” repeated continuously. The green and yellow LEDs flash. You have 10 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 yellow LEDs will slow flash. System programming can now be commenced. See chart below. If a feature is correctly programmed, the green and the yellow LEDs will flash once and a Beep tone will be heard. If the input was incorrect, the green and the yellow 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 Features

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 handset of phone and hear the dial tone. Press [* * * * #] to enter setup mode. The password (default=1234#) must be entered within 8 seconds. Otherwise it will return to normal mode.
	* * 0 0 #	To exit the programming mode and return to normal mode. When program is finished please press [* * 0 0 #] to exit the setup mode and you will hear dial tone.
password	0 X X X X X X X #	Set the password. It must be 4 to 8 digits not including #. The default is [* 1 2 3 4 #] . Example: Set 0 8 7 6 5 4 3 2 1 #, the password becomes 8 7 6 5 4 3 2 1 # from 1 2 3 4 #.
	9 1 3	Disable the password. You do not need to enter the password after pressing [* * * * #] to enter programming mode.
	9 1 4	Enable the password. You need to enter the password after pressing [* * * * #] to enter programming mode.
Permissible dialling	9 1 5	Disable LCR dialling. It is the default setting. You can make any call via the mobile trunk
	9 1 6	Enable LCR. You can only call through the mobile trunk when the prefix of the dialled number matches the permissible dial number. Routing function: The matched numbers are called through mobile trunk other numbers are called through PSTN.
	8 0 X X X X #	Add a new permissible dialling number. The permissible dialling number is 1 to 4 digits and a maximum of 50 dialling numbers. Example: Set 8 0 0 9 1 2 #. The numbers of 0912xxxxxx go through mobile trunk other numbers go through PSTN.
	7 0 X X X X #	Delete a saved permissible dialling number.
	9 9 8	Delete all the saved permissible dialling numbers.
Limit dialling from PSTN	8 1 X X X X #	Add a new limit dialling number via PSTN line. The limit dialling number is 1 to 4 digits with a maximum of 20 numbers. Example: Set 8 1 0 2 0 4 #. The numbers of 0204xxxxxx can not call through PSTN.
	7 1 X X X X #	Delete a saved limit dialling number via PSTN line.
	9 9 7	Delete all the saved limit dialling numbers via PSTN line.

Time limit & call signal	9 0 0	Disable outgoing time limit. It is the default condition.
	9 1 1	Disable end the call. NEOS will emit a reminder tone 30 seconds before the time as set, but will not end the call.
	9 1 2	Enable end the call. NEOS will emit a reminder tone 30 seconds before the time as set and end the call at that time.
	9 0 X	Set the time of an outgoing call. X is 1 to 9 minutes. The default is 3 minutes.
	9 6 3	Disable the polarity reversal on answer for outgoing call. It is the default condition.
	9 6 4	Enable the polarity reversal on answer for outgoing call.
	9 6 7	Disable the polarity reversal on answer for incoming call. It is the default condition.
	9 6 8	Enable the polarity reversal on answer for incoming call.
Tone frequency	9 6 0	Set the dial tone as 523Hz .
	9 6 1	Set the dial tone as 400Hz .
	9 6 2	Set the dial tone as 350Hz+440Hz . It is the default condition.
	9 2 7	Disable the false ring back tone. It will be silent without reminder tone (DU DU) and false ring back tone.
	9 2 8	Set the reminder tone (DU DU) after dialling.
	9 3 3	Set the reminder tone (DU DU) then false ring back tone after dialling.
	9 3 4	Set false ring back tone after dial. There is no reminding tone (DU DU). It is the default condition.
	9 3 9	Set the false ring back tone as 400Hz .
	9 6 9	Set the false ring back tone as 440Hz+480Hz . It is the default condition.
	9 2 9	Set the reorder tone as 400Hz after the call party ends the call.
9 3 0	Set the reorder tone as 480Hz+620Hz after the call party ends the call. It is the default condition.	
Router selection	9 2 5	Disable manual selection of the mobile trunk. It is the default condition.
	9 2 6	Enable manual selection of the mobile trunk.
	6 1 X #	Set the access code of manually selecting the mobile trunk. X is 0 to 9 and * . 9 is default. You can enable the selection of the mobile trunk by pressing 9 then dialling the number when 926 is enabled and 619# is set. Example: After enabling 926, dial 9 0 5 0 9 1 2 3 1 2 3 , it will call 0 5 0 9 1 2 3 1 2 3 through the mobile trunk.
	5 7 1	Disable automatically detecting PSTN line. NEOS assumes the PSTN line is connected and the routing function is activated.
	5 7 0	Enable automatically detecting PSTN line. NEOS detects if the PSTN line is connected.
Speed dial	5 7 3	Disable speed dialling through the phone book of SIM. It is the default condition.
	5 7 4	Enable speed dialling through the phone book of SIM.
	5 2 X	Set the speed dialling code. X is 0 to 9 and * . * is default. Example: Set 574 and 52 * . When you dial * 1 0 NEOS will call using the 10th number of the SIM card via the mobile trunk.

Transfer dialler	6 5 X #	Set the forward number on busy. X is the forward number from 1 to 10 digits. 65 * # is cancelled the function.			
	6 3 X #	Enable dialler function for mobile international call. NEOS will transfer the international calls through mobile by a specified operator. 63 * # is used to cancel the function. Example: Set 6 3 3 # . When dialling 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 mobile.			
	6 6 X #	Enable the dialler function for long distance call and international call via PSTN. NEOS will transfer all the calls of long distance and international through PSTN via specified operator. 66 * # is cancel. Example: Set 6 6 3 # . When dial 0 2 8 5 2 9 8 2 0 3, NEOS will call 1 8 0 3 0 2 8 5 2 9 8 2 0 3 through PSTN.			
	5 8 X	Enable auto-add predigit function. X is the add number and is only 1 digit. 58 * is to cancel the function. It is used if the customer has no PABX but uses a virtual PBX of the network operator. Example: Before programming:- The customer needs to dial 9 to seize an outgoing PSTN line then dials the number. Set 5 8 9 , the customer dials * to seize a line then makes a call. NEOS will add 9 before the dailled number to make the call via the PSTN trunk.			
others	6 2 X #	Set the digits of MVPN group. X is 1 to 9 digits, * is cancel. 62*# is the default. When you call the MVPN number, you need to press # to end dialling. Example: Set 6 2 3 # . When dialling 1 2 3 # NEOS will call 1 2 3 via the mobile trunk. If you dial 1 2 3 the NEOS will call 1 2 3 through PSTN.。			
	9 3 1	Disable barring incoming call. NEOS will ring for an incoming call.			
	9 3 2	Enable barring incoming call. NEOS will bar the incoming call. It is the default condition.			
	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 condition.			
	9 9 9	Restore all 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 MO and CO as below. Press # to escape.			
		MO LED	CO LED	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 calling line identification (CLIR). Enable calling party to prevent presentation of its line identity to called party.			
	9 3 8	Enable calling line identification (CLI). Show the number of calling party. It is 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. 641#. It is default. 2 =V.23 FSK 3 =BELL 202			
	9 2 3	Disable assign specified carrier of SIM. It is the default condition.			
9 2 4	Enable assign specified carrier of SIM. NEOS calls through the same carrier of the SIM only. If you change the SIM to a different carrier NEOS will bar the call.				
5 9 1	Disable assign specified SIM. It is the default condition.				
5 9 2	Enable assign specified SIM. NEOS calls through the SIM only. If you change another SIM NEOS will bar the call.				

Technical programming	9 5 X X #	Set the waiting period after dialling. X X is 00 to 83 seconds. The default is 57 seconds. 9557#
	6 9 X X #	Set the times of fake ring back tone. X X is 01 to 99 times. The default is 20 times. 6920#
	5 4 X	Set the delay period between dialled number and fake ring back 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-digit time during dialling. 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 digits of send number. X X is 02 to 31 digits. The default is 10 numbers. 591
Hot Line	32X#	X=0, Disable the Hot Line function. X=1, Enable the Hot Line function.
	33X#	X= Hot Line Number, Set the Number from 3 to 13 digits.

FREQUENTLY ASKED QUESTIONS

FAQ 1. The Power light does not come on after power up.

Action. Check the power adapter and power cord/socket for correct operation

FAQ 2. How do I check the LED status?

Action. Check figure 3 on page 4

FAQ 3. When I pick up the phone I cannot hear dial tone.

Action. Check that the phone is OK and operating correctly

Check that the phone line (cord) is connected

Check the pattern of the LED lights for more information in figure 3

FAQ 4. When I pick up the phone I hear music

Action. The SIM is not registered to the network

The SIM is not operating correctly. Plug it into a mobile phone and check for operation

FAQ 5. I cannot hear the other party's voice

Action. Retry the call. It could be a network connection problem

The signal strength may be too low for proper transmission and reception. Relocate the antenna

FAQ 6. When I dial the mobile number, there is no answer

Action. Mobile network is still searching for mobile phone

Check that line and antenna are connected correctly

FAQ 7. I cannot dial via the PBX system

Action. Power off the NEOS unit. If you cannot make a call via the PBX, the connection to the PBX or the PBX may be faulty. Consult your local PBX dealer.

If you can make a PBX call with the NEOS powered off, consult your NEOS dealer

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