



Evolution – NetComm Wireless 3G Router (3G38WV)

This guide will hopefully explain how to configure your NetComm 3G router for remote connection to a site with the Evolution System.



How it works?

The NetComm Wireless 3G Router is an internet modem that will have a public IP address. This allows TCP/IP connections to be made to the site without the need of a phone line (ADSL) at the site. This modem can be used for remote connection for the Access System as well as other services such as CCTV.

What is required?

- NetComm Wireless 3G Industrial M2M Router (3G38WV or equivalent)
- Lantronix XPort LAN Module (to connect the NetComm Wireless to the EVO controller(s)).
- Dynamic DNS service account
- Mini SIM Data Card with encoded MICA codes (**see note below on MICA codes**)

Note: You do NOT want a 'Micro' or 'Nano' SIM cards. The larger 'mini SIM is required





Ordering your SIM card: Mini SIM Data Card with Access Point Name (APN)

The NetComm Wireless Router requires a Mini SIM DATA card with available data and configured to have an 'Access Point Name' (APN) for remote access.

The APN settings are setup by Telstra and they can encode special MICA codes to your SIM card (they can perform this action when the SIM card is online). Once done you will be able to establish an external connection to the NetComm Router.

When ordering your SIM card there are several different APNs available from Telstra and are listed below. Each APN requires a different **MICA code to be written to the SIM card by Telstra.**

For this application you will require the **telstra.extranet** (MICA CODE - GPEXB) to be written and setup on the card.

The table below summarises the available APNs.

MICA CODE	APN	ACCESS PURPOSE	IP ADDRESS ASSIGNED	SESSION IDLE TIME	BILLING DEPENDENCIES
GPTCOOMB3	telstra.internet	Internet	10.x.x.x	None	Any Data pack data volume plan or PAYG
GPCORPB3	telstra.corp	Wireless IP WAN	Customer Choice	RADIUS Controlled	Any Data Pack data volume plan or PAYG
GPEXB3	telstra.extranet	Internet	203.x.x.x	None	Any Data Pack data volume plan or PAYG

🌐 telstra.extranet – assigns a dynamic, publicly routable IP address.

Please contact Telstra to add or remove MICA codes from your SIM.





Configuring Your Router

You will need the following hardware to set up your router.

- NetComm Wireless Router
- Laptop or PC
- Activated Mini SIM Data card
- EVO Controller with TCP/IP adapter.

Before you power up the Router, please insert an active SIM card.



Now power up your **PC**, **NetComm Router**, and **EVO controller** with TCP/IP adapter in a similar configuration shown above.

Note: the PC can connect to the router via WiFi (**SSID name is NetComm 4061**) or alternatively via a direct Network cable. The PC should be set to obtain an IP address automatically and will be given an IP address by the NetComm router.

By default the Lantronics XPort LAN adapter is set to auto DHCP so will also receive an IP address from the NetComm Router.

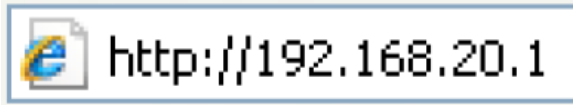
Please note: Ensure you do not have any other Auto DHCP routers connected to this setup network.

CS
TECHNOLOGIES



Login to the NetComm Router

In a web browser on the PC enter the following web address (this is the default IP address for the NetComm Router).



The Router will run a setup wizard. Once this is complete click on the **Login** menu. Enter the username **admin** and password **admin** to login to the modem



Click on the **'Switch to advanced view'** button at the bottom of the screen

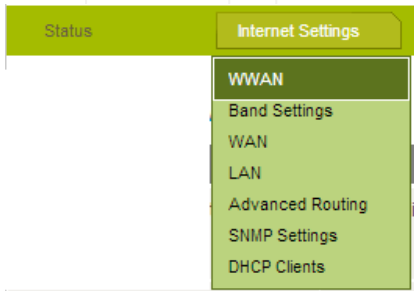




At the bottom of the page that loads you should see an connection status similar to as shown below

Connection Status	
Provider	Telstra
Service Type	Invalid service
Coverage	WCDMA 850
IMEI	355310030024784
Frequency	WCDMA 850
Signal Strength (dBm)	-67 dBm (strong) 
SIM Status	SIM locked - remaining count : 3

If the SIM Status is 'SIM locked' then select the **Internet Settings / WWAN** menu to unlock the SIM.



In the security section enter the SIM cards pin number to unlock the SIM card.

SIM Security Settings	
SIM Status	SIM OK
PIN	<input type="text"/>
Confirm PIN	<input type="text"/>
Remember PIN: Disabled	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
PIN Protection: Disabled	Disable PIN ▾
<input type="button" value="Apply"/>	

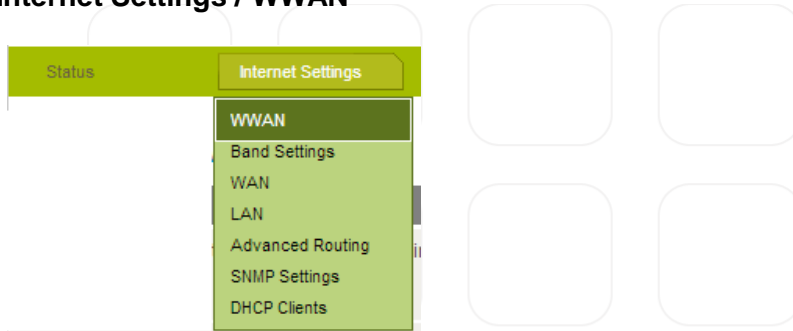


Enabling the Internet Connection on the Modem

If the SIM card has not yet had the MICA codes encoded into the card you must now call Telstra and get them to encode (configure) your SIM card.

Once this is done you will have to restart the modem. Once complete continue on with this guide.

Go to 'Internet Settings / WWAN'



You need to disable the Auto-APN and enter the name 'telstra.extranet'. See image below. Press the **Apply** button at the bottom of the screen when done.

The image shows the 'WWAN (3G) Settings' configuration page. The 'Auto-APN' dropdown is set to 'Disable'. The 'APN' field contains 'telstra.extranet'. Other fields include 'Dial' (*99#), 'Authentication Type' (CHAP), 'User Name', 'Password', 'Verify Password', '3G NAT' (Enable), 'Interface Metric' (20), 'Operation Mode' (Always on), and 'Redial Period' (60 seconds). An 'Apply' button is at the bottom.

Back on the **status** screen the WWAN connection should now be UP and show the devices **external IP address** (similar to as shown below).

The image shows the 'WWAN (3G)' status screen. It displays 'WWAN Operation Mode' as 'Always on' and 'Connection Up Time' as '00 : 05 : 47'. Below is a table with connection details:

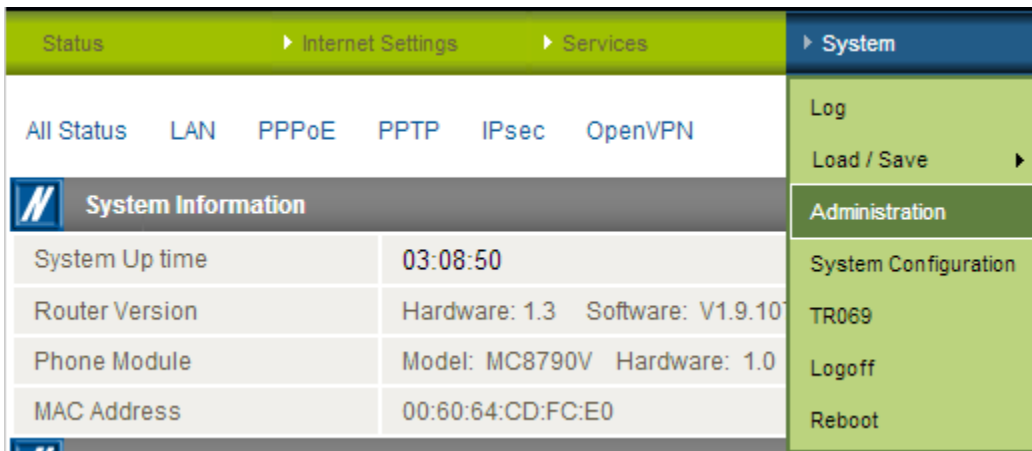
Interface	Status	APN	Local	Remote
3G	Up	telstra.extranet	123.209.154.37	0.0.0.0



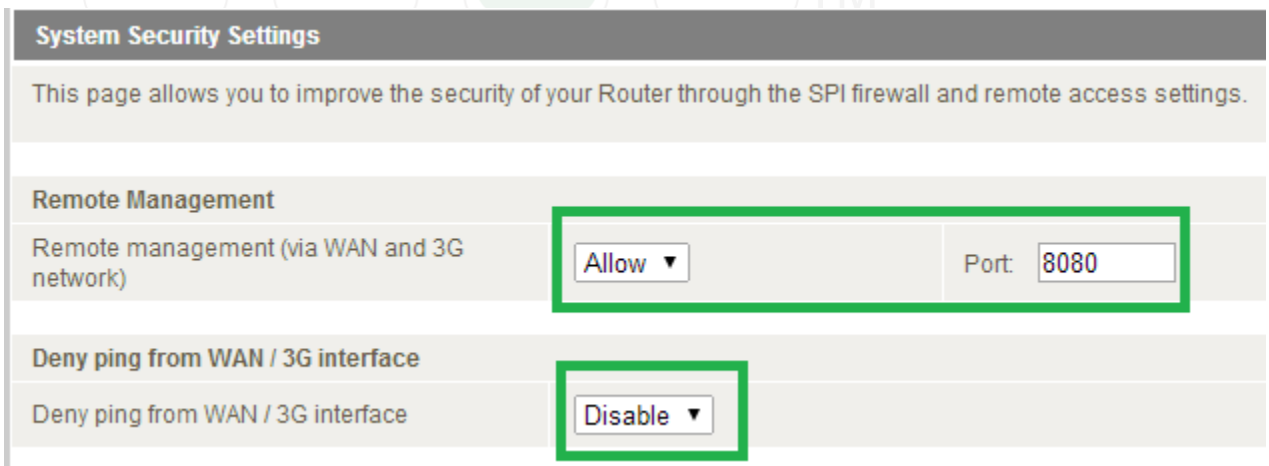
Enable PING and HTTP service

A handy feature (to help with debugging) is to enable PING and HTTP on the NetComm router.

Go to 'System / Administrator'



Enable all 3 options shown below



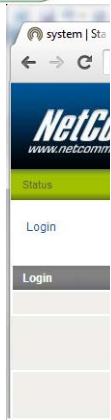
Once this enable you then can **remotely** test if you can ping the device. As well as remotely open the configuration page in a web browser (<http://123.209.21.28:8080> in this example)

```
cmd C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Mick>ping 123.209.21.29

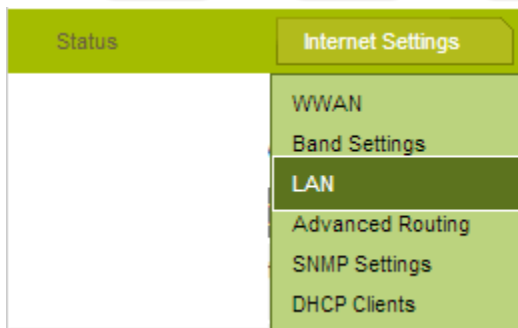
Pinging 123.209.21.29 with 32 bytes of data:
Reply from 123.209.21.29: bytes=32 time=227ms TTL=47
Reply from 123.209.21.29: bytes=32 time=208ms TTL=47
Reply from 123.209.21.29: bytes=32 time=193ms TTL=47
Reply from 123.209.21.29: bytes=32 time=150ms TTL=47

Ping statistics for 123.209.21.29:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 150ms, Maximum = 227ms, Average = 194ms
```

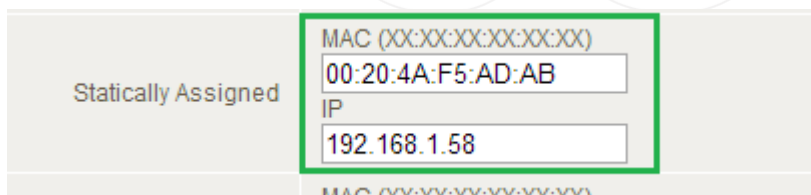


Setting the Lantronics XPort LAN adapters IP address.

Go to 'Internet Settings / LAN'



Near the bottom of this screen enter the XPort LAN adapters MAC address and the IP address you would like it to be (IP address needs to be in the same address as the router).

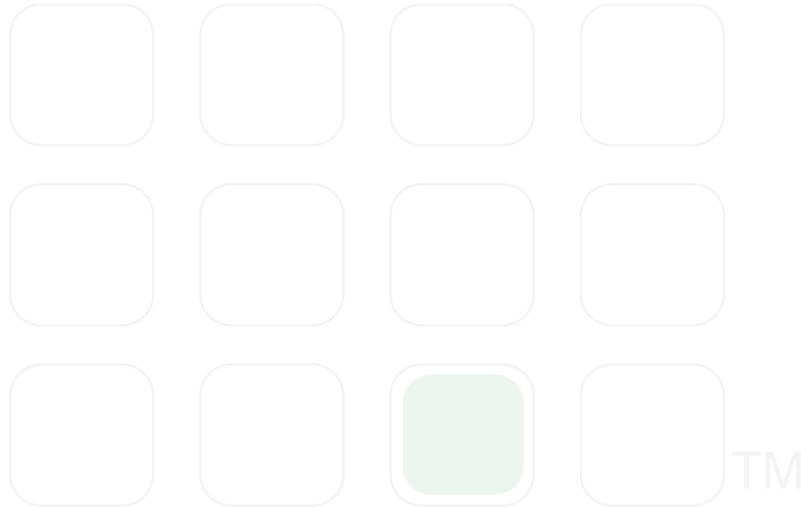


You can alternatively set a Static IP address in the Lantronic XPort Adapter. Enter the web configuration page of the device (username **admin** password n/a) and set the IP address. This will ensure the IP address of this device never changes. Press **Apply Settings** once complete.



CS TECHNOLOGIES

Defining the future of
Access Control



CS
TECHNOLOGIES

Head Quarters - Sydney NSW Australia
Sales: sales@cstech.biz, Support: support@cstech.biz

Tel. +61 2 9809 5176, Fax. +61 2 8878 0222
Sales: sales@cstech.biz, Support: support@cstech.biz

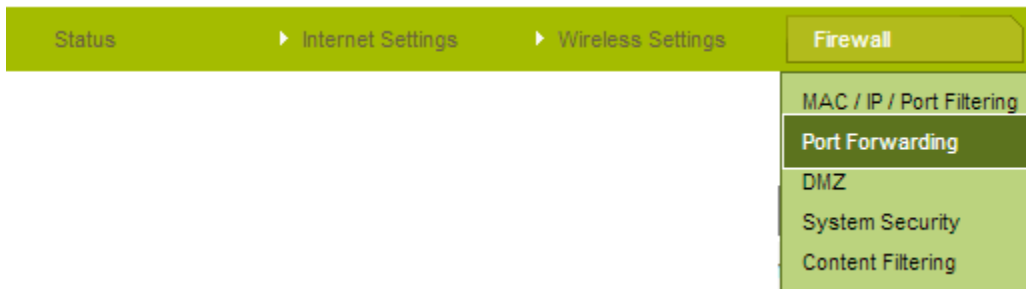
www.cstech.biz



Port Forwarding

The next step is to port forward ports 80 and 10001 to the sites XPort LAN adapter.

Go to 'Firewall / Port Forwarding' -



Add two separate rule for 80 and 10001 like shown below.

In the example below the IP address of the XPort LAN module is 192.168.1.58. You must enter the IP address of the XPort LAN module at your site here.

Virtual Server Settings

This page allows you to configure port forwarding rules to allow remote users to access services such as Web or FTP on your local computers. This allows you to redirect a particular port number (from the Internet / WAN port) to a particular LAN IP address.

Virtual Server Settings

Virtual Server Setting	Enable
IP Address	192.168.1.58
Port Range	10001 - 10001
Protocol	TCP&UDP
Comment	XPort Data

(The maximum rule count is 32.)

Apply Reset

Current Virtual Servers in system

No	IP Address	Port Range	Protocol	Comment
1 <input type="checkbox"/>	192.168.1.58	80 - 80	TCP + UDP	XPort Web
2 <input type="checkbox"/>	192.168.1.58	10001 - 10001	TCP + UDP	XPort Data

Delete Selected Reset



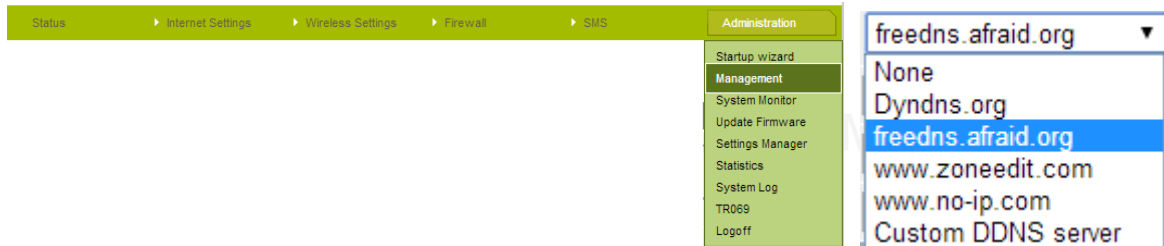
Dynamic DNS

Each time you restart the NetComm modem you will notice the device is given a new IP address by Telstra.

WWAN (3G)				
WWAN Operation Mode		Always on		
Connection Up Time		22 : 26 : 00		
Interface	Status	APN	Local	Remote
3G	Up	telstra.extranet	123.209.154.37	0.0.0.0

To solve this changing IP address you will need to setup a Dynamic DNS name.

You will need to sign up with a DDNS website and purchase for a small fee (freedns.afraid.org is free) for this service. Go to Administrator / Management



and choose the DDNS service and enter your login details and the host name to enable this feature. If you do not enable DDNS you will not be able to connect to the site if the NetComm modem is restarted. So you will need to setup this service.

DDNS Settings	
Dynamic DNS Provider	freedns.afraid.org
Account	cstechnologies
Password
Host Name	cstechdemo.chickenkiller.com
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

Add a new subdomain	
Type:	A <small>explanation</small>
Subdomain:	cstechdemo
Domain:	chickenkiller.com (public)
Destination:	123.209.154.37
TTL:	For our premium support seconds (optional)
Wildcard:	<input type="checkbox"/> Enabled for all subscribers <small>(more info)</small>
<input type="button" value="Save!"/>	



Enter the DNS Name (or IP Address) into Evolution

The final step is to add the IP address (or DNS Name) into Evolution so Evolution can connect to the remote site. The external IP address of the modem in this example is shown below.

WWAN (3G)				
WWAN Operation Mode		Always on		
Connection Up Time		22 : 26 : 00		
Interface	Status	APN	Local	Remote
3G	Up	telstra.extranet	123.209.154.37	0.0.0.0

In Evolution go to **Hardware / Locations / Edit – TCP/IP** and enter the IP address for the location. See example below.

Edit location

Location Settings

Location name: Office: 2

PC Number: 1 Short name(5 chars): Con

Location Timezone: (GMT+10:00) Brisbane, Canberra, Melbourne, Sydney, H

Enable Daylight Savings for the Location
 Don't display global Don't display local

Controller Connection Type

USB/Com Port
 56k Modem
 TCP/IP

Settings

Address type: IP DNS Auto Find

IP: 123 . 209 . 154 . 37 Port: 10001

Read Timeout: 500 Time the thread waits for answer(ms)
Controller Timeout: 40 Controller time out, go offline(seconds)
Polls: 1000 Time after which we send poll(milliseconds)
Retries: 40 If reached, change the state to offline
Pause: 10 Time between transactions(milliseconds)

Link Status: Connected

Defaults

List Interfaces Download Device Installer Open in Web Browser

Or if you have the Dynamic DNS setup enter the DNS name in the location shown below.

Settings

Address type: DNS IP Auto Find

DNS: http://cstechdemo.chickenkiller. Port: 10001

Read Timeout: 500 Time the thread waits for answer(ms)
Controller Timeout: 40 Controller time out, go offline(seconds)
Polls: 1000 Time after which we send poll(milliseconds)