

Version No: 03 Issue Date: 25/07/2014 Portfolio:	Horizons Regional Council	Section No: 21.12 Page: 1 of 2
horizons regional council	Hydrology Operations Manual	

Netcomm M2M Serial Modem – NTC3000

Overview:

The Netcomm M2M Serial Modem comes in both Vodafone and telecom frequency bands,

NTC-3000-02 (WCDMA 900 / 2100 MHz) - Vodafone

NTC-3000-03 (WCDMA 850 / 2100 MHz) - Telecom

The modems are plug and play for the CR1000 and CR800 dataloggers and require no setup other than datalogger settings.



Support website is

<http://www.netcommwireless.com/product/m2m/ntc-3000>

With User Manual

<..\..\Hydrology Sites\General Site Information\Manuals\NTC-3000-UG.pdf>

Modem Setup:

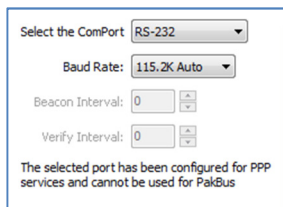
The setup of the modem only requires an appropriate sim, 5-36vdc power connection and null modem adaptor. The modem includes a serial cable with external power supply plug and will require a fitting for this connection; this can be sourced from Jaycar.

The modem has auto baud rate detection so does not require any further configuration.

Attach the aerial to the modem, Connect the serial cable via Null modem adaptor to the Dataloggers RS232 port and power up via 12vdc.

Datalogger Setup:

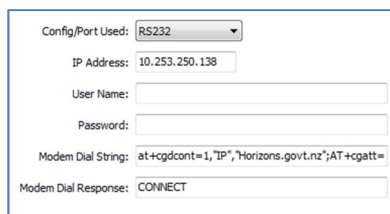
Using Device configuration Utility connect to the logger through the CSI/O port



Select the ComPort: RS-232
Baud Rate: 115.2K Auto
Beacon Interval: 0
Verify Interval: 0
The selected port has been configured for PPP services and cannot be used for PakBus

Set the Comport Setting for the RS232 port to 115.2K Auto

Note: If connecting a radio as well then the radio should be set up for the CSI/O port, no tri comms adaptor support as yet.



Config/Port Used: RS232
IP Address: 10.253.250.138
User Name:
Password:
Modem Dial String: at+cgdcont=1,"IP","Horizons.govt.nz";AT+cgatt=
Modem Dial Response: CONNECT

Set the PPP settings for the modem

These require the IP address of the sim to be loaded with the following dial strings.

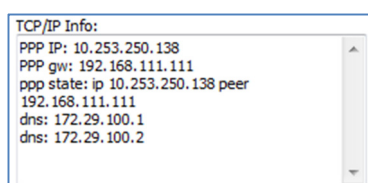
Vodafone

at+cgdcont=1,"IP","Horizons.govt.nz";AT+cgatt=0;ATD*99***1#

Telecom

at+cgdcont=1,"IP","oa.telecom.co.nz";AT+cgatt=0;ATD*99***1#

For telecom units also add the User name *hydroXXX@Horizons* and password *hydr0logy* for the sim (XXX = IP .i.e 018)



TCP/IP Info:
PPP IP: 10.253.250.138
PPP gw: 192.168.111.111
ppp state: ip 10.253.250.138 peer 192.168.111.111
dns: 172.29.100.1
dns: 172.29.100.2

Cycle the power to the logger and modem and reconnect to the logger. On the TCP/IP tab the connection status should show a PPP session similar to this and the modem will ping.

Version No: 03 Issue Date: 25/07/2014 Portfolio:	Horizons Regional Council	Section No: 21.12 Page: 2 of 2
	Hydrology Operations Manual	

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Telemetry Setup:

The Modem is a TCP/IP unit with data on port 6785, add the IP to this modem type using the telemetered sites editor

Logger Code

The logger code allows some degree of management of the PPP session

An example is included below

Define a public variable, this will show the current IP state, -1 for no connection and the IP if connection achieved

Public PPPState As String

In the main program under conditional Processes the following code can be added, this examples uses SW12 to power the modem but a control port could also be used with an external relay. Flag(2) is used for the modem reset control and can be used to power cycle the modem.

```
' PPP control, resets GPRS power every 6hrs
SW12 (1)                                ' Powers up the modem, ensures the modem is only down for 1 table run

If IfTime(359,360,min) Then Flag(2) = -1 'reset the modem with Flag(2) high
If Flag(2) = -1 Then                      ' resets power 1 min before 6hr interval
    PPPState = PPPClose                  ' closes the PPP connections
    SW12 (0)                             ' uses SW 12 supply to down power the modem
    Flag(2) = 0
EndIf

If IfTime(0,6,min) Then                  ' after restarting the modem the PPP connection is reopened, we check the PP state on interval
    PPPState = PPPOpen                  ' The variable PPPstate will now show the IP address or -1
    If PPPState = -1 Then Flag(2) = -1
EndIf
```