intercel™

go anywhere communication and data transfer

30th ANNIVERSARY 1988-2018

eSAM

GPS USER GUIDE

www.intercel.com.au

INTRODUCTION

The Ultra eSAM Modem features a GPS Module capable of using the GPS Satellite system to locate the modem anywhere on the earth. This is implemented using the TCP or UDP Protocol, and is designed to work with many different applications.

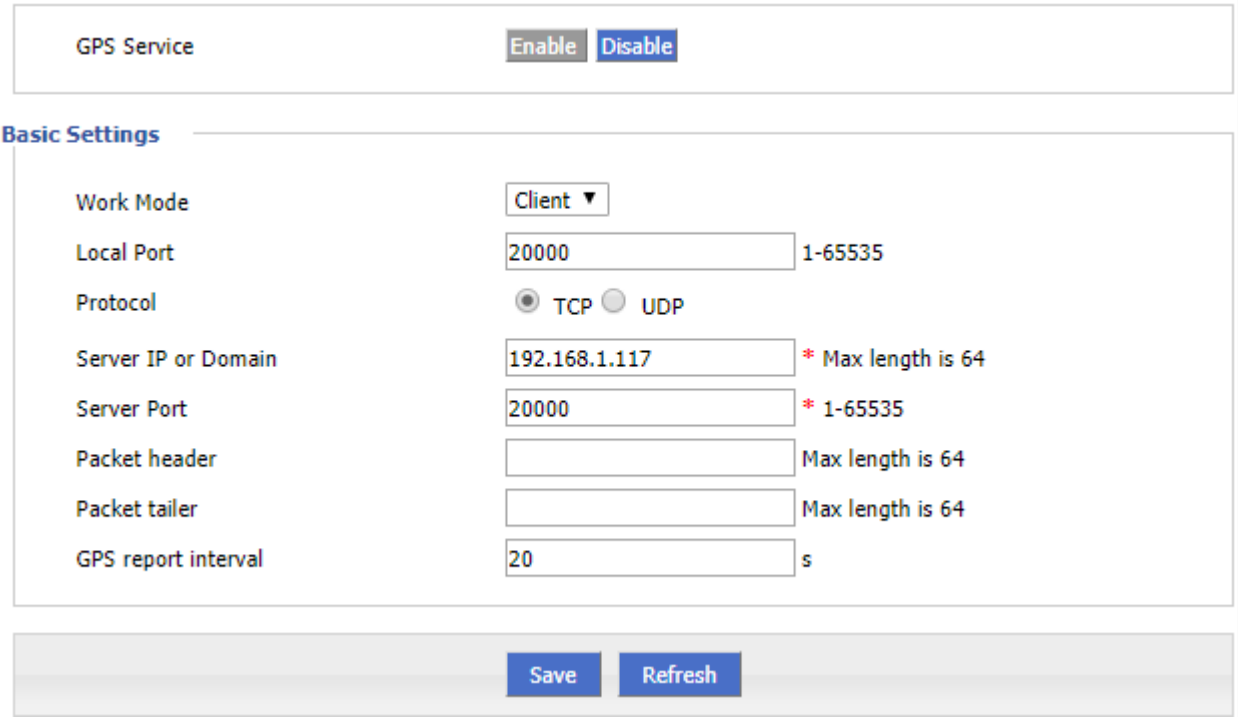
MODEM CONFIGURATION

1. First, ensure you have connected an external GPS antenna to the eSAM. An antenna is provided with the eSAM Kit.

   Note that GPS signals operate at a lower frequency than 4G or Wi-Fi Signals, and so are more susceptible to being blocked by obstacles, such as metal roofs or metal enclosures. Where possible use an antenna external to your enclosure.

2. Connect to the eSAM Web GUI. By default, this can be done by opening your web browser and enter '*192.168.8.1*' . When the GUI opens, enter your username and password to log in.

3. Open the Application>GPS window



   Enable the GPS Application, if it is not enabled already.

4. The eSAM is designed to interface with a TCP or UDP Server. GPS data is sent straight from the embedded GPS Modem, encapsulated in a TCP or UDP header using whichever port you set here.

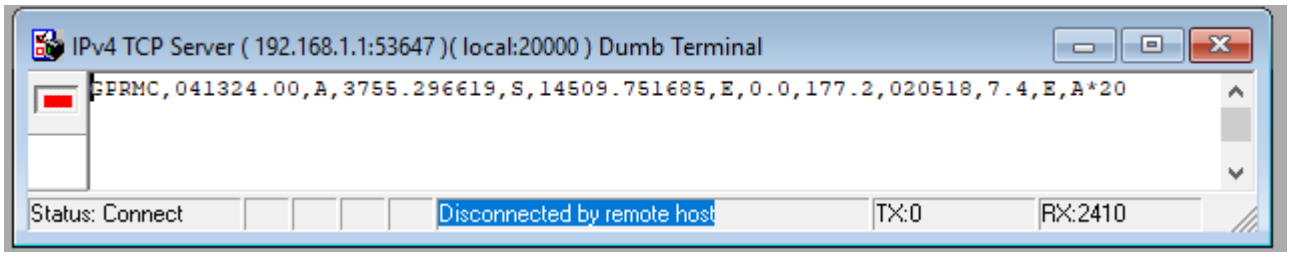
   This guide will describe how to confirm that the eSAM GPS Feature is functioning, but will not explain how to configure a server to display this information

5. Enter the following parameters:

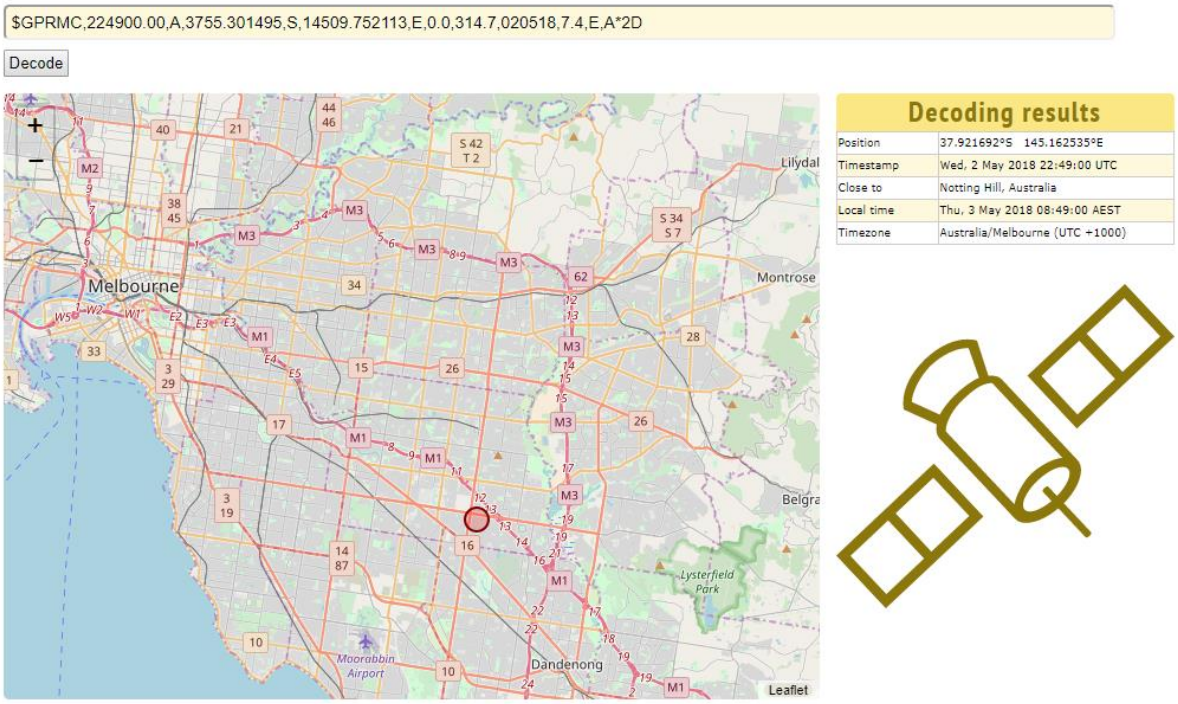
Parameter	Setting
Local Port	The port used by the eSAM for sending GPS Data to your server
Protocol	TCP or UDP (usually TCP)
Server IP	The IP Address or hostname of your GPS Server
Server Port	The port used on your server to receive the Data
Packet header	The data to be appended before the GPS Data (optional)
Packet tailer	The data to be appended after the GPS Data (optional)
GPS report interval	How much time should pass before the eSAM will send an updated GPS Location.

6. Once entered, press 'save' to save your configuration

7. (optional) To confirm that the GPS is functioning, you can use a TCP Server program such as PCCOM to monitor incoming TCP Packets to your server.



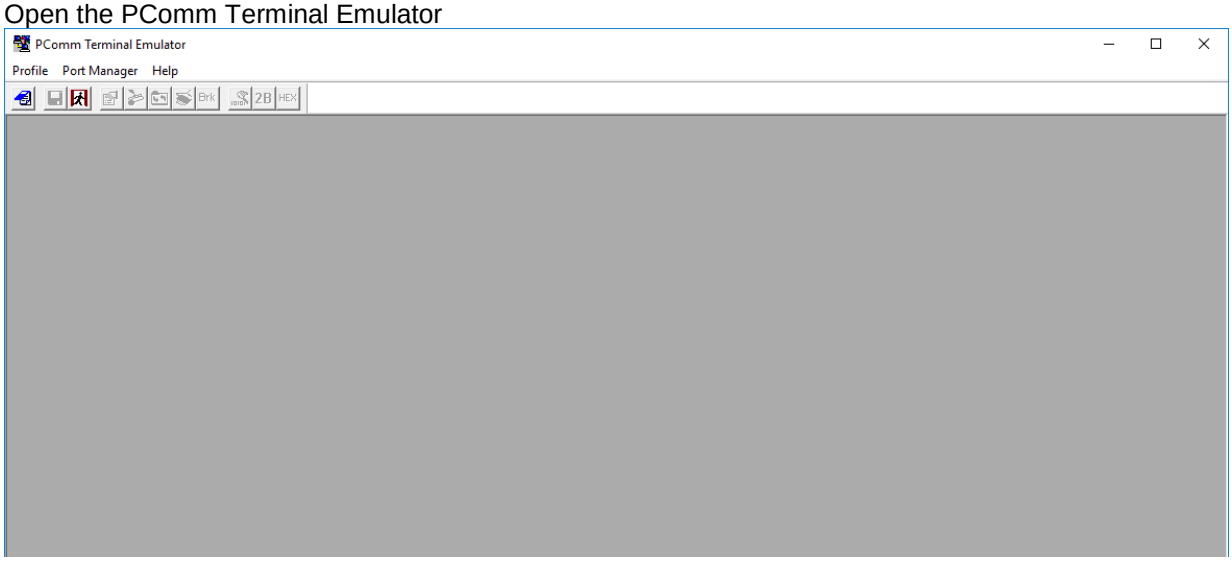
Note: When the signal strength for GPS is very low, it may take several minutes for a GPS lock to be achieved. If the received packets do not contain any co-ordinates, please wait and allow the eSAM time to gain a signal lock.



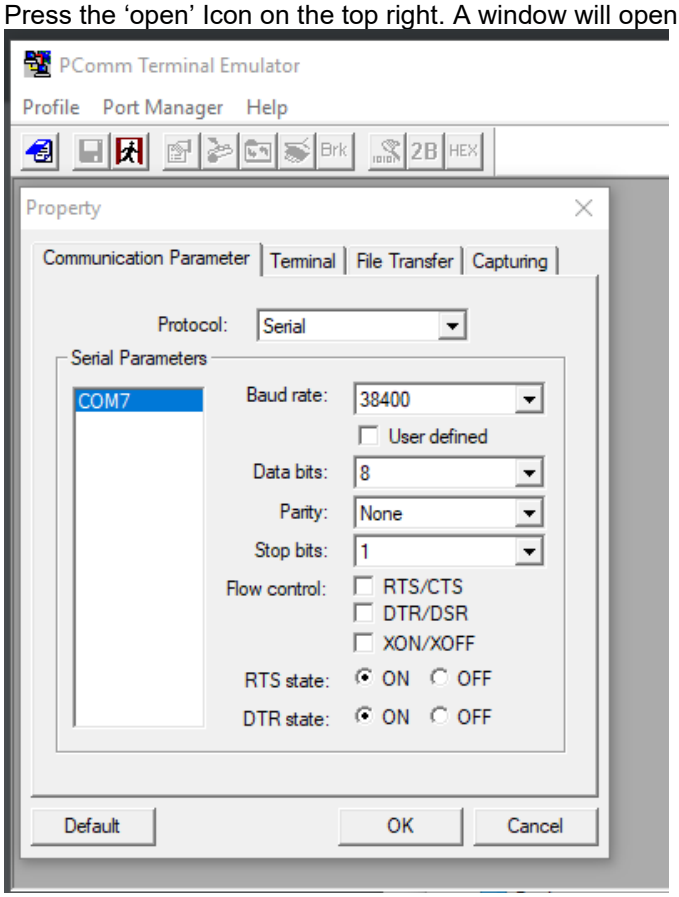
Optional: Testing the GPS with PComm

If you don't have a server set up for GPS yet, or you want to test the eSAM Locally without setting up a server, you can use a dumb TCP terminal such as the PComm Terminal Emulator to directly monitor the GPS TCP Packets sent from the eSAM.

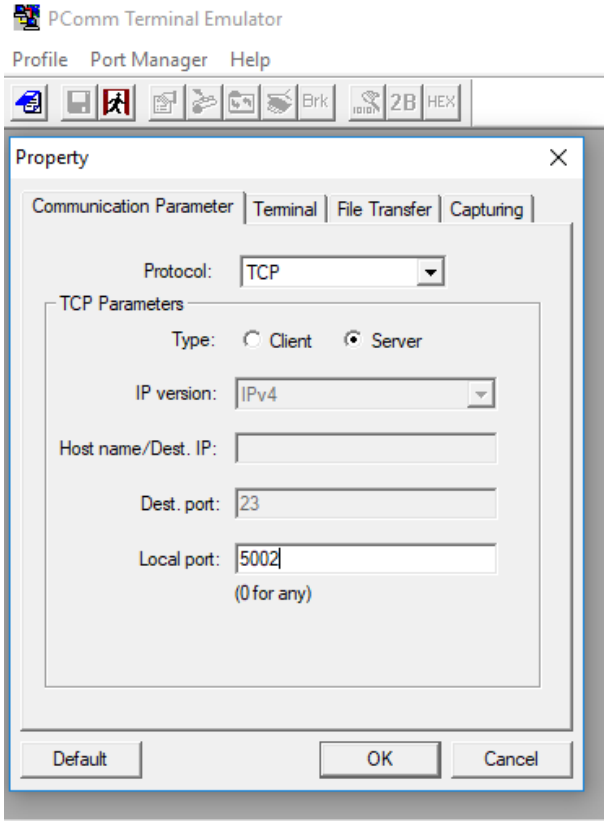
1. Open the PComm Terminal Emulator



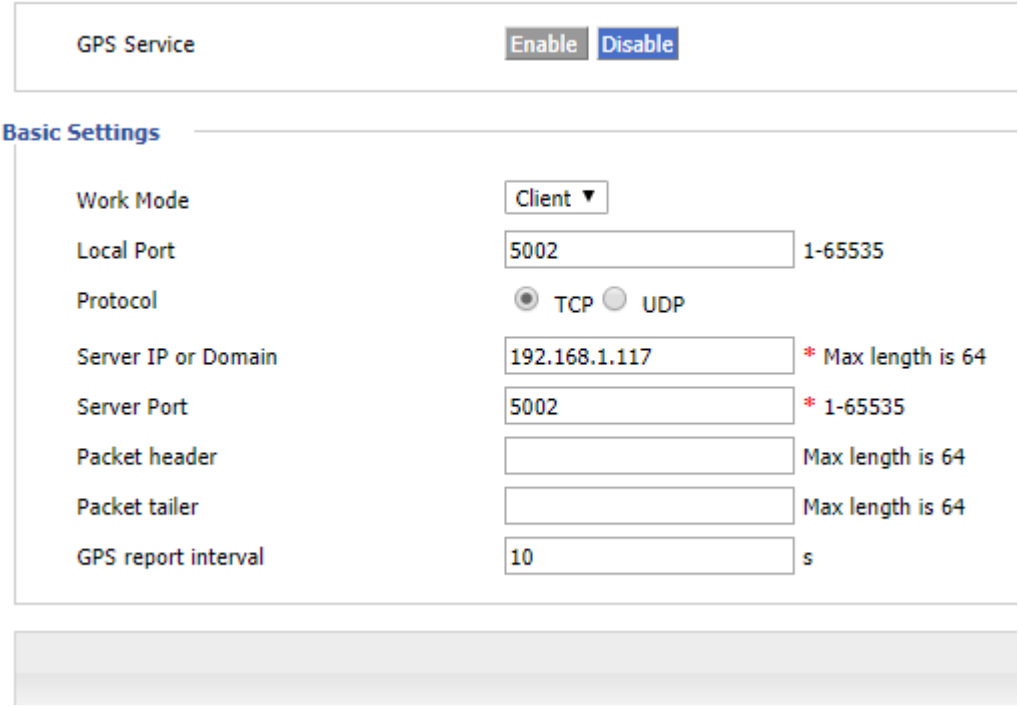
2. Press the 'open' Icon on the top right. A window will open to configure a new terminal



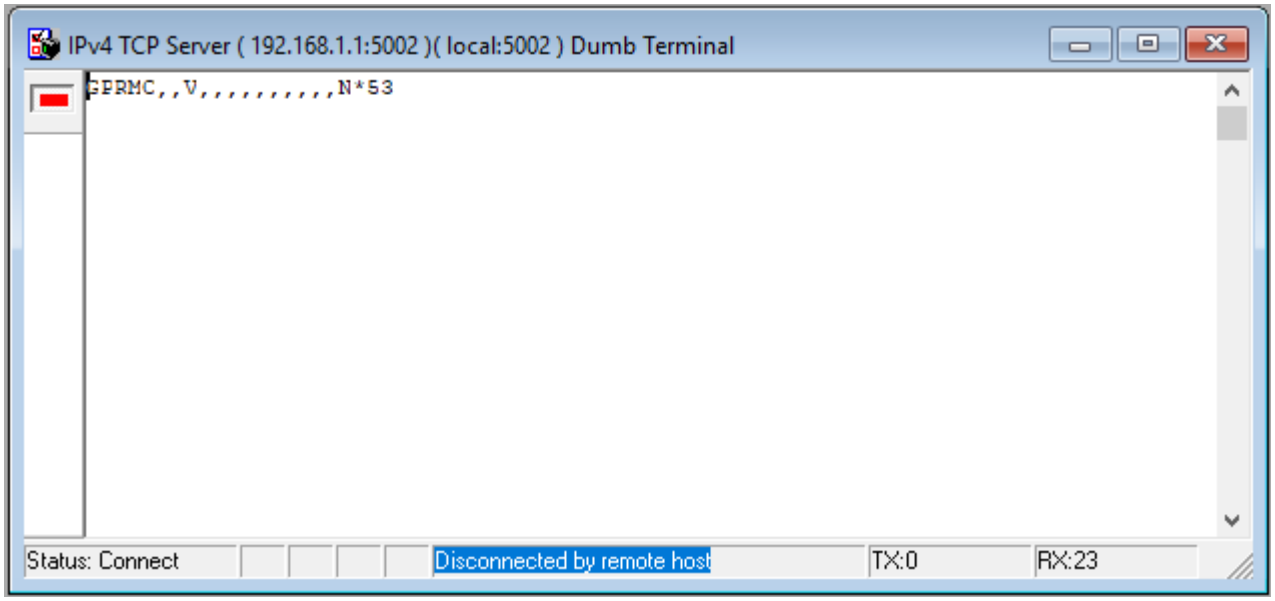
3. Select TCP as the protocol and Server as the operating mode. Enter the same port here you intend to set on the eSAM GPS Window



4. Press ‘OK’ once configured. The Terminal will open on the port you set.
5. Connect your eSAM to your computer, and open the Applications>GPS screen
6. Enter the local IP of the computer you have connected to the eSAM, and set the server port to match the port configured in the terminal *(in this case, my local PC was assigned the IP 192.168.1.117)*



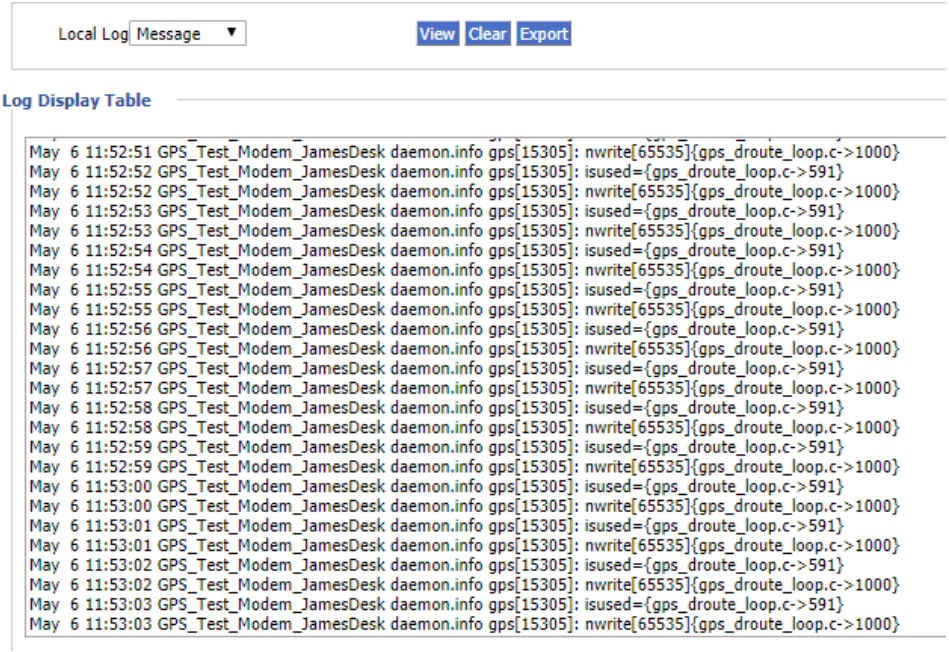
The eSAM will send the GPS status to the IP listed in the Server IP, where our terminal will display it.



In this test, I have not connected an antenna to the eSAM so the data is missing its co-ordinate field. This indicates that the GPS does not have reception.

If your eSAM does have GPS Reception, you will see a screen like this:

We can confirm that the GPS service is running by viewing the local log on the eSAM



If your eSAM is unable to get a good signal, please check the following:

1. Check that you are using the correct antenna screwed into the GPS connector of the eSAM, the one supplied with the eSAM has a long cord and a square-shaped antenna.

2. If possible, ensure that the Antenna has a clear view of the sky without any obstacles. Metal roofs and cabinets can prevent signal reception.

3. Position the antenna flat, with its face pointed towards the sky.

If these steps do not improve the signal quality of the Modem, please contact Intercel technical support at intercel@intercel.com.au

go anywhere communication and data transfer

www.facebook.com/Intercel-775004365883748 www.linkedin.com/company/intercel

www.intercel.com.au 33 Glenvale Crescent Mulgrave VIC 3170 Australia

intercel@intercel.com.au +61 (0) 3 9239 2000