— RF Technology Architect —

## 8 - Channel GPS Simulator

User's manual v.1.01

Overview

ADIVIC proudly introduces the MP series to the telecommunication industry.
MP9100 multi channel GPS Simulator is an 8-Channel GPS turn-key testing solution,
which provides a flexible, convenient, simple, efficient and cost effective solution
to the R&D and production lines.

8 - Channel GPS Simulator
(use the original information)

» Basic user interface

After double clicking the application icon a user interface is shown as below in figure
Fig01. It has a structure of several different sections. The top section of the interface
is a four-division tool panel filled with iconic buttons, a timer and a run-indicator. The
centre section contains 4 windows: Skyview, Satellite Data, Posisition Data and User
profile. A status bar at the bottom indicates the connection status and the current
selected profile information.
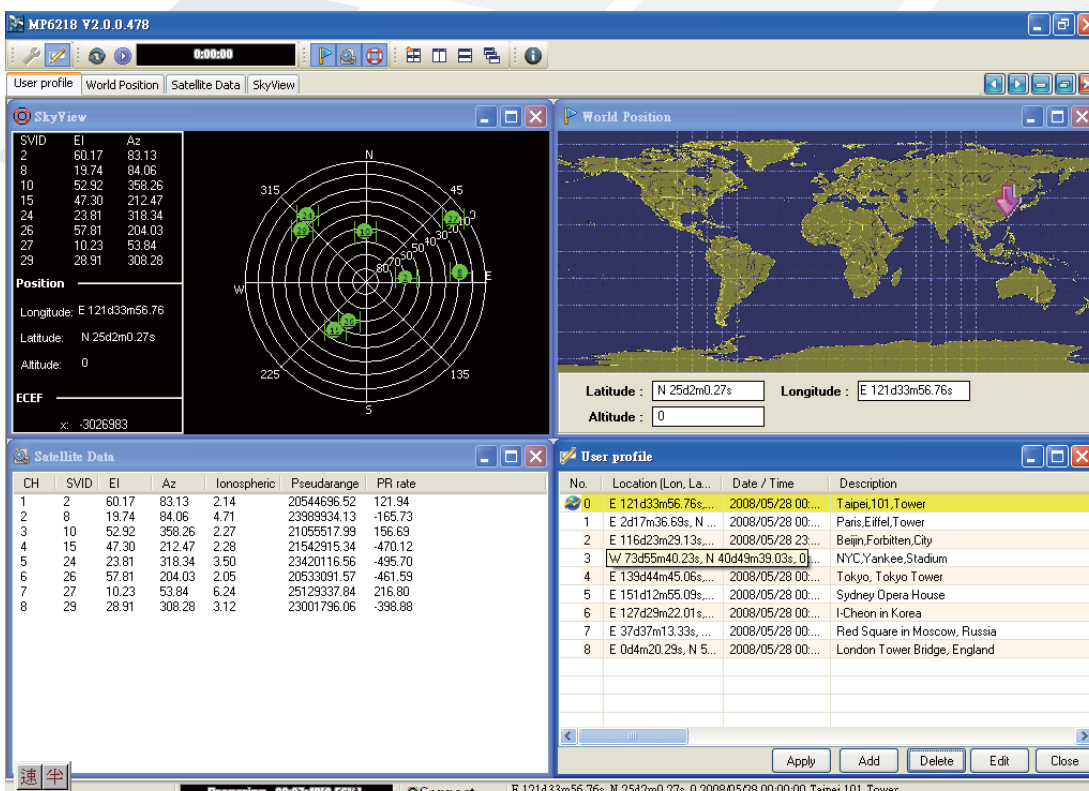

> Fig 01   User interface

» User profile window

The user profile window (see Fig. 02) contains a file list and a button bar. The File list breaks down each saved file in 4 details :

· **Location –** indicates where the signal is sent out.
· **Date / Time –** indicates time date and time when signal is sent out.
· **Satellite ID –** indicates which satellite is responsible for the signal.
· **Description –** is for the use of memo purpose.

> Fig 02   User profile window
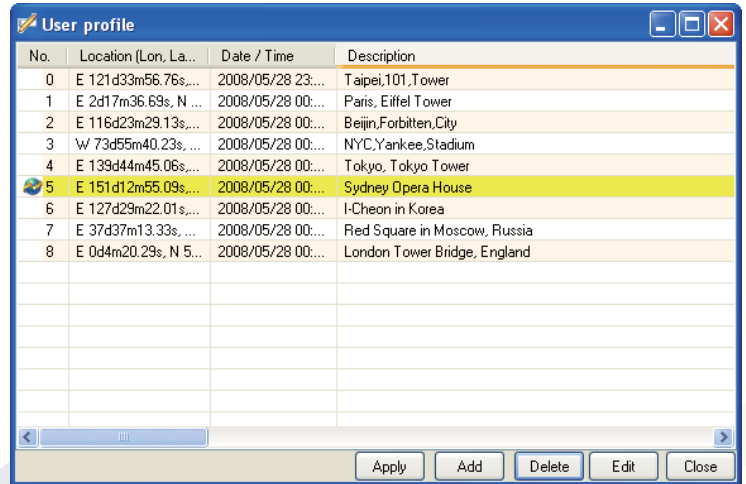
Yellow highlight indicates last run file, and blue highlight indicates selected file. The button bar at the bottom of the window contains five buttons :

· **Apply –** to set up the selected file for simulation to start.
· **Add –** to create a new profile.
· **Delete –** to delete a selected profile.
· **Edit –** to edit a selected profile.
· **Close –** to close a selected profile.
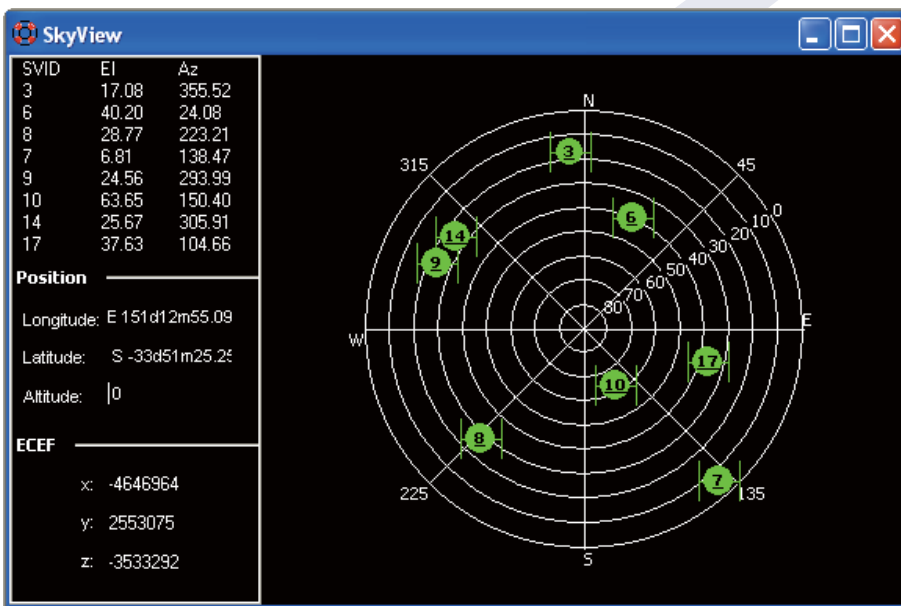
» Set Location window

Users can create a new profile by clicking the Add button, a Set Location window would be popped out. The new information would be keyed in and power levels can be set by clicking on the power-levels button (see fig 03). A new file is created and saved after clicking on the OK button.
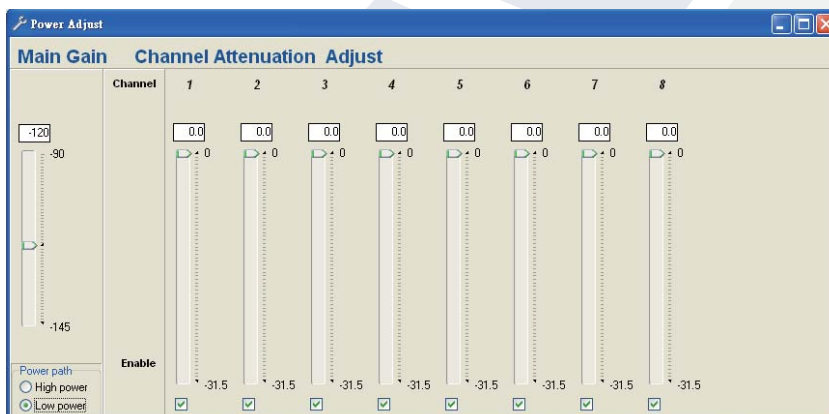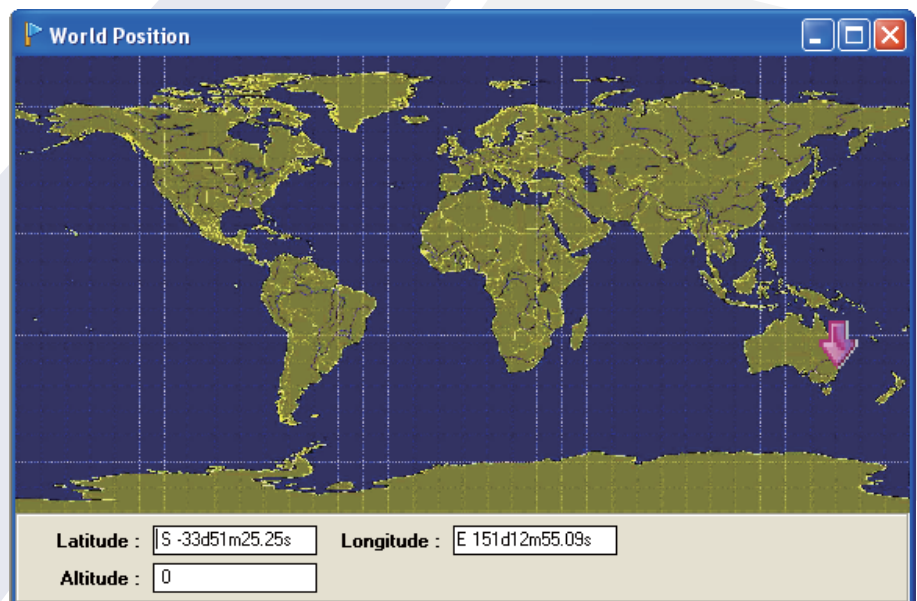

> Fig 03 Set location window/ Power Levels window

⨠ Start a Simulation/ Informational Windows

To run a simulation, users have to select one profile and click on apply button first. Then the Play icon button turns green and the simulation is ready to run. Three informational buttons are corresponding to three individual windows: Sky view, World position, and Satellite data. Moreover, there are also three buttons: cascade, title horizontal, and title vertical, to help users position their view windows (see fig. 04~10). To start the simulation, users simply have to click on the Play icon button, and to terminate the simulation, users click on the Stop icon button.
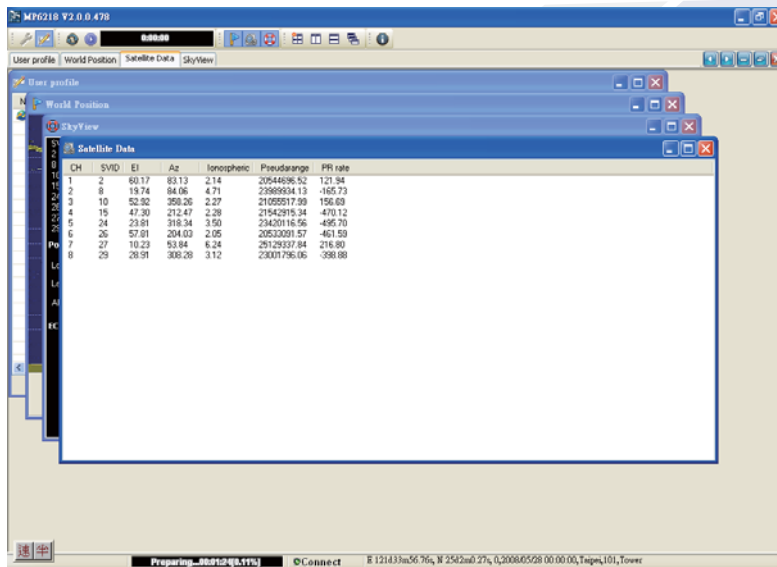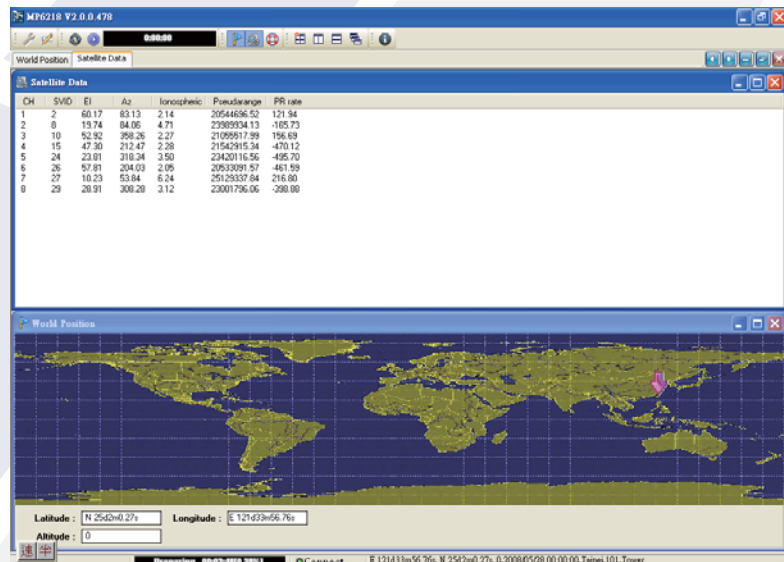

> Fig 04 Sky view

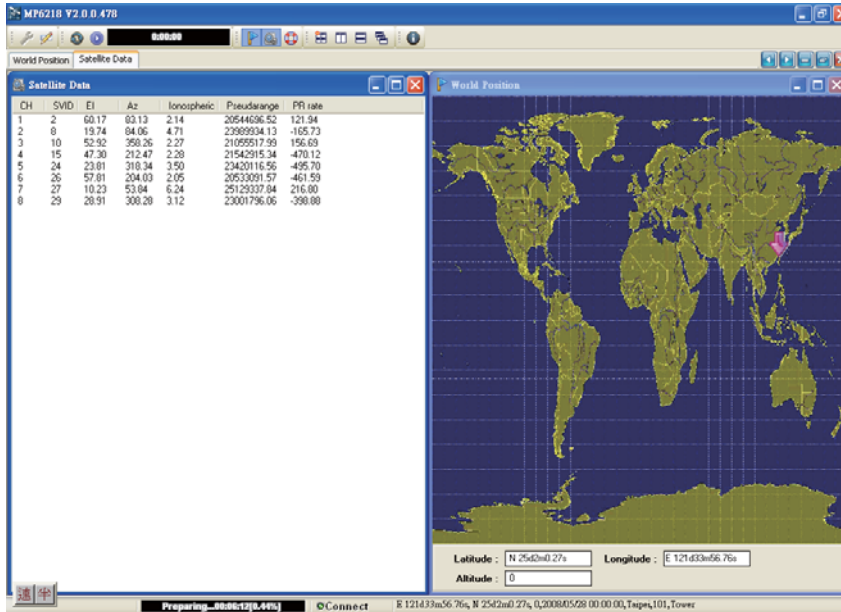> Fig 05 World position
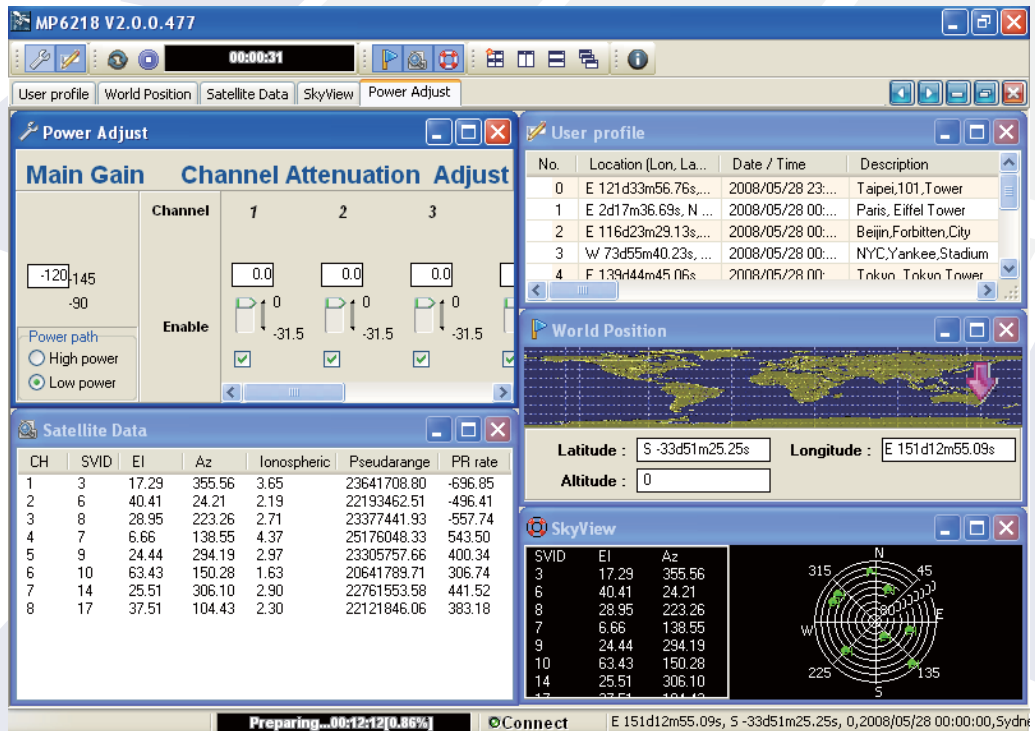
> Fig 06 Satellite data

> Fig 07 Cascade

> Fig 08 Title Horizontal

> Fig 9 Title vertical

> Fig 10 Title vertical/ Title horizontal

8 - Channel GPS Product Features

> 8 channels GPS L1 C/A code
> Enable a GPS Receiver to perform a position fix
> ATE capability
> Support single channel mode
> Testing/ Measurements
  - Sensitivity
  - TTFF
  - Position accuracy and repeatability
  - Hardware tracking accuracy and repeatability
  - GDOP
> User controlling variables:
  - Power levels
  - Times
  - Locations
> Built-in ultra high precision OCXO
    Frequency Accuracy : +/- 100 ppb maximum
    Aging (Per year) : +/-100 ppb maximum
        (Per day) : +/-1 ppb maximum
> Adjustable output power level for each every satellites
> Duration up to 12.5 minutes
> Power level ranged from -55 dBm to -145 dBm in 1 dB step, -145 dBm to -160dBm in 0.5 dB step.
> Output power uncertainty to ± 1 dB.
> USB port
> Ethernet port (for Production remote control purposes)
> Cost effective