Digital Instruments

GPS UPDATE
ERRATA CORRIGE

Rev 1.2

Dichiarazione di conformità **Declaration of conformity**	CE
La Ditta *The Company*	**DIGITAL INSTRUMENTS** **Via Ampere, 103 MILANO** **20131 ITALY**
Dichiara con la presente che il Prodotto *Herewith declares that the Product*	
Tipo / *Type*	**GPS Software Update**
Modello / *Model*	**GPS UPDATE**
Oggetto di questa dichiarazione è conforme ai seguenti standard o norme della Comunità Europea *Referred to by this declaration is in conformity with the following standards or normative documents of EC*	
Direttive CEE applicabili *Applicable EC Directive*	Norme Europee Armonizzate *European Armonized Standards*
73/23/EEC revised by 93/68/EEC **Electrical equipment for usage within defined voltage limits**	EN61010-1 :1993 +A2:1995 EN 60204-1:1997
89/336/EEC revised by 91/263/EEC,92/31/EEC, 93/68/EEC **Electromagnetic compatibility**	CEI EN 55011 – Classe A (Emissione per gli ambienti industriali EN 61000-6-4) CEI EN 61000-6-2 – Classe A (Immunità per gli ambienti industriali)
Milan, january 2009	**DIGITAL INSTRUMENTS S.r.L.** **Via Ampere, 103 MILANO** **20131 ITALY** *Marco Genova* *Quality Assurance Manager*

Istruzioni di sicurezza
Safety Instructions

Il dispositivo è stato progettato, costruito e collaudato in conformità alle normative richiamate nel Certificato di Conformità ed è stato rilasciato dal costruttore completamente testato secondo gli standard di sicurezza. Per mantenere questa condizione e assicurare la sicurezza d'uso, l'utente deve osservare tutte le istruzioni e segnalazioni di pericolo descritte in questo manuale.

This unit has been designed and tested in accordance with the EC Certificate of Conformity and has left the manufacurer's plant in a condition fully complying with safety standard. To maintain this condition and to ensure safe operation, the user must observe all the instructions and warnings given in this operating manual.

- **Prima di mettere in servizio il dispositivo, leggere attentamente ed integralmente le istruzioni per l'uso. Osservarle e seguirle in tutti i punti. Provvedere in modo che le istruzioni per l'uso siano sempre accessibili a tutti gli addetti.**

  Prior to switching on the unit, please read carefully the instructions on the manual.Keep this manual available for all every user of this equipment.

- **Il terminale PE sul dispositivo deve essere connesso al conduttore PE prima di eseguire qualsiasi altra connessione. L'installazione ed il cablaggio devono essere eseguiti da personale tecnico qualificato.**

  The PE terminal of the unit must first be connected to the PE conductor on site before any other connections are made. Installation and cabling of the unit to be performed only by qualified thecnical personnel.

- **Lo strumento supporta alimentazione AC wide range da 95 Vac a 240 Vac e deve essere connesso tramite protezione con corrente nominale massima pari a 16A.**

  This unit may be operate from wide range AC supply networks from 95 Vac to 240 Vac fused with max. 16A.

- **Lo strumento supporta alimentazione DC wide range da 20 Vdc a 50 Vdc e deve essere connesso tramite protezione con corrente nominale massima pari a 5A. Il circuito di protezione contro l'inversione di polarità è implementato a bordo.**

  This unit may be operate from wide range DC supply networks from 20 Vdc to 50Vdc fused with max. 5A.Circuit against polarity invertion is also implemented.

  Le condizioni di sicurezza vanno testate ad ogni sostituzione. Ispezione visiva dei cavi, stato dell'isolamento, corrente di dispersione, stato del connettore PE e test funzionale.

  A safety test must be performed after each replacement of part. Visual inspections, PE conductor test, insulation resistance, leakage-current measurement, functional test.

- **Non interrompere il conduttore PE in nessun caso. Un interruzione del cavo PE rende l'apparato elettricamente pericoloso.**

  It is not permissible to interrupt PE conductor intentionally, neither in the incoming cable nor on the unit itself as this may cause the unit become electrically hazardous.

- **Ogni riparazione, manutenzione e sostituzione del dispositivo deve essere eseguita unicamente da personale autorizzato dalla Digital Instruments.**

  Any adjustements, replacements of parts, maintenence or repair may be carried out only by authorized Digital Instruments tecnical personnel.

- **Assicurarsi che ogni collegamento con dispositivi informatici sia eseguito secondo IEA950/EN60950**

  Ensure that the connections with information technology equipment comply with IEC950/EN60950

Simboli di sicurezza
Safety Symbols

Sono presenti sul dispositivo e nella documentazione simboli utilizzati per la segnalazione di segnalazione conformi alle specifiche IEC61010-1 II.

Safety-related symbols used on equipment and documentation comply with IEC 61010-1 II.

	• **SIMBOLO DIRECT CURRENT IEC 417, N°5031** Vdc may be used on rating labels
	• **SIMBOLO ALTERNATING CURRENT IEC 417, N°5032** For rating labels, the symbol is typically replaced by V and Hz as in 230V, 50Hz.
	• **SIMBOLO PROTECTIVE CONDUCTOR TERMINAL IEC 417, N°5019** This symbol is specifically reserved for the PROTECTIVE CONDUCTOR TERMINAL and no other. It is placed at the equipment earthing point and is mandatory for all grounded equipment
	• **SIMBOLO CAUTION ISO 3864, N°B.3.1** used to direct the user to the instruction manual where it is necessary to follow certain specified instructions where safety is involved.

Changelog

Rev.	Note	Data
1.0	First draft	23/06/2010
1.1	First revision	10/09/2010
1.2	Added details on the null-modem serial cable	29/04/2013

GPS UPDATE ERRATA CORRIGE

Table of Contents

1.0 Summary

This manual provides informations on the software update for the following devices: ***GPS-DS***, ***GPS-SU***, ***GPS-DR***, **REF-DS** and ***GPS-LC***.

Some devices, upon the execution of the firmware upgrade through serial cable (usually suggested only in case of a failure during the firmware upgrade via network cable) may hang on the next reboot.

In such cases is possible to adopt a special recovery method to restore the device in its normal state.
The time required for the whole procedure is usually less than 10 minutes and may be even faster than the normal serial upgrade process.

2.0 Software update instructions

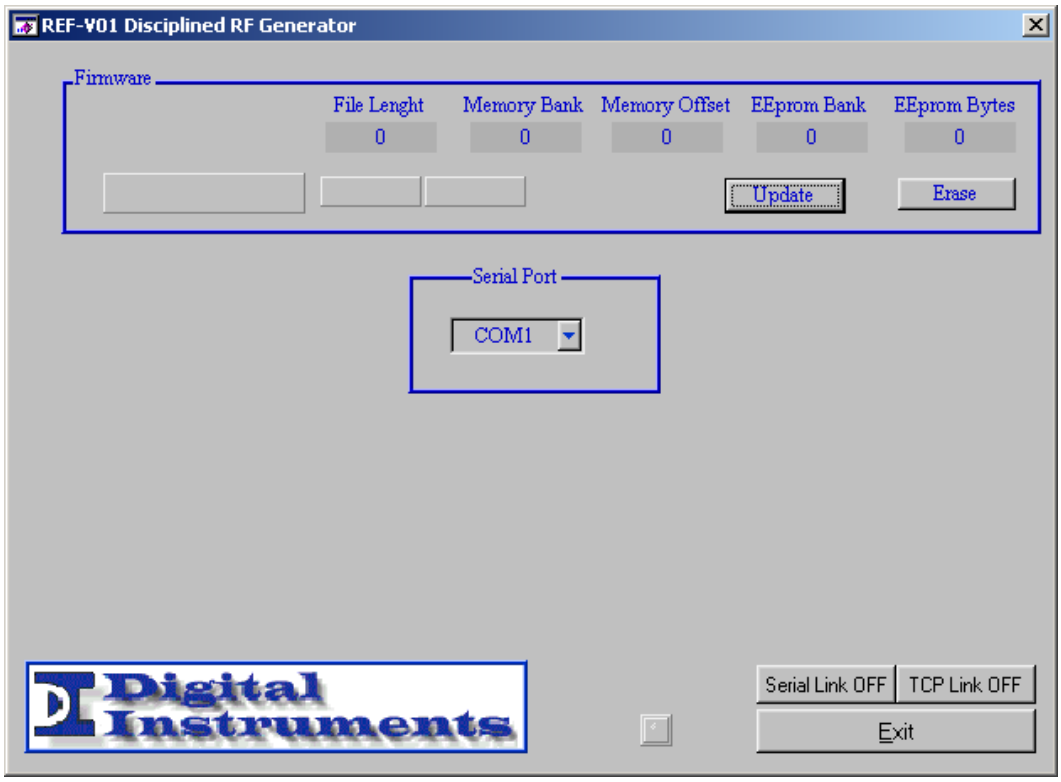
The PC must be equipped with a DB9M (9 pins) serial connectors.

The signals on the various pins are listed in the following table:

Pin	Signal	I/O	Signal description
1	DCD	I	Data Carrier Detect (optional)
2	RxD	I	Received Data
3	TxD	O	Transmitted Data
4	DTR	O	Data Terminal Ready
5	GND	-	Signal Ground
6	DSR	I	Data Set Ready
7	RTS	O	Request to Send
8	CTS	I	Clear to Send
9	RI/+5...+15V	I/O	Ring Indicator (optional) or auxiliary supply voltage (optional)

A null-modem serial cable with the tx-rx and control lines swapped (in order to connect two DTE devices) must be used. It may be possible that some kind of USB->RS232 converters may not propagate the control lines. In such cases is better to use a real RS-232 port.

Follows a picture of the serial update utility:



The only preliminary configuration that needs particular attention is the choice of the proper serial port. Since the utility just support 4 ports (COM1-COM4) is better to change port number through the Device Manager in case of USB->serial adapters (that usually get assigned higher port numbers).

Once the COM port is chosen is possible to proceed with the following steps to update the firmware (in red are highlighted the differences from the normal serial update procedure).

1. Connect the serial cable from the PC to the GPS device.
2. Click on the SERIAL LINK button to turn on the criteria on the COM port.
3. Reboot the device. To accomplish this task is simply needed to unplug and then plug again the power cord. Once rebooted, ONLY the lower led on the keyboard will light on, in order to indicate the flashing procedure has been entered.
4. Click on the ERASE button to erase the Flash. This task may take up to 30 seconds. Once completed the right led on the keyboard will light on.
5. Click on the UPDATE button and select the FlashUpdate.bin[1] file. Wait up to 1 minute until the EEPROM BANK value would be the same as the MEMORY BANK value.
6. Click on the SERIAL LINK button to lower the serial criteria on the COM port.
7. Reboot the device.
8. Once rebooted ONLY the upper led on the keyboard will light on, in oder to indicate the custom flashing procedure has been entered.

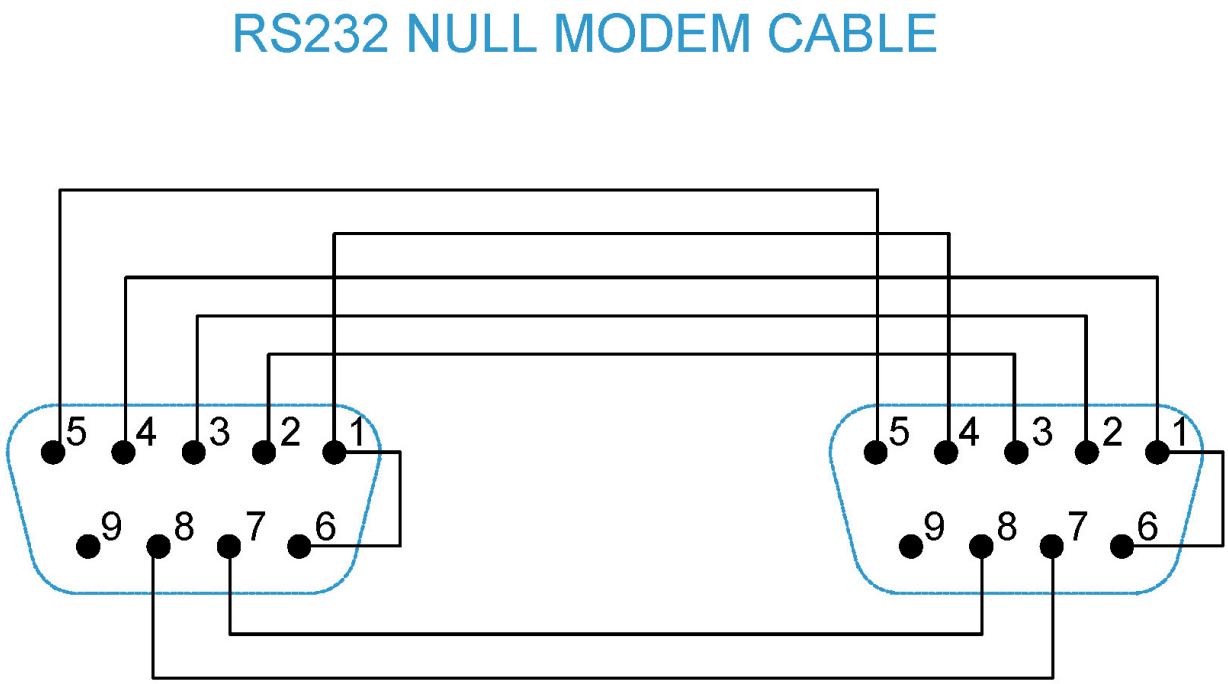
At this point is possible to connect to the device either via serial cable or via network cable by using the fixed address 192.168.200.1, by using the network update utility.

In case of failure during the update process is possible to redo the update from the last step or start again from the beginning with the FlashUpdate.bin firmware.

[1] The FlashUpdate.bin file may be downloaded from the Digital Instruments website in the section relative to the GPS device

3.0 Details on the null-modem serial cable

In order to connect the PC to the device and execute a firmware upgrade via serial line a female-female null-modem serial cable is required:



In particular the following lines have to be swapped (as shown above):

2 and 3 (TX– RX)

4 and 6 (DTR – DSR)

7 and 8 (RTS – CTS)