Digital Instruments

ETS-EVO UPDATE

Rev 1.2

Dichiarazione di conformità **Declaration of conformity**	CE
La Ditta *The Company*	**DIGITAL INSTRUMENTS S.r.l.** **Via Parco degli Scout, 13** **20091 BRESSO (MI) ITALY**
Dichiara con la presente che il Prodotto *Herewith declares that the Product*	
Tipo / *Type*	**Disciplined RF Generator**
Modello / *Model*	**ETS-EVO**
Serial Number	**0130** /
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*	
Norme Europee Armonizzate *European Armonized Standards*	
CEI EN 61000-6-4:2007	Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments
CEI EN 61000-6-2:2006	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
CEI EN 55011:2011	Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM) radio-frequency equipment
CEI EN 61000-4-2:2011	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test
CEI EN 61000-4-3:2007+A1:2009+A2:2011	Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test
CEI EN 61000-4-4:2006+A1:2010	Electromagnetic compatibility (EMC) – Part 4-4:Testing and measurement techniques – Electrical fast transient/burst immunity test
CEI EN 61000-4-5:2007	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test
CEI EN 61000-4-6:2011	Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields
CEI EN 61000-4-8:1997+A1:2001	Electromagnetic compatibility (EMC) - Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test
CEI EN 61000-4-11:2010	Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests
CEI EN 60204-1:2006+A1:2010	Safety of machinery - Electrical equipment of machines - Part 1: General requirements
Bresso, December 2011	**DIGITAL INSTRUMENTS S.r.l.** **Via Parco degli Scout, 13** **20091 BRESSO (MI) 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 review	30/01/2012
1.1	Updated CE certification	07/02/2012
1.2	Added details about the serial connector	08/11/2013

ETS-EVO UPDATE

Table of Contents

1.0 Summary

This manual provides information on how to update the software in the **ETS-EVO**.

This update can be performer in three different ways:

- Via web connection (through a common web browser)
- Via network connection (through an ad-hoc software)
- Via emergency recovery method

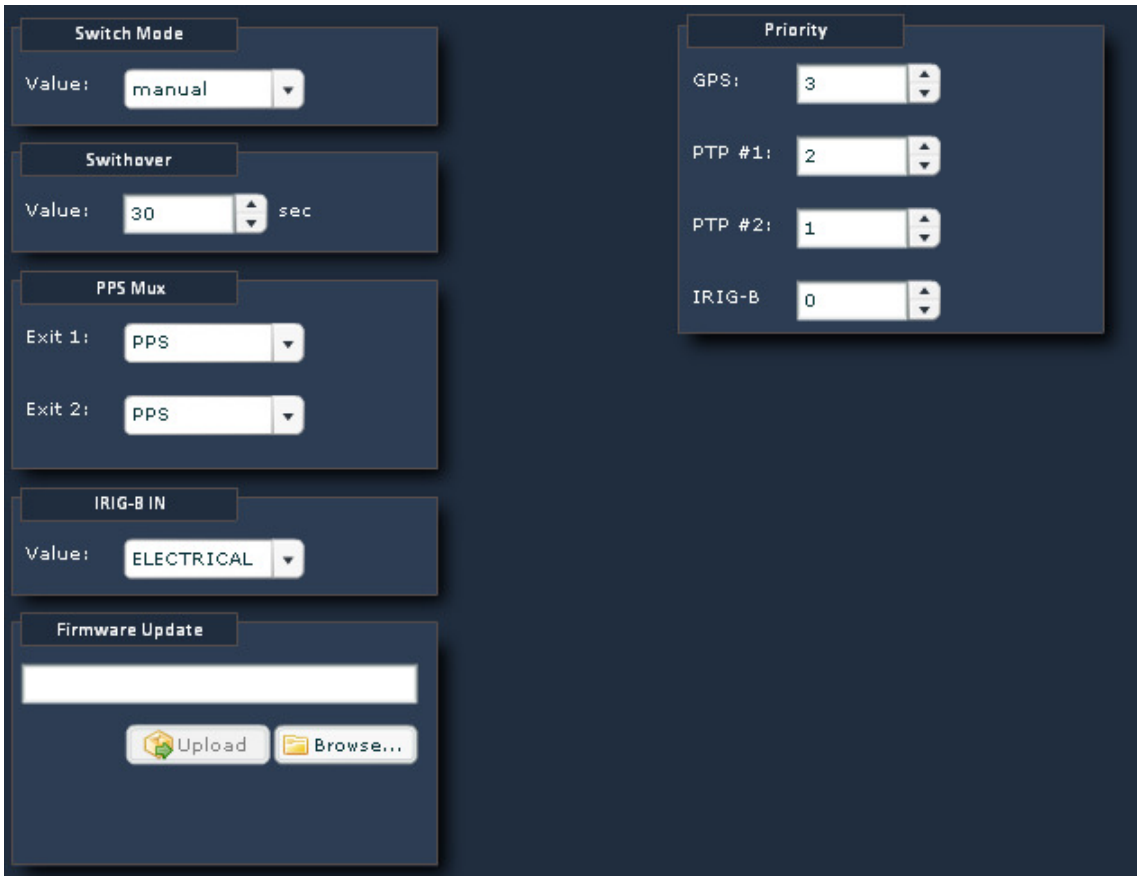
The first one is the simplest, but cannot be used in some circumstances (for example to update the whole flash). In such cases the second modality is more affordable and the third one can be used in particolar cases.

WARNING: Before inserting the power supply please carefully read all instructions for proper installation.

2.0 Software update through the WEB interface

Please refer to the ETS-EVO manual for guidance on how to operate the ETS-EVO WEB interface.

In the *Board Config Panel* is possible to choose to upload a file for the firmware update.
Is normal to use this method to update the hardware (file with .bin extension) or software (file with .tar extension) configuration of the apparatus.

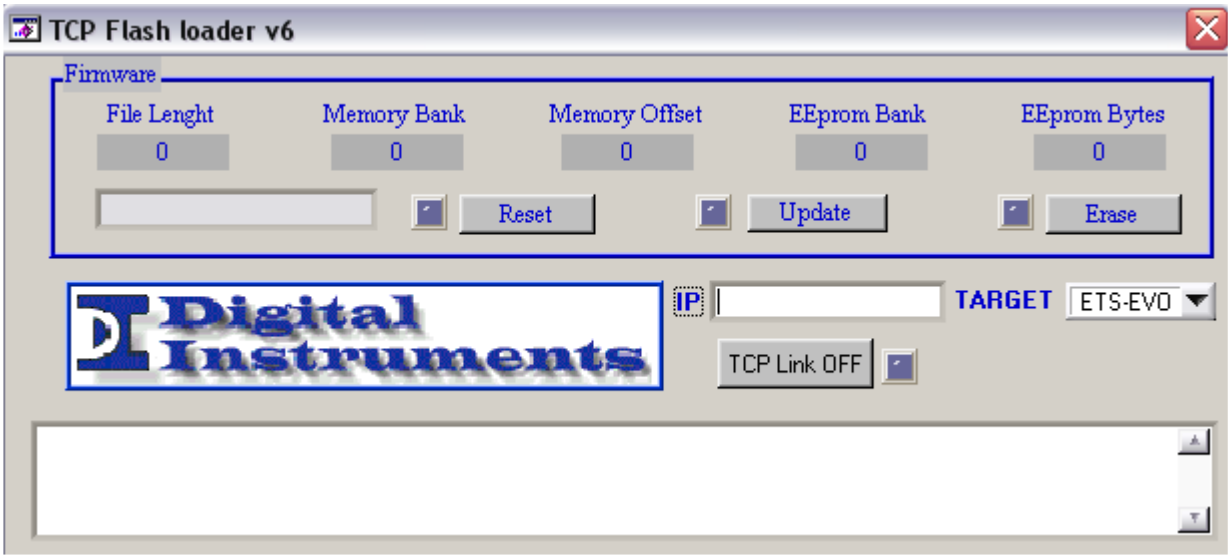


This methos could be used for minor updates, for example from a 2.6 release toward a 2.7 release. Is suggested to use the procedure illustrated in the following section for major updates, for example from release 2.7 to release 3.0.

The procedure may take a few minutes. Do not disconnect the device before completion.
In case of hardware upgrade a power cycle is requie in order for the changes to be effective.

3.0 Software update through the network interface

The following procedure only works starting from version 3.0. If a previous version is installed is possible to first load an ad-hoc version (dev_upd) and then proceed as follows.



The utility for the network update can be retrive from the web page of the ETS-EVO, alongside the firmware to load.

There are three types of files for the update:

- .bin of size 1.4 MB
  It just updates the hw configuration. May be applied by web.
- .tar
  It just updates the sw configuration. May be applied by web.
- .bin of size 16 MB
  Is the whole flash image. It cannot be applied by web.
  Its loading may imply the network address to fall back to the default value (192.168.200.1).
  It has been fixed in version 3.1.

It should be checked that the downloaded file size marche the dimension reported on the web page.

After having launched the utility the following steps must be taken:

1. Insert the IP address of the board
2. Select the option ETS-EVO as target
3. Click on the "TCP Link OFF" button and check that the corresponding led turns on
4. Click on the "Erase" button and wait until the process completes (the led turns on)
5. Click on the "Update" button and select the .BIN or .TAR file with the firmware to load
6. After the procedure completes (again it is indicated by the led turning on) is possible to click on the "Reset" button to restart the board
7. Click on the "TCP Link ON" button to close the connection

The procedure may take a few minutes. Do not disconnect the device before completion.
In case of hardware upgrade a power cycle is requie in order for the changes to be effective.

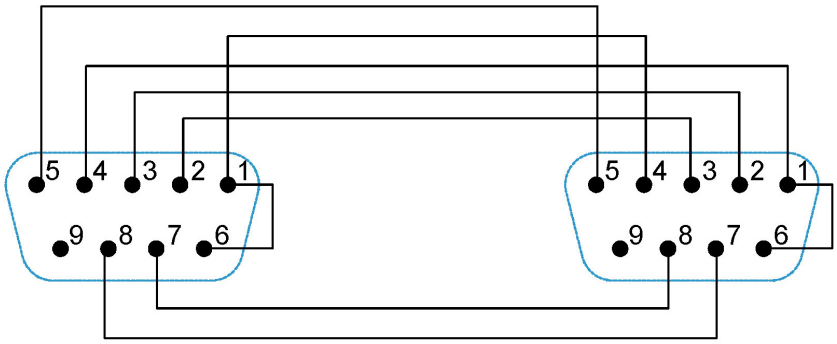
4.0 Software update through the emergency recovery method

In a few cases it may be convenient to speed up the device update.
A few intermediate steps must be accomplished first.

A serial terminal program able to modify serial criteria must be used.
For example is possible to use the Bray Terminal program downloadable from the website
https://sites.google.com/site/terminalbpp/

Connect a null-moded serial cable as shown in the following picture to the device and set the criteria as follows:
DTR = ON
RTS = OFF

RS232 NULL MODEM CABLE



In particular the following wires shall be switched:
2 e 3 (TX– RX)
4 e 6 (DTR – DSR)
7 e 8 (RTS – CTS)

Install a tftp server on a PC.
For example is possible to use the TFTPD32 program downloadable from the website
http://tftpd32.jounin.net/

Is now possible to copy the flash file in the server tftp folder and rename it to *flash.bin*

On the device the boot must be halted in the u-boot (when appears a count-down) and the following commands must be issued:

setenv ipaddr <board ip>
setenv serverip <server ip>
run update_flash