

# CR-6plus Quick User Manual

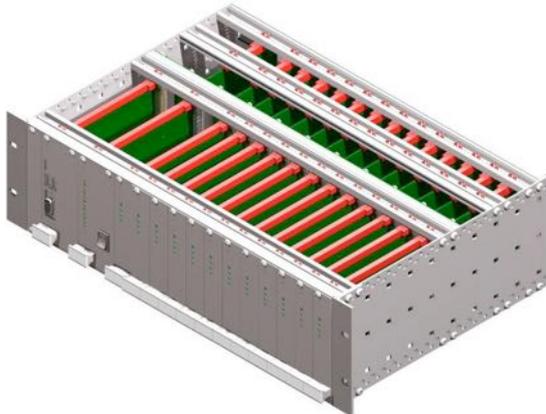
## Foreword

This manual is provided as a brief guideline to give an overview of the first steps and it is not intended to cover all the different circumstances. Please check the *CR-6plus User Manual* for details.

## Unpacking

The *CR-6plus* is shipped in a standard packing box containing all the typical accessories. Some specific options (such as the external battery and sensors) may be supplied in a separate box.

The packing box must be inspected for any external damage and any damage should be immediately reported to the forwarder.



The contents of the packing box can be checked according to the order and the packing list. Verify that none of the items have physical damage. Keep the packing box for transportation to the final location of the instrument.

## Installation Organisation

Before proceeding further please revise the figure at the end of this manual, which illustrates standard and optional connections of the instrument. This way you can familiarise yourself with the *CR-6plus* and the options you have received for connectivity.

The following items are required for a typical installation:

- Latest version of GeoDAS software and manual (check also on our web site [www.geosig.com](http://www.geosig.com))
- Computer with USB port, serial (COM) port and Ethernet
- Any accessories delivered with the *CR-6plus* (refer also to the figure at the end of this manual)

We strongly recommend installing GeoDAS (see section "Software Installation") on the computer prior going to the final installation site. Also it is a good practice to perform a first test of the entire system in the office in order to get familiar with it.

## Site Preparation

The installation site should be selected away from mechanical and electrical noises and interference sources. The distances must be evaluated for power source, GPS location, cell phone reception; in order to have sufficient cable lengths.

Make sure that:

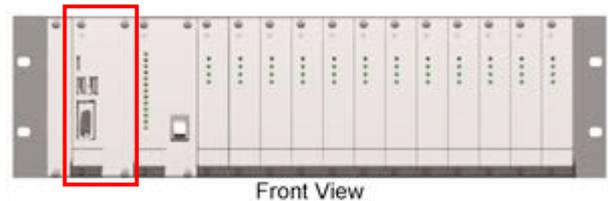
- There is a reliable power source available which can provide the needed amount of power for the instrument.

## Physical Installation

The *CR-6plus* is mountable in a standard 19" rack cabinet and requires 3 height units (133.35mm / 5.25") of free space.

## Backup Battery

To enable the backup battery of the instrument, remove the computer module from the rack by loosening the 4 screws and pulling the module out of its socket.



Front View

Move jumper *JMP\_BBATT* to position 1-2 to enable the backup battery. The jumper is located next to the backup battery. Enabling the battery allows the instrument to keep time during off periods. *Battery type: CR1225.*

## Power Connection

The instrument should be powered from a 12VDC source. To power the instrument from 110 VAC or 230 VAC, 50 or 60 Hz use an external AC/DC converter. If an AC/DC converter is purchased as an option to the instrument, it is usually delivered with a suitable plug for the country (e.g. CH, EU, US). If not usable, the cable can be cut and an appropriate local power plug has to be purchased locally. The power plug must be wired by a qualified electrician as:

- Brown or Black wire → Phase
- Blue or White wire → Neutral

**It is necessary to connect the chassis to earth.** If the instrument is delivered preinstalled in a cabinet or other type of enclosure, the instrument will normally be grounded to the chassis of this enclosure. In this case the enclosure must be properly grounded.

## GPS Connection (option)

The GPS module (if exists) should be fixed at a location where satellite signals could easily be received. If the *CR-6plus* is installed inside a building or a basement, the GPS module should be installed outside. Once fixed, the GPS can be connected to the GPS connector on the back side of the instrument.

## CR-6plus Startup

 Check the *CR-6plus User Manual* chapter '8. Quick Start up' for a more detailed step-by-step procedure.

- Make sure the instrument is connected to power and is earthed.
- Make sure the instrument is connected to a LAN with an Ethernet Cable.
- If it is planned to use a battery with the device verify that the battery is correctly fixed and connected to the system.
- Connect the instrument to a serial port of your computer by using a standard RS-232 patch cable.
- Open any terminal program and chose the appropriate COM port. Baud rate is 115200. Alternatively open GeoDAS, go to **Tools** → **Terminal...** and chose the COM Port. As Baud rate select **115200**. Then Press **Connect**.

Switch on the instrument by pressing and holding the POWER button for 2 seconds. Observe the terminal console and as soon as the associated message appears press 'Ctrl + Z' to enter the test mode. Then Press 'N' to enter and adjust the network settings (Normally it is set to DHCP). Enter the IP and port of your data server as recovery server. Start the instrument by pressing '5' in the boot-loader menu.

The LED meanings are as follows:

**Power Management Module**

- **PWR OUT** Supply voltage of the SBC and external devices is on (Green LED on) or off (Green LED off)
- **PWR DIGITIZERS** Supply voltage of the digitizers and the GPS is on (Green LED on) or off (Green LED off)
- **PWR SENSORS** Supply voltage of the sensors is on (Green LED on) or off (Green LED off)

**Digitiser Boards**

- **LINK** In case the blue LED is blinking, the Digitiser Module transfers data to the internal processor module.
- **RUN** Channel 1 is enabled (Green LED on) or disabled (Green LED off)
- **RUN** Channel 2 is enabled (Green LED on) or disabled (Green LED off)
- **RUN** Channel 3 is enabled (Green LED on) or disabled (Green LED off)

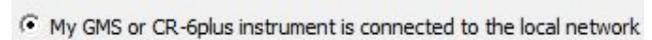
**Software Installation**

To install GeoDAS, a computer running Microsoft Windows™ operating system is needed. Connect the supplied USB key to the computer. Launch setup.exe under the GeoDAS folder on the supplied USB key.

Select the Normal mode installation at the prompt and enter the GeoDAS-DAP code when requested; (applicable if DAP option has been purchased). If you do not have a DAP code, simply enter 0 as serial number. In that case, the basic functions will be operational. You can later purchase and enter a valid DAP code to unlock the additional functions.

**First Connection**

Once the CR-6plus is correctly operating and the GeoDAS is installed, connect the instrument and the computer to an existing Ethernet network. Launch GeoDAS, if it's the first time you launch GeoDAS, you should have a window asking if you would like to configure one or more stations, just answer yes and select the entry "My GMS or CR-6plus instrument is connected to the local network":



Enter the **Serial number** of the instrument and press **Login >**

If the instrument and the computer are in the same network the CR-6plus will be found and should appear in GeoDAS. In the window *Stations: General Information* make a **right click** on the station name of the added instrument and select **Instrument Setup**. The Web Interface will open in your default browser.

Login to the Web Interface with the user name **admin** and the password **123456**



Most settings can be done in the Web Interface. At the beginning go to **File Transfer Settings** → Tick **Contact Remote Servers** → Enter the IP of your computer and click **Add Server with IP**. Save the configuration by clicking on **Save Configuration to Device**.

Now the instrument will periodically connect to your computer to upload data or SOH files.

After restart, CR-6plus will operate based on default parameters, you can now make all desired changes according to the CR-6plus User Manual.

*Before starting measurements, the CR-6plus should be switched on for 30 minutes to stabilise at the installation site climate. This is essential to allow the instrument to adapt and naturalise in the ambient conditions of the site where the measurements will take place. Failure to follow this advice may result in a higher offset drift.*

*Further information can be found in the product manuals under the Manuals folder on digital media or on our website [www.geosig.com](http://www.geosig.com).*

