

PhotoGPS Users Guide

Preliminary

Please visit our website <http://www.digital-opsis.com> for the latest version of the user guide

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Getting started with PhotoGPS

PhotoGPS is a camera peripheral to automatically record longitude/latitude information along with precise date and time information onto your digital pictures.

PhotoGPS enables Kodak's DC290 which is equipped with the Digita OE to capture GPS data from any GPS that outputs position information in the NMEA standard.

Plug in the cable and mount both the GPS unit and camera onto the bracket. Then, select the GPS script, point and shoot to automatically capture longitude/latitude time and date information right along with your picture.

Version 1.1 of the firmware provides a number of additional features like.

- Increased displayed accuracy to 4 decimal digits for latitude and longitude.
- Creation of a comma delimited text file, with all the available GPS information, at the moment the picture was taken.

The use of a special attachment bracket allows you to position PhotoGPS next to the camera and also creates a flat surface that the GPS unit can be mounted using Velcro strips.

PhotoGPS consist of 2 parts

- ◆ The PhotoGPS unit and bracket
- ◆ Scripts for the camera ¹



PhotoGPS and bracket

PhotoGPS is connected to the camera through the use of the camera's serial port. It decodes NMEA commands send by the GPS and translates them to a format that is suitable for the camera. It is powered by a 9 volt battery providing many hours of operation.

A special insert allows you to mount the PhotoGPS on the bracket by simply sliding it in.



¹ Scripts are different for each camera model

The bracket has standard photographic threads and mounts under the camera, and at the same time can be mounted on a tripod.

Scripts and application

Digita enabled cameras have the ability to run scripts, providing a way to add more functionality to your camera.

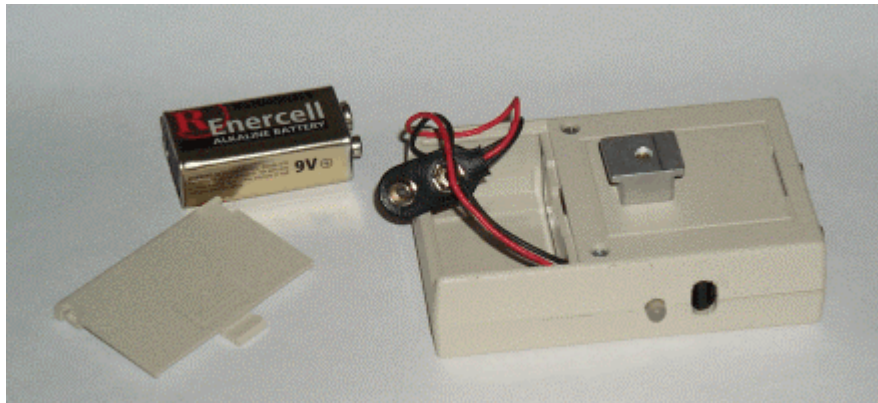
PhotoGPS uses such scripts in order to add a watermark with latitude and longitude on the picture and create the comma delimited text file with additional information.

New generation of Digita enabled cameras like the Kodak DC290 allow for the execution of third party applications providing even more functionality.

Installing PhotoGPS

- ***Insert a 9V battery in the PhotoGPS unit.***

The battery compartment is located at the bottom of the unit.



To open it press slightly on the compartment's lock and slide it outward. Insert the battery and close the lead.

- ***Install the scripts and application for your camera.***

Download the latest version of scripts and applications for your camera from the web site of OPSiS (<http://www.digital-opsis.com>)

Unzip them and install the files with extension CSM to your camera's SYSTEM folder

There are several ways to install the scripts to your camera and since Digita enabled cameras come from different manufactures, software for downloading files to the camera may vary so this document only brief explanation is given.

PCMCIA and CompactFlash Card Readers:

PCMCIA card readers and CompactFlash card readers are the fastest way to install scripts. These devices are available from a variety of sources for most computer systems. Users who have CompactFlash card readers on their computers may copy the files directly to their flash disks. Simply copy the scripts into the System folder on the CompactFlash card.

Kodak Mounter:

Kodak DC290 owners can install scripts from Windows 95/98 using the Kodak Mounter software that comes with their cameras. This software allows you to view add and modify Digita Scripts in a manner similar to when you are using a hard disk.

After mounting the disk via the Kodak Mounter, copy scripts into the System folder on the camera. For more information, see the Kodak website at <http://www.kodak.com>.

- ❑ **Mount *PhotoGPS* to the special bracket.**
- ❑ **Connect the serial cable to your camera's serial port.**
- ❑ **Connect the serial cable from the GPS to *PhotoGPS*'s serial port.**
- ❑ **Power on *PhotoGPS***

The power button is located on the side of *PhotoGPS*.

To power on, press slide the power on button and you will see a red led indicating that the receiver is on and the voltage of the battery is ok.

The green led, will light as soon as the data coming out of the GPS receiver indicate that the GPS has acquired valid position information.

- ❑ **Set the dial to “Capture” and power on your camera**
- ❑ **Press “Menu” and use the dial buttons to find a script called *PhotoGPS***



- ❑ **Run the script²**

² PhotoGPS must be powered on before the script is started

The PhotoGPS script V 2.00 for Kodak DC290

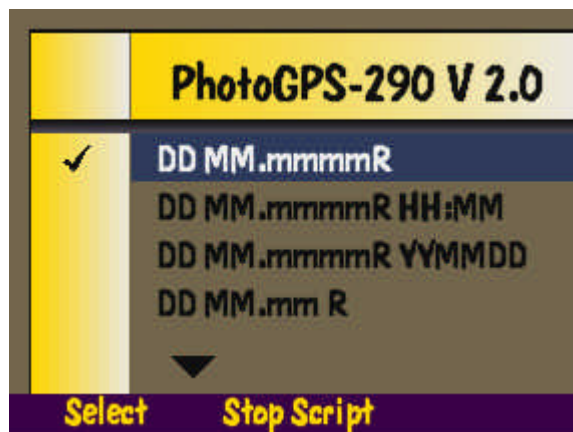
If all the above steps were done correctly the a initial welcome screen will appear for a few seconds



After checking that PhotoGPS is connected and powered on press the “Select” soft button



If PhotoGPS V 1.1 is connected you will see the following menu



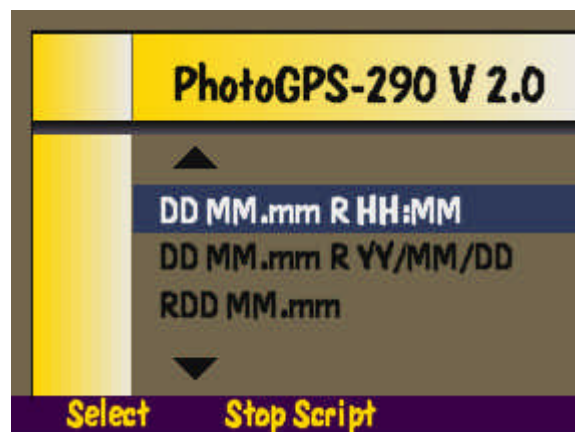
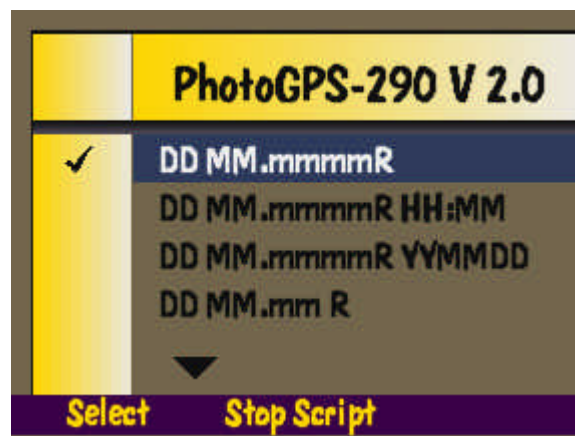
If PhotoGPS was not connected, or not powered on or it is an earlier version than V 1.1 an error message will be displayed.

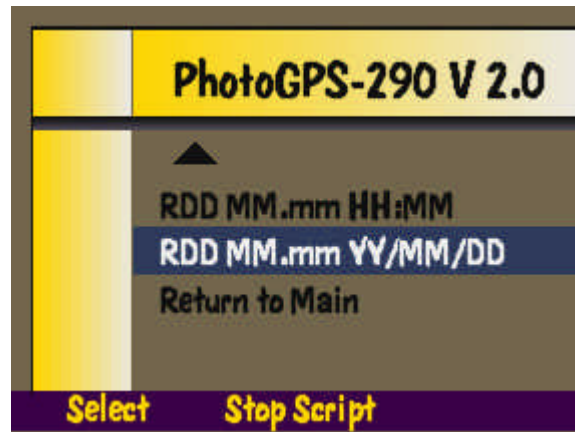


Check that PhotoGPS is connected to the camera and that it is powered up (red led is on) Press "Continue" and start the script again.

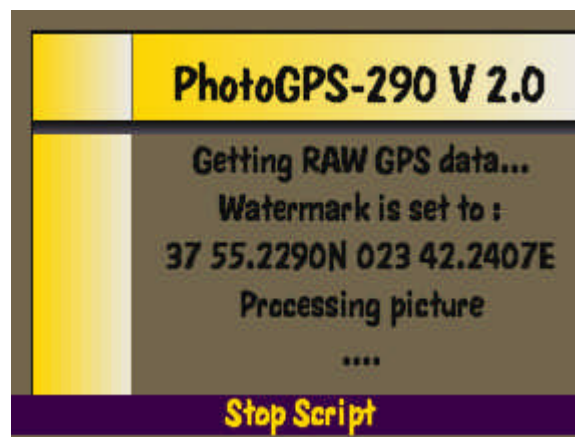
If PhotoGPS was connected then you can select the format that the GPS data will be put on the photo

There are the following options





When valid NMEA data are coming out of the GPS then they are display on screen



The indicator at the bottom of the lcd displays the progress of saving the picture to the compact flash card. When the picture is saved the script creates a comma delimited text file with the same name as the picture and extension .gps
 This file contains raw NMEA data as they are outputted by the GPRMC command.
 The data saved in the file is the following

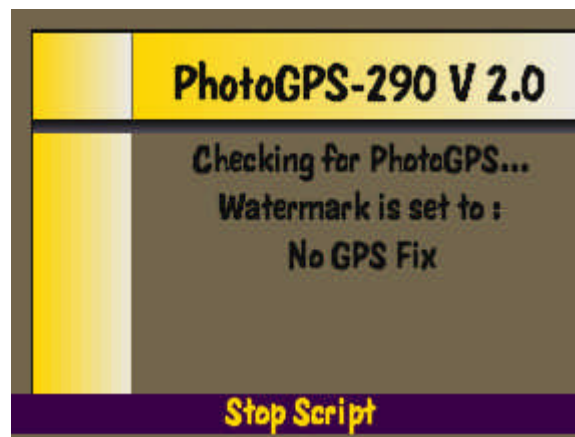
UTC Hour	HH
UTC Minutes	MM
UTC Seconds	SS
Valid or Invalid GPS Data	V (A) Data valid (V) Data invalid
Latitude	DDMM.mmmm
Latitude Direction	R

	(N) North (S) South
Longitude	DDMM.mmmm
Longitude Direction	R (E) East (W) West
Speed (over ground)	
Heading (Track made good)	Degrees True
UTC Date	DD
UTC Month	MM
UTC Year:	YY

Following is a sample of the contents of a .gps file

16,10,02,A,3755.2290,N,02342.2407,E,0.16300,264.500,17,06,01

In the case that the NMEA data is not valid (the GPS has not acquired a position fix yet) the sentence “No GPS fix” is displayed

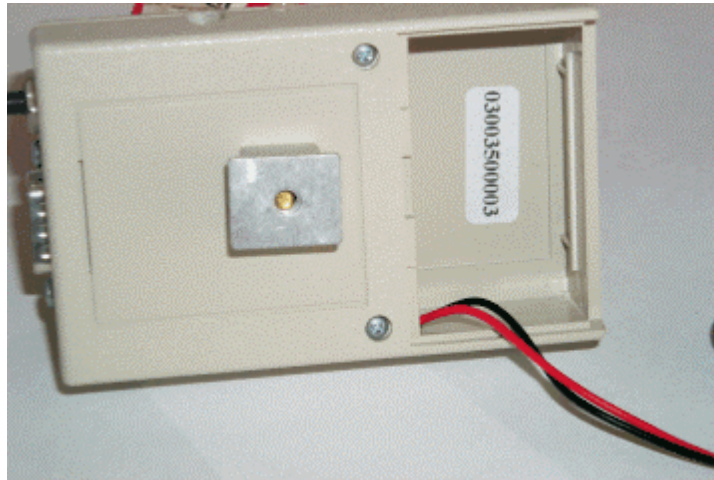


Registering PhotoGPS

To be able to receive news about software updates or other important information in regard to PhotoGPS you need to register it.

Please visit <http://www.digital-opsis/register> to register your unit.

The serial number of PhotoGPS is located inside the battery compartment of the unit



PhotoGPS FAQ

Questions

- 1.What is the PhotoGPS System for Global Positioning System (GPS) ?
- 2.What comes with the kit ?
- 3.What GPS units are supported ?
- 4.How accurate is the data from the GPS?
- 5.Will the PhotoGPS.csm script Ver 2.0 work on my other cameras ?
- 6.Why won't my camera receive the GPS signal ?
- 7.Where does the GPS data go once I take a picture?

Answers

- 1.What is the PhotoGPS System for Global Positioning System (GPS) ?

This accessory enables you to record longitude and latitude information along with the date and precise time on their digital pictures. It is used primarily by businesses and government bodies.

- 2.What comes with the kit?

PhotoGPS interface
Aluminum mounting bracket.
GPS DIGITA software (script).

- 3.What GPS units are supported ?

Any GPS that can output NMEA data at 4800 bps is supported. The GPS must output the sentences

- 4.How accurate is the data from the GPS?

Most commercial GPS units have a design positional accuracy of 15 meters. The GPS satellites are owned and controlled by the US Department of Defense (DOD) and this agency can choose to degrade the accuracy of the GPS signal available to non-military users for the purpose of national defense. To do this, "Selective Availability" (SA) is used. SA allows the U.S DOD to degrade the accuracy of non-military GPS systems by as much as +/- 100 meters.

At the present time, SA was turned off so the average for most commercial grade GPS receivers is 15 meters of accuracy.

- 5.Will the PhotoGPS.csm script Ver 2.0 work on my other cameras ?

No. From version 2.0 and onwards, PhotoGPS script is using some features of Digita scripting that are only available to the DC290. As a result it will not execute in the DC 220/260 or 265.

6. Why won't my camera receive the GPS signal ?

There could be several reasons why the signal can't be read. Please check the following:

The GPS cable is connected to PhotoGPS

PhotoGPS is connected to the camera and is powered on.

GPS is turned on and the antenna is extended.

GPS battery strength indicator reads charged, or change batteries.

Signal from satellite is unobstructed by buildings, mountains, or trees.

7. Where does the GPS data go once I take a picture?

With the GPS receiver locked onto the satellites, and the PhotoGPS script running, you can choose from the menu in which format the GPS data will be placed as watermark on the image.

The script acquires the current GPS position and prompts you to take a picture. When the picture taking process is complete, the script writes the data to the watermark and creates a file with the same name as the picture that was taken and extension .gps

This file holds additional GPS information in a comma delimited format.