

Using the List Editor with the Caplio 500SE as a Standalone Data Collector

October 4, 2010

If you are planning to use the Ricoh camera as a standalone data collector, you will want to use the List Editor software, which will allow the camera to collect up to ten attributes about your photos in addition to date, time, location and direction information.

Installing Software: The List Editor software will be installed when you install the Caplio software from the CD that comes with your camera. However, it is recommended that you go to the website to download the latest version.

Go to www.ricohdc.com, click on Downloads and find the latest version of Caplio 500SE List Editor.

Download and install this version.

Creating the List: Go to Start>Programs>List Editor. The List Editor opens, and you can specify up to ten different items of information to be entered for each feature.

Note: If you plan to use the built-in barcode scanner to enter a barcode as an item, you must set that as Item 1. The scanner will always input the barcode to Item 1. If you need more than one barcode per photo, see the manual for descriptions of Modes 2 and 3.

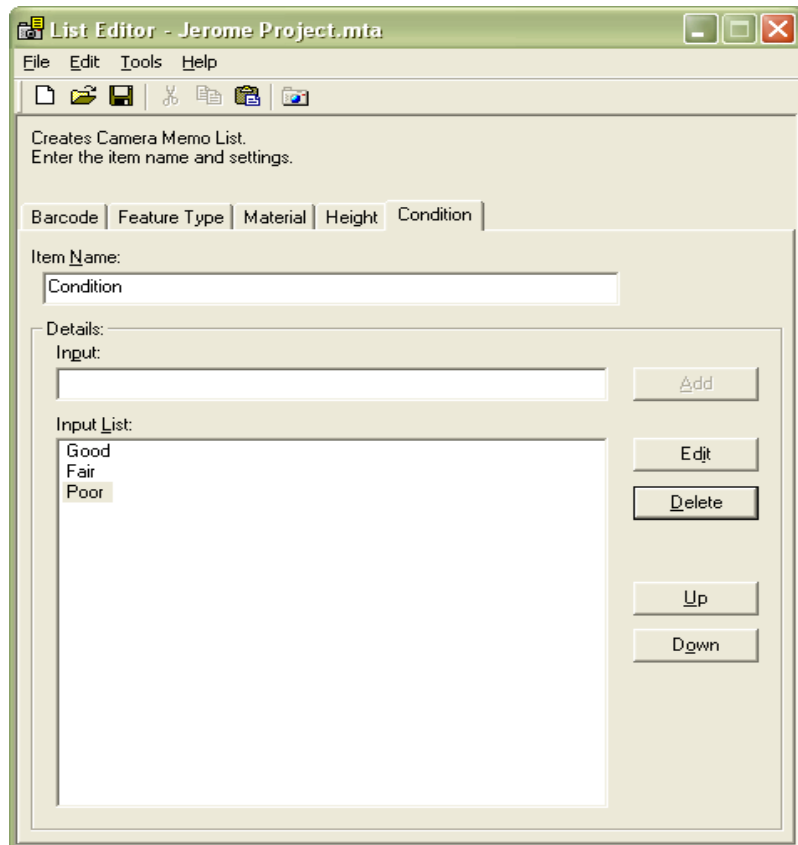
To set up a menu of choices for an item, give the item a name, and then type the different choices into the Input line and click Add.

The different choices will be added to the menu.

When you are finished, save the .mta file.

Use the Transfer to Camera button or Tools>Transfer to Camera to move the Memo List to the camera.

Note: You must have the USB CONNECTION in the Setup on the camera set to ORIGINAL in order for the List Editor to connect to the camera and send the Memo List.



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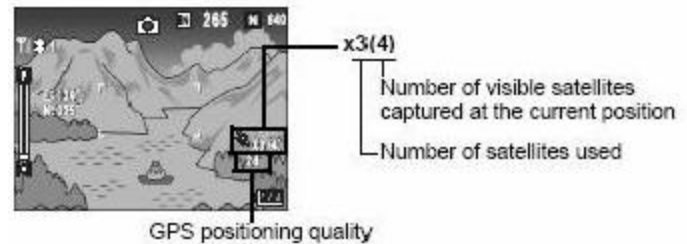
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Connecting to GPS: When you get out to the field and are ready to begin data collection, you will first need to get the camera connected to GPS.

If you have a Ricoh with the built-in GPS antenna, the camera will connect automatically. If you are using a separate Bluetooth receiver, you will need to set up the Bluetooth connection first, and then let the camera connect to GPS.

When the camera has a GPS fix, it will let you know by beeping several times, and you will see a screen like this.



The GPS positioning quality will be one of the following:

- No fix - The GPS unit cannot receive data.
- 2d - The position is only two-dimensional due to the number of satellites it is reading.
- 3d - The antenna is locked onto enough satellites to provide a three-dimensional position.
- Diff 3d - The camera is receiving real-time corrections, and the position is a corrected position.

Settings for GPS Connectivity and Battery Power: Because the camera must reconnect every time it is turned on, and connecting and locking onto satellites can take a few minutes, we recommend turning *off* the 'Power Off' option and turning *on* the 'Display Off' option to conserve battery power.

You can change those settings by pushing the MENU button and pushing the right arrow to get to SETUP. Find the AUTO POWER OFF setting, and push the right arrow again to select OFF. Then find the DISPLAY OFF setting, and push the right arrow to select 1 minute, 5 minutes or 30 minutes.

When the display is off but the camera is on, push any button on the camera to turn the display back on. Do not push the Power button, or the camera will turn off.

Imprinting Original Photo: You can set up the camera to imprint different information on the original photo if you need that information for legal reasons.

To do this, push MENU>EXP SET and scroll all the way down to the different imprint options. You will see that you can turn on options to imprint memos, GPS coordinates, UTC time and compass direction if you have a built-in compass.

Note: The Ricoh camera is only capable of imprinting the first 3 memos. If you need more than that, you will need additional processing software discussed below.

Collecting Data: Now your camera is set up, you have your attribute list on the camera, you are connected to GPS, and you have located a feature that you would like to take a picture of and record attributes.

The most efficient way to do this is to enter the items in the list before taking the picture.

Push the ADJ./MEMO button to bring up the list.

If you have Barcode as one of your list items, it should be at the top of the list. Use the up or down arrows to highlight the barcode memo, point the camera at the barcode, and then push and hold the left arrow button until the memo is populated.

Adjust the rest of the memos in the list as needed, by using the up and down arrows to highlight an item, and then the right arrow to change the entry.

When your list is correct for the feature you are mapping, you only have to take the picture, and the current position will be recorded and all the attributes from the list applied to that photo.

To view the photo and its associated list, push the Playback button. If you need to make changes to the list, you can do that here. Push the Playback button again to get back to collecting data.

GPS Lock: When you take a picture, the location of the camera itself is what is recorded with the photo. If you prefer to have the coordinates of the feature itself, you can use the GPS Lock option.

To make the GPS Lock available, push MENU, and then push the right arrow to get to EXP SET. Go down to GPS LOCK, and set it to ON.

Now you can walk up to the feature you want to map, and push the *left arrow* to turn on the lock. Then you can step back, take the picture, and the coordinates will be recorded at the position where the lock was turned on.

Note: Make sure you push the left arrow again to turn the GPS Lock off before going to your next feature. If you accidentally leave the lock on, the next photo will be recorded as having the same location.

Processing Data: When you have finished your data collection and are back in the office, connect the camera to the computer, and transfer your pictures to the computer.

If you had the Imprint turned on, you will now have pictures with the information you required imprinted directly on the photo.

If you would like to turn those photos into a shapefile, feature class, Google Earth file, spreadsheet, Word document, PDF, etc., you will need additional processing software.

Electronic Data Solutions sells and supports 3 softwares that can provide this functionality: Wind Image, GPS Photo Link and DataMax Manager. Different softwares are more suited to outputting different formats.

If you are using ArcGIS and want to output to a shapefile or feature class, you will want to use Wind Image or GPS Photo Link. You can view a comparison of these here: http://www.elecddata.com/gps/Photo_Linking_Software_Comparison.pdf

Follow the instructions in the software manual for whichever software you are using to process the photos.