

gps—photo link  
ArcPad edition

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software  
that maps  
your photos

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Automatically attach pictures to ArcPad records in the field.

## Instructions for Set-Up of GPS-Photo Link ArcPad Edition

### Introduction

**GPS-Photo Link ArcPad Edition** is a tool that easily connects photos to ArcPad data in the field. **GPS-Photo Link ArcPad Edition runs as an extension in ArcPad.** This extension allows you to take photos with a camera that has Bluetooth or other wireless capability and automatically incorporate them into your ArcPad field data. The extension appears as a button highlighted by the **red circle** on the toolbar in the figure below.

What you need:

- A camera with wireless capabilities (Bluetooth or WiFi), and
- A PDA device with the same wireless capability and ESRI ArcPad installed, and a GPS, or
- You may also use a PDA with a built in camera and GPS such as the Trimble Nomad with ESRI ArcPad installed.

*Make sure your PDA device is running Windows Mobile. It will not run on Desktop Windows which is the operating system used by many tablet PCs.*

How it works:

After set-up is complete you will be able to take a photo and have it automatically associated with GPS data in an ArcPad record. You will be able to click on a point (see green dots in Toolbar figure) and see the photo associated with it (see Viewer Figure).

**Toolbar**

**Viewer**



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## Installation Instructions

### 1. Install GPS-Photo Link: ArcPad Edition on the PDA device.

**Note that ArcPad must already be installed on PDA before this step**

- Using the CD or downloaded file, run the GPS-Photo Link: ArcPad Edition install program on your PC.
- Connect the PDA to your PC. ActiveSync should automatically install GPS-Photo Link: ArcPad Edition on your PDA.

### 2. Activate the GPS-Photo Link: ArcPad Edition extension toolbar

*In this step you will open ArcPad and create a test Shapefile to activate the GPS-Photo Link toolbar.*

- On your PDA device, Click **"Start"** Click **"Programs"** Select **"ArcPad"** and Click to Load
- Select button for **"a new empty map"** and click **"OK"**

You will now have a new map with no data

- Click the **"Open"** pull down menu and Select **"New"** from pull down list, Select **"Map"** from new pull down list
- Click the **"Open"** pull down menu again and Select **"New"** from pulldown list, Select **"Shapefile"** from pull down list

Leave setting for **"Point"** as the **"Type"**

Click on the **"+"** box to add this New Shapefile

Name the new Shapefile (ie. "Test")

Change **"Length"** to **"250"**

Click **"OK"** at bottom of screen

- Enter new Shapefile Name (i.e. Test)

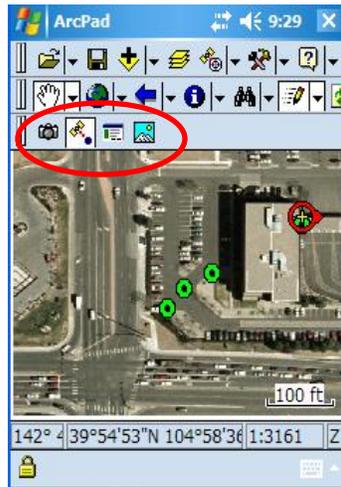
Enter folder name for new Shapefile (i.e My Maps) from pull down list If necessary create new folder for project folder

Click **"Save"** button

Click selection if you wish to create a **QuickForm** for new layer

- Click the **“Open”** pull down menu and Select **“New”** from pull down list Select **“Map”** from new pull down list, when prompted to save Select **“No”**
- Click the **“+”** icon on top menu of ArcPad and select desired folder from pull down list. Expand folder by selecting **“+”** and then select the newly created Shapefile by checking the appropriate box and pressing **“OK”**

Now the GPS-Photo Link toolbar is available for use. This is the third toolbar down on your ArcPad menu highlighted by the red circle.



### 3. Register GPS-Photo Link: ArcPad Edition extension

When you install GPS-Photo Lin: ArcPad edition, the software is initially in "Trial" mode and will run 10 times before locking out. To unlock the software after you purchase it, just email the 16 digit serial number from the registration screen to [Sales@GeoSpatialExperts.com](mailto:Sales@GeoSpatialExperts.com), and you will be sent an unlock code to fully unlock the software. You may also call us with the number to receive your unlock code at 303-255-2908.

## Using GPS-Photo Link: ArcPad Edition

Before you can use GPS-Photo Link: ArcPad Edition, you must set up your camera and PDA to work together. The camera must be able to send the photos wirelessly and to PDA, and your PDA must be set up to receive them. These instructions vary depending on the specific devices you are using. See the manuals that came with your devices for instructions or see appendix for instructions specific to the Ricoh 500SE and Juno.

### a. Set-up Options

Before using GPS-Photo Link: ArcPad Edition you need to set up how the photos will be linked to the Shapefile and tell your PDA where to look for the photos.

- Select GPS-Photo Link ArcPad Edition Setup Icon (Third icon from the left).
- Select correct shapefile name and Select the desired **“Field to Receive Photo Filename”** from pull down lists.
- Verify correct **“Directory containing Photos”** and click **“OK”**. This directory is where your PDA will automatically store incoming photos. Typically it is in the “my documents” folder. Check your PDA manual to determine the correct folder.



### b. To create a new point each time you take a photo, and then add GPS and attribute data:

Activate the GPS

- Select **“GPS”** Icon from top toolbar on ArcPad Map Screen

- Select **“Yes”** to make the GPS Active. You must be able to get a fix on the GPS receiver to proceed. Conventional GPS requirements must be met to proceed.

Upon receiving indication of a 2 or 3D fix, you will have an icon on the screen showing the current location/position of the receiver.

- Close the GPS location box by clicking the **“X”**. The GPS remains active

Enable software to create new records when you take a photo

- To create a **“New Point”** at this location and attach a photograph to this location, use **GPS-Photo Link** icon #2. It should highlight with white behind the icon itself, showing it is the active icon.
- Take a picture with your camera.
  - Bluetooth Cameras: If your Bluetooth connectivity is active, you should see on the PDA screen a Bluetooth screen with the name of the photo (.jpg) and options to **“Save”** or **“Discard”** Click **“Save”**.
  - WiFi Cameras: Photos should automatically transfer to the PDA device.
  - Built in Camera: Photos will automatically be stored in the PDA.
- After a few seconds your PDA should beep, and a new point will be created, with an icon indicating a new location on your map.

You may create additional new points at your GPS locations as long as the GPS icon (2<sup>nd</sup> **GPS-Photo Link** icon) is selected and the GPS remains active.

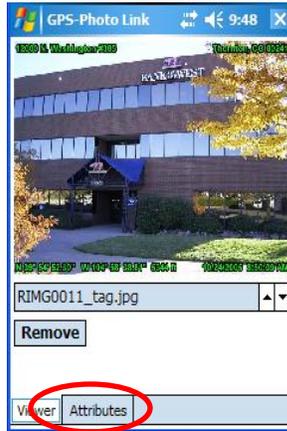
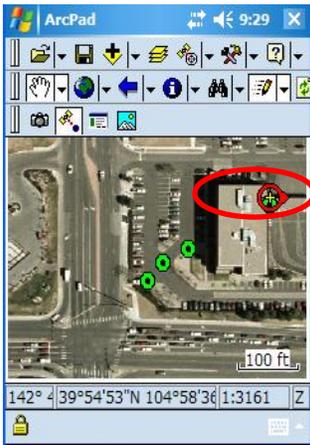
### c. To add a photo to a current GPS data point:

- Select the “Camera” icon (1<sup>st</sup> **GPS-Photo Link** icon) by clicking it. It should have a white box behind the icon when active.
- Select a point on the map (a small dashed box will highlight the selected point).
- Take a picture with your camera.
  - Bluetooth Cameras: If your Bluetooth connectivity is active, you should see on the PDA screen a Bluetooth screen with the name of the photo (.jpg) and options to **“Save”** or **“Discard”** Click **“Save”**.
  - WiFi Cameras: Photos should automatically transfer to the PDA device.

- o Built in Camera: Photos will automatically be stored in the PDA.
- The selected point is now associated with the photo.

**d. Viewing Linked Photos**

- Select the fourth icon (View Picture)
- Click on a point on the map
- The photo associated with that point will be displayed.
- To see the attributes of the point, click the attributes tab in the viewer.



A screenshot of the GPS-Photo Link software interface showing a list of attributes for a point. The top bar shows the time as 9:50. The 'Attributes' tab is selected, and a red circle highlights the 'PICTURE' attribute.

Attribute	Value
LON	-104.97744722
LAT	39.91452778
EAST	501927.5
NORTH	4418270.95
ZONE	13 N
ALTITUDE	5344.49
DIRECTION	33
HEADING	33
DATUM	WGS 84
TITLE	Thornton, CO ...
COMMENT	12000 N. Wash...
INTERNAL	
TIMESTAMP	24-Oct-2005 1...
LOCALTIME	24-Oct-2005 0...
PICTURE	RIMG0011_tag....
ORIGINAL	RIMG0011.JPG

## Appendix 1

### Set Up Bluetooth GPS

#### Juno Connectivity Setup

- Click **“Start”** Click **“Settings”**
- Select and Click on **“Connections”** tab
- Click **“Bluetooth”** Icon
- Turn **“On”** Bluetooth Status
- Select and Click on **“Accessibility”** tab
  - Check the **“Allow other devices to connect”** box
  - Click on the **“All devices”** radio button
  - Check the **“Other devices can discover me”** box
- Click on **“Ok”** and Exit **“Settings”** by clicking on the **“X”** at top of screen

**NOTE: ARCPAD AND GPS-PHOTO LINK ARCPAD EDITION OPERATION REQUIRES THE JUNO ST TO BE THE GPS SOURCE. GPS DATA FROM ANOTHER SOURCE, INCLUDING THE RICOH 500SE CANNOT BE USED WITH THE JUNO ST**

#### Trimble Geo Set-Up

Instructions for setting up **Trimble Geo** to connect with Ricoh cameras can be found online at [www.geospatialexperts.com](http://www.geospatialexperts.com) under Support/ online help.

## Appendix 2

### Instructions for Preparing your Ricoh Camera for Bluetooth Connection to Trimble Juno ST with ArcPad

There are **3** different methods of attaching pictures to your **Trimble Juno ST** device using ArcPad and **GPS-Photo Link** ArcPad Edition software.

#### 1. Quick Send Mode (1 Touch) \*Recommended Method\*

This method allows for the immediate sending of a photo taken to be quickly reviewed and sent to the ArcPad device. After taking the photo, it will be displayed on the camera display with the option to **"Press OK"**. When pressing **"OK"** the photograph is automatically sent. If you do not press **"OK"** within the set **LCD Confirm setting** selected, the option to send will cancel and you will be returned to the previous photo shot mode.

#### Setup & Operating Instructions for Quick Send (1 Touch)

- Turn on your Ricoh 500SE camera and press the **"OK"** (Menu) button to access the Menu Settings Option.
- Press **the Right Arrow** button twice to access the **"EXP SET"** menu
- Press the **Down Arrow** button **11** times to access the top of the third screen of the **"EXP SET"** menu with **"QUICK SEND MODE"** highlighted.
- Press the **"Right Arrow"** button to bring up the **"Quick Send Mode"** menu. You may select **"Off"**, **"1 Touch"**, or **"2 Touch"**
- Select **"1 Touch"** and Press **"OK"** You will be returned to the photo mode.
- Take a picture. Your picture will be display momentarily (based upon **"LCD Confirm."** Setting (See above)
- Press **"OK"** to confirm the photo send. If you do not press **"OK"** during the display period, you will be automatically returned to the photo mode. If you select **"OK"** during the display period the photo will be sent automatically to the Juno ST

#### 2. File Send Mode

This allows you to select photo/photos and send individually or in mass to a device, you may select to send one photo or all photos with this

method. Sending **"All"** is **not** the recommended method for sending to ArcPad, for all photos will be sent and associated to the same point.

If you have already connected with your Juno ST field device via Bluetooth, you only need to take your photo.

- After taking a photo that you wish to transfer via Bluetooth, press the **Photo Review** button (under the On/Off Green button) This will display the last photo taken. You may select the displayed photo or any other photo taken by pressing the **Left Arrow** (Previous) or **Right Arrow** (Next) buttons
- After selecting the desire photo, Press the **"OK"** (Menu) button to access the **"PLBK STGS"** menu.
- Press the **"Up Arrow"** button once to access the **"File Send"** option.
- Press the **"Right Arrow"** button to select the device that you wish to send your photo to. If you have get the following message: **"The Destination Not Registered. Search Destination?"**
- Select **"YES"** to search for your Trimble Juno ST.
- Press **"OK"**. Your Ricoh Camera should search for and find your Juno if it has been configured (see Juno setup instructions above). When **"Found"**, the Ricoh camera will display **"Trimble"** as the **"Send To"** device.
- Press **"OK"** to select the Juno ST. The picture will be displayed with options to **"Send One"**, **"Send All"** or **"Cancel"**.
- Select **"Send One"** and Press **"Ok"**. If you are prompted for a Device, select **"Trimble"** and Press **"OK"**. You will see the unit **"Connecting"**, and a message that the send has been completed
- Press **"OK"** to verify the send completion.
- Press the **"Review"** button to go back to photo mode

### 3. Quick Send Mode (2 Touch)

This method allows for the sending of sending of a photo taken to be reviewed and sent to the ArcPad device. After taking the photo, press the **"Review"** button (Left Arrow) within the set **LCD Confirm** setting period. This will display the photograph taken, as well as the option to **"Press OK"**. The photo and the **"Press OK"** prompt will remain on the display until you either select **"OK"**, to send, or press the **"Review"** button (Left Arrow) to not send the photo to your ArcPad device.

## Setup & Operating Instructions for Quick Send (2 Touch)

- Turn on your Ricoh 500SE camera and press the **"OK"** (Menu) button to access the **Menu Settings** Option.
- Press the **Right Arrow** button **twice** to access the **"EXP SET"** menu
- Press the **Down Arrow** button **11** times to access the top of the third screen of the **"EXP SET"** menu with **"QUICK SEND MODE"** highlighted.
- Press the **"Right Arrow"** button to bring up the **"Quick Send Mode"** menu. You may select **"Off"**, **"1 Touch"**, or **"2 Touch"**
- Select **"2 Touch"** and Press **"OK"** You will be returned to the photo mode.
- Take a picture.
- Press the **"Left Arrow"** button to lock the displayed picture in the **"Review"** mode. Depending on the setting for **"LCD Confirm."** you may to press the **"Left Arrow"** (Review) button more than once to get the Display Mode. The photo will remain in this mode, with an option to Press **"OK"** to send until you decide if you wish to **"Send"** to the Juno ST.
- Press **"OK"** to confirm the photo send. If you do not wish to **"Send"**, you may return to photo mode by pressing the **"Left Arrow"** button again to be returned to the photo mode.