

# Owner's Manual Addendum v2.16

## Plus<sup>®</sup> II Transceiver

---

### Upgraded Feature

#### High FPS/Short Pulse Mode

The Plus II is capable of triggering a remote flash at up to 12 Frames Per Second (FPS) in sync with a fast motor drive camera. Some flashes that are capable of high FPS operation cannot achieve this speed consistently when connected to the Plus II using its default settings. To engage High FPS/Short Pulse Mode and achieve maximum FPS:

1. Using a sync cable, connect the remote Plus II to the flash unit's sync terminal normally.
2. Set the TRANSMIT MODE switch to REMOTE. The STATUS LEDs will show a fast blinking pattern indicating High FPS/Short Pulse Mode.
3. Begin triggering normally.

#### Notes:

> This mode is *only* required for a receiving Plus II radio triggering a fast flash. It does not need to be activated on a Plus II radio being used as a transmitter on a camera. A locally connected fast flash on a transmitting Plus II already uses High FPS/Short Pulse Mode. The TRANSMIT MODE switch will perform its normal functions on a Plus II used as a transmitter. See Page 7 of the Plus II Owner's Manual.

> High FPS/Short Pulse mode causes the Plus II's PORTs to use a contact time (amount of time the PORTs are held triggered) of 5 milliseconds instead of the default 62 milliseconds (needed for some remote camera motor drives).

> If FPS/Short Pulse mode is engaged for a remote or receiving Plus II radio triggering a camera's motor drive, undesirable operation may occur (no triggers, inconsistent triggering). Set the TRANSMIT MODE switch to LOCAL or BOTH for proper remote camera or relay operation.

> To determine if your Plus II is capable of High FPS/Short Pulse Mode, turn the radio on normally and set the TRANSMIT MODE switch to REMOTE. If the STATUS LEDs blink faster after a moment, then you have a Plus II that is capable of High FPS/Short Pulse Mode.

- Plus II radios that are not capable of this mode will work with ones that are.
- Only a receiving Plus II radio connected to a fast flash that requires this mode needs to have it.
- Plus II radios used as transmitters, or used as receivers to trigger slower flashes or camera motor drives, do not need to have this mode.
- The STATUS LED blinking pattern for High FPS/Short Pulse Mode (a receive only function) and Transmit Only Mode look the same. These two modes of operation are not able to be engaged at the same time.

### **Mode identification:**

- If you hold TEST as you power the radio on, then it is in Transmit Only Mode. If the Transmit Mode switch is set to REMOTE, then only the flashes connected to remote PocketWizards will trigger (normal operation for this switch). The flash connected to the camera's Plus II Transceiver will not trigger. See pages 7 and 10 of the Plus II manual for more information. If you do not hold TEST when you power on the radio, and the TRANSMIT MODE switch is set to REMOTE, then it is in High FPS / Short Pulse Mode.

© 2009 LPA Design, Inc. All rights reserved. Product features and specifications are subject to change without notice. PocketWizard, ControlTL, MiniTT1, FlexTT5, HyperSync, Plus II and MultiMAX are either trademarks or registered trademarks of LPA Design, Inc. All other trademarks contained herein are the property of their respective owners.

This product is covered under a warranty. For more information on this warranty and to register your product, please go to [www.PocketWizard.com/support](http://www.PocketWizard.com/support).

US Patent: 5,359,375 and Patents Pending  
LPF499 v1.0

# PocketWizard **PLUS II**

## Owner's Manual



# TABLE OF CONTENTS

Congratulations . . . . .	3
Key Features . . . . .	3
Part Reference (Package Contents) . . . . .	4
Safety Warnings . . . . .	5
Batteries . . . . .	5
Setup for Remote Flash Triggering . . . . .	6
Camera Setup . . . . .	6
Remote Flash Setup . . . . .	6
Triggering . . . . .	6
Connecting a Flash to the Camera's Transceiver (Local Flash) . . . . .	7
Local TTL Flash . . . . .	7
Triggering A Remote Camera . . . . .	8
Basic Remote Camera Setup . . . . .	8
Relay Mode . . . . .	8
Relay Mode Setup . . . . .	9
Turning Off Relay Mode . . . . .	9
Transmit Mode Only . . . . .	10
Activating Transmit Only Mode . . . . .	10
Mounting . . . . .	11
Sustaining High Performance . . . . .	11
Troubleshooting . . . . .	12
Notes . . . . .	13
Technical Information . . . . .	14
"The FCC Wants You To Know" . . . . .	15

To find the correct **PocketWizard** brand cables for your flash and cameras, and to experience other products like the **MultiMAX**, please visit [www.PocketWizard.com](http://www.PocketWizard.com) or your local photography dealer.



**Congratulations** on your purchase of the new **PocketWizard Plus® II Transceiver**, a high performance Digital Wireless Radio Slave and Remote Triggering System. The **Plus II** features advanced auto-sensing intelligence to automatically send or receive **PocketWizard** radio signals based simply on how it is connected. **PocketWizards** are the most technologically advanced microprocessor-controlled radio triggers for flash and cameras. Using carefully engineered filtering and digital signaling technology, **PocketWizards** reject ambient radio noise and have a wide dynamic range enabling high performance, consistency, and reliability for all types of remote photography.

This **Plus II Transceiver** is frequency compatible with all US **PocketWizard** systems.

## PocketWizard Plus II Key Features

- ⦿ **Auto-Sensing Transceiver** – Automatically transmits or receives based on connections. No Tx/Rx switches. No sorting out Transmitters and Receivers. Simply make connections and start working sooner with near-zero configuration time.
- ⦿ **Auto-Relay** – Easily trigger a remote camera in sync with a distant remote flash. Put a camera where you can't be and have remote lighting at the same time. Expand your coverage and increase your creativity.
- ⦿ **Fast FPS** – Trigger cameras or flash units up to 12 frames per second.
- ⦿ **4 Sixteen-Bit Digitally Coded Channels** – Create multiple setups or work exclusively at events with other photographers without interference.
- ⦿ **1600 Foot Range** – Long **PocketWizard** range equals increased performance and reliability even when working at average photographic distances. Our enhanced range provides best-in-class remote performance for all types of photography.
- ⦿ **Fast Sync Speeds** – Compatible with most cameras' fastest X-Sync speeds including:
  - 1/250 Focal Plane Shutters
  - 1/500 Leaf Shutters
- ⦿ **Locking Hot Shoe Mount** – Secure mounting. Several other mounting methods included.

⚠ This US frequency **Plus II** is compatible with all US frequency **PocketWizard** products. It is *not* frequency compatible with CE or JAPAN **PocketWizard** products. Verify frequency compatibility before purchasing. Some products are not manufactured on every frequency. Always operate within local radio regulations.

# POCKETWIZARD PLUS II PART REFERENCE



## ⚠ Please pay attention to the following safety warnings:

- Operating temperature: above  $-15^{\circ}\text{C}$  ( $5^{\circ}\text{F}$ ) and below  $50^{\circ}\text{C}$  ( $120^{\circ}\text{F}$ )
- Storage temperature, without batteries: above  $-30^{\circ}\text{C}$  ( $-22^{\circ}\text{F}$ ) and below  $85^{\circ}\text{C}$  ( $185^{\circ}\text{F}$ )
- Remove batteries during storage.
- Battery Requirements: IEC:LR6 (AA) Size
- Do not remove instrument covers during operation.
- Do not operate the device in the presence of flammable gases or fumes. Operation of any electrical instrument in such an environment constitutes a definite safety hazard.
- There are no user serviceable parts inside the **PocketWizard Plus II**. Do not install substitute parts or perform any unauthorized modification of the instrument. Refer servicing only to qualified and authorized personnel.
- Red LED's are used for dim light application and do not indicate a hazardous status.
- The **PocketWizard Plus II** is an accessory device for cameras and flashes. Do not use this product in a manner not specified in documentation.

## BATTERIES

⚠ **CAUTION:** Turn OFF your equipment (**PocketWizard** units, electronic flash units, cameras, etc.) before making connections or changing batteries.

Install 2 fresh AA (IEC:LR6) batteries into the **Plus II Transceiver**. Make sure to note proper polarity. Alkaline batteries are recommended. Rechargeable batteries will also work, though operation time may be reduced.

When the STATUS LEDs stop blinking, it is time to change the batteries. Battery life is approximately 60 hours under typical use.

See *NOTE 1 for more battery information.*



⚠ **WARNING** – To avoid battery leakage, follow these guidelines:

- Always remove the batteries when the unit is not in use for extended periods of time, or during shipping or long distance travel.
- Never mix old and new batteries. Always use a fresh pair of matched batteries.
- Always change batteries promptly at the first indication of low battery operation.
- Do not use or leave the unit in extreme temperature or humidity situations. See “*Technical Information*” for normal operating and storage temperatures.

# SETUP FOR REMOTE FLASH TRIGGERING

## Camera Setup

Connect a **Plus II Transceiver** to the camera using one of the following methods:

### Option 1

Slide the **Plus II Transceiver** into the camera's hot shoe and tighten the hot shoe nut.



or

### Option 2

Connect the PC1 sync cable (included) from the camera's PC terminal to the port labeled CAMERA / FLASH.



## Remote Flash Setup

Connect the **Plus II Transceiver's** FLASH port to the flash unit's sync terminal using:

- the correct **PocketWizard** flash sync cable for best results.
- or -
- your flash unit's original sync cable and a PC female adapter (PocketWizard part number MPCF (804-605)).



You may have as many remote **Plus II Transceivers** on the same channel as you would like. Connecting 2 flashes to a single **Plus II Transceiver** will not work. See **NOTE 3**.

## Triggering

- Turn on both **Plus II Transceivers**, and turn on the camera and flash.
- On both **Plus II Transceivers** make sure that:
  - The STATUS LEDs on each **Plus II Transceiver** blink every few seconds.
  - The same channel is selected using the CHANNEL slide switch.
  - The TRANSMIT MODE switch is set to BOTH (middle position which is default operation).
- Press the TEST button on the camera's **Plus II Transceiver** to confirm that the remote flash triggers.
- Begin triggering normally.



Shown with default settings.



## Connecting a Flash to the Camera's Transceiver (Local Flash)

A LOCAL flash is usually a non-TTL flash that is mounted on or near the camera, for example on the camera's bracket. It can be triggered from the camera's **Plus II Transceiver** ensuring perfect synchronization with remote flashes.

See below for using a LOCAL TTL FLASH.

1. On the camera's **Plus II Transceiver**, connect the FLASH port to your local flash unit's sync terminal. Use a **PocketWizard** flash sync cable for best results.
2. Use the TRANSMIT MODE switch to creatively select which flashes will trigger:



- **LOCAL** = Only the flash connected to the camera's Transceiver will trigger. Remote **PocketWizards** will not trigger.
- **BOTH** (Default) = Both the local and remote flashes will trigger in perfect synchronization.
- **REMOTE** = Only the flashes connected to remote **PocketWizards** will trigger. The flash connected to the camera's **Plus II Transceiver** will not trigger.



**Alternate Connection Method:** You may connect a local flash directly to your camera's PC terminal. In this case, the local flash will always trigger regardless of the position of the TRANSMIT MODE switch.

See NOTE 4 for important timing information.

## Local TTL Flash

**Plus II Transceivers** do not transmit TTL information. You can use a TTL flash directly connected to your camera and have remote flashes (not in TTL mode) triggered by **PocketWizards**.

See NOTE 4 for important timing information.

To operate in this manner, simply connect the Transceiver's CAMERA / FLASH port to your camera's PC terminal and make all other camera to TTL flash connections normally.



## TRIGGERING A REMOTE CAMERA

A **Plus II Transceiver**, paired with any **PocketWizard** Transmitter, can be used to trigger a remote camera. The camera needs to have an electronic shutter release connection and have a compatible **PocketWizard** motor drive cable available. Please visit [www.PocketWizard.com](http://www.PocketWizard.com) to determine the correct motor drive cable.

### Basic Remote Camera Setup

1. Connect a **Plus II Transceiver's** CAMERA / FLASH port to the motor drive port of the camera using a **PocketWizard** motor drive cable.
2. Make sure the **Plus II Transceiver** and the hand-held **PocketWizard** are set to the same channel and turned on.
3. Press the TEST button on the hand-held **PocketWizard** to trigger the remote camera.



You can have a flash directly connected to the remote camera. Connecting a flash to the FLASH port of the **Plus II Transceiver** will not work in this setup. See NOTE 3.

## RELAY MODE

You can trigger a remote flash in sync with your remote camera. This is called relay mode and requires only 3 **PocketWizards**. Here is how it works:

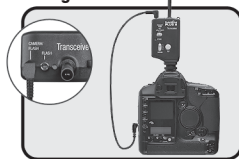
- You press TEST on a **PocketWizard** that you are holding in your hands.
- The **Plus II Transceiver** connected to your remote camera receives the signal and triggers your camera.
- The **Plus II Transceiver** switches to transmit mode, one channel higher, and waits for the camera to provide a sync pulse.
- The **PocketWizard** connected to your flash receives the camera's sync pulse and triggers your flash.



## Relay Mode Setup

1. Set the master triggering **PocketWizard** (the one in your hands) to Channel 1.
2. Set the **Plus II Transceiver** (the one for your remote camera) to Channel 1 and set TRANSMIT MODE to BOTH.
3. Connect the **Plus II Transceiver's** CAMERA / FLASH port to the motor drive port of the camera.
4. Slide the **Plus II Transceiver** into your camera's hot shoe.
5. Set the **PocketWizard** for your remote flash to Channel 2.
6. Connect your remote flash to its **PocketWizard** normally.
7. Turn everything on, then press and release TEST on the **PocketWizard** in your hands to begin the sequence.

### Using Hot Shoe



### Without Hot Shoe



If you are using a camera with no hot shoe, or the hot shoe cannot be used, then connect the **Plus II** in this manner: Connect the camera's motor drive cable to the FLASH port. Connect the camera's PC sync terminal to the CAMERA / FLASH port.

You can use different channels to perform the relay function. The master triggering **PocketWizard** (usually the one held in your hand) and the **Plus II Transceiver** connected to your remote camera need to be on the same channel. The **PocketWizard** connected to your remote flash needs to be set **one channel higher**.



	If master trigger PocketWizard is set to:	Set the remote camera's Plus II Transceiver to:	Set the remote flash's PocketWizard to:
C H A N N E L	1	1	2
	2	2	3
	3	3	4
	4	4	1

## Turning Off Relay Mode

If you want to trigger a remote camera and have the **Plus II** mounted in the camera's hot shoe, but you do not want the relay sequence to happen, simply set the TRANSMIT MODE switch to LOCAL on the unit in the camera's shoe.

See **NOTE 5** for more information on relay triggering.



## TRANSMIT MODE ONLY

The **Plus II** can be set to operate only as a Transmitter and perform no Receive or Relay function.

Transmit Only Mode is helpful when 2 or more photographers are sharing remote flash units on the same **PocketWizard** channel, and are using one or more **Plus II** units as Transmitters from their cameras.

In normal operation, when the first photographer triggers their camera, the second photographer's **Plus II** performs Receive/Relay functions. This may occur when an immediate Transmit function is desired, for example when the photographers are triggering within moments of each other and using a fast recycling flash. In addition, the second photographer's on-camera flash may be triggered unintentionally. Transmit Only Mode resolves these potential situations.



## Activating Transmit Only Mode

Step 1: Turn off the **Plus II** unit(s) being used for Transmit

Step 2: Press and hold the TEST button as you turn the unit back on

The Status LEDs will show a fast blinking pattern indicating Transmit Only Mode. You can verify Transmit Only operation by triggering any other **PocketWizard** Transmitter and noting that this unit does not respond.

Transmit Only Mode is not remembered when the unit is turned off. You will need to activate Transmit Only Mode every time you need it.

To return the unit to Normal Mode, turn it off and back on again normally. Do not hold down TEST when powering on. The Status LED's will show the normal slow blinking pattern indicating normal mode.

<b>Transmit Only Mode</b>	Fast Blink	~1 blink every second
<b>Normal Mode</b>	Slow Blink	~1 blink every 2 seconds



## MOUNTING

Mount a remote **Plus II Transceiver** using any of the included methods. See “Sustaining High Performance” for more mounting information.

### VELCRO®

For attaching to flashes, brackets, cameras, etc. See *NOTE 2*.



### 1/4-20 Mount

For tripods, mounting arms, isolation bars, brackets, etc.



### Shoe Mount

For mounting on a bracket shoe, cold or dead shoe, etc.



### Lanyard

For hanging from a light stand, flash handle, tripod knob, belt, etc.



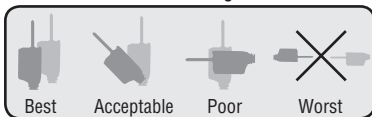
## SUSTAINING HIGH PERFORMANCE

Long distance performance from your **PocketWizards** depends on the orientation and position of the units.

Whenever possible, try to maintain a line of sight between the units and keep the antennas parallel. Make sure they are not near any large metal, concrete, or high water-content objects. People and trees are mostly water! Make sure they are not blocked by these objects or by hills.

Maintain at least 12" distance between antennas. Avoid direct antenna contact with anything metallic. “Dead spots” have a number of causes, but the solution is usually the same: move the unit a few inches or feet away from the problem area.

### Positioning



### Blocking Signal



*Mounting suggestion.*

Mount the remote **PocketWizard** so that the antenna is completely above the top edge of the flash pack and away from any metal (light modifiers, stands, etc.).

# TROUBLESHOOTING

First follow the steps 1-5 then consult the table below.

1. Turn the units off, verify fresh batteries are in use, and turn the units back on.
2. Double check all connections.
3. Make sure the units are set to the same channel number.
4. Set the Transmit Mode switch to the BOTH position.
5. Press TEST on every unit and verify proper operation.

Problem	Solution
When I press TEST or trigger the camera, the remotes do not trigger.	<ul style="list-style-type: none"><li>• See "Sustaining High Performance" earlier for radio information.</li><li>• Set the TRANSMIT MODE switch to BOTH.</li></ul>
When I press the TEST button, the flash or camera directly connected to the unit does not trigger.	<ul style="list-style-type: none"><li>• Verify that the remote equipment is functional when not connected to the <b>PocketWizard</b>. Try a different flash or camera.</li><li>• Double check all connections. Eliminate adapters if possible. Make sure the cable is properly connected to the correct port on the flash or camera. If triggering a flash with a household style sync terminal, try reversing the household connection (correct the polarity).</li><li>• Try connecting to the other port on the <b>PocketWizard</b> unit. Either port can trigger most cameras or flashes. Each port has slightly different triggering characteristics that may be more or less compatible with your equipment.</li><li>• Verify that the flash being triggered has a sync voltage that is compatible with your <b>PocketWizard</b> (see "Technical Information").</li><li>• A remote camera cannot be triggered via its PC terminal or hot shoe. Get a motor drive cable.</li><li>• Try replacing the cable. Use <b>PocketWizard</b> brand cables.</li></ul>
The STATUS LED does not blink when the power switch is on.	<ul style="list-style-type: none"><li>• Try new AA (IEC:LR6) alkaline batteries (see page 5).</li><li>• If the unit has been left on but not triggered for ~40 hours, then it has shut down to prevent potential battery leakage. Turn the unit off and back on again or change the batteries.</li></ul>
The STATUS LEDs are on continuously (do not blink or blink rapidly) and no buttons are being pressed.	<ul style="list-style-type: none"><li>• Check for a stuck TEST button on all units. Turn each unit off and back on again to isolate the source of the problem.</li><li>• Remove the unit from the camera's hot shoe and/or unplug and reconnect any connecting cables.</li><li>• Try switching all remote connections to the FLASH port rather than the CAMERA / FLASH port.</li></ul>

Visit [www.PocketWizard.com](http://www.PocketWizard.com) for more troubleshooting information.



## NOTES

▲ **Note 1** – The **Plus II Transceiver** shuts down after approximately 40 hours if it receives no triggers, or if the combined battery voltage drops below 1.7 volts. This protects against severe battery depletion which may lead to leakage. Power the unit off and back on again, or replace the batteries, for normal use.

**Note 2** – VELCRO® Brand Fasteners are included to provide a convenient means of mounting the unit in a variety of places. Attach as desired being careful to not obscure controls or function. Recommended mounting locations are the side of the unit or the area below the 1/4-20 mount. The battery door is not a recommended mounting location as damage to the battery door could occur when dismounting the unit.

▲ **Note 3** – If there is any cable connected to the FLASH Port on a **Plus II**, then the CAMERA / FLASH Port is switched to input mode only. If you connect 1 flash to each port of the **Plus II**, then only the flash connected to the FLASH port will trigger. Attempting to connect 2 flashes to the FLASH port can be dangerous. Different flashes can have very different sync voltages. Connecting them together could cause damage to the flashes, and they may not trigger. 2 identical flashes with known identical sync voltages may work when connected together, but operation is not guaranteed to be risk free.

**Note 4** – There is a 1/2000 second delay when triggering via **PocketWizard** radios. This means your radio remote flashes will trigger 1/2000 second after your camera connected flash triggers. For very fast moving objects this may result in image streaking or 2 distinct flash moments on the same image (double exposures).

**Note 5** – If you press and \*hold\* the TEST button on the unit in your hands, and you are using a fast shutter speed like 1/200 or faster, then you may cause interference for the remote flash unit. It may miss the flash sync pulse from the camera. Press and immediately release the TEST button to help avoid this situation. If you are attempting to perform a long exposure or a motor drive multi-frame burst, then you may need to consider our **MultiMAX** product for enhanced relay functionality.

**Note 6** – The hot shoe and the miniphone connectors of the **PocketWizard Plus II** are ESD (electro-static discharge) sensitive. A static shock to one of those points may cause the unit to unintentionally transmit a radio trigger.



## TECHNICAL INFORMATION

**Frequency:** 344.04 Megahertz

**Transmit output power:** Less than 0.001 watt (1/1000 of a watt or 1 milliwatt)

**Minimum receive Contact Time:** 80 milliseconds

**Maximum Frames Per Second:** 12

**Top Ports:** 3.5mm (1/8") mono miniphone

**CAMERA / FLASH Port Voltage Handling:** up to 100 Volts

**FLASH Port Voltage Handling:** up to 200 Volts

CAMERA / FLASH = center positive; FLASH = non-polarized

Both ports are current limited: 4 Amp peak, 250 millamp continuous

**CAMERA / FLASH Port and hot shoe mount voltage present:** 3.3 Volts DC.

A camera is protected from a flash connected to either port.

**AC Adapter jack:** 3V DC 200mA (unregulated), Center Positive

**Male plug connector required:** 1.3mm ID, 3.4mm OD, 1cm long

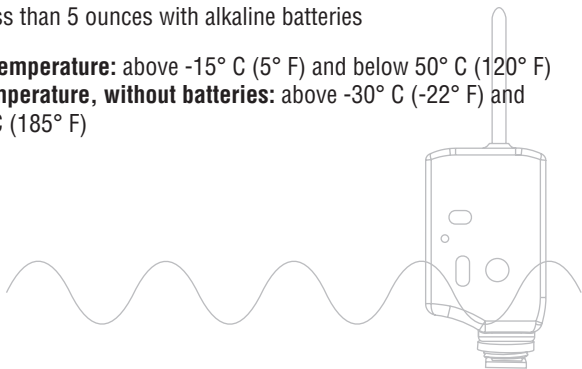
**Body Dimensions:** 1.4" deep x 2.1" wide x 4" tall

**Antenna:** 2.4" tall, 0.3" diameter

**Weight:** Less than 5 ounces with alkaline batteries

**Operating temperature:** above -15° C (5° F) and below 50° C (120° F)

**Storage temperature, without batteries:** above -30° C (-22° F) and below 85° C (185° F)





## THE FCC WANTS YOU TO KNOW:

**WARNING:** Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and the receiver.
3. Consult the dealer or an experienced radio or television technician for help.

This device complies with Part 15 of the FCC rules and also with RSS-210 of Industry Canada. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Transceiver FCC ID Number: KDS-PW2-103

Transceiver CANADA IC: 2170A-PW103



# PocketWizard<sup>®</sup>

For more information about using  
your PocketWizard product visit:

**[www.PocketWizard.com](http://www.PocketWizard.com)**