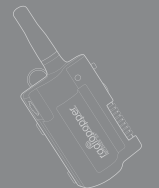




## RadioPopper X System Compatibility Guide



## Getting to Know You

Welcome RadioPopper fans! We thank you for your interest in the new X series flash control system.

The X system presently includes four new units.

The new units are packed full of features giving you endless ways to combine units to form a control system perfect for your own shooting style.

This Compatibility Guide is provided to summarize and explain in detail the various ways the X series units may be combined, as well as the features and limitations of various combinations.

## Who Is RadioPopper?

RadioPopper began in early 2007 as a side project of wedding photographer Kevin King. Kevin sought a way to more reliably trigger wireless lighting while maintaining the usefulness of E TTL, groups, ratios and high speed sync.

The RadioPopper P1 entered production in January 2008 and began shipping in April 2008. As is evident by the new X system, development on the system has continued.

The small RadioPopper team is based in Phoenix Arizona. All units are manufactured and tested in the USA. Kevin lives with his wife, and two children.

## What Is RadioPopper?

The RadioPopper PX and previous P1 model units provide a radio signal bridge between any Master flash unit and one or more Slave flash units.

Current model Canon, Nikon, and other brand flash units include a built in capability to communicate wirelessly. Units such as the 580EX, and SB-800 may be placed on a user's camera as a "Master" device. A second flash unit may be placed nearby as an off-camera wireless "Slave" device.

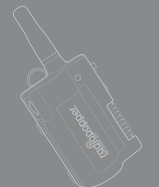
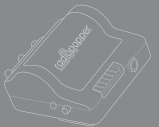
The on-camera Master sends instructions to the Slave by blinking the flash tube to form coded signals. These signals are much faster than your eye can see. This optical "Morse Code" represents control instructions that command the remote slave to activate, at what power level, and in what mode.

This is a tremendously powerful system with the one limitation being that the remote Slave unit must be able to "see" the optical Morse Code being sent from the Master flash. There must be a clear "line of sight" between the units, which limits placement locations for the remote Slave flash.

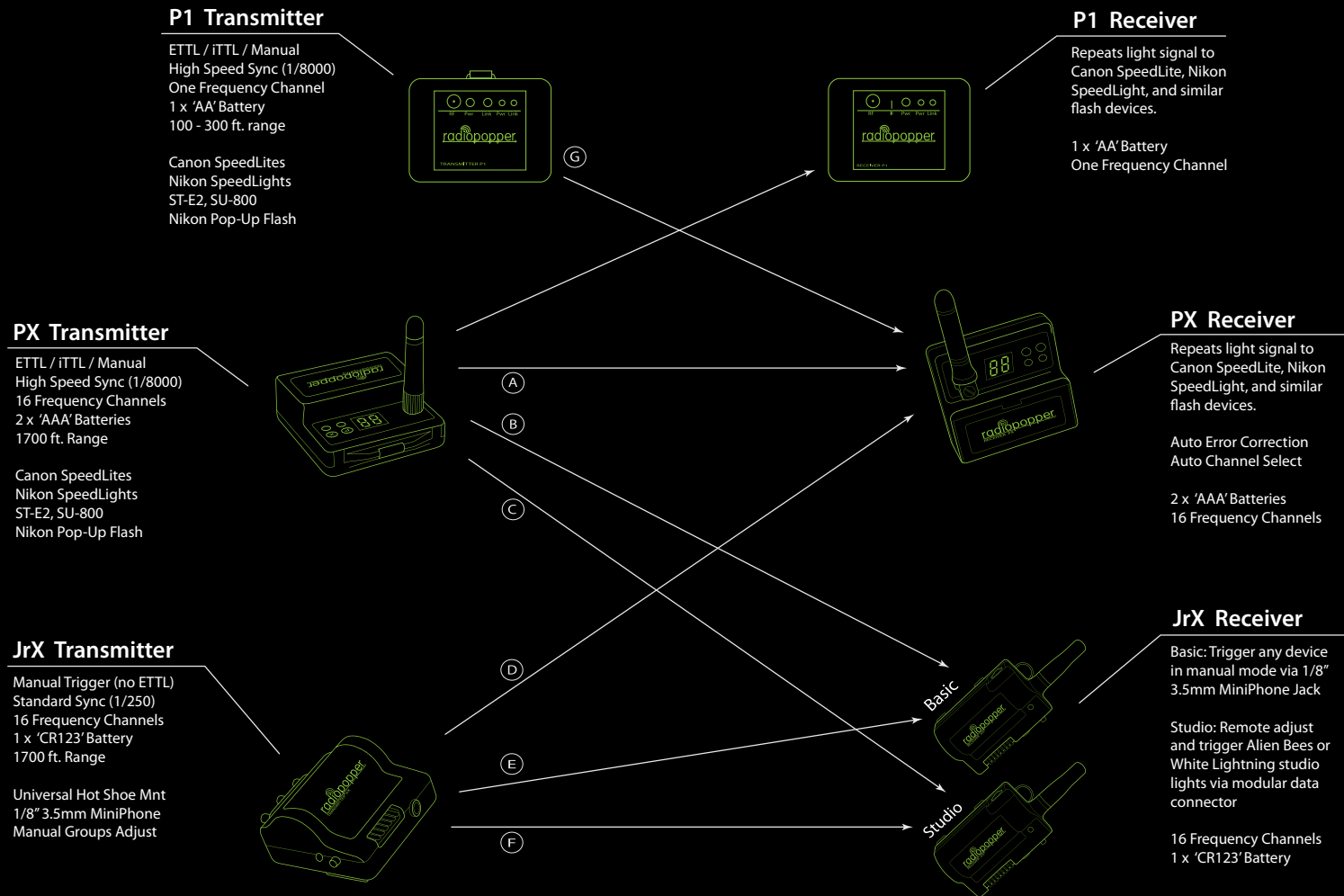
The PX Transmitter or P1 Transmitter sit on top of your Master flash unit without making any electrical connection. As the Master flash begins to blink its coded instructions, the PX and P1 Transmitter units sense the electronics of the Master flash working. The PX / P1 then read these coded instructions and send them by radio signal through walls and other obstructions to a PX or a P1 Receiver.

The Receiver contains an internal light source which is blinked at high speed and matches the codes sent by the Master flash on-camera.

Your Master and Slave flash operate normally, except the two devices are no longer required to "see" each other. Long range operation through walls and around corners is now possible.



# Meet the Family



### A PX Transmitter to PX Receiver

Supports all features of the existing Canon E TTL and Nikon CLS / iTTL system. This setup essentially provides a radio bridge for the information already being sent and received by your lights, except now enabled by the radio signal, the Master and Slave units are no longer required to “see” each other.

Provides support for all four E TTL / iTTL channels as set on your flash units. PX includes a new timing error correction technology. Some channels on some Master flash units aren’t consistent in the timing of the source signal. For example, the P1 units are more reliable on E TTL Channel 4 with Canon gear. This new timing error correction technology automatically removes any slight timing errors - significantly reducing occurrence of misfiring.

PX provides an individual program mode for each type of camera hardware. The software which handles Nikon communication is different than the software that handles Canon communication. This modular approach to software much simplifies the design of profiles for individual types of hardware. Each unit is loaded with both sets of software, the user selects a specific hardware brand mode using the menu.

The current firmware provides full support for Canon and Nikon systems including all current model gear. It is expected the firmware for Sony, Olympus, and Pentax will also be fully tested and operational by the ship date. Please check for an update on final device compatibility to be announced prior to the ship date.

### B PX Transmitter to JrX Receiver Basic

For the first time ever, freely integrate complex E TTL lighting with manually controlled lighting - seamlessly in the same shot.

After the complex E TTL pre-flash, exposure calculation, and main flash firing instructions are taken care of between your Master flash and any Slave flash units, the PX Transmitter sends off a separate command to trigger any JrX Receivers present in the lighting system.

This causes any manual lights to trigger after the E TTL calculation process completes. Your E TTL groups and ratios will expose as if you had no manual lights present in the shot, without altering that exposure in any way.

This is a great way to provide background ambient fills to your images with low cost manual slave flash units, or by activating studio strobes.

Any device may be activated via an appropriate mono cable adaptor. This may include mono to PC-Sync connectors to directly trigger 580EXII and similar flashes, it may be a mono to hot shoe adaptor for triggering flashes not equipped with a PC-sync jack, and it may be mono to other various connectors to attach to cameras or studio strobes.

The JrX Receiver is designed to accept trigger voltages up to 200 volts. This is fully compatible with most current model lighting. Some older lighting systems may produce very high voltages on their trigger pins which may exceed this 200 volt limit. Please refer to the specifications of your intended lighting equipment to insure this limit will not be exceeded to avoid damage to your JrX Receiver.

A reference chart of recommended adaptor cords and suppliers of the correct cords will be published prior to the JrX ship date.

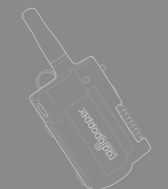
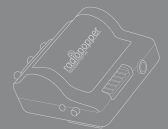
### C PX Transmitter to JrX Receiver Studio

This works just as the PX Transmitter to JrX Basic, except you also have the ability to manually control the power and modeling lamp levels of Alien Bees and White Lightning brand studio lights.

The PX Transmitter provides an adjustment for three different groups of lights via menus on the multi-function display. Click the level up and down in 32 steps from minimum to maximum power. You’ll observe the model lamps for that group adjust up or down as you tab through the power levels.

You also have the option of non-tracking model lamp, or you may disable the lamp altogether directly on the controls of your studio light.

The JrX Studio triggers the attached light via the same data connector (the telephone jack) used to adjust power levels, so there is no requirement of a second mono cable from the JrX Receiver to the attached light.



#### D) JrX Transmitter to PX Receiver

For those looking for a simple way to manually control the power level of remote strobes without having to physically walk over and adjust the levels, and who further wish to minimize cost and system complexity of using a Master flash unit, this is your solution.

When the JrX Transmitter is activated, the levels of the three manual adjustment dials are read and these levels are sent along with the trigger instruction to the receiver.

Each PX Receiver is set to read one of these dial positions and to activate an attached strobe appropriately.

For Canon gear, this is done by sending the coded light signal into the light sensor of the attached flash unit which causes that flash to activate in manual mode at a power representative of the setting of the control dial for that group on the PX Transmitter.

Because it takes a certain amount of time to communicate with the slave flash, this mode is limited to a max sync speed of 1/160 second for Canon gear.

For Nikon gear, this is done by placing the remote Slave flash unit in "SU-4" mode. In this mode, the remote flash will emit light at an intensity proportional to the length of time the PX Receiver sends a signal to the slave flash.

For Nikon gear, the max sync speed in this mode is 1/200 second.

This mode is not currently supported for brands other than Canon or Nikon.

In this mode, no E TTL / iTTL information is sent which means it is not possible to use automatic ratios.

High Speed Sync is not possible in this mode.

#### E) JrX Transmitter to JrX Receiver Basic

A low cost, highly reliable triggering option for basic lighting. It doesn't get any easier than this.

Place a JrX Transmitter on your camera's hot shoe, or attach some other sync cord to the provided mono jack on the JrX Transmitter. When your camera activates, the JrX Transmitter will activate any JrX Receivers on the same radio channel.

The JrX Transmitter provides a single multi-function button. Press and hold the button for two seconds to turn the unit on or off. Press the button for a half second to manually activate.

Manually activating the JrX Transmitter can be used to send a test trigger. It may also be used to trigger remote cameras - assuming the remote camera is attached to a JrX Receiver with an appropriate adaptor cord.

#### F) JrX Transmitter to JrX Receiver Studio

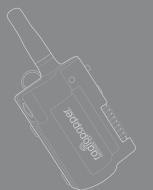
In this mode, a JrX Receiver Studio unit is attached to an Alien Bees or White Lightning studio unit via the provided data connector (the 'telephone' jack).

Adjust the three manual dials on the JrX Transmitter to your desired lighting level, then tap the test button quickly (hold for less than a half second). This will read the levels of the dials and send those levels to any JrX Receiver Studio units on the current channel. Holding the test button for more than a half second will cause the remote lights to manually activate (test trigger).

After a quick tap of the JrX Transmitter test button, the JrX Receiver Studio units will receive the updated level settings then communicate the new level settings to the attached studio lights. You will see the model lamps track at this time.

When you trigger the JrX Transmitter via the hot shoe or via some other sync means attached to the mono jack, the JrX Transmitter sends an activation instruction to the JrX Receiver Studio units.

The JrX Receiver Studio units cause the attached studio lights to activate. This trigger instruction is sent over the same data connector used to control the power level, so there is no need for an additional sync cable between the JrX Receiver and the attached studio light.



### Ⓒ P1 Compatibility Mode

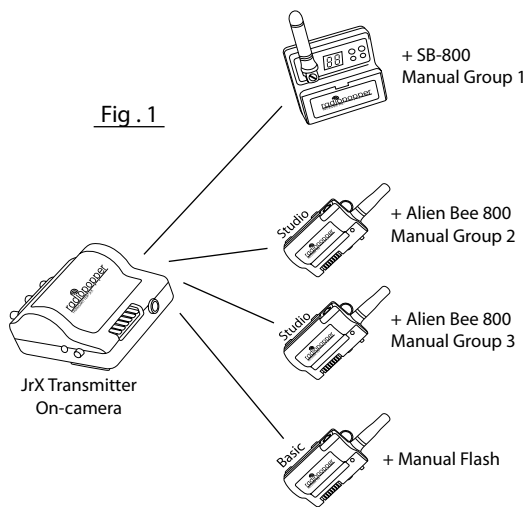
The PX Transmitter and PX Receiver provide a mode which is backward compatible for current P1 users.

In this mode, a PX Transmitter clones the exact features and functions of a P1 Transmitter. It transmits using the same power level and frequency as a P1 transmitter.

Similarly, the PX Receiver will behave exactly as a P1 Receiver in this mode.

In P1 Compatibility mode, it is not possible to use any of the enhanced features included in the PX, including the ability to trigger JrX Receivers, or the ability to be triggered by JrX Transmitters.

In this mode, just as with the original P1, you can only operate one transmitter in a given physical area at one time, as using more than one P1 or PX in P1 mode will cause radio interference and poor reception of the signal by the receiver.



### Mixing Modes - Example One

The X system has been designed with scalability in mind. There are many possible combinations of units to control a given lighting task.

Particularly useful is the mixing of PX Receiver units, JrX Receiver Standard units, and JrX Receiver Studio units - all in the same shot. This combination may for example be controlled by a JrX Transmitter, and is pictured in the graphic below (Fig 1).

In this example, an SB-800 is controlled by the first manual adjustment dial on the JrX Transmitter. The second and third manual adjustment dials each control a single AB-800 studio unit. A JrX Receiver Standard unit activates a stand alone manual flash strobe which has been set manually.

### Mixing Modes - Example Two

In a second example (Fig 2), a PX Transmitter is used with a Canon ST-E2 commander to activate a pair of 580EX SpeedLite units in ratios using E TTL.

Two AB-800 studio units are also controlled for background fills via a pair of JrX Receiver Studio units. The power level of these AB-800 studio units may be manually turned up and down directly from the controls of the PX Transmitter.

