

PUV Remote Control

This transmitter / receiver is designed to remote control Look Product's Viper fog machine, Look Hazer, and Power Tiny fogger. It gives on/off and variable output control remotely. This receiver is not suitable for controlling the Tiny and Tiny S foggers.

OPERATION

Use an XLR male – female extension cable to connect the remote to the analog input of a Viper, Power Timer, or Look Hazer.

The fogger should be set to maximum on its controls— P99 on the line powered units or the pot adjustment on the Power Tiny all the way up. Do this before plugging in the remote receiver. The remote control level adjustment is from a minimum amount to the maximum set on the fogger controls. Setting the fogger to an output below maximum will result a reduced maximum output amount.

When the receiver is 1st plugged in, the LED will blink at 1/2 second intervals and then once every 2.5 seconds when ready to go.

Press the buttons on the remote as needed to operate.

- 1) Fog on / fog off turns the fogger on and off at the level it was at before.
- 2) Aux on / aux off turns the aux relay output on and off – see further information below.
- 3) -5% / +5% lowers and raises the output by about that amount.
- 4) Min / Max will set the fog output on to that level.
- 5) Pushing both Min and Max at same time gives 50%. Press together and release.
- 6) Pushing other button pairs will have no result.

Output levels are approximate since each machine is slightly different and the fluid pump does not pump exactly the same amount at a given setting.

PAIRING

Each receiver has to be paired to a remote transmitter to work. The receiver learns the code of the remote transmitter unit. As such, each receiver can learn only one transmitter. Learning a new transmitter erases the previous one. This allows one transmitter to control many receivers.

Learning a new transmitter takes place only when first powered on. To do this:

- 1) Unplug the XLR cable from the fogger unit, removing the power from the receiver.
- 2) Wait a moment and plug back in.
- 3) The LED on the receiver will start to blink at ½ second intervals.
- 4) Press and hold any button on the transmitter.
- 5) In about 3 seconds the LED should come on solid for 3 seconds and then go out.
- 6) Release the button on the transmitter, the new code has been learned.
- 7) You have 15 seconds after power up to complete this process.

Once a transmitter has been learned, the receiver retains this until reprogrammed to learn a different transmitter.

LOW VOLTAGE LOCKOUT

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The remote receiver monitors the supply voltage from the device it is controlling. With a Power Tiny the battery voltage decreases until it must be recharged. When the battery drops too low to work properly, below 9.5V, the receiver turns off the fogger and locks out for 20 seconds. The LED blinks fast during this time. It is time to replace or recharge the battery. This prevents running the battery down to a level that will damage it. A line powered fogger or hazer should never have this problem.

LIMITS

This is a radio controlled device. As such it is subject to interference and limitations.

The range should be in excess of 100 feet, but could be as short as 50 feet and up to 250 feet depending on conditions. Range is affected by how many things interfere with the signal. If the receiver or person using the transmitter is behind walls, around corners, inside metal enclosures, blocks of concrete, or such the range will be limited. Open areas with nothing between the operator and the receiver will have maximum range. Using a longer connection cable to raise the receiver higher or to move the receiver out from behind obstructions will help increase range. Adjusting the antenna orientation might also improve the range.

Other transmitters will also interfere. This unit works on 418 or 433 MHZ. Anything else transmitting on this frequency will jam reception. Some other remote controls and car key fobs work on this frequency. Only ONE remote control can be used at the same time. Pushing buttons on 2 different remotes at the same time will cause nothing to happen.

On set there may be many other devices transmitting on other frequencies as well. Even though these devices are on other frequencies they may cause range reduction as well. This problem is comparable to trying to carry on a conversation in a noisy room. Even though you can hear the other person, the background noise can be loud enough to make it hard to understand the person.

AUX OUTPUT

There is a 5.5 x 2.5 mm jack on the receiver unit. It is the same as many power input jacks on small electronic devices. It is NOT a power input and must NOT have power applied to it! It is a relay contact output – an on / off switch. The contact is turned on and off by the AUX buttons on the remote control. This contact is rated to switch up to 5 Amps at 24 VDC. With an external power supply and an additional relay, mains powered equipment can be switched on and off. See other instructions for more information and wiring diagrams.

DO NOT switch line (mains) power directly through the relay. The circuit board and jack are not rated for high voltage. Direct switching of high voltage creates an unsafe condition and may result in electric shock and destruction of the remote receiver and the controlled piece of equipment.

NOTES

A) There is a recessed button in a small hole on the back of the transmitter unit, with the word 'create' next to it. **DO NOT** push the button in this hole, it will create a new address code. **DO NOT** do it! Every transmitter already has a unique code and does not need to be changed.

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Also, changing the code without doing the following steps will cause the transmitter to stop working.

1. Press the recessed button with a paper clip and release. A new code is created.
2. A blue LED starts blinking quickly.
3. Within 15 seconds press all 8 buttons on the front one at a time. Buttons are learned.
4. Press and release the recessed button again.
5. The blue LED stops blinking.

This changes the transmitter code, not the receiver learned code. The receiver must now be programmed to receive the new transmitter code. Failure to press the front buttons correctly will result in a non-working transmitter.

B) A note on the XLR cables that connect the receiver to the controlled device. Almost all XLR cables are designed as audio patch cables. As such Pin 1 is connected to the shield of the cable and the metal shell of the XLR plugs for audio shielding purposes. This connection of Pin 1 to the housing shield can cause a short circuit when connected to the Power Tiny and result in destroying the control board. The cables should be altered so that there is no connection to the metal housing of the XLR plugs. There is no defined length limit for the XLR cables, but over 25 feet will invite noise pickup and interference.

C) If you open the receiver box, you will see a button on the circuit board. This is for test purposes only and there is no reason to push it.

LED

The LED blinks in 5 different ways depending on the state of the receiver.

- 1) A quick blink once every 2.5 seconds when the fog output is off.
- 2) A quick blink every $\frac{3}{4}$ of a second when the fog output is on at some level.
- 3) Blinking at $\frac{1}{2}$ second intervals when in startup mode.
- 4) Turns on solid for 3 seconds when a new remote is learned.
- 5) A fast blink when the battery voltage drops too low (Power Tiny). The fogger turns off and is locked out for 20 seconds.

POWER

The receiver works on 12-18VDC. This power comes from the controlled device through the XLR jack. Pin 1 is common (ground), Pin 2 is positive power, Pin 3 is the signal back to the controlled device. Power draw is low, about 20ma.

The transmitter uses a lithium coin battery # 2032. It is HARD to get the battery out of the holder. Use a toothpick or plastic stick to push it out. If a small screw driver or paper clip is used, be very careful not to short the battery to other parts on the circuit board.

FCC INFO

There are 2 different frequencies that are allowed for this type of device, 418 MHZ and 433 MHZ, normally a 418MHZ unit is shipped. This is a good choice for use in the USA. This

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frequency is not allowed in Europe. The 433MHz unit is available for that market, or if a person wants to have 2 units on different frequencies. The 418 units have a blue stripe on the antenna and the 433 ones have a red stripe.

315 MHz is also allowed, but is not used much anymore. These remotes are not available at that frequency.

This device complies with part 15 of the FCC Rules. 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.

WARRANTY

The remote transmitter / receiver is warrantied for 1 year from date of purchase. This covers manufacturing defects. It does not cover:

- A. Physical damage to the box, antenna or circuit board.
- B. XLR or Aux jacks that are damaged from cords being pulled out at an angle.
- C. Corrosion damage from being contaminated with fog fluid or water. Keep it dry!
- D. Failure to operate due to radio interference or low battery voltage.
- E. Replacement battery for transmitter.

Replacement transmitter, antenna, cables, and enclosure box are available.