R/C Reporter™

Multi-Function System Monitor

The *R/C Reporter* Multi-Function System Monitor combines the functions of a lost-plane homing beeper, a voltmeter, a battery monitor, a glitch counter, and a minimum voltage recorder – all in a tiny, light-weight device. It can help you find your plane after landing in the trees, corn, grasses, and weeds that commonly surround R/C flying sites. More importantly, it gives you the ability to diagnose battery, signal, and system problems to keep you out of the weeds in the first place. It just might save your plane!

INSTALLATION

- Mount the device to the inside floor or side of your aircraft's fuselage using double-sided mounting tape or Velcro®. Alternatively, drill a 12mm hole in the fuselage and insert the device so that the top of the black speaker is flush with the outside surface.

- You might want to experiment with different locations before permanently installing the unit. The acoustic characteristics of your particular installation can influence the apparent volume of the sound in surprising ways. For example, pointing the speaker toward a hard surface (as close as ½ inch from the surface) can sometimes result in louder output.

- Plug the connector into any unused channel (like the retract gear, flap, or AUX channel) on your receiver. If you don't have a free channel, use a Y-harness to share a channel with a servo. The rudder channel is a good choice, as are the ailerons or elevator channels. The throttle channel can be used, but is less desirable.

Connector Note:

The *R/C Reporter* is supplied with a "universal" connector. It will work with JR, Hitec, Futaba, Airtronics-Z, and most other brands of receivers.

Futaba users: The keying tab is not present. It is possible to plug the connector in backwards, but this will not cause any damage. Simply reverse the connector if the unit does not operate.

R/C Reporter™
Multi-Function System Monitor

- **Lost Plane Locator**
- **Battery Monitor**
- **Voltmeter**
- **Glitch Counter**
- **Minimum Voltage Capture**

R/C Reporter™
Multi-Function System Monitor

SPECIFICATIONS

- **Works with 4-cell (4.8V), 5-cell (6V), and BEC (5V) systems**
- **Weight: 5 grams**
- **Dimensions: 0.75 X 1.00 X 0.50 inches**
- **Supply Current: 2.5mA idling, 25mA beeping (typ. @ 5V)**
- **Measurement: 0.01V resolution, +-1.0% + 1 count accuracy**
- **Sound Pressure Level: 85db min, 92db typ, (10 cm) @ ~2300Hz**
- **Programmable (with optional Computer Interface). Modify over 20 device settings including melody.**

www.WingedShadow.com

Winged Shadow Systems
P.O. Box 432 • Streamwood, IL 60107
support@wingedshadow.com
(630) 837-6553 • Made in USA

WARRANTY

We want you to be happy with your purchase. If you are not satisfied with any product purchased directly from us, return it within 30 days for a full refund of your purchase price. We also provide a one-year replacement warranty on any device that stops working properly - regardless of cause (even crash damage).

Now Available!

The ultimate accessory for your *R/C Reporter*.

Computer Interface

Customize your *R/C Reporter* from your Windows® Computer

Modify over 20 parameters including:

- Beep Frequency & Duration
- Turn-On Position
- Low-Battery Warning Threshold
- Report Speed & Activation

Change the Homing Melody

Choose from over a dozen supplied sample tunes, or download an RTTTL ringtone file from the web. Give your plane its own theme song!

www.WingedShadow.com

• Made in the USA •

www.WingedShadow.com

OPERATION

Power Up – When you turn on the receiver the *R/C Reporter* will beep twice* to let you know it is on.

Play the Melody* – Control the *R/C Reporter* by moving the transmitter stick (or switch) associated with the channel that the device is plugged into. Move the stick beyond 70%* of travel to turn the feature ON. After a 2½ second* delay, the tune will play. It will play over and over until the control is returned to the OFF position.

Low Voltage Alert – If the receiver battery voltage falls below 4.6V* the *R/C Reporter* will repeatedly emit an alert sequence of three* beeps. If you hear this warning, your batteries are dangerously low and you should not fly.

Lost Signal Alert – If the transmitter signal is not detected for 2 seconds*, the melody will play. On a FM or AM (PPM) system, this means that turning off your transmitter will force the melody to play (and remind you to turn off your receiver).

PCM and Spread-Spectrum (SS) Systems

On PCM and SS radios, the receiver continues to send pulses to the servos even when the transmitter is off. However, you can still have the *R/C Reporter* play its tune when you switch off the transmitter by using your radio's fail-safe feature:

1. Most fail-safe systems will send the last good position to the servos if the radio signal is lost. Activate the melody by moving the *R/C Reporter* channel stick or switch to the ON position before turning off the transmitter. The tune will continue to play.
2. If your radio allows you to set fixed fail-safe servo positions, set the *R/C Reporter* channel to 100% ON. This will force the tune to play when the transmitter signal is lost.

REPORTS

Using commands from your transmitter, you can activate the voltage, glitch, and minimum voltage reports. In each case, a series of beeps provide detailed information.

Volt Meter – To activate the voltage report, use the transmitter stick or switch (not the power switch) to input two* ON-OFF sequences within 2½ seconds* (ON-OFF-ON-OFF). The *R/C Reporter* will respond with the Morse Code letter "V" (for volts) – "dit-dit-dit-dah". It will then output a three-digit value using beeps (with a pause between each digit). Count the beeps to decode the value. For example:

beep-beep-beep-beep-beep beep beep-beep-beep

… represents 5.13V. A decimal point is assumed between the first and second digit. Digits 1 through 9 are represented by 1 to 9 beeps. Zero is presented as a two-tone* sound similar to the voice sound for the word "ZE-ro".

Glitch Count – To output the glitch count, input three* ON-OFF sequences within 2½ seconds* (ON-OFF-ON-OFF-ON-OFF). The *R/C Reporter* will respond with the Morse Code letter "G" (for glitch) – "dah-dah-dit". It will then output a three-digit value using beeps, similar to the voltage output. Zero to 999 glitches will be reported. (More than 999 glitches will report as 999.)

What's A Glitch?

Approximately 50 times per second your receiver sends a pulse to each servo. Missing pulses can indicate an interruption of the radio signal (due to interference, noise, antenna placement, or other cause). The R/C Reporter counts each time there is an interruption in this regular string of pulses. These missing pulses are commonly called "glitches".

After a typical R/C airplane flight, a count less than 20 is normal. Counts above 100 (or counts much larger than you have had in the past) indicate a potential control problem. Note: Most PCM and SS receivers self-generate servo pulses even when the transmitter signal is lost. These systems should always report glitch counts near zero. Higher counts indicate a serious problem with the receiver. The glitch counter is reset to zero when receiver power is switched off.

Minimum Voltage Capture – Activate the minimum voltage report by inputting four* ON-OFF sequences within the 2½ second* command window. The *R/C Reporter* will respond with the Morse Code letter "L" (for Low) – "dit-dah-dit-dit" (We didn't use "M", dah-dah, since it might be confused with the digit 2.) It will then output a three-digit value as described in the volt meter section. This value represents the lowest voltage encountered since turning on the receiver. A 100mS* capture time is used to filter out noise spikes.

Why Capture the Minimum Voltage?

The minimum voltage usually occurs during a flight when aerodynamic loads on the control surfaces cause the servos to draw more current. A large voltage drop can indicate a low or weak battery, under-sized wires, bad connections, or defective servos. For electric flyers this may indicate an overtaxed BEC. In some cases a severe voltage drop can cause the receiver to reset or shut down.

Quick Reference		
Report	**ON-OFF Pulses***	**Prefix**
Volt Meter	2	'V' (dit-dit-dit-dah) • • • –
Glitch Count	3	'G' (dah-dah-dit) – – •
Minimum Voltage	4	'L' (dit-dah-dit-dit) • – • •
Play Melody	ON	[Keep control channel ON or turn transmitter OFF]

** Note: All items marked with an asterisk are customizable using the optional Computer Interface (info on back page). Default values are shown.*