



VIZION

OSD Telemetry System

Frequently Asked Questions

INTRODUCTION:

VIZION is a low cost video overlay device designed for hobby applications. It displays your ham call sign at timed intervals, two voltages, Radio Control (R/C) signal status, and elapsed time.

An optional current sensor can be added to display current to 50 Amps, mAh, and watts. In addition, it offers plug-n-play integration with the popular ZLog altimeter (available from hexpertsystems.com).



Figure 1, Typical OSD Data

1. **Q:** *What is VIZION's size and Weight?*

A: Total weight is approximately 0.6 ounces (0.9 ounces with an optional current sensor). Size is 1.6" x 2.1".

2. **Q:** *I do not have any experience with soldering or electronics in general. Will I be able to connect the OSD board to my wireless camera equipment?*

A: Your video equipment will need to be wired to the OSD board. Although this is a simple task to someone that has some electronics experience, it will probably be a frustrating effort for beginners. All of our documentation is online, so you can see for yourself if your skills are up to the task. If not, then please arrange for hands-on help from someone with electronics experience.

3. **Q:** *My wireless 2.4GHz camera is a tiny sealed module that incorporates a transmitter and CMOS camera. How do I connect Vizion to it?*

A: It sounds like you have one of those low cost eBay / Hong Kong sort of wireless systems that integrate the camera with the transmitter. Because they are self-contained designs, they will limit your ability to add other video accessories. Frankly, unless it provides direct access to its composite video signal, the Vizion installation will not be practical.

4. **Q:** *What is the best way to power VIZION?*

A: A 6VDC to 15VDC battery supply can be used. Current draw is only 30mA. In most applications it will be powered by the battery that operates the camera equipment. Do not use the R/C system's battery to operate VIZION.

5. **Q:** *Can I power VIZION from my 5.0VDC supply?*
A: No. VIZION requires at least 6.0VDC.
6. **Q:** *I will be using Hexpert System's ZLog MOD3 altimeter with my VIZION OSD. However, I do not want to power the ZLog from a R/C receiver. Can Vizion supply power to it?*
A: The ZLog board will operate from a wide range of voltages (4-15VDC). So, it can conveniently share the same battery supply that the VIZION uses.
7. **Q:** *I installed my ZLog altimeter and VIZION's display constantly says "ZLOG RST!" What is wrong?*
A: You must use ZLog firmware version 3.4 or higher (available as a free download from Hexpert Systems). Furthermore, the altimeter must be configured for 19.2K baud operation. The ZLog manual describes how to change this parameter.
8. **Q:** *I believe I have installed everything correctly. However, my video is distorted and often does not sync. What is wrong?*
A: If you are sure that everything is wired correctly then there is a compatibility problem. VIZION will not tolerate any deviation from industry standard video levels or timing. It may be as simple as a missing 75 ohm video termination or it could be more devious.
9. **Q:** *I do not have a spare Gear/Aux switched channel on my R/C transmitter. Can I use a spare center-return stick controlled channel to operate the OSD?*
A: Yes. VIZION is compatible with switch or stick activated channels.
10. **Q:** *I do not see the little antenna icon on the display. Why?*
A: You need to connect VIZION's servo cable to your R/C receiver and then turn on the R/C system. The icon appears once a valid servo signal is detected.
11. **Q:** *When the video signal from my digital camera turns off (due to its battery saving features), the text fields are no longer visible. Why?*
A: VIZION is a video overlay device. It needs the composite video signal from a standard video source in order to operate. So, if your camera's video is turned off then VIZION's video will turn off too.
12. **Q:** *I cannot see the text on white backgrounds. Why is this?*
A: Bright white images will saturate the text and make it difficult to see. In a typical outdoor setting, most video cameras will automatically adjust their gain to help minimize this problem. For additional relief, turn on the Shadow feature.

13. **Q:** I will be using European style PAL video. How do I setup VIZION to use it?
A: Both the NTSC and PAL video standards are supported. When VIZION is turned on, it automatically detects the incoming video format. For proper operation, it is important that the camera's video output signal be available before applying power to VIZION.
14. **Q:** The display shows that I am drawing a lot of amps. But, I don't even use the optional current sensor. Should I be concerned?
A: No. If the current sensor is not installed then you should turn off the Amps data field.
15. **Q:** Can I use the current sensor to monitor the milliamps drawn by my R/C receiver or other electronic circuits?
A: That is doubtful. The current measurement feature is designed to monitor higher currents. I suggest that you use it to display the DC current drawn by a propulsion motor or other high current load (50 amps max).
16. **Q:** My Vizion is doing a fine job of measuring amps and mAh, but watts is stuck at zero. What is going on?
A: It sound like the external voltage input is not connected correctly. To measure watts you must connect the current sensor AND the external voltage input to your load.
17. **Q:** My R/C ground range test is slightly reduced when the video system is used. What should I do?
A: A slight range reduction is acceptable if the ground range test distance meets the R/C manufacturer's minimum requirements. If your test results are not acceptable then the problem MUST be resolved before using the VIZION system. Here are some things to consider:
1. Never power VIZION from the R/C system's battery. Use a dedicated battery pack to operate the video components.
 2. Locate VIZION and the other video components far away from the R/C system (especially the R/C receiver and antenna).
 3. Always use a high quality R/C receiver (do not use low cost single conversion types).
 4. If necessary, unplug VIZION's R/C servo cable and disconnect the external voltage monitor input. If this eliminates the problem, and you need to use these features, then signal filters may be required on these cables.
18. **Q:** I am using a PCM R/C receiver. However, I would really like to use VIZION's Signal Loss indicator (flashing icon) with this kind of R/C system. Is it possible to configure my PCM receiver to flash the icon when it goes into failsafe?
A: Yes, it might be possible. The general idea is to setup your transmitter so that during normal operation the R/C channel uses a standard 1.0mS to 2.0mS servo pulse range. But during R/C Failsafe, the channel's pulse must be forced to less than 0.85mS or more than 2.15mS. These exaggerated pulse times will be treated as a lost signal.