



Software Update Information Sheet

A new version of software for the BFD is now available. This version has been installed in new units since Late August, 2002. This information sheet is intended to answer any questions about what features this version of the software offers and why it is now available.

What was the reason for this new version?

I began receiving reports that the motor being used with the BFD to control the iris would jump or twitch while shooting a HD television show. The DP was using a BFD to control the iris from a small tent where he was monitoring the video image and signal level. The problem was intermittent, but it seemed to occur primarily when the camera was either a large distance from the BFD transmitter or if there was a large amount of material (walls, props, etc.) in between. I visited the location with a second BFD and found out that the worse the quality of reception got at the receiver, indicated by the LED flickering red, the greater the likelihood of the problem occurring. Investigation showed that when the signal is barely getting through the receiver can occasionally piece together segments from different data transmissions and that the received data will pass the integrity check and be treated as a valid transmission. The receiver then tries to act on this bad data until a valid data transmission replaces it, which causes the motor to jump.

Why wasn't this noticed before?

Good question. I recently had an early BFD in for repair. I tried to replicate the problem and absolutely could not get the problem to occur. Apparently, changes in the manufacturing of either the RF modules or the microcontrollers caused this to become a problem. Also, 1AC's tend to operate closer to the camera which reduces the likelihood of this circumstance occurring. It was a DP using the unit remotely that revealed the problem.

How do I know if my unit has this problem?

Set your BFD up and test it for normal operation. Then remove the antenna from the transmitter and place it where the signal is barely getting through to the receiver, indicated by the LED on the receiver continuously flickering between red and green. Usually this is about 8-12 feet away depending on the surroundings. Now observe the motor. If the unit has this problem the motors will occasionally twitch, usually within 30 seconds. If more than 2 minutes passes without the motor twitching, the problem isn't present and this update won't make any difference.

How does this version of the software fix the problem?

The solution to the problem was to increase the level of data transmission verification to prevent pieces of different transmissions from passing the validity check. An extra byte of checksum data was added and the method of verification was changed from a simple checksum to a more sophisticated cyclic redundancy checksum.

Are there any drawbacks to having the update?

By adding an extra data byte, it takes longer to send each data transmission, thus lowering the update rate from 378 to 300 updates per second. This is still below the level of perception by the operator. Also, this version of the software is not backward compatible with previous versions, so to maintain compatibility if you have more than one unit they will all need updating.

Can I perform the update myself?

Yes. It requires some basic tools and two IC removers, readily available at a cost of less than \$20. An instruction sheet detailing the procedure can be downloaded from www.bartechengineering.com at "News"

What does it cost?

If the BFD is serial number 222 or later, you can send it in and we will update it for free except for the cost of shipping. A set of chips for updating the unit yourself is \$25. If you wish to send it in, there is a \$20 installation fee per unit plus shipping costs.