



AUTOMATED OUTDOOR ANIMAL MONITORING

Tech Note

To: All TrackSnap DigitalEye Camera Owners
From: Paul Skelly
Ref: TechNote 4, Revision 1
Date: December 21, 2009
Re: Reduced Flash range on lower ISO settings

Issue: The flash range for the Sony cameras, used in the DigitalEye, is greatly affected by the ISO setting.

Identified Failure:

We have had six (6) IR cameras returned from a customer suspected as being faulty with the camera showing 'black' or very poor night photos.

The photos from these cameras were clearly very poorly lit by the flash and phone discussions with the customer prior to the return could not identify an issue to cause the problem.

The problem identified that the ISO setting of Sony W55, W190 & W220 cameras greatly affect the strength of the flash. The ISO setting of 400 or less on all of the cameras caused the flash to be reduced and to be insufficient for the 7-10 metre range the customer wanted to photograph.

The issue was resolved by setting the ISO at 800 for the 7 metre distance and the photos were much more effectively lit.

Explanation of Issue:

ISO or "ISO equivalent" refers to a camera's light sensitivity. Higher ISO settings are often required to get a picture when shooting after dark or to freeze fast action in bright light.

There is a problem though in increasing a camera's ISO – it also increases image noise in the photo and this translates to photos that look 'grainy' to us.

There is another important factor that relates to the Sony cameras used in the DigitalEye cameras:

Low ISO = **Low flash range**
High ISO = **Greater flash range**

Explanation of Issue: (continued)

We have, in the past, shipped our cameras with an ISO 800 or 1000 as a default setting for the cameras and just recently we have changed to ISO 400 as we found from feedback that the photos were too 'grainy' and we wanted to improve the quality of the photos.

We have now found that by lowering the flash range we inadvertently greatly decreased the range of the flash.

Field fix: If the camera is operating correctly just ensure the ISO setting matches your intended range so the flash will provide optimum night photos.

The field fix is relatively simple and does not require technical skills. It is recommended that customers simply monitor the quality of both day and night photos and adjust the Focus Range, ISO and Flash Level settings accordingly in the camera.

Table 1: Rough guide to setting for W55 camera

Application	Focus	ISO	Flash Level
1 metre distance both day and night	1 metre	400	Minus (-)
3 metres distance both day and night	3 metres	400	Normal
7 metres distance both day and night	7 metres	800	Normal
> 7 metres distance both day and night	∞	800	Plus (+)

If not operating correctly or need assistance: Contact TrackSnap to confirm issue and for assistance on the settings.

Future design change to avoid possibility this issue

All TrackSnap Digital Eye 7.2 cameras are now being shipped with basic settings and you must modify them to suit your application. Please use the recommended settings listed in the relevant manuals on the website

http://www.tracksnap.com/tech_support.html

Please feel free to contact us if you want any assistance with your cameras or more information on this issue.