

MINI DARTEYE

USER GUIDE



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INTRODUCTION

DartEye Mini Variants

Variant	Part No	Description
1	565-900	Mini DartEye 30 Mtr Standard Unit
2	565-901	Mini DartEye 30 Mtr Sonde & Meter Counter
3	565-902	Mini DartEye 30 Mtr Sonde, Meter Counter, Text Editor & Wi-Fi



SAFETY WARNINGS

The system is not earthed. If mains operated equipment is connected to the system then the external equipment must be earthed.

Do not use the Mini DartEye system in potentially explosive environments. This equipment is not approved for use in hazardous environments.

Foul water can be a source of biological hazards. Wear appropriate protection at all times.

The camera head will get hot during use, this is normal. Take care when handling the camera at all times.

MINI DARTEYE CONTROLS

1. On / Off Switch
2. Monitor Controls
3. Recording Controls
4. Battery Charge Socket
5. 12v Adapter Socket
6. SD Card Slot
7. Battery Status Indicator
8. Light Control
9. Meter Counter Controls (Variant 2 & 3)
10. Video out Socket
11. Keyboard Socket (Variant 3) – Provides 10 pages of saveable text plus shortcuts
12. 33Khz Sonde Switch (Variant 2 & 3) Switches Sonde off / on
13. Camera Connection Socket



MINI DARTEYE – USER GUIDE

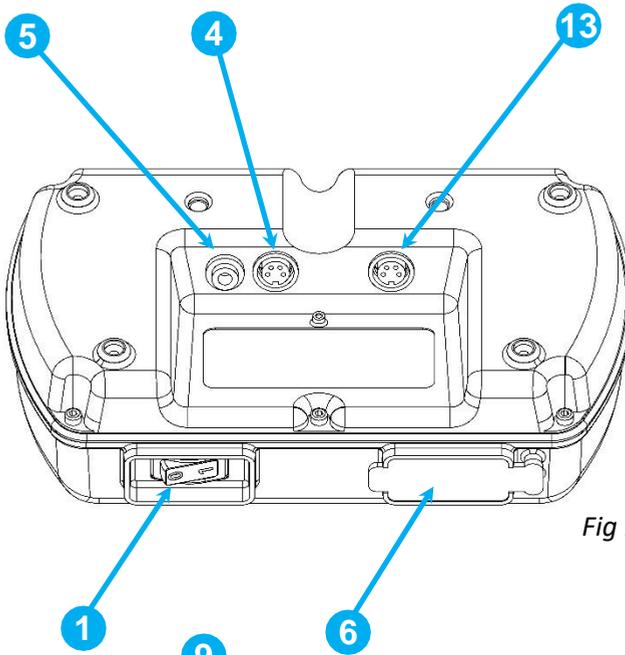


Fig 1



Fig 2

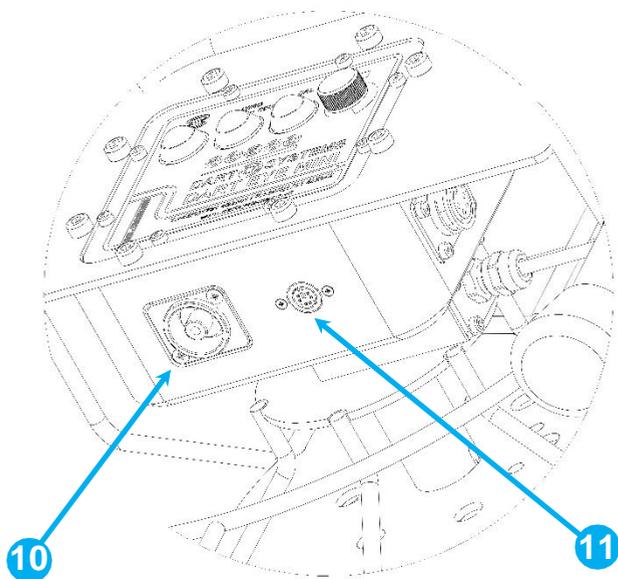


Fig 3

MONITOR CONTROLS

Switch on

Turn the system on using the power switch located at (fig 1 (1)).

The splash panel displays **DartEye Mini – No keyboard.**

If version 3 unit then screen will display **DartEye Mini – keyboard** when turned on if the keyboard is connected.

The total length of cable fitted to the unit is displayed momentarily in the bottom right of the screen.

Battery Meter

Check the battery level by pressing and holding button (fig 2(7)) on the Hub Control Panel, each illuminated segment represents 20% battery life remaining.

Brake

Release the brake to allow the camera and cable to be used by lifting and turning the spring plunger. To engage the brake turn the spring plunger and the plunger will drop into the next hole on the reel hub.

Skids

The 50mm Skid provided with the system is for use in pipes from 50mm to 100mm. The Camera can be used without the skid fitted if pipes under 50mm diameter are to be inspected.

Monitor Removal

To remove the monitor from the frame, loosen the two star knobs on the reverse of the monitor and slide the monitor up. The monitor can then be used remotely. To store the monitor in the transit case (optional) unscrew the collar from the connection cable and then pull to release.

Connection is the reverse of this operation.

When refitting the monitor to the frame the cable should be routed through the central slot in the monitor mount plate.

LIGHT OPERATION

The Mini DartEye Camera head has six high output LED's. Use the control knob on the Hub Control Panel to vary the intensity of the LED's depending on working conditions.

Sonde 33 KHz (Variant 2 & 3)

The unit is fitted with a high output Sonde Transmitter which operates at a frequency of 33KHz. The Sonde is locatable by a standard Camera / Cable locator with a depth function.

To turn the Sonde on press the Sonde Button (fig 2 (12)). A green LED illuminates signifying that the Sonde is working.

Due to the high output of the transmitter the image is turned off whilst the sonde is turned on, due to interference caused by the high signal strength.

DISTANCE COUNTER (Variant 2 & 3)

The on screen distance counter provides an estimate of how much rod has been deployed, which can be used to establish the position of the camera head. The counter should be calibrated before cable deployment. The cable count can be reset to zero at any time to give a relative distance count, by pressing F12.

Before each operation the system should be calibrated with the Camera Head in the Rod guide and

the entire rod stored in the reel and pressing F11 on the keyboard. When starting a survey the counter can be zeroed by pressing F12.

Screen Titler Controls (Variant 3)

NOTE – When the keyboard is plugged in control of the meter counter switches to the keyboard from the Hub Plate. When the keyboard is disconnected control of the meter counter switches back to the Hub Plate.

F1-F10 -Text Pages, loads a text page, or toggles it off.

F11 -'CAL' function. Zero's the absolute count, and the relative offset. It should only be used with the entire rod on the reel.

F12 -'Zero' function. Updates the distance offset so that the displayed relative meterage will read zero at this point.

Control-C -Clears the text display and the current page from the memory.

To move around the screen use the arrow keys (up, down, left, right) and the backspace / delete keys.

Control-M -Cycles meterage mode, from metric, to imperial, to off, and back to metric.

Control-D -Types the diameter symbol.

Control-K -Types the degrees symbol.

Control-E -Types the euro symbol.

Please ensure that the keyboard is plugged in and disconnected whilst camera is powered off. If the keyboard isn't functioning correctly turn the camera off and back on again.

Wi-Fi (Variant 3)

Go to the google play store or APP store and search for "WIFI AV-HD" and install the APP (see logo for relevant APP) on the device.



The icon should now appear on your device.

Go to the Wi-Fi settings on your

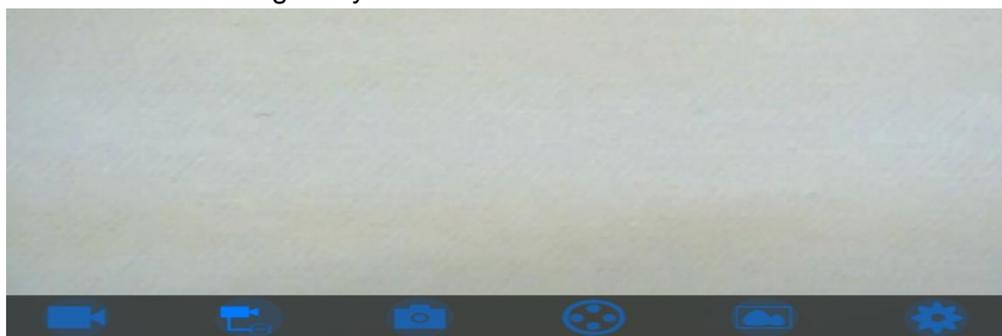
device and select WIFI AV (Default password: 12345678).

To view images remotely select the APP on your device. Only one device can be linked to the live view at a time.

Controls

- 1 Press to record video, red clock logo will appear in the top left when view is being recorded
- 2 Not Used
- 3 Press to save still image
- 4 Press to view recorded video files
- 5 Press to view still images
- 6 Settings allows the password to be changed

Zoom in and zoom out function can be used if the mobile device allows.



1

2

3

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Wi-Fi APP NOTE

The WIFI module in the DS100 is by **DEFAULT** set for use with iPhone SSID:WIFIIV (this is the name of the **WiFi** connection as seen on the mobile device).

If required the mode can be changed to operate with any ANDROID handset by following the instructions below:

The DS100 monitor should be powered on during this process.

On the back of the DS100 to the right hand side of the product label is a small hole. Using a pin, or similar instrument, press the internal switch 4 times to ENABLE SSID:WIFIIV-SAMSUNG (this is the name of the **WiFi** connection as seen on the mobile device).

Check your mobile device to see that WIFIIV-SAMSUNG is available.

To return to iPhone press the internal switch and hold for a **minimum** of 10 secs.

Check your mobile device to see that WIFIIV is available.

IT IS RECOMMENDED THAT THE RESET HOLE BE COVERED USING ONE OF THE LABELS SUPPLIED TO PREVENT MOISTURE AND DUST INGRESS.



Wifi reset switch

CHARGING THE BATTERIES

***N.B** When the battery charger is plugged in ensure the AC adapter is **NOT** attached as damage to the equipment may occur.*

To Charge the System Battery

The power switch on the Monitor should be switched off, and the charger three pin plug connected to the socket on the underside of the monitor (fig1(4)). The charger can then be plugged into a suitable mains outlet and switched on. The charger will display a red LED until fully charged then it will display green.

Power Options

***N.B** When the AC adapter is plugged in ensure that the battery charger is **NOT** attached as damage to the equipment may occur.*

INITIAL SET-UP

Connections

Connect short spiral cable (straight connector) to the 4 pin socket located on the back of the Display Handset. Connect the second connector of the spiral cable to the 4 pin socket on the Camera.

Insert SD card into Display Handset and replace cover to prevent water and dirt ingress.



DS100 OPERATING FUNCTIONS

Multi-Functional Operation Panel

The DS100 can be controlled from a single panel. See the button configurations on the right for details.



Preview Mode

Use these buttons to select the camera Channels.



Settings Mode

Use these buttons to adjust the DS100 settings prior to creating images or video.

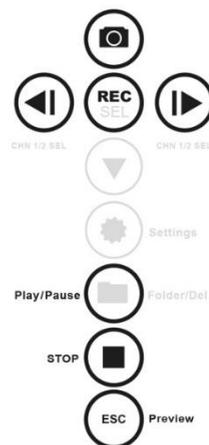


Image and Video Mode

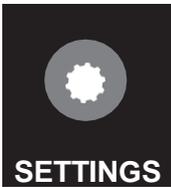
Use these buttons to take still images or video and to play and pause after file selection



Folder and File Mode

Use these buttons navigate and select folders and files.

DVR SYSTEM SETTINGS



Power-up the DS100 by switching it on.

On power-up the 'splash screen' briefly appears followed by the default screen.

Changing Default Settings

Press the 'Settings' button to access the set-up screens. To navigate through the screens, just press the 'Settings' button each time until you've gone through all the setting screens.

To Change the settings on each screen:

Use the ▲ or ▼ to scroll up and down the settings

Use the ◀ or ▶ to make change to the settings

In each case, when complete, press the 'Settings' button to navigate to the next settings screen, or ESC to go back to the Preview screen where you can create videos or take images.



Time Settings: Screen 1

Navigate and change the settings as per the above instructions.



Channel 1 Video Settings: Screen 2

Frame Rate: 5/15/30 fps selectable. The higher the frame rate, the bigger the file memory.

File Save: Set to 'Yes' to save to SD Card.



Channel 2 Video Settings: Screen 3

Frame Rate: 5/15/30 fps selectable. The higher the frame rate, the bigger the file memory.

File Save: Set to 'No'.



Record Settings: Screen 4

Quality: High/Middle/Low selectable - the higher the quality the bigger the file memory.

Overwrite: Overwrite automatically once SD Card memory is full.

Section: 5/15/30/60 minutes for each record file.

REC Mode:

Manual: Start/Stop recording manually.

Imotion: Start recording by motion detection.

Auto: Start recording by DVR on power-up.



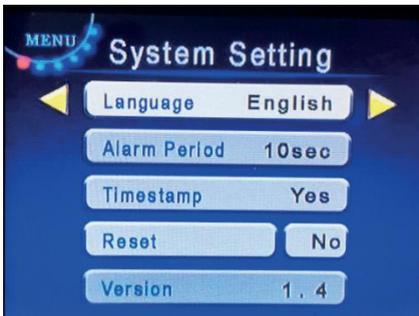
SD Card Settings: Screen 5

Navigate and change the settings as per the above instructions.

Size: Displays SD Card capacity.

Remain Size: SD Card memory available.

Remain File Num: Approx number of recorded files left on SD Card. Format: Format SD Card on recording.



System Settings: Screen 6

Navigate and change the settings as per the above instructions.

Language: Select language.

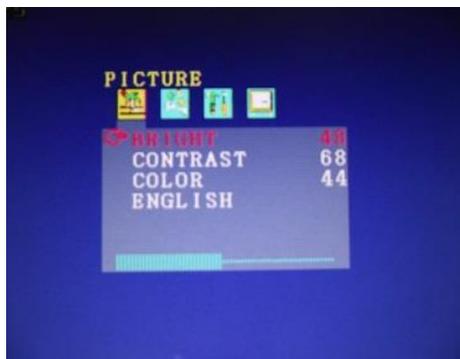
Alarm Period: Set the alarm time frame, set by motion detection. Time Stamp: Set time and date to appear on video and images. Reset: Reset to default settings.

Version: Software version number.

USING THE DISPLAY CONTROLS

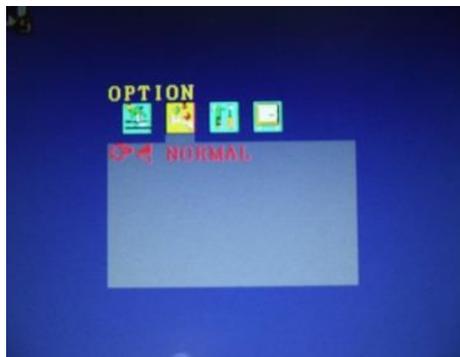
The display controls are on the right hand side of the Display Handset and are as follows:

a. To change **PICTURE** settings press **Menu** once then **Sel** to select either Bright, Contrast, Colour or Language. Use **Up/Down** key to adjust level or language.

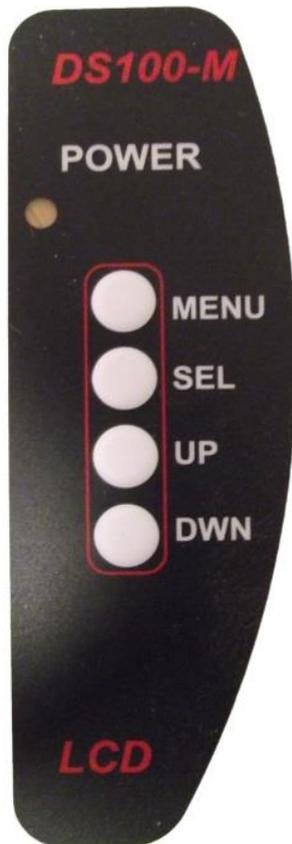


b. To flip screen image

Press **Menu** twice then **Up/Down** to select picture orientation.



N.B **SYSTEM** and **CLOCK** menus are not currently utilized.



USING THE DVR SETTINGS – VIDEO/STILL IMAGE CAPTURE

Channel Settings



Whilst in 'Preview' mode, select the recording channel the camera is connected to by pressing either of the 'CH 1/2 SEL' (Channel Select) buttons.

Still Image Capture

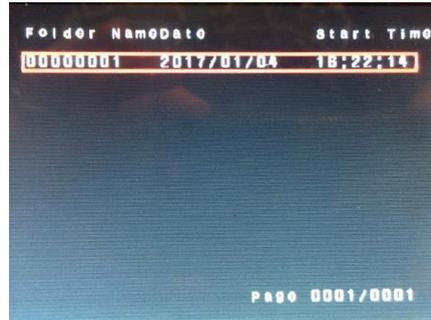


Whilst in 'Preview' mode, to capture a static image press the 'Image' capture button.

Still Image Viewing



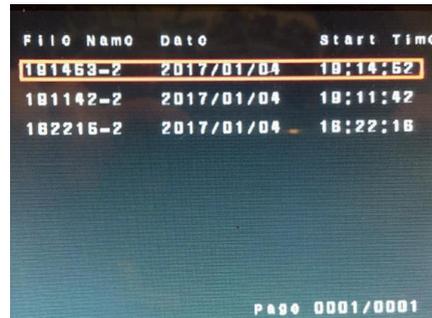
Whilst in 'Preview' mode, to view static image files, first access and view the folder on the SD Card by pressing the 'Folder' button.



Use the ▲ or ▼ to scroll up and down if there is more than one folder.



Press the 'SEL' (select) button to select the folder and to view the files within the folder.



Use the ▲ or ▼ to scroll up and down through the files.



To delete files and folders press the 'Folder' button twice.

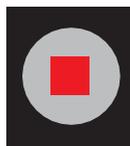


Press the 'SEL' button to select the file and to view the image.

Manual Record Video



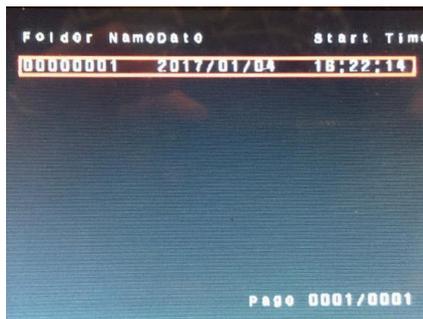
Whilst in 'Preview' mode, to record video press the 'REC' (record) button.



To stop recording press the 'STOP' button.

Viewing Recorded Video

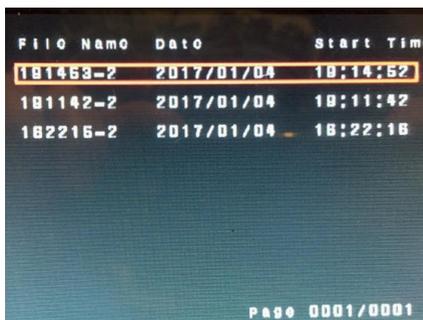
Whilst in 'Preview' mode, to view record video files, first access and view the folder on the SD Card by pressing the 'Folder' button.



Use the ▲ or ▼ to scroll up and down if there is more than one folder.



Press the 'SEL' button to select the file and to view the image.



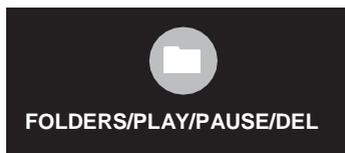
Use the ▲ or ▼ to scroll up and down through the files.



To delete files and folders press the 'Folder' button twice.



Press the 'SEL' button to select the file and to view the video.



To play video press 'PLAY' button. Use this button to also 'PAUSE' video.

To 'FAST FORWARD' or 'REWIND' use ◀ or ▶.

CHARGING THE BATTERIES

N.B. When charging the batteries ensure that the AC adapter is NOT plugged in, damage to the equipment may occur.

The internal and auxiliary external battery are charged by the same charger supplied with the system.

To Charge the Internal Battery

The power switch on the Handset should be switched off, and the charger 3 pin plug connected to the socket on the underside of the Handset. The charger can then be plugged into a suitable mains outlet and switched on. The charger will display a **Red** LED until fully charged then it will display **Green**.

To Charge the Internal Button Battery

The power switch on the Handset should be switched off, and the charger 3 pin plug connected to the charging socket on the underside of the Handset. The charger can then be plugged into a suitable mains outlet and switched on. Turn the DS100 Handset on and charge for 6 hours. After 6 hours turn the DS100 Handset off and remove the charger. The internal Button Battery which runs the internal clock is now fully charged.

THIS MUST BE DONE ONCE A MONTH.

POWERING THE SYSTEM FROM AN AC ADAPTER

N.B When the AC adapter is plugged in ensure that the battery charger is NOT as damage to the equipment may occur.

The System can be powered from an AC adapter in the event that the battery is exhausted or if prolonged surveillance is being carried out from a stationary position.

A 12V AC adapter can be plugged into the power jack on the back of the Handset to supply power to the system.

QUICK TIPS

If you see a “Stick Figure” symbol in the bottom right corner of the screen the unit has been switched to Imotion and will start recording when there is movement in front of the camera lens. Refer to **DVR System Settings Screen 4** to change.

If the recorder starts to record automatically at system power on the recorder has been switched to Auto. Refer to **DVR System Settings Screen 4** to change.

Blue Screen – If you encounter a **Blue** screen and the LED on the LCD Control panel is **Red**, the screen has been switched into a standby mode. To switch back press the **SEL** button on the LCD control panel once!

SPECIFICATIONS

CAMERA

Exposure Control	Electronic
Lens	F3.6 (fixed)
Mode	Colour
Sensor	1/4" PAL CMOS
Resolution	700 TVL
Sensitivity	0.01 LUX
Illumination	3 x 1 watt LEDs
Waterproof Capacity	IP67
Dimensions	26mm Diameter
Cable Diameter	6.7mm

LCD

LCD size	5.0 inch(Diagonal)
Driver element	a-Si TFT active matrix
Resolution	640X480
Display mode	Normally White, Transmissive
Dot pitch	0.0529(W)X0.1587(H) mm
Active area	101.568(W)X76.176(H) mm

Wi-Fi

Transmitting Frequency	2400MHz-2483.5MH
Transmission Distance	Up to 150m
Frame rate	30 fps
Encryption mode	WPA2
Sonde Frequency	33KHz

SYSTEM

Power Supply (internal)	Battery Lithium 11.1V 4400maH or 12v AC adapter
Voltage	12V DC
Power Consumption	≤1200mA
Operating Temperature	-10 to +55°C
Weight	10 Kgs
Dimensions	52 x 46 x 27cm

