



# CAM pro2

## PIPELINE INSPECTION SYSTEM

### OPERATOR'S MANUAL

- Rugged stainless steel housed 1.68" dia. self-leveling color camera
- 8" wheels for easy transport and maneuverability
- 12.1" Daylight readable display
- Built-in Battery Cradle



**For Safe and Effective Operation:  
Before operation of your system, it is advised  
that this manual be read carefully.**

*Electric Eel*®



**ELECTRIC EEL MANUFACTURING CO., INC.**

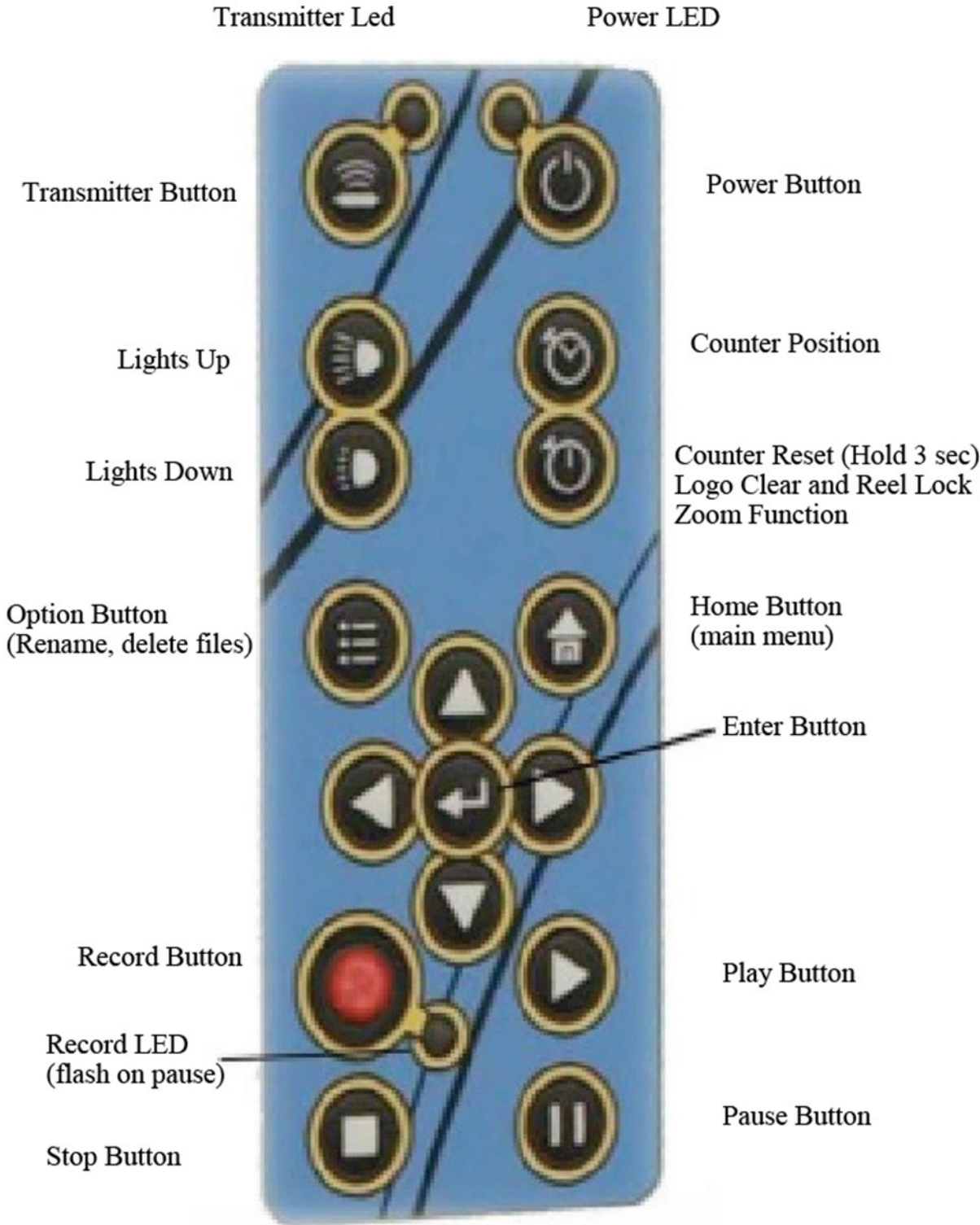
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Since 1939

# Key Functions



## Quick Start



**All eCAM units have a built-in Battery Cradle\***  
*(Battery Not Included)*

\*Accepts a Milwaukee M18 or equivalent battery. Allows easy access to power for remote field work or where electricity is not available. Battery life is 6-7 hours.

Mount control box on top of reel or place on a level surface.

Open case and plug in the keyboard, flat side on purple connector up.

Insert USB stick into port and connect the patch cable from the reel

If battery is low then plug the power supply into the jack on the front panel or the jack on the side of the box.

Press the power button and turn the unit on. (Look at Key Functions in front of manual)

After the loading screen, the main navigation screen will be shown. A message should briefly appear at the top of the screen saying "USB DISC 1 PLUG IN."

A logo, reel type and serial # screen will appear. Use the space bar on the keyboard to cycle through the different reel types. Once your reel type is displayed, press the Counter Reset button on the keypad to remove the logo and lock in your reel type. The unit will always default to the last reel used.

To record, press the large red record button on the keypad.

To reset the footage counter press and hold the Counter Reset button for 3 seconds.

To move the counter display, press the Counter Position button. Each time it is pressed it will move to a new location on the screen.

To activate the ZOOM, press the reset button quickly. Each time it is pressed it will zoom in more. Keep pressing until it returns back to normal 1x. Use the arrows to move picture.

To add text to your video, press keys F1 through F8 or Pg1 through Pg8 to produce a text page.

Use the keyboard to type your message. (See keyboard functions in manual.)

To hide the text pages, press the F9 key or Hide Pg.

To activate the microphone toggle the Pause Break/MIC key on the keyboard. A symbol next to the footage counter on the monitor will also change from a speaker to a microphone.

The system always defaults to microphone off on start up.

To view your recording, press the home button on the keypad.

Press the left arrow button to navigate to Browse USB Stick.

Press the enter button and the file menu will appear.

Highlight USB and press enter. Your USB stick should now be highlighted. Different types of sticks have different names.

Press the enter button.

Use the up and down arrow buttons to highlight folder /REC/.

Press the enter button.

Use the up and down arrow buttons to select your video. It will automatically start playing.

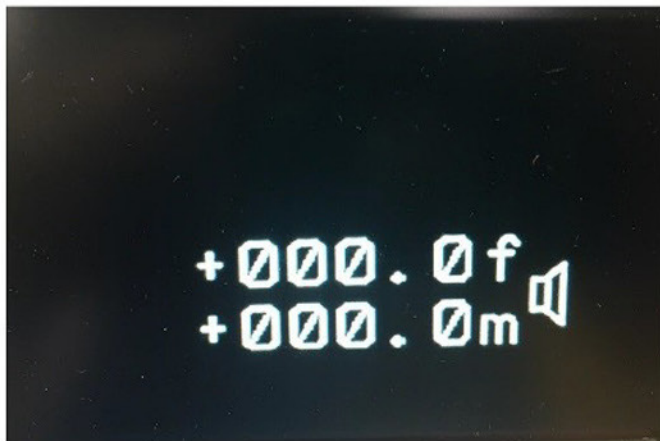
Press the Home button to stop playing the video file and return to the main menu.

**\*NOTE:** Please format USB sticks (**even new ones**) before using in system. If not formatted, it may damage the recording board.

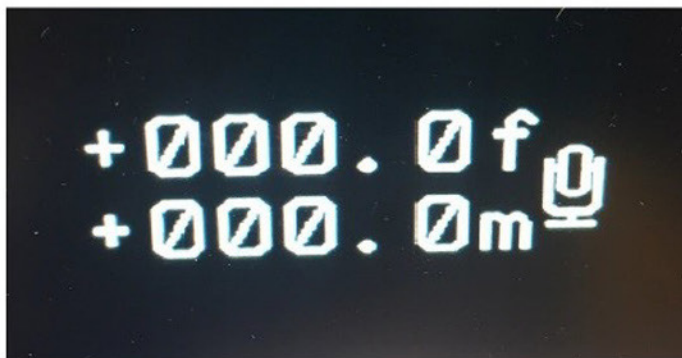
# Screen Displays



Light bar at the bottom of the screen shows light intensity.



Footage counter, speaker on.



Footage counter, microphone on.

# Recording and Viewing Files

## Home Menu

Power on the Pro 2 system and you will see the logo loading page. After a few seconds the system will enter the guide menu. This menu can also be found by pressing the Home button on the keypad.

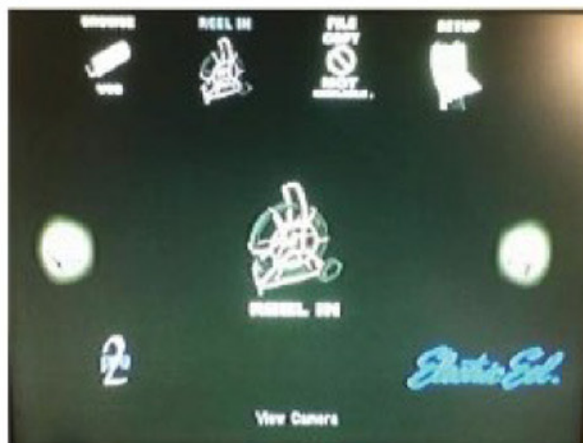
## Guide Menu

1



Press the right arrow key to select REEL IN.

2



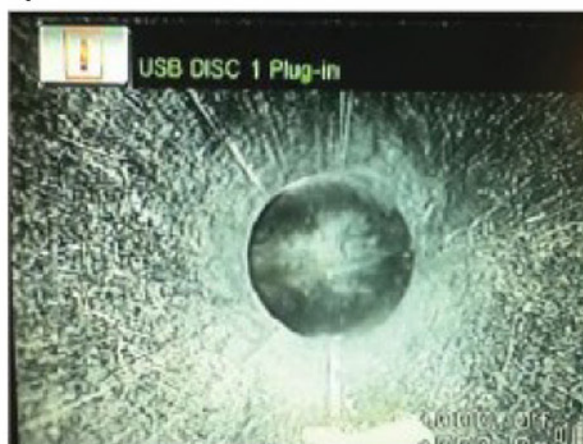
Use the space bar on the keyboard to cycle through reel types. Then press the reset button on the keypad to lock in the reel and clear the screen.

3



Press the enter key to view camera. This may take up to 20 seconds to initialize.

4



Insert USB stick into USB port and wait for unit to detect the stick.

# Recording Files

Press the large red Record button on the keypad to start your recording. Watch for the red record symbol in the top left corner of your screen. To activate the built in microphone, toggle the (Pause Break/MIC) key on the top right corner of the keyboard.

The symbol on the screen next to the footage counter will change for a speaker to a microphone.


To shut off the microphone, toggle the (Pause Break/MIC) key again.

To pause a recording, press the Pause button on the keypad, watch for the pause symbol on the top of the screen.

The record LED will flash when recording is paused. Press the Pause key again to return to recording.

To stop a recording, press the Stop button. Watch for the stop symbol at the top of the screen.

# Viewing Files

Press the Home button on the keypad or press play  this will take you to the navigation menu.

Press the left arrow button to move to (Browse USB Stick).

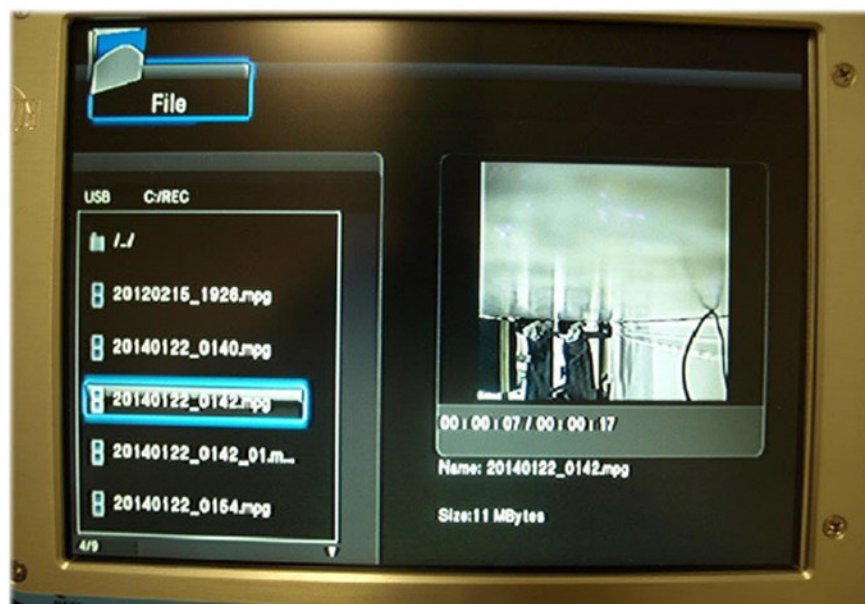
Press the enter button between the arrow buttons to see the file menu.

Highlight USB and press enter. You will now see your USB stick highlighted. Stick names may vary.

Press enter to see the files on your USB stick.

Highlight the folder titled /REC/ and select preferred file. Video will start automatically.

The recordings are numbered by date. Use the up and down arrows to scroll to the file you want.



# Renaming a File

Select the file you want to rename in the browser menu. Press the Options button on the keypad and a small menu will appear on the screen. Highlight rename and press the enter button. A keyboard will appear on the screen. Use the arrow keys on the keypad to navigate the screen. Press the enter button to select a letter or number for the name. When you are finished typing the name highlight the OK key and press enter.



# Deleting a File

Select the file you want to delete in the browser menu. Press the Options button on the keypad and a small menu will appear on the screen. Highlight Delete and press enter. Confirm the delete by highlighting OK and press enter again.

**Now press the Home button to return to the main menu.**

# Record Format

Video Rec.

Recorded Format: MPEG/VLC to play

Resolution: 720x576@25fps(PAL), 720x480@30fps(NTSC)

5 adjustable quality levels: HQ/SP/LP/EP/SLP

Support TV system: NTSC/PAL/SECAM

Audio Rec.

MP3 (.mp3)

2 channels: 16KHz, 32Kbps, 24KHz, 64Kbps, 32KHz, 96kbps

**Record time: 2GB per hour on HQ setting.**

## Keyboard Functions

The keyboard can be used to type the information into the recording. Plug in keyboard and press a page key (F1 – F8/Pg1—Pg8). Type on-screen like a normal keyboard. Use the arrow keys to move cursor around screen. Use the backspace key to remove the letters from the screen.

**F1/Pg1** – Brings up page 1

**F2/Pg2** – Brings up page 2

**F3/Pg3** – Brings up page 3

**F4/Pg4** – Brings up page 4

**F5/Pg5** – Brings up page 5

**F6/Pg6** – Brings up page 6

**F7/Pg7** – Brings up page 7

**F8/Pg8** – Brings up page 8

**F9/Hide Pg** – Hides page and recalls last page viewed

**F10/Del Pg** – Deletes page

**F11/BLK** – Changes background behind text

**F12/Save Pg** – Saves what is displayed on the viewed page into the memory

Example – A company name and address can be saved on a page into memory then shown at the beginning of each survey when that page is displayed.

**Space Bar** – Skips a space

**Backspace Key** – To move backwards on line and delete letters

**Arrow Keys** – Move cursor around page

**Enter Key** – Toggles reel selection **only** at start up before reset key is pressed. Then the last setting is saved to memory.

**Escape Key** – Toggles overlay contrast

**Pause Break/MIC** – Toggles **speaker** and **mic** on and off. Speaker symbol on screen means speaker is active and mic is off. The system always defaults to mic off on power up.

## Charging Circuit

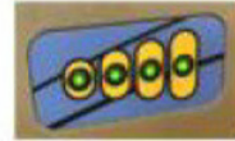
**It is best to charge the battery with the unit off.**

### CHARGING THE BATTERY

Use only the power supply that came with the unit. A different power supply may damage the unit or not allow charging of the battery.

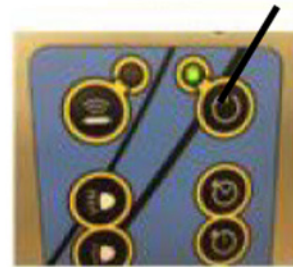
# Lithium Battery Operation Manual

To check the status of the battery, press the power button once quickly. The green lights will indicate battery level.



Power Button

To turn on the battery, press and hold the power button. The green light will turn on.



To turn off the battery, press and hold the power button until the green light goes out.

When the battery level becomes low, the alarm will sound. Press the power button to silence the alarm. Then press and hold the power button to turn off the battery.

To charge the battery, plug the power supply into the port on the side or front of the case.

When the battery is charging, the green lights will flash in sequence. When charging is complete, all four green lights will stay on.

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

# Wifi Information and Instructions (If Equipped)

## Product Features

- WiFi transmission, support iPhone, iPad, and Android phone
- Transmission distance with no obstacle is around 100 feet
- The user terminal shall support Android 2.2 or above, and iOS shall support Version 4.3 or above.

## Operations for Android System User

### *Installation APP software:*

1. GOOGLE PLAY store.
2. Search **HATHORN-PRO** software, and download.
3. Install the APP software:

### *Connection WiFi:*

1. In the settings menu open WiFi. Connect to sewer camera by selecting "**Hathorn XXXX**" in the WiFi list.

The default password is: **12345678**

2. Open the app and the camera video should appear on the screen.

**\*REMEMBER YOUR PASSWORD\***

### ***Installation APP for Apple Device If Equipped:***

1. Turn on the intelligent mobile device terminal and enter APP store.
2. Search “**HATHORN-PRO**“ software and download.
3. Install the APP software.

### ***Connection WiFi:***

1. In the settings menu open WiFi. Connect to sewer camera by selecting “**Hathorn XXXX**” in the WiFi list.

The default password is: **12345678**

2. Open the app and the camera video should appear on the screen.

***View the Video:*** Open the app, and if the connection between the WiFi of the camera and the intelligent mobile device terminal is successful, the icon will be highlighted, and the images transmitted from the WiFi camera can be seen in the APP.



**Also:** Please note that all pictures and videos are stored in the photos folder of your device.

**Electric Eel**  
**SEWER CAMERA LIMITED WARRANTY**  
**[www.electriceel.com](http://www.electriceel.com)**

1. Limited Warranty Coverage: This Limited Warranty consists of a Warranty, which provides one full year of coverage under our manufacturer's standard new product warranty. Electric Eel warrants to the original purchaser of the product herein registered that the product shall function properly for a period of one year from the original date of purchase under normal and proper usage. This one year Limited Warranty covers malfunctions resulting from defects in materials or workmanship only. If the Electric Eel product fails to function properly under normal and proper usage due to defects in materials or workmanship during the period of this Limited Warranty, Electric Eel will repair, adjust or replace defective parts as Electric Eel deems appropriate.

This Limited Warranty is only available to the original purchaser; it is not transferable under any circumstances.. This Limited Warranty applies only to Electric Eel sewer camera systems that are distributed in the United States and Canada and purchased from an Electric Eel authorized dealer. This Limited Warranty does not apply to Electric Eel brand products imported and sold in the U.S.A. by unauthorized dealers, distributors or other sellers.

2. Not Covered: This one year Limited Warranty does not cover damage or malfunctions stemming from other than normal and proper usage. This Extended Limited Warranty also does not cover the following: (a) intentional or accidental misuse or abuse (including, but not limited to, damage to push rod from excessive force), (b) failure to follow operating or maintenance instructions, (c) repairs by any individual or entity other than an authorized Electric Eel Repair Center, (d) product components, accessories or consumables not manufactured by Electric Eel (e) product tampering, (f) droppage, (g) battery leakage if equipped, , (h) media cards. Electric Eel's responsibility under this Limited Warranty is limited to the repair, adjustment or replacement of defective parts as determined by Electric Eel in its sole discretion. Routine cleaning and normal cosmetic wear and tear are not covered by this Limited Warranty.

**3. Limitation of Liability:** By your acceptance of this limited warranty, you agree that Electric Eel shall have no liability to you for any damages resulting from delay or loss of use of the product in service or repair. Electric Eel shall have no liability for general, special, incidental or consequential damages arising out of breach of this limited warranty. Electric Eel assumes no responsibility for warranties either expressed or implied beyond that which is contained herein.

**4. Obtaining Service:** If the product requires service, please pack it carefully using ample packing material in order to prevent damage during shipment and send prepaid to:

Electric Eel Manufacturing Co.  
501 West Leffel Lane  
Springfield, Ohio 45506  
USA

And include proof of purchase of the product. The product can also be shipped to the dealer from which it was purchased. When service is completed, your product will be returned to you postage collect. Electric Eel is not responsible for damages or loss incurred in connection with mailing and/or transportation of product. In your package, please include the following:

1. A copy of the sales receipt showing date and place of purchase.
2. All accessory items that may be related to the problem.
3. A detailed description of the problem.

# **ELECTRIC EEL WARRANTY REGISTRATION**

## **Ecamm Pro 2 (Self-Leveling Color Camera Pipeline Inspection System)**

**Control Unit Model Number:**

**Control Unit Serial Number:**

**Camera Serial Number:**

**Name:**

**Address:**

**City/Town:**

**Province/State:**

**Postal Code/Zip Code:**

**Telephone Number:**

**Date of Purchase:**

**RETURN TO:**

**Electric Eel Manufacturing Inc.  
ATTN: Warranty Registration  
P.O. Box 419  
Springfield, OH 45506**