

CAM ace 2SL

Self-Leveling Color Camera Video Pipeline Inspection System OPERATOR'S MANUAL



**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.

501 West Leffel Lane, Springfield, Ohio 45506

Call Toll Free: (800) 833-1212 (937) 323-4644 FAX: (937) 323-3767

www.electriceel.com

Proudly Made in The USA Since 1939

THANK YOU....

...for purchasing the Electric Eel Ecam Ace Inspection System.

This manual is provided as a reference for the use of the camera, control unit and other components of the system. In a continuing effort to maintain quality and ease of use, we hope this will help you to use the equipment efficiently and most importantly, safely, for a long product life.

Reading this manual is not mandatory; however, as you begin to use the equipment there are certain procedures that can help eliminate minor problems.

Disclaimer:

Neither Electric Eel Manufacturing Co, Inc., its distributors, nor representatives can guarantee that the camera will not become snagged or stuck within the pipe. It is up to the operator to ensure the equipment is in good working order, conditions are suitable and trained personnel perform the inspection.

About the Inspection Camera

- The camera, although manufactured for the harsh environments in which it will be used, should be treated carefully as damage may occur if dropped or "buted" severely against the pipe or any other hard surface. The stainless steel camera housing is made to protect the camera and electronics to a large extent. The camera, housing and front viewing lens should be checked completely after each use for signs of damage, and if required, should be corrected prior to further use.

Electric Eel Mfg. Co., Inc.

- The camera should always be cleaned and checked after every use as dirt, grime and grease can cause unnecessary problems such as failure of the camera seals and leakage.
- The camera lens, front nose piece and lights should be cleaned and checked after every use for possible damage to the lens or light covers and to prevent a build up of dirt and grime which may cause a degradation of the video picture.
- Your Electric Eel camera will operate on 120V AC Line Voltage. When using 120 volts AC, care should be taken to ensure that it is plugged into a properly grounded receptacle to prevent damage to the unit. If the intended receptacle is not properly grounded, do not use it and look for another one.
- The camera should not be used in wet locations or in the rain, as moisture may cause damage to the unit.
- If the CCU does not seem to be operating properly or you suspect a problem with the electronics, do not operate it. Please call your local representative or Electric Eel for further assistance.

Sonde Transmitter (512 Hz)

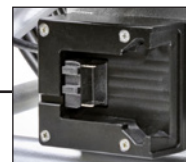
Your system includes a SONDE transmitter. It will normally be located in the camera gooseneck behind the camera. When the power supply is connected, the sonde transmitter will be automatically activated (will start sending a signal that can be picked up by a locator/receiver such as the **Electric Eel LF2000**). This transmitter helps to pinpoint the camera location underground if digging is required.

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.

CAM ace2sl

OPERATING INSTRUCTIONS

- Plug in 12 volt power supply to AC outlet, the green light on the power supply should be on.
- Plug the other end of the power supply into the DC jack on the reel hub. The camera lights should come on.
- Press the **RED** button on the monitor panel to turn on the LCD screen. The controller will automatically switch to CAMERA VIEW and the screen will go blank for 10 seconds.
- Insert a USB stick into the USB port located on the right side of the panel. (Watch screen to see the USB stick has been detected)



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.

Footage Counter / Sonde Operation:

- Push the **RED** button located on the reel hub quick to move the counter off and around the screen.
- Hold it for 3 seconds and the count will flash, let it go and the count will reset. Keep holding it for 5 seconds and the sonde will come on and it won't reset the counter.
- A visual sonde shows on the screen. Hold it for 5 seconds again and it will shut off the sonde.

Continued >>>

TO RECORD: Press the large **RED** Record button.
(Watch for Record symbol on screen) The Record light will also come on.

TO PAUSE RECORDING: Press the Pause button.
(Watch for Pause symbol on screen) To stop the Pause, press the Pause button again. (Watch for Record symbol on screen)

TO STOP RECORDING: Press the Stop button.
(Watch for Stop symbol on screen) Once the recording is stopped, it is automatically stored on the USB stick.

TO VIEW A VIDEO: Press the Home button, then use the right and left arrow keys to navigate to VIDEO FILES, press the Enter key. USB should be highlighted, press Enter. The name of your USB stick should be highlighted, press Enter. Use the up and down arrow keys to navigate to the folder named /REC/, the unit will automatically create this folder to store your video files, press Enter. Use the up and down arrow keys to find the file, then press the Play button to play the video. Press the Stop button to stop the video. While you are in the view file menu, you can also rename or delete a video file by pressing the OPTIONS button and following the on-screen instructions.

To return to **CAMERA VIEW** press the HOME button and then the right arrow key, then press Enter.

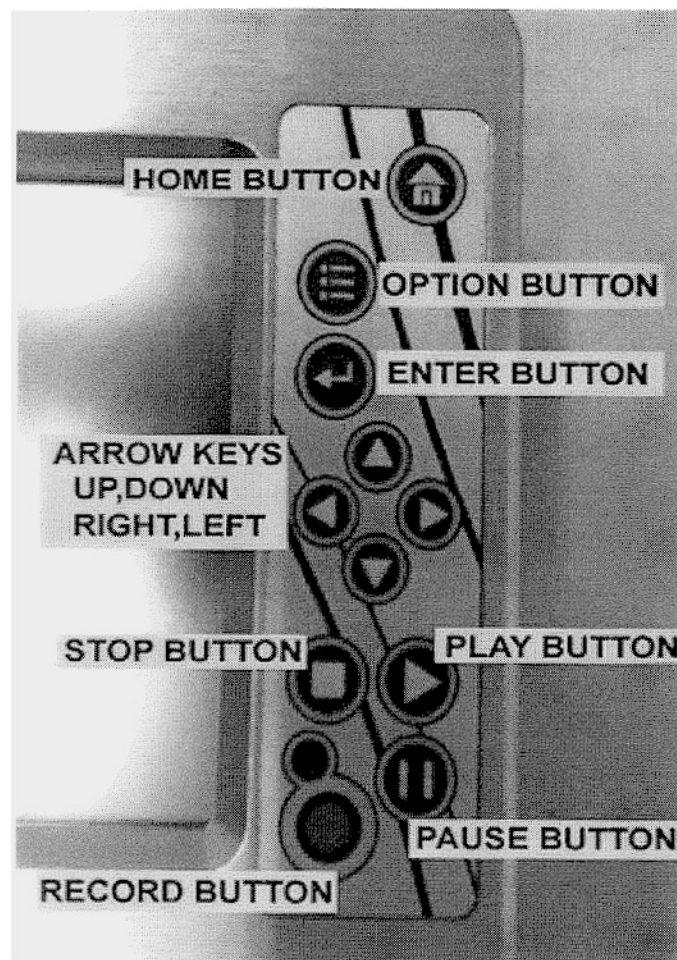
To Power Off the unit simply unplug the power supply.

The logo for Electric Eel, featuring the brand name in a blue, cursive script font with a registered trademark symbol. Below the logo is a decorative horizontal line consisting of a series of red diagonal slashes.

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800-833-1212 www.electriceel.com

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- To return to CAMERA VIEW, press the HOME button and then the right arrow key, then press enter.
- To power off the unit, simply unplug the power supply.



Setting Up the Ecam Ace for Use

1. Connect DC power plug to the jack on the reel hub, then plug the AC power plug into the outlet.
2. Press the power button on the monitor.

At this point you should have lights on the camera and a picture on the monitor. You are now ready to perform the inspection procedure.

Inspection Procedure

Depending on the size of the pipe you are inspecting, you may need to use a skid or sleeve assembly so the camera is centered or off the floor of the line. Care should be taken so the skids do not snag in the line.

Under normal operating situations, the camera is used with a smaller protective sleeve in 4' lines or a larger finned sleeve in 6" and larger pipes.

1. Slowly push the camera into the pipe and negotiate the camera into position to feed down the pipe making sure the flex neck does not kink or double back on itself.
2. Push the camera slowly and carefully during the inspection – taking note of the pipe condition for possible

hazards that may entangle or damage the camera on entry or retrieval.

3. When negotiating a corner, care should be taken not to butt the nose of the camera against the sidewall with any force. It would be better to let the camera “work” its way around the corner. If resistance is encountered when turning the corner and there is no visible signs of blockage, turning the push rod or pulling the camera back and forth slowly sometimes helps.

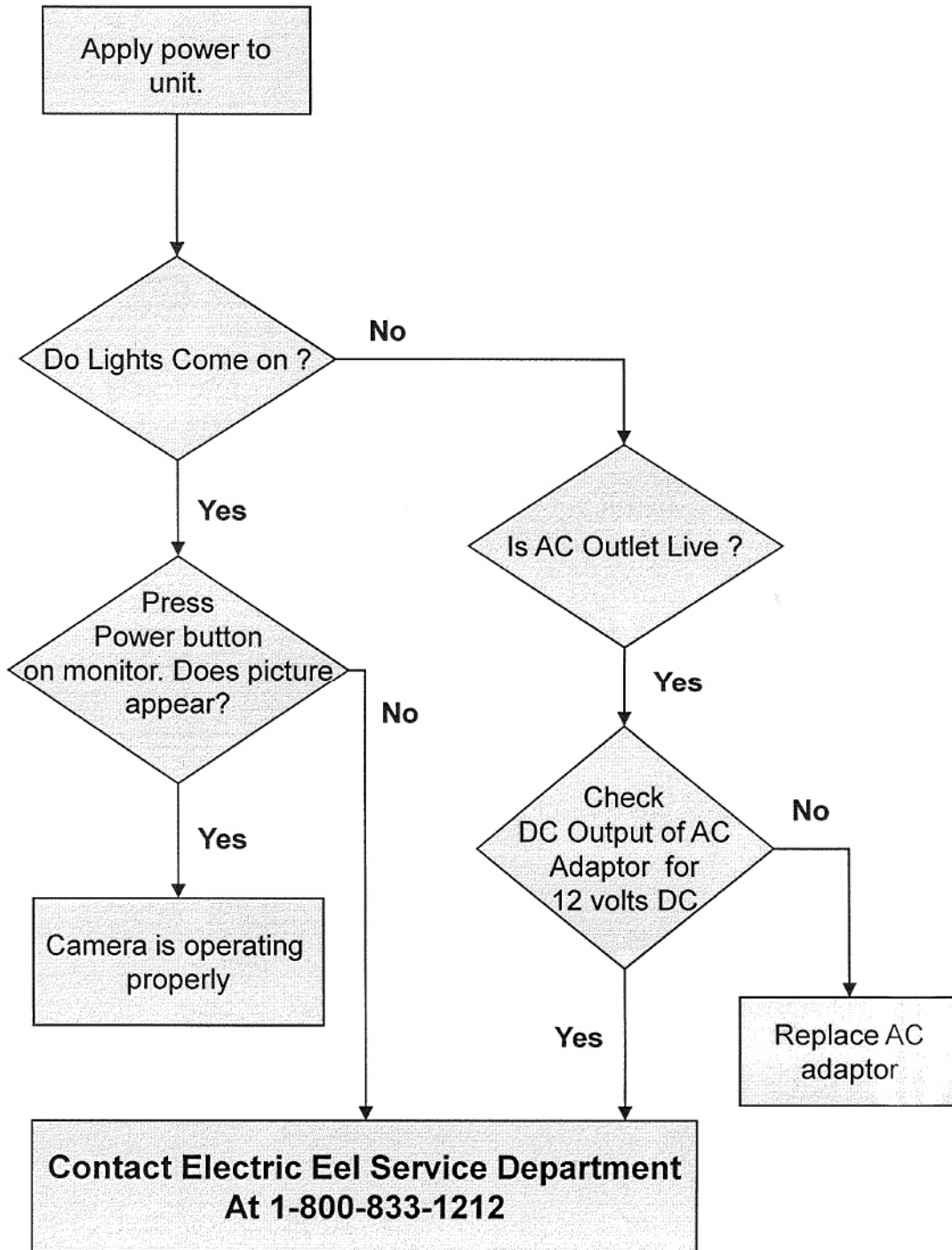
Should resistance become extreme, or the camera gets entangled or stuck, slowly push it back and forth to free it. Sometimes turning the push rod may also help. If the camera is visible, you may be able to free it with your hand or some other means.

Upon completion of the inspection and retrieval of the camera, it may be necessary to “manipulate” the camera around the initial bend (clean out) in the pipe with a pole or other device if required.

TROUBLESHOOTING:

For assistance in troubleshooting your Ecam Ace, please refer to the Chart on next page.

Troubleshooting



If a problem not shown on this chart is found, contact the Electric Eel service department for assistance.

MAINTENANCE

Inspection Camera

After every use, the camera should be cleaned and checked for possible damage that may have occurred during the inspection. External scuffing of the camera case is normal and should be of no concern.

The camera view port is made of sapphire and should be cleaned with a soft, damp cloth. Grease, dirt or scratches will affect the quality of the video picture and if the lens is badly scratched it should be replaced. (Contact our service department)

Light Head Replacement

The light heads for the Electric Eel cameras use LED lighting and cannot be replaced by the operator. These lights use very little power and unless physically damaged or extreme voltage is applied to them, should last indefinitely. If replacement is necessary, the camera should be returned to the factory.

REEL AND CABLE ASSEMBLY MAINTENANCE

The reel and cable assembly should be kept clean from dirt, slime, grit, etc. When rewinding the cable onto the reel after an inspection, it is good practice to use a clean cloth to wipe off any debris the cable may have.

WARNING!

WHEN CLEANING THE REEL ASSEMBLY, DO NOT USE A POWER WASHER. WATER MAY

GET INTO UNSEALED AREAS SUCH AS THE REEL HUB ASSEMBLY AND SLIP RING HOUSING CAUSING DAMAGE AND VOIDING WARRANTY.

REPAIR DEPOT INFORMATION

Repairs, warranty or otherwise, returned to **Electric Eel** must be submitted with a **"RETURN AUTHORIZATION SHEET"**.

To obtain a **"Return Authorization Sheet"** please contact:

Electric Eel Mfg. Co., Inc.
Contact: Rick Carpenter
501 W. Leffel Lane
Springfield, OH 45506
Toll Free: 1-800-833-1212
FAX: 1-937-323-3767
E-mail: info@electriceel.com
Website: www.electriceel.com

ALTERNATE AUTHORIZED REPAIR FACILITIES:

Utility Equipment Technology
Contact: Scott Odell
382 Stevens Rd.
Rockwall, TX 75032
PH: 1-972-771-8958
FAX: 1-972-772-8195
CELL: 1-214-435-2888

Dynamic Repairs
40 Arnot St., Unit 20
Lodi, NJ 07644
PH: 1-973-478-0893
FAX: 1-973-478-0895
E-Mail: dynamiccablerepairs@yahoo.com
Website: www.dynamicrepairs.net

FREIGHT

After completing your "Return Authorization Sheet", ship the item(s) PREPAID and INSURED to the appropriate service center. After the repair, the item(s) will be returned via the same method it was shipped to the repair center. (i.e. shipped in via UPS, returned via UPS. Shipped via air, returned via air)

RETURNED FREIGHT

Warranty: Pre-Paid as above
Non-Warranty: FREIGHT COLLECT

NON-WARRANTY CHARGES:

Electric Eel, Utility Equipment Technology and Dynamic Repairs will charge direct for non-warranty repairs and may require payment prior to repair.

Should you have any questions regarding service or sales, please contact **Electric Eel Toll Free at: 1-800-833-1212**

ELECTRIC EEL WARRANTY REGISTRATION

**Ecam Ace 2 SL
(Self-Leveling Color Camera with 5.4" LCD Monitor)**

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**

Electric Eel Manufacturing Co., Inc.