

# INSIGHT VISION



# IV2 TABLET



# OWNERS MANUAL



## **TABLE OF CONTENTS**

<b>Regulatory Statement.....</b>	<b>3</b>
<b>Tablet Hardware Software Warranty .....</b>	<b>4</b>
<b>General Warranty .....</b>	<b>5</b>
<b>General Overview.....</b>	<b>6</b>
<b>General Operation.....</b>	<b>7</b>
<b>IV2 Tablet App.....</b>	<b>10</b>
<b>Base Frame .....</b>	<b>15</b>
<b>Camera Head .....</b>	<b>17</b>
<b>Troubleshooting Guide .....</b>	<b>19</b>
<b>Technical Specifications .....</b>	<b>20</b>
<b>Contact Us .....</b>	<b>21</b>

**CAUTION:**

- To reduce the risk of injury, user must read operator's manual. Wear eye protection and observe all applicable safety precautions.

**NOTICE:**

- Use only the power supply recommended by Insight Vision. A non-approved 12 volt DC power supply may cause damage or render equipment non-operable.

**WARNING:**

- To reduce the risk of injury and prevent equipment damage. Do not remove the display cover on this command module without the supervision of a trained service technician.

## IV2 Tablet software, hardware and warranty policy:

### Warranty on IV2 Tablet Software Hardware

Insight Vision provides a one-year warranty on the tablet hardware if it is not operating properly due to manufacturing defects. This warranty excludes faults caused by viruses or software issues. Insight Vision makes no warranty for data or computer files either expressed or implied.

- Parts are only covered under warranty that fail due to manufacturing defects for the said parts and confirmed by the component manufacturer. Should the part fail because of mishandling of the computer equipment or inadequate subsequent servicing or failure from "fair wear and tear" the warranty becomes invalid.
- All tablet 'parts' supplied by Insight Vision are new and come with a one-year manufacturer's warranty from the date of the repair.
- Damage to a tablet system or its components supplied by Insight Vision caused by a power surge or spikes, including but not limited to mains power and telecoms connections or other unspecified sources e.g. voltage fluctuation, amperage fluctuation, water ingress are not covered under the warranty.
- Furthermore, the warranty does not cover for any loss or damage due to negligence, mishandling, accidents, theft, water flooding, war outbreak, electrical storms, fire outbreak, earthquakes, or any other act of God.

### Non-Compatibility Software and loading non-authorized software or malware and use

The customer understands and accepts that software applications other than the IV2 Tablet app are not covered under warranty. And that any other software or applications that affect or limit the use of the system is not the responsibility of Insight Vision. This may be due to the installation of the latest hardware or software or other applications. It is therefore the customers responsibility to service the tablet, reinstall, reconfigure or reset the computer if other applications and downloads are present.

### Backing Up Data

It is the customer's responsibility to make every possible effort to preserve the data and files, however it should be noted that there are NO GUARANTEES whatsoever that the customer data and files will remain intact after the repairs or modifications to the system by the customer or Insight Vision.

Charges will be incurred if Insight Vision must perform a factory reset. Insight Vision will not perform any backup procedure to collect or protect the customer files in order to complete the repairs.

We cannot be held responsible for the following during the repairs:

- Loss or corruption of data, files, information or records;
- Any losses attributed to the interruption to business activity while equipment is out of service for repairs
- Failure by the customer to follow our reasonable recommendations, instructions and advice to back up data
- Any losses you may suffer arising from anti-virus software
- Any loss considered to be unforeseeable
- Damage resulting from viruses or other malicious software that may have been transmitted during servicing or repairs and therefore escaped detection

### Confidentiality of Data Stored on Computer Equipment

- Insight Vision, its Employees and Agents agrees not to disclose to a third party any information or data files stored on or recovered from the Client's equipment during the service or repair.

## General Warranty

Insight Vision warrants to the original purchaser that should any of its products prove to be defective in material or workmanship in normal use, within one (1) year from the date of delivery, Insight Vision will, at its exclusive option, repair, replace or exchange the product or any of its parts.

**THIS WARRANTY IS SUBJECT TO THE FOLLOWING LIMITATIONS:**

1. The warranty does not apply to any product which has been subject to accident, negligence, alteration, abuse, misuse, overload, repair by anyone other than Insight Vision or its authorized representatives, or not maintained in accordance with the manufacturer's suggested maintenance schedule.
2. The warranty applies only to components manufactured by Insight Vision. The appropriate manufacturer's warranty, if any, shall apply to components not manufactured by the company.
3. The warranty does not apply to flex-link connectors, rod, LED light rings, cable, rollers, O-rings, and skids, or other parts, which are considered consumable. The replacement of these items is part of normal product maintenance.
4. The warranty shall not apply if the products are used or operated in any manner not consistent with their intended purpose.
5. The warranty is limited to repair or replacement of defective products and parts during the warranty period, and shall be the exclusive remedy. Insight Vision shall in no event have any other obligation or liability of any nature arising from the breakdown, malfunction, defect or other failure of the product, including, without limitation, any liability for service, maintenance, repairs, personal injury, property damage, loss of profits, loss of use or other consequential damages.
6. Any action for any claimed breach of this warranty shall be brought within one (1) year from the date of delivery of the product.
7. The purchaser must return the defective product, part or component to the Insight Vision factory at the purchaser's expense, properly and adequately packaged, with insurance and transportation pre-paid. Insight Vision will either repair or replace the defective product, part or component, at its option, and will return it to the purchaser at the customer's expense. In no event shall Insight Vision be liable for delay in repair or replacement and return under this warranty. Insight Vision will endeavor to effect appropriate repairs in the shortest time practical, with respect to the customer having beneficial use of their equipment.
8. Insight Vision neither assumes nor authorizes any person to assume any other liability or make any other warranty in connection with the products.
9. THIS WARRANTY IS EXPRESSLY GIVEN IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED. INSIGHT VISION EXPRESSLY DISCLAIMS ANY OTHER WARRANTY, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

## General Overview

### **SYSTEM MAINTENANCE REQUIREMENTS:**

The following maintenance procedures are recommended for all IV2 Tablet systems. Standard warranty policy dictates that components and accessories subject to wear and tear are not covered under the One (1) year warranty. Therefore, we strongly recommend that all systems be maintained according to the following procedures. Please be advised that Insight Vision will not allow warranty coverage for these items if these procedures are not followed.

### **IV2 TABLET COMMAND MODULE:**

The IV2 TABLET incorporates a USB port. If water, dirt or dust become present in this connector due to extreme conditions in the field, owners/operators will be responsible for the cleaning of the connector/port area using a Q-tip or other non-abrasive cleaning tool to remove the debris before inserting a memory stick or USB cable.

### **IMPORTANT:**

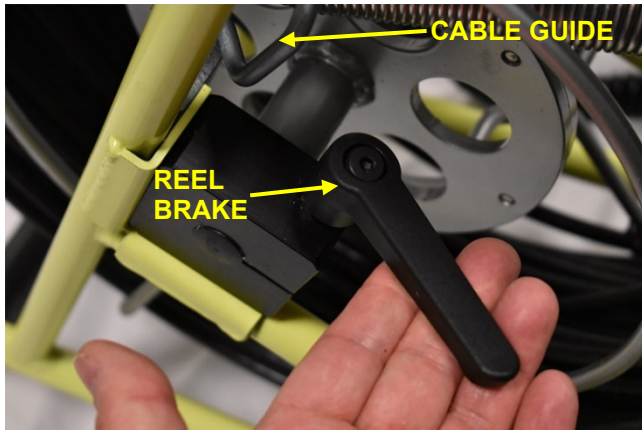
**Warning:** All Insight Vision command modules are not waterproof. Insight Vision assumes no liability for any water damage, caused directly or indirectly, by improper usage of the system. Damage to the system components, the internal mother board, and injury to you may result if water is applied to the command module. Water damage will not be covered under warranty and may be cause for voiding of command module warranty.

***FAILURE TO FOLLOW THIS PROCEDURE INVALIDATES ANY WARRANTY CLAIM AGAINST INSIGHT VISION FOR THE FUNCTIONALITY OF THE RECORDING DEVICE AND WARRANTY COVERAGE WILL NOT BE GRANTED.***

## General Operation

### Pre-operation Set Up for Inspection:

The IV2 TABLET reel should be placed on a level surface near the pipe needing inspection. The IV2 TABLET FULL SIZE Reel can be utilized in either a vertical or horizontal configuration. If utilized in the horizontal configuration, assure that there is clearance between the reel frame and the surface that your system is resting upon.



### How to Release the Brake:

Your IV2 TABLET reel has been equipped with a ratchet style reel brake allowing for adjustment of drum rotation. Lock the wheel by turning the handle clockwise and loosen the wheel by turning it counter-clockwise. Before removing pushrod from the IV2 TABLET reel the brake must be released, failure to do so will reduce the accuracy of the distance counter.

### How to Properly Push Cable Through Pipe and Retrieve:

Your IV2 TABLET reel is equipped with a cable guide to allow for easy spooling and unspooling of the push rod. Failure to use the cable guide may cause reduced performance of the system.

Centering skids are provided with the IV2 TABLET reel providing protection to the camera head and allowing for better viewing in varying size pipes. Reduced visibility may be noticed when not using a centering skid.

Skids can be attached and removed using the included allen wrench. (Caution: over tightening centering skid set screws may prevent the camera from self-leveling)

To operate your IV2 TABLET reel, firmly grip the pushrod and insert it into the pipe using a consistent motion. Water may be run through the pipe during operation to aid in pushing. When nearing an elbow reduce push speed and maintain a slow but constant speed while navigating the bend.

CAUTION: The IV2 TABLET reel has been designed as an industrial inspection tool but at no time should the camera head be used to clear obstacles or debris in the pipe. This may cause damage to the camera head and/or cable connections.



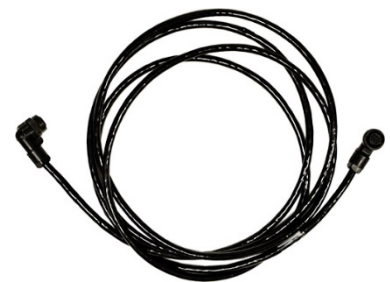
## Integrated Counter when Used with IV2 TABLET Command Module:

The IV2 TABLET reel has been equipped with a distance counter. This distance counter is activated when the unit is connected to the IV2 TABLET command module. The distance counter is designed to provide an estimated distance traveled within the pipe and should only be used to provide general guidance. For advanced location of the camera head, the IV2 TABLET reel is equipped with an always on 512Hz sonde which can be located with a locator.

## Connection to IV2 TABLET Command Module:

The IV2 TABLET reel connects to the IV2 TABLET command module with the video interconnect cable provided. This cable provides all data between the reel and command module. The IV2 TABLET is the primary power supply to the reel by utilizing an M18-style battery or 12V power supply plugin on the Command module. The Power Button on the back of the IV2 TABLET turns the unit on or off.

**INTERCONNECT CABLE**



**BACK OF IV2 TABLET**

## IV2 TABLET Powering Up the System

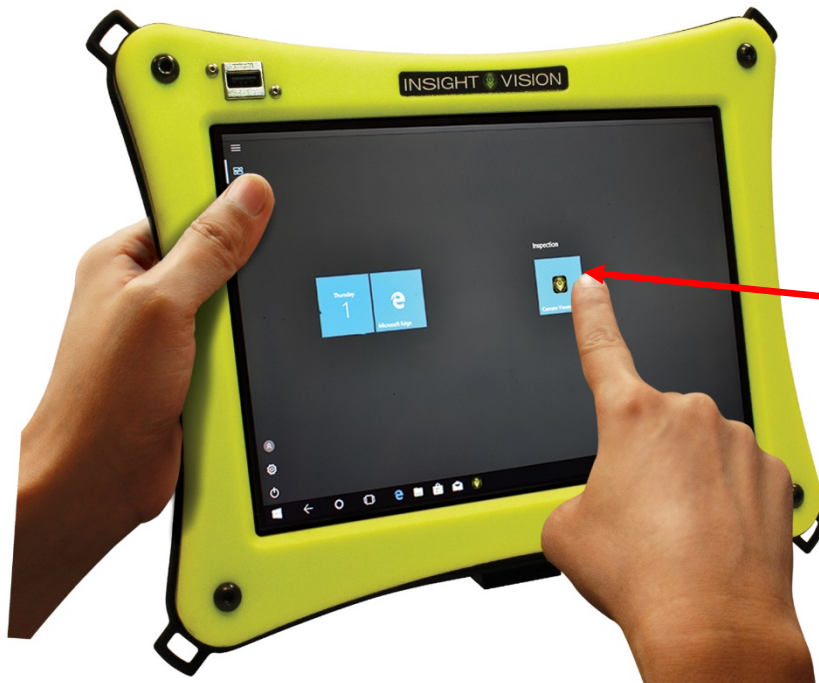
Insert Battery or connect AC/DC power to the back of IV2 TABLET module.



Press the Power Button on the back of the IV2 TABLET.  
The system will power on once the power button is pressed.



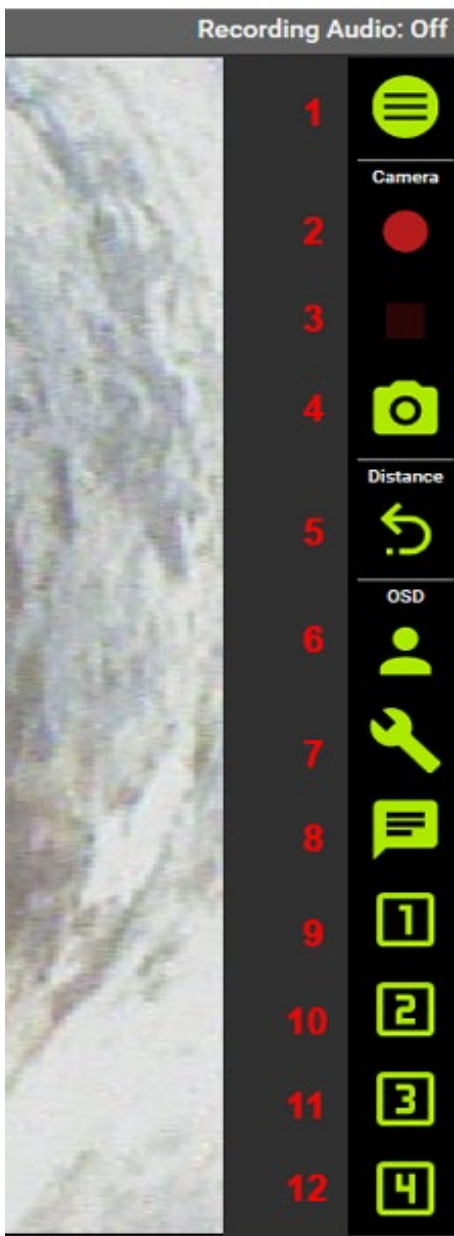
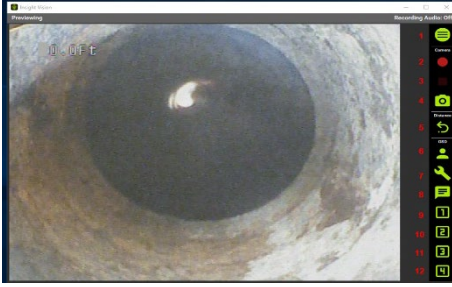
## IV2 Tablet App Control



Touch the  Icon on the Main Screen

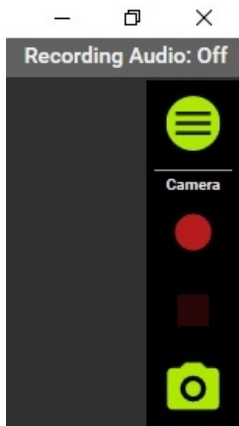
**NOTE** – you must be connected to the reel for the App to launch

## IV2 Tablet App Control

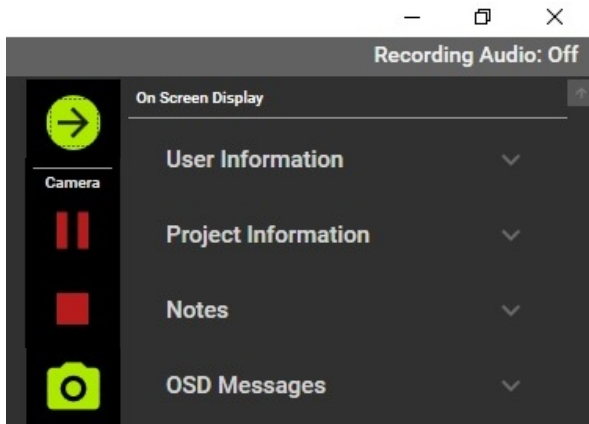


1. Expand/ Minimize Menu Window
2. Record/ Pause
3. Stop Recording
4. Snapshot
5. Reset Distance Counter
6. Display User Information
7. Display Project Information
8. Display Additional Notes
9. Display Additional Message 1
10. Display Additional Message 2
11. Display Additional Message 3
12. Display Additional Message 4

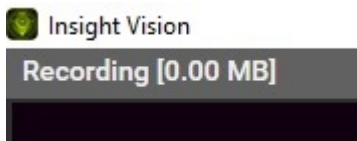
## On-Screen Display (OSD):



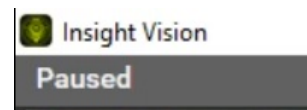
Pic 1



Pic 2




Pic 3




Pic 4


### Expand OSD Window

- Press the  Button to expand the On-Screen Display. Screen will now show full display (pic 2).


### Minimize OSD Window

- Press the  Button to minimize the OSD to look like pic 1.



### One Touch Video Recording

- Press the  Button to start recording. Display will now have Pause and Stop buttons present (pic 2) and the top left screen will display that the app is recording (pic 3).


### Stop Video Recording

- Press the  Button to Stop recording. A message will pop up asking "Do you want to stop recording?" Select "yes" to Stop and "No" to continue recording.

### Pause Video Recording

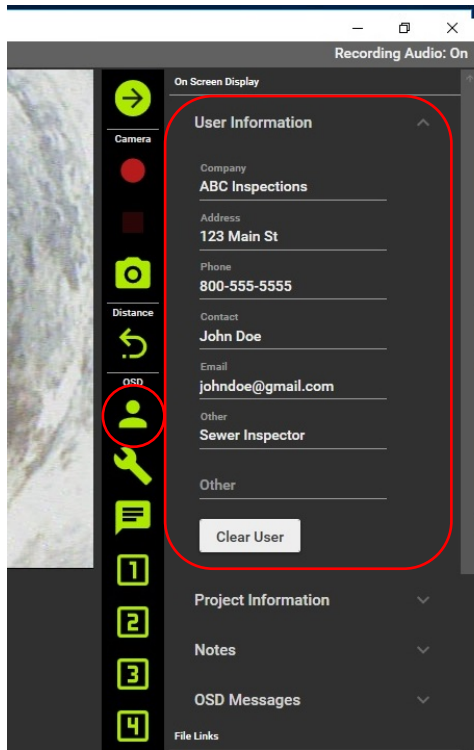
- Press  Button to Pause recording. Top left of screen will display 'Paused' (pic 4). Press  Pause again to continue recording on the same video file.

### One Touch Snapshots


- Press the  Button to take a picture



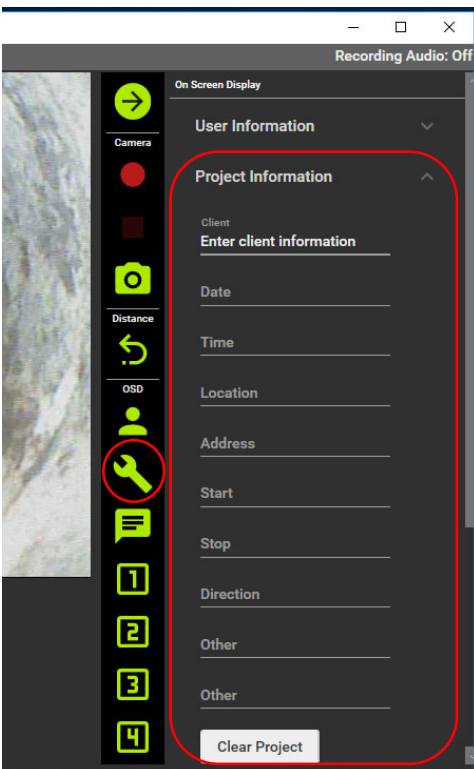
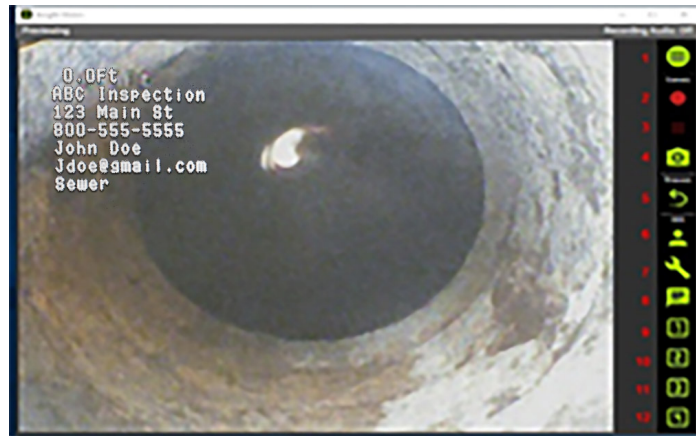
## On-Screen Display (OSD):




### User Information

- Enter user information into the correct field
-  Button will display entered User Information on screen for 10 seconds (see below)
- Selecting “Clear User” erases all User Information

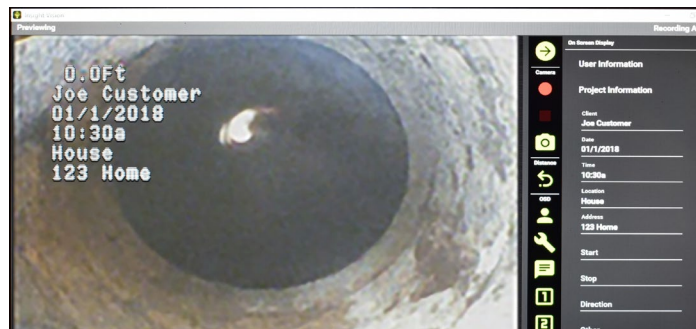
**Note: The User Information will be auto saved until new changes are entered.**



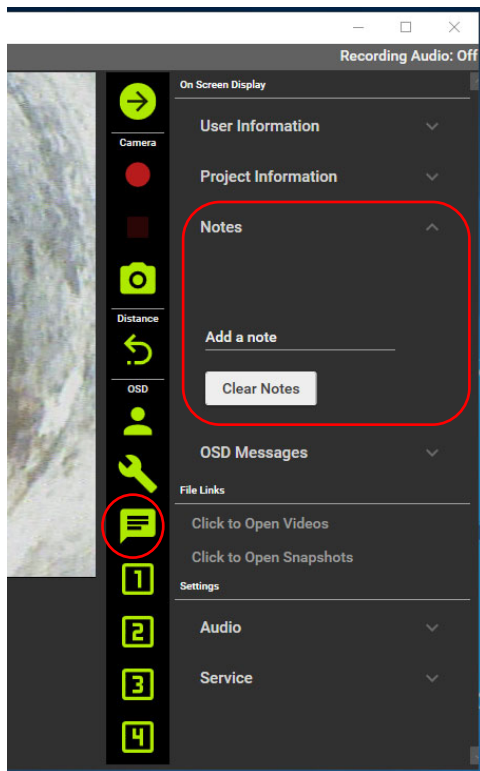
### Project Information

- Enter project information into the correct field
-  Button will display text on screen for 10 seconds (see below)
- Simply click on, “Clear Project” to quickly erase all project information


**Note: The Project Information will be auto saved until new changes are entered.**



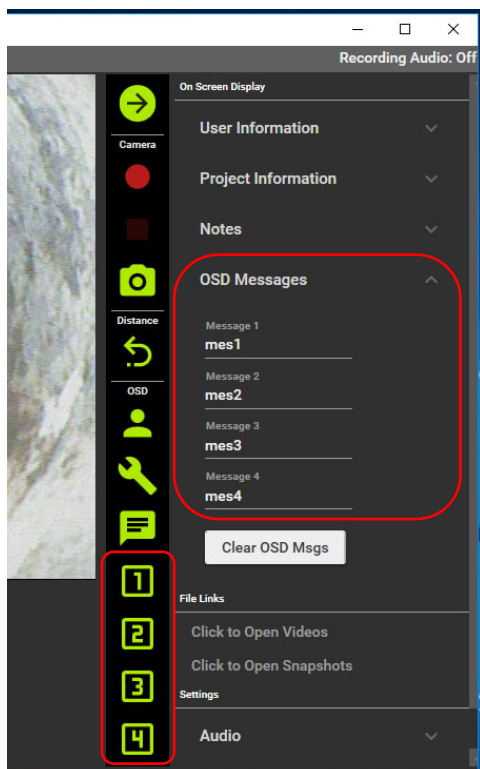
## On Screen Display (OSD):



### Notes

- Enter notes information, hitting enter will create new line
-  Button will display entered Notes on screen for 10 seconds
- Simply click on, “**Clear Notes**” to quickly erase all notes

**Notice: The notes will be auto saved until new changes are entered.**

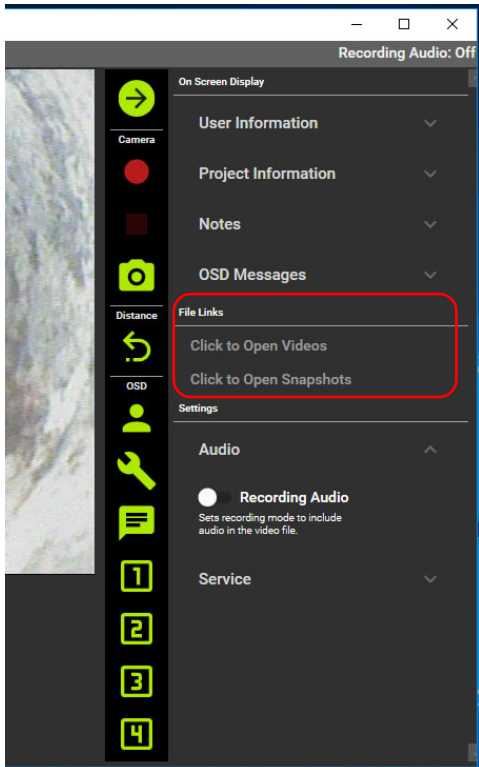


### OSD (On Screen Display) Messages

- Enter up to 4 custom on screen messages
- Touch each number to display the corresponding message on screen for 10 seconds
- Simply click on, “**Clear OSD Msgs**” to erase OSD messages

**Notice: The messages will be auto saved until new changes are entered.**

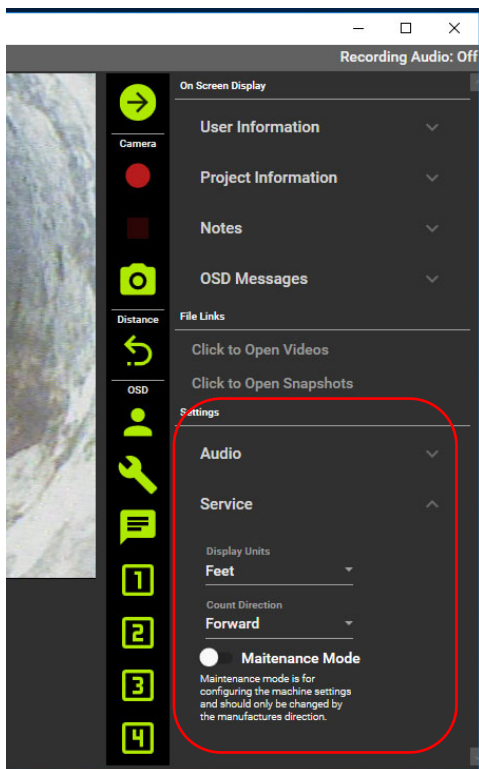
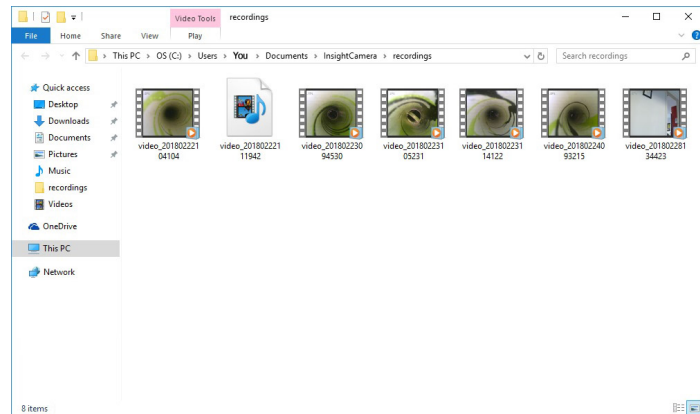
## On Screen Display (OSD):



### File Links

- To access recorded videos, press “**Click to Open Videos**” and the video folder will open (see below)
- To access recorded pictures, press “**Click to Open Snapshots**” and the snapshots folder will open

**Notice: Videos can be played back using system’s media player (Windows Media Player). Pictures can be opened with system’s photo viewer.**



### Settings Audio

- Turn On/Off audio recording, USB headset with microphone required to record audio (not included).

### Settings Service

- Display Units: Change on screen distance counter between feet and meters
- Count Direction: Change the direction of the on-screen distance counter between **Forward or Backward**

**NOTE: Maintenance Mode is only used by the manufacturer or authorized service center.**

## **Base Frame**

### **Vertical Frame**

The large base frame is a powder coated steel frame with a rugged aluminum reel basket designed to house 200', 300' and 400' of rigid (A) type pushrod. The LEDs on the camera head can be adjusted on the back of the IV2 TABLET command module. The base frame includes an integrated digital distance counter. The top part of the base frame includes a mounting bracket for the IV2 TABLET command module.



### **Push Rod**

The push rod is .475" in diameter and has been specifically designed for longer pushing distances in 2"-12" pipe. Attempts should not be made to push this rod type through 2" 90-degree bends as rod breakage may occur. This rod type is available in 200', 300' and 400' lengths on the large vertical base frame.

### **Debris Bag**

The Debris bag is intended to minimize drippings while working indoors. It is easily removable for cleaning.

### **Battery (not included)**

The IV2 TABLET does not come with the M18-style battery but it is available online or at your local home improvement or hardware store.



# IV2 | OWNERS MANUAL

## AC Power Adaptor

The plug in for 110V to power up the system.

## DC Power Adapter

The use the car power adapter to start up the system.

## Video Interconnect Cord

The video inter-connect cord will need to be connected from the reel to the command module to display video.



## Self-Leveling Camera Head

The self-leveling camera positions the camera so that the top of the pipe will appear on the top of the display. This is a color camera with an LED light ring for illumination of the pipe being inspected. The camera module has an integrated auto iris feature, which will automatically adjust for varied light levels.

This camera is intended for operation in pipes 2-12" I.D. This camera will function with any of our IV2 TABLET command modules. The diameter of the camera head is 1.30", fits best for 3" up to 12" pipes inspections. The Sonde is not built into the self-leveling camera. **\*The camera head is not intrinsically safe or explosion proof!**



### SELF-LEVELING CAMERA HEAD FEATURES:

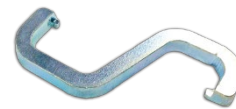
- **Modular Camera for Quick Repair**
- **High Resolution Camera Module**
- **Stainless Steel Material**
- **Water-Resistant Camera Head**
- **Powerful LEDs on Camera Head**

### Camera Removal Tool

Use this S-tool to remove the camera head from the spring.

### Flex-spring

This spring protects the sonde and allows bends in pipes.



## Sonde/Spring Assembly

The removable sonde is located inside the spring assembly with the self-leveling camera. It continually transmits a signal at 512Hz, while the camera is turned on, and can be located with any locator capable of picking up a 512Hz signal.



## Skid Set

The skids are intended to protect the camera from damage due to debris in the pipe being inspected. The standard skids come in two sizes.

The 2" small skid is for use in 2" straight runs to 3" diameter pipes.

The 3" large skid is for use in 4" to 6" diameter pipes.



## Skids Allen Wrench

The skid is one-piece device that affixes over the camera head. The skid is used to protect the integrity of the camera head and normal usage wear and tear. It is held down by three set screws. Use the Allen wrench provided by Insight Vision in the accessory bag to loosen the skids to slide out the camera head.

## Trouble Shooting Guide

1. Why is there fog inside my camera lens?
  - a. Water moisture indicates a failure of the camera head seal. The IV2 TABLET camera head was manufactured to the highest standards and procedures.  
***Please contact Insight Vision for assistance in returning your system to its optimum performance. (TOLL FREE 800-488-8177)***
2. What happens if I lose video during operation?
  - a. Always shut-down your camera system before removing or reconnecting any part of the camera system.
  - b. The loss of video during operation could indicate a number of different situations. Your IV2 TABLET system includes exclusive live-personal support. Please contact Insight Vision for assistance in returning your system to its optimum performance.
  - c. Power down the module, camera system and remove camera from push rod and reconnect.
  - d. Disconnect push rod from basket at basket hub and connect camera to hub connection.
3. What happens if I lose the LED lights on my camera head during an inspection?
  - a. Verify that the LED lights are fully bright by pressing the lights “UP” button, on the front of your IV2 TABLET command module, a number of times.
  - b. Disconnect push rod from basket at basket hub and connect camera to hub connection.
  - c. If the LED lights do not increase to full brightness contact Insight Vision for additional support.
4. What should I do for services repairs, and warranty returns?
  - a. All services repairs and warranty returns will need an RMA (Return Material Authorization) number.
  - b. Simply call us directly at **800-488-8177**.
  - c. Ship to Insight Vision.
5. Does the IV2 TABLET sewer camera system have an external battery plugin?
  - a. Yes. It is located on the IV2 TABLET command module. You can get an M18-Style Lithium Ion rechargeable battery, available online or at your local hardware or home improvement store.

## Technical Specifications

### IV2 TABLET Tablet:

Physical:	5" L x 14 ½" W x 11 ¼" H
Display Pixel:	640x480
Data Storage:	56GB Internal Storage
Operating System:	Windows™ 10
Recording format:	H.264
Image Capture:	JPEG
Counter:	Displays on screen FT/M
Controls:	One Touch Recording (using App)
Power:	AC/DC 12V @ 5 Amps
Weight:	4.5 lbs. (without battery)

### Push Rod/Frame:

Cable Length:	200-300-400ft.
Cable:	Premium push rod
Push Rod Diameter:	0.475" OD
Overall Dimensions:	30"L x 16"W x 33"H
Weight:	62 lbs. (200 ft.)
Sonde:	512HZ Frequency
Distance Counter:	Feet, Meters
Finish Coating:	Powder Coated



We are an innovative manufacturer company that designs professional sewer inspection cameras. We focus on developing user-friendly video pipe inspection equipment. Our vision and enthusiasm inspire us to create new designs that satisfy your needs.

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## Service & Support:

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