

PORTA**VISION**³

Owner's Manual



"Manufactured by Insight Vision for Earth Tool Company (or HammerHead)"

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Regulatory Statement



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This device complies with Part 18 of the FCC Rules.

Wireless module FCC certification 2AGB8-002

Safety

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 HammerHead. 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 and keyboard cover on this command module without the supervision of a trained service technician.

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Warranty

HammerHead 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, HammerHead 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 HammerHead or its authorized representatives, or not maintained in accordance with the manufacturer's suggested maintenance requirements.
2. The warranty applies only to components manufactured by HammerHead. 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. HammerHead 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 HammerHead factory in Lake Mills, Wisconsin at the purchaser's expense, properly and adequately packaged, with insurance and transportation pre-paid. HammerHead 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 HammerHead be liable for delay in repair or replacement and return under this warranty. HammerHead will endeavor to effect appropriate repairs in the shortest time practical, with respect to the customer having beneficial use of their equipment.
8. HammerHead 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. HAMMERHEAD EXPRESSLY DISCLAIMS ANY OTHER WARRANTY, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

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General Overview

Description

The PortaVision 3 system is a portable push camera designed to inspect and record mainlines, pipelines and underground infrastructure videos. The user-friendly keypad has been redesigned with an easy “On Demand” recording and snapshot button to help speed up inspection time. Technicians can easily record vital inspection data and client information using the available on-screen text-writer and footage counter. A built-in microphone and speaker allows the technician to record voiceover videos and then play the video back on the 10.4” LCD monitor. Geared to inspect sewer pipes from 3” up to 12” inch diameter. A built-in sonde which transmit a 512 Hz frequency which is locatable with a 512 Hz locator. The PortaVision 3 system also comes with a free downloadable HammerHead App for IOS and Android mobile devices which allows users to view, record, snapshot and share sewer inspection videos.

System Maintenance Requirements:

The following maintenance procedures are recommended for all PortaVision 3 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 are strongly recommending that all systems be maintained according to the following procedures. Please be advised that PortaVision 3 will not allow warranty coverage for these items if these procedures are not followed.

PortaVision 3 Command Module:

The PortaVision 3 command module incorporates a USB port as its standard data storage device. This port has no moving parts or recording heads so it does not require a cleaning device. However, 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.

NOTICE: All HammerHead's command modules are not water-resistant. HammerHead 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 PORTAVISION 3 FOR THE FUNCTIONALITY OF THE RECORDING DEVICE AND WARRANTY COVERAGE WILL NOT BE GRANTED.



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O-Rings:

O-rings are critical to insure the watertight integrity of the camera and connection areas. O-rings are subject to wear and tear and can also suffer failure due to age and other factors. They should be inspected regularly and replaced whenever needed. When O-rings are working properly, a small amount of water and sometimes fine particles of grit will build up behind them. Any time the camera or sonde connection is taken apart and exposed, there exists the risk of grit wearing down or possibly even tearing the O-ring. It is also possible for water to then enter the connection area once exposed.

All connections, once opened or exposed, MUST be thoroughly cleaned and dried before re-connecting. We recommend using an old toothbrush or other soft bristled brush to clean the O-ring areas and remove the grit or fine debris. Then, completely dry the area around male and female connector and the O-ring before re-connecting.

Sonde:

The sonde transmit a 512hz frequency so that it's locatable with a locator. We recommend after every inspection, power off the system and disconnect the sonde. Wipe down the sonde with a damp towel and check for damages or missing O-rings on the male and female connector. Read O-Rings above when re-connecting.

Camera Head:

All PortaVision 3 camera heads are covered for one (1) year under the standard warranty against all defects in workmanship. These cameras are all sealed and water-resistant. Warranty coverage will apply for any and all internal failures to the camera head unless external damage is evident. This would include a broken window and any deformation to the stainless steel metal housing of the camera head.

NOTICE: The system has provided protective 2" and 3" skids that MUST be used at all times. These skids are designed to aid in the centering of the camera head and have the added benefit of helping to protect the camera head from extreme wear. Failure to use the provided skids will result in the direct wear of the metal, especially at the front window array, resulting in the eventual wearing down of the metal. This wear could result in a breach of the window seal allowing water into the camera head. This type of wear will not be covered under warranty.

Hub Assembly:

The hub assembly houses the encoder, the wiring terminals, and solders joints that are susceptible to water damage. Although it is very well covered and enclosed, the electronic components are not water-proof. Only wipe with damp cloth when cleaning. You will find the warning label on the hub assembly:

NOTICE: DO NOT POWER WASH THE HUB ASSEMBLY AREA.

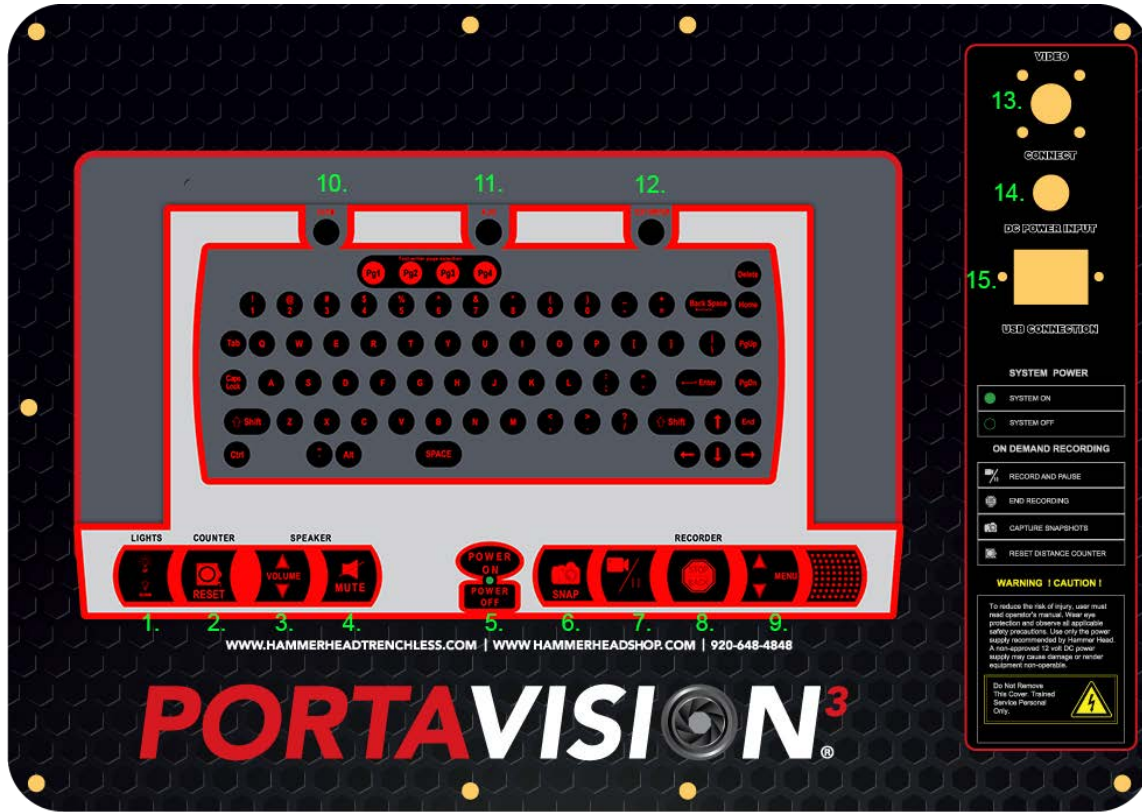
Push Rod:

The PortaVision 3 push rod terminations are covered for one (1) year under warranty. This warranty policy covers workmanship on the termination connection **ONLY** and does not cover push rod breakage or kinks in other parts of the rod. While recoiling your push rod, wipe down with damp rag and check for kinks, or cracks after every inspection.

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Main System Controls



1. Light Up/Down – Up will increase and down will decrease brightness on the camera head light ring.
 - Recommended to keep light level at maximum for most pipe conditions
2. On-Screen Distance Counter Reset Button - The button will reset distance counter to zero.
 - If you are doing underground constructions, we highly suggest that you use a 512 Hz locator for more accurate reading of location. The counter only read distance pushed through bends and 90's, does not pin point area.
3. Volume Increase/Decrease – Adjust volume for video playback. **(Use for audio playback only!)**
4. Mute – Mute/unmute audio during video playback. **(Use for audio playback only!)**
5. System Power **ON/OFF** button - **GREEN** LED indicates the system is ON.
6. Snapshot – allows for JPG picture capture during live inspection
7. Record/Pause - Allows for recording of live video. Pressing the button during recording will pause current recording until the button is pressed.

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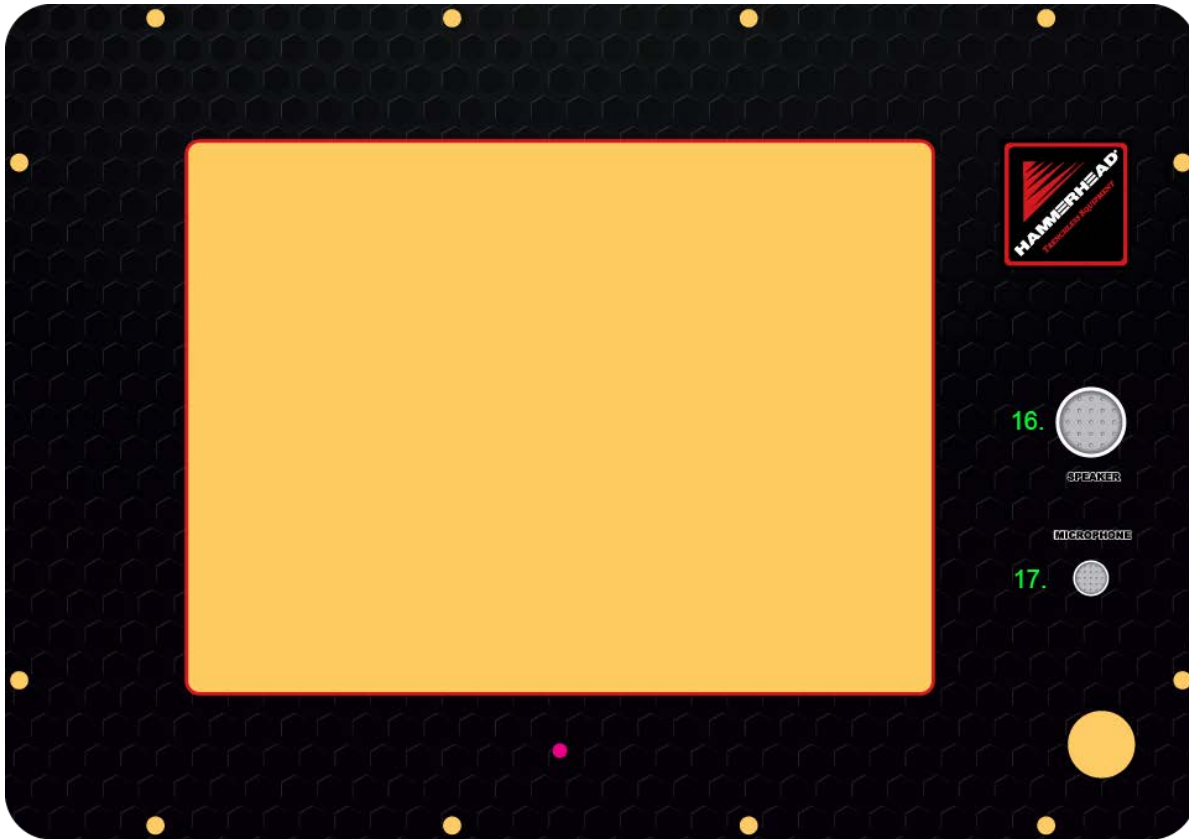
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8. Stop/Back – Pressing during recording will end the current recording.
 - Pressing while in the Menu will move the menu back 1 step.
9. Menu and Up/Down arrows- These buttons along with the stop/back button allow for movement through the menu.
 - During recording, the Up arrows turns **ON** the microphone & Down arrows turn **OFF** the microphone
 - Menu button is also the selector in the settings
10. Info – Allows for quick access for serial number and software revision.
11. Aux and Text Writer buttons are not currently utilized
12. Text-Writer Page Selector - 4 Pages
 - A. Pg. 1 = No text. Distance counter only
 - B. Pg. 2 = Contractor Form Page
 - C. Pg. 3 = Client Form Page
 - D. Pg. 4 = Free Form Page
13. Main System Connection - Connection Port for the Video Interconnect Cable.
 - This connection will power your PortaVision 3 Inspection Camera System.
 - Make sure the two arrows are align, push to connect
 - Twist and pull to disconnect
14. Main System Power Connection – Connection for the external 12V DC Power Supply cord.
15. USB Port – Used to record video using a USB memory stick.
16. Built-In Speaker - For audio playback
17. Built-In Microphone - For voice recordings
 - Microphone is always activated.
 - To change microphone option, go into the menu setting, step 9.

MAIN SYSTEM CONTROLS (CONTINUE ON NEXT PAGE)

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How to Record

The built in recorder is activated along with the main system power. Before recording assure a USB recording device is inserted into the USB jack on the top panel, an 8GB USB jump drive is included with the purchase of a HammerHead command module.

Video Recording:

1. To start recording press the Record/pause button once
2. To pause/continue an active recording press the Record/Pause button
3. To mute/unmute recording in process
 - a. Press the menu down button to mute the recording
 - b. Press the menu up button to unmute the recording
4. To end recording press the Stop/Back button
5. To view/ playback recorded videos
 - a. Press the menu button and select “play video” prompt, videos are labeled with a time and date code with the most recent recording at the top of the list.
 - b. Press the up and down to select videos
 - c. Press the menu to play the video
6. Utilize the volume increase/decrease and mute button to adjust volume during playback

Capture Snapshots:

1. To take a JPG picture press the “SNAP” button on the keypad. This feature can be utilized while video recording is actively running, or when just live viewing.
2. To view stored JPG files press the menu button when recording is not active.
 - a. Press arrow down to “View snapshots” option and
 - b. Press menu to select option. Snapshots are arranged by time and date code with the most recent picture at the top of the list.

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Mobile App

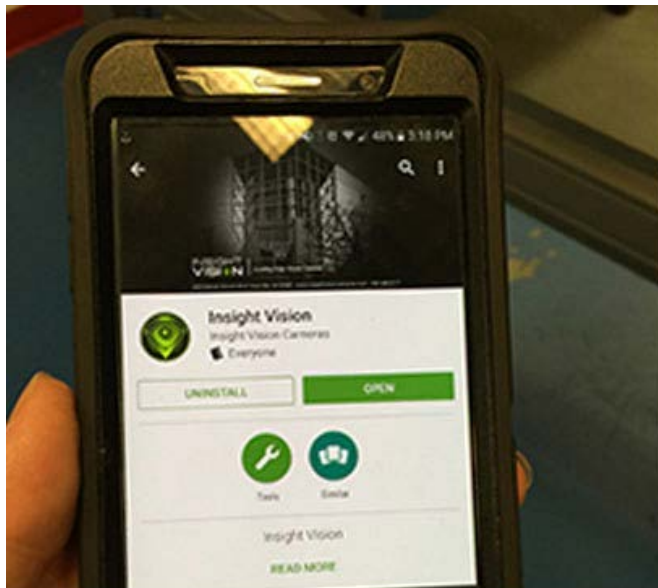
Your PortaVision 3 inspection system has an integrated wireless module built into the command module to stream live video to a smart phone or tablet. The live streaming application is supported by Apple and Android operating systems.

Free to download, the Insight Vision Wireless App is on the Apple Store for Apple devices, or the Google Play Store for Android devices. In the search section enter "insight vision" or "Insightvision". Select the Insight Vision icon and download to your device.

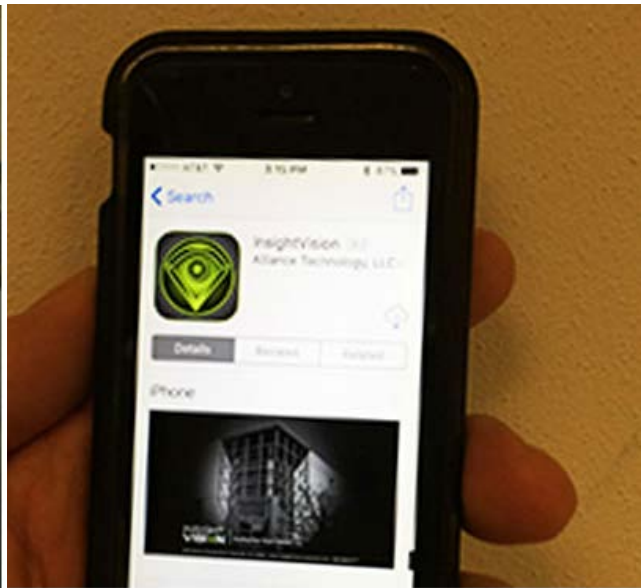
To operate your wireless streaming to your PortaVision 3 command module, you must be powered on. You can then log into the InsightVision wireless network on your phone by selecting the wireless option from your phone menu and chose the "InsightVision" network. If it is the first time your device is connecting to the PortaVision 3 you will be prompted to enter a password.

Notice:

The default password is 12345678. It is not advised to change your SSID or password on the PortaVision 3 wireless module, there is no master reset if the SSID or password are changed and the password is forgotten. The system will have to be sent or brought to your nearest dealer for factory reset, not covered under warranty. (ONLY ONE DEVICE MAY BE CONNECTED TO THE APP)



Android



Apple

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Mobile App Controls

1. Record/Stop – Use this function to record and stop recording
2. Snapshot- Use this function to take picture
3. On Android device this function is not active

On Apple device this function stores your recorded inspection videos

4. On Android device this functions stores your recorded inspection videos and photos
On Apple device this function stores your captured photos

5. *Settings* Use with caution, changes your **Wi-Fi SSID and PASSWORD**

Once changes are made, do not lose your password or you will have to send in your camera system for factory reset. ****Not Covered Under Warranty***

6. **Default password connection is 12345678**



Android Interface



Apple Interface

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Base Frame

Vertical Frame

The large base frame is a rugged aluminum reel designed to house 200', 300' and 400' of rigid (A) type rod. This base frame comes with an integral digital footage counter. The design of this frame brings the push rod out from the front to allow for easy operation. When camera is not in use please store in basket. All anti-slide supports are made with a non-marring material safe for all floor surfaces. The top part of the base frame includes a mounting bracket for any of the PortaVision 3 command modules.

Push Rod

This 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.



Notice: Included with the system.

Video Connection Port

The video connection port is installed on the frame and on the command module.

You will need to connect the command module to the reel before starting up the camera system.

Spring Removal Tool

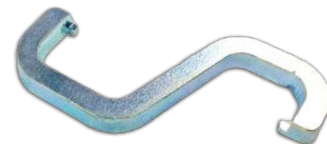
This S-tool is used to removal the spring from the push rod.

Caution: Always wear safety glasses while preforming any repairs.

Notice: Included with the system.

How to remove spring from push rod video link.

<https://www.youtube.com/watch?v=i5k3kmLG3tl>



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NOTICE: DO NOT POWER WASH THE REEL!



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Camera Head

This camera has a self-leveling feature that will position the camera so that the top of the pipe will appear on the top of the display. This is a color camera with a LED light ring for illumination of the sewer pipe being inspected. This camera is intended for operation in pipes 2-12" I.D. This camera will function with any of our HammerHead command module. The diameter of the camera head is 1.30" x 2" long. Designed best for 3" up to 12" sewer pipes inspections. New modular design for quick change service repair. Most repairs are done within 24 to 48 hours after receiving the equipment.

CAMERA FEATURES:

- Modular Design Camera
- Clearview Picture and Video
- Stainless Steel Housing
- Water-Resistant Camera Head
- Ultra-bright LED Lights
- Tough 2mm Gorilla Glass



WARNING:

- To prevent eye damage, **DO NOT** stare directing into the light beam at a close range.
- The camera head is not intrinsically safe or explosion proof!

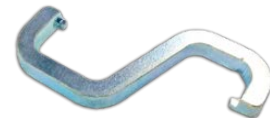
NOTICE:

- The sonde is not built into the camera head. It is a removable sonde connector.

Camera Head Removal Tool

This S-tool is used to remove the camera head from the spring.

Caution: Always wear safety glasses while performing any repairs.



How to remove camera head video link:

<https://www.youtube.com/watch?v=tGLEGj2H5Us>

Flexi-spring Wire form

This flexi-spring is connected to the end of the push cable that protects the sonde and assist with bends inside pipes.



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Sonde/Spring Assembly

The removable sonde is connected inside the spring assembly. 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 3-4" diameter pipes. The 3" large skid is for use in 4-6" diameter pipes.

Notice: Included with the system.



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 HammerHead in the accessory bag to loosen the skids to slide out the camera head.

Car Power Adapter

The car power adapter is used to power up your camera system.

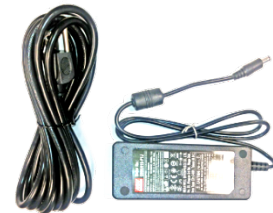
Notice: This is a 12 volt system. Included with the system



12 Volt Power Cord

The 12 DC volt power cord is used to power up your camera system.

Notice: This is a 12 volt system. Included with the system.



Video Inter-connect Cord

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

Notice: Included with the system.

<https://www.youtube.com/watch?v=orwmYRtK78M>



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F.A.Q

1. How do I know if I am recording on my new PortaVision 3 System?
 - a. "Recording" along with the time will be displayed in the upper left corner of the command module.
2. How do I playback my recording on my computer?
 - a. The HammerHead Media Player is installed on to your 8GB USB stick that is included with the purchase of new PortaVision 3 system. The HammerHead Media Player can also be downloaded from HammerHead website to your USB stick or computer.
 - b. Insert USB Memory Stick into your computer. From the USB Memory Stick, launch the PortaVision 3 Media Player. Simply use the open file functions in the player to open and play recorded videos. Please contact your computer support person for additional information on playing videos on your specific computer.
3. How to clean the LCD screen and keypad?
 - a. Use wipes and spray cleaner that are designed to clean screens i.e. TV, Computer screen. Do not spray directly onto the screen or keypad. Spray onto the cotton cloth (to prevent scratches) first and then wipe.
4. How often should I clean the camera head?
 - a. After every use, always take off your camera head and clean it.
5. How often should I clean the reel?
 - a. After every use, always shut-down your camera system first and wipe down.
 - b. Do not power wash the camera system.

Trouble Shooting Guide

1. Why is there fog inside my camera lens?
 - a. Water moisture indicates a failure of the camera head seal. The PortaVision 3 camera head was manufactured to the highest standards and procedures.
 - b. **Please contact HammerHead 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 PortaVision 3 system includes exclusive live-personal support. Please contact HammerHead for assistance in returning your system to its optimum performance.
 - c. Power down the 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. Why don't I see my distance counter on the screen?
 - a. Press the "PG1" button on the front of your PortaVision 3 command module. Use the up and down arrow on the QWERTY keypad to move the location of the distance counter.
 - b. Please contact HammerHead for assistance if the distance counter fails to reappear after pressing the "PG1" button.
4. 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 PortaVision 3 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 HammerHead for additional support.

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5. What should I do for services repairs, and warranty returns?
- All services repairs and warranty returns will need an RMA (Return Material Authorization) number.
 - Simply call us directly at 800-488-8177.
 - Ship to HammerHead, 600 Dekora Woods Blvd. Saukville, WI 53080.
6. Does the PortaVision 3 sewer camera have an internal battery options?
- No. The PortaVision 3 camera does not have an internal battery option.
 - You can purchase a portable lithium battery pack, holds up to 6 hrs. *See below.*

Notice: Internal Battery not included.

External Battery Pack is available for \$149.00 – Use 12V port



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Technical Specifications

Camera:

Self-Leveling:	Yes
Camera Dimensions:	2" L x 1.3" Diameter
Video Resolution:	640 x 480
Weight:	5.9 Ounce
Light Ring:	12 LED
Image Sensitivity:	<1 Lux
Image Size & Type:	¼" CMOS
Construction:	Stainless Steel Body
LED Window:	Polyurethane
Camera Window:	2 mm Gorilla Glass

System Control:

Case Dimensions:	12"L x 9"W x 11"H
Video Format:	640 x 480
Data Storage:	8 GB USB
Keyboard:	Full "QWERTY" style membrane
Recording format:	H.264
Image Capture:	JPEG
Text Generator:	Yes
Distance Counter:	Displays on screen FT/M
Video Out:	No
Controls:	One Touch Recording
Power Source:	12V 4Amp DC
Weight:	8 lbs.
LCD Size:	10.4"
External Battery:	Optional

Push Rod/Frame:

Cable Length:	200-300-400ft.
Pipe Size:	3" to 12"
Cable Jacket:	Polypropylene jacket
Cable Core:	Fiberglass push rod
Push Rod Diameter:	0.475" OD
Frame Dimensions:	30"L x 16-1/2"W x 32-1/2"H
Weight:	62 lbs. (200 ft.)
Sonde Frequency:	512Hz
Finish Coating:	Powder Coated
Protective Skids:	2" & 3"

Parts & Accessories

Cameras and Reels:

- 922-8224 PortaVision 3 with Reel (200 FT)
- 922-8225 PortaVision 3 with Reel (300 FT)
- 922-8226 PortaVision 3 with Reel (400 FT)

- 922-8227 PortaVision 3 Command Module

- 922-8228 PortaVision 3 - Stand Alone Reel (200 FT)
- 922-8229 PortaVision 3 - Stand Alone Reel (300 FT)
- 922-8230 PortaVision 3 - Stand Alone Reel (400 FT)

Accessories:

- 922-8232 PortaVision 3 - Skid (2/3")
- 922-8233 PortaVision 3 - Skid (4/6")
- 922-8234 PortaVision 3 - Skid (6/8")

Replacement Parts:

- 922-8231 PortaVision 3 - Camera Removal Tool
- 922-8235 PortaVision 3 - Power Supply Cord
- 922-8236 PortaVision 3 - Car Power Supply Cord
- 922-8237 PortaVision 3 - Spring
- 922-8238 PortaVision 3 - Interconnect Extension Cable
- 922-8239 PortaVision 3 - Camera Head
- 922-8240 PortaVision 3 - Sonde (512 HZ)

For additional parts and accessories, please visit:

<https://www.hammerheadshop.com/product-category/inspection/portavision-camera-system/>