



HATHORN



OPERATOR'S MANUAL FOR H12 & H12i CONTROLLERS

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

CONTENTS

PAGE 3	LIMITED WARRANTY
PAGE 4	LIMITATION OF WARRANTY / SERVICE / FREIGHT
PAGE 5	NON-WARRANTY CHARGES / PRODUCT FEATURES
PAGE 6	USER INSTRUCTIONS
PAGE 7-9	INSPECTION PROCEDURE
PAGE 10-11	FEATURE IDENTIFICATION
PAGE 12-15	USB RECORDING & PLAYBACK
PAGE 16	TROUBLESHOOTING
PAGE 17	MAINTENANCE
PAGE 18	USA REPAIR FACILITIES
PAGE 19	CANADA REPAIR FACILITIES
PAGE 20	WARRANTY REGISTRATION

LIMITED WARRANTY

This Limited Warranty provides one full year of coverage under our manufacturer's standard new product warranty. Hathorn 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 product fails to function properly under normal and proper usage due to defects in materials or workmanship during the period of this Limited Warranty, the manufacturer will repair, adjust or replace defective parts as it deems appropriate.

This Limited Warranty is only available to the original purchaser; it is not transferable under any circumstances.

The manufacturer's responsibility under this Limited Warranty is limited to the repair, adjustment or replacement of defective parts as determined by Hathorn in its sole discretion. Routine cleaning and normal cosmetic wear and tear are not covered by this Limited Warranty.

LIMITATION OF LIABILITY

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

SERVICE

If the product requires service, please contact the Hathorn service centre nearest to you or one of our authorized distributors. Service locations are listed on page 18 of this document. Hathorn is not responsible for damages or loss incurred in connection with mailing and/or transportation of product.

FREIGHT

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

RETURN FREIGHT

Warranty: Pre-Paid as above

Non-Warranty: Freight Collect

NON-WARRANTY CHARGES

Repairs centers will charge direct for non-warranty repairs and may require payment prior to repair. Should you have any further questions regarding service or sales, please contact Hathorn at: 1-905-604-7040

PRODUCT FEATURES

Hathorn H12 & H12i controllers are compatible with all Hathorn reels as well as other manufacturer's reels (General, GatorCam, RIDGID, Raytech) depending upon the options chosen and the patch cables purchased. Please inquire for these options.

Features include:

- 12" daylight readable HDMI shatterproof screens
- USB one touch video recording/playback
- 512hz sonde on/off & camera lighting control
- On screen footage counter/reset
- 8X digital "pan and zoom" technology
- Video date/time stamp
- 8-page text typing overlay
- Adjustable screen brightness & contrast
- Battery charge indicator (H12i only)
- Audio/video out ports
- Microphone and speaker for audio overlay
- Internal battery or external 18V battery sold separately

USER INSTRUCTIONS

Setting Up the System for Use

Connect the patch cable to your reel and the controller first. Press the power button on for 2 seconds. At this point you should see the Hathorn logo on the screen while the system boots up.

You will be asked to select the reel that you are using. Use the enter button to toggle until the correct reel is chosen. It is important to choose the correct reel as selecting the incorrect reel will affect the footage counter. Press the counter reset button to confirm your reel choice. The system should now be ready to use.

Note: If your system uses an external battery always remove the battery after use or switch off the system with the silver button. Failure to do so may result in 18V battery damage.

Locating Sonde

Push the “Sonde” button to turn on/off. A symbol will appear next to the footage counter on screen when the sonde is on. Sondes are locatable up to ~15ft. dependent upon concrete/steel/cast iron pipe.

Footage Counter Reset

Push the “Counter” button for 3 seconds and the counter will flash, let it go and the count will reset.

Camera Lights

Camera lights can be controlled using the light up/down buttons on the front of the monitor.

INSPECTION PROCEDURE

Skids or sleeves should ALWAYS be used to protect the camera head. Depending on the size of the pipe you are inspecting, you may need to use a skid, 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 lines under 4" in diameter or a larger grooved skid in 4" lines and larger.

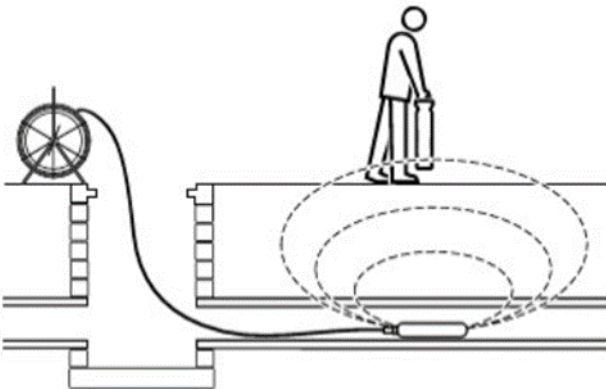
1. Slowly push the camera into the pipe and negotiate the camera into position to feed down the pipe making sure the flex neck does not kink or double back on itself.
2. Push the camera slowly and carefully during the inspection taking note of the pipe condition for possible hazards that may entangle 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 are no visible signs of blockage, turning the push rod or pulling the camera back and forth sometimes helps
4. Should resistance become extreme, or the camera get 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.
5. 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.

6. **NEVER** use the camera to unclog a drain or clear debris in the pipe. Doing so can cause damage to the camera head or lens.
7. **NEVER** force the camera down a pipe as this may cause a kinked cable which will require expensive repairs.
8. **NEVER** use a pressure washer to clean any part of the system. High pressure water can cause degradation of the electronic parts causing damage.
9. **NEVER** unspool all of the rod from a reel. Always leave a few turns of rod on the reel to aid with repooling.

LOCATING THE 512 Hz SONDE

Insert the sonde in the drain and locate it while it is still just in view at the drain or duct entrance. Hold the locator vertical directly over the sonde with the antenna in line with the sonde. Adjust the locator sensitivity so the bar graph reads between 60% and 80%. Push the sonde along the pipe to the desired area.

1. Approach the peak of the signal working perpendicular to the pipe. Move the locator backwards and forwards and stop when the bar graph indicates a Peak.
2. Push the camera 4-6 ft. further, pinpoint, and mark the position. Repeat this pinpoint procedure at similar intervals along the line of the drain or duct until the survey is completed.
3. Most locators will automatically display the depth of a located sonde providing the locator is correctly oriented and positioned above the sonde.



TOUCH KEY IDENTIFICATION

Sonde On/Off

Lights Up

Lights Down

Options: Rename,
Delete files

One Touch Video
Record with LED
light

Video Stop



Power On/Off

Counter Position /
Reset (Hold 3 sec)

Logo Clear and
Digital Zoom

Home / Main
Menu

Enter

Video Play

Video Pause

KEYBOARD FUNCTIONS

The keyboard can be used to type information onto the screen overlay. Anything shown on the screen will show up on the recording.

1. **Pg1 to Pg8** – Brings up the corresponding page for typing.
2. **Hide Pg** – Hides the pages and also brings up the last page viewed. Please note that anything typed will remain in the background until it is deleted.
3. **BLK** – Changes the background behind the text from black to white
4. **Save Pg** – Saves what is visible on the displayed screen into the memory. Example: A company name and address can be saved on a page into the memory and then shown at the beginning of each recording/survey when the page is displayed.
5. **Enter Key** – Toggles through reel selection on opening screen
6. **Arrow Keys** – Moves cursor
7. **Escape Key** – Toggles text overlay contrast up/down
8. **Mic Key (top right)** – Turns the speaker and microphone on and off. Note that only one can be on at any one time. For instance, if the mic is engaged the speaker will not play on the video. Similarly,

SETTING UP YOUR MONITOR

1. Press the Home button and navigate over to the “Setup” screen. Press enter.
2. From this screen the user has the ability to change the brightness, contrast, hue, saturation and noise reduction of the screen and video playback.
3. The user can also change the input of the camera from NTSC to PAL to other resolutions. It is recommended that users do not change this setting.

SETTING UP THE RECORDING QUALITY

1. Press the Home button and navigate over to the “Setup” screen. Press enter.
2. Navigate to the right again until you reach the “REC” tab. From here the user can adjust the recording quality and the recording device.
3. The recording quality is set as HQ (High Quality) at the factory but the user has a choice of HQ, SP, LP, EP and SLP in order of reducing quality but with smaller file sizes.
4. Videos are always recorded in MPEG4 format.
5. Do not change the recording device from USB to HDD. If this is changed to HDD no recording can happen until changed back to USB.

RECORDING TO A USB STICK

1. Insert the USB stick into the USB jack and wait for the system to recognize its presence. This may take 5-6 seconds. A notification on the LCD will show when the USB stick is recognized.
2. When the USB stick is recognized, press the recording button on the control pad. This will power up the recording module within the system. When it is ready the system will say “Recorder Ready”.
3. Press the Mic/Speaker key on the keyboard to ensure that the microphone is switched on for audio recording
4. Press the red recorder button once. The system is now recording the video file to the USB stick.
5. To stop the video recording simply press the stop recording button.

Note: Video files are always stored in MPEG4 format for optimal quality and file size. However, the longer a recording the larger the video size. Also note, that should a USB stick not be inserted into the system first, the system will not be able to record any videos.

Resolution: 720x579 at 25fps (PAL) / 720x480 at 30fps (NTSC)

5 Quality Levels: HQ/SP/LP/EP/SLP (HQ highest)

Recording size: 2GB per hour on HQ setting

PLAYING BACK VIDEO FILES

1. Press the home button and then navigate left or right to “Browse USB Stick” and press the Enter button.
2. Press enter again at the USB icon. Note: this system does not come with an HDD.
3. Press enter again on the file and then enter again on the file “REC”. Scroll for the file you recorded.
4. Each video file is named with the date of the recording. To play a file back press “Play” button.

DELETING/RENAMING FILES

1. Highlight the file you wish to change and press the Menu button.
2. This will give you the option to Rename or delete the file in question or press enter to return to the previous menu.

RETURNING TO A HIGHER MENU

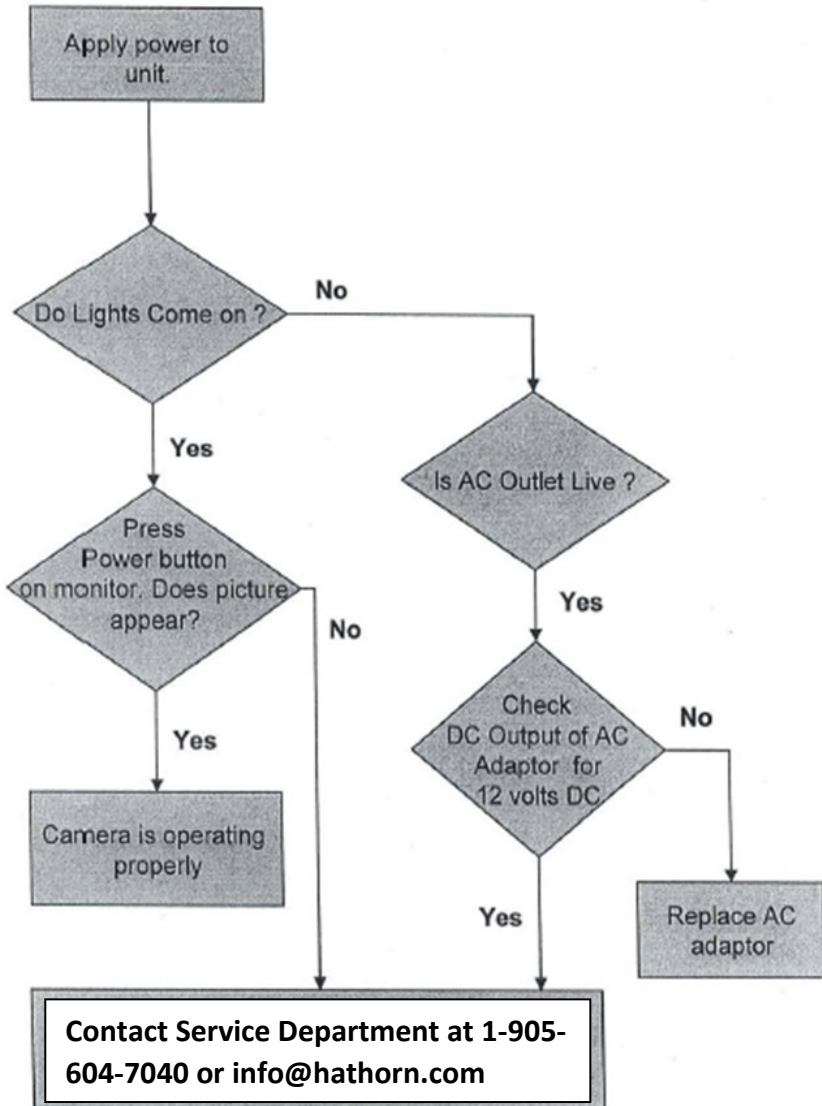
1. From the file list, highlight the symbol “/.../” and press enter. This will take you to a higher file menu on your USB stick.

OTHER SYSTEM OPTIONS

1. Press the home button and then navigate left or right to “Setup” and press the Enter button.
2. Navigate to the “System” tab which will display system options. Including the opportunity to flash the system with an update, change the time, date and time zone and reset the system to the factory default settings.
3. Setting the time and date is the most important feature for the average user. To access this area press “Enter” button when “Time” tab is highlighted.
4. Tab down to “Time Zone” to set the time zone applicable to the market in which you are located.
5. Tab down to “Manual” to change the current month, day and time. Press enter to confirm. Then press the home button to return to the main menu.
6. All systems are set to EST on the current date when they leave the factory.

Note: Setting the date and time are important as these will affect the naming convention of the files stored to your USB stick.

TROUBLESHOOTING



If a problem not shown on this chart is found please contact a Hathorn service center.

MAINTENANCE

Inspection Camera - After every use, the camera should be cleaned and checked for possible damage. 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 and if the lens is badly scratched it should be replaced.

LED Light Replacement - The camera heads 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 winding the cable back onto the reel after an inspection, it is good practice to use a clean cloth to wipe off any debris.

WARNING

NEVER USE A POWER WASHER TO CLEAN THIS EQUIPMENT. PRESSURIZED WATER MAY GET INTO UNSEALED AREAS SUCH AS THE REEL HUB ASSEMBLY AND SLIP RING HOUSING CAUSING DAMAGE AND VOIDING WARRANTY.

REPAIR FACILITIES - USA

Repairs, warranty or otherwise, returned to Hathorn must be submitted with a “**Return Maintenance Authorization.**” For “**RMA**s” please contact:

Reliable Drain Camera Repairs Ltd.

Address: 739 North Wilson Road, Columbus, OH, 43204

Phone: 1-855-863-9226 **FAX:** 1-905-604-3400

Email: service@sewercamerarepairs.com

Website: www.sewercamerarepairs.com

Kaiser Premier USA – Mobile Repairs South West

Address: 6108 Wild Fox Court, Elk Grove, CA 95757

Phone: 1-916-995-2743

Email: eric.montgomery@kaiserpremier.com

Website: www.kaiserpremier.com

Utility Equipment Technology Ltd.

Address: 382 Stevens Rd., Rockwall, TX 75032

Phone: 1-972-771-8958 **FAX:** 1-972-772-8195

Email: utilityequipment@gmail.com

Website: www.utilityequipmenttechnology.com

Dynamic Repairs

Address: 40 Arnot St., Unit 20, Lodi, NJ 07644

Phone: 1-973-478-0893 **FAX:** 1-973-478-0895

Email: dynamicablerepairs@yahoo.com

Website: www.dynamicrepairs.net

Visual Imaging Resources

Address: 12600 Newburgh Rd, Livonia, MI 48150

Phone: 734-744-5557

email: antoine@visualimagingresources.com

Website: www.visualimagingresources.com

AZ Locators

Address: 13041 N 35th Ave c6, Phoenix, AZ 85029

Phone: 602-375-5337

email: info@azlocators.com

Website: www.azlocators.com

REPAIR FACILITIES - CANADA

Hathorn Corporation - Eastern Canada

Address: 255 Shields Court "C", Markham, ON L3R 8V2

Phone: 1-905-604-7040 **FAX:** 1-905-604-3400

Email: info@hathorncorp.com

Website: www.hathorncorp.com

The Drain Camera Shop – Western Canada

Address: 780 Kilmalu Road, Mill Bay, BC V0R 2P1

Phone: 1-888-913-3419

Email: info@thedraincamerashop.com

Website: www.thedraincamerashop.com



HATHORN

Hathorn Canada

**255 Shields Court, Unit C
Markham, Ontario, Canada
L3R 8V2**

+1 (866) HATHORN

Hathorn USA

**739 North Wilson Road
Columbus, Ohio, USA
43204**

+1 (855) 863-9226