Sewerlink

Operator Manual

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Introduction

Intended Use: The Sewerlink app is designed to operate with a variety of sewer camera systems over Wi-Fi, allowing for video survey of sanitary and storm sewer infrastructure, control and configuration of camera equipment, and project exchange with WinCan Web.

Instructions for Use

1. Review safety precautions for operating your camera.
2. Complete system setup.
3. Refer to *Operation* section for details on adjustments.
4. Power on the system and check functionality.
5. To perform an inspection, refer to *Operation* section to adjust the system for optimal results.

Requirements

The application must be installed on a compatible device and allowed to make a Wi-Fi connection to the respective camera system.

Supported tablet models (see the manufacturer's instructions for the safe use of these products):

- Samsung Galaxy Tab S (preferred for its daylight-visible LED display, high resolution and wireless performance)
- iPad air 2 or newer
- Microsoft Surface

These are the software requirements:

- Android 5.0 and higher - needs ARM v7 CPU or newer
- Windows 7 or newer (ABSOLUTELY NO Windows RT or Windows Phone, NO ARM CPUs)
- iOS 12.2, only iPad air 2 or newer

The following camera systems are supported:

- DrainSteer
- Jetscan
- Quickview airHD 1.0
- Quickview airHD 2.0
- Quickview airPack
- MyTana

Downloading and installing the Sewerlink app

1. Start the tablet device and connect to the Internet
2. Go to envirosight.com and navigate to the software download section for your camera.
    a. Android
    b. Windows
    c. iOS (via Apple AppStore)

Operation

Powering On - Quickview and DrainSteer:

1. Press the power button on the camera. The indicator will flash green or red when activated.
2. Wait up to 1 minute for the indicator to turn solid green or red, the camera is now ready for use.
3. Start the Sewerlink app on the tablet. On Windows and Android the app will search for any active Quickview or DrainSteer systems. On iOS active camera system has to be chosen manually by selecting proper WiFi network in system settings.
4. When your system appears on the app display, choose your connection method.
    a. *Connect*: Allows the tablet to fully control the camera
    b. *Connect (View Only)*: Allows the tablet to only view the video image from the camera.

Powering Off - Quickview and DrainSteer:

1. When exiting the application connected to camera by *Connect* method, the app will prompt to shut down the camera.
2. Alternatively, press the power button on the camera and the indicator will flash green. Press the power button again and the indicator will turn off, confirming the camera has been shut down.

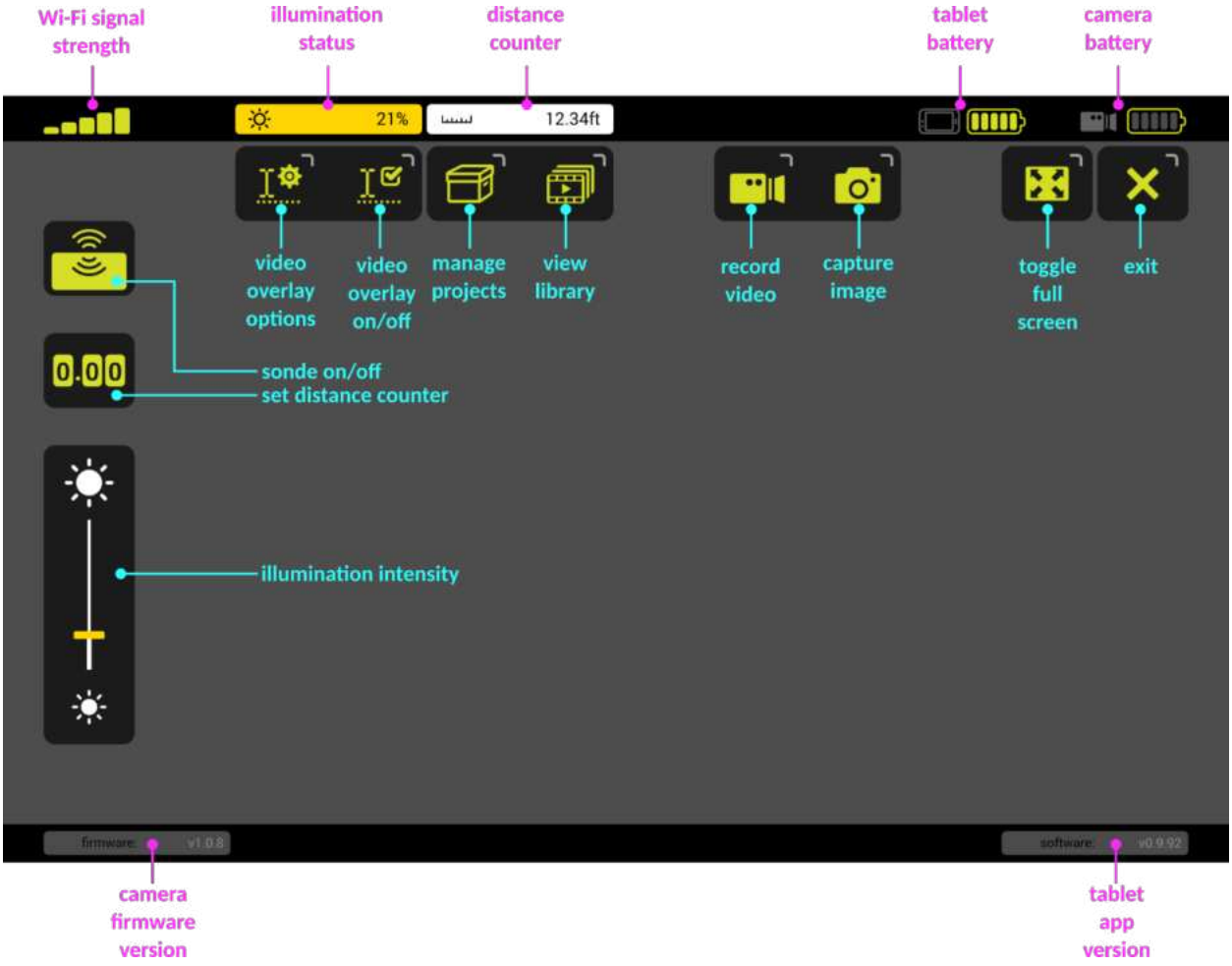
Powering On – Jetscan and MyTana:

1. Press the power button on the camera. The camera light will start flashing when activated.
2. Wait up to 1 minute for the light to stop flashing, the camera is now ready for use.
3. Start the Sewerlink app on the tablet. On Windows and Android the app will search for any active Jetscan or MyTana systems. On iOS active camera system has to be chosen manually by selecting proper WiFi network in system settings.
4. When your Jetscan system appears on the app display, choose *Connect*.

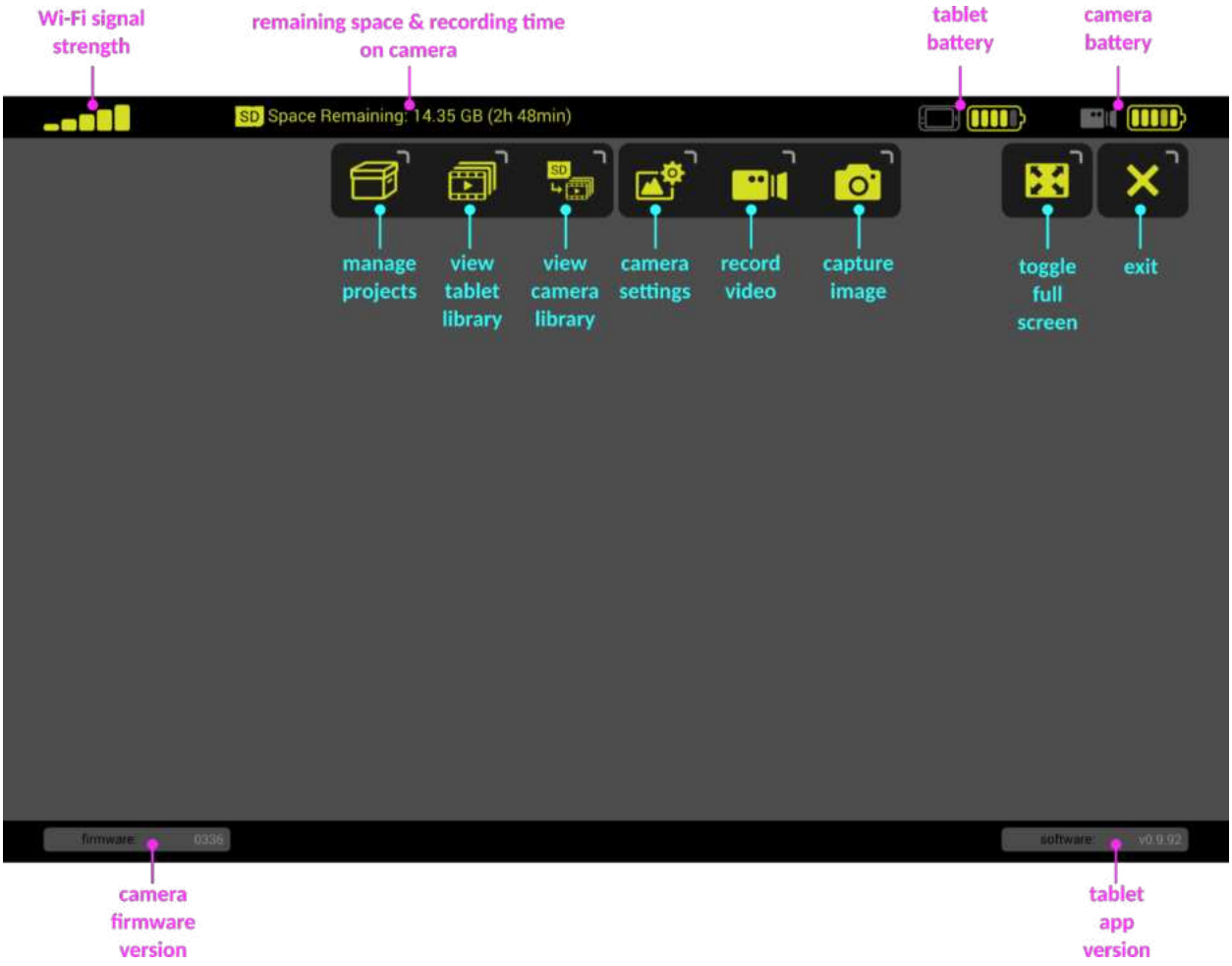
Powering Off – Jetscan and MyTana:

1. Either Jetscan or MyTana systems cannot be shut down remotely from the tablet.
2. Jetscan will power off automatically after about 5 minutes when idle (i.e. not connected and not recording video). Alternatively, press the power button on the camera and the camera light will flash. Press the power button again and the light will turn off, confirming the camera has been shut down.
3. For MyTana just press the power button once and camera will immediately turn off.

Control Functions – DrainSteer and JetCam

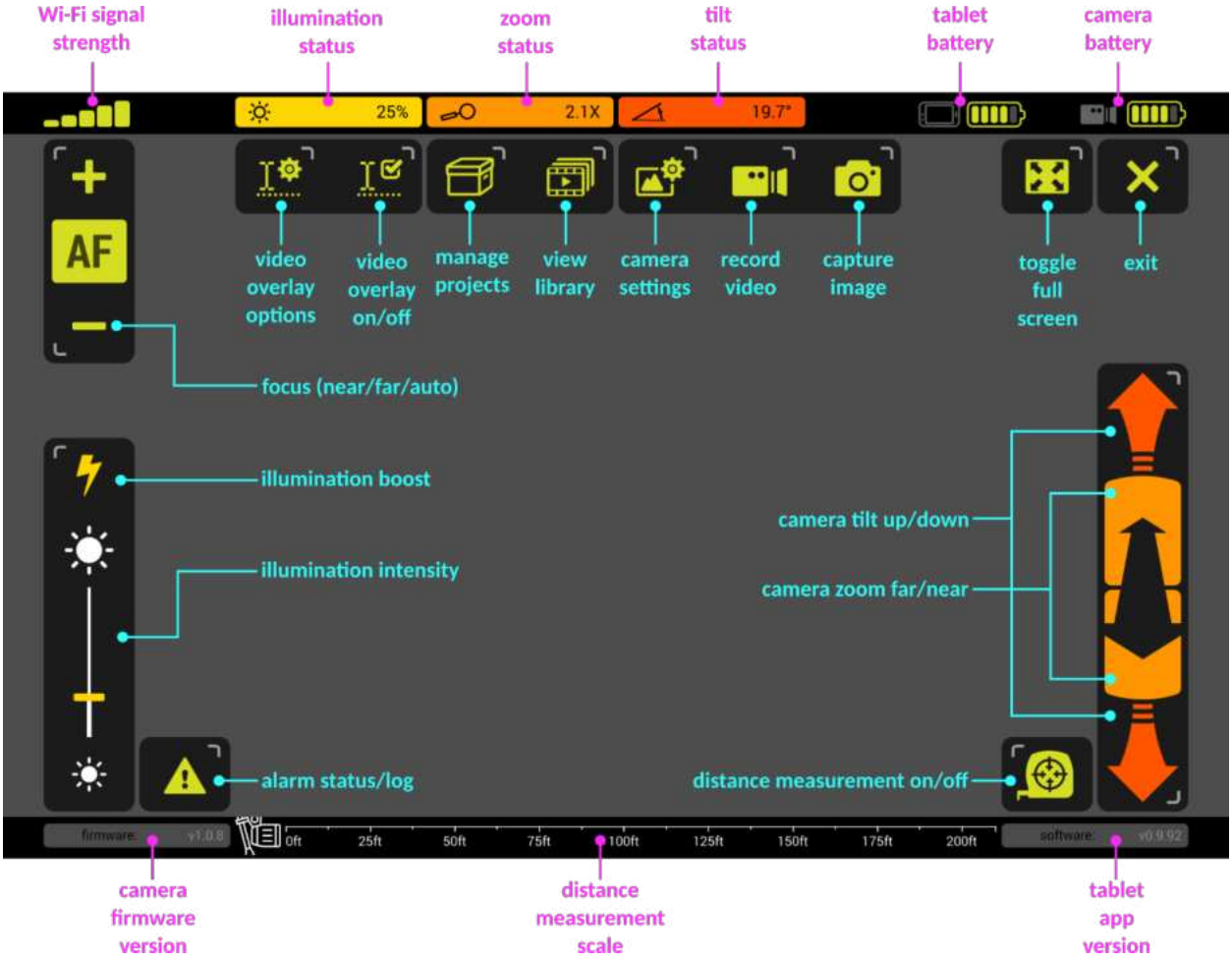


Control Functions – Jetscan and XPECTION LITE



Control Functions - MyTana

Control Functions - Quickview



Control Functions:

Camera Zoom: Press the upper arrow to zoom in, the lower arrow to zoom out.

Camera Tilt: Press the upper arrow to tilt up, the lower arrow to tilt down.

Camera Focus: Press AF to toggle auto-focus. Press (+) and (-) to adjust manual focus. *When you press (+) or (-), auto-focus will toggle off automatically.*

Illumination: Press the lightening icon to toggle illumination boost (a yellow icon means boost is active); illumination boost will stay active until turned off, or until it generates excessive heat (at which point the system will disable boost).
Boost is available for Quickview airHD only.

Slide the bar to adjust illumination intensity.

Image settings: Access a menu that lets you toggle picture flip, picture enhancement, defog mode, and shutter (faster/slower/auto).

Sonde on/off: Switch the integrated sonde on or off.
Available for DrainSteer / JetCam only.

Distance measurement on/off: Turn distance measurement on or off - either the laser-based measurement or focus-/zoom-based estimate depending on which method is selected in settings.
This feature is available for Quickview airHD models only. Laser-based measurement requires the "laser accessory for Quickview airHD".

Set distance counter: Input or reset distance counter.
Available for DrainSteer / JetCam only.

Viewing/Recording Functions:

	Full-screen mode: Toggle full-screen mode on/off.
	Record video: Start recording video. When recording, a submenu will allow you to pause or stop recording. • When working with projects, the video will be associated with the selected survey and saved to the project's video folder. • In case of simple mode (no automated file & folder management) you will be prompted where to save the video. **Jetscan / XPECTION LITE**: Videos are stored on the camera's SD card instead and can be viewed and downloaded from the camera library.
	Capture still image: Capture a still image from live or recorded video. • When working with projects, the photo will be associated with the selected survey and saved to the project's photo folder. • In case of simple mode (no automated file & folder management) you will be prompted where to save the photo. **Jetscan**: Photos are stored on the camera's SD card instead and can be viewed and downloaded from the camera library.
	Manage projects: Open the project management screen to create or open a project. Once a project has been opened, this button changes to *Manage surveys*.
	Manage surveys: Open the survey overview screen to manage surveys, input survey data and to select the survey for working on.
	View tablet library: Access the library on the tablet to review saved video and images.
	View camera library: Access the library on the Jetscan camera to review saved video and images.
	Text Overlay Setup: Configure dynamic variables (GPS coordinates, zoom setting, etc.) and custom text to be displayed onscreen and in recorded videos and images.

	Text Overlay On/Off: Toggle the display of onscreen text.
	Alarm: Icon will flash orange when there is an active alarm (pressure, temperature, current). Pressing the button will allow you to view active and logged alarms, as well as clear alarm history.

Troubleshooting

Wi-Fi Connectivity

The following factors may contribute to poor-quality or interrupted video:

- **Signal Interference:** Environments where there is significant Wi-Fi traffic (offices, parks, malls, sports venues) may impede the camera's communication with its host tablet. Avoid these areas. Restarting the camera head (in order for it to auto-select a quieter Wi-Fi band) may also help, as may leaving personal devices behind in the vehicle. Bluetooth devices may also interfere with Wi-Fi. Please make sure that you have disabled Bluetooth on your tablet! Keep clear of other Bluetooth devices such as headsets, keyboards, joysticks etc.!
- **Physical Obstructions:** Deep and narrow-diameter manholes may have an adverse impact on transmission of video. In such circumstances, performance will improve if the tablet is held over or near the manhole, and coplanar to the ground surface.

Working with Projects and WinCan Web

The app by default uses projects to organize photos and videos from your inspections, i.e. it stores media files below a project folder along with additional project data.

Each project is grouped into surveys - you create a survey by specifying upstream and downstream manholes as well as the survey direction (upstream, downstream or unknown). Photos you take and videos you record will be linked to the survey of your choosing for correct archival and quick viewing later on.

Provided you have an account for WinCan Web you can use it to upload a Sewerlink project - it gets converted on the fly to a WinCan VX project with all your survey data being preserved.

The following is a step-by-step guide on how to operate your camera and conducting surveys:

1. Set up your camera and turn it on. Start up the app on your tablet.
2. Once the camera shows up in the list of available systems, select *Connect*.
3. When a connection between tablet and camera has been established, you may want to take a photo or start video recording. Pressing the respective button will bring up the Project Management Screen. From there choose *Create Project* and enter a name for your project.
4. After the project has been created, the Survey Overview Screen will show up and inform you that there are currently no surveys available, so create one by choosing *Create Survey* and fill in the manhole names and survey direction. Finally, select *Apply*.
5. So far you have created a project and a survey - now everything is set up for the actual inspection - you can now start video recording and take photos.
6. When you are done with your survey, move your camera on to the next manhole. If you turned off your camera to do that you need to connect to it again. By pressing the video or photo buttons the app will ask you whether you want to continue your last project where you left off.
   In any case, open the Survey Overview Screen again, create a new survey, enter the required information and proceed with video recording and taking photos just as you did before.
7. After finishing your project, you can upload it to WinCan Web. Connect your tablet to the Internet over Wi-Fi or a cellular network. From the Start Screen, choose *WinCan Web* enter your account credentials and log in.
8. Following the log in you will be presented with a list of projects stored on your tablet. Choose the one you want to upload and select *Start Upload*.
9. Once the upload is finished you will receive an email when WinCan Web has finished processing the project and it is ready to use - either from a web browser or WinCan VX itself.
10. There is also a possibility to download already existing projects form WinCan Web. The projects may be either created by WinCan VX or created in previous Sewerlink app session. If you want to download the project go to the Start Screen, choose *WinCan Web* enter your account credentials and log in. Next select *Web Projects* tab. Under this tab you will be presented with a list of projects stored on yours WinCan Web account. Choose the one you want to download and select *Start Download*. The project will be downloaded with all information's about its structure, manholes and already created surveys, but without any multimedia (i.e. already recorded videos and photos). After downloading you can continue to work with project and update it with new surveys or newly recorded videos and photos in the same way as it was described in previous points.

App Settings

Miscellaneous

- **Auto Pause (Quickview only):** Select auto pause for automatic power saving by turning off camera light and pausing video recording after a time of running idle.
- **Distance Measurement (Quickview airHD only):** Choose either the laser rangefinder accessory for high-precision measurement or the camera focus for a ballpark estimate of the distance.
- **Enable Quickview Pressure Alarm (Quickview airHD only)**: Flashes the alarm button
- **Language:** Select the language used throughout the app. Also affects number formatting (i.e. decimal separators).
- **Measurement System:** Choose between metric and US/imperial for displaying any specific values.
- **Wi-Fi Interface (Windows only):** if you have multiple Wi-Fi cards or USB sticks connected to your computer, choose here which one the app should use for communicating with your Quickview. After changing this setting, you need to restart the app for the changes to take effect.
- **Zoom Using Double Tap:** Do a double tap on the increase/decrease buttons to zoom automatically to the maximum or minimum.

Photo & Video

- **Add Geo Tags to Photos (Android only):** Choose to embed GPS coordinates into your photos (JPEG format only) to allow for finding out later exactly where they were taken.
- **Always Use Software Decoding:** Mostly used for compatibility with older Android devices. Try this if you cannot get a video from your camera at the cost of a slightly higher video delay.
- **Add User Defined Text as Comment to Photos:** Embed the user defined texts in the overlay text settings as metadata into your photos for easier processing by 3rd party inspection software later on.
- **Photo File Format:** Choose PNG for better image quality and JPEG for smaller file size.
- **Save Media Files Also to System Gallery (iOS only):** Captured photos and videos are exported to the standard iOS media gallery. From there they can easily be viewed using the Photos app, uploaded to iCloud or synced to a PC.
- **Video Scaling (Quickview airPack only):** Especially useful for high-resolution/retina screens, select whether you want the video to be displayed at its original size (which may be too small depending on the screen), or at twice its original size (if the screen is large enough). If you are unsure, choose "fit video to screen" to have it cover the whole screen.
  All settings take the video's aspect ratio into account, depending on your screen you may encounter black borders at the top and bottom of the video.
  Affects video display only, does not have any effect on recorded video.
- **Write Multimedia Log File:** Useful only for direct support from Envirosight, creates log file for troubleshooting video issues.

Projects

These settings determine how the app organizes your photos and videos.

- **Work project-based:** In this mode, the app organizes photos and videos automatically within a project folder (named Sewerlink-Projects) along with survey data. Only by using this mode you can take advantage of the **WinCan Web** upload feature.
- **Work project-based using custom base directory:** the enhancement of the previous mode. The app organizes photos and videos automatically along with survey data in any custom folder selected in app settings. **In this mode WinCan Web is not available.**
- **Work without automated project & folder management (Simple Mode):** Recommended for using the app for the first time. Mostly used with Jetscan / XPECTION LITE, DrainSteer / JetCam or MyTana systems. The app makes only the most basic features in this mode available. You need to specify names and folders for your photos and videos yourself each time you are taking photo or record video.
- **Work without automated project & folder management using custom base directory (Simple Mode):** the enhancement of the Simple Mode. In this mode you need to specify storage folder for photos and storage folder for videos in the app settings. Then all your photos and videos will be by default saved in those folders without any additional folder selection.

Surveys

- **Default Operator Name:** Every newly created survey will have the default operator name filled in automatically.

Video Overlay

You can change video overlay related settings only when the app is connected to a Quickview or DrainSteer system. Jetscan does not support video overlay, hence this functionality is not available.

Texts

Choose the texts you would like to see overlaid onto video. Note that some texts depend on hardware features, e.g. distance measurement is unavailable for Quickview airPack.

Text Appearance

Specify where to place the text on the video and choose the text colors.

Logo

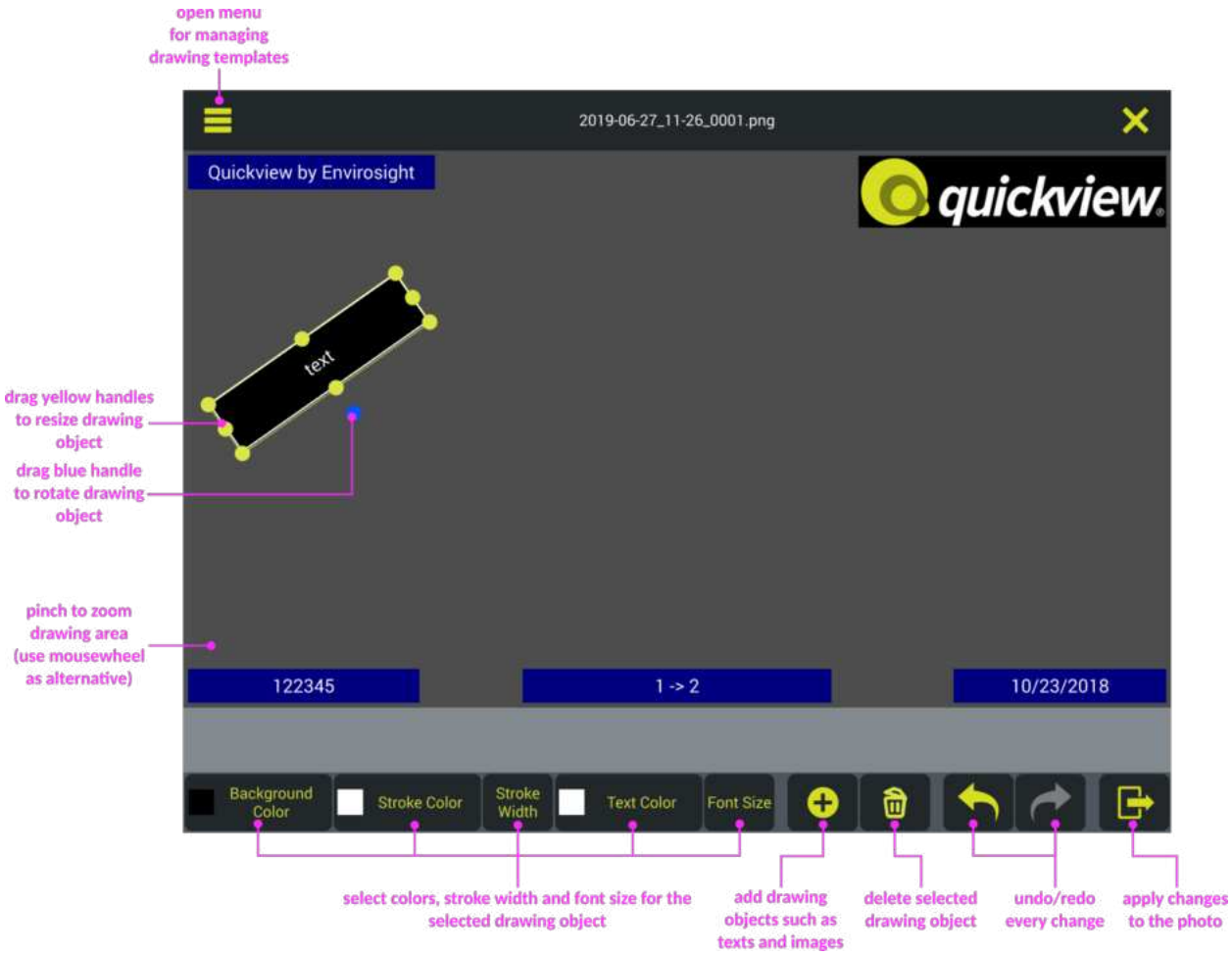
Available only for Quickview airHD 2.0 and DrainSteer, you can overlay your company logo onto the video and specify where to place it. The logo can be in JPEG or PNG format and will be scaled down automatically if it is too large.

Photo Editor

The Sewerlink app contains a photo editor allowing you to easily add texts, logos and other mark-up to your photos. This is especially useful for Jetscan which does not support video overlay but can also be used for Quickview and DrainSteer.

To load a photo into the editor, open the photo in the media gallery first, then click the edit button at the bottom right of the view screen.

Editor Commands



Drawing Templates & Special Texts

Suppose you want your company logo and company text shown in every photo. To avoid adding both logo and text by hand every time, you can save these as a drawing template (see top-left menu).
When you open another photo, you can load that template again, and both logo and text will be added automatically at the respective position, saving you both time and effort.
You can also add special texts as placeholder for dynamic data like survey name, date and time to a template. For example, when you add the special text for survey name, it will be filled in automatically with the name of the survey the photo belongs to - no need to enter it manually.

Finally, these templates can be applied directly after downloading photos from Jetscan over Wi-Fi.

Note that photo sizes vary between camera systems and video resolution settings. The app includes predefined sample templates for every supported camera and resolution so you can easily try them out.

Media Import

This feature is only available on Windows and applies specifically to Jetscan. If transferring media files stored on the camera's SD card over Wi-Fi is too slow you can also transfer them via USB.

When working with projects:

1. Connect your Jetscan system with a USB cable to your Windows PC.
2. After a short delay a new drive CAM_SD will appear in Windows Explorer, giving you access to the photos and videos stored on the camera's SD card.
3. Start the Sewerlink app and open a project.
4. Open the Survey Overview Screen and choose *Import Media...* from the top-left menu.
5. Choose the folder where the app should search for media files - normally you would choose the CAM_SD folder, but you can also import from another folder.
6. When the scan has completed, the *Search Results* tab will display a list of media files available for import. Only files which belong to the current project will be listed there, all other files are filtered out automatically.
7. Press *Start Import* to copy the files to the folder of your project.

When working with directories:

1. Connect your Jetscan system with a USB cable to your Windows PC.
2. After a short delay a new drive CAM_SD will appear in Windows Explorer, giving you access to the photos and videos stored on the camera's SD card.
3. Start the Sewerlink app.
4. Click *Import Media...* on the start screen.
5. For setting up the search, choose the folder where to search for media files, and the folders where photos and videos should be placed.
6. Click *Start Scan*.
7. When the scan has completed, the *Search Results* tab will display a list of media files available for import. Only photo and video files will be listed there, any other files will be ignored.
8. Press *Start Import* to copy the files to the respective photo and video folders.

GPS Support

- On Android and iOS, the integrated GPS sensor of the tablet will be used to obtain your current position.
- On Windows, you need a NMEA-compatible GPS receiver (normally connected via USB or serial port). Note that Microsoft Surface laptops in general do not have GPS built in, so an external GPS receiver is necessary to make use of the GPS features – the app will however work fine without one.

File Transfer

Windows

By the default the app creates a folder "Sewerlink-Projects" in your user's home directory, so file transfer can be done using Windows Explorer.

Android

Under Android the app also creates a main " Sewerlink -Projects" folder. The exact location of that folder depends on your device and Android version. To offload your files from an Android tablet to a Windows PC, connect your Android device via USB to your PC. If you do this the first time, Windows will install the required drivers automatically which may take a while. After successful installation the Android device should appear as separate drive in Windows Explorer.

iOS

iOS does not allow for direct access of the files using Windows Explorer. You need to use Apple iTunes or iCloud for transferring the files. For further information please refer to these official support documents from Apple:

- https://support.apple.com/en-gb/HT201301
- https://support.apple.com/en-us/HT204283

License

1. Under this Software License Agreement (the "Agreement"), CD Lab AG (the "Vendor") grants to the user (the "Licensee") a non-exclusive and non-transferable license (the "License") to use Sewerlink (the "Software").

2. "Software" includes the executable computer programs and any related printed, electronic and online documentation and any other files that may accompany the product.

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6. The Software may not be modified, reverse-engineered, or de-compiled in any manner through current or future available technologies.

7. The Software may not be used for operation of equipment not manufactured by Envirosight, iPEK, Optronic or MyTana.

8. Failure to comply with any of the terms under the License section will be considered a material breach of this Agreement.

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9. The original product purchase price paid by the Licensee will constitute the entire license fee and is the full consideration for this Agreement.

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12. The Vendor does not warrant that use of the Software will be uninterrupted or error-free. The Licensee accepts that software in general is prone to bugs and flaws within an acceptable level as determined in the industry.

Warrants and Representations

13. The Vendor warrants and represents that it is the copyright holder of the Software. The Vendor warrants and represents that granting the license to use this Software is not in violation of any other agreement, copyright or applicable statute.

Acceptance

14. All terms, conditions and obligations of this Agreement will be deemed to be accepted by the Licensee ("Acceptance") on installation of the Software.

User Support

15. No user support or maintenance is provided as part of this Agreement.

Term

16. The term of this Agreement will begin on Acceptance and is perpetual.

Termination

17. This Agreement will be terminated and the License forfeited where the Licensee has failed to comply with any of the terms of this Agreement or is in breach of this Agreement. On termination of this Agreement for any reason, the Licensee will promptly destroy the Software or return the Software to the Vendor.

Force Majeure

18. The Vendor will be free of liability to the Licensee where the Vendor is prevented from executing its obligations under this Agreement in whole or in part due to Force Majeure, such as earthquake, typhoon, flood, fire, and war or any other unforeseen and uncontrollable event where the Vendor has taken any and all appropriate action to mitigate such an event.

Governing Law

19. The Parties to this Agreement submit to the jurisdiction of the courts of the State of New Jersey for the enforcement of this Agreement or any arbitration award or decision arising from this Agreement. This Agreement will be enforced or construed according to the laws of the State of New Jersey.

Miscellaneous

20. This Agreement can only be modified in writing signed by both the Vendor and the Licensee.

21. This Agreement does not create or imply any relationship in agency or partnership between the Vendor and the Licensee.

22. Headings are inserted for the convenience of the parties only and are not to be considered when interpreting this Agreement. Words in the singular mean and include the plural and vice versa. Words in the masculine gender include the feminine gender and vice versa. Words in the neuter gender include the masculine gender and the feminine gender and vice versa.

23. If any term, covenant, condition or provision of this Agreement is held by a court of competent jurisdiction to be invalid, void or unenforceable, it is the parties' intent that such provision be reduced in scope by the court only to the extent deemed necessary by that court to render the provision reasonable and enforceable and the remainder of the provisions of this Agreement will in no way be affected, impaired or invalidated as a result.

24. This Agreement contains the entire agreement between the parties. All understandings have been included in this Agreement. Representations which may have been made by any party to this Agreement may in some way be inconsistent with this final written Agreement. All such statements are declared to be of no value in this Agreement. Only the written terms of this Agreement will bind the parties.

25. This Agreement and the terms and conditions contained in this Agreement apply to and are binding upon the Vendor's successors and assigns.

Notices

26. All notices to the Vendor under this Agreement are to be provided at the following address:

CD Lab AG, Irisweg 12, CH-3280 Murten

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North & South America:

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