



Operating Manual

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SIMPLY CLICK TO JUMP TO THE DESIRED SECTION

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Product description of the machine

INTENDED USE

The NSP3CT MHC electronic manhole inspection device is used for inspecting shafts and cavities. Operation is permitted only by qualified personnel. The manhole inspection device is only used as intended if all specifications contained in this manual are observed.

- Safety
- Operation
- Maintenance and Maintenance

IMPROPER USE

Any other or additional use will be considered improper use.

In the event of improper use, the manufacturer's liability under the Product Liability Act is void.

Technical Data

TECHNICAL DATA CAMERA SYSTEM

Deployment range	DN150 and larger
Resolution	1920 x 1080p
Light Sensitivity	0,05 LUX
Optical Zoom	30x
Digital Zoom	16x
Focus Mode	Autofocus/Manually adjustable
Tilt range	-90° to +20°
Pressure resistance	1 bar
Lighting	2 X 1,5 W LED with Reflector 2 X 9 W LED (medium range) 2 X 3 W LED (close range)
Power supply	3 X Batteries (2.5h Runtime)
Data transmission	WIFI
WIFI Repeater	optional
Steering	Android-Tablet (App)
Case material	Anodized Aluminum
Dimensions	163 X 158 X 773 mm
Weight	approx. 3 kg (without Tripod)
Operating temperature	0 to 40°C
Detection distance	1.5 to 70 m
Measurement accuracy	±5cm
Protection class	IP68

TECHNICAL DATA TELESCOPIC POLE

Material	Carbon fiber
Length	8 m
Extension	4 m
Centering Bracket	0,8 m
Weight	2 kg / Extension 1.2 kg

Product Overview MHC

CAMERA WITH DISTANCE METER AND CENTERING GUIDE



CAMERA WITH TELESCOPIC POLE AND WIFI REPEATER



BATTERY



WIFI REPEATER (OPTIONAL)



ACCESSORIES

Storage for telescopic pole and camera case

Tripod

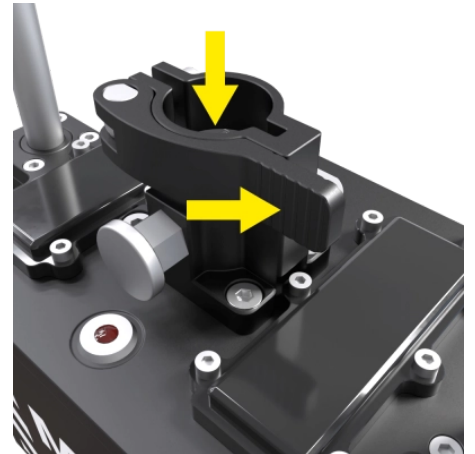
Charger

Commissioning

SETUP

1. COMMISSIONING

- a. Open the lock
- b. Insert telescopic rod into the locking unit
- c. Close the clamp
- d. Check the fit
- e. Assembly complete



NOTICE

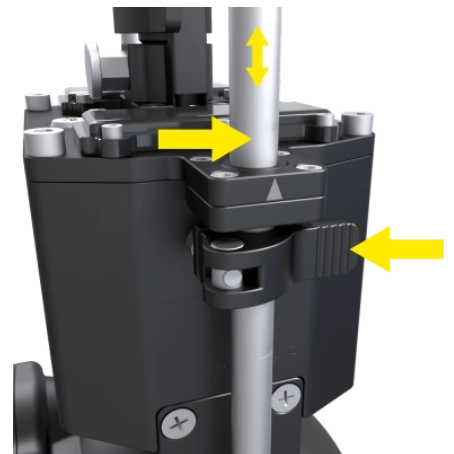
FREE FALL OF PARTS OF THE SYSTEM

- Check the fit of the telescopic pole.
- Check the fit of the bracket.

SETUP

2. ADJUST PIPE DIAMETER

- a. Open the brackets on both sides and adjust the camera height using the scale.
- b. Close the bracket.



SETUP

3. INSTALL SYSTEM REPEATER

1. Attach the repeater to the telescopic pole mount and secure it.



NOTICE

FREE FALL OF THE REPEATER

- Insert the repeater completely.
- Check that it is firmly seated.

SETUP

4. CHARGE THE SYSTEM

- a. To charge, the components are placed in the charger.
- b. The display shows the status.

Operation / User Interface

TURN ON/OFF

TURN ON

Press the camera's power button and wait until the LED lights up.

TURN OFF

Close the app on the tablet. Then press the camera's power button to turn off the system. The LED will flash. Pressing the button again will turn the camera off completely.

ESTABLISH CONNECTION BETWEEN THE COMPONENTS

The camera is designed for use with a Wi-Fi connection. Use an Android tablet and launch the app.

It will then search for all available devices on the Wi-Fi network. Connect the tablet to the device. **Allow the app access to the tablet's features (image gallery, GPS, and location services).**

By default, the Wi-Fi name is the device name and the password is: 12345678

USE

The app's user interface is simple. In the basic layout, the sidebars are displayed on the left and right.

FUNCTION KEYS

- Camera panning
- Camera zoom/focus
- Adjust lighting
- Start video recording
- Take a photo
- Switch off

The current live image is always displayed in the background, possibly with data overlays.

CHARGING THE DEVICE, BATTERIES AND REPEATER

The channel mirror's batteries and charger are designed for a long service life and short charging times. When the charge level indicator on the battery in the device shows only one bar, it's time to charge the battery.

1. Insert the battery module into the charging station.
2. Connect the charging device to the mains.
3. Disconnect the charging device from the mains after it is fully charged.
4. Remove the battery from the charging station after it is fully charged.



OPTIONAL: ATTACHMENT OF THE TRIPOD

1. Attach the tripod to the carbon rod at a height of approximately 1 to 1.5 meters.
2. Open the clamps on the tripod legs at the top to extend them. Then close the clamps again. Ensure the tripod is stable.

Overview of the function keys and display elements



TURN ON/OFF

Captures a picture of the current camera image.



CAPTURE PICTURE
CAMERA SYMBOL

Captures a photo of the current camera image.



RECORD VIDEO RECORD SYMBOL

- **Press the record button:** Recording starts. The button changes to the “Pause” icon.
- **Press the pause button:** Pauses recording. Timecode pauses. The button changes to the “Record” icon.



CONTROL LIGHTING LIGHTBULB SYMBOL

Pressing the button opens a slider for continuous adjustment of the lighting intensity,



DISTANCE MEASUREMENT LASER MEASUREMENT SYMBOL



DEFOGGING LENS SYMBOL

Press the defogging button The camera lens is heated to prevent or eliminate fogging caused by humidity.



MEDIA PREVIEW GALLERY SYMBOL

Opens the image and video preview as well as controls and file information for the selected image or video



SETTINGS

Leads to the camera settings menu



CHARGING STATUS

BATTERY SYMBOL

Shows the current charging status of MHC and tablet



PRESSURE INDICATOR

INTERNAL PRESSURE

Please check the internal pressure before use. If it falls below 0.5 bar, refill. (Target pressure: 0.8 bar).



TILT UP

Tilt camera upwards



CENTER CAMERA/RESET ZOOM

LEVEL SYMBOL



TILT DOWN

Tilt camera downwards



ZOOM IN

MAGNIFYING GLASS/PLUS ICON



ZOOM OUT

MAGNIFYING GLASS/MINUS ICON



MANUAL FOCUS

FOCUS SYMBOL

Opens function keys for manually adjusting the focus area.

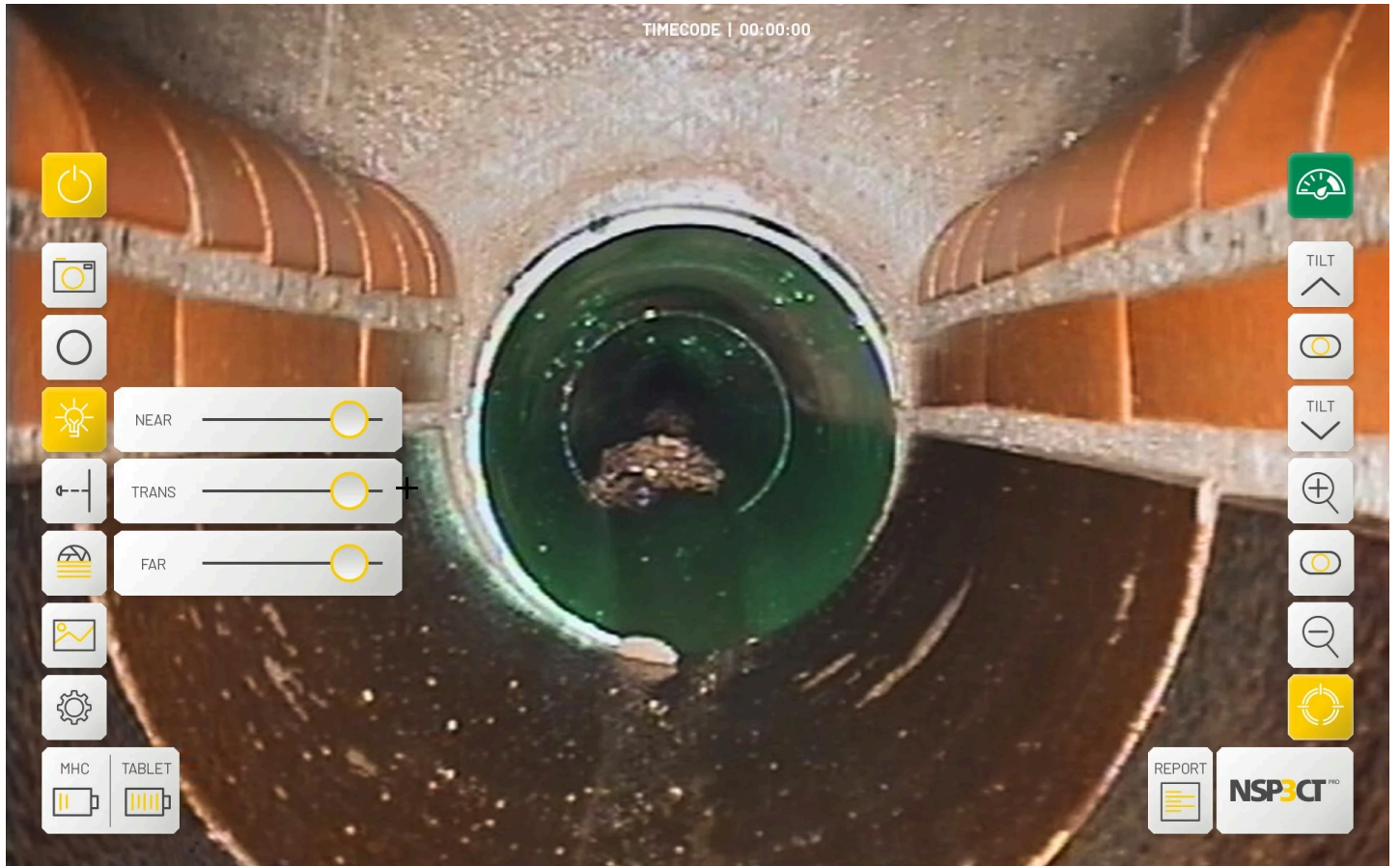


REPORT

DOCUMENT SYMBOL

Generate a report.

Control lighting



CONTROL LIGHTING SLIDER

- **Move slider to the left:** Decreases lighting intensity
- **Move slider to the right:** Increases lighting intensity

- **NEAR:** Near Field
- **TRANS:** Transition Field
- **FAR:** Far Field

Distance measurement



DISTANCE DISPLAY LASER MEASUREMENT SYMBOL

Press the laser measurement icon: Distance measurement is started. A display appears next to the button in the user interface and shows the measured distance in meters and centimeters.

Control focus manually



FOCUS ADJUSTMENT BUTTONS

PLUS/MINUS SYMBOL

Press the plus button: The focus is manually adjusted closer to the subject.

Press the minus button: The focus is manually adjusted further away.

Set or change storage location



SET OR CHANGE STORAGE LOCATION QUICK GUIDE

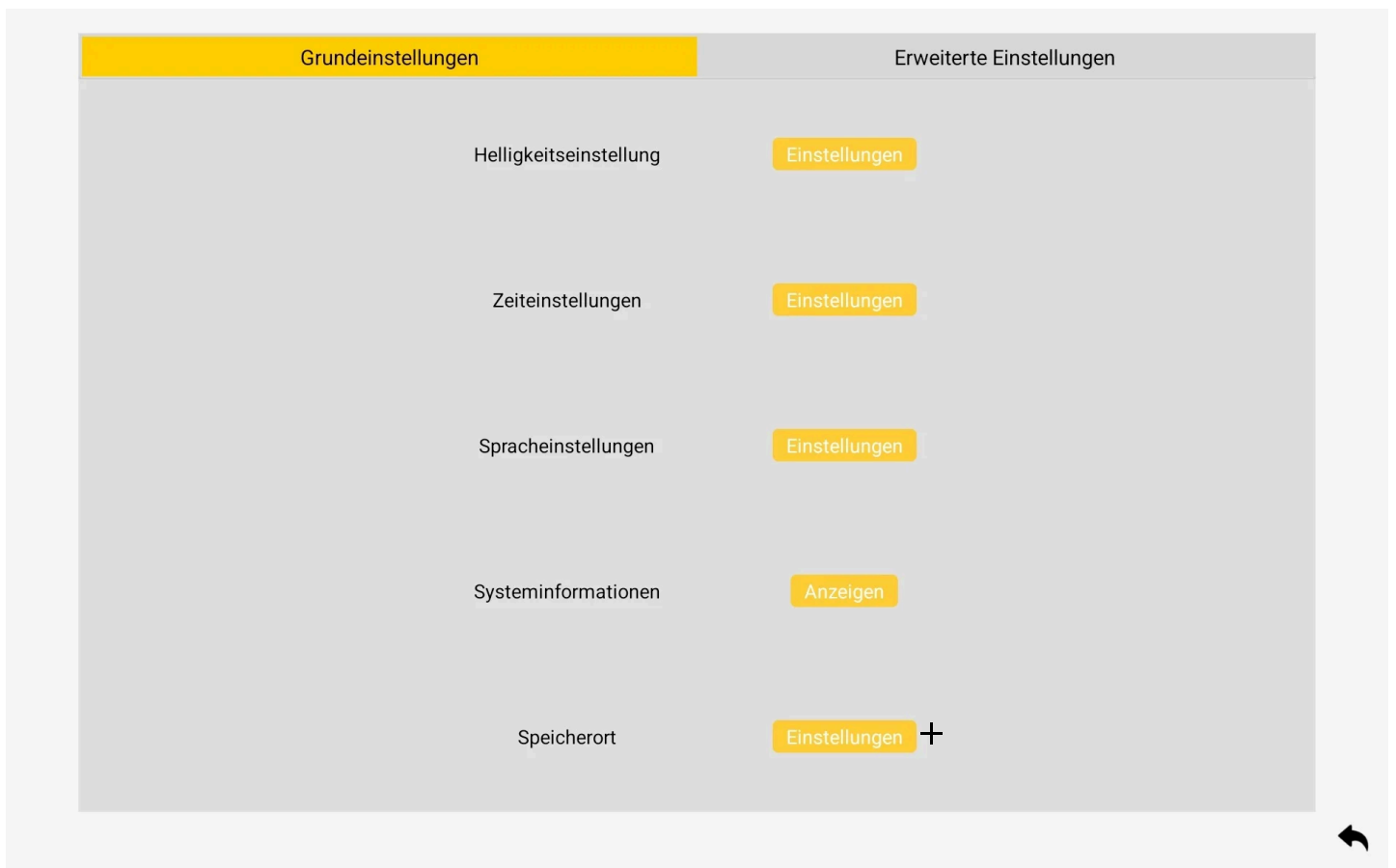
The **Storage Location** in the basic settings determines where the recorded data is saved.

INITIAL SETUP

During the initial installation, the user must select a storage location for the data.

CHANGE THE STORAGE LOCATION LATER

1. Open the **Settings** menu.
2. Select **Storage location**.
3. Decide:
 - **Create a new folder**, or
 - **Select an existing folder**.
4. Check the **save path**.
5. Confirm with **Use this folder**.



Advanced Settings



SETTINGS

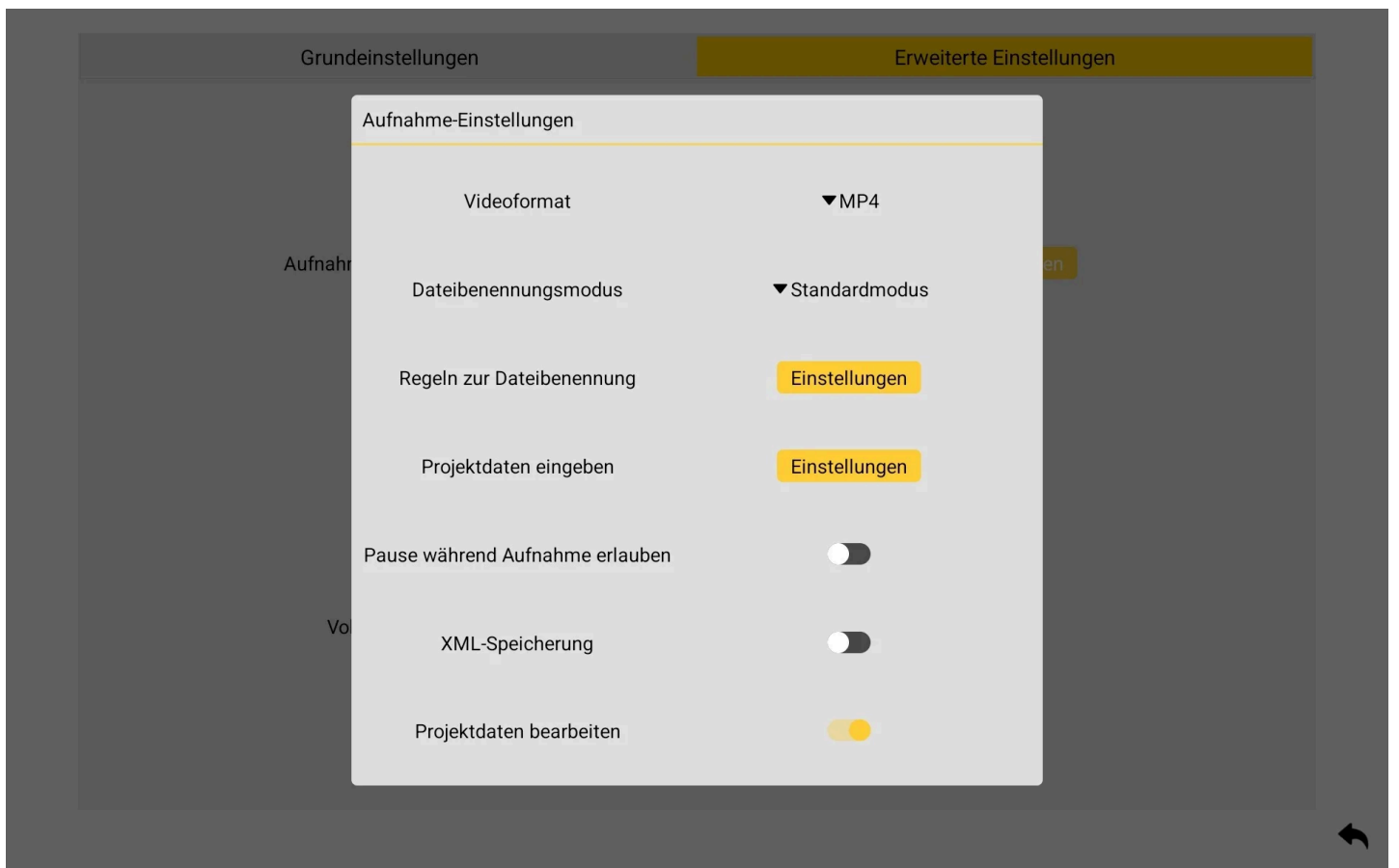
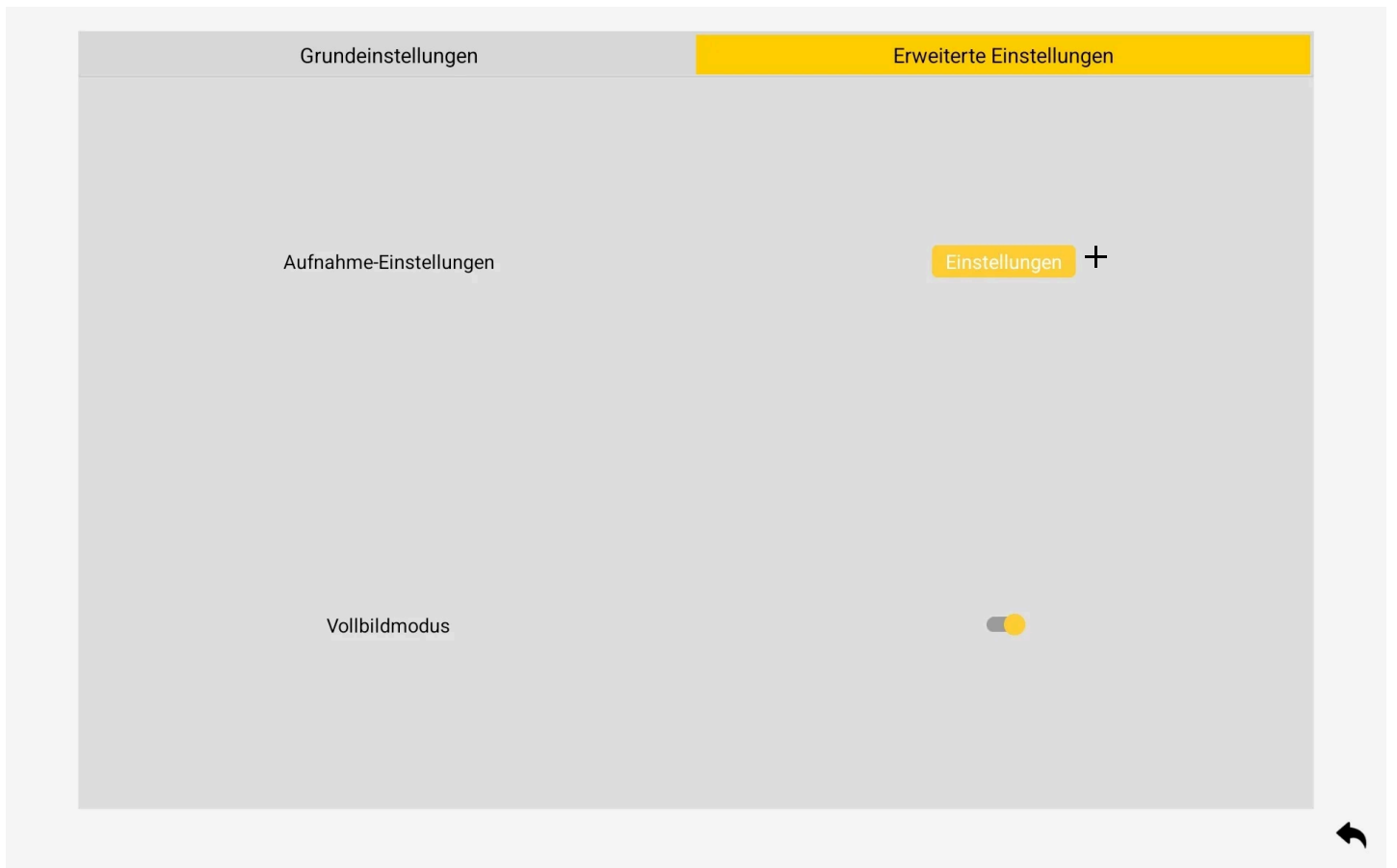
ADVANCED SETTINGS

Under **Settings** → **Advanced Settings**, you can adjust additional options for working with the system.

POSSIBLE ADJUSTMENTS

- Change the output video format
- Set file naming rules
- Store and manage project data

The changes you make will have an immediate impact on future recordings and projects.



Cleaning

Please clean the system after each use to ensure a long service life. Please note the following points:

- Clean the system after each use to ensure a long service life.
- Do not use solvents or high-pressure cleaners for cleaning.

Maintenance and service

The device is essentially maintenance-free. Always keep the device clean and clean it after use. We recommend having the device inspected by your service partner, depending on usage, but at least once every 12 months. Should the device fail despite careful manufacturing and testing procedures, repairs must be carried out by an authorized customer service center or service partner.

For all inquiries and spare parts orders, please be sure to include the device's serial number and the information on the rating plate.

Transport

PREPARATION OF TRANSPORT

1. **Ensure packaging:** Ensure that the device is properly secured or packaged.
2. **Check stability:** Ensure that the channel mirror is stable and securely fixed in the transport box.

MEANS OF TRANSPORT

Selecting the means of transport: Select a suitable means of transport that ensures the safe transport of the device. Ensure that the means of transport offers sufficient space and that the load can be securely secured.

Load securing: Securely fasten the channel mirror or transport box to the means of transport. Use straps or other securing devices to prevent slipping or tipping during transport.

When sending by mail, ensure proper packaging; you are welcome to use the original packaging.

DURING TRANSPORT

Careful handling: Be careful when loading and unloading the channel mirror. Avoid shocks and vibrations that could cause damage.

AFTER TRANSPORT

Safe Storage: Store the MHC in a safe and dry place until ready for use. Observe the general rules for storing batteries.

NOTICE

AFTER TRANSPORT

After transporting or storing the device in extreme temperatures, it is necessary to acclimatize it before use. Allow the device to stand at room temperature (approximately 20°C) for at least 2 hours to prevent condensation and possible damage caused by temperature fluctuations. This ensures optimal functionality and longevity of the device.

Troubleshooting

NO OR BAD PICTURE

- Check the Wi-Fi connection between the camera head and the tablet
- Check the camera head lens

NO OR POOR WIFI CONNECTION

The following conditions may result in reduced video quality or interrupted video signal:

In areas with a high number of Wi-Fi networks, signal and communication disruptions between the camera and the control tablet may occur.

If necessary, use the repeater to obtain a stronger signal.

Safety Instructions

LASER WARNING

- When using the distance meter, pay attention to the laser class.
- Looking directly into the laser beam can cause eye damage.

Action: Never intentionally look into the laser beam or use optical instruments to view the beam.

DANGER OF FALLING

Check the fit of the telescopic pole and repeater before use.

Device Return and Disposal

LEGAL REGULATIONS

The device must be disposed of in accordance with applicable legal regulations. These include, in particular, the Waste Management Act (KrWG) and the Electrical and Electronic Equipment Act (ElektroG).

ENVIRONMENTALLY FRIENDLY DISPOSAL

Ensure that the device is disposed of in an environmentally friendly manner to avoid negative impacts on the environment. Separate the individual parts (e.g., batteries). Do not dispose of the sewer mirror in general waste or unsorted commercial waste.

PURELY COMMERCIALY USED DEVICES

This device is a “purely commercial device” within the meaning of the WEEE Directive and may not be disposed of at municipal collection points like consumer devices such as washing machines, video recorders, or standard PCs.

NOTICE

The WEEE symbol of the crossed-out wheeled bin on your device indicates that it is a WEEE-relevant device that must be disposed of separately. This symbol is not mandatory in EU countries such as Germany for purely commercially used devices, but is used consistently throughout Europe by NSP3CT.PRO GmbH. The symbol does not imply return to municipal collection points!

If you need assistance with disposal or material regulations, please contact us.

Warranty conditions

SCOPE

These warranty conditions apply to all electronic devices with batteries sold by our company in the B2B sector.

WARRANTY PERIOD

The warranty period is 12 months from the date of purchase. The warranty period begins on the invoice date.

WARRANTY SERVICES

1. **Repair or Replacement:** During the warranty period, defective devices will be repaired or replaced at our discretion.
2. **Refund:** If repair or replacement is not possible, we will refund the purchase price.

EXCLUSIONS

The following are excluded from the warranty:

- Damage caused by improper handling, installation, or use.
- Damage caused by external influences such as fire, water, or force majeure.
- Consumable parts, such as batteries, which are subject to natural wear and tear.

PROCEDURE IN THE EVENT OF A WARRANTY CLAIM

1. **Contact:** In the event of a warranty claim, please contact our customer service or your local service partner.
2. **Return:** Send the defective device back to us along with a return form and a detailed description of the fault.
3. **Processing:** After receiving and inspecting the device, we will initiate the necessary steps to fulfill the warranty.

Limitation of Liability

SCOPE

Our liability under this warranty is limited exclusively to the services listed above. Further claims, in particular for damages, are excluded unless mandatory statutory provisions prevent this.

Legal Information

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WITHDRAWAL

YOUR ACCOUNT

WITHDRAWAL (DIGITAL)

HOME