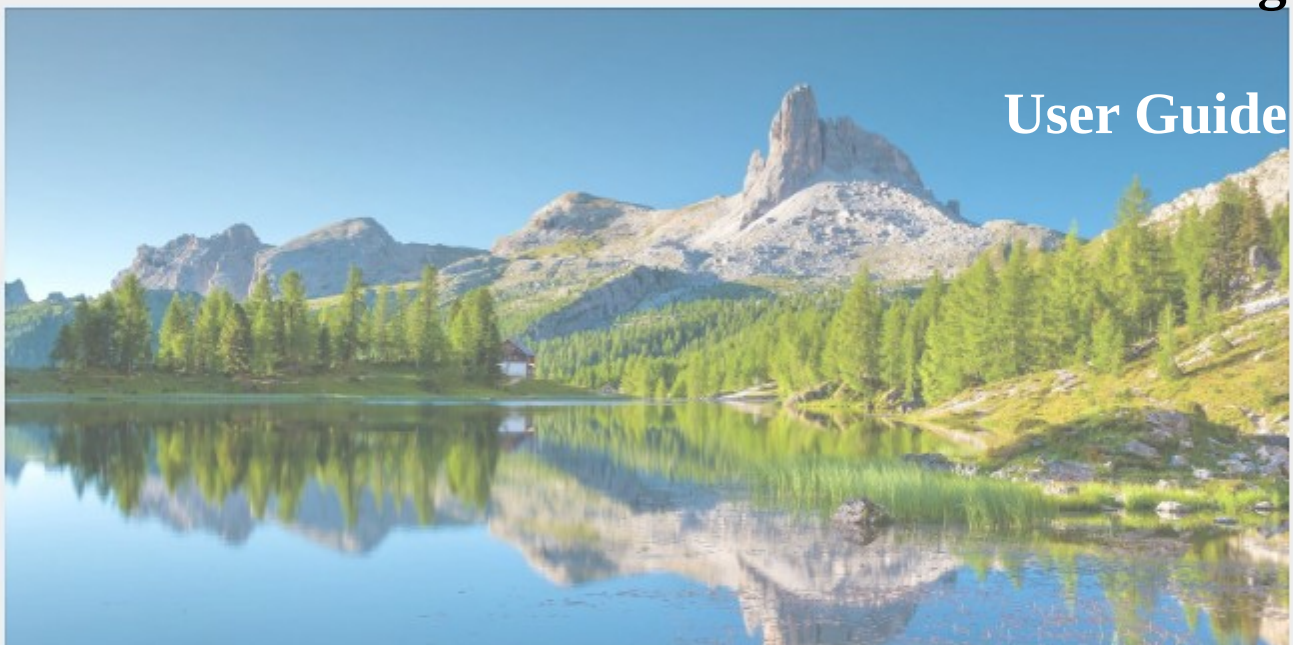




MRX.CraneRadio: Troubleshooting



Instructions

Version 1.2
12. June 2025

Article No.: 2101 9103 65.1 en

1 Introduction

The **MRX.KranFunk** radio system from AZG Tech is used to transmit video streams to construction machinery.

1.1 Aim and purpose of the manual

These troubleshooting instructions are intended for service and installation personnel who install or retrofit **MRX.KranFunk**. Prior knowledge of and training in the basic operation of MRX.KranFunk is assumed.

Errors may occur during the installation of **MRX.KranFunk** or later during operation, which can be found and rectified more easily with the help of these instructions.

The instructions are organised into error patterns that the employee will notice. Based on the error pattern, tests are suggested to localise the cause quickly and effectively. After each test, a decision is made as to what the next step should be. In some cases, explanations are given as to what can be ruled out as the cause after the test.

1.2 Important

Please take the time to read these instructions and the safety precautions carefully.

Even though we always endeavour to publish the latest information in these operating instructions, details may change, which may also affect the display etc.

1.3 Copyright

The contents of this manual are subject to change without notice to improve performance.

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1.4 Publications

Version	Author(s)	Date	Remark
1.2	adi	12.06.2025	Adaptation to current state of HW and SW.
1.1	mjz	29.08.2024	Troubleshooting MRX.battery added.
1.0	mjz	13.12.2023	Released version.
0.1	mjz	03.12.2023	Initial version.

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3 Explanation of the safety symbols

Die Begriffe GEFAHR, WARNUNG, ACHTUNG und HINWEIS werden im gesamten Handbuch verwendet, um wichtige und kritische Informationen hervorzuheben. Sie müssen diese Hinweise lesen, um die Sicherheit zu gewährleisten und Produktschäden zu vermeiden.

Die Anweisungen sind nachstehend definiert.

NAME		BEDEUTUNG
	Danger	The term DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.
	Warning	The term WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury. it is not avoided.
	Caution	The term CAUTION indicates a hazardous situation which, if not avoided, may result in minor or moderate injury.
	Note	The term NOTE identifies information that is considered important but not dangerous (e.g. messages about property damage). The safety alert symbol must not be used with this signal word. When a signal word is used for messages related to property damage, NOTE is the choice of signal word.

4 Safety precautions



ACHTUNG! Bei der Fehlersuche von **MRX.KranFunk** ist stets auf die Sicherheit zu achten. Bei unsachgemäßer Benutzung oder unsachgemäßem Einbau besteht die Gefahr der Beschädigung bis hin zu erheblicher Verletzung.

4.1 Service



CAUTION! Repairs to your unit that are not carried out by an engineer or partner of AZG Tech GmbH will void your warranty.

5 Troubleshooting

5.1 Monitor shows no picture

A.	Test step	Test / Result	Next step
A.1	Double-tap on MRX.monitor	Double-tap to reactivate MRX.monitor from PowerDown.	If this has not helped, continue with A.2
A.2	Check the power LED on the top of the MRX.monitor	LED off? →	Step A.3
		LED on (red or green) →	Step A.5
A.3	Checking the signal source	This test is only possible if the control buttons on the monitor are not deactivated. On newer models, these buttons are deactivated and it is not possible for an incorrect source to be selected. Use the control buttons to open the monitor's on-screen menu and select the correct source (HDMI). →	Step A.4
A.4	Check power supply		
A.4.1	Check protection	Check (disconnection) fuse of the monitor supply. If fuse is defective: If fuse is OK.	Replace the fuse. Step A.4.2
A.4.2	Measure voltage	Measure the voltage value at the DC plug. Target: 9-33V. If outside the range: - Replace cable - Replace power supply unit	Schritt A.7.3 Schritt A.8.4
A.5	Check cables	Check the plug connection of the cables	
A.5.1	HDMI cable	Check the HDMI connection between MRX.cabin and MRX.monitor . If the plug connection is OK →	Step A.7.1
A.5.2	USB cable	Check the USB connection between MRX.cabin and MRX.monitor . If the plug connection is OK →	Step A.7.2
A.6	Check MRX.cabin		
A.6.1	Power LED	The power LED on the MRX.cabin must light up green. If this is not the case, check the power supply to the MRX.cabin . →	Step A.7
A.6.2	Restart MRX.cabin	Remove the power supply from the MRX.cabin and switch it on again. →	Step A.7
A.7	Replace cable		
A.7.1	Replace HDMI cable	If that doesn't help →	Step A.8.1 to A.8.3
A.7.2	Replace USB cable	If that doesn't help →	Step A.8.1 to A.8.3
A.7.3	Replace power cable MRX.monitor	If that doesn't help →	Step A.8.1 to A.8.3
A.7.4	Replace power cable MRX.cabin	If that doesn't help →	Step A.8.1 to A.8.3
A.8	Replace devices		

- | |
|----------------------------------|
| A.8.1 Replace MRX.monitor |
| A.8.2 Replace MRX.oca |
| A.8.3 Replace MRX.cabin |
| A.8.4 Replace power supply |
| |

5.2 Touch function on MRX.monitor does not work

B.	Test step	Test / Result	Next step
B.1.	Does the monitor display a picture?	If no image is displayed at all→	Proceed with A
B.2.	Check USB cable	Check the USB connection between MRX.cabin and MRX.monitor. If the plug connection is OK →	Step A.5
B.3.	Check MRX.cabin		
B.3.1.	Restart MRX.cabin	Remove the power supply from the MRX.cabin and switch it on again.	
B.4.	Replace cable		
B.4.1.	Replace USB cable	If that doesn't help →	Step B.5.1 to B.5.2
B.5.	Geräte tauschen		
B.5.1.	Replace MRX.monitor		
B.5.2.	Replace MRX.cabin		

5.3 No camera image, but status bar is displayed?

C. Test step	Test / Result	Next step
C.1. „Connecting“	Does the monitor display "Connecting"? Note: "Connecting is only displayed from software version 1.3.4p2. For older versions, please wait 120 seconds, as the system may start.	Please wait, the system will start. The start process must be completed after approx. 120 seconds.
C.2. Company logo	Is the company logo displayed after the start? YES: No camera trained.	Step C.2.1
C.2.1. Have devices (receivers) been replaced recently?	Please start the SCAN process and re-learn the system.	
C.3. Camera icon	Is the flashing camera symbol displayed? If this is the case, this indicates that the radio link is not working correctly. If not	→ Step C.3.1 → Step C.4
C.3.1. Is there a yellow exclamation mark at the bottom left?	Press the yellow exclamation mark and read the cause of the error.	
C.3.2. Have devices (transmitters) been replaced recently?	Please start the SCAN process and re-learn the system.	
C.3.3. Checking the radio connection	If the error disappears at a short distance between the transmitter and receiver (trolley and cabin), switch to a different frequency band (see manual service menu).	
C.3.4. Check the affected transmitters	Check the power supply at the transmitter. If necessary, charge the battery(!) or restart the battery.	
C.3.5. Replace cable	Replace the power supply cable to the transmitter.	
C.3.6. Check the antenna on MRX.cabin	Check the antenna cable on MRX.cabin : - No kink in the cable. - Firmly screwed on. - Also consider the connectors when extending the cable.	
C.4. No camera image, no flashing camera icon	Note: We now know that the wireless connection is working (!), but the camera is not providing an image. A functioning wireless connection can be recognised by the receive symbol in the status bar.	
C.4.1. Check camera power supply	If MRX.pal does not output any voltage	→ Step C.5.1
C.4.2. Replace camera		
C.5. Replace devices		
C.5.1. Replace MRX.pal		
C.5.2. Replace battery pack		
C.5.3. Replace MRX.planarAntenne		

5.4 Zoom does not work

D.	Test step	Test / Result	Next step
D.1.	Check whether camera supports zoom.	This can be checked in the "System Overview": - "Zoom: ---", camera does not support zoom → Step D.3.1 - "Zoom: ---", (text in red) Camera supports zoom, but zoom communication between MRX.cabin and camera does not work. → Step D.3.2 - "Zoom: 20%", zoom communication between MRX.cabin and camera works → Step D.3.3	
D.2.	Check cables		
	D.2.1.Zoom control cable	Is the zoom control cable connected correctly?	Step D.3.3
	D.2.2.Cable between MRX.oca and MRX.cabin	Is the connection correct?	
	D.2.3.Camera cable	Is the camera correctly connected to the MRX.pal? →	Step D.3.1
D.3.	Replace devices		
	D.3.1.Replace camera		
	D.3.2.Replace MRX.pal		
	D.3.3.Replace zoom control		
	D.3.4.Replace MRX.oca		
	D.3.5.Replace MRX.cabin		

5.5 Battery is not charged in charging position

E.	Test step	Test / Result	Next step
E.1.	Check whether the red LED in the battery base flashes when the trolley is in the charging position. In addition, one of the three charging LEDs on the front of MRX.battery must flash when the trolley is in the charging position.	This can also be checked in the overlay menu on the monitor.	Step E.2
E.2.	Kabel überprüfen		
E.2.1.	Check the cable between the charging rail and MRX.battery.	Is the DC charging cable correctly connected to the current collector? Is the DC cable connected to plug "I" on MRX.battery? Is the supply voltage (12 or 24VDC) being supplied to the charging rail?	Step D.3.4
E.2.2.	Check the cable between the power supply unit and the charging rail.	Is the connection connected correctly? Is the supply voltage (12 or 24VDC) being supplied to the charging bar?	Step E.3.2
E.2.3.	Check the power supply unit.	Is the power supply unit connected correctly to the on-board voltage? Does the power supply unit provide the required output voltage? Is the power supply to the power supply unit switched off?	Step E.3.3
E.2.4.	Check the fuse.	Check fuses F300 and F302 (see Fig 1).	Step E.3.4
E.3.	Replace devices and cables		
E.3.1.	Replace the DC charging cable or connect it correctly.		
E.3.2.	Replace the supply cable between the power supply unit and the charging bar or connect it correctly.		
E.3.3.	Replace the power supply unit or connect it correctly.		
E.3.4.	Replace fuses.		

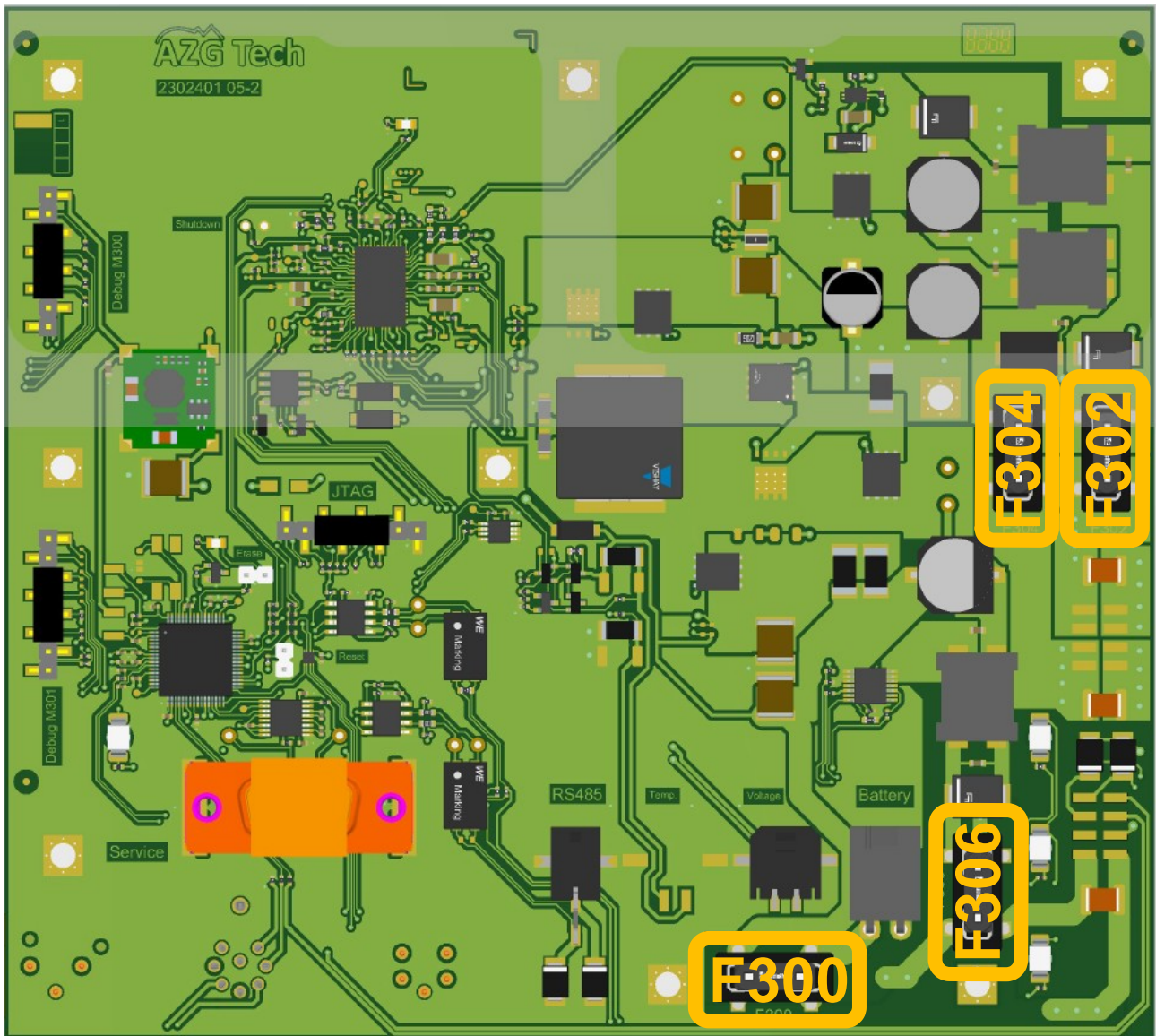


Fig. 1: Position of fuses

5.6 All other problems

If none of the steps described above are successful, please save the "log files" from **MRX.cabin**.

To do this, insert a USB stick into MRX.cabin. The position is irrelevant.

Then log in to the SERVICE MENU and tap the Info button → you will reach the SYSTEM OVERVIEW.

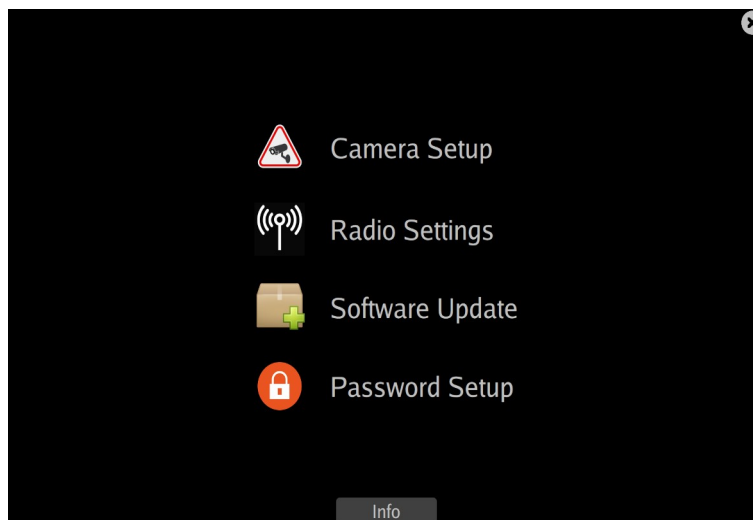


Abb. 2: Service menu w. INFO button

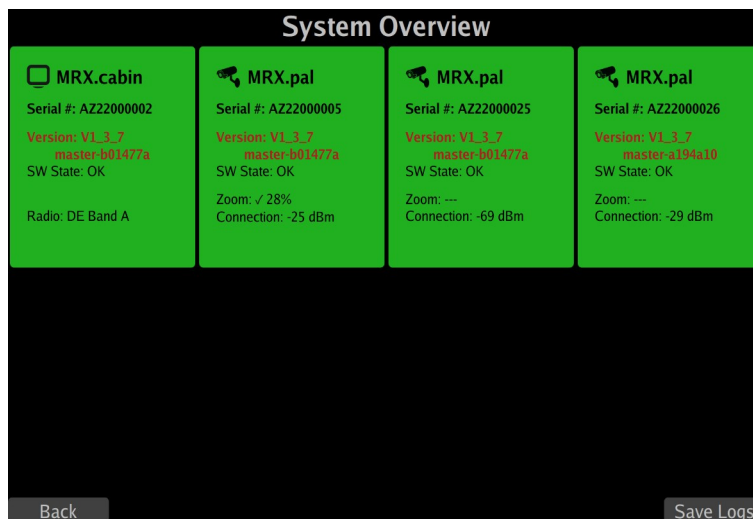


Abb. 3: System Overview

Tap the "SAVE LOGS" button in SYSTEM OVERVIEW and the files will be saved automatically.

Please send the contents of the USB stick together with a brief error description to service@azg-tech.com for further evaluation. Thank you very much!

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