

Installation and Commissioning

External Storage System **DAS 4 ECO**



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1 About this document

1.1 Validity

This document applies to the external storage system DAS 4 ECO.

1.2 Documentation on the DAS 4 ECO

Installation and Commissioning (this document)

The document entitled „Installation and Commissioning“ describes installation, mounting, connection, start-up and exchange of the different modules. General notes on the product and technical data are additionally provided.

The target audience of this document is exclusively specially trained and authorized professionals („installers“).

Storage of documentation

Store the documents in an accessible location near the product. Keep the documents in readable condition. Pass on all documents to each successive owner of the system.

1.3 Convention

This document contains various warning words and symbols that indicate potential sources of danger. Various symbols and formats are used to maintain the clarity of the document.



DANGER

The warning word **DANGER** denotes an **immediate** danger that may cause **death or serious injury** if it is not averted.



WARNING

The warning word WARNING denotes a **possible** danger that may cause **death or serious injury** if it is not averted.



CAUTION

The warning word CAUTION denotes a **possible** danger that may cause **minor injury** if it is not averted.



IMPORTANT

The word IMPORTANT denotes information for preventing damage, incorrect configurations or incorrect actions.



NOTE

A NOTE offers information on principles, special features and efficient procedure as well as general recommendations.

Expression

Expressions in **bold** and ***italics*** generally indicate a control element on the device (switches or labels) or on its user interface (buttons, menu entries).

2 For your safety

Only use this unit if it is technically in proper working order, to the intended purpose and while keeping safety and potential dangers in mind. Have malfunctions or damages eliminated immediately!

Appoint a professional

Installation, mounting, connection, start-up and configuration of the unit may only be carried out by trained and authorized professionals (installers).

Unless otherwise expressly specified, this also applies to the maintenance, testing and repair.

Read and pay attention to the documents

Carefully and completely read the documents included in delivery. Always pay attention to the provided instructions, notes and warnings.

Regulations surveillance systems

The use of video and audio surveillance systems is strictly regulated in most countries. Therefore, inform yourself on laws and regulations that govern individual applications before using the unit. Ensure compliance with these laws and regulations and also observe regulations regarding data, working and environmental protection.

Regulations data protection

This unit can store data that may be subject to data protection. The collecting, recording, processing or disclosure of such data may be forbidden and thus have legal consequences. Therefore, inform yourself on data protection laws and regulations that govern individual applications before using the unit. Ensure compliance with this laws and regulations.

Do not make modifications

Do not make any modifications to the unit (neither to the software nor the hardware) without consulting Dallmeier electronic. Improper modifications can cause malfunctions or damages. Dallmeier electronic GmbH & Co.KG accepts no liability for damages resulting from unauthorized or improper modifications to the unit.

Protection against condensation water

If the unit is brought from a cold to a warm environment, condensation water can form inside the unit. Short-circuits may then lead to damage to the system. Wait up to 8 hours for the unit to reach room temperature before starting it up.

Observe the rated voltage

The unit can be damaged or destroyed by the application of an incorrect voltage.

The mains voltage must always match the rated voltage of the unit. The rated voltage is specified on the rating plate of the unit.

Observe ratings

Unsuitable ambient conditions and improper installation (mainly too high ambient temperature and insufficient ventilation) may reduce the unit's life cycle. Ensure compliance with the stated operating conditions (see technical data), requirements at the installation site and, if applicable, maintenance regulations.

Expansion components/peripheral devices

Use only expansion components conforming with the technical data of the unit. Inappropriate peripheral devices may result in the violation of local laws and regulations and damages to the unit. Furthermore, the use of peripheral devices that are not certified by Dallmeier electronic results in loss of warranty. In case of doubt, contact the sales partner responsible for your area.

Do not move while in operation

Strong vibrations can cause damage to the unit, in particular to the hard disk(s). Therefore, do not bump the unit or move it in a jerky motion while in operation. Instruct the cleaning personnel accordingly if necessary!

Do not open the unit

Do not open the housing of the unit. There are no components inside the unit that require maintenance by the user. The inspection, maintenance and repair with an open housing must only be carried out by trained and authorized professionals (installer).

Penetration of foreign bodies and liquids

No objects or liquids may be allowed to get into the device. In this case, immediately disconnect the unit from the power supply (pull out the power plug). Please contact the sales partner responsible for your area.

Measures to be taken in the event of damage and burnt smell

If you notice burnt smell or formation of smoke from an unit, immediately disconnect it from the power supply (pull out the power plug). Please contact the sales partner responsible for your area.

Disposal

Disconnect the unit from the power supply. Remove all connected units and system components. Return the unit to your respective sales partner.

3 General notes

3.1 Scope of delivery

- 1 x DAS 4 ECO
- 1 – 4 HDDs (as ordered)
- 1 x SATA cable
- 1 x Power supply cable (to be connected to the recorder)
- 1 x Manual „Installation and Commissioning“ (this document)

3.2 Transportation and packaging

Store the original packaging for transportation at a later date. Dallmeier electronic is not responsible for damage resulting from unprofessional/improper transportation. The goods should only be shipped in their original packaging. If the original packaging is no longer available, ensure that the packaging used sufficiently protects the unit against damage, moisture, heat and cold.

3.3 Appropriate use

The external storage system DAS 4 ECO is connected to a DMS 240 recorder. This increases the storage capacity.

3.4 Performance Features

**NOTE**

For detailed information, please refer to the Technical Data sheet (see Chap. 9).

The housing of the DAS 4 ECO only requires one height unit for its installation. The unit can contain up to 4 SATA hard disks with 500 GB each. The storage system DAS 4 ECO thus increases the storage capacity by 2 TB.

The drive bays are located at the front of the unit. Greatest usability is therefore guaranteed when changing an HDD.

Power is supplied directly via the 12 V output of the DMS 240 – an additional power supply unit is therefore not necessary.

3.5 Certificates

The following certifications were in effect for the external storage expansion DAS 4 ECO at the time this document was produced: CE, FCC

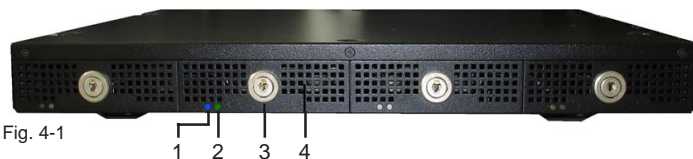
3.6 Warranty

The warranty period is 36 months.

The terms and conditions valid at the signing of the contract apply.

4 Views and connection assignments

4.1 Front view



- 1 Blue LED – drive ready
- 2 Green LED – drive active
- 3 Lock
- 4 HDD module

4.2 Connection assignments



- 1 Fan
- 2 SATA interface 5 – 8 (not used)
- 3 SATA interface 1 – 4
- 4 12 V DC IN

5 Installation and Mounting

5.1 Requirements at the installation site

The DAS 4 ECO is designed to be freely positioned on a DMS 240 recorder without further mechanical attachment. As an option, the DAS 4 ECO can be installed in a 19" standard rack.

Unfavorable local conditions may shorten the life of the product or lead to malfunctions.

Do **not** install/operate the DAS 4 ECO in places:

- with large scale dust and dirt
- with steam or oil vapors (e.g. kitchen)
- with direct sunlight
- with an ambient temperature below 0 °C or above 35 °C
- near sources of strong radiation, i.e. X-rays, radio transmitters or magnetic fields)
- with corrosive surroundings (e.g. gases or salt water).

5.2 Stand-alone installation of the unit

The simplest type of mounting is the stand-alone installation on a DMS 240 without additional mechanical attachment.



Fig. 5-1

5.3 Installation into a 19" standard rack

At least 1 height unit and an installation depth of approx. 60 cm are required for its installation into a 19" standard rack.



NOTE

In order to ensure adherence to the FCC guidelines, a distance of 1 height unit must remain between the DMS 240 and the DAS 4 ECO when installing the unit into a 19" standard rack.

6 Connection and Start-up



IMPORTANT

No recording to the external storage system DAS 4 ECO.

The DAS 4 ECO is not hot pluggable. The DMS 240 must be turned off before connecting the DAS 4 ECO.

6.1 Connection and Start-up without External Power Supply Unit

Connection

1. Shut down the DMS 240.
2. Turn off the DMS 240.
3. Disconnect the DMS 240 from the power supply (pull out the power plug).
4. Connect the DAS 4 ECO to the DMS 240 by means of the SATA cable.
5. Connect the DAS 4 ECO to the DMS 240 by means of the power supply cable.

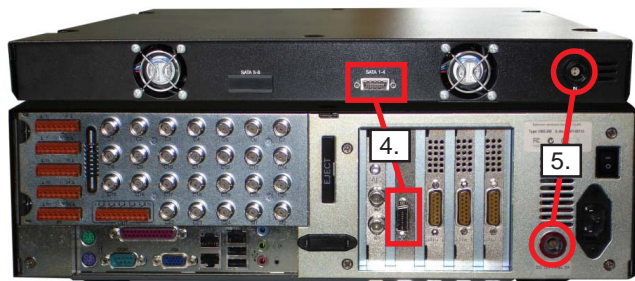


Fig. 6-1

Commissioning


1. Reconnect the DMS 240 to the power supply.
2. Turn on the DMS 240.

The status LEDs of the DAS 4 ECO will be lit (blue).

After the initialization and boot process of the recorder has been completed the DAS 4 ECO is ready for use.

6.2 Connection and Start-up with External Power Supply Unit

As an option, power can be supplied to the DAS 4 ECO via an external power supply unit.

	<p>IMPORTANT</p> <p>Possible damage to the DAS 4 ECO.</p> <p>Check the output voltage of the power supply unit used before connection and start-up. The output voltage must match the rated voltage of the DAS 4 ECO.</p>
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Connection

1. Shut down the DMS 240.
2. Turn off the DMS 240.
3. Disconnect the DMS 240 from the power supply (pull out the power plug).
4. Connect the DAS 4 ECO to the DMS 240 by means of the SATA cable.

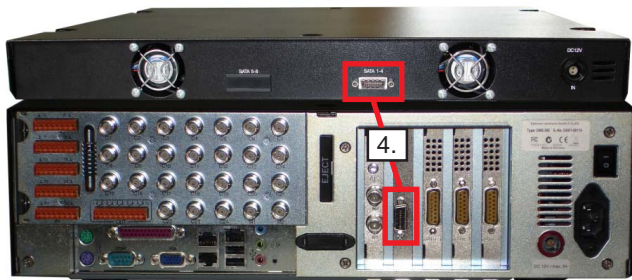


Fig. 6-2

Commissioning



IMPORTANT

No recording to the external storage system DAS 4 ECO.

The DAS 4 ECO is not hot pluggable. Connect the DAS 4 ECO to the power supply before commissioning the DMS 240.

1. Connect the DAS 4 ECO to the power supply by means of the external power supply unit. The status LEDs will be lit (blue).
2. Now reconnect the DMS 240 to the power supply.
3. Turn on the DMS 240.

After the initialization and boot process of the recorder has been completed the DAS 4 ECO is ready for use.

6.3 Reboot

If power is supplied to the DAS 4 ECO via the DMS 240, the right starting sequence will automatically be adhered to in case of a reboot.

However, if power is supplied to the DAS 4 ECO via an external power supply unit, the starting sequence described in section 6.2 must be adhered to on every occasion in case of a reboot.

There is **no** image recording if the DMS 240 is commissioned **before** the DAS 4 ECO.

To ensure adherence to the starting sequence, a programmable socket strip must be used if power is supplied via an external power supply unit.



IMPORTANT

Possible loss of data and/or damage to the HDDs. Always operate the DAS 4 ECO using a UPS (uninterruptible power supply) and a programmable socket strip.

7 Configuration DMS 240

The DMS 240 must be configured before recording to the DAS 4 ECO.

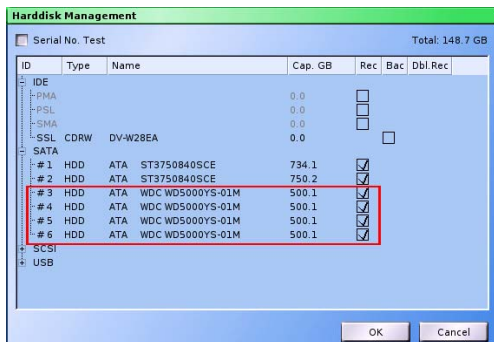


Fig. 7-1

- Log on the recorder as administrator.
- Open the **Harddisk Management** dialog via **Setup > Recording > HDD Management**.
- In the **Rec.** column, check the checkboxes of the corresponding HDDs.

The available disk space for recording has thus increased by the capacity of the HDDs in the DAS 4 ECO.

Now define the allocation of disk space for each individual camera/track.

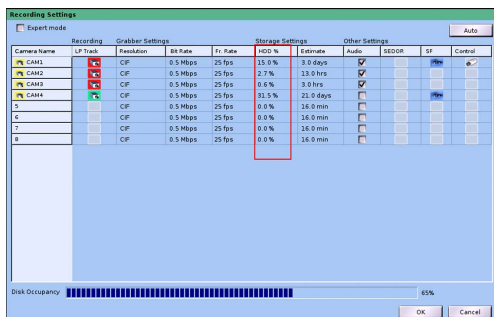


Fig. 7-2

- Open the **Recording Settings** dialog via **Setup > Recording > Cameras**.
- In the **HDD %** column, define the allocation of disk space for each individual camera/track.
- Confirm with **OK**.

For detailed information on the **Recording Settings** dialog, please refer to the DMS 240 manual „Installation and Configuration“.

8 HDD replacement

The drive bays of the DAS 4 ECO are located at the front of the unit. Greatest usability is therefore guaranteed when replacing a HDD.

However, the following conditions must be paid attention to due to unit and data safety reasons.



IMPORTANT

The following **conditions** must always be taken into account when changing a HDD. Failure to do so results in loss of warranty.

8.1 Conditions

Case of service

A case of service is defined as replacement of a faulty or defective HDD. Please bear in mind that the replacement may only be carried out by professionals authorized by Dallmeier electronic. Please contact the Dallmeier support team, if necessary.

Furthermore, it must be taken into account that the HDDs of the recorder are **not intended for cyclical replacement** (external long-time archiving). In addition, the drive bays are designed for a **maximum of 200 HDD replacements**.

Switching off the unit

The HDDs are not hot pluggable / swappable. The unit must therefore be switched off before changing a HDD.

Certified HDDs

Only use **HDDs certified** by Dallmeier electronic when replacing a faulty or defective HDD.

The following malfunctions and damages to the unit may arise if non-certified HDDs are used:

- Loss of recorded data due to incompatibility
- Power supply unit failure due to excessive power consumption
- Overheating of the unit due to excessive heat generation

A current list of HDDs certified and released by Dallmeier electronic can be found in the partner forum.

Capacity of the new HDD

For technical reasons, a new HDD must always have a larger (or equal) capacity than the old one. The decisive point is not the normally specified gross capacity (GB) but the **number of sectors**.

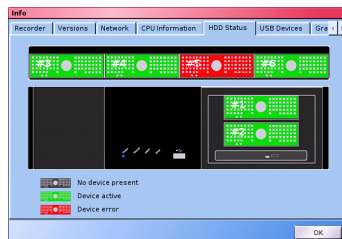
Correct drive bay

Make sure to insert the new HDD into the drive bay from which you removed the old HDD. Inserting the HDD into another drive bay may result in loss of all data and images and require the software to be newly installed.

	<p>NOTE</p> <p>Contact the Dallmeier Support Team if you are in any doubt.</p>
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8.2 HDD localization

The GUI of the DMS 240 allows you to identify exactly the HDD to be replaced in case of an HDD failure.



➤ Open the **Info** dialog via **Setup > System > Info > HDD status**.

The defective HDD is displayed in red.

Fig. 8-1

8.3 HDD replacement



IMPORTANT

Loss of data and/or damage to the HDD module.
Before removing the HDD, ensure that both DMS 240 and DAS 4 ECO are de-energized.



IMPORTANT

Damage to components at risk from electrostatic discharge caused by touching them.
Ensure that you are electrostatically discharged (earthed) before you touch the module.
Wear suitable ESD shoes or an earth strap.

1. Shut down the DMS 240.
2. Turn off the DMS 240.
3. Disconnect the DMS 240 from the power supply (pull out the power plug).



IMPORTANT

Possible damage to the HDDs and thus loss of data.
Pull out the power plug of the DAS 4 ECO if power is supplied to the DAS 4 ECO via an external power supply unit.

4. Unlock the HDD module using the supplied key. Carefully remove the module.



Fig. 8-2



Fig. 8-3

5. Loosen the 4 screws on the bottom side of the HDD carrier. Remove the defective HDD.

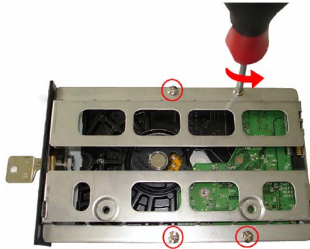


Fig. 8-4



Fig. 8-5

6. Place the HDD carrier onto the new HDD and fix it with the 4 screws.

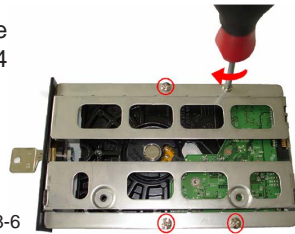


Fig. 8-6

	<p>IMPORTANT</p> <p>Possible damage to the HDD and/or the unit. Ensure that the HDD is flush with the HDD carrier on its back side.</p>
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Fig. 8-7

8.4 Installing the HDD module

1. Insert the HDD module into the guide rails.



Fig. 8-8

2. Carefully slide the module into the sub-rack.

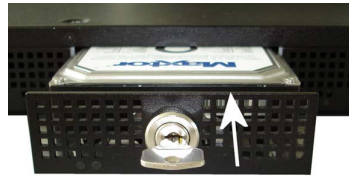




Fig. 8-9

	<p>IMPORTANT</p> <p>Possible damage to the HDD and/or the unit. Ensure that you slide it straight. Do not use any force.</p>
	<p>NOTE</p> <p>The front cover of the module must be flush with the edge of the sub-rack housing.</p>

3. Lock the module using the key.
4. Reconnect the DMS 240 to the power supply.



Fig. 8-10

5. Connect the DAS 4 ECO to the power supply by means of the external power supply unit, if applicable.
6. Start the recorder.

After starting the recorder, the new HDD will be initialized and is then ready for access.

9 Technical Data

Criterion	DAS 4 ECO
SATA OUT	SATA2 (x4) MultiLane
- Protocol	SATA 2
- Transfer rate	300 GB/s
- Socket	Infiniband (with special assignment)
Hard disk drives	
- Number	max. 4
- Type	3,5"
- Interface	SATA 1/2
- Capacity	As ordered
Fans	2
Operating temperature	0 °C to 50 °C (32 °F to 122 °F) 0 °C to 35 °C (32 °F to 95 °F) recommended
Humidity	5 to 70 % (non-condensing)
Air quality	Dust-free
Power supply	12 V DC (max. 5 A constant load)
Power supply socket	2-pin ODU socket
Power consumption	60 W
Weight (without HDDs)	approx. 2 kg
Dimensions	420 x 44 x 350 mm (1HE)

Assignment ODU socket (12 V DC IN)

