

Technical Product Information No. 09.04

Product/Version	CamDisc HNVR 10, CamDisc SVR 4s, CamDisc SVR 10s, CamServer 2, CamDisc SVR 4, CamDisc SVR 10, Cam4mobile 4, Cam4mobile 10
Date	November 2009
Topic	HDD safe power down functions for safe powering down of video systems with HDDs
Short description	The new HDD safe power down functions ensure that the integrity of data on HDDs is retained and that during removal any potential loss of data is prevented.
Download current firmware version	<p>CamDisc SVR 4s, CamDisc SVR 10s, CamServer 2: http://www.heitel.com/en/service/upgrades/firmware/camdisc-svr-s-camserver-2</p> <p>CamDisc SVR 4, CamDisc SVR 10, Cam4mobile 4, Cam4mobile 10: http://www.heitel.com/en/service/upgrades/firmware/camtel-svr-camdisc-svr-cam4mobile</p> <p>CamDisc HNVR: http://www.heitel.com/en/service/upgrades/firmware/camdisc-hnvr</p>
Download CamControl LITE Demo Version	http://www.heitel.com/en/service/downloads/CamControl_LITE
Download CamControl PRO Demo Version	http://www.heitel.com/en/service/downloads/CamControl_PRO

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1. Introduction

For the device series **CamDisc SVR**, **CamDisc SVR s**, **Cam4mobile**, **CamServer** and **CamDisc HNVR**, the introduction of Firmware 1.86 and the software **CamControl LITE** and **CamControl PRO** Version 3.87 provides functions for the safe powering down of HeiTel video systems and therefore also for the safe removal of HDDs - especially of the SATA series.



The new HDD safe power down functions ensure that the integrity of data on HDDs is retained and that during removal any potential loss of data is prevented.

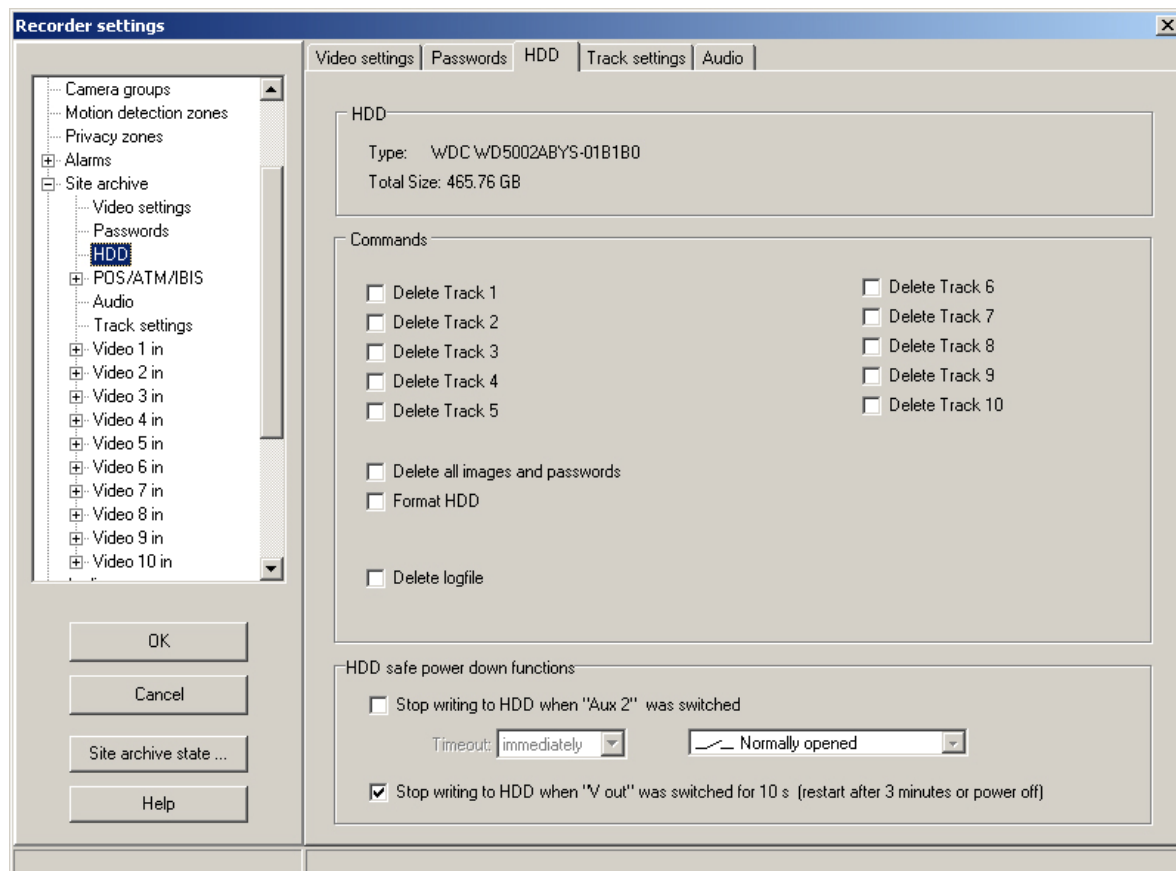
2. Requirements

- 2.1. One of the above-mentioned devices with Firmware 1.86 or higher.
Video systems with an older Firmware version should first receive a Firmware update.
- 2.2. **CamControl LITE** software 3.87 or higher; **CamControl PRO** software 3.87 or higher

3. Safe powering down of the recording system and safe removal of the HDD using V out

In the **HDD** dialog box under **HDD safe power down functions** you have the option of putting the hard disk into sleep mode using **V out** (minimum requirement for HeiTel devices: Firmware 1.86).

If the lower of the two HDD safe power down functions is parameterised for the video system in question, the hard disk is put into sleep mode for a period of 3 minutes. During this period the hard disk cannot be accessed, i.e. no video images are recorded and no log file entries are written. While the hard disk is inactive, other device functions are also inactive. For example, no alarm or receiver connections can be set up.



Safe power down using the V out button or the V out control input:

- After using **CamControl LITE/PRO** (minimum requirement: Version 3.87) in the device setup (**Recorder settings/Site archive/HDD**) to activate the option **Stop writing to HDD when "V out" was switched for 10 s** and afterwards transferring the parameterisation to the HeiTel video system, you can use the **V out** function.
- Press and hold the **V out** button on the front of the device for at least 10 seconds. Alternatively, switch the potential-free control input **V out** to ground for at least 10 seconds. To do so, connect a push-button with the relevant contacts on the back of the device. Both procedures are equivalent in this case.
- Before the HDD is put into standby mode, the device writes the log file entry **HDD deactivated** including date and time.
- The HDD is put into standby mode and does not record any more data. The video system signals this state by means of the flashing yellow video signal LEDs (depending on the device type **V1-V2/V4/V10**). The device remains in this mode for 3 minutes.
 - If you do not switch off the video system during this time, after 3 minutes the HDD is reactivated and recording is started again according to the device parameterisation.
- In this state - HDD in standby mode - the device can be safely powered down without this hindering the functionality of the HDD.
- Switch off the video system before removing or replacing the HDD.



When the HDD is in standby mode, neither video data nor audio data (where applicable) is recorded. Nor are any log file entries written. Additional functions of your video system will also be deactivated while the HDD is inactive, such as for example the set-up of alarm and receiver connections.

Video systems with no **V out** button on the front of the device – **CamServer 2** and **CamDisc HNVR 10** – also do not have a control input of the same name on the back of the device.

Alternatively and depending on the device type, you can switch a different potential-free control input on the back of the device to ground using a button for at least 10 seconds:

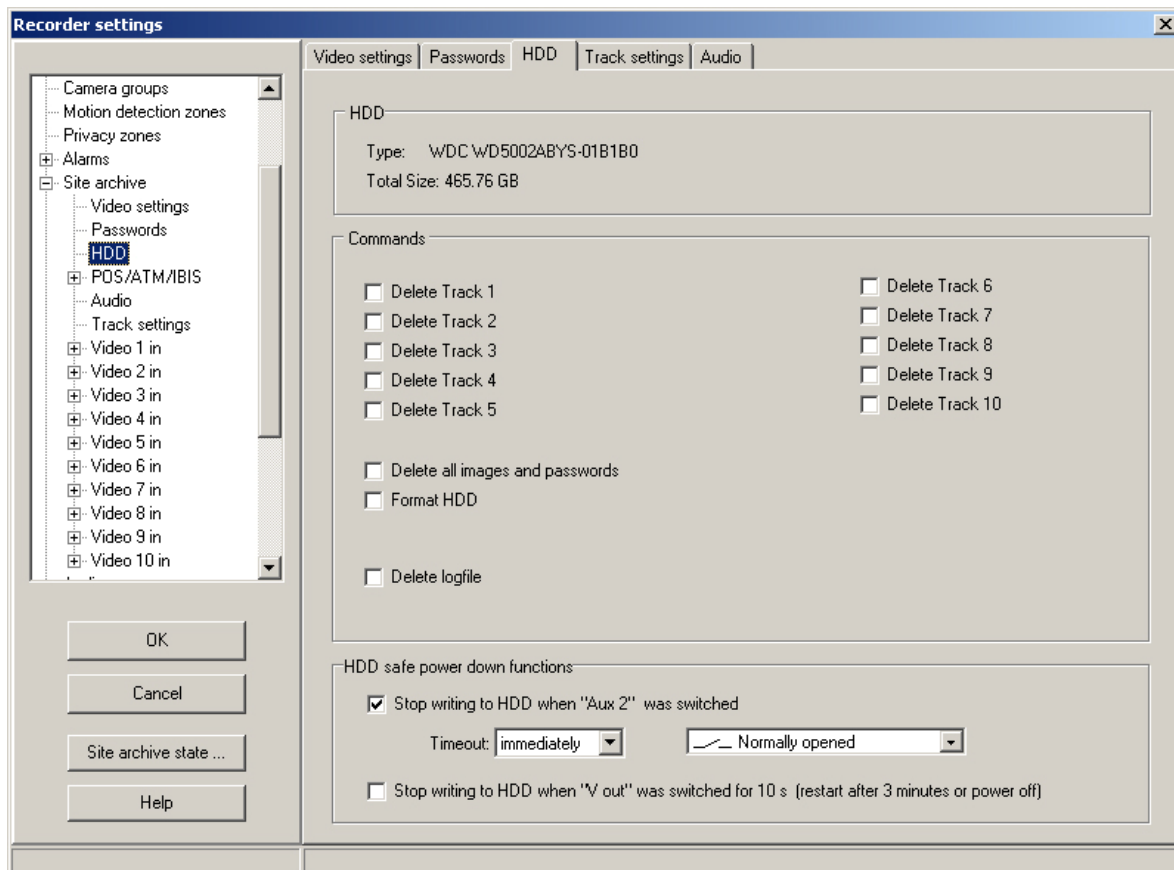
- **CamServer 2** (serial number WDxxxxxx): Control input **nc** (Pin 8)
- **CamDisc HNVR 10** (serial number NVxxxxxx): Control input **Aux in3** (Pin 8)

4. Safe powering down of the recording system and safe removal of the HDD using Aux in2

If the procedure using **V out** described in the previous section cannot be used, because the relevant control input and/or the button for sequencer control is in use, control input **Aux in2** may alternatively be used.

In the **HDD** dialog box under **HDD safe power down functions** you have the option of putting the hard disk into sleep mode using **Aux in2** (minimum requirement for HeiTel devices: Firmware 1.86).

If the upper of the two HDD safe power down functions is parameterised for the video system in question, the hard disk is put into sleep mode for the duration of the status change of the control input. During this period the hard disk cannot be accessed, i.e. no video images are recorded and no log file entries are written. While the hard disk is inactive, other device functions are also inactive. For example, no alarm or receiver connections can be set up.



Safe powering down via the Aux in2 control input:

- You can use the **Aux in2** function after activating the option **Stop writing to HDD when "Aux 2" was switched** (name of control input on the back of the device: **Aux in2**) in the device setup (**Recorder settings/Site archive/HDD**) for **CamControl LITE/PRO** (minimum requirement: Version 3.87).
To use this potential-free control input, additional parameterisations are necessary:
 - **Timeout:** Timeout lets you configure a period of time for which the video system waits while activated by **Aux in2**, before the HDD is put into standby mode.
If activation is deactivated using the control input **Aux in2** within the defined waiting period, the HDD is not put into standby mode.
If the control input **Aux in2** is deactivated after the HDD was switched to standby mode, the HDD is immediately reactivated. Independently of **Aux in2** the HDD remains in standby mode for at least 10 seconds.
 - **Contacts:** Using the parameters **Normally closed** or **Normally opened** you define in what switching state the standby mode for the HDD is to be activated.
- Next, transfer the parameterisation to the HeiTel video system.
- Activate the standby mode for the HDD by - depending on the parameterised contact assignment - opening or closing the connection between **Aux in2** and ground using a button or switch.
Depending on the selected timeout interval, either a button or a switch will be available to change the status.
- Before the HDD is put into standby mode following expiry of the timeout, the device writes the log file entry `HDD deactivated` including date and time.
- The HDD is put into standby mode and does not record any more data. The video system signals this state by means of the flashing yellow video signal LEDs (depending on the device type **V1-V2/V4/V10**).
The device remains in this mode for as long as **Aux in2** is activated.
 - If activation is interrupted via **Aux in2**, the HDD is reactivated and recording is restarted in accordance with the device parameterisation.
Independently of **Aux in2** the HDD remains for at least 10 seconds in standby mode.
- In this state the device can be safely powered down without this hindering the functionality of the HDD.
- Switch off the video system before removing or replacing the HDD.



When the HDD is in standby mode, neither video data nor audio data (where applicable) is recorded. Nor are any log file entries written. Additional functions of your video system will also be deactivated while the HDD is inactive, such as for example the set-up of alarm and receiver connections.

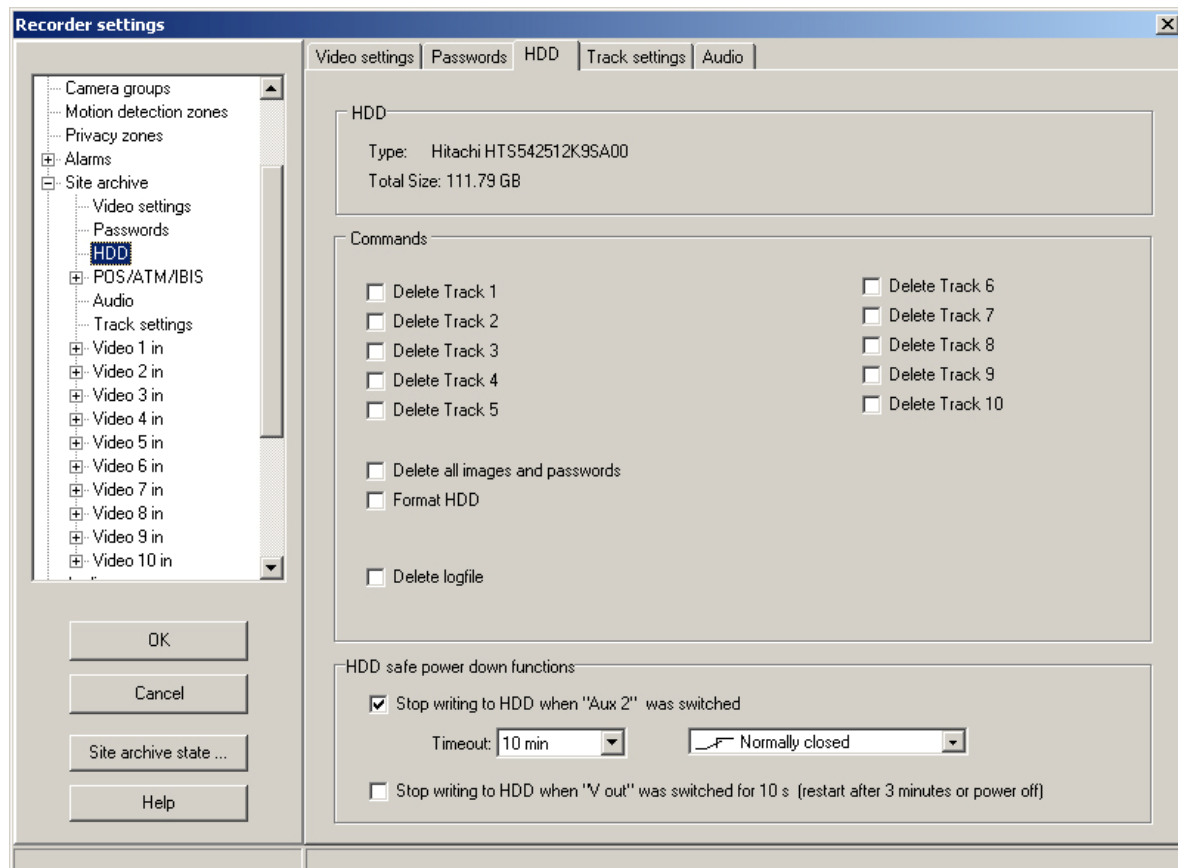
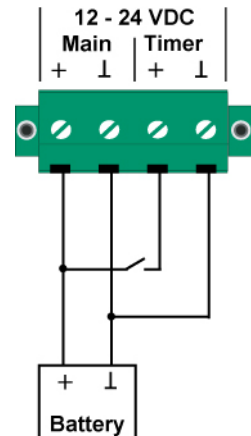
5. Safely powering down revision 5 or higher Cam4mobile devices using Aux in2

For **Cam4mobile** devices of revision 5 or higher (see serial number sticker at the top of the device or on the HDD insertion) **Timer +** input and **Aux in2** are internally connected. For these devices, the adjacent wiring of the **Timer** input in accordance with the device manual is strongly recommended.

Only use of the timer specific to **Cam4mobile** in connection with the device parameterisation described below can ensure that the HDD is put into standby mode prior to the timer-controlled shutdown of the device.

In the **HDD** dialog box under **HDD safe power down functions** you have the option to put the HDD in the **Cam4mobile** (revision 5 or higher) into sleep mode via the internal circuit (minimum requirement for HeiTel devices: Firmware 1.86).

If the upper of the two HDD safe power down functions is parameterised for the video system in question, the hard disk is put into sleep mode for the duration of the status change of the control input. During this period the hard disk cannot be accessed, i.e. no video images are recorded and no log file entries are written. While the hard disk is inactive, other device functions are also inactive. For example, no alarm or receiver connections can be set up.



Safely powering down Cam4mobile (Revision 5 or higher) via the internal circuit:

This scenario assumes that the **Timer** input has been wired as described above in accordance with the device manual. For the internal switch-off delay (timer) to be activated, **Main +** must be connected with the vehicle contact "unswitched supply" and **Timer +** with the vehicle contact "switched plus" or "ignition plus".

With this wiring (see above) **Cam4mobile** will delay switching off the device for a certain period after the vehicle ignition has been switched off. The standard setting for DIP switches is a 10-minute delay before switching off.

- You can use the **Aux in2** function after activating the option **Stop writing to HDD when "Aux 2" was switched** (name of control input on the back of the device: **Aux in2**) in the device setup (**Recorder settings/Site archive/HDD**) for **CamControl LITE/PRO** (minimum requirement: Version 3.87).
To use the internal connection of **Timer +** and **Aux in2**, additional parameterisations specifically for **Cam4mobile** devices (revision 5 or higher) are required:
 - **Timeout:** Ensure that you set this value to the same value set to delay the switching off of your **Cam4mobile** device.
The standard setting for DIP switches is a 10-minute delay before switching off. Therefore the timeout should also be defined as 10 minutes.
 - **Contacts:** Due to the internal switching of **Timer +** and **Aux in2** the activation contact must be parameterised to **Normally closed** so that the HDD is set to standby mode before the device is switched off.
- Next, transfer the parameterisation to the HeiTel video system.
- The standby mode for the HDD is activated by switching off the vehicle ignition taking into account the parameterised delay before switching off.
- Before the HDD is put into standby mode following expiry of the timeout, the device writes the log file entry `HDD deactivated` including date and time.
- The HDD is put into standby mode and does not record any more data. The video system signals this state by means of the flashing yellow video signal LEDs (depending on the device type **V1-V4/V10**).
The device remains in this mode for as long as it remains activated via switched off vehicle ignition.
 - If activation is interrupted by switching on the vehicle ignition, the HDD is reactivated and recording is restarted in accordance with the device parameterisation.
Independently of this the HDD remains in standby mode for at least 10 seconds.
- The **Cam4mobile** is switched off once the device-internal delay to switch off has expired.
- You can then remove or replace the HDD.



When the HDD is in standby mode, neither video data nor audio data (where applicable) is recorded. Nor are any log file entries written. Additional functions of your video system will also be deactivated while the HDD is inactive, such as for example the set-up of alarm and receiver connections.