

Technical Note 026

Released 2/Feb/2022

1. Technical Note Description

This technical note describes how to format and allocate a replacement hard drive in a NetVu Gen 3 DVR.

2. Product Models Covered

Part numbers include, but are not limited to SDA, SDACP, SDANVR, SDHDA, ECS2, DVIP3, DVIPNV8, DVIPNV4, DVPAT3, TV2, TVE2,

3. How toformat and allocate HDD's in a DM / NetVu Gen 3 unit.

When a new hard drive is fitted to a NetVu DVR or NVR it has to be formatted and allocated in order to ready it for use.

Formatting the drive creates the initial partition table and makes the drive accessible by the DVR. This takes approx a minute depending on HDD size, and the CPU speed of the unit in question.

Allocating the drive creates the required files for video storage.

One advantage of the NetVu Connected software is that it uses a pre-created file system, I.E. On a NetVu system all of the video files are created when the hard drive is first installed, so that there is little chance of file corruption occurring during a power outage or such like.

The file system is static and only one file is ever open for writing at any one time.

This is the reason that drive allocation can seem to take forever and give the impression that a NetVu unit is slow and difficult to use.

The allocation process can take a long time with very large HDD's as it is effectively filling the drive with data.

For example, it takes approximately 45min for an SDA to allocate a 6Tb HDD, this is due to the fact that the unit has to create 6Tb worth of files.

The larger the drive the longer the allocation phase will take.

Newer NetVu units with faster CPU's (the SDHDA for example will take less time to allocate a drive when compared to older units).

Once these video files have been created then they will remain for the lifetime of the HDD, or until the drive is reformatted. Their contents are changed when a new video is written to the file, but it is never recreated.

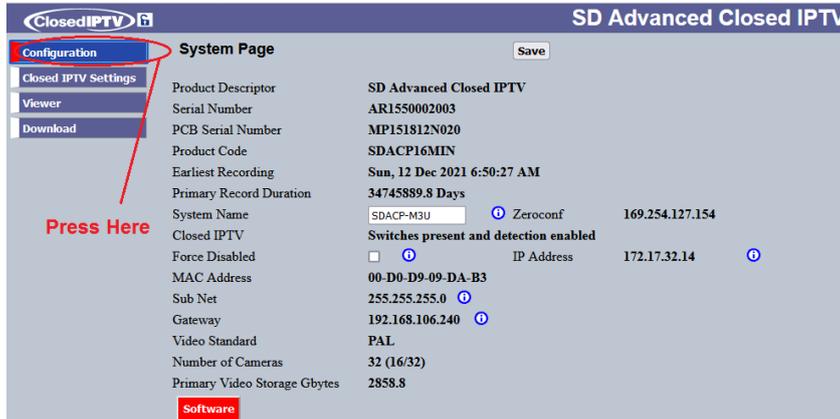
Step by step instructions.

4. Before any drive replacement (or any other fault finding on a NetVu DVR / NVR) please ensure that the unit is running the latest software application. The software can be downloaded free of charge from <https://netvu.org.uk/new-software-release-area/>
This is most important, as this guide relies on the latest software being installed, if it is not installed then some of the buttons / options referred to may not appear on the unit.
5. Power down the unit.
6. Physically replace your failed HDD. The exact method differs from unit to unit, in our earlier units you will have to physically remove the drive/s from a fixed bracket inside the unit and unplug the SATA data and power leads to remove the old HDD. Please note that these are usually held in place with RTV silicone to prevent them becoming detached in transit, you may need to cut through the silicone to remove the drives. If the unit is in a fixed installation there is no need to replace the silicone, it is only required to stop accidental disconnection of the leads in transit.
In the newer SDANVR and SDHDA units the drives are mounted in semi-permanent caddies which are accessed by removal of the unit's lid. Once the lid is removed, remove the two screws at the front of the caddy which hold it to the chassis, and slacken the two M3 nuts which hold the connector end of the caddy in place (you do not have to remove the nuts, simply slacken them). Once the caddy is free, slide it out from the side of the unit (SDANVR, NVR Media Server), or slide it forwards, tilt upwards and then slide towards the rear of the unit (SDHDA).
Replacement is the reverse of removal. Please ensure that any cables removed are connected to the same locations, and any drives are re fitted in the same bay they were removed from. This is essential as the units are configured to "expect" drives in these locations. Replacing a drive in a different bay, or plugging the data cables into a different location will require further configuration of the unit, not covered in this FAQ. If a drive bay has failed a spare bay can be used but you will need to contact NetVu Tech support to configure the unit to use the new bay.
7. Power up the unit.
8. Connect to the unit via a web browser (this is not essential, you can use the front panel interface to access the menu system, but it is very slow and inefficient, the menus referred to in the remainder of the document will be the same, and the process is also the same, but we will assume that you are using a browser, if not you can use the arrow keys on the front panel, alongside the OK button, and coloured buttons to access the features. It is also worth noting that you can plug a USB mouse directly in to most NetVu Gen3 units to make navigation of the local menus easier if no web interface is

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available, there is a USB interface behind the flap on the front right-hand side of the front panel, and a further two USB ports on the rear panel.

9. Access the configuration menu;

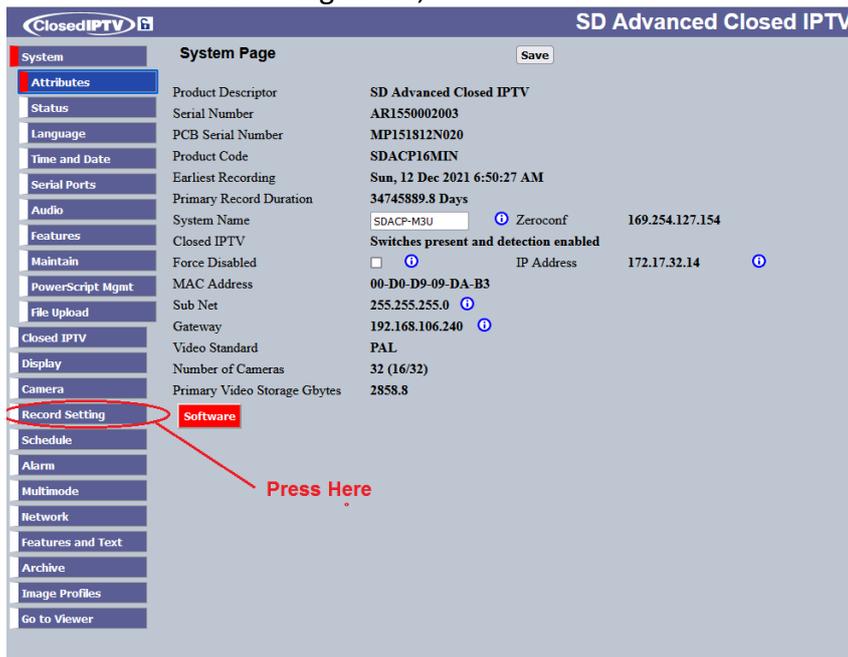


Configuration System Page Save

Product Descriptor	SD Advanced Closed IPTV		
Serial Number	ARI550002003		
PCB Serial Number	MP151812N020		
Product Code	SDACP16MIN		
Earliest Recording	Sun, 12 Dec 2021 6:50:27 AM		
Primary Record Duration	34745889.8 Days		
System Name	SDACP-M3U	Zeroconf	169.254.127.154
Closed IPTV	Switches present and detection enabled		
Force Disabled	<input type="checkbox"/>	IP Address	172.17.32.14
MAC Address	00-D0-D9-09-DA-B3		
Sub Net	255.255.255.0		
Gateway	192.168.106.240		
Video Standard	PAL		
Number of Cameras	32 (16/32)		
Primary Video Storage Gbytes	2858.8		

Software

10. Access the record setting menu;

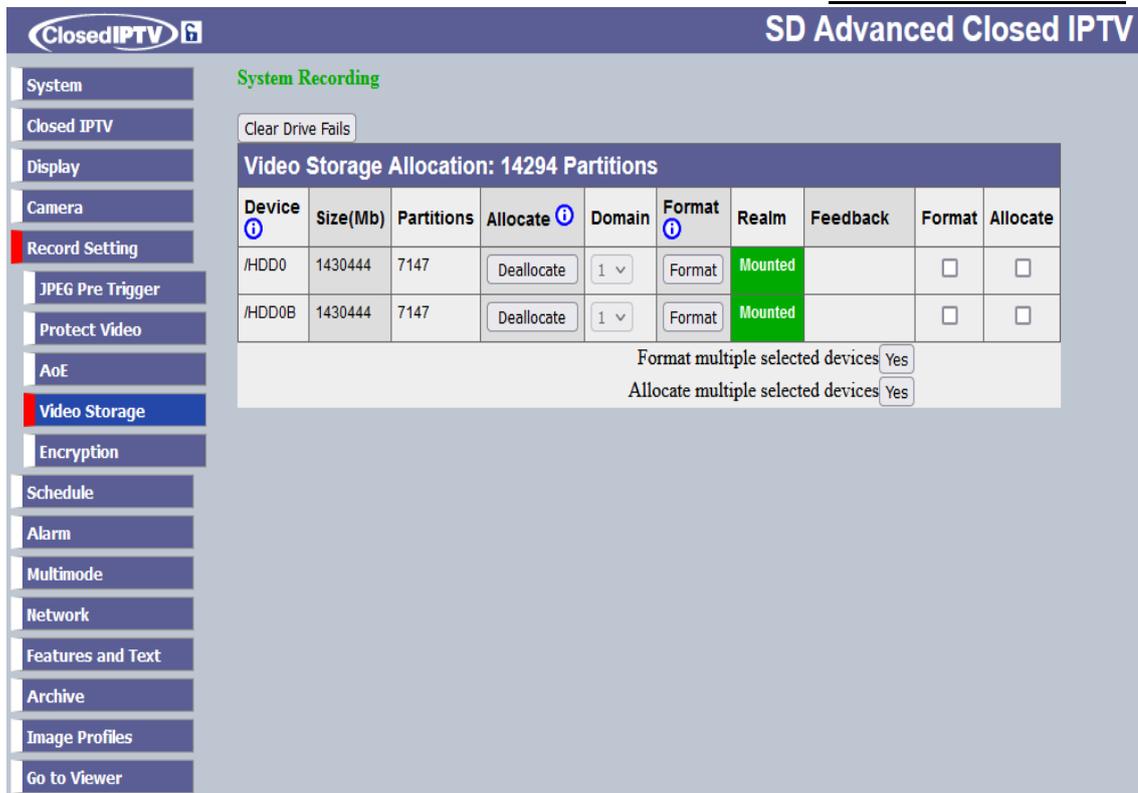


System System Page Save

Product Descriptor	SD Advanced Closed IPTV		
Serial Number	ARI550002003		
PCB Serial Number	MP151812N020		
Product Code	SDACP16MIN		
Earliest Recording	Sun, 12 Dec 2021 6:50:27 AM		
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Gateway	192.168.106.240		
Video Standard	PAL		
Number of Cameras	32 (16/32)		
Primary Video Storage Gbytes	2858.8		

Software

11. Access the video storage menu;



The image above shows a unit with a 3Tb drive installed and working.

If you have installed a new drive then it will show nothing in the size, partitions, or allocate columns.

The only populated column will be the format one, and you will only be able to press the format button.

The device column will show DH0 (or DH0 and DH5 in a twin drive SDA, or SDHDA), or DH0 and D10 for a twin drive NVR Media Server, or SDANVR.

- Click on the format button for the first drive (probably DH0 but it depends on the unit configuration) and wait for the feedback column to indicate that it has completed (approximately one minute), at this point if the HDD is 2Tb or greater you will see a list of devices appear in the device column marked as HDD0, HDD0B, HDD0C, HDD0x (depending on the capacity of the drive fitted), the NetVu units work on 2Tb block sizes, so will split a drive greater than 2Tb into equally sized partitions, in the image above the HDD is 3Tb so the unit has split it in to 2x 1.5Tb blocks.

- If you have installed two new drives, click on the format button for the second drive, either DH5 (SDA, SDHDA) or D10 (NVR Medis Server, SDANVR), and again wait for the format process to complete (approximately one minute).

- Once all drives have formatted then they will need to be allocated, this is achieved by clicking on the allocate button in the allocate column for each device in turn. You will

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then see a percentage of the process indicated in the feedback column for the device being allocated.

15. Wait for each device to finish allocating and then click the allocate button for each device in turn, and again wait for it to complete.
 *** IT IS NOT ADVISED THAT YOU USE THE FORMAT AND ALLOCATE MULTIPLE SELECTED DEVICES CHECK BOXES, AS THESE HAVE BEEN KNOWN TO CAUSE ISSUES, IT IS BETTER TO ALLOCATE EACH DEVICE MANUALLY ***
16. Once all of the devices have been allocated you must **RESET THE UNIT** for recording to commence.

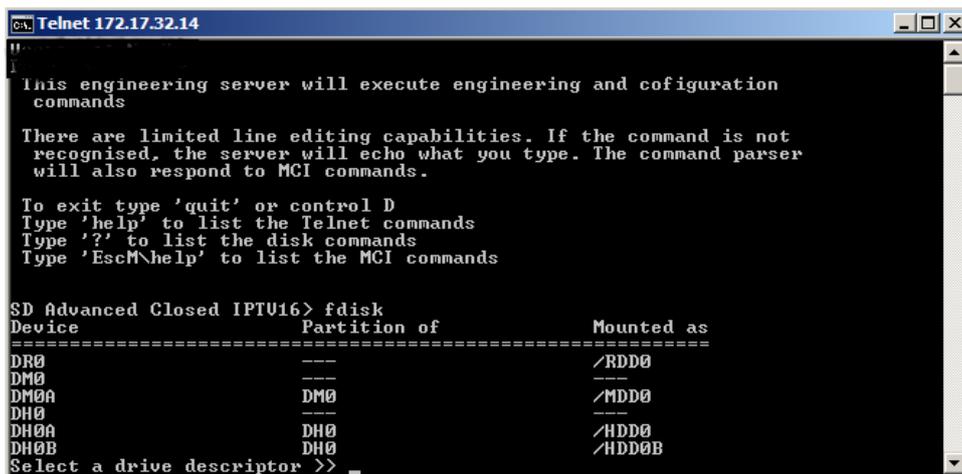
Addendum for Early Gen 3 Units Ecosense, ECS1 and 2, and TV2.

The early units web pages did not have the ability to format a brand new HDD, when fitted DH0 and DH5 (empty devices with no partition table do not appear in the device column).

To format these devices you need to use the command line console.

To do this connect to the unit via TELNET, or using a NULL MODEM serial lead connected to COM 1 on the unit at 115200 Baud, 8,N,1 then press +++ to enter the console.

Then enter FDISK and press return, this will give the following menu;



```

Telnet 172.17.32.14
This engineering server will execute engineering and configuration
commands

There are limited line editing capabilities. If the command is not
recognised, the server will echo what you type. The command parser
will also respond to MCI commands.

To exit type 'quit' or control D
Type 'help' to list the Telnet commands
Type '?' to list the disk commands
Type 'EscM\help' to list the MCI commands

SD Advanced Closed IPTU16> fdisk
=====
Device          Partition of      Mounted as
-----
DR0             ---              /RDD0
DM0             ---              /MDD0
DM0A            DM0
DH0             ---
DH0A            DH0              /HDD0
DH0B            DH0              /HDD0B
Select a drive descriptor >>
  
```

Enter DH0 for the first drive, and press return, then answer the two questions on screen with Y and C for Yes and Continue.

You will then see a progress report in the terminal.

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If you have installed multiple drives, when the command returns, press FDISK followed by return again and enter DH5 for the second drive, followed again by Y and C to confirm.

Once the drives have been formatted you can close the terminal by typing CTRL^D and return to the web browser.

At this point the device/s will be present in the video storage web page and will be available to allocate as per the guide above.