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CONFIGURATION
TUTORIALS

WORLD EYECAM

CONTENTS

RAID AND HDD GROUPINGS

RAID, HDD GROUPINGS, AND CAMERA QUOTAS

Setting up HDD configurations can help protect and ensure all recoded footage and data. Uniview recorders support a wide range of helpful HDD settings from RAID to Per Camera Quotas. RAID recorders support Hot-Swappable RAID 1 and RAID 5 but the recorders also support 0, 6, 10, 50, and 60. (See the last page of this tutorial to learn more about each raid type.) All Uniview recorders support redundant recording, HDD groupings, and HDD camera quotas. Remember when setting up a RAID array, each HDD in the array needs to be the same model and size HDD.

HOW TO SET UP RAID

In this tutorial the web service of the recorder will be used to show how to set up raid options.

1. Open the recorder's IP address in Internet Explorer and login (the default login for the recorder is Username: admin Password: 123456)
2. After logging into the recorder, navigate to Setup > Hard Disk > Array

3. In the Array menu click the ON check box to enable the RAID setup. Enabling the Array will format each HDD. When prompted, if erasing each disk is ok then click on the OK button.
4. Next in the Array menu there are two ways to set up a RAID configuration.

FIRST OPTION

a. Look though the list of HDDs and check off each HDD that you want to place into RAID.
b. After checking off each HDD click on the Create button.
c. In the Create Array popup, first start by giving the array a name, Next select your RAID type (see the last page of this tutorial to learn more about each raid type)
d. After selecting the RAID type click the OK button at the bottom of the menu to confirm and create the array.

SECOND OPTION

a. Click the One-Click Array button at the bottom of the Array menu
b. This will automatically select and put the HDDs from the recorder in the most effective raid format. (ie. If 4 HDDs are installed, it will take 3 of the HDDs and put them in RAID 5 together and then keep the 4th HDD as a Hot-Spare HDD and if the recorder has 2 HDDs installed it will place them in RAID 1 together.

5. Once the array has been set up and is now working, its details and status can be found under the Array tab, and now the array can be changed or deleted in the array tab.

HOW TO SET UP HDD GROUPINGS

1. Open the recorder's IP address in Internet Explorer and login (the default login for the recorder is Username: admin Password: 123456
2. After logging into the recorder, navigate to Setup > Hard Disk > Disk Group.
3. Check the Disk Group setting to ON
4. In the Disk List, all HDD arrays and Standalone HDDs will be listed
5. Each Disk and HDD array can be set up to be in its own Disk Group.
6. After each disk has its group number set, click save at the bottom of the screen and then navigate to Allocate Space in the left hand menu.
7. Select each camera by changing the Camera ID drop down.
8. As each camera is selected in the Camera ID drop down, change the option for Disk Group to match the disk grouping the camera should be recording to. (i.e. Two HDDs are set to record in RAID 1, and this array is set to Disk group 1. The recorder also has two HDDs that are still standalone. One standalone disk is Disk group 2 and the other is Disk group 3. The most important cameras on this system will be assigned to disk group one and record to the array, this way there is always a backup in case one drive in the array fails. This will also keep HDD usage in the array lower. Other cameras on the system that would not be considered as important would then be set to Disk group 2 or 3.

HOW TO SET UP CAMERA QUOTAS

1. Open the recorder's IP address in Internet Explorer and login (the default login for the recorder is Username: admin Password: 123456
2. After logging into the recorder, navigate to Setup > Hard Disk > Allocate Space.
3. Select each camera by changing the Camera ID drop down.
4. As each camera is selected in the Camera ID drop down, change the option for Max Recording Space and Max Image Space.
5. Each setting is how GB are allowed to use used for this camera on the HD. Please use the disk calculator tool on our website to calculate how much space each camera will use for the desired time required. (https://www.worldeyecam.com/hard-drive-calculator.html)

Note: Max Recording time is how much space the camera is allowed to take on the HDD that it is assigned to for footage that it is recording in live time; this could mean motion recording or regular recording. Most traveled areas should have more space on a HDD than less traveled areas.
Max Image Space is how much space the camera is allowed to take on the HDD when set to record snapshots.

RAID EXPLANATIONS

The following RAID Explanations are very general about how each RAID works and what it does. These are not in full detail.

RAID 0

RAID 0 arrays allow for HDDs to work together for faster read and write speeds, this allows for faster retrieval of data and a smaller chance that data from a lot of cameras being written to the HDD at one time will corrupt. With RAID 0 if one HDD goes bad ALL HDDs in the raid will go bad.
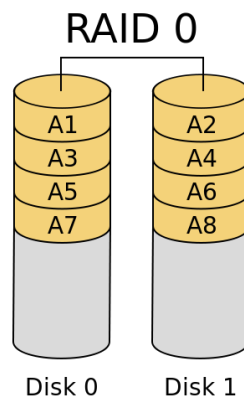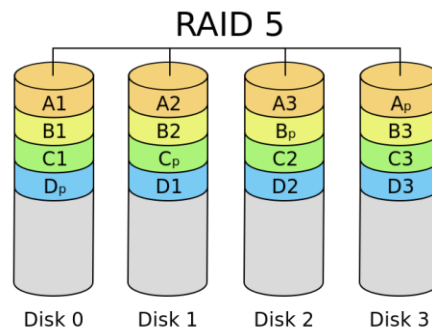
RAID 1

RAID 1 allows for two HDDs to in an array. This array will record to one HDD and mirror this HDD to the second HDD. This will keep a backup of all footage if one disk fails.

RAID 1

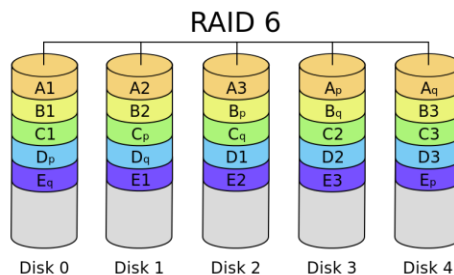| A1	A1
A2	A2
A3	A3
A4	A4

Disk 0   Disk 1
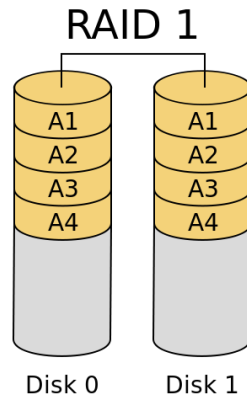
RAID 5

RAID 5 requires at least 3 HDDs to run. RAID 5 allows for three disks to be set up where disk one and two are mirrors and disk three is a backup drive that will take over in case one disk fails. Each disk can be read from and will have good performance but low write speeds since only one disk will be being written to.

RAID 5

| A1	A2	A3	A_p
B1	B2	B_p	B3
C1	C_p	C2	C3
D_p	D1	D2	D3

Disk 0   Disk 1   Disk 2   Disk 3

RAID 6

RAID 6 is the same as RAID 5 but adds another HDD. This additional HDD is another mirror drive to disks one and two to ensure that no data is lost even if two drives were to go bad.

RAID 6

A1	A2	A3	A_p	A_q
B1	B2	B_p	B_q	B3
C1	C_p	C_q	C2	C3
D_p	D_q	D1	D2	D3
E_q	E1	E2	E3	E_p

Disk 0   Disk 1   Disk 2   Disk 3   Disk 4

RAID 10

RAID 10 consists of 4 hard drives, where two are in RAID 1 together, and the other two are also in RAID 1 together, making two RAID 1 arrays. Then to make a RAID 10 each RAID 1 array is in RAID 0 with each other.
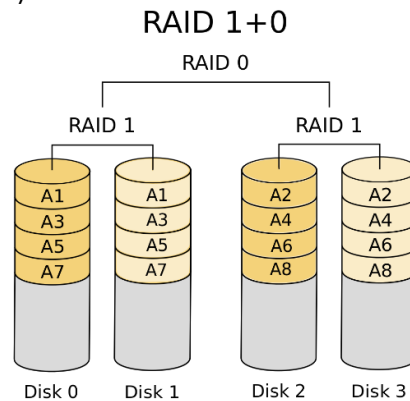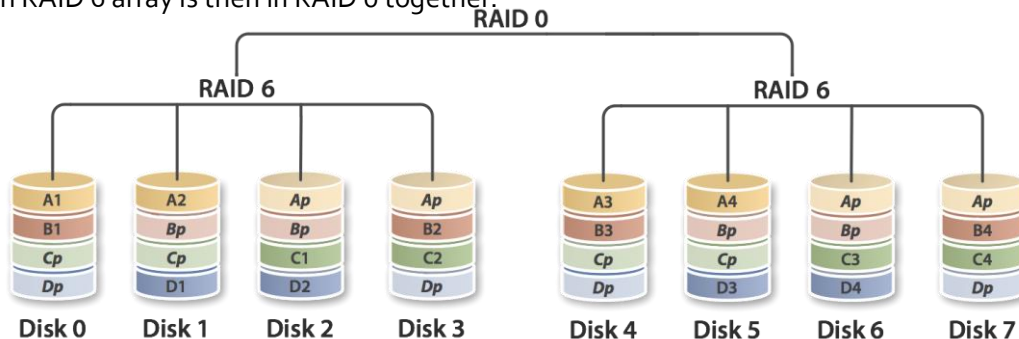
RAID 50

RAID 50 consists of a minimum of 6 HDDs. Two groups of three HDDs that are in RAID 5 together and then each RAID 5 array is then in RAID 0 together. This can be done with more than two groups of RAID 5 HDDs.
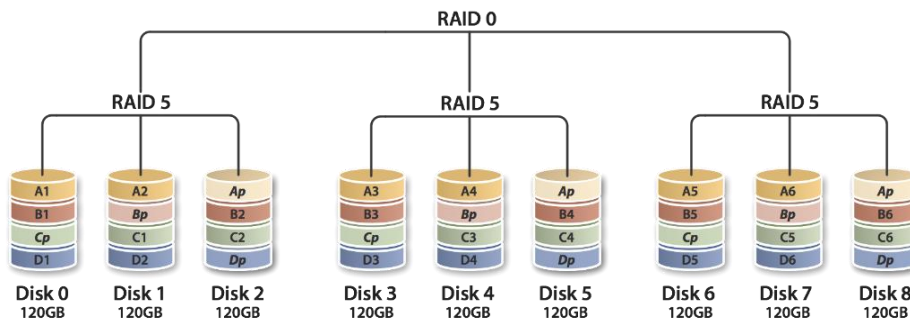
RAID 60

RAID 60 consists of a minimum of 8 HDDs. Two groups of four HDDs that are in RAID 6 together and then each RAID 6 array is then in RAID 0 together.