White Paper

Auto Recovery Backup (ARB)

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1. Overview and background

When operating a network security system, video data may be lost due to an unexpected situation such as user's negligence and network/power problem.

The network camera delivers data via a network, and a storage device receives and stores the data. Therefore, if the network used to deliver data is disconnected, the storage device cannot receive the data to be saved, and it is impossible to find the saved video when required.

If the video is monitored in real time, the user may recognize the disconnection immediately and take countermeasures. Note, however, that it is impossible to find out whether the video is recorded properly if the user is saving the video only without monitoring. Furthermore, a bigger problem may occur if the data in the lost section of the video will be required later. In short, loss of recorded video in a video security system may cause massive damage; hence the need to secure the relevant solutions.

2. Description of ARB technology

With the Auto Recovery Backup (ARB) technology of Hanwha Techwin, any lost section of the recording in the storage device caused by a network disconnection can be restored using the video saved in the camera's internal SD memory card.

To use ARB, the network camera must save video in the internal SD memory card continuously. If the network between camera and storage device is normal, the camera delivers video to the storage device for proper video recording. If the network is disconnected, the lost data will be restored after the network is recovered by moving up the data recorded in the camera to the storage device. Missing data backup will be operated automatically, so the user can review the video backed up by ARB in the storage device using ARB search without processing each missing data.

2.1. Condition for ARB support

To use ARB, a network camera that supports Hanwha Techwin SUNAPI protocol and SD card recording is required. To use ARB in NVR, the network camera's SD card recording must be enabled. In addition, the time synchronization between NVR and camera must be set, and the video section within 24 hours can be restored to NVR with ARB.

• *If the network is disconnected for more than 24 hours, the video within 24 hours from the network restore point can be restored; the restorable section may vary according to the capacity of the internal SD memory card and recording setting.*
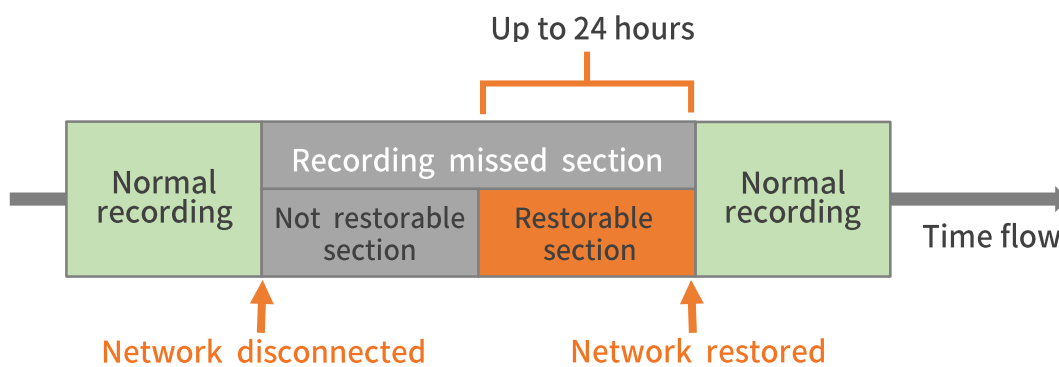
Image 1. ARB recording time

2.2. Detailed operation of ARB

When the connection between the storage device and camera is restored, the storage device restarts real-time video receiving and recording. If there is a section of the recording that is missing, ARB operation will be started. The ARB function is composed of "ARB request, ARB video receiving, and ARB video saving." After ARB request, if there is a video of the missing section of the recording in the SD card, the storage device can receive ARB video from the camera. The received video will be saved in the space allocated for ARB in the existing HDD and excluded from the requested missing section of the recording to the camera for the next ARB operation.
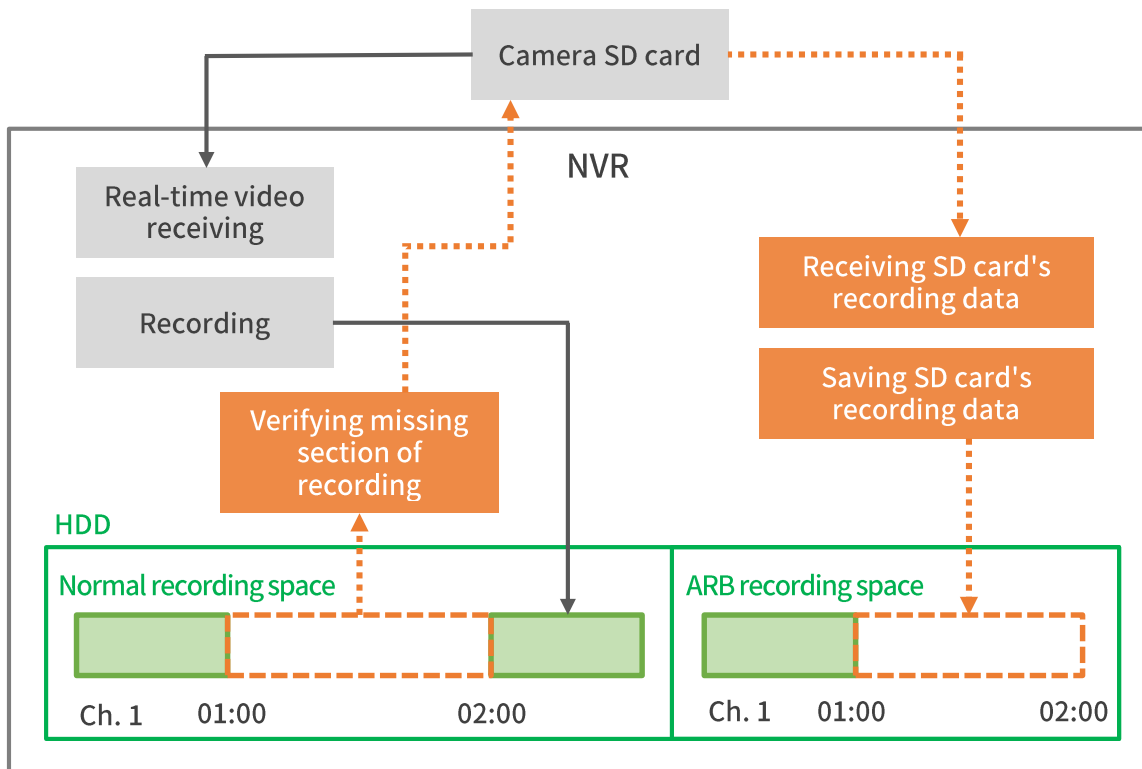

Image 2. Detailed operation of storage device's ARB

2.3. How to search ARB

Information (including play time) of ARB video saved in the ARB space of HDD and received from each camera can be checked through ARB search in NVR. Video can be played, too.

• *Video restored using ARB cannot be searched via "Time Search."*

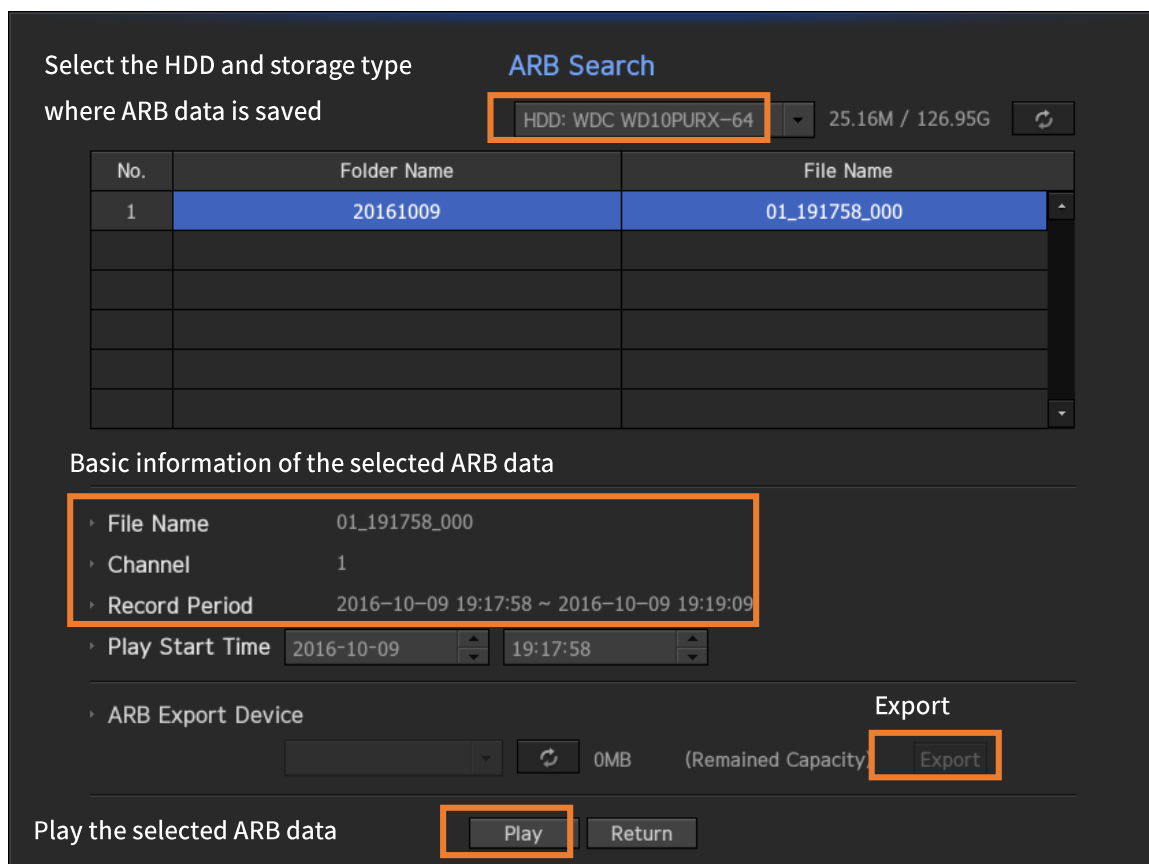ARB search → Select storage type → Check the basic information and time

Image 3. ARB search menu

3. Conclusion

Hanwha Techwin's storage device can minimize the missing section of recording of a storage device because, if the recording fails due to network disconnection, it will back up the video saved in the camera automatically when the network is restored.

In addition, it resolves the problem of short recording storage period (weakness of the camera's SD card recording function), and the user can play the video recorded during the period of malfunction without connecting each camera using ARB search of the storage device.

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