

Understanding Decoding Capability

Within the spec of every NVR on the market is a decoding capability. This spec was fairly minor before 4MP and 4K cameras became affordable and mainstream as usually the bitrate was the biggest bottleneck in systems.

Now with H.265 bitrates and more affordable 4MP and 4K cameras, decoding is a spec users will want to understand.

Dual-Stream	Support (Sub-stream at CIF / QCIF: 30fps)
Stream Type	Video, Video & Audio
Playback Speed	Up to 128x (From Local Display); up to 16x from webview (depends on your internet upload and download speed)
Decoding	1 x 4K@30, 2 x 4MP@30, 4 x 1080p@30, 8 x 720p@30, 16 x D1
Hard Disk	ADM4P4
SATA	1 SATA Interface
Capacity	Up to 8TB capacity for each disk
External Interface	ADM4P4

Decoding Capability, Admiral 4 Channel 7/3/18

Today if you're looking at a beyond HD video surveillance system, it's important to understand what decoding capability means and does not mean. **It's important to note that decoding does not affect recording: Even though the NVR can display just one 4K Camera at a time, it can still record all four 4K cameras.**

Decoding capability in simple terms is the ability for the NVR to display any given stream or recording reliability at the same time. This spec is across the board, so it includes computers and apps streaming.

So for example, on the 4 channel Admiral it's

1 x 4K@30, 2 x 4MP@30, 4 x 1080p@30, 8 x 720p@30, 16 x D1

So that means the NVR can display one full sized 4K stream at a time, OR two 4MP, or four 1080p cameras across the board.

Understanding Substream

Almost every NVR on the market handles the decoding issue by automatically switching between the full, recorded quality mainstream and the secondary standard definition substream.

For example, on most NVRs a single (one) camera view will be the mainstream - since this is going to be a large view, it makes sense to show the fullest quality. On smaller views, such as 2x2 (four cameras) or larger, it will switch to a substream.

In most cases - this is indistinguishable to a user. In a limited image size a substream will look nearly as good (and even better in some cases) than a full sized image that is attempting to be squished down. This is an effect called aliasing.

So for most cases - as long as you follow the software's default settings you will not have to worry about decoding capability.

Overloading Decoding

If the decoding capability is pushed beyond the limits you may notice video lag, unresponsive UI, or freezes.

If you notice these symptoms, double check to make sure no computers are inadvertently streaming in the background, especially on mainstream.

If you have any questions feel free to contact support at 866-414-2553 and option 2.

FAQ

Q: Why not make it so you can decode more?

A: For most security camera systems playback fidelity is the most important thing, which all of our NVRs are fully capable of at 4K. In order to increase decoding the CPU and decoding chips would need to be significantly upgraded - meaning significantly higher prices on NVRs.

Q: Decoding is very important to me - what can I do?

A: In the example of the 4 channel NVR it can decode one 4K camera at a time. If you believe you need more, you can always upgrade your NVR to a larger unit with a better CPU. The 8 Channel Admiral for instance can do four 4K cameras instead of one.