

# POCKET DICTIONARY

Airship to English

AIRSHIPDVR.COM

Learn  
to speak  
Airship!

AM  
Digital Video Recor

# The Airship to English Pocket Dictionary

Published by Airship Industries, Inc. Airship makes feature-rich, easy-to-use software for commercial digital video surveillance. Our feature-rich software is built around users' daily tasks, making them easy to perform quickly and without errors.

Why do we sell our Airship Software packaged with hardware as a combined solution?

Because a combined solution proven to perform without compatibility issues or other technical problems saves you money in terms of time and customer loyalty. Airship is all about providing the most stable, user-friendly, service-backed, and easy-to-install DVR systems at the best price on the market.

As this guide attests, we're not afraid of being a little different. Not only are we brave enough to break with industry tradition and use worst-case rather than best-case scenarios to measure and document the performance of our systems, we're not afraid to crack a few bad jokes to get your attention. You'll love learning to speak Airship!

**[airshipdvr.com](http://airshipdvr.com)**

**1920 fps:** 30 frames per second for each of 64 channels.

**365 days storage on 1 TB:** One frame per second.

That's what a lot of systems mean when they say "365 days of storage." That's fine until you need to look back over the evidence and get a clear shot of a suspect's face. Remember how you learned to measure a second? "One one-thousand..." "Did you capture it during that one image taken? Yeah, we can do it, too, so you can have a system that stores a year (or more) of video at low frame rates.

**480 fps:** 30 frames per second for each of 16 channels.

**960 fps:** 30 frames per second for each of 32 channels.

**Alarm Events:** "Uh-oh, something happened. What should I do?" Oh, maybe...Record it? Yeah, that's easy. How about recording at a higher frame rate and resolution- capture important events in the best possible video quality. Send e-mail with snapshots? Check a box. Send a message to remote Clients? Check another box. Move a PTZ camera to a preset position? OK. Make a bunch of noise! (computer speakers...) Lots of options; just check the boxes.

**Alarm Triggers:** What do you find alarming? Motion at a certain time of night or day? Sensors tripped? How about if someone disconnects a camera? Or better yet, what if someone sprays paint over a camera? Airship looks for Alarm Triggers that you can define in detail to fire off Alarm Events.

**Bandwidth Requirement:** How fat does your network have to be to transmit all that high quality video to remote users? Airship uses H.264 compression, optimized for security and surveillance use. The real bandwidth cost varies depending on overall motion in the video, including video noise from the camera. 4CIF @ 30 fps run anywhere from 600 to 800 Mbps. CIF @ 30 fps runs at about ~150 Mbps. Compare that with MPEG-2 or MPEG-4.

**CCTV:** Closed Circuit Television. Not publicly available. Private. You know, secure. Like, security and surveillance.

**CIF or Common Intermediate Format:** Definition used to standardize the horizontal and vertical resolutions in pixels in video signals. Given in pixels-by-pixels, the first number is the horizontal pixel count

and the second is the vertical pixel count. Even though the number of pixels may not end up in a square or 4:3 ratio, the camera image is presented as such. In short:

**QCIF: 176 x 120 NTSC and 176 x 144 PAL**

A big space-saver, but not nice to look at.

**CIF: 352 x 240 NTSC and 352 x 288 PAL**

The Average.

**2CIF: 704 x 240 NTSC and 704 x 288 PAL**

Double-width, but not double height.

**4CIF: 704 x 480 NTSC and 704 x 576 PAL**

The Big Pretty One. 4 times the pixels as CIF;  
4 times as clear. This is what Airship is designed  
to do best.

**Codec:** A codec is a scheme for **compressing** and **decompressing** data of any kind. There are a lot of different codecs in use when it comes to video; so many that the more popular media players available have automatic codec lookup and download abilities. Better codec's provide better quality at lower file size than worse ones. Like old vinyl compared to

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CDs. (Remember polyvinyl acetate? Big black discs with big album covers...Ask your Mom's DJ.)

**DVR Optimized Hard Drives:** The Seagate SV.35 series of hard drives were created specifically for DVR applications. The Airship SD Series utilizes these drives on the recording storage array for the best possible performance. However, it turns out that the same drives do not perform as well in RAID configuration as standard drives. Our tests show a marked reduction in I/O performance when recording and reading from these drives in a RAID 5 array, so we do not use these in RAID configurations. Seagate simply did not intend this line of drives for use in RAID. Our product Research and Development team looks forward to working with Seagate on a RAID 5 solution that provides the same performance benefits.

**E-Map:** Electronic Map shows you where your Cameras, Sensors, and Relays are in your security environment. You can even indicate the direction a camera is pointed. The E-Map can be configured to pop-up on screen in case of an Alert, so you know where (physically) an Alarm Trigger occurred.

**Frames Per Second:** In every second of video you see a number of picture frames pass by, resulting in the appearance of motion. On TV, you generally look at 30 frames per second. (25 fps in most countries) On your computer you generally get 60 fps, or higher for video game players. The higher this number, the better the video looks. More importantly, the better chance you have of catching the best look at a suspect's face or seeing quick-hand motion.

**GUI:** Graphical User Interface; that beautiful screen you look at and work with to get the job done. Ideally, you think it's as beautiful and functional as we do. Some GUI's are all gooey. Can't find what's where and what's that big red button for? We worked hard to display the most useful information when and where you can find it fast. So...how do we look?

**H.264:** The New Hotness in video compression. This is what Airship uses. Better quality with smaller files than previous video compression technologies like MPEG-2 and MPEG-4. MPEG-1, MPEG-2, MPEG-4... Yes, these compression technologies are all related.

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It's just that H.264 is the best available right now. Using H.264 compression, 24 hours of 4CIF at 30 fps takes up 20-40 GB of storage space. (Often less or more, depending on video quality and the scene being recorded.) Did someone mention MPEG-7? MPEG-10? That's the future. Stay tuned...

**ISC West:** Where 100,000 security systems integrators, dealers, and installers come to find out about Airship.

**Laser Beams:** What the CD gets burned with when you create video evidence for law enforcement. Also, a fairly effective criminal deterrent when mounted on the heads of angry sharks. Or puppies. Angry puppies with lasers on their heads. We're always thinking ahead.

**M-JPEG:** An informal name for multimedia formats where each video frame or interlaced field of a digital video sequence is separately compressed as a JPEG image. With the later development of MPEG-4 and H.264 technologies, M-JPEG is an outdated and inefficient codec.

**Motion Detection:** Airship uses a combination of hardware DSP technology and software to provide video motion detection. Use it as an alarm at night so that when someone is somewhere they shouldn't be, a relay gets triggered that turns on the lights and plays a sound file of barking dogs. Or something like that. Speaking of dogs, have you ever had a dog that barks at falling snow? Sometimes bad video signals count as motion; that's why we have an easy motion sensitivity setting to make sure you don't get a bunch of false alarms.

**MPEG-4:** Airship does not use standard MPEG-4 compression; see H.264 Compression for more information. In general discussions about video compression technologies, MPEG-4 references a newer and more efficient standard than older MPEG-1 and MPEG-2 technologies. MPEG-4 is an encoding standard used primarily to compress audio and visual (AV) digital data. More than that, MPEG-4 is a multi-part designation which has a wildly varied set of inter-working parts. MPEG-4 incorporates and improves upon the older MPEG1 and MPEG-2 standards, while

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adding several new features. Most of the parts of the MPEG-4 standard are left to developers to decide whether or not to implement them. It is unlikely that a complete implementation exists. Some parts of the MPEG-4 standard are very resource intensive for compression and decompression, and so are only used for specific purposes, like MPEG-4 Part 10, aka H.264.

**NTSC vs. PAL:** Video formats. It's not a boxing match; just a difference of coding. NTSC is generally used in North America and Japan; PAL is generally used everywhere else in the world. Airship doesn't care which format you use-it's automatically detected when you start the Server up.

**PTZ Protocol:** How software tells a robotic camera how and when to move. If you hook it up to a speaker, it sounds like a bunch of blips and beeps, like R2-D2. Then your speaker might melt, so don't try this at home.

**RAID:** Redundant Array of Inexpensive Disks. Refers to a data storage scheme using multiple hard drives to share and/or replicate data across multiple drives. Common RAID configurations include the following:

**RAID 0:** Called a 'striped set', this method improves performance by splitting I/O operations across multiple drives simultaneously.

**RAID 1:** Called a 'mirror', this method provides data storage redundancy by managing two identical copies of the entire hard drive image.

**RAID 0+1:** Provides both striping for performance and data redundancy for safety.

**RAID 5:** Provides striping and more efficient data security by use of Distributed Parity. If a single drive in the array fails, data blocks and a parity block from the working drives can be combined to reconstruct the missing data. Airship HD Series comes with a RAID 5 array, ensuring better performance, and efficient data protection. The hard drives are even hot-swappable, so if a drive goes bad, you can trade it out automatically without shutting down your system.

**Redundant Power Supply:** Protection from the unimaginable. Lots of hard drives need more power,

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and that's just one reason to have multiple power supplies in your surveillance systems. But what if one goes bad due to a power surge or other event? Airship HD Series is triple redundant, meaning that one power supply can go down, and the system will stay functional.

**Resolution:** **1.** A meaningless political statement. **2.** Something broken on January 2nd. **3.** A measure of video clarity. Digital cameras capture images with a fixed number of pixels. Measured in terms of "horizontal x vertical" pixel counts, resolution is a simple way of talking about how many pixels are being recorded. The more pixels, the better the image, but also bigger to store on the hard drive. See CIF...

**Robber, The:** **1.** One who robs. **2.** A poorly named comic book villain. **3.** The guy whose face you need to see clearly in the surveillance recordings. This is the person you want your cameras to see and your surveillance recording systems to capture. You want to see his face as clearly as possible when you go back to review the recordings. Because you want that, you tune your Airship for 4CIF and 30 fps and use the automated color adjustment

feature to increase brightness and saturation at night. Yes, now you can clearly see The Robber's face, export the video to a CD and give it to law enforcement.

**Systems Integrator: 1.** A technology multi-disciplinarian. A dedicated professional. **2.** An Airship customer.

**Total Frames Per Second:** The total number of frames per second a given DVR can capture across all channels. Have you ever seen the "up to 30 fps, 16 channels, 120 fps total" ads? Sometimes, they don't even mention that 'total' amount very clearly.

**User Interface:** The connection between you (the user) and the 1s and 0s that make up the inside of a computer. Ideally, you can figure out what the interface is trying to tell you, and you can easily tell the software what you want it to do, just by looking at the User Interface, and maybe moving the mouse over buttons and other items of interest. Just try to not click that big red button... uh-oh.

**VHS Cassettes:** Research from the early 1990s indicates

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that these archaic devices were once used to record and store video for a variety of purposes. One wonders how... Of note is their lack of resistance to heat, as evidenced by their melting inside cars because someone kept forgetting to stop by the video rental store to return it.

**Web Client:** The Airship Web Client is an easy way to access the Airship DVR Server without having to manually install a full desktop software package. Providing full functionality, the Web Client allows live view, recording playback, search, and even remote server configuration. The Airship Web Client is run inside your Internet Explorer browser window via an ActiveX control; the easiest way to distribute remote access to your surveillance system.

**Work Boots:** What you use to kick a machine that breaks. We've been in them and work closely with people who live in them every day. Every decision we make about our product design goes back to a basic consideration: What's it like in our customer's boots? Also, of course, we aim to provide you with Work boot-proof systems—you won't ever want to kick an Airship DVR.

About the information in this guide: Thank you, numerous contributors to Wikipedia, for providing us with a lot of well-worded copy about what we know but couldn't say as briefly. Anything in this booklet that is not strictly factual was written by our team, which put aside all sorts of work to devote time to this important booklet.

**Airship** is the ideal language for DVR integrators & systems builders, as it allows them to:

- **Cut through marketing and technical jargon** to communicate about issues in terms of performance and effectiveness
- **Demonstrate their professionalism** and commitment to the field through handy knowledge about industry acronyms, the benefits of choosing Airship DVR systems, and inside jokes



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