

ComLog
Digital Voice Recorder

Executive Summary

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The **ComLog™** Digital Voice Recorder system was initially conceived in the mid-1990's and designed as a recorder for the Air Traffic Control environment. It has matured commercially as a product for many applications such as Public Safety, Call Center Management, Flight Safety, Air Traffic Control, Marine Traffic Control, Corporate Security, Campus Security, as well as many others.

A ComLog "system" consists of a *Record Server* and at least one PC Workstation. The Record Server and Workstation(s) are network based, using an Ethernet network, running TCP/IP protocol. The Record Servers communicates with local or remote workstations using the network for all control and audio playback. Multiple Workstations can access a single Record Server. The ComLog network can be integrated onto the site's existing Ethernet LAN and can be configured with IP addresses to conform to local addresses.

Recording of audio and the associated event information is stored onto an interim "instant recall" hard disk, then archived onto 9.4GB DVD-RAM disks.

Up to 20 simultaneous channels of audio is played back to workstations over the LAN.

The ComLog Workstation Application runs on standard multi-media Pentium class PC's, operating under Windows 95/98/NT4.0/Windows2000 or XP, providing an intuitive graphical interface for all user functions. Playback uses the sound resources (sound card and speakers) of the PC.

The ComLog user interface can also be used as instant recall devices at pre-existing Windows workstations. The interface can be configured to provide IR to one or more channels of interest from the full list of recorded channels. Playing the "last call" is initiated by a "double click" if an icon situated in the Windows' "system tray". The application is run in the background while the user can be performing other operational tasks. The sound resource of Windows is only taken when playback is requested, as not to effect other running applications.

The Record Server

A Record Server is available in two size formats. The DLS2410 is housed in a custom 4RU (7") chassis with a maximum channel capacity of 60 Channels. The DLS2420 is housed in a custom 6 RU (10 1/2") chassis, with a maximum channel capacity of 144 Channels. Both sized units are available as desktop or rackmount versions. The rackmount kit is equipped with slides and handles. The drive bay section at the front of each unit houses up to 2 removable media drives for the DLS2410 and up to 4 for the DLS2420. All inputs are interfaced to the unit using 25 pair "telco" type of connectors. A front panel alarm module provides both visual and audible status indication, as well as providing a watchdog circuit for the main system CPU. Both sized systems are identical in operation and operated with the exact hardware and software. An added feature

of the larger DLS2420 is integrated triple redundant power supplies with an internal load share module to isolate a failed supply.

Input Line modules are available as: 2-wire "Telephone" type with CLID capture; 4-wire "audio" (Radio) (HiZ or 600 ohm); or, 2-wire with separate Contact Closure inputs. Each module type interfaces with 12 distinct input sources.

A "standard" Record Server is equipped with a 9GB Instant Recall hard disk, currently upgradeable to 72GB. In addition, a Record Server can also be equipped with a RAID-5 hard disk with up to 100GB internal to the Recorder chassis and with hot swap capability, or even larger capacities may be reached with an external RAID-5 chassis array. Internal RAID-5 drives are mounted in the front panel of each Record Server (with physical locks), and are hot swappable, whereby a failed drive can be removed and replaced without effecting the operations of the Record Server.

Digital Transcription

A "Digital Transcriber" feature has been incorporated into the ComLog system. Selected calls or time spans can be digitally "copied" from a Record server to a Workstation's PC readable format. All of the re-recorded (or copied) files (calls) can be replayed using the same GUI as used for playback directly from a Record Server, preserving all call information from the original recording. When a transcription is replayed, the original time, date, call event information is maintained and appears exactly as the original call. To explain further, not just the sound is stored as would be the case for .WAV files or MP3 files. In addition, these files are stored in a more compressed storage format than a .WAV file. The resulting "Incident" folders can be stored on any PC storage device such as writeable CD's, DVD, ZIP disks, floppy disk, or can even be e-mailed (space allowing). The typical storage medium used is writeable CD. The media is inexpensive, and can be kept for an indefinite time. A typical ComLog user will use CD ROM writer to store incident folders.

To explain the process of creating a transcription (re-recording for archive), the following actions would be performed. The process can be achieved at any workstation (local and remote) connected on the network. First, the desired calls would be identified. The individual calls, or time spans, would be placed into a "playlist". In the case of systems with multiple Record Servers, the calls can originate from any Record Server logged into by the workstation and be combined in the transcription. Each entry in a playlist can be annotated with a text description up to 256 characters. The playlist can be saved at the workstation for later review from the Record Server, or used immediately to create the transcription.

A previously saved playlist can also be opened to create a transcription. A transcription "folder" is created to store the transcription. Such a folder can be thought of as an "incident folder". Standard windows "long file names" can be used in order to be as descriptive as required in naming the folder. Once a playlist is brought into the "transcriber" window, the workstation recalls the digital data from the Record Server and creates the digital files for each of the calls (or time spans) in the playlist. The files are placed into the transcription folder. The

folder can then be archived on the long-term archive media (writeable CD), as desired.

A transcription folder can be opened for review and played back at a workstation equipped with the appropriate media playback device (such as a CD drive), whether or not it is on-line with a Record Server.

A reduced functionality freely "distributable" version of the Workstation application is available to include on archive CD's, so that departments without the ComLog Workstation application software can replay the information on a standard multimedia PC (DA's office, courtrooms, etc.).

In addition to the digital transcriber, the audio can be played to a standard audio cassette using the headphone or "line-out" jacks of a Workstation PC.

Conclusion

The CVDS **ComLog** is state of the art, and offers advanced functionality at prices at or below that of the competitions' "entry level" equipment. ComLog systems are currently installed at the various Public Safety locations throughout Canada and the United States. Current installations include the Canadian Coast Guard across Canada, the Ontario Provincial Police, police departments, county 911 centers, sheriff's offices, campus security departments, as well as call centers. As a note, CVDS was recently successful in an open tender for the OPP, which resulted in a "standing offer" for supply of ComLog systems to all levels of the Ontario Government.

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