



Ocean Systems Proposal # **Q05- 5,734**

Quote	Mason City	Ship	
To:	6000 Mason MONTgomery Rd. Mason, OH 45040		
Attn:	Scott Doughman		
Phone:	513-317-2644		
Fax:	513-229-8561	Fax:	
email	sdoughman@masonoh.org		

Order	Ocean Systems
Add's:	4016 Blackburn Lane Burtonsville, MD 20866
Attn:	Doug Perkins
Phone:	(301) 476-8015
Fax:	(301) 421-1785

#:	Q05- 5734	check box when faxed
Date:	5/20/2005	Price Subject To Change
Terms:	N30	
Date Req'd	5/20/2005	
Order Total:	\$18,292.00	

Qty	Description	Unit Price	Extended	Part #
1	Ocean Tower, Avid Xpress Pro WINXP - Dual Xeon 3.4, 1 GB DDR II RAM, 160GB SYS HDD, Dual 320 LVD SCSI, FX1300, CDRW/DVDROM, Spk, ACC Kbrd 4RU	6256	6,256.00	RAK-XPR-DV-42
1	RAM - Additional 1 GB (2 GB Total)	380	\$380	CMP-MEM-1GB-01
4	HDD W.D. 250GB 7200 RPM SATA (1 TB)	270	\$1,080	426200JB
1	dTective Forensic Bundle (ext. for RAK, TWR) dPlex, dPlexPro, dVelooper, DVR dCoder, SpotLight, DVR Coder, MAGNIFI, Media Mover,	3946	\$3,946	SFT-BND-FNS-02
1	JVC TM-H1700GU 17" Color Utility Monitor, 750 lines, 16:9/4:3, Composite & SVideo, RGB, NTSC, PAL, P-22, Underscan	885	\$885	TM-H1700GU
1	(UPG CDRW To DVDRW/CDRW) DVR-AO9 IDE DVD-R &+R, DVD-RW & +RW, CD-R, CD-RW, CDROM/DVDROM (TWR/RAK/FLY)(Int)	168	\$168	CDR-RRW-UPG-01
2	View Sonic 17IN LCD 1280X1024 500:1 DVI-D TCO99, THINEDGE, ClearMotiv™ Black	590	\$1,180	VP171B
1	Avid Mojo DNA : Real-time DV output to tape with real-time 2D and 3D DVE, Real-time video monitoring, 20-bit analog audio, Analog Video In/Out S-Video, Composite,	1435	\$1,435	0010-06091-01
1	JVC SR-V101U S-VHS TBC & Jog/Shuttle (recommended dTective Forensic Video Tape Deck)	369	\$369	SR-V10U
1	System Includes, 1 years of 800 # support for dTective software and upgrades to dTective software during the first year. Also, four days training for one person at Ocean Systems facility in Maryland, dTective Software training, Does not include lodging or transportation			
1	EPSON - INK JETS STYLUS PHOTO 2400 INKJET maximum 5760 x 1440 optimized dpi DPI 8-CLR ULTRACHROME USB, FireWire	849	\$849	757143
1	dTective Video Forensics Training - 1 Student 4 days - @ Ocean Systems (1 yr prepaid voucher) , Second person trained	1200	\$1,200	SVC-TRAI-FNS-02
1	Base Assurance, Avid Xpress Pro (9AM to 7PM EST Only)	449	\$449	0540-03441-01

Shipping, Insurance	\$95.00
Item removal/substitution may require price recalculations	
Total:	\$18,292.00

AVID/dTective Forensic Video Analysis 2005 JUSTIFICATION

Avid Technology, Inc., is the industry leader in digital non-linear editing systems. Its nonlinear product line has been on the market for more than fourteen years. There are 75,000 Avid systems installed worldwide. Over the years, Avid has continually improved the user interface and functionality of the system based on the feedback from these customers. As a result, the editing model is the easiest to use and most functional in the industry.

Avid Systems operate on a non-proprietary platform using industry-standard hardware, which supports the AVX architecture for third party development. This ensures that the customer can take advantage of advances in technology as they occur. The system is modular and upgradable. A growth path exists to future computer platforms and LVD, SCSI and fibre channel-based storage technologies. As a means of reducing maintenance costs, Avid includes a 5-year warranty on its disk drives.

Avid offers the video analyst a choice of digitizing modes ranging from the ITU-601 standard of uncompressed capture, to DV-25.

Avid with dTective offers many unique capabilities not offered by any other system:

- The **Avid Bin** provides powerful visual databasing capabilities. Any thumbnail may be played back in realtime directly from the bin. The user may instantly go to the first or last frame of any thumbnail in the bin, mark in or out points on the thumbnail, and edit the thumbnail directly to the timeline. Exhibit assets can be searched in a database format categorized by suspect description, incident number, agency, suspect name, investigator, or any other user defined criteria.
- As it digitizes, Avid Systems **automatically create a database** on which the user can perform sort, sift and search functions. The user may customize this database to include custom columns with custom data. The database automatically logs the exact date and time an exhibit is entered into the system and tracks any modifications. Each text entry in the database can be displayed and printed with clip frames of video for easy reference. This database can be exported to industry-standard databases and spreadsheet applications via tab delimited ASCII text.
- By combining industry standard color measurement tools with **Avid Color Correction**, the surveillance video can be calibrated to accurately reproduce the original colors. Color Correction can also be applied to black and white video to accurately and reliably correct for gray scale errors in the original video images.
- Avid provides **32 levels of UNDO and REDO** as well as a user-definable AutoSave function which automatically stores the present sequence in a folder called "**the Attic**" for retrieval should power fail or the decision be made to revert to an earlier version of the project. The Undo/Redo List enables precision in tracking changes and reverting back to previous changes.

- Upon completion of an investigation, Avid allows the user to discard any video and audio clips that are no longer needed and **Consolidate** the completed analysis to a single disk drive. This allows the user to conserve disk space and consequently reduce storage costs associated with computer hard drives. No other system offers the media/storage management tools that are standard on Avid Systems.
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- Avid can produce audio cross-fades by simply adding a dissolve between two clips on the same track.
- Avid is the only software program for which DAC, Digital Audio Corporation, has designed an exclusive high-end audio forensic analysis program. **DAC QuickEnhance** works within the Avid interface. <http://www.dacaudio.com/products/quickenhance-as.html>
- Avid Xpress Pro with Mojo and other Avid Non Linear Digital Editing Systems (DNA) provide 24 tracks of video and 24 tracks of audio.
- Avid Systems provide a grease pencil allowing the operator to mark and annotate specific locations on the video for future references. **Locators** offer the analyst immediate interactive **case notes** that can be quickly printed and include automatic time and date stamp, notes and images.
- Avid Xpress Mojo converts more than 25 bit-mapped graphic formats upon import/export providing instant compatibility with paint, graphics, and animation packages on virtually any computer platform.
- Audio levels on Avid can be **adjusted in realtime** via on-screen controls or through an external third-party midi mixer. The system remembers each fader move and instantly updates the sequence to reflect the new audio levels.
- Avid video and audio media is stored in Open Media Framework (OMF) native format. Audio files are saved as industry-standard AIFF or WAV files. This allows instant compatibility with third-party applications eliminating the need to import or export.
- Avid supports **AudioSuite** plug-ins allowing third-party audio capabilities to be accessed directly from within the application.
- Avid Systems support the **AVX plug-in architecture** that allows third-party software applications to be loaded directly from within the Avid Effects Palette. These plug-ins provide additional functionality and creativity over and above the native Avid filters.
- Avid Systems support **QuickTime Reference Movies** allowing media to move instantly between Avid and third-party QuickTime applications such as Adobe After Effects and Discreet Cleaner 5.
- The **OMFI-AAF Converter** in Avid Systems converts files between AAF and Open Media Framework® (OMFI).
- **VTR Play Emulation** lets external devices, such as DVD mastering systems, control Avid remotely using the standard 9-pin protocol.
- Using the **Video Archive** capability in Avid, users can archive selected footage, including entire original clips, to standard digital or analog videotape. With digital tapes and optional SDI, users will experience no degradation in quality as a result of the archiving process. Video Archive will allow projects to be re-created at any time, even if the original exhibit tapes are unavailable.

- The Avid **Record to Timeline** feature captures video straight to the timeline; the fastest possible way to conduct a video examination.
- The Avid Timeline allows the user to **match the time stamp** with the time stamp recorded by the original video security system, allowing the user to snap to events simply by typing in the targeted time. When using Locators and case notes, the time stamp is automatically captured and becomes part of the report.
- **Real-time Sample Rate Conversion** takes audio recorded at different sample rates and converts it to the sample rate of the project in real time.
- The audio mark-in, audio mark-out buttons on Avid offer the ability to cut in “L-cuts” or “split edits” on the fly between audio and video material.
- The mouse jog on Avid allows a fine and detailed analog scrub of audio and picture, while shuttle plays at a fixed rate of speed determined by the editor’s mouse movement.
- Avid has the ability to instantly identify flash frames, repeated images or black holes in sequences.
- Project and media compatibility with an installed base of over 75,000 television post production systems.
- The **Avid Keyboard can be mapped** for each individual analyst. Functions such as linear field advance or reverse, key-frame assignment, Locator identification and dozens of other ‘button to button’ or ‘menu to button’ features can be assigned to a key stroke.

In addition to the above unique features, Ocean Systems, an OEM manufacturer of forensic video tools, has created the following filters that are available only on Avid Systems:

- **dPlex**: (the largest proportion of video evidence seized by police comes from multiplexed systems which often record in field mode and which encode several cameras to a single videotape or recording media.) This system provides a universal multiplex decoder that can isolate a specific camera and play it back in real time without compression artifacts or cropping loss. This feature is absolutely mandatory in forensic video analysis applications and only dPlex can perform this function currently. **dPlex Pro** permits the user to decode ALL of the camera views at the same time, providing the analyst the ability to quickly track suspect movements from camera to camera.
- **DVR dCoder**: With the current migration from analog video security systems to digital video security systems in the CCTV Industry, dTective is the only forensic video system prepared to meet the demands of this changing technology. DVR dCoder is a universal digital decoder, allowing the analyst to accurately and reliably capture digital security video images for thorough forensic video examination.
- **dVeloper**: crucial details can be hidden in colors, or in noisy or dark video. dVeloper uses a ‘frame averaging’ process which can adjust specific video settings (like contrast gamma, brightness and sharpen) while

clarifying an image based on the total sum of data available on a sequence of consecutive video frames, or from isolating a specific color.

- **Spotlight**: highlight an area of video to track object(s) or person(s). This feature can also be used to blur or hide specific sensitive information like faces and license plates. Multiple targets can be highlighted or blurred on the same video sequence.
- **Magnifi**: Magnifies portions of an image using mathematical formulation to clarify the result. A moving target can be tracked, stabilized and magnified; allowing the analyst to hold the target in a 'blown up' portion of the video, while the untouched exhibit plays in the background.

Other forensic processes, such as **automatic and manual image stabilization, image resize, time compression or expansion and multi-image export features** are also standard on the Avid dTective System.

In addition, Avid Systems are the complete industry standard broadcast editing system. Since most television stations in North America use Avid products and can read the OMFI file format, an investigator can provide a 'visual press release' on CD or DVD to the media without experiencing any loss of image quality that is usually associated with 'copied tapes'. Important cases with uncompressed images of unidentified suspects can be released to the public, providing investigators with a better opportunity to identify their targets.

Grant Fredericks, Manager
Avid Technology, Inc.
Forensic Video Solutions
1 509 467-3559
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Sole Source Letter

January 13, 2005

- Ocean Systems is the manufacturer of “dTective” forensic package. This package includes, dVeloer, dPlex Pro, Magnifi, DVR dCoder and Spotlight. This software is the property of Ocean Systems and only available from Ocean Systems.
- Ocean Systems is the sole provider of training and support on the dTective system.
- Ocean Systems is the only Avid integration partner certified to manufacture the “Tower™” version of the Avid Xpress Pro for Windows XP Professional system.

dTective™ is a forensic solution developed by Avid Technology and Ocean Systems. The dTective system enables users to do field acquisition, clarification, analysis, and presentation of surveillance video images to produce results never before available. Powered by the Avid Xpress non-linear digital editing system and Ocean Systems’ forensic video plug-ins, dTective offers law enforcement agencies the most comprehensive video analysis tools available. This system is the only video analysis system that:

- Handles Uncompressed Video in acquisition, analysis, and output functions using the ITU 601 international video standard.
- Provides a universal digital file de-coder to allow work with digital file formats.
- Provides an “Attic” which allows for video restore feature in case of video loss due to unforeseen occurrences.
- Provides searchable data base feature for video to allow investigators to quickly sort through video by subject.
- Duplexes an unlimited number of cameras simultaneously.
- Able to mix video formats on the same time line (i.e. DV and VHS)
- Avid Color Correction calibrates surveillance video to accurately reproduce the original colors. Color Correction can also be applied to black and white video to accurately and reliably correct for gray scale errors in the original video images,

compensating for inaccurate colors in skin tone, clothing or other physical evidence.

- The Avid Script Based Editing tool integrates a suspect or witness written transcript directly into the metadata of the video. A simple word search on the transcript instantly cues the video and both assets can be activated to be played and tracked together. Court ordered redactions of elements of the script automatically redact the associated video evidence.

Video can be recorded directly into dTective system at the crime scene at loss less or uncompressed quality using virtually any standard analog or digital source at full NTSC (720 X 486) resolution and at full 60 fields per second. The NTSC frames can then be split, allowing analysis of both individual field. dPlex™, a universal multiplex decoder, provides the ability to "demux" any multiplexed video signal from any chosen camera angle without compression or loss of video quality. Traditionally, this function is performed by dedicated, expensive, proprietary hardware. Each multiplexed surveillance system requires its own "demux" hardware and provides a highly compressed image. dPlex is able to demux video sources from any field-based surveillance system and is the only system currently able to perform in this manner.

dDeveloper™, another piece of software from Avid and Ocean Systems, is used to adjust the contrast, gamma, brightness, and sharpen levels of the video images. dDeveloper's frame averaging feature allows the analyst to construct an image based on the sum of a set number of frames. The result is that details previously indistinguishable become clear and identifiable.

The Avid Xpress software included with dTective provides unique and highly stable zooms, picture-in-picture for side-by-side comparison of two images, color correction, slow motion, image stabilization and a host of other advanced video processing capabilities.

A unique advantage of dTective is its ability to publish video evidence to a variety of formats including MPEG-1 for CD-ROM, MPEG-2 for DVD, and RealMedia or Microsoft ASF for streaming on the web. These video files can also be included in online databases for access by detectives in a police department or published to interactive CD-ROMs for disclosure purposes.

If you have any questions please do not hesitate to contact me at 1-800-253-7516.
Thank you,

Doug Perkins
DTective Product Manager
Ocean Systems