

DCCT

Digital Component Technology



AMPEX

THE SECRET OF DCT ENGINEERING: PRECISION MECHANICS.

The Innovation That Started It All.

On November 30, 1956, CBS Television City in Hollywood aired its "Douglas Edwards and the News" program to the West Coast—recorded three hours earlier on an Ampex video recorder.



This was the world's first coast-to-coast network television broadcast pre-recorded on videotape. And it marked one of the most significant turning points in modern technological history.

One of the keys to this revolution was a technique that Ampex engineers had devised just a year earlier. It was called FM video recording. And it's the foundation of all video recording to this day.

Earlier attempts to produce acceptable video signals on tape (also conducted by Ampex in the early 1950's) employed amplitude modulation (AM) techniques, just like those used in radio. But AM recording simply can't reproduce the extremely wide video bandwidth, 225 times that of the highest quality professional audio recorder.

Ampex, however, developed an ingeniously simple method for frequency modulating a carrier with the video signal, thereby avoiding the image-destroying noise produced by amplitude variations and, more importantly, reducing the bandwidth requirements from 18 octaves to 1 octave.

The result was the world's first practical videotape recorder. And the first of Ampex's 11 Emmy Awards for Technical Achievement, and numerous world-wide patents.

Videotape recording is a mechanical process.

The best electronics in the world are compromised without precision mechanics.

That's why we built upon the engineering reputation we established with Ampex's VPR[®]-3 and VPR-300 to give the DCT 700d tape drive the most advanced mechanical platform in the world.

And it has to be. Digital recording demands tight tolerances, and those tolerances must be maintained shuttle after shuttle, hour after hour, day after day.

Yet for all this ruggedness, the drive must also handle ultra-thin tapes with unerring precision.

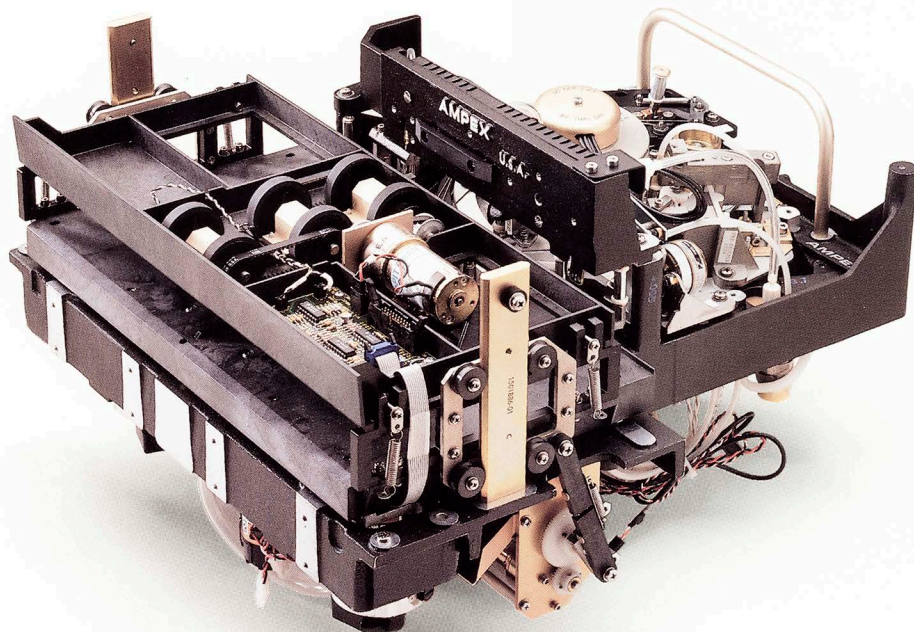
So we designed the DCT 700d with frictionless air-lubricated tape guides and eliminated the pinch

roller used in less-sophisticated tape drives, resulting in the gentlest tape handling in the world. This allows the tape to be accelerated to full wind speed in less than one second.

And, because the drive employs both co-planar and helical threading, it can read timecode without the tape touching the video heads, reducing wear and tear on the tape, heads, and your valuable time.

This attention to precision engineering doesn't stop with the drive. The DCT 700t tape cartridge has been exactly designed to meet the tight tolerances and demanding loads of the drive. The result is precise, dependable, repeatable performance.

And when it's your production on the line, your clients shouldn't accept anything less.



THE SECRET OF DCT ENGINEERING: PRECISION ELECTRONICS.

Videotape recording is an electronic process.

The most accurate drive mechanism in the world is compromised if the video signals aren't processed with absolute purity and integrity.

That's why the DCT 700d tape drive employs the most advanced electronics in the industry.

This, too, is an Ampex tradition. Our ADO® digital effects system revolutionized video over a decade ago as the first real-time 3-D special effects device, a breakthrough in electronics engineering.

Our Zeus™ advanced video processor revolutionized the industry again by bringing incredible transparency to analog recording with digital technology, and with bounceless variable-speed playback and editing.

And now our DCT electronics promise yet another revolution

by incorporating advanced digital signal processing technologies we developed with ADO and Zeus. It also includes other techniques such as our proprietary spatial filtering and unique error-correction processes developed by our data recording engineers.

This marks the true merging of video and computer technologies from Ampex, always the leader in advanced technology for both industries.

In fact, our computer memory systems are installed at some of the world's most advanced supercomputing facilities, such as those at the National Center for Atmospheric Research.

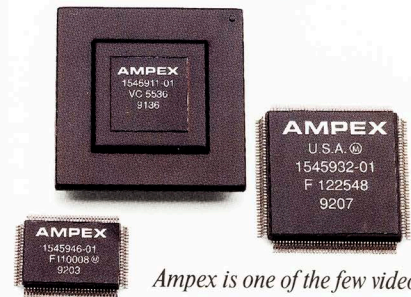
A lot of people are talking about the merging of video and computer technologies in the future, but Ampex does it today—with DCT.

Some Facts About ASICs.

ASICs—Application Specific Integrated Circuits—are complex integrated solid-state electronic devices. They are custom-designed for specialized functions, and operate faster, with less power, in a smaller space, and more reliably than older discrete components.

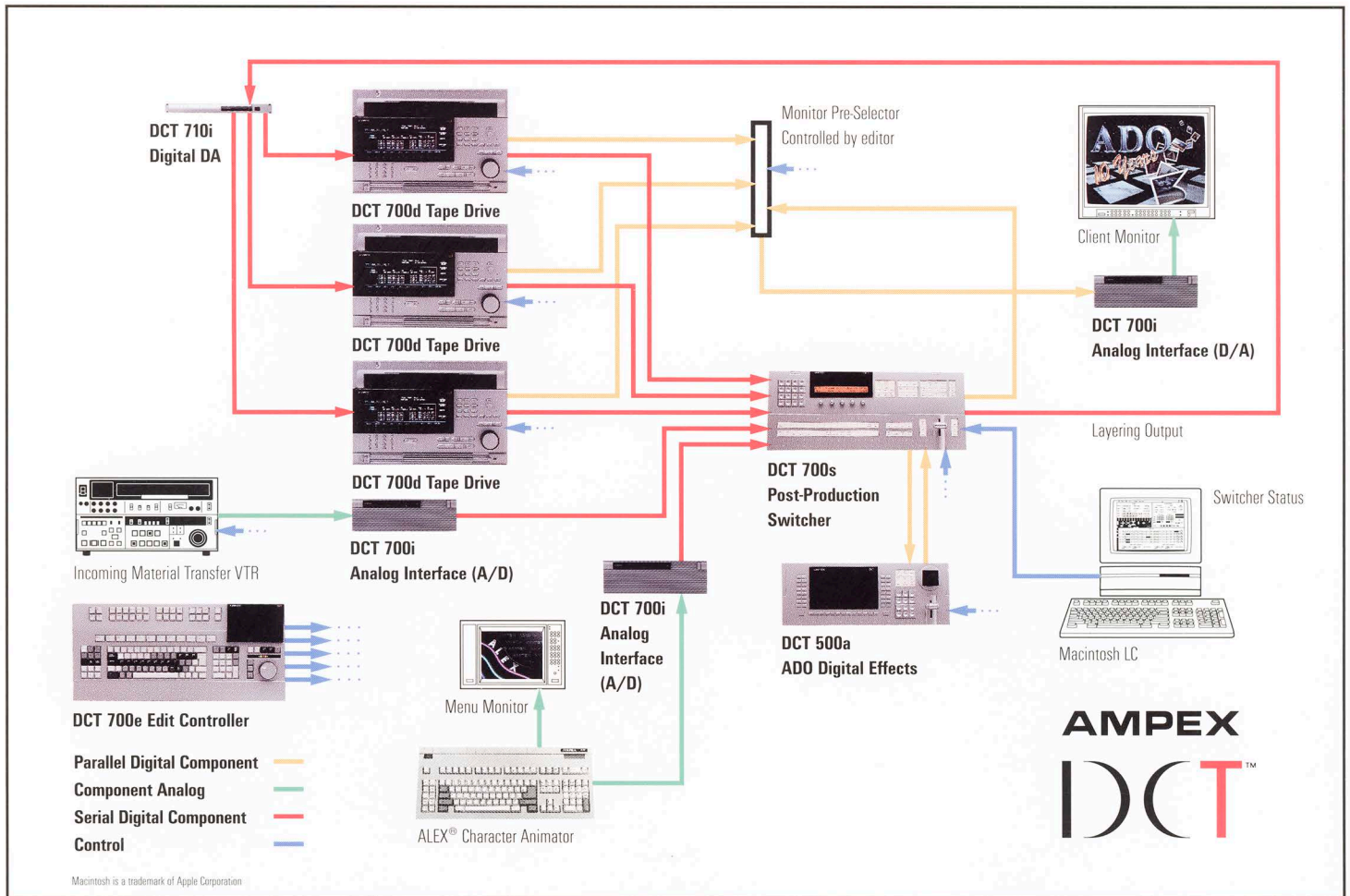
ASICs are one of today's most critical design technologies.

And the DCT 700d contains over 100 ASICs, all designed by Ampex engineers exclusively for this machine.



Ampex is one of the few video companies in the world that has its own ASIC design center. In fact, only a handful of semiconductor manufacturers have a facility this advanced. It is this kind of commitment to leading-edge technologies that sets DCT apart from all others.

DCT SYSTEM DIAGRAM.

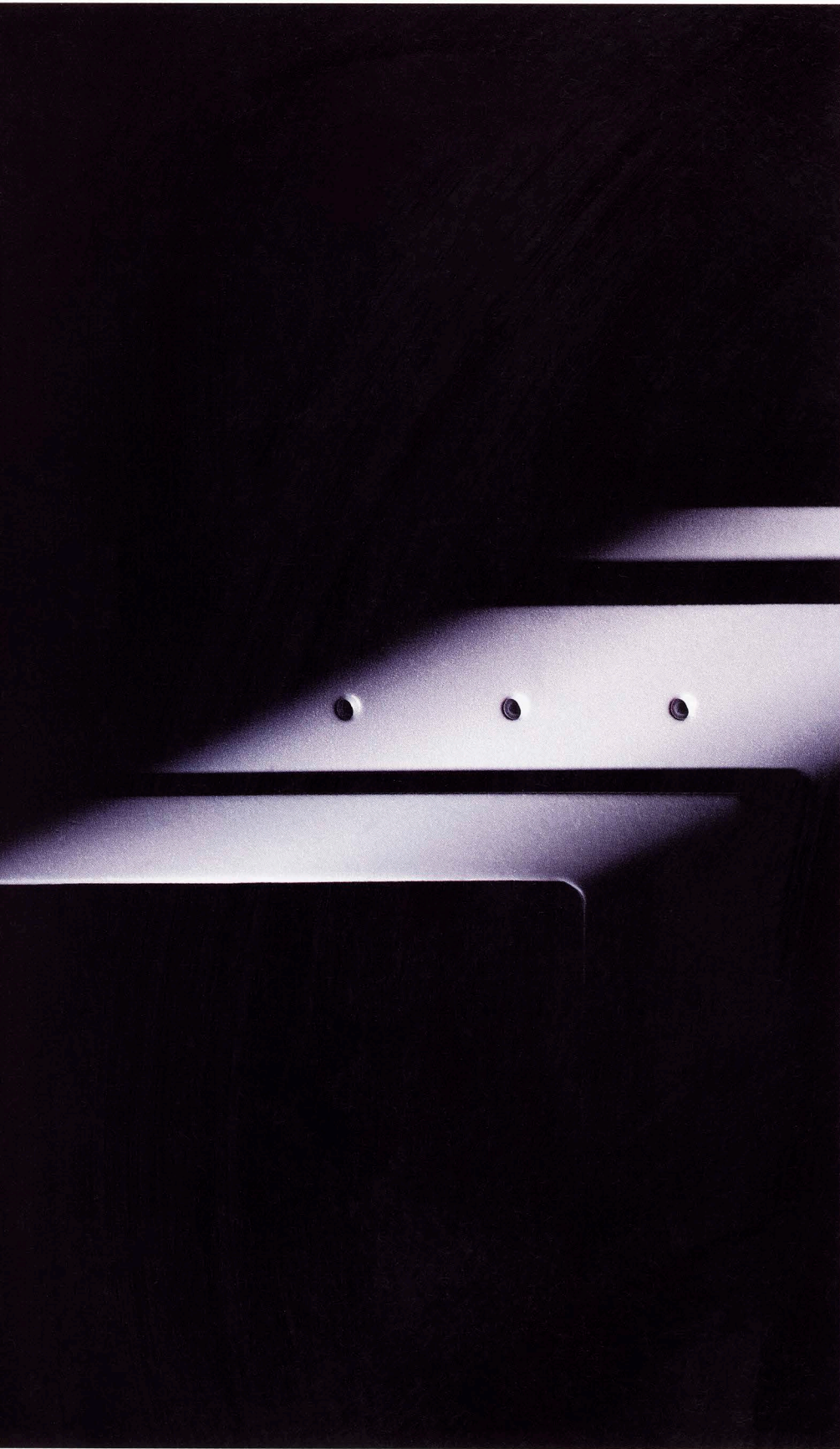


DCT was conceived and designed as a system, the key components all optimized to each other for seamless, flawless performance.

We also recognize, however, that no matter how compelling the digital component environment offered by DCT might be, signals may still have to come from and return to the analog environment in many post-production facilities.

That's why Ampex has also designed and developed the interconnect system to ensure that your DCT system will deliver its full power and flexibility.

AMPEX
DCT™



In The Beginning... Was Ampex.

1948: *Ampex introduces the first practical audio tape recorder.*

1956: *Ampex introduces the first practical videotape recorder ("Quad").**

1961: *Ampex introduces helical-scan recording, the technological breakthrough that leads to the consumer video revolution.*

1964: *Ampex introduces the first electronic video editor.*

1965: *Ampex introduces high-band color videotape recording.**

1967: *Ampex introduces instant replay, with stop-action, slow-motion, and color.*

1971: *Ampex introduces the ACR-25, the first automated cassette library system for the recording and playback of commercial spots.*

1977: *Ampex introduces Electronic Still Store.**

1978: *Ampex introduces 1" Type C recording.**

1978: *Ampex introduces AST,[®] Automatic Scan Tracking, bringing variable-speed effects to Type C machines.**

1981: *Ampex introduces the first 3-dimensional digital video effects system, ADO.[®]**

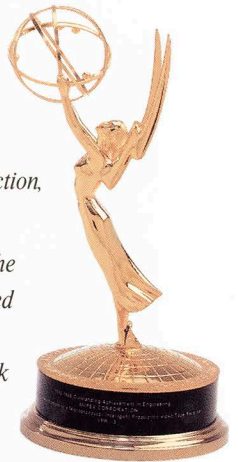
1985: *Ampex introduces Zeus,[™] the advanced digital picture processor/time base corrector for analog environments.**

1986: *Ampex introduces the ACR-225, the first commercial spot player using composite digital technology.**

1988: *Ampex introduces the D-2 composite digital recording format.**

1992: *Ampex introduces DCT, Digital Component Technology, the next video revolution.*

** Awarded an Emmy for Technical Achievement by The National Academy of Television Arts and Sciences*



AMPEX PRODUCTS.

In addition to DCT, Ampex has introduced Data Storage Technology, DST.[™] Based on the same robust 19mm tape drive used in DCT, the DST system allows high performance computing and high capacity data storage, back up, and archiving applications to deliver their full performance potential with levels of throughput (data transfer rates) and capacity unprecedented in the industry.

DCT and DST are just two examples of Ampex's world leadership in the recording, storing, and retrieving of information and images for the television, data, and instrumentation markets.

DATA RECORDING AND INSTRUMENTATION EQUIPMENT

DST[™] Data Storage Products

- DST 800 Series Automated Cartridge Library
- DST 600 Series Tape Drive
- DST 600 Series Tape Cartridge (25, 75, 165 GB)

Instrumentation

- DCRSi[™] Digital Cassette Recording System (The world's leading compact, rugged, high bit rate data recorder available in both airborne and laboratory versions)
- ID-2 Recording System (A high speed helical-scan data recorder)

TELEVISION, BROADCAST, AND POST-PRODUCTION EQUIPMENT

Video Recorders

- VPR[®]-300 Series D-2 VTRs
- VPR-200 Series D-2 VTRs
- VPR-6 Type C Studio Recorder
- Betacam SP Studio and Portable VTRs
- Betacam SP Cameras and Camera-Recorder Systems
- Zeus[™] Advanced Video Processor

Automated Recorders

- ACR[™]-225 Automated Cassette Recorder/Player

Graphics Systems

- ALEX[™] Character Animator

Special Effects

- ADO[®] Digital Video Effects Systems

Switchers

- Century[™] Series Production Switchers
- Vista[™] Compact Production Switchers
- ADAPT[™] Composite Digital Layering Device

ACE[®] Editors

- ACE 25 Computerized Edit Controller

RECORDING MEDIA

Videotape

- 398 Betacam SP
- 208 Betacam
- 329 D-2 Digital 19mm
- 229 D-1 Digital 19mm
- 297 U-matic SP
- 197 U-matic
- 296 1" Type C Editing Series
- 196 1" Type C

Audio Tape

- 456 Grand Master[®]
- 499 Grand Master Gold[™]
- 467 Digital Mastering

Instrumentation

- 705 Logging
- 733 DCRSi Cassettes
- 731 DCRSi Cassettes
- 721 High Energy PCM
- 799 Standard Energy PCM
- 797 Wideband
- 767 Intermediate Band

WELCOME TO THE CHANGING WORLD OF VIDEO.

You're about to experience what the last four decades of video technology have been leading up to. To discover tools that will give you the power to create video with unsurpassed clarity, crispness, and multigenerational integrity. To unleash a level of creative freedom and flexibility you may have never thought possible—much less attainable.

This is a new chapter in video history. This is DCT.[™]
Digital Component Technology from Ampex.

AMPEX SALES OFFICES

UNITED STATES

WESTERN REGION Ampex Corporation 340 Parkside Drive San Fernando, CA 91340-3096 (818) 365-8627	CENTRAL REGION Ampex Corporation 1600 Hicks Road Rolling Meadows, IL 60008-1231 (708) 590-5100	EASTERN REGION Ampex Corporation 10215 Fernwood Road Bethesda, MD 20817-1198 (301) 530-8800	EASTERN REGION Ampex Corporation 110 Commerce Drive Allendale, NJ 07401 (201) 825-9600
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EUROPE AND MIDDLE EAST

BELGIUM Ampex S.A. Nivelles Rue de l'Industrie 37 B-1400 Nivelles (67) 214-921	GERMANY Ampex Europa GmbH Otto-Volger-Str. 7C 6231 Sulzbach (Taunus) (49) 6196/765-00	NETHERLANDS Ampex B.V. Coloradodreef 36 3565 BV Utrecht (30) 612921	SWEDEN Ampex Scandinavia AB P.O. Box 7056 (Rissneleden 8) S-172 07 Sundbyberg (8) 6282910
ENGLAND Ampex Great Britain Ltd. Acre Road Reading, Berkshire RG2 OQR (0734) 875200	ITALY Ampex Italiana S.P.A. Via Riccardo Gigante 4 00143 Rome (6) 500971 Ampex Italiana S.P.A. Via Cristoforo Colombo, 40 20090 Trezzano Sul Naviglio Milan (2) 48401869	RUSSIA Ampex World Operations S.A. Moscow World Trade Center Office 1809B 12, Krasnopresnenskaya nab. Moscow 123610 095 253 1675 / 253 1678 / 253 2174	SWITZERLAND Ampex World Operations S.A. P.O. Box 1031 15, route des Arsenaux 1701 Fribourg (37) 218686
FRANCE Ampex SARL Courcellor 1 2 Rue Curnonsky 75017 Paris (1) 4270-5500	MIDDLE EAST/AFRICA Ampex Great Britain Ltd. Acre Road Reading, Berkshire RG2 OQR, England (44) 734-875200	SPAIN Ampex Iberica S.A. Calle Princesa No. 47 5th Floor C&D Madrid 28008 (1) 541-0919 Ampex Iberica S.A. Paseo de Gracia, 54 3D 08007 Barcelona (3) 487-2646	

AMERICAS AND FAR EAST

AUSTRALIA Ampex Australia Pty. Ltd. 61 Talavera Road North Ryde 2113 (Sydney) New South Wales (02) 887-3333 Ampex Australia Pty. Ltd. 21 Terra Cotta Drive Blackburn Victoria 3130 Melbourne (3) 877-6222	CANADA Ampex Canada Inc. 1770 Argentinia Road Mississauga, Ontario L5N 3S7 (416) 821-8840 Ampex Canada Inc. 1116-55 Avenue N.E. Calgary, Alberta T2E 6Y4 (403) 275-3444 Ampex Canada Inc. 729 Avenue Meloche Dorval, Quebec H9P 2S4 (514) 636-4840	HONG KONG Ampex World Operations 709-711 World Finance Centre (North Tower) Harbour City Canton Road, Tsim Sha Tsui Kowloon (852) 736-1866 JAPAN Ampex Japan Ltd. Tokyo Ryutsu Center 6th Floor 6-1-1-Heiwajima Ota-Ku, Tokyo Japan, 143 (3) 3767-4521	SOUTH AMERICA AND CARIBBEAN Ampex Corporation 13231 S.W. 30th Court Davie, FL 33330-4609 (305) 475-7205
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WELCOME TO THE CHANGING WORLD OF VIDEO.

DCT 700e

Computerized Edit Controller

PRELIMINARY

General

The DCT 700e is a dual-standard (525 and 625 compatible) video tape editor that controls up to 7 VTRs, a video switcher, an audio mixer and 16 GPIs in one edit pass. Interfaces to a wide range of VTRs, ATRs, video switchers, audio mixers and digital effects devices, by Ampex and other manufacturers, are offered.

Through its functionality, power and flexibility the DCT 700e is designed to meet the needs of the modern digital video production environment, yet be familiar from the start. Because of its logical operating style, understandable feedback and industry accepted user interface, operators will find it familiar and easy to use.

Description

The DCT 700e is constructed around a state-of-the-art computer CPU. A clean, efficient design has reduced hardware requirements and taken advantage of the cost and space savings available through the modern PC. This clean, modern design eliminates the need for expensive add-on boards, additional memory or software upgrades traditionally thought of as "options" for some editors. As a result, the DCT 700e comes fully configured.

• 525/625 switchability

Eliminates the necessity for multiple systems in multiple standards. Switching to a different standard is simple and intuitive. It can be accomplished in less than one minute.

• Industry-standard operation

Your client base will be expanded through an extensive pool of operators who are familiar with the DCT 700e user interface and operational style. Freelance artists new to your facility should be up and running within a matter of minutes.

• Multiple EDL standards support

Enables you to accept EDLs from virtually any facility or off-line editing system. Supports many of the popular EDL formats from CMX, GVG and Calaway.

• Advanced list management

TurboTrace Plus cleans, traces and sorts your EDLs to speed auto-assembly and save budgets.

Supports sorting in A, B, C, D and E modes. Changes cuts to dissolves or wipes, changes edit sources, converts reel numbers and more.

• Editable macro keys

Condense complex and repetitive tasks to a single keystroke. Made even more flexible through English display of macro contents, infinite or countdown looping, programmable delays and programmable pause for operator input. Macros may be stored to or recalled from disk. Many of the same macros may be used in both DCT editors.

• Multiple master/slave sets

Simplifies the use of matte reels, slaved audio as well as multiple sync-roll operations. On-screen indicators graphically display the master/slave relationship.

• Upload/download of peripheral data

Assures repeatability of complex edits by storing and returning important setup information to the appropriate device.

• Multiple recorders

Allows you to create several masters during the same session for dubbing and distribution copies, audio mix down work or safety masters. Masters may be recorded with any combination of audio or video channels enabled to fit your needs.

• State-of-the-art CPU

Provides fast operations on a stable hardware platform that is easy to support and maintain.

• 3.5-inch floppy and 40-megabyte hard disk drives

Provide up-to-date method of EDL interchange between systems. Plus fast access to your files conveniently logged and stored.

• Color edit data display

Helps focus attention where it is needed to simplify operations and reduce eye strain.

• 9,999-line EDL

Accommodates extra-large projects and speeds auto-assembly.

• Film feet-and-frame to video timecode calculations

Film oriented clientele will appreciate the system's power and flexibility to accept edit

decision input in their dialect.

• Instant-response SHUTTLE/JOG knob

Responds immediately to user input. Go directly from PLAY to JOG or SHUTTLE by simply rotating the knob.

• Diagnostics software

Helps you quickly locate a system problem without guesswork.

• Intuitive dialog

Helps your operators through unfamiliar functions with easy-to-understand feedback.

Features

- 7-VTR edit control (13 on line)
- 9,999-line EDL
- 4-channel audio control
- 16 GPIs
- EDL bins
- Lookahead auto-assembly
- Keyboard-mounted disk drive
- Enhanced editor keyboard
- 24 editable macros
- 6-character alpha/numeric reel numbers
- 8 constant registers
- Multiple and selectable record VTR(s) with assignable track selection
- 3 master/slave sets
- 2 dedicated AUX sources (AUX plus black)
- Split audio 1,2,3,4
- Delayed effects
- Match frame calculations
- Auto set-in of matched time
- "Pick/Put" transfer of timecode from EDL
- Fit/Fill calculations
- Read/Write CMX 3600, 340X, old CMX EDL formats
- Read/Write Calaway, GVG I and GVG II EDL formats
- 3.5-inch DOS/RT-11 disk read/write
- Switcher effects preview
- Multiple VTR speed triggers
- Sync roll with EDL listing and reassignable record/source VTRs

AMPEX
DCT[™]

DCT 700e

Computerized Edit Controller

Technical Specifications

General

Power requirements	120 or 220 VAC 60/50 Hz 130 watts
Reference requirements	1 V black burst or 4 V sync
Communications	16 RS-422 serial ports (VTR, video switcher, audio switcher, TBC remote and optional preview switcher) 2 parallel printer ports 1 serial printer port 16 independent General Purpose Interface lines (GPI)
Human interface	Industry-standard ASCII keyboard with rotary knob 1 color VGA data monitor output (max cable length 75 feet)

Size and Weight

Editor chassis	
Height	5.25" (13.33 cm)
Depth	16" (40.64 cm)
Width	17" (43.18 cm)
Weight	23 lbs (10.43 kg)

Keyboard

Height	9.74" (29.42 cm)
Width	24" (60.96 cm)
Slope	10 degrees

Keyboard footprint

Height	9.24" (23.46 cm)
Width	23.7" (60.19 cm)
Depth	1.065" (2.70 cm) (footprint only)
Depth	2.245" (5.70 cm) (flushmount)

Standard equipment

Enhanced industry-standard ASCII editor keyboard with built-in motion controller.
System Software
TurboTrace Plus Software
Color VGA edit status monitor
Editor Chassis includes:

- 1 internal 40-megabyte hard disk drive
- 1 internal 3.5-inch floppy disk drive

Interface/communications boards, including:

- 13 Ports for RS-422 serial VTR interfaces
- 16-channel GPI
- 1 port for RS-422 serial video production switcher interface
- 1 port for RS-422 serial audio mixer interface
- 1 port for RS-422 serial TBC interface
- 2 parallel printer ports
- 1 RS-232 printer port

Options and Accessories

System software update
2nd floppy disk drive 3.5 inch
Preview switcher (composite analog)
Audio connectors for preview switcher
Cable upgrades (50 feet)
Cable upgrades (75 feet)
Sony MXP audio mixer interface

Specifications subject to change without notice or obligation.

DCT 500e

Computerized Edit Controller

PRELIMINARY

General

The DCT 500e is a dual-standard (525 and 625 compatible) video tape editor that controls up to 6 VTRs, a video switcher, an audio mixer, TBC remote and 8 GPIs in one edit pass. Interfaces to a wide range of VTRs, ATRs, video switchers, audio mixers and digital effects devices, by Ampex and other manufacturers, are offered. Through its functionality, power and flexibility the DCT 500e is designed to meet the needs of the modern digital video production environment, yet be familiar from the start. Because of its logical operating style, understandable feedback and industry-accepted user interface, operators will find it familiar and easy to use.

Description

The DCT 500e is constructed around a state-of-the-art computer CPU. A clean, efficient design has reduced hardware requirements and taken advantage of the cost and space savings available through the modern PC. This clean, modern design eliminates the need for expensive add-on boards, additional memory or software upgrades traditionally thought of as "options" for some editors. As a result, the DCT 500e comes fully configured.

• 525/625 switchability

Eliminates the necessity for multiple systems in multiple standards. Switching to a different standard is simple and intuitive. It can be accomplished in less than one minute.

• Industry-standard operation

Your client base will be expanded through an extensive pool of operators who are familiar with the DCT 500e user interface and operational style. Freelance artists new to your facility should be up and running within a matter of minutes.

• Multiple EDL standards support

Enables you to accept EDLs from virtually any facility or off-line editing system. Supports many of the popular EDL formats from CMX, GVG and Calaway.

• Advanced list management

TurboTrace Plus cleans, traces and sorts your EDLs to speed auto-assembly and save budgets. Supports sorting in A, B, C, D and E modes. Changes cuts to dissolves or wipes, changes edit sources, converts reel numbers and more.

• Editable macro keys

Condense complex and repetitive tasks to a single keystroke. Made even more flexible through English display of macro contents, infinite or countdown looping, programmable delays and programmable pause for operator input. Macros may be stored to or recalled from disk. Many of the same macros may be used in both DCT editors.

• Multiple master/slave sets

Simplifies the use of matte reels, slaved audio as well as multiple sync-roll operations. On-screen indicators graphically display the master/slave relationship.

• Upload/download of peripheral data

Assures repeatability of complex edits by storing and returning important setup information to the appropriate device.

• Multiple recorders

Allows you to create several masters during the same session for dubbing and distribution copies, audio mix down work or safety masters. Masters may be recorded with any combination of audio or video channels enabled to fit your needs.

• State-of-the-art CPU

Provides fast operations on a stable hardware platform that is easy to support and maintain.

• 3.5-inch floppy and 40-megabyte hard disk drives

Provide up-to-date method of EDL interchange between systems. Plus fast access to your files conveniently logged and stored.

• 3,000-line EDL

Accommodates large projects and speeds auto-assembly

• Film feet-and-frame to video timecode calculations

Film oriented clientele will appreciate the system's power and flexibility to accept edit decision input in their dialect.

• Instant-response SHUTTLE/JOG knob

Responds immediately to user input. Go directly from PLAY to JOG or SHUTTLE by simply rotating the knob.

• Diagnostics software

Helps you quickly locate a system problem without guesswork.

• Intuitive dialog

Helps your operators through unfamiliar functions with easy-to-understand feedback.

Features

- 6-VTR edit control (8 on line)
- 3,000-line EDL
- 4 -channel audio control
- 8 GPIs (16 Possible)
- 24 editable macros
- 6-character alpha/numeric reel numbers
- 8 constant registers
- Multiple and selectable record VTR(s) with assignable track selection
- 3 master/slave sets
- 2 dedicated AUX sources (AUX plus black)
- Split audio 1,2,3,4
- Delayed effects
- Match frame calculations
- Auto set-in of matched time
- "Pick/Put" transfer of timecode from EDL
- Fit/Fill calculations
- Read/Write CMX 3600, 340X, old CMX EDL formats
- Read/Write Calaway, GVG I and GVG II EDL formats
- 3.5-inch DOS/RT-11 disk read/write
- Switcher effects preview
- Multiple VTR speed triggers
- Sync roll with EDL listing

AMPEX
DCT[™]

DCT 500e

Computerized Edit Controller

Technical Specifications

General

Power requirements	120 or 220 VAC 60/50 Hz 130 watts
Reference requirements	1 V black burst or 4 V sync
Communications	11 RS-422 serial ports (VTR, video switcher, audio switcher, TBC remote and optional preview switcher) 2 parallel printer ports 1 serial printer port 8 independent General Purpose Interface lines (GPI)
Human interface	Industry-standard ASCII keyboard with rotary knob 1 mono VGA data monitor output (max cable length 75 feet)

Size and Weight

Editor Chassis	
Height	5.25" (13.33 cm)
Depth	16" (40.64 cm)
Width	17" (43.18 cm)
Weight	23 lbs (10.43 kg)

Keyboard

Height	9.74" (24.73 cm)
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Slope	10 degrees

Keyboard Footprint

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Width	23.7" (60.19 cm)
Depth	1.065" (2.70 cm) (footprint only)
Depth	2.245" (5.70 cm) (flushmount)

Standard equipment

Industry-standard, ASCII editor keyboard with built-in motion controller.
System software
TurboTrace Plus software
Monochrome VGA edit status monitor
Editor chassis includes:
<ul style="list-style-type: none">• 1 internal 40-megabyte hard disk drive• 1 internal 3.5-inch floppy disk drive• Interface/communications boards, including:<ul style="list-style-type: none">• 8 ports for RS-422 serial VTR interfaces• 8-channel GPI• 1 port for RS-422 serial video production switcher interface• 1 port for RS-422 serial audio mixer interface• 1 port for RS-422 serial TBC interface• 2 parallel printer ports• 1 RS-232 printer port

Options and Accessories

System upgrade to DCT 700e
8-Channel GPI PWA and connector
System software update
2nd floppy disk drive 3.5 inch
Preview switcher (composite analog)
Audio connectors for preview switcher
Cable upgrades (50 feet)
Cable upgrades (75 feet)
Sony MXP audio mixer interface

Specifications subject to change without notice or obligation.