Tape Swapping

1st Time Anywhere!
Sony Betamovie
Field Test & Videotest

Video

CTOBER
983
1.95
1.70
ELL 04834

The #1 Magazine of Home Video

Sword and Sorcery Make a Comeback

What's New: Unusual and Interesting Gear

Things Your VCR Manual Doesn't Tell You

BERGER-BRAITHWAITE VIDEOTESTS

Sony Betamovie | SSI Decoder | Panasonic VHS VCR | Toshiba Beta Hi-Fi VCR

BETAMOVIE BURSTS ONTO THE SCENE!

0 71572 04834 10

Contents

October 1983

Volume VII, Number 7

ABOUT THE COVER
The idea of camera and recorder in one unit is as old as the movie camera, but Betamovie—despite all the hoopla—has remained a mystery machine. How did they cram it all in there? Does the unit take a good picture? Finally, Betamovie number 1 arrived to answer all questions. Cover photo by Don Perdue.

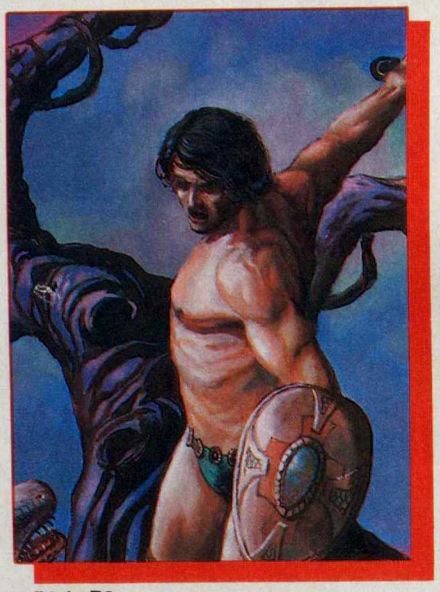
50
Things You Won't Find In Your Instruction Manual
by Roderick Woodcock
Most VCR and camera manuals do an OK job of delivering the basics—but there's more.

54
A Guide to Tape Swapping
By Marc Wielage
An introduction to the video addict's greatest joy: becoming a collector of rarities.

58
Betamovie: A VIDEO Exclusive
by Murray Slovick
For this hands-on evaluation, we got our hands on the first unit off the production line.

60
Inside Betamovie
by Roderick Woodcock
One of our resident techie wizards peers inside the marvel and reports on what he sees.

62
The VCR that Has Everything
by Ron Smith
Why, you could spend your whole life waiting for a VCR that's got the features this one has.



page 78

65
What's New?
by Henry B. Cohen
In which an equipment-hungry editor slakes his thirst—and yours—for new video goods.

78
Swords and Sorcery
by Rob Baker
Conan and its cinematic brethren have established a new genre of fantasy for the video escapist.

82
Lucy: The Queen of Comedy
by Gary Kaskel
The eternally rerun Lucille Ball remains the reigning monarch of the situation comedy.

84
Getting the Most Out of Your Switcher
by Gordon McComb
Definitions and guidelines on a gadget that can turn video hell into video heaven.

Program Guide

News & Views 37
Top 10 Sales & Rentals 39
Directory 40
Reviews: Video & Film Clips 45

Videotests

by Berger-Braithwaite Labs 91
Sony BMC-110 Betamovie
Toshiba V-S36 Beta Hi-Fi VCR
SSI M-360 Surround Sound Decoder
Recoton V615 Color Processor

Columns

Channel One 6
The Joys of Video
Feedback 10
Readers Play Hollywood
New Products 16
Cameras that Almost See in the Dark
Fine Tuning 20
Tape Swapping Facts of Life
Videogram 22
It's Pulchritude Month
TV Den 24
Video Security Goes High-Tech
Computer Ease 26
Computer by Phone
New Channels 28
A Cable Bill of Rights
Arcade Alley 30
From Pinball to Purgatory
Video Bookshelf 148
A John Wayne Love Story

PHOTO CREDITS: Don Perdue—cover; Les Morsillo—58-9, 91-110

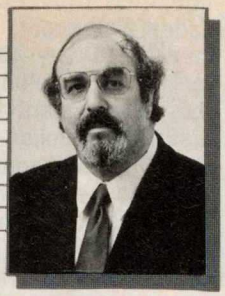
ILLUSTRATION CREDITS: Phil Smith—23 (top left, top right, bottom right), 37-9; Stuart David—28; David Prestone—50-2, 60; Chuck Albano—54-5; Joseph Ciardiello—63; Tom Kidd—78-9; David Rickerd—84

VIDEO (ISSN 0147-8907) is published by Reese Communications Inc., 460 West 34th Street, New York, N.Y. 10001. Second-class postage paid at New York, N.Y. and additional mailing office. © 1983 by Reese Communications inc. All rights reserved. © under Universal, International, and Pan American Copyright Conventions. Reproduction of editorial or pictorial content in any manner is prohibited. Sing-copy price $1.95 in U.S. and Canada; £1.70 Sterling in U.K. One-year subscription (12 issues) $15.00; Canada $18.00 U.S.; foreign $23.00 U.S. Address orders to VIDEO, Box 1118, Dover, N.J. 07801. Address all subscription correspondence and inquiries to VIDEO, Box 1116, Dover, N.J. 07801 or call (201) 361-9550. Change of address takes 60 days to process; send old address label, new address, and zip code. All material listed in this magazine is subjected to manufacturer's change without notice, and publisher assumes no responsibility for such change. Printed in the U.S.a.

POSTMASTER: Send form 3579 to VIDEO, Box 1116, Dover, N.J. 07801.

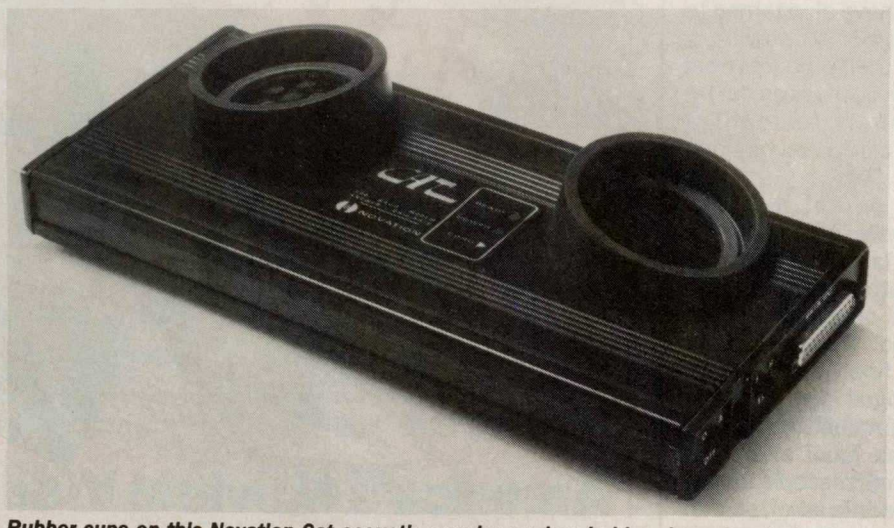
Computer Ease

The Human Interface



by Ivan Berger

Computer by Phone

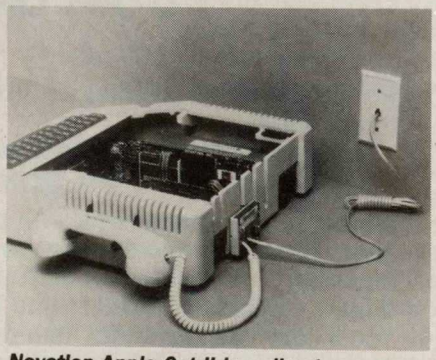


Rubber cups on this Novation Cat acoustic-coupler modem hold a phone handset.

"Modems": devices that let computers communicate with one another over telephone lines. How many kinds are there, and how do they work?

Computers communicate (with other computers, with peripherals, and with their own component parts) in "digital" signals—rapid-fire trains of pulses representing the zeros and ones of binary logic. Telephone technology, however, goes back more than a century, and most of today's phone lines were designed not for digital communications, but for such "analog" signals as the human voice—a complex but slow-paced waveform. The modem (short for "modulator/demodulator") converts digital impulses into tones which can be carried over ordinary telephone lines. (Future phone lines will be designed for digital data too, but only special lines can handle it now.) A modem sends two tones, representing the "1" and "0" bits from which more complex data can be built up.

There is less variety among modems than among printers; nonetheless, there are several ways of classifying them. One is by the role the modem is designed to play. For example, the tones my modem transmits make it an "originate mode" model, originally designed for calls from a remote terminal to a computer. The computer's "answer mode" modem replies in two different tones. As one party to the conversation



Novation Apple-Cat II is a direct-connect modem for the Apple II.

sends data in one pair of tones, the computer at the other end echoes the same information in other tones, for the sender to compare with what he has sent. This echo-back system is called "full-duplex" transmission. Originate-only modems are now giving way to units that can handle both originate and answer modes, and therefore communicate freely with whichever type is at the other end of the phone line.

Another way to categorize modems is by how they connect to the telephone system. My old modem hooks to the phone itself through an "acoustic coupler"—a pair of rubber cups into which the phone handset can be firmly inserted. One cup holds a microphone to pick up tones from the telephone earpiece, while the other holds a speaker near the mouthpiece; the cups hold the handset and reduce pickup of extraneous noise. Thanks largely to relaxed phone regulations, newer modems can hook directly to the phone line for more reliable transmission and less juggling of the telephone handset.

Another major classification is speed. Many newer modems send data faster than my old faithful—at 1200 baud (about 120 characters per second or 3200 words per minute), instead of my unit's 300-baud speed. Since most modems in use are still 300-baud, it pays to get one that can handle both speeds. But using 1200-baud transmission—when both parties are so equipped—reduces time on the line and hence phone charges.

The final classification is packaging. Early modems (especially the acoustic-coupler type, like mine) were all "stand-alone" devices which could plug into almost any computer's serial input/output port. These are built into protective cases and come with power supplies—usually drawing AC power, though one or two models run on batteries. However, you can also buy modems (especially the direct-connect type) without case or power supply as boards to plug into computers such as the Apple II series or the many computers using the S-100 bus. These usually cost less and don't clutter up your computer desk as much as stand-alone units,

Ivan Berger is technical editor of Audio Magazine.

with their signal and power cords. However, you might need to conserve slots in your computer for devices, such as extra memory boards, which can't be attached externally. A few new computers—especially portables such as the Osborne or Radio Shack's new Model 100—even have modems built in.

Many modems have fancy features. Some dial the number for you, usually under command from your computer. Others answer the phone when it rings—though that's only helpful if there's a modem at the other end of the line, or if you've programmed your computer to turn on an answering machine (hardly useful, since answering machines can turn themselves on).

Like all peripherals, modems can't be used unless the computer using them meets certain requirements. The first requirement is a place to plug it in. This usually turns out to be an RS-232 serial port (one that's wired for a modem, slightly different than the wiring for a serial printer) or a bus slot to hold a modem board. The second requirement is a program that can make your computer act as a terminal—that is, as a device designed for communication by wire with the outside world, rather than just for communication with the user at the keyboard.

"Dumb terminal" programs downgrade the computer into a pure communications device. Whatever you type into the keyboard goes out through the modem over the phone lines to whatever system you're reaching. The computer's echoes of your input, and the output it transmits to you, appear on your screen. You can communicate only as fast as you type. The speed of reply is limited by the typing speed of whomever is answering you or, if you're responding to a computer's preprogrammed responses, by the speed at which your computer can print those responses on its screen or printer.

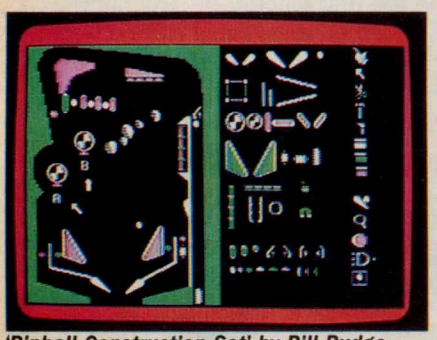
"Smart terminal" or "intelligent terminal" programs let you do a lot more by better using your computer's native facilities. With a smart-terminal program, you can not only display incoming messages on your screen or print them on your printer, but you can also save them either in memory or on disk. That cuts time "on line," since memory and disk are both faster than a printer or even the computer screen. They also eliminate the difficulty of reading from a fast-scrolling screen of information, and let you go back for a second look at past messages, to see if you missed anything. And smart-terminal programs let you prepare a file in memory or on disk before you make the phone connection, saving transmitting time. Those "files" need not always be human-readable text, either. Many smart-terminal programs let you transmit and receive ("download") computerized data or even whole programs.

Arcade Alley

A Critical Look at Video Games

by Bill Kunkel & Arnie Katz

From Pinball to Purgatory at Electronic Arts



'Pinball Construction Set' by Bill Budge

Devoting a whole installment of "Arcade Alley" to the products of a single software publisher isn't our normal operating procedure. We're taking this unprecedented step because we believe that this first batch of game programs from a new group, Electronic Arts, is unusually high-quality, and we want to make sure that readers of VIDEO who own Apple and Atari computers get the good news as quickly as possible.

And the news from Electronic Arts is definitely positive. No game-maker has ever made its debut with such a collection of topflight titles. Founded by former Apple executive Tripp Hawkins, Electronic Arts is pledged to create games that make maximum use of current computer capabilities—and to continue down this road when the next jump in resident memory size takes microcomputers to 500K-1000K.

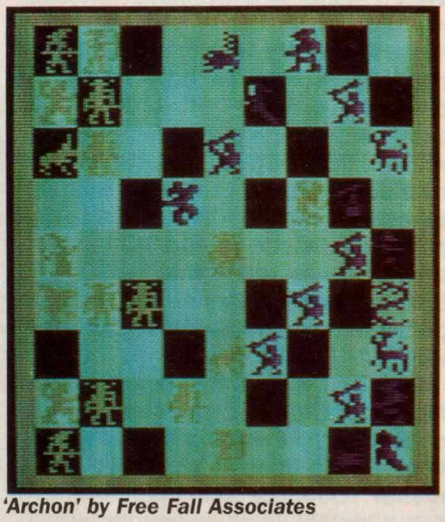
Electronic Arts' working setup diverges markedly from the norm. All designers operate as freelancers, backstopped by a producer assigned by Electronic Arts. The producer shepherds the project from start to finish; his duties include getting the game creator special assistance in areas such as graphics, sound, and animation. Packaging also stamps Electronic Arts as a breed apart. Each disk comes in a double gatefold album. The album jacket is liberally decorated with four-color artwork and photography—generally with an extra tidbit or two, such as an interview with the designer.

Before fellow cynics in the audience start chanting "you can't tell a book by its cover," let's get down to the games themselves.

Even the world's best programmer couldn't make the Apple version of **Hard Hat Mack** (Electronic Arts/Apple II/48K disk) look and play like the version designed for the Atari computers. The latter systems possess capabilities, particularly in the areas of graphics and on-screen motion, that the Apple can't match. With that aside, let's hear a big round of applause for designers Mike Abbot and Matthew Alexander: "Hard Hat Mack" is indisputably one of the finest programs ever made for the Apple. It features charming cartoon visuals, plenty of sound effects, fluid joystick response, and *three* playfields.

To discharge his duties, Mack the construction worker must also avoid collisions with vandals who want to wreck the building and OSHA representatives who wish it to sink beneath the crushing weight of bureaucracy. On the first playfield Mack must pick up girder sections, fit them into gaps in the crossbeams, and use a riveting gun to permanently fix them in place. An elevator on the left provides an express route to the fourth beam. When Mack hops onto the jumpboard on the right, it catapults him back up the screen to the next highest level (unless he jumps from the top, which lands him on the lowest level). Collecting tool boxes is the main job on the second screen. Mack moves between levels by leaping onto a girder hauled up and down the center of the screen by a hoist. And to finish the third screen, Mack must take the steel blocks scattered around the playfield and drop them one by one into the rivet machine. Movement is accomplished by a conveyor belt and a pair of springboards.

The computer randomly juggles the starting positions of key objects (like the girders on the first screen). This keeps the game from settling into a rut, since a strategy that works once won't necessarily succeed again. And "Hard Hat Mack" has one option desirable for—but seldom included in—multi-scenario games: you can start play on any of the three screens. Once a player masters the girder-placement phase, for example, it can be skipped altogether in future games. This is a "must" buy for Apple arcaders.



'Archon' by Free Fall Associates

Axis Assassin (Electronic Arts/Apple II/48K disk) has only one discernible problem: its name. Despite the obvious and misleading connotations of "Axis," this is a semi-abstract target-shoot in the "Tempest" genre—not a World War II spy adventure. What makes "Axis Assassin" outstanding is that creator John Field took the basic idea of a perimeter shoot-out that uses a succession of geometric playfields and added new strategic and tactical vistas.

The most obvious difference between "Tempest" and "Axis" is that the on-screen shooter in "Axis" can freely range over the entire field instead of just hugging the rim. "Freely" is a relative term, however, since enemy spinners cover the action area with webs that block movement until the player blasts them away. The second major departure is that a player can hoard the single pulse bomb acquired at each level until it is complete, then detonate it just as the image of the hated Master Arachnid appears in the second scenario. This scenario takes place inside the Master Arachnid's nest and, if the effort is successful, allows the home arcader to acquire an extra reserve shooter-ship.

"Axis Assassin" generates an intense level of excitement, especially after the player works through the first few levels. There is an initial choice among three levels of difficulty, and even the

easiest setting hardly rates as a walkover.

The basic theme of **Archon** (Electronic Arts/Atari 400-800-1200/48K disk), a one- or two-player electronic boardgame, is the age-old struggle between the forces of light and darkness. The armies of night and light are arrayed at opposite sides of a chesslike board and then moved from square to square by each player in alternating turns, one move per turn (as in chess and checkers). "Battles" are somewhat abstract, though less so than in chess. Instead of the attacking piece automatically supplanting the defender, the two warring units are transferred to a tactical battlefield. Each human player (or one human in solo contests with the computer) uses a joystick to control his unit during these showdowns, and it isn't impossible for the weaker piece to turn the tables on the more powerful one through superior tactics.

The board on which strategic moves are made is not static like a conventional checkerboard, and plays a major role in the conflict. Certain squares alter their hue at every turn, cycling between light and darkness. Should a contest develop over one of these squares, the piece whose color most nearly matches the square will have a defensive advantage over its rival.

To win the game, the forces of light or darkness must occupy five squares designated as power points for a full turn, or else eliminate the opposing side entirely. The computer is a tough-as-nails foe and can wipe a novice off the board with surprising ease. The machine displays a sadistic tendency to crush the opposing side one unit at a time instead of occupying the power points for a quick win, so a timely resignation is sometimes the only way to avoid an excruciatingly prolonged drubbing.

The toughest part of putting across a new chess-type game is getting the prospective players to sit down and study the rules. The design team of Jon Freeman and Ann Westfall built lots of player aids right into their program just to avoid this obstacle. For instance, when a player covers a piece with the cursor (which signifies an intention to move it), a summary of its powers automatically appears on the screen directly below the board. And when a piece has moved the maximum number of squares, the fact is noted on the display and the computer prevents the unit from proceeding farther for that turn.

No review could possibly do more than hint at the manifold excellences of "Archon." It is truly a landmark in the development of computerized strategy games.

With the **Pinball Construction Set** (Electronic Arts/Atari 400-800-1200/48K disk), Bill Budge (who designed "Raster Blaster") gives even nonprogrammers everything they need to "grow their own" video pinball game. This remarkably clever and easy-to-use program was previously available only for the Apple, but this new edition extends the fun to owners of the Atari family of microcomputers.

Just about everything is handled through joystick control. The player uses one of several cursors to move flippers, bumpers, and other pieces of pinball gingerbread from a parts box on the right side of the display to the empty pinball table on the left. These parts can be positioned, painted, and sometimes reshaped using the cursors. There's even a special mode for testing a design before you're finished with it! Depending on the skill of the "designers," the "Pinball Construction Set" can produce high-quality pinball video games. One company has published a couple of disks containing games produced with the "PCS." So if you like the idea of creating electronic games as well as playing them, the "Pinball Construction Set" is the doorway to a new world of stimulating entertainment.

This quartet of programs is only part of the Electronic Arts line. By the time this issue hits the newsstands, the company hopes to have at least twice that number of titles in stores.

NOVABEAM
THE BIGGEST NAME IN PROJECTION TELEVISION

When Henry Kloss introduced the first practical large screen projection television over ten years ago, watching TV became more exciting and involving than ever before. Later his development of the innovative Novatron® three-tube system soon established Novabeam® sets as the standard in affordable high performance. And now, Novabeam is the biggest name in projection televison.

The Novabeam Model One-A.

With advanced video circuitry and a 105 channel, cable ready, off-air tuner complete with an infrared remote control unit and a separate screen that rejects ambient room light, the Novabeam Model One-A Projection Receiver produces a 6½ foot diagonally measured picture. It has more than *five times* the brightness of commercial movie theatres and is priced more affordably than you might think. Monitor and 10 foot projector versions are also available.

The Model One-A

The Model Two

The Novabeam Model Two.

About the size and weight of a conventional 19″ set, the Novabeam Model Two Portable Projection Monitor can be tucked away when not in use and can even go from room to room. It projects a bright, clear 5′4″ picture directly on a white wall or conventional screen in a darkened room. Yet it's the most affordable high performance projection system available today.

The Model T-1 Component Tuner.

Like all Kloss Video products, the Model T-1 Component TV Tuner was designed for affordable high performance. It features 105 channel, cable-ready tuning with a multiplex output and a full-function infrared remote control unit. And it's priced at roughly half the cost of competitive tuners.

T-1 Tuner

For more information, write Kloss Video Corporation, 145 Sidney Street, Cambridge, Massachusetts 02139. Or call **800-343-1155** (In Massachusetts, call collect 617-547-6363).

NOVABEAM®

Novabeam® and Novatron® are trademarks of Kloss Video Corp. ©1983 Kloss Video Corp. Simulated picture.

For additional information, circle No. 14 on Reader Service Card.