

# VIDEO ACCESSORIES

*It takes more than a VCR to make a quality home-video system. Here's a lineup of products that will help you get the most out of your equipment.*

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WHEN YOU CONSIDER THAT THE FIRST HOME VIDEOCASSETTE recorders went on sale in 1976, it is amazing how many accessories, or "video black-boxes," have appeared in the past five years as add-ons for the three million or so VCR's that are currently in use. Equally amazing is that, while no VCR's are actually produced by U.S. companies (even those bearing familiar domestic brand-names are manufactured under sub-contract by two or three overseas companies), with few exceptions just about *all* of the video accessories we will be discussing here come from relatively small U.S. firms.

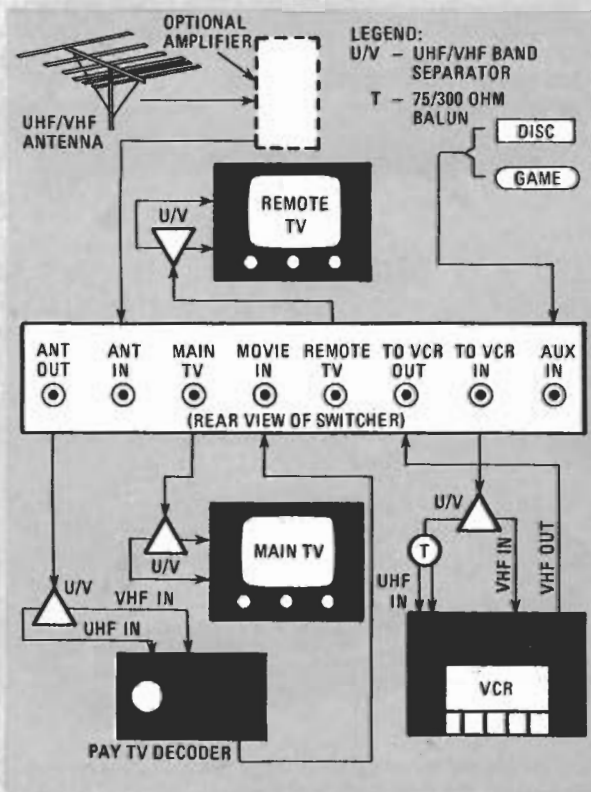
Video accessories fall into four basic categories. There are signal switch-boxes, which simplify the problem of connecting a number of video devices without creating a "rat's nest" of cables. There are signal enhancers or modifiers of one kind or another. The third category of accessories is the signal stabilizers. And, finally, we have a whole assortment of video-care products which, though not necessarily "black boxes," certainly qualify as video accessories.

## Video switchers

With so many things available to connect to your TV set, it's not surprising that some manufacturers have come up with video switch-boxes. The main feature of those boxes is that they provide a convenient way to connect all your accessories (for example, a video game, a VCR, and a video disc player) to your TV set, and provide a convenient way to select the accessory you wish to use.

Those boxes can also be very useful for cable-TV subscribers. Often, cable services require the use of a channel selector or cable switch-box supplied by the cable company. Since the output of the cable switch-box is usually on a specific channel, and must be connected to your TV set's antenna-terminals, one of the most important and useful features of a videocassette recorder is defeated—the ability to watch one TV program while recording another. That is impossible when such cable switch-boxes are used, since all channel-selection is made there, and not at your TV set or the tuner of your VCR.

A solution to that problem is one of the many switchers and selectors now on the market. We will use a well-known switcher. Beta Video's *Distriavid*, to illustrate how such devices work. The *Distriavid* uses a series of interlocking front-panel pushbuttons to allow you to record from one to three RF sources, and to view one of any of four sources on one or two TV sets simultaneously. Alternatively, you can record



**FIG. 1—THIS IS HOW** you would hook-up a *Distriavid* switcher if your video system included an over-the-air pay-TV decoder.

from any one of four sources on two VCR's and view any of three sources on a single TV set; the combinations are almost limitless. Figure 1 shows how you could hook up to the *Distriavid* if you subscribe to an over-the-air pay-TV service; Fig. 2 shows a typical cable-TV hookup. The *Distriavid* (model IC-28) has a suggested retail price of just under \$200.00. Beta video also manufactures a smaller, less versatile unit, the *Disc-Switch* (model IC-08), that sells for around \$60.00.

A somewhat simpler switcher is the *VideoMate* model VM-601, manufactured by Total Video Supply Company. That small unit, which has a suggested list price of \$89.95, is



FIG. 11—JVC's HR-2200U has an edit-start control to eliminate noise or gaps between scenes.



FIG. 12—SONY's SL-5800 uses a double-azimuth head to provide noise-free slow and freeze motion.

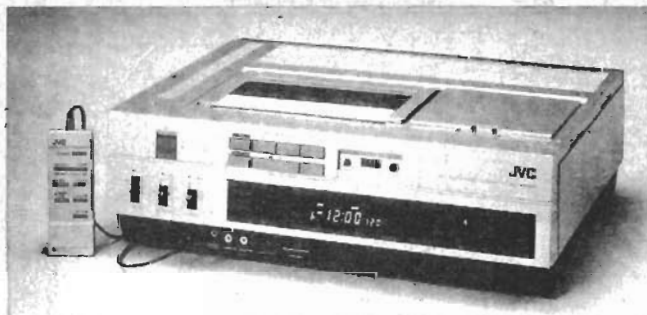


FIG. 13—FOUR HEADS ARE USED in JVC's HR-7300-U. One set is used in two-hour mode, the other in six-hour mode.

as an option to match the portable VCR. The VCR has a suggested retail price of just under \$1200.00, while the matching tuner/timer will sell for around \$350.00. The prices are typical of those being assigned to the new VCR and tuner/timer units.

JVC's earliest portable VCR was a rather heavy unit that had no special capabilities and only the standard play (SP) two-hour tape speed. The company's latest portable, the HR-2200, weighs a mere 11.4 pounds (including battery pack) and consumes only 9.6 watts when operating. Further power saving is possible using a RECORD/STANDBY switch that switches power off while still allowing a smooth transition between separately recorded scenes. As is obvious from Fig.

11, the supplied remote-control unit includes the capability for slow-motion playback (variable from  $1/8$  to  $1/30$  normal speed), freeze-frame, and frame-by-frame advance. A feature called ESC (Edit Start Control) automatically aligns the start of the segment being recorded with the end of the previously recorded one to eliminate noise or gaps between scenes. There is also a shuttle-search feature that allows you to run the tape in either direction at about 10-times-normal speed while watching the picture on a TV set to locate a desired program segment. All that, and portability too!

#### Progress in home VCR's, too

The video consumer benefits from the fact that there are two major systems competing with each other for a share of the market. For, as the Beta people come up with something new, the VHS-supporting companies feel compelled to come up with the same feature, or even an advanced variation of it, for their own machines.

Sony's latest home-model Betamax unit, the SL-5800, shown in Fig. 12, is a good example of that trend. An outstanding feature of this model is *Variable BetaScan*—a new type of *Betascan* that permits backward and forward picture-search at any rate from 5 to 20 times normal speed with a single control-knob on the accompanying remote-control unit. Programmability covers four events over a 14-day period. The SL-5800 is also equipped with a newly developed double-azimuth video head (see the May 1981 issue of *Radio-Electronics*, page 56) that provides improved freeze-frame, frame-by-frame picture advance and variable-speed slow motion (from "stop" to  $1/3$  normal speed). With the new heads, the TV screen can show a stationary picture with virtually no noise bars. It's almost as if Sony were anticipating the Grundig/Philips introduction discussed above.

JVC's latest home VCR, the model HR-7300U (Fig. 13), records in two-hour and six-hour modes but can play back tapes made in 2, 4, or 6-hour modes. One of the ten functions available from the remote-control unit is seven-times-normal-speed shuttle search for locating specific portions of a tape. Shuttle search increases to 21-times-normal playback speed in the six-hour extended-play (EP) mode. The VCR can be programmed for eight events over a two week period. Another innovation included in this machine, though not apparent from the outside, is a four-head system. One set of heads is used for the two-hour mode, while a separate set of heads, optimized for a slower tape speed, is used in the six-hour record/play mode.

Not to be outdone, Toshiba, which manufactures Beta-format units, has incorporated four heads into its newest home-VCR, the V-8500. The two extra heads added in this case are designed specifically to provide clear images in the pause/still and variable-slow-motion functions. Circuitry in the additional heads eliminates noise and flickering on the screen. Other special features include visual scanning at 40 times normal speed, visual *Betascan* at 17 times normal speed, and a visual double-speed function. The full-function remote hand-held control offers visual forward, rewind, pause/still, two-times-visual fast-forward, frame-by-frame forward, and variable slow motion. The V-8500 has a suggested retail price of \$1495.00 and is programmable for up to eight different events over a two-week period.

While we have mentioned only a few Beta and VHS machines by actual brand and model number, it should be clear from those descriptions that the difference in the features offered by Beta and VHS machines are fewer and fewer, as the maker of each type of machine attempts to be competitive in a growing market. Our own experience with a number of both Beta and VHS machines indicates that either type is capable of delivering a quite acceptable color picture from  $1/2$ -inch videotape cassettes, and I suspect that both the Beta and VHS formats will survive for many years to come. As to whether any of the newer formats will find acceptance in the home or portable VCR field, only time will tell. R-E

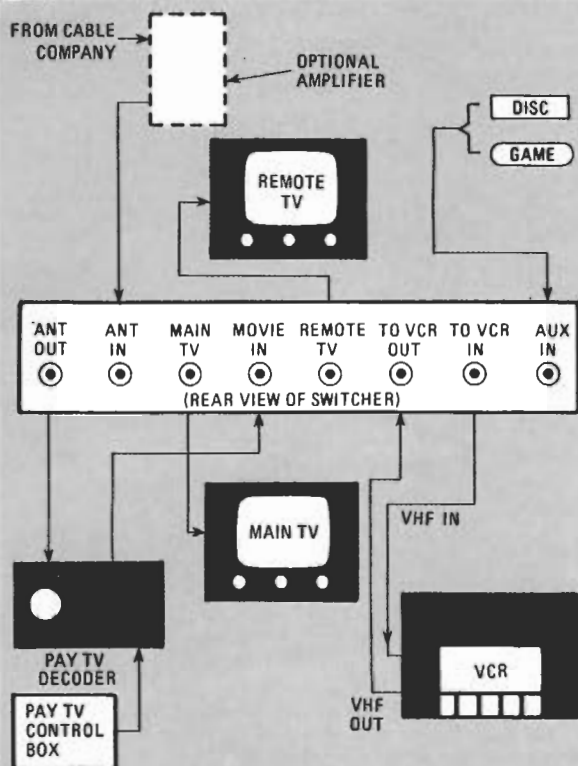


FIG. 2—CABLE-TV SUBSCRIBERS would set up their home-video system as shown here. The switcher allows you to hook up cable TV, pay TV, a VCR, and either a videodisc player or a video game while avoiding a "rat's nest" of wires and the accompanying problems.

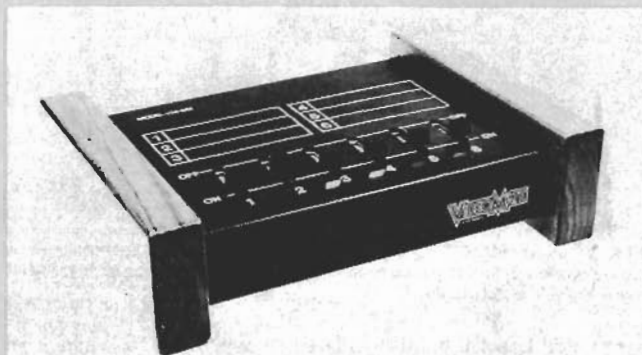


FIG. 3—A SOMEWHAT SIMPLER SWITCHER, the Videomate model VM-601 from Total Video Supply Company still lets you switch to two or three video sources.

shown in Fig. 3; it offers six selectable RF inputs and one RF output. Cable-TV subscribers, however, would be better off with the more elaborate Videomate model VM-600, shown in Fig. 4. That unit sells for around \$120.00, but it allows you to record from one video source while watching another.

### Signal enhances and modifiers

Whether you buy prerecorded videotapes, record your own programs off-the-air, or make your own videotapes using a video camera, there have probably been times when you wished you could have gotten a picture with better definition. If you copy tapes, you have probably noticed some deterioration in picture quality on those tapes when they were compared with the original. If you view the tape on a large screen or projection television, the lack of sharpness and detail is even more apparent.

There are several products now available that, to a greater or lesser degree, can improve the apparent sharpness or resolution of both off-the-air recordings and of tape copies. Two such products are the *Detailer I* and the *Detailer II* from



FIG. 4—FOR MORE DEMANDING SITUATIONS, the Videomate VM-600 allows you to record broadcast-TV while watching your subscription channel.



FIG. 5—SIGNAL ENHANCERS, such as the *Detailer II* from Vidcraft improve the apparent sharpness and resolution of either off-the-air recordings or tape copies.

Vidcraft Incorporated. Both models, in addition to improving the quality of original recordings and tape playbacks by increasing detail and sharpness, include a distribution amplifier that provides multiple video-outputs without any losses in signal levels.

The *Detailer I* is the less expensive of the two models (at a suggested retail price of \$140) and performs very much like the *Detailer II* when copying good master tapes or making original recordings. It is less effective dealing with multi-generation tapes (tapes that are many copies removed from the original) or black-and-white video material. The device features three video outputs so that it can be used for making up to three copies at once.

The *Detailer II* (with a suggested retail price of \$295.00) is more versatile, and has several additional features; it is shown in Fig. 5. It has separate *DETAIL* and *SHARPNESS* controls, and can improve picture quality even when copying multi-generation tapes. A *MODE* switch provides a *BYPASS* function that can be used for making comparisons between the signal coming off the original tape and the one that's been processed. Also included is a *COLOR* position for color-signal enhancement, and a *MONO* switch position for black-and-white signal enhancement. The unit has three switchable video/audio inputs and four outputs; they allow up to four VCR's to be permanently interconnected. Three of the VCR's can be used either as master or slave machines without changing the cable connections.

It should be noted that image enhancers such as the *Detailer I* and *Detailer II* process video only—not audio. Their use requires either a second VCR or a TV set modified to accept a composite-video signal and audio directly (not an RF signal at the antenna terminals).

### Video stabilizers

To prevent purchasers of prerecorded videotapes from copying them, many professional duplicators use signal-processing schemes known variously as *Copyguard*, *Stop Copy*, and *MV-Guard*. All of those systems modify the vertical-sync pulse that normally helps TV sets to "lock" the picture and prevent vertical "roll."

If such modified video signals are fed into most home VCR's (as they would be during the copying process), not only is the resulting signal during playback likely to cause

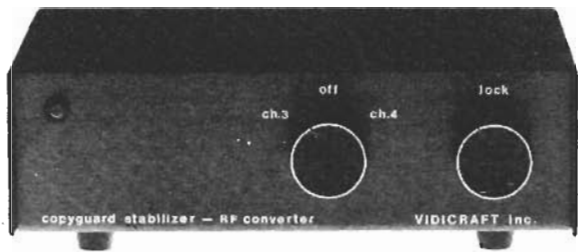


FIG. 6—VIDEO STABILIZERS prevent vertical roll by restoring the vertical-sync pulse when playing prerecorded videotapes. The *Copyguard Stabilizer/RF converter* from Vidicraft shown here also incorporates an RF converter for increased flexibility.

rolling of the picture, but in many cases a total loss of synchronization will take place, making the picture impossible to watch. Even if you have no intention of copying pre-recorded tapes (and we warn readers that doing so may subject them to legal charges of copyright infringement), you may own an older TV set which cannot provide vertical picture-stability, even when watching the prerecorded tape itself. That is especially true if your set is a vacuum-tube type.

Several companies manufacture and sell fairly simple devices that fully restore the vertical sync pulse. Vidicraft, for example, makes a tiny device, the *Copyguard Stabilizer* with just a single control on its front panel; that unit sells for \$98.00. Since the device uses video, rather than RF signals, two VCR's, or a TV set modified for use as a monitor, are required. A second model, the *Copyguard Stabilizer/RF Converter*, is shown in Fig. 6. That unit, which sells for \$195.00, includes an RF converter so that it can be hooked up directly from a VCR to a TV receiver. Both units eliminate the roll and jitter problems associated with many pre-recorded video tapes. The RF modulator can also be used with any video source, such as the image enhancer described earlier, to generate a video-modulated RF signal for direct connection to a TV set's antenna terminals.

### Video-care products

Makers of audio cassette-recorders have long encouraged owners of their products to "clean the tape heads often" for best performance. On the other hand, VCR manufacturers have taken the opposite position: almost every VCR owner's manual warns users against trying to clean the highly polished head-drums or head-cylinders found in VHS and Beta-format machines. Despite those warnings, there are many head-maintenance products that, if used strictly in accordance with the instructions, should not lead to premature head wear or head replacement.

Many of those cleaning products look exactly like videotape cassettes. But, rather than containing video tape, they contain a tape impregnated with a mildly abrasive dry material that removes oxide particles from the tape head. One cleaner, made by 3M, actually displays a message on your TV screen that tells you when the cleaning process is finished. The message tells you when to turn the machine off and keeps you from overdoing the cleaning process.

One company, Allsop, Inc., manufactures a cassette-like cleaning system that it describes as a "wet" cleaner. The cleaning material in the *Allsop 3* (shown in Fig. 7), which has a suggested retail price of \$29.95, is a soft chamois that is dampened with a liquid solution. According to Allsop, four critical components in a VCR are cleaned by its device: the video heads, audio head, capstan, and pinch roller.

All the methods mentioned so far do not require you to "go inside" the VCR—something that might void a manufacturer's warranty. The only company I know of that does encourage you to do this is Recorder Care, a division of Nortronics. The company feels that, if its detailed instruc-



FIG. 7—DROP-IN CLEANING CASSETTE, the *Allsop 3* from Allsop, Inc. uses a "wet" cleaning system.



FIG. 8—SIMULATED STEREO SOUND is created by the *model SA-100* from Total Video Supply. It modifies the monophonic sound from your TV and feeds it to your stereo sound-system.



FIG. 9—JUST ABOUT EVERYTHING needed to set up and maintain a home-video system is included in this *model VAK-400* video accessory kit from Total Video Supply.

tions are carefully followed, there will be little chance of damaging the machine.

Recorder Care markets a line of eleven products ranging from a complete maintenance kit (*model QM-50*, with a suggested price of \$24.40) to cellular foam swabs (\$4.80) and cleaning liquid (\$4.20). The company also manufactures and sells a bulk video-tape eraser (*model VCR-211*, for \$47.00) and a video-head demagnetizer (*model VCR-205*, for \$21.20).

While most video accessories fall into the four categories we've just covered, there are still quite a few that do not. Since those items can also help increase your enjoyment of your VCR, we should take a look at at least some of them.

### Waiting for stereo TV

Although Japanese TV-viewers have been enjoying stereo (and bi-lingual) audio for nearly three years now, our own Federal Communications Commission is likely to take another year or two before deciding upon a stereo-TV standard. Until then, however, you can hook up a stereo-simulating device, such as the *model SA-100* adapter, shown in Fig. 8, from the Total Video Supply Company. That small unit takes the mono audio from your television, turns it into simulated stereo, and feeds it to your high-fidelity system. Hooking up the unit is especially simple if your TV set is equipped with a headphone jack; no special wiring is required in that case. A



separate volume control is provided on the device, which bears a suggested retail price of \$24.95.

### Commercial killers

Several companies offer devices billed as "commercial killers." They are claimed to allow you to record off-the-air programming while automatically stopping the tape during commercials, thus providing interruption-free entertainment.

Two different principles are used. One type of commercial killer works only for black-and-white programs. As long as the material is transmitted in monochrome, the recorder runs. When it senses the color-burst signal, necessary for color (and it is assumed that all commercials are in color these days), the recorder pauses. When the color-burst signal disappears, the recorder starts up again. That is great for watching old Ronald Reagan films, but doesn't do much for his more recent TV appearances.

The other method relies on the assumption that, just before a commercial, the station will "fade to black" for a second or two. That instant of blank-screen is supposed to tell the recorder to pause. The next fade-to-black, presumably signalling that the program is about to resume, restarts the

recorder. A little viewing on your part will demonstrate that the reliability of such devices is somewhat dubious.

Another type of accessory is an unconverter. Most VCR's have their outputs on either Channel 3 or Channel 4. While that won't usually cause any problems, that will not be the case if you live in an area where both of those channels are in use. In such a situation, the simplest solution is to use an unconverter. Those devices convert the RF output of your VCR, or any other video accessory, to a UHF frequency.

We have not included such minor accessories as cables, balun transformers, two-set couplers, and pin-to-pin video and audio cables, since those are supplied by a large number of companies and are generally available at any audio/video store. If you want to make your video-accessory shopping easier, the Total Video Supply Company has put together a Video Accessory Kit, *model VAK-400* that sells for about \$34.00 (see Fig. 9). It contains just about everything needed to connect, use, and maintain home VCR's and video systems. Included in the kit are coaxial cables, a signal splitter, signal switcher, cable adaptors, impedance matching transformers, a VCR-head cleaning kit, and the company's "dubbing kit" for copying videotapes. **R-E**

## SUPPLIERS OF VIDEO ACCESSORY PRODUCTS

### Allsop, Inc.

4201 Meridian Street  
Bellingham, WA 98225

### Amco Electronics

9181 Gazette Avenue  
Chatsworth, CA 91311

### Beta Video

9612F Lurline Avenue  
Chatsworth, CA 91311

### BIB

1751 Jay Ell Drive  
Richardson, TX 75081

### Colormax Electronics Corp.

180 Northfield Ave.  
Building 409, Raritan Center  
Edison, NJ 08837

### Comprehensive Video Supply Corporation

148 Veterans Drive  
Northvale, NJ 07647

### Energy Video

20371 Prairie Street  
Chatsworth, CA 91311

### ETCO

Route 9N  
Plattsburgh, NY 12901

### Malo-Bauer Corporation

35045 Automation Drive  
Mount Clemens, MI 48043

### Marken Electronics Inc.

Consumer Video Group  
PO Box 1103  
Northbrook, IL 60062

### Metro Systems

3834 Catalina Street  
Los Alamitos, CA 90720

### MFJ Enterprises, Inc.

921 Louisville Rd.  
Starkville, MS 39759

### Niles Audio Corporation

PO Box 160818  
Miami, FL 33116

### Nortronics Co., Inc.

(Record Care)  
8101 10th Avenue N  
Minneapolis, MN 55427

### Permo Int'l.

3001 Malmo Road  
Arlington Heights, IL 60005

### Recoton Corporation

46-23 Crane Street  
Long Island City, NY 11101

### Rhoades National Corporation

Box 1052  
Highway 99 E.  
Columbia, TN 38401

### RK Electronics

30 South 1st Street  
Suite 193  
Arcadia, CA 91006

### RMS Electronics, Inc.

50 Antin Place  
Bronx, NY 10462

### Robins Industries Corp.

75 Austin Blvd.  
Commack, NY 11725

### Shelton Video Editors

P.O. Box 860  
Vashon, WA 98070

### Showtime Video Ventures

2715 Fifth Street  
Tillamook, OR 97141

### Sigma Sound Equipment

PO Box 114  
Pickering, Ontario, Canada L1V 2R2

### Smith-Mattingley Productions

515 Kerby Hill Road  
Oxon Hill, MD 20022

### Sterling Video

PO Box 244  
Fraser, MI 48026

### Superex Electronics Corporation

151 Ludlow Street  
Yonkers, NY 10705

### TDK Electronics Corp.

755 Eastgate Blvd.  
Garden City, NY 11530

### The Video Place

PO Box 36004  
Strongsville, OH 44136

### 3M Company

3M Center Bldg. 4E-03  
St. Paul, MN 55144

### Total Video Supply Co.

9060 Clairmont Mesa Blvd.  
San Diego, CA 92123

### Vancouver Video Center

4611 NE 112th Avenue  
Vancouver, WA 98662

### V.B.O.

18931 West Dixie Highway  
North Miami Beach, FL 33180

### Vidcor, Inc.

200 Park Avenue S.  
New York, NY 10003

### Video Commander, Inc.

3621 W. MacArthur Blvd.  
Suite 109  
Santa Ana, CA 92704

### Video Components, Inc.

601 South Main Street  
Spring Valley, NY 10977

### Video Interface Products

19310 Ecorse  
Allen Park, MI 48101

### Video Mods

P.O. Box 2591  
Sepulveda, CA 91341

### Video Services Inc.

80 Rock Ridge Road  
Fairfield, CT 06430

### Vidicraft, Inc.

P.O. Box 13374  
Portland, OR 97213