THE AMPEX VPR-80: "C" FORMAT QUALITY AT A PRICE YOU CAN AFFORD

AMPEX

ALL THE FEATURES AND PERFORMANCE YOU'D EXPECT FROM AMPEX, WITH A PRICE THAT'S KIND TO YOUR BUDGET.

IT'S BEEN OBVIOUS FOR some time that "C" format is the way to go for high quality video, but some facilities just couldn't afford it. Well, now you can have high quality video at a price that rivals some ¾" machines.

The Ampex VPR-80, unlike ¾" machines, offers a full luminance bandwidth. And you don't have to deal with "color-under" limitations, either.

Type "C" is here to stay, too. You'll enjoy all the benefits of a proven format and a mature product—as well as trained service personnel, readily available parts and proven interfaces.

So if you've decided to upgrade your facility (or if you're already using Type "C" and you're looking for a reliable, low cost "workhorse"), the VPR-80 delivers Type "C" performance at a price you can afford.

The benefits of the Type "C" format are obvious. Compare the multiburst in ¾" (above) versus full bandwidth performance in Type "C".

The VPR-80/TBC-6 package combines the most popular features of our more expensive VTRs.

The VPR-80 and its digital time base corrector, the TBC-6, were designed to make your production and editing easier and faster.

AST™ Automatic Scan Tracking is a standard feature on the VPR-80. The AST system insures tracking and allows you to vary playback speed from still frame, through slow motion, to 1½ times play speed—with no picture breakup and no need to adjust.

A complete editing package is standard too. It's easy to understand, fast and simple to operate, and frame-accurate. It even lets you preview and trim your edits prior to recording.

Easy-to-learn controls are simple and functional.

The control panel on the VPR-80 is so simple you'll become a proficient operator in no time. Controls are well marked, and placed exactly where you would expect them to be; right up front—you won't find yourself scrambling in and out of access panels during normal operation.

The shuttle control has a solid, precise feel. And the tape timer/status display is large, bright and easy to read. There's even a head hour meter to help you keep track of the hours logged on your VPR-80.

Sophisticated design helps keep service simple.

User convenience was one of our goals when we designed the VPR-80. One look will tell you the machine is easy to service.

Top doors provide easy access to the audio system and all major PWAs. Test points and setup controls are right on top where you can get at them. The entire rear of the machine opens for access to the power system, transport and harnessing. The power supply slides out on a tray and all the transport assemblies have quick-removal trim panels.

To help with troubleshooting, a readout on the control panel displays system faults and non-standard conditions. It'll even lead you, step-by-step, through diagnostic procedures.

Easy interface and a wide choice of system configurations.

Ampex has set the standard for VTRs for over 30 years. So virtually all video manufacturers have designed their equipment to interface with our machines.

It's no wonder you will find thousands of VPR-80s in quality-conscious broadcast, production and duplicating facilities all over the world. With six configurations available, there's a VPR-80 designed to fit almost any application.

The VPR-80 delivers all of the performance and picture quality of Type "C" at a price you can afford.
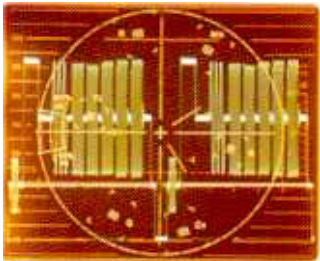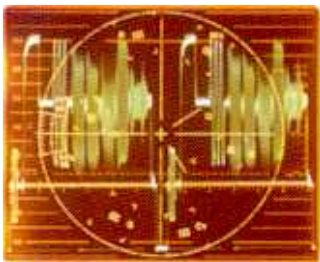
THE VPR-80: A VIDEO TAPE RECORDER FOR PROFESSIONALS.

OUR BROADCAST customers win Emmys for production. Ampex wins them for innovation. Our unique method of tracking video tape at non-standard speeds—Automatic Scan Tracking—was awarded an Emmy in 1979. AST comes as standard equipment on the VPR-80.

We've borrowed a lot of other benefits and technology for the VPR-80 from our more expensive VTRs. Field re-placeable heads, a built-in VHO function, and dual microprocessor control all help put the VPR-80 way out in front of any machine in its price range.

The exclusive AST tracking system enables the VPR-80 to deliver *broadcast quality* pictures at *any* play speed—from stop, through slow motion, to 1½ times normal forward speed. By providing accurate auto tracking at all tape speeds, AST insures stable, perfect pictures. And the AST system further im-proves the quality of your nor-mal playback by automatically servoing the video head to the exact center of the video track.

Head design makes service quick, easy, and cost effective.

By combining both Record and Playback functions into a single, composite AST head, we were able to save you money *and* service time.

Both the AST head and the erase head are "field replace-able". They're easy to get to in the scanner, and can be removed and replaced with a screwdriver.

Head alignment: quick and foolproof.

To simplify setup after head replacement, Ampex has built a head alignment program right into the VPR-80's software.

To speed up the head change process, VHO (video head optimization) allows you to call up a setup mode right at the control panel.

Gentle tape handling, even at 30X play speed.

Whether you need two hours of recording and playback time, or just enough tape for a 30 second spot, the VPR-80 is flexible enough to handle the job.

The VPR-80's "intelligent", high-response servo system gently handles reels of *any* size from 11¾ inches down to the smallest, lightest spot reel. By optimizing shuttle and cueing routines for the reel size you're using, the VPR-80 assures smooth, gentle tape handling, for *all* your work.

The large, high-torque DC reel motors are equipped with bi-directional tachometers. This allows rapid acceleration with-out effecting the system's gentle tape handling characteristics.

A high storage, low mass tension arm responds quickly and smoothly to transitions between Play, Stop and Shuttle modes. And once the tension has been set, all further ten-sioning is microprocessor controlled.

In extreme conditions, your tape is protected automati-cally. If either reel motor fails, the VPR-80 automatically stops to prevent tape damage.

Our customers win EMMYS for production. We win them for innovation.

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VHO (video head optimization) is built right into the VPR-80's electronics. It makes head alignment fast and foolproof.

Sophisticated electronics let you work fast and efficiently.

Dual microprocessors are the key to the VPR-80's power and operating simplicity. By dividing the workload, the VPR-80 can respond faster, and more efficiently.

One microprocessor manages the VTR control system, while the other is dedicated to all the servo subsystems. The result is accurate, dependable performance of all the machine's operations—and instantaneous response to your commands.

All this power has an additional benefit; it makes the VPR-80 simple to operate. Everything from setup to servicing can be done with a minimum of technical skill, so you'll be on-line minutes after it comes out of the box.

Power failures won't end your day.

How many times has a power failure erased your setup? We think once is too much —so we built a *power down memory* into the VPR-80.

If the power fails, a backup battery and voltage regulator system continue to power your machine's memory. Tape time, control panel setup and edit functions are all held until power is restored. So if the power fails, take a break—you can pick up right where you left off.

Both the Record and Playback functions are combined in a single, composite AST™ head. Both the AST and erase heads are easily removed and replaced with only a screwdriver.

SIMPLE, LOGICAL CONTROLS MAKE OPERATION SMOOTH AND EFFORTLESS.

ONCE YOU GET YOUR hands on a VPR-80, you'll wonder how you ever put up with ¾". The VPR-80 is smooth, powerful and *professional*.

Notice the control panel. It's logical, functional; a layout you can master in minutes. Primary controls are large and engraved. And edit buttons are well-spaced —you won't find yourself hitting the wrong one in the heat of a complicated editing session. The shuttle knob feels solid, and allows you accurate, almost instantaneous control of tape speed.

It won't take you long to become a pro on a VPR-80.

You won't believe how much editing capability the VPR-80 gives you for a machine in this price range. And you won't believe how easy it is to operate.

Sophisticated editing is simple, fast and *frame accurate*. And built-in machine intelligence helps guide you through the process.
☐ *Insert* and *Assemble* can be selected by pushbutton
☐ *Auto-Edit* permits automatic editing from preselected cues
☐ *Entry* and *Exit* edit points can be selected by pushbutton
☐ Your edits can be trimmed, frame by frame, on the key pad or by jogging the tape
☐ Both audio and video edits can be previewed prior to final recording
☐ A transfer feature automatically sets the next scene's edit entrance point.

"No-fault" operation comes standard on this machine.

The VPR-80 advises you of any system faults or non-standard conditions that could affect machine performance. Status verification and diagnostic routines are performed automatically when the machine is turned on.

The VPR-80 checks for power failure in any of the subsystems, scanner stall, overheating or absence of control track. It even lets you know when an editing procedure is incorrect—or when there's no video input.

If a fault or non-standard condition is detected, you're immediately alerted. And the VPR-80 pinpoints the problem and indicates it, *specifically*, on the control panel display. If the

problem could cause tape damage, the machine automatically shuts down.

Features like these are like having a production assistant at your editing sessions. They let you concentrate on what really matters—the editing.

Listen to this . . .

We haven't forgotten the audio. There are three fully independent audio channels on the VPR-80 with performance specifications that, in most cases, match our more expensive VTRs. Channels 1 and 2 are optimized for use as a stereo pair, and channel 3 has wideband capability for time-code.

Individual level meters are standard, and separate level controls are provided for audio Record and Playback.

If audio quality is important in your work, don't sell it short. The VPR-80 delivers professional performance and control at an affordable price.

Flexible system interface.

If you want to know how easily the VPR-80 interfaces with other equipment, take a look at its connector panel. A simple five function remote control interface lets you run your VPR-80 from up to 100 feet away. For two-machine editing, there's a single, plug-in connector. There's even a monitor jack that lets you keep an eye on critical video and control waveforms. And parallel remote and serial remote PWAs are optionally available to give your VPR-80 even more flexibility.

The VPR-80 can also be teamed with our ADO ™ effects, PictureMaker* 3D animation, ACE™ and ACE Micro editors and Ampex switchers in a complete post-production editing system.

If you're moving into Type "C" production, growth is obviously part of your plan. When it comes to expansion, the VPR-80 is one machine that won't lock you into obsolete equipment, or old technology.

* PictureMaker is a trademark
  of Cubicomp Corporation

The VPR-80 and ACE Micro editor, an ideal combination for interformat editing.

No matter what format you shoot, with the VPR-80 and ACE Micro you can now have high quality Type "C" masters. Serial communications is the key.

The ACE Micro will edit input from ½", ¾" or 1" VTRs and bump it to Type "C" in the editing process. Through the RS-422 interface a high quality master can then be recorded on the VPR- 80. The RS-422 control eliminates expensive and space consuming interface boxes.

The VPR-80 and ACE Micro. They're a low cost solution to your tape format problems, without sacrificing power or performance.

The rear I/O panel will accept all Ampex VPR accessories including remote controllers and monitoring.

SERVICE AND MAINTENANCE IS SIMPLE AND STRAIGHTFORWARD.

THE VPR-80 IS BUILT TO be a workhorse. Its rugged, die-cast aluminum alloy chassis virtually eliminates the torsional deflections that could misguide and damage tape.

Each mechanical component is an *individual* subassembly that's indexed to the chassis. And each can be removed, adjusted and remounted without tearing-down the entire machine.

Take a good look at the VPR-80. Its really a very *simple* VTR. It's easy to afford, easy to operate, and easy to take care of.

The control panel display leads you step-by-step through system diagnostics.

An optional diagnostic probe lets you quickly pinpoint problems in the digital circuitry.

If your VTR isn't working, it isn't earning its keep. We want to keep you up and running, and the built-in diagnostic routines in the VPR-80 will pinpoint problems fast.

When first turned on, the machine undergoes a series of automatic checks. And the microprocessors continue to monitor performance during normal operation. Non-standard and fault conditions are indicated on the control panel. And tracing a fault is easy. You're led step-by-step through the process by readouts on the control panel display.

Digital circuitry can be more difficult to troubleshoot, but the VPR-80 makes it easy. A hand-held diagnostic probe is provided to help you quickly isolate faults at the component level. This powerful little tool reduces the need for expensive test equipment—and even a novice can troubleshoot with it.

Access couldn't be easier, even in tight places like mobile vans.

The top, front and back either fold down, come off or slide out to give you access to the *entire* machine.

Major boards all plug in from the top. Primary test points and controls are along the top edges of the boards; and they're all serviceable with an extender card.

The power system, harnessing and audio electronics are easy to get at from the back. The power supply slides out on a tray. Even the control panel swings open for easy access.

The VPR-80 is backed with service and support no other manufacturer can come close to.

There are thousands of VPR-80s out there, in recording, editing and duplicating facilities all over the world. Professionals expect good service, and Ampex lives up to these expectations. No one in the industry provides the service and support Ampex does. From training and technical support to spare parts and field service, our programs mean real added value for Ampex customers.

Wherever you are in the world, there's an Ampex Field Service Engineer ready to serve you. They make sure you get prompt attention and correct answers.
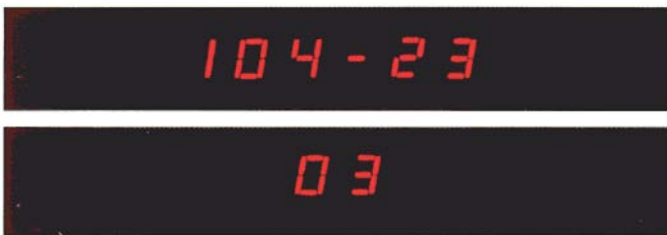
FEATURES, OPTIONS AND CONFIGURATIONS MEAN YOU CAN TAILOR A VPR-80 TO MEET *YOUR* NEEDS.

I N ORDER TO PROVIDE consistent performance over a wide range of timebase error inputs, we've packaged the VPR-80 with the TBC-6 digital time base corrector.

The 28 line correction window in the TBC-6 will handle the wildest gyroscopic errors you can throw at it. And in *shuttle*, its circuitry provides viewable pictures at 30X play speed, in forward and reverse.

Full color dropout compensation and velocity error correction are built in. And the *SCH* phased sync generator includes fully adjustable horizontal and vertical blanking circuitry.

You're in full control of composite video signal adjustments on the TBC-6, with independent video and chroma gain controls, as well as chroma phase, subcarrier phase, horizontal phase and black level controls. And primary controls are all remoteable via an optional TBC-6 remote control panel.

You can even *time share* your TBC-6. It's designed to operate with heterodyne recorders, so you get maximum service out of a single piece of equipment.

For applications that don't require the broadcast quality variable speed capabilities of the TBC-6, the low cost TBC-40 is available.

Like the TBC-6, the TBC-40 will time share with other VTRs. It provides all the video signal control of the TBC-6 and, if ever needed, can be easily upgraded to TBC-6 performance specs.

Options and Accessories designed to make your job easier.

Remote Control Interface

While a simple five function (stop, play, record, fast forward, rewind) remote control interface is standard, your application may call for more comprehensive control.

Low cost parallel and RS-422A serial remote control interfaces are easily installed options. The SMPTE serial control interface allows you the convenience of greater remote control distances and integration into editing systems, like the Ampex ACE and ACE Micro.

Time-Code Generator— Reader/Character Display

A time-code generator reader and character display is an easily installed option. The character generator provides a variety of time-code displays on the picture monitor.

Zeus ™ Advanced Video Processor

The VPR-80/Zeus combination provides optimum Type "C" signal performance. It also provides features never before
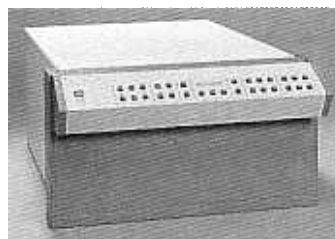
available in a professional recorder, like slow motion and program compression sequences with no blur, hop or interfield vertical motion. For the first time, full bandwidth pictures are produced at any playspeed.

VRC-2 Video Recorder Controller

This highly flexible, low cost controller can be used for single VTR remote control, simple two-machine editing or gang-roll

of up to four VTRs simultaneously.

Through SMPTE serial remote control the VRC-2 will control Ampex VPR-3, VPR-6 and VPR-80 1″ recorders.

It also controls the BVU series ¾″ recorders and the CVR-10, CVR-15 and CVR-40 Betacam* studio recorders allowing low-cost ½″ or ¾″ to 1″ editing.

Betacam is a registered trademark of Sony Corporation

The VPR-80's unique packaging design lets you configure your system for convenience.

The VPR-80 is available in a table top configuration or mounted into a standard 19″ rack.

It's also available as a consolette or, for studio operation, in a choice of three full console configurations. All console models include two-channel monitor switching for time sharing of picture, waveform and audio monitoring.
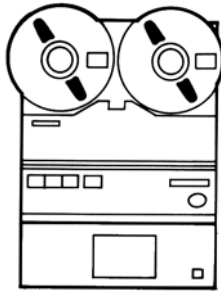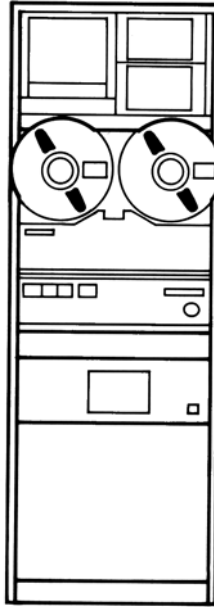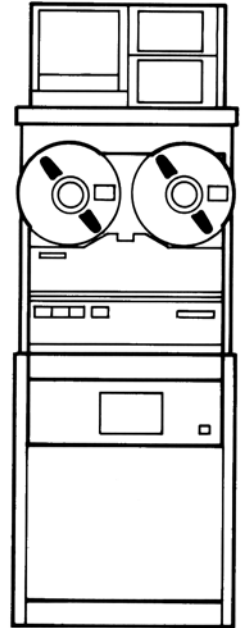
TABLE TOP

Height: 22.0″ (558.8 mm)	
Width: 22.0″ (558.8 mm)	
Depth: 22.0″ (558.8 mm)	
Weight: 145 lb (66 kg)	

RACKMOUNT

21.0″ (533 mm)
19.0″ (482.6 mm)
21.0″ (533 mm)
138 lb (63 kg)

CONSOLETTE

70.5″ (1791 mm)
22.0″ (558.8 mm)
26.5″ (673 mm)
312 lb (142 kg)

SIDE CAR MONITORING CONSOLE

Height: 56.4″ (1433 mm)	
Width: 33.0 (838 mm)	
Depth: 26.5″ (673 mm)	
Weight: 540 lb (246 kg)	
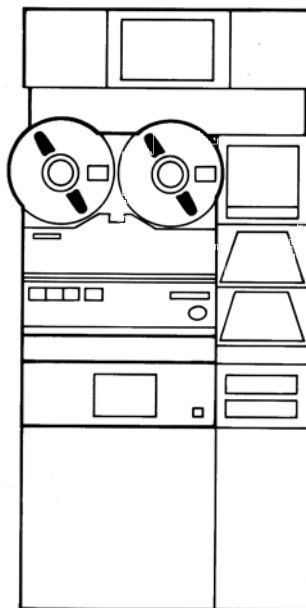
OVERHEAD MONITORING CONSOLE

74″ (1880 mm)
33.0″ (838 mm)
26.5″ (673 mm)
655 lb (299 kg)

DUAL CONSOLE

56.4″ (1432 mm)
54.0″ (1372 mm)
26.5″ (673 mm)
735 lb (334 kg)

VIDEO AND SYNC	NTSC/PAL-M 525/60	PAL/SECAM 625/50
	Flat to 4.2 MHz ± 0.5 dB − 3 dB at 5.0 MHz	Flat to 5.0 MHz ± 0.5 dB − 3 dB at 6.0 MHz
S/N (Rhode & Schwarz unweighted with bandpass filter) using TBC-80	− 46 dB peak-to-peak video to RMS noise on interchange basis	43 dB peak-to-peak video to RMS noise on interchange basis
LF Linearity	2% blanking to white (maximum)	2% blanking to white (maximum)
Differential Gain	4% blanking to white (maximum)	4% blanking to white (maximum)
Differential Phase (40 IEEE units of subcarrier through TBC-80)	4° at 3.58 MHz off-tape (max)	4° at 4.43 MHz off-tape (max)
Chrominance/Luminance Delay	20 n sec (maximum)	25 n sec (maximum)
2T sin^2 Pulse & Bar	1% K-factor maximum	1% K-factor maximum
Moire	−40 dB color bars 75% amplitude 3.58 MHz subcarrier	−36 dB color bars 75% amplitude 4.43 MHz subcarrier

AUDIO (Channels 1, 2, & 3)

Frequency Response (400 Hz Ref) 100 nWb/m reference level	±1 dB 500 Hz to 10 kHz ±2 dB 50 Hz to 15 kHz	±1 dB 500 Hz to 10 KHz ±2 dB 50 Hz to 15 KHz
S/N (with respect to 8 dB above reference level)	−56 dB Audio 1 and 2 −54 dB Audio 3 (Note 1)	+56 dB Audio 1 and 2 −54 dB Audio 3 (Note 1)
Distortion (measured at 1 KHz) (3 HD) @ 100 nWb/m reference level (+8 dBm) @ 251 nWb/m peak level (+16 dBm)	1% maximum 3% maximum	1% maximum 3% maximum
Depth of erasure on its own recording	−70 dB	−70 dB
Wow & Flutter	.12% NAB unweighted	.15% DIN weighted
Playback Crosstalk (Audio 1 & 2) 1 KHz referenced to +8 dBm or 100 nWb/m	−50 dB maximum	

SIGNAL INPUTS

Video Input (75 ohm) BNC	0.5 to 2 volts peak-to-peak	0.5 to 2 volts peak-to-peak
Ref Video (75 ohm) BNC Comp sync Comp video	 0.7 to 4 volts 0.5 to 2 volts	 0.7 to 4 volts 0.5 to 2 volts
Audio line inputs	−24 to +24 dBm	−24 to +24 dBm
Impedance	balanced; 50 K ohm 50 Hz to 15 kHz	balanced; 50 K ohm 50 Hz to 15 kHz
Microphone input	−60 dBm at 200 ohms maximum −20 dBm	−60 dBm at 200 ohms maximum −20 dBm

SIGNAL OUTPUTS

Video Output (75 ohm) BNC	1.0 Volt peak-to-peak	1.0 Volt peak-to-peak
Audio Line Outputs	+8 dBm nominal; balanced +25 dB maximum	+8 dBm nominal; balanced +25 dB maximum
Impedance	less than 50 ohms	less than 50 ohms
Headphone Audio Monitor	0 dBm to drive 600 ohms	0 dBm to drive 600 ohms
Audio Meter Circuits VU		

GENERAL

Record Time	124 minute nominal; 6000 feet of tape on 11¾" reel	124 minutes nominal; 6000 feet of tape on 11¾" reel
Shuttle Time	less than 2½ minutes for 60 minute tape	less than 2½ minutes for 60 minute tape
Tape-Timer Accuracy (Control track updated)	±1 frame with continuous control track	±1 frame with continuous control track
Tape Speed	244 ± 0.5 mm/sec 9.606 ± 0.02 in/sec	239.8 ± 0.5 mm/sec 9.44 ± 0.02 in/sec
Video Writing Speed	1009 in/sec nominal	842 in/sec nominal
FM Carrier Frequencies	79 MHz blanking 10.0 MHz peak white	7.68 MHz blanking 8.9 MHz peak white
Audio Equalization	15 microseconds 3180 microseconds	15 microseconds
Lock-up time from Ready Mode	3 sec	4 sec

TEMPERATURE & HUMIDITY

0–45°C
10%−90% RH (non-condensing)

50 & 60 Hz, single phase
100/110/120/130 Volts AC ± 10%
200/220/240/260 Volts AC ± 10%
115 vac Nominal 5.0A
230 vac Nominal 2.5A

AMPEX