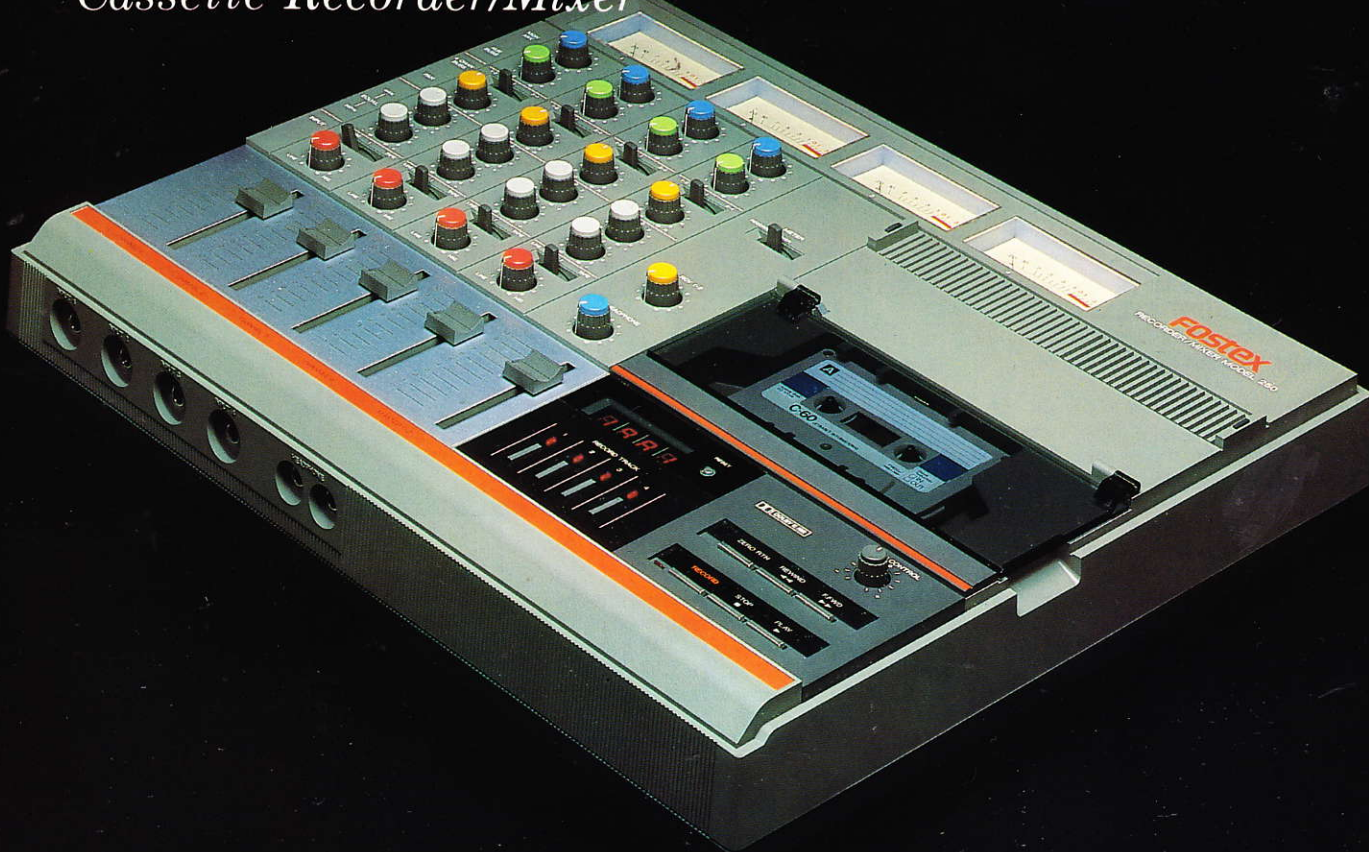


250

Self-Contained Multitrack Cassette Recorder/Mixer

Fostex
PERSONAL MULTITRACK



DESIGN CONSIDERATIONS.

Just 17" wide, 14" deep and 3¼" tall. Barely 19 lbs total. Loves to travel (in its own flight case or inside your suitcase). And feeds on inexpensive, easily available cassette tapes.

It's Personal Multitrack in its most personal form. The 250 Multitracker.

Four tracks with full sync capabilities. Built-in 4x4 mixer with its own monitor buss. Dolby C* noise reduction. And the kind of flexibility you need for building tracks, recording live gigs, or just getting an idea on tape.

THE RECORDER SECTION.

The 250's transport was developed specifically for the back-and-forth tortures of multitrack production. An FG servo-controlled DC motor drives the capstan. Another DC

motor drives the reels.

Tape moves at 3¾ ips to give you expanded headroom, lower distortion and better signal-to-noise performance. A pitch control lets you change the tape speed $\pm 10\%$. And transport commands are IC logic-controlled.

The 250's track format is compatible with standard cassettes (running at 3¾ ips). So you can play tracks 1 and 2 of 250 tapes on your hi-fi cassette deck. Use your hi-fi system deck to lay down popular songs, then overdub on the 250. Or lay down tracks on the 250 and send the tape to band members or other players for rehearsals (and vice versa).

Dolby C is built in. Along with the 3¾ ips tape speed, it gives you outstanding audio results. Signal-to-noise performance better than 71dB (wtd.). Headroom to spare. And the kind of workable dynamic range that's really handy during live sessions.

THE MIXER SECTION.

The 250's mixer section gives you four main inputs, each with its own fader, 50dB trim control (so guitars, mics, keyboards and synthesizers are handled with ease), tone controls and peak-reading LED overload indicator.

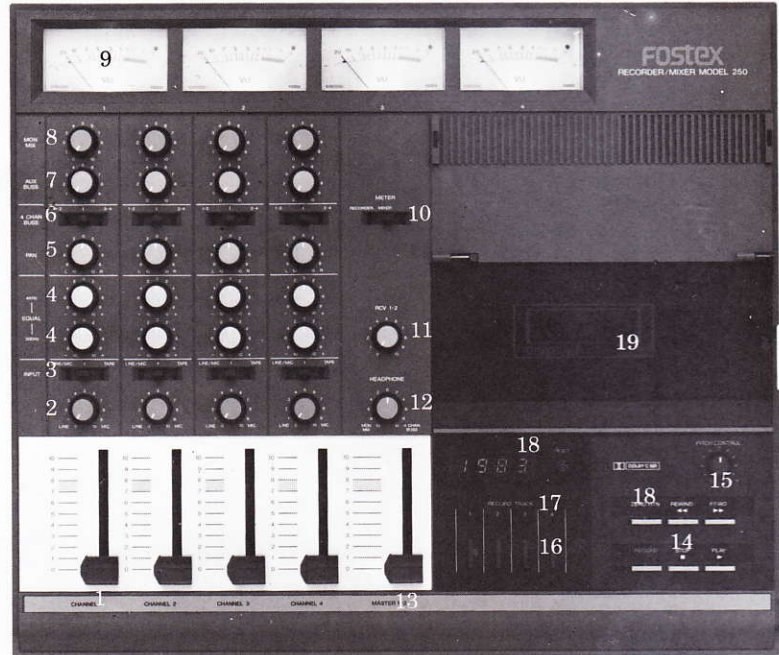
For mixdown, you have four more line inputs (there's a mic/line selector on each channel). So there's no need to repatch. You get additional patch points that let you add extra gear like limiters, delays, equalizers and effects boxes. Plus, two more auxiliary inputs that let you mix external signals with the signals passing through the 250's main mixing buss.

You can listen to the results through stereo headphones, via self-powered monitors like our 6301s or through a typical amplification system.

THE 250 AT A GLANCE

FRONT VIEW

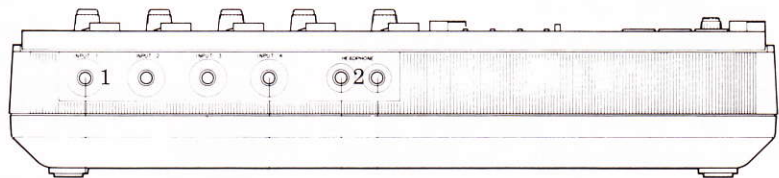
- INPUT FADER:** Level control for signals from either channel input or tape playback (selectable).
- TRIM CONTROL:** A 50dB pad that lets you handle input levels from -10dB (0.3Vrms) for line level sources down to -60dB (1mVrms), giving you the ability to use mics or electronic instruments without repatching.
- INPUT SELECTOR:** Three-position lever-type switch selects signal applied to input fader.
- EQUALIZER:** Provides 12dB of boost or cut at 300Hz and 4kHz.
- FOUR CHANNEL BUSS PAN POT:** With buss selector in position, this pan pot routes signals to either buss 1 or 2 (or both), or to buss 3 or 4 (or both).
- FOUR CHANNEL BUSS SELECTOR:** Applies signals to recording busses 1 & 2 or 3 & 4. Center OFF position applies no signal.
- AUX BUSS:** Provides a 4x1 mix of signals from each channel's input (post-fader and post-EQ) and delivers the mixed result to the AUX SEND jack for external processing.
- MON MIX:** A 4x1 mix delivered to the MON MIX output jack, derived from tape out signals when in Play mode and from the record input signals when in Record mode.
- VU METERS:** For monitoring record and playback levels. Each VU meter has a peak-reading LED that indicates tape saturation rather than overloading of the electronics.
- METER FUNCTION:** Meters can be switched to monitor recorder output or 4 channel buss output.
- AUXILIARY RECEIVE LEVEL CONTROL:** Adjusts the signal level entering through the left and right AUX IN jacks. Result is applied to buss channels 1 and 2



- of the main four channel buss.**
- HEADPHONE LEVEL:** A level control and selector in one knob. Positioned at 12 o'clock, headphones are off. CCW rotation monitors MON MIX signal. CW rotation monitors four channel buss in stereo (left=1&3; right=2&4).
- MASTER FADER:** Adjusts level of buss out 1 and 2 simultaneously. Result is applied to line outs 1 and 2.
- TAPE TRANSPORT CONTROLS:** Command of all modes is IC logic-controlled.
- PITCH CONTROL:** Allows $\pm 10\%$ speed adjustment.
- RECORD TRACK SELECTIONS:** Place individual tracks in record ready mode. Recording begins when Play and Record buttons are depressed or when Play button and remote footswitch (for punch in/out) are depressed.
- LED RECORD INDICATOR:** Indicates no recording (off), record ready status (blinking) and recording (on) for each track.
- ZERO RETURN:** One button instantly gets you back to digital counter position 0000 for fast tape checks and overdubs.
- CASSETTE WELL:** Holds recommended tapes TDK-SA, Maxell UDXL-II or equivalent high bias 70 μ s EQ.

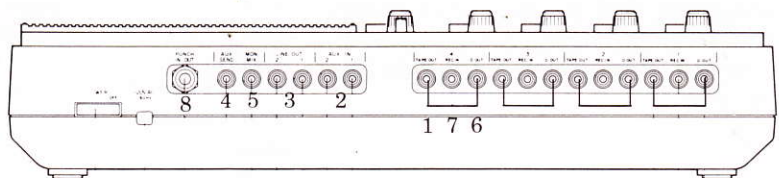
FRONT PANEL

- CHANNEL INPUTS:** Standard phone jacks accept low or high impedance unbalanced input from -60dB (mic) to -10dB (line).
- HEADPHONE JACKS:** Two stereo headphone jacks are provided to deliver signal from MON MIX buss.

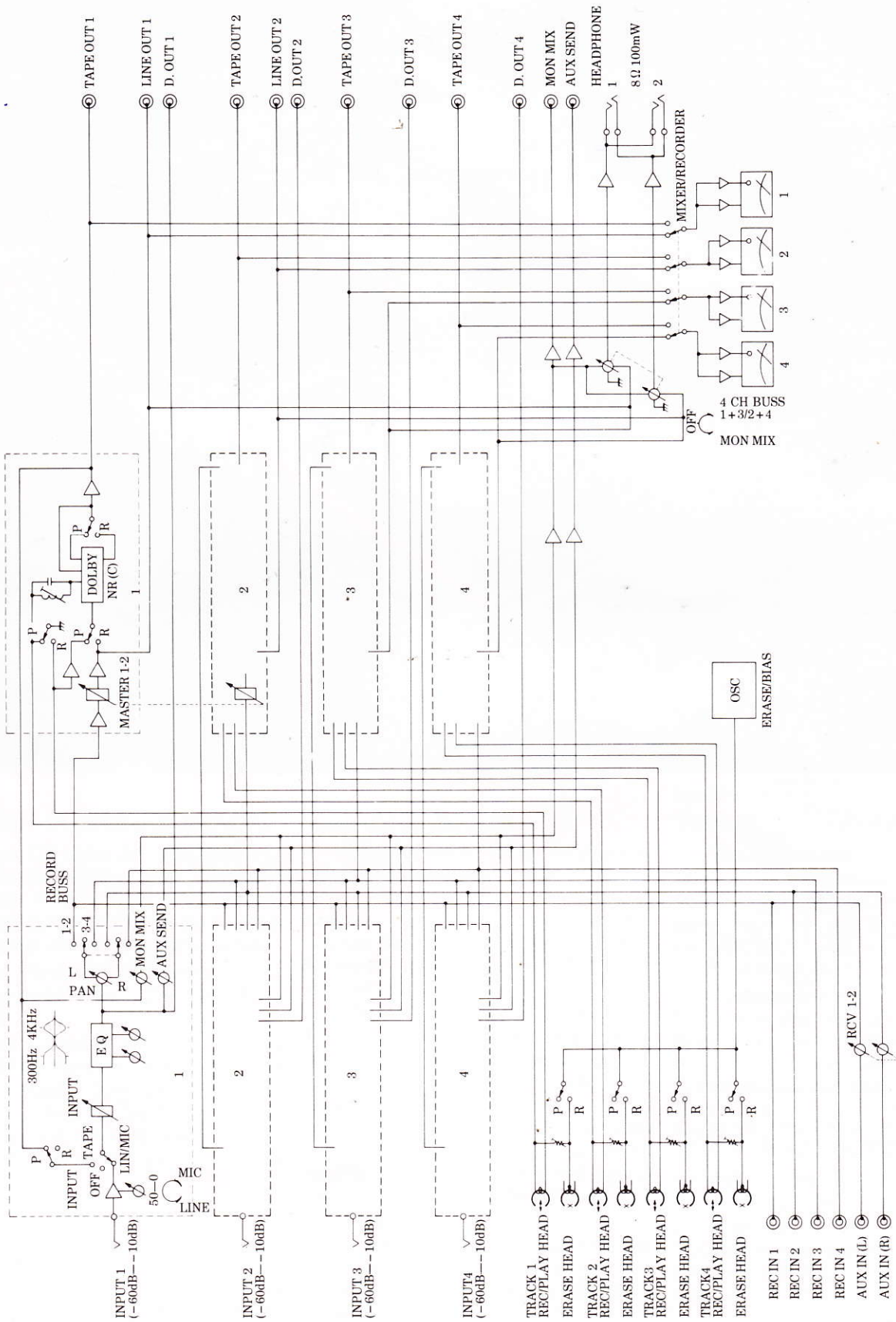


REAR PANEL

- TAPE OUT 1-4:** Delivers signals from recording input when in record mode and from tape output when in play (sync) mode.
- AUX IN 1&2:** Applies a stereo signal to channels 1 & 2 of the 4 channel buss.
- LINE OUT 1&2:** Carries the outputs from buss channels 1 & 2.
- AUX MIX:** Carries mono mix (4x1) of four input channels as adjusted by the AUX SEND controls.
- MON MIX:** Carries the mono mix (4x1) of four input channels as adjusted by the MON MIX controls.
- DIRECT OUT 1-4:** Carries outputs from channels 1-4, post-EQ and pre-4 Channel Buss Pan control.
- RECORD IN JACK 1-4:** Applies signals to corresponding tracks on the cassette.
- REMOTE FOOTSWITCH:** Accepts Fostex 8050 Remote Footswitch for hands-free punching in and out (also accepts SPDT footswitches).



BLOCK DIAGRAM



SPECIFICATIONS

MIC/LINE INPUT (x4)	
Mic impedance	10 K Ω or less
Input impedance	50 K Ω
Nominal input level	Mic: -60 dB (1 mV) Line: -10 dBV (0.3 V)
4 CHAN REC IN (x4)	
Input impedance	20 K Ω
Nominal input level	-10 dBV (0.3 V)
AUX IN (x2)	
Input impedance	20 K Ω
Nominal input level	-10 dBV (0.3 V)
AUX SEND/ MON MIX OUT	
Output load impedance	10 K Ω or more
Nominal output level	-10 dBV (0.3 V)
DIRECT OUT (x4)	
Output load impedance	10 K Ω or more
Nominal output level	-10 dBV (0.3 V)
TAPE CUE OUT (x4)	
Output load impedance	10 K Ω or more
Nominal output level	-10 dBV (0.3 V)
HEADPHONE OUTPUT (stereo)	
Load impedance	8 Ω or more (4 Ω minimum)
Maximum output	100mW at 8 Ω
EQUALIZER	
4 kHz	Variable \pm 12 dB, peaking
100 Hz	Variable \pm 12 dB, shelving
RECORDING TAPE	Standard cassette. C-60 or C-90, high bias type (TDK SA, MAXELL XL-II or equivalent)
RECORD TRACKS	4 track simultaneous, one direction (Special format)
RECORD CHANNELS	4 simultaneous, with Dolby** NR Type C in encode mode throughout (encode/decode switchable)
REPRODUCE CHANNELS	4 simultaneous with Dolby** NR Type C in decode mode throughout (encode/decode switchable)
TAPE SPEED	3 $\frac{3}{4}$ ips (9.5 cm/s) \pm 1%
PITCH CONTROL	\pm 10%
RECORDING TIME	22 min. for C-90, 15 min. for C-60
HEADS	4 track record/reproduce (Permalloy)
MOTORS	4 track erase (ferrite) One FG servo-controlled DC capstan motor and one DC reel motor.
FAST WIND TIME	80 seconds typ. for C-60
FREQUENCY RESPONSE	
Mixer section	20 Hz - 20 kHz \pm 1 dB
Recorder section	20 Hz - 18 kHz (40 Hz - 14 kHz + 2 dB, - 3 dB at 0 VU)
THD	
Mixer section	Better than 0.05% at 1 kHz nominal level
Recorder section	1.5% at 315 Hz, 0 VU level (overall)
SIGNAL-TO-NOISE RATIO	
Mixer section	Overall 75 dB wtd.
Recorder section	71dB wtd.
CROSSTALK	
Mixer section	65 dB at 1 kHz
Recorder section	50 dB at 1 kHz
ERASURE	70 dB at 1 kHz
POWER	
REQUIREMENTS	120 V AC, 60 Hz, 35 W
DIMENSIONS	3 $\frac{1}{4}$ " H x 17" W x 14" D 80 mm H x 430 mm W x 355 mm D
WEIGHT	Net 19 lbs (8.5 Kg)

OPTIONAL ACCESSORIES

8050	Punch-In/Out Footswitch
9070	Flight Case
9900	Fader Link
1030	Mic Input Transformer

* Dolby is a registered trademark of Dolby Laboratories, Inc.
Specifications may change without notice.
Test tapes and service manual available from factory.

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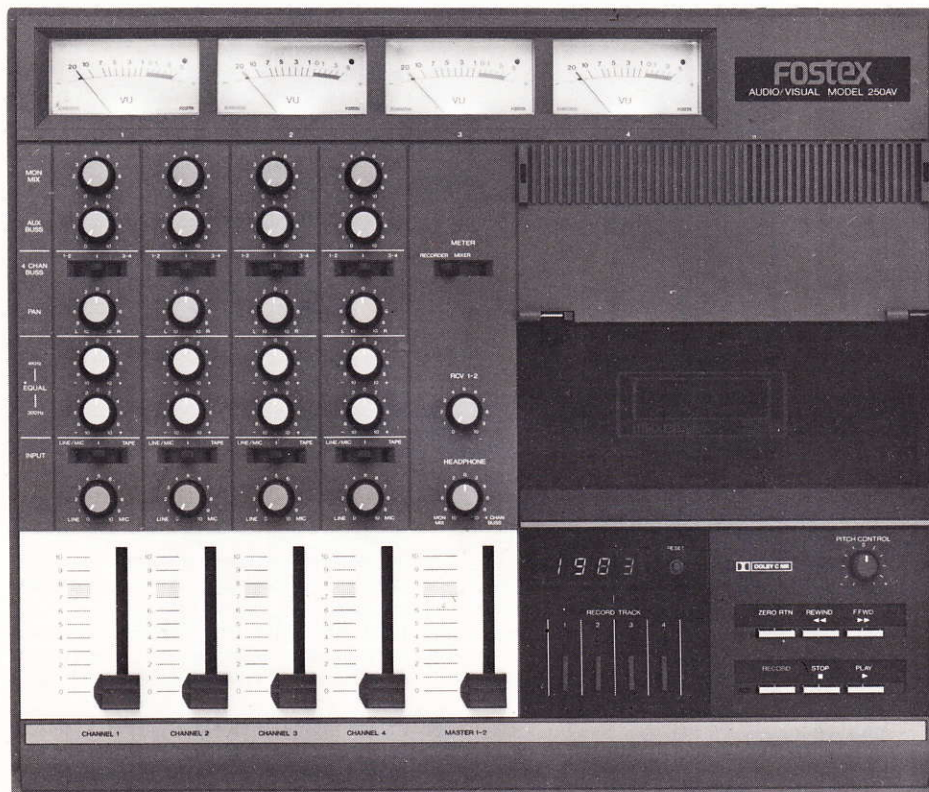
Fostex Corporation
512 Miyazawacho, Akishima, Tokyo, Japan
Tel: 0425-45-6111 Telex: 2842-203

Fostex Corporation of America
15431 Blackburn Avenue, Norwalk, CA 90650
213/921-1112 Telex: FCA/674918 FOSTEX NRWK

250AV

Four-Track Production/ Presentation Deck

Fostex[®]
PERSONAL MULTITRACK



DESIGN CONSIDERATIONS.

A real-world production tool. Ready for scratch tracks, demos or impromptu client meetings. Now you can have full control of your audio production — announcer, music, effects and cues — as well as your final presentations.

That's the 250AV. Designed specifically for audio-visual applications, it performs a double duty for just about all your multi-image needs.

The 250AV is a self-contained multitrack cassette recorder and mixer. You get four tracks with full sync capabilities (record any or all of the tracks simultaneously). Built-in 4x4 mixer with separate monitor buss. And Dolby C* noise reduction for quieter tapes and better musical fidelity.

Tape runs at standard 1 7/8 ips. And the track format is fully compatible with the standard commercial half-track format as well as consumer quarter-track. That means your existing mono-plus-cue tapes, demo

and voice tapes can all be played back on the 250AV. And the tapes you make on the 250AV (tracks 1 and 2) can be played on car, portable and hi-fi cassette players. Compatibility gives you flexibility.

THE 250AV DURING PRODUCTION.

While every producer's habits and techniques differ, here's a typical example of the 250AV in action.

For pure audio production, you can use the 250AV's four tracks and mixer during live recording sessions. Build a 4-track master, then mix it down to stereo (with the 250AV's mixer) on any standard cassette deck. Put this stereo tape back into the 250AV and add narrator and pulse tracks. Make a copy for safe keeping (and inevitable client changes) and you've got a ready-to-run presentation master.

Another idea is to build a multitrack master on the 250AV. Announcer on track 1. Stereo back-

ground music on tracks 2 and 3. Effects on track 4. Mix to stereo on another cassette deck, place the result back in the 250AV, and pulse the show.

The 250AV's monitor output is 1 Volt, enough to drive any standard programmer. And since interchannel crosstalk is low, you don't have to sacrifice a track as a guard band. You could, for example, mix effects and background music on tracks 1 and 2, and use track 3 for the announcer. This flexibility lets you vary the levels of the background music/effects and announcer independently. Alternately, you might have background music on tracks 1 and 2 and special effects on track 3 for independent control. The bottom line is that the 250AV is flexible and functional enough to leave it up to you.

PRESENTATION CONTROL.

At presentations, the 250AV is a delight. Compact. Lightweight. Very portable. And very functional.

You can connect external microphones (lecturn, audience, live announcer, etc.) directly to the 250AV for both level and tone control. The 250AV's equalizers are especially handy when you have to compensate for room acoustics and audience size.

You can control live audio, external source material, pre-recorded tapes and, of course, your show program tape all with the 250AV.

Back in your studio, the 250AV is great for client meetings and presentations. Record four recommended announcers in parallel and provide immediate A/B comparisons. Do the same with special audio effects, scratch tracks, pieces of canned music, sample tunes, whatever you want to sell to a client.

Plug in a pair of self-powered 6301 Personal Monitors (5 1/4" speaker with built-in 10-watt amplifier), and you've got a very easy to use, quick to set up, super portable, natural sounding audio system. There are flight cases for the 250AV and 6301s (holds a pair) that make travel a pleasure.