TEAC®

4-channel Simul-Sync Stereo Tape Deck with Overdub

A-3340



Meet the creator!



Meeting the creator — TEAC's A-3340 4-Channel Simul-Sync Tape Deck — is like meeting your own imagination at its very wildest.

The A-3340 is synchronized overdubbing. It's subtle mixing and blending of diverse instruments, voices and effects into a complex electronic counterpoint. It's rotating 4-Channel echo that puts you in the center of an engulfing sound spiral. It's whatever you want your music to be. Owning a TEAC A-3340 is like having a recording studio right in your own home. It gives you four separate channels in one direction on which signals from eight different sources may be recorded simultaneously. Independent microphone and line inputs and outputs, each with their own level controls, provide virtually unlimited blending and mixing options. The sonic effects at your command are endless, limited only by your imagination.

In the beginning . . .

there was sound on sound.

A great novelty for the amateur or semi-pro recordist, sound on sound was the first step into a whole new realm of creative expression through tape recording.

Unfortunately, the record and playback heads on a conventional 4-track "sound on sound" recorder are physically separated, which results in a time lag between the signal being recorded on the second track and a previously recorded signal being monitored off the first track. This condition makes it virtually impossible to synchronize the two tracks without laying the first track on top of the second while it's being recorded.

Therefore, the inherent limitations of this technique often produced results that were unsatisfactory for professionals who required multiple overdubbing capabilities. Limitations like monaural playback only, difficulty in balancing levels between various tracks and potentially high noise and tape hiss levels. Since sound on sound requires laying one track on top of another, each recording takes the final product one generation further away from the original — increasing noise levels with each track laid down.

Those who wanted master quality recordings either had to rent studio equipment (at studio prices) or do without.

Until Simul-Sync. And TEAC's A-3340.

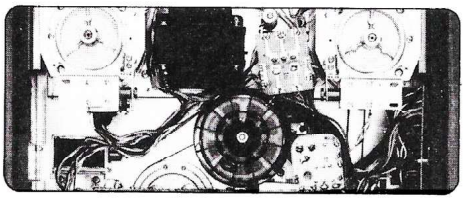
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Conventional 4 channel uses

In addition to Simul-Sync, all the conventional methods of recording are yours with the A-3340; monophonic, stereophonic or quadriphonic recording is readily accomplished. The increasing popularity of discrete four channel material provides an added incentive to use the A-3340. 4 channel material may be recorded directly from the source. In addition 4 channel matrixed material may be transcribed into this discrete format to simplify future playback.

Three motor quality

A 4/8 pole dual speed hysteresis synchronous motor driving a heavy balanced flywheel provides capstan drive. Synchronization of this motor assures stable and constant tape run, uninfluenced by line voltage fluctuations or other external factors.



Two eddy-current induction reel motors specifically designed for large reel operation, provide optimum tape tension for reduced head wear and precise tape head contact. Reel motors employ sintered oilite lifetime bushings (no lubrication required) for long trouble-free life. The "human-engineered" control mechanism allows fast wind in either direction without tape stretch or breakage.

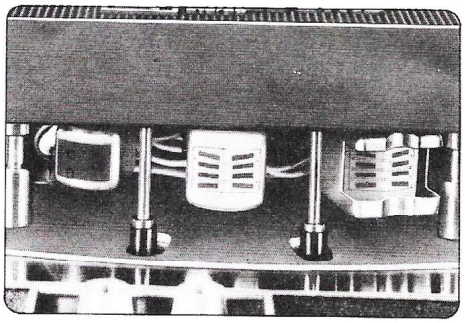
Dual bias level switch (conventional & high performance tapes)

The recent appearance on the market of superior recording tapes has placed new demands on the tape deck. The use of these vastly improved tapes calls for a higher recording bias level as well as a higher recording signal level. The new TEAC A-3340 incorporates a front panel bias switch to select the proper bias level for either the new low noise/high output tapes, or for conventional tapes. This results in a reduction of background noise and hiss to a level below audibility, a greatly improved signal-to-noise ratio, and a new clarity and brilliance of tone.

Symmetrical, one-hand control system

Feather-touch control buttons select the tape direction at the touch of a finger. The FAST-PAUSE-PLAY control lever offers versatility of operation. Placing the deck in the record mode with lever at PAUSE provides a "quick-start" function free of tape acceleration sounds or tape "bounce", thus giving you precise control for editing, elimination of commercials when recording from an FM tuner, or preparing your performers. All controls are solenoid operated for smooth, positive action.

Hyperbolic heads



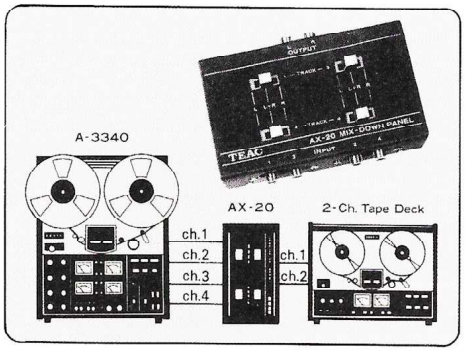
Head shape and positioning are critical design factors in any tape recorder. The TEAC hyperbolic shape assures minimum tape head contact for increased head life and minimum tape wear and friction. Precision, narrow gap design provides the highest possible frequency response and an impressive signal-to-noise ratio. The heads are permalloy shielded for maximum channel separation and protection from leakage flux fields. All heads are mounted on a rigid base plate to insure alignment even after periods of extended use.

The A-3340 is the most advanced 4 channel tape deck available today.

2/4 channel mode switch

A slide switch disables the rear amplifiers for playback of conventional stereophonic tapes. Individual record mode switches permit monophonic recording in any desired track sequence, with or without Simul-Sync.

Mixing-down



The AX-20 converts 4-channel recordings into 2-channel stereo masters. You can mix Left-1 and Left-3 to a single left channel stereo signal while you blend Right-2 and Right-4 to a single right channel stereo signal. Or you can mix Left-1 with Right-2 and Left-3 with Right-4. Or assign desired tracks to the mid-position. Or many other mixdown actions with this hand-sized studio console.

Unique 4 channel monitor function

A simple slide switch permits you to monitor the front two channels, the rear two channels or the combined output of all four channels. In addition a TAPE/SOURCE monitor switch for each track permits instant signal comparison between tape and source signals. These switches also determine the signal to be displayed on the individual VU meters.

Mic/line mixing

Signals from 8 sources (4 line and 4 microphone inputs) may be recorded simultaneously. Independent mic and line preamplifiers each with its own level control, provide maximum flexibility for live recording sessions. Each signal may be monitored and recorded at the optimum level. Playback volume of each track can be varied and transferred to a second deck to provide the exact desired audio balance.

DC coupled equalization network

A newly designed equalization network, automatically coupled to the speed selected has been built into the playback preamplifier of the A-3340. Consisting of a three-stage direct coupled NF type network, it insures a fuller, richer sound,

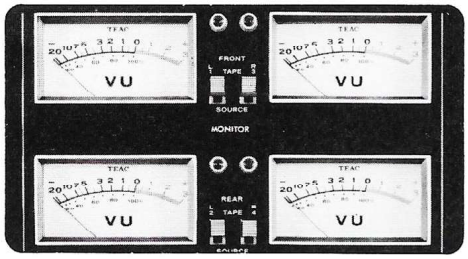
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and complements the low noise/high output tape features.

Independent record and playback amplifiers

Eight independent preamplifiers are utilized for maximum fidelity, complete channel separation. The preamplifiers of the new A-3340 are designed to take full advantage of the low noise/high output recording concept. Especially selected low noise silicon transistors are used throughout.
Conservatively rated, the preamplifiers offer sufficient reserve power to handle amplitude peaks without clipping or limiting. Expanded dynamic range offers full, rich sound without coloration or distortion.

Expanded scale, wide excursion professional VU meters



Individual channel professional type VU meters add to the ease of operation of the new A-3340. The wide excursion dials allow recording at higher signal levels when using the new tapes, thus assuring a better signal-to-noise ratio. Attractively styled, easy to read, and back lighted for maximum visibility, the professional VU meters lend accuracy and precision to the recording process.

Ideal tape path with oil damped tension arm

The carefully designed tape path is engineered for optimum smooth, friction-free tape travel. In combination with the unique TEAC oil damped tension arm, it eliminates starting wow or tape bounce and reduces wow and flutter to negligible levels. The carefully designed placement of tape guides insures against high frequency dropout and minimizes tape wear. This well engineered tape path configuration allows operation with minimum tape tension to protect the more delicate (½ mil) tapes. Capstan diameter has been reduced to optimum size for minimum contact and positive tape handling.

"Quik-Lok" reel holders

A unique "Quik-Lok" reel holding device locks the reel into place with the twist of a finger. No more easily lost rubber caps. Simply place the reel on the turntable, twist the center post to the right and the reel is secured. The A-3340 is supplied with adaptors to allow use of the large center NAB 10½ inch reels.

Automatic tape lifter & manual cueing

Automatic tape lifters retract tape from head surfaces during fast forward or rewind to lengthen head life and to protect tape and amplifiers. This also reduces the annoying chatter during the fast modes of operation.
Merely lifting upward on the pinch roller provides a manual cueing facility for precision editing, dubbing, etc.

Braking mechanism

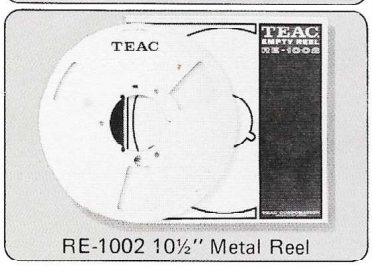
Excellent brake control is maintained by the employment of newly developed brake drums and brake shoes. Because each brake is directly lined to the reel turntable, positive braking action from any tape mode is accomplished.

Reel size selector button

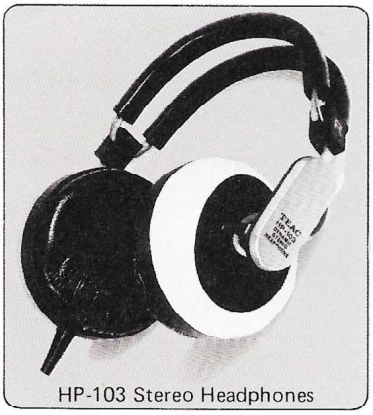
Automatically adjusts motor torque and holdback tension for the size reel used.

Automatic shut off mechanism

OPTIONAL ADD-ONS



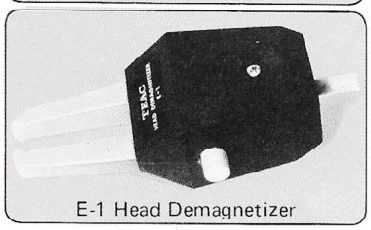
RE-1002 10½" Metal Reel



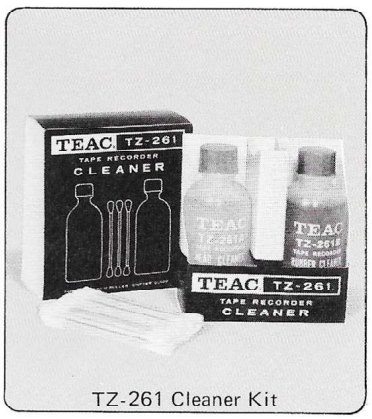
HP-103 Stereo Headphones



E-2 Bulk Eraser



E-1 Head Demagnetizer



TZ-261 Cleaner Kit

SPECIFICATIONS

Heads	Three, 4 track 4/2 channel stereo or mono, (with SIMUL-SYNC switch), erase, record and playback
Reel size	10½" and 7"
Tape speed	15 ips and 7½ ips (±0.5%)
Motors	1 dual speed hysteresis synchronous capstan motor, 2 eddy current induction reel motors
Wow and flutter	0.04% at 15 ips, 0.06% at 7½ ips
Frequency response	25 – 24,000Hz (±3dB, 30 – 20,000Hz) at 15 ips 25 – 22,000Hz (±3dB, 30 – 18,000Hz) at 7½ ips
Signal to noise ratio	55dB
Harmonic distortion	1% at 1,000Hz normal operating level
Stereo channel separation	50dB at 1,000Hz
Fast winding time	90 seconds for 1,200 feet

Inputs	Line: 0.1V, 50,000 ohms or more Microphone: 0.25mV/–72dB (600 – 10,000 ohms)
Outputs	Line: 0.3V for load impedance of 10,000 ohms or more, Headphones: 8 ohms
Power requirements	100/117/200/220/240 V AC, 50/60Hz, 150W
Dimensions	20½"(H) x 17⅝"(W) x 8¾"(D) [520(H)x 440(W) x 220(D)mm]
Weight	50 lbs, [22.5 kg] net
Standard accessories	Empty reel (10½"), Reel adaptor, Input-output connection cord, Oil, Fuse, Cleaning stick, Silicone cloth, Rubber feet, AC power cord, Reel height adjusting sheet

Specifications were determined using low noise tape.
Features and specifications subject to change without notice.

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SIMUL-SYNC introduces new dimensions to tape recording!!

A head of its time

TEAC engineers developed a 4-channel record head that could also be used for monitoring. Each track of the Simul-Sync record head can be electronically switched to permit monitoring the first track of material as the second is being recorded, permitting you to hear both tracks simultaneously in perfect sync. And since the A-3340 is a 4-channel deck (all four tracks running in the same direction), you can lay down four individual tracks – all first generation – at the exact recording levels you desire. This material may be mixed and subtly blended together at a later date until the desired end result is achieved. Up to seven individual instruments and voices can be recorded at different times without any track being used beyond second generation – which means signal to noise ratio par excellence.

Special effects tapes

Now is a period in which electronically reinforced music is playing a fundamental role. With the TEAC A-3340, you can be an integral part of this fascinating creative scene. In essence you may custom tailor or modify your arrangements to taste after recording. You may emphasize or minimize any portion of each track and the resultant sound mix may then be transferred to another master tape in any desired recording format.

Split recording sessions or stage rehearsals

Suppose you wish to make a recording, but your star is unable to appear at the proper time: you may record the entire session on as many tracks as desired, saving one track for the star. Vocal accompaniment may be added at any time, perfectly synchronized to the remaining tracks. No more lost sessions due to scheduling difficulties.

Musical orchestration

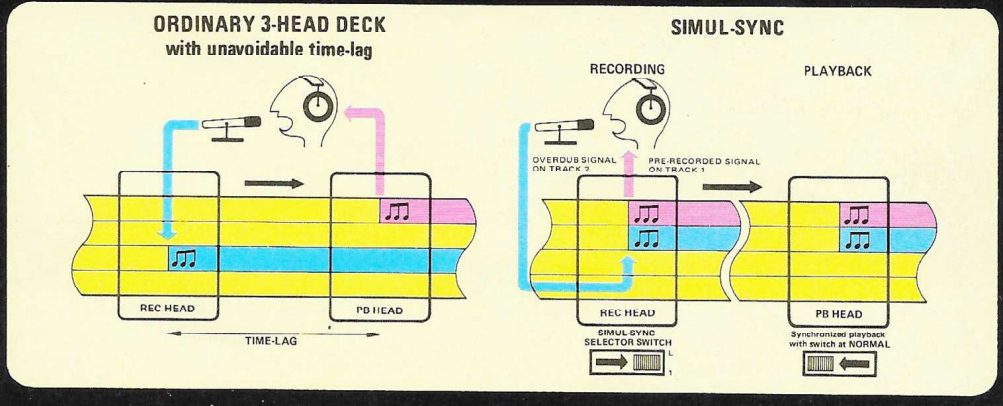
Arrangements may be proofed before being finalized. A composer or arranger may record several different arrangements, each on a separate track, play them back singly or in concert to get the actual feel or sound of the arrangement or composition. Once again, the applications are limited only by your imagination.

Individual duets, trios or quartets

Record yourself performing in 2, 3 or 4 part harmony. Each part will be on a separate track, and you can include your accompaniment with the Mic/Line mixing in the A-3340. Thanks to Simul-Sync, all tracks will be perfectly synchronized.

Creative echo-effects

Use the optional accessory AX-10 Sound-on-Sound & Echo Unit both to simplify your overdubbing and for the interesting added dimension of echo. Imaginative echo effects might include the quad-echo, rotating echo, stereo cross-echo or backwards echo. The last is a real challenge involving the music played from end to beginning with echo which gives you a fade-in echo then a quick break on each note during playback.





A-2340R
4-channel Simul-Trak Stereo Tape Deck with 2-channel Auto-Reverse playback. 7" reel and 7½/3¾ips tape speed.

AN-300
World's first 4-channel Dolby-B Noise Reduction unit that reduces tape noise and hiss to inaudibility.

AX-300
Multi-channel Audio Mixer for use with up to 6 professional microphones including many flexible functions.

MC-201
Electret Condenser Microphone for exciting, high quality live-recording.

AX-20
Mix-down Panel that converts 4-channel recording into 2-channel stereo masters.

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