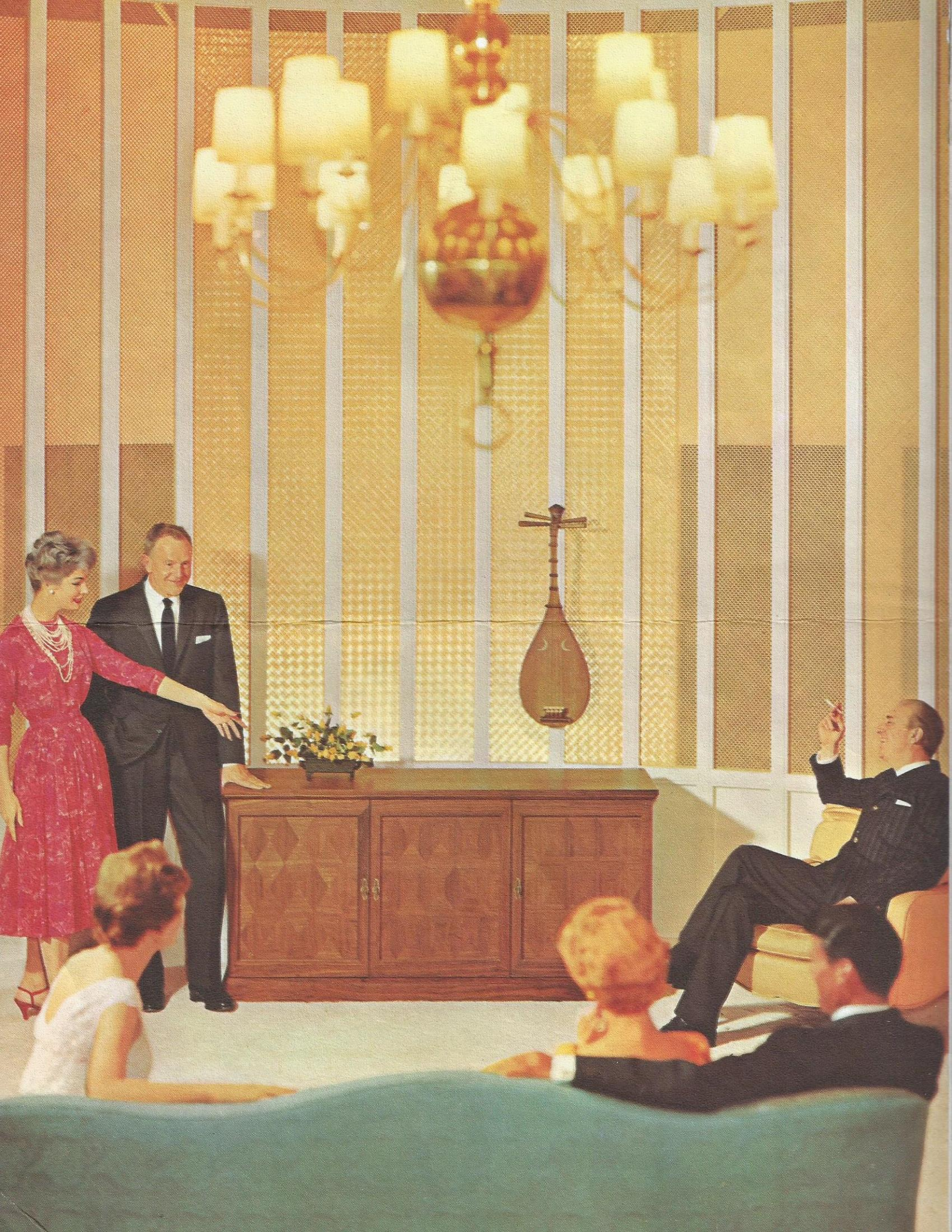


# AMPEX STEREO



*Signature*

HOME MUSIC SYSTEM



# Signature

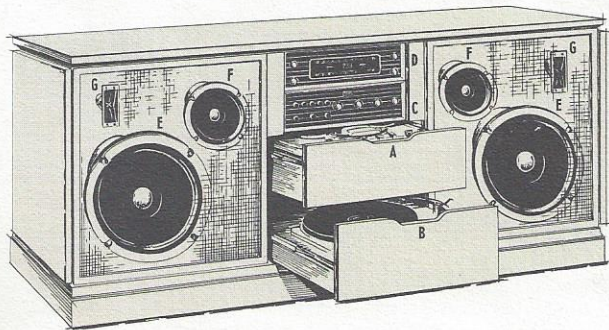
## STANDARD OF ACOUSTIC AND ARTISTIC PERFECTION

There is more than meets the eye — and the ear — behind the beautifully inlaid walnut parquetry of the Ampex Signature's doors. The Signature is the highest musical manifestation of a superb range of resources — the same engineering skills that created Ampex Videotape\* recording for capturing sight and sound on magnetic tape, the talents that designed the equipment on which the original sound for every quality disc is recorded, and the advanced techniques which have made Ampex the acknowledged leader in magnetic recording instrumentation for the age of space.

Reflecting all these things, and drawing upon Ampex's unchallenged experience as a pioneer in stereo, the engineers and designers who created the Signature brought forth an instrument of great beauty, with no acoustic or artistic equal the world over.

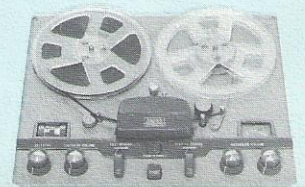
Among the Signature's many musical talents is the ability to reproduce stereo from all its primary sources: from either 2-track or 4-track pre-recorded tapes, from stereo discs, from stereo radio broadcasts, and from stereo tapes recorded from stereo discs and stereo radio.

**THE SIGNATURE CONTAINS:** A—professional quality Ampex stereo tape recorder/reproducer, B—precision 4-speed recorder changer (or professional turntable and tone arm optional at slight additional cost) with stereo/monophonic diamond-stylus pickup, C—push-button audio control center, D—Ampex 2-channel AM & FM stereo radio tuner; two matched Ampex amplifier-speaker systems consisting of E—two 15-inch bass sound projectors, F—two 8-inch mid-range sound projectors, G—two high frequency tweeter horns, two cross-over networks, and two 30-watt amplifiers delivering a total peak power output of 120 watts.



AT YOUR FINGERTIPS — INCOMPARABLE STEREO FROM ALL OF ITS PRIMARY SOURCES

- FROM RECORDED STEREO TAPES



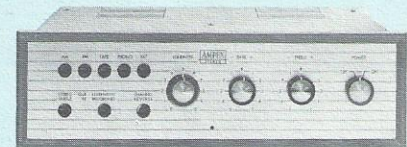
- FROM STEREO RADIO



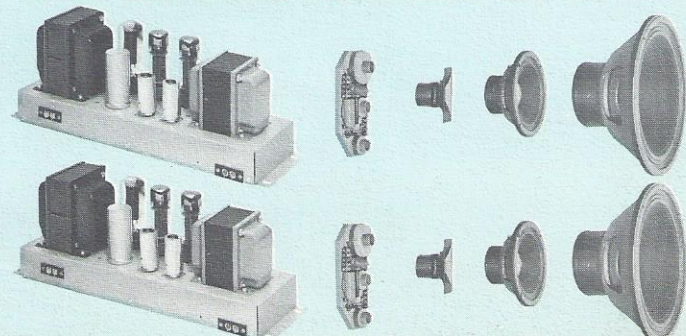
- FROM A STEREO TURNTABLE OR CHANGER



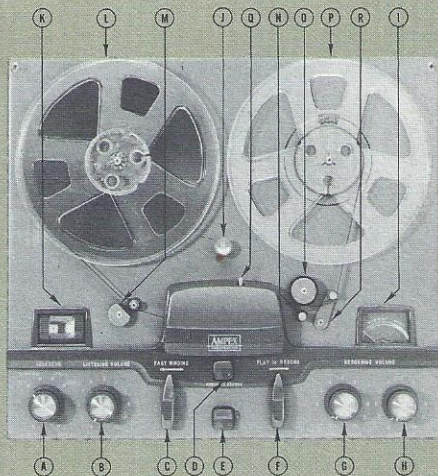
- SUPERBLY REPRODUCED THROUGH THE AMPEX AUDIO CONTROL CENTER



- TRANSFORMED INTO A BRILLIANT SONIC PANORAMA BY THE SIGNATURE'S 6 SOUND PROJECTORS AND MATCHED 30-WATT AMPLIFIERS (TOTAL PEAK POWER 120 WATTS)



## AMPEX UNIVERSAL STEREO TAPE RECORDER/REPRODUCER



Identifying letters of photo at left indicate the following: (Items A, B, G & H are dual concentric controls (dual function for left, right channels).)

A—Power switch; record function selector; playback function selector B—Volume controls for playback C—Fast-forward, fast-reverse D—Push-button to start recording E—Push-button to stop recording or playback F—Locks machine in either record or playback G—Adjusts recording volume, recording from external inputs H—Adjusts recording volume, recording "live" from microphones I—Visual indicator for recording volume level J—Tape speed selector (UP for 7½, DOWN for 3¾ ips) K—Tape position indicator L—Supply reel M—Tape holdback N—Capstan O—Idler P—Take-up reel Q—Head shift lever (UP for 4-track, DOWN for 2-track) R—Automatic stop

The Ampex Universal stereo recorder/reproducer is an instrument of full professional quality, capable of essentially distortionless frequency response from 30 to 20,000 cps at an operating speed of 7½ ips, and 30 to 15,000 cps at 3¾ ips. Its precision-engineered timing accuracy is such that it offers perfection of pitch held to tolerances less than 1/3 of a half-tone. Playing times as follows:

Reel Size	2-Track Stereo Tapes	4-Track Stereo Tapes	Monophonic 1/2-Track Tapes
1200'	3¾ ips 1 hr 4 min	3¾ ips 2 hrs 8 min	3¾ ips 2 hrs 8 min
	7½ ips 32 min	7½ ips 1 hr 4 min	7½ ips 1 hr 4 min
1800'	3¾ ips 1 hr 36 min	3¾ ips 3 hrs 12 min	3¾ ips 3 hrs 12 min
	7½ ips 48 min	7½ ips 1 hr 36 min	7½ ips 1 hr 36 min
2400'	3¾ ips 2 hrs 8 min	3¾ ips 4 hrs 16 min	3¾ ips 4 hrs 16 min
	7½ ips 1 hr 4 min	7½ ips 2 hrs 8 min	7½ ips 2 hrs 8 min

The Ampex Audio Control Center enables you to instantly select any desired source of sound, external or internal, for stereophonic or monophonic reproduction. Pushbutton-controlled inputs permit selection of music from tape, records, FM-AM tuner, or other internal or external source. Separate controls are provided for bass and treble response, permitting individual adjustments as desired by the listener, with a variable boost or cut of approx. 15 db. Two loudness controls—one for each channel—are mounted on concentric shafts and friction-coupled to permit setting and maintaining uniform balance of audio levels. These controls provide bass compensation for maximum listening pleasure at all levels of volume.

The audio control center utilizes a self-contained transformer power supply, with metallic rectifiers to minimize heat and extend life of components. Pre-amplifier tube

heaters are DC-powered to insure lowest hum and noise characteristics. Four dual purpose low noise tubes are used, performing eight separate tube functions. Two dual purpose 12AX7's are feedback-equalized to RIAA phonograph input (magnetic cartridge). A 12AX7 dual purpose tube serves as a tone control amplifier and incorporates inverse feedback to provide low-distortion tone control action. Two separate cathode follower outputs are provided by the 12AU7 utilized in this unit. The latest type of tone control contour is used, designed with constant slope and variable turnover point. The advantages of this type of control are particularly apparent when used in conjunction with wide-range, distortion-free amplifiers and sound projectors such as those used in Ampex products. Over-all frequency response (tone controls flat) 20 to 20,000 cps ±2 db. Total distortion less than 0.1 of 1%.

REWIND TIME: Less than 90 seconds for 1200' reel

RECORD INPUTS: High impedance line inputs (radio/TV/phone/auxiliary approx. 0.15V rms for program level; high impedance microphone inputs

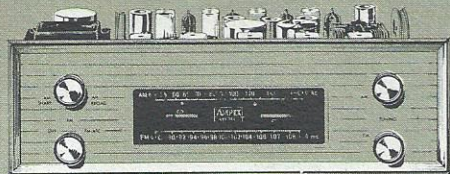
PLAYBACK OUTPUTS: Approximately .75V rms from cathode follower when using the Ampex standard alignment tape

PLAYBACK FREQUENCY RESPONSE: 30-20,000 cps at 7½ ips; 30-15,000 cps at 3¾ ips; within ±2 db 50-10,000 cps at 3¾ ips, 50 db dynamic range; within ±2 db 50-15,000 cps at 7½ ips, 55 db dynamic range

FLUTTER AND WOW: Under 0.2% rms at 7½ ips, 55 db dynamic range

HEADS: Separate stacked heads for record, playback and erase. Special 2-channel playback head has built-in positive shift control accommodating either 4-track or 2-track tapes. Heads are manufactured to the same standards of precision that exist in Ampex broadcast and recording studio equipment. Surfaces are lapped to an optical flatness so precise that they reflect specified wavelengths of light, resulting in uniform performance characteristics and greatly minimizing the effects of head wear. Stereo head gap alignment: the azimuth alignment of one head gap in the stack with respect to the other is held within 20 seconds of arc, equivalent to less than 10 millionths of an inch—a degree of precision achieved through use of a unique process involving micro-accurate optical measurements within a controlled environment. Head gap length: 90 millionths of an inch.

## FM AND AM STEREO RADIO TUNER



The function of the amplifier is to accept input signals from any source, and without introducing any alteration in the form of the signals, amplify them linearly to whatever level is desired. To accomplish this, the Ampex amplifiers provide operating characteristics (unequalized) flat within ±0.1 db throughout the maximum range of human hearing ability, at rated output. Total harmonic distortion is less than 0.5% at rated output.

The Signature's amplifiers are rated at 30 watts each, and working together deliver an effective 60 watts of audio power (120 watts peak). Noise and hum are 80 db below rated output, and input sensitivity is 0.35V for developing rated power. Output stages utilize push-pull EL34 pentode tubes of premium quality, made especially for high-fidelity use.

The sound projection system, to present to the ear a

completely accurate, undistorted re-creation of the original sound, consists of speakers, crossovers and enclosures which are electrically and acoustically integrated, and performance-checked in comparison with standards developed in the Ampex anechoic chamber. Because each part of the system is engineered with attention to its function within the system as well as to its individual operation, the result is coverage of a far greater portion of the audio spectrum with lower distortion and greater smoothness than ever before attainable at any power level. Optimum crossover is effected through the use of multiple L/C networks.

The independent, precisely balanced channels of the Ampex stereo tuner offer unusually good selectivity and sensitivity. In measurements made in accordance with IRE standards, quieting sensitivity is 5 microvolts for 30 db of quieting (measured at 300Ω antenna terminals). Maximum sensitivity is 0.95 microvolts for 0.1V into a 1 megohm load. In performance tests made by an independent laboratory, the tuner's oscillator radiation was extremely low—only a small fraction of that permitted by FCC regulations. All RF, IF and AF sections are shock-mounted to reduce

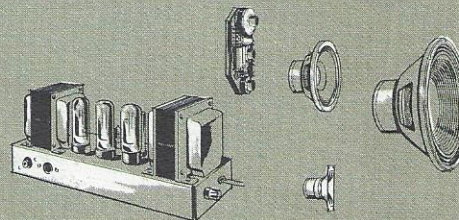
## AUDIO CONTROL CENTER



possibility of microphonics.

FM operation is drift-free, and the tuner incorporates full electronic AFC (automatic frequency control) in the circuit, easily switched on or off from the front panel. The FM tuner uses a 3-gang tuning capacitor with a stage of tuned RF. AM circuitry includes broad and sharp selectivity positions, 3-gang tuning capacitor with stage of tuned RF, and incorporates a bridged-T, inductance-tuned, 10 kc whistle filter for sharp and effective elimination of heterodynes. Tube complement includes 11 single purpose and 6 multi-purpose tubes, for an effective complement of 23 tube functions. Engineering features include accurate visual tuning indicators for achieving properly balanced tuning, built-in antennas for console operation, and convenient, simple controls and flywheel tuning mechanisms. The Ampex stereo tuner also features provision for adapting to FM multiplex stereo reception. Frequency response: FM—20-20,000 cps; AM—20-8,500 cps. Total distortion less than 1/2 of 1%.

## AMPLIFIER-SPEAKER SYSTEM



This outstanding record changer, made for Ampex by one of the world's most experienced manufacturers, incorporates a high-quality pickup for reproducing stereo and monophonic discs interchangeably. Features include a powerful constant-speed 4-pole motor, extra quiet turntable, automatic shut-off, and swivel-mounted tone arm.

## 4-SPEED RECORD PLAYER



DIMENSIONS: AMPLEX SIGNATURE—64"x20"x33" HIGH

Ampex stereo tape recorders are also available in portable and uncased models.



AMPLEX AUDIO, INC. • SUNNYVALE • CALIFORNIA

LIT. #9001