

# • AMPEX STEREO



*Crescendo*

HOME MUSIC SYSTEMS

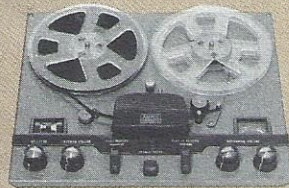


# Crescendo!

## CROWNING ACHIEVEMENT IN THE

- SUPERB STEREOPHONIC SOUND FROM ALL ITS THREE PRIMARY SOURCES

- FROM RECORDED TAPES

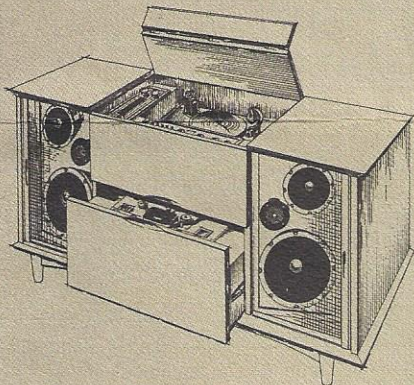
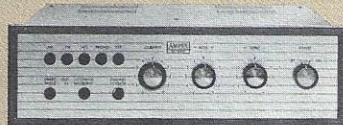


- FROM STEREO DISCS



- FROM AM & FM STEREO RADIO

- RE-CREATED IN ALL ITS ORIGINAL BEAUTY THROUGH THE AMPEX AUDIO CONTROL CENTER



- IN EVERY CRESCENDO: Professional quality Ampex stereo tape recorder/reproducer, precision 4-speed record changer with stereo/monophonic diamond-stylus pickup, push-button audio control center, Ampex 2-channel FM & AM stereo tuner, and two matched Ampex amplifier/speaker systems with a total peak power of 60 watts delivered through 6 high-efficiency sound projectors (2 twelve-inch bass, 2 eight-inch mid-range, and 2 tweeter horns).

The Ampex Crescendo was created for the true lover of music. Unlike many of today's finest products, it is made not "for the man who has everything", but rather for the person who has, above all, an appreciation of the beauty of music.

For musical sensitivity is a gift; it is not related to economic status. Because of this, you will find the Ampex Crescendo in every type of home — modest as well as imposing. The common denominator among those who choose Ampex is a discriminating ear for fine music, and the knowledge that, with the discovery of the Crescendo, their search for the finest has ended.

If you are profoundly moved by music, then . . . the Crescendo is for you. If the beauty of an aria sung by Bidu Sayão brings tears to your eyes, if the "Doll's Song" from the *Tales of Hoffmann* sends a thrill along your spine, there should be an Ampex in your home. If music is a part of your being, if it gives you relaxation, entertainment, or an occasional means of putting aside your workaday cares, your life can surely be enriched through the music magic of an Ampex Crescendo.

In judging the Crescendo, assess it with all your senses. When your ears and mind have discovered its perfection of sound, judge it for the beauty it offers your eyes. Evaluate it, too, for its qualities of precision engineering, its operational capabilities and ease of control.

Each of the four Crescendo models is equipped as a complete system, to bring you matchless stereo from all of its three primary sources — from pre-recorded stereo tapes, from stereo discs, and from stereo radio broadcasts. And with the professional-quality magnetic tape recorder/reproducer housed in the Crescendo's convenient pull-out drawer, you can record your own permanent stereo library from stereo discs, stereo broadcasts, or from the output of another stereo tape recorder.



# REPRODUCTION OF RECORDED MUSIC

The Ampex Model 7107 Crescendo brings you visual beauty, as well as audio magic, styled in Contemporary Teakwood, hand-rubbed to a velvety softness. Sliding tambour doors. Also available in Contemporary Walnut, Model 7103. (See cover)



The Ampex Model 7109 French Provincial Crescendo reflects in its mellow Cherry Fruitwood the ultimate skills of the cabinetmaker — a perfect housing for the skillful engineering and precision components behind its graceful doors.

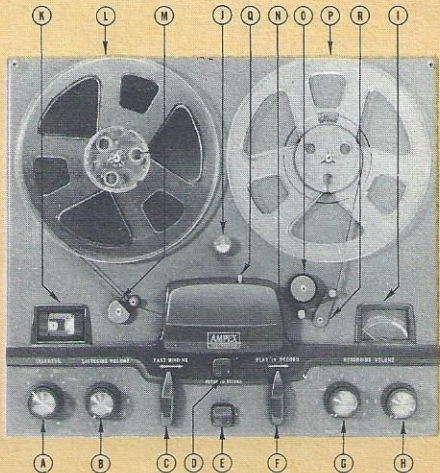


The Ampex Model 7105 Traditional Mahogany Crescendo, hand-crafted from kiln-dried hardwoods, suggests the highest level of artistic as well as musical discrimination on the part of its owner, and is compatible with almost any decor.





### 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 Ampeg 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 ½ of a half-tone. Playing times as follows:

Reel Size	2-Track Stereo Tapes	4-Track Stereo Tapes	Monophonic ½-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

REWIND TIME: Less than 90 seconds for 1200' reel

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

PLAYBACK OUTPUTS: Approximately .75V rms from cathode follower when using the Ampeg 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

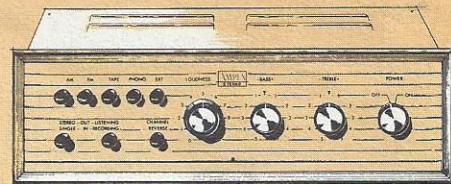
HEADS: Separate stacked heads for record, playback and erase. Special 2-channel playback head has built-in positive shift control accommodating either 4-track or 2-track tapes. Heads are manufactured to the same standards of precision that exist in Ampeg broadcast and recording studio equipment. Surfaces 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.

The Ampeg 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 Ampeg products. Over-all frequency response (tone controls flat) 20 to 20,000 cps ±2 db. Total distortion less than 0.1 of 1%.

### AUDIO CONTROL CENTER



### FM AND AM STEREO RADIO TUNER



One of the most important performance criteria in the reproduction of stereophonic broadcasts is that of balance. The Ampeg stereo AM & FM tuner was designed throughout its circuitry to provide optimum balance between the two parallel channels at all levels of operation. This is not only important for listening enjoyment, but critically important for stereo recording off the air.

The independent, precisely balanced channels of the Ampeg 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

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 Ampeg 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 ½ of 1%.

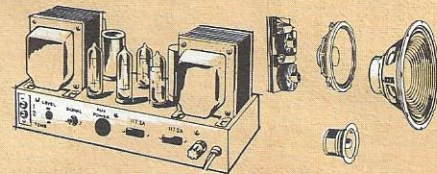
The function of the amplifier is to accept input signals from any source, and without introducing any alteration in the form of the signals, amplify them linearly to whatever level is desired. To accomplish this, the Ampeg amplifiers provide operating characteristics (unequalized) flat within ±0.1 db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

The Crescendo's amplifiers are rated at 15 watts each, and working together deliver an effective 30 watts of audio power (60 watts peak). Noise and hum are 80 db below rated output, and input sensitivity is 0.56V to develop rated power. The output stages use two beam power type 6973 output tubes in push-pull class AB operation. Output circuitry is of the distributed load type, providing ultra-linearity of response.

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 Ampeg 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 Crescendo's complement of sound projectors comprises 6 efficient units covering the full audio spectrum—2 twelve-inch bass projectors, 2 eight-inch mid-range projectors, and 2 omni-directional tweeters.

### CRESCENDO AMPLIFIER-SPEAKER SYSTEM



This outstanding record changer, made for Ampeg 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: AMPEX CRESCENDO—57"x22"x32" HIGH  
 Ampeg stereo tape recorders are also available in portable and uncased models.

