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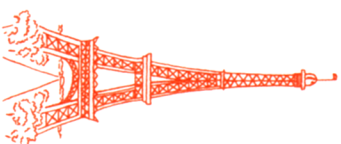
with

AMPEX STEREO



FUN

with



Did you know that magnetic recording is almost as old as the telephone? In fact, one of the sensations of the Paris Exposition of 1900 was a magnetic wire recorder called the Telegraphone. People were fascinated then, as they are today, with its ability to capture and “remember” the words spoken into it.

“But what else is it good for, what else can you do with it?” were logical questions in 1900, and are still being asked today. Because there were few good answers, the magnetic recorder remained little more than a scientific curiosity for nearly half a century. Aside from improvements in recording quality made possible by the replacement of magnetic wire with magnetic tape, little was done to enhance the *usefulness* of recording machines. The average recorder today is little more than an up-graded version of the 1900 Telegraphone. It remained for Ampex engineers to discover and develop the many dormant capabilities and hidden talents of the tape recorder, and equally important, to build tape machines capable of properly exploiting these discoveries. The success of the Ampex engineering efforts is much apparent today, in

Relax and enjoy the show—let your Ampex do the narration! When you put the commentary on tape, complete with music if desired, your color slide shows are more professional, more complete, and more fun!

AMPEX STEREO

the amazing Ampex Videotape recorder for television, in Ampex rocket-borne recorders that ride across the edges of space, and in Ampex console and portable Home Music Systems that are literally years ahead.

When you operate an Ampex Home Music System, and discover its almost endless repertoire of capabilities, you will see that it is not merely an improved type of tape recorder, but *an entirely new concept* in home entertainment. Like the phonograph, followed by the radio and then by television, the Ampex becomes a part of everyday living, an almost indispensable source of musical, educational and recreational fun.

The fun features of the Ampex stereophonic recorder/reproducer are almost endless, and can be applied in numerous ways to add to the enjoyment of activities in your household. For example, the usually demanding task of keeping up the family correspondence now becomes a delightful experience through sending "letters in sound." Practicing musical instruments and learning new languages becomes an exciting pleasure through the "sound-on-sound" capabilities of the Ampex. And

there's never again any question of how to entertain guests, for the Ampex has many answers for many occasions, including everything from games to stereo dance music to classical concerts.

The benefits of owning an Ampex system are measured not in fun alone, but also in terms of other lasting rewards. Family life, for example, is closer-knit and more harmonious because all the members, from youngest to oldest, get together more often to share in the fun. And, because Ampex is a popular attraction among neighbors and acquaintances, it serves as the nucleus around which a widening number of firm friendships can be established.

The first 9 pages of this booklet will introduce you to a few of the many kinds of fun that are in store for you as the owner of an Ampex Home Music System. Beginning on page 10 you'll find a section describing control settings to be made for recording and playback, and for advanced modes of operation of Ampex equipment. The settings shown for the recorder/reproducer are applicable to any Ampex 900 series stereo recorder, whether within a portable or console system.



MORE FUN with the AMPEX STEREO-GRAPH

Here's the simplest, quickest answer to almost every question about the best way to operate the Ampex stereophonic recorder/reproducer for maximum fun and enjoyment. The Ampex Stereo-Graph shows you, quickly and clearly, the proper dial settings to make for more than a dozen of the most popular uses for the Ampex recorder. It parallels, in a convenient pocket-size graph, most of the information contained on pages 10-15. In addition, it includes a useful playing-time indicator on the reverse side.



FUN

building a Stereo tape library—
from records and off the air

With only a very limited outlay for blank tape, your Ampex system can give you a virtually unlimited stereo tape library, capturing for your pleasure the very best stereo music available from stereo discs or stereo broadcasts. And when you record it on an Ampex, you preserve all the original quality of the source. Unlike a disc recording, it can be played back a dozen or a thousand times without any deterioration in quality.

Many Ampex owners increase the effectiveness of their stereo libraries by combining recordings of both discs and music from other sources on tape. In this manner, they are able to arrange complete musical programs in the exact sequence desired.

In recording stereo broadcasts, you may find it desirable to tape every program you hear, rather than decide too late in the programming that you'd like a particular selection. You can later narrow down and refine your selections by erasing those you decide not to keep—thus freeing additional tapes for recording future programs.

Your favorite LP's and Stereo Discs are at their exciting best while they're new, unscratched and free from noise and distortion. That's when to tape them on your Ampex, and preserve their original quality for keeps!



When you tape it "off the air" your only cost is for blank tape. Yet your musical repertoire can soon equal that of all the stations you hear! Your Ampex, with a suitable tuner, can record monaural, FM-AM stereo, FM-FM stereo, and FM-multiplex stereo.



FUN

recording "live" voice and music from Stereo microphones



There's real meaning in the word "live" when you apply it to stereo recordings taped on an Ampex. The feeling of presence is uncanny; the three-dimensional quality of the sound is something you feel as well as hear.

For example, if you've ever made a monaural recording of a roomful of people in conversation, you know what a tangle of jumbled voices usually results. Yet if the same sounds are captured in stereo, your ears can perform their natural function of being able to single out and follow specific conversations. It's the same with music—in a stereo rendition you can identify and concentrate your hearing on individual voices or instruments.

You'll discover, too, the superiority of a stereo recording even though the sound is coming from a single source, such as a solo instrument. In stereo it is given added realism and depth, and enables the listeners to orient themselves acoustically with respect to the original sound.

There's a real future in family fun like this—with your Ampex you can live such happy moments over and over again, with a quality so lifelike you're almost literally carried back.



When you strike up the band in stereo, you don't need professional musicians to make a professional recording. Advanced techniques—for example, Les Paul's famous sound-on-sound recordings—are amazingly easy on the Ampex.



For professional results in making "live" stereo records, use a matched pair of quality microphones such as those in the Ampex Stereo Microphone Kit. Accessory No. 880.

FUN

with Stereo headphones, for games
and private concerts



Of the many ways to add to the enjoyment of your Ampex through the use of stereo headphones, one of the most fascinating is the "Speech Testing Game." To play, you set up the controls as indicated on page 14, and connect the headphones to the amplifier output. Then ask the unsuspecting contestant to say "Mary had a little lamb" while wearing the headphones. It's virtually an impossibility! The secret is that you've set the controls to alter the normal speech-hearing process by interjecting a time-delay of 1/6 of a second. The result is *guaranteed* to be funny.

Stereo music over headphones is every bit as enjoyable as it is over speakers, with the added benefit of privacy. It's a wonderful way to relax to your favorite music without having to compete with the TV and other background noises. With a proper set of stereo headphones, the volume can be set at any level you choose . . . and you've eliminated the problem of disturbing the rest of the family.

In the Ampex "Speech Testing Game," you pit your wits against the trigger-quick memory of the Ampex recorder/reproducer. You can't win, but it's fun trying!



A command performance, exclusively for you! Whether you prefer jazz, pops, or classical from disc, tuner, or tape, the privacy of headphone listening is a unique pleasure. You don't disturb the rest of the family, and they don't disturb you!

The Ampex Stereo Headphone Kit, Accessory No. 881, includes a pair of miniature dynamic speakers of the highest professional quality obtainable, complete with headband assembly, sound-proof ear enclosures and an adapter for simultaneous use of a second pair of stereo headphones.



FUN

keeping close to loved ones far away with "letters in sound"



Letter-writing is no longer a burden, with an Ampex in the house. Now it's a family project — and a most enjoyable one — with everybody getting into the act.

Correspondence, with magnetic tape in place of pen-and-ink, can become an eagerly anticipated pleasure, one shared by every member of the family. In fifteen minutes' time you can make a recording equal in length to a 20-page letter. And when it arrives at its destination, it's not merely words on paper—it's YOU!

No special preparation is necessary — in fact, the more spontaneous the recording the more delighted its recipients will be. Just get the family around the microphone, and ad-lib your way through to the end of the reel. You can record a quarter of an hour with standard tape at 3 $\frac{3}{4}$ i.p.s. on a 3-inch diameter reel — mailable first class anywhere in the country for only 8 cents.

When your "letter" arrives at its destination, the recipients can keep it intact for playback as often as they wish, or erase it and record their reply to you on the same reel. In any event, you'll soon discover a new pleasure that's even more fun than sending letters in sound — *receiving them!*

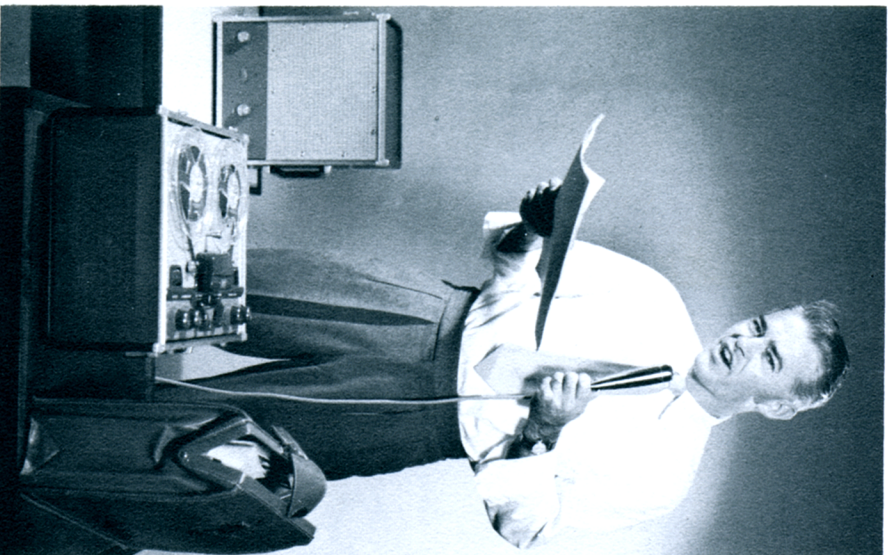
The 3" diameter tape reel is the most practical for sending letters in sound, and requires only 8 cents postage to mail first class anywhere in the U.S.



Even more fun than sending letters is receiving them. They convey all the warmth and excitement of a personal visit, yet cost only pennies.

FUN

with sound-on-sound
and other advanced techniques, for entertainment, language study,



With an Ampex recorder/reproducer and a few minutes of practice, you can become adept at handling the most advanced recording techniques. For example, you might want to try sound-on-sound—adding one or more recordings to one already made. It's easy. Merely set the controls as shown on page 14 (or on the Stereo-Graph), and in no time at all you can sing a duet with yourself, and even accompany it on the piano, sax and drums if you wish! Or you can engage in a two-way conversation in which you keep interrupting yourself, with "both" of you talking at once in heated argument!

The variations and combinations are endless — and not merely for fun, but for serious projects as well. For example, a variation of sound-on-sound recording enables a student of music or language to compare his efforts with those of the instructor, or to compare his level of proficiency with that recorded in previous sessions.

The Ampex, in private rehearsal, can be a wonderful confidence-builder for people who normally develop rubber knees when faced with the prospect of speaking before a group.



Learning to speak a new language is made immeasurably easier when you can hear your own attempts in comparison with those of your instructor. On the Ampex, you record your own phrases side-by-side

music instruction and vocal training



with those of the instructor. Your own may be erased and re-recorded any number of times while those of the instructor remain intact, and BOTH can be played back for comparison at any time.

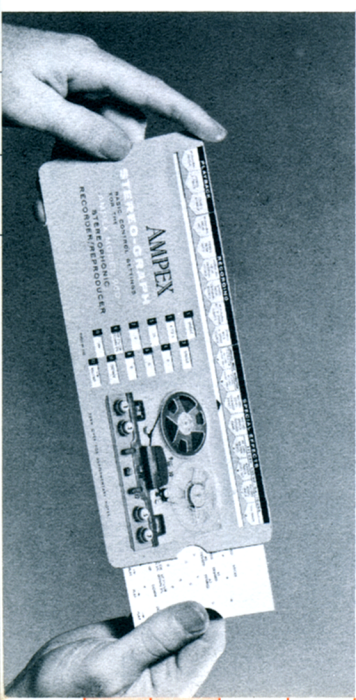
*They sound twice as good in stereo!
A stereo vocal recording on an Ampex
recorder/ reproducer is so thrillingly alive
you can feel it, and easily identify
each individual voice in the playback.*



The Ampex sound-on-sound feature contributes to the ease and efficiency of many types of musical recording. In recording vocal music with "live" instrumental accompaniment, for example, it is no longer necessary for both singers and instrumentalists to go through endless "re-takes" until each simultaneously delivers a perfect rendition. With a perfect instrumental recording on the master track, the band is finished and free to go while the vocalists polish their performance until everyone is satisfied. At that point the two separate tracks are combined into a single master recording.

For adding variety and interest to both voice and musical recordings, try adding "echo-chamber" effect as provided by your Ampex. With hardly any practice, you can conjure up a series of ghostly echoes, or duplicate the acoustics of a vast cathedral.

9



**BASIC
CONTROL SETTINGS
FOR**

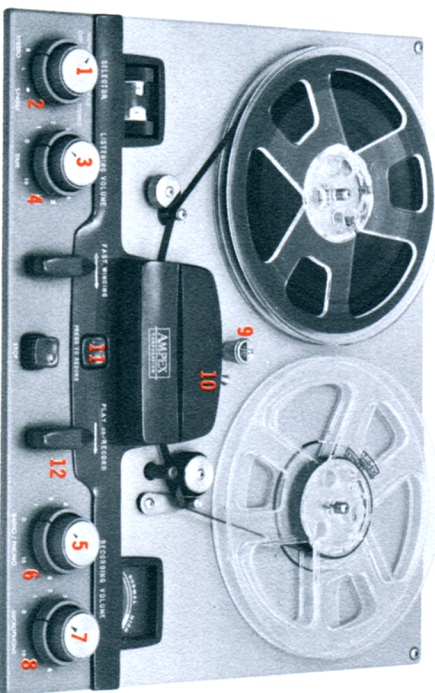
LISTENING

MODE OF OPERATION

To perform the various operational functions shown at right, set the controls as indicated on the chart. *Where a blank space appears, the corresponding control is off or inoperative, and no action is necessary to perform the desired function other than the settings actually shown.* Controls marked "as desired" should be adjusted to the settings most pleasing to your ears.

Components shown on the facing page are those contained in Ampex console music systems. Other components may be used in conjunction with the Ampex recorder/reproducer, of course, but the control settings required will depend upon the actual components used.

**AMPEX
MODEL 960
STEREOPHONIC
Recorder/Reproducer**



- 1 Playback Selector (Inside knob)
- 2 Recording Selector (Outside knob)
- 3 Listening Volume Left Channel (Inside knob)
- 4 Listening Volume Right Channel (Outside knob)
- 5 Recording Volume Radio/Phono Left Channel (Inside knob)
- 6 Recording Volume Radio/Phono Right Channel (Outside knob)
- 7 Recording Volume Microphone Left Channel (Inside knob)
- 8 Recording Volume Microphone Right Channel (Outside knob)
- 9 Speed Selector
- 10 Head Shift Lever
- 11 Record Button
- 12 Play-Record Knob

LISTENING FUNCTIONS	1	2	3	4	5	6	7	8	9	10	11	12	NOTES
Monaural Tape Playback	Single		As Desired		0	0	0	0	Up (7½) or Down (3¾)	Down		→ Play	If tape is recorded on both sides, play second side by merely turning reel over without rethreading.
2-Track Stereo Tape Playback	Stereo		As Desired	As Desired	0	0	0	0	Up (7½) or Down (3¾)	Down		→ Play	To balance the two channels of the stereo system, vary controls 3 and 4 as required.
4-Track Stereo Tape Playback	Stereo		As Desired	As Desired	0	0	0	0	Up (7½) or Down (3¾)	Up		→ Play	Note that in playing the newer, more economical 4-track tapes, the tape need not be rethread. Simply play first half, turn reel over, and play second half, just as in playing monaural tapes.
AM Radio Broadcasts													
FM Radio Broadcasts													
AM & FM Stereo Broadcasts													
Monaural Phono Records													
Stereo Phono Records													
Monaural External Source													
Stereo External Source													
Public Address System	Monitor				10			As Desired					

**BASIC
CONTROL SETTINGS
FOR**

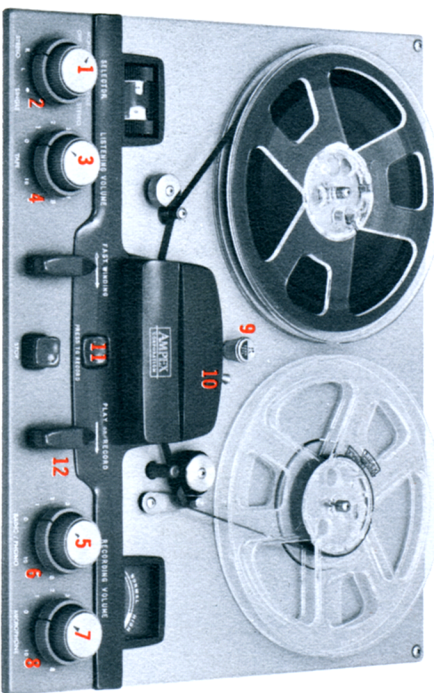
RECORDING

MODE OF OPERATION

To perform the various operational functions shown at right, set the controls as indicated on the chart. *Where a blank space appears, the corresponding control is off or inoperative, and no action is necessary to perform the desired function other than the settings actually shown.* Controls marked "as desired" should be adjusted to the settings most pleasing to your ears.

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**AMPEX
MODEL 960
STEREOPHONIC
Recorder/Reproducer**



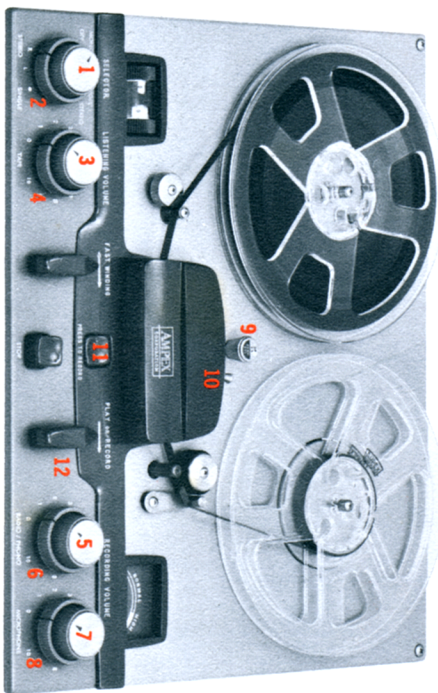
- 1 Playback Selector (Inside knob)
- 2 Recording Selector (Outside knob)
- 3 Listening Volume Left Channel (Inside knob)
- 4 Listening Volume Right Channel (Outside knob)
- 5 Recording Volume Radio/Phono Left Channel (Inside knob)
- 6 Recording Volume Radio/Phono Right Channel (Outside knob)
- 7 Recording Volume Microphone Left Channel (Inside knob)
- 8 Recording Volume Microphone Right Channel (Outside knob)
- 9 Speed Selector
- 10 Head Shift Lever
- 11 Record Button
- 12 Play-Record Knob

RECORDING FUNCTIONS	1	2	3	4	5	6	7	8	9	10	11	12	NOTES
Monaural, from Microphone	Single	Single	0	0	0	0	Normal On Meter	0	Up (7½) or Down (3¾)	Down	In	→ Record	Use "left" microphone channel (front jack on portable models). For greater "presence" decrease setting on #7, and record from closer proximity to microphone.
Stereo, from Microphones	Stereo	R & L	0	0	0	0	Normal On Meter (L)	Normal On Meter (R)	Up (7½) or Down (3¾)	Down	In	→ Record	Adjust #7 for meter reading when #2 is on "L"; adjust #8 when #2 is on "R".
Monaural, from AM Radio	Single	Single	0	0	Normal On Meter	0	0	0	Up (7½) or Down (3¾)	Down	In	→ Record	
Monaural, from FM Radio	Single	Single	0	0	Normal On Meter	0	0	0	Up (7½) or Down (3¾)	Down	In	→ Record	
Stereo, from AM & FM Radio	Stereo	R & L	0	0	Normal On Meter (L)	Normal On Meter (R)	0	0	Up (7½) or Down (3¾)	Down	In	→ Record	
Monaural, from Phono	Single	Single	0	0	Normal On Meter	0	0	0	Up (7½) or Down (3¾)	Down	In	→ Record	
Stereo, from Phono	Stereo	R & L	0	0	Normal On Meter (L)	Normal On Meter (R)	0	0	Up (7½) or Down (3¾)	Down	In	→ Record	
Monaural, from External Source	Single	Single	0	0	Normal On Meter	0	0	0	Up (7½) or Down (3¾)	Down	In	→ Record	External source may be radio, TV, phono, or any source delivering 0.3V rms for program level.
Stereo, from External Source	Stereo	R & L	0	0	Normal On Meter (L)	Normal On Meter (R)	0	0	Up (7½) or Down (3¾)	Down	In	→ Record	Adjust #5 for meter reading when #2 is on "L"; adjust #6 when #2 is on "R".
Add Monaural Microphones to Phono, Radio, or External Source	Single	Single	0	0	Normal On Meter	0	Normal On Meter	0	Up (7½) or Down (3¾)	Down	In	→ Record	Mix of 2 sources is regulated by varying relative settings of controls 5, 7.
Add Stereo Microphones to Phono, Radio, or External Source	Stereo	R & L	0	0	Normal On Meter (L)	Normal On Meter (R)	Normal On Meter (L)	Normal On Meter (R)	Up (7½) or Down (3¾)	Down	In	→ Record	Mix of 2 sources is regulated by varying relative settings of controls 5, 6 and 7, 8.

**BASIC
CONTROL SETTINGS**
FOR

**ADVANCED
TECHNIQUES**
OF RECORDING AND PLAYBACK OPERATION

**AMPEX
MODEL 960
STEREOPHONIC
Recorder/Reproducer**



- 1 Playback Selector (Inside knob)
- 2 Recording Selector (Outside knob)
- 3 Listening Volume Left Channel (Inside knob)
- 4 Listening Volume Right Channel (Outside knob)
- 5 Recording Volume Radio/Phono Left Channel (Inside knob)
- 6 Recording Volume Radio/Phono Right Channel (Outside knob)
- 7 Recording Volume Microphone Left Channel (Inside knob)
- 8 Recording Volume Microphone Right Channel (Outside knob)
- 9 Speed Selector
- 10 Head Shift Lever
- 11 Record Button
- 12 Play-Record Knob

To perform the various operational functions shown at right, set the controls as indicated on the chart. *Where a blank space appears, the corresponding control is off or inoperative, and no action is necessary to perform the desired function other than the settings actually shown.* Controls marked "as desired" should be adjusted to the settings most pleasing to your ears.

Components shown on the facing page are those contained in Ampex console music systems. Other components may be used in conjunction with the Ampex recorder/reproducer, of course, but the control settings required will depend upon the actual components used.

FUNCTION	1	2	3	4	5	6	7	8	9	10	11	12	NOTES
Language/Music Instruction A—Instructor record master track from microphone	Stereo	R	0	0	0	0	0	Normal On Meter	Up (7½%) or Down (3¼%)	Down	In	Record →	Set tape position indicator at 0.0. Instructor uses Right microphone channel (rear jack on portable models) to record music or language in instruction. Re wind to 0.0 tape position and proceed to Step B.
A—Instructor record master track direct from electronic organ, electric guitar, etc.	Stereo	R	0	0	0	Normal On Meter	0	0	Up (7½%) or Down (3¼%)	Down	In	Record →	Plug external input into "R" pin tip jack.
B—Student record added track	Stereo	Single	0	As Desired	0	0	Normal On Meter	0	Up (7½%) or Down (3¼%)	Down	In	Record →	Student uses Left microphone channel (front jack on portable models) while listening to instructor, (monitoring with headphones or amplifier/untill satisfied).
C—Playback for student-instructor comparison	Stereo		As Desired	As Desired	0	0	0	0	Up (7½%) or Down (3¼%)	Down		Play →	Re wind to 0.0 tape position. Vary controls 3 & 4 to balance level of student and instructor tracks.
Echo-Chamber Effect	Single	Single	4-6	0	10	0	6	0	Up (7½%) or Down (3¼%)	Down	In	Record →	For Repeat Echo Effect, record with #9 DOWN. For Cathedral Echo Effect, record with #9 UP.
Speed Testing Game	Single	Single	5-6	0	0	0	Normal On Meter	0	Up (7½%) or Down (3¼%)	Down	In	Record →	Constant attempts to recite "Mary Had a Little Lamb," etc., into microphone while wearing headphones connected to output of power amplifier (Volume level in headphones must be high).
Sound-on-Sound Recording A—Record master track from microphone	Stereo	R	0	0	0	0	Normal On Meter	0	Up (7½%) or Down (3¼%)	Down	In	Record →	If using portable model only, record from rear jack (right channel). Next connect "right" output to "L" input with monitoring facility (headphones or amplifier/speaker) connected into this circuit. (See Diagram) Volume level in headphones must be high.
A—Record master track direct from electronic organ, electric guitar, etc.	Stereo	R	0	0	0	Normal On Meter	0	0	Up (7½%) or Down (3¼%)	Down	In	Record →	Plug external input into "R" pin tip jack.
B—Master track level set	Stereo	Single	0	8	Normal On Meter	0	0	0	Up (7½%) or Down (3¼%)	Down		Play →	Re wind and play back master track for establishing normal on meter with control #5. Reduce monitoring to barely perceptible hearing level. Re wind to 0.0 tape position and proceed to Step C.
C—Record added track	Stereo	Single	0	8	Normal On Meter	0	Normal On Meter	0	Up (7½%) or Down (3¼%)	Down	In	Record →	Microphone is plugged into Left channel (front jack on portable models). Mix of master track and sound-on-sound track is regulated by relative settings of controls #5 and #7.
D—Playback	Single		As Desired		0	0	0	0	Up (7½%) or Down (3¼%)	Down		Play →	For multiple sound-on-sound (trios, quartets, etc.), proceed as follows: Play back Step C (do not re wind reel), turn reel over and re record in Step B throughout complete previous recording, with settings as in Step B. Turn reel over (do not re wind), and repeat Steps B, C, and D.

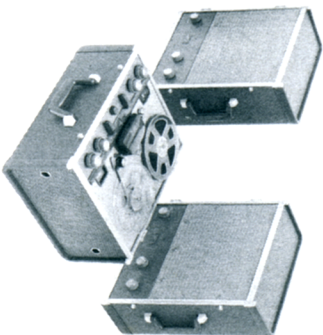


AMPEX

AUDIO INC.

AMPEX MODEL 960 PORTABLE

A precision instrument of full professional quality which enables you to record stereo off the air, from discs, or "live." Rugged, lightweight, finished in smart two-tone grey scuff-proof carrying cases with satin aluminum trim.



AMPEX CRESCENDO

Ampex Crescendo home music systems combine all three sources of stereo sound — discs, tape and radio — in an instrument of both tonal and visual beauty. Six speakers, with total peak power of 60 watts. Available in Contemporary Walnut, French Provincial Cherry, Fruitwood and Traditional Mahogany.



AMPEX CUSTOM

Ampex Custom home music systems enable you to choose one or a combination of stereo sources. Whether your preference is for music from discs or tapes, or from stereo radio, there's a distinctive CUSTOM model to match your musical needs. Available in Contemporary Walnut, Contemporary Teak, and French Provincial Cherry, Fruitwood.



AMPEX SIGNATURE

The Ampex Signature gives you truly luxurious listening. Contains Ampex stereophonic FM and AM 2-channel tuner, Audio Control Center, Stereophonic tape recorder/reproducer, twin 30-watt amplifiers with total peak power of 120 watts, Stereophonic record changer or turntable, two microphones and eight speakers.

AMPEX

SIGNATURE OF PERFECTION IN SOUND