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602 & 602-2

Recorder/Reproducer

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# AMPEX PROFESSIONAL AUDIO EQUIPMENT ONE YEAR WARRANTY

*Congratulations and thanks. You now own the finest instrument of its kind in the world today. This equipment meets standards of performance, durability and reliability that surpass anything in its market. The warranty covering this equipment is valuable to you.*

*This warranty is effective only when the warranty-registration card is fully and properly filled and returned to the factory within ten (10) days of delivery.*

*A validated one year warranty identification card will be returned immediately to the purchaser to be used when in-warranty service is necessary in order to protect you within the terms of this warranty.*

Before your unit left the factory, all phases of its performance were carefully checked by sensitive test instruments. This individual Ampex unit equalled or exceeded all current specifications for its model. Hence, if properly used, it should meet your most exacting requirements.

Should you experience difficulty in the operation of this equipment or should servicing of any kind be necessary, please contact the dealer from whom you purchased it.

If the equipment has been damaged in transit, you should report the fact immediately to your dealer.

Ampex reserves the right to modify or change the equipment, in whole or in part, at any time prior to delivery thereof, in order to include therein electrical or mechanical refinements deemed appropriate by Ampex, but without incurring any liability to modify or change any equipment previously delivered, or to supply new equipment in accordance with earlier specifications.

## WARRANTY

Ampex warrants to the original using purchaser that all new Professional Audio Equipment shall be free from defects in workmanship and material under normal and proper use and service for a period of one year from date of delivery to original using purchaser and agrees to repair or replace all parts (except tubes and tape) thereof showing such defects, subject to all of the following provisions.

### Ampex Warranty Obligation

- (1) **Parts returned within 90 Days from Date Equipment Delivered to Original Using Purchaser**—All such defective parts will be repaired or replaced at no charge for labor or materials.
- (2) **Parts returned within 91-365 Days from Date Equipment Delivered to Original Using Purchaser**—All such defective parts will be repaired or replaced at no charge for material and a labor charge equal to actual labor costs incurred in such repair or replacement.
- (3) In all warranty transactions the responsibility of Ampex shall be limited to making a new or factory-reconditioned replacement part available to the dealer; it is the responsibility of the dealer to repair or replace defective parts.

### Conditions of Ampex Warranty

- (1) Defective equipment shall be returned, transportation prepaid, to the Ampex dealer from whom the equipment was originally purchased unless such dealer agrees to inspect or repair at purchaser's premises; and
- (2) Warranty registration card shall have been fully and properly filled out and returned to the factory within ten (10) days from the date the equipment was delivered to original using purchaser;

- (3) Purchaser, for warranty service, must present one year warranty identification card to Ampex Dealer; and
- (4) Purchaser shall not have used or allowed to have been used in the equipment any parts not supplied by Ampex through its dealers (tapes and vacuum tubes excepted); and
- (5) Inspection shall disclose to Ampex's satisfaction that the defects are as above specified and that the equipment has not been altered or repaired by other than factory approved procedures, subjected to negligence, misuse or accident, or damaged by excessive current or otherwise, or had its serial number or any part thereof altered, defaced or removed.

### Exceptions to Ampex Warranty

- (a) Vacuum tubes carry their respective manufacturer's warranties and shall be and are hereby excluded from the provisions of this warranty (as to this item, no warranty, expressed or implied, is made by Ampex);
- (b) Replacement parts supplied under this warranty carry only the unexpired portion of the original warranty.

### Sole Warranty

This warranty is expressly in lieu of all other warranties, expressed or implied, and all other obligations or liabilities on the part of Ampex. No person, including any dealer, agent or representative of Ampex, is authorized to assume for Ampex any liability on its behalf or in its name except to refer purchasers to this warranty. In no event shall Ampex be liable for claims, demands or damages of any nature, however commensured. Ampex's sole warranty liability shall be to repair defective items or to supply replacement parts in accordance with the terms of this warranty.

AMPEX

AMPEX CORPORATION, AUDIO DIVISION, 1020 KIFER ROAD, SUNNYVALE, CALIFORNIA



### 1.1 GENERAL

Ampex Models 602 and 602-2 are magnetic tape recorder/reproducers intended for use in the professional field. The Model 602 (see Figure 1-1) is a single channel equipment, available for either full track (FT) or half track (HT) recording. The

Model 602-2 (see Figure 1-2) provides two channel operation for two track stereophonic or single channel recording. Record/reproduce capabilities of the different versions of the equipment are shown in Table 1-1.

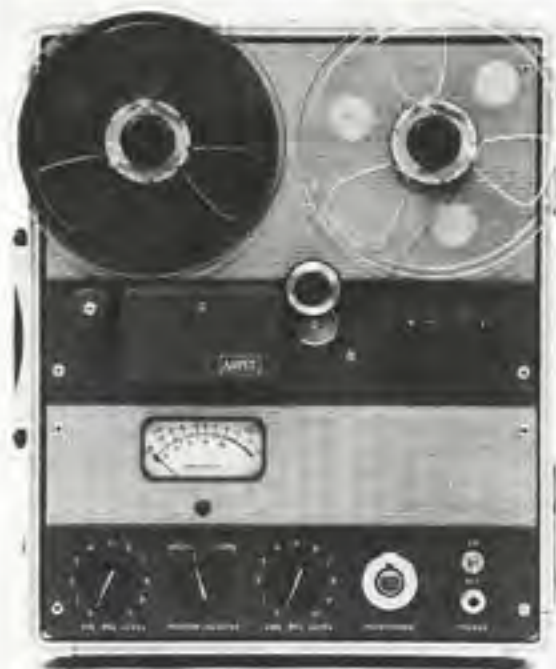


Fig. 1-1. Model 602 Recorder/Reproducer



Fig. 1-2. Model 602-2 Recorder/Reproducer

Type of Recording	Record	Reproduce
Single channel, Full track	602 (FT)	602(FT), 602(BT), 602-2
Single channel, Half track	602(BT), 602-2	602(BT), 602-2
Two channel	602-2	602-2

TABLE 1-1 Record/Reproduce Capabilities

Either model is available for operation with power line frequencies of 60 cps (Domestic equipment) or 50 cps (International equipment). Nominal voltages required are 115 volts a-c for the domestic equipment and either 115 or 230 volts a-c (selected by a switch) on the International version.

The tape transport provides a single tape speed, which can be either 7-1/2 inches per second

or 3-3/4 inches per second (ips). One electronics assembly is provided with the Model 602; two of these assemblies—a "master" and "slave"—are used for the Model 602-2. (The only difference between the master and slave electronics is that the bias oscillator is omitted in the latter.)

A complete list of available equipment is provided on the Master Parts Lists in Section 7.

## 1.2 SPECIFICATIONS

### 1.2.1 Tape Transport

Tape Width	1/4 inch
Reel Size	7 inch EIA or 5 inch
Tape Speed	Single speed, either 7-1/2 or 3-3/4 ips.
Flutter and Wow	7-1/2 ips, 60 cps Equipment, 0.17% rms. 7-1/2 ips, 50 cps Equipment, 0.25% rms. 3-3/4 ips, 60 cps Equipment, 0.25% rms. 3-3/4 ips, 50 cps Equipment, 0.32% rms. All measurements made using Ampex Standard Flutter Tape, and include all frequencies from 0.5 to 250 cps.
Start Time	Less than 1/2 second at 7-1/2 ips.
Stop Time	Less than 1 second at 7-1/2 ips.
Tape Speed Accuracy	7-1/2 ips Equipment, $\pm 0.25\%$ 3-3/4 ips Equipment, $\pm 0.4\%$
Fast Winding Time	60 cps Equipment, approximately 90 seconds. 50 cps Equipment, approximately 108 seconds. Above times with 117 volt ( $\pm 2$ volt) a-c line voltage.

## Frequency Response

When reproducing Ampex Standard Alignment Tape.

7-1/2 ips Equipment  
 ±2 db 100 to 15,000 cps  
 +3-1 db at 50 cps

3-3/4 ips Equipment  
 ±2 db 100 to 7,500 cps  
 +3-1 db at 50 cps

Overall record/reproduce response when recording accomplished 20 db or more below normal operating level.

7-1/2 ips Equipment  
 ±2 db 40 to 10,000 cps  
 +2 -4 db 40 to 15,000 cps

3-3/4 ips Equipment  
 ±2 db 40 to 6,000 cps  
 +2 -4 db 40 to 8,000 cps

## Signal-To-Noise

7-1/2 ips Equipment  
 602(HT) or 602-2 55 db  
 602(FT) 57 db

3-3/4 ips Equipment  
 602(HT) or 602-2 50 db  
 602(FT) 52 db

## Record Inputs

Two inputs are provided per electronic assembly; one for microphone and one for line. With accessory plug-in preamplifiers, accessory plug-in transformers or supplied dummy plugs, the line input can accommodate a microphone, a balanced line or an unbalanced line respectively. A RECORD LEVEL control is provided for each input.

## Input Impedance:

Unbalanced Bridging  
 Balanced Bridging

100K ohms  
 100K ohms (for use with 600 ohm source impedance and using optional plug-in balanced bridging input transformer with 0 db gain (unity ratio)).

Balanced Matching

600 ohms (for use with 600 ohm source impedance and using optional plug-in balanced matching input transformer with 14 db gain (step up ratio)).

Microphone

Unloaded transformer (for use with 30 to 250 ohm source impedance using either the microphone input or the line input with optional plug-in microphone preamplifier).

Input Level: (Nominal) Unbalanced Bridging	-4 to +8 vu lines or cathode follower output of 0.5 volt or more.
Balanced Bridging	-4 to +8 vu using optional plug-in balanced bridging line input transformer.
Balanced Matching	-20 to -4 vu lines using optional plug-in balanced matching line input transformer.
Microphone	-60 to -35 vu microphones using built-in microphone preamplifier. -45 to -35 vu microphones using optional plug-in 40 db microphone preamplifier in the line input. -60 to -45 vu microphones using optional plug-in 60 db microphone preamplifier in the line input.
Reproduce Output	+4 vu $\pm$ .5 db (Zero indication on the vu meter corresponds to +4 dbm into 600 ohms balanced or unbalanced).
Monitoring (Aural and visual)	The signal on the tape can be monitored while the equipment is recording. A phono jack is available to allow monitoring the record input signal, or the output from the reproduce head. A switch provides a means for making direct comparison between the original program and the recorded program. A vu meter is provided for level comparison and visual monitoring.
Power Requirements	Single channel equipment requires 0.6 amperes at 117 volts a-c. Two channel equipment requires 0.9 amperes at 117 volts a-c.



## SPEAKER-AMPLIFIER ASSEMBLY

The AMPEX Model 622 speaker-amplifier (Catalog No. 01-0622-01) is a compact unit designed as a companion to the Model 602 and 602-2 recorders. The AMPEX 622 is particularly useful for demonstrating radio programs and pre-recorded commercials before prospective time buyers—for on-location monitoring of broadcast tapes made away from the main studio—for monitoring broadcasts within the station—and similar uses by the professional sound recording services and record companies.

The speaker and amplifier in combination have flat acoustic response from 65 to 10,000 cycles with additional useful range above and below. The amplifier output is 10 watts with less than 1% harmonic distortion. The speaker can use full power if necessary, giving ample volume even for a medium size auditorium. The AMPEX 622 can be used with any sound source. It may be used as a speaker-amplifier or as an amplifier only, since the external speaker jack bypasses the internal speaker and its reciprocal network.



622 Speaker-Amplifier

### GENERAL PERFORMANCE CHARACTERISTICS AND SPECIFICATIONS

<b>OVERALL FREQUENCY RESPONSE (IN AIR)</b>	65 to better than 10,000 cycles/sec. essentially flat acoustically. *Response curve established by a test microphone in free field on axis with unit rotating into semi-circular space of 78° merid. diam. solid angle. Actual use will approximate this condition when the 622 is placed in a good acoustical environment. Tests were made with 7 component multitone of quarter octave overall width.
<b>AMPLIFIER FREQUENCY RESPONSE</b>	20 to 20,000 cycles/sec. $\pm 1$ db.
<b>POWER OUTPUT</b>	10 watts amplifier power with no audible harmonic distortion. Speaker can use full power.
<b>SIGNAL-TO-NOISE RATIO</b>	Amplifier noise (including hum) is 70 db below rated output.
<b>CONTROLS AND CONNECTIONS</b>	Volume control, bass-treble control, power switch and on-off indicator light are provided. Cable for A.C. power is furnished and also an A.C. convenience outlet is built in. Audio input connector is of the concentric pin type. External speaker connection is a headphone type jack.
<b>EQUALIZATION</b>	Single control on front panel gives a level tilt to speaker output, boosting the bass and attenuating the treble or vice versa. Maximum bass boost is 6 db relative to treble. Maximum treble boost is 6 db relative to bass.
<b>EXTERNAL SPEAKER FEED</b>	Use of the external speaker jack automatically cuts out the 622's speaker and reciprocal network. Hence, flat amplifier output is fed to the external speaker.
<b>INPUT IMPEDANCE</b>	20,000 ohms.
<b>OUTPUT IMPEDANCE</b>	12 ohms to external speaker.
<b>POWER REQUIREMENT</b>	117 volts, 50 or 60 cycles; 0.3 amp., 55 watts.
<b>WEIGHT</b>	25 pounds.
<b>DIMENSIONS</b>	73 x 16 x 8 inches.

## PLUG-IN INPUT TRANSFORMER

Two plug-in input transformers are offered. Both transformers are for use with balanced line inputs. One transformer (Catalog No. 58-0116-01) is a balanced bridging, unity ratio transformer with 0 db gain while the other (Catalog No. 58-0116-02) is a balanced matching, step-up ratio transformer with 14 db gain.

Input impedance of the system with the balanced bridging transformer installed is 100,000 ohms and is designed for use with a source impedance of 600 ohms. The system can accommodate input signals from -10 dbm (0.24 volts) minimum to +18 dbm (6.1 volts) maximum to provide normal record levels. The transformer is designed specifically for use -4 to +8 vu lines.

Input impedance of the system with the balanced matching transformer installed is 600 ohms and is designed for use with a source impedance of 600 ohms. The system can accommodate input signals from -24 dbm (48 millivolts) minimum to +18 dbm (6.1 volts) maximum to provide normal record levels. The



*Plug-in Input Transformers*

transformer is designed specifically for use with -20 to -4 vu lines.

### CAUTION

*These transformers are not designed for and cannot be used with +18 vu lines.*



## PLUG-IN MICROPHONE PREAMPLIFIER

### General

Two plug-in microphone preamplifiers are available from AMPLEX. Both preamplifiers are designed for use with low impedance microphones. One preamplifier (Catalog No. 01-96440-01) provides 40 db of gain while the other (Catalog No. 01-96440-04) provides 60 db of gain.

### 40-db Microphone Preamplifier

With the 40-db microphone preamplifiers plugged in a system, low impedance microphones with relatively high output levels from  $-50$  dbm (2.4 millivolts) minimum to  $-25$  dbm (43 millivolts) maximum can be accommodated to provide normal record levels. This preamplifier is designed specifically for extremely close pickups with high level microphones.

### 60-db Microphone Preamplifier

With the 60-db microphone preamplifier plugged in a system, low impedance microphones with relatively low output levels from

$-70$  dbm (0.23 millivolt) minimum to  $-35$  dbm (13.7 millivolts) maximum can be accommodated to provide normal record levels. This preamplifier is designed as the general output preamplifier for most of the normal microphones used and for most of the standard pickups. It will overload when used for extremely close pickups with high level microphones.



*Plug-in Microphone Preamplifiers*

### *Preamplifier Specifications*

	01-96440-01	01-96440-04
<i>Gain</i>	45 db voltage gain 40 db power gain	60 db voltage gain 60 db voltage gain
<i>Frequency Response</i>	±2 db, 30 to 18,000 cps	
<i>Input Level</i>		
<i>Maximum</i>	43 millivolts	13.7 millivolts
<i>Less Than 1% Distortion</i>	27 millivolts	4.9 millivolts
<i>Output Level</i>		
<i>Maximum</i>	7.65 volts	25 volts
<i>Less Than 1% Distortion</i>	4.8 volts	9.8 volts
<i>Source Impedance</i>	50 to 250 ohms (200 ohms nominal)	
<i>Load Impedance</i>	100,000 ohms minimum	
<i>Power Requirements</i>	12.6 VDC @ 135 ma 150 VDC @ 1.62 ma	12.6 VDC @ 135 ma 150 VDC @ 2.5 ma

## PROFESSIONAL MICROPHONES

### Description

AMPEX Model 802 and 803 Professional Microphones are designed and manufactured to the same high standards of reliability, durability and performance that have made AMPEX recorders world-famous. These AMPEX microphones offer wide, uniform frequency response, handsome styling and great ruggedness, perfect partners to any AMPEX recorder.

Diaphragms on both microphones are made of Dupont Mylar,\* which provides excellent resistance to shock, blast, temperature extremes, severe momentary deformations, and corrosive fumes.

Filters used on the Models 802 and 803 are of sintered bronze, which gives maximum protection against dust, water, sand, and other foreign particles.

The Model 802 is a high quality microphone with omnidirectional pickup pattern for all professional recording applications. Frequency Response: 50-20,000 cps,  $\pm 3$  db 70-10,000 cps, down no more than 7 db at 50 and 20,000 cps, with output level rising smoothly approximately 5 db between 50 and 20,000 cps.

The Model 803 is a professional quality cardioid microphone for all uses where front to back discrimination (average 20 db) is desired. Frequency approximately 3 db between 45 and 15,000 cps. Average front to back discrimination 20 db from 45 to 15,000 cps.



Model 802 Microphone



Model 803 Microphone

### Microphone Specifications

	Model 802	Model 803
Pickup Pattern	Omnidirectional	Cardioid
Frequency Response	50 to 20,000 cps	45 to 15,000 cps
Output Impedance	30-50, 150-250** or 20,000 ohms	
Output Level (SPL-10 dynes/cm <sup>2</sup> )	-55 dbm	-55 dbm
Hum (Ref. 10 <sup>-8</sup> Gauss)	-120 dbm	-120 dbm

\*\* Shipped connected for 150/250 ohms. Cable plug connections may be changed for other impedance.

\* Trade Mark Dupont.

## HEAD DEMAGNETIZER AND HEAD CLEANER

The AMPEX head demagnetizer, Model No. 820, quickly demagnetizes the record, reproduce and erase heads to achieve reduced noise and distortion. The demagnetizer neutralizes the residual magnetizing induced in the heads by transients from speech, music and noise thus preventing partial high frequency erasure of the tape. The demagnetizer consists of an a-c magnet with pole pieces shaped to fit the contour of the heads. Operation of the demagnetizer is described in the HEAD ASSEMBLY section.

The AMPEX head cleaner, Model No. 823, is specially formulated for use with AMPEX heads. Do not use any other solvent on the head assembly as some will damage the material which binds the head laminations together. The head cleaner should not be used on plastic parts such as the head cover. Cleaning of the heads is described in the HEAD ASSEMBLY section.



*Head Cleaner*

## TEST TAPES

The AMPEX test tape mentioned in the "Checkout and Adjustment" section is specifically designed for use with machines operating at 7½ inches per second using NAB equalization. Under certain circumstances, particularly for "Master Recording", it may be desirable to calibrate the machine with the test tape designed for the specific speed and equalization concerned. The following table lists the various ¼-inch test tapes.

<i>Equalization</i>	<i>Catalog No.</i>
15 ips NAB	01-31311-01
15 ips AME	01-31312-01
15 ips CCIR	01-31313-01
7½ ips NAB	01-31321-01
7½ ips NAB (4 track)	01-31321-04
7½ ips CCIR	01-31323-01
3¾ ips (120µ sec)	01-31331-01
3¾ ips (200µ sec)	01-31334-01
1⅞ ips	01-31341-01
1⅝ ips	01-31351-01



*Head Demagnetizer*





### Ampex Test Tapes

The 15 ips test tapes contain the following information in the sequence indicated.

1. A 700 cps tone at operating level for reproduce gain calibration and reference.
2. A 15,000 cps tone at operating level for reproduce head alignment.
3. A series of tones (12kc, 10kc, 7.5kc, 5kc, 1kc, 500c, 250c, 100c, 50c, and 30c) at operating level for reproduce frequency response measurements.

The 7½ ips test tapes contain the following information in the sequence indicated.

1. A 700 cps tone at 10 db below operating level for reference.
2. A 15,000 cps tone at 10 db below operating level for reproduce head alignment.
3. A series of tones (12kc, 10kc, 7.5kc, 5kc, 2.5kc, 1kc, 250c, 100c, and 50c) at 10 db below operating level for reproduce frequency response measurements.
4. A 700 cps tone at operating level for reproduce gain calibration.

The 3¾ ips test tapes contain the following information in the sequence indicated.

1. A 500 cps tone at 10 db below operating level for reference.
2. A 7,500 cps tone at 10 db below operating level for reproduce head alignment.
3. A series of tones (5kc, 2.5kc, 1kc, 500c, 250c, 100c and 50c) at 10 db below operating level for reproduce frequency response measurements.
4. A 500 cps tone at operating level for reproduce gain calibration.

In addition to the alignment tapes, Ampex also produces level set tapes and flutter test tapes. The flutter test tapes are used for checking equipment flutter in accordance with American Standards Association standard number

Z57.1-1954. These tapes consist of a 3000 cycle tone (with 0.03% or less flutter) which is reproduced on the machine being checked and the flutter of the machine is measured using a standard flutter bridge. (The flutter introduced by the tape is negligible.) Flutter test tapes are listed in the following table.

Speed	Catalog No.
3¾ ips flutter test . . . . .	01-31336-01
7½ ips flutter test . . . . .	01-31326-01
15 ips flutter test . . . . .	01-31316-01

The level set tapes are used to properly set the reproduce level of a tape machine when calibrating the record portions of the machine or when the machine is to be used in conjunction with other equipment that requires a specific input. These tapes are recorded at "normal" operating level and are listed in the following table:

Speed	Catalog No.
3¾ ips 500 cps level set . . . . .	01-31335-01
7½ ips 700 cps level set . . . . .	01-31325-01
15 ips 700 cps level set . . . . .	01-31315-01

The test tapes are valuable tools for ensuring proper operation of the equipment, *but only if the tapes are cared for properly.* Like any pre-recorded tape, the test tapes are sensitive to magnetic fields, which if sufficient in intensity, will erase or partially reduce the carefully adjusted magnetic orientation of the tape coating, those rendering the tape useless.

The area in which the test tape is to be used or stored should be surveyed for equipment which might set up fields of a nature which might affect the accuracy of the tape.

The high frequency signals of the tape can also be partially erased by a record, reproduce or erase head, or a tape guide which is strongly magnetized. Moreover, accurate reproduction of the signals on the test tape is not possible when used with a magnetized head. To preclude any possibility of this type of damage, the heads *and all metallic objects in the tape path* should be demagnetized before using the test tape.

The tape should be stored away from hot radiators, amplifier chassis, or electric lamps which might cause the tape to deform. Wherever possible, the tape should be stored on edge. In hot weather, a tape laid flat will tend to "settle" to the lower side of the reel causing an edge "wrinkle," which is conducive to flutter.



## TAPE SPLICER

The AMPEX tape splicer, Model 805, is compact splicer designed for rapid editing and repairing. The splicer employs a replaceable cutter cartridge with two operating positions—miter cut and trimming cut. The first position cuts the tape diagonally, the second position presses the splicing tape over the diagonal cut and trims a concave indentation on either side of the splice to prevent binding. The tape splicer is supplied with a roll of  $\frac{1}{2}$  inch wide splicing tape and complete operating instructions.

## PROFESSIONAL RECORDER ACCESSORY KIT

The AMPEX Professional Recorder Accessory Kit No. 894, provides the user with the most needed accessories. The kit contains: an AMPEX head demagnetizer, Model 820; a 4 ounce can of AMPEX head cleaner, No. 823; a 1 $\frac{3}{4}$  ounce bottle of AMPEX lubricating oil, No. 825; and a package of 'Q-Tips' cotton swabs for applying the head cleaner.

## LUBRICATING OIL

The AMPEX lubricating oil, No. 825, is formulated for use in AMPEX tape recorders. The lubricating should be used sparingly and in accordance with the instructions in this manual.



*Professional Recorder Accessory Kit No. 894*



*Model 805 Tape Splicer*



*Lubricating Oil No. 825*

## AMPEX 600 SERIES PROFESSIONAL AUDIO TAPE

AMPEX 600 Series Professional Audio Tape provides uniform tape output, maximum dynamic range, exclusive Ferro-Sheen<sup>®</sup> tape surface, precise oxide formulation and balanced tape design. This means better tape output levels, uniformity from reel to reel and within each reel. It means extended head life, improved high-frequency response, reliable and stable performance play after play and extra-long, useful tape life.

### How To Choose The Right Recording Tape

Currently AMPEX Recording Tapes are made on two bases — Dupont's "Mylar" Polyester film and cellulose acetate film.

Cellulose acetate is a highly refined form of cellophane that has always been an excellent base for recording tapes and is even now considered standard for the recordist's use. The use of acetate base tapes guarantees more playing time per dollar, affording more listening enjoyment on a budget basis. It must be understood, however, that acetate will not afford the durability or reliability of "Mylar".

Increased durability and reliability requirements have created a trend toward the toughest . . . strongest . . . most durable base material used for modern recording tape, MYLAR! You'll find that tapes of "Mylar" do a better job. They have a 300% safety margin against stretching and breaking. They give long life and lasting fidelity because they will not crack or dry out with age. You never have to bother

with fussy storing either . . . because heat and humidity just cannot affect tapes of "Mylar".

The logical rule to follow when selecting a tape length is, "The thinner the base, the more playing time". Acetate base tapes are not practical in thickness less than 1 mil.

Mylar, on the other hand, can be obtained in ½ mil thickness. The tape handling facility of the recorder is critical. Some less expensive recorders are apt to break the thinner based tapes. Experience will be the best teacher in this respect. A 7" reel of ½ mil Mylar will provide one hour of recording at 7½" per second. 1½ mil tape provides thirty minutes on a 7" reel. Your own recording experience will soon provide you with the knowledge to select the best tape for the job.

AMPEX Recording Tape is a quality AMPEX product. The Ferro-Sheen process permits intimate tape-to-head contact to capture all the high frequency overtones that are a must for the brilliance of faithful sound reproductions.

### Tape Types and Applications

- 611 1.5 mil acetate tape — general purpose; lower priced than 600 type oxide on a Mylar tape base.
- 621 1.0 mil acetate tape — 50% more playing time than 611; ideal for duplicating use; gives top performance *with* economy.
- 631 1.5 mil Mylar tape — maximum durability; can withstand rough handling, countless starts and stops.
- 641 1.0 mil Mylar tape — 50% more playing time than 631; like type 621, ideal for duplicating use, but with a tough Mylar base for more sturdy duplicates.
- 651 0.5 mil Mylar tape — Double Play<sup>®</sup> tape on tensilized Mylar; gives *twice* the playing time of 1.5 mil tapes and still has the excellent high frequency response of 600 series tapes.

### Handling Magnetic Tape

Tape is a strong, permanent recording medium, unaffected by ordinary handling or storage. However, it should be kept away from heat and moisture, and direct contact with other magnetic materials. Avoid stretching tape, or you will distort it and destroy the quality of the recording.



AmpeX 600 Series Professional Audio Tape

®TM AMPEX CORPORATION