

AMPEX

# PRODUCT DATA BULLETIN



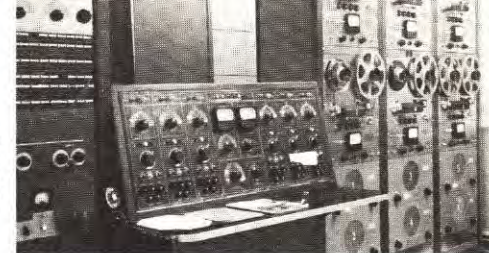
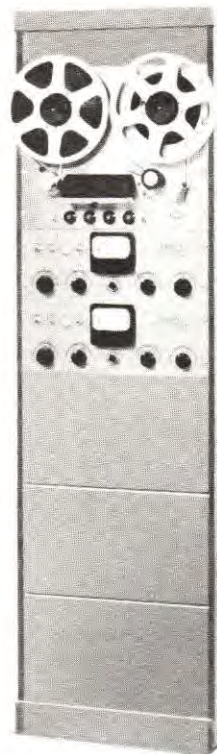
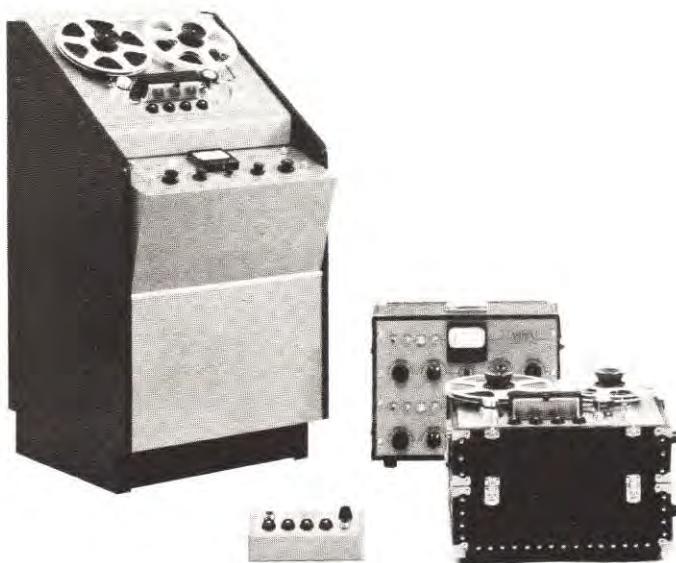
AMPEX PROFESSIONAL PRODUCTS COMPANY • AUDIO PRODUCTS DIVISION

# SERIES 351

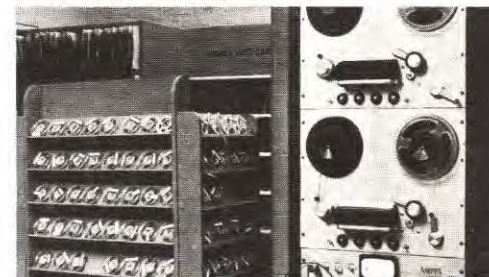
## Specifications and Operating Features

# AMPEX 351

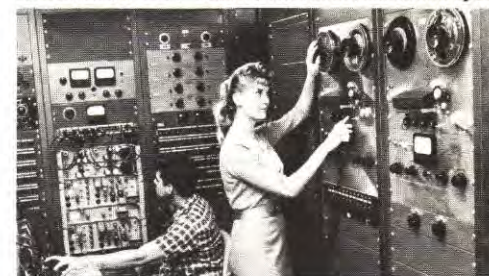
STEREOPHONIC/MONOPHONIC



NETWORK: KGO, AM FM (ABC)



INDEPENDENT: KMAK, AM (News, music and spot)



EDUCATION: San Diego State College



OVERSEAS: Tokyo Radio Service

## THE EXPERIENCE BEHIND THE 351

The acknowledged leader in magnetic tape technology is Ampex Corporation, the only company whose research, engineering and production facilities are devoted exclusively to magnetic recording and related techniques in audio, video and instrumentation fields. This specialization accounts, in part, for the technical excellence which has become synonymous with the name Ampex. Each model Ampex recorder is exactly designed for a particular professional application. The Ampex 351, for the broadcast industry, is a classic example.

## EXACTING REQUIREMENTS OF THE BROADCAST INDUSTRY

As a professional broadcaster you give special consideration to long life and reliability of any tape recording/reproducing equipment. Your recorder is one of your most important "tools." Performance of a tape recorder must meet your exacting needs or you sacrifice program quality which means possible loss of revenue. Top performance is strictly an economic factor for your business — an investment which must pay off!

You require **LASTING ECONOMY** from your tape recorder. As a professional, your recording equipment must operate to give you a profitable return on your investment. You can't afford down-time.

You require **CONTINUITY OF SERVICE**. Not only is long life important, but long periods of *continuous* use — days, weeks or months.

You require **DEPENDABILITY**. Your recorder must be ready to go at all times over periods of long continuous use and also after long stretches of non-use. You can't risk delays or failures in performance. You must be "on the air" with your recorders always in perfect working order.

You require **STABILITY**. Mechanical specifications and recording/playback characteristics must remain identical from one use to the next — sometimes over long periods of time.

You require **RUGGEDNESS**, for your work is often unreasonable in its demands upon tape recorder performance (field use, remotes, etc.).

You require **FLEXIBILITY** for your broadcast day. Your equipment must do "everything" well — recording, reproducing, editing, commercials, interviews, sound effects, cueing, delay broadcasts, stereophonic work, etc.

You require **SIMPLICITY** in operation. You must have handling ease to save your valuable time and allow even non-technical personnel to operate your tape recorders with confidence.

You require **PROFESSIONAL SPECIFICATIONS** for your exacting broadcast needs, both mechanical and electrical. (These must consistently meet NAB standards.)

# STANDARD OF THE BROADCAST INDUSTRY

## THE AMPEX 351 — DESIGNED TO YOUR REQUIREMENTS

**LASTING ECONOMY** is one of the important advantages of the Ampex 351. It costs only a few cents per operating hour because of its long life. It requires fewer adjustments and little or no down-time through years of use. Ampex recorders have very low depreciation since their trade-in value is consistently high no matter what their age.

**LONG LIFE** and stability is a matter of history with all Ampex recorders. Stations are still using Ampex units which they installed 5, 10 or 12 years ago — *and still obtaining the same quality of performance.* Nearly all original professional units delivered in 1948 are still in operation, some of them with over 36,000 logged hours. **DEPENDABILITY** and **CONTINUITY OF SERVICE** are built-in. Close tolerances, precision machining and rugged oversize motors and parts assure top performance when you need it — any time for any length of time.

**STABILITY** for broadcast applications has been achieved in the Ampex 351 by scaling-down the basic mechanism of proven master-recording instruments. Improved electronics design gives a high degree of stabilization in all specifications and parallels the quality of the mechanism. Not only will the Ampex 351 meet or surpass published specifications, but, more important than this, it will maintain them for years to come.

**RUGGEDNESS** of the Ampex 351 can easily be seen in the thickness of the top plate, size of motor, solenoids, brakes and other parts. The electronics utilize only high-rated components. In addition to the obvious ruggedness is the amount of performance testing that goes into the 351 — life tests, vibration tests, field tests, etc. Thousands in everyday use have verified the outstanding ruggedness of the Ampex 351.

**FLEXIBILITY** is also a part of the basic design of the Ampex 351. Available in console, portable or rack mounting, single track, double track or stereo versions, 351 can be mounted horizontally, vertically, or at any angle. It takes reels from 3" to 10½"; is available with speeds of 3¾ and 7½, or 7½ and 15 ips; can be used for recording, playback, editing or any other broadcast requirement. Because of its flexibility this machine has also found widespread acceptance in fields, outside

broadcasting (education, recording, industrial, research, religious and advanced audiophile).

**SIMPLICITY** is quickly apparent in the Ampex 351 recorder. Logical location of parts and simple tape transport path means easy handling and trouble-free operation. The same simplicity of design is carried out below the top plate and in the electronics as well.

## APPLICATIONS IN OTHER FIELDS

*The Ampex 351 was designed for the most varied uses of the broadcaster. Because of this versatility, the Ampex 351 is ideal for educators' use — language courses, remedial reading training and for music and speech class-work; for recording companies — remote sessions where professional quality is required; for research laboratories — acoustics and sound propagation experiments; for industry use — product testing and general recording requirements; and for business use — background music. Religious organizations use the Ampex 351 for recording radio programs, sermons and lectures (some duplicated for distribution in the field), as well as many local and national organizations, service clubs and groups where the need to record with professional quality exists.*

*Serious musicians own their own Ampex 351's to assist them with their careers. Advanced audiophiles, in large numbers, have added the 351 to their high fidelity systems where finest sound reproduction is important.*

*In meeting the varied requirements of the professional so completely, the Ampex 351 has become the STANDARD of the Broadcast Industry as well as many other fields.*

*With a four-year history of dependable operation by more than 9,000 units in use throughout the world, the Ampex 351 has aptly proved its ability to perform as it was designed.*

## THE AMPEX 351 PROVES ITS WORTH

The description and specification breakdown on the following pages details why the Ampex 351 gives you the lowest cost per operating hour. You are assured of profitable recorder operation with dependable performance, minimum maintenance or down-time and professional sound reproduction.

### WORLDWIDE INSTALLATIONS . . . (partial list)

United States . . .  
the Domestic **STANDARD**

ABC, CBS, NBC AND OTHER NETWORKS  
THOUSANDS OF BROADCASTING STATIONS  
HUNDREDS OF COLLEGES, HIGH SCHOOLS  
AND GRADE SCHOOLS  
INDUSTRIAL USERS  
RESEARCH LABORATORIES  
GOVERNMENT AGENCIES  
ADVANCED AUDIOPHILES  
RELIGIOUS ORGANIZATIONS  
PROFESSIONAL RECORDING COMPANIES

Other Countries . . . the International **STANDARD**

AUSTRALIA  
BRITISH BROADCASTING CORPORATION  
CANADIAN BROADCASTING CORPORATION  
INDIA  
ITALY, RADIOTELEVISIONE ITALIANA  
JAPAN, TOKYO RADIO SERVICE  
KOREA BROADCASTING CORPORATION  
MALAYA, DEPARTMENT OF BROADCASTING.

SINGAPORE  
MEXICO, RADIO PROGRAMES DE MEXICO,  
RADIO CADENA NACIONAL  
NEW ZEALAND  
PORTUGAL, EMISSORA NACIONAL DE  
RADIOIFUSAO  
SOUTH AFRICAN BROADCASTING CORPORATION  
SWEDISH BROADCASTING CORPORATION

SWISS BROADCASTING CORPORATION  
TURKISH BROADCASTING COMPANY  
URUGUAY, RADIO IMPARCIAL  
PERU, RADIO NACIONAL, LIMA  
ARMED FORCES RADIO  
RADIO FREE EUROPE  
UNITED NATIONS  
VOICE OF AMERICA

**QUICK-RELEASE HOLD-DOWN KNOBS**  
are self-locking for fast loading and provide firm grip.

**HEAD ASSEMBLY HOUSING**  
mu-metal shielded, covers Ampex precision heads — erase, record and playback (triple shielded with mu-metal), all specially mounted for easy alignment. Multi-channel erase head provides separate erase for each track. Provides space to mount professional splicer.

**IDLER PULLEY**  
and its heavy-mass flywheel provides essential damping. This, along with the precision capstan assembly and the hysteresis synchronous motor, holds the wow and flutter to an absolute minimum.

**FAST FORWARD BUTTON**  
(recessed in safety-well) gives same quick action, professional feel and speed as Rewind. These buttons can be used to "rock" tape back and forth for fast editing and cueing.

**REWIND BUTTON**  
(recessed in raised safety-well) gives smooth instantaneous response: 2400' reel (10½") rewinds in just 52 seconds. Gentle tape handling without stretching tape even at fast wind/rewind speeds (recessed in raised safety-well). Switch from Rewind to Fast Forward with tape in motion without throwing or spilling tape. All controls interlocked to prevent jamming.

**REEL SIZE SWITCH**  
selects correct electro-dynamic tension for small reels as well as 10½-inch reels.

**CORK PADDED 4" TURNTABLE**  
with locating pins and holes for positive grip of all reel sizes, 10½-inch and smaller.

**RIGID TOP PLATE**  
of high tensile strength aluminum alloy means perfect, permanent alignment of all mechanical components even after years of heavy use.

**EXCLUSIVE HEAD GATE ASSEMBLY**  
with non-wearing glass tape lifters, releases tape for fast tape travel and for time saving "touch cueing" to locate spots in Fast Forward or Rewind.

**CAPSTAN IDLER**  
with solenoid control for accurate traction pressure, will disengage when power is shut off at end of reel and in case of power failure, to avoid flat spots on idler pulley.

**DIRECT DRIVE**  
by hysteresis synchronous motor. Capstan Spindle, machined to tolerance of 100 microinches, provides accurate tape speeds and further reduces wow and flutter.

**STOP BUTTON**  
(recessed in raised safety-well) instantaneously stops tape travel in 0.13 seconds for cueing, editing and other program requirements.

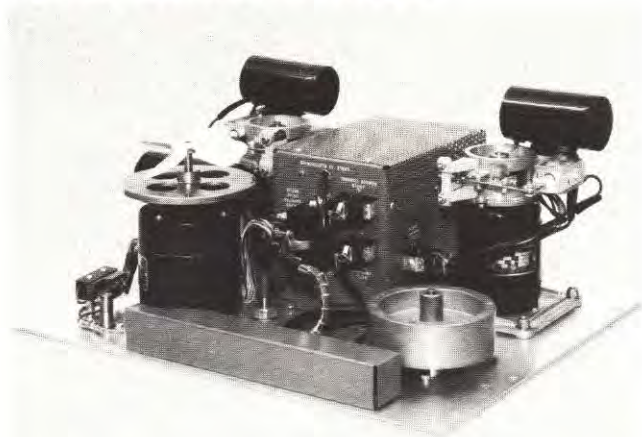
**TAKE-UP TENSION ARM**  
with safety shut-off switch gives even wrap on take-up reel and eliminates tape "bounce" in fast starts.

**PLAY BUTTON**  
(recessed in raised safety-well) accelerates tape to full speed in play or record modes in just 0.1 seconds. Essential to special effects and tight programming.

**TAPE SPEED SWITCH**  
selects fast or slow tape speed (3¾ and 7½ or 7½ and 15) with dual-speed motor.

# AMPEX 351 PRECISION

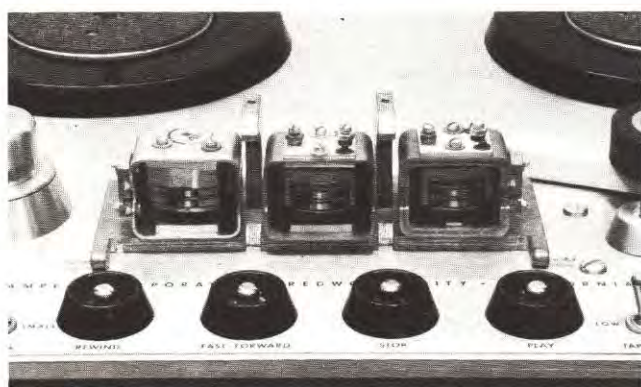
# MECHANICAL



All components are oriented on top plate in a basically simple pattern for foolproof operation, ease of access and minimum maintenance effort. For example, all 351 transport mechanism components (motors, switches, control box, etc.) are designed and mounted so that entire mechanism can be completely disassembled in less than 20 minutes. Straight-line tape path provides complete safety at maximum speeds (2400' in 52 seconds), while at the same time it allows quick and simple loading and threading.

**PUSH BUTTON CONTROLS**, logically and sequentially placed, add to ease of editing and cueing. Push-button safety-wells guard against accidental tripping. All controls, including recording, are also available as a separate, compact remote control unit for added flexibility and convenience.

**TOP PLATE** is high tensile strength aluminum alloy and stainless steel reinforced by electro-welded lamination to provide maximum rigidity. This eliminates stresses, strains and vibration so all elements, bearings and shafts remain in perfect alignment for years of use. This is basic to absolute accuracy of the tape path.

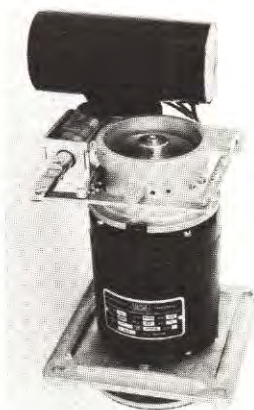


**AMPEX TAPE HEADS** are basic to the quality performance of the Ampex 351. Ampex research in instrumentation recorders for missiles has developed

heads with extreme requirements far beyond audio needs. (Response up to 4,000,000 cps.) The experience thus gained has resulted in heads for the 351 unit which are more precise and reliable than any other audio heads available today. Exclusive Ampex design holds exact gap tolerance regardless of wear (heads with 18,000 hours use have shown no change in published performance specifications). Reflected light-waves must be used to check heads during manufacture, since they are polished to an accuracy beyond mechanical measurement. The 351 has a separate multi-channel erase head which permits separate recording of either channel for narration, sound on sound, etc.

**SUPPLY AND TAKE-UP TURNTABLE** have heavy duty induction torque motors with sturdy mounting frames. Positive electro-dynamic drive holds tape in perfect tension at all times, responds evenly to instantaneous push button control, and eliminates problems inherent in mechanical wind/rewind systems.

**BRAKES** are large "Raybestos" band-type, actuated by solenoids for smooth, quick, positive action. Brake wheel is machined and cannot "freeze" or "bite" as softer metals may. Special brake-drum housings protect against dirt. Entire brake mechanism is coupled directly to motor for perfect brake alignment, needs little or no adjustment, ever.



**BEARINGS** manufactured to high Ampex specifications, are disassembled at Ampex and are degreased, carefully inspected, reassembled and relubricated—all in atmospheric controlled rooms. In this way you are assured mechanical accuracy.

**CAPSTAN ASSEMBLY** uses positive, direct drive from a heavy duty hysteresis synchronous motor. Spindle is balanced and machined concentric to a tolerance of 100 microinches, eliminating a major potential source of wow and flutter. Capstan idler is solenoid-operated for quick engage and disengage.



**CONTROL CIRCUIT BOX** centralizes all operating controls, relays, switching circuits in a single *plug-in* unit. All switches and relays are oversize for sure, long-life operation. There is no open wiring on underside of tape deck to create shock hazard. All wires are color-coded and clearly labeled.

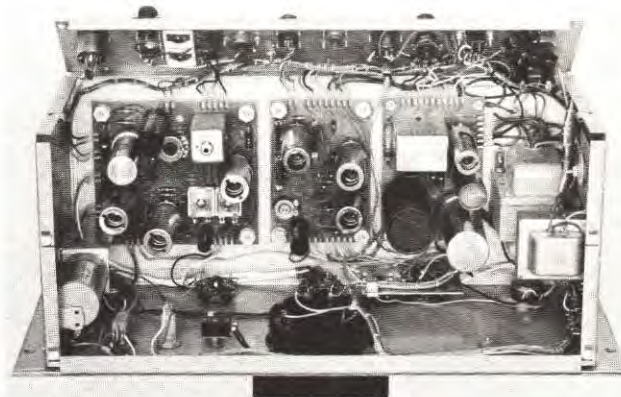
## ELECTRONICS

A complete chassis and electronic control panel is provided for each channel. For the stereophonic model, two chassis are direct-coupled for high flexibility but have complete individual controls for half-track recording (separate erase for each channel) and playback. You can easily utilize newer techniques of making master monaural tapes from multi-channel originals. Controls are smooth and positive in their action and easy to read. Stainless steel panel mounts on standard rack, in Ampex 351 Console cabinet, or in portable cases. Each chassis is fused for equipment protection. Stable circuitry eliminates problems with critical tubes, assures higher performance over a very long life. Chassis are tropic-treated to protect components from effects of excessive heat and humidity.

**ETCHED CIRCUIT BOARDS** of high-impact epoxy and glass fiber for record amplifier with bias and erase oscillator, reproduce amplifier and power supply, give new performance characteristics not possible with previous wired circuits. This provides temperature, moisture and shock resistance, solid dip-solder strength, better electrical conductivity and more stable operation. Edge-on harness connectors make each sub-chassis quickly removable from main chassis. All components are oversize to provide a safety factor for surges beyond the normal power requirements.

**FRONT PANEL CONTROLS** are large and spaced for convenient handling. Figures are deep-etched, clear and easy-to-read. They allow independent control of channels for stereo or half-track recording work.

**REAR CHASSIS CONNECTIONS** are power (117 volt) socket, fuses, transport interconnecting plug, line termination switch, line output socket, monitor jack, bias coupling socket, playback head socket, bias calibration adjustment, erase adjustment, bias adjustment, erase hand socket, record hand socket and line input socket. Professional, locked-in connectors for all cables provide positive contacts and safety against accidental uncoupling. Oscillators are locked together for stereo operation. Easy identification of all connections for quick, easy set-up. Grilled cover protects tubes and parts from damage.

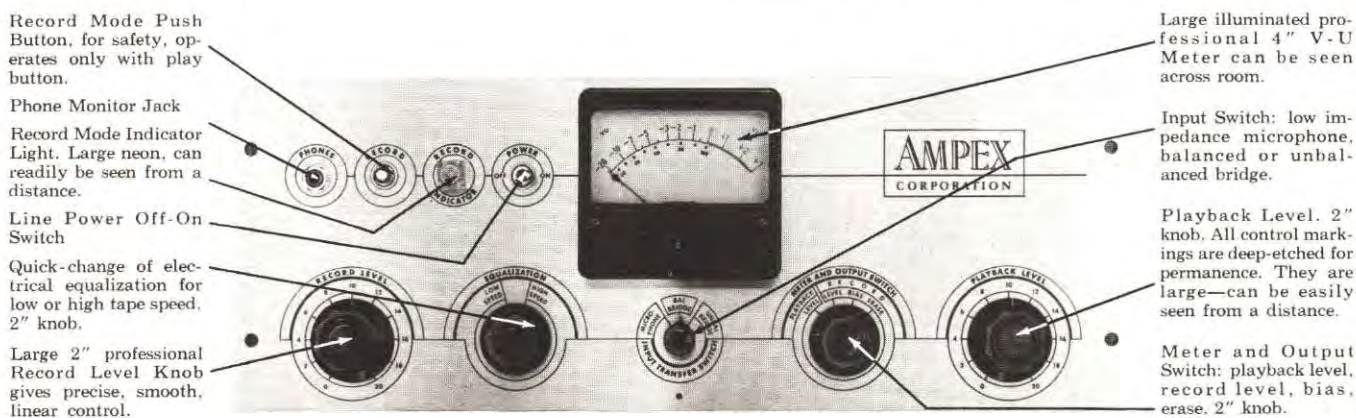


**RECORD AMPLIFIER** is four stage, high gain, resistance coupled with two dual triode tubes. Transformer coupling is used for microphone or balanced bridge inputs. Plate voltage is only supplied to final stage in record mode to lengthen tube life.

**REPRODUCE AMPLIFIER** uses three dual triodes for three stages, is resistance coupled with phase inversion and push-pull output for maximum fidelity.

**BIAS AND ERASE OSCILLATOR** uses a dual triode as a push-pull oscillator to provide high frequency bias and erase signals (approximately 100 k.c.) with a clean, harmonic-free wave form.

**POWER SUPPLY** uses vacuum tube, full wave rectifier, gives smooth dc. Selenium rectifier provides sufficient dc for filament voltage where needed.



**MODEL  
351**

**IMPORTANT:** AS PROFESSIONAL EQUIPMENT, THE AMPEX 351 SPECIFICATIONS LISTED ARE ACCURATE MEASUREMENTS REQUIRED BY PROFESSIONAL STANDARDS AND DO NOT INCORPORATE ANY EXAGGERATED SALES CLAIMS. THESE ARE THE GUARANTEED MINIMUM PERFORMANCE SPECIFICATIONS THE CUSTOMER CAN EXPECT IN LONG-RANGE OPERATION.

**GENERAL PERFORMANCE CHARACTERISTICS AND SPECIFICATIONS**

**TAPE SPEEDS  
FREQUENCY RESPONSE**

7 1/2 and 15 ips. or 3 3/4 and 7 1/2 ips.  
All versions: 15 ips. ± 2 db 30 to 15,000 cps.  
7 1/2 ips. ± 2 db to 10,000 cps down not more than 4 db at 30 cps and 15 kc.  
3 3/4 ips. ± 2 db 40 to 7,500 cps.

**SIGNAL-TO-NOISE  
RATIO**

Speed	Peak Record Level to Unweighted Noise
15"	Full track 60 db Half track 55 db 2 Channel stereo 55 db
7 1/2"	Full track 60 db Half track 55 db 2 Channel stereo 55 db
3 3/4"	Full track 50 db

The peak record level is defined as that level at which the overall (input to output) total RMS, harmonic distortion is 3% when measured on a 400 cycle tone. Noise is measured when erasing a signal of peak recording level and in absence of new signal. Thus, bias and erase noise are included as well as playback amplifier noise. All components between 30 and 15,000 cycles are measured.

**FLUTTER AND WOW**

15 ips. Well below 0.15% RMS.  
7 1/2 ips. Well below 0.2% RMS.  
3 3/4 ips. Well below 0.25% RMS.

Flutter and Wow measurements include all components between 0 and 300 cps using an RMS value of constant amplitude sine wave flutter.

**PLAYING TIMES**

	Speed	Half Track	Full Track
With NAB 10 1/2" reels (2400 feet of tape)	15 ips. 7 1/2 ips. 3 3/4 ips.	64 min. 2 hrs. 8 min. 4 hrs. 16 min.	32 min. 64 min. 2 hrs. 8 min.

**STARTING TIME**

Instantaneous (tape accelerates to full speed in less than 1/10 second).

**STOPPING TIME**

At 15 ips. speed, tape moves less than two inches after pressing "Stop" button.

**PLAYBACK TIMING ACCURACY**

± 0.2% (± 3.6 seconds in a thirty minute recording).

**REWIND TIME**

Approximately one minute for 2400-foot NAB reel; 30 seconds for 1200-foot EIA reel. Rewind times for thin base tapes proportionately longer.

**CONTROLS**

Tape motion controlled by four pushbuttons; Start, Stop, Fast Forward and Rewind. Separate Record button energizes record circuits, which drop out when machine is stopped. Individual Record button control for each channel in 2 Channel stereo machines. Motor speed and electronic equalization for various tape speeds are controlled by separate switches. Reel Size Switch provides proper tape tensions for NAB 10 1/2" reels or EIA 5" and 7" reels.

**RECORD INPUT**

A switch allows recorder to accommodate either microphone level low impedance input or to bridge a 600 ohm line, balanced or unbalanced. Minimum input signal for recommended record level is — 10 dbm balanced bridge, or — 13 dbm unbalanced bridge. Levels as low as 150 microvolts at the microphone input will produce the recommended record level.

**PLAYBACK OUTPUT**

Plus 8 dbm output into 600 ohms, balanced or unbalanced. Will feed a high input impedance amplifier directly with approximately two volts. Can be connected for +4 dbm by restrapping.

**AMPLIFIERS**

Separate record and playback amplifiers are used. Amplifier distortion at any operating level is negligible compared to tape distortion, even when using new high-output tapes.

**PLUG-IN HEAD HOUSING**

Erase, record and playback heads are contained in a single plug-in head housing.

**MONITORING**

Independent record and playback systems allow tape to be monitored while recording. A phone jack is provided to monitor either the record input signal before or during recording, or the output signal from the playback head while recording or during playback. An A-B switch is incorporated in order that direct comparison can be made between the original program and the recorded program. The same switch transfers a 4-inch VU meter for level comparison and monitoring. The VU meter is also used to read bias and erase current.

**POWER REQUIREMENTS**

Either half or full-track machines require 2.0 amperes at 117 volts AC., 2 Channel stereo requires 2.5 amperes. Machines are available for either 50 or 60 cycle operation.

**RACK SPACE**

Standard 19 inch wide panel with commercial notching.  
Tape Transport, 15 3/4 inches of rack space, weight . . . 58 lbs.  
Electronic Assembly, 7 inches of rack space, weight . . . 18 lbs.  
(Two required for 2 Channel stereo.)

**CONSOLE DIMENSIONS**

48 inches high x 24 1/2 inches wide x 28 1/2 inches deep; weight: 168 lbs.

**OPTIONS TO SPECIFY  
WHEN ORDERING**

Mounting Style — Console, rack-mount or two case portable for Full or Half Track; rack, or portable for 2 Channel stereo.

Tape Speed — 7 1/2 and 15 ips. or 3 3/4 and 7 1/2 ips.

Track Configuration — Full track, or half track, or 2 track stereo.

Power Line Frequency — 60 or 50 cps. (117 V. only).

**ACCESSORIES**

Remote Control: Controls Start, Stop, Fast Forward, Rewind and Record from a remote location.

MX-35 STEREOPHONIC AND MONOPHONIC MIXER: Compact, professional, 4-position mixer. For complete listing see General Accessories and Accessories for Broadcast Recorders Price Schedules.



Offices and Representatives in  
Principal Cities Throughout the World

Audio Products Division  
**AMPEX PROFESSIONAL PRODUCTS COMPANY**

934 CHARTER STREET • REDWOOD CITY, CALIFORNIA

[www.SteamPoweredRadio.Com](http://www.SteamPoweredRadio.Com)

**AMPEX**

**AMPEX CORPORATION  
AUDIO DIVISION**



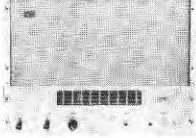
DOMESTIC PRICE LIST  
SUPERSEDES ALL PREVIOUS SCHEDULES

# PROFESSIONAL/MASTER ACCESSORIES

EFFECTIVE JUNE 18, 1962

DEALER FRANCHISE:  
PROFESSIONAL- MASTER

**ACCESSORIES  
FOR:  
300  
350  
3000  
PR-10**

GENERAL ACCESSORIES	DESCRIPTION	SPECIFICATIONS — USE	CATALOG NUMBER	USER NET PRICE
	<b>MIXER, MODEL MX-10</b> — Four position, two channel mixer, feeds 4 or 2 mike and 2 line inputs to either or both channels.	For PR-10 Series and general use; unmounted	96900-01	<b>\$395.00</b>
	<b>MIXER, MODEL MX-35</b> — Four position, two channel mixer, feeds 4 or 2 mike and 2 line inputs to either or both channels.	For 350 and 300 Series and general use; unmounted	96910-01	<b>395.00</b>
	<b>SPEAKER/AMPLIFIER, MODEL SA-10</b> — 40 watt voltage regulated amp with low distortion at low frequencies — has amplifier compensation switch. (See below for mike preamp.)	Speaker/Amplifier, unmounted	96975-01	<b>295.00</b>
		Speaker and Enclosure, only	96980-01	<b>120.00</b>
		40 watt Amplifier, only	96950-01	<b>175.00</b>
		Portable Case	96960-01	<b>60.00</b>
	<b>REMOTE CONTROL</b> — For use with 351/352/354/PR-10	Wired (in box with 30' cord)	96510-01	<b>50.00</b>
		Panel Type (less cord)	96520-01	<b>42.00</b>
	<b>LINE INPUT TRANSFORMERS</b> — For use with PR-10/MX-10/SA-10/354/MX-35	Balanced Bridge	96134-01	<b>14.50</b>
		Matching 600 ohm	96134-02	<b>14.50</b>
	<b>MICROPHONE PREAMPS</b> — For use with PR-10/354 and SA-10	40 db (PR-10, 354)	96440-01	<b>45.00</b>
		60 db (PR-10, 354)	96440-04	<b>60.00</b>
		SA-10	96440-03	<b>45.00</b>
	<b>HEAD DEMAGNETIZERS</b> —For use with all series		820	<b>9.95</b>
	<b>APPROVED CLEANING FLUID</b> — For use with all series	4 oz. can	823	<b>1.45</b>
	<b>APPROVED LUBRICATING OIL</b> — For use with all series	4 oz. bottle	827	<b>.95</b>

**STANDARD ALIGNMENT TAPES (See description and price, Sheet No. 1344-1345)**

**350 SERIES ACCESSORIES**

	<b>MODEL 354 RECORD PLUG-IN EQUALIZERS</b> — (one per channel required)	7½ NAB — 15 NAB	96121-01	<b>9.90</b>
		3¾ NAB (Spec. 120 or 200 µsec.)—7½ NAB	96120-01	<b>9.90</b>
		7½ NAB — 15 AME	96122-01	<b>9.90</b>
	<b>MODEL 354 REPRODUCE PLUG-IN EQUALIZERS</b> — (one per channel required)	7½ NAB — 15 NAB	96111-03	<b>9.90</b>
		3¾ (120 µsec) — 7½ NAB	96110-03	<b>9.90</b>
		7½ NAB — 15 AME	96112-03	<b>14.50</b>
		3¾ (200 µsec) — 7½ NAB	96114-03	<b>9.90</b>
<b>MODEL 351</b> — Operation and Maintenance Manual		(Furnished with Recorder)	TM-2002A	<b>4.00</b>
<b>MODEL 352</b> — Operation and Maintenance Manual		(Furnished with Reproducer)	TM-2004	<b>3.00</b>
<b>MODEL 354</b> — Operation and Maintenance Manual		(Furnished with Recorder)	TM-2011B	<b>4.00</b>
<b>300 SERIES ACCESSORIES</b>				
<b>MODEL 300</b> — Operation and Maintenance Manual		Single Channel (Furnished with recorder)	TM-2013	<b>4.00</b>
<b>MODEL 300</b> — Operation and Maintenance Manual		Multi-Channel (Furnished with recorder)	TM-2005	<b>4.00</b>
<b>3000 SERIES ACCESSORIES</b>				
<b>3200 SYSTEM</b> — Operation and Maintenance Manual		(Furnished with each unit)	TM-2008	<b>4.00</b>
<b>3300 SYSTEM</b> — Operation and Maintenance Manual		(Furnished with each unit)	TM-2007	<b>4.00</b>