

A NEW TWO-CHANNEL RECORDER WITH ADVANCED ELECTRONICS DESIGNED FOR PROFESSIONAL STEREOPHONIC SOUND—IN COMBINATION WITH THE MOST THOROUGHLY PROVEN AND RESPECTED OF ALL COMMERCIAL TAPE TRANSPORTS.



THE AMPEX 354 NEW ADDITION TO A GREAT SERIES



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351 — MONAURAL
RECORDER/REPRODUCER



352 — MONAURAL
REPRODUCER



351-2 — STEREOPHONIC
RECORDER/REPRODUCER



352-2 — STEREOPHONIC
REPRODUCER — 2 TRACK



352-2/4 — STEREOPHONIC
REPRODUCER
2 TRACK & 4 TRACK

WHY AMPEX DEVELOPED THE MODEL 354

Ampex engineers recognized a need for a recorder designed *specifically* for recording and reproduction of stereophonic sound. Other makes and models currently produced use adaptations of single channel electronics with resultant space and stereo-feature limitations. The new 354 electronics (1) provides maximum of convenience and flexibility; (2) is ideal both for recording professional stereo and for the many two-channel recording techniques now being applied to monaural use.

Two channels of electronics in one convenient panel

One dual-channel chassis now fits into exactly the same space as the single-channel electronics of the Model 351, making possible a *two-channel console model*, a *much more compact and convenient portable version*, and a *rack mount version that fits into the same rack space previously occupied by a single-channel recorder*. Many other new features are described on the opposite page.

A new recorder with thoroughly proven mechanics

Since the requirements of the tape transport are the same for either single or two-channel use—and since utmost reliability is essential in a professional recorder, the new 354 uses the same highly regarded tape transport that has proven itself in over 9,000 of the 350/351 series recorders in heavy-duty and critical professional use throughout the world. The user gains the assurance that comes from a thoroughly proven design.

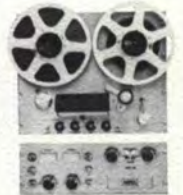
COMPARISON OF THE 351-2 AND 354

The model 354 expands the Ampex line and is offered as a new alternative to the 351-2. Both are professional stereophonic recorder/reproducers. Both are of the same high quality and outstanding durability. And both have the same performance specifications. The *difference* is in *application features*. The major feature differences are compared below to assist you in choosing the machine best fitting your needs. (See detailed features on Page 3.)

351-2



354



Same	BASIC PERFORMANCE SPECIFICATIONS	Same
Basic to the series	TAPE TRANSPORT	Same (see 351 literature—Bulletin 203)
Same (new, high density)	HEADS	Same (new, high density)
Two panels, each 7" x 19"	ELECTRONICS PANELS	One panel, 7" x 19"
Two 4-inch professional meters, each on a separate chassis	V-U METERS	Two 3-inch professional meters side by side for easy comparison and balancing of channels
Two pushbuttons	RECORDING CHANNEL SELECTION	Selector switch
Built-in, switchable	MICROPHONE INPUTS	Plug in (optional)
Built-in, switchable	BALANCED LINE INPUT	Plug in (optional)
+8 or +4 dbm	NOMINAL OUTPUT LEVEL	+4 dbm
+25 dbm	MAXIMUM PLAYBACK OUTPUT	+22 dbm
37 lbs.	WEIGHT OF ELECTRONICS	22 lbs.
Rack and portable only	MOUNTING	Rack, portable and CONSOLE
Back of chassis	ELECTRONIC ADJUSTMENTS	Front of panel

MODEL 354 ELECTRONICS AND CONTROL FEATURES

- Compactness of the new two-channel electronics and power supply (7" x 19") permits mounting in console, in a small portable case, in one section of a large portable case (allowing room for mixer or accessories), or into same rack space as a single channel recorder.

- More convenient monitoring and balancing of stereo channels is made possible by the side-by-side position of the V-U meters which allows simultaneous reading of both channels. Meters are illuminated and are of same quality as meters on the 351.

- Record-mode indicating light can be seen even at extreme angles since they project out from the face of the recorder.

- Master power switch controls both transport and electronics.

- Channel A & B phone monitor jacks are arranged so stereo headset with three-circuit plug can be inserted in either jack to hear both channels or standard two-circuit plug inserted in one or the other to hear A or B.

- Reset indicator on record level controls permits return to a previous level.

- Government specifications for corrosion resistance are met by yellow dichromate finish on all exposed chassis areas.

- All head and power connectors on electronic chassis are each of a different type to insure correct interconnection of transport and electronics.

- Input and output connectors are of reliable XL type.

- Etched-circuit electronics are mounted on a durable epoxy board which in turn is shock mounted to the chassis. Removal is simple if ever required.

- Shielding of power transformer assures low noise in the electronics assembly.

- Quick A-B comparison can be made between original and recorded program by selector switches which transfer V-U meters, monitoring and output circuits from record to playback.

- Record selector permits erase-record of either track individually (as in half-track recording, sound on sound, language teaching, etc.), or both tracks can simultaneously be used for stereo record and reproduce. Protection against erasure is provided by "safe" positions on selector which inactivate the record button.

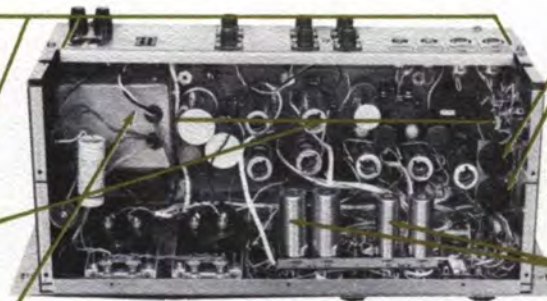
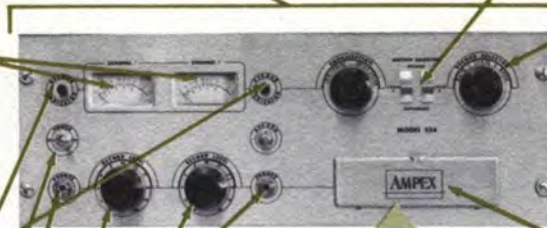
- All electronic alignment controls are accessible from an exclusive front-panel door eliminating the need to work from the back of a rack mounted unit or to remove electronics from consoles or cases for adjustments.

- As further protection against accidental erasure, record relay inactivates both bias oscillator and record head amplifiers by cutting plate voltages.

- Complete access to all wiring, top and bottom, is made possible by removable bottom plate and hinged front and rear panels. All soldered connections on the etched circuit board can be unsoldered and replaced without removing the circuit board from the chassis.

- Optional plug-in preamplifiers (or balanced-bridge input transformers) permit a wide latitude of adaptation for desired input characteristics. Since dummy plugs only are used for unbalanced line or high level input, the total cost of the recorder is reduced for those users whose installations always provide high level input such as the MX-35 Ampex Mixer or similar input systems.

- Exclusive plug-in equalizers provide NAB, AME or CCIR curves appropriate to the tape speed used, and equalizers for still other curves will be available on special order. Switch selects for high or low tape speed.



TYPES OF MOUNTING



354 CONSOLE



354 PORTABLE



354 RACK MOUNTED

ACCESSORIES



MX-35 MIXER

Compact four-position, two-channel professional mixer operating from four low-Z microphone inputs and two unbalanced line inputs. Switching control permits each input to feed either the left or right, or split to feed equally into both channels. For more inputs, two or more of these mixers can be coupled, with overall master gain controlled by last unit in the system. (Available September 1960.)



REMOTE CONTROL

Unit permits greatly expanded concept of studio recorder operation by duplicating functions of the record, play, fast forward and fast rewind buttons on the tape transport—hence allowing the recorder to be operated from two or more locations. Indicator lights on controls show play and record modes. Record button, like that on the recorder, is prevented from functioning when the record selector is in 'safe' position. Remote control available either in box or flush plate for mounting on studio control panel.



PLUG-IN EQUALIZERS

These interchangeable units provide NAB, AME, or CCIR curves appropriate to the tape speed used. Equalizers for other curves to meet special requirements or to match non-standard recorders will be available on special order (or can be assembled by the user).



PLUG-IN INPUT UNITS

Interchangeable units to match various inputs as follows: zero loss transformer plug-in for balanced bridging; 40 db miniaturized microphone pre-amplifier for normal pick-up conditions and/or high input microphones; 60 db miniaturized microphone pre-amplifier for distant pick-up conditions or low output microphones.

SPECIFICATIONS MODEL 354

IMPORTANT: AS PROFESSIONAL EQUIPMENT, THE AMPEX 354 IS DESCRIBED BY SPECIFICATIONS LISTED BELOW WHICH ARE ACCURATE MEASUREMENTS REQUIRED BY NAB STANDARDS AND DO NOT INCORPORATE ANY EXAGGERATED SALES CLAIMS. THESE ARE THE GUARANTEED MINIMUM PERFORMANCE SPECIFICATIONS THE CUSTOMER CAN EXPECT IN LONG-RANGE OPERATION.

HEADS: Two-channel Erase, Record, Playback.

TAPE SPEEDS: 7½ and 15 ips, or 3¾ and 7½ ips

FREQUENCY RESPONSE: 15 ips ± 2 db 30 to 18,000
7½ ips ± 2 db 40 to 12,000
3¾ ips ± 2 db 40 to 8,000

SIGNAL TO NOISE RATIO: Peak recorded level to unweighted noise
15 ips = 55 db Based on overall system, from
7½ ips = 55 db record input to playback output.
3¾ ips = 50 db

CROSSTALK REJECTION: 65 db at 400 cycles

FLUTTER AND WOW: 15 ips well below 0.15% RMS 7½ ips well below 0.2% RMS 3¾ ips well below 0.25% RMS

STARTING & STOPPING TIMES: Start: 1/10th second; Stop: within 2 inch tape travel after stop button is depressed.

TIMING ACCURACY: Within ± 0.2% (± 3.0 seconds in a 30 minute period).

RECORD INPUTS: Unbalanced bridging: 100k ohms input impedance requiring minimum signal of -5dbm to produce operating level.
(TWO) Balanced bridging: Using an accessory plug-in transformer; 20k ohms input impedance.

Microphone: Two sets of miniaturized plug-in microphone pre-amplifiers are available as accessories to convert line input to balanced microphone input; for use with low impedance microphones (50 to 200 ohms); minimum input signal for operating level is 4.5 millivolts on low (40 db) gain unit and .45 millivolts for the high (60 db) gain unit.

PLAYBACK OUTPUTS: Zero indication on the V-U meter corresponds to +4dbm into 600 ohms balanced or unbalanced load. Overload margin is maintained by providing a maximum output of +22dbm before clipping.

MONITORING: Independent record and playback systems allow tape to be monitored while recording. Phone jacks are provided to monitor channel A or B independently. Or by means of stereo headsets with 3 circuit plug, either jack will provide stereo monitoring.

POWER REQUIREMENTS: 2 amperes at 117 volts AC. Machines are available for either 50 or 60 cycles.

MOUNTING STYLES: Console, rack (or unmounted), or two-case portable.

RACK SPACE: Tape transport 15¾ inches, electronics, 7 inches. Both are 19 inch wide panels for rack mounting. Uncrated weight 80 lbs.

CONSOLE DIMENSIONS: 48" high x 24½" wide x 28½" deep—weight 155 lbs. (crated 200 lbs.).

PORTABLE WEIGHT: 103 lbs. total in two cases.

AUDIO PRODUCTS DIVISION
AMPEX PROFESSIONAL PRODUCTS COMPANY
934 Charter Street • Redwood City, California • EMerson 9-7111

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AMPEX CORPORATION
AUDIO DIVISION

DOMESTIC PRICE LIST
SUPERSEDES ALL PREVIOUS SCHEDULES

350 SERIES PROFESSIONAL RECORDERS/REPRODUCERS




EFFECTIVE JUNE 18, 1962 DEALER FRANCHISE: PROFESSIONAL

MODEL 354



MODEL 354 RECORDER/REPRODUCER

Two-speed, two-channel; sets a new standard in 10½" reel recorders. Famous Series 350 tape transport plus new, compact 2-channel electronics permits console, rack or 2-case portable mountings. Front panel access to electronic alignment. "Record-safe" switch opens record circuit; prevents accidental erasure. Record selector permits half-track, stereo or parallel track monophonic and sound-on-sound recording. Push button relay-solenoid operation; may be fully remote controlled. Unbalanced bridge inputs; balanced bridge or line inputs available with accessory transformer. Separate 2-track erase, record and playback head stacks permit monitoring while recording. A-B switch on each channel. Single and 2-channel headphone jacks.

														MODEL 354 INFORMATION AND ACCESSORIES													
														EQUALIZATION — All models supplied with NAB plug-in equalization.													
														INPUT — Price includes dummy plug for unbalanced line input only. For microphone or balanced line input, refer to accessory preamps, mixers and transformers shown below.													
														OTHER 354 ACCESSORIES — See Accessory List.													
														 354-U		 354-P		 354-C		MICROPHONE PREAMPS		LINE INPUT TRANSFORMERS		CONSOLE CABINET	PORTABLE CASES		MIXER MX-35
														UNMOUNTED		PORTABLE		CONSOLE		Plug-in Type with low impedance input (one per channel required)		Plug-in type (one per channel required)		Houses Transport and Electronics	Top Plate Portable Case	Houses Mixer with 1¾" Panel Added	Four position, two chan- nel, un- mounted
DESCRIPTION														Industry standard for multiplex broadcasting. Two channel, ¼" recorder/reproducer.													
TAPE SPEEDS														3¾ 7½	7½ 15	3¾ 7½	7½ 15	3¾ 7½	7½ 15	40 db	60 db	Bal. Brdg.	Match. 600 ohm	Top Plate	Elec. Case		
CATALOG NUMBER														96600-07	96600-01	96600-11	96600-03	96600-09	96600-02	96440-01	96440-04	96134-01	96134-02	5728-01	5727-01	4100-01	96910-01
SUGGESTED USER'S PRICE														\$1890.		\$2010.		\$2185.		\$45.00	\$60.00	\$14.50	\$14.50	\$295.00	\$75.00	\$45.00	\$395.00

AMPEX

AMPEX CORPORATION
AUDIO DIVISION




PROFESSIONAL/MASTER ACCESSORIES

ACCESSORIES
FOR:
300
350
3000
PR-10

DOMESTIC PRICE LIST
SUPERSEDES ALL PREVIOUS SCHEDULES

EFFECTIVE JUNE 18, 1962

DEALER FRANCHISE:
PROFESSIONAL- MASTER

GENERAL ACCESSORIES	DESCRIPTION	SPECIFICATIONS — USE	CATALOG NUMBER	USER NET PRICE
	MIXER, MODEL MX-10 — 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	\$395.00
	MIXER, MODEL MX-35 — 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	395.00
	SPEAKER/AMPLIFIER, MODEL SA-10 — 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	295.00
		Speaker and Enclosure, only	96980-01	120.00
		40 watt Amplifier, only	96950-01	175.00
		Portable Case	96960-01	60.00
	REMOTE CONTROL — For use with 351/352/354/PR-10	Wired (in box with 30' cord)	96510-01	50.00
		Panel Type (less cord)	96520-01	42.00
	LINE INPUT TRANSFORMERS — For use with PR-10/MX-10/SA-10/354/MX-35	Balanced Bridge	96134-01	14.50
		Matching 600 ohm	96134-02	14.50
	MICROPHONE PREAMPS — For use with PR-10/354 and SA-10	40 db (PR-10, 354)	96440-01	45.00
		60 db (PR-10, 354)	96440-04	60.00
		SA-10	96440-03	45.00
	HEAD DEMAGNETIZERS — For use with all series		820	9.95
	APPROVED CLEANING FLUID — For use with all series	4 oz. can	823	1.45
	APPROVED LUBRICATING OIL — For use with all series	4 oz. bottle	827	.95

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

350 SERIES ACCESSORIES

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

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