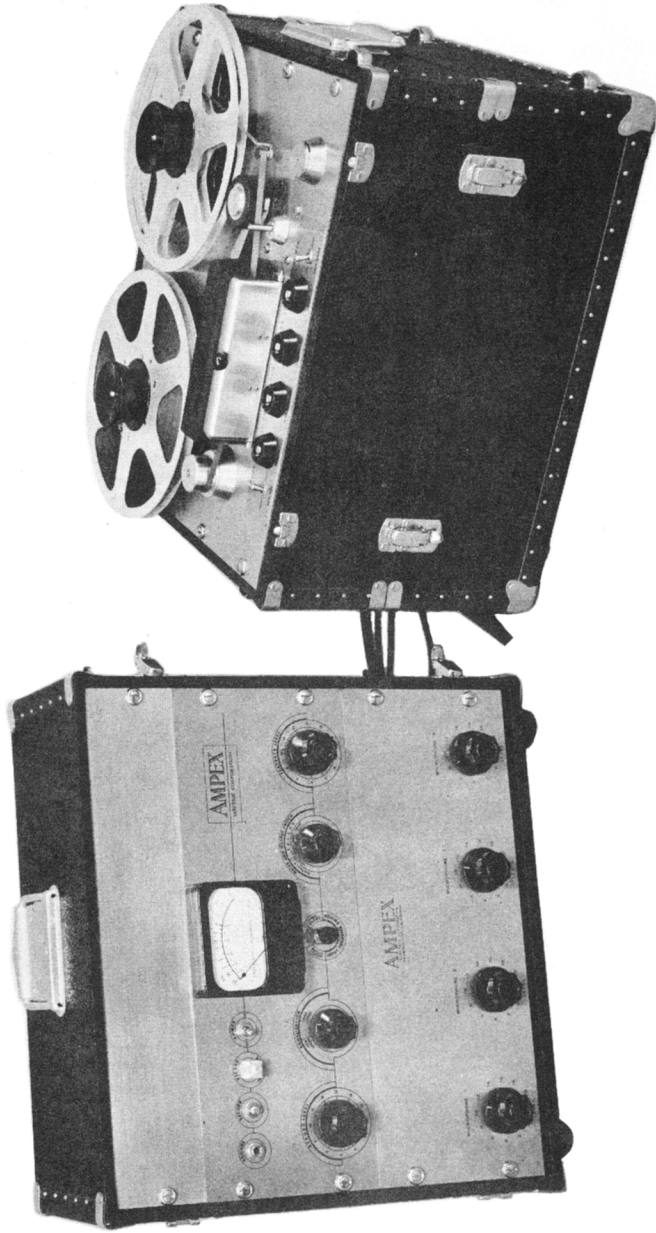


**AMPEX**

**MODEL 350**

**OPERATION AND  
MAINTENANCE MANUAL**

**MODEL 350**



MODEL 350 TWO CASE PORTABLE  
(WITH FOUR CHANNEL MIXER)  
AMPEX CORPORATION  
REDWOOD CITY, CALIFORNIA

## SECTION 1

### SPECIFICATIONS

The Ampex Model 350 magnetic tape recorder is a two-speed audio recorder designed for use with standard 1/4 inch tape. Model 350 is available in console, two-case portable, and rack-mount styles, all with either full or half track heads. The performance specifications and characteristics of the machine are as follows:

#### TAPE SPEED

7-1/2 inches per second and 15 inches per second or

3-3/4 inches per second and 7-1/2 inches per second.

#### FREQUENCY RESPONSE

Speed	Response
3-3/4"	± 2 db 50 to 7,500 cycles
7-1/2"	± 2 db 40 to 10,000 cycles ± 4 db 30 to 15,000 cycles
15"	± 2 db 30 to 15,000 cycles

#### SIGNAL-TO-NOISE RATIO

Speed	Max. Record Level to Un-weighted Noise	Peak Record Level to Unweighted Noise
3-3/4"	60 db	50 db
7-1/2"	Full Track 70 db Half Track 65 db	Full Track 60 db Half Track 55 db
15"	Full Track 70 db Half Track 65 db	Full Track 60 db Half Track 55 db

The peak record level is defined as that level at which the overall (input to output) total RMS harmonic distortion does not exceed 3% when measured on a 400 cycle tone. Noise is measured when erasing a signal of peak recording level in the absence of new signal. Thus, bias and erase noise are included as well as playback amplifier noise. All frequencies between 50 and 15,000 cycles are measured.

#### FLUTTER AND WOW

Speed	Flutter and Wow
3-3/4"	.3%
7-1/2"	.25%
15"	.2%

The flutter and wow measurements include all components between 0 and 300 cycles using an RMS meter calibrated to read the peak value of constant amplitude sine wave flutter.

#### PLAYING TIME WITH NARTB 10-1/2 INCH REELS (2,400 feet of tape)

Speed	Half Track	Full Track
3-3/4"	4 hrs. 16 min.	2 hrs. 8 min.
7-1/2"	2 hrs. 8 min.	64 min.
15"	64 min.	32 min.

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

**STOPPING TIME:** When playing at the 15 inches per second speed, the tape moves less than two inches after pressing the "Stop" button.

**PLAYBACK TIMING ACCURACY:** ± .2% or ± 3.6 seconds in a thirty minute recording.

**REWIND TIME:** Approximately one minute for the full 2,400 foot NARTB reel.

**CONTROLS:** The tape motion is controlled by four pushbuttons: Play, Stop, Fast Forward, and Rewind. A separate Record button energizes the record circuits, which will drop out when the machine is stopped. The tape speed is changed by a Motor Speed Switch. An Equalization Switch changes the amplifier equalization appropriately for the various tape speeds. A Reel Size switch provides proper tape tension for either the NARTB 10-1/2 inch reel or the RMA 5 inch and 7 inch reels.

**RECORD INPUT:** A switch allows the recorder to accommodate either microphone level low impedance input or to bridge a 600 ohm + 4 VU line, balanced or unbalanced. Minus 80 dbm at the microphone input will produce the recommended record level.

**PLAYBACK OUTPUT:** Plus 4 VU output into 600 ohms balanced or unbalanced. Will feed a high impedance amplifier directly with approximately one volt.

**PLUG-IN HEAD HOUSING:** The erase, record, and playback heads are contained in a single plug-in head housing.

**MONITORING:** Independent record and playback systems allow the 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:** The half and full track machines require 2.7 amperes at 115 volts AC. Machines are available for either 50 or 60 cycle operation.

**DIMENSIONS AND WEIGHT:**

Rack Mounted: (Standard 19 inch wide panel with commercial notching.)

Tape Transport: 15-3/4 inches of rack space, weight 50 lbs.

Electronic Assembly: 7 inches of rack space, weight 18 lbs.

Power Supply: 3-1/2 inches of rack space, weight 8 lbs.

Console:

Height - 48" (maximum)  
Depth - 28-1/2" (maximum)  
Width - 24-1/2"  
Weight - 168 pounds

Two Case Portable:

Tape Transport Case

Height - 15-1/2"  
Depth - 17"  
Width - 20-1/4"  
Weight - 69 pounds

Electronic Assembly & Power Supply Case (with extra space for mixer or cable storage)

Height - 19"  
Depth - 13"  
Width - 21"  
Weight - (less mixer) 42 pounds