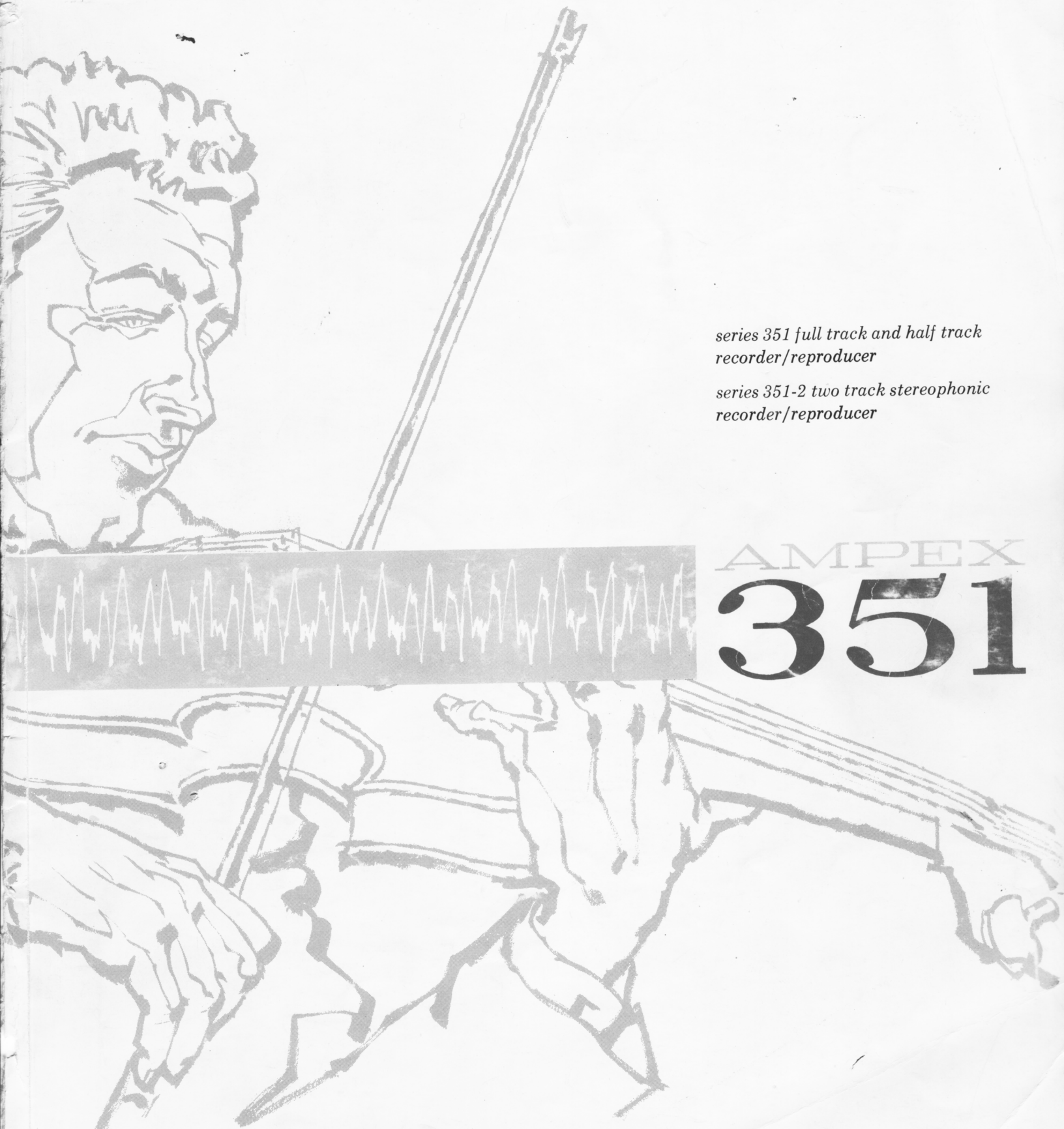


JM = Komet
tm 1008



*series 351 full track and half track
recorder/reproducer*

*series 351-2 two track stereophonic
recorder/reproducer*

AMPEX
351

the standard of excellence in professional recorders



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AMPEX SERIES 351

SECTION I

DESCRIPTION AND PERFORMANCE CHARACTERISTICS

GENERAL

The AMPEX Series 351 Magnetic Tape Recorder/Reproducers are high quality precision instruments designed for the professional user who requires the finest and most faithful recording and reproduction.

A basic recorder/reproducer in the 351 series consists of a tape transport for operation at tape speed pairs of 3-3/4 inches per second (ips) and 7-1/2 ips or 7-1/2 and 15 ips, a head assembly for use with 1/4-inch magnetic tape, and an electronic assembly which contains the record amplifier, reproduce amplifier, bias and erase oscillator, and power supply -- all featuring etched board construction.

Head assemblies for either full (single) track, half track or two track stereophonic (351-2) operation are available.

CCIR equalization can be obtained on request when ordering equipment.

Several mounting arrangements are offered - console, two case portable and rack mount. In the portable equipment, one case contains the tape transport and the other houses the electronic assembly unit.

PERFORMANCE CHARACTERISTICS

<u>Tape Width</u>	1/4-inch	
<u>Tape Speed Pairs</u>	3-3/4 -- 7-1/2 (ips) 7-1/2 -- 15 ips	
<u>Frequency Response</u>	Speed (ips)	Response (cycles per second)
	3-3/4	± 2 db 50 to 7,500
	7-1/2	± 2 db 40 to 10,000
	15	± 4 db 30 to 15,000 ± 2 db 30 to 15,000
<u>Signal-to-Noise Ratio</u>	Speed (ips)	Peak Record Level to Unweighted Noise (db)
	3-3/4	50
	7-1/2	60 full track 55 half track or two track
	15	Same as 7-1/2 ips

Peak record level is that level at which the overall (input to output) total rms harmonic distortion does not exceed 3 percent when measured on a 400 cycle tone. Noise is measured

Signal-to-Noise Ratio
(Cont'd)

when erasing a signal of peak recording level in the absence of new signal. Bias, erase and reproduce amplifier noise are included in the measurement. All frequencies between 50 and 15,000 cycles are measured.

Flutter and Wow

Speed (ips)	Flutter and Wow (percentage rms)
3-3/4	.25
7-1/2	.2
15	.15

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

Reproducing Time

(NAB 10-1/2 Inch Diameter
Reels, 2400 feet of tape)

Speed (ips)	Half Track		Full Track	
	(hrs)	(min)	(hrs)	(min)
3-3/4	4	16	2	8
7-1/2	2	8	1	4
15	1	4		32

Starting Time

The tape is accelerated to full speed in less than 1/10 of a second.

Stopping Time

When operating at 15 ips, the tape moves less than two inches after the STOP button is depressed.

Reproduce Timing
Accuracy

Accuracy (percentage)	Accuracy (sec)	Length of Recording (min)
± .2	± 3.6	30

Rewind Time

Approximately 1 minute for a full 2,400 foot NAB reel.

Controls

Tape Motion

All tape motion is controlled by four pushbuttons, PLAY, STOP, FAST FORWARD and REWIND.

Record Control

A separate RECORD button on the face of the electronic assembly, when depressed, energizes the record relay which drops out when the STOP button is depressed.

Controls
(Cont'd)

The stereophonic function (two track) is controlled by depressing the RECORD buttons on both electronic assemblies simultaneously. In two track operation, for consistency, the master electronic assembly is usually connected to the upper track in the head assembly so that, when the RECORD button on the master (only) is depressed, recording takes place on the upper track. The lower track can be brought into the recording mode by selecting the lower track RECORD button at the slave electronic assembly.

(Concurrent dual track recording can be achieved by depressing one RECORD button only when the Remote Control Unit is included in the system.)

Tape Speed

Tape speed can be changed by the TAPE SPEED switch. LOW or HIGH positions are used to select drive motor windings.

Equalization

An EQUALIZATION switch on the face of the electronic assembly provides a means for selecting LOW or HIGH speed equalization appropriate to the tape speed to be used.

Reel Size

A REEL SIZE toggle switch on the tape transport makes possible selection of the proper tape tensioning for the NAB 10-1/2 inch diameter reel or the EIA 5 inch and 7 inch reels.

Record Inputs

The INPUT TRANSFER SWITCH provides a means for selecting three different types of inputs:

Input

MICROPHONE

Input Impedance
150 to 250 ohms nominal
(transformer can be strapped for 30-50 ohms nominal).

Minimum Input Signal that
will produce Operating Level
(1% tape characteristic distortion)

150 microvolts

Input
(Cont'd)

BAL BRIDGE	300K ohms	-10 dbm
UNBAL BRIDGE	140K ohms	-13 dbm

Reproduce Output

Zero indication on the v-u meter corresponds to +8 dbm \pm 1 db. Sufficient gain and power handling capabilities exist to feed a +14 vu line. Output into 600 ohms balanced or unbalanced. The center tap of the output transformer can be strapped to ground for balanced output. Plus 4 vu also can be obtained by strapping. (See INSTALLATION).

Head Housing

The erase, record, and reproduce heads are contained in a single head housing.

Monitoring
(aural and visual)

The signal on the tape can be monitored while the equipment is recording. Two phone jacks are available to allow monitoring the record input signal, or the output signal from the reproduce head. A two position switch provides a means for making direct comparison 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 also is used to read bias and erase current.

Power
Requirements

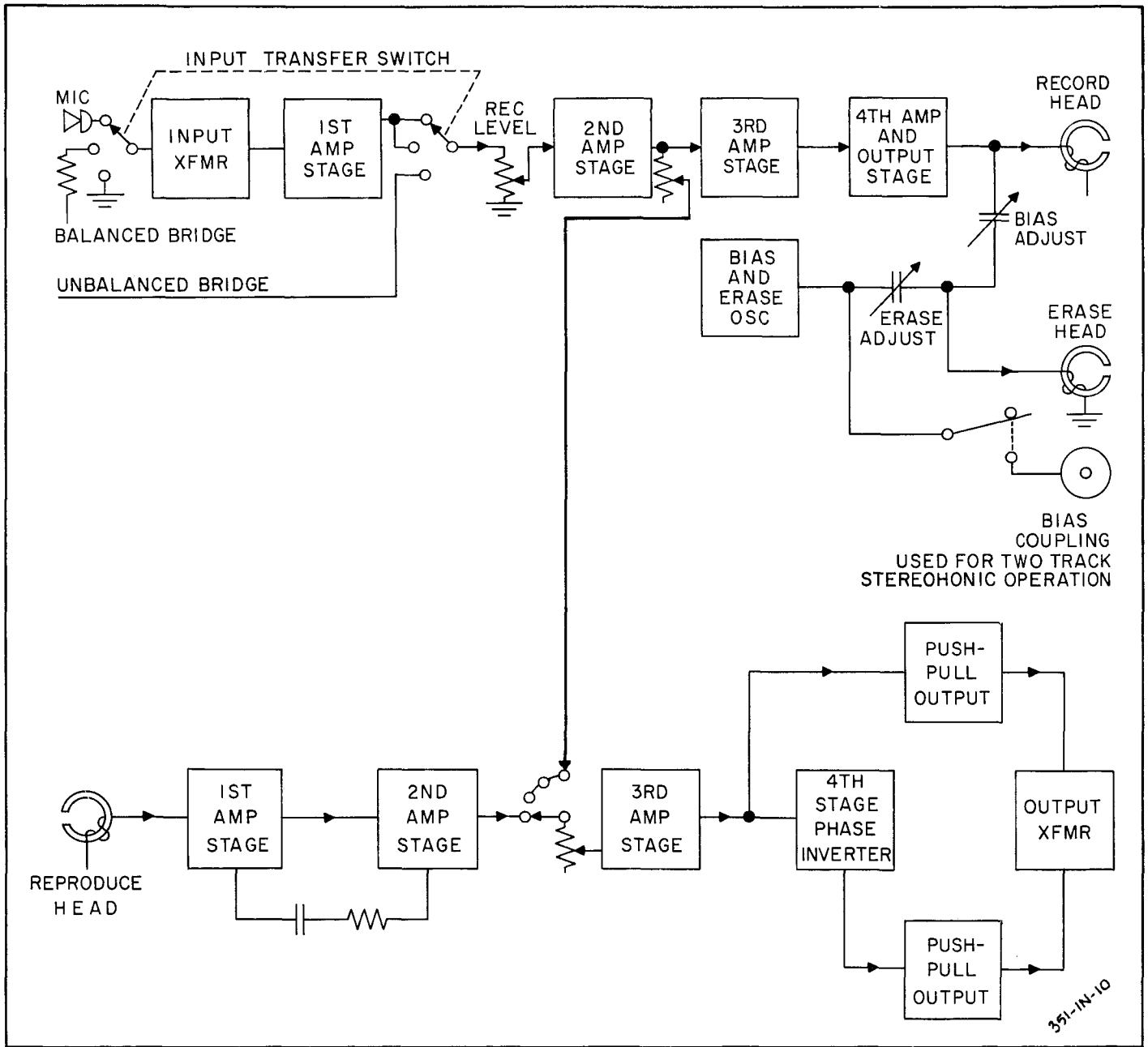
The half track and single track equipment requires 2.0 amperes at 117 volts ac (200 watts) and is available for 50 or 60 cycle line frequency.

Two track equipment requires 2.5 amperes at 117 volts ac (250 watts), 50 or 60 cycles.

When the Ampex Model 375 Precision Frequency 60 cycle amplifier is used with the equipment, power requirements are greater by 2.5 amperes: single track equipment 4.5 amperes; dual track 5.0 amperes.

EQUIPMENT AVAILABLE

<u>Dimensions and Weight</u> (in.) (lb.)	<u>Item</u>	<u>Height</u>	<u>Depth</u>	<u>Width</u>	<u>Weight</u>
<u>Rack Mount</u>	Tape Transport	15-3/4 (rack space)	8 (beyond rack)	19	50
	Electronic Assembly	7 (rack space)	8-1/2 (beyond rack)	19	18
<u>Console</u>	Console	48 (max)	28-1/2 (max)	24-1/2	155
<u>Two Case</u> <u>Portable</u>	Tape Transport Case (Equipment in Case)	15-1/2	17	20-1/4	69
	Electronic Assembly Case (Equipment in Case)	9	13	21	38
	Two Track Stereophonic Electronic Assembly Case (Equipment in Case)	16-1/2	13	21	80
<u>Remote Control</u>	5763-02	3-3/4	3-3/4	10-3/4	5
	5763-03				



SYSTEM BLOCK DIAGRAM