

AMPEX

1020 KIFER ROAD

SUNNYVALE, CALIFORNIA

AUDIO INC.

DECEMBER 1, 1958

REPLACEMENT PARTS CATALOG

This Catalog lists parts for the following models, and components:

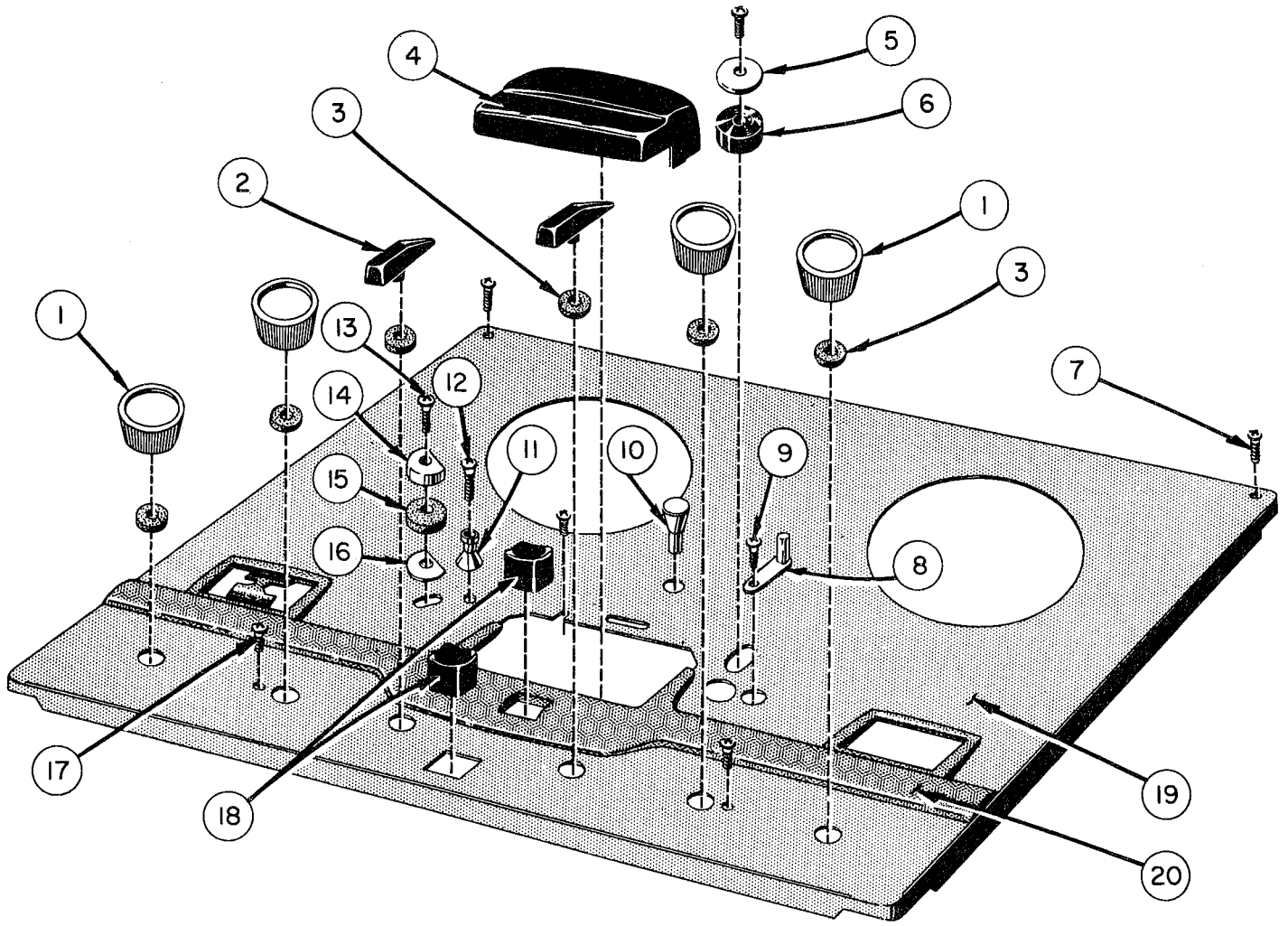
"A" Series; 900 Series; Custom 4000 and 6000 Series; Crescendo 7000 Series; Signature 8000 Series; Amplifier/Speakers 2000 Series; and Component Models, 302, 402 and 502.

Replacement parts are to be ordered from nearest Ampex Audio Inc., Authorized Service Center. Parts will not be shipped direct to Dealers or Consumers from factory.

Parts list provides all information necessary for ordering replacement parts. When ordering always use Ampex Catalog numbers, parts description, color (where applicable) and Model number. Many parts, i.e. Tubes, Resistors, Capacitors may be purchased from local electronic parts dealer.

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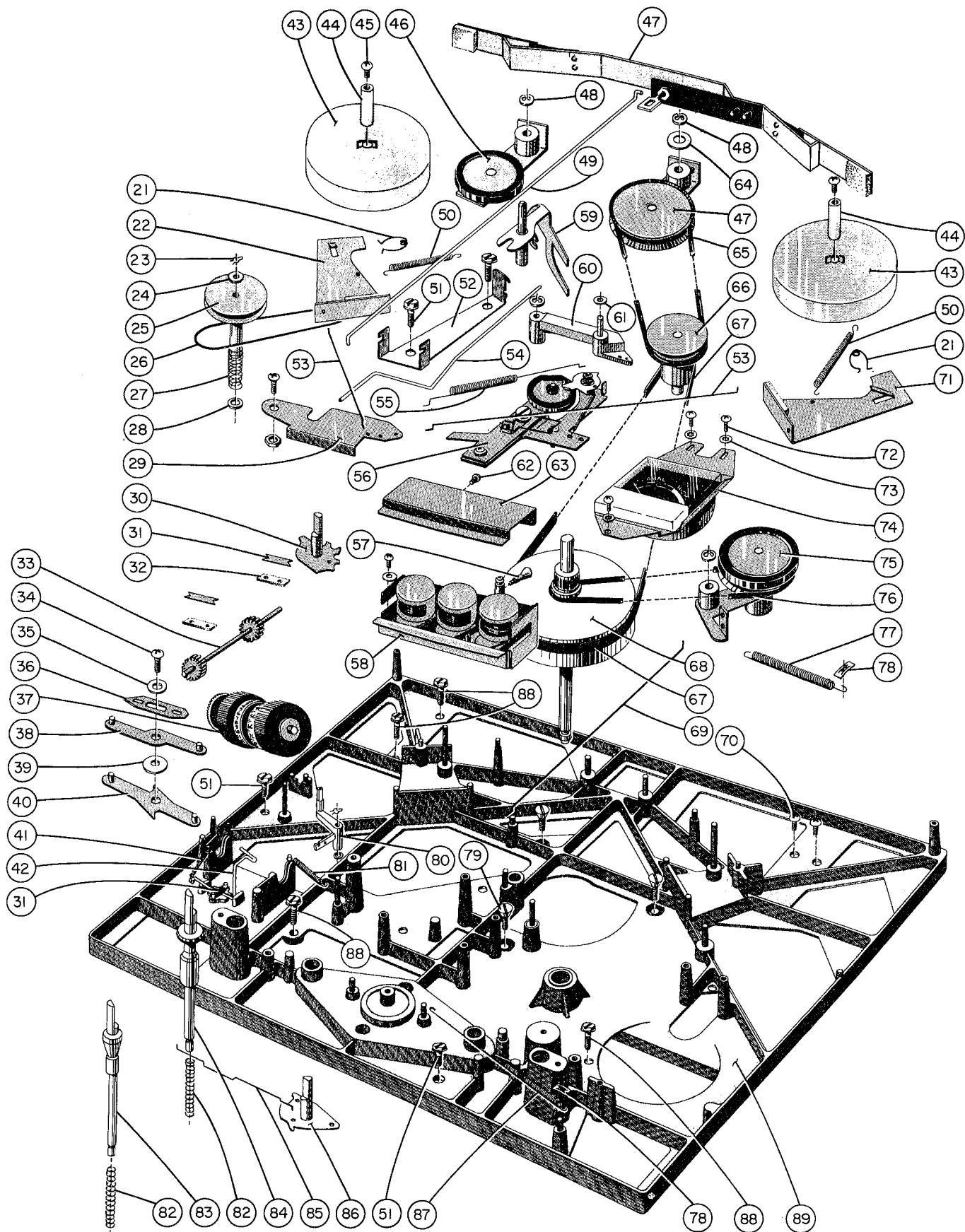
EXPLODED VIEW ABOVE TOP PLATE

EXPLODED VIEW ABOVE TOP PLATE

REFERENCE NUMBER	DESCRIPTION	CATALOG NUMBER		
		GRAY	BROWN	BEIGE
1	See Section on Knobs			
2	Control Knob Assembly, fast wind, Play-Record includes Spring # 27-0005-1	10-0008-1	10-0008-2	10-0008-3
3	Washer, Felt	44-0026-1	44-0026-1	44-0026-1
4	Head Cover, with opening for head shift rod, Universal playback, Polystyrene	29-0034-3	29-0034-4	29-0034-5
	Head Cover, Without opening "A" Series	29-0034-1	29-0034-2	
5	Cover, Capstan Idler	29-0032-1	29-0032-2	29-0032-3

EXPLODED VIEW ABOVE TOP PLATE

REFERENCE NUMBER	DESCRIPTION	CATALOG NUMBER		
		GRAY	BROWN	BEIGE
6	Capstan Idler Assembly, 1-1/16" dia.	04-0020-1	04-0020-1	04-0020-1
7	Screw, Cover Plate, secures cover plate rear corners 6/32 x 1/4"	40-0080	40-0079	40-0114
8	Automatic Stop Arm Assembly	04-0057-1	04-0057-2	04-0057-3
9	Screw, Machine 4-40 x 1/4"	40-0093	40-0094	40-0115
10	Button, Speed Control	10-0009-1	10-0009-2	10-0009-3
11	Tape Guide	21-0004	21-0004	21-0004
12	Screw, Machine, 4-40 x 3/4" Phillips	40-0056	40-0078	40-0113
13	Screw, Machine, 4-40 x 1/4" Phillips	40-0055	40-0077	40-0112
14	Cover, Tape Hold Back	29-0033-1	29-0033-2	29-0033-3
15	Washer, Felt Tape Hold Back	44-0026-2	44-0026-2	44-0026-2
16	Base, Tape Hold Back	33-0004-1	33-0004-1	33-0004-1
17	Screw, 6/32 x 3/8" washer #40-0031 needed	40-0065-1	40-0065-1	40-0065-1
18	Pushbutton, Stop and Record Lock	10-0007-1	10-0007-2	10-0007-3
19	Cover Assembly, with Escutcheon, Model "A" Series, Stereo Playback without automatic stop assembly Models A-122, 121, 124 for Cover Assembly with top mounting screws (Ref. #7) add -A to part number	04-0019-2	04-0019-3	
	Cover Assembly, Escutcheon 902, 904, 910, "A" Universal Playback, Half-track Record with Automatic Stop Assembly	04-0019-5	04-0019-6	04-0019-7
	Cover Assembly with Escutcheon Models 952, 954, 960 Stereo Record, Universal Playback with Automatic stop assembly	04-0019-8		04-0019-9
	Cover Assembly with Escutcheon Model A-112P A-114 Half or Full Track Playback	04-0019-1		
20	Escutcheon	11-0017-1	11-0017-2	11-0017-3



EXPLODED VIEW - BASE PLATE TO TOP PLATE

EXPLODED VIEW - BASE PLATE TO TOP PLATE

REFERENCE NUMBER	DESCRIPTION	PART NUMBER
21	Spring, Brake, two required	27-0014-1
22	Take-up Brake Arm Assembly, with 13-0019-1 lining	04-0030-1
23	Retainer, Hair Pin Steel	32-0007
24	Washer, Cambric	44-0027-3
25	Worm Pulley Assembly	04-0023
26	"O" Ring Position Indicator	31-0003
27	Spring, Worm Counter Drive	24-0003
28	Washer, Cambric	44-0027-3
29	Brake Lever	23-0020-1
30	Play Control, Cam Assembly	04-0028-1
31	Spring, Retainer	27-0004-1
32	Pad, Retainer	13-0016-1
33	Jack Shaft Assembly, Counter Drive	03-0001-1
34	Screw, Machine, Phillips 6-32 x 1/4"	40-0054
35	Washer	44-0029-3
36	Shuttle, Interlock	23-0016-1
37	Position Indicator Assembly Gray	02-0042-1
	Position Indicator Assembly Brown	02-0042-2
	Position Indicator Assembly Beige	02-0042-4
38	Arm Assembly, Upper Cam Control	04-0032-1
39	Washer	44-0024-3
40	Arm Assembly, Lower Cam Control	04-0031-1
41	Spring, Position Indicator Latch	27-0003-1
42	Latch Escapement	23-0002-1
43	Turntable Assembly Gray	04-0026-1

EXPLODED VIEW - BASE PLATE TO TOP PLATE

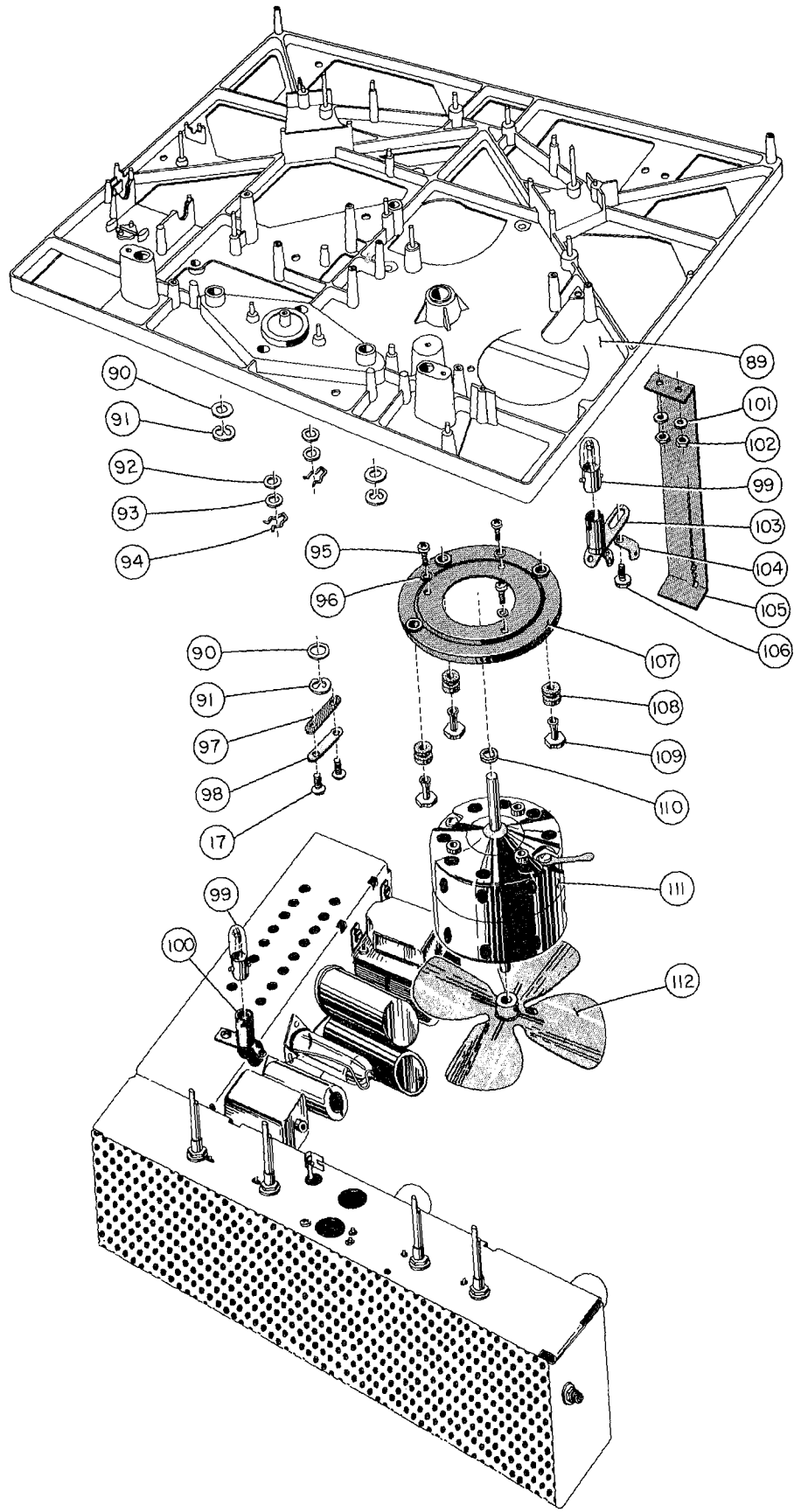
REFERENCE NUMBER	DESCRIPTION	PART NUMBER
	Turntable Assembly Brown	04-0026-2
	Turntable Assembly Beige	04-0026-3
44	Chrome Cap, Turntable Shaft Gray	21-0019-1
	Gold Cap, Turntable Shaft Brown	21-0019-2
	Brass Cap, Turntable Shaft Beige	21-0019-3
45	Chrome Screw Turntable Shaft 4-40 x 1/4" Gray	40-0055
	Gold Screw Turntable Shaft 4-40 x 1/4" Brown	40-0077
	Brass Screw Turntable Shaft 4-40 x 1/4" Beige	40-0112
46	Rewind Idler Assembly	03-0004-1
47	Fastwind Pulley Assembly, Includes Pulley, Brake Arm Assembly- Fastwind-Holdback Felts	03-0003-1
48	"E" Ring Retainer, .187 Shaft	32-0006-1
49	Rod, Control, Fastwind	21-0023-1
50	Spring, Brake De-Energizing	27-0016-1
51	Screw, Self Tapping #8 1/4"	40-0067
52	Bracket, Detent	26-0012-1
53	Rod, Control, Brake Release	21-0022-1
54	Wire, Dual Speed Detent and Equalization	23-0021-1
55	Spring, Capstan Idler; used on "A" Series Tape Transports without Automatic Stop Assembly. For Tape Transports with Automatic Stops use #27-0025-1 Spring.	27-0009-1
56	Automatic Stop Assembly (available as a complete assembly only) Does not include shut off lever arm or screw. See Ref. # 8 and 9	02-0059-1
57	Rod, Head Shift, Operates Head Shift Post and Plate Assembly #04-0058	21-0033-1
58	Head Assembly: Half-Track Record, Half-Track Erase, Universal Playback (Four-Track Playback) (900 Series)	02-0062-6
	Stereo Record, Stereo Erase, Universal Playback (Four-Track Playback) (950 Series)	02-0062-7

EXPLODED VIEW - BASE PLATE TO TOP PLATE

REFERENCE NUMBER	DESCRIPTION	PART NUMBER
	Half-Track Record, Half-Track Erase, Half-Track Playback Model "A" Series	02-0062-1
	Half-Track Record, Half-Track Erase Stereo Playback Model A-122, 124, "A" Series	02-0062-2
59	Yoke Sub-Assembly Dual Speed for both 60 cycles or 50 cycles	04-0033-1
60	Capstan Idler Arm Assembly	04-0025-1
61	Washer, Cambric	44-0027-3
62	Screw 6/32 x 1/4"	40-0054
63	MU Metal Head Cover	04-0021-2
64	Washer, Bowed Tension	44-0032
65	"O" Ring, Fast Forward	31-0001-1
66	Pulley, Motor 60 cycles used with General Industries Motor	25-0013-1
	Pulley, Motor 50 cycles used with General Industries Motor	25-0013-2
	Pulley, Motor 60 cycles used with Howard Motor	25-0013-3
	Pulley, Motor 50 cycles used with Howard Motor	25-0013-4
67	Belt, Capstan Drive	31-0004-1
68	Capstan Assembly	04-0024-1
69	Rod, Control, Play Takeup	21-0020-1
70	Screw, Machine, Phillips 8/32 x 5/16"	40-0063
71	Takeup, Brake Arm Assembly, with #13-0019-1 lining	04-0030-1
72	Screw, Machine, Phillips 6/32 x 1/4"	40-0054
73	Washer, Lock	44-0031
74	Meter, Recording level Gray	14-0001-1
	Meter, Recording level Brown	14-0001-2
	Meter, Recording level Beige	14-0001-4
75	Play-Takeup Assembly	03-0005-1

EXPLODED VIEW - BASE PLATE TO TOP PLATE

REFERENCE NUMBER	DESCRIPTION	PART NUMBER
76	"O" Ring Takeup	31-0002
77	Spring, Play Takeup	27-0013-1
78	Push on Retainer	32-0001
79	Screw, Self Tapping 6/32 x 1"	40-0068
80	Arm, Holdback	23-0019-1
81	Spring, Holdback Tension	27-0011-1
82	Spring, Shaft Return	27-0012-1
83	Cam, Shaft Stop	23-0017-1
84	Cam, Shaft Record	23-0018-1
85	Rod-Control, Holdback Tension	21-0021-1
86	Cam Assembly, Play Control	04-0028-1
87	Spring, Shuttle Return	27-0010-1
88	Screw, Self-Tapping #6 x 1"	40-0053
89	Base Plate Sub Assembly	04-0034-1



EXPLODED VIEW BELOW BASE PLATE

EXPLODED VIEW BELOW BASE PLATE

REFERENCE NUMBER	DESCRIPTION	PART NUMBER
90	Washer, Cambric	44-0027-2
91	Retainer, "E" Ring	32-0008
92	Washer, Rubber	44-0030
93	Washer, Steel	44-0029-2
94	Retainer, Hairpin	32-0007
95	Screw, Phillips 8-32 x 5/16"	40-0063
96	Washer	44-0031
97	Retainer, Capstan Thrust, Nylon	33-0007-1
98	Retainer, Capstan Thrust, Steel	33-0007-2
99	Lamp 6-8V .15 amp GE #47	61-0002
100	Pilot Light Holder	63-0009
101	Washer, included with Ref. #102	
102	Nut, Kep, with washer	42-0004
103	Pilot Light Holder	63-0009
104	Solder Lug	65-0003
105	Bracket, Transport Mounting	26-0013-1
106	Screw, Self-Tapping #6 x 1/4"	40-0069
107	Mounting Plate, Motor Assembly	33-0005-1
108	Shockmount, Motor	13-0017
109	Sleeve Nut	42-0016-1
110	Washer, Felt	44-0026-1
111	Drive Motor, General Industries	59-0001-1
	Drive Motor, Howard Industries	59-0001-3
112	Fan, Motor	25-0003

CONTROL KNOBS, TAPE TRANSPORT
 SERIES 950, 960 STEREO RECORD, STEREO PLAYBACK

DESCRIPTION	CATALOG NUMBER		
	GRAY	BROWN	BEIGE
Top Selector Listening; Radio-Phono and Microphone record level control	10-0005-5		10-0019
Bottom Selector Listening; Radio-Phono and Microphone record level control knob with arrow	10-0024		10-0021
Fastwinding, Play or Record control bar knob with #27-0005 Spring	10-0008-1		10-0008-3
Stop, Press to record knob with #27-0005 Spring	10-0007-1		10-0007-3

CONTROL KNOBS, TAPE TRANSPORT, SERIES 900 MONAURAL
 RECORD/STEREO PLAYBACK AND MODEL "A" SERIES

DESCRIPTION	CATALOG NUMBER		
	GRAY	BROWN	BEIGE
Selector, Listening, Radio Phono and Microphone, record level control knob with arrow and #27-0005 Spring	10-0005-1	10-0005-3	10-0022
Fast Winding, play or record control bar knob with #27-0005 Spring	10-0008-1	10-0008-2	10-0008-3
Stop, Press to record knob with #27-0005 Spring	10-0007-1	10-0007-2	10-0007-3

CONTROL KNOBS, AMPLIFIER SPEAKER MODEL A-692, 2010

DESCRIPTION	CATALOG NUMBER		
	GRAY	BROWN	BEIGE
Selector, Volume, Base-Treble, Control Knob with arrow and #27-0005 Spring	10-0005-1		

AUDIO CONTROL CENTER CONTROL KNOBS

DESCRIPTION	CATALOG NUMBER		
	GRAY	BROWN	BEIGE
Pushbutton Knob			10-0017-1
Monitor Pushbutton Knob			10-0017-2
Bass, Treble Control Knob			10-0018-1
Loudness Dual Control Bottom Section			10-0021
Loudness Dual Control Top Section with Pointer			10-0019

AM - FM STEREO TUNER CONTROL KNOBS

DESCRIPTION	CATALOG NUMBER		
	GRAY	BROWN	BEIGE
Off-On FM and AM Sharp-Broad with Pointer			10-0018-1
AM - FM Tuning			10-0018-2

MODEL A-423 CONSOLES WITH AM - FM TUNER
GRAY AND BROWN COLOR ONLY

DESCRIPTION	CATALOG NUMBER		
	GRAY	BROWN	BEIGE
Channel Selector, Volume, Base, Treble, Power Control Knob with arrow and #27-0005 Spring	10-0005-1	10-0005-3	
FM Station Selector Control Knob without arrow with #27-0005 Spring	10-0005-2	10-0005-4	

ELECTRONICS TAPE TRANSPORT - MODEL 900 SERIES AND "A" SERIES

PART NUMBER	DESCRIPTION
05-0001	Dual Potentiometer, Listening Volume "A" Series, Monaural Recorders
51-0001	Resistor, 4.7 K 1/2 W. 10%
51-0002	Resistor, 8.2 K 1/2 W. 10%
51-0003	Resistor, 3.3 ohm 1 W. 10%
51-0004	Resistor, 2.2 K 1 W. 10%
51-0005	Resistor, 3.3 K 1 W. 10%
51-0006	Resistor, 3.9 K 1 W. 10%
51-0007	Resistor, 6.8 K 1 W. 10%
51-0008	Resistor, 820 ohm 2 W. 10%
51-0009	Resistor, 1.2 K 2 W. 10%
51-0010	Resistor, 1.2 ohm 1 W. 10%
51-0012	Resistor, 1 meg. 1/2 W. 20%
51-0013	Resistor, 47 K 1/2 W. 20%
51-0014	Resistor, 100 ohm 1/2 W. 20%
51-0015	Resistor, 5.1 K 1/2 W. 5%
51-0016	Resistor, .36 meg. 1/2 W. 5%
51-0017	Resistor, 1 K 1/2 W. 10%
51-0019	Resistor, 39 K 1/2 W. 10%
51-0020	Resistor, .22 meg. 1/2 W. 10%
51-0021	Resistor, .47 meg. 1/2 W. 10%
51-0022	Resistor, 22 K 1 W. 10%
51-0024	Resistor, .33 meg. 1/2 W. 10%
51-0025	Resistor, .10 meg. 1/2 W. 20%
51-0026	Resistor, 1 K 1/2 W. 5%
51-0027	Resistor, 2.2 meg. 1/2 W. 20%

ELECTRONICS TAPE TRANSPORT - MODEL 900 SERIES AND "A" SERIES

PART NUMBER	DESCRIPTION
51-0028	Resistor, .1 meg. 1/2 W. 5%
51-0029	Resistor, .33 meg. 1/2 W. 10%
51-0055	Resistor, .1 meg. 1/2 W. 10%
51-0058	Resistor, 10 K 1/2 W. 10%
51-0059	Resistor, 5.6 K 1/2 W. 10%
51-0060	Resistor, 1.2 K 1/2 W. 10%
51-0065	Resistor, .22 meg. 1/2 W. 20%
51-0067	Resistor, .22 meg. 1 W. 10%
51-0068	Resistor, .56 meg. 1/2 W. 10%
51-0078	Resistor, 330 ohm 1/2 W. 10%
52-0001	Potentiometer, 500 K Audio Taper
52-0002	Potentiometer, 10 K Linear Taper
52-0005	Potentiometer, 500 K Audio Taper
52-0006	Potentiometer, Dual Concentric Unwired (Use 05-0001)
52-0016-2	Potentiometer, Dual Concentric 500 K
54-0001	Capacitor, .5 MFD 20% 400 DC W.V.
54-0002	Capacitor, .000560 MFD 5% 500 DC W.V.
54-0003	Capacitor, .047 MFD 20% 400 DC W.V.
54-0005	Capacitor, .015 MFD 5% 200 DC W.V.
54-0006	Capacitor, .0047 MFD 500 DC W.V.
54-0007	Capacitor, .001 MFD 5% 500 DC W.V.
54-0008	Capacitor, 100 MMF Variable
54-0009	Capacitor, .000350 MFD 5% 500 DC W.V.
54-0010	Capacitor, .1 MFD 20% 400 DC W.V.
54-0011	Capacitor, .02 MFD 500 DC W.V.

ELECTRONICS TAPE TRANSPORT - MODEL 900 SERIES AND "A" SERIES

PART NUMBER	DESCRIPTION
54-0027	Capacitor, .002 MFD 5% 200 DC W.V.
54-0031	Capacitor, .0011 MFD 5% 500 DC W.V.
55-0001	Capacitor Electrolytic, 10/10/10 MFD 350 V. DC
55-0002	Capacitor Electrolytic, 2000 MFD 15 V. DC
55-0003	Capacitor Electrolytic, 20/20/20/20 450 V. DC
56-0001	Tube 6C4 Monaural Recorders Only
56-0002	Tube 12AU7 V4, V6, V7
56-0003	Tube 6X4 V8
56-0004	Tube 12AX7 Selected V1, V2, V3
56-0005	Tube 12AX7 V5
57-0001	Rectifier, Selenium Single Phase, Center Tap
58-0001	Choke, 7.5 MH 550 ohms
58-0002	Oscillator Coil Monaural Record
58-0003	Power Transformer
58-0016	Oscillator Coil, Stereo Record
60-0004	Spring, Tube Clamp Medium
60-0005	Spring, Tube Clamp Large
60-0006	Tube Shield
60-0008	Tube Shield Magnetic
61-0001	Fuse; Cartridge 1-1/4 amp. 125 MAX Volts, Slo-Blo
62-0001	Leaf-Switch 3 P. S. T. N.O.
62-0002	Wafer-Switch, Four Position
62-0003	Wafer-Switch, Three Position
62-0004	Slide-Switch, 2 P. S. T. N.O.
62-0033	Switch-Wafer, Dual Concentric S. P. S. T.

ELECTRONICS TAPE TRANSPORT - MODEL 900 SERIES AND "A" SERIES

PART NUMBER	DESCRIPTION
63-0003	Fuse Holder
63-0004	Phono Jack, Double Connectors
63-0005	Connector, Receptacle; Female
63-0008	Jack, Phone Single Closed Circuit
63-0009	Pilot Light Holder
63-0010	Jack, Phone; Open Circuit
64-0001	Connector, Receptacle two contact

AMPLIFIER SPEAKER - MODEL A-621, A-692, 2010

PART NUMBER	DESCRIPTION
02-0008	Speaker Assembly 8 inch; available only as a replacement Part. This loud-speaker will not function properly when used with any other amplifier.
04-0008	Grille and Board Assembly, Model A-692 and 2010
10-0003	Knob, Black, Volume, Bass - Treble, Model A-621
10-0004	Knobs, Pushbutton Switch, Model A-621
10-0005-1	Gray Control knob assembly with arrow and #27-0005 Spring, A-692, 2010
11-0003	Jewel-Indicator, Model A-621
11-0006	Jewel-Indicator, Model A-692 and 2010
13-0008	Foot, Model A-692 and 2010
15-0003-1	Portable Case
17-0019	Cloth Bag for Power Cord and Cables
40-0021	Speaker Bolt, Stove-5/16 - 18 - 3/8" Black Oxide
44-0014-1	Washer, used with Speaker Bolt #40-0021
51-0019	Resistor, 39 K 1/2 W. 10%

AMPLIFIER SPEAKER - MODEL A-621, A-692, 2010

PART NUMBER	DESCRIPTION
51-0020	Resistor, .22 meg. 1/2 W. 10%
51-0036	Resistor, 82 K 1/2 W. 10%
51-0037	Resistor, .1 meg. 1/2 W. 10%
51-0038	Resistor, .12 meg. 1/2 W. 10%
51-0040	Resistor, .27 meg. 1/2 W. 10%
51-0041	Resistor, 750 ohm 1/2 W. 5%
51-0042	Resistor, 1.5 meg. 1/2 W. 10%
51-0043	Resistor, 56 ohm 1/2 W. 10%
51-0045	Resistor, 1500 ohm 2 W. 10%
51-0046	Resistor, 360 ohm 5 W. 5%
51-0047	Resistor, 470 ohm 1/2 W. 10%
51-0048	Resistor, 3.0 K 1/2 W. 10%
51-0050	Resistor, 15 K 1/2 W. 10%
51-0064	Resistor, 27 K 1 W. 10%
52-0007	Potentiometer, 250 K Audio Carbon
52-0008	Potentiometer, 1 K Linear Carbon
54-0003	Capacitor, .5 MFD 20% 400 V. DC
54-0011	Capacitor, .02 MFD 500 DC Ceramic Disc
54-0012	Capacitor, .000050 MFD 20% 500 DC
54-0014	Capacitor, .033 MFD 10% 200 DC
54-0015	Capacitor, .12 MFD 10% 200 DC
54-0026	Capacitor, .02 MFD 5% 200 DC
55-0007	Capacitor Electrolytic, 25 MFD 25 V. DC
55-0013	Capacitor Electrolytic, 40/20/10/4 MFD 450-450-400-350
56-0002	Tube 12AU7

AMPLIFIER SPEAKER - MODEL A-621, A-692, 2010

PART NUMBER	DESCRIPTION
56-0007	Tube 5879
56-0008	Tube 6AX5GT
56-0009	Tube 6V6GT (2)
56-0010	Tube EF-86 Amperex
58-0004-1	Power Transformer
58-0005-1	Output Transformer
60-0006	Tube Shield
61-0002	Lamp 6 - 8 V. .15 amp Miniature Bayonet Base
61-0003	Fuse; Cartridge 1-1/2 amp Fast Blo
62-0005	Switch, Pushbutton Assembly, Model A-621
62-0006	Switch, 4 Pole 4 Position, Model A-692 and 2010
62-0010	Wafer-Switch
63-0003	Fuse Holder
63-0004	Jack, Phonograph; Dual
63-0005	Connector, Receptacle, Female
63-0010	Jack, Telephone
63-0015	Fuse Extractor Post
63-0016	Pilot Lamp Assembly, Model A-692 and 2010
64-0001	Connector, Receptacle, 2 contact, Male
64-0002	Plug, Phono or Pin
73-0003-1	Input Cable 8 Foot
73-0003-2	Input Cable 20 Foot
73-0004-3	Power Cord, Model A-692 and 2010
73-0012-2	A.C. Cord, Model A-621

FIFTEEN WATT AMPLIFIER ASSEMBLY

CATALOG NUMBER	DESCRIPTION
51-0001	Resistor, 4.7 K 1/2 W. 10%
51-0019	Resistor, 39 K 1/2 W. 10%
51-0020	Resistor, 220 K 1/2 W. 10%
51-0024	Resistor, 330 K 1/2 W. 10%
51-0028	Resistor, 100 K 1/2 W. 5%
51-0036	Resistor, 82 K 1/2 W. 10%
51-0038	Resistor, 120 K 1/2 W. 10%
51-0040	Resistor, 270 K 1/2 W. 10%
51-0041	Resistor, 750 ohm 1/2 W. 10%
51-0042	Resistor, 1.5 meg. 1/2 W. 10%
51-0050	Resistor, 15 K 1/2 W. 10%
51-0057	Resistor, 22 K 1/2 W. 10%
51-0058	Resistor, 10 K 1/2 W. 10%
51-0075	Resistor, 110 K 1/2 W. 5%
51-0076	Resistor, 285 ohm 5 W. 5%
51-0077	Resistor, 100 ohm 1/2 W. 10%
51-0080	Resistor, 33 K 1 W. 10%
52-0005	Potentiometer, 500 K Audio Taper
52-0017	Potentiometer, 100 ohm 2 W.
54-0003	Capacitor, .047 MFD 400 V.
54-0011	Capacitor, .02 MFD 500 V.
54-0029	Capacitor, 150 MMF 500 V.
54-0033	Capacitor, .1 MFD 10% 200 V.
55-0014	Capacitor, Electrolytic 40/20/10 - 500/400/350 V.
55-0035	Capacitor, Electrolytic 50 V. 50 MFD

FIFTEEN WATT AMPLIFIER ASSEMBLY

CATALOG NUMBER	DESCRIPTION
56-0002	Tube 12AU7
56-0010	Tube EF-86
56-0012	Tube 6973
56-0013	Tube EZ-81
58-0012	Power Transformer
58-0013	Output Transformer
61-0003	Fuse 1-1/2 amp.
63-0015	Fuse Post
63-0028	Jack, Phone
73-0015	Power Cable

THIRTY WATT AMPLIFIER ASSEMBLY

CATALOG NUMBER	DESCRIPTION
51-0001	Resistor, 4.7 K 1/2 W. 10%
51-0017	Resistor, 1 K 1/2 W. 10%
51-0019	Resistor, 39 K 1/2 W. 10%
51-0020	Resistor, 220 K 1/2 W. 10%
51-0024	Resistor, 330 K 1/2 W. 10%
51-0028	Resistor, 100 K 1/2 W. 5%
51-0032	Resistor, 56 K 1/2 W. 5%
51-0035	Resistor, 33 K 1/2 W. 10%
51-0036	Resistor, 82 K 1/2 W. 10%
51-0040	Resistor, 270 K 1/2 W. 10%
51-0041	Resistor, 750 ohm 1/2 W. 5%

THIRTY WATT AMPLIFIER ASSEMBLY

CATALOG NUMBER	DESCRIPTION
51-0042	Resistor, 1.5 meg. 1/2 W. 10%
51-0077	Resistor, 100 ohm 1/2 W. 10%
51-0081	Resistor, 39 K 1 W. 10%
51-0086	Resistor, 175 ohm 7 W. 5%
52-0005	Potentiometer, 500 K Audio Taper
52-0017	Potentiometer, 100 ohm 2 W.
54-0003	Capacitor, .047 MFD 400 V.
54-0011	Capacitor, .02 MFD 500 V.
54-0029	Capacitor, 150 MMF 500 V.
55-0014	Capacitor, Electrolytic 40/20/10 - 500/400/350 V.
55-0035	Capacitor, Electrolytic 50 V. 50 MFD
56-0002	Tube 12AU7
56-0010	Tube EF-86
56-0014	Tube EL 34/6CA7
56-0015	Vacuum Tube 5U4GB
58-0008	Power Transformer
58-0009	Output Transformer
61-0005	Fuse, 2 amp. 250 V. max
63-0015	Fuse Post
63-0028	Jack, Phone
73-0015-2	Power Cable

AUDIO CONTROL CENTER

CATALOG NUMBER	DESCRIPTION
04-0127-1	Escutcheon Plate with Logo
04-0127-2	Escutcheon plate with Logo; Monitor button hole deleted.
10-0017-1	Selector, Pushbutton
10-0017-2	Selector Monitor Pushbutton
10-0018-1	Control Knob, Bass, Treble
10-0019	Loudness Control Knob Top
10-0021	Loudness Control Knob Bottom
50-0002	Tone Compensator Printed Circuit
50-0003	Loudness Compensator Printed Circuit
51-0001	Resistor, 4.7 K 1/2 W. 10%
51-0010	Resistor, 1.2 ohm 1 W. 10%
51-0012	Resistor, 1 meg. 1/2 W. 20%
51-0019	Resistor, 39 K 1/2 W. 10%
51-0020	Resistor, .220 K 1/2 W. 10%
51-0024	Resistor, .330 K 1/2 W. 10%
51-0025	Resistor, 10 meg. 1/2 W. 20%
51-0026	Resistor, 1 K 1/2 W. 5%
51-0029	Resistor, 330 K 1/2 W. 10%
51-0037	Resistor, 100 K 1/2 W. 10%
51-0049	Resistor, 47 K 1/2 W. 10%
51-0058	Resistor, 10 K 1/2 W. 10%
51-0059	Resistor, 5.6 K 1/2 W. 10%
51-0074	Resistor, 680 ohm 1/2 W. 10%
51-0082	Resistor, 150 K 1/2 W. 5%
51-0083	Resistor, 10 meg. 1/2 W. 5%

AUDIO CONTROL CENTER

CATALOG NUMBER	DESCRIPTION
51-0084	Resistor, 2.7 K 1/2 W. 10%
51-0085	Resistor, 820 ohm 1/2 W. 10%
52-0013	Potentiometer, Dual 500 K Loudness Control
52-0014	Potentiometer, Dual 500 K Treble Control
52-0015-1	Potentiometer, Dual 500 K Bass Control
52-0018	Potentiometer, Dual 500 K Level Control
54-0003	Capacitor, .047 MFD 400 V.
54-0006	Capacitor, .0047 MFD 500 V.
54-0010	Capacitor, .1 MFD 400 V.
54-0011	Capacitor, .02 MFD 500 V.
54-0033	Capacitor, .1 MFD 200 V. 10%
54-0034	Capacitor, 750 MMF 500 V. 5%
54-0035	Capacitor, .01 MFD 200 V. 10%
55-0026	Capacitor, Electrolytic 2000 MFD 15 V.
55-0033	Capacitor, Electrolytic 40-40/10-10 MFD 350/300 V.
55-0034	Capacitor, Electrolytic 30 MFD 250 V.
56-0002	Tube, Electron 12AU7
56-0004	Tube, Electron 12AX7
57-0006	Rectifier, Selenium 30 V. RMS, 600 M.A.
57-0007	Rectifier, Selenium 145 V. RMS, 20 M.A.
58-0010	Power Transformer
60-0006	Tube Shield
61-0002	Pilot Lamp
61-0003	Fuse, 1-1/2 amp.
62-0017	Switch, Pushbutton, 5 Circuit

AUDIO CONTROL CENTER

CATALOG NUMBER	DESCRIPTION
62-0032	Switch D. P. D. T.
63-0004	Jack, Phone
63-0005	Connector, Receptacle; Female two Contacts
63-0015	Fuse Post
63-0028	Jack, Phone, Single Open Circuit
73-0029	Cable, A. C. Power

AM - FM STEREO TUNER

CATALOG NUMBER	DESCRIPTION
28-506A	Level Set Control 500 K C-2 Taper
55-1	Choke 5.5 Micro Henry 1 W. TV Choke
50-6	Power Transformer
15-201	AM Tuning Capacitor
15-101	FM Tuning Capacitor with shield
54-3	AM Oscillator Coil
55-7	10 KC Filter Choke Coil
EZ-80	Tube 6V4
ECC-81	Tube 12AT7
ECC-82	Tube 12AU7
EM-84	Tuning Indicator
6AL5	Tube
6AU6	Tube
6BA6	Tube
6AB4	Tube

AM - FM STEREO TUNER

CATALOG NUMBER	DESCRIPTION
6BK7	Tube
6BE6	Tube
6BV8	Tube
	Lamp, Pilot GE #12
	Socket, Pilot Light Sylvania #7930-0007
	Dial Cord Birnback .025 dia. #052 (Pre-stretched)
10-0018-1	Knob, Control with pointer
10-0018-2	Knob, Control without pointer
11-0040	Escutcheon
11-0041	Dial Glass Stereo Tuner
871	Walnut Cabinet
870	Unfinished Cabinet
10-301-1	Capacitor, Ceramic 300 MMFD 10%
10-330-2	Capacitor, Ceramic 33 MMFD 20%
10-500-2	Capacitor, Ceramic 50 MMFD 20%
10-502-UL	Capacitor, Ceramic .005 MFD GMV 900 V. AC UL Approved
10-681-2	Capacitor, Ceramic 680 MMFD 20%
10-2.2	Capacitor, GA Stackpole 2.2 MMFD
11-471	Capacitor, 470 MMFD 5% Elmenco DM-15-471
15-5	Capacitor, Trimmer 1.5 - 10 MMFD
13-802-1	Capacitor, Tubular, wax coated .008 MFD 100 V. 10%
13-104-1	Capacitor, Tubular, wax coated .1 MFD 200 V.
13-503-2	Capacitor, Tubular, wax coated .05 MFD 400 V.
14-24	Capacitor, Electrolytic Can 40/40/10/10 250 V. 1-3/8" x 2"
14-25	Capacitor, Electrolytic Can 30/30/30 300 V. 1-3/8" x 2-1/2"

AM - FM STEREO TUNER

CATALOG NUMBER	DESCRIPTION
13-106	Capacitor, Paper Tubular, Insulated Cover 10 MFD 50 V. 3/8" x 1"
53-1	Coil, 1st FM IF
53-2	Coil, 2nd FM IF
53-3	Coil, FM Detector
53-4	Coil, 3rd AM IF
53-5	Coil, 3rd FM IF
53-6	Coil, 1st AM IF
53-6	Coil, 2nd AM IF
53-7	Coil, 2nd AM RF
53-8	Coil, 1st AM RF
8-16	Switch, AM
8-17	Switch, FM
20-101 51-0014	Resistor, 100 ohm 1/2 W. 10%
20-102 51-0017	Resistor, 1 K 1/2 W. 10%
20-103 51-0058	Resistor, 10 K 1/2 W. 10%
20-104 51-0071	Resistor, 100 K 1/2 W. 10%
20-105 51-0055	Resistor, 1 meg. 1/2 W. 10%
20-123 51-0051	Resistor, 12 K 1/2 W. 10%
20-152 51-0018	Resistor, 1500 ohm 1/2 W. 10%
20-220	Resistor, 22 ohm 1/2 W. 10%
20-221	Resistor, 220 ohm 1/2 W. 10%
20-222 51-0054	Resistor, 2200 ohm 1/2 W. 10%
20-223 51-0057	Resistor, 22 K 1/2 W. 10%
20-224 51-0065	Resistor, 220 K 1/2 W. 10%
20-225 51-0027	Resistor, 2.2 meg. 1/2 W. 10%

AM - FM STEREO TUNER

CATALOG NUMBER	DESCRIPTION
20-272	Resistor, 2700 ohm 1/2 W. 10%
20-273 51-0044	Resistor, 27 K 1/2 W. 10%
20-333 51-0035	Resistor, 33 K 1/2 W. 10%
20-470	Resistor, 47 ohm 1/2 W. 10%
20-471 51-0047	Resistor, 470 ohm 1/2 W. 10%
20-473 51-0013	Resistor, 47 K 1/2 W. 10%
20-474 51-0021	Resistor, 470 K 1/2 W. 10%
20-680	Resistor, 68 ohm 1/2 W. 10%
20-682 51-0069	Resistor, 6800 ohm 1/2 W. 10%
10-100-NPO	Capacitor, Ceramic 10 MMFD
10-101-2	Capacitor, Ceramic 100 MMFD 20%
10-102-2	Capacitor, Ceramic 1000 MMFD 20%
10-103	Capacitor, Ceramic 10000 MMFD GMV
10-120-2N-750	Capacitor, Ceramic 12 MMFD N-750 20%
10-252-1	Capacitor, Ceramic 2500 MMFD 10%

SPEAKER ASSEMBLIES AND CROSSOVER NETWORKS

CATALOG NUMBER	DESCRIPTION
02-0008	Eight Inch Wide Range Model A-423, A-692, 2010
02-0074	Eight Inch Midrange Model 7000, 8000 Crescendo, Signature Series
02-0071	Twelve Inch Woofer, Custom, Crescendo, Signature Series
02-0072	High Frequency Speaker (Tweeter) Custom, Crescendo, Signature Series
02-0073	Crossover Network, Custom Series
02-0081	Crossover Network, Crescendo Series
02-0075	Crossover Network, Signature Series

ACCESSORY ITEMS

CATALOG NUMBER	DESCRIPTION
820	Head Demagnetizer
823	Head Cleaner
828	Oil 4 oz. can for 900 Series and Universal Series Motors
830	Alignment Tape 7-1/2 inches per second
831	Alignment Tape 3-3/4 inches per second
842	Universal Series Owners Manual
843	Maintenance Manual "A" Series Recorders, and associated equipment (TM-1003)
85-0021	Maintenance Kit for Universal Series and Model "A" Series Recorders Kit contains many items frequently used in servicing i.e., Spring, Washers, Screws, "O" Rings, Drive Belts, etc.
73-0003-1	Input Cable Tape Deck to Amplifier Speaker, 8 foot
73-0003-2	Input Cable Tape Deck to Amplifier Speaker, 20 foot
73-0004-3	AC Power Cable for Model 900, 2010, "A" Series, Tape Decks and Portable Amplifier Speakers
852	Portable Case Model 910, A-112, A-122 with four #40-0097 Mounting Screws 8/32 x 1-1/2" Oval Head Phillips and Four #8 Finishing Washers, #44-0043
853	Portable Case Model 960 with same Mounting items as above
101	Four-Track Universal Playback Head Conversion Kit with Gray Head Cover
102	Four-Track Universal Playback Head Conversion Kit with Brown Head Cover
401	A-423 Console Stereo Preamplifier Conversion (Does not contain stereo disc cartridge)

AMPEX

1020 Kifer Road, Sunnyvale, California

AUDIO INC.

Model 960 Information
Memorandum No. 1
January 23, 1959

AMPEX MODEL 960 WITH FISHER 400C

1. Connect Left Channel Output of Model 960 to Channel A "Tape Monitor" Jack of Model 400C.
2. Connect Right Channel Output of Model 960 to Channel B "Tape Monitor" Jack of Model 400C.
3. Connect Channel A "Main Output" of 400C to Left Channel Power Amplifier, or Ampex Model 2010.
4. Connect Channel B "Main Output" of 400C to Right Channel Power Amplifier, or Ampex Model 2010.
5. Connect Channel A "Recorder Output" of 400C to Left Channel Line Input of Model 960.
6. Connect Channel B "Recorder Output" of 400C to Right Channel Line Input of Model 960.
7. Tuner, Phono, Microphone, or other sources of inputs may be connected to the labeled inputs of the Fisher 400C, remembering that Channel "A" of the 400C is the Left Channel, and that Channel "B" of the 400C is the Right Channel; Left Channel should be used for Monaural Sources.

Once cabling has been accomplished per above instructions, the Input vs Recorder Playback Level should be adjusted as follows:-

1. Set Model 960 Listening Volume Control at (10), and Radio-Phono Recording Level Control to (8).
2. Adjust Input Level of source selected on Fisher 400C so that Normal Recording Level is registered on the Ampex Model 960 Recording Level Meter. Adjustment should be made with the Model 960 Selector Switch in the "Monitor" position, and while switching the Model 960 Record Selector Switch from Left to Right Channel to insure balance between channels. Screwdriver level adjust controls are supplied on the Model 400C for the Phono and auxiliary 1 Inputs. Auxiliary 2 and Tuner Input Levels must be adjusted by the Output Controls on the Tuner and Auxiliary 2 sources.
3. Volume Control on 400C is the Master Volume and can be set to desired sound level. Model 960 must be in Monitor or OFF position when recorder is not being used.
4. Place Model 960 in Record Mode and Switch Selector Switch from Monitor to Stereo position. Final adjustment as outlined in Step #2 will provide the same level in either the Monitor (source), or Stereo (recording played back) position.
5. Adjustment of all sources in this manner will give you a completely balanced system.

SUBJECT: Improving Record Sensitivity and Response

Record sensitivity can be increased to approximately 0.15 v, rms line input for maximum normal recording level with improved frequency response by making the following circuit changes:

1. Change V6 to V10, record amplifier tube, from 12AU7 to 12 AT7.
2. Change R40 and R60 from 330K to 470K.
3. Between pin 7 and ground of V6 and V10 add a 220K in series with a 8200 mmfd. capacitor.

(V10 and R60 changes apply to Model 950/960 stereo recorders.)

New voltage readings given below are measured with a quality AC VTVM under the following conditions. 117 v. line input, volume controls full c.w. rotation, machine in record mode, V7 removed and a 15K 20 watt resistor substituted from pins 1 and 6, jumpered together, to pin 7. Gain measurements taken at 500 cycles with a 1K resistor substituted for record head.

V6 & V10	Junction of R47 & R48	+ 13 v
	" " R68 & R69	+ 13 v
P1 + 215 V.	" " R43 & R49	.7 rms
P2 1.4 rms.	" " R64 & R65	.7 rms
P3 + 16 v.	" " C19 & C20	.2 rms
P6 + 75	" " C28 & C29	.2 rms
P7 .038 rms.	Line input	.16 rms
P8 + 1.1 v	Microphone input	.0004 rms

AMPEX AUDIO
Information Bulletin

Models: General
Reference No. 73
September 4, 1959

Subject: ADJUSTMENTS OF UNIVERSAL HEADS
FOR USE WITH FOUR (4) TRACK TAPES

The Universal Playback Head should shift positively between two positions: down for two (2) track Stereo, and half track, and up for four (4) track Stereo.

Occasionally, it is possible to overtravel in changing to the "UP" position, resulting in poor operation. If this occurs, place one (1) or two (2) plastic spacer washers (Ampex Audio Part No. 44-0060) on the mounting post below the top screw and washers. This will provide a lower stop and prevent this overtravel condition.

Further adjustments, such as vertical positioning and resulting electronic alignment, should be done by a qualified electronic service technician.

ROUTINE MAINTENANCE

Cleaning

Most tape manufacturers lubricate their tapes, and this lubricant (plus oxide) from the tape will gradually be deposited on the components in the tape threading path. Therefore, those components must be cleaned occasionally to prevent both the loss of positive drive at the capstan and flutter and wow (caused by minute variations in tape speed). To clean the head assembly, use a solution of Xylene and 0.1% Aerosol (AMPEX Catalog No. 823). A cotton swab on a stick can be used to accomplish this cleaning.

CAUTION: DO NOT USE ANY OTHER SOLVENT ON THE HEAD ASSEMBLY, AS SOME WILL DAMAGE THE MATERIAL WHICH BINDS THE HEAD LAMINATIONS TOGETHER. ALSO, DO NOT USE ANY METALLIC DEVICE WHICH WILL SCRATCH THE HEAD. REMOVE THE HEAD COVER AND DO NOT ALLOW ANY OF THE SOLVENT TO DRIP OR SPRAY ON ANY PLASTIC MATERIAL.

Use a clean, lintless, cloth moistened with denatured alcohol to clean the capstan, capstan idler, and tape guides.

Demagnetizing the Heads

The record and reproduce heads may occasionally acquire a degree of permanent magnetization, which will result in an increase of 5 to 10 db in noise level, distortion of any recorded signal, and a gradual erasure of high frequencies on any recorded tape which passes over them. These heads may be easily demagnetized through the use of an AMPEX head demagnetizer, Catalog No. 820.

- Step 1: Remove the plastic head cover (by pressing in on each end to release the tabs) and the metal shield which covers the head assembly.
- Step 2: Turn the SELECTOR switch to its OFF position.
- Step 3: Cover the tips of the demagnetizer with masking tape, transparent tape, etc. This will prevent scratching the heads. Latest versions of the demagnetizer are provided with the tips already covered and this step is not necessary.
- Step 4: Connect the demagnetizer to a source of 110-120 volt, a-c, power.
- Step 5: Bring the tips of the demagnetizer in contact with the record head so that the tips straddle the gap in the center of the head. Run the tips up and down the head several times, and then slowly withdraw the demagnetizer. The slow withdrawal is required for thorough demagnetization.
- Step 6: Repeat Step 5 at the reproduce head.

NOTE: It is not necessary to demagnetize the erase head, and lubrication of heads is not necessary.

- Step 7: Disconnect the demagnetizer.
- Step 8: Replace the metal shield and the head cover.

Should the Capstan or tape guides become magnetized through contact with some magnetized object, a few passes up and down their length with the head demagnetizer and then slow withdrawal should suffice to demagnetize them.

LUBRICATION

In general, two types of lubricants are used in the Ampex "A" Series and 900 Series Recorders. A medium heavy red grease, R.P.M. Aviation Grease #1, is used between surfaces where metal rubbing against metal occurs. A light oil (AMPEX Part No. 828) is used on all Oilite Bearings.

Specifically, the red grease is used between the following parts:

1. All rubbing or sliding surfaces in the mode Selector Cam Assembly
2. Speed Change Detent as formed by the Spring Linkage and Detent Bracket
3. Speed Change Yoke Assembly Plunger
4. Position Indicator Counter-shaft Bearings
5. Position Indicator Counter-shaft Gears
6. Capstan Thrust Bearing

The light oil is used in the lubrication of the following parts:

1. Capstan Bearing
2. Capstan Idler Bearing
3. Both Turntable Oilite Bearings
4. Play Take-up Idler Bearing
5. Drive Motor Bearings
6. Fast Forward/Rewind Pulley Bearing
7. Fast Rewind Idler Bearing
8. Constant tension Holdback Arm Pivot
9. Rewind Idler Arm Pivot
10. Fast Forward/Rewind Pulley Arm Pivot
11. Play Take-up Arm Pivot.
12. Tape position indicator Washer Bearings
13. Capstan Idler Arm Pivot
14. Tape position indicator Escapement Pivot

The following points should NOT be oiled:

1. Volume Control Bearings
2. The sliding surfaces of the differential brakes.

Any recorder will not function properly without lubrication. However, excessive lubrication causes contamination and deterioration of many recorder parts. Where parts are to be greased, only sufficient grease should be used to cover the rubbing surfaces. Where parts are to be oiled, only the amount of oil which the bearing can accept should be used.

March 3, 1959