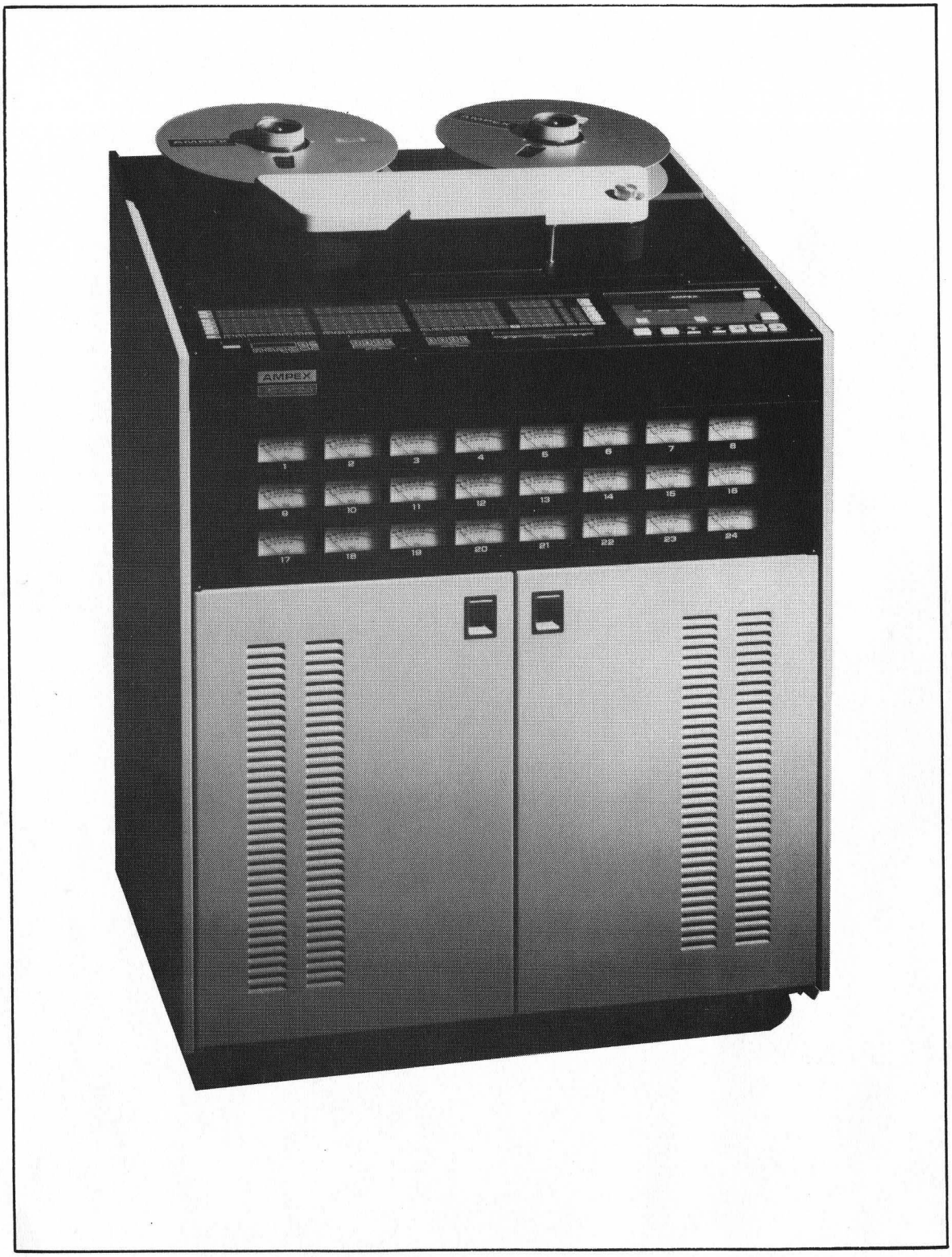
ATR-116/124



ATR-116/124 Multichannel Recorder/Reproducer

Ampex 4890425-01

INTRODUCTION

This manual contains parts lists and schematics for the ATR 116.124 Multichannel Recorder/Reproducer, Ampex Part Number 4010340.

Three indexes list the assemblies and schematics as follows:

- **Indentured List of Assemblies** — List of assemblies in sequence of appearance in the manual.
- **Numerical List of Assemblies** — List of assemblies in numeric sequence.
- **Numerical List of Schematics** — List of schematics in numeric sequence.

RELATED DOCUMENTS

CATALOG NO.	TITLE
4890426-01	MP-STC Accessory Manual
4890432-01	Service Manual

Note: This issue of the manual reflects the documentation as of 4 April 1983.

INDENTURED LIST OF ASSEMBLIES

TITLE	ASSEMBLY NO.	PAGE NO.
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Tape Tension Arm Assembly	4030447	2-10
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Reel Motor Assembly	4030440	2-16
Knob Turntable Assembly	4030441	2-18
Reel Holddown Knob Assembly	4030437	2-19
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Capstan Tach LED PWA (See page 2-45)	4050862	
Capstan Tach Sensor PWA (See page 2-46)	4050832	
Tape Lifter Assembly Kit	4030469	2-25
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Power Supply Battery Assembly	4050987	5-18
Power Resistor Assembly	4050980	5-19
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Heatsink Assembly	4051169	5-22
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INDENTURED LIST OF ASSEMBLIES
(Continued)

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4050961	P	SP-STC Display PWA	7-69
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4051066	B	Power Cord Assembly	8-15
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4840550	B	Signal Bay Power Cable Assembly Wiring Diagram	6-11
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4840607	A	Debounce Logic PWA.	7-67



ATR 116/124 Multichannel Recorder/Reproducer

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -00
1	4010334-06	BASIC ASSEMBLY		1
2				
3				
4				
5	4010335-08	KIT 24 CH. W/AUX. OUTPUT		
6	4010336-07	KIT 24 CH. W/OUT AUX. OUT.	1	1
7	4010337-08	KIT 16 CH. W/AUX. OUTPUT		
8	4010338-07	KIT 16 CH. W/OUT AUX. OUT .		
9				
10	4010305-01	KIT SPSTC	1	1
11	4010306-01	KIT MPSTC 2		
12				
13	4010375	ATR116/124 UPDATE KITS LIST		REF
14	1386047-AA	SPARES KIT "A" 2		1
15	1386047-AB	SPARES KIT "A" 2		1
16	4051010-04	P.W.A. AUDIO TEST	1	1
17	4051011-07	P.W.A. AUTO BIAS/ AUDIO TEST 2 3		
18				
19	082-053	CASTER 2" DIA. 2 4	1	4
20	082-077	CASTER 4" DIA STANDARD		
21	1386047-01	SPARES KIT "A" 2		-
22	1386048-01	SPARES KIT "B" 2		1
23	1386049-01	SPARES KIT "C" 2		1
24	4020450-04	HEAD ASSY., 24 CHANNEL 2		1
25	4020451-04	16 CH. HEAD ASSY. 2		1
26	4050975-04	P.W.A. FLEX EXTENDER 2		1
27	4051048-02	CABLE, POWER SUP. SERVICE 2		1
28	4010320-06	REMOTE CONTROL ASSY, MP-STC 2		1
29	4010339-02	KIT, CONVERSION, 8 CH. 2		1
30	4880261-01	COVER, ATR 116/124 2		1
31	4020484-01	2" FLUX LOOP ASSEMBLY 2		1
32	4051078-01	P.W.A., PRE-AMP TEST 2		1
33	4010393-02	REMOTE CONTROL ASSY, S.P.S.T.C. 2		1
34				
35				
36				
37		NOTES: SEE SHEET 2		

LM-4010340

AMPEX	Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4010340 SHEET 2 OF 2	REV AE

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER

NOTES:

1. ATR-116/124 CONFIGURATIONS ARE DEFINED BY SALES ORDER.
2. SELECT ONE.
3. STATIC SENSITIVE, SPECIAL HANDLING REQUIRED PER HE1-1.

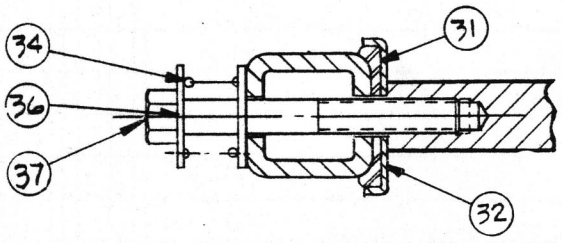
LM-4010340

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06	-07
1											
2	4020448-04		FRAME ASSEMBLY							1	1
3	4020448-03		FRAME ASSEMBLY		1	1	1	1	1	-	-
4	4020449-04		TRANSPORT ASSEMBLY	1	1	1	1	1	1	1	1
5	4020455-02		CONTROL BAY ASSEMBLY		1	1	1	1	1	1	1
6	4020457-06		POWER SUPPLY ASSEMBLY		1	1	1	CANCELLED	-	-	-
7	4030451-01		KIT, TRANSPORT TRIM		1	1	1		1	1	1
8	4030452-01		KIT, CONSOLE TRIM		1	1	1		1	1	1
9	4030454-01		AC POWER MODULE KIT		1	-	-		-	-	-
10	4030455-03		CIRCUIT BREAKER ASSEMBLY		1	1	1		1	1	1
11	4030456-04		POWER TRANSFORMER KIT		1	1	1		1	1	1
12	4030463-01		SPEAKER ASSEMBLY		1	1	1		1	1	1
13	4051070-02		COOLING ASSEMBLY, UPPER		1	1	1		1	1	1
14	4050916-12		P.W.A., CAPSTAN SERVO AND TRANSPORT CONTROL		1	1	1		1	1	1
15	4050930-03		COOLING ASSEMBLY, LOWER		1	1	1		1	1	1
16	4050936-02		SECONDARY CONTROL PANEL		1	1	1		1	1	1
17	4050937-09		KIT, SET-UP PANEL		1	1	1		1	1	1
18	4050949-04		HEAD CABLE AND CONNECTOR ASSEMBLY		1	1	1		1	1	1
19	4050955-01		HARNESS, AUDIO CONTROL		1	1	1		1	1	1
20	4051058-12		P.W.A., MAIN CPU		1	1	1		1	1	1
21	4050991-01		CABLE, POWER, CONTROL BAY		1	-	-		-	-	-
22	4050993-01		HARNESS, POWER, CONTROL PANEL		1	1	1		1	1	1
23	4050994-01		HARNESS, BIAS, ERASE, AND TEST		1	1	1		1	1	1
24	4050999-02		CABLE, CAPSTAN DRIVE		1	1	1		1	1	1
25	4051075-03		POWER CABLE ASSEMBLY, CONTROL BAY		1	1	1		1	1	1
26	4051059-08		P.W.A., VSO		1	1	1		1	1	1
27	4051053-06		POWER RELAY ASSEMBLY		1	1	1		1	1	1
28	4051054-04		CABLE ASSEMBLY, A.C. POWER		1	1	1		1	1	1
29	4051071-01		HARNESS, ASSEMBLY, FAN POWER		1	1	1		1	1	1
30	4010300-02		MISC. PARTS KIT		1	1	1		1	-	-
31	4130068-01		PAD, TRANSPORT MOUNTING		3	3	3	3	3	3	3
32	4220347-01		SPACER, TRANSPORT MOUNTING		3	3	3	3	3	3	3
33	4020499-02		POWER SUPPLY ASSY						1	1	1
34	352-507		SPRING		6	6	6	6	6	6	6
35	470-410		SCREW, CAP., HEX. SOC. HD., 1/4-20 X 2.0 LG		6	6	6	6	6	-	-
36	501-067		WASHER, PLAIN, .281 ID (1/4), .625 OD, .065 THK.		6	10	10	10	10	10	10
37	480-099		BOLT, HEX HD, 1/4-20 X 2.0 LG							6	6

LM-4010334

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM- 4010334 SHEET 2	AS

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06	-07
38	4291099-01	PLENUM, AIR		3	3	3	3	3	3	-
39	4291096-01	FLANGE, COUPLING, AIR DUCT		6	6	6	6	6	6	-
40	601-064	HOSE, DUCTALL, 4 1/2 I.D. X30" LG		A/R	A/R	A/R	A/R	A/R	A/R	-
41	601-065	CLAMP, HOSE #72		6	6	6	6	6	6	-
42	498-600	NUT, SHEET SPRING, 8-32		6	6	6	6	6	6	-
43	4010300-03	MISC. PARTS KIT							1	1
44							CANCELLED			
45	471-087	SCREW,MACH,PAN HD, X-REC,10-32X.375LG		4	4	4	4	4	4	4
46	471-089	SCREW,MACH,PAN HD, X-REC,10-32X.500LG		2	2	2	2	2	2	2
47	473-935	SCREW,MACH,PAN HD,X-REC,10-32X.50LG, W/CAP WASHER, BLK		8	8	8	8	8	8	8
48	475-044	SCREW,MACH,PAN HD, X-REC,8-32X.375LG, ASSY WASHER		12	12	12	12	12	12	12
49	475-061	SCREW,MACH,PAN HD,X-REC,8-32X.500LG, ASSY WASHER		6	6	6	6	6	6	-
50	475-062	SCREW,MACH,PAN HD,X-REC,6-32X.625 LG, ASSY WASHER		12	12	12	12	12	12	-
51	475-331	SCREW,MACH,PAN HD, X-REC,6-32 X.500LG, ASSY WASHER		12	12	12	12	12	12	-
52										
53										
54	471-347	SCREW,MACH,FLAT 82° HD,X-REC,8-32X.625 LG		2	2	2	2	2	2	2
55	473-703	SCREW,CAP,BUTTON HD,HEX SOC DRIVE,8-32X.375LG		6	6	6	6	6	6	6
56										
57										
58	480-096	BOLT,MACH,HEX HD, 1/4-20X.750LG;		4	4	4	4	4	4	4
59										
60	496-005	NUT,HEX,CAP. WASHER, 6-32		24	24	24	24	24	24	-
61	496-006	NUT,HEX,CAP WASHER, 8-32		4	4	4	4	4	4	4
62										
63	501-009	WASHER, PLAIN, .156 ID (#6) .375 OD, .049 THK		24	24	24	24	24	24	-
64	501-205	WASHER,PLAIN , .188 ID (#8) .438 OD, .049 THK		13	13	13	13	13	13	-
65	501-070	WASHER,PLAIN, .219 ID (#10), .500 OD, .049 THK		4	4	4	4	4	4	4
66	503-310	WASHER,PLAIN, .170ID, .375OD, NYLON, .030 THK, BLK		6	6	6	6	6	6	6
67										
68	502-005	WASHER,LOCK,HELICAL SPRING, #10		2	2	2	2	2	2	2
69	502-006	WASHER, LOCK, HELICAL SPRING, 1/4		-	4	4	4	4	4	4
70	302-568	CLAMP, CABLE, FLAT WIRE CLIP			6	6	6	6	6	6
71	435-233	CLIP PART, SPACER			12	12	12	12	12	12



LM-4010334

4020449-04 TRANSPORT ASSEMBLY REV. Z

NEXT HIGHER ASSEMBLY 4010334

ITEM NO.	PART NUMBER	E	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04
1	4330373-02		TOP PLATE		1	1	1	1
2	4100195-02		KNOB, CAPSTAN		1	1	1	1
3	4260693-01		BRACKET, GROUNDING					1
4	4291037-01		COVER, TACH PROTECT		4	4	4	4
5	4440324-01		WASHER, PLAIN		1	1	1	1
6								
7								
8	4030443-02		TAPE GUIDE IDLER ASSY., 2"			2	2	2
9								
10								
11	4010308-02		TENSION ARM KIT		1	-	-	-
12	4010308-03		TENSION ARM ASSY. KIT			1	1	1
13	4030438-01		CAPSTAN ASSY		1	1	1	1
14	4030439-02		TAPE TIMER WHEEL ASSY		1	1	1	1
15	4030440-AG		REEL MOTOR ASSY (ELEC)	1	2	2	2	2
16	4030440-AH		REEL MOTOR ASSY (ISO)		2			
17	4030443-01		TAPE GUIDE IDLER ASSY, 2"		2	-	-	-
18	4030449-01		TAPE LIFTER ASSY KIT		1	-	-	-
19	4030450-01		CAPSTAN TACH KIT		1	1	1	1
20	4030469-02		TAPE LIFTER ASSY KIT			1	1	1
21	4041304-02		CAPSTAN HUB ASSY		1	1	1	1
22	4041307-01		COVER ASSY, TRANSPORT		1	1	1	1
23	4050906-03		P.W.A., POSITION ADJUST		2	2	2	2
24	4050907-04		P.W.A., OFFSET ADJUST		1	1	1	1
25								
26	4050924-03		HARNESS, CONTROL, TRANSPORT		1	1	1	1
27	4050925-02		HARNESS, POWER, TRANSPORT		1	1	1	1
28								
29	4840483		WIRING DIAGRAM, TRANSPORT		REF	REF	REF	F
30								
31	602-012		SHORTING PLUG (TAKE UP POSITION SENSOR)		1	1	1	1
32								
33								
34								
35								
36								
37								

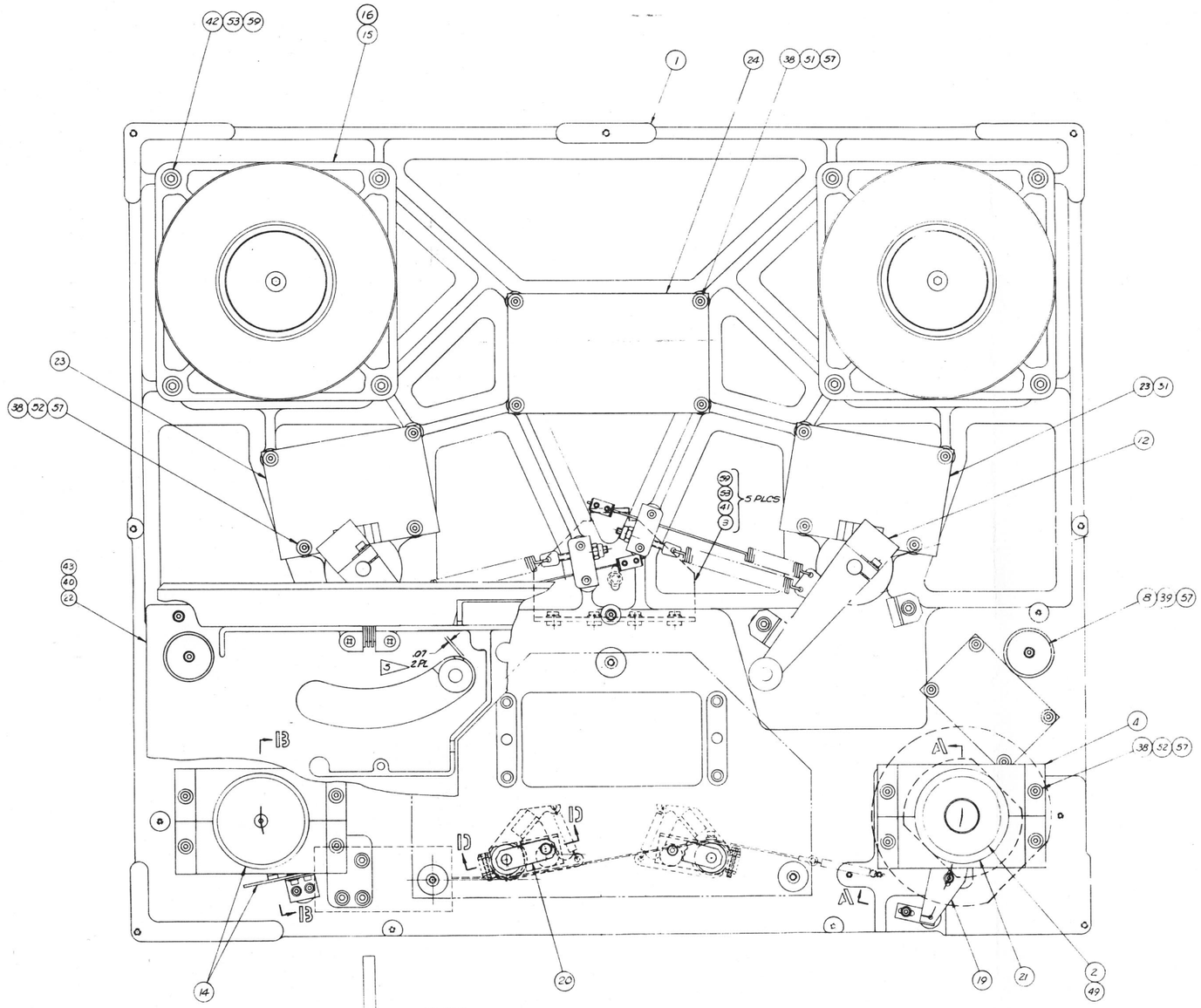
LM-4020449

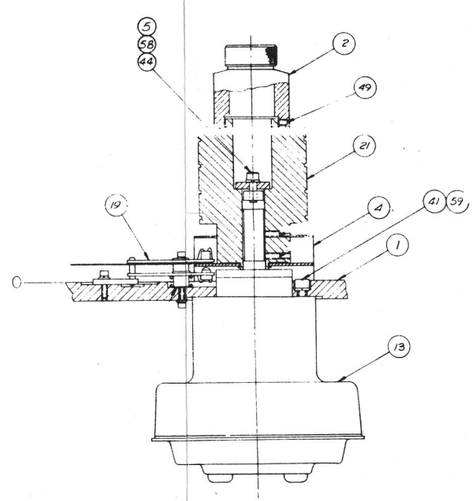
AMPEX | Ampex Corporation Redwood City, California	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4020449 SHEET 2	Z

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04
38	470-018	SCREW, CAP, HEX SOC., 6-32 X .38 LG		20	20	20	20
39	470-020	SCREW, CAP, HEX SOC., 6-32 X .50 LG		6	6	6	6
40	470-650	SCREW, CAP HEX. SOC., C.S. BLK OX., 6-32 X 1.00 LG		3	3	3	3
41	470-038	SCREW, CAP, HEX SOC., 10-32 X .50 LG		4	4	4	9
42	470-042	SCREW, CAP, HEX SOC., 10-32 X 1.00 LG		8	8	8	8
43	470-713	SCREW, CAP, HEX. SOC., SST, BLK OX., 6-32 X 1.25 LG		2	2	2	2
44	470-080	SCREW, CAP, HEX. SOC., SST, 8-32 X .50 LG		1	1	1	1
45							
46							
47							
48							
49	477-181	SCREW, SET, CUP PT, 6-32 X .188 LG CRES		3	3	3	3
50							
51	501-188	WASHER, PLAIN, SM. PATT. #6				4	4
52	501-009	WASHER, PLAIN # 6		20	20	16	16
53	501-070	WASHER, PLAIN, #10		8	8	8	13
54							
55							
56							
57	502-003	WASHER, LOCK, HELICAL SPRING # 6		26	26	26	26
58	502-375	WASHER, LOCK, HELICAL SPRING, SST, # 8		1	1	1	1
59	502-005	WASHER, LOCK, HELICAL SPRING #10		12	12	12	17
60							

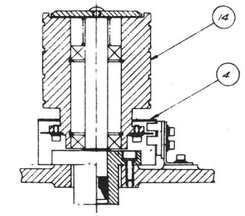
1 ALTERNATE: SELECT ONLY ONE

LM-4020449

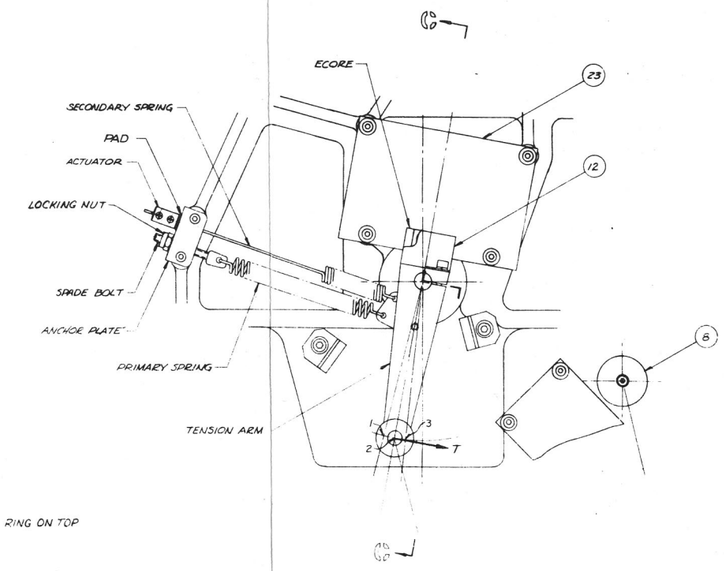




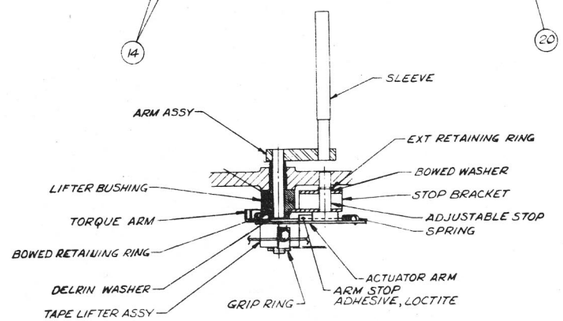
SECT A-A
ROTATED 90° CW



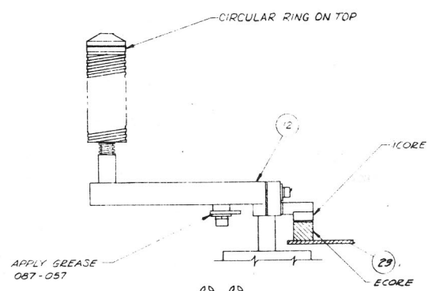
SECT B-B
ROTATED 90° CCW



TENSION ARM DETAIL
TAKEUP SIDE SHOWN

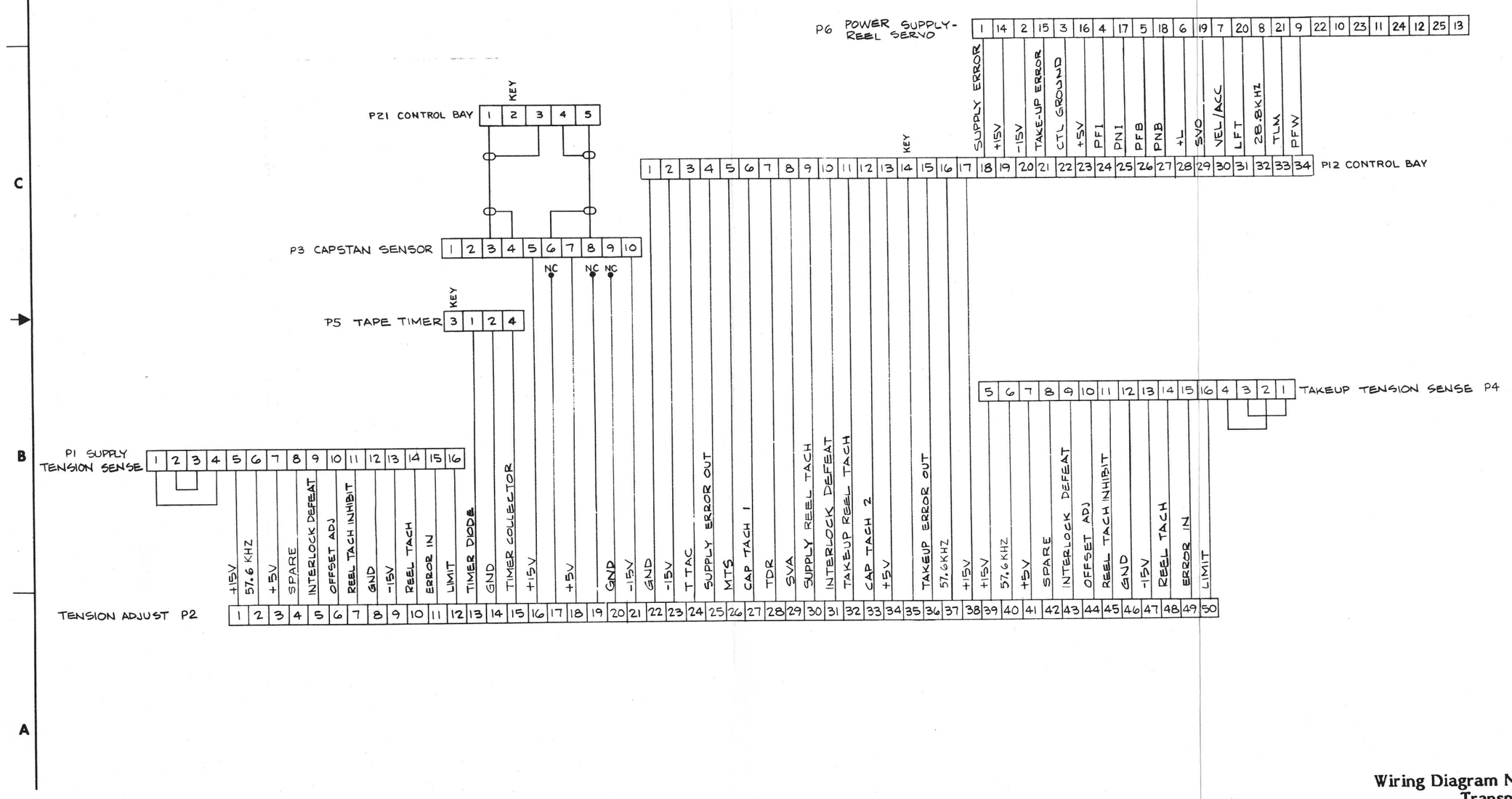


SECTION D-D
ROTATED 12° CW



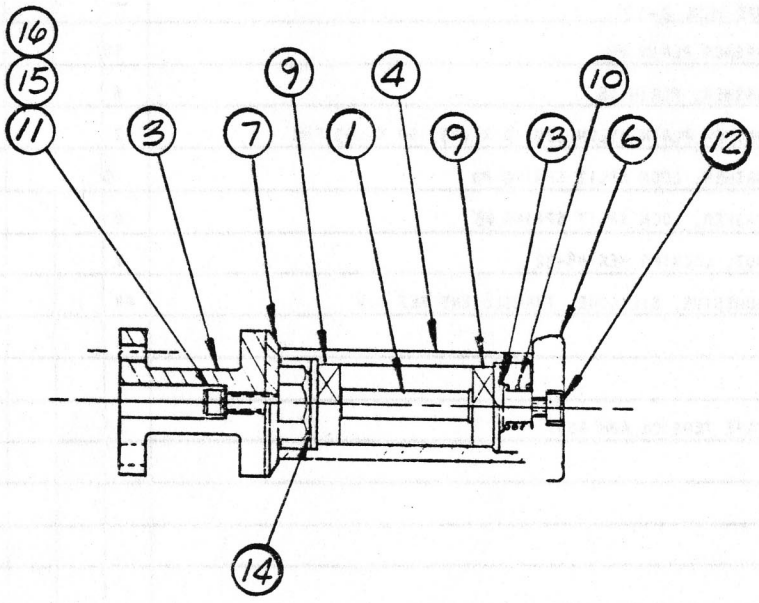
SECT C-C
ROTATED 80° CW

Assembly No. 4020449-04Z.
Transport Assembly



Wiring Diagram No. 4840483F.
Transport Assembly

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -02
1	4210415-01	SHAFT, TAPE GUIDE IDLER		1
2				
3	4220345-01	SPACER		1
4	4250250-01	IDLER, TAPE GUIDE		1
-				
6	4100139-02	CAP., IDLER		1
7	4330374-02	BASE, TAPE IDLER		1
8				
9	420-063	BALL BEARING, FLANGED .250 ID		2
10	352-472	SPRING, COMPRESSION		1
11	470-021	SCREW, CAP. #6-32X.62 LG. HEX SOC.		1
12	470-069	SCREW, CAP #6-32X.375 LG HEX SOC.		1
13	501-689	WASHER, PLAIN .2571.D.X.3750.D.X.025 THK		1
14	501-058	WASHER, SHIM, .010 THK		1
15	501-188	WASHER, FLAT, SMALL PATTERM , #6 X .267 O.D.		1
16	502-003	WASHER, LOCK, HELICAL SPRING, #6		1
17				
18				
19	160-303	CONTAINER		1



4010308-03 TENSION ARM ASSEMBLY KIT REV. E

NEXT HIGHER ASSEMBLY 4020449

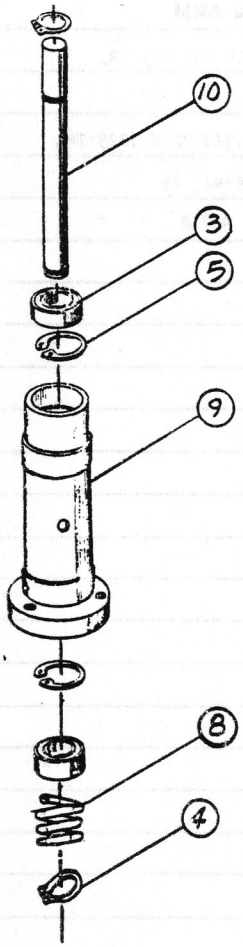
ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -03
1	1376738-03	SLEEVE ASSY, TENSION ARM		2
2	1377122-02	BUSHING, SPRING LINK		2
3	4030447-02	TAPE TENSION ARM ASSEMBLY		—
4	4130069-01	PAD, DAMPER		2
6	4230289-01	LINK, SPRING, TENSION ARM		2
7	4230290-01	ACTUATOR, SECONDARY SPRING		2
8	4270259-01	SPRING, EXTENSION, PRIMARY		2
9	4270262-01	SPRING, ENTENSION, SECONDARY		2
10	4330376-01	PLATE, ANCHOR TENSION ARM SPRING		2
11	4400278-01	BOLT, SPADE		2
12	4260613-01	BRACKET, BUMPER, TENSION ARM		4
13	087-057	GREASE		AR
14	269-396	RUBBER, STRIP:SILICONE .19 THK X .50W X.75LG		4
15	470-018	SCREW, CAP., #6-32 X .38 LG, HEX SOC.		4
16	470-021	SCREW, CAP, #6-32 X .63 LG HEX SOC.		4
17	470-027	SCREW, CAP., #8-32 X .38 LG HEX SOC		4
18	470-029	SCREW, CAP., #8-32 X .50 LG HEX SOC		2
19	477-496	SCREW, SET #6-32 X .18 LG HEX SOC CUP PT		4
20	492-010	NUT HEX 8-32		—
21	501-009	WASHER PLAIN #6		10
22	501-205	WASHER, PLAIN #8		6
23	501-736	WASHER PLAIN, NYLON .253ID X .437 OD X .03 THK		2
24	502-003	WASHER, LOCK SPLIT SPRING #6		10
25	502-004	WASHER, LOCK SPLIT SPRING #8		6
26	493-007	NUT, LOCKING HEX #8-32		2
27	018-368	ADHESIVE, SILICONE, TRANSLUCENT REF #14		AR
28				
29				
30	4030447-03	TAPE TENSION ARM ASSY		2
31				
32				

LM-

1376738-03 TENSION ARM SLEEVE ASSEMBLY
NEXT HIGHER ASSEMBLY 4010308

REV. C

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -03
1					
2					
3	420-104		BALL BEARING .3751D X .875 OD		2
4	430-009		RETAINING RING, OUTER .375 SHAFT		2
5	430-029		RETAINING RING, INNER .875 BORE		2
6					
7					
8	352-491		SPRING COMPRESSION LEE #LC-045-5SS		1
9	1376622-02		SLEEVE TENSION ARM BALL BEARING		1
10	1377567-02		SHAFT, TAPE TENSION ARM		1

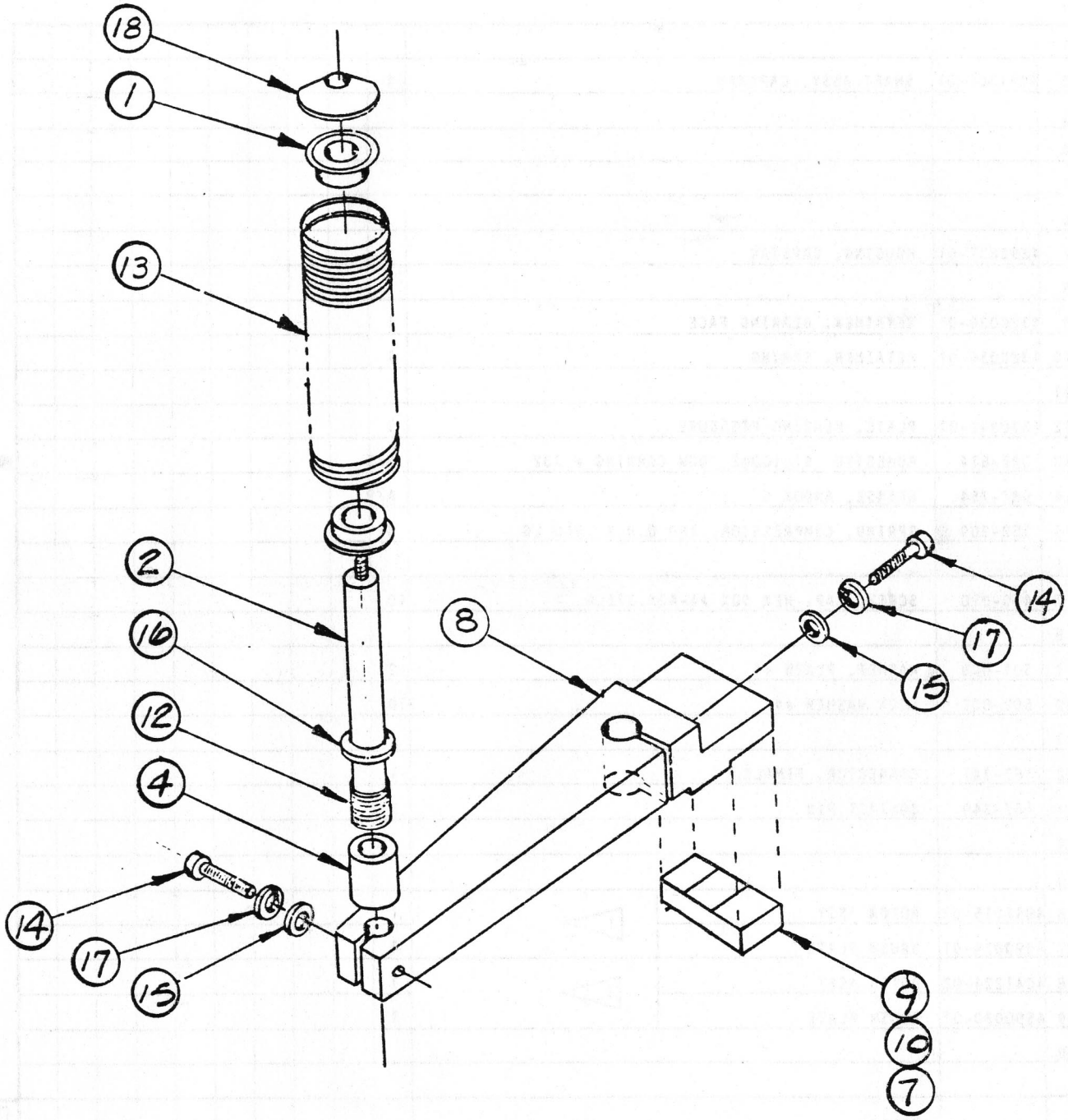


4030447-03 TAPE TENSION ARM ASSEMBLY REV. F

NEXT HIGHER ASSEMBLY 4010308

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03
1	420-063	BALL BEARING, FLANGED .250 ID		2	2	2
2	4210413-01	SHAFT, TENSION ARM IDLER		1	1	1
3						
4	4220344-01	SPACER, SPRING		1	1	1
5	4230288-01	ARM, TAPE TENSION		1	—	—
6						
7	4580070-01	"I" CORE		1	1	1
8	4230297-01	ARM, TAPE TENSION		—	1	1
9	018-035	ADHESIVE, EPOXY BASE		AR	AR	AR
10	018-325	ADHESIVE, ACTIVATOR		AR	AR	AR
11						
12	352-472	SPRING, COMPRESSION		1	1	1
13	4250255-01	IDLER, TAPE TENSION ARM				1
14	470-072	SCREW, CAP #6-32 X .625 LG HEX SOC DR.		2	2	2
15	501-009	WASHER, PLAIN, #6		2	2	2
16	501-689	WASHER, PLAIN, .257 ID, .375 OD X .025 THK		1	1	1
17	502-003	WASHER, LOCK, HELICAL SPRING, #6		2	2	2
18	4100095-02	CAP, TAPE TENSION ARM				1

LM-4030447



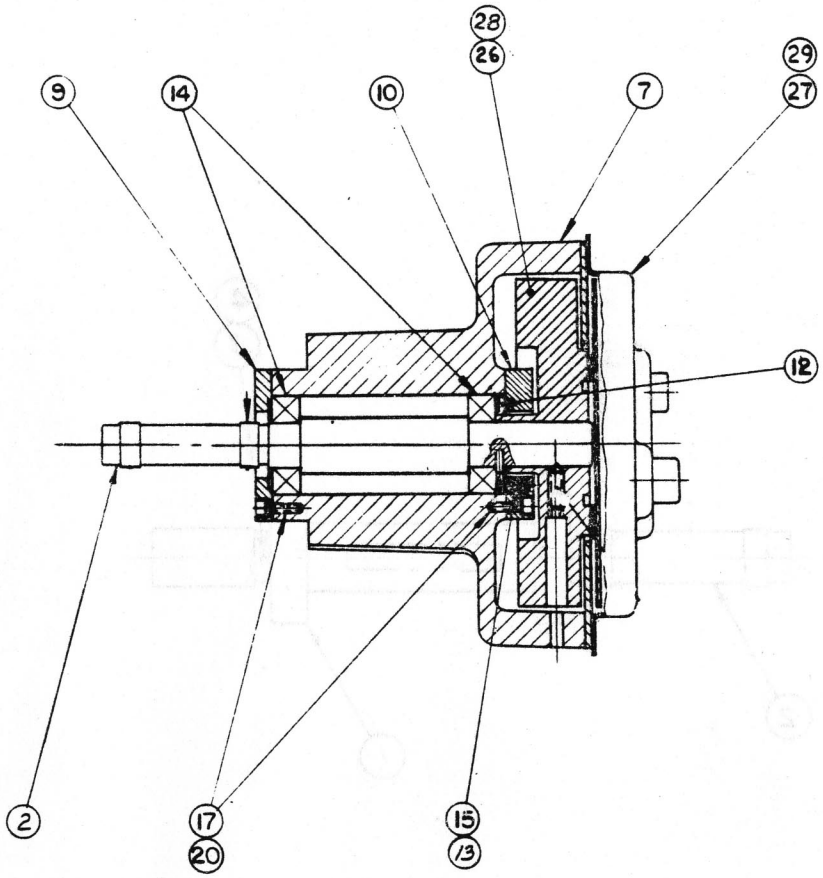
Assembly No. 4030447-03E, Tape Tension Arm

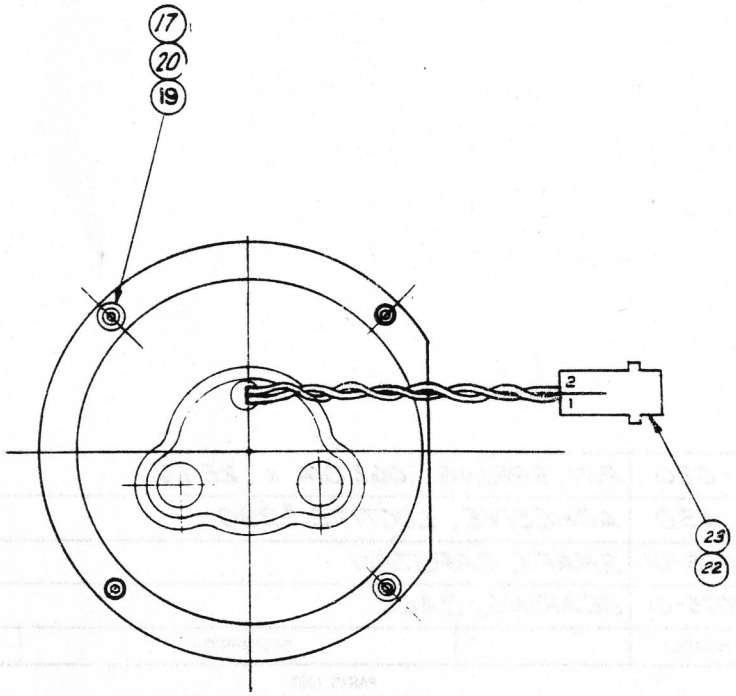
1				
2	4041301-01	SHAFT ASSY, CAPSTAN	1	
3				
4				
5				
6				
7	4290832-01	HOUSING, CAPSTAN	1	
8				
9	4320036-01	RETAINER, BEARING FACE	1	
10	4320056-01	RETAINER, SPRING	1	
11				
12	4330342-01	PLATE, BEARING PRESSURE	1	
13	087-614	ADHESIVE SILICONE, DOW CORNING # 732	A/R	
14	087-754	GREASE, ANDOK C	A/R	
15	352-209	SPRING, COMPRESSION,.180 O.D.X .500 LG	3	
16				
17	470-010	SCREW, CAP, HEX SOX #4-40X.375LG	10	
18				
19	501-008	WASHER, PLAIN #4	2	
20	502-002	LOCK WASHER #4	10	
21				
22	167-347	CONNECTOR, FEMALE	1	
23	167-349	CONTACT PIN	2	
24				
25				
26	4041215-02	ROTOR ASSY	1	1
27	4590074-01	BRUSH PLATE	1	1
28	4041224-02	ROTOR ASSY	1	1
29	4590080-01	BRUSH PLATE	1	1
30				

Notes:

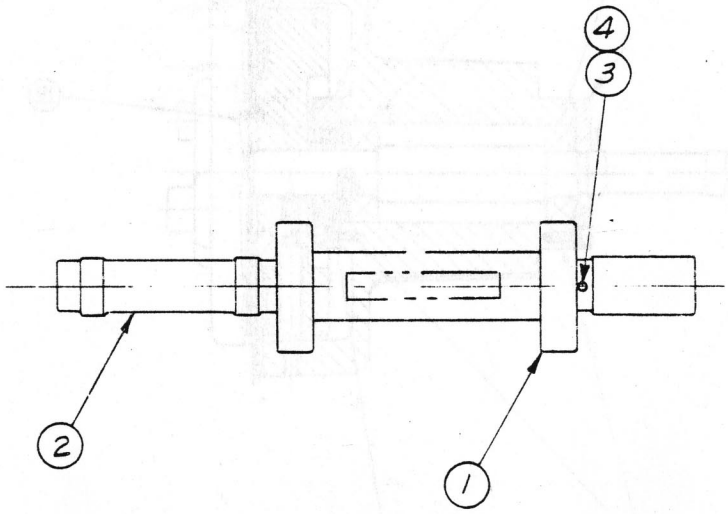
1 alternate pair, use one

LM-4030438





Assembly No. 4030438-01C. Capstan Motor Assembly



-01	ITEM NO.	PART NUMBER		DESCRIPTION	
		PARTS LIST			
1	4	406-020	PIN, SPRING, .062 DIA X .25 LG		
AR	3	018-450	ADHESIVE, LOCTITE #290		
1	2	4210408-01	SHAFT, CAPSTAN		
2	1	4200075-01	BEARING, BALL		

Assembly No. 4041301-01B. Capstan Shaft Assembly

4030439-02 TAPE TIMER WHEEL ASSEMBLY REV. H

NEXT HIGHER ASSEMBLY 4020449

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -02
1				
2				
3				
4	4100094-01	CAP		1
5	4250237-01	DISC, TACHOMETER		1
6	4041320-01	SHAFT ASSY , TAPE TIMER		1
7	4200075-01	BALL BEARING, .5000 ID X 1.125 OD X .312 WD		2
8	4250244-02	WHEEL		1
9	4260617-01	BRACKET, TACH BD		1
10	4050950-01	PWA, TAPE TIMER TACH		1
11				
12				
13	352-490	SPRING, COMPRESSION		1
14				
15				
16	430-032	RING, RETAINING		2
17				
18				
19	470-029	SCREW, CAP., HEX SOC., 8.32 X .50 LG		3
20	470-384	SCREW, BUTT. HD., HEX SOC, 8-32 X .50 LG		1
21	470-008	SCREW, CAP, HEX SOC, 4-40 X .25 LG		7
22	492-008	NUT, PLAIN HEX #4-40		2
23	501-008	WASHER, FLAT, #4		8
24	502-002	WASHER, LOCK, HELICAL SPRING #4		7
25	502-004	WASHER, LOCK, HELICAL SPRING #8		3
26	501-557	WASHER SHIM .510 ID X .63 OD X .003THK		AR
27	501-558	WASHER, SHIM .510 ID X .63 OD X .005 THK		AR
28	501-559	WASHER, SHIM .510 ID X .63 OD X .010 THK		AR

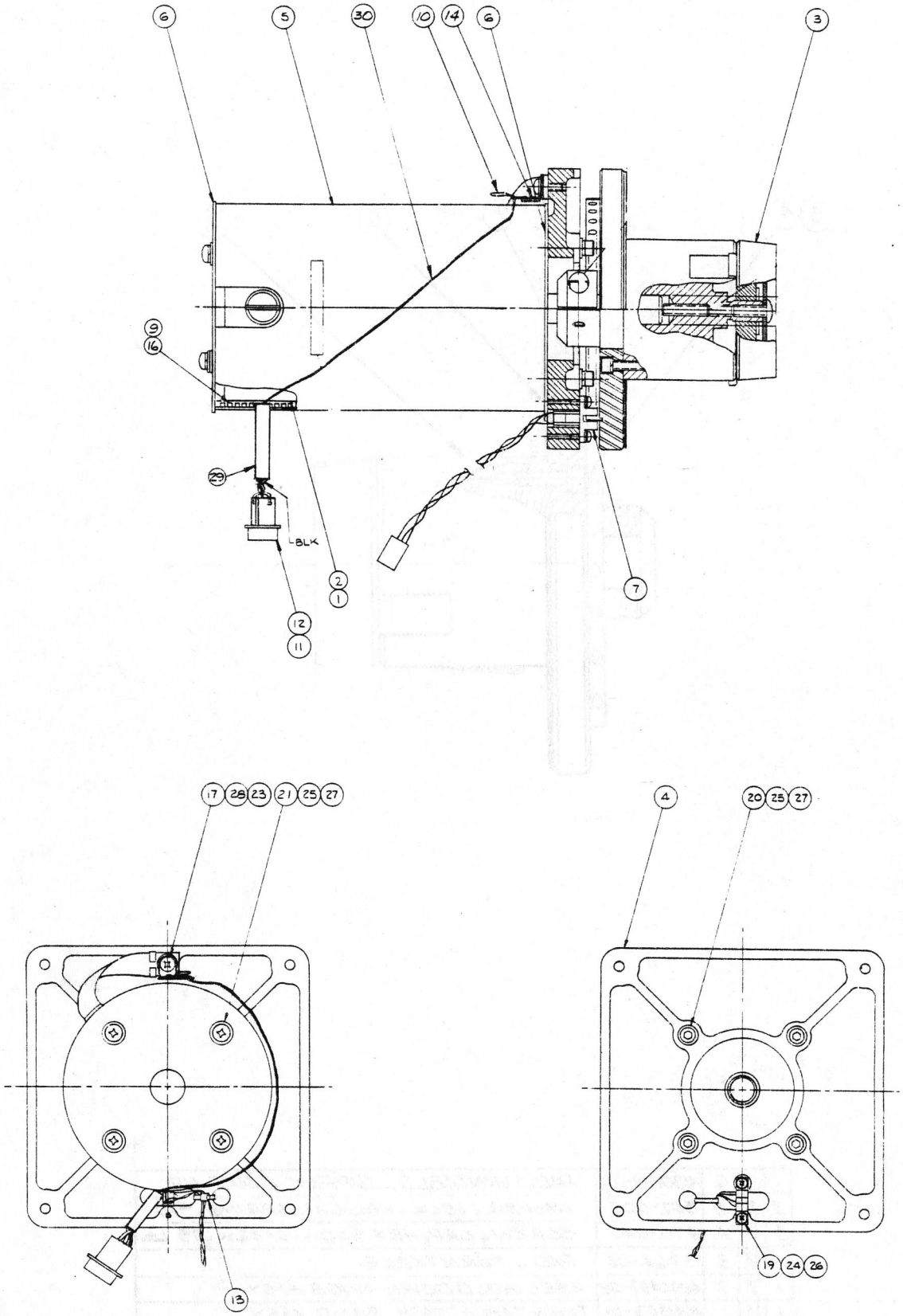
LM-

4030440-AG REEL MOTOR ASSEMBLY (ELEC)
4030440-AH REEL MOTOR ASSEMBLY (ISO)
NEXT HIGHER ASSEMBLY 4020449

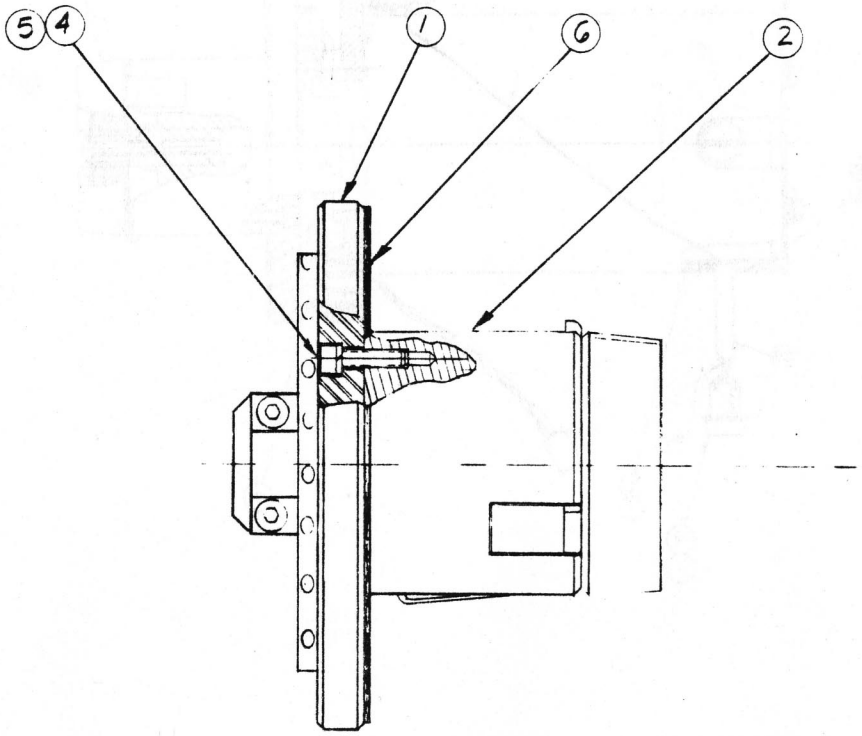
REV. M

ITEM NO.	PART NUMBER	E	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -AA	-AB	-AC	-AD	-AE	-AF	-AG	-AH
1	4590128-AA		MOTOR, TORQUE		1	-	1	-	-	-	1	-
2	4590128-AB		MOTOR, TORQUE		-	1	-	1	-	-	-	1
3	4030441-02		KNOB-TURNTABLE ASSY		1	1	1	1	-	-	1	1
4	4330368-01		MTG PLATE, REEL MOTOR		1	1	1	1	1	1	1	1
5	4041302-03		SHIELD ASSY		1	1	1	1	1	1	1	1
6	4600172-01		SHIELD, MOTOR END		2	2	2	2	2	2	2	2
7	4050988-01		TACH PICKUP ASSY		1	1	1	1	1	1	1	1
8	4030441-01		KNOB,- TURNTABLE ASSY						1	1	-	-
9	018-287		ADHESIVE,LIQUID CLEAR				-	-	A/R	A/R	A/R	A/R
10	064-614		CAP,CER.,DISC, 0.1uF, 50V				-	-	1	1	1	1
11	167-349		CONTACT PIN; 14-20 AWG		2	2	3	3	3	3	3	3
12	167-664		CONNECTOR, PART, BODY, PLUG, 3 POS, FEMALE SHELL		1	1	1	1		1	1	1
13	302-335		STRAP, CABLE		1	1	1	1		1	1	1
14	181-051		TERMINAL STRIP, 2 TERM.				-	-	1	1	1	1
15	171-007		TERMINAL LUG, CRIMP, #10		-	-	1	1		1	1	1
16	250-053		GROMMET, CATERPILLAR				-	-	A/R	A/R	A/R	A/R
17	471-080		SCREW, PAN HD, XREC, #8-32 X .50 LG		1	1	1	1	1	1	1	1
18	471-088		SCREW, PAN HD, XREC, 10-32 X .438 LG		4	4	4	4	-	-	-	-
19	471-062		SCREW, PAN HD, XREC, 4-40 X .38 LG		2	2	2	2	2	2	2	2
20	470-110		SCREW, CAP HEX SOC 10-32 X 1.25 LG		4	4	4	4	4	3	2	2
21	473-448		SCREW,PAN HD., XREC,10-32X .50LG.				-	-	4	4	4	4
22												
23	501-205		WASHER FLAT #8		1	1	1	1	1	1	1	1
24	501-169		WASHER,FLAT, #4; .250 OD		2	2	2	2	2	2	2	2
25	501-070		WASHER, FLAT, #10		8	8	8	8	8	8	8	8
26	502-002		WASHER, LOCK #4		2	2	2	2	2	2	2	2
27	502-005		WASHER, LOCK #10		8	8	8	8	8	8	8	8
28	502-020		WASHER, LOCK #8; EXTERNAL TOOTH		1		1	1	1	1	1	1
29	600-092		SLEEVING, SHRINK				-	-	A/R	A/R	A/R	A/R
30	611-225		WIRE, 18 AWG, BLK, CD569			-	A/R	A/R	A/R	A/R	A/R	A/R
31												
32												

LM-40304



Assembly No. 4030440-AG/AH M. Reel Motor Assembly



02	01	ITEM NO	PART NUMBER	DESCRIPTION
1	-	6	4130178-02	PAD, TURNTABLE, SUPPLY & TAKE-UP
3	3	5	502-005	WASHER, LOCK, HELICAL SPRING, #10
3	3	4	470-040	SCREW, CAP, HEX SOC., 10-32 x .75 LG.
-	1	3	13964-02	PAD, TURNTABLE
1	1	2	4030437-02	REEL HOLDDOWN KNOB ASSY
1	1	1	4041303-01	TURNTABLE/TACH BAND ASSY

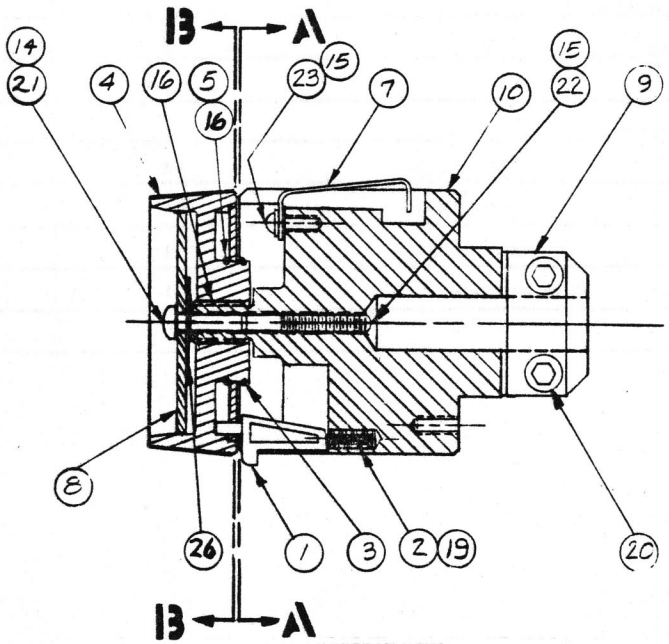
PARTS LIST

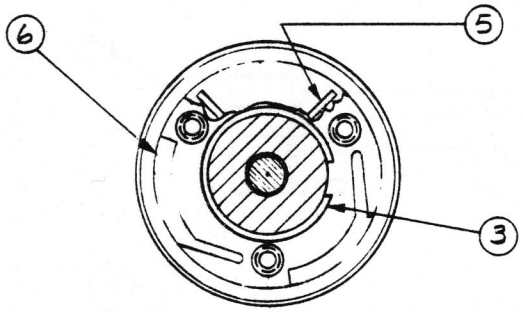
Assembly No. 4030441-02H. Knob Turntable Assembly

4030437-02 REEL HOLDDOWN KNOB ASSEMBLY REV. H
NEXT HIGHER ASSEMBLY 4030441

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -02
1	52372-01	FINGER, HOLD-DOWN		3
2	52386-01	SPRING-FINGER, HOLD-DOWN		3
3	52391-01	SPRING, CAM		1
4	1243036-01	KNOB, REEL		1
5	1243068-01	SPRING, ENERGIZING		1
6	1243069-01	CAM, ACTUATOR		1
7	1365171-02	SPRING, REEL		1
8	4320063-01	RETAINER		1
9	4600173-01	CLAMP, SHAFT		1
10	4670112-01	HUB, REEL		1
11				
12				
13				
14	018-458	ADHESIVE, THREAD LOCKING, LOCITE 222 (E)		A/R
15	018-030	ADHESIVE THREAD LOCKING LOCTITE GRADE C		-
16	087-057	GREASE, MOLYLUBE		AR
17				
18				
19	406-012	PIN, SPRING, ROLL		3
20	470-640	SCREW, CAP 1/4-28 X 1.00 LG SSTL		2
21	470-690	SCREW, BUTTON HD HEX SOC 1/4-28 X .75 LG SSTL		1
22	477-791	SCREW, SET OVAL PT HEX SOC 1/4-28 X 1.00 LG SSTL		1
23	473-325	SCREW PAN HD PH DR #4-40 X .31 LG SEM		1
24				
25				
26	502-490	WASHER, NYLON .455 ID X 1.000 OD X .062 THK		1

LM-



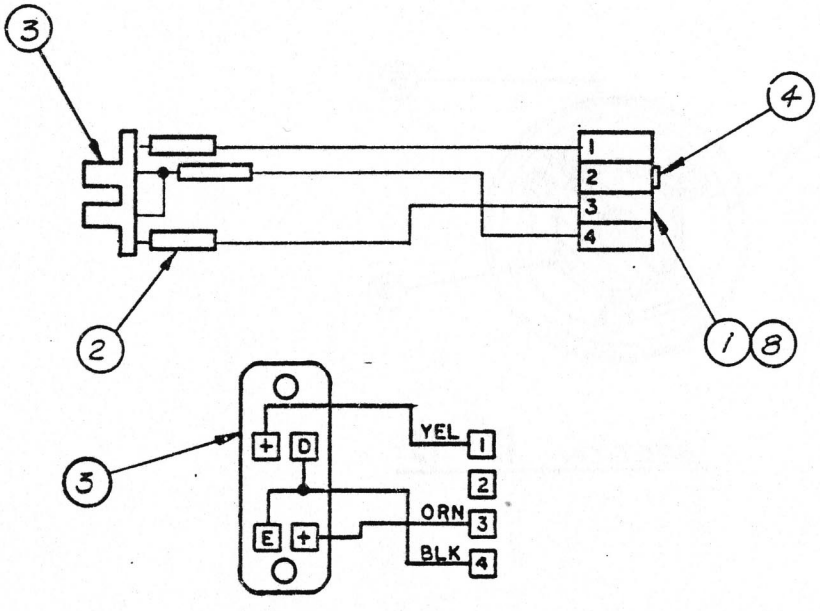


SECTION B - B

Assembly No. 4030437-02H. Reel Holddown Knob Assembly

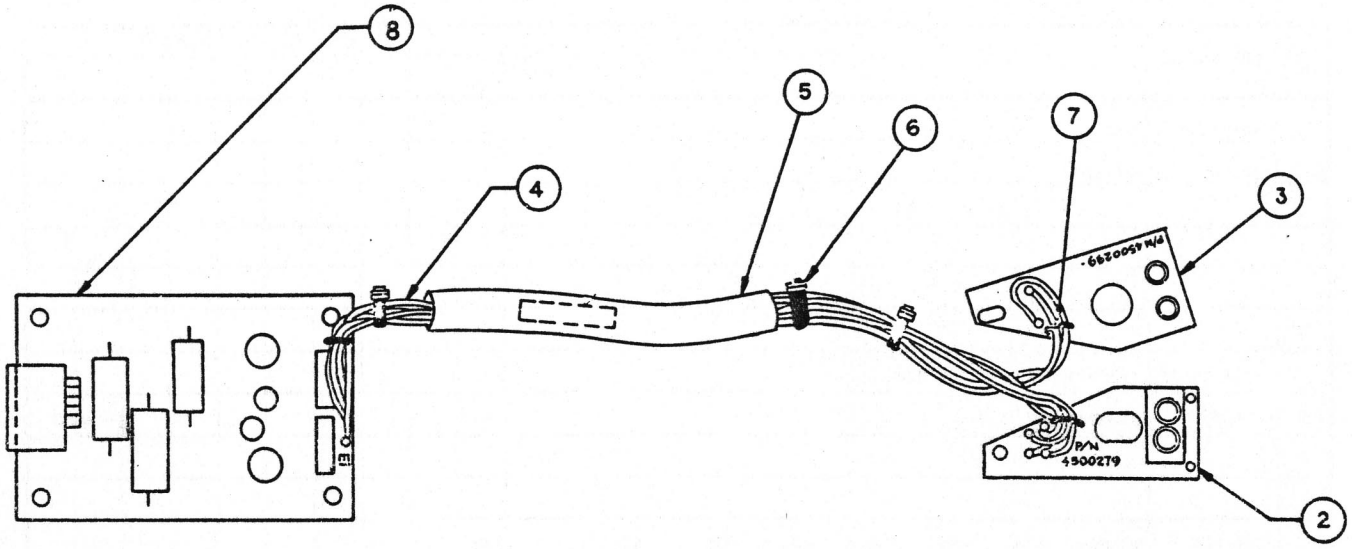
4050988-01 TACH PICK-UP ASSEMBLY w/SCHEMATIC REV. C
NEXT HIGHER ASSEMBLY 4030440

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1	167-723 °	CONNECTOR (AMP:87499-7)		1
2	600-104	TUBING, SHRINK		3
3	581-337	TACH. PICKUP		1
4	167-619	PLUG (AMP: 87077)		1
5	611-348	WIRE 24 GA REF: YELLOW		AR
6	611-429	WIRE 24 GA REF: ORANGE		AR
7	611-208	WIRE 24 GA REF: BLACK		AR
8	167-727	CONTACT, CRIMP (AMP:87666-1)		3



ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1	4041227-03	BAR		1
2	4220346-01	SPACER		1
3				
4				
5				
6				
7	4051005-02	CAPSTAN TACH PREAMP ASSY		1
8	4840481	SCHEMATIC		REF
9				
10				
11	283-125	WASHER, SHIM .126/.130 ID X .380D X .002 SSTL		A/R
12	283-126	WASHER, SHIM .126/.130 ID X .38 OD X .003 SSTL		A/R
13	283-127	WASHER, SHIM .126/.130 ID X .38 OD X .004 SSTL		A/R
14	352-290	SPRING, COMPRESSION .480Ø X .50 LG		1
15				
16	430-517	RING, RETAINING, TA .5103-37		1
17				
18	470-018	SCREW, CAP. HEX SOC .6-32 X .38 LG		4
19	502-003	WASHER, SPRING #6		4
20	501-009	WASHER, FLAT #6		4
21				
22	501-008	WASHER, FLAT #4		2
23	502-002	WASHER, LOCK #4		3
24	470-012	SCREW, CAP, HEX, SOC 4-40 X .50		2
25	470-009	SCREW, CAP, HEX. SOC. 4-40 X .31		1
26	502-389	WASHER, FLAT #4 - .38 DIA		1
27				
28				
29				
30				
31				
32				
33				

LM-4030450



WIRE ROUTING LIST		
FROM PWA 4050908	TO PWA 4050862	TO PWA 4050832
E1	——	Q1-C
E2	——	Q2-C
E3	——	Q2 E
E4	——	Q1-E
E5	CR2 - CATHODE	—
E6	CR1 - ANODE	—

-02	-01	ITEM NO.	PART NUMBER	DESCRIPTION
1	~~1~~	8	4050908-03	PWA, CAPSTAN TACH PREAMP
3	3	7	302-395	CABLE STRAP "MOUSE TAIL"
3	3	6	302-335	TIE STRAP
A/R	A/R	5	600-009	SLEEVING, .21 I.D.
1	1	4		WIRE, 24 AWG
1	1	3	4050862-01	PWA, CAPSTAN TACH LED
1	1	2	4050832-02	PWA, CAPSTAN TACH SENSOR
—	1	1	4050908-02	PWA, CAPSTAN TACH PREAMP

Assembly No. 4051005-02E. Capstan Tach Preamplifier

4030469-02 TAPE LIFTER ASSEMBLY KIT
NEXT HIGHER ASSEMBLY 4020449

REV. D

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02
1	4030468-01	TAPE LIFTER ASSY			1	-
2	4041315-02	ARM ASSY, TAPE LIFTER			2	2
3	4200069-01	SLEEVE, TAPE GUIDE			2	2
4	4200173-02	BUSHING, LIFTER			2	2
5	4220363-01	STOP, ADJUSTABLE, TAPE LIFTER			2	2
6	4220364-01	STOP, ARM, TAPE LIFTER			2	2
7	4230298-01	ARM, ACTUATOR, TAPE LIFTER			2	2
8	4230299-AA	ARM, TORQUE TAPE LIFTER			1	1
9	4230299-AB	ARM, TORQUE TAPE LIFTER			1	1
10	4260666-01	BRACKET, STOP, TAPE LIFTER			2	2
11						
12						
13	018-432	ADHESIVE, LOCTITE			A/R	A/R
14	430-227	RING, RETAINING, GRIP .250 DIA. SHAFT			2	2
15	430-539	RING, RETAINING, BOWED, EXT. 438 DIA			2	2
16	430-538	RING, RETAINING, EXT, .281 DIA.			2	2
17	480-091	SPADE BOLT #6-32			1	1
18	474-496	SCREW, MACH: HEXWASHER HD #4-40X5/8			2	2
19	470-031	SCREW, CAP, HEX SOC. #8-32X.75 LG			3	3
20	502-002	WASHER, LOCK, HELICAL SPRING #4			2	2
21	502-544	WASHER, PLAIN DELRIN .253 ID X 443 OD X .02 THK			2	2
22	501-989	WASHER, BOWED .296 ID			2	2
23	501-024	WASHER, PLAIN #8			3	3
24	502-004	WASHER, LOCK, HELICAL SPRING #8			3	3
25	352-533	SPRING, EXTENSION			2	2
26						
27	4030468-02	TAPE LIFTER ASSY			1	1
28						
29						
30						

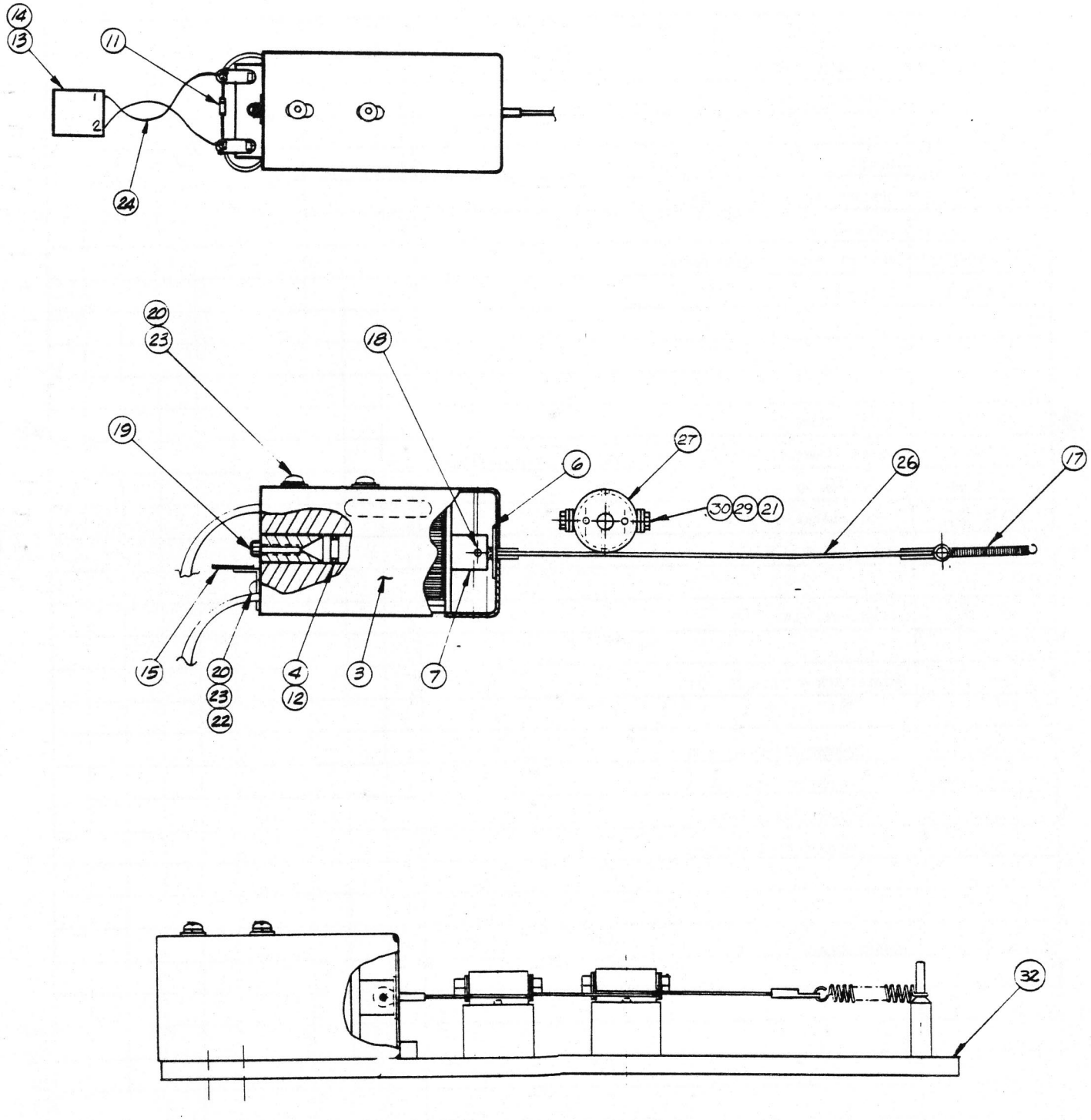
LM-4030469

4030468-02 TAPE LIFTER ASSEMBLY REV. D

NEXT HIGHER ASSEMBLY 4030469

ITEM NO.	PART NUMBER	D DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02
1	4050845-01	CABLE ASSY, LIFTER		1	-
2	4250254-01	ROLLER, LIFTER		2	-
3	4290899-01	SHIELD, SOLENOID LIFTER		1	1
4	4310023-01	RING, TAPE LIFTER		1	1
5	4320065-01	RETAINER, TAPE LIFTER		2	-
6	4440319-01	WASHER, CORK COMPOSITION		1	1
7	4590081-01	SOLENOID, MOD. LIFTER ASSY		1	1
8					
9					
10					
11	013-678	DIODE		1	1
12	087-775	LUBRICANT, STP		A/R	A/R
13	167-347	CONNECTOR, FEMALE, 2 POS RECTANGULAR		1	1
14	167-349	CONTACT PIN, 14-20 AWG		2	2
15	180-265	TERMINAL STRIP, 3 TERM		1	1
16					
17	352-534	SPRING, EXTENSION		1	1
18	406-013	PIN, SPRING		1	1
19	470-625	SCREW, CAP SOCKET HD, #4-40 X .375 LG.		1	1
20	471-891	SCREW, BUTTON HD, #8-32 X .250 LG		3	3
21	474-497	SCREW, MACH HEX WASHER, PLASTITE 6-32X.312 LG		2	4
22	501-190	WASHER, PLAIN, FLAT #8, SMALL PATTERN		1	1
23	502-004	WASHER, LOCK SPLIT #8, HELICAL SPRING		3	3
24		WIRE, 20 AWG		A/R	A/R
25					
26	4051172-01	CABLE ASSY. LIFTER		-	1
27	4250254-02	ROLLER, TAPE LIFTER		-	2
28					
29	501-015	WASHER, PLAIN #6		-	4
30	501-718	WASHER, PLAIN #6 NYLON		-	4
31					
32	4939019-01	FIXTURE, TAPE LIFTER		-	REF

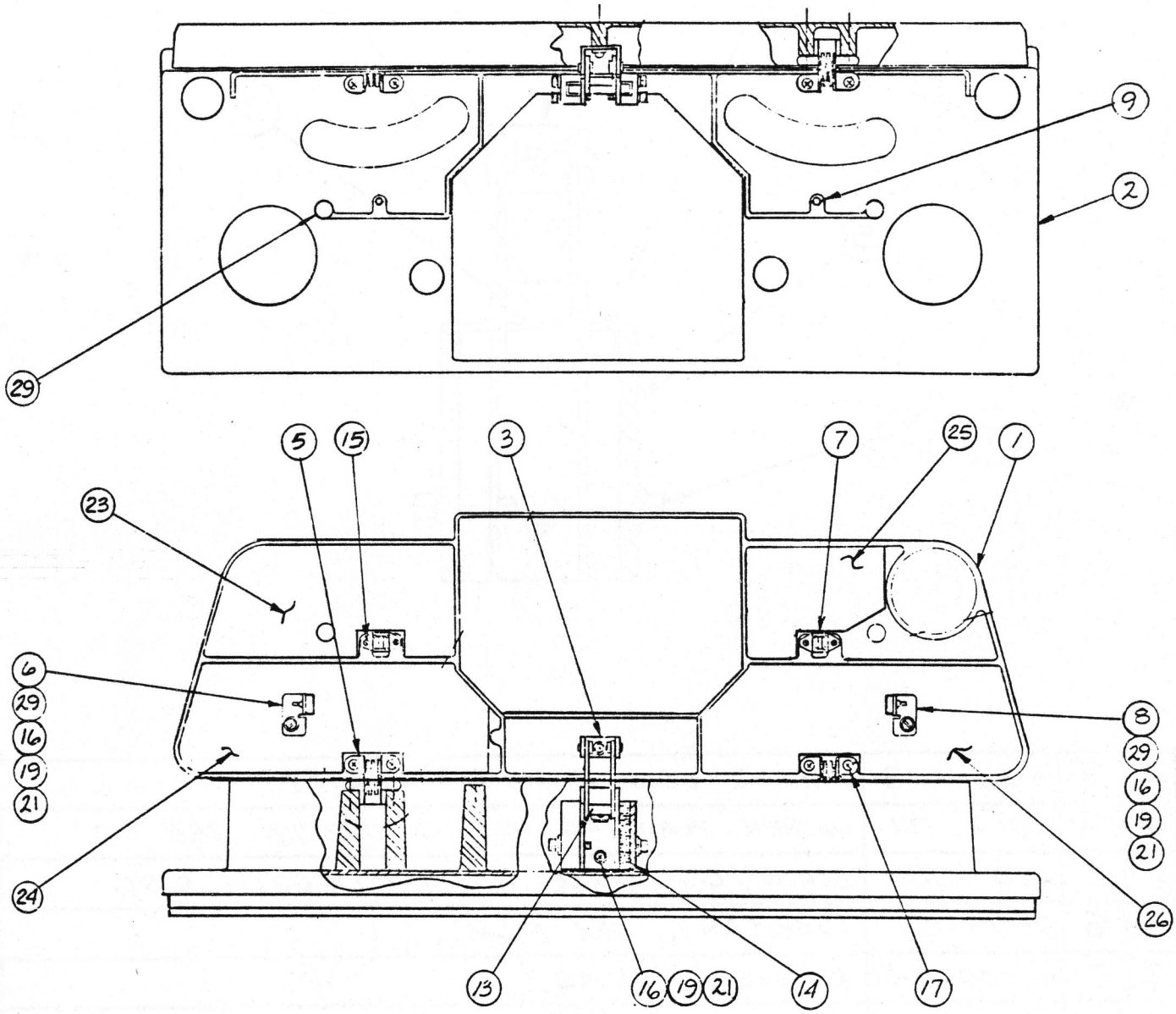
LM-4030468



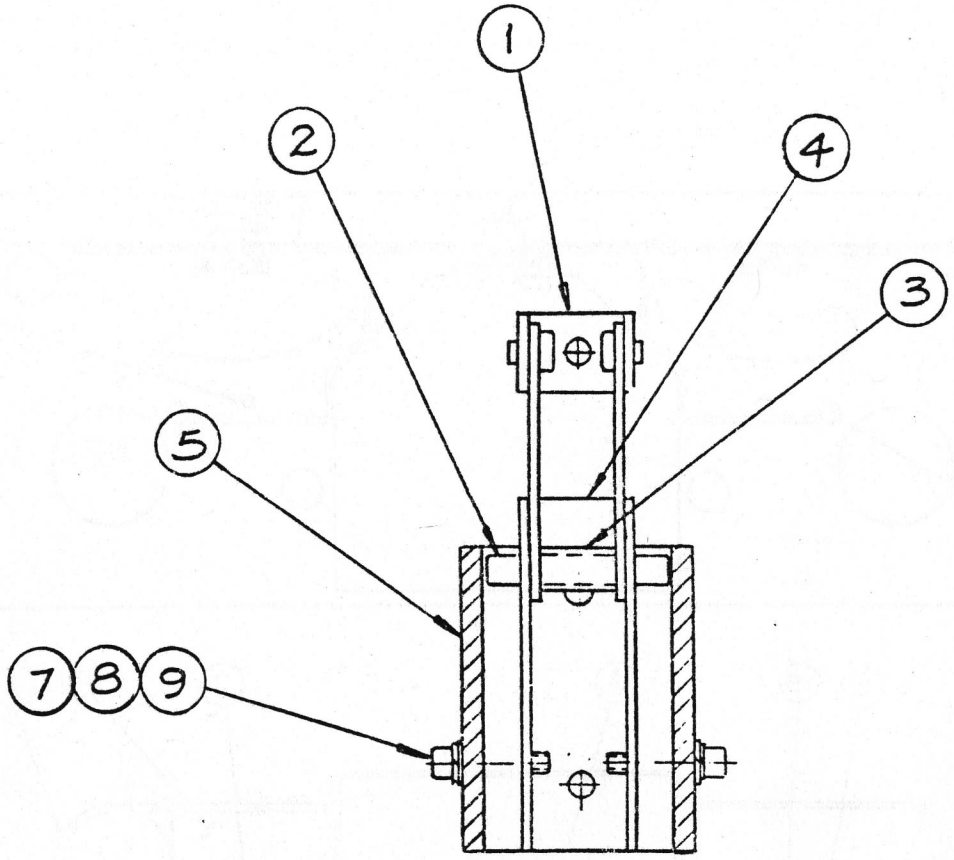
Assembly No. 4030468-02D. Tape Lifter Assembly

ITEM NO.	PART NUMBER	D	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1	4291016-01		COVER, CASTING		1
2	4291017-01		SUB COVER, CASTING		1
3	4041328-01		STOP ASSY, COVER		1
4					
5	092-117		HINGE		2
6	4260624-01		BRACKET LEFT RUBBER BUMPER		1
7	310-605		CATCH SPRING		2
8	4260625-01		BRACKET, RIGHT, RUBBER BUMPER		1
9	481-022		STUD BALL		2
10					
11					
12					
13	4270148-01		SPRING, COVER STOP		1
14	352-516		SPRING, COMPRESSION, .240 O.D. , .032 W.D., 2.00 FREE LG.		2
15	471-060		SCREW, PAN HD. 4-40X .25		4
16	470- 667		SCREW, BUTTON HD, 6-32 X .31		5
17	471-338		SCREW, CAP FLAT HD, #6-32 X .50		8
18					
19	501-015		WASHER, #6, FLAT, SST		5
20					
21	502-009		WASHER, SPRING LOCK #6, SST		5
22					
23	4030457-AA		SOUNDPROOFING MATERIAL		1
24	4030457-AB		SOUNDPROOFING MATERIAL		1
25	4030457-AC		SOUNDPROOFING MATERIAL		1
26	4030457-AD		SOUNDPROOFING MATERIAL		1
27					
28					
29	250-227		RUBBER BUMPER		4
30					

LM-4041307



Assembly No. 4041307-01E. Transport Cover



4	9	502-008	WASHER, LOCK. SPRING #4, S.ST.
4	8	501-171	WASHER, PLAIN. #4, .125 I.D. .022 THK. .250 O.D.
4	7	470-064	SCREW, CAP, SOCKET HD, 4-40 X .62 LG. S. ST.
AR	6	050-107	LUBRICANT, DRY FILM
2	5	4320064-01	RETAINER, SPRING
1	4	4260650-01	BRACKET, COVER STOP
1	3	4220357-01	SPACER
1	2	408-264	PIN.
1	1	4041334-01	PIVOT ASSY. COVER
01	ITEM NO.	PART NUMBER	DESCRIPTION

Assembly No. 4041328-01B. Cover Stop

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03
1	4840483	WIRING DIAGRAM		C	D	F
2	167-808	CONNECTOR BODY, FLAT CABLE, 10 POS.	P3	1	—	-
3	167-815	CONNECTOR PART, COVER, FOR 10 POS. CONN.	REF:P3	1	—	-
4	167-810	CONNECTOR BODY, FLAT CABLE, 16 POS.	P1,4	2	2	2
5	167-817	CONNECTOR PART, COVER, FOR 16 POS. CONN.	REF: P1,4	2	2	2
6	167-814	CONNECTOR BODY, FLAT CABLE, 50 POS.	P2	1	1	1
7	167-822	CONNECTOR PART, COVER, FOR 50 POS. CONN.	REF: P2	1	1	1
8	167-813	CONNECTOR BODY, FLAT CABLE, 34 POS.	P12	1	1	1
9	167-820	CONNECTOR PART, COVER, FOR 34 POS. CONN.	REF: P12	1	1	1
10	167-723	CONNECTOR, 4-CONTACT	P5	1	1	1
11	167-724	CONNECTOR, 5 POS	P21	—	1	1
12	167-727	CONTACT, RECEPTACLE		3	—	-
13	167-727	CONTACT, RECEPTACLE	REF: P3,5,21	—	14	14
14	167-619	POLARIZING KEY	(P5-3)	1	—	-
15	167-619	POLARIZING KEY	(P5-3) (P21-2)	—	2	2
16	616-692	RIBBON CABLE, 50 CONDUCTOR		A/R	A/R	-
17	616-829	RIBBON CABLE, 20 CONDUCTOR, GRAY		A/R	A/R	-
18	140-302	CONNECTOR, 25 CONTACT	P6	1	1	1
19	167-927	CONNECTOR, 10 CONTACT	P3	—	1	1
20	167-801	CONNECTOR PART, PULL TAB, FOR 10 POS. CONN.	REF: P3	1	—	-
21	167-794	POLARIZING KEY	P12-14	—	1	1
22	167-803	CONNECTOR PART, PULL TAB, FOR 16 POS. CONN.	REF: P1,4	2	2	2
23						
24	167-807	CONNECTOR PART, PULL TAB, FOR 50 POS. CONN.	REF: P2	1	1	1
25						
26	167-805	CONNECTOR PART, PULL TAB, FOR 34 POS. CONN.	REF: P12	1	1	1
27						
28	614-931	CABLE, 24 AWG		—	A/R	A/R
29	614-932	CABLE, 24 AWG		—	A/R	A/R
30						
31		SLEEVING SHRINKABLE		—	A/R	A/R
32		WIRE, HOOK-UP, 24AWG		-	-	A/R
33						
34	636-102	RIBBON CABLE, 50 COND., COLOR CODE				AR
35	636-101	RIBBON CABLE, 20 COND., COLOR CODE				AR

LM-4050924

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02
1			REF		
2	167-734	CONNECTOR BODY, 12 CONTACT	P8	1	1
3					
4	167-349	CONTACT, PIN		10	10
5					
6	167-348	CONNECTOR BODY, 2CONTACT		2	2
7					
8	167-665	CONNECTOR BODY, 3 CONTACT		2	2
9					
10	167-350	CONTACT, SOCKET		10	10
11	171-984	TERMINAL, QUICK DISCONNECT			1
12		WIRE, 18AWG		AR	AR
13	611-723	WIRE, INSULATED, 16 AWG, BLK			A/R
14	616-499	CABLE, 2 CONDUCTOR SHIELDED, 16AWG		AR	AR
15	172-218	TERMINAL, #8 RING TONGUE, BLUE			1

LM-4050925

4050926-05 AUDIO PREAMPLIFIER PWA REV. M

NEXT HIGHER ASSEMBLY 4010335, 4010336,4010337,4010338

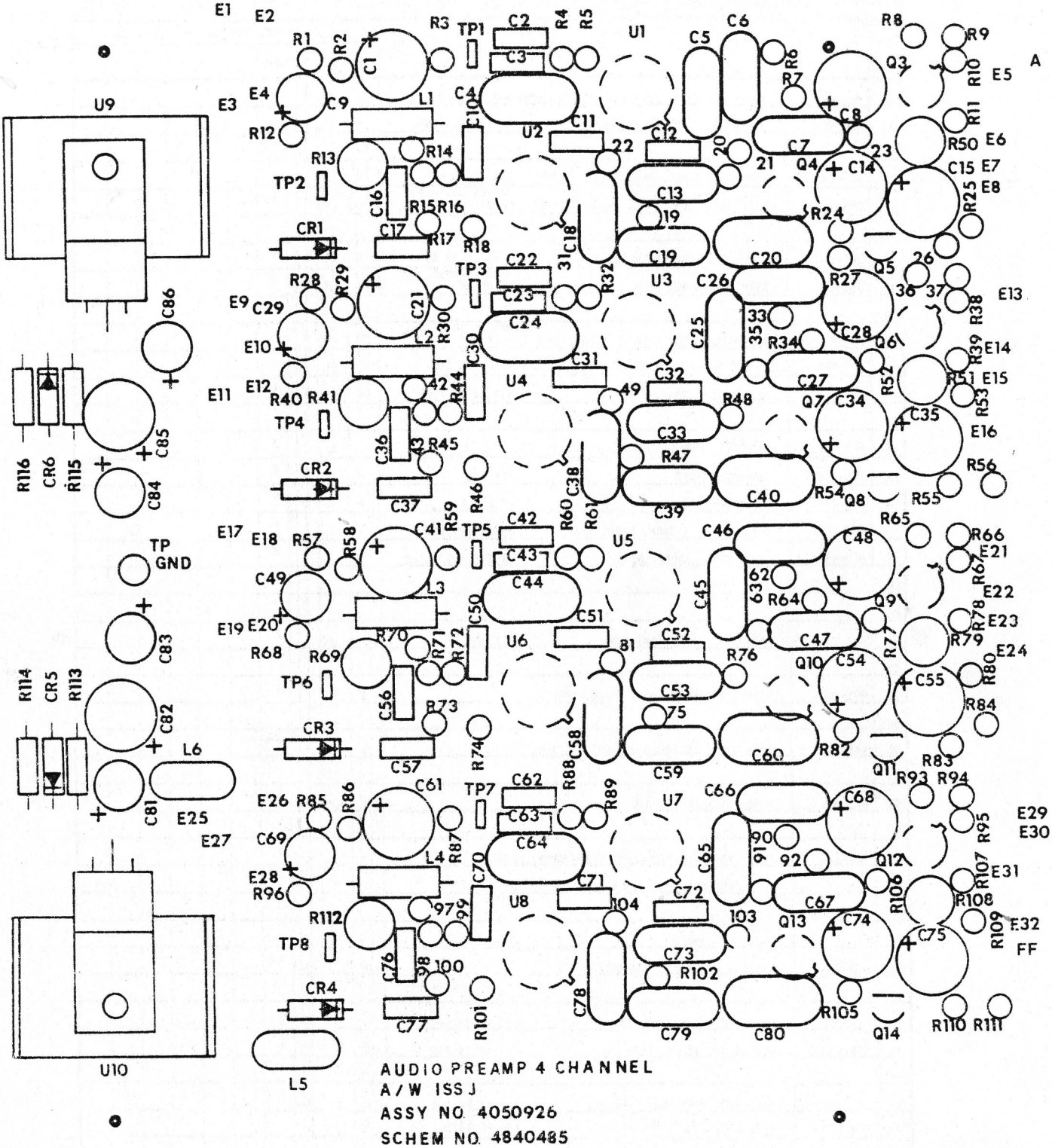
ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -02	-03	-04	-05
1							
2	4810485	SCHEMATIC		E	F	G	H
3	580-646	TRANSISTOR, PNP, 2N3964	Q3,4,6,7,9,10,12,13	8	8	8	8
4	014-652	TRANSISTOR, PNP TO92 2N3906	Q5,11,8,14	4	4	4	4
5							
6	52528-01	HANDLE		1	1	1	1
7							
8							
9	013-599	DIODE, GENERAL PURPOSE 1N4531	CR1-6	6	6	6	6
10							
11							
12	034-215	CAPACITOR, MICA, 10pF, 5%, 500V	C5,18,25,38,45,58,65,78	8	8	8	8
13	034-963	CAPACITOR, MICA, 15pF, 5%, 500V	C7,19,27,39,47,59,67,79	8	8	8	8
14	034-181	CAPACITOR, MICA, 47pF, 5%, 500V	C6,13,26,33,46,53,66,73	8	8	8	8
15	034-250	CAPACITOR, MICA, 620pF, 1%	C4,24,44,64	4	4	4	4
16	064-062	CAP., CER. MONO, .1, 100V	C2,3,10,12,16,17,22,23,30,32,36,37,42,43,50,52,56,57,62,63,70,72,76,77,87		25	-	-
17							
18	056-291	CAPACITOR, MICA, 470, 1%, 500V	C20,40,60,80	4	4	4	4
19							
20	037-920	CAPACITOR, TANT, DIPPED, .33uF, 35V	C81,84	2	2	2	2
21	037-812	CAPACITOR, TANT, DIPPED, 10uF, 25V	C9,29,49,69,83,86	6	6	6	6
22	037-970	CAPACITOR, TANT, DIPPED, 150uF, 6V	C1,15,21,35,41,55,61,75	8	8	8	8
23	037-973	CAPACITOR, TANT, DIPPED, 330uF, 6V	C8,14,28,34,48,54,68,74	8	8	8	8
24	037-892	CAPACITOR, TANT, DIPPED, 47uF, 20V	C82,85	2	2	2	2
25							
26	064-062	CARACITOR, CERAMIC, MONO. .1, 100V	C2,3,10,12,16,17,22,23,30,32,36,37,42	24	-	24	24
27			43,50,52,56,57,62,63,70,72,76,77				
28	064-276	CAP., CER., MONO., .15uF, 100V, 10%	C11,31,51,71	4	4	4	4
29	062-831	RESISTOR, M.F., 68.1 OHM, 1%, 1/8W	R8,36,65,93	4	4	4	-
30	062-844	RESISTOR, M.F., 90.9 OHM, 1%, 1/8W	R114,116	2	2	2	2
31	062-822	RESISTOR, METAL FILM, 51.1 OHM, 1%, 1/8W	R26,55,83,110	4	4	4	-
32	062-624	RESISTOR, METAL FILM, 1K, 1%, 1/8W,	R113,115	2	2	2	2
33	062-983	RESISTOR, METAL FILM, 10K, 1%, 1/8W	R4,5,15,16,31,32,43,44,60,61,71,72,88,89,98,99	16	16	16	16
34	062-822	RESISTOR, M.F., 68.1 OHM, 1%, 1/8W,	R8,26,36,55,65,83,93,110				8
35	066-655	RESISTOR, METAL FILM, 68.1K, 1%, 1/8W	R7,22,34,49,64,81,92,104	8	8	8	8
36	076-017	RESISTOR, METAL FILM, 681K, 1%, 1/8W,	R19,23,47,52,75,77,102,106	8	8	8	8
37	062-956	RESISTOR, METAL FILM, 3.4K, 1%, 1/8W	R6,33,62,90	4	4	4	4

LM-10

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4050926 SHEET 2	REV M

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -02	-03	-04	-05
38	066-560	RESISTOR, CARB. FILM, 56 OHM, 5%, 1/4W	R10,38,67,95	4	4	4	4
39	066-528	RESISTOR, CARB. FILM, 100 OHM, 5%, 1/4W	R9,37,66,94	4	4	4	4
40							
41	066-547	RESISTOR, CARB. FILM, 3K, 5%, 1/4W	R14,42,70,97	4	4	4	4
42	066-550	RESISTOR, CARB. FILM, 5.1K, 5%, 1/4W	R18,20,35,46,63, 74,91,101	8	8	8	8
43							
44	066-561	RESISTOR, CARB. FILM, 22 OHM, 5%, 1/4W	R3, ,59,87	4	4	4	4
45	066-571	RESISTOR, CARB. FILM, 10K, 5%, 1/4W	R1,2, ,29,57, 58,85,86	8	8	8	8
46							
47	066-591	RESISTOR, CARB. FILM, 27K, 5%, 1/4W	R21, 48, 76, 103	4	4	4	4
48	066-810	RESISTOR, CARB. FILM, 10 OHM, 5%, 1/4 W,	R117, 118	2	-	-	-
49	058-611	RES. VAR, 1 TURN, 10K,	R13,41,69,112	4	4	4	4
50							
51	068-044	INDUCTOR, FIXED, 2200uH, 5%	L5,6		2	2	2
52	187-259	TERMINAL, TEST	TP1-TP8	8	8	8	8
53	540-073	INDUCTOR, 390uH	L1,2,3,4	4	4	4	4
54	058-251	RES., VAR., 1 TURN, 100K, 1/2W	R50,51,79,108	4	4	4	4
55	587-478	I.C., OPNL. AMPL. LM318	U1,2,3,4,5,6,7,8	8	8	8	8
56							
57							
58	582-190	HEATSINK (IERC # PA1-1CB)	REF: U9,10	2	2	2	2
59							
60	471-068	SCREW, PAN HEAD 6-32 .5/16 LONG		2	2	2	2
61							
62	498-425	NUT, WITH ASSEMBLED WASHER, SM, PAT.		2	2	2	2
63							
64	613-022	WIRE, SHIELDED 26 AWG		A/R	A/R	A/R	A/R
65							
66	589-624	I.C., POSITIVE REGULATOR (LM137MPTB)	U10	1	1	1	1
67	589-625	I.C., NEGATIVE REGULATOR (LM337MPT3)	U9	1	1	1	1
68							
69							
70	087-388	SILICON COMPOUND, DOW 340		A/R	A/R	A/R	A/R
71							
72	066-061	RES. M.F., 13K, 1/8W, 1%	R24,54,82,105	4	4	4	4
73	066-656	RES. M.F., 30.1K, 1/8W, 1%	R11,39,78,107	4	4	4	4
74							
75	066-634	RES. C.F., 330 OHM, 1/4W, 5%	R25,53,80,109	4	4	4	4
76	066-665	RES. C.F., 1K, 1/4W, 5%	R12,40,68,96	4	4	4	4
77	066-715	RES. C.F., 1.2K, 1/4W, 5%	R27,56,84,111	4	4	4	4
78	066-828	RES. C.F., 4.3K, 1/4W, 5%	R17,73,45,100	4	4	4	4
79							
80							
81							
82							

LM-4050926



Assembly No. 4050926-05M. Preamplifier PWA

play pre outs - new head - 200mh

1k @ 250 - 30IPS

w/ OLD RES. - (68.1Ω)

-17 dbm at TP

15IPS - also -17dbm

change to 110Ω to lower gain 4db for OTARI 200 mh head

30 db gain

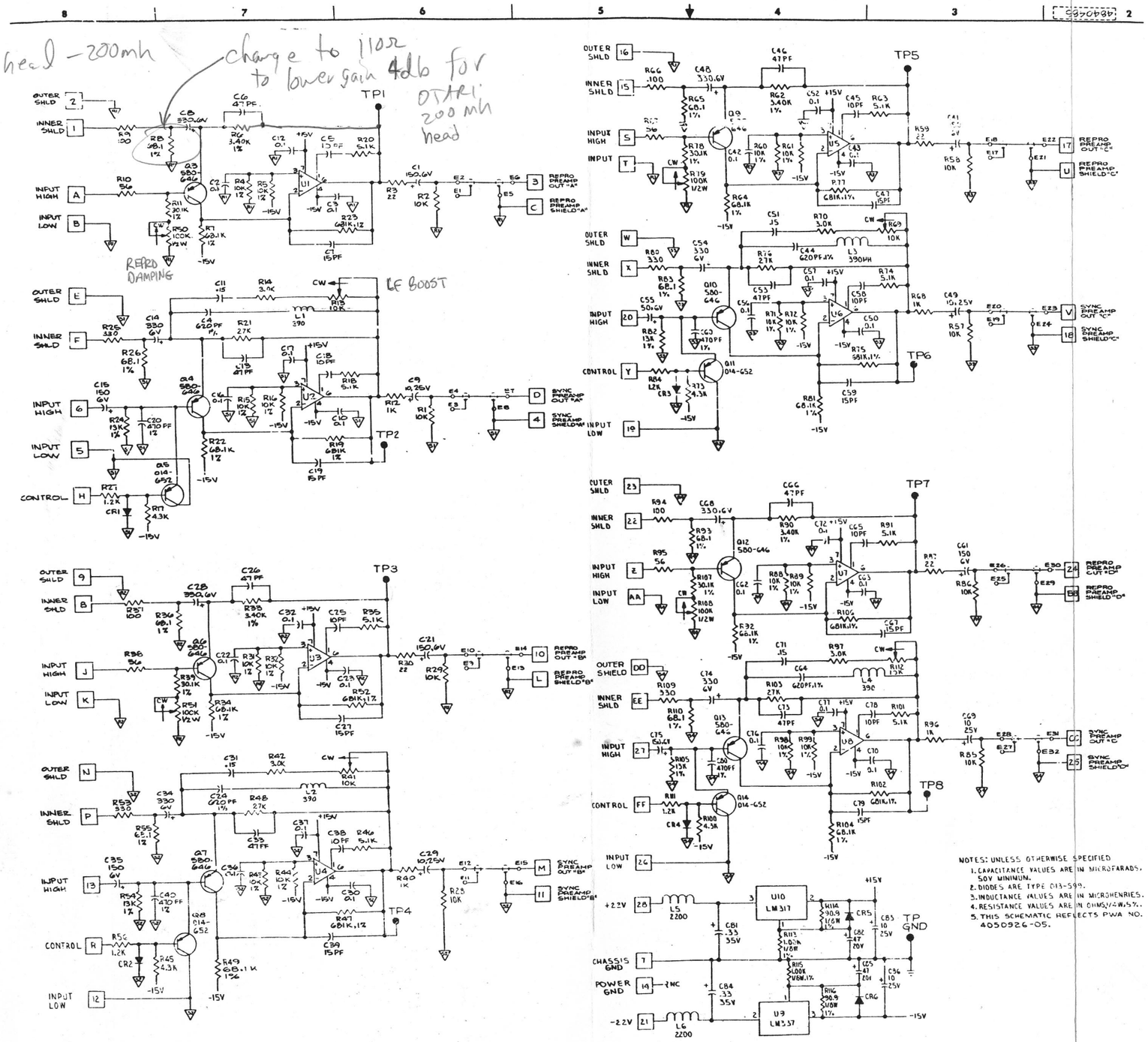
pin out different for Beam's Deck

Sync pre outs.

1k @ 250 - 30IPS.

-19.2 → -22.2 dbm

15IPS same



Repro pre outs +0.9 VDC

Sync " " +5.18 VDC.

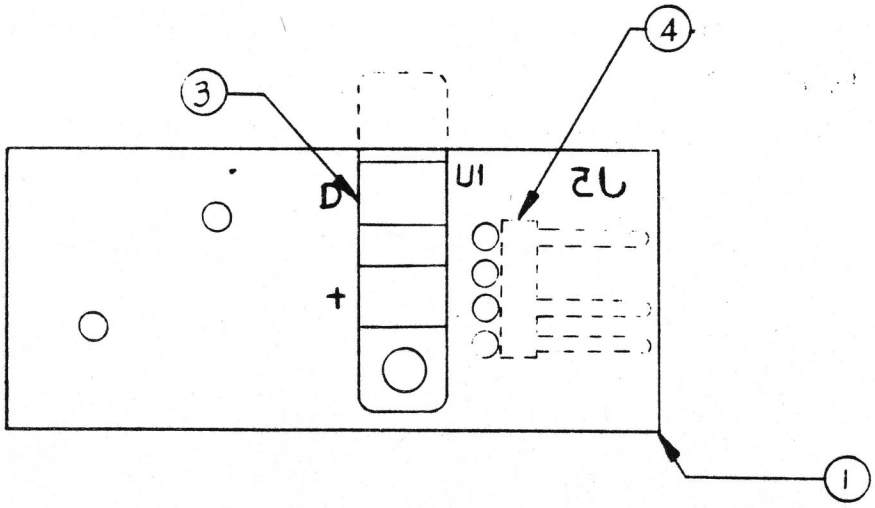
REFERENCE DESIGNATION	
LAST USED:	NOT USED
C86	
CR6	
L6	
Q14	Q1-12
R116	R117, 118
TP8	
U10	

I.C. LIST			
REF DES	U1-U8	U9	U10
AMPEX P/N	587-473	589-624	593-625
VENDOR P/N	318H	LM317MTB	LM337MTE
VOLTAGE PIN	7 / 4	N/A	N/A
GROUND PIN			

2N3964 = 580-646

NOTES: UNLESS OTHERWISE SPECIFIED
1. CAPACITANCE VALUES ARE IN MICROFARADS, 50V MINIMUM.
2. DIODES ARE TYPE 013-599.
3. INDUCTANCE VALUES ARE IN MICROHENRIES.
4. RESISTANCE VALUES ARE IN OHMS, 1/4W, 5%.
5. THIS SCHEMATIC REFLECTS PWA NO. 4050926-05.

Schematic No. 4840485H.
Audio Preamplifier PWA



-01	ITEM NO.	PART NUMBER		DESCRIPTION	REF DES
		PARTS LIST			
1	3	135-088	HEADER, 4 POST		J5
1	2	581-305	TRANSDUCER		U1
1	1				

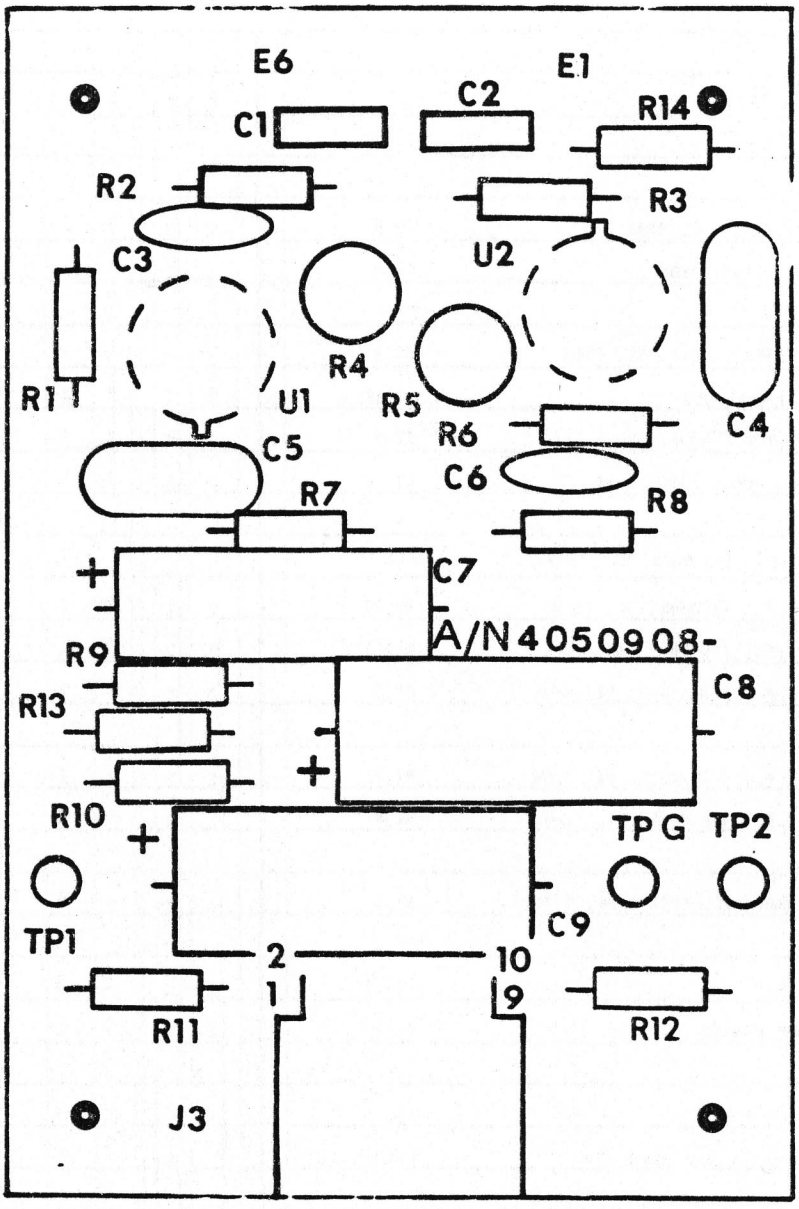
Assembly No. 4050950-01C. Tape Timer Tach PWA

4050908-05 CAPSTAN TACH PREAMPLIFIER PWA REV. J

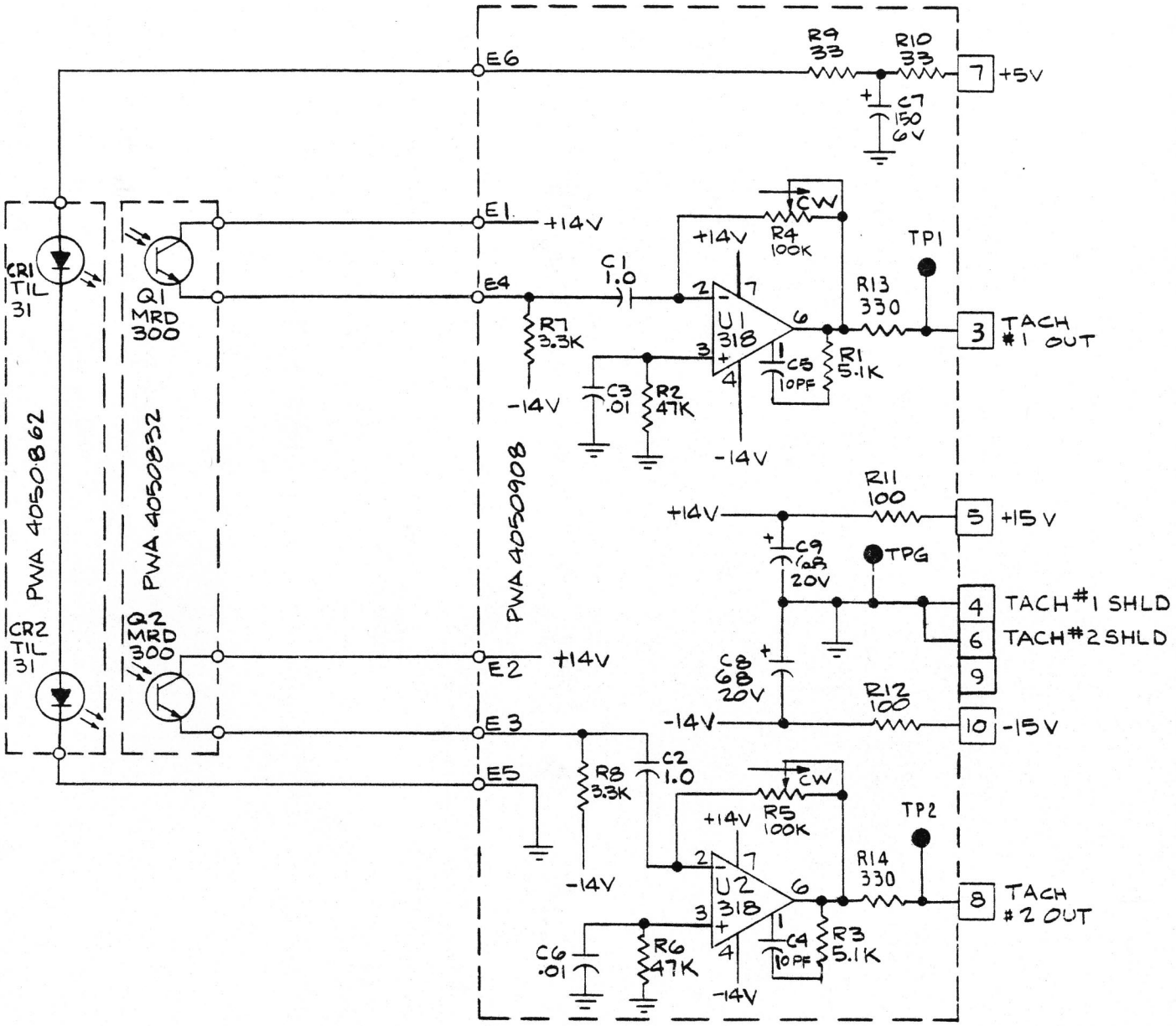
NEXT HIGHER ASSEMBLY 4051005

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER				
					-01	-02	-03	-04	-05
1									
2									
3	4840481	SCHEMATIC			A	B	C	E	F
4									
5									
6	034-215	CAP., MICA, 10pF, 5%, 500V		C4,5	2	2	2	2	2
7	030-817	CAP., CER., .01uF, 100V		C3,6	2	2	2	2	2
8									
9	069-168	CAP., POLYESTER, .10uF, 5%, 100V		C1,2	2	-	-	-	-
10	064-314	CAP, MOND 1.0UF, 50V		C1,2		2	2	2	2
11	037-750	CAP., TANT.,TUB., 68uF, 20V		C8,9	2	2	2	2	2
12	037-753	CAP., TANT., TUB., 150uF, 6V		C7	1	1	1	1	1
13									
14	066-838	RESISTOR, C.F. 330 OHMS, 5%, 1/4W		R13,14					2
15	066-834	RESISTOR, C.F., 33 OHMS, 5%, 1/4W		R9,10	2	2	2	2	2
16	066-812	RESISTOR, C.F., 100 OHMS, 5%, 1/4W		R11,12	2	2	2	2	2
17	066-720	RESISTOR, C.F., 3.3K OHMS, 5%, 1/4W		R7,8	2	2	2	2	2
18									
19	066-842	RESISTOR, C.F., 5.1K OHMS, 5%, 1/4W		R1,3	2	2	2	2	2
20	066-717	RESISTOR, C.F., 47K OHMS, 5%, 1/4W		R2,6	2	2	2	2	2
21									
22	058-251	RESISTOR, VARIABLE, 100K OHMS, 1 TURN		R4,5	2	2	2	2	2
23									
24	187-259	TERMINAL, TEST		TP1,2	2	2	2	2	2
25	587-478	I.C., OP AMP LM318H		U1,2	2	2	2	2	2
26									
27	135-068	CONNECTOR, 10 PIN		J3		1	-	-	-
28	135-239	CONNECTOR, 10 PIN AMP 87516-1		J3			1	1	1

LM-4050908



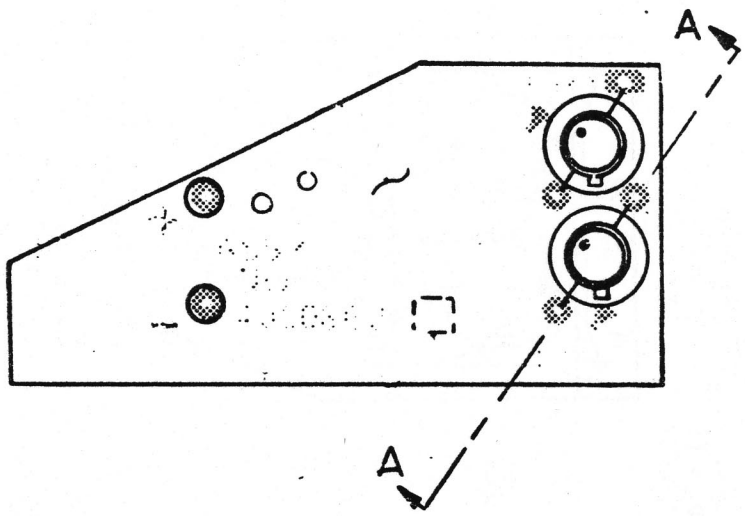
Assembly No. 4050908-05J. Tach Preamplifier PWA

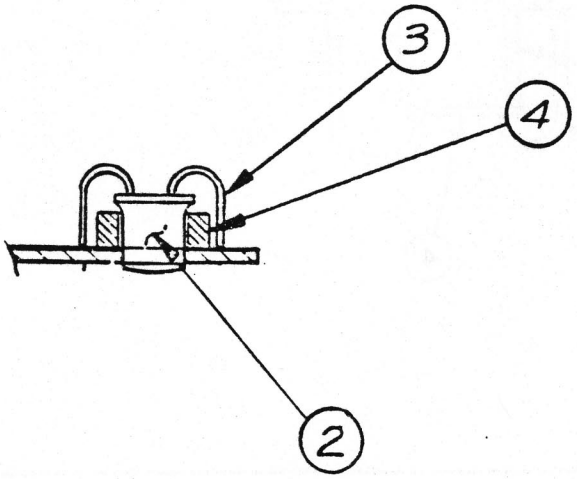


NOTES: UNLESS OTHERWISE SPECIFIED

1. RESISTANCE VALUES ARE IN OHMS 1/4W, 5%.
2. CAPACITANCE VALUES ARE IN MICROFARADS 50V MINIMUM.
3. THIS SCHEMATIC REFLECTS PWA 4050908-05.

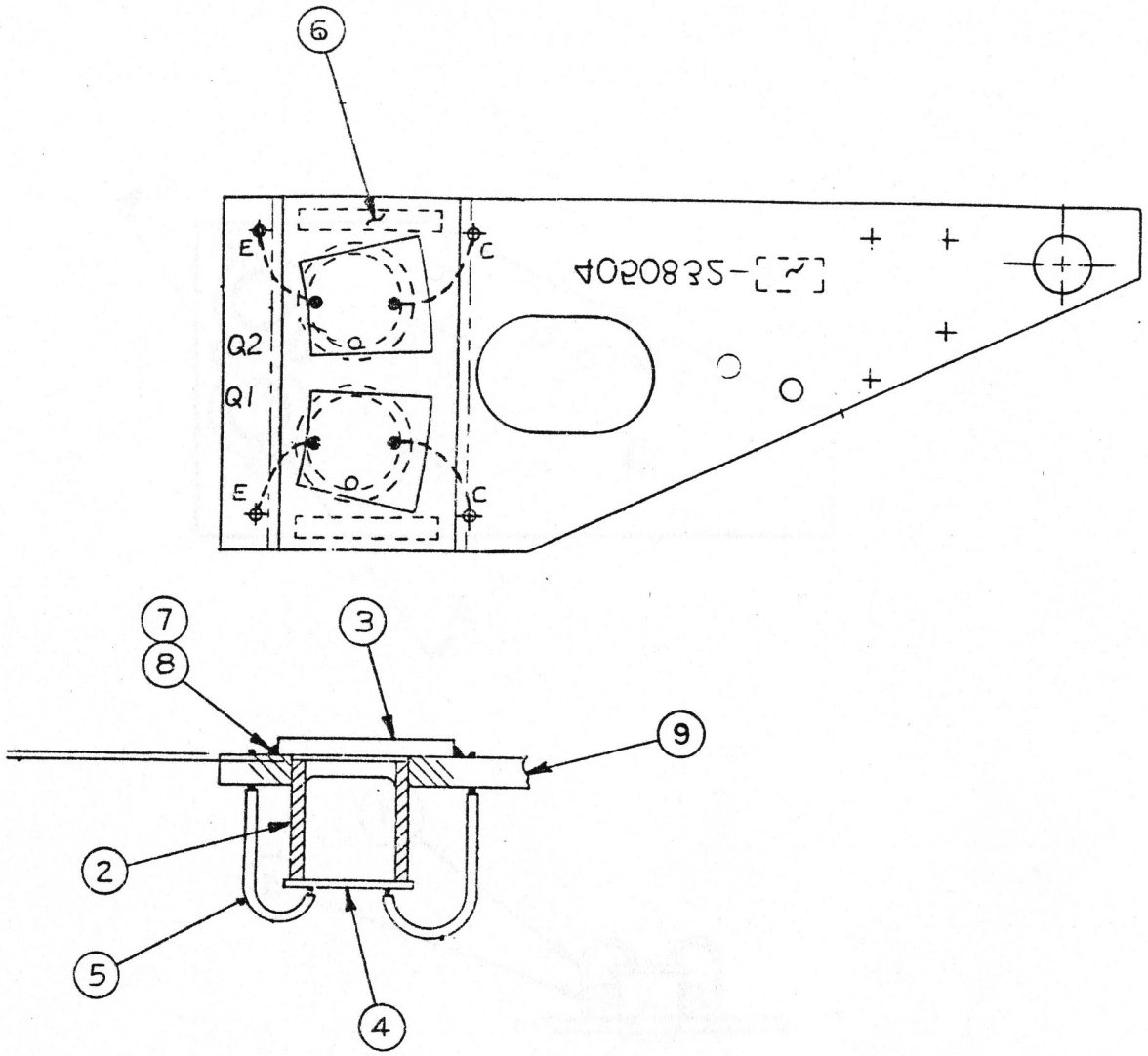
Schematic No. 4840481F. Capstan Tach Kit





2	4	502-446	WASHER, TEFLON	
AR	3	600-296	SLEEVING PVC CLEAR	
2	2	581-559	DIODE, LIGHT EMITTING, TIL 31	
.	1			
·01	ITEM NO	PART NUMBER		DESCRIPTION

Assembly No. 4050862-01E. Capstan Tach LED PWA



		9			
A/R	A/R	8	932-044		PLASTIC, LIQUID RESIN
A/R	A/R	7	018-290		PLASTIC, LIQUID CATALYST
A/R	A/R	6	018-019		ADHESIVE, CYANOCRYLATE LIQUID
A/R	A/R	5	600-296		SLEEVING, PVC CLEAR, .027 I.D.
2	2	4	014-942		TRANSISTOR, PHOTO, MRD-300
1	1	3	4250214-01		GRATING, ENCODER
2	2	2	4250097-01		TUBE, CAPSTAN SENSOR
	1	1			
-02	-01	ITEM NO.	PART NUMBER		DESCRIPTION

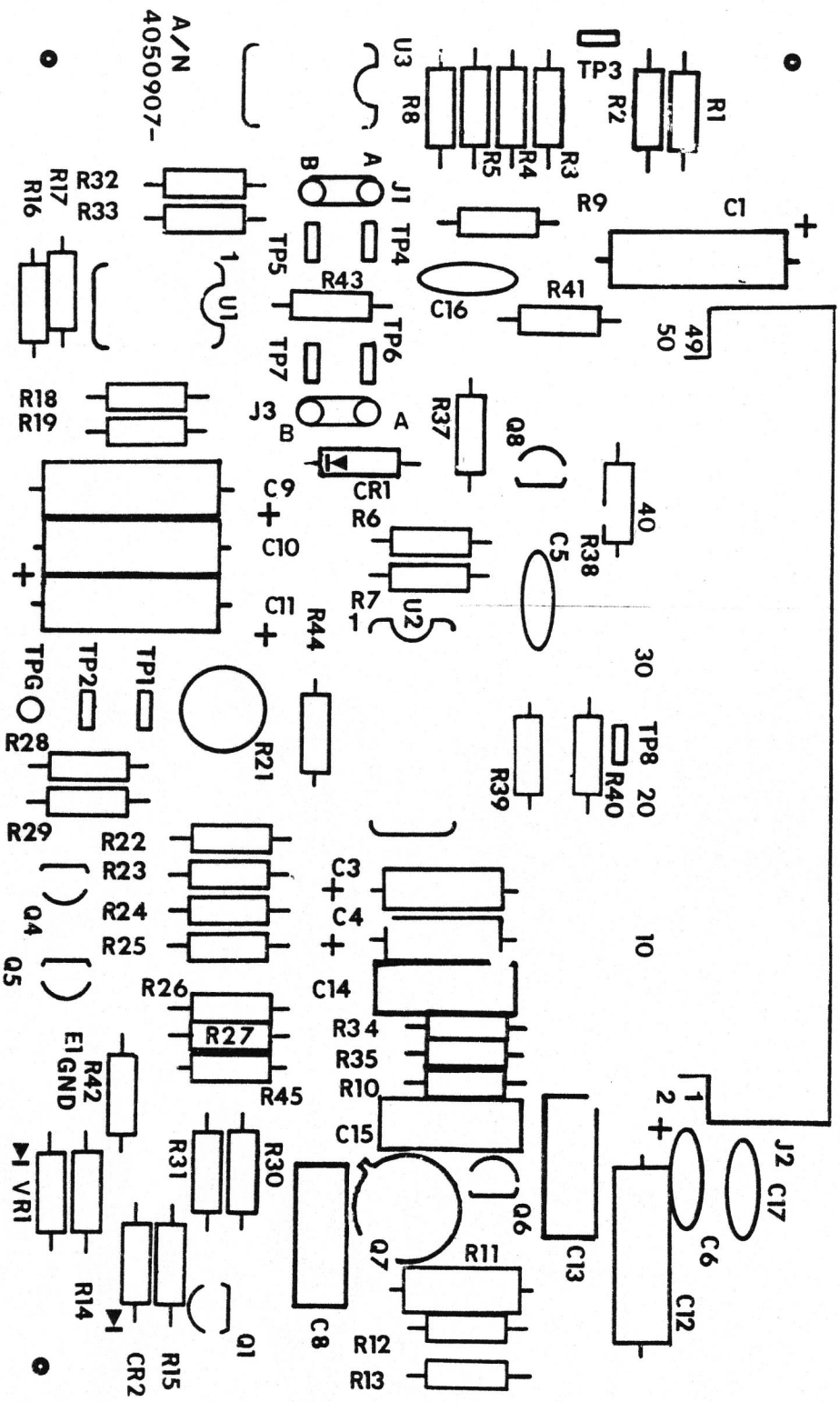
Assembly No. 4050832-02E. Capstan Tach Sensor PWA

4050906-03 POSITION ADJUST PWA REV. R

NEXT HIGHER ASSEMBLY 4020449

ITEM NO.	PART NUMBER	C	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03
1					(01)	01	-
2							
3	4580205-01		TRANSFORMER, E-CORE	T1	1	1	1
4							
5	4840480		SCHEMATIC		F	H	M
6							
7	013-599		DIODE, SI, GEN PURPOSE	CR1,2	2	2	2
8	581-131		LED	DS1	1	1	1
9							
10	014-698		TRANSISTOR, NPN	Q1,3,4	3	3	3
11	580-761		TRANSISTOR, PNP	Q2	1	1	1
12							
13	034-215		CAPACITOR, MICA, 10pF, 500V	C12	1	1	1
14	030-817		CER, DISC, .01uF, 100V	C10,15	3	3	2
15	069-163		POLYESTER, .01uF, 630V,	C2,8,9	3	3	3
16	069-173		.068uF, 250V	C3	1	1	1
17	069-168		.10uF, 100V	C6,7	2	2	2
18	064-614		CER DISC,0.1uF,50 V	C1	-	-	1
19							
20	037-985		TANT, 15uF, 20V	C4,5	2	2	2
21	037-991		22uF, 15V	C11	1	1	1
22	037-901		CAPACITOR, TANT, 100uF, 20V	C13,14	2	2	2
23	044-944		RESISTOR, VAR., 5K	R3,34	2	-	-
24	075-275		VAR., 5K, 4-TURN	R3,34	-	2	2
25	066-812		C.F., 100 OHM, 1/4 W,5%	R9,16,36	3	3	3
26	066-984		160 OHM,	R19	1	1	1
27	066-859		240 OHM	R18	1	1	1
28							
29	066-816		390 OHM	R33	1	1	1
30	066-818		470 OHM	R15	1	1	1
31	066-665		1.0K OHM	R13,14,17	3	3	3
32							
33	066-689		2.2K OHM	R29,31,32	3	3	3
34	066-720		3.3K OHM	R21	1	1	1
35	066-843		RESISTOR, C.F., 6.2K OHM	R25,28,30	3	3	3
36							
37							

LM-100/900



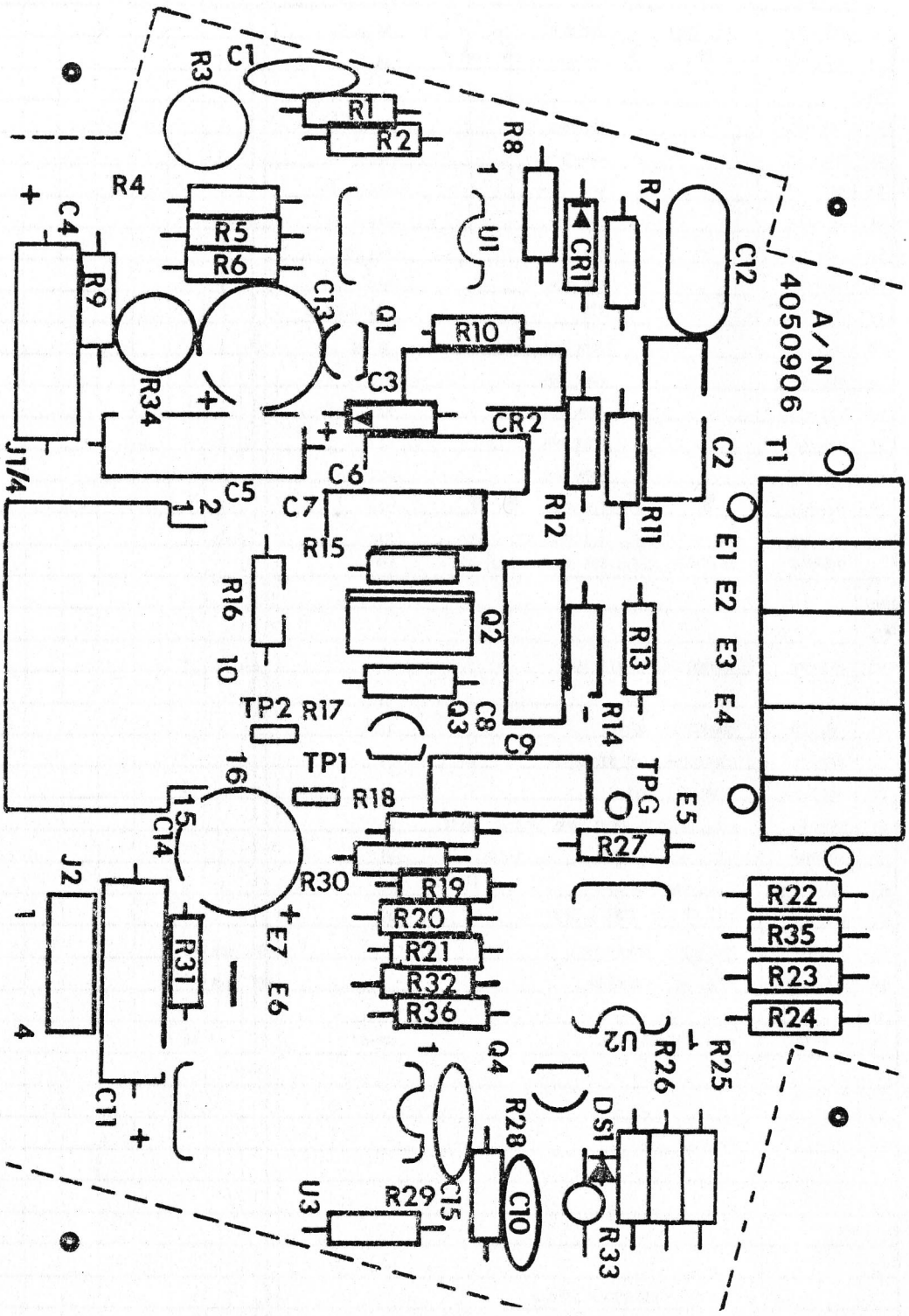
Assembly No. 4050907-04S. Offset Adjust PWA

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4050905 SHEET 2 OF 2	REV R

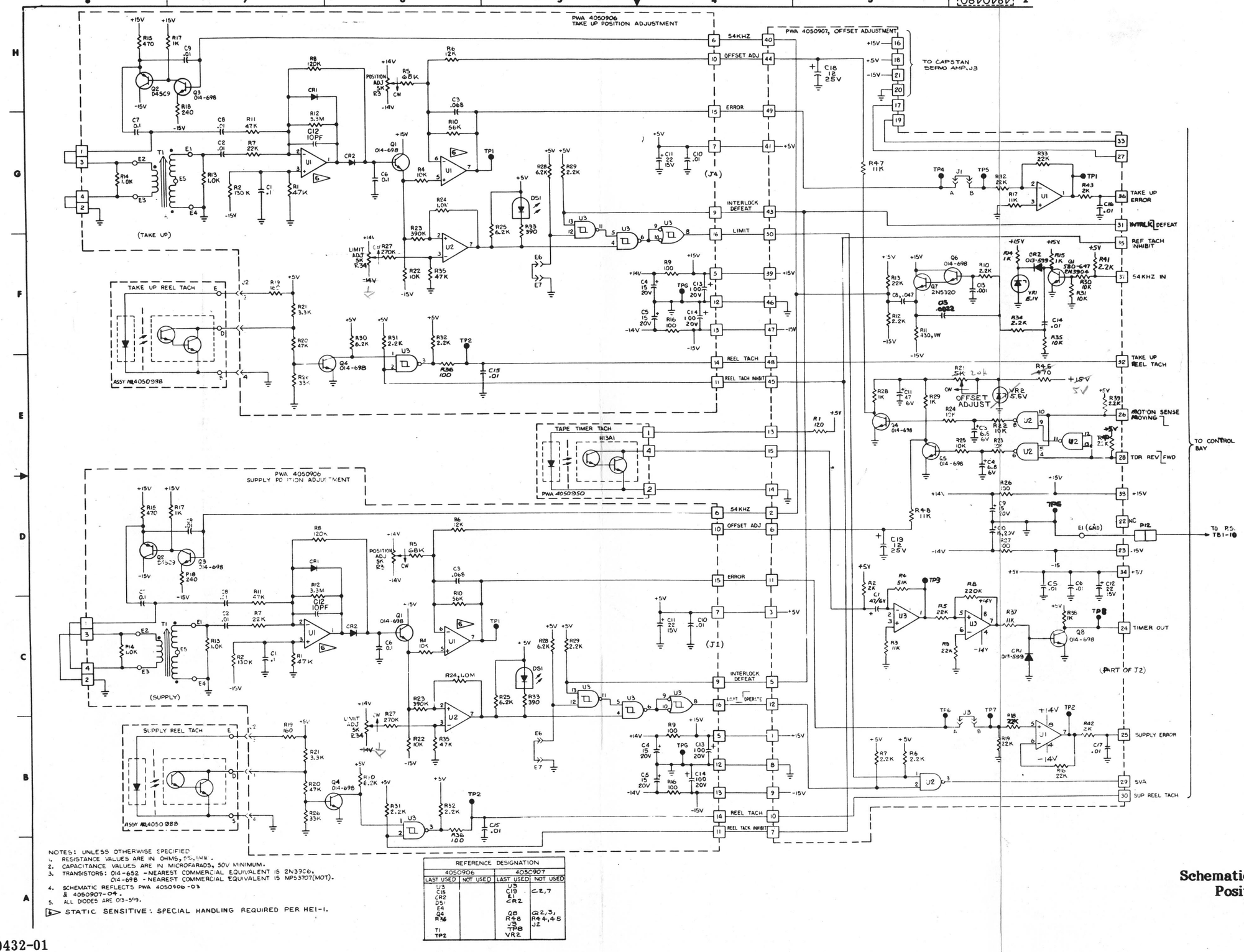
ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03
38	066-830	RESISTOR, C.F., 10K OHM, 1/4W 5%	R4,22		2	2
39	066-865	12K OHM,	R6		1	1
40						
41	066-873	20K OHM,	R1		1	-
42	066-712	22K OHM,	R7		-	1
43	066-717	47K OHM,	R11,20,35		3	-
44	066-847	33K OHM,	R26		1	1
45	066-717	47K OHM,	R11,20		2	-
46	066-833	56K OHM,	R10		1	1
47	066-717	47K	R1,11,20,35			4
48	066-849	100K OHM,	R5,35		2	-
49	066-868	120K OHM,	R8		1	1
50	076-010	130K OHM,	R2		1	1
51	076-050	270K OHM,	R27		1	1
52	076-053	390K OHM,	R23		1	1
53	066-673	1.0 MEG,	R24		1	1
54	076-015	RESISTOR, C.F., 3.3 MEG, 1/4 W 5%	R12		1	1
55	076-009	RESISTOR, C.F., 68K OHM, 1/4 W, 5%	R5			1
56						
57						
58	143-981	CONNECTOR, PC TIP JACK		6	6	4
59						
60	135-108	CONNECTOR, 16 PIN	J1/4		1	1
61	135-124	CONNECTOR (AMP 87220-4)	J2		1	1
62	187-259	TERMINAL, TEST	TP1,2	2	2	2
63	587-148	I.C., QUAD 2-INPUT NAND, SHMITT 74132	U3		1	1
64	586-905	I.C., OP AMP, DUAL 1458	U1		1	-
65	590-542	I.C., COMPARATOR 311P, [1]	U2		1	1
66	590-104	I.C. OP AMP, DUAL LF353N	U1			1
67	018-035	ADHESIVE, EPOXY BASE		A/R	A/R	AR
68	018-449	ADHESIVE, ACTIVATOR		A/R	A/R	AR
69						
70	615-090	WIRE, 24 AWG, BARE	E6-E7			AR

[1] PRESTRESSED

LM-4050906



Assembly No. 4050906-03R. Positon Adjust PWA



NOTES: UNLESS OTHERWISE SPECIFIED
1. RESISTANCE VALUES ARE IN OHMS, 5%, 1/4W.
2. CAPACITANCE VALUES ARE IN MICROFARADS, 50V MINIMUM.
3. TRANSISTORS: 014-652 - NEAREST COMMERCIAL EQUIVALENT IS 2N3906;
   014-698 - NEAREST COMMERCIAL EQUIVALENT IS MPS3707(MOT).
4. SCHEMATIC REFLECTS PWA 4050906-03 & 4050907-04.
5. ALL DIODES ARE 013-509.

⚠ STATIC SENSITIVE: SPECIAL HANDLING REQUIRED PER HEI-1.

REFERENCE DESIGNATION			
4050906		4050907	
LAST USED	NOT USED	LAST USED	NOT USED
U3		C19	C2,7
C18		E1	
CR2		CR2	
DS1			
E4			
Q4		Q8	Q2,3,
R36		R48	R44,45
		U3	U2
T1		TP8	
TP2		VR2	

Schematic No. 4840480M.
Position Adjust PWA

4050907-04 OFFSET ADJUST PWA REV. S

NEXT HIGHER ASSEMBLY 4020449

ITEM NO.	PART NUMBER	C	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04
1					02	-03	04	
2								
3	4840480		SCHEMATIC		M	J	L	M
4	581-480		DIODE, ZENER, 5.1V	VR1	1	1	1	1
5	580-647		TRANSISTOR, NPN	Q1	1	1	1	1
6	014-698		TRANSISTOR, NPN,	Q4,5,6,8	4	4	4	4
7	580-167		TRANSISTOR, NPN,	Q7	1	1	1	1
8	013-599		DIODE	CR1,2	2	2	2	2
9	069-174		CAPACITOR, POLYESTER, .001uF, 5%, 1000V	C13	1	1	1	1
10	069-160		.0022uF, 5%, 1000V	C15	1	1	1	1
11	069-163		.01uF, 5%, 630V	C14	1	1	1	1
12	069-166		POLYESTER, .047uF, 5%, 250V	C8	1	1	1	1
13								
14								
15	037-991		TUBULAR, 22uF, 15V	C12	1	1	1	1
16	037-985		15uF, 20V	C9,10	2	2	2	2
17	037-745		47uF, 6V	C1,11	2	2	2	2
18	037-728		TUBULAR, 6.8uF, 6V	C3,4	2	2	2	2
19	037-944		DIP, 12uF, 25V	C18,19				2
20	030-817		CAPACITOR, CER., DISC, .01uF, 50V	C5,6,16,17	4	4	4	4
21								
22	041-379		RESISTOR, C.C., 430 OHM, 5%, 1/2W	R11	1	1	-	-
23	041-603		RESISTOR, C.C, 430 OHM, 5%, 1 W	R11			1	1
24								
25	066-818		RESISTOR, C.F., 470 OHM, 5%, 1/4W	R46				1
26	066-812		RESISTOR, C.F., 100 OHM, 5%, 1/4W	R26,27	2	2	2	2
27	066-661		120 OHM, 5%, 1/4W	R1	1	1	1	1
28	066-826		2K 5%, 1/4W	R2,42,43	3	3	3	3
29	066-665		1.0K 5%, 1/4W	R14,15,28,29,38	5	5	5	5
30	066-689		2.2K 5%, 1/4W	R6,7,10,12,34, 39,40,41	8	8	8	8
31	066-831		11K 5%, 1/4W	R3,17,37,47,48				5
32								
33								
34	066-912		82K , 5%, 1/4W	R44,45		2	2	-
35	066-867		51K, 5%, 1/4W	R4	1	1	1	1
36	066-913		RESISTOR, C.F., 220K, 5%, 1/4W	R8	1	1	1	1
37								

LM-4020907

AMPEX | Ampex Corporation, Redwood City, California | CODE IDENT NO 92739 | LIST OF MATERIALS | LM-4050-007 SHEET 2 OF 2 | REV S

ITEM NO	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04
38	066-830	RESISTOR, C.F., 10K, 5%, 1/4W	R22-25,30,31,35	7	7	7	7
39	066-831	RESISTOR, C.F., 11K, 5%, 1/4W	R3,17,37	3	3	3	-
40							
41	066-712	RESISTOR, C.F., 22K	R5,9,13,16,18,19,32,33	8	8	8	8
42	075-275	RESISTOR, VARIABLE, 4 TURN, 5K	R21				1
43	075-228	RESISTOR, VARIABLE, 20K (BOURNS 3339P-1-203)	R21	1	1	1	-
44	143-981	CONNECTOR, SOCKET	J1A,B, J3A,B	4	4	4	4
45	187-259	TERMINAL, TEST	TP1-8	8	8	8	8
46	280-998	PAD, TRANSISTOR MTG		1	1	1	1
47	602-012	SHORTING PLUG	J1,3	2	2	2	2
48							
49	590-612	I.C., OP AMP 1458	U1,3	2	2	2	2
50							
51	586-075	I.C., QUAD 2-INPUT NAND, 7400	U2	1	1	1	1
52							
53	135-109	CONNECTOR, 50 PIN	J2	1	1	1	1
54	171-984	TERMINAL, QUICK DISCONNECT		1	1	1	1
55	619-200	WIRE, BLACK, 14 AWG (5 IN.)		A/R	A/R	A/R	A/R
56	173-101	SPACER, SWAGE, .750 LG X .250 DIA		4	4	4	4
57							
58	013-914	DIODE, ZENER, 5.6V, 500 MW	VR2				1

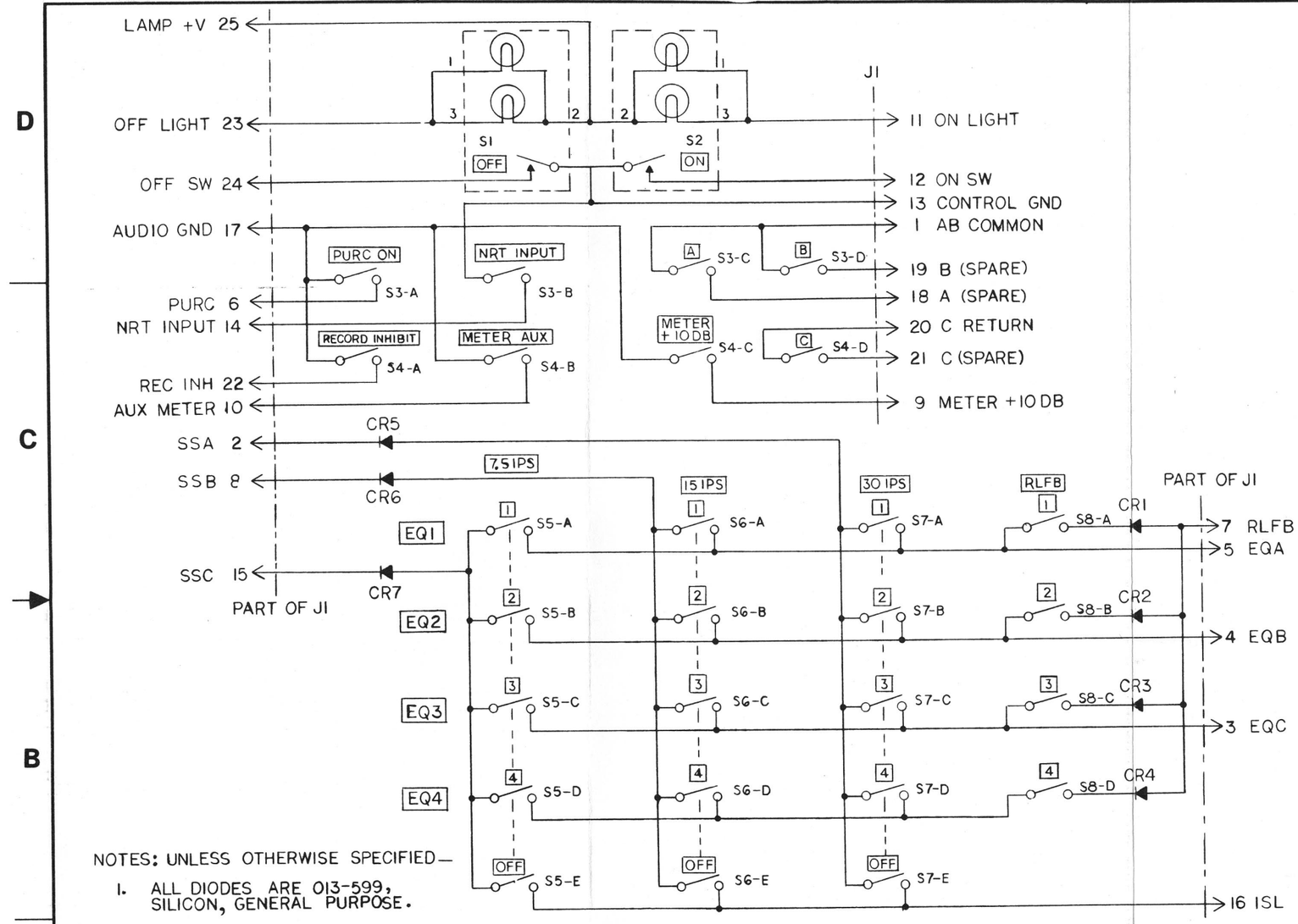
LM-4050-007

4050936-02 SECONDARY CONTROL PANEL ASSEMBLY REV. H

NEXT HIGHER ASSEMBLY 4010334

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02
1	4050935-01	HARNESS ASSEMBLY		1	1
2	4100202-AA	LENS, FRONT ENGRAVED (ON)	REF: S2	1	1
3	4100202-AB	LENS, FRONT, ENGRAVED (OFF)	REF: S1	1	1
4	4291007-03	PANEL, SECONDARY		1	1
5	4840491	SCHEMATIC		A	A
6					
7	119-617	SWITCH, LIGHTED	S1,2	2	2
8	119-611	SWITCH, 4 STATION	S3,4,8	3	3
9	119-610	SWITCH, 5 STATION	S5,6,7	3	3
10	121-334	FILTER, SWITCH	REF: S1,2	2	—
11	060-530	LAMP, #385	REF: S1,2	4	4
12	121-326	BUTTON, SWITCH (1)	S5A,S6A,S7A,S8A	4	4
13	121-327	BUTTON, SWITCH (2)	S5B,S6B,S7B,S8B	4	4
14	121-328	BUTTON, SWITCH (3)	S5C,S6C,S7C,S8C	4	4
15	121-329	BUTTON, SWITCH (4)	S5D,S6D,S7D,S8D	4	4
16	121-325	BUTTON, SWITCH (OFF)	S5E,S6E,S7E	3	3
17	121-324	BUTTON, SWITCH (SQUARE DOT, YELLOW)	S3A,B,C,D,S4B,C,D	7	7
18	121-323	BUTTON, SWITCH (SQUARE DOT, RED)	S4A	1	1
19	121-371	SWITCH PART, FILTER, RED;	REF: S1		1
20	013-599	DIODE, GEN. PURPOSE IN4531	CR1-7	7	7
21	121-372	SWITCH PART, FILTER, GREEN;	REF: S2		1
22	180-233	TERMINAL STRIP		5	5
23	280-923	SPACER, HEX, 6-32 x .875 LG		12	12
24	280-407	SPACER, HEX, 6-32 X 1.00 LG		2	2
25					
26	475-085	SCREW, MACHINE, PAN HEAD SEM 6-32 X .31		12	12
27	167-077	FEMALE JACK SCREW KIT		1	1
28					
29	615-012	WIRE, SOLID, 20 AWG		AR	AR
30	600-234	SLEEVING, TEFLON		AR	AR
31	615-006	WIRE, BARE, SOLID, 14 AWG		AR	AR

LM-4050936



NOTES: UNLESS OTHERWISE SPECIFIED—

1. ALL DIODES ARE 013-599, SILICON, GENERAL PURPOSE.

Schematic No. 4840491 A.
Secondary Control Panel Assembly

4050935-01 SECONDARY CONTROL HARNESS ASSEMBLY REV. B
NEXT HIGHER ASSEMBLY 4050936

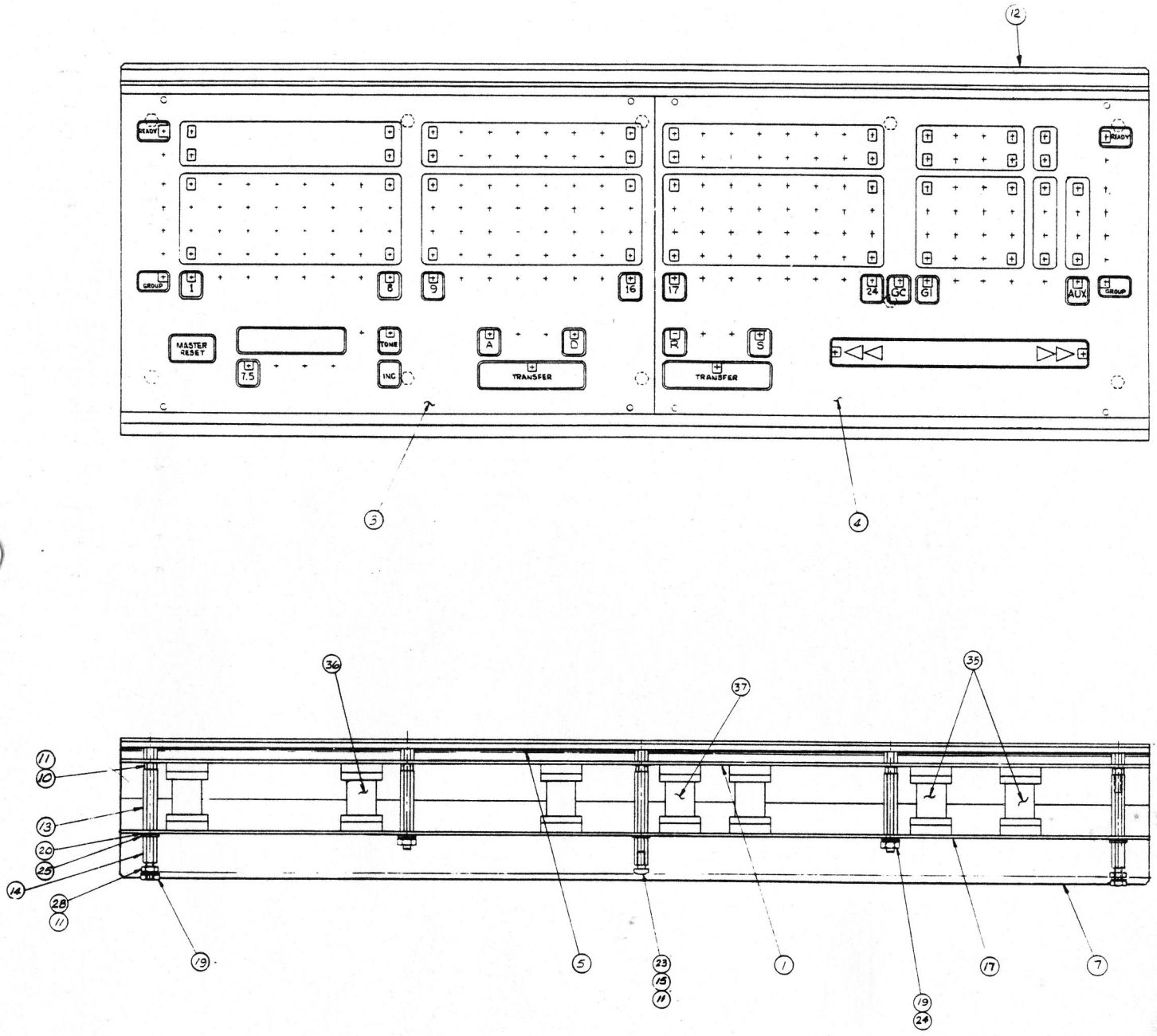
ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1					
2					
3					
4					
5	167-079		CONNECTOR, 25 CONTACT MALE	J1	1
6	167-763		CONTACT, CONNECTOR PIN		25
7					
8					
9					
10			WIRE, 24 AWG		A/R
11					
12	302-335		TIE WRAPS		A/R

LM-4050935

ITEM NO.	PART NUMBER	E	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -04	-05	-06	-07	-08	-09
1	4050928-04		L.E.D. PWA		1	1	1	1	1	1
2	4050933-12		P.W.A., PANEL CPU		1	1	-	-	-	-
3	4110318-02		OVERLAY-MEMBRANE SWITCH ASSY (1-16)		1	1	1	1	1	1
4	4110319-02		OVERLAY-MEMBRANE SWITCH ASSY (17-24)		1	1	1	1	1	1
5	4330369-01		PLATE APERTURE		1	1	1	1	1	1
6	4600183-02		SHIELD, CENTER, SET-UP PANEL	1	1	1	1	1	1	1
7	4600184-02		SHIELD, BOTTOM, SET-UP PANEL	1	1	1	1	1	1	1
8	4840484		SCHEMATIC SWITCH		REF	REF	REF	REF	REF	REF
9	4840488		SCHEMATIC, SET-UP PANEL		REF	REF	-	-	-	-
10	4210436-01		PIN, LOCATING CONTROL PANEL		10	10	10	10	10	10
11	018-458		ADHESIVE, THD-LOCKING (LOCTITE)		AR	AR	AR	A/R	A/R	A/R
12	4600194-01		SHIELD, TOP, SET-UP PANEL	1	1	1	1	1	1	1
13	283-208		SPACER, THREADED STUD 8-32X1.312 LG		10	10	10	10	10	10
14	283-267		SPACER, THREADED STUD 8-32X.625 LG		4	4	4	4	4	4
15	283-269		SPACER, THREADED, PLAIN 8-32X.625 LG		2	2	2	2	2	2
16	4051170-02		PWA, PANEL CPU				1	1	-	-
17	4051170-05		PWA, PANEL CPU					-	1	1
18										
19	496-006		NUT, LKG, ASSEMB. WASH. #8		8	8	8	8	8	8
20	503-310		WASHER, FLAT NYLON .030 THK, #8		10	10	10	10	10	10
21	616-612		CABLE ASSY, INTERCONNECT, 6" J8-10,12,14		5	5	5	-	-	-
22	616-614		CABLE ASSY, INTERCONNECT, 8" J11,13		2	2	2	-	-	-
23	471-078		SCREW, PAN HD, XREC, 8-32X.375 LG		2	2	2	2	2	2
24	501-190		WASHER, FLAT, SMALL PATTERN, #8		4	4	4	4	4	4
25	502-631		WASHER, FLAT, #8 X .048 THK						-	6
26	501-008		WASHER, FLAT, #4	1	4	4	4	4	4	4
27										
28	492-010		NUT, PLAIN HEX, #8		4	4	4	4	4	4
29										
30	473-325		SCREW, MACH, ASSY, 4-40X.312 LG	1	4	4	4	4	4	4
31										
32	4840589		SCHEMATIC, SET-UP PANEL					(B)	E	F
33										
34										
35	616-611		CABLE, ASSY, INTERCONNECT, 4" J13,14					2	2	2
36	616-612		CABLE, ASSY, INTERCONNECT, 6" J8-10,12					4	4	4
37	616-614		CABLE, ASSY, INTERCONNECT, 8" J11					1	1	1

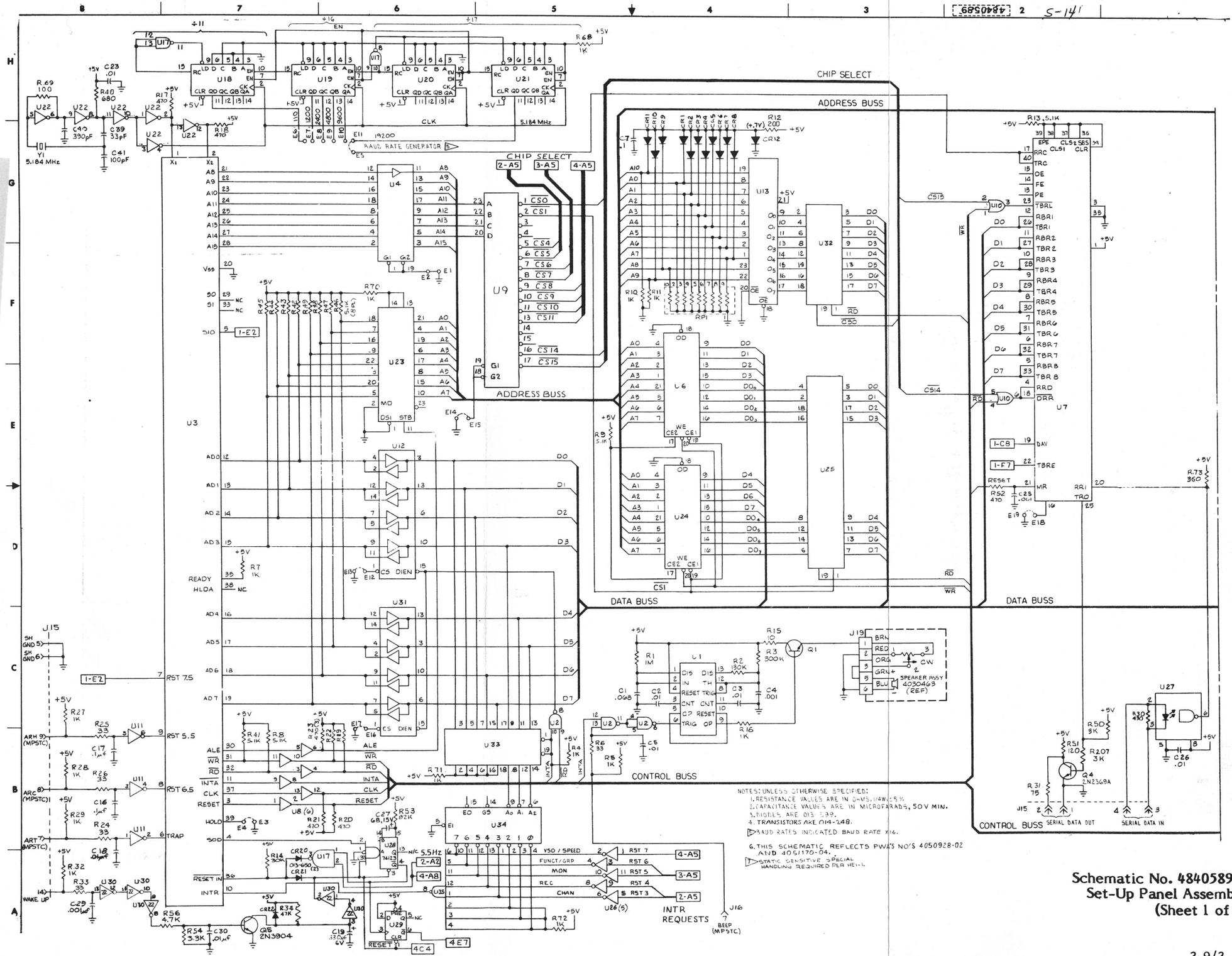
NOTES:
1. WHEN SET-UP PANEL IS USED IN REMOTE, REMOVE & BAG PARTS.

LM-4050937



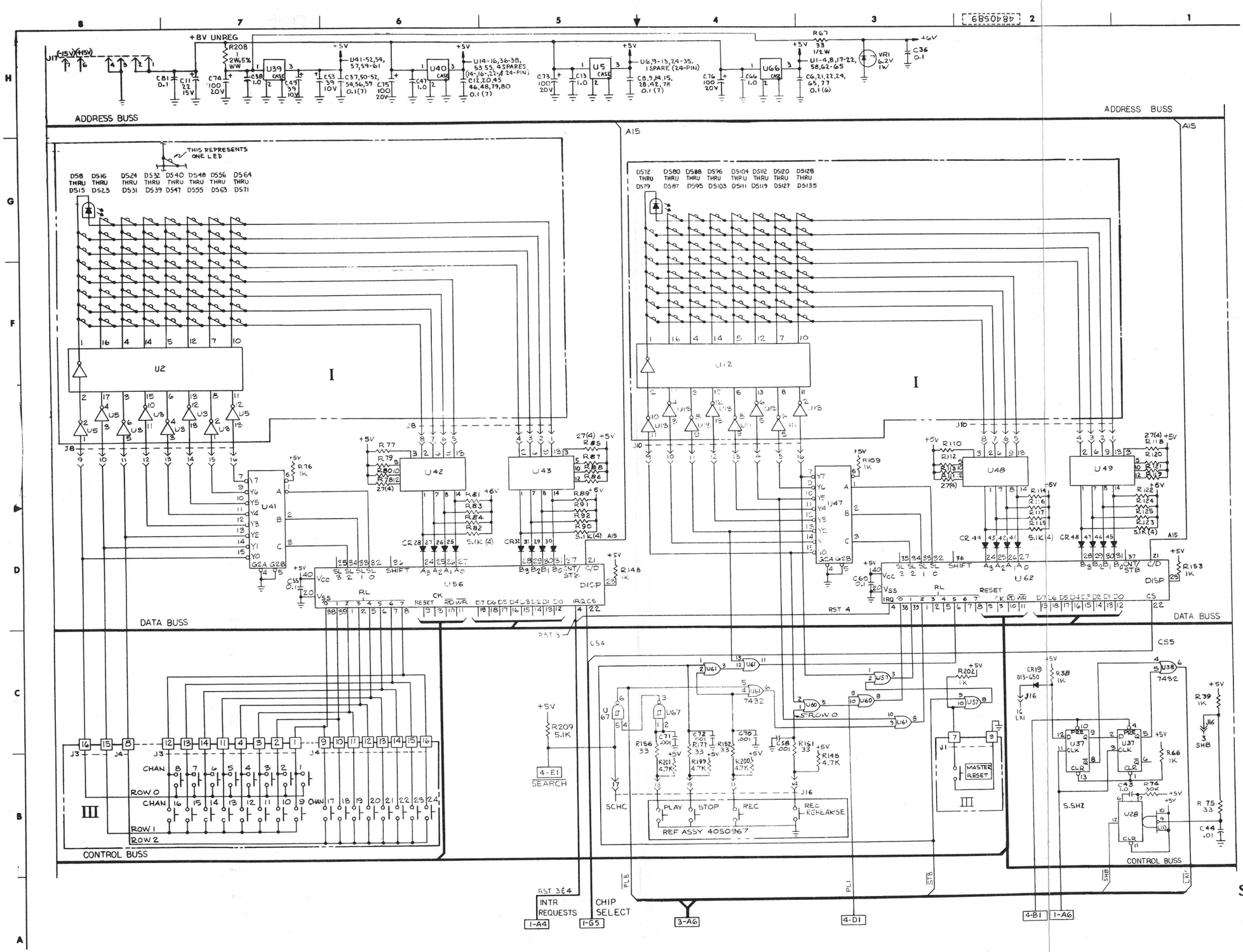
Assembly No. 4050937-09AB. Set-Up Panel

DOES NOT APPLY TO OUR PANEL



NOTES: UNLESS OTHERWISE SPECIFIED:
1. RESISTANCE VALUES ARE IN OHMS, 1/4W ± 5%
2. CAPACITANCE VALUES ARE IN MICROFARADS, 50V MIN.
3. DIODES ARE 013-539.
4. TRANSISTORS ARE 014-248.
5. BAUD RATES INDICATED BAUD RATE X16.
6. THIS SCHEMATIC REFLECTS PWA'S NO'S 4050928-02 AND 405170-04.
7. STATIC SENSITIVE SPECIAL HANDLING REQUIRED PER HEI-4.

Schematic No. 4840589F.
Set-Up Panel Assembly
(Sheet 1 of 4)



Schematic No. 4840589F.
Set-Up Panel Assembly
(Sheet 2 of 4)

3-11/3-12

Ampex 4890432-01

ADDRESS BUSS

DATA BUSS

CONTROL BUSS

A15

I

II

III

DS136 THRU DS143 · DS144 THRU DS151 · DS152 THRU DS159 · DS160 THRU DS167 · DS168 THRU DS175 · DS176 THRU DS183 · DS184 THRU DS191 · DS192 THRU DS199

DS201 THRU DS208 · DS209 THRU DS216 · DS217 THRU DS224 · DS225 THRU DS232 · DS233 THRU DS240 · DS241 THRU DS245 · DS1 THRU DS7 · DS246 · DS247 · DS248 · DS249 · DS250 · DS251 · DS252

U17 · U19 · U21 · U50 · U51 · U52 · U63 · U25 · U24 · U27 · U23 · U22 · U26 · U54 · U55 · U65

R126 1K · R127 · R129 · R130 · R128 · 27(4) · R131 · R133 · R134 · R132 · 5.1K(4) · R135 · R137 · R138 · R136 · R139 · R141 · R142 · R140 · R143 1K · R102 · R82 · R83 · R84 · R85 · R95 · R96 · R97 · R100 · 27(4) · R69 · R86 · R87 · 680(4) · R74 · R75 · R76 · R77 · 27(4) · R81 · 680 · R60 · R78 · 680(3) · R154 1K · R155 1K · R206 1K · R205 1K · R204 1K · R203 1K

74LS138 · C61 0.1 · C62 0.1 · C623 0.1

SHIFT · DISP · RESET · CLR · RD · WR · CS · CNT/STB · C/D · BLK DISP

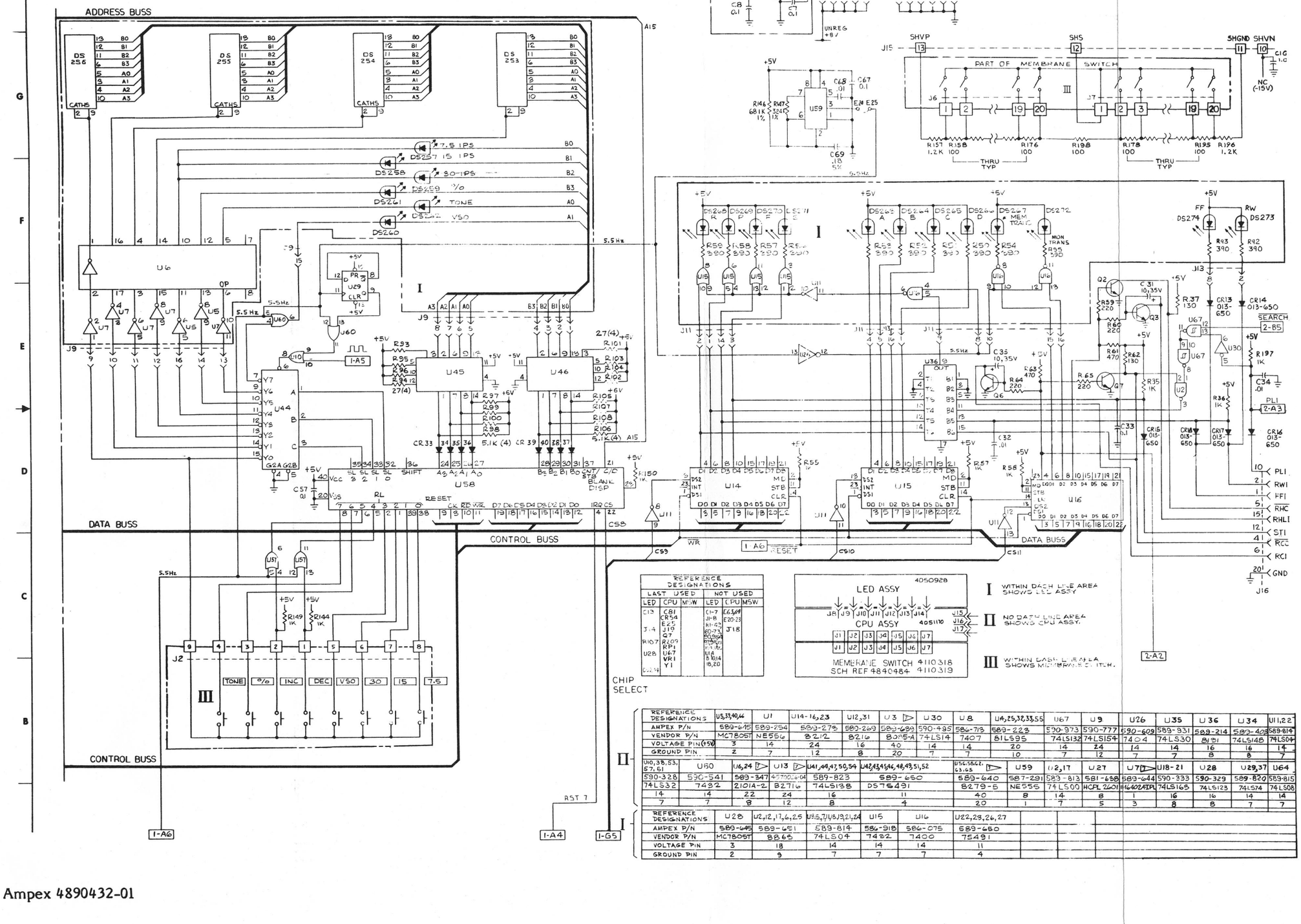
J1 GROUP · J5 MUTE · ALL · REPR · SYNC · IPT · SPE · RDY

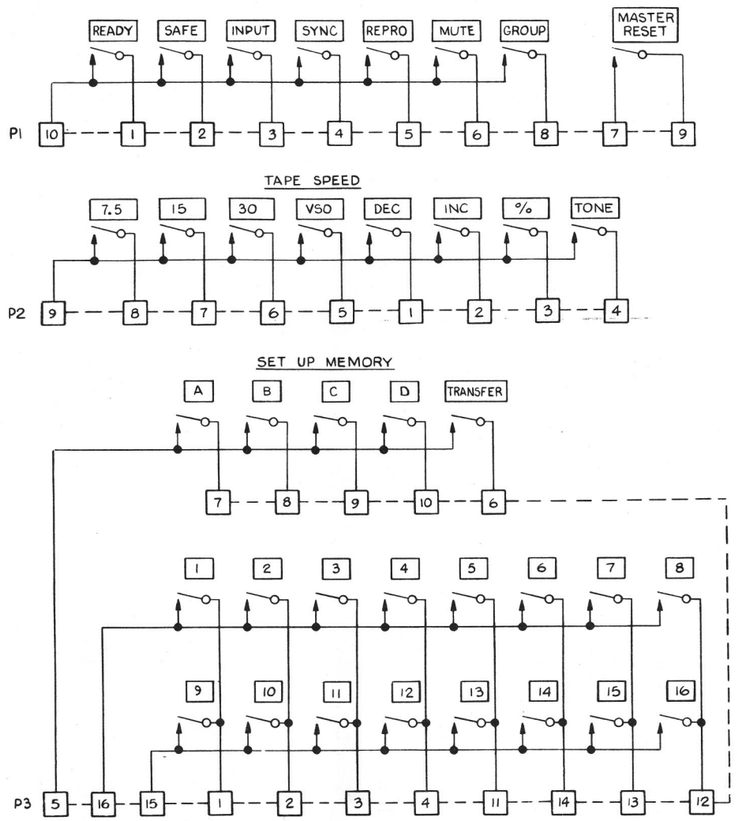
TRANSFER RPFS · TRANSFER ABCD · ROW 0 · ROW 1 · ROW 5 · ROW 2 · ROW 6

RST 5 & 6 INTR REQUESTS · CHIP SELECT · 2-A4 · 1-A4 · 1-G5

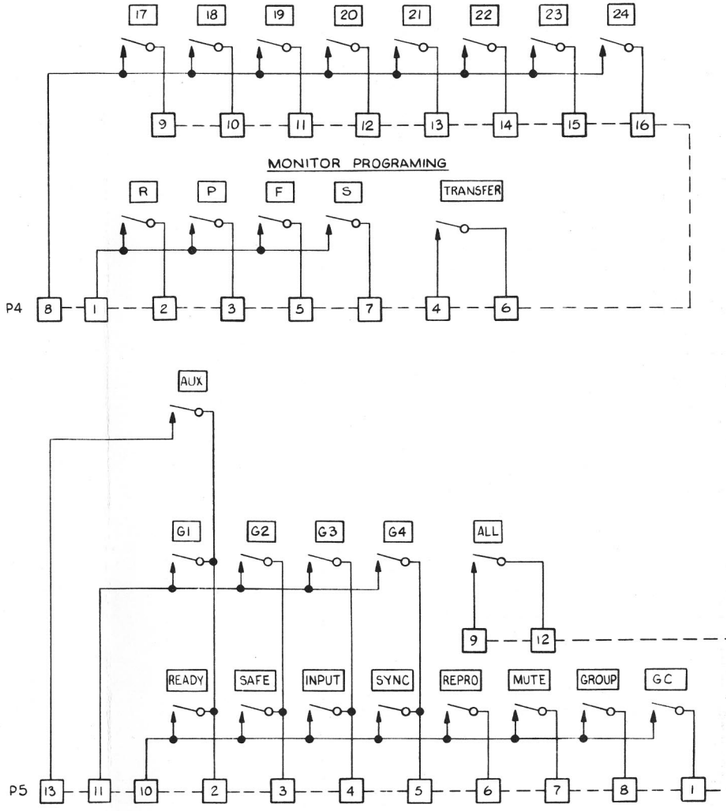
a GRP1 · b GRP2 · c GRP3 · d GRP4 · e REPR · f MUTE · g GROUP · h GRP CLR · j AUX · k RDY · n SPE · p IPT · s SYNC

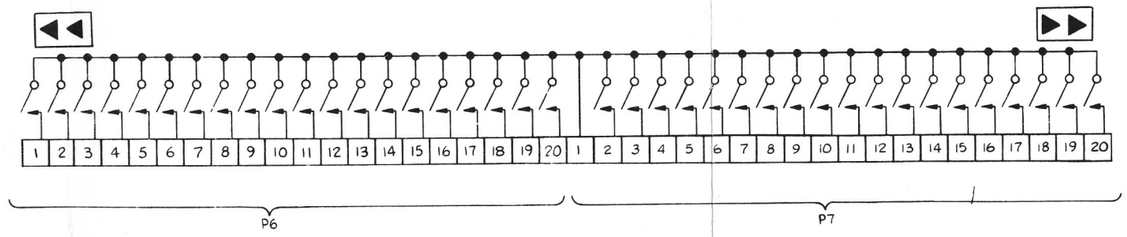
Schematic No. 4840589F.
Set-Up Panel Assembly
(Sheet 3 of 4)


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ASSY 4110318





ASSY 4110319

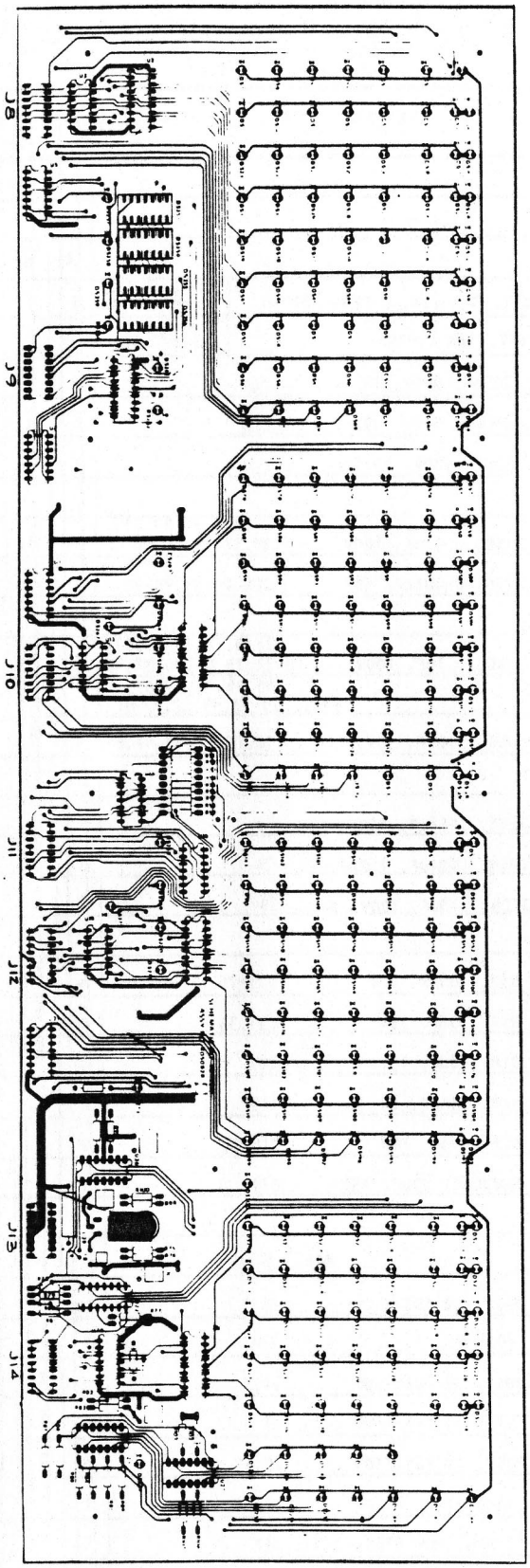
Wiring Diagram No. 4840484B.
Membrane Switch Panel

4050928-04 LED PWA REV. V

NEXT HIGHER ASSEMBLY 4050937

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -02	-03	-04
1				02	02	
2				R	-	
3	4840589	SCHEMATIC			REF	REF
4	581-709	L.E.D. YELLOW	DS1,3-7,9,11-15,17,19-23,25,27-31,	210	210	210
5		DS33,35-39,41,43-47,49,51-55,57,59-63,65,67-71,73,75-79,				
6		81,83-87,89,91-95,97,99-103,105,107-111,113,115-119,121,				
7		123-127,129,131-135,137,139-143,145,147-151,153,155-159, 161,163-167,169,171-175,177,179-183,185,187-191,193,195-200,202,204-208,210,212-216,218,220-224,226,228-232,234, 236-240,241-246,248-252,257-274				
8						
9	582-369	INSULATOR, I.C.	REF: J8-14			7
10	581-696	L.E.D. RED	DS8,16,24,32,40,48,56,64,72,80,88,	29	29	29
11		96,104,112,120,128,136,144,152,160, 168,176,184,192,201,209,217,225, 233				
12						
13	581-708	L.E.D. GREEN	DS2,10,18,26,34,42,50,58,66,74,82,	31	31	31
14		90,98,106,114,122,130,138,146,154, 162,170,178,186,194,203,211,219,227, 235,247				
15	496-005	NUT,HEX, CAPTIVE WASHER 6-32		1	1	1
16	471-068	SCREW, MACHINE, PAN HD 6-32 X .312LG		1	1	1
17	501-009	WASHER PLAIN # 6		1	1	1
18	570-494	READOUT DEVICE, L.E.D.-7 SEGMENT, NUM.	DS253-256	4	4	4
19	076-041	RESISTOR, C.F., 27 OHM, 5%, 1/4W	R74-77,82-85,95,96,99, 100,102,103,106,107	16	16	16
20	066-816	RESISTOR, C.F, 390 OHM, 5%, 1/4W	R50-59,92,93	12	12	12
21	589-814	INTEGRATED CIRCUIT, HEX INVERTER, 74LS04	U3,5,7,11,13, 19,21,24			8
22	582-325	SOCKET, DIP, 16 PIN	REF: J8-14		7	7
23	066-840	RESISTOR, C.F, 680 OHM, 1/4W, 5%	R78-81,86-89	8	8	8
24	589-645	I.C., +5V, REGULATOR, MC7805T	U28	1	1	1
25	590-541	I.C., QUAD 2-INPUT OR GATE 7432 PRESTRESSED	U15	1		1
26	390-609	I.C., HEX INVERTER, 7404 PRESTRESSED	U3,5,7,11,13,19, 21,24	8	8	-
27	586-075	I.C., QUAD 2 INPUT POS-NAND GATE, 7400	U16	1	1	1
28	589-650	I.C., SEGMENT DRIVER, 75491	U22,23,26,27	4	4	4
29	589-651	I.C., DIGIT DRIVER, 8863	U2,12,17,6,25	5	5	5
30	037-109	CAPACITOR, TANT, TUBULAR, 10uF, 20V	C9	1	1	1
31	582-155	SOCKET, DIP, 16 PIN	J8-14	1	-	-
32	064-314	CAPACITOR, CER. MONO, DIP., 1.0uF, 20%, 50V	C8	1	1	1
33	064-062	CAPACITOR, CER., MONO, DIP., 0.1uF, 20%, 100V	C7,10-13	5	5	5
34	087-388	SILICONE, COMPOUND, GREASE, HEAT CONDUCTIVE	REF: U28	A/R	A/R	A/R
35	582-115	I.C., SOCKET, 14 PIN	REF: DS 253-256	4	4	4
36		1 INSTALL DISPLAYS HAVING THE SAME LUMINOUS INTENSITY				
		MARKING ON THE SAME BOARD.				

LM-4050928



Assembly No. 4050928-04V. LED PWA

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05
.1				-01	-02	-02	-03	
2								
3	4840589	SCHEMATIC		A	B	C	D	F
4	4570026-03	INTEGRATED CIRCUIT, 8 X 12K, E-PROM, 82716	1 U13	1	1	-	-	-
5	4570026-04	INTEGRATED CIRCUIT, 16K E-PROM	1 U13			1	1	1
6	034-222	CAPACITOR, MICA, 100pF, 500V, 1%	C41	1	1	1	1	1
7	034-298	, MICA, 390pF, 500V, 1%	C40	1	1	1	1	1
8	034-376	, MICA, 33pF, 500V, ±0.5pF	C39	1	1	1	1	1
9								
10	030-817	, CER, DISC, 0.01uF, 100V	C2,3,5,18,23,25, 30,32,34,44,68	11	11	11	11	11
11	064-152	, CER, DISC, 0.001uF, 50V	C25,29,58,70-72	6	6	6	6	6
12								
13	064-062	, CER, MONO, 0.1uF, 100V,	C6-9,12,14-17,33, 20-22,24,28,36,37,42, 45,46,48,50-52, 54-57,59-62,65,67,77-81	39	39	39	39	39
14	064-314	, CER, MONO, 1.0uF, 50V, 20%	C10,13,38,43,47,66	6	6	6	6	6
15								
16	069-173	, POLYESTER, .068uF, 250V, 5%	C1	1	1	1	1	1
17	069-174	, POLYESTER, .001uF, 1000V, 5%	C4	1	1	1	1	1
18	069-196	, POLYESTER, .18uF, 100V, 5%	C69	1	1	1	1	1
19								
20	037-901	, TANT, DIP, 100uF, 20V	C73-76	4	4	4	4	4
21	037-933	, TANT, DIP, 10uF, 35V	C31,35	2	2	2	2	2
22	037-957	, TANT, DIP, 68uF, 15V	C27	1	1	1	1	1
23	037-973	, TANT, DIP, 330uF, 6V	C19	1	1	1	1	1
24	037-964	, TANT, DIP, 39uF, 10V	C49,53	2	2	2	2	2
25	037-991	CAPACITOR, TANT, TUBULAR, 22uF, 15V	C11	1	1	1	1	1
26								
27	582-369	INSULATOR, I.C.	REF: J8-14					7
28	135-100	HEADER, STRAIGHT POST, 20 POSITION	J6,7	2	2	2	2	2
29	135-118	, ASSEMBLY, 20 PIN	J16	1	1	1	1	1
30	135-121	, STRAIGHT POST, 10 POSITION	J1,2	2	2	2	2	2
31	135-122	, STRAIGHT POST, 13 POSITION	J5	1	1	1	1	1
32	135-123	, STRAIGHT POST, 16 POSITION	J3,4	2	2	2	2	2
33	135-129	, ASSEMBLY, 14 PIN	J15	1	1	1	1	1
34	135-155	, ASSEMBLY, 7 PIN, AMP 87654-7	J17	1	1	1	1	1
35	135-191	HEADER, ASSEMBLY, 6 PIN, AMP 87232-6	J19	1	1	1	1	1
36	582-325	SOCKET, DIP, 16 PIN	J8-14	7	7	7	7	7

LM-4051170

AMPEX | Ampex Corporation Redwood City, California	CODE IDENT NO. 92739	LIST OF MATERIALS	LM- 4051170 SHEET 2 OF 5	REV G

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05
37	066-665	RESISTOR, C.F., 1K, 5%, 1/4W	R4,5,7,10,11,16,27-29,32,35,36,38,39,55,57,58,66,68,70-72,76,109,126,143,144,148-150,153-155,197,202-206				40	40
38								
39	014-248	TRANSISTOR, NPN, CD37	Q1-3,6,7	5	5	5	5	5
40	014-581	TRANSISTOR, NPN, 2N2369A	Q4	1	1	1	1	1
41	580-647	TRANSISTOR, NPN, 2N3904	Q5	1	1	1	1	1
42	066-668	RESISTOR, C.F., 4.7K, 5%, 1/4W	R56,145,199-201				5	5
43	059-561	RESISTOR, W.W.; 1 OHM, 5%, 2W	R208		1	1	1	1
44	066-498	RESISTOR, C.F., 430 OHM, 5%, 1/4W	R30	1	1	1	1	1
45	066-661	,C.F., 120 OHM, 5%, 1/4W	R51	1	1	1	1	1
46	066-662	, C.F., 200 OHM, 5%, 1/4W	R12	1	1	1	1	1
47	066-663	, C.F., 220 OHM, 5%, 1/4W	R59,60,64,65	4	4	4	4	4
48	066-665	, C.F., 1K, 5%, 1/4W	R4,5,7,10,11,16,27-29,32,35,36,38,39,55,57,58,66,68,70-72,76,109,126,143-145,148-150,153-155,197,199-206	43	43	43	-	-
49	066-667	, C.F., 3.0K, 5%, 1/4W	R50,207	2	2	2	2	2
50	066-668	, C.F., 4.7K OHM, 5%, 1/4W	R56	1	1	1	-	-
51	066-673	, C.F., 1M OHM, 5%, 1/4W	R1	1	1	1	1	1
52								
53	066-715	, C.F., 1.2K, 5%, 1/4W	R157,196	2	2	2	2	2
54	066-717	, C.F., 47K OHM, 5%, 1/4W	R34	1	1	1	1	1
55	066-720	, C.F., 3.3K OHM, 5%, 1/4W	R54	1	1	1	1	1
56								
57	066-810	, C.F., 10 OHM, 5%, 1/4W	R15	1	1	1	1	1
58	066-812	, C.F., 100 OHM, 5%, 1/4W	R69,158-176,178-195,198	39	39	39	39	39
59	066-818	, C.F., 470 OHM, 5%, 1/4W	R17-23,52,61,63	10	10	10	10	10
60	066-834	, C.F., 33 OHM, 5%, 1/4W	R6,24-26,33,75,151,152,156,177	10	10	10	10	10
61	066-837	, C.F., 130 OHM, 5%, 1/4W	R37,62	2	2	2	2	2
62	066-840	, C.F., 680 OHM, 5%, 1/4W	R40	1	1	1	1	1
63	066-842	, C.F., 5.1K, 5%, 1/4W	R8,9,13,41-49,81-84,89-92,97-100,105-108,114-117,122-125,131-134,139-142	44	44	44	-	-
64	066-846	, C.F., 30K, 5%, 1/4W	R14,74	2	2	2	2	2
65	066-872	, C.F., 360 OHM, 5%, 1/4W	R73	1	1	1	1	1
66	066-912	, C.F., 82K, 5%, 1/4W	R53	1	1	1	1	1
67								
68	076-010	, C.F., 130K, 5%, 1/4W	R2	1	1	1	1	1
69	076-041	, C.F., 27 OHM, 5%, 1/4W	R77-80,85-88,93-96,101-104,110-113,118-121,127-130,135-138	32	32	32	32	32
70	076-045	, C.F., 75 OHM, 5%, 1/4W	R31	1	1	1	1	1
71	076-051	, C.F., 300K, 5%, 1/4W	R3	1	1	1	1	1
72								
73	041-489	, C.C., 33 OHM, 5%, 1/2W	R67	1	1	1	1	1
74								
75	066-877	, M.F., 324K, 1%, 1/4W	R147	1	1	1	1	1
76	076-017	, M.F., 681K, 1%, 1/4W	R146	1	1	1	1	1
77								
78	039-294	RESISTOR, NETWORK, 9 X 1K	RP1	1	1	1	1	1

LM-4051170

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM- 4051170 SHEET 3 OF 5	REV G

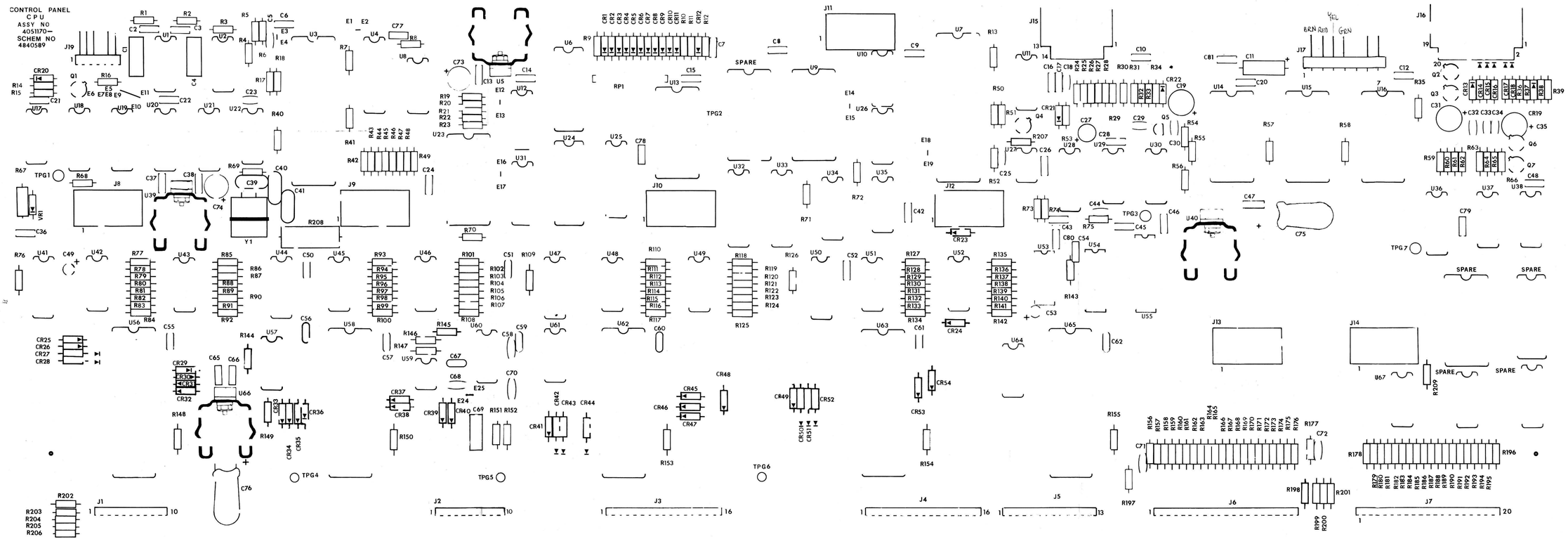
ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05
79	066-842	RESISTOR, C.F., 5.1K, 5%, 1/4W	R8,9,13,41-49,81-84,89-92, 97-100,105-108,114-117, 122-125,131-134,139-142, 209				45	45
81	589-931	INTEGRATED CIRCUIT, 8-INPUT NAND, 74LS30 (2)	U35					1
82	581-638	INTEGRATED CIRCUIT, OPTICAL COUPLER, HCPL 2601	U27	1	1	1	1	1
83	586-075	, 7400	U2,17	2	2	2	2	-
84	586-078	, 8-INPUT NAND, 7430	U35	1	1	1	1	-
85	586-713	, HEX BUFFER DRIVER, 7407	U8	1	1	1	1	1
86	590-538	, 7408 (2)	U64	1	1	1	1	-
87	586-912	, 4 TO 16 LINE DECODER, 74154	U9	1	1	1	1	-
88	590-541	, QUAD 2-INPUT OR, 7432 (2)	U10,38,53, 57,60,61	6	6	6	6	-
89	590-544	, HEX SCHMITT INVERTER, 7414 (2)	U30	1	1	1	1	-
90	589-823	, 74LS138 3 TO 8 LINE DECODER, (2)	U41,44,47, 50,54	5	5	5	5	5
91	587-291	, TIMER, NE555	U59	1	1	1	1	1
92	590-333	, 74LS163 (2)	U18-21	4	4	4	4	4
93	590-495	HEX SCHMITT, INVERTER, 74LS14 (2)	U30					1
94	589-214	, 4 BIT COMPARATOR, 8131	U36	1	1	1	1	1
95	589-223	, BUS DRIVER, 81LS95 OCTAL 3-STATE	U4,25,32, 33,55	5	5	5	5	5
96	589-254	, TIMER DUAL, NE556	U1	1	1	1	1	1
97	589-269	, 8216 QUAD BI-DIRECTIONAL BUF.,	U12,31	2	2	2	2	2
98	589-273	, OCTAL 3-STATE LATCH, 8212	U14-16,23	4	4	4	4	4
99	589-347	, 4X256 STATIC RAM, 2101A-2 (1)	U6, U24	2	2	2	2	2
100	589-403	, 8 TO 3 LINE ENCODER, 74LS148	U34	1	1	1	1	1
101	589-639	, CIRCUIT, CPU, 8085-A (1)	U3	1	1	1	1	1
102	589-640	, 8279-5 KEY BD. DISPLAY I/F, (1)	U56,58,62, 63,65	5	5	5	5	5
103	589-644	, UART, IM6402A-IPL (1)	U7	1	1	1	1	1
104	589-645	, +5V REGULATOR, MC7805T	U5,39,40, 66	4	4	4	4	4
105	589-650	, SEGMENT DRIVER, DS75491	U42,43,45,46, 48,49,51,52	8	8	8	8	8
106	589-820	, 74LS74	U29,37	2	2	2	2	2
107	590-329	, DESC 74LS123 (2)	U28	1	1	1	1	1
108	590-609	INTEGRATED CIRCUIT, HEX INVERTER, 7404	U11,22,26	3	3	3	3	-
109	590-973	INTEGRATED CIRCUIT, QUAD SCHMITT NAND, 74LS123	U67				-	1
110	589-814	INTEGRATED CIRCUIT, HEX INVERTER, 74LS04 (2)	U11,22					2
111	013-599	DIODE, GEN PURP., CD458	CR1-12, 22-54	45	45	45	45	45
112	013-650	DIODE, GE, CD498	CR13-21	9	9	9	9	9
113	590-328	INTEGRATED CIRCUIT, QUAD 2-INPUT OR 74LS32 (2)	U10,38,53, 57,61					5
114	013-885	DIODE, ZENER, 6.2V, 1W, 1N4735	VR1	1	1	1	1	1
115	589-813	INTEGRATED CIRCUIT, QUAD 2-INPUT NAND 74LS00 (2)	U2,17					2
116	589-815	INTEGRATED CIRCUIT, QUAD 2-INPUT AND 74LS08 (2)	U64					1
117	017-149	CRYSTAL, 5.184MHz SERIES	Y1	1	1	1	1	1
118	590-777	INTEGRATED CIRCUIT, 4 TO 16 LINE DECODER 74LS154 (2)	U9					1
119	590-541	INTEGRATED CIRCUIT, QUAD 2-INPUT OR 7432 (2)	U60					1
120	590-609	INTEGRATED CIRCUIT, HEX INVERTER 7404 (2)	U26					1
121	087-388	HEATSINK COMP		A/R	A/R	A/R	A/R	A/R
122	280-130	SPACER, TRANSISTOR	REF:Q1-4,6,7	6	6	6	6	6
123	471-060	SCREW, PAN HD., 4-40 X .25 LG		4	4	4	4	4

LM-4051170

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM- 4051170 SHEET 4 OF 5	REV G

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05
124	496-004	NUT, ASSEMBLED, 4-40		4	4	4	4	4
125	580-839	HEATSINK,	REF: U5,39,40,66	4	4	4	4	4
126	582-085	SOCKET, DIP, 24 PIN, (AUGAT)	REF: U13	1	1	1	1	1
127	582-305	SOCKET, DIP, 40 PIN, (AUGAT)	REF: U3,7	2	2	2	2	2
128	615-002	WIRE, SOLID, 22 AWG		A/R	A/R	A/R	A/R	A/R
129	615-124	WIRE, SOLID, INSULATED, 24 AWG		A/R	A/R	A/R	A/R	A/R
130	302-395	MOUSE TAIL	REF;Y1	1	1		1	1

LM-4051170



Assembly No. 4051170-05G.
Panel CPU Assembly

4050993-01 CONTROL PANEL POWER HARNESS ASSEMBLY REV. D

NEXT HIGHER ASSEMBLY 4010334

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1				
2				
3	167-733	CONNECTOR HOUSING	PSP9	1
4	167-349	CONTACT, PIN	REF: PSP9	9
5	167-741	CONNECTOR HOUSING, (5POS)	P1	1
6	167-729	CONNECTOR HOUSING, (7POS)	P17	1
7	167-730	CONTACT, SOCKET		10
8	167-742	KEYING PLUG	P1-4,P17-5	2
9				
10		WIRE, 18-AWG		AR
11				
12	600-057	SLEEVING, .5001D (BLK)		AR
13	600-092	SLEEVING, SHRINK, .250 EXPANDED (BLK)		AR
14	600-093	SLEEVING, SHRINK, .375 EXPANDED (BLK)		AR

LM-4050993

4020455-02 CONTROL BAY ASSEMBLY REV. N
NEXT HIGHER ASSEMBLY 4010334

ITEM NO.	PART NUMBER	E	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02
1	4041299-01		CHASSIS ASSY.		1	1
2	4050957-05		PWA, MOTHERBOARD		1	1
3	4270274-01		CONTACT, SPRING, GROUNDING		---	9
4	4291024-03		PANEL, REAR		1	1
5	4330375-02		PLATE, KEYING		1	1
6						
7						
8						
9						
10	018-287		ADHESIVE LIQUID CLEAR		AR	A/R
11	250-228		BUMPER, RUBBER		3	3
12	475-044		SCREW, X-REC PAN HD, ASSEM. WASH, 8-32 X .38		3	3
13	470-136		SCREW, CAP, HEX SOC, 4-40 X .875		1	1
14	475-061		SCREW, PAN HD, XREC, ASSEM WASH., 8-32 X .50 LG		3	3
15	470-012		SCREW, CAP HEX, SOC, 4-40 X .50		13	13
16	496-004		NUT, LKG, HEX, ASSEM. WASHER, 4-40		11	11
17	501-008		WASHER, FLAT, #4		20	20
18	502-002		WASHER, LOCK, HELICAL SPRING #4		3	3
19	501-205		WASHER, FLAT, 0		6	7
20			TUBING, SHRINK, (LABEL)			A/R
21						
22	260-052		GROMMET, NYLON, CAT		AR	A/R
23	619-326		WIRE, 8 AWG, BLACK, (APPROX. 4 FEET)			A/R
24	172-279		TERMINAL LUG, #8 RING TONGUE, RED			2
25	471-078		SCREW, PAN HD, 8-32 X .375 LG			1
26	496-006		NUT, #8 WITH ASSEM. WSHR.			1
27						

LM-4020455

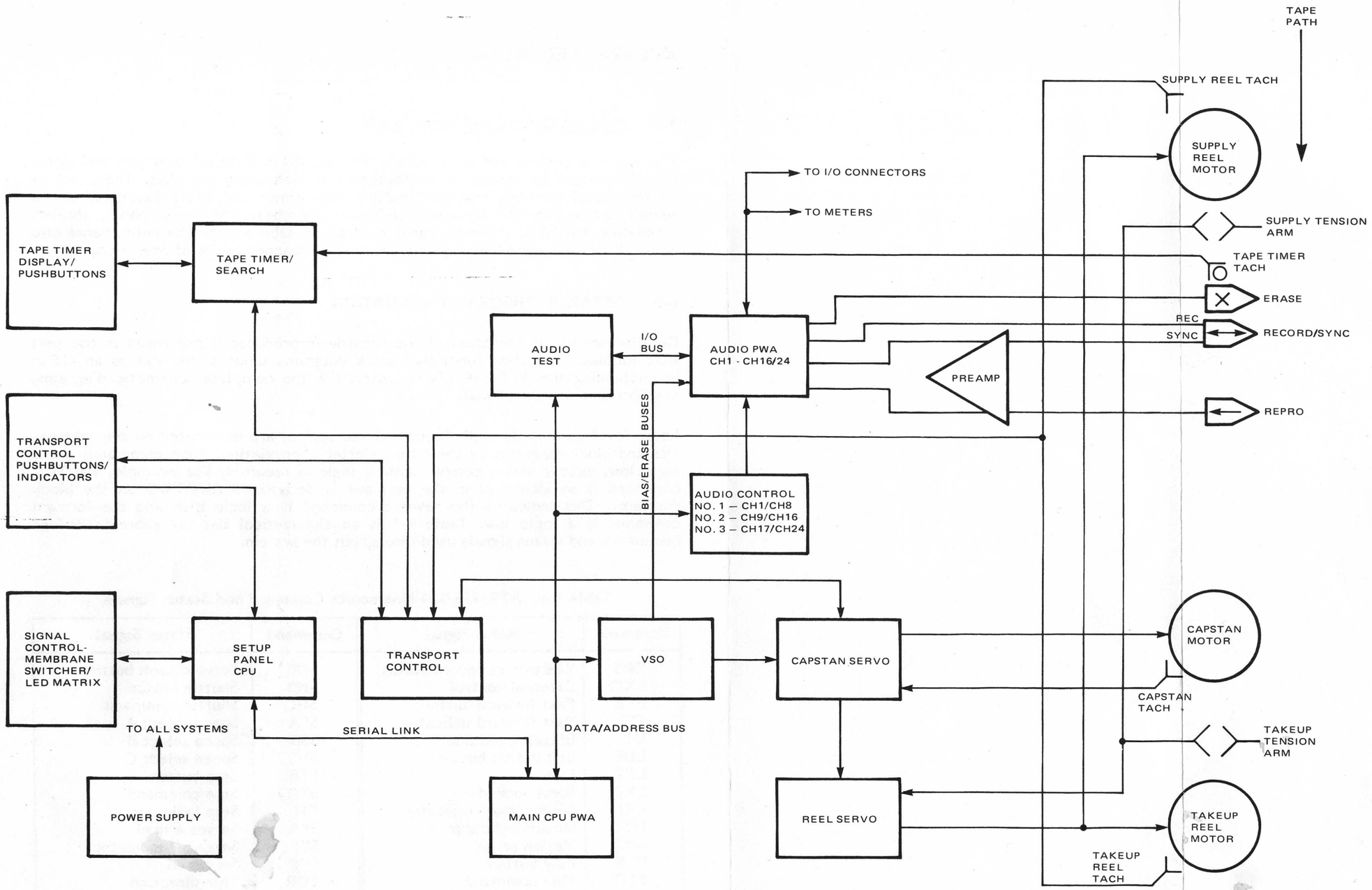


Figure 4-1.
ATR-116/124 System Simplified Block Diagram

4-8 Machine Control and Setup Panels

The machine control and setup panels are used to initiate all transport and signal mode functions by means of pushbutton and membrane switches. The machine control panel controls transport modes, tape timer and lifter functions, and a search-to-cue junction through pushbutton switches. The setup panel, through membrane switches, controls signal modes and tape speed. The setup panel also houses LED indicators that indicate system and channel modes of operation.

4-9 DETAILED THEORY OF OPERATION

Detailed theory of operation of the recorder/reproducer is presented in the text that follows. Simplified functional block diagrams support the text as an aid in understanding the ATR-116/124 circuitry. For the complete schematic diagrams, see Section 6 of this manual.

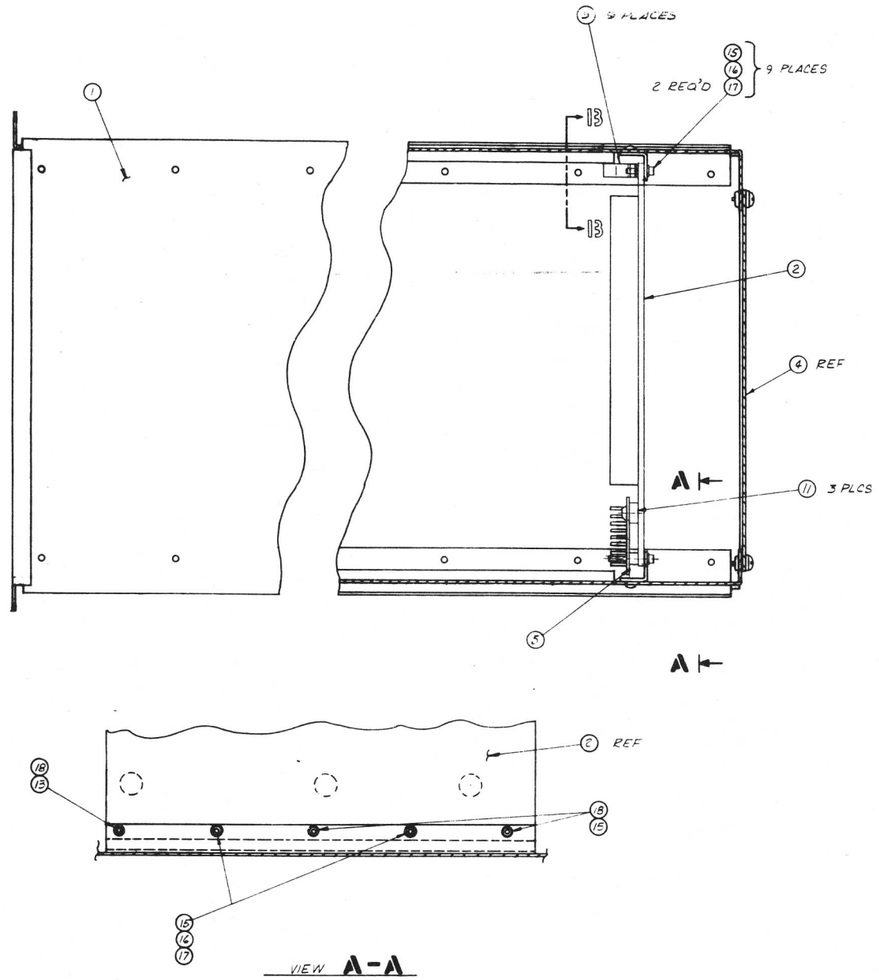
Logic level commands used throughout the system are designated on the schematics and block diagrams by their three-letter abbreviation. Most commands are a logic low, except where complementary logic is required. For example, the TDR command is so identified in the text but is designated REV/FWD on the block diagrams. This indicates the reverse command is a logic high and the forward command is a logic low. Table 4-1 is an alphabetical list (by abbreviation) of commands and status signals used throughout the system.

Table 4-1. ATR-116/124 Mnemonics Command and Status Signals

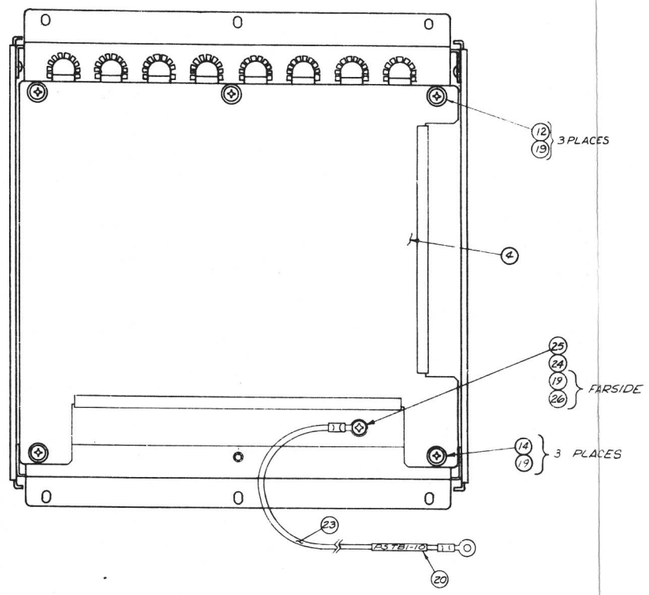
Command	Status Signal	Command	Status Signal
ERS	Electronics record status	SDB	Servo disarm button
EXC	External control	SHB	Shuttle button
FFB	Fast forward button	SHC	Shuttle command
FFI	Fast forward indicator	SSA	Speed select A
ISL	Illegal speed line	SSB	Speed select B
LDB	Lift defeat button	SSC	Speed select C
LFT	Lift	STB	Stop button
LKD	Servo locked	STC	Stop command
LKI	Servo locked indicator	STI	Stop indicator
MTI	Motion indicator	SVA	Servos armed
MTS	Motion sense	SVI	Servo off indicator
PLB	Play button	SVO	Servos on
PLC	Play command	TDR	True direction
PLI	Play indicator	TLM	Torque limit
RCB	Record button	TPC	Tape control
RCI	Record indicator	VSC	VSO control
RWB	Rewind button	WUL	Wake up line
RWI	Rewind indicator		

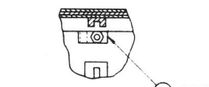
ERSI ERS Indicator (Track in Rec., capstan locked, lights lower lamp in Rec. Button)

BCS Bias Command Status



VIEW A-A



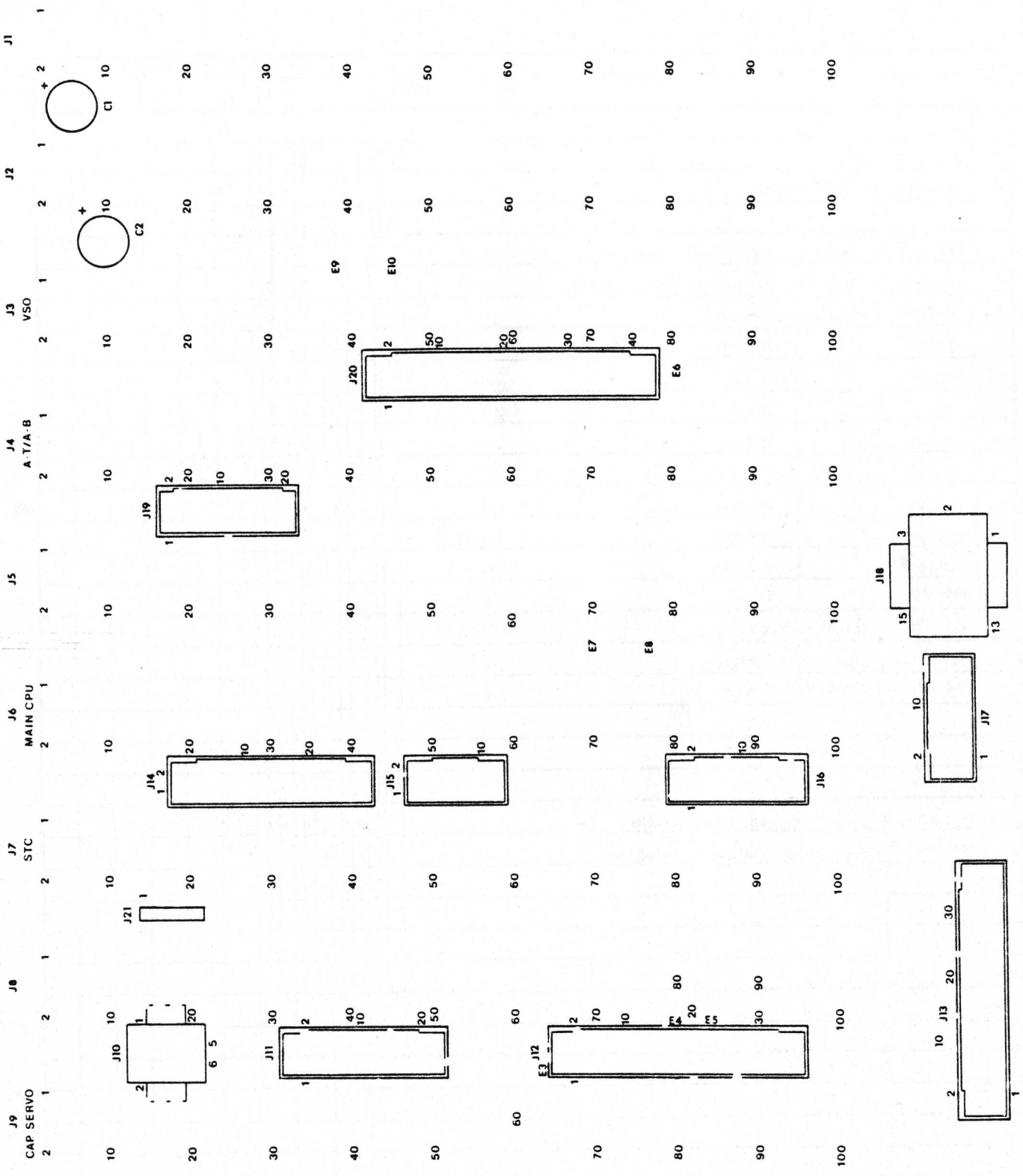


SECTION 13-13

Assembly No. 4020455-02N.
Control Bay Assembly

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05
1								
2								
3	4840546	WIRING DIAGRAM		A	B	C	F	G
4								
5	037-901	CAPACITOR, TANT., 100uF, 20V, ±20%	C1,2		2	2	2	2
6	145-675	CONNECTOR, PC ,50 DUAL CONT., 100 POS	J1-9	9	9	9	9	9
7	135-149	HEADER ASSY,1C POSTS	J15		1	1	1	1
8	135-152	14 POSTS	J17	1	1	1	1	1
9	135-178	16 POSTS	J16	1	1	1	1	1
10	135-179	20 POSTS	J11	1	1	1	1	1
11	135-143	20 POSTS	J19	1	1	1	1	1
12								
13	135-180	26 POSTS	J14	1	1	1	1	1
14	135-150	34 POSTS	J12,13,15	3	-	-	-	-
15	135-153	40 POSTS	J20	1	1	1	1	1
16	135-150	34 POSTS	J12,13		2	2	2	2
17	135-238	HEADER ASSY, 5 POSTS	J21			1	1	1
18	140-284	CONNECTOR, 6 POSTS	J10	1	1	1	1	1
19	140-285	CONNECTOR, 15 POSTS	J18	1	1	1	1	1
20								
21								
22								
23	614-935	CABLE, SHEILDED, 24AWG, WHT/GRN			A/R	A/R	A/R	A/R
24	615-046	WIRE, SOLID, INSULATED, 24AWG, WHT			A/R	A/R	A/R	A/R
25								

LM-4050957



Assembly No. 4050957-05F. Control Bay Motherboard PWA

CODE: S-14

(SP-STC PANEL)

POWER SUPPLY

ACCESSORY
SCHEM PART OF 4840542

TRANSPORT SENSORS — POWER SUPPLY
SCHEM 4840483

TRANSPORT CONTROL
SCHEM 4840542

MPSTC
SCHEM 4840542

J10 — CAPSTAN (+) · POS DRIVE · NEG DRIVE · MOTOR SENSE (-) · MOTOR SENSE (+)

J11 — MTS · REF (9600Hz) · PLC · CTAC · TPREF · LKD · SMC · SVC · SVG · ERS · TDR · TPC · VSC · VSR · TTAC · ERPPL · EXPEF · STC · SSB · SSA

J12 — CTL GND · -15V · TTAC · SUP ERROR · +15V · CTAC 1 · TDR · SVA · SUP RTAC · INTERLOCK DEFEAT · TTAC · CTAC 2 · +5V · KEY · 1/2 ERROR · 1/2 4MHz · +15V · SL ERROR · +15V · 1/2 ERROR · CTL 6ND · +5V · PWR OFF IND · PWR ON IND · PWR OFF B · PWR ON B · +12V · SVO · VEL/ACC · ERS · 2M 8MHz · TLM · +24V PWR WARN

J13 — FF1 · RW1 · SHB · ACC · REC · RC1 · BEEP · SP1 · STB · PLI · RCB · STI · PLB · RHB · RHL1 · SP2 · SP3 · SP4 · RCS · RES · RHS · LOB · WTI · RWB · SVI · FFB · SPG · SDB · SP7 · ERS1 · SPB1 · RH1 (KEY)

J14 — R3 · D0B3 · D0A3 · D0A2 · R5 · D0A1 · R1 · R0 · R2 · D0A0 · R7 · D0A5 · R6 · D0B2 · SWX · D0A1 · SWY · D0B0 · SWV · DSL3 · SWW · DSL2 · GND · DSL0 · SPLO · DSL1

CAPSTAN SERVO J9 — SCHEM 4840473

J8 — SPARE · SPARE

SINGLE POINT STC J7 — SCHEM 4840504 · SCHEM 4840505

MAIN CPU J6 — SCHEM 4840543

J5 —

AUDIO TEST J4 — SCHEM 4840518 · AUTO BIAS SCHEM 4840519

VSO J3 — SCHEM 4840544

J2 —

J1 —

E3 · E4 · E5 · J20-35 · J20-36 · J20-37 · J20-38 · J20-39 · J20-40 (E6)

E8 · E7

J20-11 · J20-30 · J20-18

A/B RESET

2.595 MHz · RD · ICS · VSS

E9 · E10

5.184 MHz

(NC) · AUTO BIAS OUT

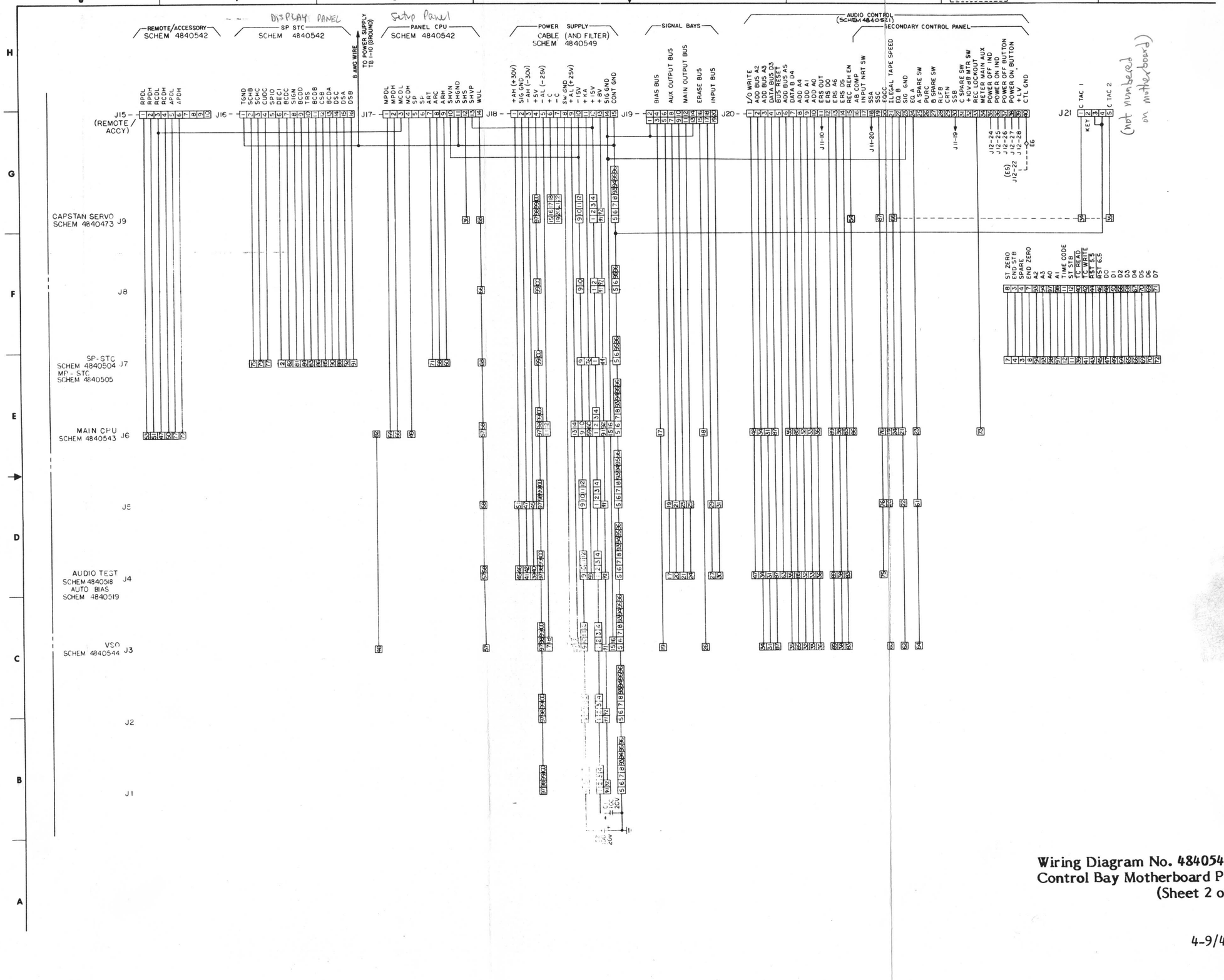
HOLD ACK · DMA HOLD

EXT WR · D1 · D2 · D6 · D7 · A7

NOTES: UNLESS OTHERWISE SPECIFIED

1. THIS WIRING DIAGRAM REFLECTS PWA 4050957-05.

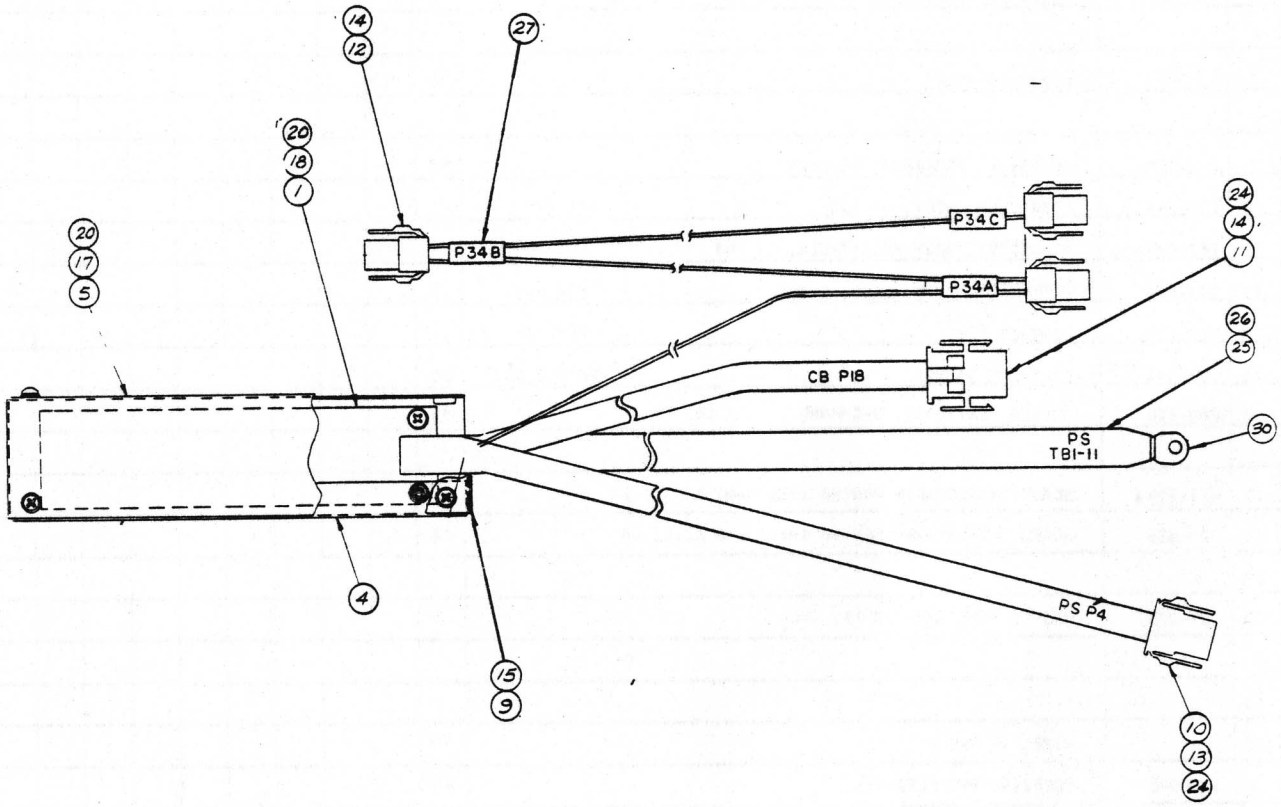
Wiring Diagram No. 4840546G.
Control Bay Motherboard PWA
(Sheet 1 of 2)


REMOTE/ACCESSORY SCHEM 4840542
SP STC SCHEM 4840542
PANEL CPU SCHEM 4840542
POWER SUPPLY CABLE (AND FILTER) SCHEM 4840549
SIGNAL BAYS
AUDIO CONTROL (SCHEM 4840521)
SECONDARY CONTROL PANEL
DISPLAY PANEL
Setup Panel
8 AWG WIRE TO POWER SUPPLY TB 1-10 (GROUND)
J15 (REMOTE / ACCY)
J16
J17
J18
J19
J20
J21
CAPSTAN SERVO SCHEM 4840473 J9
J8
SP-STC SCHEM 4840504 J7
MP-STC SCHEM 4840505
MAIN CPU SCHEM 4840543 J6
J5
AUDIO TEST SCHEM 4840518 J4
AUTO BIAS SCHEM 4840519
VSO SCHEM 4840544 J3
J2
J1
BIAS BUS
AUX OUTPUT BUS
MAIN OUTPUT BUS
ERASE BUS
INPUT BUS
I/O WRITE
ADD BUS A2
ADD BUS A3
DATA BUS D3
ADD BUS A5
DATA B D4
ADD A4
ADD A1
ADD A0
ERS OUT
ERS A6
ERS D5
REC REM EN
AB COMP
INPUT MRT SW
SSA
SSC
EQCC
EQUAL TAPE SPEED
EQ B
SIG GND
EQ A
A SPARE SW
ASSC
B SPARE SW
RLFB
CRTN
SSB
A SPARE SW
+ 10V dB MTR SW
REC LOCKOUT
METER MAIN AUX
POWER OFF IND
POWER ON IND
POWER OFF BUTTON
POWER ON BUTTON
+ LV
CTL GND
C TAC 1
KEY
C TAC 2
(not numbered on motherboard)
ST ZERO
INHIBIT B
SPARE
END ZERO
A2
A3
A5
A0
A1
TIME CODE
ST STB
I²C READ
I²C WRITE
RST ERS
RST EQ
D0
D1
D2
D3
D4
D5
D6
D7
+AH (+30V)
SIG GND
−AH (−30V)
+5V
+AL (−25V)
+ I²C
− I²C
SW GND
+ AL (+25V)
− 15V
+ 15V
+ 8V
SIG GND
CONT GND
MPDL
MPDH
MCDL
MCDH
SP
SP
ART
AGC
ARH
SHVN
SHGND
SHS
SHVP
WDL
TGND
SCHB
SCHC
CUDC
SPIO
RECL
RECC
SIGN
BCDD
TRS
BCDB
SSDB
BCDA
DSC
DSA
DSB
RPDL
RPDH
RCDL
RCDH
APDL
APDH
+10V
+15V
+8V
−15V
−25V
−30V
+30V
+5V
+5V
+5

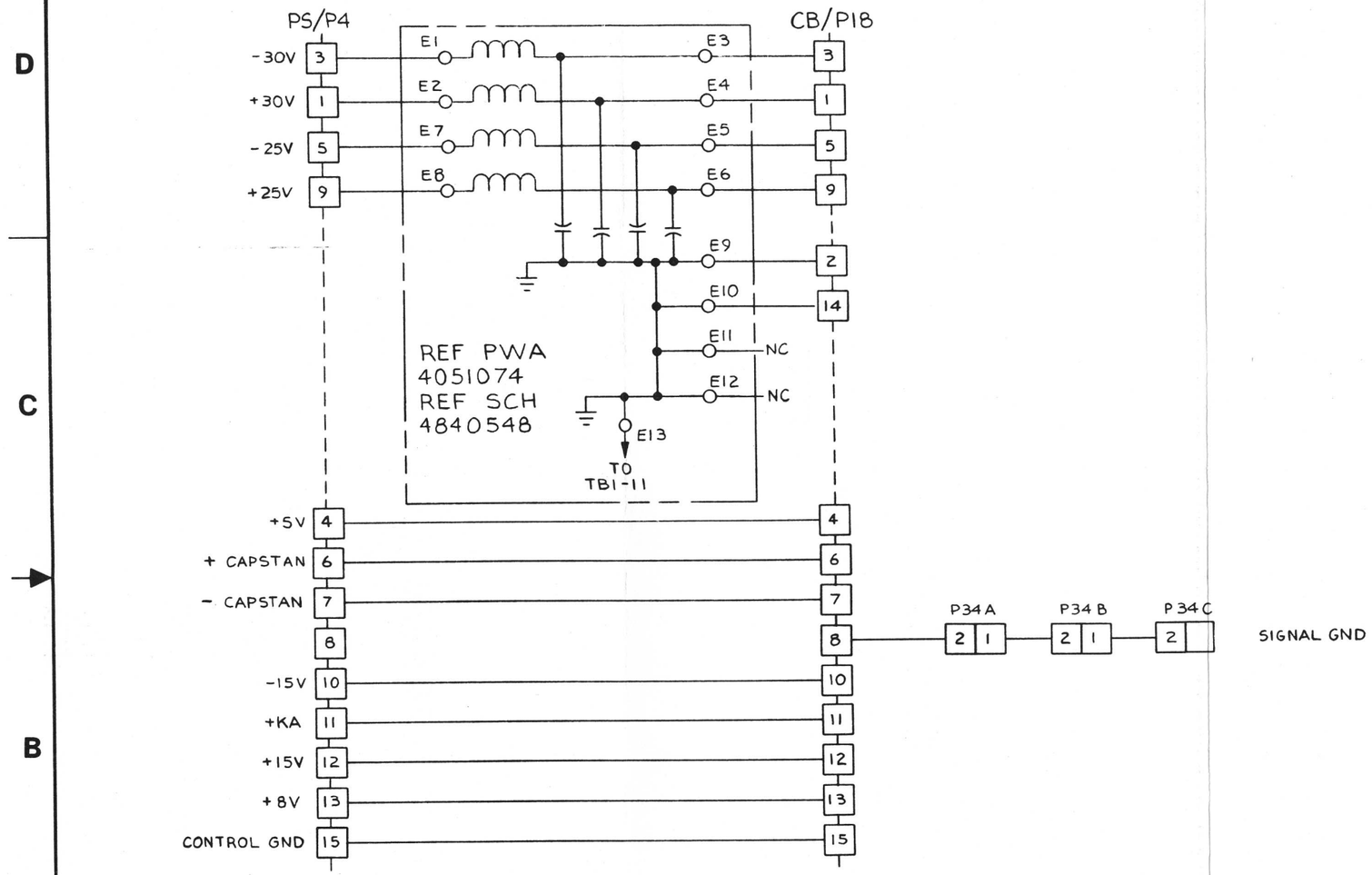
4051075-03 CONTROL BAY POWER CABLE ASSEMBLY REV. C
NEXT HIGHER ASSEMBLY 4010334

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -03
1	4051074-01	PWA, AUDIO SUPPLY VOLTAGE FILTER		1
2				
3				
4	4260668-01	BRACKET, PWA MTG		1
5	14291103-01	COVER, BRACKET		1
6				
7	4840549	WIRING DIAGRAM		B
8				
9	018-378	ADHESIVE, PERMABOND OR EQUIV		AR
10	167-355	CONNECTOR, BODY, 15 POS	PS P4	1
11	167-709	CONNECTOR, BODY RECEPTACLE, 15 POS	CB P18	1
12	167-699	CONNECTOR, BODY, PLUG, 2 POS	P34 A-C	3
13	167-725	CONTACT PIN	REF: P4	12
14	167-726	CONTACT, SOCKET	REF:P18,34	20
15	269-120	RUBBER, EXTRUDED, U-CHANNEL, 1.56 LG		AR
16				
17	473-324	SCREW, ASSEM WASH PAN HD XREC 4-40 X .312 LG		4
18	473-325	SCREW, ASSEM WASH PAN HD XREC 4-40 X .25 LG		2
19				
20	501-008	WASHER FLAT SMALL PATT #4		6
21				
22				
23		WIRE, 18 AWG		AR
24	600-048	SLEEVING PVC FLEXIBLE		AR
25	617-147	BRAID 1/2", FLAT		AR
26	600-256	SLEEVING PVC SHRINKABLE .375 ID		AR
27	600-253	SLEEVING PVC SHRINKABLE .125 ID		AR
28		WIRE, 14 AWG		AR
29				
30	172-376	TERMINAL LUG, RING TONGUE, #8 STUD		1

LM-



Assembly No. 4051075-03C. Control Bay Power Cable Assembly

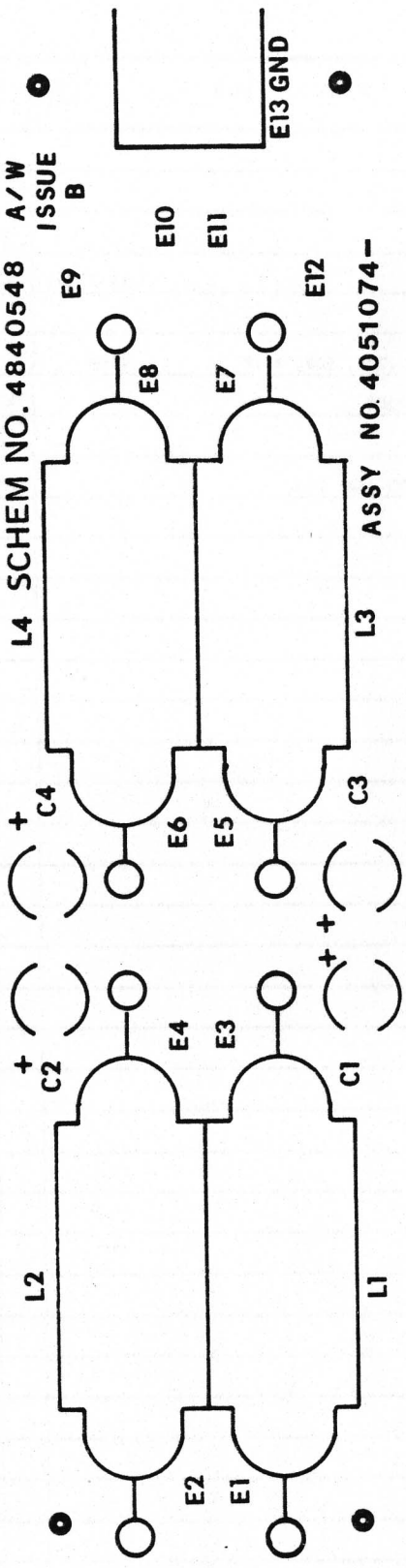


Wiring Diagram No. 4840549B.
Control Bay Power Cable Assembly

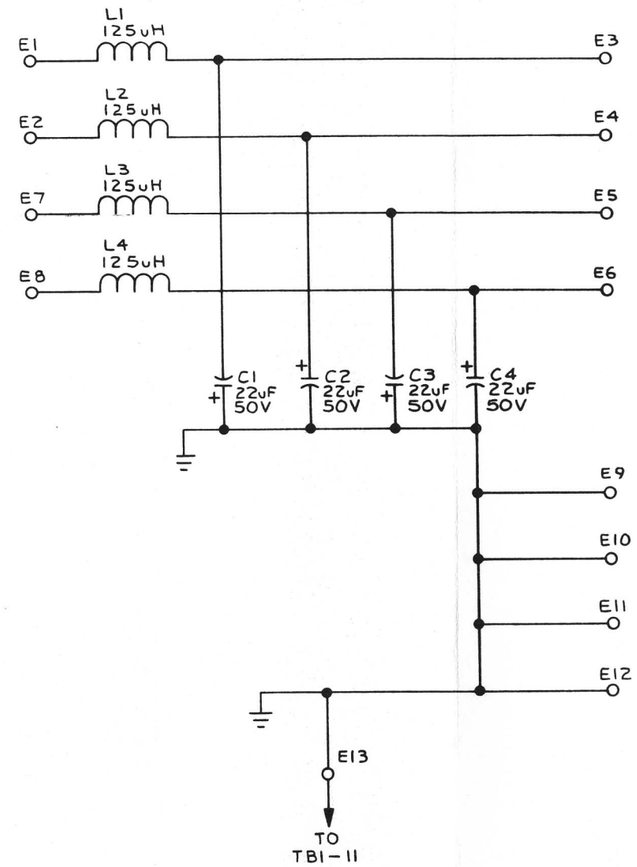
4051074-01 AUDIO SUPPLY VOLTAGE FILTER PWA REV. C
NEXT HIGHER ASSEMBLY 4051075

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1					
2					
3	4840548	SCHEMATIC			B
4	103307-01	STAND OFF		REF: L1-4	8
5					
6	067-081	CAPACITOR, TANT., DIP., 22uF, 50V, ±20%		C1-4	4
7	068-068	INDUCTOR, FIX., 125uH, ±20%		L1-4	4
8					
9	302-335	STRAP, CABLE, NYLON, .750 MAX. DIA.			A/R

LM-4051074



Assembly No. 4051074-01C. Audio Supply Voltage Filter PWA



REF DES	
LAST USED	NOT USED
L4	
C4	
E13	

NOTES: UNLESS OTHERWISE SPECIFIED.
1. PWA IS NO. 4051074-01.
2. WIRING CONNECTIONS SHOWN ON DRAWINGS NO. 4840549 & 4840550.

Schematic No. 4840548B.
Audio Supply Voltage Filter PWA

4-17/4-18

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -11	-12	-03	-04	-05	-06	-07	-08	-09	-10
1													
2	4290857-01	HEAT SINK, TRANSISTOR		2	2	2	2	2	2	2	2	2	2
3	4120068-01	HANDLE		-	-	-	-	-	-	-	-	-	-
4	4600176-01	SHIELD			1	1	1	1	1	1	1	1	1
5	4840473	SCHEMATIC		S	T	E	F	G	J	K	M	N	P
6	4170360-01	LABEL, HANDLE, CAPSTAN SERVO		-	-	-	-	-	-	-	-	-	-
7	013-599	DIODE, SI, GEN PURPOSE	CR1,2,3,4,7	5	-	5	5	5	5	5	5	5	5
8	013-678	DIODE, SI, 1A 1N4385	CR5,6	2	2	2	2	2	2	2	2	2	2
9	013-650	DIODE, GER. CD498 1N270	CR8	1	1	1	1	1	1	1	1	1	1
10	013-983	DIODE, ZENER, 5.6V, ± 5%, 400MW 1N752A	VR3,4	2	2	2	2	2	2	2	2	2	2
11	013-313	DIODE, ZENER, 12V, ± 5%, 400MW 1N963B	VR1,2	2	2	2	2	2	2	2	2	2	2
12	4120068-02	HANDLE		1	1	1	1	-	1	1	1	1	1
13	4170360-02	LABEL, HANDLE, CAPSTAN SERVO		-	-	1	1	-	1	1	-	-	-
14	014-248	TRANSISTOR, NPN 2N2222	Q3-10	8	8	8	8	8	8	8	8	8	8
15	014-652	TRANSISTOR, PNP 2N3906	Q11,13,16,22	4	4	4	4	4	4	4	4	4	4
16	580-647	TRANSISTOR, NPN 2N3904	Q23	1	1	1	1	-	1	1	1	1	1
17	014-698	TRANSISTOR, NPN 2N3565	Q1,2,12,15,17	5	5	5	5	5	5	5	5	5	5
18	119-526	SWITCH, PUSHBUTTON, SPDT	S4	1	1	1	1	-	1	1	1	1	1
19	580-156	TRANSISTOR, P-FET 2N5461	Q14,18-21	5	5	5	5	5	5	5	5	5	5
20	119-619	SWITCH, DIP	S1	1	1	1	1	-	1	1	1	1	1
21	580-760	TRANSISTOR, NPN, POWER D44C9	Q24	1	1	1	1	-	1	1	1	1	1
22	580-761	TRANSISTOR, PNP, POWER D45C9	Q25	1	1	1	1	-	1	1	1	1	1
23	143-981	CONNECTOR, PC TIP JACK	REF: J1-J7 (A-B)	14	14	14	14	14	14	14	14	14	14
24	148-028	TEST POINT, WHITE	TP2,5,6,9,10,11	6	6	6	6	6	6	6	6	6	6
25	148-029	TEST POINT, GREEN	TP7,8	2	2	2	2	2	2	2	2	2	2
26	148-031	TEST POINT, YELLOW	TP3,4	2	2	2	2	2	2	2	2	2	2
27	148-052	TEST POINT, BLACK	TP6	1	1	1	1	1	1	1	1	1	1
28	602-012	SHORTING PLUG	J1-J7	7	7	7	7	7	7	7	7	7	7
29	470-009	SCREW, CAP, HEX HD, 4-40 X 5/16		8	8	8	8	8	8	8	8	8	8
30	471-068	SCREW, PAN, X-REC, 6-32 X .312 LG	Q24,25	2	2	2	2	2	2	2	2	2	2
31	471-325	SCREW, FLAT HD, X-REC, 4-40 X 3/16		2	2	2	2	2	2	2	2	2	2
32	121-243	CAP, PUSHBUTTON, BLACK		1	1	1	1	1	1	1	1	1	1
33	496-005	NUT, #6 WITH ASSEMBLED WASHER		2	2	2	2	2	2	2	2	2	2
34	501-169	FLAT WASHER, SM. PAT. #4		8	8	8	8	8	8	8	8	8	8
35	502-002	WASHER, SPRING LOCK #4		8	8	8	8	8	8	8	8	8	8
36	041-819	RESISTOR, C.C., 27 OHM, 5%, 1W	R130,144	2	2	2	2	2	2	2	2	2	2
37	041-345	RESISTOR, C.C., 51 OHM, 5%, 1/2W	R129,145	2	2	2	2	2	2	2	2	2	2

LM-4050916

AMPEX | Ampex Corporation Redwood City, California	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4050916 SHEET 2 OF 5	REV A A

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-12	-03	-04	-05	-06	-07	-08	-09	-10
38	066-855	RESISTOR, C.F., 39 OHM, 5%, 1/4W	R27,28,76	3	3	3	3	3	3	3	3	3	3
39	066-812	100 OHM	R94	1	-	1	1	1	1	1	1	1	1
40	066-661	120 OHM	R4,5	2	2	2	2	2	2	2	2	2	2
41	076-004	180 OHM	R126	1	1	1	1	1	1	1	1	1	1
42	066-665	1.0K OHM	R2,3,9,14,18,19,20,31, 32,36,37,43-47,55,57,	-	-	-	-	-	-	-	-	-	-
43			61,63,64,68-70,78-80, 82,86,127,160,167										
44	076-012	330K OHM	R100,115,116,	3	3						3	3	3
45	066-823	1.1K	R89	1	1	1	1	1	1	1	1	1	1
46	066-675	1.8K	R71,95	2	2	2	2	2	2	2	2	2	2
47	066-689	2.2K	R6,16,17,33-35,38-42, 60,66,71,72,93,102, 107,108,146-148	-	-	-	-	-	-	-	-	-	-
48													
49	066-938	47	R149,151,153-159	9	-	9	9	9	9	9	9	9	9
50	066-668	4.7K	R96,128,135,143	-	-	-	-	-	-	-	-	-	-
51	066-842	5.1K	R22-25	4	4	4	4	4	4	4	4	4	4
52	066-843	6.2K	R53,54,56,65,59,74, 75,109,114	-	-	9	-	-	-	-	-	-	-
53	066-829	6.8K	R119	1	1	1	1	1	1	1	1	1	1
54	066-830	10K	R15,50,52,51,110	-	-	-	-	-	-	-	-	-	-
55	066-864	13K	R81,117	-	-	-	-	-	-	-	-	-	-
56	066-856	15K	R105,131	-	-	-	-	-	-	-	-	-	-
57	066-712	22K	R106,112	2	2	2	2	2	2	2	2	2	2
58	066-845	24K	R29,104	2	2	2	2	2	2	2	2	2	2
59	066-866	27K	R84,137	-	-	2	-	-	-	-	-	-	-
60	066-847	33K	R7,10-12,111,118, 142	-	-	-	-	-	-	-	-	-	-
61	076-046	36K	R120	1	1	1	1	1	1	1	1	1	1
62	066-717	47K	R1,21,26,101,123-125, 138,139	-	-	-	-	-	-	-	-	-	-
63	066-833	56K	R87,140	2	2	2	2	2	2	2	2	2	2
64	066-852	62K	R8,97,99	3	3	3	3	3	3	3	3	3	3
65	076-009	68K	R133,134	-	-	-	-	-	-	-	-	-	-
66	066-849	100K	R13,67,73,90,113	5	5	5	5	5	5	5	5	5	5
67													
68	076-047	110K	R88	1	1	1	1	1	1	1	1	1	1
69	066-868	120K	R98	-	-	-	-	-	-	-	-	-	-
70	076-010	130K	R132	1	1	1	1	1	1	1	1	1	1
71	066-913	220K	R85	1	1	1	1	1	1	1	1	1	1
72	076-051	300K	R103	1	1	1	1	1	1	1	1	1	1
73	076-012	330K	R100,115,116,136	-	-	4	4	4	4	4	-	-	-
74	076-052	360K	R121	1	1	1	1	1	1	1	1	1	1
75													
76	076-054	430K	R83	1	1	1	1	1	1	1	1	1	1
77	066-652	470K	R141	1	1	1	1	1	1	1	1	1	1
78	066-673	1.0 MEG	R91,92	2	2	2	2	2	2	2	2	2	2
79	076-058	1.1 MEG	R30	1	1	1	1	1	1	1	1	1	1
80	066-858	RESISTOR, C.F., 4.7 MEG, 5%, 1/4W	R122	1	1	1	1	1	1	1	1	1	1
81	058-610	POTENTIOMETER, 20K 1 TURN	R161	-	-	-	-	-	-	-	-	-	-
82	058-041	POTENTIOMETER, 5K OHM, 1/2W, 1 TURN	R48,49	-	-	-	-	-	-	-	-	-	-

LM-4050916

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4050916 SHEET 3 OF 5	REV AA

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -11	-12	-03	-04	-05	-06	-07	-08	-09	-10
83	056-163	CAPACITOR, MICA, 470uF, 5%, 500V	C130	1	1	1	1	1	1	1	1	1	1
84	034-177	MICA, 100pF, 5%, 500V	C67,81	2	2	2	2	2	2	2	2	2	2
85	034-286	MICA, 200pF, 5%, 500V	C111	1	1	1	1	1	1	1	1	1	1
86	064-062	MONO, 0.1uF, 100V	C117	1	-	1	1	1	1	1	1	1	1
87	069-160	POLYESTER, .0022uF, 5%, 1000V	C104	1	1	1	1	1	1	1	1	1	1
88	069-161	.0033uF, 5%, 1000V	C45,47,110	3	3	3	3	3	3	3	3	3	3
89	069-162	.0068uF, 5%, 630V	C44,46,90	3	3	3	3	3	3	3	3	3	3
90	069-163	.010uF, 5%, 630V	C17,28,40,52,72, 96	6	6	7	7	6	6	6	6	6	6
91	069-164	.012uF, 5%, 400V	C89	1	1	1	1	1	1	1	1	1	1
92													
93	069-165	.027uF, 5%, 400V	C103	1	1	1	1	1	1	1	1	1	1
94	069-166	.047uF, 5%, 250V	C92	1	1	1	1	1	1	1	1	1	1
95	069-167	.082uF, 5%, 250V	C93	1	1	1	1	1	1	1	1	1	1
96	069-168	.10uF, 5%, 100V	C76,105,107	3	3	3	3	3	3	3	3	3	3
97	069-169	.22uF 5%, 100V	C23	1	1	1	1	1	1	1	1	1	1
98	069-170	CAPACITOR, POLYESTER, .39uF, 5%, 100V	C85	1	1	1	1	1	1	1	1	1	1
99	064-314	CAPACITOR, MONO., 1uF, 50V	C77,79	-	-	-	-	-	-	-	-	-	-
100	064-314	CAPACITOR, MONO, 1uF, 50V	C77,79,139	3	3	3	3	3	3	3	3	3	3
101	037-591	CAPACITOR, TANT, DIPPED, 1.0uF, 35V	C118,120,122-128	9	9	9	9	9	9	9	9	9	9
102	037-893	CAPACITOR, DIPPED, TANT, 15uF, 20V	C78,98	2	2	2	2	2	2	2	2	2	2
103	037-952	CAPACITOR, DIPPED, TANT, 3.3uF, 15V	C112,113	-	-	-	-	-	-	-	-	-	-
104	037-985	CAPACITOR, TUBULAR, TANT, 15uF, 20V	C34,114,115	3	3	3	3	3	3	3	3	3	3
105	037-745	CAPACITOR, TUBULAR, TANT, 47uF, 6V	C32	1	1	1	1	1	1	1	1	1	1
106	037-246	CAPACITOR, TUBULAR, TANT, 180uF, 6V	C9,10	2	2	2	2	2	2	2	2	2	2
107	587-147	I.C., 7414, HEX INVERTER, SHMITT	U11	-	-	-	-	-	-	-	-	-	-
108	590-542	311P, VOLTAGE COMPARATOR	U47,48,55 (2)	3	3	3	3	3	3	3	3	3	3
109	590-611	741, OP AMP	U56 (2)	1	1	1	1	1	1	1	1	1	1
110	590-612	1458, DUAL OP AMP	U57,58 (2)	2	-	2	2	2	2	2	2	2	2
111	586-075	7400, QUAD 2-INPUT NAND	U7,12,13,16,20,26,27,33, 34,35,41,45	-	-	-	-	-	-	-	-	-	-
112	586-326	7404, HEX INVERTER	U8,22,29,32,39,51	-	-	-	-	-	-	-	-	-	-
113	590 440	7405, HEX INVERTER, O.C.	U25 (2)	1	1	1	1	1	1	1	1	1	1
114	590-536	7406, HEX INVERTER, H.V., O.C.	U14,46 (2)	2	2	2	2	2	2	2	2	2	2
115	590-538	7408, QUAD 2-INPUT AND	U21,40 (2)	2	2	2	2	2	2	2	2	2	2
116	586-076	7410, TRIPLE 3-INPUT NAND	U10,15,18,24,28,30,31, 43	8	8	8	8	8	8	8	8	8	8
117	587-505	7411, TRIPLE 3-INPUT AND	U44	1	1	1	1	1	1	1	1	1	1
118	586-077	7420, DUAL 4-INPUT NAND	U53	1	1	1	1	1	1	1	1	1	1
119	590-541	7432, QUAD 2-INPUT OR	U23 (2)	1	1	1	1	1	1	1	1	1	1
120	586-108	7474, DUAL "D" F/F	U3,19,36,50	4	4	4	4	4	4	4	4	4	4
121	590-537	7486, QUAD EXCLUSIVE OR	U6 (2)	1	-	1	1	1	1	1	1	1	1
122	586-248	7490, DECADE COUNTER	U1,2	2	2	2	2	2	2	2	2	2	2
123	586-283	7493, 4-BIT BINARY COUNTER	U4,52,54	3	3	3	3	3	3	3	3	3	3
124	586-703	74151, 1 OF 8 DATA SELECTOR	U5	1	1	1	1	1	1	1	1	1	1
125	586-923	74163, SYNC, 4-BIT COUNTER	U38	1	1	1	1	1	1	1	1	1	1
126	590-134	74174, HEX "D" F/F	U37 (2)	1	1	1	1	1	1	1	1	1	1
127	587-144	I.C., 9602, DUAL ONE SHOT	U9,17,49	3	3	3	3	3	3	3	3	3	3

LM-4050916

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4050916 SHEET 4 OF 5	REV AA

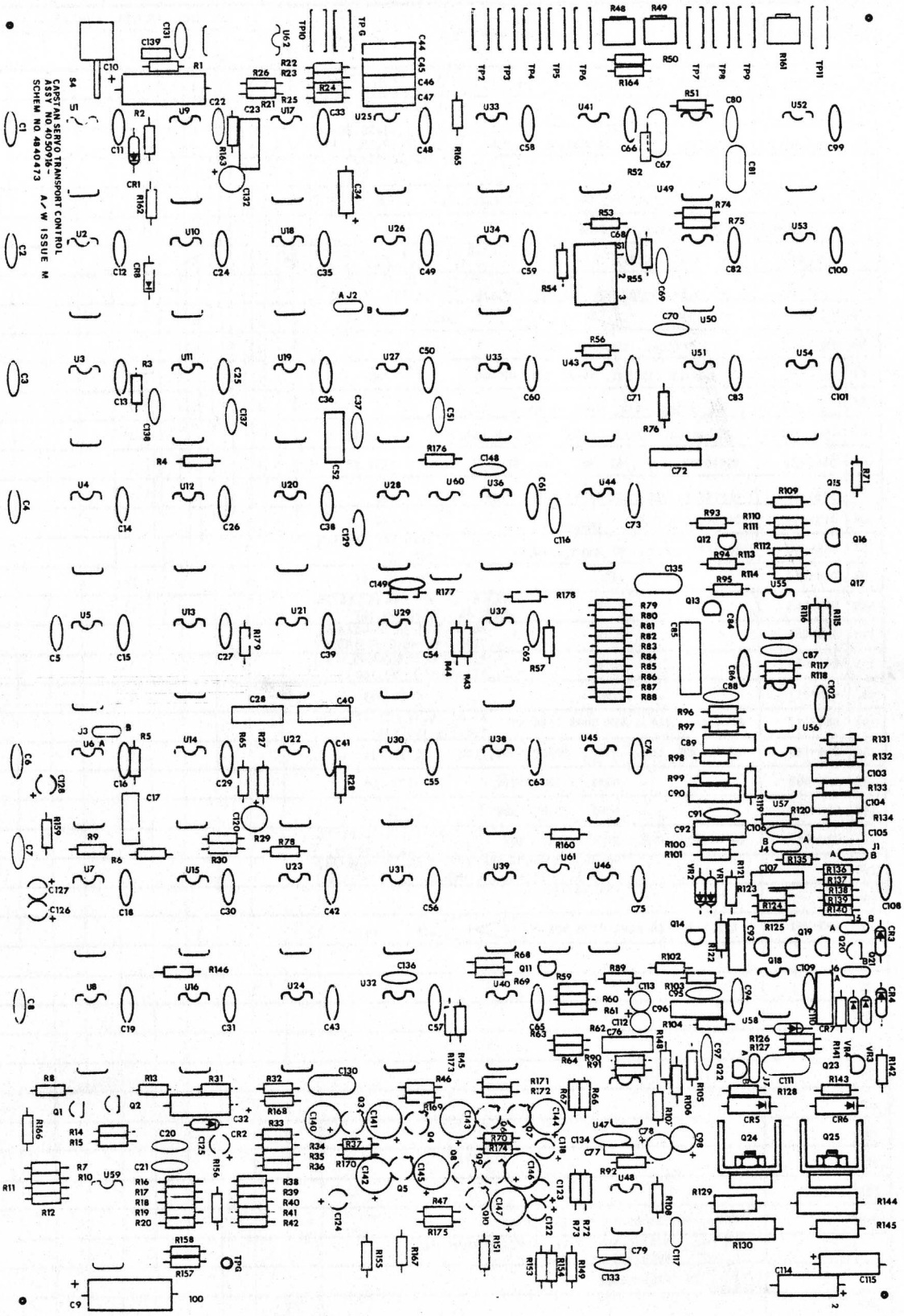
ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06	-07	-08	-09	-10
128	030-817	CAPACITOR, DISC, CER., .01uF, 50V	C1-8,11-16,18-22,24-27, 29-31,33,35-39,41-43,	-	-	-	-	-	-	-	-	-	-
129			48-51,53-63,68-71,73-75,80,82,83,86-88,91, 94,95,97,99-102,106,108,109,116,129,65,66										
130	030-817	CAPACITOR,DISC,CER.,.01uF,50V	C1-8,11-16,18-22,24-27, 29-31,33,35-39,41-43,	-	-	82	-	-	-	-	-	-	-
131			48-51,53-63,68-71,73-75,80,82,83,86-88,91,94,95,97,99-102, 106,108,109,116,129,65,66,131,136-138										
132	590-510	I.C., BUFFER/CONVERTER, 4010 [1]	U59 [2]	1	-	1	1	1	1	1	1	1	1
133	587-266	I.C., QUAD, $\overline{SR}$ LATCH, 74279	U60	-	-	1	-	-	-	-	-	-	-
134	586-492	I.C., SHIFT REG. 5-BIT, 7496	U61	1	1	1	1	1	1	1	1	1	1
135	586-075	I.C., 7400	U7,12,13,16,20,26,27,33-35,41,45,62	-	-	13	13	13	13	13	-	-	-
136	586-326	I.C. 7404	U22,29,32,39,51	-	-	5	5	5	5	5	-	-	-
137	590-544	I.C., 7414	U8,11 [2]	2	2	2	2	2	2	2	2	2	2
138	066-663	RESISTOR, C.F., 220 OHMS, 5%, 1/4W	R168-175	8	8	8	8	8	8	8	8	8	8
139	066-818	RESISTOR, C.F., 470 OHMS, 5%, 1/4W	R32,37,45-47, 68-70	8	8	8	8	8	8	8	8	8	8
140	066-665	RESISTOR, C.F., 1.0K, 5%, 1/4W	R2,3,9,14,18-20,31,36, 41,43,44,55,57,61,63,64, 78-80,82,86,127,160,167	25	-	23	24	25	25	25	25	25	25
141	066-868	RESISTOR, C.F., 120K, 5%, 1/4W	R98,166	2	2	2	2	2	2	2	2	2	2
142	066-840	RES., C.F., 680 OHM, 1/4W, 5%	R107,108	2	2	2	2	2	2	2	2	2	2
143	066-824	RES., C.F., 1.5K 1/4W, 5%	R164	1	1	1	1	1	1	1	1	1	1
144	066-689	RES., C.F., 2.2K 1/4W, 5%	R6,16,17,33-35,38-42,60, 66,71,72,93,102,146-148	-	-	-	-	-	-	-	-	-	-
			162,165										
145	066-668	RES., C.F., 4.7K, 1/4W, 5%	R96,128,131,135,143	5	-	5	5	5	5	5	5	5	5
146	066-830	RES., C.F., 10K, 1/4W, 5%	R15,51,52,110	4	4	4	4	4	4	4	4	4	4
147	066-831	RES., C.F., 11K, 1/4W, 5%	R50	1	1	1	1	1	1	1	1	1	1
148	066-864	RES., C.F., 13K, 1/4W, 5%	R81	1	1	1	1	1	1	1	1	1	1
149	066-856	RES., C.F., 15K, 1/4W, 5%	R105	-	-	-	-	-	-	-	-	-	-
150	066-847	RES., C.F., 33K, 1/4W. 5%	R7,10-12,111,117, 118,142	8	8	8	8	8	8	8	8	8	8
151	066-717	RES., C.F., 47K, 1/4W, 5%	R1,21,26,101, 123-125,138,139,163	10	-	10	10	10	10	10	10	10	12
152	076-009	RES., C.F., 68K, 1/4W, 5%	R133,134,166	-	-	-	-	-	-	-	-	-	-
153	076-009	RES., C.F., 68K, 1/4W, 5%	R133,134	2	2	2	2	2	2	2	2	2	2
154	066-689	RES., C.F., 2.2K, 1/4W, 5%	R6,16,17,33-35,38-42,60,66, 72,93,102,162,165,146,	-	-	22	21	20	19	-	-	-	-
155	058-498	RES., VAR., 500 OHM, 1/2W, I.T.	R48	1	1	1	1	1	1	1	1	1	1
156	058-041	RES., VAR., 5K, 1/2W, I.T.	R49	-	-	1	1	1	1	1	1	-	-
157	058-335	RES., VAR., 50K, 1/2W, I.T.	R161	1	1	1	1	1	1	1	1	1	1
158	066-856	RES., C.F., 15K, 1/4W, 5%	R105,148	2	2	3	2	2	2	2	2	2	2
159	280-130	TRANSISTOR MTG HDW, MTG PAD	REF: 03-10	8	8				8	8	8	8	8
160	586-075	I.C., 7400	U7,12,13,16,20,26,27,33-35,41,45,62,63	14	14						14	14	14
161	034-228	CAP, MICA, 620pF, 300V	C135	1	1	1	1	1	1	1	1	1	1
162	037-933	CAP., TANT., DIP., 10uF, 35V	C140-147	8	8	8	8	8	8	8	8	8	8
163	037-963	CAP, TANT, DIP, 33uF, 10V	C132	1	1	1	1	1	1	1	1	1	1
164	037-790	CAP., TANT., DIP., 2.2uF, 20V	C112,113	2	2	2	2	2	2	2	2	2	2
165	064-152	CAP, cer, DISC, .001uF, 50V, 10%	C133,134	2	-	2	2	2	2	2	2	2	2
166	030-817	CAP., DISC, CER., .01uF, 50V, %	C1-8,11-16,18-22,24-27, 29-31,33,35-39,41-43,	-	-		80	83	83	83	-	-	-
167			83,149,65,66,48-51,54-63,68-71,73-75,80,82,86-88,91,94, 137,84,131,136,95,97,99-102,106,108,109,116,129,138,148,										
168	066-873	RES., C.F., 20K OHMS, 1/4W, 5%	R177	1	1		1	1	1	1	1	1	1
169	066-866	RES., C.F., 27K OHMS, 1/4W, 5%	R84,137,176	3	3		3	3	3	3	3	3	3
170	066-843	RES., C.F., 6.2K OHMS, 1/4W, 5%	R53,54,56,65,59,74, 75,109,178,179	10	10		11	10	10	10	10	10	10
171	590-616	I. C., DUAL ONE SHOT, 74221	[2] U60	1	1		1	1	1	1	1	1	1

LM-4050916

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4050916 SHEET 5 OF 5	REV AA

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -07	-08	-09	-10	-11	-12
172	066-689	RESISTOR, C.F., 2.2K OHM, 1/4W, 5%	R6,16,17,33-35,38-42,60,66,72,93,102,146,162,165,180,181,	21	21	21	21	21	-
173									
174	066-689	RESISTOR, C.F., 2.2K OHM, 1/4W, 5%	R6,16,17,33-35,38-42,60,66,72,93,102,146,147,162,165,180	-	-	-	-	-	-
175	590-620	INTEGRATED CIRCUIT, 74LS86, QUAD EXCL. OR	U6,66						2
176	4170360-03	LABEL, HANDLE, CAPSTAN SERVO		1	1	1	1	1	1
177	030-817	CAP., DISC., CER., .01uF, 50V,	C1-8,11-16,18-22,24-27,29-31,33,35-39,41-43,48-51,	84	84	84	84	84	-
178			54-63,65,66,68-71,73-75,80,82-84,86-88,91,94,95,97,99-102,106,108,109,116,129,131,136-138,148-150						
179	590-609	I.C., 7404 [2]	U22,29,32,39,51	5	5	5	5	5	5
180	586-683	I.C., OPTICAL ISOLATOR, 4N26	U64,65	2	2	2	2	2	2
181	586-905	INTEGRATED CIRCUIT, 1458, DUAL OP AMP	U57						1
182	581-507	DIODE, ZENER, 43V, 500MV 1N5260	VR5,6	2	2	2	2	2	2
183	590-104	INTEGRATED CIRCUIT, LF353, DUAL OP AMP	U58						1
184	066-985	RESISTOR, C.F., 62 OHM, 1/4W, 5%	R182,183,	2	2	2	2	2	2
185	058-907	RESISTOR, VAR., 5K OHMS, 4-T., 1/2W	R49	1	1	1	1	1	1
186	013-599	DIODE, GEN PURP 1N4531	CR1-4,7,9-16						13
187	066-938	RESISTOR, C.F., 47 OHMS, 1/4W, 5%	R149,151,153-159,188,192						11
188	066-812	100	R94,186,187						3
189	066-665	1.0K	R2,3,9,14,31,36,43,44,55,57,61,78-80,82,86,114,127,160,167						20
190	066-689	2.2K	R6,16,17,33-35,38-40,60,66,72,93,102,146,162,165,180,181						19
191	066-668	4.7K	R18-20,42,61,63,64,96,128,131,135,143,189,190						14
192	066-711	7.5K	R184,185						2
193	066-717	RESISTOR, C.F., 47K OHMS, 1/4W, 5%	R1,21,26,41,101,123-125,138,139,163,191						12
194	064-152	CAPACITOR, CER., DISC, .001uF, 50V, 10%	C133,134,152						3
195	064-062	MONO, 0.1uF, 100V	C117,151						2
196	064-149	MONO, 1.0uF, 100V	C153						1
197	030-817	CAPACITOR, CER., DISC, .01uF, 50V	C1-8,11-16,18-22,24-27,29-31,33,35-39,41-43,						84
198			48-51,54-63,65,66,69-71,73-75,80,82-84,86-88,91,94,95,97,99-102,106,108109,116,129,131,136-138,148-150,154						
199									
200	590-792	I.C., BUFFER CONVERTER 4050B [1] [2]	U59						1
201									
202									
203									
204									
205									
206									
207									
208									
209									
210		NOTES: UNLESS OTHERWISE SPECIFIED							
		[1] STATIC SENSITIVE, SPECIAL HANDLING REQUIRED PER HEI-1.							
		[2] PRESTRESSED I.C.							

LM-4050916



Assembly No. 4050916-12AA. Capstan Servo and Transport Control PWA

MDA DRIVER

REV

FWD

FST FWD IND.

REWIND LAMP

MOTION IND

PLAY IND

Play CMD IN PLAY

STOP CMD.

STOP IND

ERS IND

SHUTTLE CMD

SERVO OFF IND

Wake up.

XCOUPLE

SHUTTLE

Shuttle button

SHUTTLE

elect Rewd Status.

Forward Status

LIFT Detent Button

TP11	SHUT SENS
R161	SHUT SPD
TP9	SHUT V
TP8	ANLR I
TP7	ANLR O
R50	SHUT O
R48	SHUT CENT
TP6	MOT I
TP5	MOT V
TP4	TACH 1
TP3	TACH 2
TP2	Ø DET
TP1	GROUND
TP10	RAMP
S6	MANUAL WAKE UP

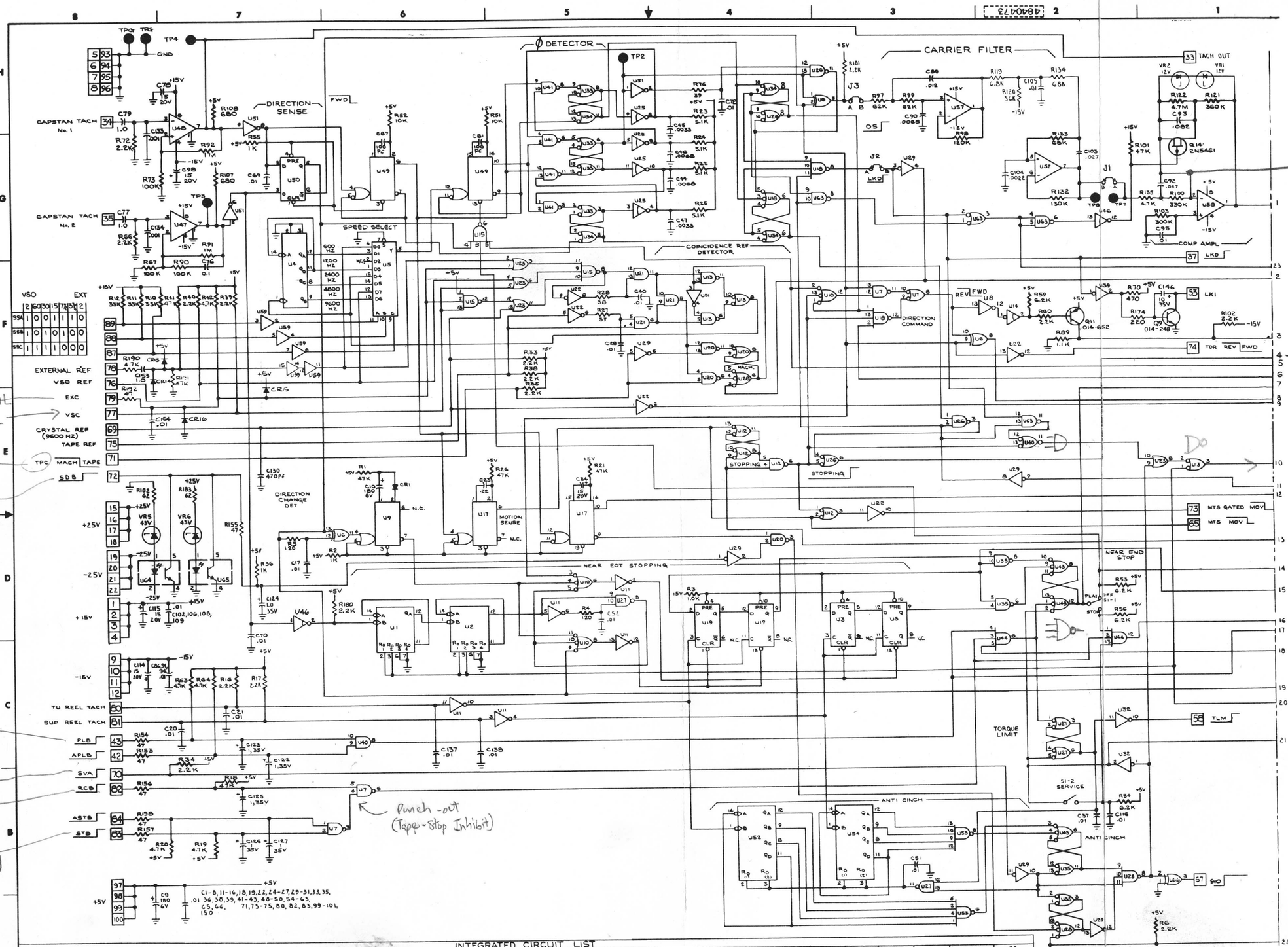
REFERENCE DESIGATIONS	
LAST USED	NOT USED
C154	C119,121,53,64,28
CR16	
U7	
Q25	
U66	U42
R192	R58,62,71,136, 147,150,152
S4	S2,3
TP11	TP1
VR6	

NOTES: UNLESS OTHERWISE SPECIFIED:
1. RESISTANCE VALUES ARE IN OHMS 1/4W ±5%
2. CAPACITANCE VALUES ARE IN MICROFARADS
3. STATIC SENSITIVE, SPECIAL HANDLING REQ'D PER AMPEX STD. HEI-1
4. SCHEMATIC REFLECTS PWA IC 02515-12.
5. DIODES ARE 013-509 (1N4581 OR EQUIV.)

Schematic No. 4840473T.
Capstan Servo PWA
(Sheet 1 of 2)

4-25/4-26

Ampex 4890432-01



INTEGRATED CIRCUIT LIST

REF. DESIGNATIONS	U42	U3,19,36,50	U4,52,54	U5	U6,66	U7,12,13,16,20,26,27,33,34,35,41,45,62,63	U22,29,32,39,51	U9,17,49	U10,15,18,24,28,30,31,43	U8,11	U14,46	U21,40	U23	U25	U37	U38	U44	U47,48,55	U53	U56	U57	U59	U60	U61	U64,65	U58
AMPEX P/N	586-248	586-108	586-203	586-703	590-620	586-075	590-609	587-144	586-076	590-544	590-536	590-538	586-918	7432	7405	590-440	590-134	586-923	587-505	590-542	586-077	590-611	586-905	590-782	590-616	586-692	586-683	590-104
VENDOR P/N	7490	7474	7493	74151	74LS86	7400	7404	9602	7410	7414	7406	7408	7432		7405	74174	74163	7411	311P	7420	741	1458	CD 4050B	74221	7496	4N26	LF353	8(+15),4(-15)
VOLTAGE PIN	5	14	5	16	14	14	14	16	14	14	14	14	14	14	16	16	16	14	7(no) 4(-14)	8(+5),4(-15)	14	8(+5),4(-15)	1 (+5V)	16	5	5	8(+15),4(-15)	
GROUND PIN	10	7	10	8	7	7	7	8	7	7	7	7	7	7	8	8	7	1	7				8	8	12	4	—	

Schematic No. 4840473T.
Capstan Servo PWA
(Sheet 2 of 2)

4-27/4-28

Ampex 4890432-01

ITEM NO.	PART NUMBER	D	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -11	-12
1						
2	4170381-02		LABEL, MAIN CPU		1	1
3	4500405		PWB, MAIN CPU		-10	-10
4	4120049-02		HANDLE, MAIN CPU		1	1
5	4840543		SCHEMATIC		R	S
6	4120049-01		HANDLE, MAIN CPU, PWA		-	-
7	4600176-01		SHIELD		1	1
8	4170381-01		LABEL, MAIN CPU, PWA		-	-
9	013-599		DIODE, S1, GP	CR4,5	-	-
10	013-678		DIODE, POWER RECTIFIER	CR1-3	3	3
11	4570028-02	1	INTEGRATED CIRCUIT, 16K EPROM, 0-7FF	U26	-	-
12	4570029-02	1	INTEGRATED CIRCUIT, 16K EPROM, 800-FFF	U27	-	-
13	4570030-02	1	INTEGRATED CIRCUIT, 16K EPROM, 1000-17FF	U25	-	-
14	581-290		DIODE, ZENER, 15V, 5%, 1W	VR2	-	-
15						
16	014-581		TRANSISTOR, NPN	Q1,2	2	2
17	580-708		TRANSISTOR, FET	Q3	-	-
18	090-245		PACKAGE SHUNT AMP 435704-8	J2	1	1
19	580-304		TRANSISTOR, FET., P1087E	Q3	1	1
20	580-647		TRANSISTOR, NPN, 2N3904	Q4	1	1
21	582-134		SOCKET, DIP, 16 PIN	J2,U17,22, 50,51	-	-
22	582-158		SOCKET, DIP, 22 PIN	U30-37,39-46	-	-
23	582-159		SOCKET, DIP, 24 PIN	U25-28,55	-	-
24	582-165		SOCKET, DIP, 40 PIN	U16,18	-	-
25	470-009		SCREW, CAP, HEX HEAD, #4-40 X 5/16 LG		-	-
26	502-002		WASHER, LOCK, #4		-	-
27	501-169		WASHER, FLAT, #4 SMALL PATT.		-	-
28	064-152		CAPACITOR, CER. DISC., 0.001uF, 10%	C39,44-51	9	9
29	064-316		CAPACITOR, MONO., 2.0uF	C38	-	-
30	030-817		CAPACITOR, CER., DISK, .01uF, 100V, +80% -20%	C27,37	-	-
31	064-152		CAPACITOR, CER., DISK, .001	C39	-	-
32	037-970		CAPACITOR, TANT, DIP, 150uF, 6V	C41	-	-
33	064-062		CAPACITOR, MONO, 0.1uF, 20%, 50V	C1-26,28-31, 34,40	-	-
34	064-314		CAPACITOR, MONO, 1.0uF, 50V	C32,33,35	-	-
35	037-109		CAPACITOR, TANT, TUBULAR, 10uF, 20V	C36	-	-
36	037-109		CAPACITOR, TANT, TUBULAR, 10uF, 20V	C36,42	2	2
37	030-817		CAPACITOR, CER, DISK, .01uF, 100V	C27,37,43	-	-

LM-4051058

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4051058 SHEET 2 of 5	REV R

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -11	-12
38	066-830	RESISTOR, C.F., 10K, 5%, 1/4W	R23	-	-
39	041-465	RESISTOR, CARB., COMP, 680 OHM, 5%, 1W	R41	-	-
40	066-818	RESISTOR, C.F., 470 OHM, 5%, 1/4W	R2,4	-	-
41	066-842	5.1K	R5,6,8,13	-	-
42	041-651	33	R42	-	-
43	066-837	130	R3	-	-
44	066-872	360	R27	1	1
45	066-829	6.8K	R43	1	1
46	066-664	510	R39	1	1
47	066-665	RESISTOR, C.F., 1K OHM, 5%, 1/4W	R1,7,9-12,16,24, 31-33,35-38,40	-	-
48	039-223	RESISTOR, NETWORK	R28,29	2	2
49	066-661	RESISTOR, C.F., 120 OHM, 5%, 1/4W	R20,22	2	2
50	066-847	33K	R34	-	-
51	076-045	75	R19,21	2	2
52	076-012	330K	R30	-	-
53	066-813	150	R25,26	-	-
54	066-821	820	R17,18	2	2
55	066-564	RESISTOR, C.F., 470 OHM, 5%, 1/4W	R14,15	2	2
56	590-510	INTEGRATED CIRCUIT, CD4010B ▷1	U62	1	1
57	589-645	REGULATOR,+5V,MC 7805CT	U59,60,61	3	3
58	590-528	C/MOS NOR GATE, CD4001 ▷1	U38,47	2	2
59	581-638	OPTICAL COUPLER HCPL 2601 (HP)	U48,49	-	-
60	589-715	16K EPROM ▷1		-	-
61	589-652	4X 256 CMOS RAM S101 EL2 ▷1	U30-37,39-46	-	-
62	589-644	UART IM6402 AIPL	U16	1	1
63	586-109	2-INPUT NOR GATE 7402	U9	1	1
64	590-333	74LS163	U1-4	4	4
65	586-690	HEX INVERTER 7406	U5	-	-
66	586-075	QUAD 2-INPUT NAND 7400	U7,54	2	2
67	586-326	HEX INVERTER, 7404	U11	-	-
68	586-713	HEX BUFFER OC. HV 7407	U6,20,53	3	3
69	586-917	TRIPLE 3-INPUT NOR 7427	U21,58	-	-
70	587-147	HEX SCHMITT 7414	U13,14	-	-
71	590-541	QUAD 2-INPUT OR 7432	U8,10	2	2
72	587-387	DUAL D FLIP-FLOP 74LS74	U15	-	-
73	589-823	3 TO 8 LINE DECODER 74LS138	U29	1	1
74	589-223	OCTAL TRI-STATE BUF 81LS95	U12,23,24, 52,56,57	6	6
75	589-639	CPU 8085-A ▷1	U18	1	1
76	589-273	OCTAL TRI-STATE LATCH 8212	U28,55	2	2
77	589-269	QUAD, BI DIRECT. BUF 8216	U17,22,50,51	4	4
78	581-638	OPTICAL COUPLER, HCPL 2601	U48,49,63	3	3
79	586-912	INTEGRATED CIRCUIT, 74154	U19	1	1
80	066-824	RESISTOR, C.F., 1.5K, 5%, 1/4W	R44	-	-
81	087-388	HEATSINK COMP		A/R	A/R
82	122-493	SWITCH, ROTARY	S1	-	-

LM-4051058

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM- 4051058 SHEET 3 of 5	REV R

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -11	-12
83	616-569	COAXIAL CABLE		A/R	A/R
84	143-981	CONNECTOR, PC TIP JACK	J1,3	6	6
85	602-012	SHORTING PLUG	REF:J1,J3	2	2
86	187-259	TERMINAL, TEST	TP1-5	5	5
87	4290857-01	HEATSINK HDWE	U59,61	-	-
88	280-130	SPACER, XSTR TO-18	REF:Q1,2	2	2
89	471-325	SCREW, FLAT HEAD, 4-40, .188 LG		2	2
90	470-009	SCREW, CAP, HEX HEAD, #4-40 X 5/16 LG		8	8
91	502-002	WASHER, LOCK, #4		8	8
92	501-169	WASHER, #4, SMALL PATT		8	8
93	471-068	SCREW, PAN HEAD, #6-32 X 5/16 LG		3	3
94	498-425	NUT, ASSEMBLED, #6-32		3	3
95	087-388	HEATSINK, COMPOUND	REF:U59-61	A/R	A/R
96					
97	018-461	ADHESIVE, THREAD LOCKING		A/R	A/R
98	066-935	RESISTOR, C.F., 15 OHMS, 1/4W, 5%	R47	-	-
99	066-816	390	R46	-	-
100	066-498	430	R25,26	-	-
101	066-665	RESISTOR, C.F., 1K OHMS, 1/4W, 5%	R1,7,9-12,16,24,30-33,35-38,40,45	-	-
102	302-395	MOUSETAIL, STRAP, CABLE		A/R	A/R
103	066-498	RESISTOR, C.F., 430 OHMS, 1/4W, 5%	R25,26,48	3	3
104	066-667	3K	R49	-	-
105	066-830	10K	R44	-	-
106	066-824	1.5K	R23	1	1
107	066-665	1K	R1,7,9-12,24,30-33,35-38,40,45	-	-
108	066-842	5.1K	R5,6,8,13,16	-	-
109	066-935	15	R46	1	1
110	066-816	RESISTOR, C.F., 390 OHMS, 1/4W, 5%	R47	1	1
111	037-969	CAPACITOR, TANT., DIP, 56uF, 6V	C41	1	1
112	030-817	CAPACITOR, CER., DISC, 0.01uF, 100V	C27,37,43,52	-	-
113	590-544	INTEGRATED CIRCUIT, SCHMITT TRIGGER, HEX., 7414	U13	1	1
114	589-191	INTEGRATED CIRCUIT, SCHMITT TRIGGER, HEX., 74C14	1 ▷ U14	1	1
115	066-842	RESISTOR, C.F., 5.1K OHM, 1/4W, 5%	R5,6,8,13	4	4
116	066-834	33	R42,49-55	8	8
117	066-818	470	R2,4,56	-	-
118	066-720	3.3K	R57	1	1
119	066-668	4.7K	R58	-	-
120	066-847	33K	R59	-	-
121	066-830	RESISTOR, C.F., 10K OHM, 1/4W, 5%	R16,44	-	-
122	037-952	CAPACITOR, TANT, DIP, 3.3uF, 15V	C53	-	-
123	586-917	INTEGRATED CIRCUIT, TRIPLE 3-INPUT NOR 7427	U58	-	-
124	066-668	RESISTOR, C.F., 4.7K OHM, 1/4W, 5%	R31,58	2	2
125	066-830	RESISTOR, C.F., 10K OHM, 1/4W, 5%	R16,44,66	3	3
126	037-923	CAPACITOR, TANT., DIP, 0.82uF, 35V	C57	1	1
127	064-314	CAPACITOR, MONO., 1.0uF, 50V	C32,33,35,38	4	4

LM-4051058

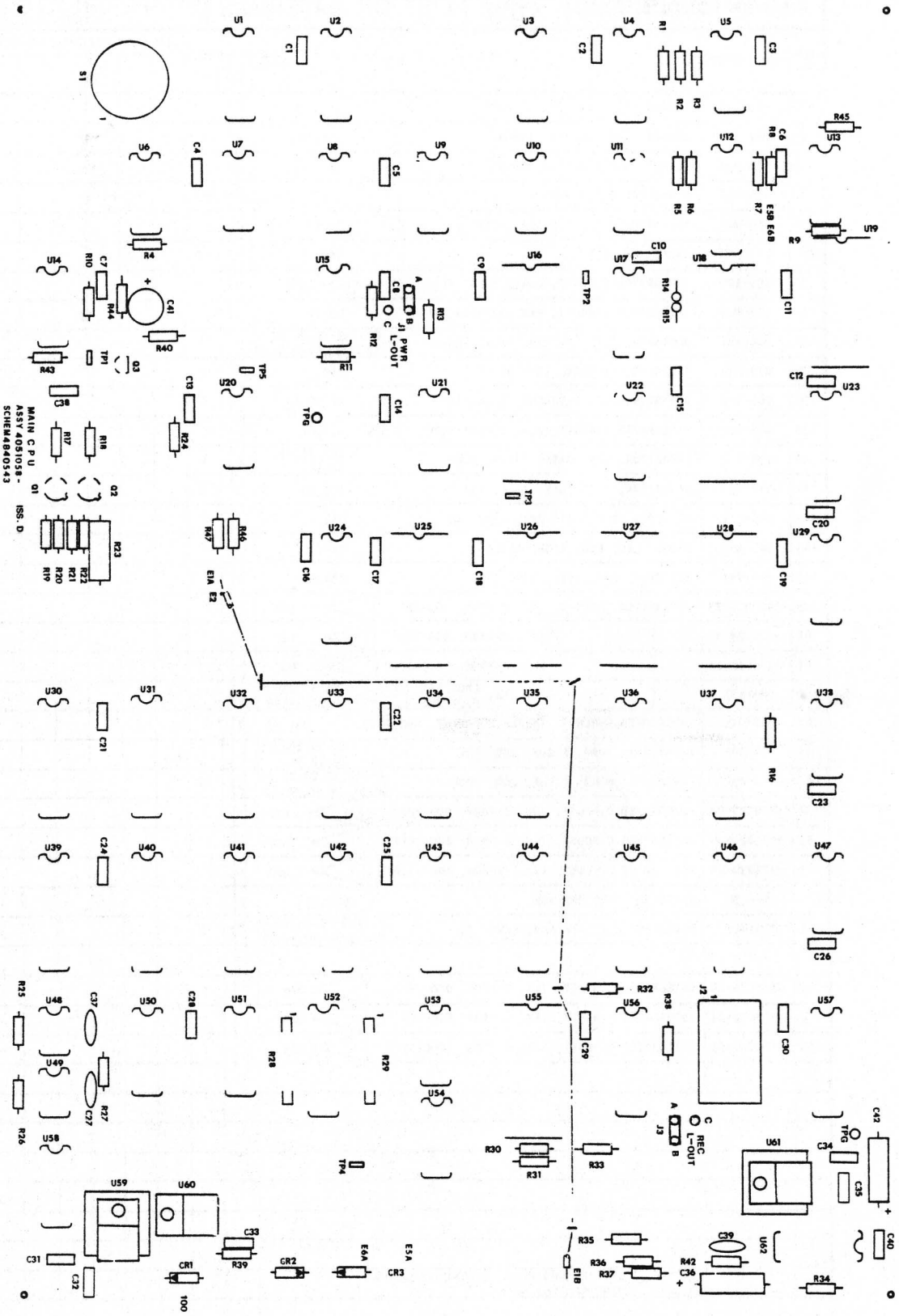
AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM- 4051058 SHEET 4 of 5	REV R

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -11	-12
128	582-100	SOCKET, DIP, 16 PIN, (AUGAT)	J2	1	1
129	582-305	SOCKET, DIP, 40 PIN, (AUGAT)	U16,18	2	2
130	582-085	SOCKET, DIP, 24 PIN, (AUGAT)	U25-27	3	3
131	615-002	WIRE, SOLID, 22 AWG		A/R	A/R
132	066-662	RESISTOR, C.F., 200 OHM, 1/4W, 5%	R3,65	2	2
133	013-599	DIODE, SI, G.P.	CR4-17	14	14
134	590-329	INTEGRATED CIRCUIT, DUAL, MONO, FLIP-FLOP 74LS123	U65	1	1
135	590-609	INTEGRATED CIRCUIT, HEX INVERTER, 7404	U5,11	2	2
136	066-665	RESISTOR, C.F., 1K OHM, 1/4W, 5%	R1,7,9-12,24,30-33,35-38,40,45,61,62	-	-
137	039-294	RESISTOR, NETWORK, 1K X 9	R60	1	1
138	066-818	RESISTOR, C.F., 470 OHM, 1/4W, 5%	R4,56,63	3	3
139	589-820	INTEGRATED CIRCUIT, DUAL D FLIP-FLOP, 74LS74	U15,64	2	2
140	030-817	CAPACITOR, CER, DISC, .01uF, 100V	C27,37,43,52,54	5	5
141	037-954	CAPACITOR, TANT, DIP, 22uF, 15V	C53,55	2	2
142	066-912	RESISTOR, C.F., 82K OHM, 1/4W, 5%	R64	1	1
143	581-469	DIODE, LED, RED, RIGHT ANGLE	DS-1	1	1
144	066-847	RESISTOR, C.F., 33K, 1/4W, 5%	R34,59	2	2
145	4570028-03	INTEGRATED CIRCUIT, 16K, E-PROM, 000-7FF △1	U26	-	-
146	4570029-03	16K, E-PROM, 800-FFF △1	U27	-	-
147	4570030-03	16K, E-PROM, 1000-17FF △1	U25	-	-
148	589-652	4 X 256, CMOS RAM 5101 EL2 △1	U31,33,35-37,40,42,44-46	10	10
149	590-325	INTEGRATED CIRCUIT, TRIPLE, 3-INPUT, NOR 7427	U21,58	2	2
150	064-062	CAPACITOR, MONO, 0.1uF, 20%, 50V	C1-26,28-31,34,40,56	-	-
151	064-062	CAPACITOR, MONO, 0.1uF, 20%, 100V	C1-20,22,23,25,26,28-31,34,40,56,58	32	32
152	4570028-04	INTEGRATED CIRCUIT, 16K, E-PROM, 000-7FF △1	U26	1	-
153	4570029-04	INTEGRATED CIRCUIT, 16K, E-PROM, 800 FFF △1	U27	1	-
154	4570030-04	INTEGRATED CIRCUIT, 16K, E-PROM, 1000-17FF △1	U25	1	-
155	582-190	HEATSINK, IERC PAI-ICB	U59,61	2	2
156	066-665	RESISTOR, C.F., 1K OHM, 1/4W, 5%	R1,7,9-12,24,30,32,33,35-38,40,45,61,62	18	18
157	4570028-05	INTEGRATED CIRCUIT, 16K, E-PROM, 000-7FF △1	U26		1
158	4570029-05	INTEGRATED CIRCUIT, 16K, E-PROM, 800-FFF △1	U27		1
159	4570030-05	INTEGRATED CIRCUIT, 16K, E-PROM, 1000-17FF △1	U25		1

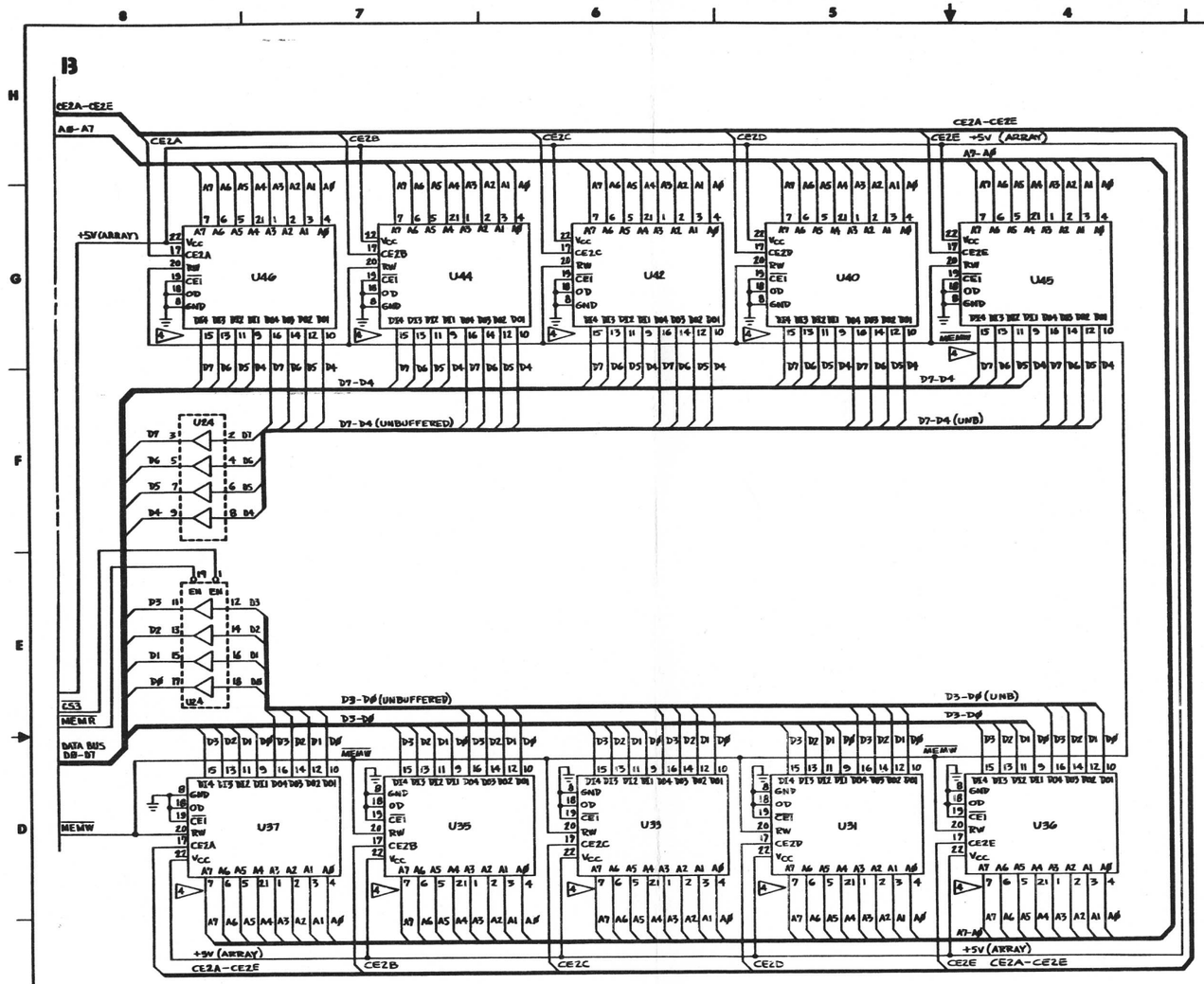
NOTES:

△1 STATIC SENSITIVE, SPECIAL HANDLING REQUIRED PER HE1-1.

LM-4051058



Assembly No. 4051058-11R. Main CPU PWA



MAIN CPU
1-1/4K x 8 CMOS MEMORY ARRAY

REFERENCE DESIGNATIONS	U1,54	U2,23, 56,57	U50,51	U1,2,3,4	U13	U9	U8,10	U6,20,55	U7,22	U16	U21,58	U5,U11
AMPEX P/N	586-075	589-223	589-269	590-333	590-544	587-103	590-594	586-713	589-269	589-044	590-325	590,608
VENDOR P/N	7400	81LS95	8216	74LS163	7414	7402	7432	7407	8216	8T26	7427	7404
VOLTAGE PIN	14(5V REG B)	20(5V REG A)	16(5V REG B)	16(5V REG B)	14(5V REG A)	14(5V REG B)	14(5V REG B)	14(5V REG B)	16(5V REG A)	16(5V REG B)	14(5V REG B)	14(5V REG A)
GROUND PIN	7	10	8	8	7	7	7	7	8	3	7	7

REFERENCE DESIGNATIONS	U24,52	U15,64	U19	U28	U38, 47 [4]	U60,61	U18, 49 63	U88 [4]	U55	U65	U62 [4]	U25 [4]	U26 [4]	U27 [4]	U44 [4]	U29	U31,33, 35-37, 40, 42, 44-46 [4]		
AMPEX P/N	589-223	589-820	586-912	589-273	590-528	589-645	581-650	589-699	589-273	590-389	590-510	4570030-05	4570028-05	4570029-05	589-181	589-825	589-652		
VENDOR P/N	81LS95	74LS74	74154	8212	CD4001	MC1805CT	2601	8085-A	8212	74LS123	CD4010 [5]		[8]	[8]	74C14	74LS138	MWS5101E1-2		
VOLTAGE PIN	20(5V REG B)	14(5V REG B)	24(5V REG B)	24(5V REG A)	14(5V ARRAY)	——	16(5V REG B)	40(5V REG A)	24(5V REG A)	16(5V REG B)	16(5V REGA)	14(5V REG B)	24(5V REG B)	24(5V REG A)	14(5V ARRAY)	16(5V REGA)	22(5V ARRAY)		
GROUND PIN	10	7	12	12	7	——	5	20	12	8	8	12	12	12	7	8	8		

REFERENCE DESIGNATIONS	
LAST USED	NOT USED
R66	R7, R49
C58	C27, C4
J3	J2
DS1	
CR17	
Q44	
TP5	
U65	U50, 32, 34, 39, 41, 43
VR1	
E13	E3, E4
	S1

NOTES: UNLESS OTHERWISE SPECIFIED:
1. RESISTANCE VALUES ARE IN OHMS, 1/4W, ±5%.
2. CAPACITANCE VALUES ARE IN MICROFARADS.
3. DIODES ARE 013-599.
4. STATIC SENSITIVE SPECIAL HANDLING REQ'D PER HEI-1.
5. PIN 47 COMMON GROUND, FOR LOCAL & (REMOTE) SERIAL DATE OUT.
6. BAUD RATES INDICATED AT E8-E13 ARE BAUD RATE X 16.
7. THIS SCHEMATIC REFLECTS PWA 4051058-12.
8. THIS PART IS A PROGRAMMED 2716 EPROM.

Schematic No. 4840543S.
Main CPU PWA
(Sheet 1 of 3)

CPU INPUTS

ERS IN 43 · STC 29 · PLC 28 · LKD 26 · RCC 25 · STOP BTN 54 · +5V (REG B) · 15L 24 · R34 33K +15V

R33 1K · R32 1K · R35 1K · R36 1K · R37 1K · R31 4.7K · R56 470 · +15V · +5V (REG A)

R42 33 · R54 33 · R50 33 · R51 33 · R52 33 · R53 33 · C50 .001 · U62 VDD VCC VSS

C39 .001 · C49 .001 · C45 .001 · C46 .001 · C47 .001 · C48 .001

A2 · A3 · A4 · A5 · A6 · A8 · A7

INTA

ADDRESS BUS LOWER A0–A7

A8 · A9 · A10

CS3–CS9 · CS9 · U20

MEMR · HOLD

TP4

A8 A9 A10 · U29 · +5V (REG A) · R9 1K · U28-2 5F

U38 10 CE2A · 11 CE2B · 4 CE2C · 3 CE2D

U47 10 CE2E · 11 CE2F · 3 CE2G · 4 CE2H

CE2A–CE2E

A0–A7

U57 · A0 A1 A2 A3 A4 A5 A6 A7 · Y5 Y6 Y7 Y8 Y1 Y4 Y2 Y3 · G2 G1

36 A0 · 33 A1 · 34 A2 · 31 A3 · 32 A4 · 35 A5 · 38 A6 · 37 A7 — LOWER ADDRESS OUT

91 · 92 +8V INPUT

+5V (REG A) C1–C3, C6, C10–C12, C15, C19, C20, C30 0.1

+5V (REG B) C4, C5, C7, C8, C9, C13, C14, C16–C18, C28, C29, C56 0.1

U61 5V REG 7805's · C34 0.1 · C35 1.0 · C36 10 20V · C50 0.1

U59 5V REG · C31 0.1 · C32 1.0

U60 5V REG 7805 · C33 1.0

CR2 013-678 · R39 510 · Q3 1087E · CR1 013-678 · R23 1.5K · CR5 013-599 · R43 6.8K · C38 1.0 · 55 · 56

R16 10K · POWER VALID · J1 A B C

U4 · +5V (REG B) · R44 10K · C41 56 6V · C12, C13, C25, C26 0.1

CR3 013-678 +5V (ARRAY) · 59 · 60 BATTERY

CS3 · MEMR

DATA BUS D0–D7

U8-1 6A · U9-G 5A

J2

REC LOCKOUT · U5 · U7-10 6A

U56 · A1 A2 A3 A4 A5 A6 A7 A8 · Y1 Y2 Y3 Y4 Y5 Y6 Y7 Y8 · D0 D1 D2 D3 D4 D5 D6 D7

U52 · A1 A2 A3 A4 A5 A6 A7 A8 · Y1 Y2 Y3 Y4 Y5 Y6 Y7 Y8

R28 1K · REC L-OUT J3 · 73 REC L-OUT

81 A1 · A2 NC · 39 MTS · 30 SHC · A5 NC · A6 NC · A7 NC · A8 NC

R29 1K · U53 · U54 · 7.5 IPS 76 SSC · 30 IPS 90 SSA · 15 IPS 88 SSB · 61 · 75 · 74 · 52 — CPU OUT

U55 · STB CLR · DI1 DI2 DI3 DI4 DI5 DI6 DI7 DI8 · DO1 DO2 DO3 DO4 DO5 DO6 DO7 DO8

U11 · NC · +5V (REG B) R30 1K

CS7 · CS8

U50 · U51 · D0 D1 D2 D3 D4 D5 D6 D7 · 89 70 69 67 85 83 68 67

DATA BUS OUT/IN

DATA BUS D0–D7

U16 · D0 D1 D2 D3 D4 D5 D6 D7 · NC NC NC

+5V (REG B) · R13 5.1K · C55, 22 15V · R64 82K · +5V (REG A) FAULT LATCH DS1

U65 · U64 · PRE CLR · R65 200

PIN 9 = (REG B) PINS 10, 11 = GND · U21-5 7F · U5-10 8E

51-11 1H

POWER VALID · U6

Tx STROBE · Rx STROBE · U10 · CS3 · CS4 · WR · RD · MEMR

SID · DATA AVAILABLE · R4 3K · R20 120 · R18 3K · R17 3K · Q1 · Q2 · R22 120 · R19 75

CONTROL BUS · HOLD · MR · CLK · R21 75 · U63 · C43 .01 · TP2 · R48 430 · 10/W

U13 · U8 · U20 · R24 1K · R47 390 · RP6 · E1A · E2 · E1B · 48 IO/W

R27 360 · U49 · U48 · C27 .01 · C37 .01 · R26 430 · R25 430 · GRN YEL YEL GRN · 47 49 66 64 · OUT IN · SERIAL DATA

GRN YEL YEL · 53 51 50 47 · IN OUT · SERIAL DATA (REMOTE)

2.592 MHz · SERIAL DATA (ACCESS) · 27 77 79

(TO AUDIO CNTRL.) · (TO VSO)

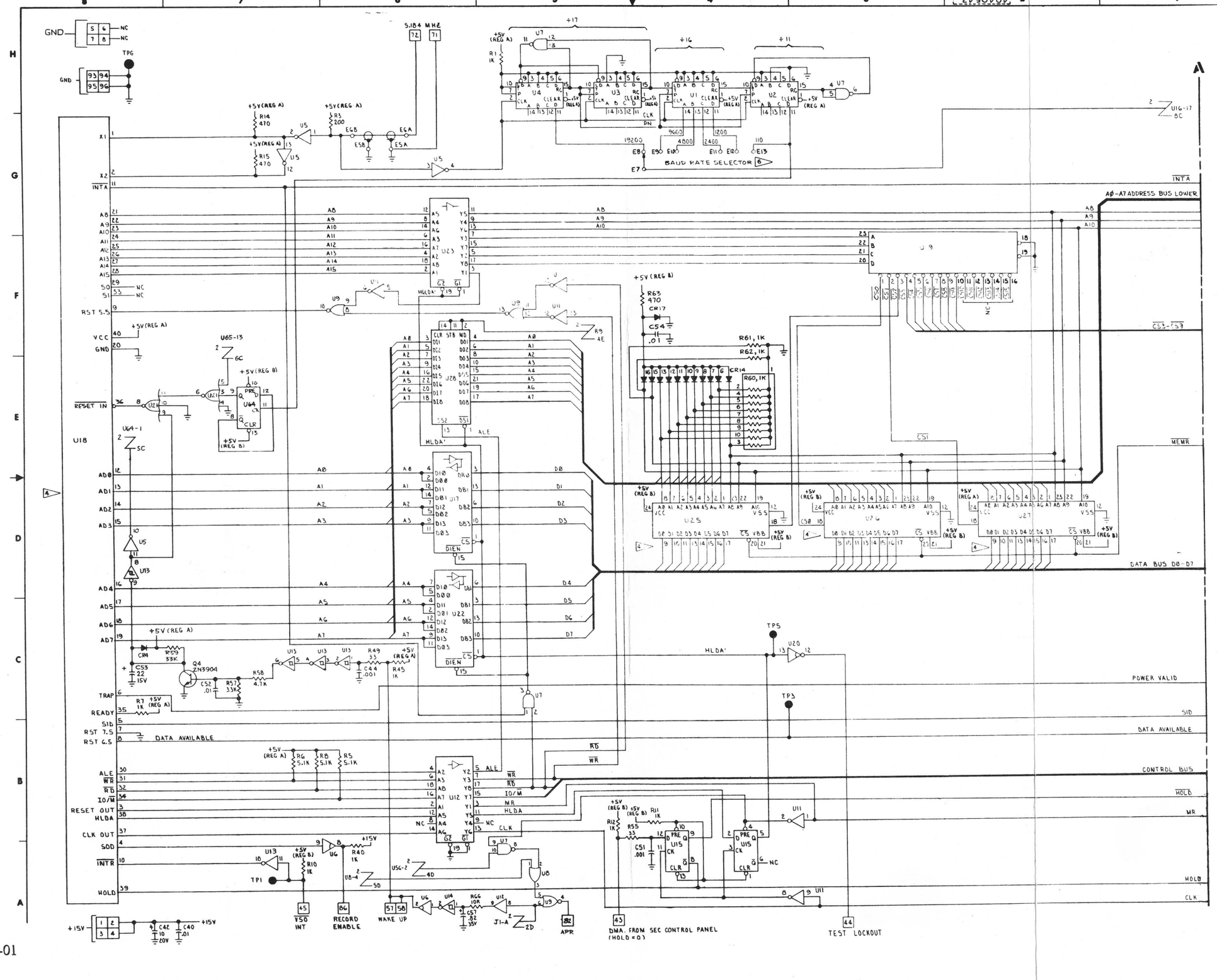
80 CS · 84 VSO STR · 78 RD · 46 WR

U20 I/O W

Schematic No. 4840543S.
Main CPU PWA
(Sheet 2 of 3)

Ampex 4890432-01

4-37/4-38



Schematic No. 4840543S.
Main CPU PWA
(Sheet 3 of 3)

Ampex 4890432-01

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04
1							
2							
3							
4	4840518	SCHEMATIC		C	D	E	G
5	103307-01	STAND OFF	REF: R54,55	4	4	4	4
6	4120078-01	HANDLE		1	1	1	1
7	4600175-01	SHIELD		1	1	1	1
8	4170367-01	LABEL		1	1	1	1
9	4140034-01	FILTER, READOUT		1	1	1	1
10							
11	581-668	DIODE, SI, IN4533	CR101,102,104	3	3	3	3
12	013-678	DIODE, 2N3945	CR103	1	1	1	1
13	581-290	DIODE, ZENER 15V, 1W IN4744A	VR 101-VR104	4	4	4	4
14	013-650	DIODE, IN270	CR105	1	1	1	1
15							
16	580-708	TRANSISTOR, FET P1086E	Q101,104,107	3	3	3	3
17	580-167	TRANSISTOR, 2N5320 NPN	Q103,106	2	2	2	2
18	580-166	TRANSISTOR, 2N5322 PNP	Q102,105	2	2	2	2
19	580-647	TRANSISTOR, 2N3904 NPN	Q108,109	2	2	2	2
20	037-812	CAP., TANT, DIP, 10uF, 25V	C136,139	2	2	2	2
21	037-591	CAP., TANT, DIP, 1uF, 35V	C104,108,111,113	4	4	4	4
22	037-963	CAP., TANT, DIP, 33uF, 10V	C141	1	1	1	1
23	037-892	CAP., TANT, DIP, 47uF, 20V	C112,114,140	3	3	3	3
24	037-887	CAP., TANT, DIP, .47uF, 35V	C137,138	2	2	2	2
25							
~~26~~							
27	034-215	CAP., MICA, 10pF, ± .5pF	C132,142	2	2	2	2
28	034-961	CAP., MICA, 120 pF, 5%	C101,106	2	2	2	2
29	034-288	CAP., MICA, 390pF, 5%	C123,126	2	2	2	2
~~30~~							
31	034-934	CAP., MICA, 360pF	C144	1	1	1	1
32	034-297	CAP, MICA, 180 pF, 1%	C145,146	2	2	2	2
33	069-174	CAP., POLY, .001uF	C133	1	1	1	1
34	069-166	CAP., POLY, .047uF	C134	1	1	1	1
35							
36							
37							

LM-4051010

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4051010 SHEET 2	REV H

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04
38								
39								
40	064-062	CAP., CER., MONO, .1uF		C102,103,105,107,109,110,115,116	8	8	8	8
41	030-817	CAP., CER., DISK, .01uF		C117-122,124,125,127-130,135	13	13	13	13
42								
43	066-810	RESISTOR, C.F., 10 OHM, 1/4W, 5%		R102	1	1	1	1
44	076-003	RESISTOR, C.F., 56 OHM, 1/4W, 5%		R104,111	2	2	2	2
45	066-813	RESISTOR, C.F., 150 OHM, 1/4W, 5%		R124-137,143,159	16	16	16	16
46	066-664	RESISTOR, C.F., 510 OHM, 1/4W, 5%		R150	1	1	1	1
47	066-839	RESISTOR, C.F., 560 OHM, 1/4W, 5%		R105,112	2	2	2	2
48	066-665	RESISTOR, C.F., 1K OHM, 1/4W, 5%		R160	1	1	1	1
49	066-662	RESISTOR, C.F., 200 OHM, 1/4W, 5%		R120	1	1	1	1
50	066-842	RESISTOR, C.F., 5.1K OHM, 1/4W, 5%		R138-142,144-148, 156-158,161,164-166	17	-	-	-
51								
52	066-873	RESISTOR, C.F., 20K OHM, 1/4W, 5%		R151	1	1	1	1
53	066-860	RESISTOR, C.F., 39K OHM, 1/4W, 5%		R109,119,162,170	4	4	4	4
54	066-717	RESISTOR, C.F., 47K OHM, 1/4W, 5%		R149	1	1	1	1
55	066-856	RESISTOR, C.F., 15K OHM, 1/4W, 5%		R163,101,108	3	3	3	3
56	066-849	RESISTOR, C.F., 100K OHM, 1/4W, 5%		R121,122	2	2	2	2
57								
58	066-690	RESISTOR, C.F., 1.2M OHM, 1/4W, 5%		R153	1	1	1	1
59								
60	066-842	RESISTOR, C.F., 5.1K OHM, 1/4 W, 5%		R138-142, 144-148, 156-158,161,164-166,171		18	18	18
61								
62	066-453	RESISTOR, M.F., 6.49K, 1/8W, 1%		R115	1	1	1	1
63	076-096	RESISTOR, M.F., 46.4K, 1/8W, 1%		R118	1	1	1	1
64	066-014	RESISTOR, M.F., 47.5K, 1/8W, 1%		R123	1	1	1	1
65	066-451	RESISTOR, M.F., 17.8K, 1/8W, 1%		R103,110	2	2	2	2
66								
67								
68	076-991	RESISTOR, C.F., 2.4M OHM, 1/4W, 5%		R152	1	1		1
69	041-509	RESISTOR, C.C., 180 OHM, 1W, 5%		R154,155	2	2	2	2
70	041-101	RESISTOR, C.C., 620 OHM, 1W, 5%		R117	1	1		1
71	041-245	RESISTOR, C.C., 1K OHM, 1/2W, 5%		R106,107,113,114	4	4	4	4
72								
73								
74	057-375	RESISTOR, M.F., 4.64K OHM, 1/2W, 1%		R116	1	1		1
75	540-169	INDUCTOR, FIXED, 6800uH, 5%		L101,102	2	2	2	2
76								
77	586-075	I.C., QUAD 2 INPUT POS. NAND	7400	U118,113,128	3	3	3	3
78	590-609	I.C., HEX INVERTER	7404	U108,123,133	3	3	3	3
79	590-536	I.C., HEX INVERTER BUF/DRV	7406	U106,119	2	2	2	2
80								
81								
82								

LM-4051010

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4051010 SHEET 3	REV H

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04
83							
84							
85	590-538	I.C., QUAD 2 INP. POS. AND 7408 [1]	U107,132	2	2	2	2
86	590-325	I.C., TRIP, 3-INP. POS. OR 7427 [1]	U129	1	1	1	1
87	586-078	I.C., 8-INP. POS. NAND 7430	U112,122,136	3	3	3	3
88	587-544	I.C., B.C.D. SEV. SEG DEC/DRV 7447	U124,130	2	2	2	2
89							
90							
91	586-801	I.C. 4 BIT MAGNITUDE COMP. 7485	U121,127	2	2	2	2
92	590-537	I.C., QUAD 2-INP. EXCL OR 7486 [1]	U126	1	1	1	1
93							
94	586-797	I.C., DUAL RETRI MONOS MULT 74123	U125	1	1	1	1
95	586-799	I.C., 4 BIT UP/DWN COUNTER 74192	U109,120	2	2	2	2
96	586-800	I.C., 4 BIT UP/DWN COUNTER 74193	U110,114,115,116	4	4	4	4
97							
98							
99	589-223	I.C., BUFF/OCTAL 81LS95	U117	1	1	1	1
100	587-291	I.C., TIMER N555	U131	1	1	1	1
101	589-269	I.C. SYS INTFC, LINE, DRU/RCVR, P8216	U111	1	1	1	1
102	589-907	I.C., O.P. AMP NE5534	U101,102,103	3	3	3	3
103	589-647	I.C., VOLTAGE REG 7815	U135	1	1	1	1
104	589-649	I.C., VOLTAGE REG 7915	U134	1	1	1	1
105							
106							
107	581-357	LED DISPLAY HP5082 7730	DS 101,102	2	2	2	2
108	020-829	RELAY	K101	1	-	-	-
109	119-526	SWITCH, PUSHBUTTON	S103,104	2	2	2	2
110	121-243	CAP, PUSHBUTTON, BLACK	REF:S103,104	2	2	2	2
111	120-934	SWITCH TOGG.	S101,102	2	2	2	2
112	602-012	SHORTING PLUG	J101-104	4	-	-	-
113	143-981	CONNECTOR P.C. JACK	REF: J101-104	11	-	-	-
114							
115	139-872	PHONE JACK 1/4"	J107	1	1	1	1
116	187-259	TERMINAL POST	TP101-106	6	6	6	6
117	139-918	BNC JACK	J105,106,108	3	3	3	3
118	570-500	RIGHT ANGLE SOCKET FOR LED	REF: DS 101,102	2	2	2	2
119							
120	617-096	WIRE, HOOKUP WHITE/BLUE 24AWG		AR	AR	A/R	A/R
121	617-103	WIRE, HOOKUP WHITE 24AWG		AR	AR	A/R	A/R
122							
123	614-931	CABLE, SHIELDED, W/BRN 24AWG		AR	AR	A/R	A/R
124	614-932	CABLE, SHIELDED, W/RED 24AWG		AR	AR	A/R	A/R
125	614-933	CABLE, SHIELDED, W/ORN 24AWG		AR	AR	A/R	A/R
126	020-765	RELAY	K101		1	1	1
127							

LM-4051010

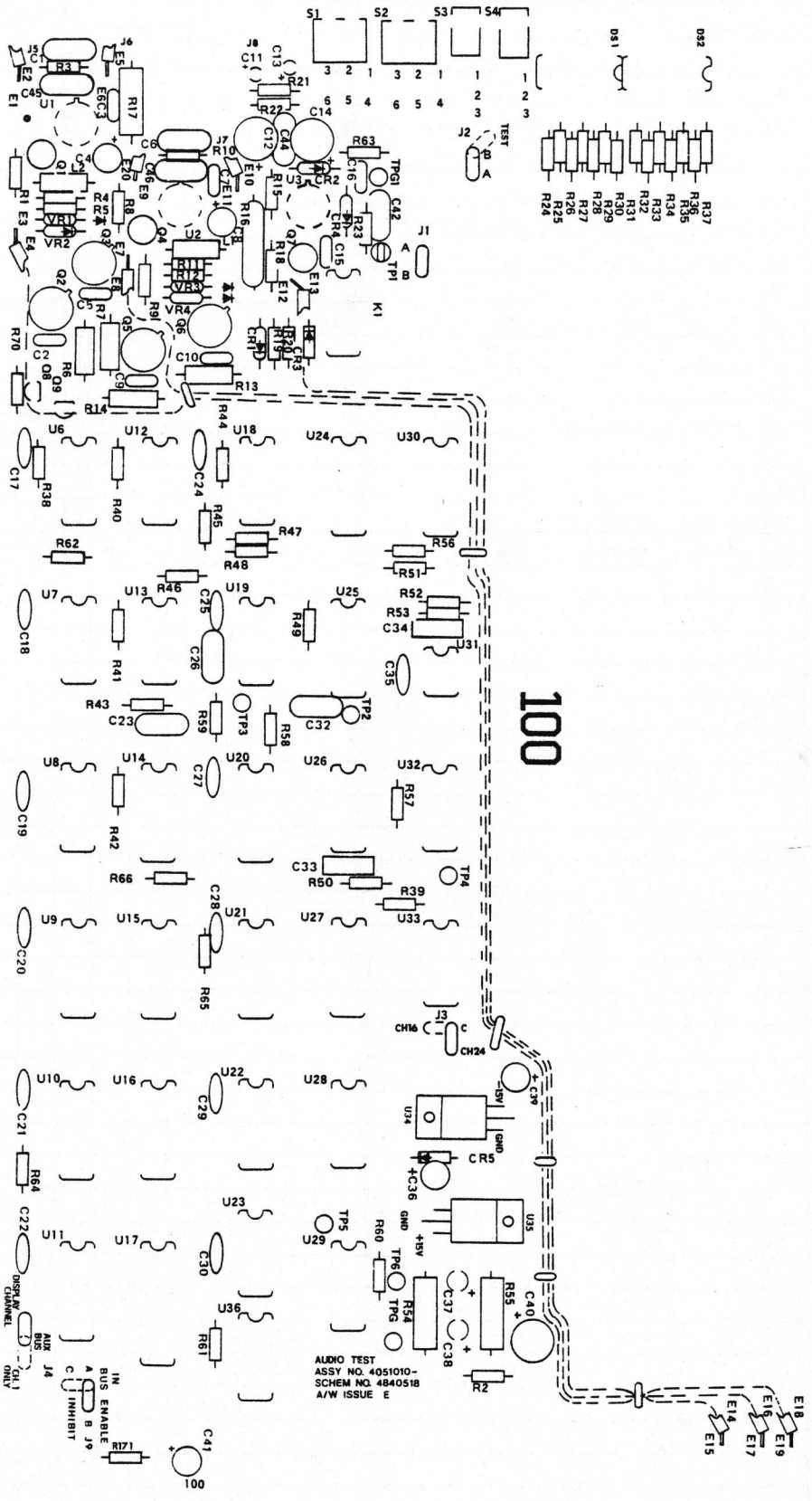
AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4051010 SHEET 4	REV H

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04
128	471-068	SCREW, PAN HD., 6-32 X 5/16 REF: U34,35		2	2	2	2
129	470-009	SCREW, HEX SOCKET HD., 4-40 X .312 LG		8	8	8	8
130	471-325	SCREW, MACHINE, FLAT HD, 4-40 X .188		2	2	2	2
131							
132	501-169	WASHER, PLAIN, SMALL PATTERN, #4		8	8	8	8
133	502-002	WASHER, LOCK, #4		8	8	8	8
134							
135	498-425	NUT, HEX, WITH ASSY WASHER REF: U34,35		2	2	2	2
136							
137							
138	302-395	STRAP, CABLE		A/R	A/R	A/R	A/R
139							
140							
141	602-012	SHORTING PLUG	J101-104,109		5	5	5
142	143-981	CONNECTOR P.C. JACK	J101-104, 109		14	14	14

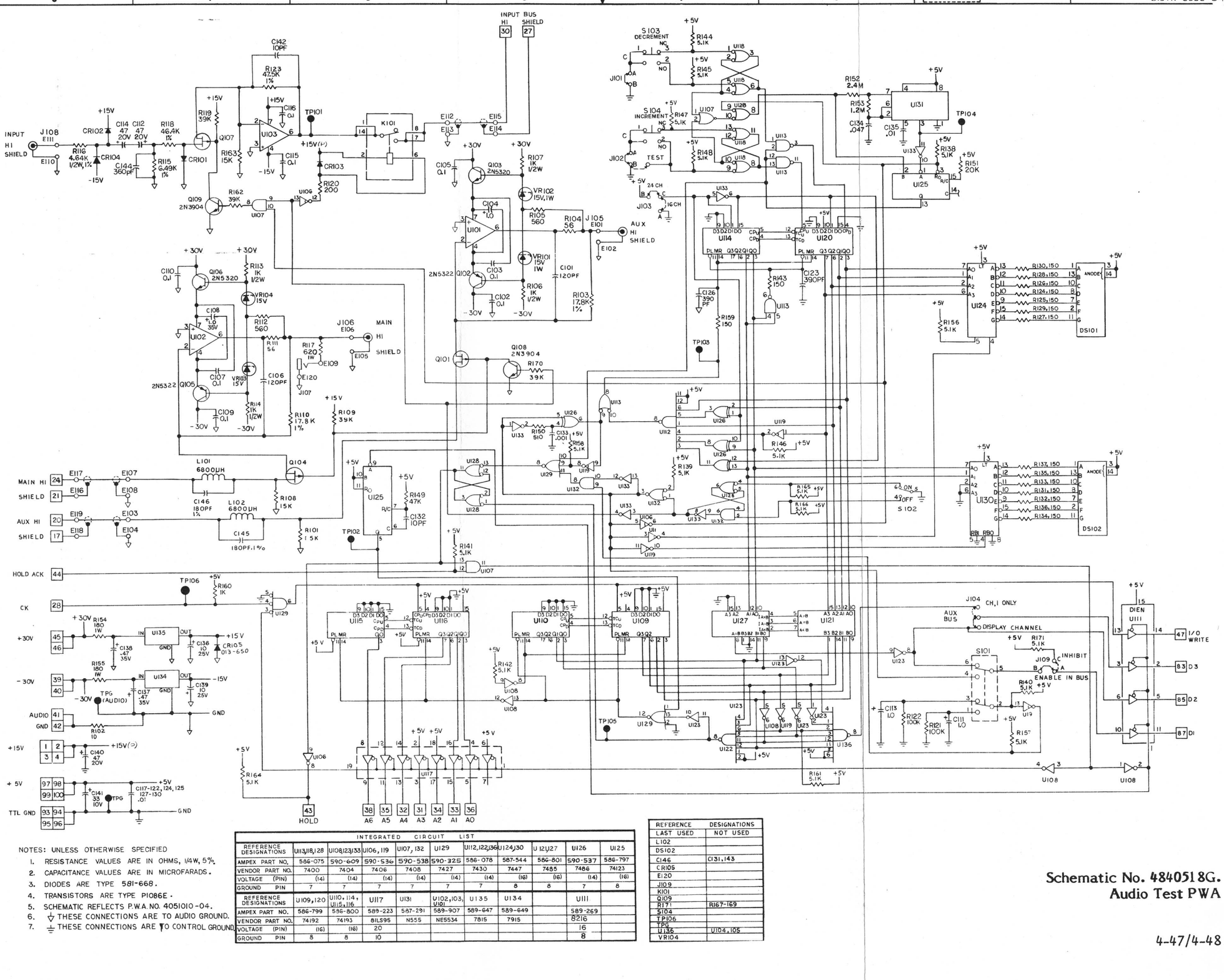
NOTES:

1. PRESTRESSED I.C.

LM-4051010



Assembly No. 4051010-04H. Audio Test PWA



NOTES: UNLESS OTHERWISE SPECIFIED

1. RESISTANCE VALUES ARE IN OHMS, 1/4W, 5%.
2. CAPACITANCE VALUES ARE IN MICROFARADS.
3. DIODES ARE TYPE 581-668.
4. TRANSISTORS ARE TYPE P1086E.
5. SCHEMATIC REFLECTS P.W.A. NO. 4051010-04.
6. ⏚ THESE CONNECTIONS ARE TO AUDIO GROUND.
7. ⏚ THESE CONNECTIONS ARE TO CONTROL GROUND.

INTEGRATED CIRCUIT LIST

REFERENCE DESIGNATIONS	U113,118,128	U108,123,133	U106, 119	U107, 132	U129	U112,122,136	U124,130	U 121,127	U126	U125
AMPEX PART NO.	586-075	590-609	590-536	590-538	590-325	586-078	587-544	586-801	590-537	586-797
VENDOR PART NO.	7400	7404	7406	7408	7427	7430	7447	7485	7486	74123
VOLTAGE (PIN)	(14)	(14)	(14)	(14)	(14)	(14)	(16)	(16)	(14)	(16)
GROUND PIN	7	7	7	7	7	7	8	8	7	8

REFERENCE DESIGNATIONS	U109,120	U110, 114, U15, 116	U117	U131	U102,103, U101	U135	U134		U111	
AMPEX PART NO.	586-799	586-800	589-223	587-291	589-907	589-647	589-649		589-269	
VENDOR PART NO.	74192	74193	81L595	N555	NE5534	7815	7915		8216	
VOLTAGE (PIN)	(16)	(16)	20						16	
GROUND PIN	8	8	10						8	

REFERENCE	DESIGNATIONS
LAST USED	NOT USED
L102	
DS102	
C146	C131,143
CR105	
E120	
J109	
K101	
Q109	
R171	R167-169
S104	
TPI06	
TPG	
U136	U104,105
VR104	

Schematic No. 4840518G.
Audio Test PWA

Ampex 4890432-01

4-47/4-48

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06	-07	-08
1											
2	4570027-01	INTEGRATED CIRCUIT, 2716	U20			1	1	1		1	1
3	4840544	SCHEMATIC		(A)	B	C	D	E		G	L
4	4120085-01	HANDLE, V.S.O.		1	1	1	1	1		1	1
5	4600176-01	SHIELD, V.S.O.		1	1	1	1	1		1	1
6	4170382-01	LABEL		1	1	1	1	1		1	1
7	037-933	CAP., TANT., DIP, 10 uF, 35V	C11,13	2	2	2	2	2		1	1
8	037-298	CAP., TANT, DIP, 47 uF, 6V	C39	1	1	1	1	1		1	1
9	064-062	CAP., MONO., 0.1 uF, 50V, 20%	C2,3,8,14-17,20, 23-25,27-38	23	23	-	-	-		-	-
10	030-817	CAP., CER.DISK, .01 uF,100V,	C1,4-7,9,10,12,18,41	10	10	-	-	-		-	-
11	064-314	CAP., MONO., 1.0 uF, 50V, 20%	C26	1	1	-	-	-		-	-
12	034-251	CAP., MICA., 39 pF,500V, ±0.5pF	C21	1	1	1	1	1		1	1
13	034-252	CAP., MICA., 82 pF,500V, 1%	C22	1	1	1	1	1		1	1
14	034-225	CAP., MICA., 220 pF,500V, 1%	C19	1	1	1	1	1		1	1
15	037-893	CAP., TANT., DIP, 15 uF, 20V	C40	1	-	-	-	-	NOT USED	-	-
16	037-893	CAP., TANT., DIP, 15uF, 20V	C40,42	-	2	2	2	2		2	2
17	066-665	RESISTOR, C.F., 1K, 1/4W, 5%	R35-38,44,49,50,47,48	9	9	-	-	-		-	-
18	066-842	RESISTOR, C.F., 5.1K,1/4W, 5%	R45,46	2	2	2	2	2		2	2
19	066-867	RESISTOR, C..F, 51K,1/4W, 5%	R43	1	1	-	-	-		-	-
20	066-837	RESISTOR, C.F., 130,1/4W, 5%	R41,42	2	2	2	2	2		2	-
21	066-663	RESISTOR, C.F., 220,1/4W, 5%	R39	1	1	1	1	1		1	1
22	066-840	RESISTOR, C.F., 680,1/4W, 5%	R40	1	1	1	1	1		1	1
23	066-666	RESISTOR, C.F., 2.7K,1/4W,5%	R32,33	2	2	2	2	2		2	2
24	066-665	RESISTOR, C.F., 1K, 1/4W, 5%	R35-38,43,44,47-50,55			11	11	11		-	-
25	066-839	RESISTOR, C.F., 10K, 1/4W, 5%	R56			1	1	1		1	1
26	066-818	RESISTOR, C.F., 470 OHM, 1/4W, 5%	R34,57			2	2	2		2	-
27	041-509	RESISTOR,C.C., 180, 1W, 5%	R27	-	1	1	1	1		1	1
28	066-812	RESISTOR, C.F., 100, 1/4W, 5%	R52	-	1	1	1	1		1	1
29	066-818	RESISTOR, C.F., 470, 1/4W, 5%	R34	1	1	-	-	-		-	-
30	066-563	RESISTOR, C.F., 150, 1/4W, 5%	R52,53	2	-	-	-	-		-	-
31	066-813	RESISTOR, C.F., 150, 1/4W, 5%	R53	-	1	1	1	1		1	1
32	058-668	RESISTOR, VAR., 20K, 20T	R1-4	4	4	4	4	4		4	4
33	058-610	RESISTOR, VAR., 20K, 1T	R8	1	1	1	1	1		1	1
34	064-062	CAP., MONO, 0.1uF, 50V, 20%	C2,8,14-17,20,23-25,27-38			22	22	22		-	-
35	581-290	DIODE, ZENER, 15V, 1W IN4744A	VR1	1	1	1	1	1		1	1
36	013-678	DIODE, PWR RECT. CD451 IN4385	CR1			1	1	1		1	1
37	030-817	CAP., CER. DISC. .01uF, 100V	C1,4-7,9,10,12,18,26,41			11	11	11		-	-

LM-4051059

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4051059 SHEET 2	REV L

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06	-07	-08
38	579-018	TRANSISTOR, FET, VN10KM	Q1,4-8	6	6	6	6	6		6	6
39	580-647	TRANSISTOR, NPN, 2N3904	Q3,10,11			3	3	3		-	-
40	580-647	TRANSISTOR, 2N3904	Q3,10	2	2	-	-	-		-	-
41	580-568	TRANSISTOR, 2N5400	Q2,9	2	2	2	2	2		2	2
42	014-698	TRANSISTOR, NPN, CD562 2N3565	Q12			1	1	1		1	1
43	581-399	L.E.D., YEL HMLP-1401	DS1-4	4	4	4	4	4		4	4
44	590-801	INTEGRATED CIRCUIT, 74293	U4							-	1
45	589-647	INTEGRATED CIRCUIT, 7815	U7	1	1	-	-	-		-	-
46	586-276	INTEGRATED CIRCUIT, 3046	U1	1	1	1	1	1		1	-
47	586-326	INTEGRATED CIRCUIT, 7404	U28	1	1	1	1	1		1	-
48	589-238	INTEGRATED CIRCUIT, 74LS293	U4	1	1	1	1	1		1	-
49	589-838	INTEGRATED CIRCUIT, 74S04 (2)	U13	1	1	1	1	1		1	1
50	586-076	INTEGRATED CIRCUIT, 7410	U16	1	1	1	1	1		1	1
51	586-248	INTEGRATED CIRCUIT, 7490	U6	1	1	1	1	1		1	1
52	586-283	INTEGRATED CIRCUIT, 7493	U9	1	1	1	1	1		1	1
53	586-713	INTEGRATED CIRCUIT, 7407	U11	1	1	1	1	1		1	1
54	586-108	INTEGRATED CIRCUIT, 7474	U12,15	2	2	2	2	2		2	2
55	586-690	INTEGRATED CIRCUIT, 7406	U27	1	1	1	1	1		1	-
56	587-084	INTEGRATED CIRCUIT, 7492A	U10	1	1	1	1	1	NOT USED	1	1
57	589-933	INTEGRATED CIRCUIT, 74LS161 (2)	U17-19	3	3	3	3	3		3	3
58	587-710	INTEGRATED CIRCUIT, 74S114	U8,29	2	2	2	2	2		2	2
59	590-592	INTEGRATED CIRCUIT, 4069 (1) (2)	U2,3	2	2	2	2	2		2	2
60	587-766	INTEGRATED CIRCUIT, 74LS191	U5	1	1	1	1	1		1	-
61	586-913	INTEGRATED CIRCUIT, 74190	U5							-	1
62	589-273	INTEGRATED CIRCUIT, 8212	U21-23	3	3	3	3	3		3	3
63	589-269	INTEGRATED CIRCUIT, 8216	U24,25	2	2	2	2	2		2	2
64	589-715	INTEGRATED CIRCUIT, 2716 (1)	U20	1	1	1	-	-		-	-
65	589-639	INTEGRATED CIRCUIT, 8085 (1)	U14	1	1	1	1	1		1	1
66	589-911	INTEGRATED CIRCUIT, 8156 (1)	U26	1	1	1	1	1		1	1
67	041-099	RESISTOR, C.C., 270 OHM, 1W, 5%	R23	1	-	-	-	-		-	-
68	041-098	RESISTOR, C.C., 220 OHM, 1W, 5%	R27,28	2	-	-	-	-		-	-
69	041-098	RESISTORS, C.C., 220 OHM, 1W, 5%	R28	-	1	1	1	1		1	1
70	041-671	RESISTOR, C.C., 33 OHM, 2W, 5%	R30	1	1	-	-	-		-	-
71	041-832	RESISTOR, C.C., 240 OHM, 1W, 5%	R23	-	1	1	1	1		1	1
72	540-006	INDUCTOR, 100uH	L1	1	1	1	1	1		1	1
73	540-005	INDUCTOR, 47uH	L2	1	1	1	1	1		1	1
74	066-576	RESISTOR, C.F., 100K, 1/4W, 5%	R9,11,13	3	3	3	3	3		3	3
75	066-579	RESISTOR, C.F., 33K, 1/4W, 5%	R10,12,14,15	4	4	4	4	4		4	4
76	066-546	RESISTOR, C.F., 2.7K, 1/4W, 5%	R16-19	4	4	4	4	4		4	4
77	066-587	RESISTOR, C.F, 330K, 1/4W, 5%	R20-22	3	3	3	3	3		3	3
78	066-550	RESISTOR, C.F, 5.1K, 1/4W, 5%	R5-7,26,31	5	5	5	5	5		5	5
79	066-549	RESISTOR, C.F., 4.7K, 1/4W, 5%	R25,29	2	2	2	2	2		2	2
80	066-533	RESISTOR, C.F., 270 1/4W, 5%	R24	1	1	1	1	1		1	1
81	066-564	RESISTOR, C.F., 470 1/4W, 5%	R51	1	1	1	1	1		1	1
82	041-454	RESISTOR, C.C., 39 OHM, 1/2W, 5%	R54			1	1	1		1	1

LM-4051059

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA | CODE IDENT NO. 92739 | LIST OF MATERIALS | LM-4051059 SHEET 3 | REV L

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06	-07	-08
83	582-165	SOCKET, DIP, 40 PIN	REF: U14,26	2	2	2	2	2		2	-
84	582-159	SOCKET, DIP, 24 PIN	REF: U20	1	1	1	1	1		1	-
85	582-134	SOCKET, DIP, 16 PIN	REF: U24,25,	2	2	2	2	2		2	-
86											
87	017-219	CRYSTAL, 10.368 MHz	Y1	1	1	1	1	1		1	1
88											
89	119-526	SWITCH, MOMENTARY	S1	1	1	1	1	1		1	1
90	121-243	PUSHBUTTON CAP, BLACK	REF: S1	1	1	1	1	1		1	1
91											
92	187-259	TERMINAL, TEST, FLAT	TP1-17	17	17	17	17	17		17	17
93	020-722	RELAY, 12 VDC COIL	K1			1	1	1		1	1
94	020-633	MOUNTING PAD, RELAY	REF: K1							1	1
95	615-124	WIRE, SOLID, INSULATED, 24 AWG		A/R	A/R	AR	A/R	A/R		A/R	AR
96	471-325	SCREW, FLAT HEAD, 4-40, .188 LG.					2	2		2	2
97	470-009	SCREW, CAP, HEX HEAD		8	8	8	8	8		8	8
98	502-002	WASHER, LOCK, #4		8	8	8	8	8		8	8
99	501-169	WASHER, FLAT, #4, SMALL PATTERN		8	8	8	8	8		8	8
100	302-395	MOUSE TAIL	REF: Y1	A/R	A/R	AR	A/R	A/R		A/R	AR
101	417-068	SCREW, CAP, HEX.HEAD, #6-32 X 5/16 LG.		1		1	—	-		-	-
102	498-425	NUT, ASSEMBLED, # 6-32		1		1	—	-		-	-
103	018-461	ADHESIVE, THREAD LOCKING					A/R	A/R		A/R	AR
104											
105	616-569	COAXIAL CABLE, 75 OHM						A/R		A/R	AR
106	013-599	DIODE, SI, G.P. IN4531	CR2							1	1
107	615-046	WIRE SOLID INSULATED, 24 AWG WHITE									AR
108	103307-01	STAND OFF .250 LG	REF: DS1-4								4
109	066-665	RESISTOR, C.F., 1K OHM, 1/4W, 5%	R35-38,44,47, 49,50,55,62								10
110	041-345	RESISTOR, CC, 51 OHM, 1/2W, 5%	R61							1	1
111	066-834	CF, 33 OHM, 1/4W, 5%	R59							1	1
112	066-665	CF, 1K, 1/4W, 5%, R35-47,48,49-62,								1	-
113	066-720	CF, 3.3K, 1/4W, 5%	R58							1	1
114	066-668	CF, 4.7K, 1/4W, 5%	R60							1	1
115	066-712	RESISTOR, CF, 22K, 1/4W, 5%	R43							1	1
116	034-180	CAP., MICA., 39pF, 500V, 5%	C48								1
117	064-152	CAP., CER DISC., .001 uF, 10%, 50V	C43							1	1
118	030-817	CAP., CER DISC., .01uF, 100V, C1, 4-7, 9, 10, 12, 13, 41,44								11	11
119	064-307	CAP., CER MONO, .22uF, 100V, 20%	C45, 46							2	2
120	037-952	CAP., TANT DIP, 3.3uF, 15V, ±20%	C26							1	1
121	064-062	CAP., MONO, 0.1uF, 50V, 20%, C2,8,14-17,20,23-25,27-38,47								23	23
122	580-647	TRANSISTOR, NPN, 2N3904	Q3, 10, 11, 13								4
123	590-721	INTEGRATED CIRCUIT 3046 ▷2	U1								1
124	582-305	SOCKET, DIP, 40-PIN	REF:U14,U26								2
125	582-085	SOCKET, DIP, 24-PIN	REF:U20								1
126	066-818	RESISTOR, C.F., 470 OHM, 1/4W, 5%	R34,41,42,57,63								5
127	590-609	INTEGRATED CIRCUIT, 7404	U27,28								2

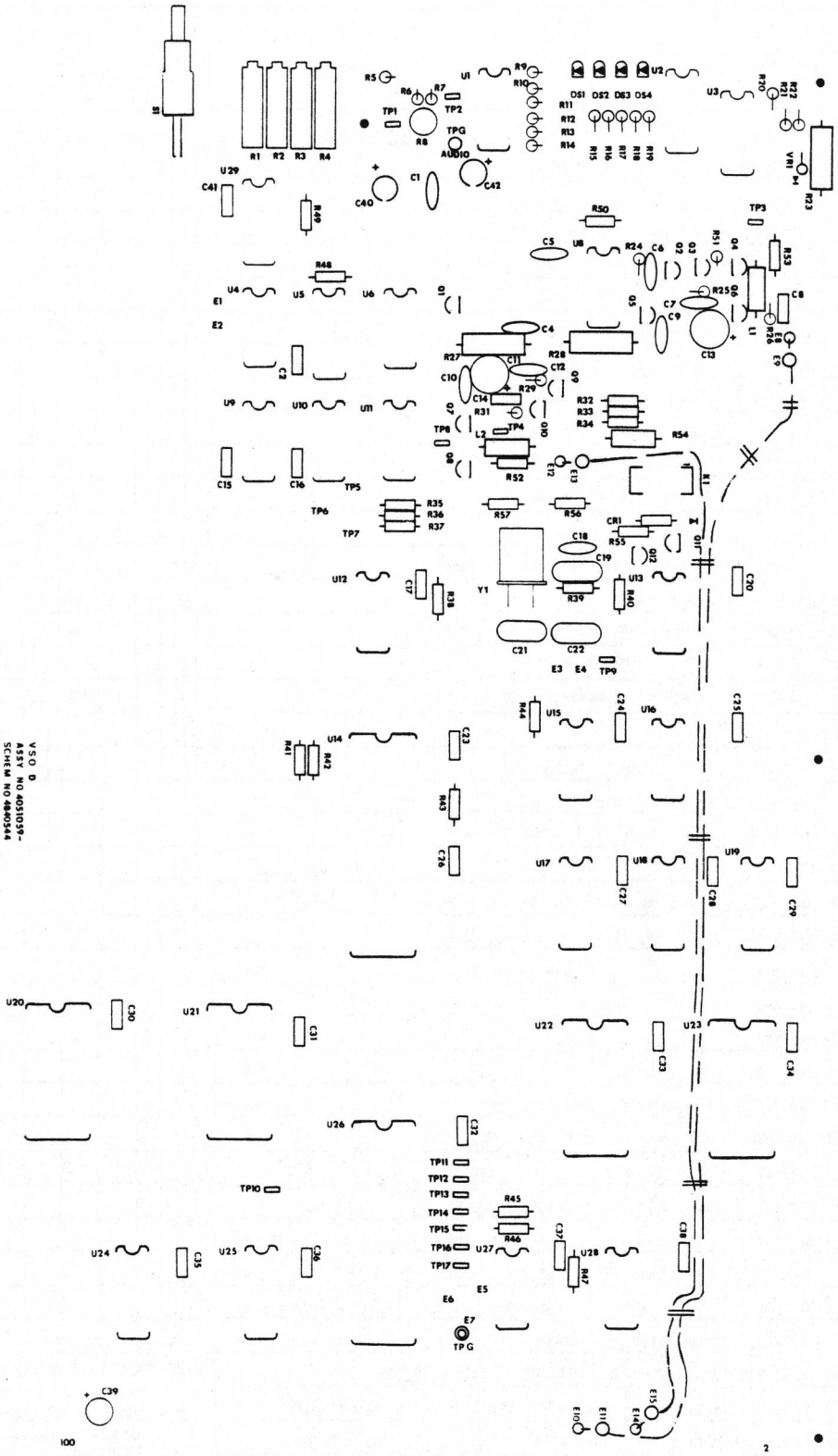
NOT USED

NOTES: UNLESS OTHERWISE SPECIFIED

▷1 STATIC SENSITIVE SPECIAL HANDLING REQUIRED.

▷2 PRESTRESSED I.C.

LM-4051059



Assembly No. 4051059-08L. VSO PWA

5.184 MHZ (OUTPUT)

U14 8085

U21 8212

U20 2716

U22 8212

U23 8212

U26 8156 OR (8155)

U25 8216

U24 8216

U15 7474

U12 7474

U17 74LS161

U18 74LS161

U19 74LS161

U16

U27 7404

U28 7404

TEST/RESET PUSH BUTTON

S1

Q13 2N3904

CR2 013-599

TP9

E3 E4

E5 E6 E7

TP10 TP11 TP12 TP13

TPG (LOGIC)

C39 47 6V

C2,15,16,17,20,23,24,25,27-38 0.1

R63 470

NOTES: UNLESS OTHERWISE SPECIFIED

1. RESISTANCE VALUES ARE IN OHMS, 1/4W, 5%.
2. CAPACITANCE VALUES ARE IN MICROFARADS, 50V. MIN.
3. ⏚ IS TO AUDIO GROUND. ⏚ IS TO SYSTEM GROUND.
4. THIS SCHEMATIC REFLECTS PWA 4051059-08

5 STATIC SENSITIVE, SPECIAL HANDLING REQUIRED PER HEI-1.

REFERENCE DESIGNATIONS	
LAST USED	NOT USED
C48	C3
CR2	
E15	
K1	
L2	
Q13	
R63	R30 R48
TP17	
U29	U7
VR1	
Y1	

I. C. LIST					
REFERENCE DESIGNATIONS	U14 5	U20 5	U26 5	U21, 22, 23	U24, 25
AMPEX PART NO.	589-639	4570027-01	589-911	589-273	589-269
VENDOR PART NO.	8085	2716	8156	8212	8216
VOLTAGE (PIN)	+5V (40)	+5V (24)	+5V (40)	+5V (24)	+5V (16)
GROUND PIN	20	12	20	12	8
REFERENCE DESIGNATIONS	U27, U28		U13	U12, 15	U17, 18, 19
AMPEX PART NO.	590-609		589-838	586-108	589-933
VENDOR PART NO.	7404		74S04	7474	74LS161
VOLTAGE (PIN)	+5V (14)		-5V (14)	+5V (14)	(16)
GROUND PIN	7		7	7	8
REFERENCE DESIGNATIONS	U16	U26 (SUBSTITUTE)			
AMPEX PART NO.	586-076				
VENDOR PART NO.	7410	8155			
VOLTAGE (PIN)	+5V (14)				
GROUND PIN	7				

Schematic No. 4840544L.
VSO PWA
(Sheet 1 of 2)

4-53/4-54

Ampex 4890432-01

AUTO BIAS 20

EQA 61

EQB 62

EQC 60

648K Hz

H6 U28-1

5.184 MHZ

÷ 8

U4 74293

÷ 9

U5 74190

÷ 2

U8 74S114

U1

U2 U3

U9 7493

U10 7492

U6 7490

U29 74S114

U11 7407

144 KHZ

YEL LED'S

DS4 DS3 DS2 DS1

TP1 TP2 TP3 TP4 TP5 TP6 TP7 TP8

Q1 VN10KM

Q2 2N5400

Q3 2N3904

Q4 Q5 Q6 Q7 Q8 VN10KM

Q9 2N5400

Q10 2N3904

Q11 2N3904

Q12 014-698

CR1 013-678

K1

L1 100 UH

L2 47 uH

APR 46

BIAS BUS 19

ERASE BUS 26

28.8kHz 88

57.6kHz 23

9600Hz 25

SWITCH GROUND 73 74

21 28

I.C. LIST

REFERENCE DESIGNATIONS	U1	U4	U5	U9	U2,U3	U8,U29		U10	U6	U11
AMPEX PART NO	590-721	590-801	586-913	586-283	590-592	587-710		587-084	586-248	586-713
VENDOR PART NO	3046	74293	74190	7493	MC4069	74S114		7492A	74090	7407
VOLTAGE (PIN)	——	(14)	(14)	(5)	(14)	(14)	——	(5)	——	(14)
GROUND PIN	——	7	7	10	7	7	——	10	——	7

Schematic No. 4840544L.
VSO PWA
(Sheet 2 of 2)

4-55/4-56

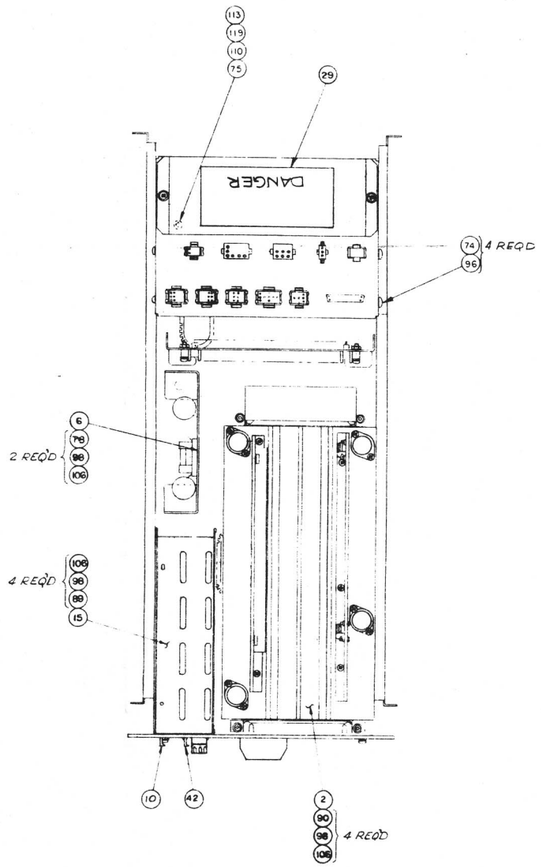
ITEM NO.	PART NUMBER	E	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02
1	4041314-01		CHASSIS ASSEMBLY		1	1
2	4051169-01		HEATSINK ASSEMBLY		1	1
3						
4						
5						
6	4050981-04		POWER FAILURE BRAKE ASSY		1	1
7						
8						
9						
10	4050910-09		PWA, REEL SERVO		1	1
11						
12	4051018-01		DIODE, BRACKET ASSY, POWER SUPPLY		1	1
13						
14	4050987-01		BATTERY ASSY, POWER SUPPLY		1	1
15	4041316-01		CARD RACK ASSY, POWER SUPPLY		1	1
16	4291034-01		PANEL, FRONT, POWER SUPPLY		1	1
17	4291035-01		COVER,CAPACITOR,POWER SUPPLY		1	1
18	4050980-02		POWER RESISTOR ASSY		1	1
19						
20	4840588		SCHEMATIC		A	(C)
21						
22						
23	4291084-01		COVER, CAPACITOR		1	1
24	4291085-01		PANEL, CONNECTOR		1	1
25	4291086-01		SUPPORT CAPACITOR		1	1
26	4291087-01		COVER, TERMINAL STRIP		1	1
27						
28	4120047-01		HANDLE,DOOR		1	1
29	4170377-01		LABEL, DANGER		1	1
30	1366048-01		TERMINAL,CAPACITOR	REF: C5-8	4	4
31	1214756-01		TERMINAL, DUO		1	1
32	4051077-01		PWA,POWER OUTPUT FILTER		1	1
33						
34	4050972-07		HARNESS ASSY, POWER SUPPLY		1	1
35						
36	4660046-01		TERMINAL STRIP,CAP,GND 1		1	1
37	4660047-01		TERMINAL STRIP,CAP,GND 2		1	1

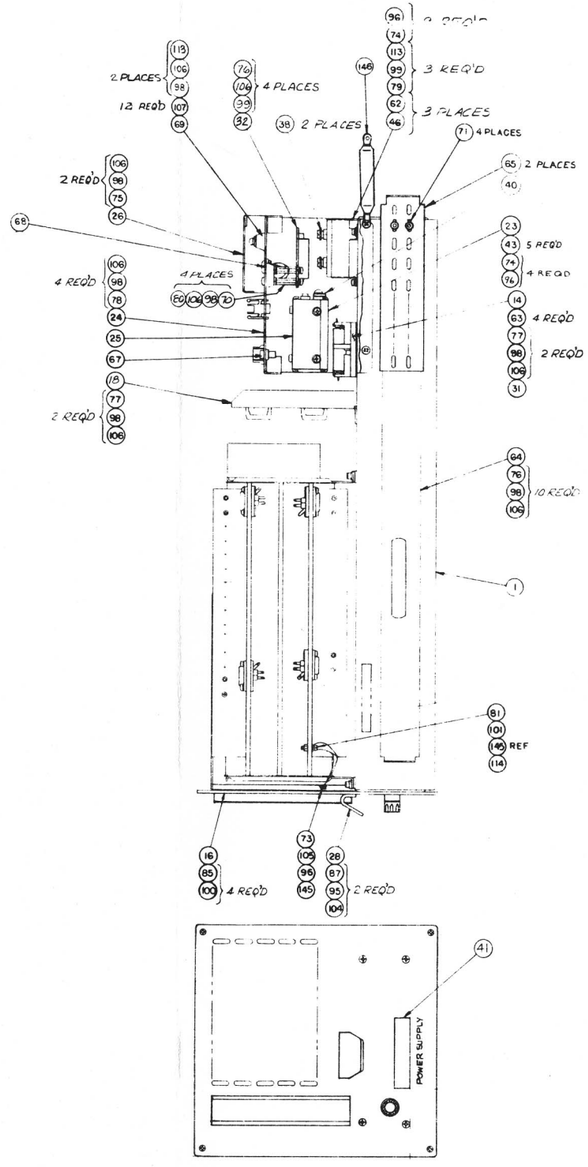
LM-4020499

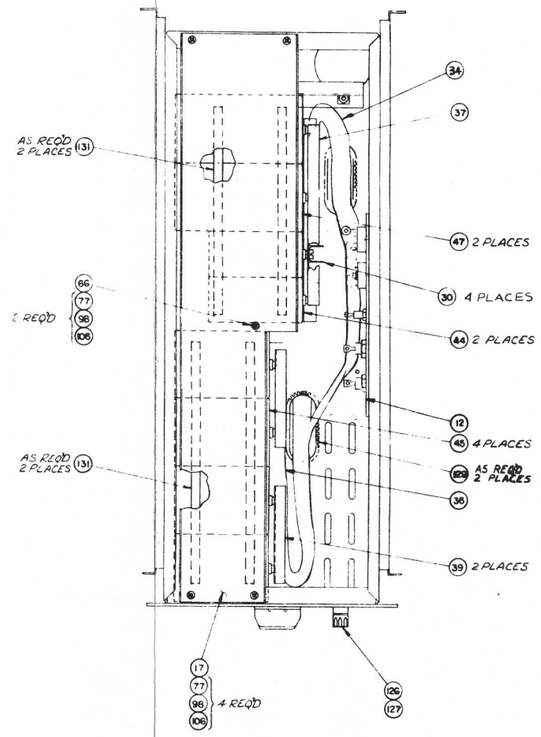
AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4020499 SHEET 2	REV D

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02
38	4660048-02	TERMINAL STRIP,CAP,GND 3,POS,BUS 2		2	2
39	4660049-01	TERMINAL STRIP,POS,BUS 1,NEG,BUS 1		2	2
40	4660050-01	TERMINAL STRIP,CAP,POWER SUPPLY		1	1
41	4170376-01	LABEL, WARNING		1	1
42	4050973-13	PWA, REGULATOR		1	1
43	063-157	CAPACITOR,AL,4,000 uF, 40V	C12-16	5	5
44	031-873	CAPACITOR,AL,12,900uF,40V	C5-6	2	2
45	063-151	CAPACITOR,AL,15,600uF,75V	C1-4	4	4
46	063-375	CAPACITOR,AL,40,000uF,30V	C9-11	3	3
47	031-861	CAPACITOR,AL,48,000uF,40V	C7-8	2	2
48					
49					
50					
51	041-275	RESISTOR,COMP,6.8K,1W,5%	R23,24	2	2
52					
53					
54	041-675	RESISTOR,COMP,390 OHM,2W,5%	R27	1	1
55	041-299	RESISTOR,COMP,2.2K OHM,2W,5%	R25,26	2	2
56	041-372	RESISTOR,COMP,3.9K OHM,2W,5%	R21,22	2	2
57					
58	581-797	DIODE, TRANSIENT VOLTAGE SUPPRESSOR, 56V	VR1,2	2	2
59	581-806	DIODE, TRANSIENT VOLTAGE SUPPRESSOR, 33V	VR5	-	1
60	581-807	DIODE, TRANSIENT VOLTAGE SUPPRESSOR, 75V	VR3,4	-	2
61					
62	290-120	CAPACITOR PART, RETAINER	REF:C9-11	3	3
63	080-044	BATTERY NICKEL CADMIUM	BT 1-4	4	4
64	530-435	SLIDE ASSEMBLY		1	1
65	290-190	BRACKET,ADJUSTABLE		2	2
66	280-940	SPACER,THD,PLAIN,250 AF,HEX,#8-32 X 3.00 LG		1	1
67	167-077	SCREWLOCK ASSY, CONNECTOR	REF: J6	1	1
68	181-040	MARKER STRIP, TERMINAL	REF: TB2	1	1
69					
70	283-293	SPACER,HEX,THREADED,8-32 X .875 LG		4	4
71	493-008	NUT,NYLON LOCKING, 10-32		4	4
72	181-064	TERMINAL STRIP, BARRIER, 12 POS	TB1	1	1
73	471-069	SCREW,PAN HD,XREC,6-32 X .375 LG		1	1
74	475-085	SCREW,PAN HD,XREC,#6-32 X .312 LG ASSY LOCK		17	17
75	471-077	SCREW,PAN HD,#8-32 X .312 LG		3	3
76	471-078	SCREW,PAN HD,XREC,#8-32 X .375 LG		14	14
77	471-079	SCREW,PAN HD,XREC,#8-32 X .438 LG		10	10
78	471-080	SCREW,PAN HD,XREC,#8-32 X .500 LG		6	6
79	471-081	SCREW,PAN HD,XREC,#8-32 X .625 LG		3	3
80	471-082	SCREW,PAN HD,XREC,#8-32 X .750 LG		10	10
81	471-089	SCREW,PAN HD,XREC,#10-32 X .50 LG		1	1
82					

LM-4020499







Assembly No. 4020499-02D.
Power Supply Assembly

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4020499 SHEET 3	REV D

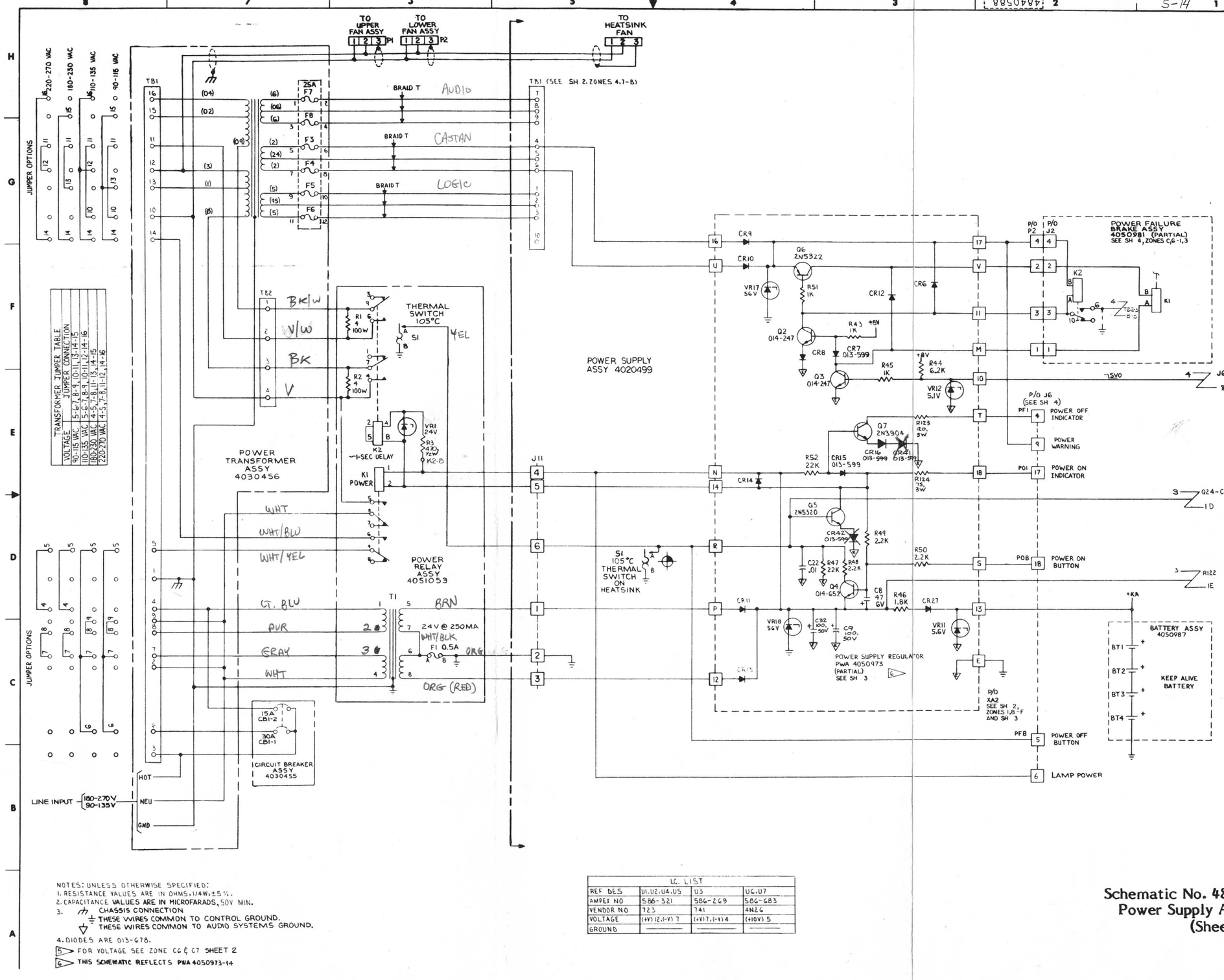
ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02
83					
84					
85	473-703	SCREW,BUTT HD,HEX SOC,#8-32 X .310 LG BLK OXIDE		4	4
86					
87	470-010	SCREW,CAP,HEX SOC,#4 X .375 LG		2	2
88					
89	470-027	SCREW,CAP,HEX SOC,#8 X .375 LG		4	4
90	470-028	SCREW,CAP,HEX SOC,#8 X .438 LG		4	4
91					
92					
93					
94					
95	501-008	WASHER, PLAIN, #4		2	2
96	501-218	WASHER, PLAIN, #6		18	18
97					
98	501-205	WASHER, PLAIN, #8		42	42
99	501-190	WASHER, PLAIN, #8, SMALL PATT.		7	7
100	503-310	WASHER, PLAIN, #8, NYLON,BLK, .031 THK		4	4
101	501-070	WASHER, PLAIN, #10		1	1
102					
103					
104	502-002	WASHER,LOCK, #4, HELICAL SPRING		2	2
105	502-003	WASHER,LOCK, #6, HELICAL SPRING		1	1
106	502-004	WASHER,LOCK, #8, HELICAL SPRING		50	50
107	502-026	WASHER,LOCK, #8, I.T.		12	12
108					
109					
110	506-016	WASHER, "D", #8		2	2
111					
112					
113	496-006	NUT,LKG,HEX, ASSY WASHER, #8-32		6	5
114	496-007	NUT,HEX,W/WASHER 10-32		1	1
115					
116					
117					
118	302-078	CLAMP, LOOP, OFF SET, CD562, .375 ID		1	1
119	302-202	CLAMP, LOOP, OFF SET, CD562, .750 ID		1	1
120	171-178	TERMINAL LUG, CRIMP, RING TONGUE, #10 STUD(RED)		4	4
121	171-007	TERMINAL LUG, CRIMP, RING TONGUE, #10 STUD(BLU)		6	6
122					
123					
124					
125					
126	070-431	FUSE, FAST, BLOW, 15 A	F2	1	1
127	085-001	FUSE HOLDER	REF: F2	1	1

LM-4020499

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4020499 SHEET 4	REV D

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02
128					
129	260-058	GROMMET, NYLON, CATERPILLAR	AR	A/R	
130					
131	269-317	TAPE, ADHESIVE, SGL, SIDED	AR	A/R	
132	018-019	ADHESIVE	AR	A/R	
133					
134					
135	618-019	WIRE, BRAID, FLAT, (.750)	AR	A/R	
136	615-012	WIRE, SOLID, 20 GA	AR	A/R	
137					
138					
139	600-036	SLEEVING,TEF., FLEX., .035 ID, NATURAL	AR	A/R	
140	600-048	SLEEVING, PVC, FLEX, .375 ID, BLK	AR	A/R	
141	600-236	SLEEVING, TEF.,FLEX, .047 ID, NATURAL	AR	A/R	
142	600-153	SLEEVING, POLY, FLEX, .125 EXP. MIN. ID, BLK	AR	A/R	
143					
144					
145	4051178-01	GROUND STRAP ASSY, HEATSINK	1	1	
146	4051179-01	GROUND STRAP ASSY, POWER SUPPLY	1	1	
147					

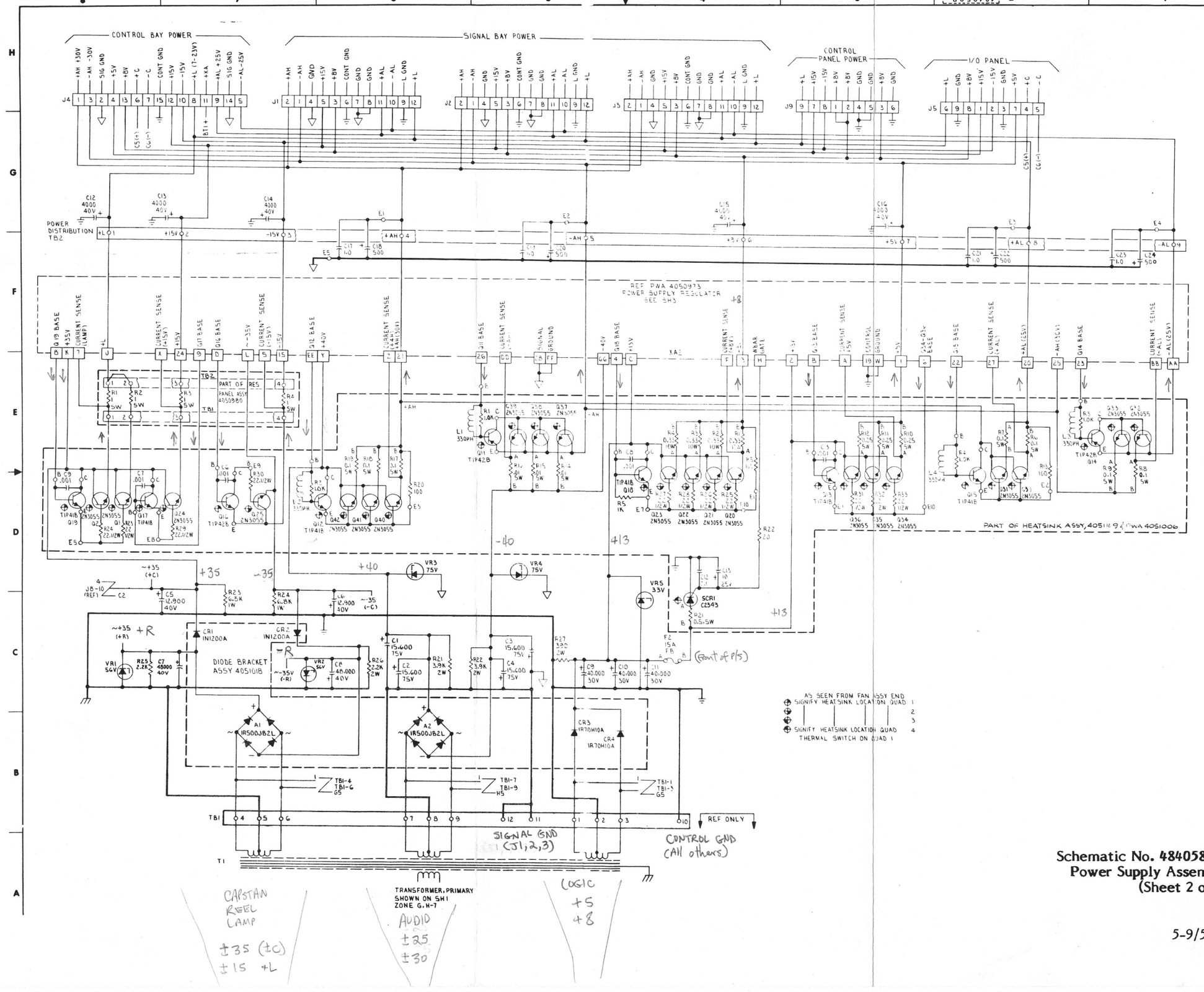
LM-4020499



I.C. LIST			
REF DES	U1,U2,U4,U5	U3	U6,U7
AMPEX NO	586-321	586-269	586-683
VENDOR NO	723	741	4N26
VOLTAGE	(+V) 12,(-V) 7	(+V) 7,(-V) 4	(+10V) 5
GROUND	——	——	——

NOTES: UNLESS OTHERWISE SPECIFIED:
1. RESISTANCE VALUES ARE IN OHMS, 1/4W, ±5%.
2. CAPACITANCE VALUES ARE IN MICROFARADS, 50V MIN.
3. CHASSIS CONNECTION
   THESE WIRES COMMON TO CONTROL GROUND.
   THESE WIRES COMMON TO AUDIO SYSTEMS GROUND.
4. DIODES ARE 013-678.
5. FOR VOLTAGE SEE ZONE C6 & C7 SHEET 2
6. THIS SCHEMATIC REFLECTS PWA 4050973-14

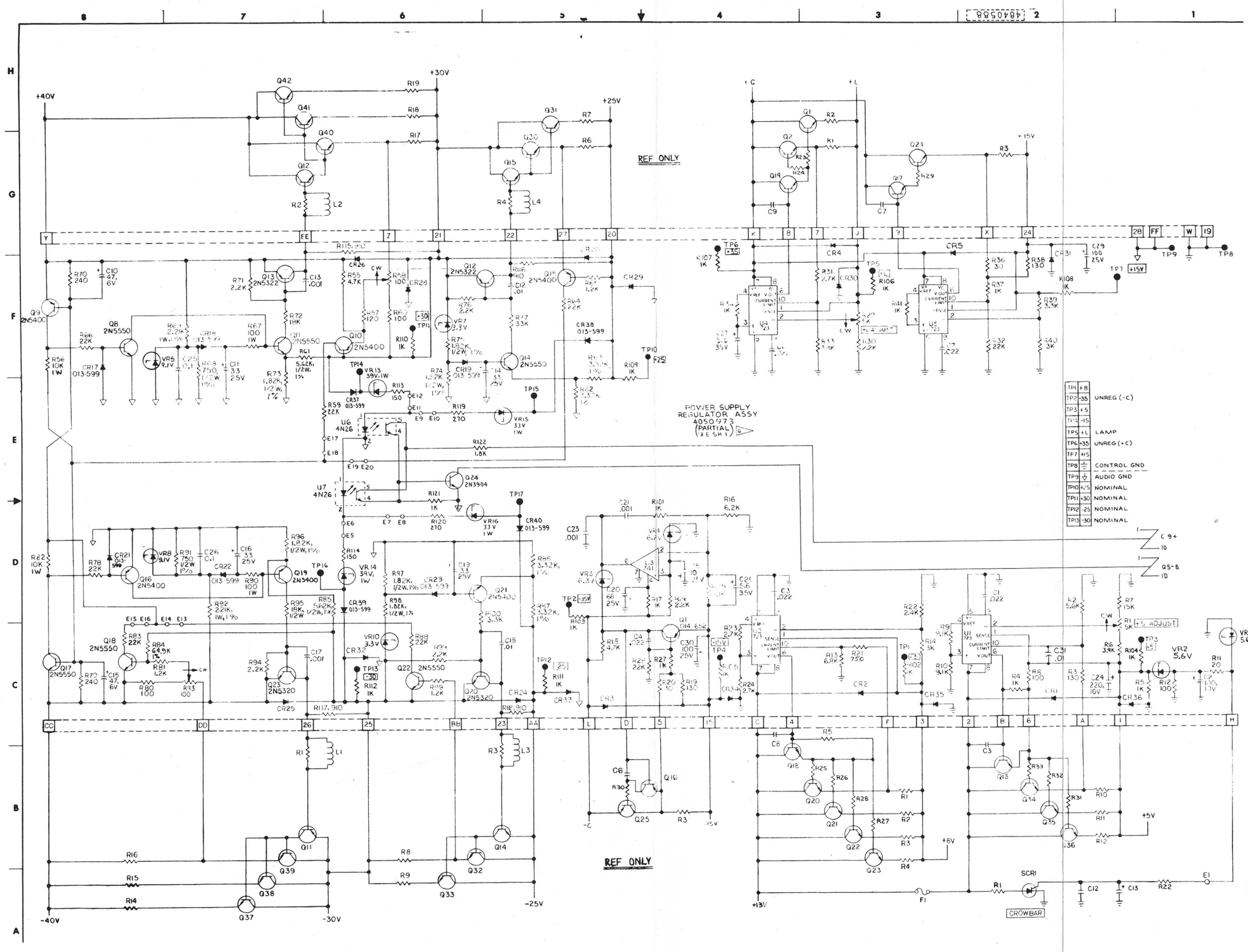
Schematic No. 4840588C.
Power Supply Assembly
(Sheet 1 of 4)



Schematic No. **4840588C.**
Power Supply Assembly
(Sheet 2 of 4)

5-9/5-10

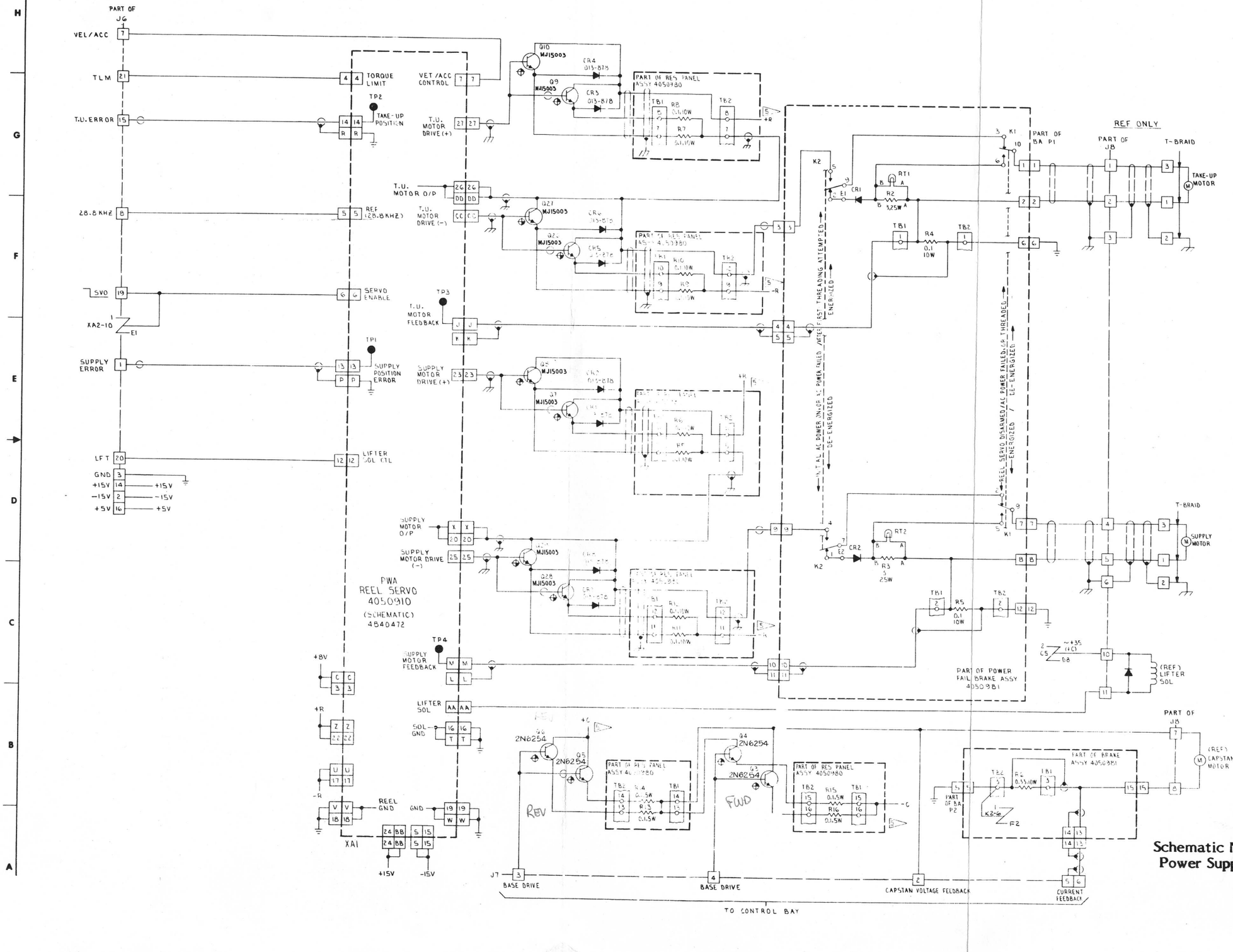
Ampex 4890432-01



Schematic No. 4840588C.
Power Supply Assembly
(Sheet 3 of 4)

Ampex 4890432-01

5-11/5-12



Schematic No. 4840588C.
Power Suppply Assembly
(Sheet 4 of 4)

Ampex 4890432-01

5-13/5-14

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04
1	4260638-01	BRACKET, POWER FAIL BRAKE		1	1	1	-
2	013-678	DIODE, SWITCHING	CR1,2	2	2	2	2
3	020-826	RELAY, T.P.D.T.	K1,2	2	2	2	2
4	4840499	SCHEMATIC, POWER SUPPLY		(-)	D	G	-
5	059-582	RESISTOR, 0.1 OHM, 10W, 5%	R4,5	2	2	2	2
6	059-583	RESISTOR, 0.33 OHM 10W, 5%	R6	1	1	1	1
7	047-042	RESISTOR, 3.0 OHM, 25W, 5%	R2,3	2	2	2	2
8	~~047-743~~	~~RESISTOR, 0.5 OHM, 10W~~	~~R1~~	~~1~~	=	=	-
9	060-548	LAMP W 1076 (12V) #1004 (automotive) seems to work OK	RT1,2	2	2	2	2
10	132-401	LAMP HOLDER	REF: RT1,2	2	2	2	2
11	180-019	TERMINAL STRIP, PLAIN, 3 LUG	TB1,2	2	2	2	2
12	173-041	TERMINAL STUD, TURRET, EXT THD, 6-32	E1,2	2	2	2	2
13	4260638-02	BRACKET, POWER FAIL BRAKE		-	-	-	1
14	~~070-431~~	~~FUSE, 15 A~~	~~F1~~	~~1~~	=	=	-
15	~~130-004~~	~~FUSE, CLIP~~	~~REF: F1~~	~~1~~	=	=	-
16	4840588	SCHEMATIC, POWER SUPPLY					REF
17	~~579-002~~	~~THYRISTOR, SCR (C234A3)~~	~~SCR1~~	~~1~~	=	=	-
18	~~064-614~~	~~CAPACITOR, CERAMIC DISC, 0.1uF, 50V~~	~~C1~~	~~1~~	=	=	-
19							
20	167-787	CONNECTOR, SOCKET, HOUSING 15 POS.	J1	1	1	1	1
21							
22	167-735	CONNECTOR, SOCKET, HOUSING 12 POS.	J2	1	1	1	1
23							
24	167-350	CONTACTS, SOCKETS	REF: J1,2	27	20	20	20
25							
26							
27	619-200	WIRE, 14 GA, PER CD569, BLK		A/R	AR	AR	A/R
28	619-201	BRN		A/R	AR	AR	A/R
29	619-202	RED		A/R	AR	AR	A/R
30	619-205	GRN		A/R	AR	AR	A/R
31	619-208	GRY		A/R	AR	AR	A/R
32	619-209	WHT		A/R	AR	AR	A/R
33	619-210	WHT/BLK		A/R	AR	AR	A/R
34	619-218	WIRE, 14 GA, PER CD569, WHT/GRY		A/R	AR	AR	A/R
35	614-931	WIRE, 24 GA SHIELDED, WHT/BRN		A/R	AR	AR	A/R
36	614-932	WIRE, 24 GA SHIELDED, WHT/RED		A/R	AR	AR	A/R
37	614-933	WIRE, 24 GA SHIELDED WHT/ORN		A/R	AR	AR	A/R

LM-4 [illegible]

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-40[illegible]0981 SHEET 2 OF 4	REV R

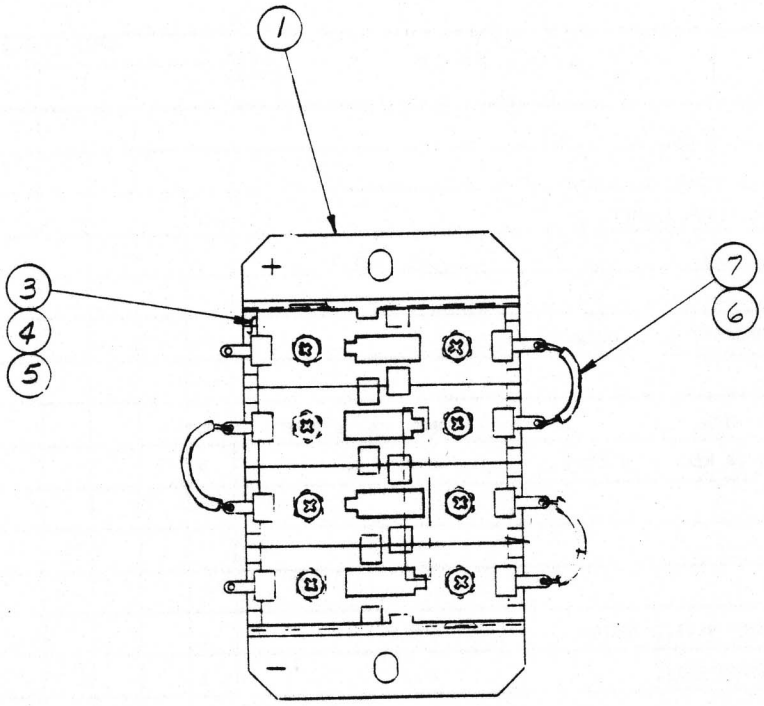
ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04
42	611-208	WIRE, 24 GA, CD569, BLK		A/R	AR	AR	A/R
43	611-209	BRN		A/R	AR	AR	A/R
44	614-847	WHT/BRN		A/R	AR	AR	A/R
45	~~614-848~~	~~WHT/RED~~		~~A/R~~	~~—~~	~~—~~	-
46	614-875	WHT/BLU		A/R	AR	AR	A/R
47	614-876	WHT/VIO		A/R	AR	AR	A/R
48	614-877	WIRE, 24 GA, CD569, WHT/GRY		A/R	AR	AR	A/R
49							
50							
51	~~611-718~~	~~WIRE, 16 GA, CD569, BRN~~		~~A/R~~	~~—~~	~~—~~	-
52	~~611-722~~	~~RED~~		~~A/R~~	~~—~~	~~—~~	-
53	611-720	ORN		A/R	AR	AR	A/R
54	611-721	YEL		A/R	AR	AR	A/R
55	611-726	GRN		A/R	AR	AR	A/R
56	611-724	BLU		A/R	AR	AR	A/R
57	611-719	VIO		A/R	AR	AR	A/R
58	~~611-866~~	~~WIRE, 16 GA, CD569, WHT/YEL~~		~~A/R~~	~~—~~	~~—~~	-
59							
60							
61							
62	~~611-884~~	~~WIRE, 16 GA, CD569, WHT/BLU~~		~~A/R~~	~~—~~	~~—~~	-
63							
64							
65							
66							
67		SLEEVING, SHRINKABLE, IRRADIATED		-	—	AR	A/R
68	600-236	SLEEVING, TEFLON, FLEX., TFE, .047Ø		-	—	AR	A/R
69							
70	471-062	SCREW, MACHINE 4-40 x .375 LG.		10	10	8	8
71	471-069	SCREW, MACHINE 6-32 x .375 LG.		5	5	5	5
72	~~471-061~~	~~SCREW, XREC 8-32 x .500 LG~~		~~3~~	~~3~~	~~—~~	-
73	496-004	NUT, HEX, CAP WASHER, 4-40		10	10	10	10
74	496-005	NUT, HEX, CAP WASHER, 6-32		9	9	7	7
75	501-205	WASHER, PLAIN #8 .438 O.D. .049 THK		2	2	—	-
76	~~501-009~~	~~WASHER, PLAIN #6~~		~~2~~	~~2~~	~~—~~	-
77	472-113	SCREW, PAN HEAD, 2-56 x .250		-	-	2	2
78	492-007	NUT, HEX, 2-56		-	-	2	2
79	502-001	WASHER, HELICAL SPRING		-	-	2	2

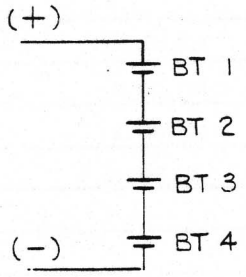
LM-40[illegible]0981

4051018-01 POWER SUPPLY DIODE BRACKET ASSEMBLY REV. H
NEXT HIGHER ASSEMBLY 4020499

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1	4260639-02	BRACKET, DIODE MTG.		1
2				
3	4840588	SCHEMATIC, POWER SUPPLY		REF
4	013-740	DIODE MTG. KIT	REF: CR3,4	2
5				
6	087-388	SILICON GREASE, HEAT CONDUCTIVE		A/R
7				
8	582-179	INSULATOR, MICA,	REF: CR1,2	4
9	581-343	DIODE, POWER RECT., IN1200A	CR1,2	2
10				
11				
12				
13	581-641	DIODE, POWER RECT., 70M10A	CR3,4	2
14	581-642	DIODE, BRIDGE RECT.	A1,2	2
15				
16				
17	582-172	TERMINAL LUG,	REF:CR1,2	2
18				
19	582-180	BUSHING; INSULATING, TEFLON	REF:CR1,2	2
20	501-692	WASHER; PLAIN	REF:CR1,2	2
21	502-028	WASHER; LOCK	REF:CR1,2	2
22	472-037	NUT; HEX	REF:CR:1,2	2

LM-4051018





REF	8	4840588	SCHEMATIC, POWER SUPPLY
A/R	7	615-002	WIRE, SOLID, 22 GA
A/R	6	600-161	SLEEVING, TEFLON
8	5	496-004	NUT, LKG, HEX. ASSEM WASH., 4-40
8	4	471-061	SCREW, PAN HD, XREC, 4-40 X .312 LG
4	3	080-045	HOLDER, BATTERY
1	1	4330384-01	PLATE, MTG
-01	ITEM NO.	PART NUMBER	DESCRIPTION

PARTS LIST

Assembly No. 4050987-01 F. Battery Assembly

4050980-02 POWER RESISTOR ASSEMBLY REV. F

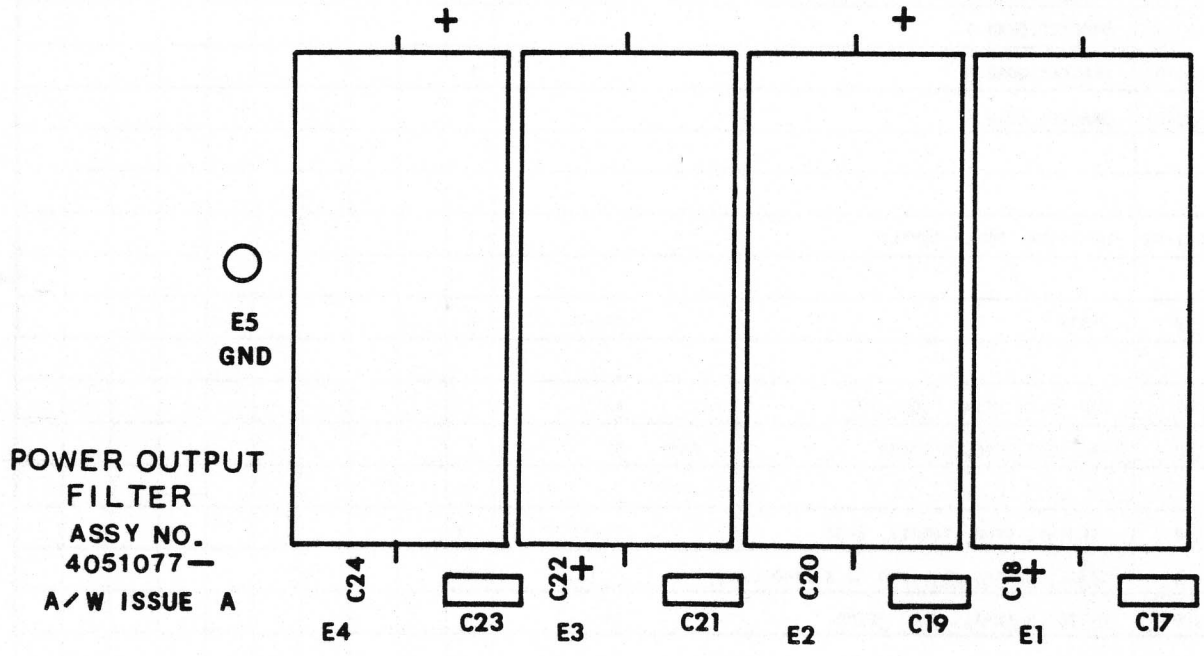
NEXT HIGHER ASSEMBLY 4020499

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02
1	/				
2	4840588	SCHEMATIC, POWER SUPPLY			REF
3					
4	4260633-03	BRACKET, POWER RESISTOR		1	1
5	180-486	BARRIER STRIP 16 TER	TB1,2	2	2
6					
7	059-582	RESISTOR,0.1 OHM, 5%, 10W	R5-12	8	8
8	059-693	RESISTOR,0.1 OHM, 5%, 5W	R13-16	4	4
9	059-695	RESISTOR, 1.0 OHM, 5%, 5W	R1-4	4	4
10	615-019	WIRE SOLID UNINSULATED, 18 AWG		A/R	A/R
11	280-086	SPACER FIBER UNTHREADED #6		32	32
12	600-196	TUBING, TEFLON, 18 GA		A/R	A/R
13					
14					
15					
16	471-081	SCREW, MACHINE 8-32 .625 LG		8	8
17	475-061	SCREW, MACHINE 8-32 XREC .500 LG		2	2
18	496-006	NUT 8-32 UNC-2B		8	8
19	501-205	WASHER, PLAIN #8 .438 O.D. .049 THK		2	2

LM-4050980

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1	-			
2				
3	064-314	CAPACITOR, MONO., 1.0uF, 50V,	C17,19,21,23	4
4				
5	031-134	CAPACITOR, ALUM., 500uF, 50V	C18,20,22,24	4
6				
7	-	WIRE, 18 GA		A/R
8				
9	611-920	WIRE, 16 GA, WHT-BLK		A/R

LM-4051077



Assembly No. 4051077-01D. Power Output Filter PWA

ITEM NO.	PART NUMBER	E	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1					
2	4840588		SCHEMATIC DIAGRAM, POWER SUPPLY	(C)	
3					
4					
5	4051006-03		PWA, HEATSINK		1
6	4260629-01		BRACKET,QUAD,1		1
7	4260630-01		BRACKET,QUAD,2		1
8	4260631-03		BRACKET,QUAD,3		1
9	4260632-01		BRACKET,QUAD,4		1
10					
11					
12	4291021-05		HEATSINK, POWER SUPPLY		1
13					
14	013-878		DIODE	CR1-8	8
15					
16	591-027		FAN UNIT, AXIAL, 100 CFM	B1	1
17	591-207		FAN PART, FINGER GUARD REF:	B1	1
18					
19	173-628		TERMINAL STUD, TURRET, 6-32	E1-11	11
20	283-184		SPACER,PLAIN, #6, .250 OD X .140 LG		4
21	119-750		SWITCH,THERMAL, N.O. 105°C	S1	1
22					
23	064-614		CAPACITOR,CER.DISC, 0.1uF, 50V	C12	1
24					
25	037-812		CAPACITOR, TANT,DIP, 10uF, 25V	C13	1
26					
27					
28					
29	059-186		RESISTOR,FIXED,WRWND., 0.1 OHM, 5W, 3%	R6-9,14-19	10
30	059-432		RESISTOR,FIXED,WRWND., 0.25 OHM,5W, 3%	R10-12	3
31	059-702		RESISTOR,FIXED,WRWND., 0.33 OHM,10W, 3%	R1-4	4
32	047-743		RESISTOR,FIXED,WRWND., 0.5 OHM,10W, 3%	R21	1
33	076-039		RESISTOR,FIXED,C.F., 20.0 OHM, 1/4W, 5%	R22	1
34	041-421		RESISTOR,FIXED,COMP., 22.0 OHM,1/2W, 5%	R23-33	11
35	041-003		RESISTOR,FIXED,COMP., 100.0 OHM,1/2W,5%	R5,13,20	3
36					
37					

LM-4051169

AMPEX	Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4051169 SHEET 2	REV C

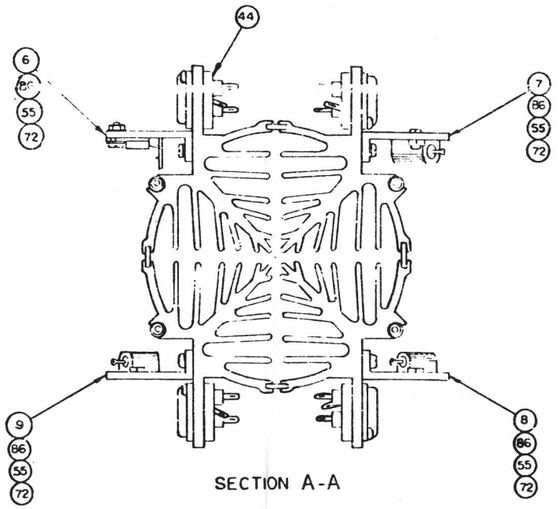
ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
38					
39					
40	579-002	THYRISTOR, SCR (C234A3)		SCR1	1
41					
42	579-084	TRANSISTOR, SILICON (MJ15003)		Q7-10,26-29	8
43	582-110	INSULATOR, MICA, TO-3	REF:	Q1-10,20-42	33
44	580-510	TRANSISTOR, MTG HDW,SOCKET,TO-3	REF:	Q1-10,20-42	33
45	589-533	TRANSISTOR, MTG KIT, TO-220	REF:	Q11-19	9
46	041-630	TRANSISTOR, SILICON (2N3055)		Q1,2,20-25, 30-42	21
47	580-781	TRANSISTOR, SILICON (2N6254)		Q3-6	4
48					
49					
50	470-009	SCREW,CAP,HEX,SOCKET, 4-40 X .312 LG	REF:	Q1-10,20-42	33
51	470-022	SCREW,CAP,HEX,SOCKET, 6-32 X .750 LG			4
52					
53	472-453	SCREW,MACH,PAN HD, XREC, 2-56 X .312 LG			36
54	471-062	SCREW,MACH,PAN HD,XREC, 4-40 X .375 LG	REF:	Q11-19	9
55	475-058	SCREW,MACH,PAN HD,XREC,6-32 X .375 LG			11
56	475-062	SCREW,MACH,PAN HD,XREC, 6-32 X .625 LG	REF:	Q1-10,20-42	66
57	471-073	SCREW,MACH,PAN HD,XREC, 6-32 X .750 LG			4
58					
59					
60					
61					
62	492-037	NUT,PLAIN,HEX, 1/4 - 28	REF:	SCR1	1
63	492-007	NUT,PLAIN,HEX, 2-56			36
64	496-004	NUT,LOCK,HEX, 4-40 ASSY WASHER			9
65	496-005	NUT,LOCK,HEX, 6-32 ASSY WASHER			13
66					
67					
68					
69					
70					
71	501-169	WASHER,PLAIN, #4			9
72	501-009	WASHER,PLAIN, #6			23
73	502-002	WASHER,LOCK,HEX,SPRING, #4			33
74	502-023	WASHER,LOCK, I.T. #2			36
75	502-025	WASHER,LOCK, I.T. #6			7
76	502-028	WASHER,LOCK, I.T., 1/4	REF:	SCR1	1
77					
78					
79					
80	615-011	WIRE, SOLID, UNINSULATED, 16 GA			AR
81	615-002	WIRE, SOLID, UNINSULATED, 22 GA			AR
82	615-090	WIRE, SOLID, UNINSULATED, 24 GA			AR

LM-4051169

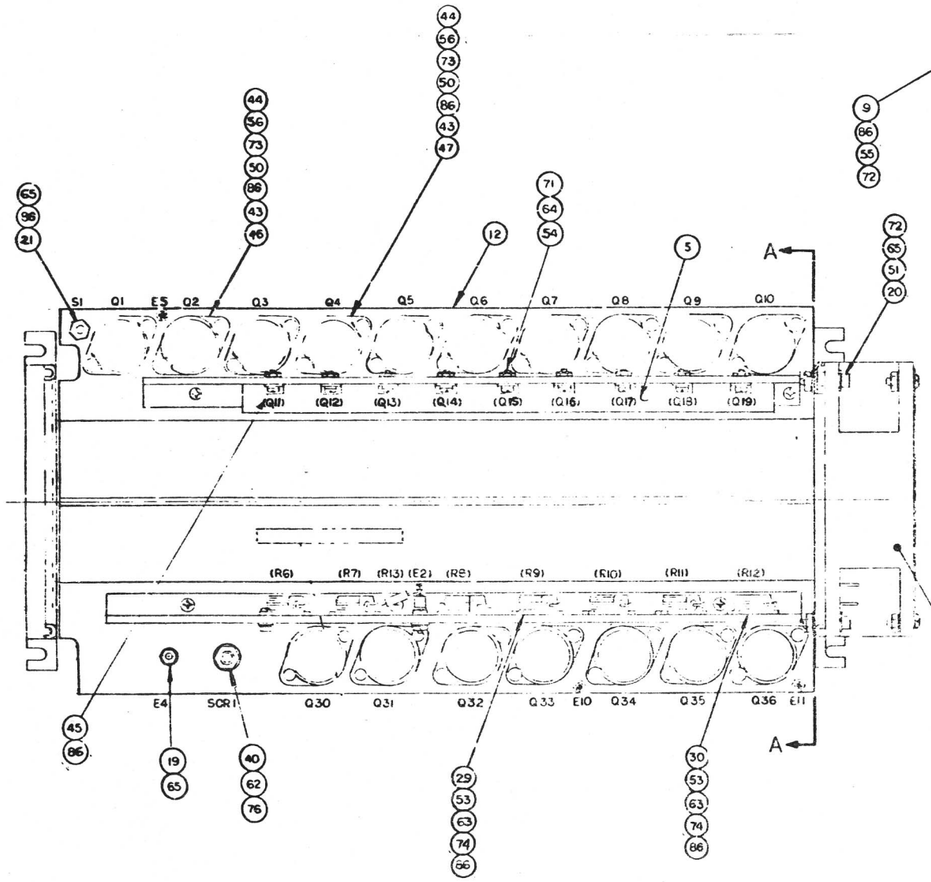
AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4051169 SHEET 3	REV C

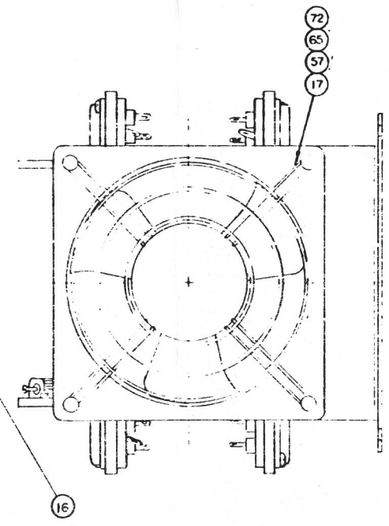
ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
83					
84					
85					
86	087-388		GREASE, SILICONE, HEAT CONDUCTIVE		AR
87	CD733		SLEEVING, TEFLON, FLEX. (NAT)		AR
88	601-057		HOSE,NEOPRENE, .188 ID (BLK)		AR

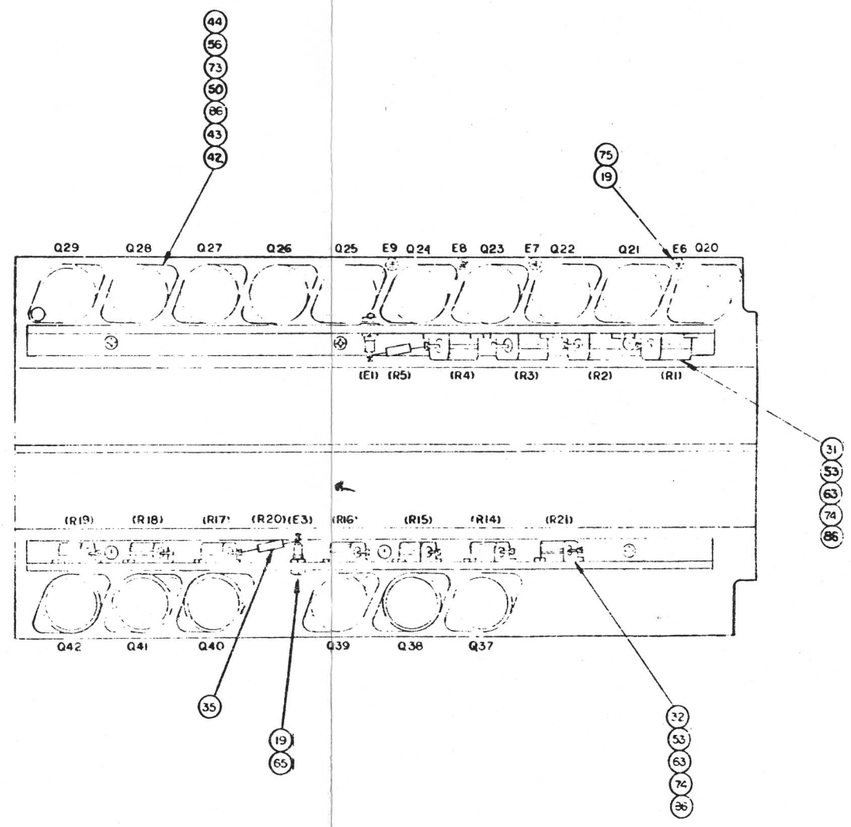
LM-4051169



SECTION A-A







Assembly No. 4051169-01C.
Heatsink Assembly

Ampex 4890432-01

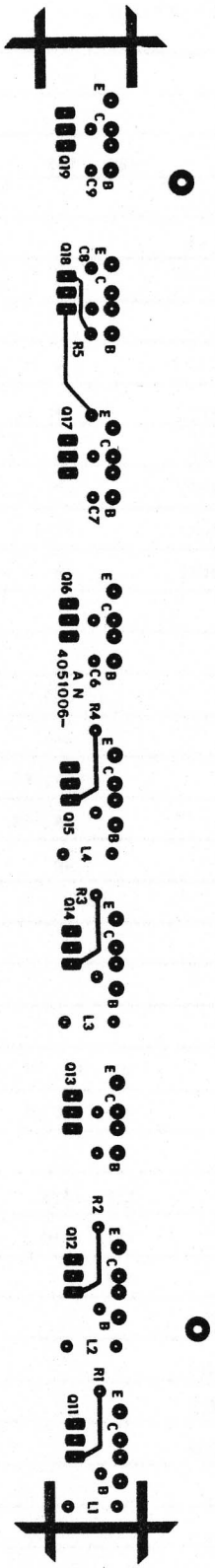
5-25/5-26

4051006-03 HEATSINK PWA REV. D

NEXT HIGHER ASSEMBLY 4051169

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03
1							
2					—	—	
3							
4	064-152		CAPACITOR, CER. DISC, .001uF, 50V	C3,6-9	-	5	5
5							
6	066-665		RESISTOR, C.F., 1.0K, 1/4W, 5%	R1-4	-	4	—
7	066-665		RES., C.F., 1.0K OHMS, 1/4W, 5%	R1-5	—	—	5
8	068-045		INDUCTOR, 330uH, 5%	L1-4	-	4	4
9							
10							
11	580-859		TRANSISTOR, TIP41B	Q12,13,15,17,18,19,	6	6	6
12	580-860		TRANSISTOR, TIP42B	Q11,14,16	3	3	3
13							
14							

LM-4051006



Assembly No. 4051006-03D. Heatsink PWA

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06	-07
1				REF	REF	REF	REF	REF	REF	
2										
3	1214756-01	TERMINAL, DUAL	REF: TB2	-	-	8	18	18	18	18
4										
5										
6										
7										
8	167-707	CONNECTOR BODY, PLUG, 6 POS	J7	-	1	1	1	1	1	1
9	167-736	CONNECTOR BODY, PLUG, 9 POS (NAT)	J9	-	1	1	1	1	1	1
10	167-731	CONNECTOR BODY, PLUG, 9 POS (BLK)	J5	-	1	1	1	1	1	1
11	167-735	CONNECTOR BODY, PLUG, 12 POS (NAT)	J8	-	1	1	1	1	1	1
12	167-354	CONNECTOR BODY, PLUG, 12 POS (BLK)	J1-3	-	3	3	3	3	3	3
13	167-355	CONNECTOR BODY, PLUG, 15 POS (BLK)	J4	-	1	1	1	1	1	1
14										
15										
16	167-711	CONNECTOR BODY, REC., 3 POS	J10	-	1	1	1	1	1	1
17	167-706	CONNECTOR BODY, REC., 6 POS	J11	-	1	1	1	1	1	1
18	167-788	CONNECTOR BODY, REC., 12 POS	BA, P1	1	1	1	1	1	1	1
19	167-734	CONNECTOR BODY, REC., 15 POS	BA, P2	1	1	1	1	1	1	1
20	167-078	CONNECTOR BODY, REC., 25 POS	J6	-	-	1	1	1	1	1
21										
22										
23										
24										
25	167-349	CONTACT, PIN	REF: BA, P1, 2	27	20	20	20	20	20	20
26	167-725	CONTACT, PIN	REF: J10,11	-	8	8	8	8	8	8
27										
28	167-350	CONTACT, SOCKET	REF: J8,9	-	19	19	19	19	19	19
29	167-726	CONTACT, SOCKET	REF: J1-5,7	-	66	66	66	66	66	66
30	167-764	CONTACT, SOCKET	REF: J6	-	-	17	17	17	17	17
31	171-006	TERMINAL LUG, CRIMP, RING TONGUE								22
32	172-218	TERMINAL LUG, CRIMP, RING TONGUE								12
33	171-001	TERMINAL LUG, CRIMP, SPADE TONGUE		19	19	19	19	19	19	-
34	171-037	TERMINAL LUG, CRIMP, SPADE TONGUE		10	10	10	10	10	10	-
35	172-004	TERMINAL LUG, SOLDER, #4					8	8	8	8
36										
37	181-039	TERMINAL STRIP, BARRIER, 9 POS	TB2	-	-	1	1	1	1	1

LM-4050972

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4050972 SHEET 2	REV N

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06	-07
38											
39											
40			WIRE, STRANDED, AWG 12		A/R	A/R	A/R	A/R	A/R	A/R	A/R
41			WIRE, STRANDED, AWG 14		A/R	A/R	A/R	A/R	A/R	A/R	A/R
42			WIRE, STRANDED, AWG 16		A/R	A/R	A/R	A/R	A/R	A/R	A/R
43			WIRE, STRANDED, AWG 18		A/R	A/R	A/R	A/R	A/R	A/R	A/R
44			WIRE, STRANDED, AWG 20		A/R	A/R	A/R	A/R	A/R	A/R	A/R
45			WIRE, STRANDED, AWG 24		A/R	A/R	A/R	A/R	A/R	A/R	A/R
46											
47	616-713		WIRE, SHIELDED, 18 AWG WHT/BRN					A/R	A/R	A/R	A/R
48	616-712		WIRE, SHIELDED, 18 AWG WHT/RED					A/R	A/R	A/R	A/R
49	614-930		CABLE, SHIELDED, 24 AWG WHT/BLK					A/R	A/R	A/R	A/R
50	614-931		WIRE, SHIELDED, AWG 24, WHT/BRN		A/R	A/R	A/R	A/R	A/R	A/R	A/R
51	614-932		WIRE, SHIELDED, AWG 24, WHT/RED		A/R	A/R	A/R	A/R	A/R	A/R	A/R
52	614-933		WIRE, SHIELDED, AWG 24, WHT/ORG		A/R	A/R	A/R	A/R	A/R	A/R	A/R
53	614-934		WIRE, SHIELDED, AWG 24, WHT/YEL		A/R	A/R	A/R	A/R	A/R	A/R	A/R
54	614-935		WIRE, SHIELDED, AWG 24, WHT/GRN		A/R	A/R	A/R	A/R	A/R	A/R	A/R
55	615-021		WIRE, SOLID, UNINSULATED, 12 AWG					A/R	A/R	A/R	A/R
56	616-404		CABLE, SHIELDED, 3 COND, 18 AWG					A/R	A/R	A/R	A/R
57	616-499		CABLE, SHIELDED, 2 COND 16 AWG					A/R	A/R	A/R	A/R
58	616-746		CABLE, SHIELDED AND JACKETED, 2 COND, 20 GA		A/R	A/R	A/R	A/R	A/R	A/R	A/R
59	618-019		WIRE, BRAID, .75 WD					A/R	A/R	A/R	A/R
60	600-055		SLEEVING, PVC, FLEXIBLE, .375 ID		A/R	A/R	A/R	A/R	A/R	A/R	-
61	600-057		SLEEVING, PVC, FLEXIBLE .500 ID					A/R	A/R	A/R	-
62			SLEEVING, POLYOLEFIN, SHRINKABLE, BLK								A/R
63			SLEEVING, PVC, SHRINKABLE, BLK								A/R
64											
65											

LM-4050972

4050910-09 REEL SERVO PWA REV. V

NEXT HIGHER ASSEMBLY 4020499

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER								
					-01	-02	-03	-04	-05	-06	-07	-08	-09
1													
2													
3													
4	4840472		SCHEMATIC		E	E	G	J	K	L	M	N	R
5	582-190		HEATSINK PA1-1CB	REF: U8	1	1	1	1	1	1	1	1	1
6	103307-02		STAND OFF	REF: R45,55,65,74	8	8	8	8	8	8	8	8	8
7	103307-01		STAND OFF	REF: R45,55,56,65,66, 74,L3,L4	8	16	16	16	16	16	16	16	16
8	4041244-AA		SHIELD ASSEMBLY, PWA		1	1	1	1	1	1	1	1	1
9	4170355-01		LABEL, HANDLE, REEL SERVO		1	1	1	1	1	1	1	1	1
10	471-068		SCREW, PAN HEAD, 6-32 X 5/16 IN	REF: U8	1	1	1	1	1	1	1	1	1
11	498-425		NUT WITH ASSEMBLED WASHER 6-32	REF: U8	1	1	1	1	1	1	1	1	1
12	013-166		DIODE, ZENER, 3.3V, 400MV IN746A	VR2,3,9,10	4	4	4	4	4	4	4	4	4
13	013-829		DIODE, ZENER, 3.9V, 400MV IN5228B	VR 5,6,11,12	4	4	4	4	4	4	4	4	4
14	013-313		DIODE, ZENER, 12.0V, 400V IN963B	VR13,14	2	2	2	2	2	2	2	2	2
15	013-383		DIODE, ZENER, 9 V, 400MV IN757A	VR1,4,7,8	4	4	4	4	4	4	4	4	4
16	013-599		DIODE, SWITCHING IN4531	CR1-5,8,9,12,13	9	9	9	9	9	9	9	9	9
17	013-878		DIODE, SWITCHING, FAST RECOVERY IN4935	CR6,7,10,11	4	4	4	4	4	4	4	4	-
18	013-878		DIODE, SWITCHING, FAST RECOVERY, IN4935	CR16-19							-	-	4
19	014-247		TRANSISTOR, NPN TO-5, 2N2219	Q9,15	2	2	2	2	2	2	2	2	2
20	014-364		TRANSISTOR, PNP TO-5, 2N2905A	Q12,18	2	2	2	2	2	2	2	2	2
21	014-652		TRANSISTOR, PNP TO-92, 2N3906	Q11,17	2	2	2	2	2	2	2	2	2
22	580-647		TRANSISTOR, NPN TO-92, 2N3904	Q2,4,5,7,8,14	6	6	6	6	6	6	6	6	6
23	580-760		TRANSISTOR, POWER,NPN, D44C9	Q6					-	1	1	1	1
24	580-156		TRANSISTOR, J-FET, P-CHANNEL (2N5461)	Q1,3	2	2	2	2	2	2	2	2	2
25	580-760		TRANSISTOR, POWER D44C9	Q6,10,13,16,19	5	5	5	5	5	-	-	-	-
26	579-006		TRANSISTOR, POWER, NPN, D44C11	Q10,13,16,19					-	4	4	4	4
27	051-971		INDUCTOR, 56uH, ±10%	L1,2	2	2	2	2	2	2	2	2	-
28	034-283		CAPACITOR, MICA, 820pF, 5%, 300V	C36				1	1	1	1	1	1
29	064-062		CAPACITOR, MONO, 0.1uF, 20%, 50V	C34,35			2	2	2	2	2	2	2
30	030-817		CAPACITOR, CERAMIC, DISC, .01uF, +80% -20%	C3,4,6,7,9,10,11, 15,19,27-29,32	13	13	13	13	13	13	13	13	13
31	034-439		CAPACITOR, MICA, 130pF, 500V, 5%	C1,8	2	2	2	2	2	2	2	2	2
32	037-985		CAPACITOR, TANT, TUBULAR, 15uF, 20V	C18,26	2	2	2	2	2	2	2	2	2
33	037-991		CAPACITOR, TANT, TUBULAR, 22uF, 15V	C16,17	2	2	2	2	2	2	2	2	2
34	063-027		CAPACITOR, ALUM, TUBULAR, 25uF, +75% -10%, 50V	C21,22	2	2	2	2	2	2	2	2	2
35	037-062		CAPACITOR, TANT, TUBULAR, 56uF, 6V	C5	1	1	1	1	1	1	1	1	1
36	037-920		CAPACITOR, DIP .33uF, 35V	C33	1	1	1	1	1	1	1	1	1
37	068-044		INDUCTOR, .2200uH,	L1,2							-	-	2

LM-4050910

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO 92739	LIST OF MATERIALS	LM-4050910 SHEET 2	REV V

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06	-07	-08	-09
38	051-634	INDUCTOR, 100uH,	L3,4							-	-	2
39	069-163	CAPACITOR, POLY., .01uF, 630V	C12,14	2	2	2	2	2	2	2	2	2
40	069-165	CAPACITOR, POLY., .027uF, 400V	C24,31	2	2	2	2	2	2	2	2	2
41	069-175	CAPACITOR, POLY., .039uF, 250V	C23,25	2	2	2	2	2	2	2	2	2
42	069-168	CAPACITOR, POLY., 0.1uF, 100V	C2,13	2	2	2	2	2	2	2	2	2
43												
44	066-938	RESISTOR, 47 OHMS, 1/4W, 5%	R80				1	1	1	1	1	1
45	066-660	RESISTOR, C.F., 22 OHMS, 1/4W, 5%	R33,44,45,51,55,64,65, 71,74	9	9	9	9	9	9	9	9	9
46	066-812	RESISTOR, C.F., 100 OHMS, 1/4W, 5%	R27,28,43,48,63,67	6	6	6	6	6	6	6	6	6
47	066-661	RESISTOR, C.F., 120 OHMS, 1/4W, 5%	R36,37,57,61	4	4	4	4	4	4	4	4	4
48	066-818	RESISTOR, C.F., 470 OHMS, 1/4W, 5%	R50,70	2	2	2	2	2	2	2	2	-
49	066-665	RESISTOR, C.F., 1K OHMS, 1/4W, 5%	R21,34,39,40,47,58	6	6	6	6	6	6	6	6	6
50	066-689	RESISTOR, C.F., 2.2K OHMS, 1/4W, 5%	R38,46	2	2	2	2	2	2	2	-	-
51	066-689	RESISTOR, C.F., 2.2K OHMS, 1/4W, 5%	R38,46,79							-	3	3
52	066-843	RESISTOR, C.F., 6.2K OHMS,1/4W,5%	R9-11,20,35,79		6	6	6	6	6	6	-	-
53	066-843	RESISTOR, C.F., 6.2K OHMS, 1/4W, 5%	R9,10,11,20,35	5	-	-	-	-	-	-	-	-
54	066-830	RESISTOR, C.F., 10K OHMS, 1/4W, 5%	R1,8,12	3	3	3	3	3	3	3	3	3
55	066-831	RESISTOR, C.F., 11K OHMS, 1/4W, 5%	R5	1	1	1	1	1	1	1	1	1
56	066-844	RESISTOR, C.F., 16K OHMS, 1/4W, 5%	R14,15,17,18,29, 30,54,73	8	8	8	8	8	8	8	8	8
57	066-843	RESISTOR, C.F., 6.2K OHMS, 1/4W, 5%	R9-11,20,35							-	5	5
58	066-712	RESISTOR, C.F., 22K OHMS, 1/4W, 5%	R3,23	2	2	2	2	2	2	2	2	2
59	066-846	RESISTOR, C.F., 30K OHMS, 1/4W, 5%	R6	1	1	1	1	1	1	1	1	1
60	066-847	RESISTOR, C.F., 33K OHMS, 1/4W, 5%	R22,31,32,52	4	4	4	4	4	4	4	4	4
61	066-717	RESISTOR, C.F., 47K OHMS, 1/4W, 5%	R25,26,75,76	4	4	4	4	4	4	4	4	4
62	066-860	RESISTOR, C.F., 39K OHMS, 1/4W, 5%	R53,72	2	2	2	2	2	2	2	2	2
63	041-543	RESISTOR, C.F., 82K OHM, 1/4W, 5%	R77,78	2	2	2	2	2	2	2	2	2
64												
65	066-850	RESISTOR, C.F., 240K OHMS, 1/4W, 5%	R16,19	2	2	2	2	2	2	2	2	2
66	076-012	RESISTOR, C.F., 330K OHMS, 1/4W, 5%	R4,24	2	2	2	2	2	2	2	2	2
67	066-652	RESISTOR, C.F., 470K OHMS, 1/4W, 5%	R7	1	1	1	1	1	1	1	1	1
68												
69												
70	066-673	RESISTOR, C.F., 1.0 MEG OHMS, 1/4W, 5%	R2,13,42,59	4	4	4	4	4	4	4	4	4
71												
72	614-931	SHIELDED CABLE, 24 AWG		AR	AR	AR	AR	AR	AR	AR	AR	AR
73	087-388	HEAT SINK COMP.	REF: U8	AR	AR	AR	AR	AR	AR	AR	AR	AR
74	059-222	RESISTOR, WW, 2.5 OHMS, 3W, 3%	R56,60,66,69		4	4	4	4	4	4	4	-
75	041-296	RESISTOR, CARBON COMP., 12 OHMS, 2W, 10%	R56,60,66,69	4	-	-	-	-	-	-	-	-
76	041-143	RESISTOR, CARBON COMP., 680 OHMS, 1W, 10%	R41,49,62,68	4	4	4	4	4	4	4	4	4
77	589-645	IC. REGULATOR, 5V MC7805	U8	1	1	1	1	1	1	1	1	1
78	013-650	DIODE, GER., CD498 1N270	CR14,15							-	-	2
79	187-259	TERMINAL, TEST POINT	TP1,2,3,4	4	4	4	4	4	4	4	4	4
80	059-222	RESISTOR, W.W. 2.5 OHMS, 3W, 3%	R56,66								-	2
81												
82												

LM-4050910

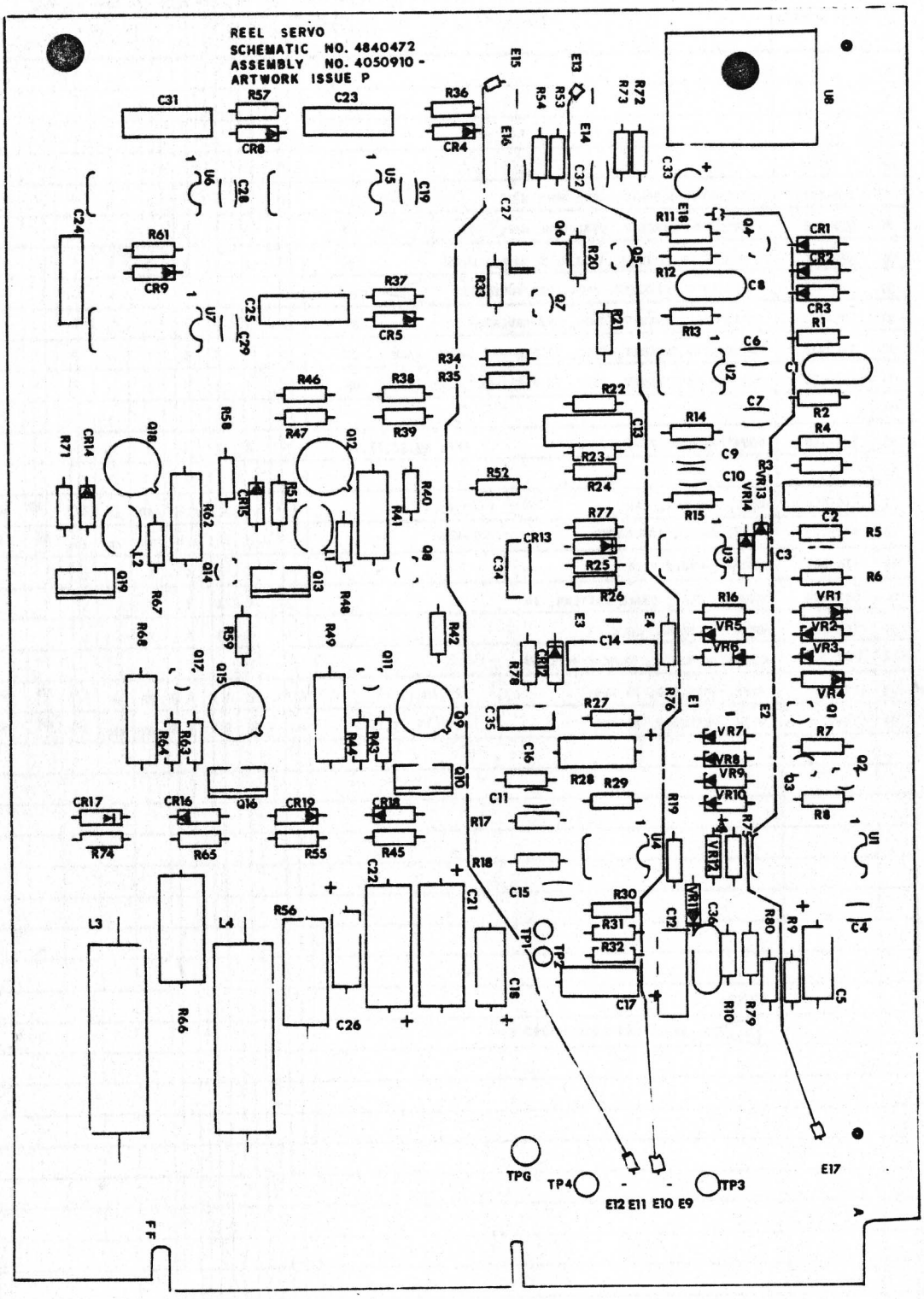
AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4050910 SHEET 3	DRV V

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06	-07	-08	-09
83												
84												
85												
86												
87	590-611	INTEGRATED CIRCUIT, OPNL AMPL U741 ▷1◁	U3	1	1	1	1	1	1	1	1	1
88	590-612	INTEGRATED CIRCUIT, DUAL OPNL AMPL 1458 ▷1◁	U4	1	1	1	1	1	1	1	1	1
89	589-869	INTEGRATED CIRCUIT, DUAL OPNL AMPL, 1458S	U2	1	1	1	1	1	1	1	1	1
90	590-609	INTEGRATED CIRCUIT, 7404, HEX INVERTER ▷1◁	U1,5	N						-	2	2
91	586-326	INTEGRATED CIRCUIT, 7404, HEX INVERTER	U1,5	2	2	2	2	2	2	2	-	-
92	586-076	INTEGRATED CIRCUIT, 7410, TRIPLE - 3 INPUT, NAND	U7	1	1	1	1	1	1	1	1	1
93	587-505	INTEGRATED CIRCUIT, 7411, TRIPLE INPUT, AND	U6	1	1	1	1	1	1	1	1	1
94												
95	280-180	MOUNTING PAD, TO-5	REF: Q9,12,15,18	4	4	4	4	4	4	4	4	4
96												
97	615-090	WIRE, 24 AWG, BARE	E1-2,E3-4	AR	AR	AR	AR	AR	AR	AR	AR	AR
98	615-124	WIRE, SOLID, INSULATED	E17-E18	AR	AR	AR	AR	AR	AR	AR	AR	AR
99	470-009	SCREW, 4-40 X 5/16		4	4	4	4	4	4	4	4	4
100	501-169	WASHER, FLAT, SMALL PATTERN, #4		4	4	4	4	4	4	4	4	4
101	502-002	WASHER, SPRING, LOCK #4		4	4	4	4	4	4	4	4	4
102	502-480	WASHER, PLAIN, BLACK NYLON		1	1	1	1	1	1	1	1	1
103	613-022	WIRE, SHIELDED, 26 AWG,	E9,10,13,14	AR	AR	AR	AR	AR	AR	AR	AR	AR
104	613-024	WIRE, SHIELDED, 26 AWG	E11,12,15,16	AR	AR	AR	AR	AR	AR	AR	AR	AR

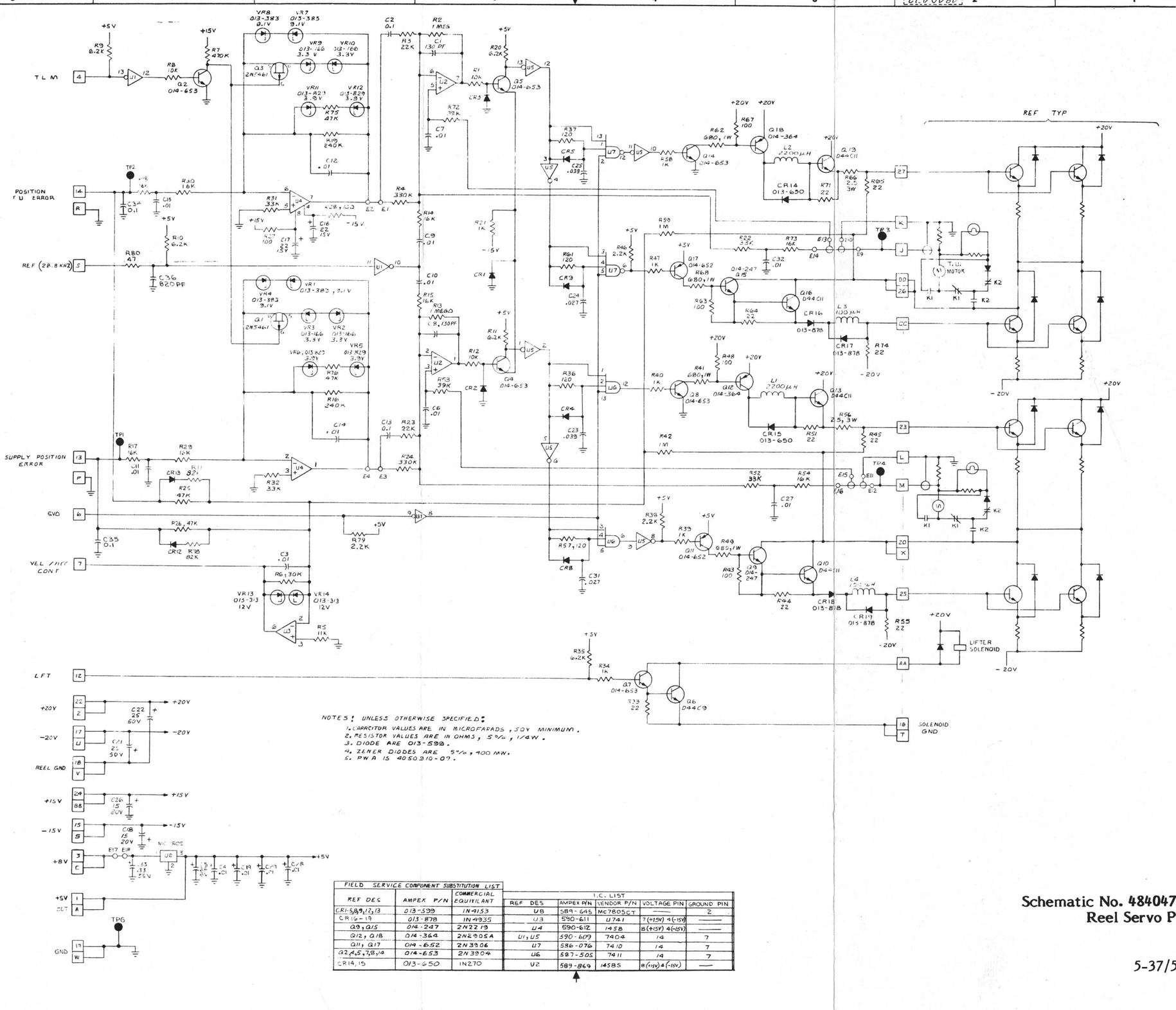
NOTES:

▷1◁ INDICATES PRESTRESSED I.C.

LM-4050910



Assembly No. 4050910-09V. Reel Servo PWA



NOTES: UNLESS OTHERWISE SPECIFIED:
1. CAPACITOR VALUES ARE IN MICROFARADS, 50V MINIMUM.
2. RESISTOR VALUES ARE IN OHMS, 5%, 1/4W.
3. DIODE ARE 013-598.
4. ZENER DIODES ARE 5%, 400 MW.
5. PWA IS 4050310-09.

FIELD SERVICE COMPONENT SUBSTITUTION LIST

REF DES	AMPEX P/N	COMMERCIAL EQUIVILANT
CR1-5,8,9,12,13	013-598	IN4153
CR10-11	013-878	IN4935
Q9, Q15	014-247	2N2219
Q12, Q18	014-364	2N2905A
Q11, Q17	014-652	2N3906
Q2,4,5,7,8,14	014-653	2N3904
CR14, 15	013-650	IN270

I.C. LIST

REF DES	AMPEX P/N	VENDOR P/N	VOLTAGE PIN	GROUND PIN
U8	589-645	MC7805CT	———	2
U3	590-611	U741	7(+15V) 4(-15V)	———
U4	590-612	1458	8(+15V) 4(-15V)	———
U1, U5	590-609	7404	14	7
U7	586-076	7410	14	7
U6	587-505	7411	14	7
U2	589-869	14585	8(+15V) 4(-15V)	———

Schematic No. 4840472R.
Reel Servo PWA

5-37/5-38

Ampex 4890432-01

4050973-14 REGULATOR PWA REV. AE

NEXT HIGHER ASSEMBLY 4020499

ITEM NO.	PART NUMBER	D	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -13	-14
1					-13	
2	4041318-01	SHIELD ASSY, PWA, REGULATOR			1	1
3	4170356-01	LABEL, HANDLE, PWA, REGULATOR			1	1
4					-	-
5	014-247	TRANSISTOR, NPN, TO5		Q2,3,5	-	-
6	014-364	TRANSISTOR, PNP, TO5		Q6	-	-
7	014-652	TRANSISTOR, PNP, 2N3906		Q1,4	2	2
8	014-698	TRANSISTOR, NPN		Q7	-	-
9	580-647	TRANSISTOR, NPN, 2N3904		Q7	-	-
10	280-998	TRANSISTOR, SPACER, TO5		REF: Q2,3,5,6, 12,13,20,23	8	8
11	014-247	TRANSISTOR, NPN, CD38		Q2,3	2	2
12	580-166	TRANSISTOR, 2N5322		Q12,13	2	2
13	580-167	TRANSISTOR, 2N5320		Q20,23	-	-
14	580-568	TRANSISTOR, PNP, 2N5400		Q9,10,15,16,19, 21	6	6
15	580-800	TRANSISTOR, 2N5550		Q8,11,14,17,18, 22	6	6
16	580-167	TRANSISTOR, NPN, 2N5320		Q5,20,23	3	3
17	037-298	CAPACITOR, TANT., CD687, 47uF, 6V, 20%		C8,10,15	3	3
18	037-894	CAPACITOR, TANT., CD687, 100uF, 10V, 20%		C2	1	1
19	064-062	CAPACITOR, MONO., o.1uF, 50V, 20%		C25,26	2	2
20	063-031	CAPACITOR, ALUM., TUBULAR, 100uF, 50V, -10+75%		C9	-	-
21	037-237	CAPACITOR, TANT., TUBULAR, 220uF, 10V, 10%		C24	1	1
22	037-812	CAPACITOR, TANT., DIP., 10uF, 25V, 20%		C5	1	1
23	037-920	CAPACITOR, TANT., DIPPED, .33uF, 35V, 20%		C20	-	-
24	037-946	CAPACITOR, TANT., DIPPED, 33uF, 25V, 20%		C11,14,16,19	4	4
25	069-174	CAPACITOR, POLY., .001uF, 1000V, 5%		C21,23	2	2
26	069-172	CAPACITOR, POLY., .022uF, 400V, 5%		C1,3,6,7	4	2
27	069-160	CAPACITOR, POLY., .0022uF, 1000V, 5%		C4	1	1
28	030-817	CAPACITOR, CER., DISC, .01uF, 100V, 20%		C22	-	-
29	064-152	CAPACITOR, CER., DISC, .001uF, 50V, 10%		C13,17	2	2
30	013-166	DIODE, ZENER, CD32, 3.3V, 5%, 400mw		VR7,10	2	2
31	013-332	DIODE, ZENER, CD32, 4.7V, 5%, 400mw		VR2	-	-
32	013-983	DIODE, ZENER, CD32, 5.6V, 5%, 400mw		VR1,2,11	3	3
33	013-257	DIODE, ZENER, CD32, 6.2V, 5%, 400mw		VR3,4	2	2
34	013-383	DIODE, ZENER, CD32, 9.1V, 5%, 400mw		VR5,8	2	2
35	013-358	DIODE, ZENER, CD32, 5.1V, 5%, 400mw		VR12	1	1
36	581-020	DIODE, ZENER, 39V, 5%, 1W, CD702		VR13,14	2	2
37	581-295	DIODE, ZENER, 33V, 1W, 5%		VR15,16	2	2

LM-4050973

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4050973 SHEET 2	PE AE

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -13	-14
38	037-940	CAPACITOR, TANT., DIP., 68uF, 25V	C20	1	1
39	037-930	CAPACITOR, TANT., DIP., 5.6uF,35V	C27,28	2	2
40	063-028	CAPACITOR, ALUM., 100uF, 25V	C29,30	2	2
41	013-599	DIODE, GENERAL PUR.	CR7,15-19, 21-23	-	-
42	013-678	DIODE, 1 AMP	CR1-6,8-14,20, 24-27	-	-
43	013-678	DIODE, 1 AMP CD451	CR1-6,8-14,20, 24-36	27	27
44	064-116	CAPACITOR, CER., DISC, .01uF, 50V	C31	-	-
45	076-039	RESISTOR, C.F., 20 OHM, 1/4W, 5%	R11	1	1
46	066-660	RESISTOR, C.F., 22 OHM, 1/4W, 5%	R58,93	-	-
47	076-042	RESISTOR, C.F., 30 OHM, 1/4W, 5%	R20,36	2	2
48	030-817	CAPACITOR, CER., DISC, .01uF, 100V, 20%	C12,18,22	-	-
49	066-813	RESISTOR, C.F., 150 OHM, 1/4W, 5%	R113,114,119,120	-	-
50	066-812	RESISTOR, C.F., 100 OHM, 1/4W, 5%	R8,12,60,80	4	4
51	066-837	RESISTOR, C.F., 130 OHM, 1/4W, 5%	R3,19,38	3	3
52	066-662	RESISTOR, C.F., 200 OHM, 1/4W, 5%	R60,80	-	-
53	066-859	RESISTOR, C.F., 240 OHM, 1/4W, 5%	R70,79	2	2
54	066-661	RESISTOR, C.F., 120 OHM, 1/4W, 5%	R57	1	1
55	066-822	RESISTOR, C.F., 910 OHM, 1/4W, 5%	R115-118	4	4
56	066-665	RESISTOR, C.F., 1K OHM, 1/4W, 5%	R4,5,15,17,27,34,37,41, 43,45,51,101,102-112	-	-
57	066-715	RESISTOR, C.F.,1.2K OHM,1/4W, 5%	R65,81,89	3	3
58	066-820	RESISTOR, C.F., 750 OHM, 1/4W, 5%	R21	1	1
59	066-675	RESISTOR, C.F.,1.8K OHM, 1/4W, 5%	R46	-	-
60	066-665	RESISTOR, C.F., 1K OHM, 1/4W, 5%	R4,5,17,27,34,37,41,43, 45,51,101-112	-	-
61	066-689	RESISTOR, C.F.,2.2K OHM, 1/4W, 5%	R26,30,48-50,71, 76,94,99	9	9
62	066-928	RESISTOR, C.F.,2.4K OHM, 1/4W, 5%	R22	1	1
63	066-666	RESISTOR, C.F.,2.7K OHM, 1/4W, 5%	R23,24,31	3	3
64	066-813	RESISTOR, C.F., 150 OHM, 1/4W, 5%	R113,114	2	2
65	066-667	RESISTOR, C.F., 3K OHM, 1/4W, 5%	R14,40	2	2
66	066-720	RESISTOR, C.F.,3.3K OHM, 1/4W, 5%	R39,55	-	-
67	066-720	RESISTOR, C.F.,3.3K OHM, 1/4W, 5%	R39,55,62,63, 86,87	-	-
68	066-827	RESISTOR, C.F.,3.9K OHM, 1/4W, 5%	R6	1	1
69	066-720	RESISTOR, C.F.,3.3K OHM, 1/4W, 5%	R39	1	1
70	066-668	RESISTOR, C.F.,4.7K OHM, 1/4W, 5%	R18	-	-
71	066-668	RESISTOR, C.F.,4.7K OHM, 1/4W, 5%	R18,55	2	2
72	066-718	RESISTOR, C.F.,5.6K OHM, 1/4W, 5%	R2	1	1
73	066-814	RESISTOR, C.F.,270 OHM, 1/4W, 5%	R119,120	2	2
74	066-843	RESISTOR, C.F.,6.2K OHM, 1/4W, 5%	R16,44	2	2
75	066-829	RESISTOR, C.F.,6.8K OHM, 1/4W, 5%	R13	1	1
76	066-665	RESISTOR, C.F., 1K OHM, 1/4W, 5%	R4,5,17,27,34, 37,41,43,45,51, 101-112,121	23	23
77					
78	066-670	RESISTOR, C.F.,9.1K OHM, 1/4W, 5%	R9,10,25	3	3
79	066-675	RESISTOR, C..F,1.8K OHM, 1/4W, 5%	R46,122	2	2
80	066-830	RESISTOR, C..F, 10K OHM, 1/4W, 5%	R56,82	-	-
81	066-856	RESISTOR, C..F, 15K OHM 1/4W, 5%	R7	1	1
82	030-817	CAPACITOR, CER., DISC, .01uF, 100V	C12,18,22,31	4	4

LM-4050973

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4050973 SHEET 3	REV AE

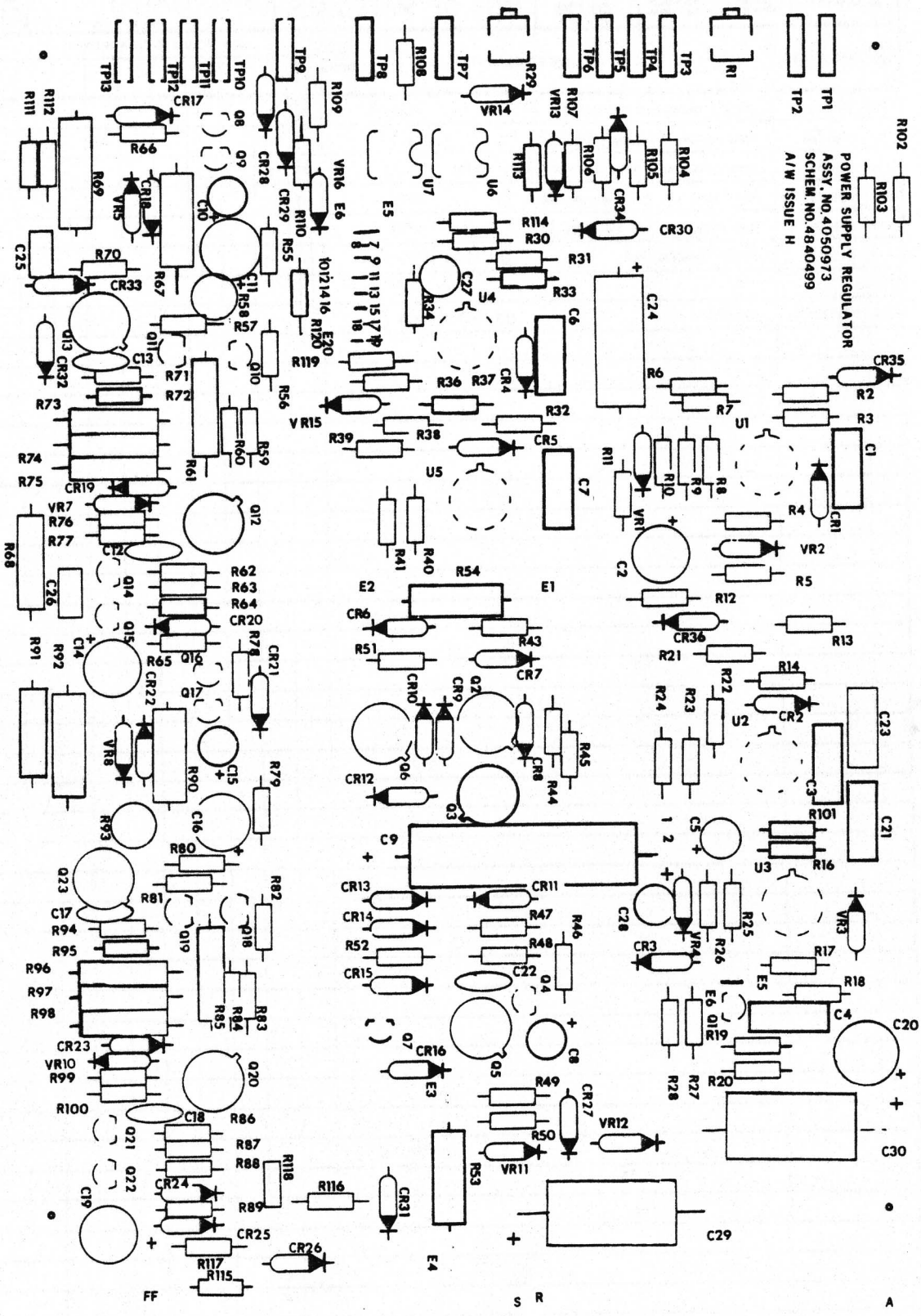
ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -3	-14
83	066-832	RESISTOR, C.F., 18K OHM, 1/4W, 5%	R72,95	2	2
84	066-712	RESISTOR, C..F. 22K OHM, 1/4W, 5%	R28,32,47,52,59, 64,66,73,83,88	10	10
85					
86	066-847	RESISTOR, C.F., 33K OHM, 1/4W, 5%	R77,100	2	2
87	066-860	RESISTOR, C..F, 39K OHM, 1/4W, 5%	R33	1	1
88					
89	076-190	RESISTOR, M.F., 64.9K, 1/8W, 1%	R84	1	1
90	076-009	RESISTOR, C.F., 68K OHM, 1/4W, 5%	R84	-	-
91	041-282	RESISTOR, C.C., 150 OHM, 1/2W, 5%	R113,114	-	-
92	041-528	RESISTOR, C.C., 300 OHM, 1/2W, 5%	R113,114	-	-
93	041-096	RESISTOR, C.C., 100 OHM, 1W, 5%	R67,90	2	2
94	041-007	RESISTOR, C.C., 750 OHM, 1/2W, 5%	R68,91	-	-
95	041-263	RESISTOR, C.C., 2.2K OHM, 1W, 5%	R69,92	-	-
96	041-009	RESISTOR, C.C., 1.8K OHM, 1/2W, 5%	R73-75,96-98	-	-
97	041-097	RESISTOR, C.C., 120 OHM, 1W, 5%	R53,54	-	-
98	041-357	RESISTOR, C.C., 5.6K OHM, 1/2W, 5%	R61,85	-	-
99	041-109	RESISTOR, C.C., 10K OHM, 1W, 5%	R56,82	2	2
100	013-599	DIODE, GENERAL PUR.	CR7,15-19,21-23, 37-40	-	-
101	044-941	RESISTOR, VAR., 100 OHM, 1 TURN	R58,93	2	2
102	058-041	RESISTOR, VAR., 5K OHM, 1 TURN, 1/2W	R1,29	2	2
103	187-259	TERMINAL, TEST POINT	TP14-17	4	4
104	4840588	SCHEMATIC		(A)	(C)
105	580-647	TRANSISTOR, NPN 2N3904	Q7,24	2	2
106	586-321	INTEGRATED CIRCUIT, VOLTAGE REG. 723	U1,2,4,5	4	4
107	586-269	INTEGRATED CIRCUIT, OP. AMP 741	U3	1	1
108	586-683	OPTO COUPLER, TRANSISTOR	U6,7	2	2
109	148-052	CONNECTOR, SIGNAL, CIRCUIT, JACK; BLACK	TP8,9	2	2
110	148-993	BROWN	TP5,11	2	2
111	148-027	RED	TP10	1	1
112	148-991	ORN	TP6		1
113	148-031	YEL	TP7		1
114	148-029	GREEN	TP1,3	2	2
115	148-030	BLUE	TP2		1
116	148-987	VIO	TP4		1
117	148-988	GRAY	TP12		1
118	148-028	CONNECTOR, SIGNAL, CIRCUIT, JACK: WHITE	TP13		1
119	615-124	WIRE, SOLID, UNINSULATED		AR	A/R
120	470-009	SCREW, CAP, HEX, 4-40 X 5/16 LG.		4	4
121	502-002	WASHER, LOCK, #4		4	4
122	501-169	WASHER, FLAT, #4, SMALL PATTERN		4	4
123	062-955	RESISTOR, M.F., 3.32K OHM, 1/4W, 1%	R62,63,86,87	4	4
124	057-678	RESISTOR, M.F., 750 OHM, 1/2W, 1%	R68,91	2	2
125	057-424	RESISTOR, M.F., 1.82K OHM, 1/2W, 1%	R73-75,96-98	6	6
126	057-173	RESISTOR, M.F., 5.62K OHM, 1/2W, 1%	R61,85	2	2
127	048-140	RESISTOR, M.F., 2.21K OHM, 1W, 1%	R69,92	2	2

LM-4050973

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA | CODE IDENT NO. 92739 | LIST OF MATERIALS | LM-4050973 SHEET 4 | REV AE

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -13	-14
128	581-797	DIODE, TRANSIENT SUPPRESSOR	VR17,18	2	2
129	580-166	TRANSISTOR, PNP, PWR, 2N5322	Q6	1	1
130	063-031	CAPACITOR, AL, TUBULAR, 100uF,50V,-10+75%	C9,32	2	2
131	059-798	RESISTOR, WW, 75 OHM, 3W, 5%	R124	1	1
132	059-799	RESISTOR, WW, 120 OHM, 3W, 5%	R123	1	1
133	013-599	DIODE, GENERAL PUR.	CR7,15-19,21-23,37-42	15	15
134					
135	103307-01	STANDOFF	REF: R82,123,124		6

LM-4050973



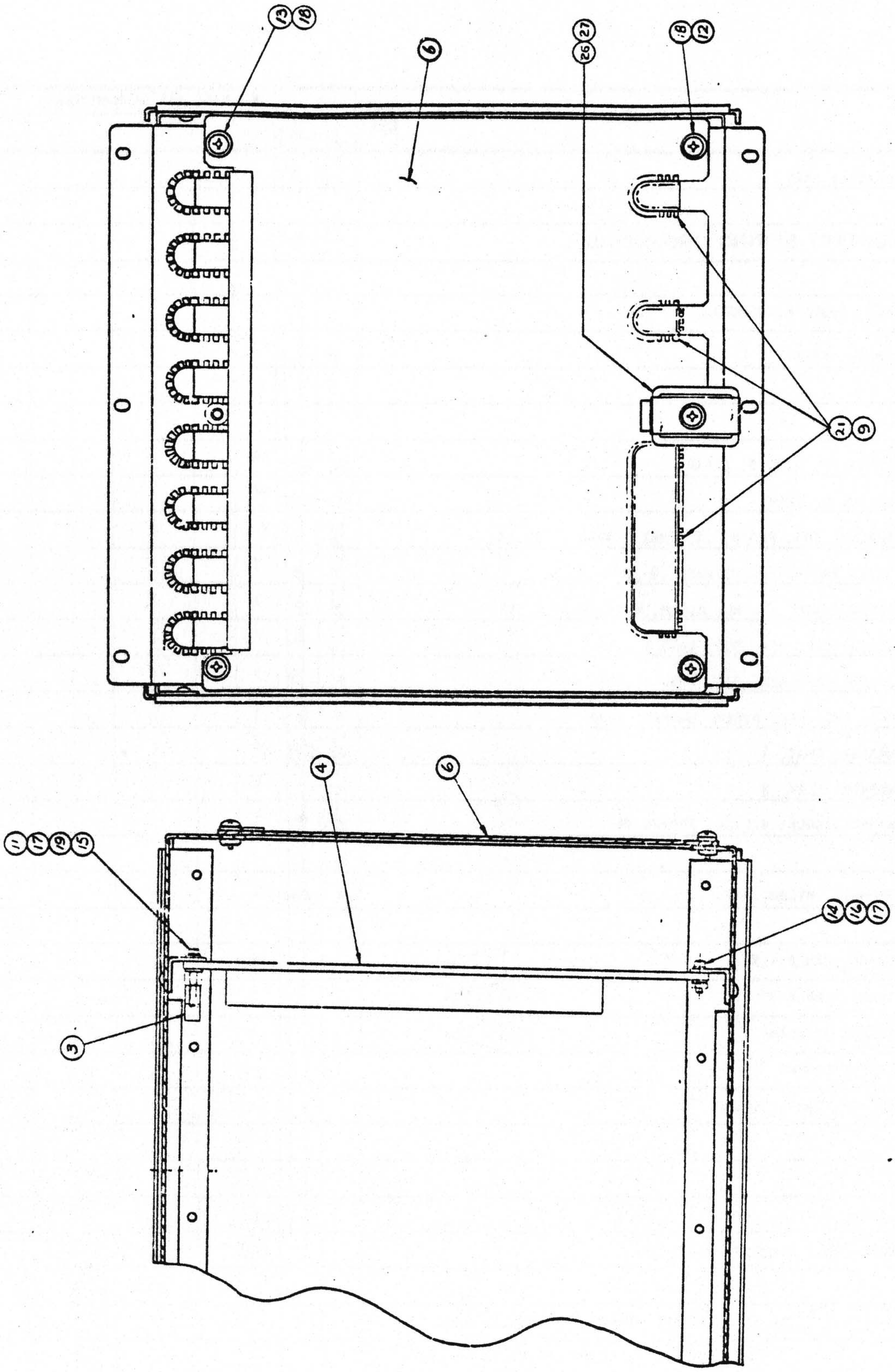
Assembly No. 4050973-04AE. Regulator PWA

4020454-03 AUDIO SIGNAL BAY REV. K

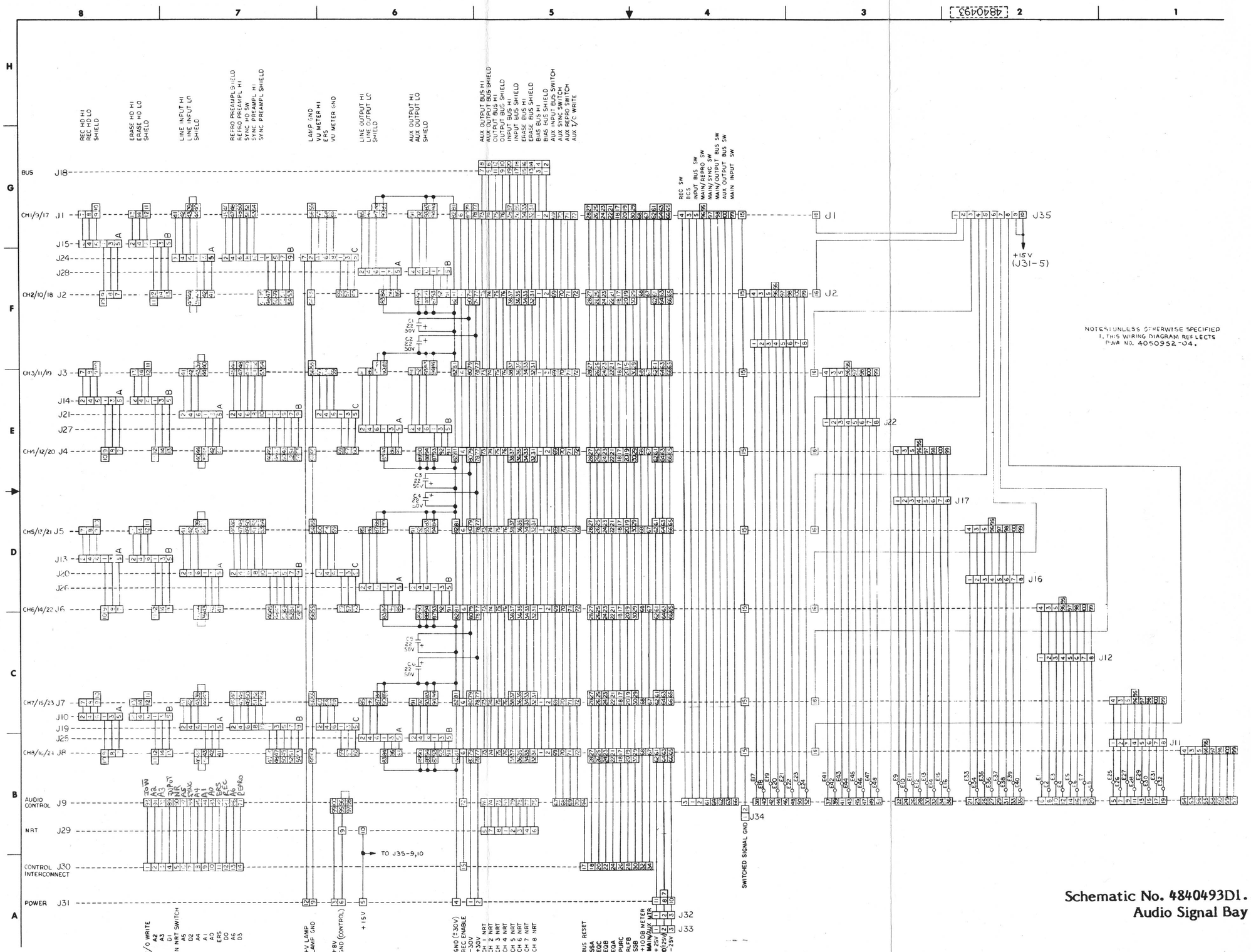
NEXT HIGHER ASSEMBLY 4010335,4010336,4010337,4010338

ITEM NO.	PART NUMBER	E	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03
1	4041299-01		CHASSIS ASSY.		1	1	1
2							
3	4270274-01		CONTACT SPRING, GROUNDING			9	9
4							
5	4050952-04		PWA, AUDIO MOTHERBOARD				1
6	4290996-03		PANEL, REAR				1
7							
8							
9	018-287		ADHESIVE, LIQUID, CLEAR		AR	AR	AR
10	4840493		WIRING DIAGRAM		REF	REF	REF
11	280-584		SPACER, THD, PLAIN, .250 HEX., 4-40 X .25 LG		9	9	9
12	475-061		SCREW PAN HD ASSEM. WASH. 8-32 X .50 LG		3	3	3
13	475-044		SCREW, X-REC PAN HD, ASSEM. WASH, 8-32 X .38		2	2	2
14	470-011		SCREW, CAP, HEX. SOC, 4-40 X .438		5	5	5
15	470-136		SCREW, CAP, HEX. SOC, 4-40 X .875		9	9	9
16	496-004		NUT, LKG, HEX. ASSEM. WASHER, 4-40		5	5	5
17	501-008		WASHER, FLAT, 4		28	28	28
18	501-205		WASHER, FLAT, 8		5	5	5
19	502-002		WASHER, LOCK, HELICAL SPRING #4		9	9	9
20							
21	260-052		GROMMET, NYLON, CAT.		AR	AR	AR
22							
23	302-567		CLAMP, CABLE 1 X 1	1			6
24	302-568		CLAMP, CABLE 3"	1			2
25	435-233		SPACER 3" CLAMP	1			4
26	302-062		CRADLE CLAMP				-
27	302-068		KEEPER, CRADLE CLAMP				-
28							
29							
30	918-017		METAL, FOIL, NI, CO-NETIC, 3.5 X 7.5				A/R
31	225-432		TAPE, DBL. SIDED FILM 0.5 WD				A/R
32							
33			NOTE: 1 PACKAGE ITEM 23 THROUGH 25 AND				
			ATTACH TO THE ASSEMBLY. TO BE USED				
			AT THE NEXT ASSEMBLY.				

LM-4020454



Assembly No. 4020454-03K. Signal Bay



NOTES: UNLESS OTHERWISE SPECIFIED
1. THIS WIRING DIAGRAM REFLECTS P/N/A NO. 4050952-04.

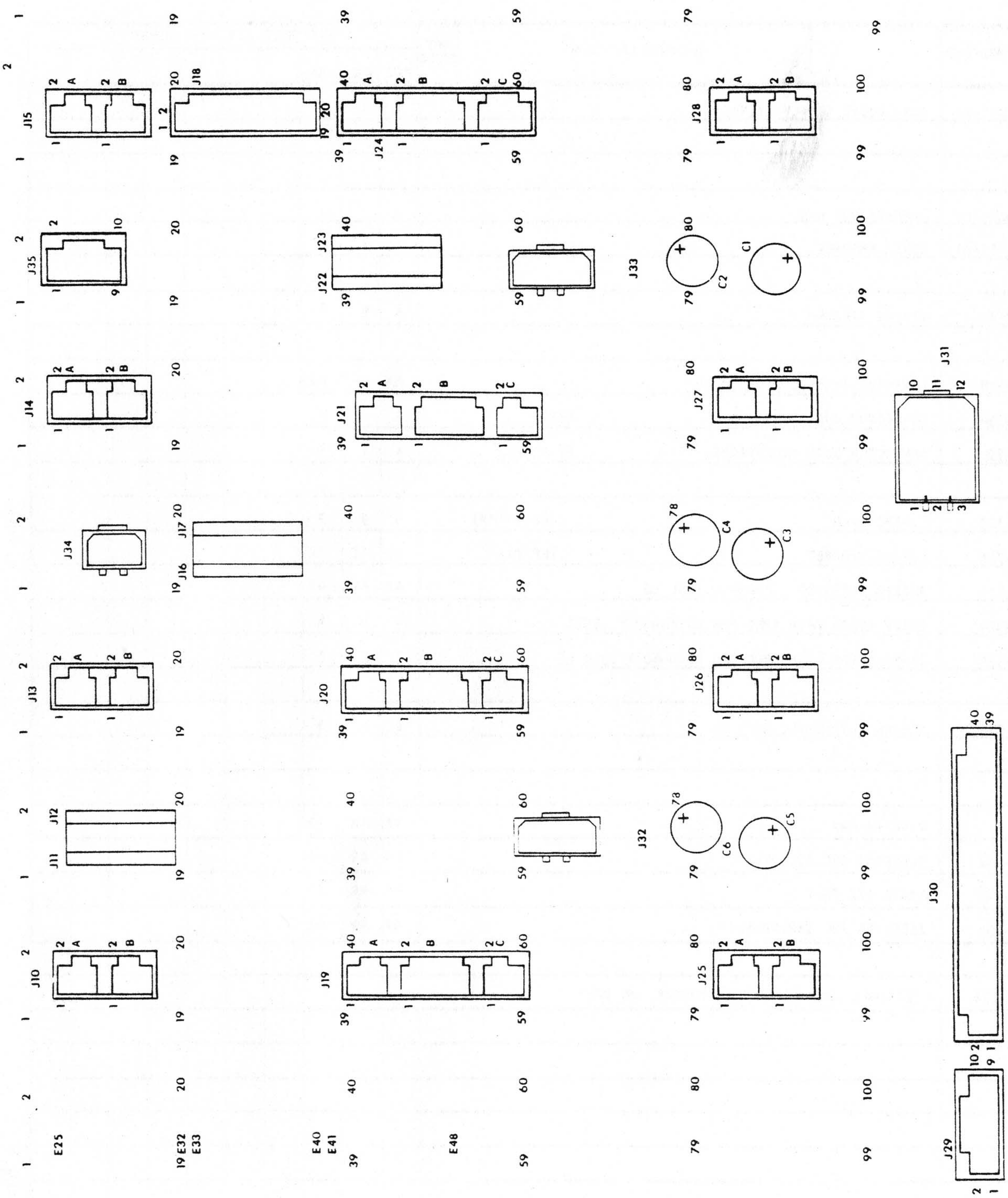
Schematic No. 4840493D1.
Audio Signal Bay

6-3/6-4

4050952-04 AUDIO MOTHERBOARD PWA REV. H
NEXT HIGHER ASSEMBLY 4020454

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04
1								
2								
3	4840493	WIRING DIAGRAM			A	B	C	D1
4								
5	145-675	CONNECTOR, P.C., 100 PIN		J1-9	9	9	9	9
6	135-145	HEADER, 28 POSITION		J24		1	1	1
7	135-142	HEADER, 14 POSITION		J10,13-15,25-28	8	8	8	8
8	135-143	HEADER, 20 POSITION		J18		1	1	1
9	135-144	HEADER, 26 POSITION		J19-21	3	3	3	3
10	135-149	HEADER, 10 POSITION		J29	1	1	1	1
11	135-153	HEADER, 40 POSITION		J30	1	1	1	1
12	167-704	BARRIER INSERTS			16	16	16	16
13	140-209	P.C. HEADER, 12 POSITION		J31	1	1	1	1
14	140-291	P.C. HEADER, 3 POS.		J32,33	2	2	2	2
15	140-417	HEADER, 2 PIN		J34		1	1	1
16	582-134	SOCKET, 16 PIN DIP		J11/12,16/17.22/23	3	3	3	3
17	135-270	HEADER, 10 POS		J35				1
18	636-041	FLAT CABLE, 5.0"			2	2	2	2
19								
20	636-043	FLAT CABLE, 6.0"			2	2	2	2
21	636-044	FLAT CABLE, 9.0"			1	1	1	1
22	636-045	FLAT CABLE, 10.0"			1	1	1	1
23								
24	302-335	TIE WRAP			3	3	3	3
25								
26	067-081	CAPACITOR, TANT, DIP, 22uF, 50V		C1-6	6	6	6	6

LM-4050952

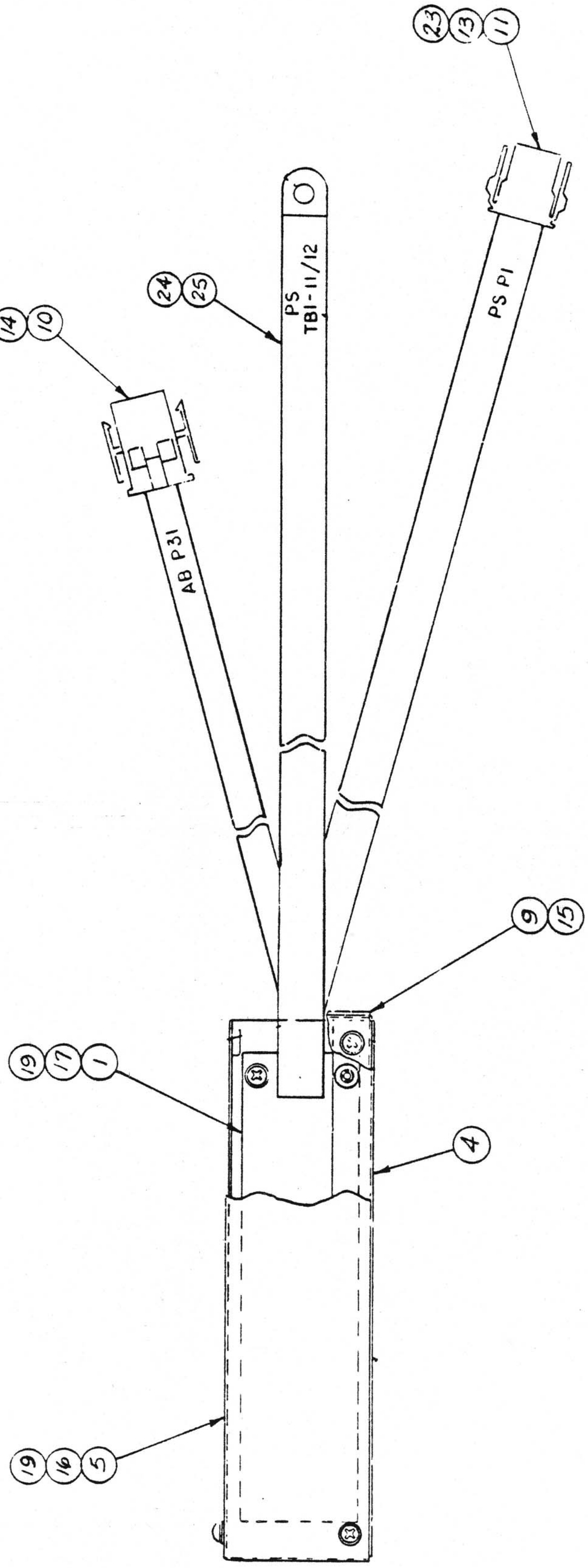


Assembly No. 4050952-04H. Audio Motherboard PWA

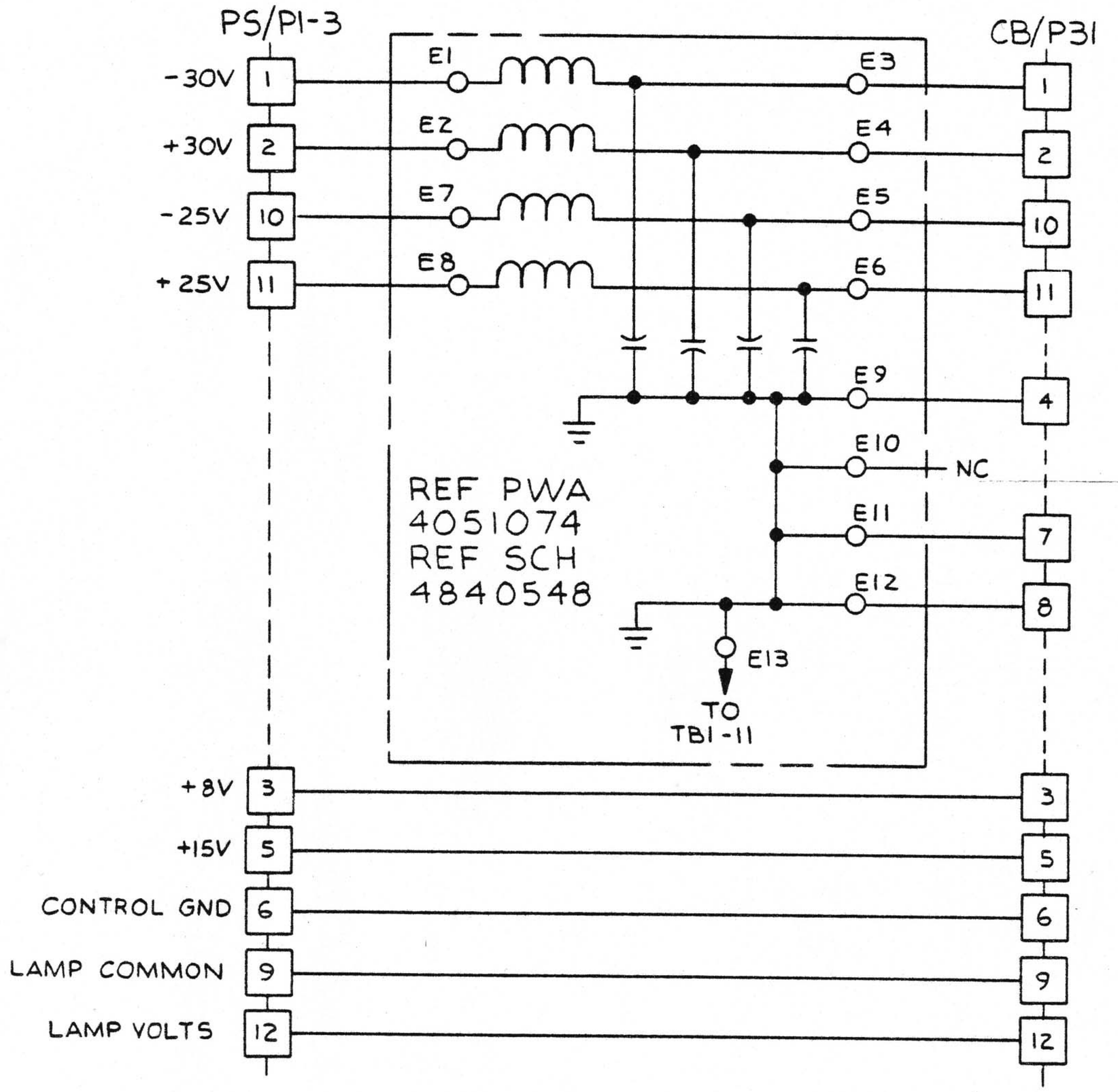
4051076-AD SIGNAL BAY POWER CABLE ASSEMBLY, 36 INCHES REV. B
4051076-AE SIGNAL BAY POWER CABLE ASSEMBLY, 28 INCHES
4051076-AF SIGNAL BAY POWER CABLE ASSEMBLY, 20 INCHES
NEXT HIGHER ASSEMBLY 4010338

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -AD	-AE	-AF
1	4051074-01	PWA, AUDIO SUPPLY FILTER			1	1	1
2							
3							
4	4260668-01	BRACKET, PWA MTG			1	1	1
5	4291103-01	COVER, BRACKET			1	1	1
6							
7	4840550	WIRING DIAGRAM			B	B	B
8							
9	018-378	ADHESIVE, PERMABOND OR EQUIV			AR	AR	AR
10	167-354	CONNECTOR, BODY PLUG		ABP31	1	1	1
11	167-708	CONNECTOR, BODY, RECEPTACLE		PS P1-P3	1	1	1
12							
13	167-725	CONTACT, PIN		REF: P1/2/3	9	9	9
14	167-726	CONTACT SOCKET		REF P31	12	12	12
15	269-120	RUBBER EXTRUDED U-CHANNEL 1.56 LG			AR	AR	AR
16	473-324	SCREW ASSEM WASH XREC PAN HD #4-40 X .25LG			4	4	4
17	473-325	SCREW ASSEM WASH XREC PAN HD 4-40 X .312 LG			2	2	2
18							
19	501-008	WASHER FLAT SMALL PATT #4			6	6	6
20							
21							
22		WIRE 18 AWG			AR	AR	AR
23	600-048	SLEEVING PVC FLEXIBLE			AR	AR	AR
24	617-147	BRAID 1/2 FLAT			AR	AR	AR
25	600-256	SLEEVING PVC SHRINKABLE			AR	AR	AR
26							
27	172-376	TERMINAL LUG, CRIMP RING TONGUE, #8 STUD			1	1	1

LM-



Assembly No. 4051076-AD/AE/AF/ B. Signal Bay Power Cable



Wiring Diagram No. 4840550B. Cable Power Audio Bay

4030458-02 24 CHANNEL LABEL KIT REV. D

NEXT HIGHER ASSEMBLY 4010335,4010336

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02
1	4170364-AA	LABEL, P.W.A., LOCATION, SIGNAL BAY 1-8		1	1
2	4170364-AB	LOCATION, SIGNAL BAY 9-16		1	1
3	4170364-AC	LOCATION, SIGNAL BAY 17-24		1	1
4	4170365-01	LOCATION, CONTROL BAY		1	1
5	4170370-AA	POSITION, SIGNAL BAY		1	1
6	4170370-AB	POSITION, SIGNAL BAY		1	1
7	4170370-AC	LABEL, P.W.A., POSITION, SIGNAL BAY		1	1
8	4110322-01	AMPEX LOGO		1	1
9	4260640-01	BRACKET, LABEL, CONTROL BAY		1	1
10	4110323-01	NAME PLATE		1	1
11	6000037-01	SYSTEM IDENTIFICATION		1	1
12	4170377-01	LABEL, DANGER		1	1
13	4170386-AA	LABEL, PRE-AMP P.W.A. POSITION		2	2
14	-AB			2	2
15	-AC			2	2
16	-AD			2	2
17	-AE			2	2
18	4170386-AF	LABEL, PRE-AMP P.W.A. POSITION		2	2
19	4170370-AD	LABEL, P.W.A. POSITION, SIGNAL BAY		1	1
20	-AE			1	1
21	-AF			1	1
22	-AG			1	1
23	-AH			1	1
24	-AJ			1	1
25	-AK			1	1
26	-AL			1	1
27	-AM			1	1
28	-AN			1	1
29	-AP			1	1
30	-AR			1	1
31	-AS			1	1
32	-AT			1	1
33	-AU			1	1
34	-AV			1	1
35	-AW			1	1
36	4170370-AY	LABEL, P.W.A. POSITION, SIGNAL BAY		1	1
37					

LM-4030458

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4030458 SHEET 2 OF 2	D

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02
38	4170370-AZ		LABEL, P.W.A. POSITION, SIGNAL BAY		1	1
39	4170370-BA		LABEL, P.W.A. POSITION, SIGNAL BAY		1	1
40	4170370-BB		LABEL, P.W.A. POSITION, SIGNAL BAY		1	1
41	4170339-AA		TAG, CAUTION		/	1
42	4170339-AB		TAG, CAUTION		/	1
43	6000056-01		LABEL, FCC NONCOMPLIANCE			1

NOTE:

1. SELECT ONE ONLY.
2. INSTALL LABEL NEAR ITEM 11

LM-4030458

4030461-02 16 CHANNEL LABEL KIT REV. D

NEXT HIGHER ASSEMBLY 4010337,4010338

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02
1	4170364-AA		LABEL, P.W.A. LOCATION, SIGNAL BAY, 1-8		1	1
2	4170364-AB		LABEL, P.W.A. LOCATION, SIGNAL BAY, 9-16		1	1
3	4170365-01		LABEL, P.W.A. LOCATION, CONTROL BAY		1	1
4	4170370-AA		LABEL, P.W.A. POSITION, SIGNAL BAY		1	1
5	4170370-AB		LABEL, P.W.A. POSITION, SIGNAL BAY		1	1
6	4110324-01		NAME PLATE		1	1
7	4260640-01		BRACKET, LABEL, CONTROL BAY		1	1
8	4110322-01		AMPEX LOGO		1	1
9	6000037-01		SYSTEM IDENTIFICATION NAMEPLATE		1	1
10	4170377-01		LABEL, DANGER (POWER CORD REAR PANEL)		1	1
11	4170386-AA		LABEL, PRE-AMP P.W.A. POSITION		2	2
12	4170386-AB		LABEL, PRE-AMP P.W.A. POSITION		2	2
13	4170386-AC		LABEL, PRE-AMP P.W.A. POSITION		2	2
14	4170386-AD		LABEL, PRE-AMP P.W.A. POSITION		2	2
15	4170339-AA		TAG, CAUTION	1	1	1
16	4170339-AB		TAG, CAUTION			
17	4170370-AC		LABEL, P.W.A. POSITION, SIGNAL BAY		1	1
18		-AD			1	1
19		-AE			1	1
20		-AF			1	1
21		-AG			1	1
22		-AH			1	1
23		-AJ			1	1
24		-AK			1	1
25		-AL			1	1
26		-AM			1	1
27		-AN			1	1
28		-AP			1	1
29		-AR			1	1
30	4170370-AS		LABEL, P.W.A. POSITION, SIGNAL BAY		1	1
31	6000056-01		LABEL, FCC NONCOMPLIANCE	2		1

NOTES:

1. SELECT ONE ONLY
2. INSTALL LABEL NEAR ITEM 9

LM-4030461

4051080-06 MAIN AUDIO W/AUXILIARY OUTPUT AMPLIFIER PWA REV. P
NEXT HIGHER ASSEMBLY 4010335, 4010337

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06
1										
2										
3	4840551	SCHEMATIC, AUDIO		REF	A	B	C	D	G
4										
5	4120048-01	HANDLE			1	1	1	1	1	1
6	4041345-01	SHIELD ASSEMBLY			1	1	1	1	1	1
7	4170353-01	LABEL			1	1	1	1	1	1
8	582-190	HEAT SINK IERC PAI-ICB	REF Q305,306,602,603,809,810,811, 812,909,910,911,912,U651,U652		14	14	14	14	14	14
9										
10	103307-01	STAND OFF	REF: R651,652,833-837,933-937		28	28	28	28	28	28
11										
12	020-765	RELAY		K301,302,601	3	3	3	3	3	3
13										
14										
15	013-166	DIODE, ZENER, 3.3V, 5%	IN746A	VR604	1	1	1	1	1	1
16	013-332	DIODE, ZENER, 4.7V, 5%	IN750A	VR101,201,205	3	3	3	3	3	3
17										
18	013-450	DIODE, ZENER, 10V,	IN961B	VR203,204,206,208	4	4	4	4	4	4
19										
20	013-354	DIODE, ZENER, 15V,	IN965B	VR301,302	2	2	2	2	2	2
21	013-703	DIODE, ZENER, 20V,	IN968B	VR202	1	1	1	1	1	1
22	581-420	DIODE, ZENER, 30V, 400 MV	IN972B	VR901,902	2	2	2	2	2	2
23	013-509	DIODE, SWITCHING	CR101,201-208,210-220,301,302,304-314, 322-324,326,502-505,555,601-603,801-807, 812,820,901-907,912-914,917,918,920-922			-	69	69	69	69
24			IN4531							
25	013-599	DIODE	CR101,201-208,210-220,301,302,304-314,322-326,502-505,555,601-603,801-807,812,820,901-907,912-914,		68	68	-	-	-	-
26			917,918,920							
27	013-650	DIODE, CD498	IN270	CR651	1	1	1	1	1	1
28	013-678	DIODE	IN4385	CR808-811,908-911	8	8	8	8	8	8
29										
30	580-274	TRANSISTOR	MPS A-13	Q307	1	1	1	1	1	1
31	014-248	TRANSISTOR	2N2222	Q605	1	1	1	1	1	1
32	014-672	TRANSISTOR, DUAL	CD6075 2	Q409,709	2	2	2	2	2	2
33										
34										
35	580-167	TRANSISTOR, NPN, 2N5320		Q302	1	1	1	1	1	1
36	580-166	TRANSISTOR, PNP, 2N5322		Q303	1	1	1	1	1	1
37										

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ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06
38									
39	580-568	TRANSISTOR, PNP, 2N5400	Q304,803,904,908	4	4	4	4	4	4
40	580-800	TRANSISTOR, NPN, 2N5550	Q805,807,905,907	4	4	4	4	4	4
41	580-647	TRANSISTOR, NPN, 2N3904	Q201,308,309,503,504,606,607, 817-820,913,917-920	-	-	16	16	16	16
42	580-647	TRANSISTOR, NPN, 2N3904	Q201,308,309,413,503 504,606,607, 817-820,913,917-920	17	17	-	-	-	-
43	014-652	TRANSISTOR, PNP, 2N3906	Q202,207,310,601,604,914	6	6	-	-	-	-
44	580-963	TRANSISTOR, MPSA63	Q310	-	-	1	1	1	1
45	014-652	TRANSISTOR, PNP, 2N3906	Q202,207,601,604,914	-	-	5	5	5	5
46	580-859	TRANSISTOR, NPN, TIP41B	Q810,812,910,912	4	4	4	4	4	4
47	580-860	TRANSISTOR, PNP, TIP42B	Q809,811,909,911	4	4	4	4	4	4
48									
49	579-006	TRANSISTOR, NPN, D44C11	Q306,602	2	2	2	2	2	2
50	579-007	TRANSISTOR, PNP, D45C11	Q306,603	2	2	2	2	2	2
51									
52									
53	580-304	TRANSISTOR, FET, P1087E	Q101-109,203-206,401-408,410-413, 551-554,701-708,710-712,816,916	-	-	42	42	42	42
54	580-304	TRANSISTOR, FET P1037E	Q101-109,203-206,401-408,410-412,551-554,701-708,710-712,816, 916	41	41	-	-	-	-
55									
56	580-708	TRANSISTOR, FET P1086E	Q301,501,502,801-803,806,901-903,906	11	11	11	11	11	11
57									
58	056-697	CAPACITOR, MICA, 7PF, ±.5PF	C408,708	-	2	2	2	2	2
59	034-156	5PF, ±.5PF	C307,311,555	3	3	3	3	3	3
60	034-215	10	C102,106,411,504,711, 804,823,904,923	9	9	9	-	-	-
61	056-140	20	C408,503,708,803,903	5	5	5	-	-	-
62	056-164	22 ±.5PF	C815,817,915,917	4	4	4	-	-	-
63	034-215	10 ±.5PF	C102,106,504,804, 823,904,923			7	7	7	7
64	056-140	20 ±.5PF	C503,803,903			3	3	-	-
65	034-540	51 ±1%	C508	1	1	1	1	1	1
66	034-259	56 ±1%	C506	1	1	1	1	1	1
67	056-680	43 ±.5PF	C814,816,914,916	4	4	4	4	4	4
68	056-164	22 ±.5PF	C411,711,815, 817,915,917			6	6	6	-
69	056-140	20pF, ±.5pF	C503				-	1	1
70	034-285	75 1%	C831,931	2	2	2	2	2	2
71	034-177	100 ±5%	C217-219,561-564			-	7	7	7
72	034-199	300 5%	C304	1	1	1	1	1	1
73	056-163	470 5%	C707	1	1	1	1	-	-
74	034-183	62pF, ±5%	C803,903				-	2	2
75	034-309	560 1%	C101,109-112	5	5	5	5	5	5
76	034-677	680 1%	C308	1	1	1	1	1	1
77									
78	034-351	820 1%	C716	1	1	1	1	-	-
79	056-771	22pF, ±0.5pF	C411,711,815,917 915,917					-	6
80	034-373	2700 1%	C316	1	1	1	1	1	1
81	034-243	3000 1%	C315	1	1	1	1	1	1
82	034-575	CAPACITOR, MICA3600 PF, 1%	C602	1	1	1	1	1	1

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ITEM NO	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06
83									
84									
85	037-927	CAPACITOR, TANT, DIP, 2.2UF, 35V,	C560,830,930	3	3	3	3	3	3
86	037-931	6.8 , 35V,	C206	1	1	1	1	1	1
87	037-933	10 , 35V,	C203,651,652,713,929	5	-	-	-	-	-
88	037-933	35V	C203,418,651,652 713,718,929	-	7	7	7	7	7
89	037-893	15 20V,	C516,517	2	2	2	2	2	2
90	067-016	15 50V,	C303,310	2	2	2	2	2	-
91	037-936	22 35V,	C653,654,928						3
92	037-936	22 35V,	C604,605.653.654,928	5	5	5	5	5	-
93	037-892	47 20V,	C414,415,714,715				-	4	4
94	037-946	33 25V	C414-416,509,510,512-515, 557,558,714,715	13	13	13	13	-	-
95	037-946	33 25V,	C416,509,512-515,557 558,510				-	9	9
96									
97	067-016	15 50V,	C303,310,604,605						4
98	037-894	100 10V	C412,712	2	2	2	2	2	2
99	037-958	82 15V	C810-812,832,833,910-912, 932,933	10	-	-	-	-	-
100	037-971	180UF, 6V	C312,313	2	2	2	2	2	2
101	037-958	CAPACITOR, TANT, DIP, 82UF, 15V	C810-812,832, 910-912,932	-	8	-	-	-	-
102	037-958	CAPACITOR, TANT, DIP, 82UF, 15V	C810-812 833, 910-912,933	-	-	8	8	8	8
103	069-174	CAPACITOR, POLY, .001UF,	C201,209	2	2	2	2	2	2
104	069-161	.0033UF,	C401-404,701-704	8	8	8	8	8	8
105	069-165	.027UF,	C108	1	1	1	1	1	1
106									
107									
108	069-168	.10UF,	C220,609	2	2	2	2	2	2
109	069-169	CAPACITOR, POLY, .22UF,	C202,204,208,318,320,321	6	6	6	6	6	6
110									
111	064-062	CAPACITOR, MONO, .1UF	C103-105,107,205,207,216,306,322,409 410,501,502,505,507,554,556,601,603				37	37	37
112			709,710,806-809,818-821,906-909,918-921						
113	064-062	CAPACITOR, MONO, .1UF,	C103-105,107,205,207,216-219,306,322,	44	44	44	-	-	-
114			409,410,501,502,505,507,554,556,561-564,601,603,709,710,806-809,818-821, 905-909,918-921						
115	064-133	CAPACITOR, MONO,.33UF,	C215	1	1	1	1	1	1
116	064-307	CAPACITOR, MONO, .22UF, 100V	C429	-	-	1	1	1	1
117									
118									
119	030-817	CAPACITOR, CER. DISC, .01UF,	C210,214,317,551,553,606,608	7	7	7	7	7	7
120	064-152	CAPACITOR, CER. DISC,.001UF,	C211,301	2	2	2	2	2	2
121									
122									
123	038-249	CAPACITOR, VAR, 2-8PF	C511	1	1	1	1	1	1
124	038-250	CAPACITOR, VAR, 3-15PF,	C822,922	2	2	2	2	2	2
125									
126									
127									

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ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06
128	066-571	RESISTOR, C.F., 10K OHMS, 1/4W, 5%	R202,217,218,232,246 313,327,438,605,610						
129			612,617,737,801,804,807,808,811,824,901 904,907,908,911,924,950,951				-	27	27
130	066-526	RESISTOR, C.F., 10 OHMS, 1/4W, 5%	R310,315,329	3	3	3	3	3	3
131	076-979	20	R816,852,916,952	4	4	4	4	4	4
132	066-528	100	R443,743,815, 839,915,939	-	6	6	6	6	6
133	066-528	100	R815,939,915,939	4	-	-	-	-	-
134	066-529	120	R317,335	2	2	2	2	2	2
135	066-619	180	R323	1	1	1	1	1	1
136									
137									
138	066-532	220	R813,819,913,919	4	4	4	4	4	4
139	066-533	270	R814,817,914,917	4	4	4	4	4	4
140									
141	066-534	330	R415	1	1	1	1	1	1
142	066-537	390	R604	1	1	1	1	1	1
143	066-564	470	R309,315	2	2	2	2	2	2
144	066-538	510	R440,441,740,741	-	4	4	4	4	4
145	066-541	1K	R210,219,236,242, 615,715,953	-	-	7	7	7	7
146	066-500	750	R416,418,420,422,716, 718,720,722	8	8	8	8	8	8
147	066-541	1K	R210,219,236,242, 615,715	6	6	-	-	-	-
148	066-542	1.2K	R429,516,729	3	-	-	-	-	-
149	066-542	1.2K	R516	-	1	1	1	1	1
150									
151	066-567	1.8K	R225	1	1	1	1	1	1
152	066-544	2.2K	R125,602,614	3	3	3	3	3	3
153	066-545	2.4K	R331	1	1	1	1	1	1
154	066-546	2.7K	R429,729	-	2	2	2	2	2
155									
156	066-547	3.0K	R841,842,941,942	4	4	4	4	4	4
157	066-568	3.3K	R226	1	1	1	1	1	1
158	066-549	4.7K	R234,946,953	3	3	-	-	-	-
159	066-549	4.7K	R234	-	-	1	1	1	1
160									
161	066-550	5.1K	R304,312,506,826, 830,926,930	7	7	7	7	7	7
162	066-551	5.6K	R303,609	2	2	2	2	2	2
163									
164	066-638	9.1K	R305,311	2	2	2	2	2	2
165	066-571	10K	R202,217,218,232,246, 313,327,605,610,612,	22	22	-	-	-	-
166			617,737,808,810,811, 824,908,910,911,924,						
167			950,951						
168	066-589	15K	R208,211	2	2	2	2	2	2
169	066-571	10K	R202,217,218,232,246,313, 327,438,605,610,612,617,	-	-	24	31	-	-
170			737,808,811,824,908,911, 924,950,951						
171	066-555	18K	R308,603	2	2	2	2	2	2
172	066-535	RESISTOR, C.F., 22K OHMS, 1/4W, 5%	R203,204,215,227,257, 606,607	7	7	-	-	-	-

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ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06
173	066-535	RESISTOR, C.F., 22K OHMS, 1/4W, ±5%	R203,204,215,227, 257,606,607,946	-	-	8	8	8	8
174									
175	076-863	RESISTOR, C.F., 24K OHMS, 1/4W, 5%	R201,244,333	3	3	3	3	3	3
176	066-520	30K	R209	1	1	1	1	1	1
177	066-579	33K	R115-118,228,229,235, 239,240,243,262-264,	41	-	-	-	-	-
178			501,515,551-559,570,						
179			573,655-658,801,804, 807,821,901,904,907, 921,947-949						
180	076-856	36K	R224,426,726	-	3	3	3	3	3
181	076-856	36K	R224	1	1	-	-	-	-
182	066-559	47K	R131-134,207,212,213, 216,247,260	10	10	10	10	10	10
183	066-521	51K	R119-124,126,127,321, 324,334,613	12	12	12	12	12	12
184									
185	066-575	56K	R430,431,730,731	-	-	4	4	4	4
186	066-575	56K	R430,431,437,730,731	5	5	-	-	-	-
187	066-508	75K	R314	-	1	-	-	-	-
188	066-508	75K	R314,426,726	3	-	-	-	-	-
189	066-576	100K	R135-142,206,221,256, 259,301,326,568,569, 601,608	18	18	18	18	18	18
190									
191	066-577	150K	R214,222	2	2	-	-	-	-
192	066-577	150K	R214,222,314,336	-	-	4	4	4	4
193									
194	076-857	200K	R332	1	1	1	1	1	1
195	076-858	390K	R417,419,421,423,717, 719,721,723	8	8	8	8	8	8
196									
197	066-652	470K	R258	1	1	1	1	1	1
198	066-636	680K	R328	1	1	1	1	1	1
199									
200									
201	066-556	1M	R223,302,956,957	4	4	4	4	4	4
202	076-062	RESISTOR, C.F., 2M OHMS, 1/4W, 5%	R245	1	1	1	1	1	1
203									
204									
205	062-563	RESISTOR, M.F., 3.57K OHMS, 1/8W, 1%	R564	1	1	1	1	1	1
206	062-966	4.75K	R823,923	2	2	2	2	2	2
207	062-968	4.99K	R809,822,829,909,922, 929	6	6	6	6	6	6
208									
209	062-983	10.0K	R802,803,806,818,827 902,903,906,918,927					10	10
210	062-983	10.0K	R827,927	2	2	2	2	-	-
211	062-693	20.0K	R505,509	2	2	2	2	2	2
212	066-008	28K	R503,508	2	2	2	2	2	2
213									
214	066-656	RESISTOR, M.F. 30.1K OHMS, 1/8W, 1%	R502,504,507,802,803, 806,818,902,903,906,	11	11	11	11	-	-
215			918						
216	066-656	RESISTOR, M.F., 30.1K OHMS, 1/8W, 1%	R502,504,507				-	3	3
217									

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ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06
218									
219									
220	066-012	RESISTOR, M.F., 40.2K OHMS, 1/8W, 1%	R560,561	2	2	2	2	2	2
221	066-733	49.9K	R820,831,920,931	4	4	4	4	4	4
222									
223	066-064	52.3K	R838,840,938,940	4	4	4	4	4	4
224	066-655	68.1K	R128	1	1		1	1	1
225									
226									
227	062-601	100K	R114,129	2	2	2	2	2	2
228	076-351	113K	R563	1	1		1	1	1
229									
230									
231	066-024	243K	R562	1	1		1	1	1
232	066-926	267K 1%	R130	1	1		1	1	1
233								1	1
234	079-052	RESISTOR, M.F., 10K OHMS, 1/8W, .1%	R510,511	2	2	2	2	2	2
235									
236	041-657	RESISTOR, C.C., 2.7 OHMS, 1/2W, 5%	R611	1	1		1	1	1
237	041-813	12 1W,	R833,834,936,837, 933,934,936,937	8	8	8	8	8	8
238	041-302	20 1W,	R832,835,932,935	4	4	4	4	4	4
239	041-821	33 1W,	R653	1	1		1	1	1
240									
241									
242	041-003	100 1/2W,	R322	1	1	1	1	1	1
243	041-014	10K 1/2W,	R812,825,912,925	4	4	4	4	4	4
244									
245									
246	041-780	2.7M 1/4W,	R220,734	2	2	2	2	2	2
247	041-782	3.3M	R319,325	2	2	2	2	2	2
248	066-858	4.7M	R205	1	1	1	1	1	1
249									
250	041-786	5.1M	R318,320,567,855,955	5	5	5	5	5	5
251	041-787	5.6M	R735	1	1		1	1	1
252	041-789	6.8M	R432,732	2	2	2	2	2	2
253	041-791	RESISTOR, C.C., 8.2M 1/4W,	R736	1	1		1	1	1
254									
255	059-714	RESISTOR, W.W., 40 5W,	R651,652	2	2	2	2	2	2
256	044-391	RESISTOR, VAR, 200	R514	-	1		1	1	1
257	044-891	RESISTOR, VAR, 200	R514,843,943	3	-		-	-	-
258	044-927	RESISTOR, VAR, 500	R843,943	-	2	2	2	2	2
259	066-579	RESISTOR, C.F., 33K OHMS, 1/4W, 5%	R115-118,228,229,235 239,240,243,262-264, 438,439,501,515,551-559,570-573,655-658, 801,804,807,821,901, 904,907,921,947-949	-	45	-	-	-	-
260									
261									
262									

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ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06
263	066-579	RESISTOR, C.F., 33K OHMS, 1/4W, ±5%	R115-118,228,229,235, 239,240,243,262-264,	-	-	44	44	-	-
264			501,515,551-559,570-573,655-658,801,804,807,821, 901,904,907,921,947-949,953						
265	058-668	RESISTOR, VAR, 20K OHMS, 20 TURN	R101-104,402-405,702-705	12	12	12	12	12	12
266	058-610	20K 1 TURN	R616	1	1	1	1	1	1
267	058-765	50K 20 TURN	R805,905	2	2	2	-	-	-
268	058-388	50K 20 TURN	R406-413,706-713	16	16	16	16	16	16
269	075-293	50K 20 TURN	R513,805,905		1	1	3	3	3
270									
271	058-696	100K 20 TURN	R110-113	4	4	4	4	4	4
272	058-344	RESISTOR, VAR, 500K 1 TURN	R250-255	6	6	6	6	6	6
273	066-579	RESISTOR, C.F., 33K OHMS, 1/4W,5%	R115-118,228,229,235 239,240,243,262-264						
274			501,515,551-559,570-573,655-658,821,921 947-949,953				-	38	38
275									
276	590-002	I.C., QUAD 2-INPUT NAND, CD4011BE [1]	U204	1	1	1	1	1	1
277	589-782	I.C., TRIP. 3-INPUT NAND, CD4023BE [1]	U551	1	1	1	1	1	1
278		I.C., TRIP. 3-INPUT NOR, CD4025B [1] [3]	U302	1	1	1	1	1	1
279									
280									
281		I.C., QUAD D LATCH CD4042BE [1] [3]	U806	1	1	1	1	1	1
282	589-798	HEX BUFF NON-INVERT CD4050BE	U552,905	2	2	2	2	2	2
283		HEX INVERT CD4069UB [3]	U553	1	1	1	1	1	1
284		QUAC 2-INPUT OR CD4071B [3]	U203	-	-	1	1	1	1
285	587-905	QUAD 2-INPUT OR CD4071B	U203,402	2	2	1	-	-	-
286	589-641	QUAD 2-INPUT X OR CD4077BE	U202	1	1	1	1	1	1
287		QUAD,2-INPUT AND CD4081B [1] [3]	U205	1	1	1	1	1	1
288									
289									
290	587-478	OP-AMP LM318	U101,102,301,401,501,502,554, 601,701,801-804,901-904	17	17	17	17	17	17
291		OP-AMP TL084CN [3]	U201	1	1	1	1	1	1
292									
293	589-647	VOLT. REG. 7815T	U651	1	1	1	1	1	1
294	589-649	I.C., VOLT. REG. 7915T	U652	1	1	1	1	1	1
295									
296									
297	541-976	INDUCTOR, 82UH	L302-305,602,603	5	5	5	5	5	5
298	051-504	1500UH, 5%	L701	1	1	1	1	1	1
299	540-048	3300UH, 5%	L801,901	2	2	2	2	2	2
300									
301									
302	1374388-BC	VAR, 150UH,	L303	1	1	1	1	1	1
303									
304	1374388-BG	INDUCTOR, VAR, 330UH,	L301,601	2	2	2	2	2	2
305									
306									
307	173-620	TERMINAL, TURRET, SWAGE	TPG, TPGR, TPGS						-

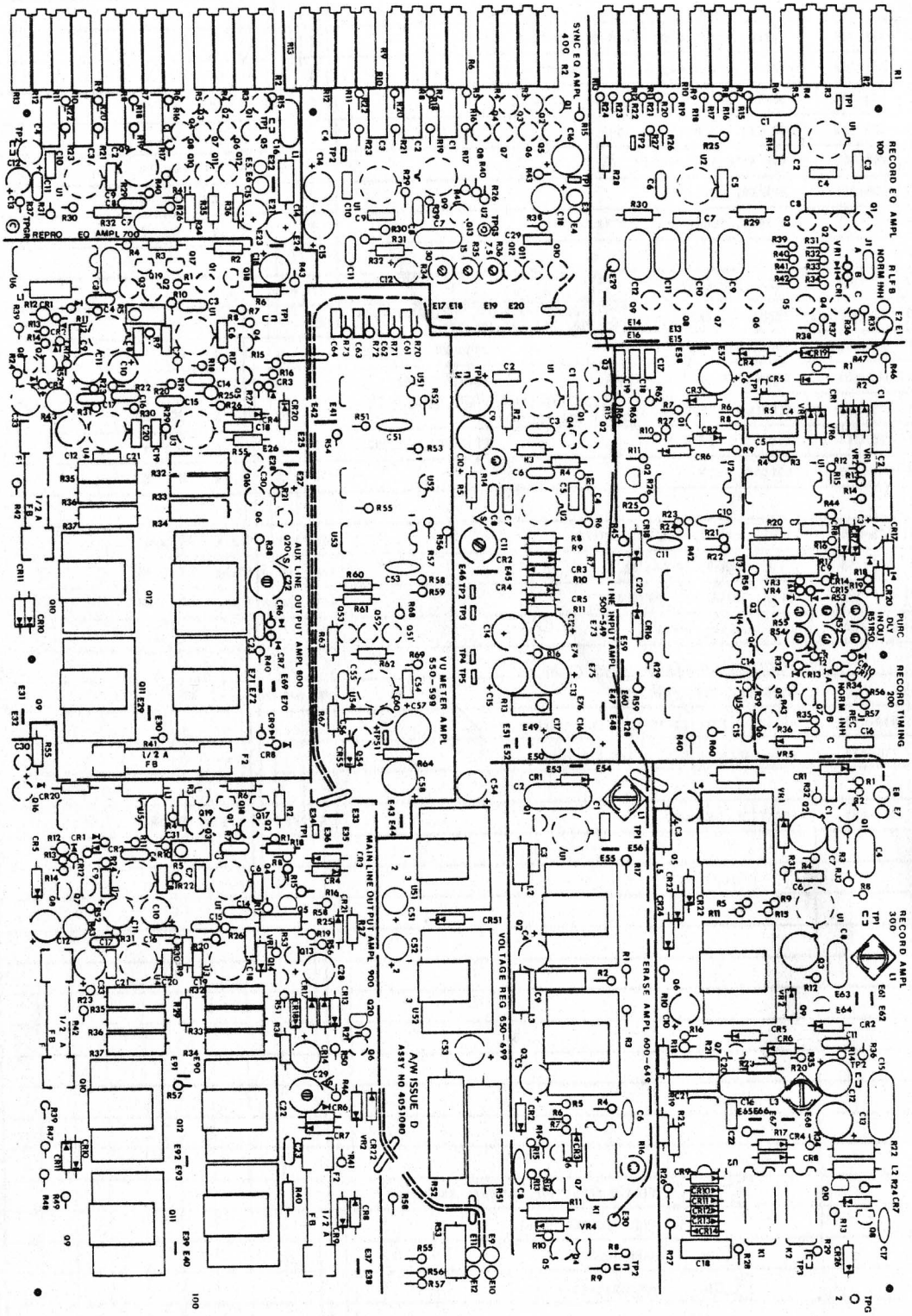
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AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO 92739	LIST OF MATERIALS	LM-4051080 SHEET 8 OF 10	P

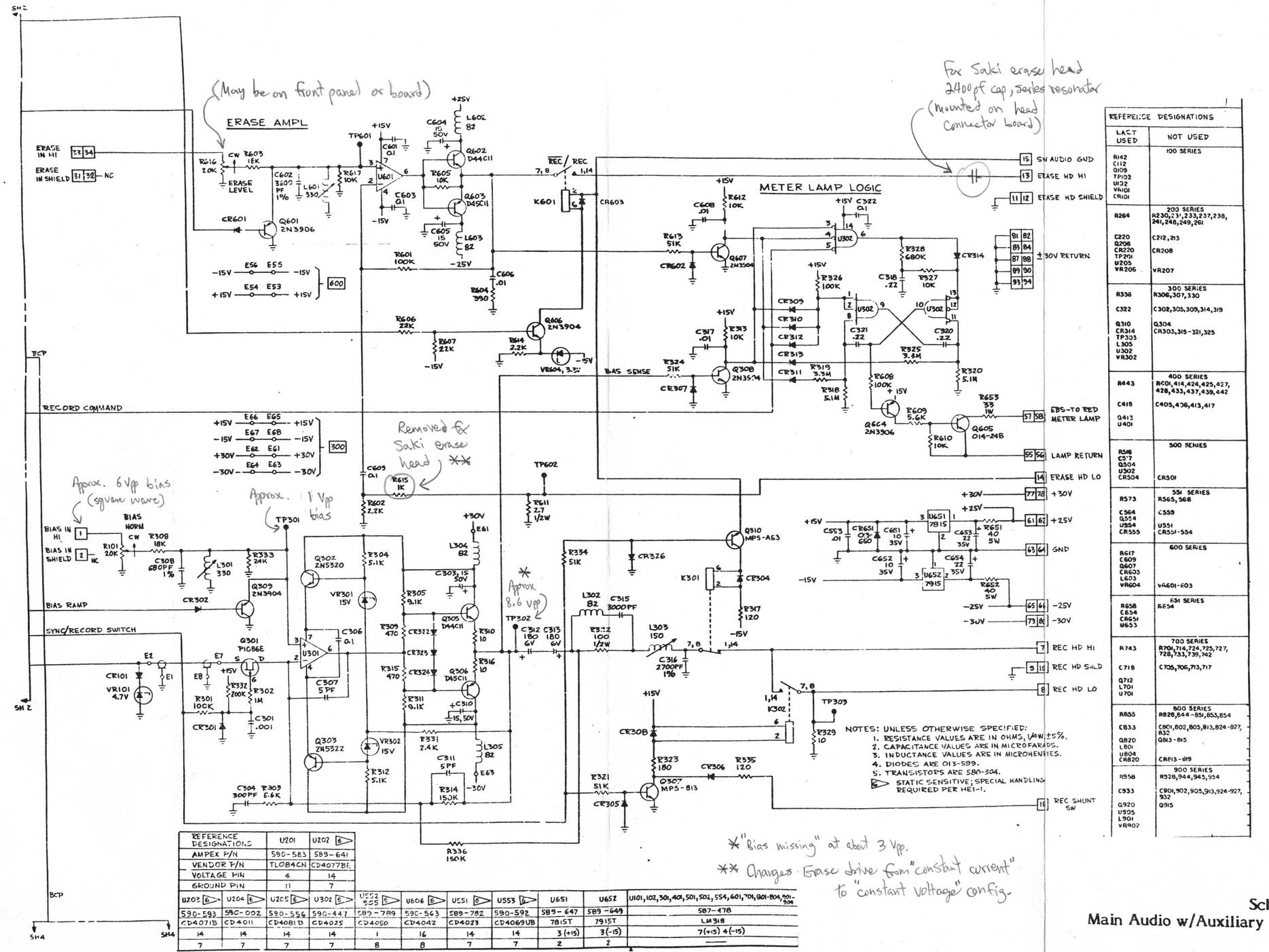
ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06
308									
309	471-325	SCREW, FLAT HEAD, UNDER CUT, 4-40 X .188		2	2	2	2	2	2
310	471-068	SCREW, PAN HEAD, 6-32 X 5/16 IN.		14	14	14	14	14	14
311	470-009	SCREW, CAP, HEX HEAD, 4-40 X 5/16 LG		8	8	8	8	8	8
312	280-998	SPACER, TRANSISTOR, TO-5	REF:Q302,303	-	-	2	2	2	2
313	498-425	NUT WITH ASS. WASHER, #6-32		14	14	14	14	14	14
314	502-002	WASHER, LOCK, #4		8	8	8	8	8	8
315	501-169	WASHER, FLAT, SMALL PATTERN, #4		8	8	8	8	8	8
316									
317	087-388	HEAT SINK COMP.	REF:Q305,306,602,603,651,652,809, 811,812,909,911,912	A/R	A/R	A/R	A/R	AR	AR
318	187-259	TERMINAL, TEST	TP101,102,301-303,401,402,501-505,551, 601,602,701,702,801,901	19	-	-	-	-	-
319	602-012	SHORTING PLUG	J101,201 (A,B,C)	2	2	2	2	2	2
320	143-981	CONNECTOR, P.C. 11P JACK	REF:J101,102	6	6	6	6	6	6
321	187-259	TERMINAL, TEST	TP101,102,201,301-303,401,402,501-505,551, 601,602,701,702,801,901	-	20	20	20	20	20
322	070-011	FUSE, .5 AMP F.B.	F801,802,901,902	4	4	4	4	4	4
323	070-399	HOLDER, FUSE		8	8	8	8	8	8
324									
325	615-046	WIRE, JUMPER, #24 GA., WHITE		A/R	A/R	A/R	A/R	AR	A/R
326	611-256	WIRE, CD569, 20 GA. BLK		A/R	A/R	A/R	A/R	AR	AR
327	614-930	WIRE, SHIELDED, WHT-BLK		A/R	A/R	A/R	A/R	AR	AR
328	615-004	WIRE, SOLID, 24AWG							-
329		SLEEVING, SHRINKABLE, POLY CLEAR							-
330		SLEEVING, TFE, FLEXIBLE		A/R	A/R	A/R	A/R	AR	
331	918-017	MAGNETIC FOIL CO-NETIC 2 EA 3 1/4 X 2 1/4					-	-	-
332	110-037	FISH PAPER 1 EA 2 7/8 X 2 1/4					-	-	-
333									
334	018-461	LOCKTITE, MEDIUM		A/R	A/R	A/R	A/R	AR	AR
335									
336									

1. STATIC SENSITIVE. SPECIAL HANDLING REQUIRED PER HE1-1.
2. HAND SOLDER.
3. PRESTRESSED I.C.

LM-4051080



Assembly No. 4051080-06P. Main Audio w/Auxiliary Output Amplifier PWA



REFERENCE DESIGNATIONS	U201	U202
AMPEX P/N	590-583	589-641
VENDOR P/N	TL084CN	CD4077BE
VOLTAGE PIN	4	14
GROUND PIN	11	7

U202	U204	U205	U302	U552 U555	U806	U551	U553	U651	U652	U101,102,301,401,501,502,554,601,701,801-804,901-904
590-593	590-002	590-556	590-447	589-789	590-563	589-782	590-592	589-647	589-649	587-478
CD4071B	CD4011	CD4081B	CD4025	CD4050	CD4042	CD4023	CD4069UB	7815T	7915T	LM318
14	14	14	14	1	16	14	14	3 (+15)	3 (-15)	7 (+15) 4 (-15)
7	7	7	7	8	8	7	7	2	2	

REFERENCE DESIGNATIONS	
LAST USED	NOT USED
R142 C112 Q109 TP102 U102 VR101 CR101	100 SERIES
R284	200 SERIES R230,231,233,237,238, 241,248,249,261
C220 Q208 CR220 TP201 U205 VR206	C212,213 CR208 VR207
R338	300 SERIES R306,307,330
C322	C302,305,309,314,319
Q310 CR314 TP303 L305 U302 VR302	Q304 CR303,315-321,325
R443	400 SERIES RC01,414,424,425,427, 428,433,437,439,442
C418	C405,406,413,417
Q413 U401	
R518 C517 Q504 U502 CR504	500 SERIES CR501
R573	551 SERIES R565,568
C564 Q554 U554 CR555	C559 U551 CR551-554
R617 C609 Q607 CR603 L603 VR604	600 SERIES VR601-603
R658 C654 CR651 U653	651 SERIES R654
R743	700 SERIES R701,714,724,725,727, 728,733,739,742
C718	C705,706,713,717
Q712 L701 U701	
R855	800 SERIES R828,844-851,853,854
C833	C801,802,805,813,824-827, 832
Q820 L801 U804 CR820	Q813-815 CR813-819
R958	900 SERIES R928,944,945,954
C933	C901,902,905,913,924-927, 932
Q920 U905 L901 VR902	Q915

Schematic No. 4840551G.
Main Audio w/Auxiliary Output Amplifier PWA
(Sheet 1 of 4)

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pex 4890432-01

STOP +13.8

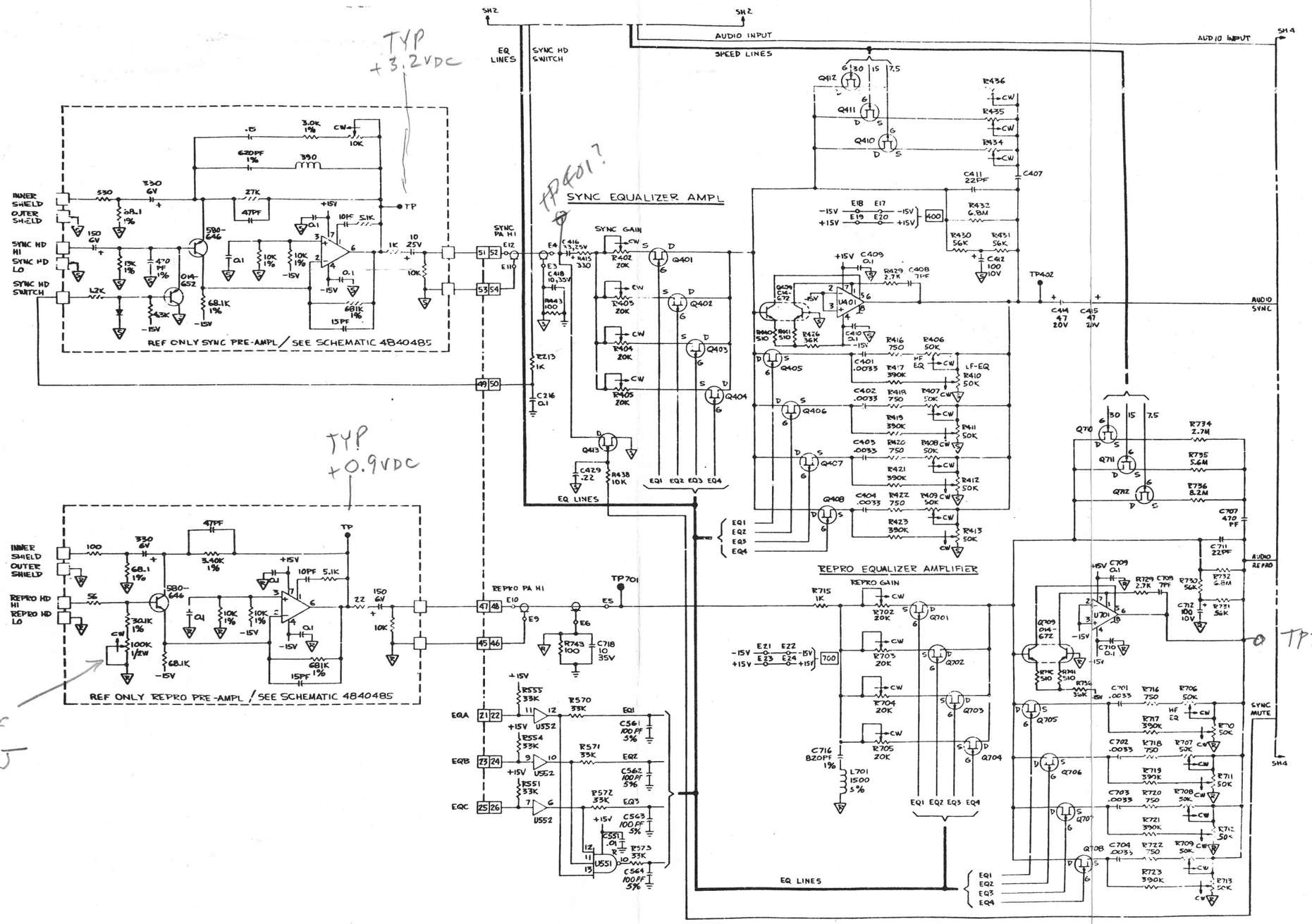
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Recording. +0.21

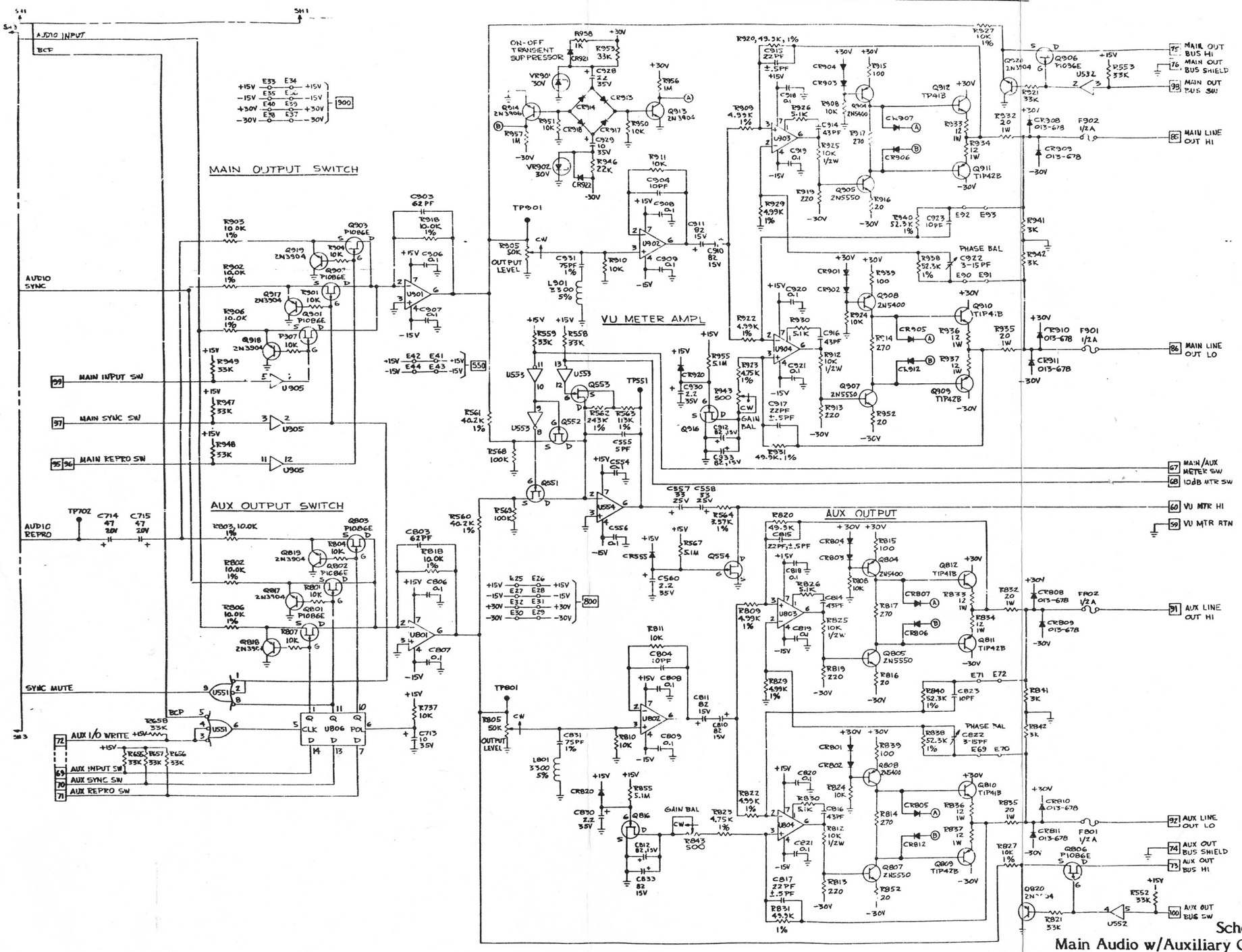
Ampex 4890432-01

Schematic No. 4840551G.
Main Audio w/Auxiliary Output Amplifier PWA
(Sheet 2 of 4)

6-29/6-30



Schematic No. 4840551G.
Main Audio w/Auxiliary Output Amplifier PWA
(Sheet 3 of 4)



Schematic No. 4840551G.
Main Audio w/Auxiliary Output Amplifier PWA
(Sheet 4 of 4)

4051087-05 AUDIO W/OUT AUXILIARY OUTPUT AMPLIFIER PWA REV. P

NEXT HIGHER ASSEMBLY 4010336, 4010338

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05
1									
2									
3	4840553	SCHEMATIC, AUDIO		REF	A	B	C	D	
4									
5	4120048-01	HANDLE			1	1	1	1	1
6	4041345-01	SHIELD ASSEMBLY			1	1	1	1	1
7	4170358-01	LABEL			1	1	1	1	1
8	582-190	HEAT SINK IERC PAI-ICB	REF:Q305,306,602,603,909-912, U651,652		10	10	10	10	10
9									
10	103307-01	STAND OFF	REF: R651,652,932-937		16	16	16	16	16
11									
12	020-765	RELAY	K301,302,601		3	3	3	3	3
13									
14									
15	013-166	DIODE, ZENER, 3.3V, 5%	IN746A VR604		1	1	1	1	1
16	013-332	4.7V, 5%	IN750A VR101,201,205		3	3	3	3	3
17									
18	013-450	10V	IN961B VR203,204,206,208		4	4	4	4	4
19									
20	013-354	15V	IN965B VR301,302		2	2	2	2	2
21	013-703	20V	IN968B VR202		1	1	1	1	1
22	581-420	DIODE, ZENER, 30V, 400MV	IN2042-1 VR901,902		2	2	2	2	2
23	013-599	DIODE	CR101,201-208,210-220,301,302,304-314,322-324,326,921, 502-505,555,601-603,901-907,912-914,917,918,920,922			60	60	60	60
24		IN4531							
25	013-599	DIODE	CR101,201-208,210-220,301,302,304-314,322-326, 502-505,555,601-603,901-907,912-914,917,918,920		99	-	-	-	-
26	013-650	DIODE, CD498	IN270 CR651		1	1	1	1	1
27	013-678	DIODE	IN4385 CR908-911		4	4	4	4	4
28									
29	580-274	TRANSISTOR	MPS-A13 Q307		1	1	1	1	1
30	014-248	TRANSISTOR	2N2222 Q605		1	1	1	1	1
31	014-672	TRANSISTOR, DUAL	CD6075 (2) Q409,709		2	2	2	2	2
32									
33									
34	580-167	TRANSISTOR, NPN, 2N5320	Q 302		1	1	1	1	1
35	580-166	TRANSISTOR, PNP, 2N5322	Q303		1	1	1	1	1
36									
37									

LM-4051087

AMPEX | Ampex Corporation Redwood City, California	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4051087 SHEET 2 OF 10	REV

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05
38								
39	580-568	TRANSISTOR, PNP, 2N5400	Q904,908	2	2	2	2	2
40	580-800	NPN, 2N5550	Q905,907	2	2	2	2	2
41	580-647	NPN, 2N3904	Q201,308,309,503,504,606,607,817,818,819,820,913,917-920		16	16	16	16
42	580-647	NPN, 2N3904	Q201,308,309,413,503,504,606,607,817,818,819,820,913,917-920	17	-	-	-	-
43	014-652	PNP, 2N3906	Q202,207,310,601,604,914	5	-	-	-	-
44	580-963	MPSA63	Q310		1	1	1	1
45	014-652	PNP 2N3906	Q202,207,601,604,914		5	5	5	5
46	580-859	NPN, TIP41B	Q910,912	2	2	2	2	2
47	580-860	PNP, TIP42B	Q909,911	2	2	2	2	2
48								
49	579-006	NPN, D44C11	Q305,602	2	2	2	2	2
50	579-007	PNP, C45C11	Q306,603	2	2	2	2	2
51								
52								
53	580-304	FET P1087E	Q101-109,203-206,401-408,410-413,551-554,701-708,710-712,916		41	41	41	41
54	580-304	FET, P1087E	Q101-109,203-206,401-408,410-412,551-554,701-708,710-712,916,	40	-	-	-	-
55								
56	580-708	TRANSISTOR, FET, P1086E	Q301,501,502,801-803,806,901-903,906	11	11	11	11	11
57								
58	056-697	CAP, MICA 7Pf ±.5Pf	C408,708		2	2	2	2
59	034-156	CAPACITOR, MICA, 5PF, ±.5PF	C307,311,555	3	3	3	3	3
60	034-215	10PF, ±.5PF	C102,106,411,504,711,904,923	7	-	-	-	-
61	056-140	20PF, ±.5PF	C408,503,708,803,903	5	-	-	-	-
62	056-164	22PF, ±.5PF	C915,917	2	-	-	-	-
63	034-215	10Pf ±.5Pf	C102,106,504,904,923		5	5	5	5
64	056-140	20Pf ±.5Pf	C503,803,903		3	-	-	-
65	034-540	51PF, ±1%	C508	1	1	1	1	1
66	034-259	56PF, ±1%	C506	1	1	1	1	1
67	056-680	43PF, ±.5PF	C914,916	2	2	2	2	2
68	056-164	22Pf ±.5Pf	C411,711,915,917		4	4	4	-
69	056-140	20pf ± .5pF	C503			-	1	1
70	034-285	75PF, ±1%	C931		1	1	1	1
71	034-177	100pF ±5%, 500V	C217-219,561-564		-	7	7	7
72	034-199	300PF, ±5%	C304	1	1	1	1	1
73	056-163	470PF, ±5%	C707	1	1	1	1	1
74	034-183	62pF, ±5%	C803,903			-	2	2
75	034-309	560PF, ±1%	C101,109-112	5	5	5	5	5
76	034-677	680PF, ±1%	C308	1	1	1	1	1
77	056-771	22PF, ± 0.5PF	C411,711,915,917	-	-	-	-	4
78	034-351	820PF, ±1%	C716	1	1	1	1	1
79								
80	034-373	2,700PF, ±1%	C316	1	1	1	1	1
81	034-243	3000 PF, ±1%	C315	1	1	1	1	1
82	034-575	CAPACITOR, MICA, 3600PF, ±1%	C602	1	1	1	1	1

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AMPEX | Ampex Corporation Redwood City, California	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4051087 SHEET 4 OF 10	RFV 450

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05
128	066-571	RESISTOR, C.F., 10K OHMS, 1/4W, 5%	R202,217,218,232,246, 313,327,438,605,610,612,	-	-	-	25	25
129			617,737,801,807,901,904,907,908,910,911,924 950,951, 904					
130	066-526	RESISTOR, C.F., 10 OHMS, 1/4W,±5%	R310,316,329	3	3	3	3	3
131	076-979	20	R916,952	2	2	2	2	2
132	066-528	100 OHM,1/4W.5%	R443,743,915,939		4	4	4	4
133	066-528	100	R915,939	2	-	-	-	-
134	066-529	120	R317,335	2	2	2	2	2
135	066-619	180	R323	1	1	1	1	1
136								
137								
138	066-532	220	R913,919	2	2	2	2	2
139	066-533	270	R914,917	2	2	2	2	2
140								
141	066-534	330	R415	1	1	1	1	1
142	066-537	390	R604	1	1		1	1
143	066-564	470	R309,315	2	2	2	2	2
144	066-538	510 OHMS, 1/4W, 5%	R440,441,740,741		4	4	4	4
145	066-541	1K OHMS, 1/4W,5%	R210,219,236,242,615,715,958		7	7	7	7
146	066-500	750	R416,418,420,422, 716,718,720,722	8	8	8	8	8
147	066-541	1K	R210,219,236,242, 615,715	6	-	-	-	-
148	066-542	1.2K	R429,516,729	3	-	-	-	-
149	066-542	1.2K OHM,1/4W, 5%	R516		1	1	1	1
150								
151	066-567	1.8K	R225	1	1	1	1	1
152	066-544	2.2K	R128,602,614	3	3	3	3	3
153	066-545	2.4K	R331	1	1	1	1	1
154	066-546	,2.7K OHMS, 1/4W,5%	R429,729		2	2	2	2
155								
156	066-547	3.0K	R941,942	2	2	2	2	2
157	066-568	3.3K	R226	1	1	1	1	1
158	066-549	4.7K	R234,946,953	3	-	-	-	-
159	066-549	4.7K OHMS, 1/4W 5%	R234		1	1	1	1
160								
161	066-550	5.1K	R304,312,506,926,930	5	5	5	5	5
162	066-551	5.6K	R303,609	2	2	2	2	2
163								
164	066-638	9.1K	R305,311	2	2	2	2	2
165	066-571	10K	R202,217,218,232,246, 313,327,333,605,610,612,	8	-	-	-	-
166			737,908,910,911,924,950, 951					
167	066-589	15K	R208,211	2	2	2	2	2
168	066-535	22K OHMS, 1/4W, 5%.	R203,204,215,227,257, 606,607,946		8	8	8	8
169	066-555	18K	R308,603	2	2	2	2	2
170	066-535	RESISTOR, C.F., 22K OHMS, 1/4W,±5%	R203,204,215,227,257, 606,607	2	-	-	-	-
171	066-571	RESISTOR C,F. , 10 K OHMS,1/4W,5%	R202,217,218,232,246,313, 327,438,605,610,612,737,, 617,908,910,911,924,950,951		19	19	19	-
172								

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ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05
83								
84								
85	037-927	CAPACITOR, TANT, DIP, 2.2UF, 35V	C560,930	2	2	2	2	2
86	037-931	6.8UF, 35V	C206	1	1	1	1	1
87	037-933	10UF, 35V	C203,418,651,652, 713,718,929	7	7	7	7	7
88	037-933	10uF,35V	C203,651,652,713,929	5	-	-	-	-
89	037-893	15UF, 20V	C516,517	2	2	2	2	2
90	067-016	15UF, 50V	C303,310	2	2	2	2	-
91	037-936	22uF, 35V	C653,654,928					3
92	037-936	22UF, 35V	C604,605,653,654,928	5	5	5	5	-
93	037-892	47uF, 20V,	C414,415,714,715				4	4
94	037-946	33UF, 25V	C414-416,509,510,512-515, 557,558,714,715	13	13	13	-	-
95	037-946	33uF,25V	C416,509,510,512-515, 557,558			-	9	9
96								
97	067-016	15uF, 50V	C303,310,604,605					4
98	037-894	100UF, 10V	C412,712	2	2	2	2	2
99	037-958	82UF, 15V	C910-912,932,933	5	-	-	-	-
100	037-971	CAPACITOR, TANT, DIP, 180UF, 6V	C312,313	2	2	2	2	2
101								
102	037-958	TANT, DIP, 82uF,15V	C910-912,933		4	4	4	4
103	069-174	POLY, .001UF	C201,209	2	2	2	2	2
104	069-161	.0033UF	C401-404,701-704	8	8	8	8	8
105	069-165	.027UF	C108	1	1	1	1	1
106								
107								
108	069-168	.10UF	C220,609	2	2	2	2	2
109	069-169	POLY, .22UF	C202,204,208,318,320,321	6	6	6	6	6
110								
111	064-062	MONO .1uF, 100V, 20%	C103-105,107,205,207,216,306 322,409,410,501,502,505,507,		-	31	31	31
112			554,556,601,603,709,710,806, 807,906-909,918-921					
113	064-062	MONO, .1UF	C103-105,107,205,207,216-219,306, 322,409,410,501,502,505,507,554,	38	38	-	-	-
114			556,561-564,601,603,709,710,806, 807,906-909,918-921					
115	064-133	MONO, .33UF	C215	1	1	1	1	1
116	064-307	MONO, .22uF	C429		1	1	1	1
117								
118								
119	030-817	CER, DISC, .01UF,	C210,214,317,551,553,606,608	7	7	7	7	7
120	064-152	CER, DISC, .001UF,	C211,301	2	2	2	2	2
121								
122								
123	038-249	VAR, 2-8PF	C511	1	1	1	1	1
124	038-250	CAPACITOR, VAR, 3-15PF,	C922	1	1	1	1	1
125								
126								
127								

LM-4051087

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4051087 SHEET 6 OF 10	REV P

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05
218	066-579	RESISTOR CF 33K OHM, 1/4W, 5%	R115-118,228,229,235,239, 240,243,262-264,921,953,501, 438,439,515,551-559,570,573,655-658, 947-949,801,804,807,821,901,904,907,	34	44	-	-	
219								
220	066-012	RESISTOR, M.F., 40.2K OHMS, 1/8W, ±1%	R560,561	2	2	2	2	2
221	066-733	49.9K	R920,931	2	2	2	2	2
222								
223	066-064	52.3K	R938,940	2	2	2	2	2
224	066-655	68.1K	R128	1	1	1	1	1
225								
226								
227	062-601	100K	R114,129	2	2	2	2	2
228	076-351	113K	R563	1	1	1	1	1
229								
230								
231	066-024	243K	R562	1	1	1	1	1
232	066-926	RESISTOR, M.F., 267K	1/8W, ±1% R130	1	1	1	1	1
233								
234	079-052	RESISTOR, M.F., 10K	1/8W, .1% R510,511	2	2	2	2	2
235								
236	041-657	RESISTOR, C.C., 2.7	1/2W, ±5% R611	1	1	1	1	1
237	041-813	12	1W, R933,934,936,937	4	4	4	4	4
238	041-302	20	1W, R932,935	2	2	2	2	2
239	041-821	33	1W, R653	1	1	1	1	1
240								
241								
242	041-033	100	1/2W, R322	1	1	1	1	1
243	041-014	10K	1/2W, R912,925	2	2	2	2	2
244								
245								
246	041-780	2.7M	1/4W, R220,734	2	2	2	2	2
247	041-782	3.3M	R319,325	2	2	2	-	-
248	066-858	4.7M	R205	1	1	1	1	1
249								
250	041-786	5.1M	R318,320,567,955	4	4	4	4	4
251	041-787	5.6M	R735	1	1	1	1	1
252	041-789	6.8M	R432,732	2	2	2	2	2
253	041-791	RESISTOR, C.C., 8.2M	1/4W, R736	1	1	1	1	1
254								
255	059-714	RESISTOR, W.W., 40	5W, ±5% R651,652	2	2	2	2	2
256	044-891	RESISTOR VAR. 200 OHMS	1/4W, 5%, 1 TURN R514		1	1	1	1
257	044-891	RESISTOR, VAR, 200 OHMS 1 TURN	R514,943	2	-	-	-	-
258	044-927	RESISTOR, VAR, 500 OHMS, 1 TURN	R943		1	1	-	1
259	066-579	RESISTOR, C.F., 33K OHMS, 1/4W, 5%	R115-118,228,229, 235,239,240,243, 262-264,921,953,501, 439,515,551-559				33	37
260								
261			570,573,655-658,821, 947-949					
262								

LM-4051087

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4051087 SHEET 5 OF 10	REV P

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05
173								
174	076-863	RESISTOR,CF 24K OHMS,1/4W,5%	R201,244,333		3	3	3	3
175	076-863	RESISTOR, C.F., 24K OHMS, 1/4W,±5%	R201,244,617	3	-	-	-	-
176	066-520	30K	R209	1	1	1	1	1
177	066-579	33K	R115-118,228,229,235, 239,240,243,262-264,501	4	-	-	-	-
178			515,551-559,570,573,655-					
179			658,801,804,807,821,901 904,907,921,947-949					
180	076-856	36K	R224,426,726	3	3	3	3	3
181	066-559	47K	R131-134,207,212,213, 216,247,260	10	10	10	10	10
182	066-521	51K	R119-124,126,127, 321,324,334,613	12	12	12	12	12
183	076-856	36K OHMS, 1/4W, ±5%	R224	1	-	-	-	-
184	066-575	56K OHMs, 1/4W. 5%	R430,431,730,731		4	4	4	4
185	066-575	56K	R430,431,437,730,731	5	-	-	-	-
186								
187	066-508	75K	R314,426,726	3	-	-	-	-
188	066-576	100K	R135-142,206,221,256, 259,301,326,568,569,601	18	18	18	18	18
189			608,					
190	066-577	150K	R214,222	2	-	-	-	-
191	066-577	150K OHMS, 1/4W. 5%	R214,222,314,336		4	4	4	4
192	076-857	200K	R332	1	1	1	1	1
193	076-858	390K	R417,419,421,423, 717,719,721,723	8	8	8	8	8
194								
195	066-652	470K	R258	1	1	1	1	1
196	066-636	680K	R328	1	1	1	1	1
197								
198								
199	066-556	1M	R223,302,956,957	4	4	4	4	4
200	076-062	RESISTOR, C.F., 2M OHMS, 1/4W ±5%	R245	1	1	1	1	1
201								
202								
203								
204	062-563	RESISTOR, M.F., 3.57K OHMS, 1/8W ±1%	R564	1	1	1	1	1
205	062-966	4.75K	R923	1	1	1	1	1
206	062-968	4.99K	R909,922,929	3	3	3	3	3
207								
208								
209	062-983	10.0K	R802,803.806,818,827 902,903,906,918,927			-	10	10
210	062-983	10.0K	R827,927	2	2	2	-	-
211	062-693	20.0K	R505,509	2	2	2	-	-
212	066-008	28K	R503,508	2	2	2	-	-
213								
214	066-656	RESISTOR, M.F., 30.1K OHMS, 1/8W,±1%	R502,504,507,802,803, 806,818,902,903,906, 918	11	11	11	-	-
215								
216	066-656	RESISTOR, M.F., 30.1K OHM,1/8W, ±1%	R502,504,507			3	3	3
217								

LM-4051087

AMPEX | Ampex Corporation Redwood City, California | CODE IDENT NO. 92739 | LIST OF MATERIALS | LM-4051087 SHEET 7 OF 10 | REV P

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05
263								
264								
265	058-668	RESISTOR, VAR, 20K OHMS, 20 TURN	R101-109,402-405,702-705	17	17	17	17	17
266	058-610	20K 1	R616	1	1	-	1	1
267	058-765	50K 20	R905	1	1	1	-	-
268	058-388	50K 20	R406-413,706-713	16	16	16	16	16
269	075-293	50K 20	R513,905	1	1	2	2	2
270								
271	058-696	100K 20	R110-113	4	4	4	4	4
272	058-344	RESISTOR, VAR, 500K OHMS, 1 TURN	R250-255	6	6	6	6	6
273								
274								
275								
276	590-002	I.C., QUAD 2-INPUT NAND, CD4011BE (1)	U204	1	1		1	1
277	589-782	TRIP 3-INPUT NAND, CD4023BE (1)	U551	1	1		1	1
278	590-447	TRIP 3-INPUT NOR, CD4025B (1) (3)	U302	1	1		1	1
279								
280								
281	590-563	QUAD D LATCH CD4042BE (1) (3)	U806	1	1		1	1
282	589-798	HEX BUFF NON-INVERT, CD4050BE (1)	U552,905	2	2	2	2	2
283	590-592	HEX INVERT, CD4069UB (1) (3)	U553	1	1		1	1
284	590-593	QUAD 2-INPUT OR CD4071B (1) (3)	U203	1	1		1	1
285	587-905	QUAD 2-INPUT OR, CD4071B (1)	U203,402	2	-	-	-	-
286	589-641	QUAD 2-INPUT X OR, CD4077BE (1)	U202	1	-	-	-	1
287	590-556	QUAD 2-INPUT AND, CD4081B (1) (3)	U205	1	1	1	1	-
288								
289								
290	587-478	OP-AMP., LM318	U101,102,301,401,501,502,554,601, 701,801,901-904	14	14	14	14	14
291	590-583	OP-AMP., TL084CN (3)	U201	1	1	1	1	1
292								
293	589-647	VOLT.REG., 7815T	U651	1	1	1	1	1
294	589-649	I.C., VOLT.REG., 7915T	U652	1	1	1	1	1
295								
296								
297	541-976	INDUCTOR, 82UH,	L302,304,305,602,603	5	5	5	5	5
298	051-504	INDUCTOR, 1500UH, 5%	L701	1	1	1	1	1
299	540-048	INDUCTOR, 3300UH, 5%	L901	1	1	1	1	1
300								
301								
302	1374388-BC	INDUCTOR, VAR, 150UH	L303	1	1		1	1
303								
304	1374389-BG	INDUCTOR, VAR, 330UH	L301,601	2	2	2	2	2
305								
306								
307								

LM-4051087

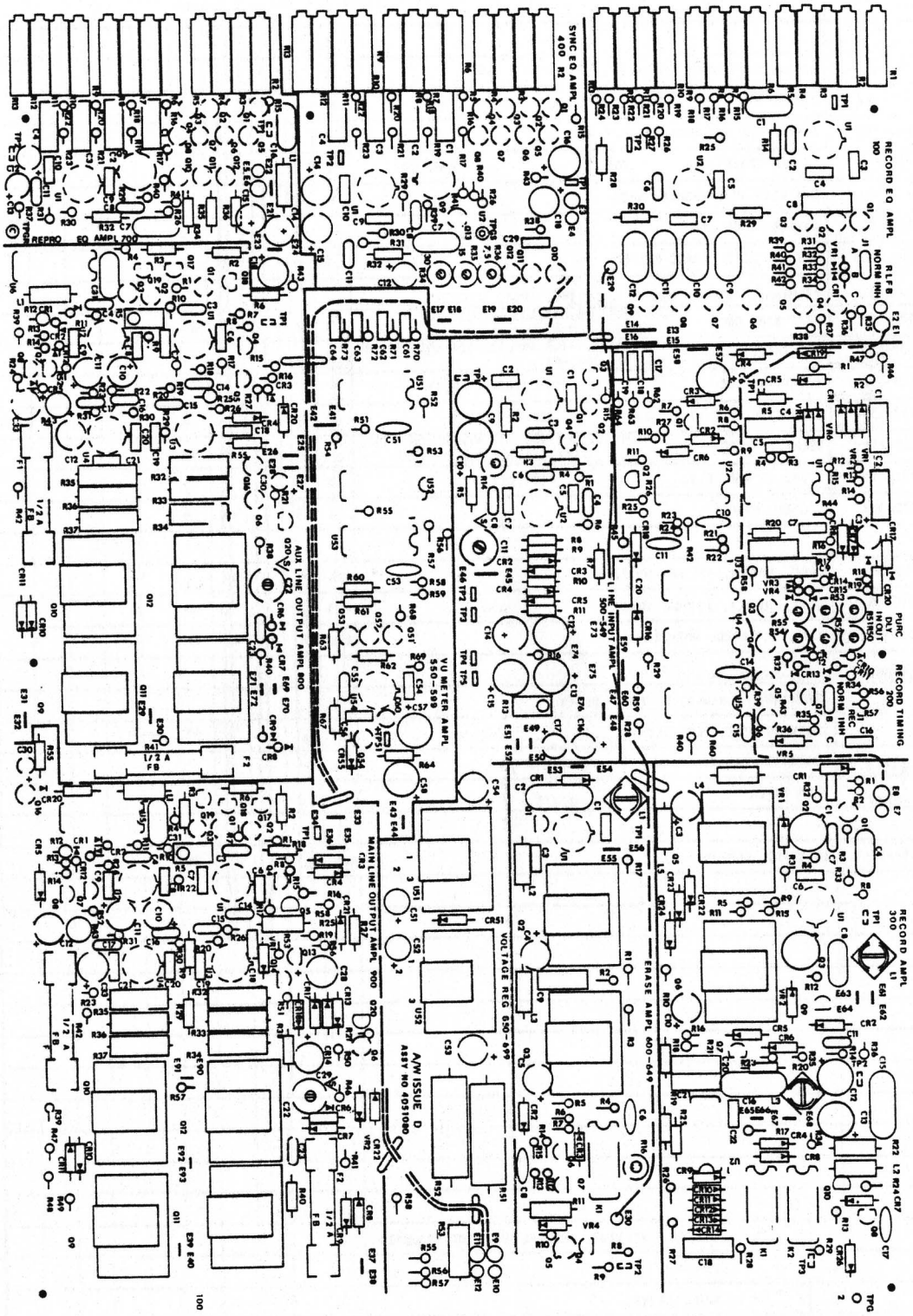
AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4051087 SHEET 8 OF 10	REV P

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05
308								
309	471-325	SCREW, FLAT HEAD, UNDERCUT, 82°, 4-40 X .188		2	2	2	2	2
310	471-068	SCREW, PAN HEAD, 6-32 X 5/16 IN.		14	14	14	14	14
311	470-009	SCREW, CAP HEX HEAD, 4-40 X 5/16 LG		8	8	8	8	8
312	280-998	SPACER TRANSISTOR TO5	REF: Q302,303		2	2	2	2
313	498-425	NUT WITH ASSY. WASHER, 6-32		14	14	14	14	14
314	502-002	WASHER, LOCK, #4		8	8	8	8	8
315	501-169	WASHER, FLAT, SMALL PATTERN, #4		8	8	8	8	8
316	173-620	TERMINAL, TURRET, SWAGE TPG, TPGR, TPGS						-
317	087-388	HEAT SINK COMP.	REF: Q305,306,602,603,651,652,910 909,911,912	A/R	AR	A/R	AR	AR
318	187-259	TERMINAL, TEST	TP101,102,301-303,401,402,501-505,551,601, 602,701,702,901	18	-	-	-	-
319	602-012	SHORTING PLUG	J101,201 (A,B,C)	2	2	2	2	2
320	143-981	CONNECTOR, P.C. TIP JACK	REF: J101,102	6	6	6	6	6
321	187-259	TERMINAL TEST	TP101,102,301-303,401,402,501-505,551, 601,602,701,702,901,201		19	19	19	19
322	070-011	FUSE, .5 AMP, F.B.	F901,902	2	2	2	2	2
323	070-399	HOLDER, FUSE		4	4	4	4	4
324								
325	615-046	WIRE, JUMPER, #24 GA, WHITE		A/R	AR	AR	AR	A/R
326	611-256	WIRE, JUMPER, #20GA, BLACK		A/R	AR	AR	AR	AR
327	614-930	WIRE, SHIELDED, WHT-BLK		A/R	AR	AR	AR	AR
328	615-004	WIRE, SOLID, 24 AWG						-
329		SLEEVING, SHRINKABLE, POLY, CLEAR						-
330		SLEEVING, TFE, FLEXIBLE		A/R	AR	AR	AR	AR
331	918-017	MAGNETIC FOIL CO-NETIC	3 1/4 X 2 1/4		-	-	-	-
332	110-037	FISH PAPER	2 7/8 x 2 1/4		-	-	-	-
333								
334	018-461	LOCKTITE, MEDIUM		A/R	AR	AR	AR	AR
335								
336								

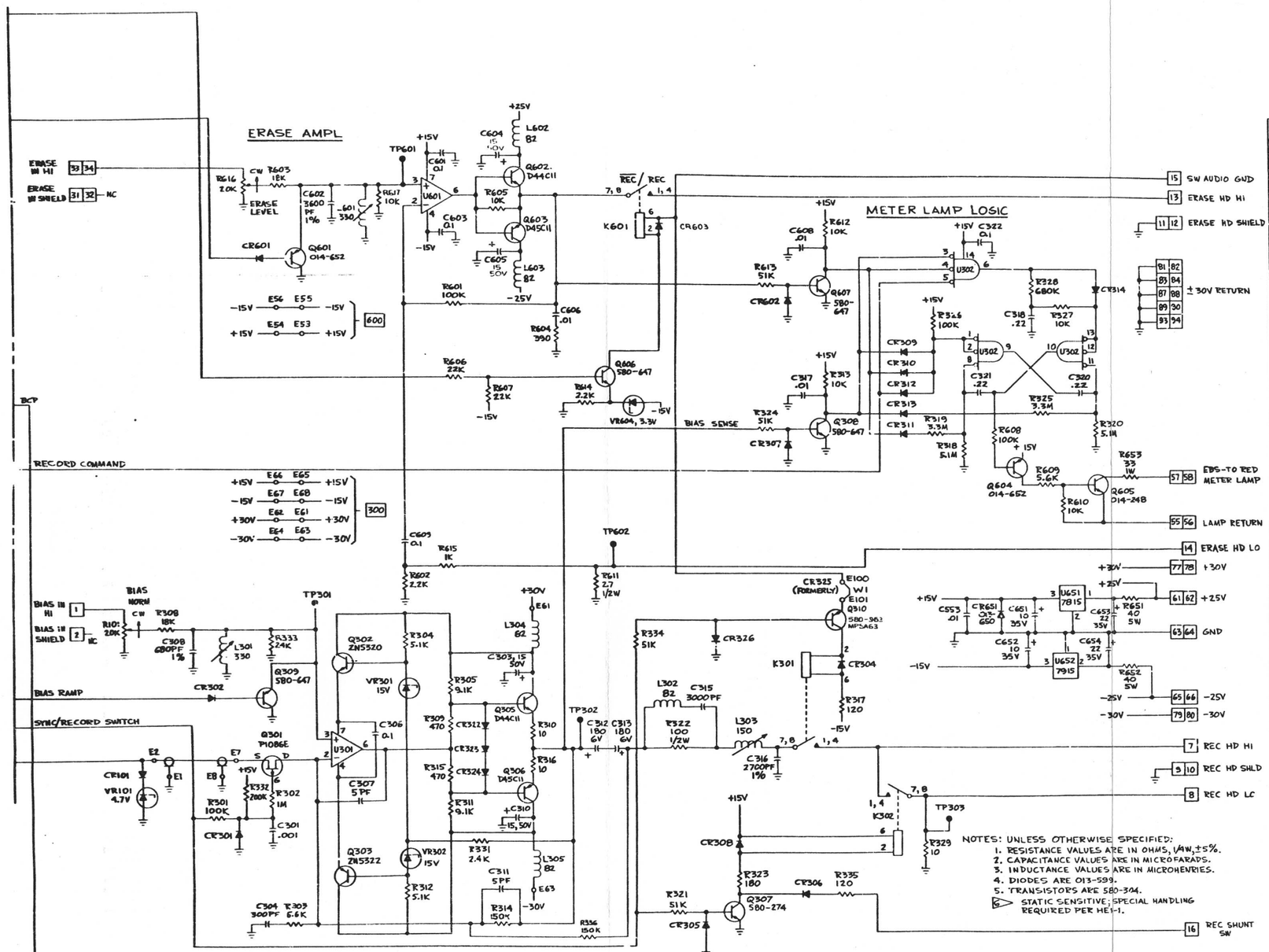
NOTES:

1. STATIC SENSITIVE. SPECIAL HANDLING REQUIRED PER HE1-1.
2. HAND SOLDER.
3. PRESTRESSED I.C.

LM-4051087



Assembly No. 4051087-05P. Audio w/out Auxiliary Output Amplifier PWA



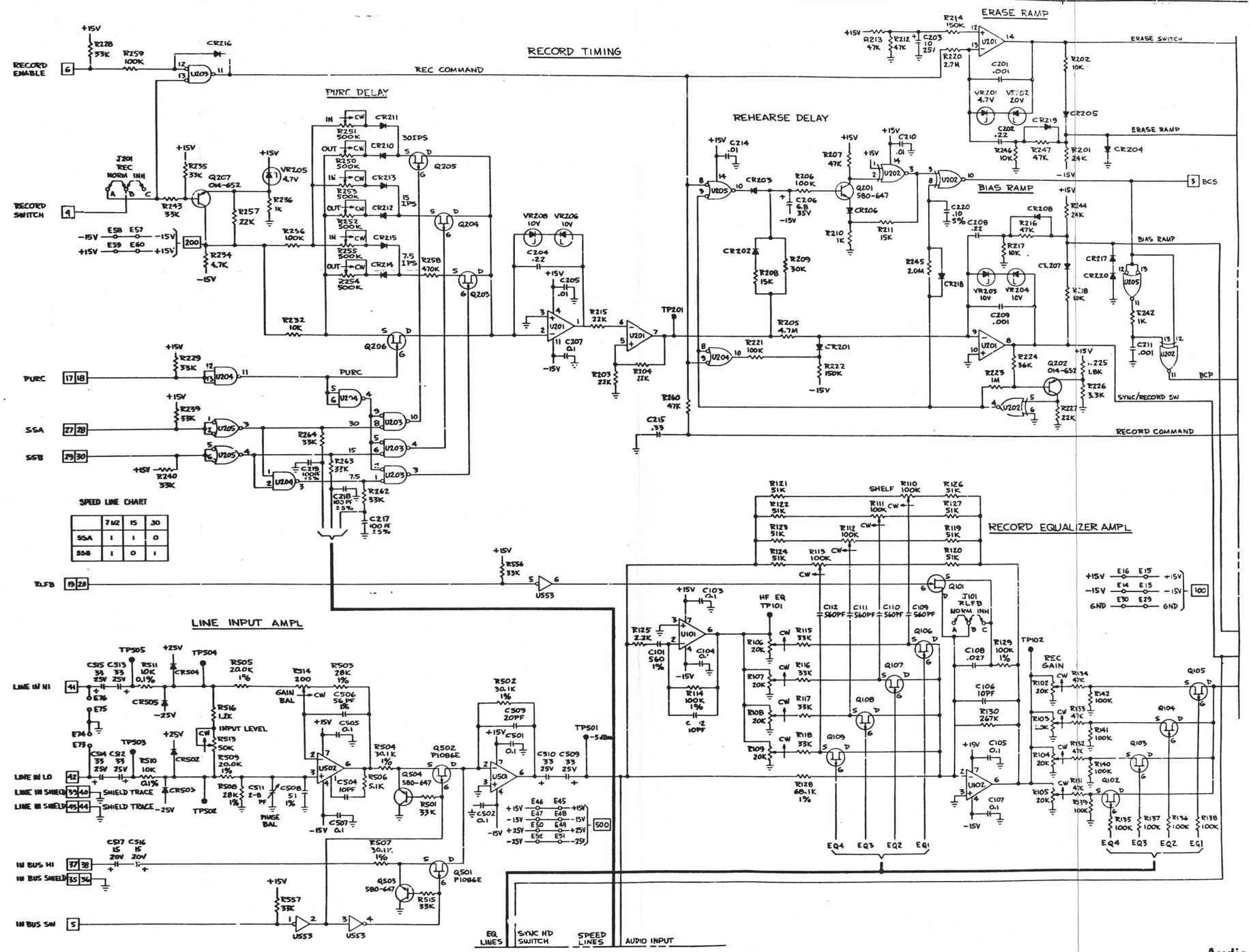
REFERENCE DESIGNATIONS	U201	U202
AMPEX P/N	590-583	589-641
VENDOR P/N	TL084CN	CD4077BE
VOLTAGE PIN	4	14
GROUND PIN	11	7

U203	U204	U205	U302	U552 905	U806	U551	U553	U651	U652	U101,102,301,401,501,502,554,601,701,801-804,901-904
590-593	590-002	590-556	590-447	589-789	590-563	589-782	590-592	589-647	589-649	587-478
CD4071B	CD4011	CD4081B	CD4025	CD4050	CD4047	CD4023	CD4069UB	7815T	7915T	LM318
14	14	14	14	1	16	14	14	3 (+15)	3 (-15)	7 (+15) 4 (-15)
7	7	7	7	8	8	7	7	2	2	——

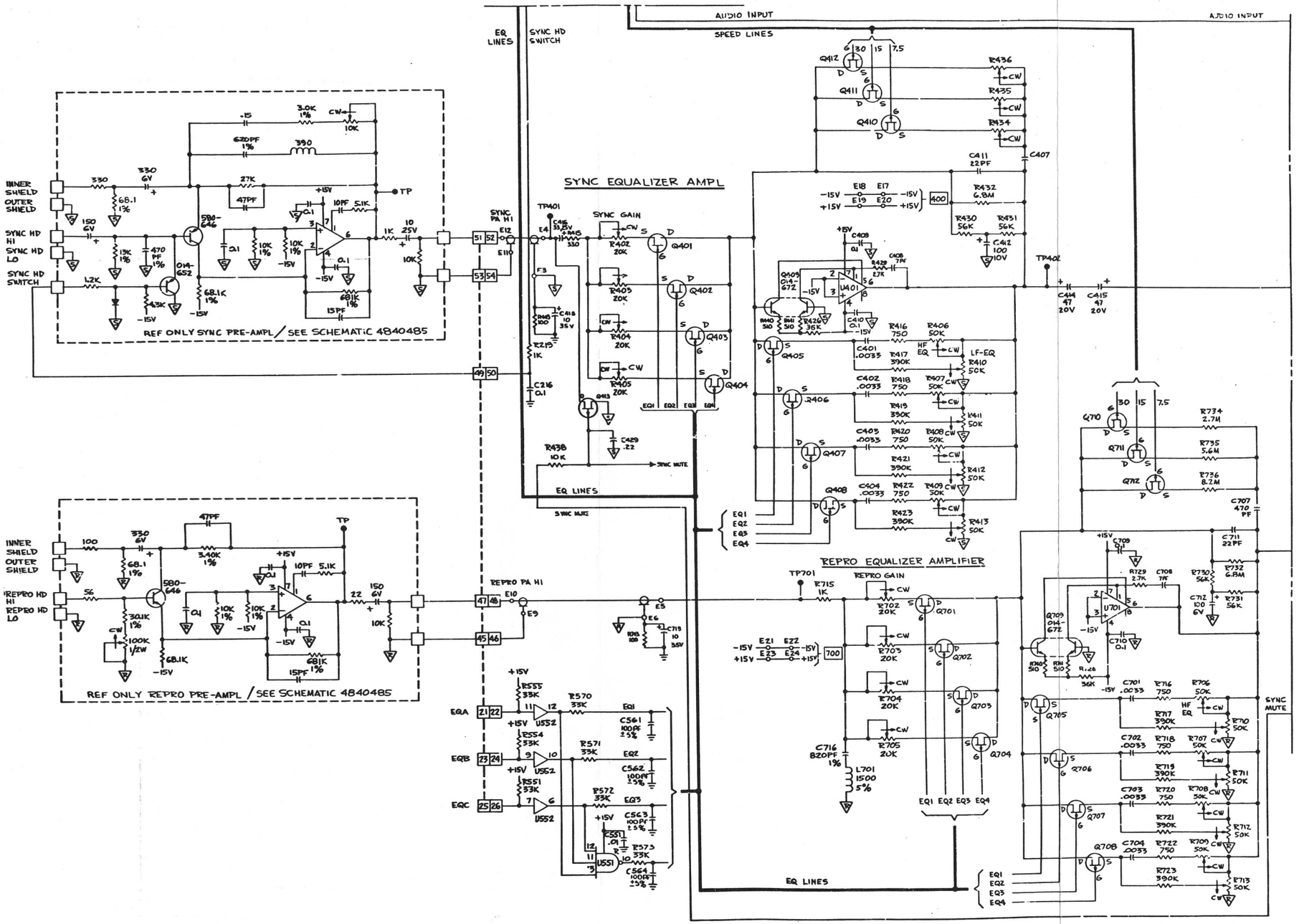
REFERENCE DESIGNATIONS	
LAST USED	NOT USED
R142 C112 Q109 TP102 U102 VR101 CR101 J101	100 SERIES
R264 C220 Q207 CR220 TP201 U205 VR208 J201	200 SERIES R219,230,231,233,237,238,241,248,249,261 C212,213,216 CR209 VR207
R336 C322 Q310 CR326 TP303 L305 U302 VR302	300 SERIES R306,307,330 C302,305,309,314,319 Q304 CR303,315-321,325
R443 C429 Q413 U401	400 SERIES R401,414,424,425,427,428,433,437,439,442 C405,406,413,417
R516 C517 Q504 U502 CR505	500 SERIES R512 CR501
R573 C564 Q554 U564 CR555	551 SERIES R553,565,566 C559 CR551-554
R617 C609 Q610 CR603 L603 VR604	600 SERIES C607 VR601-603
R658 C654 CR651 U653	651 SERIES R654
R743 C718 Q712 L701 U701	700 SERIES R707,714,724,725,727,728,733,739,742 C705,706,713,717
R827 C807 Q820 U806	800 SERIES R805,808-817,819-826 C801,802,804,805 Q803,805,807-817,818
R958 C933 Q920 U904 L901 VR902	900 SERIES R928,944,945,954 C904,902,905,913,924-927,932 Q915
E101	E30,31,57-60,69-72,77-90 E--99

Schematic No. 4840553F.
Audio w/out Auxiliary Output PWA
(Sheet 1 of 4)

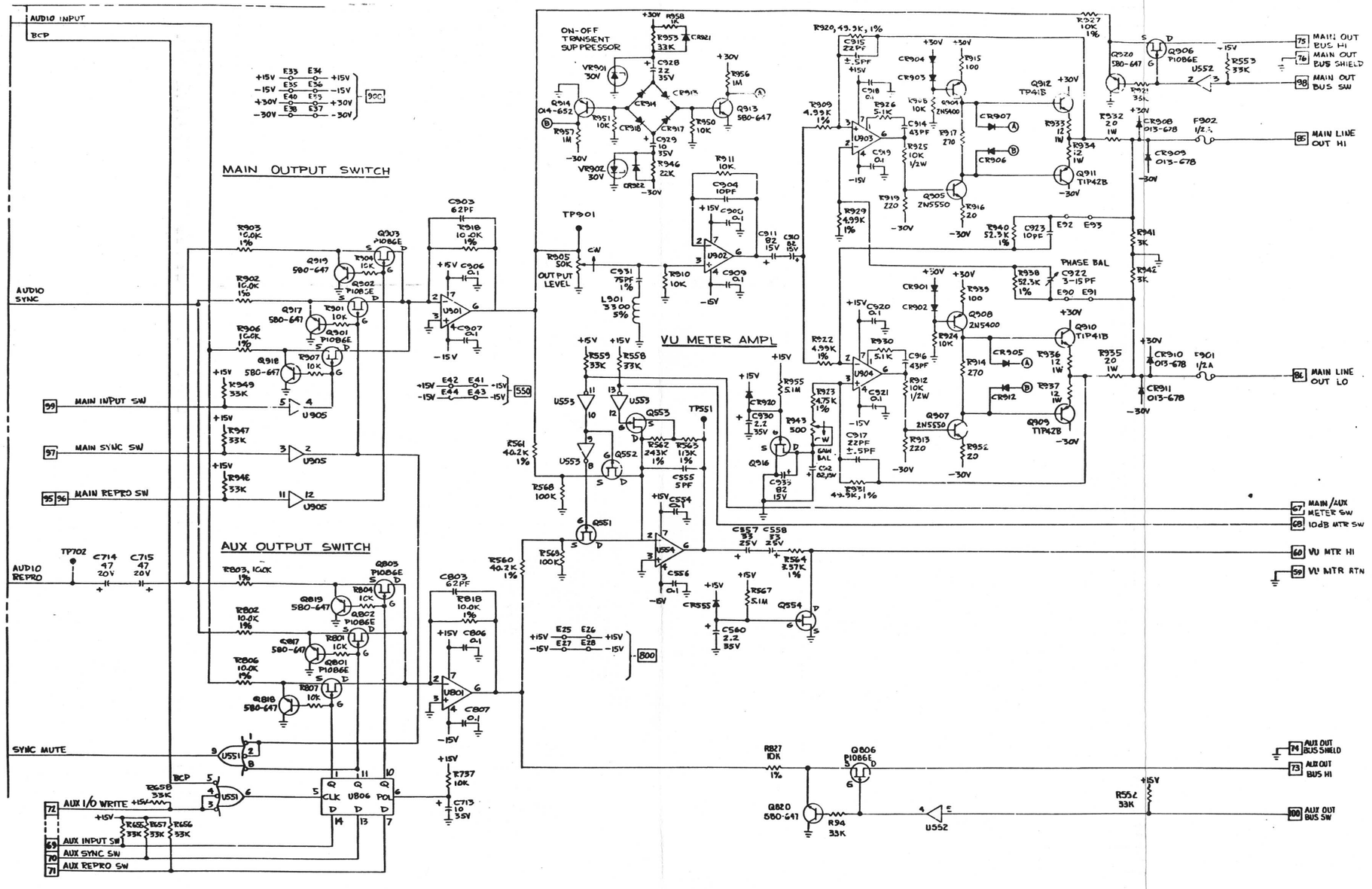
6-45/6-46



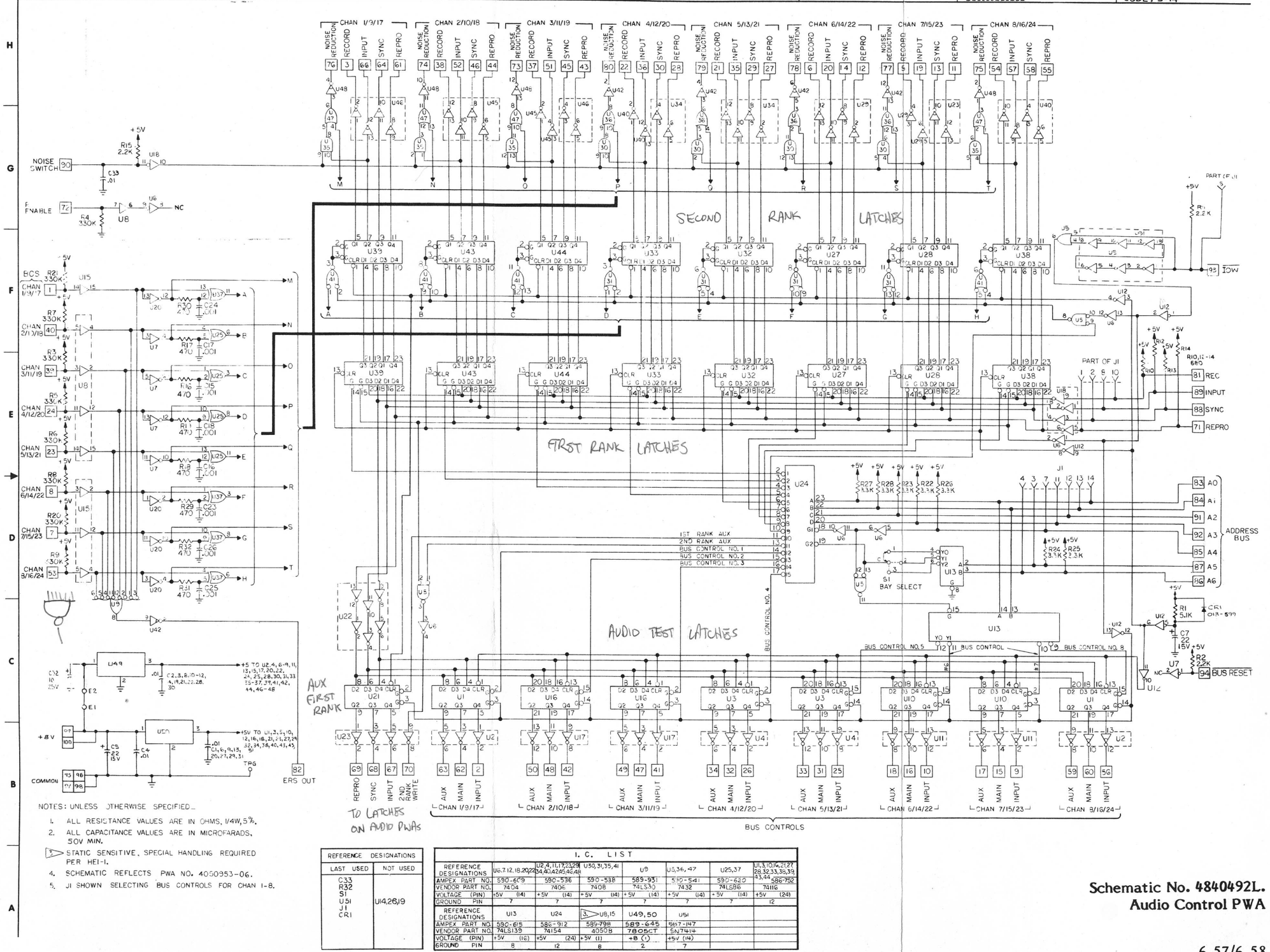
Schematic No. 4840553F
Audio w/out Auxiliary Output PWA
(Sheet 2 of 4)



Schematic No. 4840553F.
Audio w/out Auxiliary Output PWA
(Sheet 3 of 4)



Schematic No. 4840553F.
Audio w/out Auxiliary Output PWA
(Sheet 4 of 4)



NOTES: UNLESS OTHERWISE SPECIFIED.

1. ALL RESISTANCE VALUES ARE IN OHMS, 1/4W, 5%.
2. ALL CAPACITANCE VALUES ARE IN MICROFARADS, 50V MIN.
3. STATIC SENSITIVE. SPECIAL HANDLING REQUIRED PER HEI-1.
4. SCHEMATIC REFLECTS PWA NO. 4050953-06.
5. JI SHOWN SELECTING BUS CONTROLS FOR CHAN 1-8.

REFERENCE DESIGNATIONS	
LAST USED	NOT USED
C33 R32 S1 U51 J1 CR1	U14,26,19

I. C. LIST							
REFERENCE DESIGNATIONS	U6,7,12,18,20	U2,4,11,17,23,29,34,40,42,45,46	U30,31,35,41	U9	U5,36,47	U25,37	U1,3,10,16,21,27,28,32,33,38,39,43,44
AMPEX PART NO.	590-609	590-536	590-538	589-931	590-541	590-620	586-752
VENDOR PART NO.	7404	7406	7408	74LS30	7432	74LS86	74116
VOLTAGE (PIN)	+5V (14)	+5V (14)	+5V (14)	+5V (14)	+5V (14)	+5V (14)	+5V (24)
GROUND PIN	7	7	7	7	7	7	12
REFERENCE DESIGNATIONS	U13	U24	▷ U8,15	U49,50	U51		
AMPEX PART NO.	590-615	586-912	589-798	589-645	5417-147		
VENDOR PART NO.	74LS139	74154	4050B	7805CT	5417414		
VOLTAGE (PIN)	+5V (16)	+5V (24)	+5V (1)	+8 (1)	+5V (14)		
GROUND PIN	8	12	8	2	7		

Schematic No. 4840492L.
Audio Control PWA

Ampex 4890432-01

6-57/6-58

4050953-06 AUDIO CONTROL PWA REV. U

NEXT HIGHER ASSEMBLY 4010335,4010336,4010337,4010338

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06
1	4500348	PWB, AUDIO CONTROL		-01	-02	-02	-03	-04	-05
2	4170359-01	LABEL, AUDIO CONTROL		1	1	1	1	1	1
3	4840492	SCHEMATIC		(c)	F	G	H	K	L
4	4600176-01	SHIELD		1	1	1	1	-	-
5	4120049-01	HANDLE		1	1	1	1	1	1
6	471-326	SCREW, FLAT HEAD, XREC, 82°, 4-40 X .250		2	2	2	2	2	2
7	470-009	SCREW, CAP HEAD, 4-40 X .31		8	8	8	8	8	8
8	501-169	WASHER, FLAT, #4, SMALL PATTERN		8	8	8	8	8	8
9	502-002	WASHER, SPRING LOCK, #4		8	8	8	8	8	8
10	143-981	CONNECTOR, P.C. TIP, JACK		4	4	4	4	4	4
11	602-012	SHORTING, PLUG	S1	1	1	1	1	1	1
12									
13	064-152	CAPACITOR, CERAMIC, .001uF	C15-18,23-26	8	8	8	8	8	8
14	030-817	CAPACITOR, CERAMIC, 0.01uF, 100V	C1-4,6,8,9-14,19-22,27-31	21	21	21	21	21	-
15	037-954	CAPACITOR, DIPPED, TANT., 22uF, 15V	C5,7	2	2	2	2	2	2
16									
17	066-815	RESISTOR, C.F., 300 OHMS, 5%, 1/4W	R10-14	5	5	-	-	-	-
18	066-818	RESISTOR, C.F., 470 OHMS, 5%, 1/4W	R16-19,29-32	8	8	8	8	8	8
19	066-689	RESISTOR, C.F., 2.2K OHMS, 5%, 1/4W	R2,15	2	2	2	2	2	2
20	066-842	RESISTOR, C.F., 5.1K OHMS, 5%, 1/4W	R1	1	1	1	1	1	1
21	066-665	RESISTOR, C.F., 1K OHMS, 5%, 1/4W	R22-28	7	7	-	-	-	-
22	076-012	RESISTOR, C.F., 330K OHMS, 5%, 1/4W	R3-9,20,21	9	9	9	9	9	9
23	582-133	SOCKET, 14 PIN	J1	1	1	1	1	1	1
24	590-609	I.C., HEX INVERTER, 7404 (2)	U6,7,12,18,20,22	6	6	6	6	6	6
25	590-536	I.C., HEX INVERTER, OC, HV (2)	U2,4,11,17,23,29,34,40, 42,45,46,48	12	12	12	12	12	12
26	586-759	I.C., QUAD, 2-INPUT AND, 7408	U14,26,30,31,35,41	6	-	-	-	-	-
27	589-931	I.C., 8-INPUT NAND, 74LS30 (2)	U9	1	1	1	1	1	1
28	590-538	I.C., QUAD, 2-INPUT, AND, 7408 (2)	U30,31,35,41	-	4	4	4	4	4
29	590-541	I.C., QUAD, 2-INPUT, OR, 7432 (2)	U5,36,47	3	3	3	3	3	3
30	590-620	I.C., QUAD, 2-INPUT, EXOR, 74LS86 (2)	U25,37	2	2	2	2	2	2
31	587-465	I.C., DUAL, 4-BIT LATCHES, 74116	U1,3,10,16,21,27,28,32, 33,38,39,43,44	13	13	13	13	13	13
32	590-615	I.C., DUAL, 2 TO 4 LINE, 74LS139 (2)	U13	1	1	1	1	1	1
33	586-912	I.C., 4 LINE TO 16 LINE, 74154	U24	1	1	1	1	1	1
34									
35	589-798	I.C., HEX INVERTER, 4050BE (1)	U8,15	2	2	2	2	2	2
36	013-599	DIODE	CR1			-	1	1	1

LM-4050953

AMPEX | Ampex Corporation Redwood City, California | CODE IDENT NO. 92739 | LIST OF MATERIALS | LM- 4050953 SHEET 2 | REV U

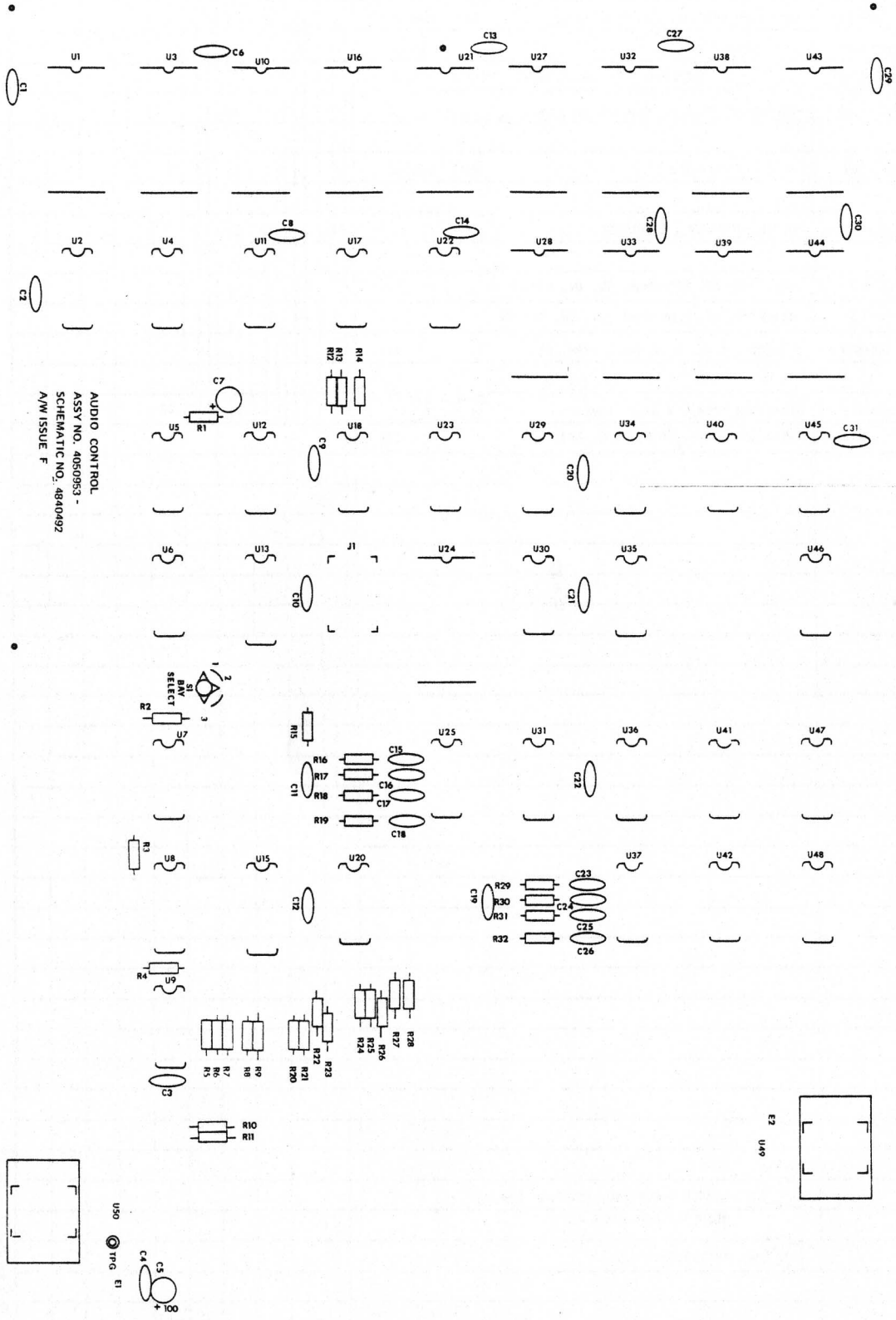
ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06
38	471-068	SCREW, PAN HEAD, 6-32 X 5/16	REF: U49,50	2	2	2	1	2	2
39	498-425	NUT WITH ASSEMBLED WASHER, 6-32	REF: U49,50	2	2	2	1	2	2
40	589-645	I.C. REGULATOR, 5V, MC7805	U49,50	2	2	2	1	2	2
41	587-147	I.C. HEX SCHMITT TRIGGER 7414	U51					1	1
42	502-480	WASHER, PLAIN, BLACK NYLON		2	2	2	—	—	-
43									
44	582-190	HEATSINK, PAI-ICB	REF: U49,50	2	2	2	1	2	2
45									
46	615-124	WIRE, SOLID, 24 AWG		AR	AR	AR	AR	AR	A/R
47									
48	066-840	RESISTOR, CF, 680 OHMS, 5%, ¼W, R10,12-14			—	4	4	4	4
49	066-720	RESISTOR, CF, 3.3K OHMS, 5%, ¼W, R22-28			—	7	7	7	7
50	066-689	RESISTOR, C.F., 2.2K OHMS, 1/4W, 5%	R11			1	1	1	1
51									
52	030-817	CAPACITOR, CER., 0.01uF, 100V	C1-4,6,8,9-14,19-22,27-31,33						22
53	037-812	CAPACITOR, TANT., DIP, 10uF, 25V	C32						1

NOTES:

1. STATIC SENSITIVE, SPECIAL HANDLING REQUIRED PER AMPEX HE1-1.

2. PRESTRESSED I.C.

LM- 4050953



Assembly No. 4050953-06U. Audio Control PWA

4010335-08 24 CHANNEL W/AUXILIARY OUTPUT KIT REV. Y
NEXT HIGHER ASSEMBLY 4010340

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06	-07	-08
1	4020450-04	HEAD ASSEMBLY, 24 CHANNEL		1	1	1		1	1	1	1
2	4020454-03	SIGNAL BAY ASSEMBLY		3	3	3		3	3	3	3
3									1		
4	4030458-02	KIT, LABEL, 24 CHANNEL		1	1	1		1	1	1	1
5											
6	4050926-06	PWA, PRE-AMP		6	6	6		6	6	6	6
7	4050931-AA	METER, PANEL (DIX)									
8	4050931-AB	METER, PANEL (YOK)	1	1	1	1		1	1	1	1
9	4050931-AC	METER, PANEL (MOD)									
10	4050932-03	I/O CONNECTOR PANEL ASSY., W/AUX OUTPUTS		1	1	1		-	-	-	-
11	4050932-04	I/O CONNECTOR PANEL ASSY W/AUX OUTPUTS						1	1	1	1
12	4050953-05	PWA, AUDIO CONTROL		3	3	3		3	3	3	3
13	4051076-AD	CABLE, POWER, SIGNAL BAY						1	1	1	1
14	4051076-AA	CABLE, POWER, SIGNAL BAY		1	1	1		-	-	-	-
15	4051076-AB	CABLE, POWER, SIGNAL BAY		1	1	1		-	-	-	-
16	4051076-AC	CABLE, POWER, SIGNAL BAY		1	1	1		-	-	-	-
17	4051080-07	P.W.A., AUDIO W/AUX OUTPUT				24		24	24	24	24
18	4050989-07	PWA, AUDIO W/AUX OUTPUT		24	24	-		-	-	-	-
19	4051076-AE	CABLE, POWER, SIGNAL BAY						1		1	1
20	4291027-01	COVER, CARD BAY		1	1	1		1		1	1
21	4051076-AF	CABLE, POWER, SIGNAL BAY						1		1	1
22	473-703	SCREW, CAP, BTN.HD., HEX SOC.DRIVE, 8-32 X .375 LG., BLACK		6	6	6		6		6	6
23	473-935	SCREW, MACH, PAN HD, X-REC, 10-32X.500LG, W/CAP WSHR., BLACK		4	4	4		4		4	4
24	475-044	SCREW, MACH, PAN HD, X-REC, 8-32X.375LG., ASSY. LOCK		18	18	18		18	18	18	18
25											
26											
27	501-205	WASHER, PLAIN, .188 I.D.(#8), .438 O.D.,.049 THK		18	18	18		18	18	18	-
28	501-205	WASHER, PLAIN, #8, .438 OD., .049 THK									24
29	503-310	WASHER, PLAIN, NYLON, #8, BLACK		6	6	6		6	6	6	6
30											
31	302-062	CLAMP PART, BASE				3		3	3	3	3
32	302-067	CLAMP PART, KEEPER				1		1		1	-
33	302-068	CLAMP PART, KEEPER				2		2	2	2	-
34	302-067	CLAMP, PART KEEPER								-	3
35											
36											
37											

NOT USED
CANCELLED

LM-4010335

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM- 4010335 SHEET 2 of 2	REV Y

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -08
38	4291099-01	PLENUM, AIR		3
39	4291096-01	FLANGE, COUPLING, AIR DUCT		6
40	601-064	HOSE, DUCTALL, 4½ I.D. X 30"		A/R
41	601-065	CLAMP, HOSE #72		6
42	498-600	NUT, SHEET SPRING, 8-32		6
43				
44				
45				
46				
47				
48				
49	475-061	SCREW, MACH, P.H., XREC, 8-32 X .5LG		6
50	475-062	SCREW, MACH, P.H., XREC, 6-32 X .625 LG		12
51	473-331	SCREW, MACH, P.H., XREC, 6-32 X .5LG		12
52	496-005	NUT, HEX, CAP. WASHER, 6-32		24
53	501-009	WASHER, PLAIN, #6, .375 OD., .049 THK		24

NOTES:

1 ALTERNATE: FACTORY SELECTED

LM-4010335

4010336-07 24 CHANNEL W/OUT AUXILIARY OUTPUT KIT REV. Y

NEXT HIGHER ASSEMBLY 4010340

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-04	-05	-06	-07
1	4020450-04	HEAD ASSEMBLY, 24 CHANNEL		1	1	1	1	1	1
2	4020454-03	SIGNAL BAY ASSEMBLY		3	3	3	3	3	3
3							1		
4	4030458-02	KIT, LABEL, 24 CHANNEL		1	1	1	1	1	1
5									
6	4050926-06	PWA, PRE-AMP		6	6	6	6	6	6
7	4051087-07	PWA, AUDIO W/O AUXILIARY OUTPUT		24	24	24	24	24	24
8									
9	4050931-AA	METER, PANEL (DIX)							
10	4050931-AB	METER, PANEL (YOK)	1	1	1	1	1	1	1
11	4050931-AC	METER, PANEL (MOD)							
12	4050942-04	I/O CONNECTOR PANEL ASSY, W/O AUX OUTPUTS				1	1	1	1
13	4050942-03	I/O CONNECTOR PANEL ASSY., W/O AUX. OUTPUTS		1	1	-	1	-	-
14	4050953-05	PWA, AUDIO CONTROL		3	3	3	3	3	3
15	4051076-AD	CABLE, POWER, SIGNAL BAY				1	1	1	1
16	4051076-AA	CABLE, POWER, SIGNAL BAY		1	1	-	1	-	-
17	4051076-AB	CABLE, POWER, SIGNAL BAY		1	1	-	1	-	-
18	4051076-AC	CABLE, POWER, SIGNAL BAY		1	1	-	1	-	-
19	4051076-AE	CABLE, POWER, SIGNAL BAY				1	1	1	1
20	4291027-01	COVER, CARD BAY		1	1	1	1	1	1
21	4051076-AF	COVER, POWER, SIGNAL BAY				1	1	1	1
22	473-703	SCREW,CAP,BTN HD,HEX SOC. DRIVE,8-32X.375LG, BLACK		6	6	6	6	6	6
23	473-935	SCREW,MACH,PAN HD,X-REC,10-32X.500LG,W/CAP WSHR.,BLK.		4	4	4	4	4	4
24	475-044	SCREW,MACH,PAN HD,X-REC,8-32X.375 LG., ASSY. LOCK		18	18	18	18	18	18
25									
26									
27	501-205	WASHER, PLAIN, .188 I.D., (#8); .438 O.D., .049 THK		18	18	18	18	18	-
28	501-205	WASHER, PLAIN, #8, .438 OD, .049 THK							24
29	503-310	WASHER, PLAIN, NYLON, #8, BLACK		6	6	6	6	6	6
30									
31	302-062	CLAMP PART, BASE			3	3	3	3	3
32	302-067	CLAMP PART, KEEPER			1	1	1	1	-
33	302-068	CLAMP PART, KEEPER			2	2	2	2	-
34	302-067	CLAMP PART, KEEPER						-	3
35									
36									
37									

CANCELLED

LM-4010336

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4010336 SHEET 2 of 2	REV Y

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -07
38	4291099-01	PLENUM, AIR		3
39	4291096-01	FLANGE, COUPLING, AIR DUCT		6
40	601-064	HOSE, DUCTALL, 4½ ID X 30"		A/R
41	601-065	CLAMP, HOSE #72		6
42	498-600	NUT, SHEET SPRING, 8-32		6
43				
44				
45				
46				
47				
48				
49	475-061	SCREW, MACH, P.H., XREC, 8-32 X .5LG		6
50	475-062	SCREW, MACH, P.H., XREC, 6-32 X .625 LG		12
51	473-331	SCREW, MACH, P.H., XREC, 6-32 X .5LG		12
52	496-005	NUT, HEX, CAP. WASHER, 6-32		24
53	501-009	WASHER, PLAIN, #6, .375 OD, .049 THK		24

NOTES:

1 ALTERNATE: FACTORY SELECTED

LM-4010336

4010337-08 16 CHANNEL W/AUXILIARY OUTPUT KIT REV. Z
NEXT HIGHER ASSEMBLY 4010340

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06	-07	-08
1	4020451-04		HEAD ASSEMBLY, 16 CHANNEL		1	1	1	1	1	1	1	1
2	4020454-03		SIGNAL BAY ASSEMBLY		2	2	2	2	2	2	2	2
3	4010334-04		BASIC ASSEMBLY							1		-
4	4030461-02		KIT, LABEL, 16 CHANNEL		1	1	1	1	1	1	1	1
5												
6	4050926-06		PWA, PRE-AMP		4	4	4	4	4	4	4	4
7	4050939-03		I/O CONNECTOR PANEL ASSY., W/AUX OUTPUTS		1	1	1	-	-	-	-	-
8	4050939-04		I/O CONNECTOR PANEL ASSY., W/AUX OUTPUTS				-	1	1	1	1	1
9	4050945-AA		METER, PANEL (DIX)									
10	4050945-AB		METER, PANEL (YOK)	1	1	1	1	1	1	1	1	1
11	4050945-AC		METER, PANEL (MOD)									
12	4051076-AD		CABLE, POWER, SIGNAL BAY				-	1	1	1	1	1
13	4050953-05		PWA, AUDIO CONTROL		2	2	2	2	2	2	2	2
14	4051076-AA		CABLE, POWER, SIGNAL BAY		1	1	1	-	-	-	-	-
15	4051076-AB		CABLE, POWER, SIGNAL BAY		1	1	1	-	-	-	-	-
16	4051080-07		P.W.A., AUDIO W/AUX. OUTPUT		-	-	16	16	16	16	16	16
17	4050989-07		PWA, AUDIO W/AUXILIARY OUTPUT		16	16	-	-	-	-	-	-
18	4051076-AE		CABLE, POWER, SIGNAL BAY				-	-	-	-	1	1
19	4291027-01		COVER, CARD RACK		2	2	2	2	2	2	2	2
20												
21												
22	473-703		SCREW,CAP,BTN HD,HEX SOC DRIVE,8-32X.375LG., BLACK		12	12	12	12	12	12	12	12
23	473-935		SCREW,MACH,PAN HD,X-REC,10-32X.500LG., W/CAP WSHR, BLK		4	4	4	4	4	4	4	4
24	475-044		SCREW, MACH,PAN HD,X-REC,8-32X.375LG., ASSY LOCK		12	12	12	12	12	12	12	12
25												
26												
27	501-205		WASHER,PLAIN, .188 I.D. (#8), .438 O.D., .049 THK		12	12	12	12	12	12	12	-
28	501-205		WASHER, PLAIN, .188 ID, #8, .438 OD,									16
29	503-310		WASHER, PLAIN, NYLON, (#8), BLK		12	12	12	12	12	12	12	12
30												
31	302-062		CLAMP PART, BASE		-	-	2	-	2	2	2	2
32	302-067		CLAMP PART, KEEPER		-	-	1	-	-	-	1	-
33	302-068		CLAMP PART, KEEPER		-	-	1	-	-	1	1	-
34	302-067		CLAMP PART, KEEPER								-	2
35												
36												
37												

NEVER USED CANCELLED

LM-4010337

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM- 4010337 SHEET 2 of 2	REV Z

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -08
38	4291099-01		PLENUM, AIR		2
39	4291096-01		FLANGE, COUPLING, AIR DUCT		4
40	601-064		HOSE, DUCTALL, 4½ I.D. X 30"		A/R
41	601-065		CLAMP, HOSE #72		4
42	498-600		NUT, SHEET SPRING, 8-32		4
43					
44					
45					
46					
47					
48					
49	475-061		SCREW, MACH, P.H., XREC, 8-32 X .5LG		4
50	475-062		SCREW, MACH, P.H., XREC, 6-32 X .625 LG		8
51	473-331		SCREW, MACH, P.H., XREC, 6-32 X .5LG		8
52	496-005		NUT, HEX, CAP. WASHER, 6-32		16
53	501-009		WASHER, PLAIN, #6, .375 OD, .049 THK		16

NOTES:

1 ALTERNATE: FACTORY SELECTED

LM-4010337

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06	-07
1	4020451-04	HEAD ASSEMBLY, 16 CHANNEL		1	1		1	1	1	1
2	4020454-03	SIGNAL BAY ASSEMBLY		2	2		2	2	2	2
3	4010334-04	BASIC ASSEMBLY								
4	4030461-02	KIT, LABELS, 16 CHANNEL		1	1		1	1	1	1
5										
6	4050926-06	PWA, PRE-AMP		4	4		4	4	4	4
7	4051087-07	PWA, AUDIO W/O AUXILIARY OUTPUT		16	16		16	16	16	16
8	4050943-04	I/O CONNECTOR PANEL ASSY					1	1	1	1
9	4050943-03	I/O CONNECTOR PANEL ASSY., W/O AUX. OUTPUTS		1	1		-	-	-	-
10	4050945-AA	METER, PANEL (DIX)								
11	4050945-AB	METER, PANEL (YOK)	1	1	1		1	1	1	1
12	4050945-AC	METER, PANEL (MOD)								
13	4050953-05	PWA, AUDIO CONTROL		2	2		2	2	2	2
14	4051076-AA	CABLE, POWER, SIGNAL BAY		1	1		-	-	-	-
15	4051076-AB	CABLE, POWER, SIGNAL BAY		1	1		-	-	-	-
16										
17	4291027-01	COVER, CARD RACK		2	2		2	2	2	2
18	4051076-AD	CABLE, POWER, SIGNAL BAY					1	1	1	1
19	4051076-AE	CABLE, POWER, SIGNAL BAY					1		1	1
20										
21										
22	473-703	SCREW, CAP, BTN HD, HEX SOC DRIVE, 8-32X.375LG, BLACK		12	12		12	12	12	12
23	473-935	SCREW,MACH, PAN HD,X-REC,10-32X.500LG,W/CAP WASHER, BLK		4	4		4	4	4	4
24	475-044	SCREW,MACH,PAN HD,X-REC,8-32X.375LG,ASSY LOCK		12	12		12	12	12	12
25										
26										
27	501-205	WASHER, PLAIN, .188 I.D.(#8),.438 OD, .049 THK		12	12		12	12	12	-
28	501-205	WASHER, PLAIN, .188 I.D. (#8), .438 OD								16
29	503-310	WASHER, PLAIN, NYLON, #8, BLACK		12	12		12	12	12	12
30										
31	302-062	CLAMP PART, BASE		-	2		2	2	2	2
32	302-067	CLAMP PART, KEEPER		-	1		1	1	1	-
33	302-068	CLAMP PART, KEEPER		-	1		1	1	1	-
34	302-067	CLAMP PART, KEEPER							-	2
35										
36										
37										

NOT USED — CANCELLED

LM-4010338

AMPEX | Ampex Corporation Redwood City, California	CODE IDENT. NO. 92739	LIST OF MATERIALS	LM- 4010338 SHEET 2 of 2	REV Y

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -07
38	4291099-01		PLENUM, AIR		2
39	4291096-01		FLANGE, COUPLING, AIR DUCT		4
40	601-064		HOSE, DUCTALL, 4½ I.D. X 30"		A/R
41	601-065		CLAMP, HOSE #72		4
42	498-600		NUT, SHEET SPRING, 8-32		4
43					
44					
45					
46					
47					
48					
49	475-061		SCREW, MACH, P.H., XREC, 8-32 X .5LG		4
50	475-062		SCREW, MACH, P.H., XREC, 6-32 X .625 LG		8
51	473-331		SCREW, MACH, P.H., XREC, 6-32 X .5LG		8
52	496-005		NUT, HEX, CAP. WASHER, 6-32		16
53	501-009		WASHER, PLAIN, #6, .375 OD, .049 THK		16

NOTES:

1 ALTERNATE: FACTORY SELECTED

LM-4010338

4020450-04 24 CHANNEL HEAD ASSEMBLY REV. P

NEXT HIGHER ASSEMBLY 4010335, 4010336

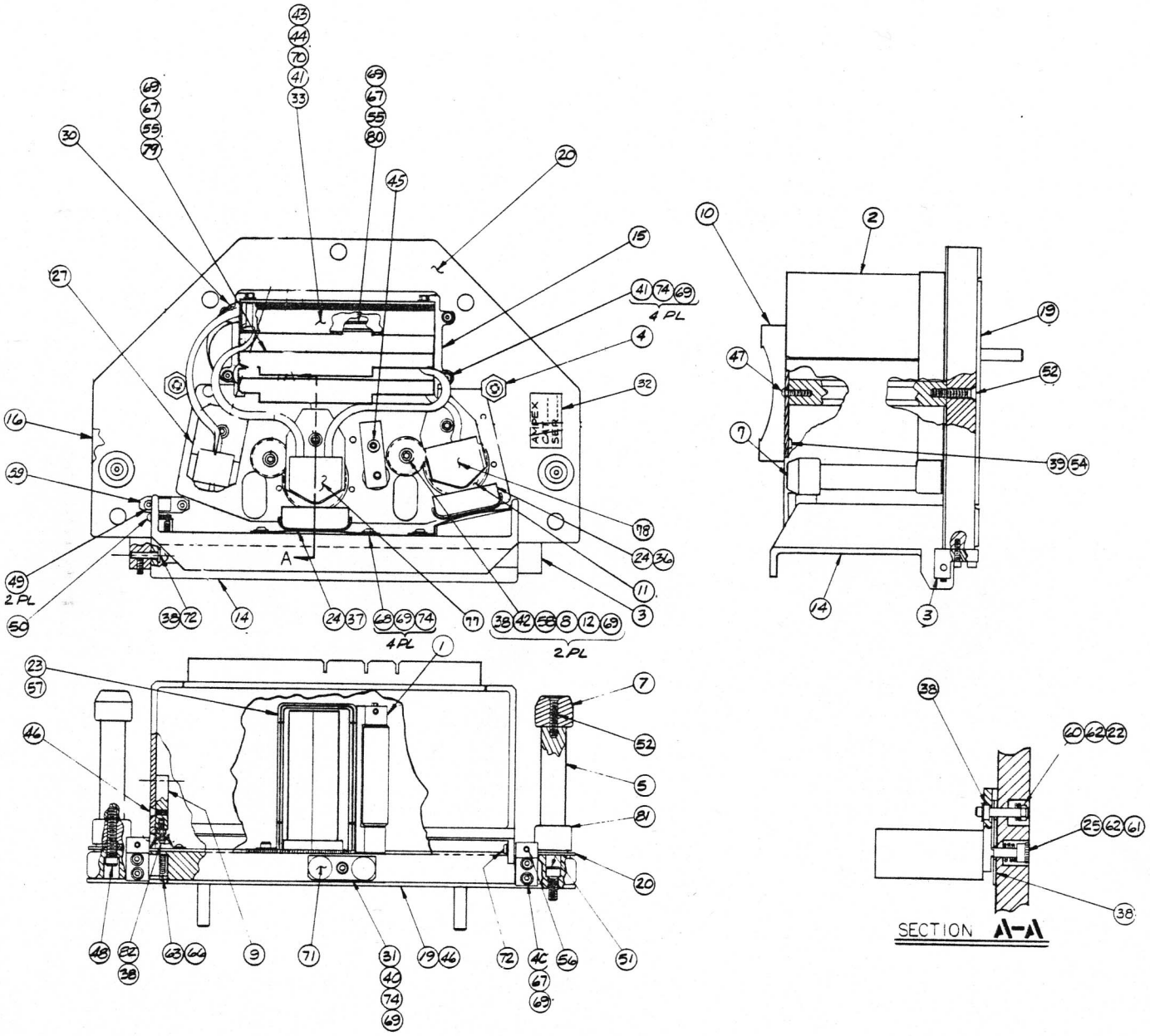
ITEM NO.	PART NUMBER	E	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04
1	4030445-02		FLUTTER IDLER ASSY 9/16"		1	1	1	1
2	4041319-02		SHIELD ASSEMBLY, HD COVER				1	1
3	4120045-01		HINGE, GATE		2	2	2	2
4	4210409-01		POST, HEAD COVER SUPPORT		2	2	2	2
5	4210410-01		POST, TAPE GUIDE 2 INCH		2	2	2	2
6	4210412-01		EDGE GUIDE		2	2	-	-
7	4210412-02		EDGE GUIDE				2	2
8	4220342-01		SPACER, PINION GEAR		2	2	2	2
9	4220343-01		SPACER, GATE NIPPLE		1	1	1	1
10	4220351-01		BLOCK, TAPE SPLICING		1	1	1	1
11	4240023-02		GEAR, AZIMUTH ADJUST		2	2	2	2
12	4240024-01		PINION GEAR, AZIMUTH ADJUST		2	2	2	2
13	4291011-01		FRONT GATE		1	1	-	-
14	4291011-02		FRONT GATE			1	1	1
15	4291013-01		HOLDER, HEAD CONNECTOR		2	2	2	2
16	4330370-02		HEAD BASE PLATE		1	1	1	1
17	4330371-01		BASE , TAPE GUIDE		2	2	-	-
18	4041319-01		SHIELD ASSY, HD COVER		1	1	-	-
19	4350349-02		SHIELD, HEAD BASE, BOTTOM		1	1	1	1
20	4350350-01		SHIELD, HEAD BASE, TOP		1	1	1	1
21	4350353-01		SHIELD, FRONT HEAD STACK, SINGLE LAYER		1	1	-	-
22	4400616-01		SCREW, CAM, RACKING ADJUST		2	3	3	3
23	4350562-01		SHIELD CAN MULTILAYER, 2 INCH			2	2	2
24	4350352-01		SHIELD, FRONT, HEAD STACK, MULTILAYER			2	2	2
25	4400615-01		BOLT, HEAD STACK MTG..		2	3	3	3
26	4270249-01		LEAF SPRING, HD GATE		1	1	-	-
27	4350371-02		ERASE HEAD ASSY		1	1	1	1
28	4350372-01		RECORD HEAD ASSY		1	1	1	-
29	4350373-01		REPRODUCE HEAD ASSY		1	1	1	-
30	4051061-01		STRIP, GROUND			4	4	4
31	4260654-01		BRACKET, RUBBER BUMPER		1	1	1	1
32	6000035-01		LABEL, IDENTIFICATION		1	1	1	1
33	4291091-02		SHIELD, PADDLE, ERASE HEAD			1	1	1
34	4291092-01		SHIELD, PADDLE, SYNC AND REPRO. HD.			2	-	-
35	4291093-01		SHIELD, PADDLE, RECORD HEAD			1	-	-
36	4270272-02		SPRING, FRONT SHIELD HOLDER REPRO HEAD			1	1	1
37	4270273-02		SPRING, FRONT SHIELD HOLDER RECORD HEAD			1	1	1

LM-4020450

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4020450 SHEET 2 OF 2	P

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04
38	087-770	LUBRICANT, MOLY-KOTE 'G-N' PASTE		A/R	A/R	A/R	A/R
39	018-458	ADHESIVE, MILD STRENGTH, LOCTITE		A/R	A/R	A/R	A/R
40	470-063	SCREW, CAP, BUTTON HD 4-40 X .50 LG SST		4	5	5	5
41	470-065	SCREW, CAP, SOCKET HD 4-40 X .75 LG SST		4	6	6	6
42	470-064	SCREW, CAP, SOCKET HD 4-40 X .62 LG SST		2	2	2	2
43	018-378	ADHESIVE, BASE, CYANOCRYLATE BOND			A/R	A/R	A/R
44	269-015	RUBBER, EXTRUDED U-CHAN BLK 1FT			A/R	A/R	A/R
45	470-239	SCREW, CAP, SOCKET HD. 4-40 X 1.00 LG SST		1	1	1	1
46	470-440	SCREW, CAP, FLAT HD 4-40 X .37 LG, HEX SOC, BLACK		4	4	4	4
47	472-989	SCREW, CAP BUTTON HD 6-32 X .50 LG, HEX SOC, SST		2	2	2	2
48	470-075	SCREW CAP, SOCKET HD 6-32 X1.00 LG, SST		2	2	2	2
49	470-691	SCREW CAP, BUTTON HD 4-40 X .37 LG, HEX SOC, SST		4	2	2	2
50	470-472	SCREW CAP, BUTTON HD 4-40 X .37 LG, HEX SOC, BLACK		3	1	1	1
51	470-080	Screw, Cap.socket Hd. 8-32 X .50 LG SST		3	3	3	3
52	470-692	SCREW CAP, FLAT HD 6-32 X .87 LG, SST, HEX SOC		4	4	4	4
53	471-397	SCREW MACH, FLAT HD 8-32 X .44 LG X REC		1	-	-	-
54	472-480	SCREW, CAP, BUTTON HD, 6-32 X .25 LG. S. ST.		2	2	2	2
55	470-008	SCREW, CAP, SOC. HD. 4-40 X .25 LG			9	9	9
56	477-145	SCREW, SET, 4-40 X .188LG, FL PT		2	2	2	2
57	470-054	SCREW, CAP, SOC. HD. 2-56 X .31 LG			6	6	6
58	492-091	NUT, LOCKING 4-40, SST		2	2	2	2
59	310-290	CATCH, SPRING				1	1
60	498-355	NUT, LOCKING 6-32, SST		2	3	3	3
61	498-648	NUT, INTERNAL WRENCHING 6-32		2	3	3	3
62	352-500	SPRING, COMP.		4	6	6	6
63	352-344	SPRING, EXTENSION 1.125 LG .188 OD		1	1	1	1
64	310-749	Catch, Spring		1	1	-	-
65	481-022	Stud Ball		1		-	-
66	406-038	Pin, Spring Roll, .094 x .625 LG		1	1	1	1
67	501-171	WASHER, PLAIN, #4, .125 I.D. .022 THK. .250 O.D. S.ST.		9	13	13	13
68	470-382	SCREW, CAP. BOTTON HD. 4-40 X .18 LG. S. ST.			4	4	4
69	502-008	WASHER, LOCK, SPRING #4, SST		11	24	24	24
70	503-010	WASHER, PHENOLIC, BLK, .125 ID, .25 OD, .031 THK		3	2	2	2
71	250-209	BUMPER, GROMMET, RUBBER		2	2	2	2
72	408-011	PIN CLEVIS FLAT HD. .124 DIA SHANK, .766 OA LG		2	2	2	2
73	225-485	TAPE ADHESIVE SGL. SIDE FOAM VINYL, .500W		A/R	-	-	-
74	501-014	WASHER, PLAIN #4 .125 I.D. 032 THK .312 O.D.			8	8	8
75	280-008	SPACER, UNTHREADED, PLAIN, #4, .500 LG.			2	-	-
76							
77	4350372-02	RECORD HEAD ASSY				-	1
78	4350373-02	REPRODUCE HEAD ASSY				-	1
79	4291092-02	SHIELD, PADDLE, SYNC AND REPRO				2	2
80	4291093-02	SHIELD, PADDLE, RECORD HD				1	1
81	4330371-02	BASE, TAPE GUIDE				2	2
82	4210440-01	STUD, LATCHING				1	1

LM-4020450



Assembly No. 4020450-04P. 24 Channel Head Assembly

4020451-04 16 CHANNEL HEAD ASSEMBLY REV. K

NEXT HIGHER ASSEMBLY 4010337, 4010338

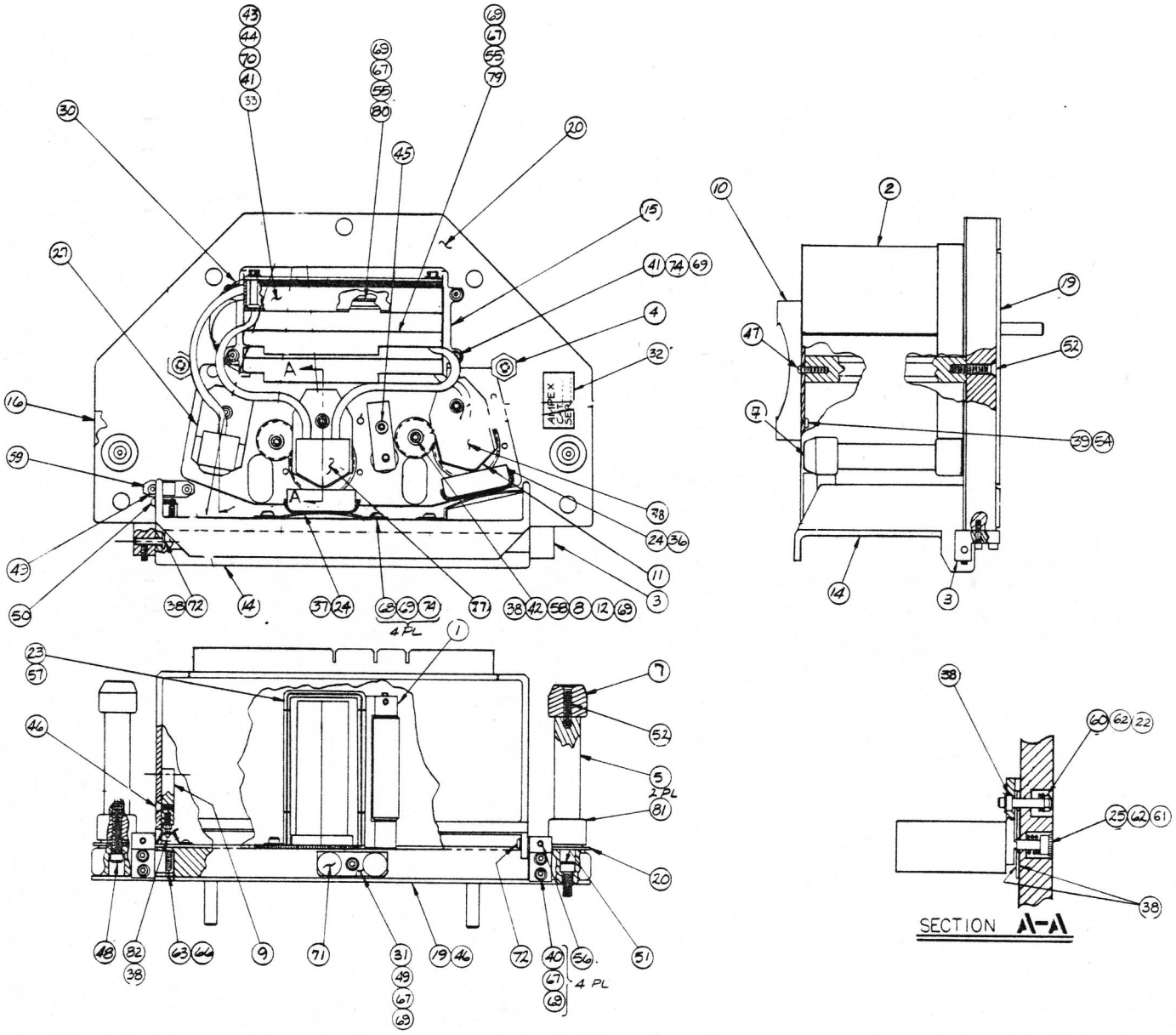
ITEM NO.	PART NUMBER	E	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04
1	4030445-02		FLUTTER IDLER ASSEMBLY 9/16"		1	1	1	1
2	4041319-02		SHIELD ASSEMBLY, HD COVER				1	1
3	4120045-01		HINGE, GATE		2	2	2	2
4	4210409-01		POST, HEAD COVER SUPPORT		2	2	2	2
5	4210410-01		POST, TAPE GUIDE 2 INCH		2	2	2	2
6	4210412-01		EDGE GUIDE		2	2	-	-
7	4210412-02		EDGE GUIDE				2	2
8	4220342-01		SPACER, PINION GEAR		2	2	2	2
9	4220343-01		SPACER, GATE NIPPLE		1	1	1	1
10	4220351-01		BLOCK, TAPE SPLICING		1		1	1
11	4240023-02		GEAR, AZIMUTH ADJUST		2	2	2	2
12	4240024-01		PINION GEAR, AZIMUTH ADJUST		2	2	2	2
13	4291011-01		FRONT GATE		1	1	-	-
14	4291011-02		FRONT GATE		1	1	1	1
15	4291013-01		HOLDER, HEAD CONNECTOR		2	2	2	2
16	4330370-02		HEAD BASE PLATE		1	1	1	1
17	4330371-01		BASE, TAPE GUIDE		2	2	-	-
18	4041319-01		SHIELD ASSEMBLY, HD COVER		1	1	-	-
19	4350349-02		SHIELD, HEAD BASE, BOTTOM		1	1	1	1
20	4350350-01		SHIELD, HEAD BASE, TOP		1	1	1	1
21	4350353-01		SHIELD, FRONT HEAD STACK, SINGLE LAYER		1	1	-	-
22	4400616-01		SCREW, CAM, RACKING ADJUST.		2	3	3	3
23	4350562-01		SHIELD, CAN, MULTILAYER, 2 INCH		1	2	2	2
24	4350352-01		SHIELD, FRONT HEADSTACK, MULTILAYER		1	2	2	2
25	4400615-01		BOLT, HEAD STACK MTG.		2	3	3	3
26	4270249-01		LEAF SPRING, HD GATE		1	1	-	-
27	4350374-01		ERASE HEAD ASSEMBLY, 16 CHANNEL		1	1	1	1
28	4350375-01		RECORD HEAD ASSEMBLY, 16 CHANNEL		1	1	1	-
29	4350376-01		REPRODUCE HEAD ASSEMBLY, 16 CHANNEL		1	1	1	-
30	4051061-01		STRIP, GROUND			4	4	4
31	4260654-01		BRACKET, RUBBER BUMPER		1	1	1	1
32	6000035-01		LABEL, IDENTIFICATION		1	1	1	1
33	4291091-02		SHIELD, PADDLE, ERASE HEAD			1	1	1
34	4291092-01		SHIELD, PADDLE, SYNC AND REPRO HD.			2	-	-
35	4291093-01		SHIELD, PADDLE, RECORD HD			1	-	-
36	4270272-02		SPRING, FRONT SHIELD HOLDER, REPRO HD.			1	1	1
37	4270273-02		SPRING, FRONT SHIELD HOLDER, RECORD HD.			1	1	1

LM-4020451

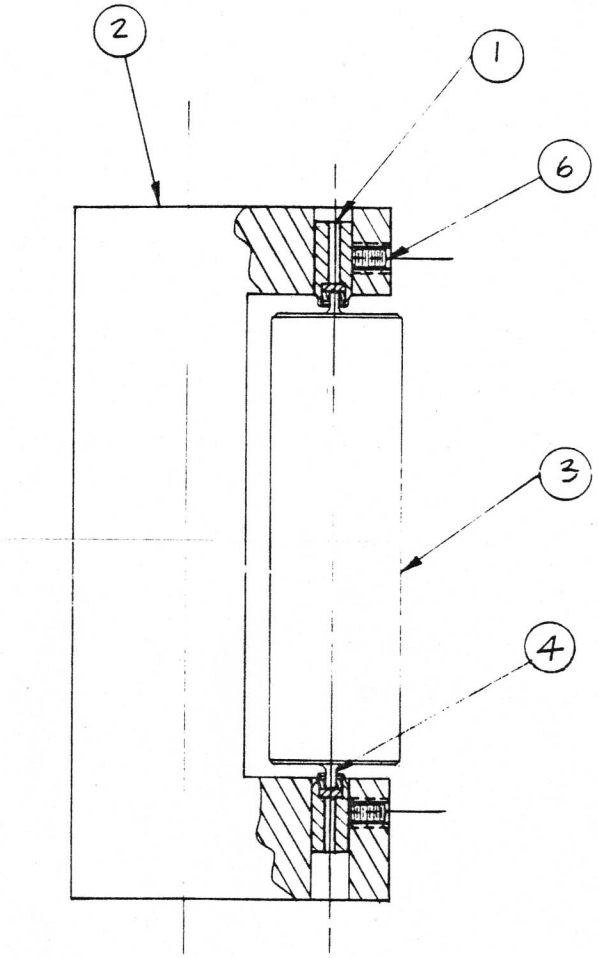
AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM- 4020451 SHEET 2	K

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04
38	087-770	LUBRICANT, MOLYKOTE 'GN' PASTE		A/R	A/R	A/R	A/R
39	018-458	ADHESIVE, THREAD LOCKING, LOCTITE		A/R	A/R	A/R	A/R
40	470-063	SCREW, CAP, SOCKET HD, 4-40 X .50 LG SST		4	5	5	5
41	470-065	SCREW, CAP, SOCKET HD, 4-40 X .75 LG SST		4	6	6	6
42	470-064	SCREW, CAP, SOCKET HD, 4-40 X .62 LG SST		2	2	2	2
43	018-378	ADHESIVE, BASE, CYANOCRYLATE BOND			A/R	A/R	A/R
44	269-015	RUBBER, EXTRUDED, U-CHAN BLACK			A/R	A/R	A/R
45	470-239	SCREW, CAP, SOCKET HD, 4-40 X 1.00 LG SST		1	1	1	1
46	470-440	SCREW, CAP, FLAT HD, 4-40 X .37 LG, HEX SOC, BLACK		4	4	4	4
47	472-989	SCREW, CAP, BUTTON HD, 6-32 X .50 LG, HEX SOC, SST		2	2	2	2
48	470-075	SCREW, CAP, SOCKET HD, 6-32 X 1.00 LG, SST		2	2	2	2
49	470-691	SCREW, CAP, BUTTON HD, 4-40 X .37 LG, HEX SOC, SST		4	2	2	2
50	470-472	SCREW, CAP, BUTTON HD, 4-40 X .37 LG, HEX SOC, BLACK		3	1	1	1
51	470-080	SCREW, CAP, SOCKET HD, 8-32 X .50 LG, SST		3	3	3	3
52	470-692	SCREW, CAP, FLAT HD, 6-32 X .87 LG, SST, HEX SOC		4	4	4	4
53	471-397	SCREW, MACH, FLAT HD, 8-32 X .44 LG XREC		1	-	-	-
54	472-480	SCREW, CAP, BUTTON HD, 6-32 X .25 LG S ST.		2	2	2	2
55	470-008	SCREW, CAP, SOC. HD. 4.40 X .25 LG.			9	9	9
56	477-145	SCREW, SET, 4-40 X .188 LG, FL PT		2	2	2	2
57	470-054	SCREW, CAP. SOC. HD., 2-56 X .31 LG			6	6	6
58	492-091	NUT, LOCKING 4-40, SST		2	2	2	2
59	310-290	CATCH, SPRING				1	1
60	498-355	NUT, LOCKING 6-32, SST		2	3	3	3
61	498-648	NUT, INTERNAL WRENCHING, 6-32		2	3	3	3
62	352-500	SPRING, COMP.		4	6	6	6
63	352-344	SPRING, EXTENSION 1.125 LG, .188 O.D.		1	1	1	1
64	310-749	CATCH, SPRING		1	1	-	-
65	481-022	STUD BALL		1	1	-	-
66	406-038	PIN, SPRING ROLL, .094 X .625 LG		1	1	1	1
67	501-171	WASHER, PLAIN, #4, .125 I.D. .022 THK. .250 O.D. S ST.		9	3	13	13
68	470-382	SCREW, CAP BUTTON HD. 4-40 X .18 LG			4	4	4
69	502-008	WASHER, LOCK, SPRING #4, SST		11	24	24	24
70	503-010	WASHER, PHENOLIC, BLK, .125 I.D., .25 O.D., .031 THK.		3	2	2	2
71	250-209	BUMPER, GROMMET, RUBBER		2	2	2	2
72	408-011	PIN CLEVIS FLAT HD., .124 DIAMETER SHANK, .766 OA LG		2	2	2	2
73	225-485	TAPE ADHESIVE SINGLE SIDE FOAM NEOPRENE, 500W		A/R	-	-	-
74	501-014	WASHER, PLAIN #4 .125 I.D., .032 THK, .312 O.D.			8	8	8
75	280-008	SPACER, UNTHREADED, PLAIN, #4, .500 LG.			2	-	-
76							
77	4350375-02	RECORD HEAD ASSEMBLY, 16 CHANNEL					1
78	4350376-02	REPRODUCE HEAD ASSEMBLY, 16 CHANNEL					1
79	4291092-02	SHIELD, PADDLE, SYNC AND REPRO				2	2
80	4291093-02	SHIELD, PADDLE, RECORD HD				1	1
81	4330371-02	BASE, TAPE GUIDE				2	2
82	4210440-01	STUD, LATCHING				1	1

LM-4020451



Assembly No. 4020451-04R. 16 Channel Head Assembly



2	—	6	477-215	SCREW, SET, CUP POINT #2-56 X .12 LG	
—	2	5	477-433	SCREW, SET #2-56 x .12 LG., FLAT PT.	
A/R	A/R	4	087-719	LUBRICANT, GREASE, FLUOROGEL 816.	
1	1	3	4250247-02	IDLER, 9/16 DIA. SCRAPE FLUTTER 2 INCH	
1	1	2	4230285-02	YOKE, 2" 9/16 DIA. IDLER	
2	2	1	4041311-01	JEWEL BEARING ASSY	
-02	0	ITEM NO.	PART NUMBER	DESCRIPTION	

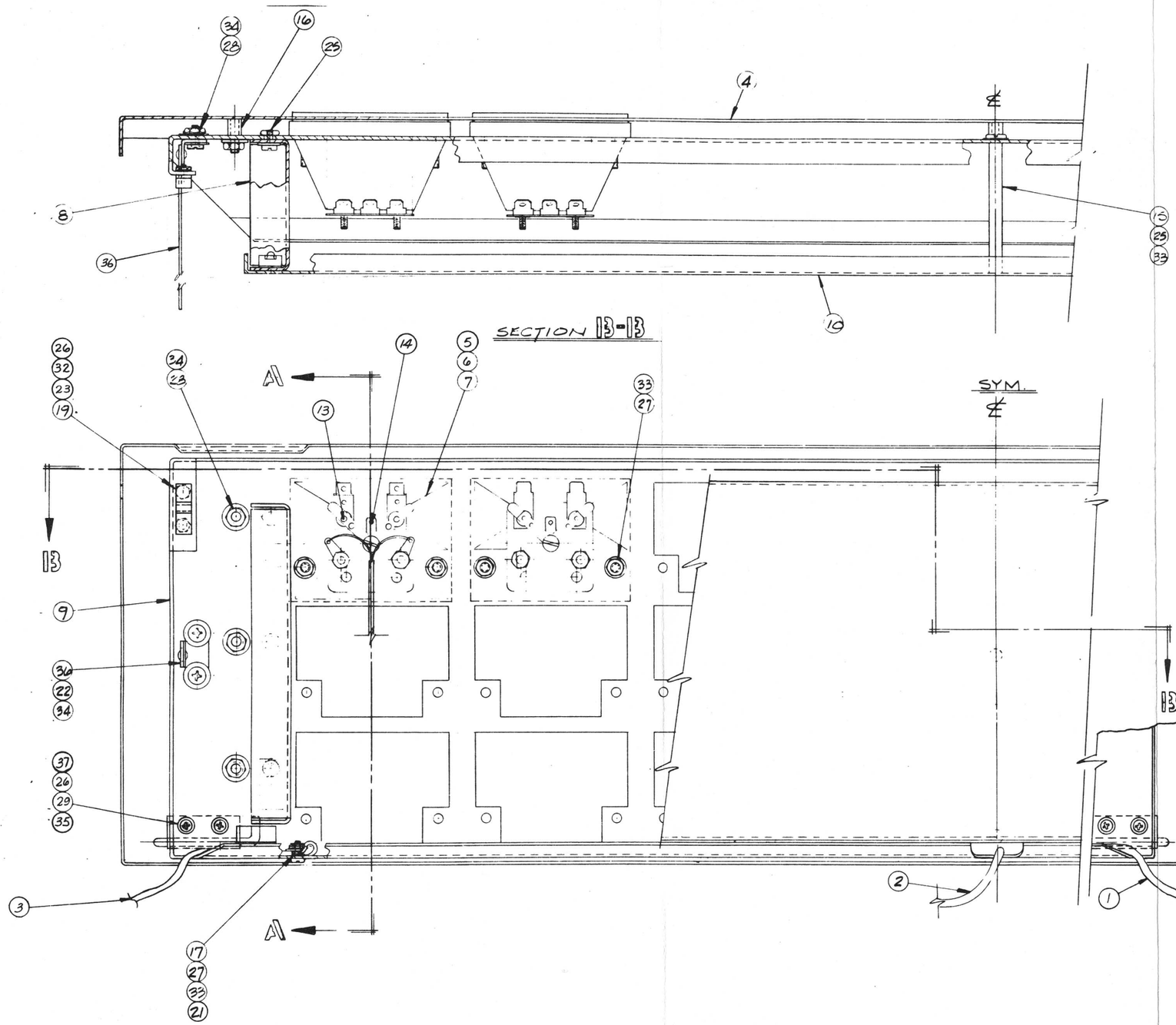
PARTS LIST

Assembly No. 4030445-02J. Flutter Idler Assembly

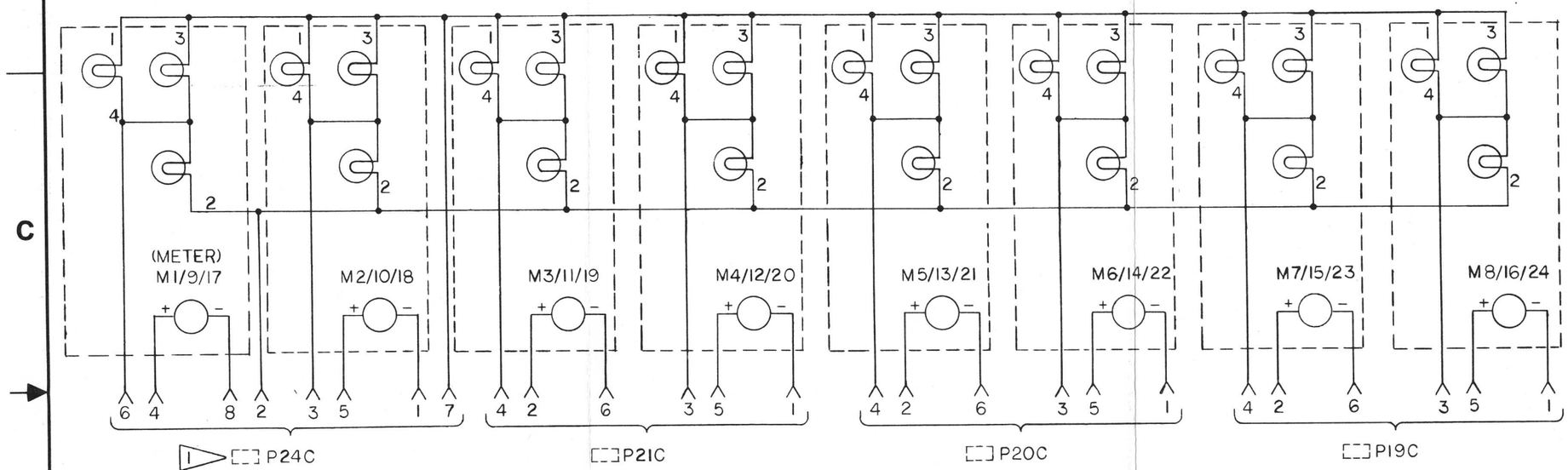
4050931-AA 24 CHANNEL METER ASSEMBLY, CHANNEL 1-8 REV. E
4050931-AB 24 CHANNEL METER ASSEMBLY, CHANNEL 9-16
4050931-AC 24 CHANNEL METER ASSEMBLY, CHANNEL 17-24
NEXT HIGHER ASSEMBLY 4010336

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -AA	-AB	-AC
1	4050941-AA	CABLE ASSY METER PANEL		1	1	1
2	4050941-AB	CABLE ASSY METER PANEL		1	1	1
3	4050941-AC	CABLE ASSY METER PANEL		1	1	1
4	4110307-AA	OVERLAY METER PANEL		1	1	1
5	4140024-AB	METER, VU(MOD)		-	-	24
6	4140035-01	METER, VU (YOK)		-	24	-
7	4140029-AB	METER, VU (DIX)		24	-	-
8	4260603-01	BRACKET MTG REAR COVER METER PNL		2	2	2
9	4291002-01	METER PANEL		1	1	1
10	4291003-01	COVER REAR METER PANEL		1	1	1
11						
12	4840490	WIRING DIAGRAM METER PANEL		REF	REF	REF
13	060-551	LAMP #385 (RED) ±		48	48	48
14	060-530	LAMP #385 28V, 40MA, T13/4		24	24	24
15	280-961	SPACER #6 X 2.50 LG		1	1	1
16	283-033	SPACER #8 X .312 LG		9	9	9
17	302-365	STRAP, CABLE		3	3	3
18	310-605	RECEIVER, STUD		4	4	4
19	310-695	CATCH, MALE		2	2	2
20	473-330	SCREW, P HD XREC 6-32 X .250 LG		4	4	4
21	471-068	SCREW, P HD XREC 6-32 X .312LG		4	4	4
22	471-078	SCREW P HD XREC 8-32 X .375LG		4	4	4
23	471-328	SCREW, F HD 4-40 X .375LG		16	16	16
24	310-788	STUD, BALL #6-32		4	4	4
25	475-085	SCREW P HD XREC SEM 6-32 X .312		7	7	7
26	496-004	NUT, HEX, KEP #4-40		16	16	16
27	496-005	NUT HEX KEP #6-32		52	52	52
28	496-006	NUT HEX KEP #8-32		13	13	13
29	471-062	SCREW PAN HD XREC 4-40 X .375 LG		4	4	4
30						
31						
32	501-008	WASHER FLAT #4		16	16	16
33	501-009	WASHER FLAT #6		57	57	57
34	501-110	WASHER FLAT #8 SM PATT		17	17	17
35						
36	530-297	SUPPORT SLIDE		2	2	2
37	092-131	HINGE SEPARABLE		1	1	1

LM-



Assembly No. 4050931-AA/AB/AC E.
24 Channel Meter Assembly



NOTES:

1. M1 CONNECTS TO (BAY 1) B1P24C
   M9 CONNECTS TO (BAY 2) B2P24C
   M17 CONNECTS TO (BAY 3) B3P24C

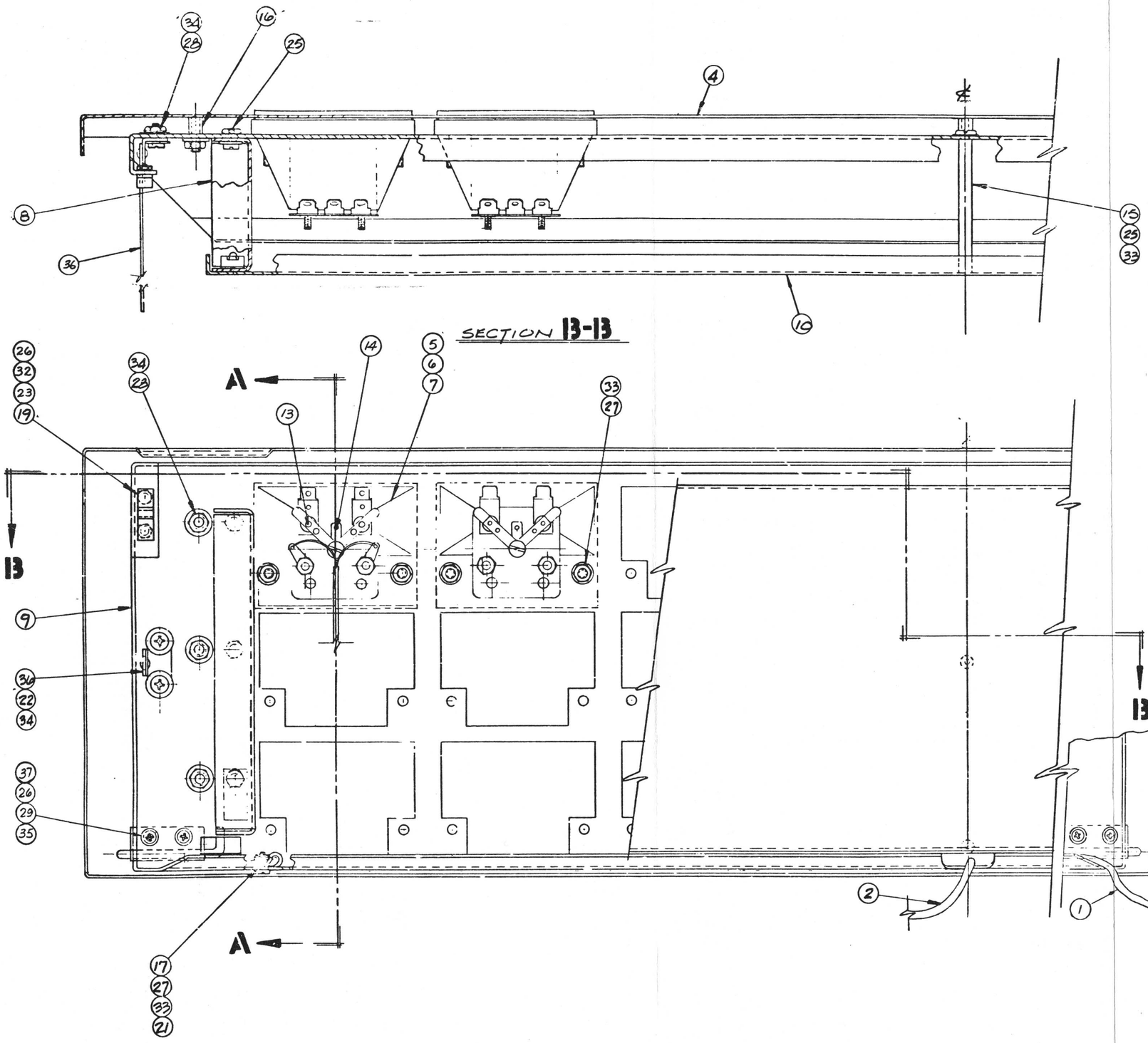
Wiring Diagram No. 4840490A.
24 Channel Meter Assembly

7-23/7-24

4050945-AA 16 CHANNEL METER PANEL ASSEMBLY, (DIX) REV. B
4050945-AB 16 CHANNEL METER PANEL ASSEMBLY, (YOK)
4050945-AC 16 CHANNEL METER PANEL ASSEMBLY, (MOD)
NEXT HIGHER ASSEMBLY 4010337

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -AA	-AB	-AC
1	4050941-AA	CABLE ASSEMBLY, METER PANEL		1	1	1
2	4050941-AB	CABLE ASSEMBLY, METER PANEL		1	1	1
3						
4	4110307-AB	OVERLAY, METER PANEL		1	1	1
5	4140024-AB	METER VU (MOD)		-	-	16
6	4140035-01	METER VU (YOK)		-	16	-
7	4140029-AB	METER, VU (DIX)		16	-	-
8	4260603-01	BRACKET, MOUNTING REAR COVER METER PANEL		2	2	2
9	4291002-01	METER PANEL		1	1	1
10	4291003-01	COVER, REAR, METER PANEL		1	1	1
11						
12	4840490	WIRING DIAGRAM, METER PANEL		REF.	REF.	REF.
13	060-551	LAMP, #385 (RED)		32	32	32
14	060-530	LAMP, #385, 28V, 40MA, TI-3/4		16	16	16
15	280-961	SPACER, #6 X 2.50 LG.		1	1	1
16	283-033	SPACER, #8 X .312 LG.		9	9	9
17	302-365	STRAP, CABLE		3	3	3
18	310-605	RECEIVER, STUD		4	4	4
19	310-695	CATCH, MALE		2	2	2
20	473-330	SCREW, P. HD., XREC, 6-32 X .250 LG.		4	4	4
21	471-068	SCREW, P. HD., XREC, 6-32 X .312 LG.		4	4	4
22	471-078	SCREW, P. HD., XREC, 8-32 X .375 LG.		4	4	4
23	471-328	SCREW, F. HD., 4-40 X .375 LG.		16	16	16
24	310-788	STUD, BALL, #6-32		4	4	4
25	475-085	SCREW, P. HD., XREC, SEM, 6-32 X .312		7	7	7
26	496-004	NUT, HEX, KEP, #4-40		16	16	16
27	496-005	NUT, HEX, KEP, #6-32		40	40	40
28	496-006	NUT, HEX, KEP, #8-32		13	13	13
29	471-062	SCREW, PAN HD., XREC, 4-40 X .375 LG.		4	4	4
30						
31						
32	501-008	WASHER, FLAT, #4		16	16	16
33	501-009	WASHER, FLAT, #6		41	41	41
34	501-110	WASHER, FLAT, #8, SMALL PATTERN		17	17	17
35	092-130	HINGE, SEPARABLE		1	1	1
36	530-297	SUPPORT, SLIDE		2	2	2
37	092-131	HINGE, SEPARABLE		1	1	1

LM-4050945



Assembly No. 4050945-AA/AB/AC B.
16 Channel Meter Panel Assembly

4050941-AA VU METER HARNESS ASSEMBLY, CHANNEL 1-8 REV. D
4050941-AB VU METER HARNESS ASSEMBLY, CHANNEL 9-16
4050941-AC VU METER HARNESS ASSEMBLY, CHANNEL 17-24
NEXT HIGHER ASSEMBLY 4050931

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER AA	AB	AC
1						
2						
3						
4						
5	167-715	CONNECTOR BODY, 8 CONTACT	P24C	1	1	1
6						
7	167-714	CONNECTOR BODY, 6 CONTACT	P19C,20C,21C	3	3	3
8						
9	171-178	CRIMP LUG, #10 RINGTONGUE	M+, M-	16	16	16
10						
11	172-359	CRIMP LUG, QUICK DISCONNECT, RT. ANGLE		32	32	32
12						
13		WIRE, 22 AWG.		A/R	A/R	A/R
14						
15	167-727	CONTACTS (REF ITEMS 5 & 7)		26	26	26
16						
17						
18						
19						
20						
21	614-931	CABLE, SHIELDED, 24 AWG	WHT-BRN	A/R	A/R	A/R
22	614-932		WHT-RED	A/R	A/R	A/R
23	614-933		WHT-ORN	A/R	A/R	A/R
24	614-934		WHT-YEL	A/R	A/R	A/R
25	614-935		WHT-GRN	A/R	A/R	A/R
26	614-936		WHT-BLU	A/R	A/R	A/R
27	614-937		WHT-VIO	A/R	A/R	A/R
28	614-938	CABLE, SHIELDED, 24 AWG.	WHT-GRY	A/R	A/R	A/R
29						
30						
31		TUBING (SHRINKABLE)		A/R	A/R	A/R

LM-4050941

24 CHANNEL I/O CONNECTOR w/AUXILIARY OUTPUT PANEL ASSEMBLY REV. M

NEXT HIGHER ASSEMBLY 4010335

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04
1	4291000-02	PANEL			1	-	-	-
2	4050992-01	CABLE, NOISE REDUCTION TRIGGER			1	1	1	1
3	4291083-01	PANEL, I/O CONNECTOR				1	1	1
4	4050995-01	HARNESS, ACCESSORY - REMOTE CONNECTORS			1	-	-	-
5	146-998	CONNECTOR, 3 CONTACT (FEMALE)			25	25	25	25
6	147-999	CONNECTOR, 3 CONTACT (MALE)			49	49	49	49
7	4051055-03	HARNESS, ACCESSORY - REMOTE CONNECTORS				1	1	1
8								
9	167-077	FEMALE SCREWLOCK ASSY. KIT		REF: J73				1
10	167-714	CONNECTOR HOUSING (6 POS.)			37	37	37	37
11	167-727	CONTACT			222	222	222	222
12								
13	471-380	SCREW, MACHINE, FLAT HEAD, 4-40 X .31			144	144	144	144
14	473-325	SCREW, PAN HD, 4-40 X .312, SEM				-	18	18
15	496-004	NUT, KEP 4-40			144	144	126	126
16								
17								
18	616-541	CABLE, 2 COND., SHIELDED, 26 AWG			A/R	A/R	A/R	A/R
19	600-092	SLEEVING, SHRINK, BLACK, .250			A/R	A/R	A/R	A/R
20	600-161	SLEEVING, TEFLON			A/R	A/R	A/R	A/R
21	600-130	SLEEVING, SHRINK, CLEAR, .093			A/R	A/R	A/R	A/R
22	611-208	WIRE, BLACK, 24 AWG			A/R	A/R	A/R	A/R
23	470-011	SCREW, SOCKET HEX. HD. 4-40 X .438 LG		REF: S74,75				8
24	502-002	WASHER, LOCK #4						8
25	501-169	WASHER, PLAIN #4 SMALL PATTERN						8
26								
27	502-013	WASHER, LOCK, EXTERNAL TOOTH						18
28	280-085	SPACER, HEX, THREADED, 4-40 X 1.0 LG			-	-	18	18
29	302-567	CABLE CLAMP, FLATWIRE					3	3
30	302-344	PLATE STRAP (SMALL)			-	-	9	9
31	302-335	STRAP (SMALL)			-	-	9	9
32								
33	302-355	PLATE STRAP			-	-	9	9
34	302-379	STRAP			-	-	9	9
35								
36	493-015	NUT, HEX, NYLON THD LOCKING #6 SMALL PATT		REF: J75				2
37	493-018	NUT, HEX, NYLON THD LOCKING #4 SMALL PATT		REF: J74				2

LM-4050932

4050992-01 NOISE REDUCTION TRIGGER HARNESS ASSEMBLY REV. C

NEXT HIGHER ASSEMBLY 4050932,4050939,4050942,4050943

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1	4840500	WIRING DIAGRAM			REF
2	167-808	CONNECTOR PART, BODY, 10 POS.			3
3	167-815	CONNECTOR PART, COVER, 10 POS.			3
4					
5	140-301	CONNECTOR,37 CONTACT			1
6					
7					
8	616-724	RIBBON CABLE, 34 CONDUCTOR, 28 AWG			A/R
9					
10	167-801	CONNECTOR PART, PULL TAB, FOR 10 POS. CONN.			3

LM-4050992

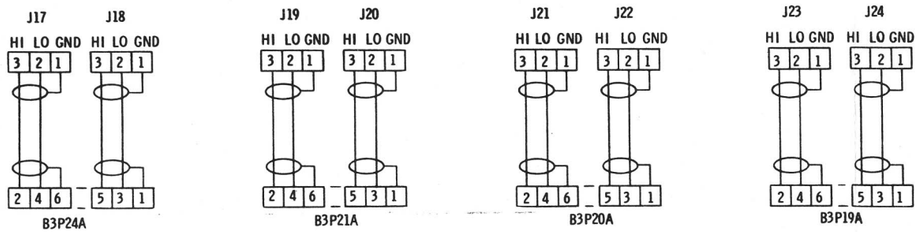
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C

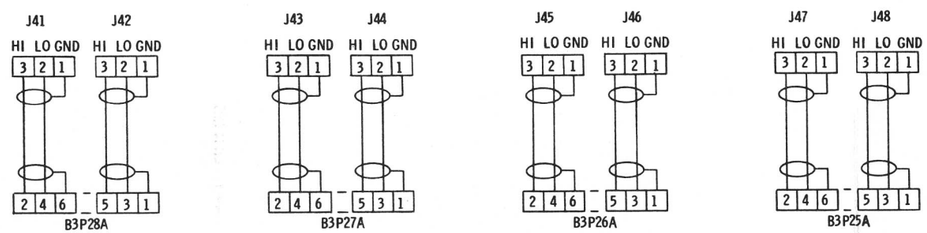
B

A

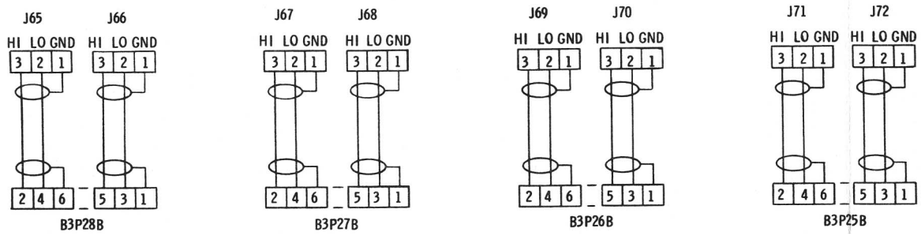
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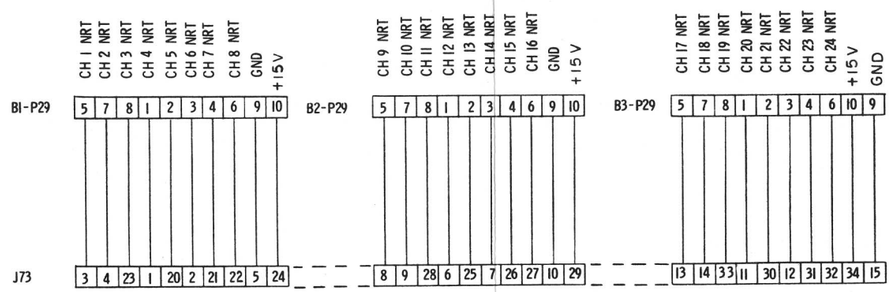


LINE OUT



AUX OUT





Schematic No. 4840500B.
24 Channel I/O Connector w/Auxiliary Output Panel Assembly
(Sheet 1 of 2)

7-33/7-34

8 | 7 | 6 | 5 | 4 | 3 | 4840500 | 2 | 1

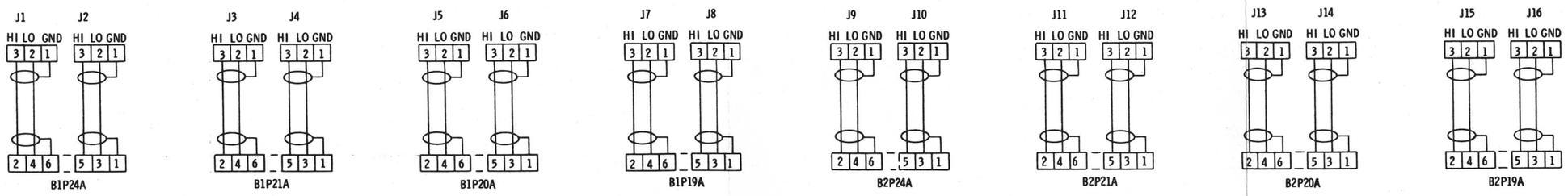
D

C

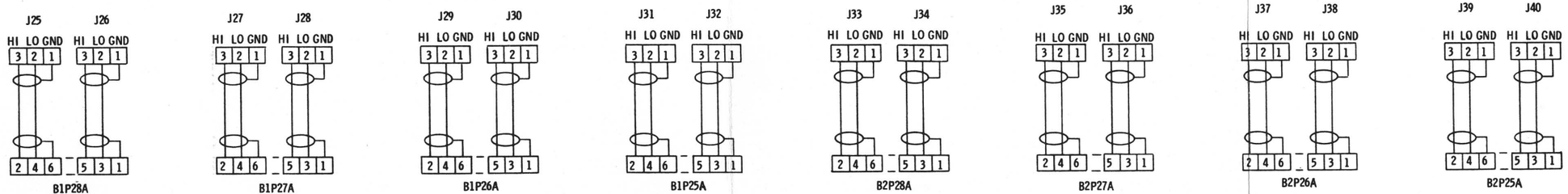
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A

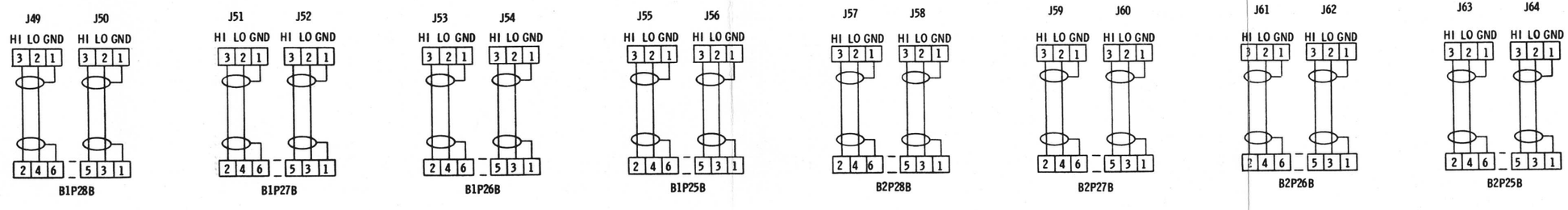
LINE IN



LINE OUT



AUX OUT



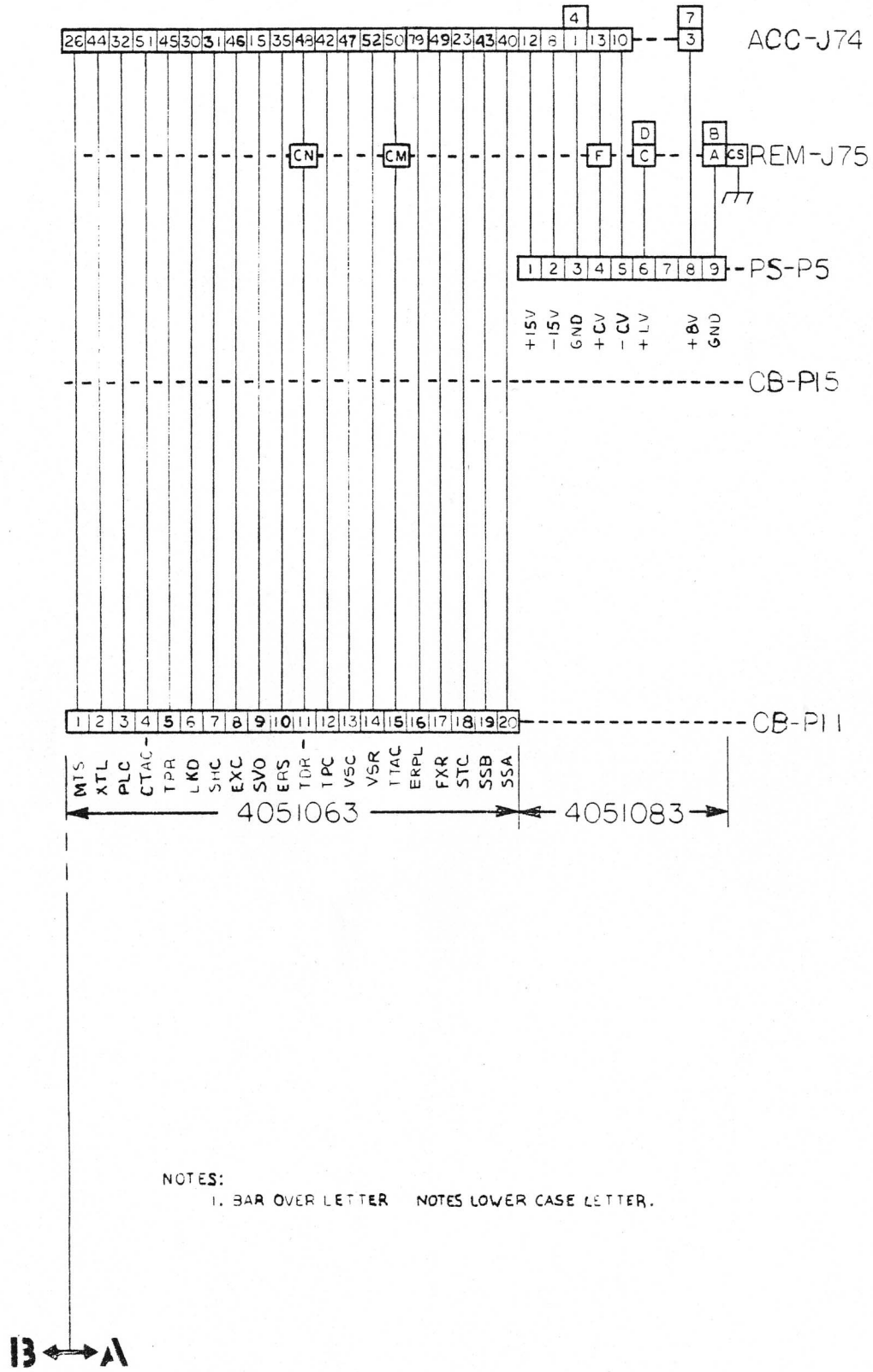
Schematic No. 4840500B.
24 Channel I/O Connector w/Auxiliary Output Panel Assembly
(Sheet 2 of 2)

4051055-03 ACCESSORY AND REMOTE CONNECTOR HARNESS ASSEMBLY REV. J

NEXT HIGHER ASSEMBLY 4050932,4050939,4050942,4050943

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -02	-03
1	4840542	WIRING DIAGRAM		C	E
2	4840500	Wiring Diagram			Ref.
3					
4	4051062-01	HARNESS, TRANSPORT CONTROL/STC		1	1
5	4051063-02	HARNESS, SERVO		1	-
6	4051064-01	HARNESS, MPSTC		1	1
7	4051065-01	HARNESS, AUDIO CONTROL PANEL		1	-
8	4051083-01	HARNESS, ACCESSORY/REMOTE POWER		1	1
9	4051063-03	HARNESS, SERVO			1
10	4051065-02	HARNESS, AUDIO CONTROL PANEL			1
11	146-260	CONN. PART, BODY RECPT, 75 POSITION	J74	1	1
12	146-258	CONN. PART, BODY, RECEPT, 104 POSITION	J75	1	1
13					
14	302-568	CLAMP, CABLE, FLAT WIRE CLIP		1	1
15					
16	435-233	CLAMP, PART, SPACER		1	1
17					
18	611-225	WIRE, STRANDED, INSUL, BLK, 18 AWG			A/R
19	167-904	CONNECTOR PART, CONTACT, SOCKET, 18 AWG			1
20	171-007	TERMINAL LUG, CRIMP, #10 STUD, 16-24 AWG			1
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					

LM-4051055



Wiring Diagram No. 4840542E. Accessory and Remote Connector Harness Assembly (Sheet 1 of 2)

8 7 6 5 4 3 4840542 2 1

D

ACC-J74 — 23 37 36 — 25 — 29 — 34 38 39 — 27 — 24 — 55 — 21 — 57 53 58 — 54 — 56 63 62 59 — 67 72 73 76 74 77 75 78 66 71 65 70

REM-J75 — C F G K V P X K Y T N Z H S U J L M N P M R W A D J B R — S Q T T — Z U V W — AF AC AH AA AE AB AD AL AJ AK AS BE AT AZ AU AY AP AN AR AX AW BA AV BD BN BC BP BB BL BK BM BJ BR BF BS BH — BT BU BZ CA CB CC CD CE CF CH BV BW BX BY CJ CK

PS-P5

CB-PI5 — 1 2 3 4 5 6 — RPDL RPDH RCDL RCDH APDL APDH — Remote Serial Setup Panel Data

"Control Bay M'board"

CB-PI7 — 1 2 3 4 5 6 7 8 9 10 11 12 13 14 — CB-PI7

C

CB-PI4 — 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 — CB-PI4

CB-PI1

CB-PI6 — 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

B

CB-PI3 — 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34

Main Setup Panel Shuttle

ACP-PI5 — P P P P P P P P — 1 2 3 4 5 6 7 8 9 10 11 12 13 14 — ACP-PI5 — Main Setup Panel Shuttle

MPSTC-P4 — 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 — MPSTC P4

R3 DOB3 R4 DOA2 R5 DOA1 R1 R0 R2 DOA0 R7 DOA3 RL DOB2 SWX DOB1 SWY DOB0 SWV DSL3 SWW DSL2 MPGND DSL0 SP DSL1

MPDL MPDH MCDL MCDH SP SP ART ARC ARH SHVN SHGND SHS SHVP WUL

SHUTTLE VREF − SHUTTLE VREF + SHUTTLE

STC Panel (Xport + Display)

A

STC-P2 — 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

RCS RHS LDB MTI RWB SVI FFB SP6 SDB SP7 ERSI SP8 RH1 SP TGND — SEARCH BUTTON SCHB — SEARCH LAMP SCHC — CUED LAMP CUDC — SP SP — BCDC SIGN — SEGMENT SELECT — BCDD TAB — FOR REV BUT BCDB — CUE STR BUTTON BCDA — DSC DSA — DIGIT SELECT DSB

ACP-PI6 — 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Main Setup Panel

FFI RVI SHB RCC RHC RCI SP SPI STB PLI ACB STI PLB RHB RHLI LKI SCHC SP3 SP4 SP5

BEEP

4051062 — 4051064 — 4051065

B↔A

Wiring Diagram No. 4840542E.
Accessory and Remote Connector Harness Assembly
(Sheet 2 of 2)

7-41/7-42

Ampex 4890432-01

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1	4840542	WIRING DIAGRAM		REF
2				
3				
4				
5	636-102	CABLE, RIBBON, 50 CONDUCTORS		A/R
6				
7		WIRE, 28 AWG		A/R
8				
9	167-810	CONN., PART, BODY, FLAT CABLE, 16 SPRING CONTACTS CB P16		1
10	167-811	CONN., PART, BODY, FLAT CABLE, 20 SPRING CONTACTS ACP P16		1
11	167-813	CONN., PART, BODY, FLAT CABLE, 34 SPRING CONTACTS CB P13		1
12	167-814	CONN., PART, BODY, FLAT CABLE, 50 SPRING CONTACTS STC P2		1
13				
14				
15				
16	167-906	CONN., PART, SOCKET, 26 AWG		46
17	169-085	CONN., PART, SOCKET, 24 AWG		20
18				
19				
20				
21	167-817	CONN., PART, COVER, 16 POS		1
22	167-818	CONN., PART, COVER, 20 POS		1
23	167-820	CONN., PART, COVER, 34 POS		1
24	167-822	CONN., PART, COVER, 50 POS		1
25				
26				
27				
28	167-794	CONN., PART, KEYING PLUG P13-34		1
29				
30				
31	167-803	CONN., PART, PULL TAB FOR 16 SOCKET CONN		1
32	167-804	CONN., PART, PULL TAB FOR 20 SOCKET CONN		1
33	167-805	CONN., PART, PULL TAB FOR 34 SOCKET CONN		1
34	167-807	CONN., PART, PULL TAB FOR 50 SOCKET CONN		1

LM-4051062

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03
1	4840542	WIRING DIAGRAM		REF	REF	REF
2						
3						
4						
5	636-101	CABLE, RIBBON, 20 CONDUCTORS		A/R	A/R	A/R
6						
7						
8						
9	167-811	CONN., PART, BODY, FLAT CABLE, 20 SPRING CONTACTS CB P11		1	1	1
10						
11						
12						
13	167-906	CONN., PART, SOCKET, 26 AWG		19	19	20
14	169-085	CONN. PART, SOCKET, 24 AWG			2	2
15						
16						
17	167-818	CONN., PART, COVER, 20 POS		1	1	1
18						
19						
20						
21	167-804	CONN., PART, PULL TAB FOR 20 SOCKET CONN		1	1	1
22						
23						
24						
25		WIRE, 28 AWG			A/R	A/R

LM-4051063

4051064-01 MP-STC HARNESS ASSEMBLY REV. B

NEXT HIGHER ASSEMBLY 4051055

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1	4840542	WIRING DIAGRAM	REF	
2				
3				
4				
5	616-650	CABLE, RIBBON, 26 CONDUCTORS	A/R	
6				
7				
8				
9	167-812	CONN., PART, BODY, FLAT CABLE, 26 SPRING CONTACTS	MPSTC-P4, CB-P14	2
10				
11				
12				
13	167-906	CONN, PART, SOCKET, 26 AWG		26
14				
15				
16				
17	167-819	CONN., PART, COVER, 26 POS		2
18				
19				
20	167-642	CONN., PART, PULL TAB FOR 26 SOCKET CONN		2

LM-4051064

4051065-02 AUDIO CONTROL PANEL HARNESS ASSEMBLY REV. E

NEXT HIGHER ASSEMBLY 4051055

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02
1	4840542	WIRING DIAGRAM	REF	REF	
2					
3					
4					
5	616-664	CABLE, RIBBON, 10 TWISTED PAIR	A/R	A/R	
6					
7		WIRE, 28AWG	A/R	A/R	
8					
9	167-808	CONN., PART, BODY, FLAT CABLE, 10 SPRING CONTACTS CB P15	1	1	
10	167-809	CONN., PART, BODY, FLAT CABLE, 14 SPRING CONTACTS ACP P15 CB P17	2	2	
11					
12					
13					
14	167-906	CONN., PART, SOCKET 26 AWG	14	16	
15	169-085	CONN., PART, SOCKET 24 AWG	12	12	
16					
17					
18					
19	167-815	CONN., PART, COVER 10 POS	1	1	
20	167-816	CONN., PART, COVER, 14 POS	2	2	
21					
22					
23					
24	167-801	CONN., PART, PULL TAB FOR 10 SOCKET CONN	1	1	
25	167-802	CONN., PART, PULL TAB FOR 14 SOCKET CONN	2	2	

LM-4051065

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1	4840542	WIRING DIAGRAM		REF
2				
3				
4				
5		WIRE, 18 AWG		A/R
6				
7				
8	167-732	CONNECTOR PART, BODY, RECEPTACLE, 9 POSITION PS-P5		1
9	167-725	CONNECTOR PART, CONTACT, PIN (REF PS-P5)		8
10	167-904	CONNECTOR PART, SOCKET, 18 AWG		8
11	167-903	CONNECTOR PART, SOCKET, 14 AWG		5

LM-4051083

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01									
1	4050960-08	P.W.A., SINGLE POINT STC, CONTROL BAY			1									
2	4050967-02	MACHINE CONTROL PANEL, S.P.-STC			1									

LM-4010305

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06	-07	-08
1				01	-02	-03	04	-05	-06	-07	
2											
3	4840504	SCHEMATIC		A	B	C	D	G	H	J	L
4											
5	4600176-01	SHIELD		1	1	1	1	1	1	1	1
6	4120077-01	HANDLE		1	1	1	1	1	1	1	1
7	4170361-01	LABEL, SP-STC		-	-	-	1	1	1	1	1
8											
9											
10	013-599	DIODE SWITCHING CD458	CR1	1	1	1	1	1	1	1	1
11											
12											
13	014-698	TRANSISTOR N.P.N.	Q2,3	2	2	2	2	2	2	2	2
14	014-652	TRANSISTOR P.N.P. TO,92 CD524	Q1	1	1	1	1	1	1	1	1
15	064-152	CAPACITOR, CER., DISC, .001uF, 100V	C13	-	1	1	1	1	1	1	1
16	064-062	CAPACITOR, MONO., .1uF, 100V	C30,31	-	2	2	-	-	-	-	-
17	064-307	CAPACITOR, MONO .22UF, 100V	C30,31				2	2	2	2	2
18	030-817	CAPACITOR, CER., DISK, .01uF 100V	C1,2,4-8,10-12, 14-27,29	26	25	25	-	-	-	-	-
19	030-817	CAPACITOR, CER., DISK .01uF, 100V	C1,2,4-8,10-12, 14-27, 29,32				26	26	26	26	-
20	030-817	CAPACITOR, CER., DISC, .01uF, 100V	C1,2,4-8,10-12,14-27, 29,32-34								28
21	037-812	CAPACITOR, TANT, DIP, 10uF, 25VDC	C28	1	1	1	1	1	1	1	1
22	037-948	CAPACITOR, TANT, DIP, 68 uF, 25V	C9				-		1	1	1
23	037-217	CAPACITOR, TANT .22uF, 35V	C9	1	1	1	1	-	-	-	-
24	037-724	CAPACITOR, TANT, 1.5uF, 20V	C3	1	1	1	1	1	1	1	1
25	066-812	RESISTOR, C.F. 100 OHMS, 5%, 1/4W	R36			1	1	1	1	1	1
26	066-662	RESISTOR, C.F. 200 OHMS, 5%, 1/4W	R22			1	1	1	1	1	1
27	066-824	RESISTOR, C.F., 1.5K, 5%, 1/4W	R2,7	1	2	2	2	2	2	2	2
28	066-665	RESISTOR, C.F., 1K OHMS, 5%, 1/4W	R2	-	-	-	-	-	-	-	-
29	066-826	RESISTOR, C.F., 2K OHM, 5%, 1/4W	R8,10	2	2	2	2	2	2	2	2
30	066-689	RESISTOR, C.F., 2.2K OHMS, 5%, 1/4W	R3-5,9,12-14,17,18, 21-26,32,33	17	17	-	-	-	-	-	-
31	066-818	RESISTOR, C.F. 470 OHMS, 5%, 1/4W	R37			1	1	1	1	1	1
32	066-827	RESISTOR, C.F., 3.9K OHM, 5%, 1/4W	R15,16	2	2	2	2	2	2	2	2
33	066-689	RESISTOR, C.F. 2.2K OHMS, 5%, 1/4W	R3-5,9,12-14,17,18, 21,23-26,32,33,38			17	-	-	-	-	-
34	066-668	RESISTOR, C.F., 4.7K OHM, 5%, 1/4W	R19,20,34,35	2	2	4	-	-	-	-	-
35	066-668	RESISTOR, C.F., 4.7K OHMS, 5%, 1/4W,	R19,20				2	2	2	2	-
36	066-831	RESISTOR, C.F., 11K OHM, 5%, 1/4W	R29-31	4	3	3	3	3	3	3	3

LM-4050960

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4050960 SHEET 2 OF 3	REV W

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06	-07	-08
37	066-665	RESISTOR, C.F. 1K, 5%, 1/4W	R3,23				2				-
38	066-856	RESISTOR, C.F., 15K OHM, 5%, 1/4W	R11	1		1	1			1	1
39	066-689	RESISTOR, C.F. 2.2K, 1/4W,	R5,4,9,12-14,17,18,21, 24-26,32,33,39,40,38				17				-
40	066-873	RESISTOR, C.F. 20K, 1/4W,	R34,35				2			2	2
41	066-846	RESISTOR, C.F., 30K OHM, 1/4W, 5%	R27,28	2		2	2			2	2
42	066-680	RESISTOR, C.F., 39K OHMS, 5%, 1/4W	R6	1							-
43	076-012	RESISTOR, C.F., 330K, 5%, 1/4W	R6			1	1			1	1
44	058-388	RESISTOR, VAR., 50K OHM, 0.75W, 20 TURN	R1	1		1	1			1	1
45	066-665	RESISTOR, C.F., 1K, 1/4W, 5%	R3,23,41					3		3	-
46	066-689	RESISTOR, C.F., 2.2K, 1/4W, 5%	R4,5,9,12-14,17,18,21 24-26,32,33,39,40,38,42					18	18	18	-
47	586-075	I.C., 7400	U5,9,14,24,41,42,48	7		7	7	7	7		-
48	586-109	I.C., 7402	U10,13,27,43	4		4	4	4	4	4	4
49	590-609	I.C., 7404	U18,30	2		2	2	2	2	2	2
50	590-538	I.C., 7408	U31,32,35	3		3	3	3	3	3	3
51	586-076	I.C., 7410	U3	1			1	1	1	1	1
52	590-544	I.C., 7414	U25	1			1	1	1	1	1
53	590-576	I.C., 7417	U20	1		1	1	1	1	1	1
54	586-077	I.C., 7420	U44	1		1	1	1	1	1	1
55	587-051	I.C., 7425	U21,37	2		2	2	2	2	-	-
56	586-078	I.C., 7430	U8,46	2		2	2	2	2	2	2
57	586-554	I.C., 7483	U29,34	2		2	2	2	2	2	2
58	586-108	I.C., 7474	U11,19	2		2	2	2	2	2	2
59	590-537	I.C., 7486	U23	1		1	1	1	1	1	1
60	589-932	I.C., 74LS113	U26	1		1	1	1	1	1	1
61	590-333	I.C., 74LS163	U40	1		1	1	1	1	1	1
62	590-135	I.C., 74175	U36	1		1	1	1	1	1	1
63	590-131	I.C., 74279	U4	1		1	1	1	1	1	1
64	587-944	I.C., CD4049BE	U47	1		1	-	-	-	-	-
65	590-536	I.C., 7406	U49			1	1	1	1	1	1
66	590-740	I.C., 74LS148	U16	1		1	1	1	1	1	1
67	590-496	I.C., 74LS151	U1	1		1	1	1	1	1	1
68	589-825	I.C., 74LS157	U38	1		1	1	1	1	1	1
69	589-827	I.C., 74LS164	U39,45	2		2	2	2	2	2	2
70	589-951	I.C., SYN., 74LS191	U2,7,12,17,22	5		5	5	5	5	-	-
71	587-322	I.C. CD 4049BE (1)	U47				1	1	1	1	1
72	590-441	I.C., 7425	U21,37,52							-	3
73	586-303	I.C., 9328	U28,33	2		2	2	2	2	2	2
74	586-309	I.C., 9601	U6,15	2		2	2	2	2	2	2
75	589-951	I.C., SYN 74LS191	U2,7,12,17, 22,51							-	6
76	586-075	I.C., 7400	U5,9,14,24,41, 42,48,50							-	8
77	148-052	CONNECTOR, SIGNAL, CIRCUIT JACK BLACK	TPG	1		1	1	1	1	1	1
78	148-028	CONNECTOR, SIGNAL, CIRCUIT JACK WHITE	TP1	1		1	1	1	1	1	1
79	187-259	TEST POINT	TP2,3,4,5,6	5		5	5	5	-	-	-
80	187-259	TEST POINT	TP2,3,4,5,7,8					-	7	7	6
81								1			

LM-4050960

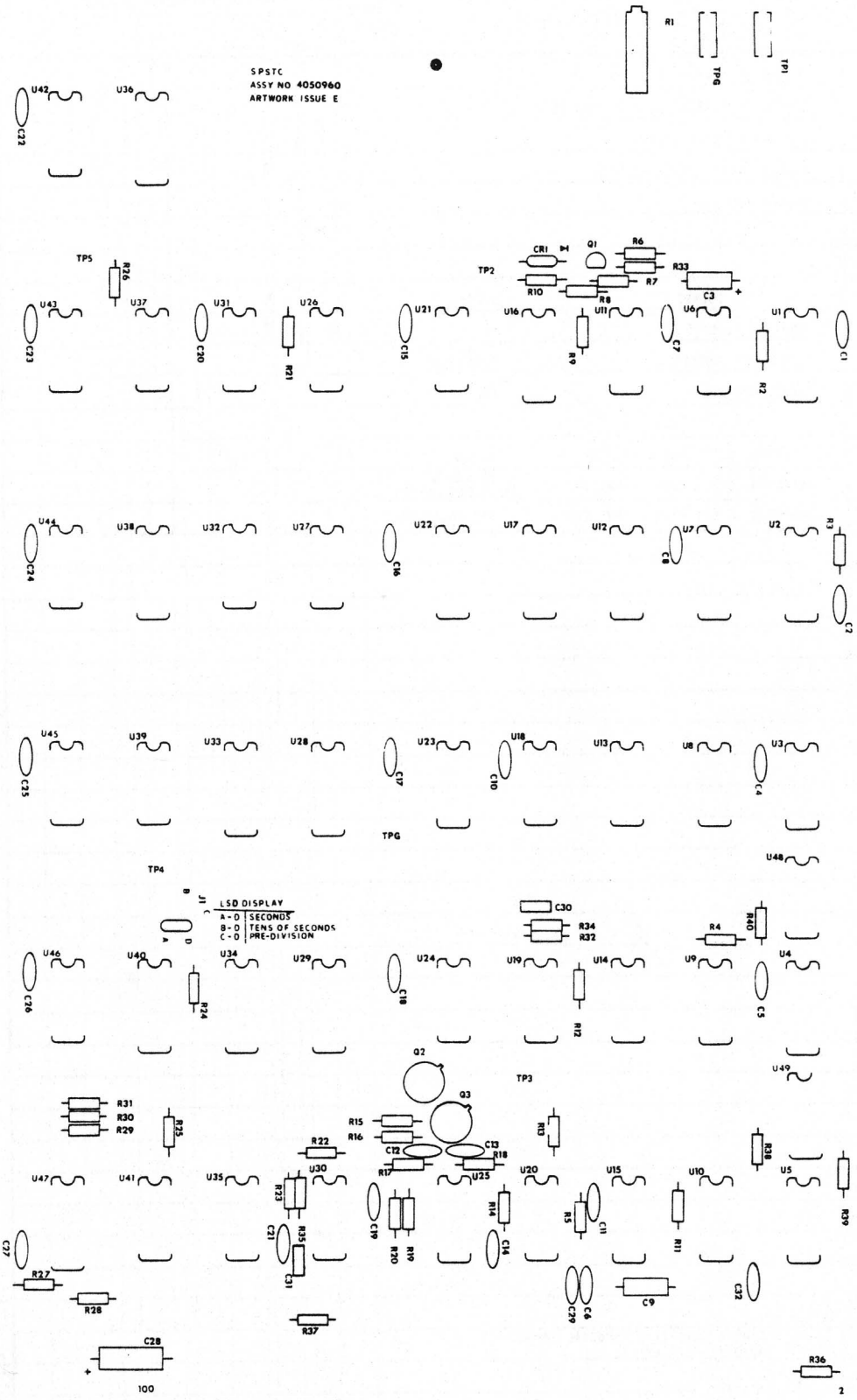
AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4050960 SHEET 3 OF 3	REV W

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06	-07	-08
82	018-461	ADHESIVE, THREAD LOCKING		-	-	-	AR	AR	A/R	A/R	A/R
83	471-326	SCREW, FLAT HEAD, 4-40 × .250 LG		2	2	2	2	2	2	2	2
84	470-008	CAP SCREW #4, 1/4 LONG		8	8	8	8	8	8	8	8
85	501-189	WASHER, FLAT, #4 SMALL PAT		8	8	8	8	8	8	8	8
86	502-002	WASHER, LOCK #4		8	8	8	8	8	8	8	8
87											
88											
89	143-981	CONNECTOR, SOCKET	J1A,B,C,D	4	4	4	4	4	4	4	4
90	602-012	SHORTING PLUG	J1	1	1	1	1	1	1	1	1
91	143-981	CONNECTOR, SOCKET	J1,A,B,C,D J2,A,B,C				-	-	-	-	-
92	602-012	SHORTING PLUG	J1, J2				-	2	-	-	-
93											
94	066-665	RESISTOR, C.F., 1K, 1/4W, 5%	R3,23								2
95	066-689	RESISTOR, C.F., 2.2K, 1/4W, 5%	R4,5,9,12,17,18,21, 24-26,32,33,38-40,42								16
96	066-668	RESISTOR, C.F., 4.7K, 1/4W, 5%	R13,14,19,20,41								5

NOTES:

1. STATIC SENSITIVE. SPECIAL HANDLING REQUIRED PER HE1-1.

LM-4050960



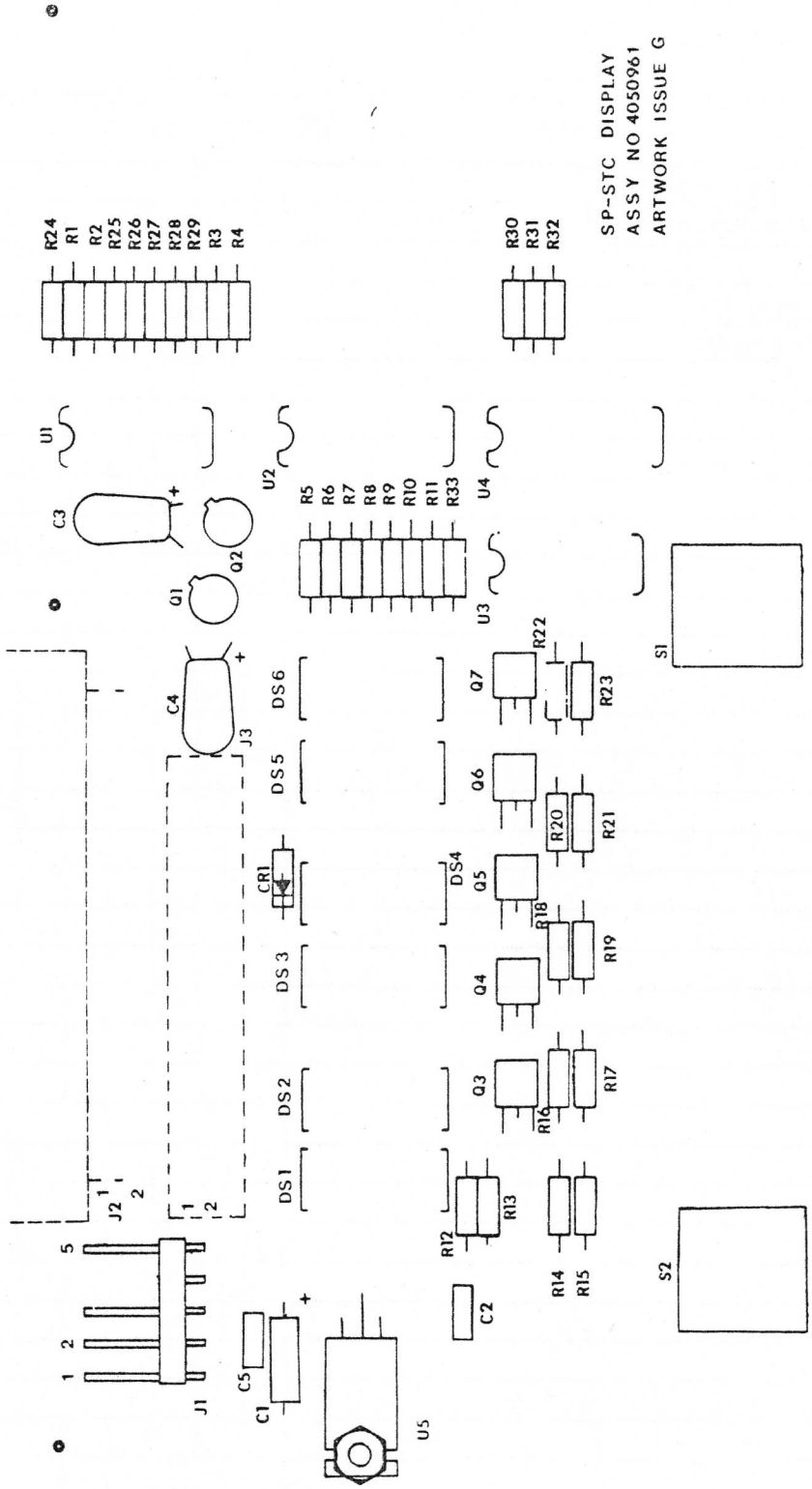
Assembly No. 4050960-08W. Single Point STC Logic PWA

4050961-05 SP-STC DISPLAY PWA REV. P

NEXT HIGHER ASSEMBLY 4050967

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05
1								
2	4170378-AA	INSERT, SWITCH	REF: S1		1	1	1	1
3	4170378-AB	INSERT, SWITCH	REF: S2		1	1	1	1
4	4840504	SCHEMATIC		A	B	C	J	L
5								
6	014-248	TRANSISTOR, NPN	Q1,2	2	2	2	2	2
7	580-725	TRANSISTOR, MPS6562	Q3,4,5,6,7	5	5	5	5	5
8	013-599	DIODE, CD458	CR1	-	1	1	1	1
9	064-314	CAPACITOR, CER, MONO. 1UF, 50V	C5				1	1
10	064-062	CAPACITOR, CER., MONO., .1uF, 100V	C2	1	1	1	1	1
11	037-227	CAPACITOR, TUBULAR TANT, .33uF, 35V	C1	1	1	1	1	1
12	037-812	CAPACITOR, TANT, 10UF, 25V,	C3,4				2	2
13	066-812	RESISTOR, C.F., 100 OHMS, 1/4W, ±5%	R5-11	7	7	7	7	7
14	066-662	RESISTOR, C.F., 200 OHMS, 1/4W, 5%	R12,15,17,19,21,23	5	6	6	6	6
15	066-838	RESISTOR, C.F., 330 OHMS, 1/4W, 5%	R12	1	-	-	-	-
16	066-818	RESISTOR, C.F., 470 OHMS, 1/4W, 5%	R2,4,13	3	3	3	3	3
17	066-821	RESISTOR, C.F., 820 OHMS, 1/4W, 5%	R1,3	2	2	2	2	2
18	066-718	RESISTOR, C.F., 5.6K OHMS, 1/4W, 5%	R14,16,18,20,22	5	5	-	-	-
19	066-689	RESISTOR, C.F., 2.2K OHMS, 1/4W, 5%	R24-33	10	10	10	10	10
20	066-665	RESISTOR, C.F., 1K OHMS, 1/4W, 5%	R14,16,18,20,22			5	5	5
21	119-640	SWITCH, PUSHBUTTON	S1,2	2	2	2	2	2
22	471-067	SCREW, PAN HEAD, 6-32 X 1/4		1	1	1	1	1
23	135-109	CONNECTOR, 50 PIN	J2	1	1	1	1	1
24	135-156	CONNECTOR, 5 PIN	J1	1	1	1	1	1
25	135-161	CONNECTOR, 40 PIN	J3	1	1	1	1	1
26	498-425	NUT WITH ASSEMBLED WASHER, S.P., 6-32		1	1	1	1	1
27	581-357	DISPLAY, SEVEN SEGMENT ▷1	DS2-6	5	5	5	5	5
28	581-688	READOUT DEVISE, 7736	DS1	1	1	1	1	1
29	590-609	I.C., HEX INVERTER, 7404, PRESTRESSED	U1	1	1	1	1	1
30	590-576	I.C., HEX O.C. BUFFER, 7417, PRESTRESSED	U3	1	1	1	1	1
31	589-823	I.C., 3 TO 1 OF 8 DECODER, 74LS138, PRESTRESSED	U4	1	1	1	1	1
32	587-544	I.C., SEVEN SEGMENT DECODER/DRIVER	U2	1	1	1	1	1
33	589-645	I.C., REGULATOR, 5.0V	U5	1	1	1	1	1
34	582-115	I.C., SOCKET, 14 PIN	REF: DS1-6	6	6	6	6	6
		▷1 INSTALL DISPLAYS HAVING SAME LUMINOUS INTENSITY						
		CATEGORY MARKING ON SAME PWB.						

LM-4050961



Assembly No. 4050961-05P. SP-STC Display PWA

4010339-02 8 CHANNEL CONVERSION KIT
NEXT HIGHER ASSEMBLY 4010340

REV. D

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02
1	4020452-04	HEAD ASSEMBLY, 8-CHANNEL			1	1
2	4030444-02	TAPE GUIDE IDLER ASSEMBLY, 1"			2	2
3						
4	102-031	REEL, EMPTY, 1"			1	1
5	4250252-01	ADAPTOR RING, REEL, 1"			2	2
6						
7						
8						
9						
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36						
37						

LM-4010339

TRANSPORT SWITCHES/LAMPS

CR1 013999

PART OF J3

PART OF J2

TO DECK REMOTE CONN (J75)

SCHC 2 H2

B→C

TACH PULSES

RWC TDR FWD

0=TIMER-IS ZERO

t7

COUNT DIRECTION F/F VC 1=DOWN

1=UP

U36 74175

U38 74LS157

TP5

"SIGN"

BEEPER

PART OF ASSY 4050961

U29 9328

U34 7483

U29 7483

U40 74LS163

U49 OXIDECIMAL

RHS

J1

NOTE FOR OUTPUT U36

TIME	1	2	3	4	5	6	7
ADD	1	6	6	10	6	6	6
COUNT	15	14	10	6	10	6	10

TIME 0		
SPEED	ADD	COUNT
7.5	15	1
15	14	2
30	12	4

L3 DISPLAYS	
A-D	SEC
B-D	TENS OF SEC
C-D	PREDIVISION

NOTES: UNLESS OTHERWISE SPECIFIED
1. RESISTANCE IS IN OHMS, 1/4W, 5%.
2. CAPACITANCE IS IN MICROFARADS.
3. STATIC SENSITIVE DEVICE. SPECIAL HANDLING REQUIRED PER HE-1.
4. THIS SCHEMATIC REFLECTS DWA NO. 4050960-03 AND 4050961-05

REFERENCE DESIGNATIONS (PWA 4050961)	
LAST USED	NOT USED
C5 R33 U5 Q7 J1 TP8	J2

I. C. LIST (PWA 4050961)							
REFERENCE DESIGNATIONS	U1	U2	U3	U4	U5		
AMPEX PART NO.	590-409	587-849	594-576	589-323	589-643		
VENDOR PART NO.	7404	7447	7417	ALS138	7805		
VOLTAGE (PIN)	-5V (14)	+5V (16)	+5V (14)	5V	—		
GROUND PIN	7	8	7	8	—		

REFERENCE DESIGNATIONS	U5 9,14,24	41 12,48,50	310,13,27 43	U18, 30	U20	U21 37,35	U3	U25	U44	U23 32	U8, 46
AMPEX P/N	586-075	586-109	590-609	590-576	590-538	586-078	590-594	586-077	590-441	586-078	
VENDOR P/N	SN7400N	SN7402N	SN7404N	SN7417N	SN7408N	SN7410N	SN7414N	SN7420N	SN7425N	SN7430N	
VOLTAGE PIN	+5V 14	+5V 14	+5V 14	+5V 14	+5V 14	+5V 14	+5V 14	+5V 14	+5V 14	+5V 14	
GROUND PIN	7	7	7	7	7	7	7	7	7	7	

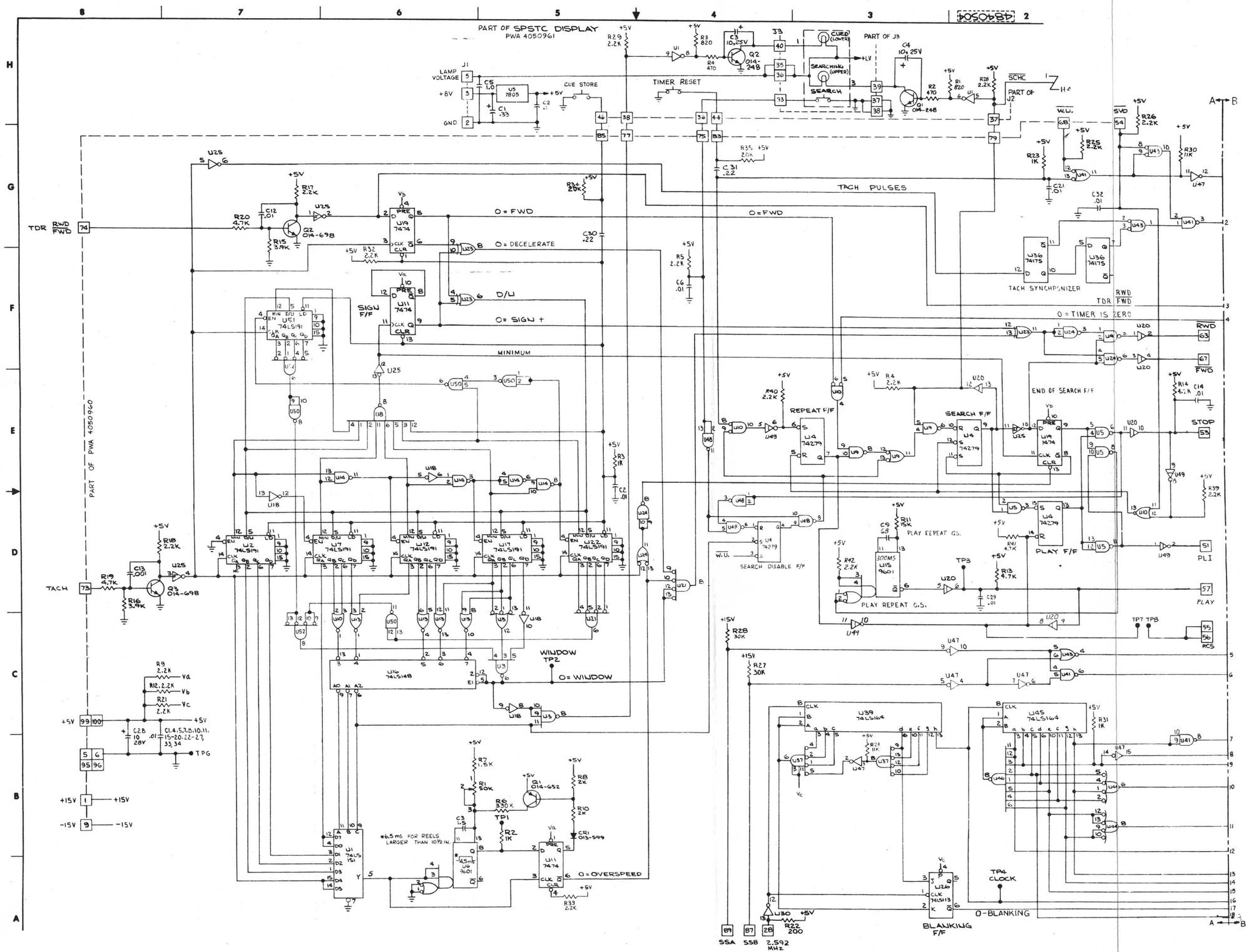
REFERENCE DESIGNATIONS	U29, 34	U11, 19	U23	U26	U40	U36	U4	U 16	U1	U38
AMPEX P/N	586-554	586-108	590-537	589-932	590-335	590-735	590-131	589-403	590-496	589-825
VENDOR P/N	SN74S83N	SN7474N	SN74S86N	SN74LS113N	74LS163N	SN74175N	SN74279	SN54LS14FN	SN74S151N	SN74LS157N
VOLTAGE PIN	+5V 5	+5V 14	+5V 14	+5V 14	+5V 16	+5V 16	+5V 16	+5V 16	+5V 16	+5V 16
GROUND PIN	12	7	7	7	8	8	8	8	8	8

REFERENCE DESIGNATIONS	U39 45	2,7,12,17, 22,31	U28,33	U15,U6	U47 3	U49				
AMPEX P/N	589-827	589-951	586-303	586-309	837 047	590-536				
VENDOR P/N	SN74LS164N	SN74LS191N	9328	9601	CD4049	7406				
VOLTAGE PIN	+5V 14	+5V 16	+5V 16	+5V 14	+5V (16)	+5 (14)				
GROUND PIN	7	8	8	7	8	7				

REFERENCE DESIGNATIONS	
LAST USED	NOT USED
R36 C32 Q3 J1 U52 CR1 TP8	

Schematic No. 4840504L.
SP-STC Logic PWA
SP-STC Display PWA
(Sheet 1 of 2)

In Remote (not Control Bay)



Ampex 4890432-01

Schematic No. 4840504L
SP-STC Logic PWA
SP-STC Display PWA
(Sheet 2 of 2)

7-55/7-56

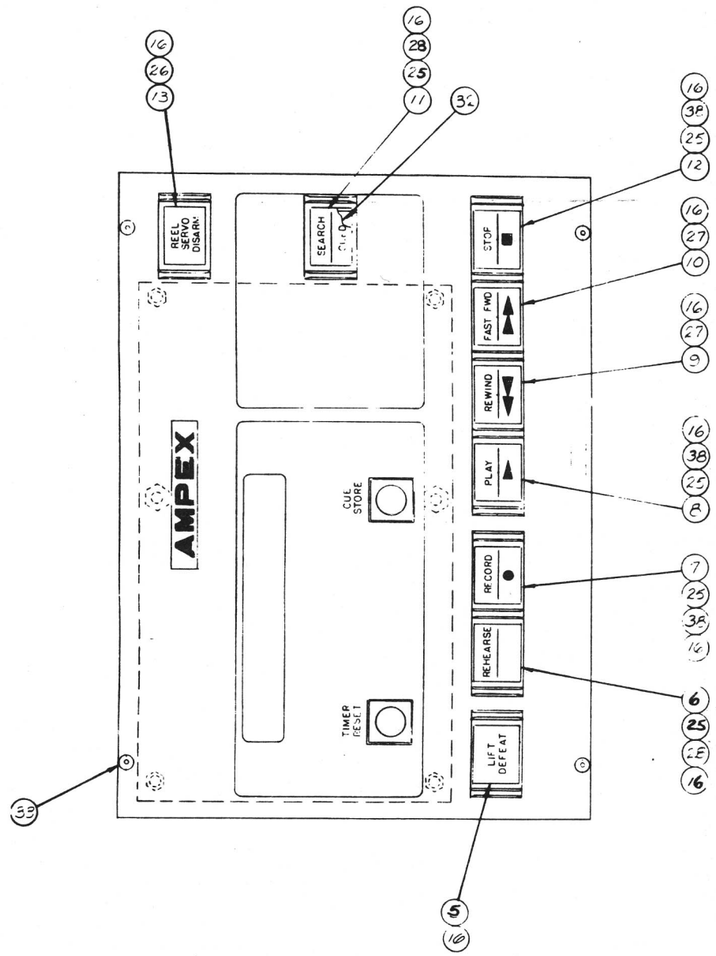
ITEM NO.	PART NUMBER	D	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02
1	4051193-01		PWA, DEBOUNCE LOGIC		-	1
2	4050961-05		PWA, SP-STC, DISPLAY		1	1
3	~~4050962-01~~		~~LOGIC PWA~~		1	-
4	4050969-01		HARNESS		1	-
5	4100202-AC		LENS, FRONT LIFT DEFEAT		1	1
6	4100202-AD		LENS, FRONT REHEARSE		1	1
7	4100202-AE		LENS, FRONT RECORD		1	1
8	4100202-AF		LENS, FRONT PLAY		1	1
9	4100202-AG		LENS FRONT REWIND		1	1
10	4100202-AH		LENS, FRONT FST FWD		1	1
11	4100202-AM		LENS, FRONT SEARCH/CUED		1	1
12	4100202-AJ		LENS, FRONT STOP		1	1
13	4100202-AK		LENS, FRONT REEL SERVO DISARM		1	1
14	4110320-02		OVERLAY, SP-STC		1	1
15	4050969-02		HARNESS		-	1
16	060-530		LAMP, INCANDESENT		18	18
17	030-817		CAP. .01UF, 100V	C1-C13	13	13
18	018-458		ADHESIVE, THD-LOCKING (LOCTITE)		A/R	A/R
19	4840496		WIRING, DIAGRAM		REF	-
20	4840504		SCHEMATIC		REF	REF
21	492-036		NUT, PLAIN, HEX., SMALL PATT., 8-32		4	6
~~22~~	~~037-097~~		~~CAPACITOR, TANT., 0.47uF, 35V~~	~~C1-9~~	~~9~~	-
23	121-350		BARRIER, SWITCH		14	14
24	119-617		SWITCH, PUSHBUTTON	S1-9	9	9
25	121-332		Divider, Horiz.	S2,3,6,7,8	5	5
26	121-333		Filter, (Yellow)	S1	1	1
27	121-334		Filter (White)	S4,5	2	2
28	121-335		Filter, Horiz Split (White)	S2,8	1	3
29	~~283-207~~		~~SPACER, THREADED STUD, 8-32X.875~~		~~12~~	-
30	280-122		SPACER, THREADED, PLAIN, 8-32 X .25 LG		6	6
31	283-236		SPACER, THREADED STUD, 8-32 X 2.250 LG		4	2
32	121-097		FILTER, HORIZ. SPLIT, (GREEN)	S2	1	1
33	470-470		SCREW, CAP BUTTON HEAD 4-40X.188		4	4
34	496-006		NUT, KEP, 8-32		6	4
35	600-161		SLEEVING, TEFLON		AR	AR
36	501-004		WASHER, #8 .032 THK.		6	8
37	615-090		WIRE, UNINSULATED, #24		A/R	A/R

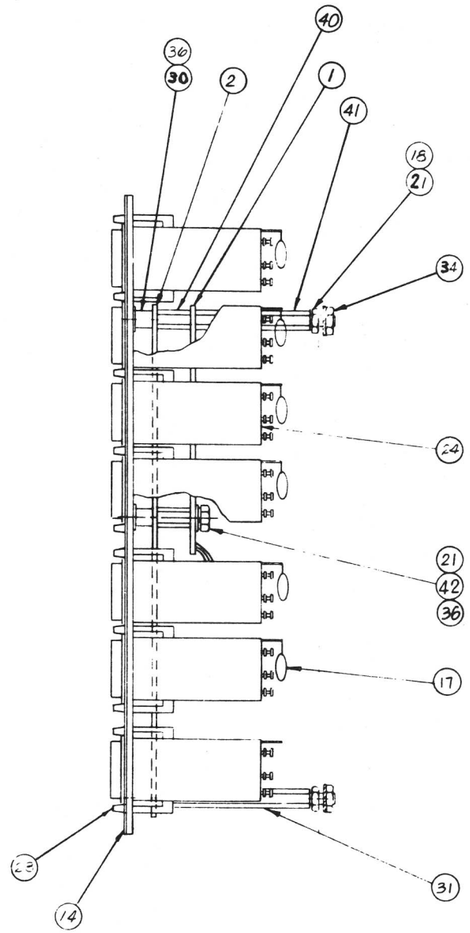
LM-4050967

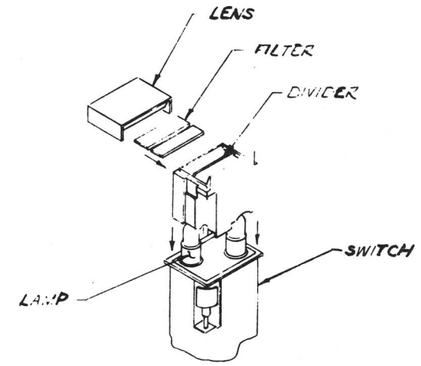
AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM- 4050967 SHEET 2 of 3	REV V

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02
38	121-341	FILTER, HORIZ, SPLIT (MILKY WHT)	S3,6,7	6	6
39					
40	283-209	SPACER, THREADED, STUD, 8-32 X .437 LG		-	4
41	283-445	SPACER, THREADED, STUD, 8-32 X 1.750 LG		-	2
42	502-004	WASHER, LOCK, HELICAL SPRING #8		-	2
43					
44					
45	4840607	SCH., MACH, CONT, PANEL WITH DEBOUNCE LOGIC		-	REF

LM-4050967







TYPICAL INSTALLATION

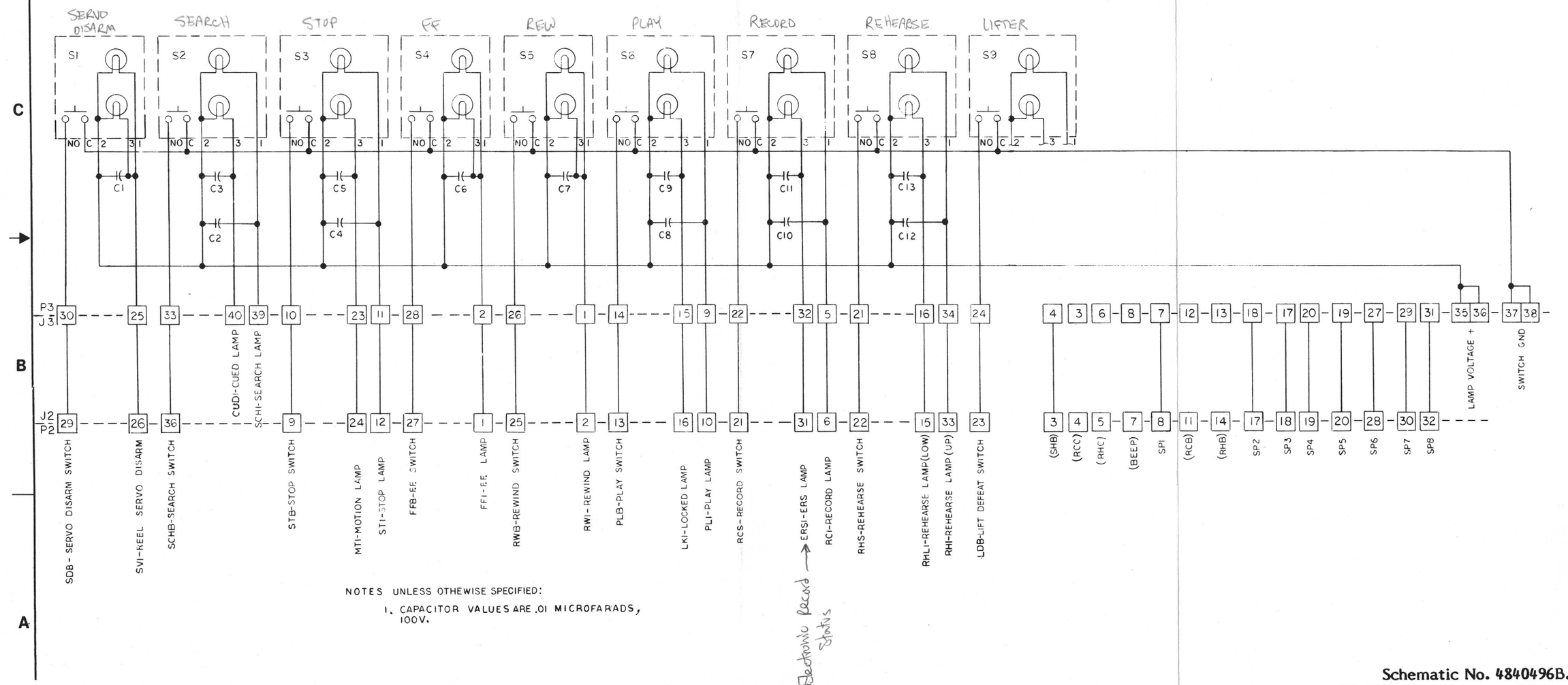
Assembly No. 4050967V.
SP-STC Machine Control Panel

4050969-02 MACHINE CONTROL PANEL HARNESS ASSEMBLY REV. G

NEXT HIGHER ASSEMBLY 4050967

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02
1	4840496	WIRING DIAGRAM	REF	B	
2	167-774	CONNECTOR, 40 POSITION	P1	1	1
3					
4	167-727	CONTACTS		27	35
5					
6		WIRE 24 AWG		AR	AR
7					
8		SLEEVING, PVC, SHRINKABLE, BLK.		AR	AR
9	302-335	CABLE, STRAP, 4 IN. LG.		AR	AR
10					
11	4840607	SCHEMATIC DIAGRAM		-	A

LM-4050969



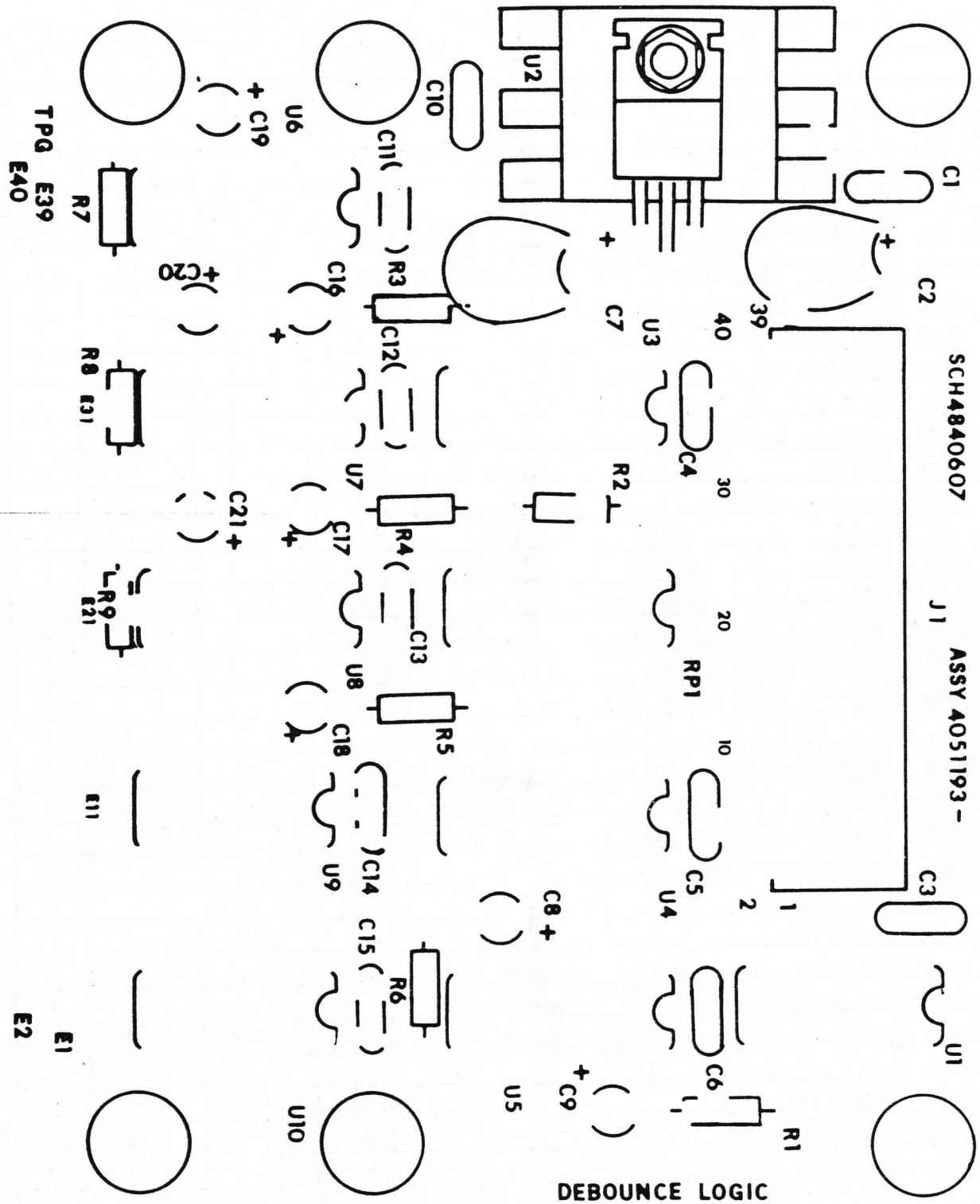
NOTES UNLESS OTHEWISE SPECIFIED:

1. CAPACITOR VALUES ARE .01 MICROFARADS, 100V.

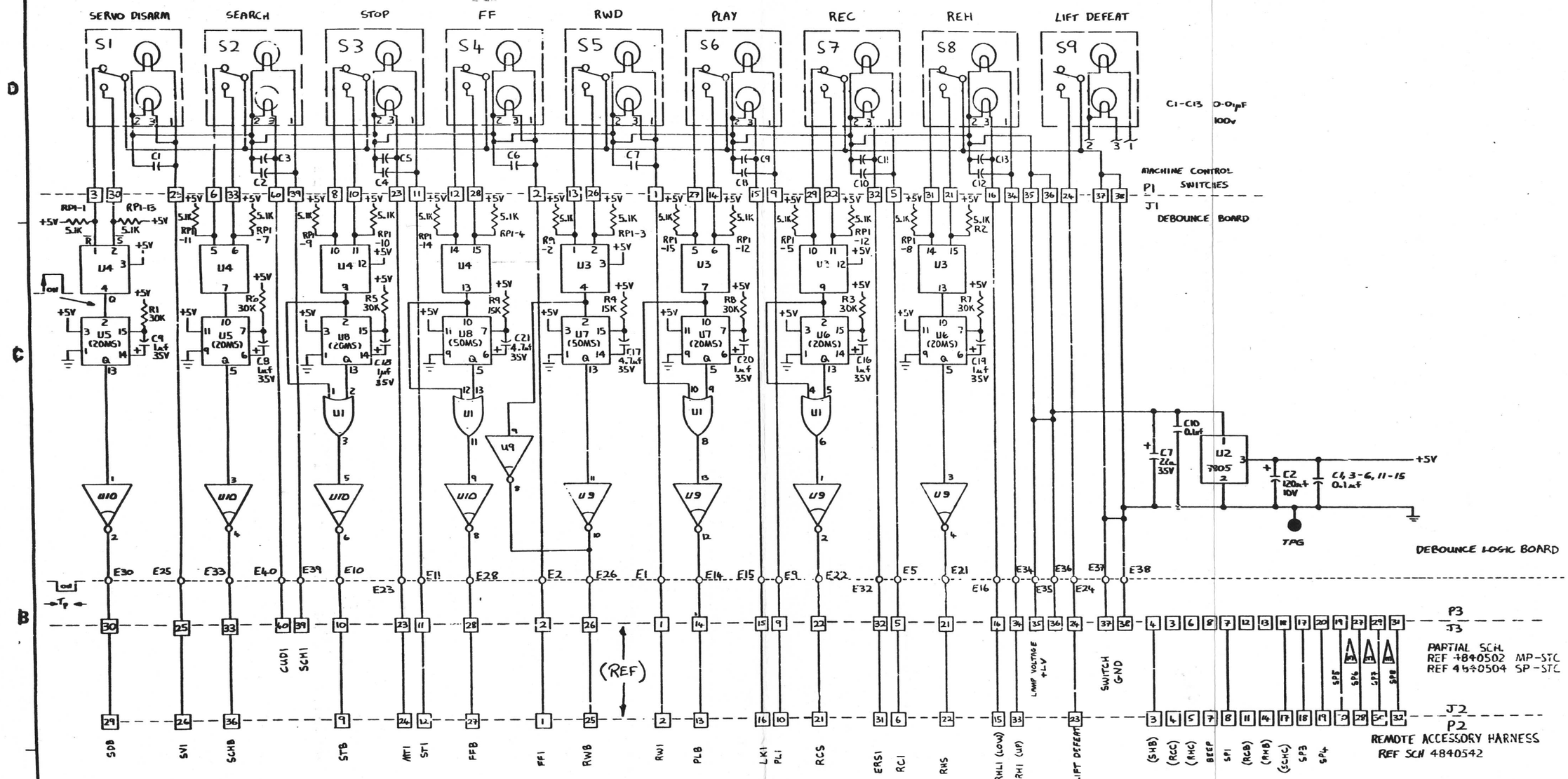
Schematic No. 4840496B.
SP-STC Machine Control Panel

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1	4500511	PRINTED WIRING BOARD		01
2				
3	4840607	SCHEMATIC DIAGRAM		A
4				
5	064-062	CAPACITOR, CER, MONO 0.1uF, 100V,	C1,3-6,10-15	11
6	037-591	CAPACITOR, TANT, DIP, 1uF, 35V, 20%	C8,9,16,18,19, 20	6
7	037-962	CAPACITOR, TANT, DIP, 4.7uF, 10V, 20%	C17,21	2
8	037-936	CAPACITOR, TANT, DIP, 22uF, 35V, 20%	C7	1
9	037-965	CAPACITOR, TANT, DIP, 120uF, 10V, 20%	C2	1
10				
11	167-774	CONNECTOR, 40 POSITION	P3	1
12	167-727	CONTACTS	(REF:P3)	26
13	135-154	CONNECTOR, 40 POSITION	J1	1
14				
15	590-536	INTEGRATED CIRCUIT 7406	U9,10	2
16	590-328	INTEGRATED CIRCUIT 74LS32	U1	1
17	589-934	INTEGRATED CIRCUIT 74LS221	U5,6,7,8	4
18	590-552	INTEGRATED CIRCUIT 74LS279	U3,4	2
19	589-645	INTEGRATED CIRCUIT MC7805T	U2	1
20				
21	066-842	RESISTOR, C.F., 5.1K, 5%, ¼W	R2	1
22	066-856	RESISTOR, C.F., 15K, 5%, ¼W	R4,9	2
23	066-846	RESISTOR, C.F., 30K, 5%, ¼W	R1,3,5-8	6
24	039-255	RESISTOR, NETWORK, 15x5.1K, 2%	RP1	1
25				
26	087-388	HEATSINK COMP.	REF: U2	A/R
27	582-346	HEATSINK	REF: U2	1
28	498-425	NUT, ASSEMBLED, #6-32	REF: U2	1
29	471-068	SCREW, PAN HEAD #6-32 x .312 LG.	REF: U2	1
30				
31	CD569	WIRE, 24 AWG		A/R
32	302-335	CABLE, STRAP 4.0 LG.		A/R

LM-4051193



Assembly No. 4051193-01A. Debounce Logic PWA



NOTES: UNLESS OTHERWISE SPECIFIED
1. ALL RESISTANCE VALUES ARE IN OHMS 1/4W, 5%.
2. ALL CAPACITANCE VALUES ARE IN MICROFARADS.
3. SP6,7,8 ARE NOT SPARE IF DEBOUNCE TYPE SWITCH HARNESS IS PLUGGED DIRECTLY INTO STC DISPLAY. (I.E. P1 TO J3)
4. OUTPUT PULSE WIDTH ,TP, IS SHOWN ON MONOSTABLE. FOR E10, E19, AND E22 OUTPUTS TP REPRESENTS NOMINAL WIDTH.

I.C. LIST

REF. DESIGNATION	U5,6,7,8	U3,4	U2	U9,10	U1
AMPEX PART NO.	589-934	590-552	589-645	590-536	590-328
VENDOR PART NO.	74LS221	74LS29	7805	7406	74LS32
VOLTAGE (PIN)	+5V (16)	+5V (14)	+L (1)	+5V (14)	+5V (14)
GROUND PIN	8	8	2	7	7

Schematic 4840607A.
Debounce Logic PWA

4020452-03 8 CHANNEL HEAD ASSEMBLY REV. E

NEXT HIGHER ASSEMBLY 4010339

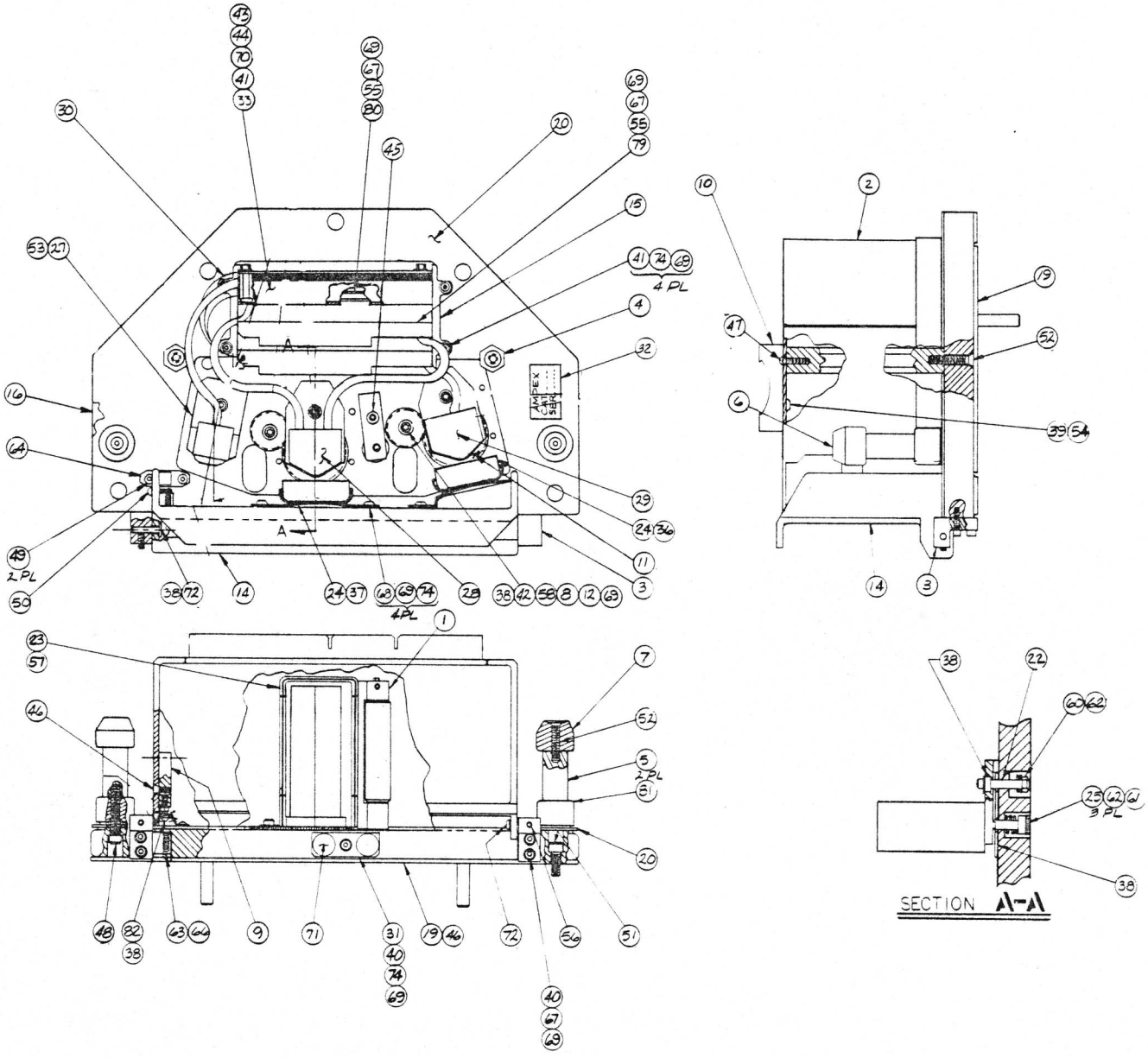
ITEM NO.	PART NUMBER	E	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03
1	4030445-02		FLUTTER IDLER ASSEMBLY 9/16"		1	1	1
2	4041319-02		SHIELD ASSEMBLY, HD COVER				1
3	4120045-01		HINGE, GATE		2	2	2
4	4210409-01		POST, HEAD COVER SUPPORT		2	2	2
5	4210411-01		POST, TAPE GUIDE 1 INCH		2	2	2
6	4210412-01		EDGE GUIDE		2	2	-
7	4210412-02		EDGE GUIDE				2
8	4220342-01		SPACER, PINION GEAR		2	2	2
9	4220343-01		SPACER, GATE NIPPLE		1	1	1
10	4220350-01		BLOCK, TAPE SPLICING		1	1	1
11	4240023-02		GEAR, AZIMUTH ADJUST		2	2	2
12	4240024-01		PINION GEAR, AZIMUTH ADJUST		2	2	2
13	4291011-01		FRONT GATE		1	-	-
14	4291011-02		FRONT GATE			1	1
15	4291013-01		HOLDER, HEAD CONNECTOR		2	2	2
16	4330370-02		HEAD BASE PLATE		1	1	1
17	4330371-01		BASE, TAPE GUIDE		2	2	-
18	4041319-01		SHIELD ASSEMBLY, HD. COVER		1	1	-
19	4350349-02		SHIELD, HEAD BASE, BOTTOM		1	1	1
20	4350350-01		SHIELD, HEAD BASE, TOP		1	1	1
21	4350353-01		SHIELD, FRONT HEAD STACK, SINGLE LAYER		1	-	-
22	4400616-01		SCREW, CAM, RACKING ADJUST		2	3	3
23	4350562-01		SHIELD, CAN, MULTILAYER, 2 INCH			2	2
24	4350352-01		SHIELD, FRONT HEADSTACK, MULTILAYER			2	2
25	4400615-01		BOLT, HEAD STACK MOUNTING		2	3	3
26	4270249-01		LEAF SPRING, HD. GATE		1	-	-
27	4350377-01		ERASE HEAD ASSEMBLY, 8 CHANNEL		1	1	1
28	4350378-01		RECORD HEAD ASSEMBLY, 8 CHANNEL		1	1	1
29	4350379-01		REPRODUCE HEAD ASSEMBLY, 8 CHANNEL		1	1	1
30	4051061-01		STRIP, GROUND			4	4
31	4260654-01		BRACKET, RUBBER BUMPER		1	1	1
32	6000035-01		LABEL, IDENTIFICATION		1	1	1
33	4291091-02		SHIELD, PADDLE, ERASE HEAD				1
34	4291092-01		SHIELD, PADDLE, SYNC AND REPRO HD.			2	-
35	4291093-01		SHIELD, PADDLE, RECORD HD.				-
36	4270272-02		SPRING, FRONT SHIELD HOLDER REPRO HD.			1	1
37	4270273-02		SPRING, FRONT SHIELD HOLDER RECORD HD.			1	1

LM-4020452

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO 92739	LIST OF MATERIALS	LM- 4020452 SHEET 2	E

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03
38	087-770	LUBRICANT, MOLY-KOTE 'G-N' PASTE		A/R	A/R	A/R
39	018-458	ADHESIVE, THREAD LOCKING, LOCTITE		A/R	A/R	A/R
40	470-063	SCREW, CAP, SOCKET HD. 4-40 X .50 LG SST		4	5	5
41	470-065	SCREW, CAP, SOCKET HD, 4-40 X .75 LG SST		4	6	6
42	470-064	SCREW, CAP, SOCKET HD, 4-40 X .62 LG SST		2	2	2
43	018-378	ADHESIVE, BASE, CYANOCRYLATE BOND			A/R	A/R
44	269-015	RUBBER, EXTRUDED, U-CHAN, BLACK			A/R	A/R
45	470-239	SCREW, CAP, SOCKET HD, 4-40 X 1.00 LG SST		1	1	1
46	470-440	SCREW, CAP, FLAT HD, 4-40 X .37 LG, HEX SOC, BLACK		4	4	4
47	472-989	SCREW, CAP, BUTTON HD, 6-32 X .50 LG, HEX SOC, SST		2	2	2
48	470-075	SCREW, CAP, SOCKET HD, 6-32 X 1.00 LG, SST		2	2	2
49	470-691	SCREW, CAP, BUTTON HD, 4-40 X .37 LG, HEX SOC, SST		4	2	2
50	470-472	SCREW, CAP, BUTTON HD, 4-40 X .37 LG, HEX SOC, BLACK		3	1	1
51	470-080	SCREW, CAP, SOCKET HD, 8-32 X .50 LG, SST		3	3	3
52	470-692	SCREW, CAP, FLAT HD, 6-32 X .87 LG, SST, HEX SOC		4	4	4
53	471-397	SCREW, MACH, FLAT HD, 8-32 X .44 LG XREC		1	-	-
54	472-480	SCREW, CAP, BUTTON HD, 6-32 X .25 LG. S ST.		2	2	2
55	470-008	SCREW, CAP, SOC. HD. 4.40 X .25 LG			9	9
56	477-145	SCREW, SET, 4-40 X .188 LG, FL PT		2	2	2
57	470-054	SCREW, CAP. SOC. HD., 2-56 X .31 LG			6	6
58	492-091	NUT, LOCKING 4-40, SST		2	2	2
59						
60	498-355	NUT, LOCKING 6-32, SST		2	3	3
61	498-648	NUT, INTERNAL WRENCHING 6-32 UNC-2B, SST 303		2	3	3
62	352-500	SPRING, COMP.		4	6	6
63	352-344	SPRING, EXTENSION 1.125 LG, .188 O.D.		1	1	1
64	310-749	CATCH, SPRING		1	1	1
65	481-022	STUD BALL		1	1	-
66	406-038	PIN, SPRING ROLL, .094 X .625 LG		1	1	1
67	501-171	WASHER, PLAIN # 4, .125I.D. .022 THK, .250 O.D. ST. STL		9	13	13
68	470-382	SCREW, CAP, BUTTON HD., 4-40 X .18 LG			4	4
69	502-008	WASHER, LOCK, SPRING #4, SST		11	24	24
70	503-010	WASHER, PHENOLIC, BLK, .125 I.D., .25 O.D., .031 THK.		3	2	2
71	250-209	BUMPER, GROMMET, RUBBER		2	2	2
72	408-011	PIN CLEVIS FLAT HD., .124 DIAMETER SHANK, .766 OA LG		2	2	2
73	225-485	TAPE ADHESIVE SINGLE SIDE FOAM NEOPRENE .500W		A/R	-	-
74	501-014	WASHER, PLAIN #4 .125 I.D. .032 THK .312 O.D.			8	8
75	280-008	SPACER, UNTHREADED, PLAIN, #4, .500 LG.			2	-
76						
77						
78						
79	4291092-02	SHIELD, PADDLE, SYNC AND REPRO				2
80	4291093-02	SHIELD, PADDLE, RECORD HD				1
81	4330371-02	BASE, TAPE GUIDE				2
82	4210440-01	STUD, LATCHING				1

LM-4020452

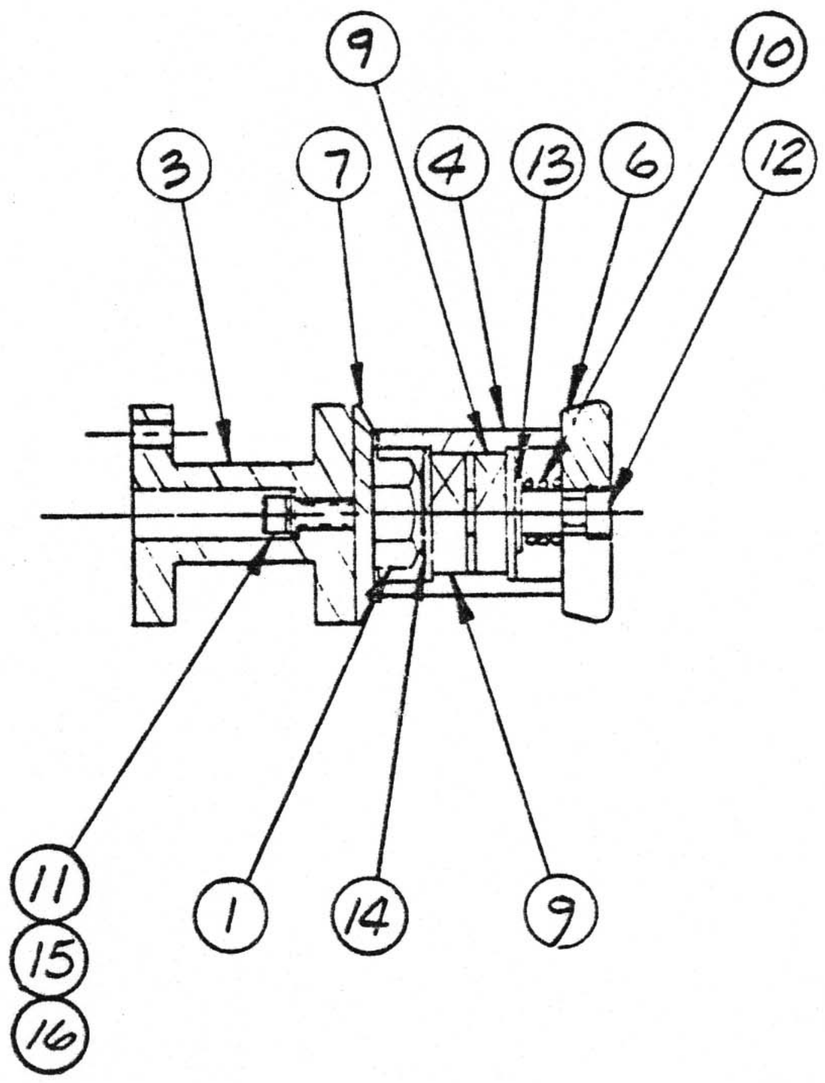


Assembly No. 4020452-03E. 8 Channel Head Assembly

4030444-02 8 CHANNEL TAPE GUIDE IDLER ASSEMBLY REV. B

NEXT HIGHER ASSEMBLY 4010339

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER									
					-02									
1	4210416-01		SHAFT TAPE GUIDE IDLER		1									
2														
3	4220346-01		SPACER		1									
4	4250251-01		IDLER TAPE GUIDE		1									
5														
6	4100139-02		CP IDLER		1									
7	4330374-02		BASE TAPE IDLER		1									
8														
9	420-063		BALL BEARING FLANGED .250 ID		2									
10	352-472		SPRING, COMPRESSION		1									
11	470-021		SCREW CAP #6-32 X .62LG HEX SOC		1									
12	470-069		SCREW CAP #6-32 X .375 HEX SOC		1									
13	501-689		WASHER PLAIN .257 ID X .375 OD .025 THK		1									
14	501-058		WASHER SHIM .010 THK		1									
15	501-188		WASHER FLAT SMALL PATTERN #6 X .267 OD		1									
16	502-003		WASHER LOCK HELICAL SPRING #6		1									
17														
18														
19	160-302		CONTAINER		1									



4010320-06 REMOTE CONTROL ASSEMBLY REV. E

NEXT HIGHER ASSEMBLY 4010340

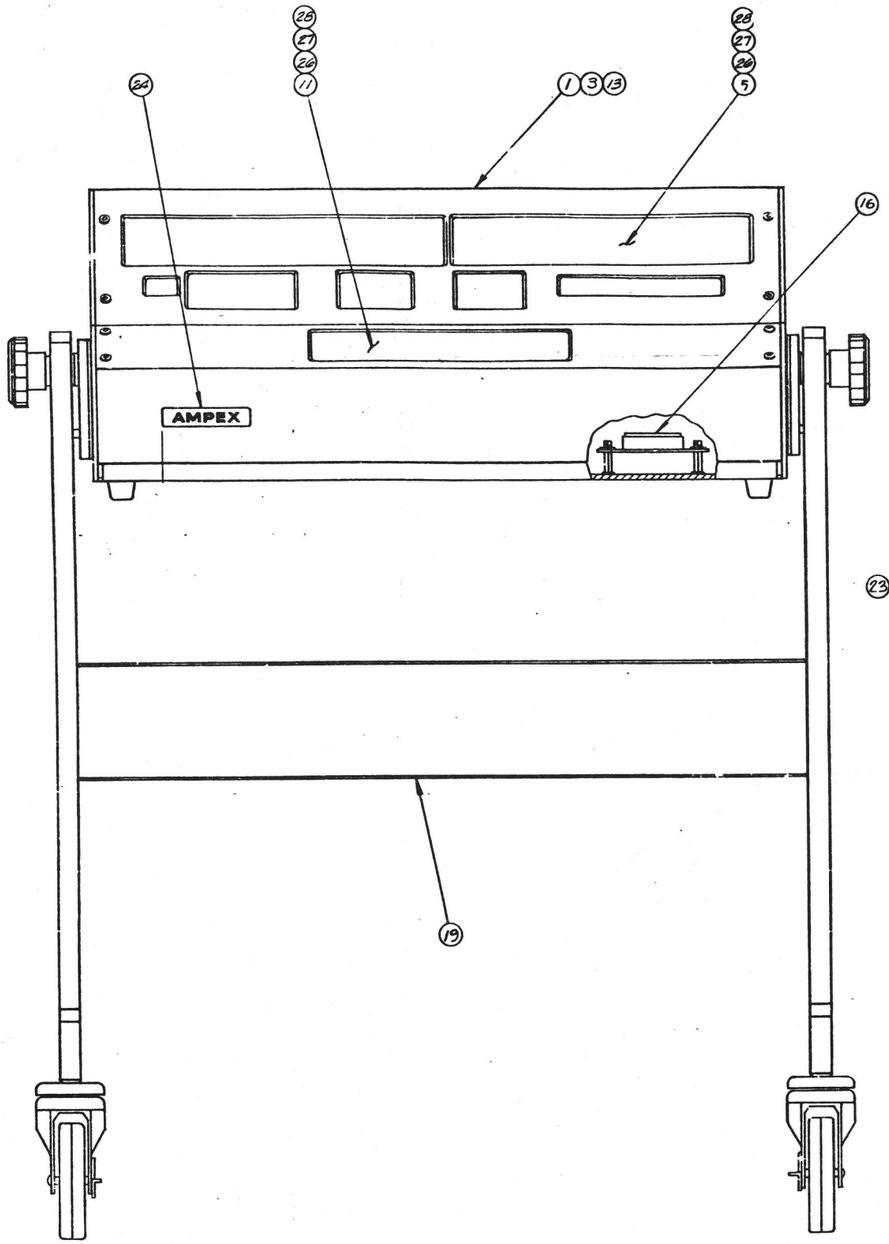
ITEM NO.	PART NUMBER	E	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06
1	4030460-05		KIT CHASSIS		1	1	1	1		1
2	4051047-02		HARNESS ASSY., REMOTE CONTROL		1	1	-	1		-
3	4051091-02		HARNESS ASSY., REMOTE CONTROL				1	1		1
4	4051017-02		CABLE, REMOTE INTERCONNECT		1	1	1	1		1
5	4041331-02		BLANK PANEL SET-UP	1	1	1	1	1		1
6	4840540		WIRING DIAGRAM		REF	REF	-	1		-
7	4840557		WIRING DIAGRAM				REF	REF		REF
8										
9	4051066-01		POWER CORD ASSY		1	1	1	1		1
10	4051182-01		CABLE ASSY, INTERFACE INTERCONNECT							1
11	4010306-02		KIT MP-STC	2	1	1	1	1		1
12										
13	4051067-04		HARNESS ASSY, REMOTE CONTROL, PWR		1	1	1	1		1
14										
15										
16	4051090-03		PWA, REMOTE INTERFACE				1	1		1
17	4051060-01		PWA, REMOTE INTERFACE		1	1	-	-		-
18										
19	4020468-02		PEDESTAL ASSY		1	1		1		1
20	475-044		SCREW, PAN HD., XREC 8-32 X .37 LG	(16)						4
21	501-190		WASHER, PLAIN #8 SMALL PATTERN	(16)						4
22	280-415		SPACER, 8-32 X .50LG, .25AF	(16)						4
23	6000037-01		LABEL, I.D.		1	1	1	1		1
24	6000039-12		LOGO, ADHESIVE BACK			1	1	1		1
25	6000056-01		LABEL, FCC NONCOMPLIANCE					1		1
26	470-029		SCREW, CAP. HEX SOC. HD. 8-32 X .50 LG. CS			10	10	10		10
27	501-205		WASHER, #8 PLAIN			10	10	10		10
28	502-004		WASHER, #8 LOCK, SPRING			10	10	10		10
29	493-015		NUT, HEX 6-32, NYLON THD LOCK					2		2
30										

CANCELLED

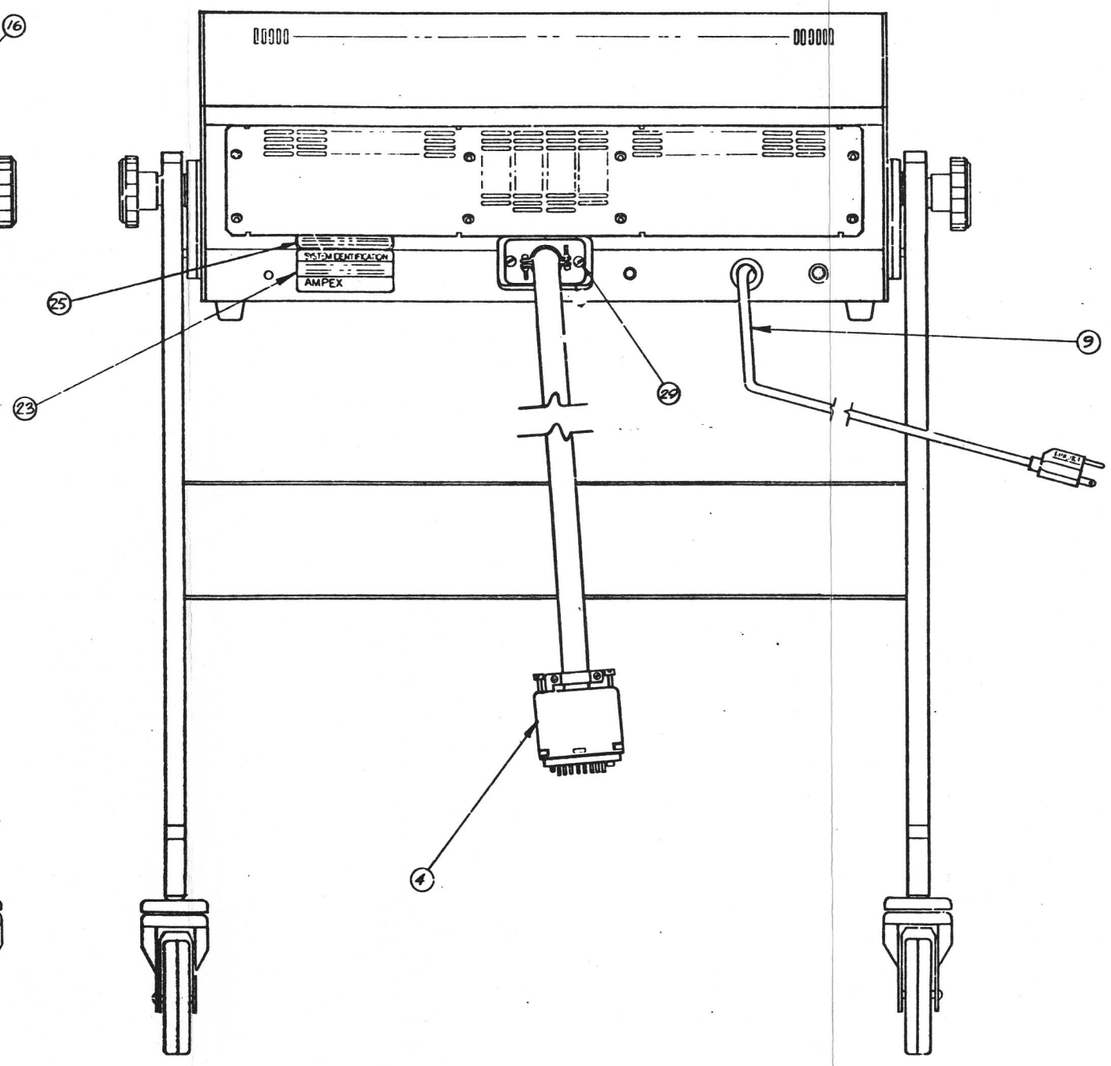
NOTES:

1. IF REMOTE IS SOLD WITH ATR SYSTEM, BLANK PANEL (ITEM 5) IS INSTALLED IN PLACE OF SET-UP PANEL. SET-UP PANEL (4050937-XX) IS INSTALLED IN REMOTE. SYSTEM SET UP PANEL SHIELDS (4600183,4600184,4600194) & MTG HARDWARE ARE TO BE PACKAGED AND SHIPPED WITH ORDER.
2. PACKAGE FOR SHIPMENT WITH ORDER, SHIELDS (4600189, 4600190,4600191) & MTG HARDWARE FROM MP-STC CONTROL PANEL (4050968).

LM-4010320

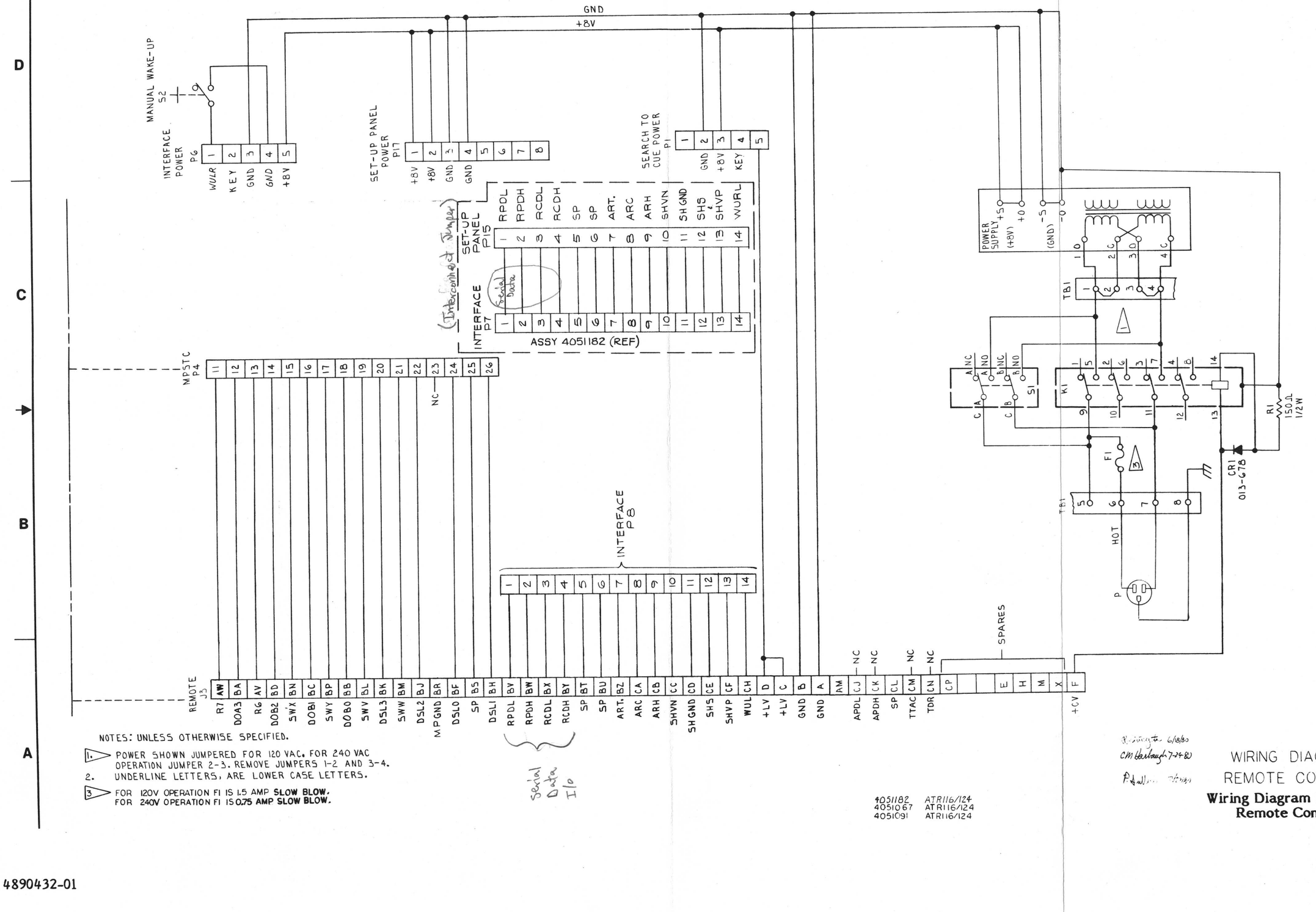


FRONT VIEW



REAR VIEW

Assembly No. 401 0320-06E.
Remote Control Assembly



NOTES: UNLESS OTHERWISE SPECIFIED.

1. POWER SHOWN JUMPERED FOR 120 VAC. FOR 240 VAC OPERATION JUMPER 2-3. REMOVE JUMPERS 1-2 AND 3-4.
2. UNDERLINE LETTERS, ARE LOWER CASE LETTERS.
3. FOR 120V OPERATION F1 IS 1.5 AMP **SLOW BLOW.** FOR 240V OPERATION F1 IS 0.75 AMP **SLOW BLOW.**

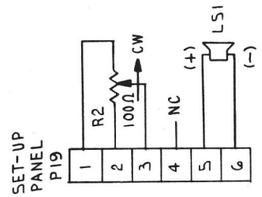
Serial Data I/O

4051182	ATR116/124
4051067	ATR116/124
4051091	ATR116/124

R. Swingle 6/18/80
CM Hambaugh 7-24-80
R. Williams 7/31/80

WIRING DIAGRAM
REMOTE CONTROL

Wiring Diagram No. 4840557E.
Remote Control Assembly
(Sheet 1 of 2)



Wiring Diagram No. 4840557E.
Remote Control Assembly
(Sheet 2 of 2)

ITEM NO.	PART NUMBER	E	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05
1	4041333-01		ESCUTCHEON PANEL ASSY		1	1	1	1	1
2	4260643-AA		BRACKET, SEARCH TO CUE		1	1	1	1	1
3	4260643-AB		BRACKET, SEARCH TO CUE		1	1	1	1	1
4	4260644-01		BRACKET, CHASSIS		1	1	1	1	1
5	4260645-01		BRACKET, FRONT		2	2	2	2	2
6	4260646-AA		BRACKET, REAR		1	1	1	1	1
7	4260646-AB		BRACKET, REAR		1	1	1	1	1
8	4260663-01		BRACKET, CONNECTOR		1	1	1	1	1
9	4291052-01		CHASSIS, CONTROL SET-UP		1	1	1	1	1
10	4291053-01		CHASSIS, SEARCH TO CUE		1	1	1	1	1
11	4291054-01		PANEL, FILLER		1	1	1	1	1
12	4291055-02		HOUSING, REMOTE CONTROL			1	1	1	1
13	4291079-01		COVER, POWER SUPPLY		1	1	1	1	-
14	4291080-02		COVER, TERMINAL		1	1	1	1	1
15	4291081-01		CHASSIS, TERMINAL		1	1	1	1	1
16	4660051-01		MARKER STRIP	(REF: TB1)	1	1	1	1	1
17	4170363-01		GRILLE CLOTH, SPEAKER			1	1	1	1
18	4330387-01		PLATE, PERFORATE		1	1	1	1	1
19	4170341-02		LABEL		2	2	2	2	2
20	013-678		DIODE, SI	CR1			-	1	1
21	250-210		BUMPER, RECESSED RUBBER		4	4	4	4	4
22	570-514		POWER SUPPLY		1	1	1	1	1
23	058-507		RESISTOR, VAR, 100 OHM 1/2W	R2	1	1	1	1	1
24	070-993		FUSE, 1.5 AMP., SB	1 F1	-	-	1	1	1
25	104-028		SPEAKER, 3" X 5" OVAL	LS1	1	1	1	1	1
26	180-005		TERMINAL, BARRIER STRIP, 8 TERM.	(REF:TB1)	1	1	1	1	1
27	225-278		TAPE ADHESIVE,SINGLE SIDE, .25WD X .062 THK		A/R	A/R	A/R	A/R	-
28	230-144		KNOB		1	1	1	1	1
29	180-142		TERMINAL STRIP PART, JUMPER CLIP		2	2	2	2	2
30	120-940		SWITCH, PUSHBUTTON, SPDT	S2	-	-	1	1	1
31	041-282		RESISTOR, 150 OHMS, ½W, 5%	R1			-	1	1
32	266-015		BUSHING, PANEL		1	1	1	1	1
33	265-101		BUSHING, ENTRANCE		1	1	1	1	1
34	150-992		SOCKET, RELAY W/CLIP	(REF K1)			-	1	1
35	020-144		RELAY	K1	1	1	1	1	1
36	085-005		FUSE HOLDER	(REF F1)	1	1	1	1	1
37	070-003		FUSE, 1 AMP, FB	F1		1	-	-	-

LM-4030460

AMPEX	Ampex Corporation Redwood City, California	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4030460 SHEET 2	G

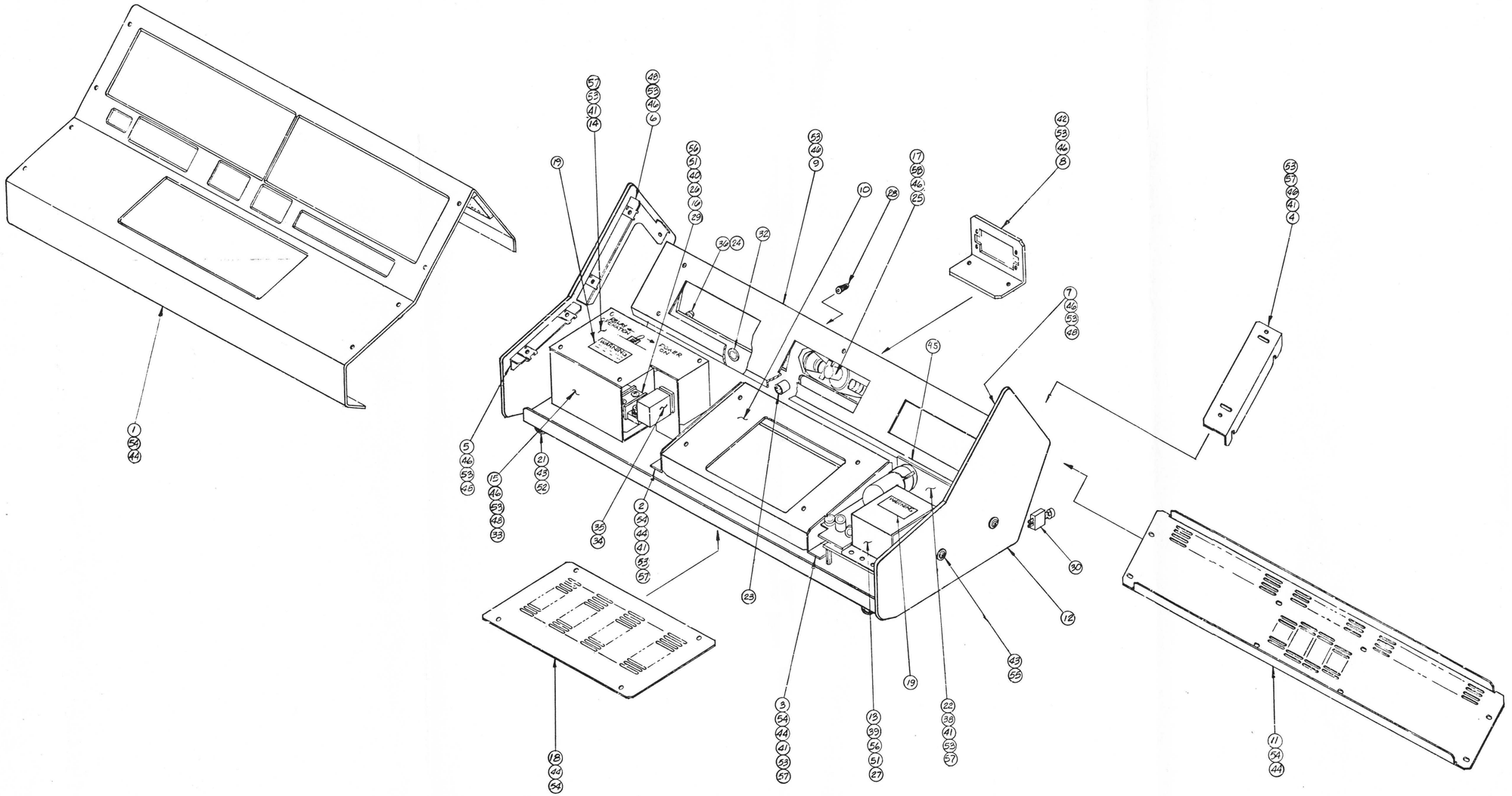
ITEM NO	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05
38	283-280	SPACER, 8-32 X .75 LG..25 AF		8	8	8	8	-
39	470-020	SCREW, CAP, HEX,SOC HD, 6-32 X .50 LG. CS		6	6	6	6	8
40	470-021	SCREW, CAP, HEX, SOC HD, 6-32 X .62 LG CS		4	4	4	4	4
41	470-027	SCREW, CAP, HEX, SOC HD, 8-32 X .37 LG CS		18	18	18	18	18
42	470-018	SCREW, CAP. HEX. SOC. HD. 6-32 X .37 LG. CS.		-	4	4	4	4
43	470-531	SCREW, BOTTOM HD, HEX, SOC., 10-32 X .50 LG BLK		8	8	8	8	8
44	470-660	SCREW, BOTTOM HD, HEX, SOC, 8-32 X .50 LG BLK		24	24	24	24	24
45	280-415	SPACER, 8-32 X .50 LG. .25 AF						8
46	496-006	NUT, SEM, 8-32		24	24	24	24	24
47	497-038	NUT, SHT, 6-32 .12 PANEL THK		2	2	2	2	-
48	498-600	NUT, SHT, 8-32		12	12	12	12	12
49	260-013	GROMMET NEOPRENE						2
50								
51	501-009	WASHER, #6, PLAIN		6	6	6	6	8
52	501-075	WASHER, #10, BLK		8	4	4	4	4
53	501-205	WASHER, #8, PLAIN		36	36	36	36	32
54	503-310	WASHER, #8, PLAIN,BLK,NYLON		28	28	28	28	28
55	503-073	WASHER, #10 PLAIN, BLK., NYLON		-	4	4	4	4
56	502-003	WASHER, LOCK, SPRING #6		6	6	6	6	8
57	502-004	WASHER, LOCK, SPRING #8		14	14	14	14	14
58	501-190	WASHER, PLAIN, #8, SM. PATTERN						4
59								
60	070-048	FUSE, .75 AMP, SB <1>	F1				1	1
61								
62	4291120-02	BLOCK, HEAT TRANSMIT, CASTING						1
63	4600202-01	SHIELD, BOX REMOTE CONTROL POWER SUPPLY						1
64	4600203-01	SHIELD, COVER, REMOTE CONTROL POWER SUPPLY						1
65	4840557	WIRING DIAGRAM					REF	REF

<1> SELECT ONE

1.5 AMP FOR 120V OPERATION

.75 AMP FOR 240V OPERATION

LM-4030460



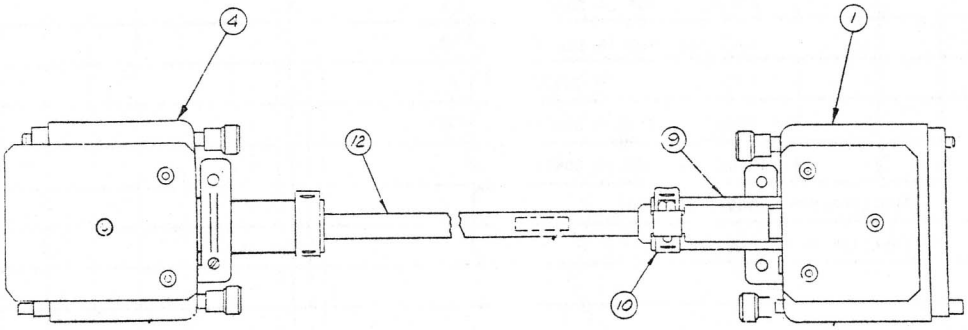
Assembly No. 4030460-05G.
Chassis Assembly

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02
1	4840557	WIRING DIAGRAM, REMOTE CONTROL		REF	REF
2					
3					
4	167-814	CONNECTOR PART, BODY 50 CONTACT	P2	1	1
5	167-822	COVER FOR 50 CONTACT		1	1
6	167-807	PULL TAB, FOR 50 CONTACT		1	1
7					
8	140-202	BODY 40 CONTACT	P5	1	1
9	167-821	COVER FOR 40 CONTACT		1	1
10	167-806	PULL TAB, FOR 40 CONTACT		1	1
11					
12	167-812	BODY 26 CONTACT	P4	1	1
13	167-819	COVER FOR 26 CONTACT		1	1
14	167-642	PULL TAB, FOR 26 CONTACT		1	1
15					
16	167-811	BODY 20 CONTACT	P16	1	1
17	167-818	COVER FOR 20 CONTACT		1	1
18	167-804	PULL TAB, FOR 20 CONTACT		1	1
19					
20	167-809	BODY 14 CONTACT	P15	2	-
21	167-816	COVER FOR 14 CONTACT	&	2	-
22	167-802	PULL TAB, FOR 14 CONTACT	P8	2	-
23	167-809	BODY 14 CONTACT	P8	-	1
24	167-816	COVER FOR 14 CONTACT		-	1
25	167-802	PULL TAB, FOR 14 CONTACT			1
26	160-273	CONNECTOR PART, BODY, 104 PIN	J3	1	1
27	167-932	CONNECTOR PART, PIN, 26 AWG		92	92
28					
29					
30	636-102	CABLE, RIBBON, 50 CONDUCTOR		A/R	A/R
31	616-650	26 CONDUCTOR		A/R	A/R
32	619-325	CABLE, RIBBON, TWIST & FLAT, 14 CONDUCTOR		A/R	A/R
33					
34	600-131	SHRINK TUBING, CLEAR, (.125 ID)		A/R	A/R
35					
36	167-890	CONNECTOR PART, BODY 14 PIN	P7	1	-
37	167-727	CONNECTOR PART, RECEPTACLE CONTACT		14	-

LM-4051091

4051017-02 REMOTE INTERCONNECT CABLE REV. C
NEXT HIGHER ASSEMBLY 4010320

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -02
1	4041335-01	CONNECTOR ASSY, FEMALE		1
2				
3				
4	4041336-01	CONNECTOR ASST, MALE		1
5				
6				
7	169-143	CONTACT, PIN		103
8	167-905	CONTACT, SOCKET		103
9	262-007	BUSHING, SLEEVE		2
10	302-522	CLAMP, GEAR BAND		2
11		SLEEVING, SHRINKABLE, BLACK		AR
12	616-468	CABLE, SHIELDED, 51 PAIR 22 AWG		AR



4051066-01 POWER CORD ASSEMBLY REV. B

NEXT HIGHER ASSEMBLY 4010320

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1					
2	084-063		POWER CORD, 8FT, GREY		1
3					
4	171-004		CRIMP LUG		3

LM-

4051182-01 INTERFACE INTERCONNECT CABLE ASSEMBLY REV. B
NEXT HIGHER ASSEMBLY 4010320

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1	167-890	CONNECTOR PART, BODY, PLUG 14 POS	P7	1
2	167-727	CONNECTOR PART, CONTACT, SPRING 22-26 AWG	P7	14
3				
4				
5	167-809	CONNECTOR PART, BODY, 14 SPRING CONTACTS	P15	1
6	167-816	CONNECTOR PART, COVER, 14 POS	P15	1
7	167-802	CONNECTOR PART, PULL TAB, 14 SOCKET	P15	1
8				
9				
10				
11				
12				
13	619-325	CABLE, RIBBON, TWIST & FLAT, 14 CONDUCTOR		A/R
14				
15	302-335	STRAP. CABLE, NYLON, 4" LG	REF: P7	1
16				
17	4840557	WIRING DIAGRAM		REF

LM-4051182

4051067-04 REMOTE CONTROL POWER HARNESS ASSEMBLY REV. J

NEXT HIGHER ASSEMBLY 4010320

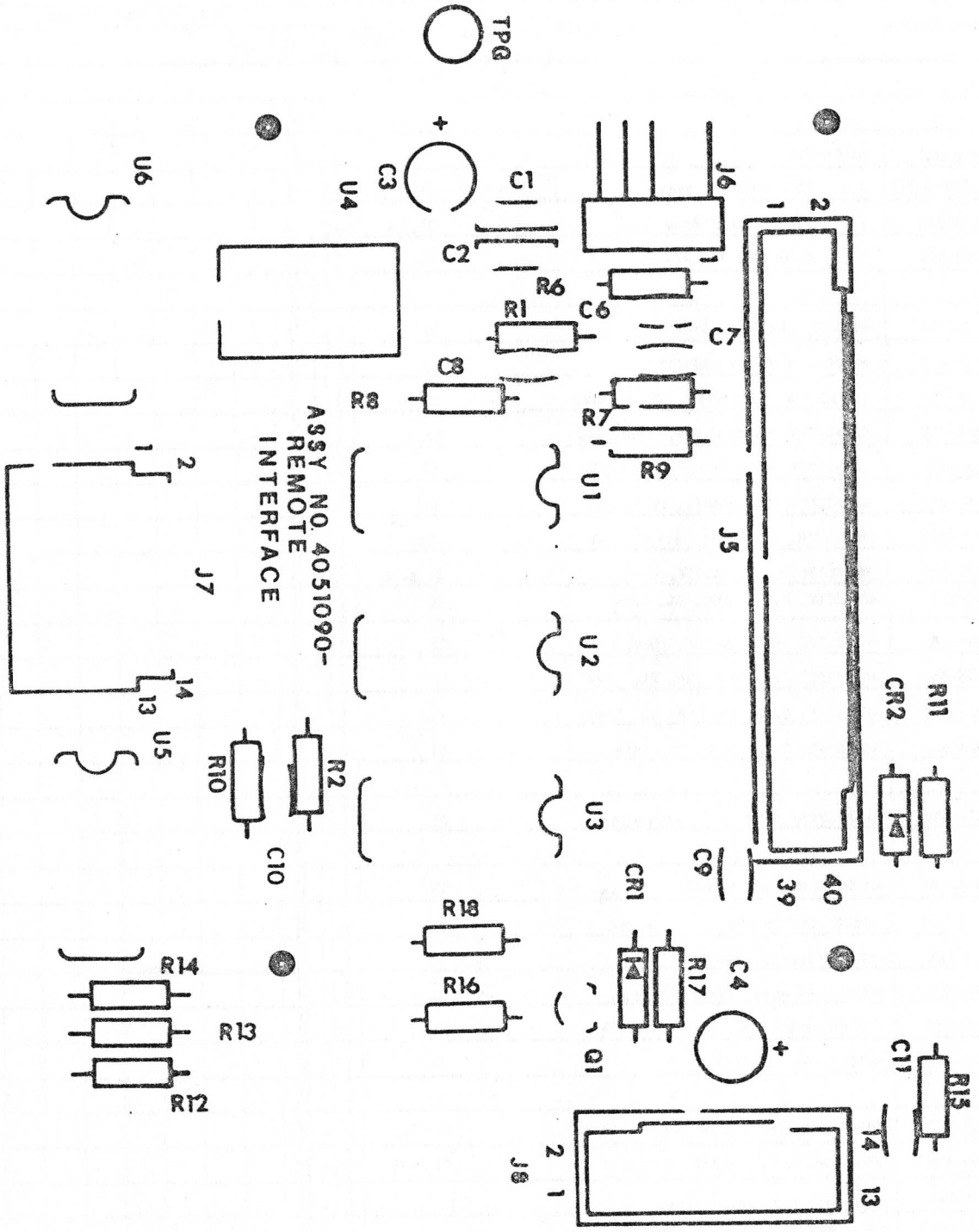
ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04
1	4840557	SCHEMATIC DIAGRAM, REMOTE CONTROL		REF	REF	A	REF
2							
3							
4	013-678	DIODE, SI CD451	CR1	1	1	1	-
5							
6	041-282	RESISTOR, 150 OHM, 5%, 1/2W	R1	1	1	1	-
7	120-746	SWITCH, DPDT	S1	1	1	1	1
8							
9							
10	167-741	CONNECTOR HOUSING, 5 POS	STC-P1	2	1	1	1
11	167-729	CONNECTOR HOUSING, 7 POS	CP-P17	1	1	1	1
12	167-730	CONTACT, SOCKET	(REF P1,17)	9	7	7	7
13	167-742	KEYING PLUG	P1-4,P17-5	3	2	2	2
14							
15	171-004	LUG, CRIMP		12	12	12	13
16	172-003	LUG, SOLDER		1	1	1	1
17							
18		WIRE, 20 AWG		AR	AR	AR	AR
19		WIRE, 24 AWG			AR	AR	AR
20	167-724	CONN. 5 POS.	P6		1	1	1
21	167-727	CONTACT	CP-P19, P6		9	9	9
22	167-619	KEYING PLUG	CP-P19-4, P6-2		2	2	2
23	167-823	CONN. 6 POS	CP-P19		1	1	1
24							
25	169-078	CONNECTOR PART;CONTACT;PIN, 20 AWG	J3				5
26	120-940	SWITCH, PUSH BUTTON, SPDT	S2		1	-	-
27	121-243	CAP, PUSH BUTTON, BLK	REF: S2		1	-	-
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							

LM-4051067

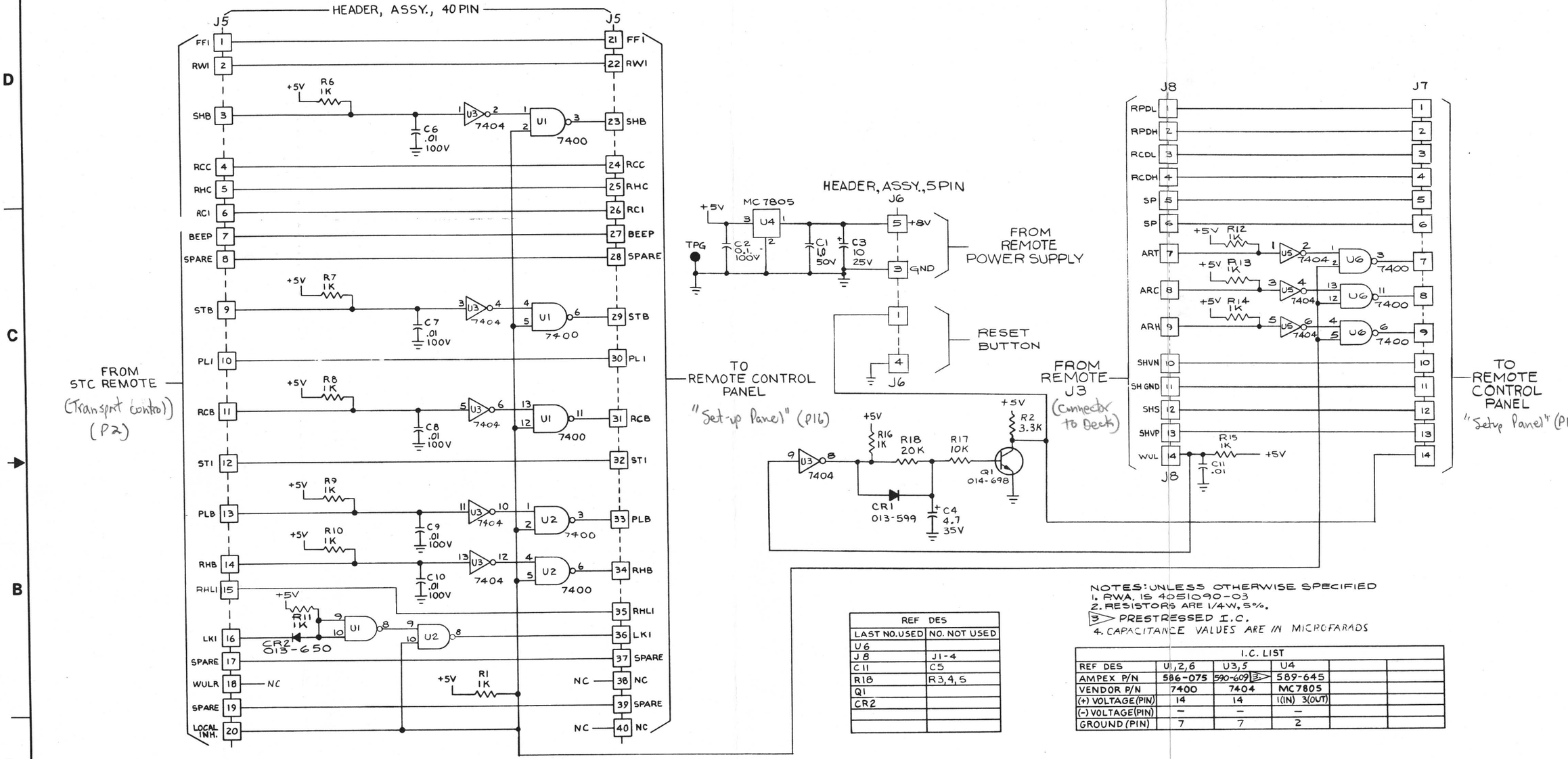
4051090-03 REMOTE INTERFACE PWA REV. E
NEXT HIGHER ASSEMBLY 4010320

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03
1						
2						
3	4840556	SCHEMATIC		A	B	D
4	590-609	I.C., HEX INVERTER 7404 ▷1	U3,5	2	2	2
5	586-075	I.C., QUAD 2-INPUT NAND 7400	U1,2,6	3	3	3
6	589-645	I.C., REGULATOR +5V MC7805	U4	1	1	1
7						
8	135-148	HEADER, ASSEMBLY, 5-PIN	J6	1	1	1
9	135-153	HEADER, ASSEMBLY, 40-PIN	J5	1	1	1
10	030-817	CAPACITOR, CER. DISK, .01uF, 100V	C6-10	5	-	-
11	064-062	CAPACITOR, MONO, 0.1uF, 100V, 20%	C2,5	2	2	-
12	064-314	CAPACITOR, MONO, 1.0uF, 50V, 20%	C1	1	1	1
13	037-812	CAPACITOR, DIP, TANT., 10uF, 25V	C3	1	1	1
14	037-908	CAPACITOR, DIP, TANT, 4.7uF, 35V	C4	1	1	1
15	066-665	RESISTOR, C.F., 1K, 5%, 1/4W	R1,6-14	10	-	-
16	066-849	RESISTOR, C.F., 100K, 5%, 1/4W	R5	1	1	-
17	064-062	CAPACITOR, MONO, 0.1uF, 100V, 20%	C2			1
18	066-840	RESISTOR, C.F., 680 OHM, 5%, 1/4W	R3	1	1	-
19	066-663	RESISTOR, C.F., 220 OHM, 5%, 1/4W	R4	1	1	-
20	066-720	RESISTOR, C.F., 3.3K, 5%, 1/4W	R2	1	1	1
21						
22	014-698	TRANSISTOR, NPN 2N3565	Q1	1	1	1
23						
24	013-599	DIODE, GEN PURP CD458 1N4531	CR1	1	1	1
25	013-650	DIODE, GE CD 498 1N270	CR2	1	1	1
26	498-425	NUT, ASSEMBLED, #6-32	REF: U4	1	1	1
27	471-068	SCREW, PAN HEAD, #6-32 X .312 LG	REF: U4	1	1	1
28	135-269	HEADER, ASSY., RT. ANGLE, 14-PIN	J7	1	1	1
29	135-152	HEADER, ASSY., 14-PIN	J8	1	1	1
30						
31	030-817	CAPACITOR, CER., DISC .01uF,, 100V	C6-11	-	6	6
32	066-665	RESISTOR, C.F., 1K OHM, 1/4W, 5%	R1,6-15	-	11	-
33	066-665	RESISTOR, C.F. 1K 1/4W, 5%	R1,6-15			12
34	066-830	RESISTOR, C.F. 10K 1/4W, 5%	R17			1
35	066-873	RESISTOR, C.F., 20K 1/4W, 5%	R18			1
		▷1 PRESTRESSED I.C.				

LM-4051090



Assembly No. 4051090-03E. Remote Interface PWA

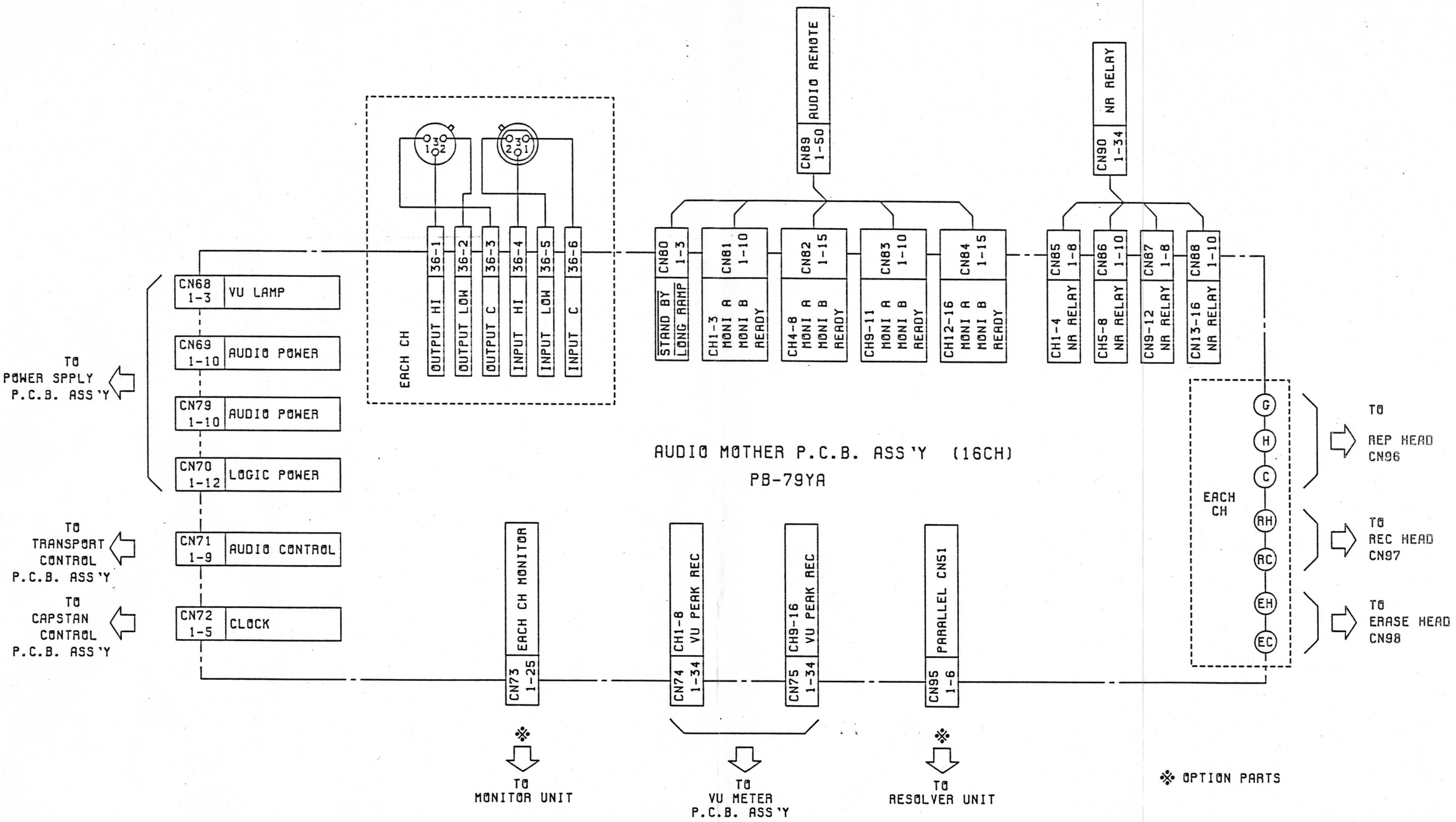


REF DES	
LAST NO. USED	NO. NOT USED
U6	
J8	J1-4
C11	C5
R18	R3,4,5
Q1	
CR2	

NOTES: UNLESS OTHERWISE SPECIFIED
1. RWA. IS 4051090-03
2. RESISTORS ARE 1/4W, 5%.
3. PRESTRESSED I.C.
4. CAPACITANCE VALUES ARE IN MICROFARADS

I.C. LIST					
REF DES	U1,2,6	U3,5	U4		
AMPEX P/N	586-075	590-609 ③	589-645		
VENDOR P/N	7400	7404	MC7805		
(+) VOLTAGE (PIN)	14	14	1(IN) 3(OUT)		
(-) VOLTAGE (PIN)	–	–	–		
GROUND (PIN)	7	7	2		

Schematic No. 4840556D.
Remote Interface PWA
(Inside Remote Box)
8-21/8-22



AUDIO MOTHER P.C.B. ASS'Y (16CH)

PB-79YA

※ OPTION PARTS

CABLE

TO	FROM	ATARI PART NO.
CN73	MONITOR P.C.B. ASS'Y	PZ9D073
CN74	VU METER P.C.B. ASS'Y	PZ9D074
CN75	VU METER P.C.B. ASS'Y	PZ9D074
CN89	CN80-84	ZA-66J
CN90	CN85-88	ZA-66L

EACH CH IN/OUT CN NO.

CH	MOTHER CN	INPUT CN	OUTPUT CN
1	CN36	CN20	CN52
2	CN37	CN21	CN53
3	CN38	CN22	CN54
4	CN39	CN23	CN55
5	CN40	CN24	CN56
6	CN41	CN25	CN57
7	CN42	CN26	CN58
8	CN43	CN27	CN59

CH	MOTHER CN	INPUT CN	OUTPUT CN
9	CN44	CN28	CN60
10	CN45	CN29	CN61
11	CN46	CN30	CN62
12	CN47	CN31	CN63
13	CN48	CN32	CN64
14	CN49	CN33	CN65
15	CN50	CN34	CN66
16	CN51	CN35	CN67

TYPE NO(A)TO ( )AT THE END

NAME	AUDIO AMP WIRING DIAGRAM (16CH)
PART NO.	A10780B
APPLIED	A1078

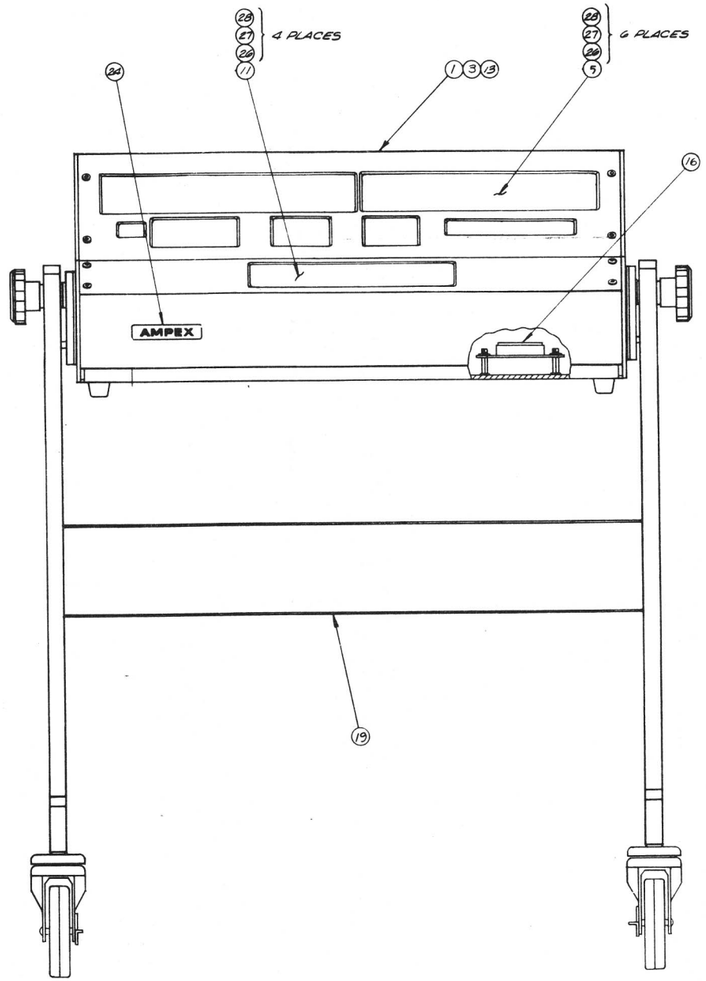
DWG. NO. 3..9325

4020468-02 PEDESTAL ASSEMBLY REV. B

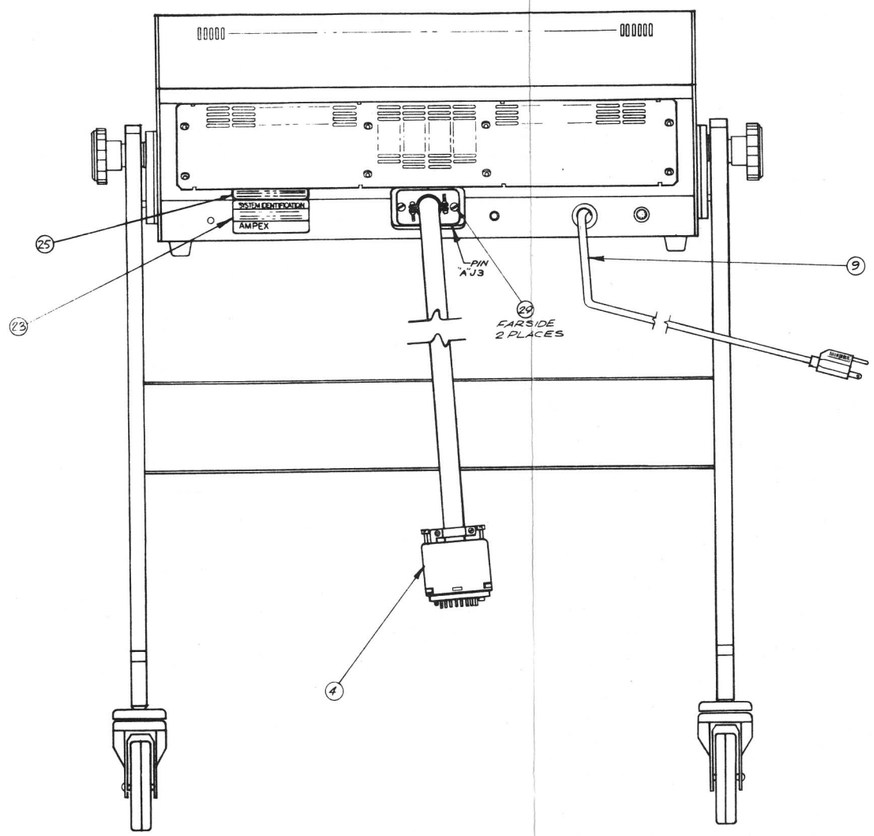
NEXT HIGHER ASSEMBLY 4010320

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02
1	4150388-02	PLATE, SIDE		2	2
2	4150389-02	PLATE, BASE		2	-
3	4150390-02	PLATE, SUPPORT		1	1
4	4210433-01	PIVOT, REMOTE CONTROL		2	2
5	4330386-01	PLATE, PIVOT REMOTE CONTROL		2	2
6	502-507	WASHER, Plain; nylon blk		2	2
	4400281-01	SCREW, POSITIONING		2	2
8	082-073	CASTER, SWIVEL, LOCKING, 4-INCH DIAMETER WHEEL		2	-
9	082-074	CASTER, SWIVEL, NON-LOCKING, 4-INCH DIAMETER WHEEL		2	-
10	230-163	KNOB, TORQUE		2	2
11	352-290	SPRING, COMP., .480 O.D.; .500 LG.		2	2
12	4150389-03	PLATE, BASE			2
13	470-410	SCREW, 1/4-20 X 2.00, CAP, HEX SOC HEAD		4	4
14					
15	470-659	SCREW, 1/4 X 20 X 1.25, BUTTON HEAD, BLACK OXIDE		4	4
16	473-794	SCREW, 8-32, .25 LG., BUTTON HEAD, BLACK OXIDE		8	8
17	480-109	BOLT, HEX HEAD, 3/8-16 X 1.00 LG.		4	-
18					
19	501-012	WASHER, PLAIN, .265 I.D. X .500 O.D.		4	4
20	501-780	WASHER, PLAIN, #8, BLACK OXIDE		8	8
21	501-863	WASHER, PLAIN, .250 I.D. X .375 O.D., SST		4	4
22	502-065	WASHER, HELICAL LOCK, .25 I.D. X .365 O.D.		8	8
23	502-043	WASHER, HELICAL LOCK, SPLIT 3/8		4	-
24	502-426	WASHER, PLAIN, NYLON; .750 I.D. X 1.12 O.D.		2	2
25	082-085	CASTER, SWIVEL, WITH WHEEL BRAKE			2
26	082-084	CASTER, SWIVEL			2

LM-4020468



FRONT VIEW



REAR VIEW

Assembly No. 4020468-02B.
Pedestal Assembly

8-25/8-26

4051048-02 POWER SUPPLY EXTENDER BOARD CABLE ASSEMBLY REV. C

NEXT HIGHER ASSEMBLY 4010340

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02
1	4291065-01	CHASSIS, CONNECTOR		1	1
2	4291066-01	COVER, CHASSIS		1	1
3					
4					
5	140-302	CONNECTOR, SIGNAL CKT.,FLAT CABLE,25 PINS	PSP 6	1	1
6	140-303	CONNECTOR, SIGNAL CKT., FLAT CABLE, 25 SOC.	J6	1	1
7					
8					
9	167-354	CONNECTOR PART, BODY, PLUG, 12 POS	J1-3	3	3
10	167-355	CONNECTOR PART, BODY, PLUG, 15 POS	J4	1	1
11					
12	167-700	CONNECTOR PART, BODY, PLUG, 3 POS	PSP 10	1	1
13	167-706	CONNECTOR PART, BODY, RECPT.6 POS	PSP7,J11	2	2
14	167-707	CONNECTOR PART, BODY, PLUG, 6 POS	J7,PSP11	2	2
15	167-708	CONNECTOR PART, BODY, RECPT,12 POS	PSP1-3	3	3
16	167-709	CONNECTOR PART, BODY, RECPT,15 POS	PSP4	1	1
17	167-711	CONNECTOR PART, BODY, RECPT,3 POS	J10	1	1
18	167-731	CONNECTOR PART, BODY, PLUG, 9 POS	J5	1	1
19	167-732	CONNECTOR PART, BODY, RECPT,9 POS	PSP5	1	1
20	167-733	CONNECTOR PART, BODY, RECPT,9 POS	PSP9	1	1
21	167-734	CONNECTOR PART, BODY, RECPT,12POS	PSP8	1	1
22	167-735	CONNECTOR PART, BODY, PLUG, 12POS	J8	1	1
23	167-736	CONNECTOR PART, BODY, PLUG, 9 POS	J9	1	1
24					
25					
26	167-349	CONTACT, PIN	REF: PSP8,9	A/R	A/R
27	167-350	CONTACT, SOCKET	REF: J8,9	A/R	A/R
28	167-725	CONTACT, PIN	REF: PSP1-5,7,J10,11	A/R	A/R
29	167-726	CONTACT, SOCKET	REF: J1-5,7,PSP10,11		A/R
30	172-279	TERMINAL LUG,#8 RING TONGUE, RED		2	3
31	171-202	TERMINAL LUG, 8 STUD, 12-10 GA.		9	9
32	181-028	TERMINAL STRIP, BARRIER,12 POS	TB1	1	1
33					
34					
35	302-536	BUSHING, STRAIN RELIEF		1	1
36					
37	600-090	SLEEVING, SHRINKABLE, .187 I.D., BLK		A/R	A/R

LM-4051048

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4051048 SHEET 2	REV C

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02
38	616-499	CABLE, 2 COND SHIELDED,16 AWG		A/R	A/R
39	616-756	CABLE, 2 COND SHIELDED,20 AWG		A/R	A/R
40	614-930	CABLE, 1 COND SHIELDED,24 AWG		A/R	A/R
41	636-101	RIBBON CABLE, 20 COND		A/R	A/R
42					
43	619-326	WIRE, STRANDED, INS, 8 AWG, BLK		A/R	A/R
44	619-260	WIRE, STRANDED, INS, 10 AWG, WHT		A/R	A/R
45	619-261	WIRE, STRANDED, INS, 10 AWG, BLK		A/R	A/R
46	619-306	WIRE, STRANDED, INS, 10 AWG, GRN/YEL		A/R	A/R
47	619-323	WIRE, STRANDED, INS, 10 AWG, GRN		A/R	A/R
48	619-324	WIRE, STRANDED, INS, 10 AWG, BLU		A/R	A/R
49		WIRE, STRANDED, INS, 12 AWG		A/R	A/R
50		WIRE, STRANDED, INS, 18 AWG		A/R	A/R
51		WIRE, STRANDED, INS, 20 AWG		A/R	A/R
52		WIRE, STRANDED, INS, 22 AWG		A/R	A/R
53					
54		SLEEVING, PVC, BLACK		A/R	A/R
55					
56	471-082	SCREW, PAN HD, XREC, 8-32 X .75 LG.		2	2
57	476-998	SCREW, TAPPING, HEX WASHER HD, #6		2	2
58	496-006	NUT, KEP, 8-32		2	2
59	501-205	WASHER, FLAT, #8		2	2
60					
61	618-019	BRAID, FLAT, 3/4 IN WD			A/R

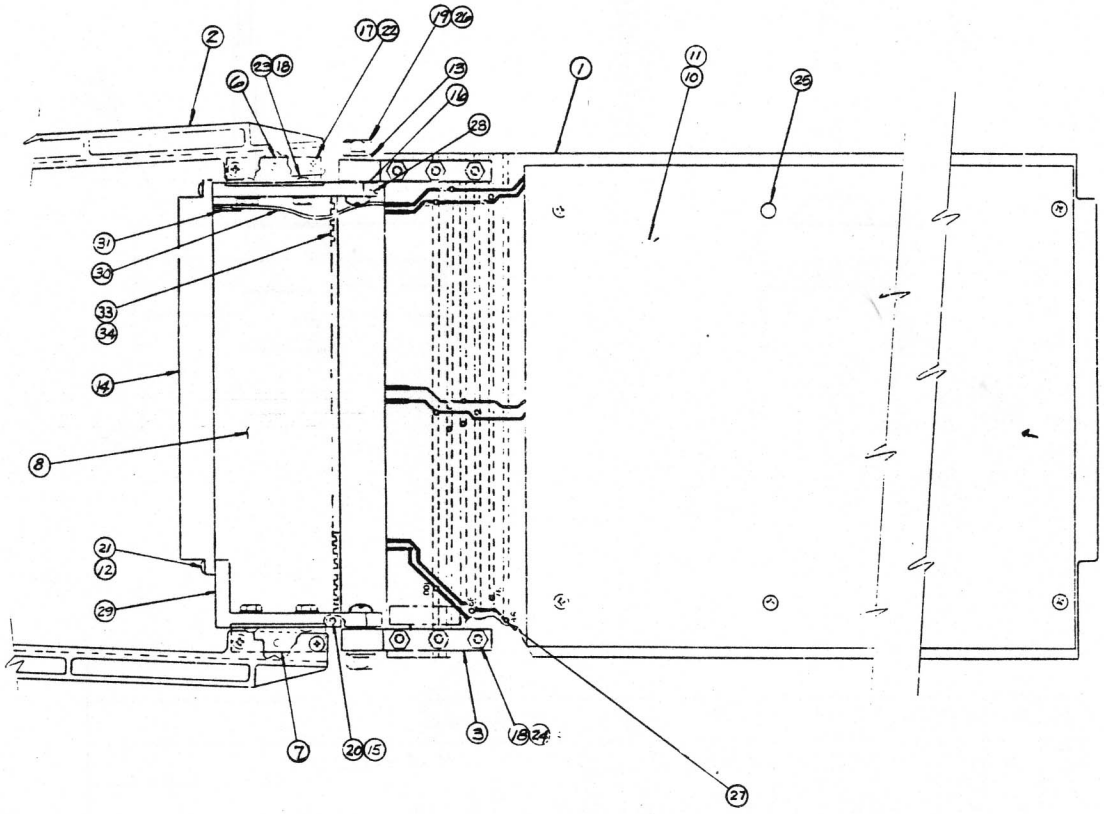
LM-4051048

4050975-04 SWIVEL EXTENDER BOARD ASSEMBLY REV. D

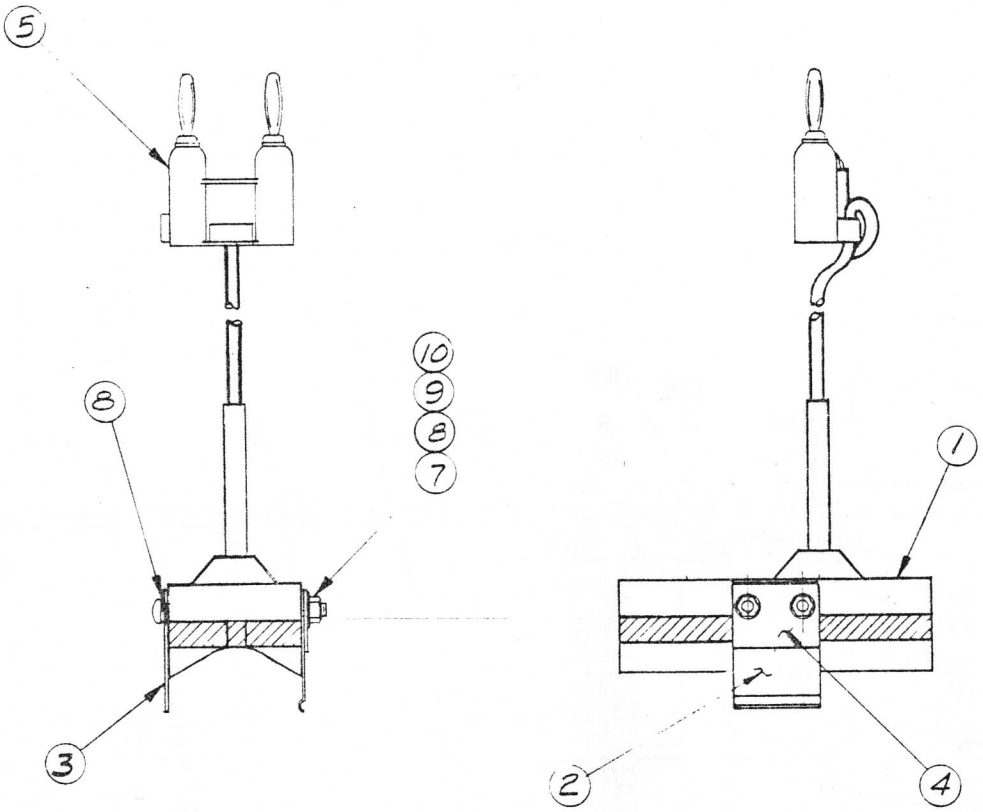
NEXT HIGHER ASSEMBLY 4010340

ITEM NO.	PART NUMBER	D DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -02	-03	-04
1	4500359	BOARD, EXTENDER		-02	-02	-02
2	1373371-02	GUIDE, CARD EXTENDER		2	2	2
3	4260606-01	MOUNT, SWIVEL		2	2	2
4	4260607-01	BRACKET, BOTTOM STIFFENER		1	-	-
5	4260608-01	BRACKET, TOP STIFFENER		1	-	-
6	4260609-AA	BRACKET, GUIDE		1	1	1
7	4260609-AB	BRACKET, GUIDE		1	1	1
8	4260610-01	STIFFENER, P.C., CONNEC.		1	1	1
9						
10	1373372-01	SHIELD		1	1	1
11	1373372-02	SHIELD		1	1	1
12	018-461	ADHESIVE, THREAD LOCKING		A/R	A/R	A/R
13	502-489	WASHER, BELLVILLE		4	4	4
14	145-674	CONNECTOR		1	1	1
15	502-002	WASHER, LOCK, HELICAL SPRING, #4		4	4	4
16	502-456	WASHER, FLAT, FIBER		2	2	2
17	493-005	NUT, SELF LOCKING, #4-40		6	6	6
18	496-005	NUT, HEX, #6-32		10	10	10
19	493-012	NUT, NYLOK, #1/4-20		2	2	2
20	473-324	SCREW, P.HD., X REC, #4-40 X .25		4	4	4
21	471-062	SCREW, P.HD., X REC, #4-40 X .375		2	2	2
22	471-064	SCREW P.HD., XREC, #4-40 X .50		6	6	6
23	475-058	SCREW, P.HD., X REC, W/ASSEM. WASHER, #6-32 X .375		4	4	4
24	471-072	SCREW, P.HD., X REC, #6-32 X .625		6	6	6
25	473-331	SCREW, MACH, XREC, W/ASSEM. WASHER, 6-32 X .50		6	6	6
26	471-150	SCREW, P.HD., 1/4-20 x 1 LG		2	2	2
27	173-510	TERMINAL, STUD		100	100	100
28	4260607-02	BRACKET, BOTTOM STIFFENER			1	1
29	4260608-02	BRACKET, TOP STIFFENER			1	1
30		WIRE 24 AWG		A/R	A/R	A/R
31	600-090	SHRINK TUBING, BLK. .187 ID		A/R	A/R	A/R
32						
33	260-052	GROMMET, NYLON, CAT		A/R	A/R	A/R
34	018-287	ADHESIVE, LIQUID CLEAR		A/R	A/R	A/R

LM-4050975



Assembly No. 4050975-04D. Swivel Extender Board Assembly



01	ITEM NO.	PART NUMBER	DESCRIPTION
2	10	492-008	NUT, HEX., #4-40
2	9	502-002	WASHER, LOCK, #4-40
4	8	501-008	WASHER, FLAT, #4-40
2	7	472-402	SCREW, MACHINE, PAN HD., #4-40 X 1.500 LG.
1	6	6000035-02	LABEL, IDENTIFICATION
1	5	140-095	CONNECTOR, DUAL TIP
1	4	4600197-AB	CLIP, SIDE, FLUX LOOP
1	3	4600197-AA	CLIP, SIDE, FLUX LOOP
1	2	4600196-01	CLIP FOR FLUX LOOP
1	1	4051086-01	FLUX LOOP SUB ASSY

PARTS LIST

Assembly No. 4020484-01—. 2 Inch Flux Loop Assembly

4020424-01 FLUX LOOP EQUALIZER AMPLIFIER ASSEMBLY REV. C
NEXT HIGHER ASSEMBLY 4010340

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1	4050859-01	PRINTED WIRING ASSEMBLY		1
2				
3				
4				
5	4030416-01	CHASSIS ASSY		1
6	4110147-23	NAME PLATE		1
7	4250962-01	COVER		1
8	6000006-10	KNOB, SKIRTED 5/8" MED. DK. GY		2
9				
10				
11				
12				
13	070-996	FUSE, SLOW BLOW 0.2A, 125V	F1	1
14	084-032	CORD, POWER, 6 FT		1
15	085-001	HOLDER, FUSE		1
16	120-746	SWITCH, DPDT	S5	1
17	167-369	CONNECTOR PART, CONTACT, (6 REQUIRED)		AR
18	167-404	CONNECTOR PART, BODY, 2 POSITION	P2,3	2
19	167-442	CONNECTOR PART, BODY, 3 POSITION	P1	1
20				
21	172-009	SOLDER LUG, #10		4
22	172-004	SOLDER LUG, #4		1
23	187-003	POST, BINDING, BLACK		1
24	187-004	POST, BINDING, RED		3
25	250-192	FOOT, .300 H.X .812 W.		4
26	265-075	BUSHING, STRAIN RELIEF		1
27				
28	302-335	TIE-STRAP, 4"		2
29	473-324	SCREW, SEM, 4-40 X .250		4
30	476-998	SCREW, HEX HD, SELF TAPPING, #6 X .250		4
31				
32	492-457	NUT, 3/8-32		1
33	501-008	WASHER, FLAT #4		2
34	501-169	WASHER, PLAIN, SM. PATTERN, .125 I.D. #4		3
35		WIRE, PVC, 22 AWG		AR
36		SLEEVING, SHRINK, BLK	REF:S5,F1	AR

LM-4020424

4050859-01 FLUX LOOP EQUALIZING AMPLIFIER PWA REV. A
NEXT HIGHER ASSEMBLY 4020424

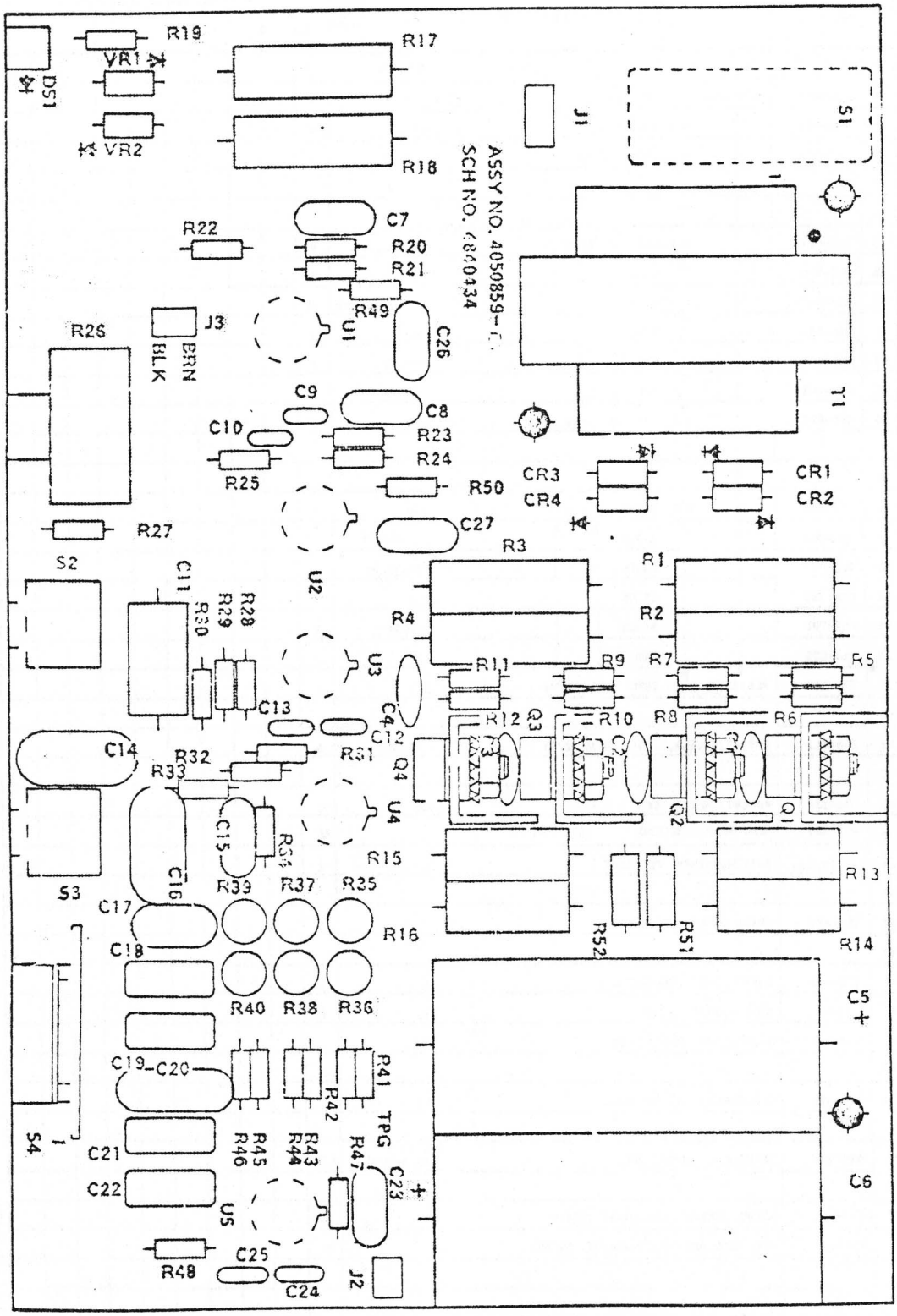
ITEM NO.	PART NUMBER	D	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1	4500297-01	PWB,FLUX LOOP COMPENSATION AMPLIFIER			1
2	4840434	SCHEMATIC			(—)
3					
4	4290857-01	HEAT SINK			4
5	103307-01	STAND-OFF		R1-4,13-18	20
6					
7	013-630	RECTIFIER, 1A 200V	CD451	CR1-4	4
8	581-292	DIODE,ZENER, 18V. 5% 1W	CD 702	VR1.2	2
9					
10	580-760	TRANSISTOR,PWR,NPN	(D44C9)	Q1,3	2
11	580-761	TRANSISTOR,PWR,NPN	(D45C9)	Q2,4	2
12	587-478	I.C. OP AMP	(LM318H)	U1-5	5
13					
14					
15	064-062	CAPACITOR, CER MONO, .1uF, 100V		C9,10,12,13,24,25	6
16	064-116	CAPACITOR, CER, .01uF, 50V		C1-4	4
17					
18	034-215	CAPACITOR, MICA, 10pF, 5%, 500V		C23,26,27	3
19	034-206	CAPACITOR, MICA, 18pF, 5%. 500V		C15	1
20	034-944	CAPACITOR, MICA, 20pF, 5%, 500V		C7,8	2
21	056-292	CAPACITOR, MICA, 500pF, 5%, 500V		C17	1
22	055-863	CAPACITOR, MYLAR, .001uF, 5%, 50V		C18	1
23	069-134	CAPACITOR, MYLAR, .0015uF, 5%. 50V		C19	1
24	034-161	CAPACITOR, MICA, 2000pF, 5%, 500V		C20	1
25	069-133	CAPACITOR, MYLAR, .0027uF, 5%, 50V		C21	1
26	055-865	CAPACITOR, MYLAR, .0033uF, 5%, 50V		C22	1
27					
28	069-132	CAPACITOR,POLYCARBONATE.18uF, 2%, 50V		C11	1
29	056-020	CAPACITOR, MICA, 1100pF, 1%, 500V		C14	1
30	034-243	CAPACITOR, MICA, 3000pF, 1%, 500V		C16	1
31					
32	031-870	CAPACITOR,ALUM. 2400uF-10+75% 25V		C5,6	2
33					
34					
35					
36					
37					

LM-4050859

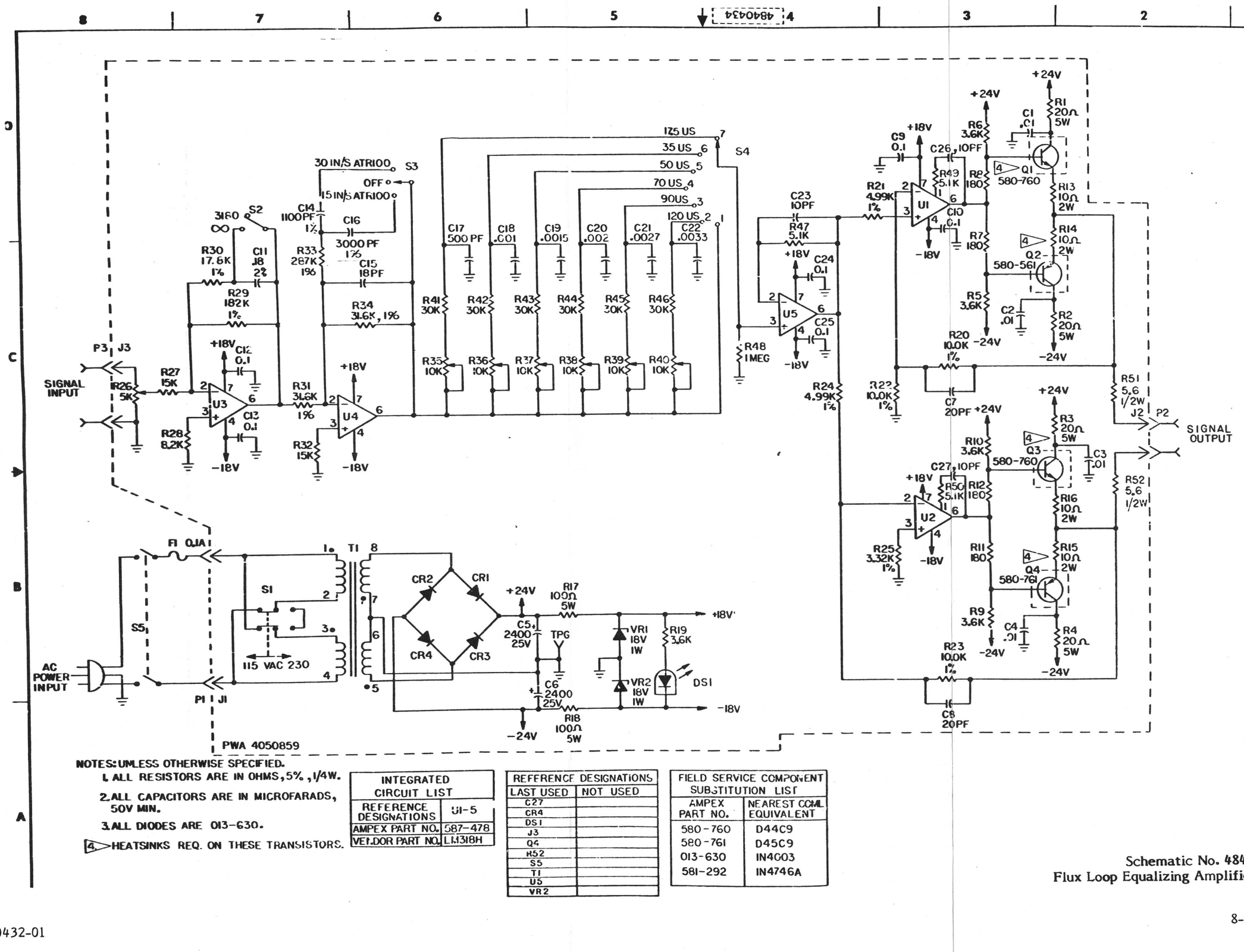
AMPEX	Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4050859 SHEET 2	REV A

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
38	041-691	RESISTOR CF 5.6 OHM, 5%, 1/2W	R51,52	2
39	041-667	RESISTOR, CC, 10Ω, 5%, 2W	R13-16	4
40	043-325	W.W.20Ω, 5%, 5W	R1-4	4
41	043-273	W.W,100Ω,5%, 5W	R17,18	2
42				
43				
44	076-004	C.F,180Ω,5%, 1/4W	R7,8,11,12	4
45	066-863	3.6K	R5,6,9,10,19	5
46	066-842	5.1K	R47,49,50	3
47	066-669	8.2K	R28	1
48	066-856	15K	R27,32	2
49	066-846	30K	R41-46	6
50	066-673	C.F. 1M 5%, 1/4W	R48	1
51				
52				
53	062-955	M.F. 3.32K, 1%, 1/4W	R25	1
54	062-968	4.99K	R21,24	2
55	062-983	10.0K	R20,22,23	3
56	066-451	17.8K	R30	1
57	062-797	31.6K	R31,34	2
58	066-803	182K	R29	1
59	076-176	RESISTOR, M.F. 287K 1% 1/4W	R33	1
60				
61	058-611	POTENTIOMETER, 10K, 20%, 1/2W	R35-40	6
62				
63	075-126	POTENTIOMETER, 5K, 1/2 W	R26	1
64	087-388	HEAT SINK COMPOUND (DC 340)		AR
65	4620089-01	SWITCH,ROTARY, PC MOUNT	S4	1
66				
67	560-462	TRANSFORMER,	T1	1
68				
69	122-423	SWITCH SPDT (ON-NONE-ON)	S2	1
70	119-476	SWITCH,DPDT, SLIDE	S1	1
71	119-469	SWITCH,SPDT (ON-OFF-ON)	S3	1
72				
73	581-522	LED,RIGHT ANGLE PC MOUNT	DS1	1
74				
75	187-254	TERMINALS, STRIP, POST	REF J1-3 (6 REQ'D)	A/R
76				
77	470-017	SCREW, SOCKET HEAD, 6-32 X 5/16		4
78	496-002	NUT, WITH ASSEMBLED WASHER, #6-32		4

LM-4050859



Assembly No. 4050859-01A. Flux Loop Equalizing Amplifier PWA



PWA 4050859

NOTES: UMLESS OTHERWISE SPECIFIED.

1. ALL RESISTORS ARE IN OHMS, 5%, 1/4W.
2. ALL CAPACITORS ARE IN MICROFARADS, 50V MIN.
3. ALL DIODES ARE 013-630.
4. ▷ HEATSINKS REQ. ON THESE TRANSISTORS.

INTEGRATED CIRCUIT LIST	
REFERENCE DESIGNATIONS	U1-5
AMPEX PART NO.	587-478
VENDOR PART NO.	LM318H

REFERENCE DESIGNATIONS	
LAST USED	NOT USED
C27	
CR4	
DS1	
J3	
Q4	
R52	
S5	
T1	
U5	
VR2	

FIELD SERVICE COMPONENT SUBSTITUTION LIST	
AMPEX PART NO.	NEAREST COML EQUIVALENT
580-760	D44C9
580-761	D45C9
013-630	IN4003
581-292	IN4746A

Schematic No. 4840434—.
Flux Loop Equalizing Amplifier PWA

4051078-01 PREAMPLIFIER TEST BOARD PWA REV. A
NEXT HIGHER ASSEMBLY 4010340

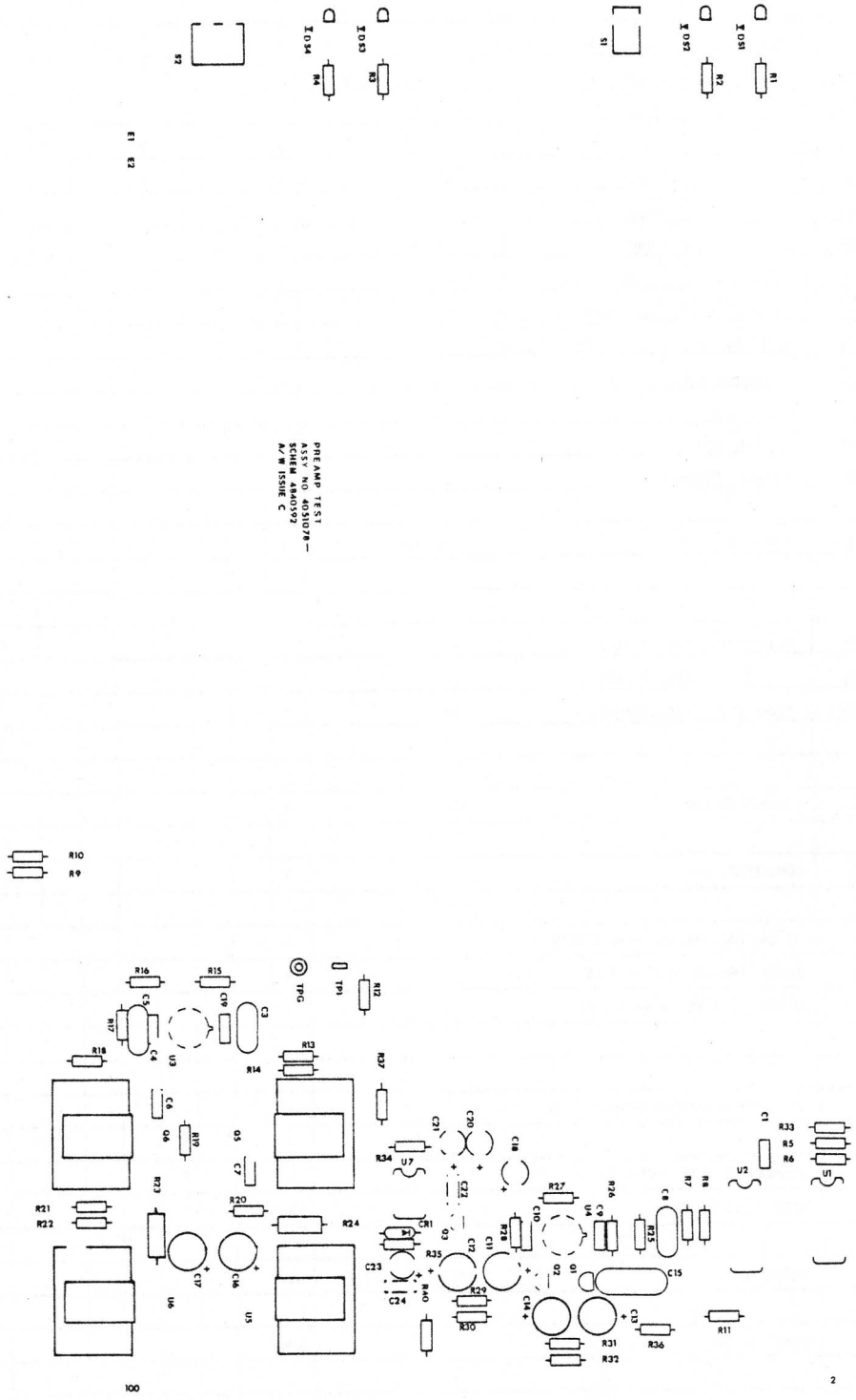
ITEM NO.	PART NUMBER	D	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1					
2					
3	4840592	SCHEMATIC		A	
4	4120090-01	HANDLE		1	
5	4170408-01	LABEL		1	
6	4600176-01	SHIELD		1	
7					
8					
9	037-936	CAPACITOR, DIPPED TANT., 22uF, 35V	C16,17	2	
10	037-958	CAPACITOR, DIPPED TANT., 82uF, 10V	C18	1	
11	037-970	CAPACITOR, DIPPED TANT., .150uF, 6V	C11-14	4	
12					
13	034-215	CAPACITOR, MICA, 10pF, ± .5pF	C3,5,8	3	
14					
15	064-062	CAPACITOR, MONO, .1uF; 100V	C1,4,6,7,9,10,19,22 24	9	
16					
17	055-870	CAPACITOR, MYLAR, .033uF, 50V	C15	1	
18	037-932	CAPACITOR, TANTALUM, 8.2uF, 35V	C20,21,23	3	
19					
20	013-599	DIODE, SWITCHING, IN4148	CR1	1	
21	590-546	INTEGRATED CIRCUIT, 4013 ▷1	U1	1	
22	590-601	INTEGRATED CIRCUIT, LF356 ▷1	U7	1	
23	589-647	INTEGRATED CIRCUIT, 7815	U5	1	
24	589-649	INTEGRATED CIRCUIT, 7915	U6	1	
25	590-789	INTEGRATED CIRCUIT, 4049 ▷1	U2	1	
26	587-478	INTEGRATED CIRCUIT, LM318H	U3,4	2	
27	581-467	LED, AMBER	DS1-4	4	
28					
29	041-003	RESISTOR, C.F., 100 OHMS, 1/2W, 5%	R23,24	2	
30					
31	066-665	RESISTOR, C.F., 1K OHMS, 1/4W, 5%	R11,12	2	
32	066-841	1.3K	R40	1	
33	066-673	1M	R26	1	
34	066-717	47K	R6,7,8	3	
35	066-810	10	R18,20	2	
36	066-818	470	R14,21	2	
37	066-824	RESISTOR, C.F., 1.5K OHMS, 1/4W, 5%	R1,2,3,4,31	5	

LM-4051078

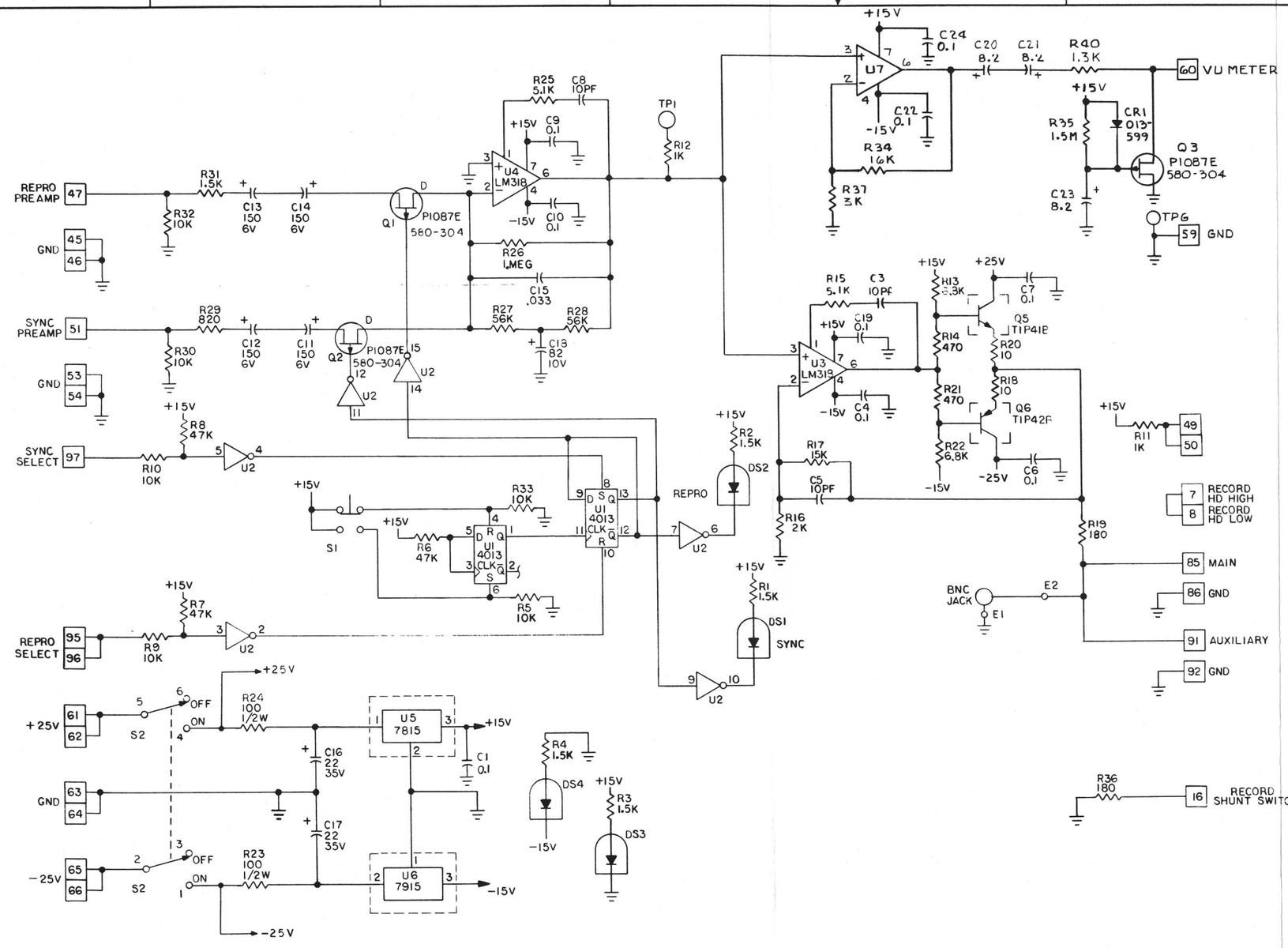
AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4051078 SHEET 2 OF 3	REV A

ITEM NO	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
38	066-829	RESISTOR, C.F., 6.8K OHMS, 1/4W, 5%	R13,22	2
39	066-830	10K	R5,9,10,30,32,33	6
40	066-833	56K	R27,28	2
41	066-842	5.1K	R15,25	2
42	066-844	16K	R34	1
43	066-821	820	R29	1
44	076-004	180	R19,36	2
45	076-014	1.5M	R35	1
46	066-667	RESISTOR, C.F., 3K OHMS, 1/4W, 5%	R37	1
47	066-856	RESISTOR, C.F., 15K OHMS, 1/4W, 5%	R17	1
48	066-826	RESISTOR, C.F., 2K OHMS, 1/4W, 5%	R16	1
49				
50	120-934	SWITCH, TOGGLE	S2	1
51	119-526	SWITCH, PUSHBUTTON	S1	1
52				
53	187-259	TERMINAL, TEST	TP1,TPG	2
54				
55				
56	580-304	TRANSISTOR, FET, P1087E	Q1,2,3	3
57	580-859	NPN, T1P41B	Q5	1
58	580-860	TRANSISTOR, PNP, T1P42B	Q6	1
59				
60				
61	121-243	PUSHBUTTON CAP	REF: S1	1
62				
63	139-918	CONNECTOR, BNC		1
64				
65	470-009	SCREW, CAP, HX HD, 4-40 X 5/16		8
66	471-068	SCREW, PAN HD, 6-32 X 5/16		4
67	471-325	SCREW, FLAT HD, 4-40 X .188		2
68				
69				
70	498-425	NUT WITH ASSEMBLED WASHER, 6-32		4
71				
72	501-169	WASHER, FLAT SM PATTERN, #4		8
73	502-002	WASHER, LOCK, #4		8
74				
75	582-190	HEATSINK	REF: Q5,6,U5,6	4
76				
77	617-096	WIRE, 24 AWG		A/R
78				
79				
80		NOTES:		
81		1. PRESTRESSED I.C.		
82				

LM-4051078



Assembly No. 4051078-01A. Preamplifier Test PWA



NOTES: UNLESS OTHERWISE SPECIFIED
1. RESISTANCE VALUES ARE IN OHMS, 1/4W, 5%.
2. CAPACITANCE VALUES ARE IN MICROFARADS.
3. THIS SCHEMATIC REFLECTS PWA 4051078-01.
4. PRESTRESSED I.C.

REF DESIGNATIONS	
LAST USED	NOT USED
R40	R38, 39
C24	C2
Q6	
E2	
S2	
TP1	
DS4	
U7	
CR1	

I.C. LIST							
REF DES	U1 [4]	U2 [4]	U3,4	U5	U6	U7 [4]	
AMPEX P/N	590-546	590-789	587-478	589-647	589-649	590-601	
VENDOR P/N	CD 4013	CD 4049	LM 318	MC 7815	MC 7915	LF 356	
VOLTAGE PIN	14 (+15V)	1 (+15V)	—	—	—	—	
GROUND PIN	7	8	—	—	—	—	

Schematic No. 4840592A.
Preamplifier Test Board PWA

8-43/8-44

Ampex 4890432-01

4051011-07 AUTO BIAS/AUDIO TEST PWA REV. R
NEXT HIGHER ASSEMBLY 4010340

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -03	-04	-05	-06	-07
1									
2									
3	4840519	SCHEMATIC			C	F	H	K	L
4	4120078-01	HANDLE			1	1	1	1	1
5	4600175-01	SHIELD			1	1	1	1	1
6	4170368-02	LABEL			1	1	1	1	1
7	4140034-01	FILTER, READOUT			1	1	1	1	1
8									
9	013-678	DIODE, CD451 IN4380		CR103,207					2
10	013-599	DIODE, SILICON, IN4531		CR101,102,104,201, 205,206,214-219	12	12	12	12	12
11	013-678	DIODE, CD 451		CR103,207,208	3	3	3	3	-
12	013-650	DIODE, CD 439 ,GERMANIUM IN270		CR105,210	2	2	2	2	2
13	581-831	DIODE, SCHOTTKY, 1 AMP		CR208					1
14	013-332	DIODE, ZENER, 4.7V, 400mw IN750A		VR202	1		1	1	1
15	013-983	DIODE, ZENER, 5.6V, 400mw IN752A		VR201,203,204	3	3	3	3	3
16	581-290	DIODE, ZENER, 15V, 1W IN4744A		VR101-104	4	4	4	4	4
17	013-358	DIODE, ZENER, 5.1V, 400MW IN751A		VR205					1
18	580-708	TRANSISTOR, FET P1086E		Q101, 104, 107	3	3	3	3	3
19	580-304	TRANSISTOR, FET P1087E		Q202,204-209	7	7	7	7	7
20	014-329	TRANSISTOR, 2N2102		Q201	1	1	1	1	1
21	580-167	TRANSISTOR, 2N5320 NPN		Q103,106	2	2	2	2	2
22	580-166	TRANSISTOR, 2N5322 PNP		Q102,105	2	2	2	2	2
23	580-647	TRANSISTOR, 2N3904		Q108,109,221	3	3	3	3	3
24									
25	034-961	CAP., MICA, 120pF ,500V, ±5%		C101,106	2	2	2	2	2
26									
27	034-215	CAP., MICA, 10pF, 500V, ±.5pF		C132,142	2	2	2	2	2
28	034-759	CAP., MICA, 15pF, 500V, ±.5pF		C210	1	1	1	1	1
29	034-181	CAP, MICA, 47PF, 500V, ±5%		C233	1	1	1	1	1
30									
31									
32	034-288	CAP., MICA, 390pF, 500V, ±5%		C123,126	2	2	2	2	2
33	056-163	CAP., MICA, 470pF, 500V, ±5%		C250	1	1	1	1	1
34									
35	034-934	CAP., MICA, 360pF, 500V, ±5%		C144	1	1	1	1	1
36									
37	034-297	CAP., MICA, 180 pF, 500V, ±1%		C145, 146	2	2	2	2	2

LM-4051011

AMPEX	Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM- 4051011 SHEET 3 OF 7	REV R

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -03	-04	-05	-06	-07
38								
39	034-373	CAP., MICA, 2,700pF, 500V, ±1%	C229	1	1	1	1	1
40	034-679	CAP., MICA, 5,100pF, 500V, ±1%	C248	1	1	1	1	1
41								
42								
43	037-591	CAP., TANT, DIP., 1uF, 35V. ±20%	C104,108,111,113	4	4	4	4	4
44	037-298	CAP., TANT, DIP, 47uF, 6V , ±20%	C237	1	-	-	-	-
45	037-812	CAP., TANT, DIP, 10uF, 25V, ±20%	C136,139,212	3	3	3	3	3
46	037-656	CAP., TANT, MLD 68uF, 6V ±10%	C237	-	1	1	1	1
47								
48	037-963	CAP., TANT, DIP, 33uF, 10V, ±20%	C141	1	1	1	1	1
49	037-892	CAP., TANT, DIP, 47uF, 20V, ±20%	C112,114,140,230,231	5	5	5	5	5
50	037-887	CAP., TANT, DIP, .47uF, 35V, ±20%	C137,138	2	2	2	2	2
51	037-894	CAP., TANT, DIP, 100uF, 10V, ±20%	C213,215	2	2	2	2	2
52								
53								
54	037-507	CAP., TANT, TUB 150uF, 15V 10%	C218	-	1	1	1	1
55								
56								
57	069-174	CAP., POLY, .001uF, 1000V, ±5%	C133	1	1	1	1	1
58	069-166	CAP., POLY, .047uF, 250V, ±5%	C134	1	1	1	1	1
59	069-163	CAP., POLY, .01uF, 630V, ±5%	C220,221,	2	-	-	-	-
60	069-168	CAP., POLY, .1uF, 100V, ±5%	C228,234,235,246,247	5	5	5	5	5
61	069-163	CAP., POLY, .01, 630V, ±5%	C220,221,252	-	3	3	3	3
62								
63	069-056	CAP., POLYCARB, .001uF, 100V, ±1%	C225	1	1	1	1	1
64	055-858	CAP., POLY CARB, .022uF, 100V, ±1%	C249	1	1	1	1	1
65	055-808	CAP., POLYCARB, .22uF, 100V, ±1%	C243	1	1	1	1	1
66								
67	064-280	CAP, CER, MONO, .047UF, 50V, ±10%	C232	1	1	1	1	1
68	064-062	CAP., CER, MONO, 0.1uF, 100V, ±20%	C102,103,105,107, 109,110,115,116	8	8	8	8	8
69	064-314	CAP., CER, MONO, 1uF, 50V, ±20%	C245,251	2	2	2	2	2
70	030-817	CAP., CER, DISK, .01uF, 100V, ±20%	C117-122,124,125,127-130,135,201-209,211,	39	39	-	-	-
71			214,216,217,219,,222-224, 226,227,236,238-242,244					
72	066-954	RESISTOR, C.F., 4.7 OHM, 1/4W, 5%	R206	1	1	1	1	1
73	066-810	RESISTOR, C.F., 10 OHM, 1/4W, 5%	R102	1	1	1	1	1
74	076-003	RESISTOR, C.F., 56 OHM, 1/4W, 5%	R104,111	2	2	2	2	2
75	066-813	RESISTOR, C.F., 150 OHM, 1/4W, 5%	R124-137,143,159	16	16	9	16	16
76	066-663	RESISTOR, C.F., 220 OHMS, 1/4W, 5%	R228	1	1	1	1	1
77	066-818	RESISTOR, C.F., 470 OHMS, 1/4W, 5%	R227			1	1	-
78	066-662	RESISTOR, C.F., 200 OHM, 1/4W, 5%	R120,240	2	2	2	2	2
79	066-818	RESISTOR, C.F., 470 OHM, 1/4W, 5%	R207, 227	2	2	-	-	-
80	066-664	RESISTOR, C.F., 510 OHM, 1/4W, 5%	R150	1	1	1	1	1
81	066-818	RESISTOR, C.F., 470 OHM, 1/4W, 5%	R277,291					2
82								

LM-4051011

AMPEX	Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4051011 SHEET 3 OF 7	REV R

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -03	-04	-05	-06	-07
83								
84								
85	066-839	RESISTOR, C.F., 560 OHM, 1/4W, 5%	R105,112	2	2	2	2	2
86	066-665	RESISTOR, C.F., 1K OHM, 1/4W, 5%	R160,216,249, 256	4	4	4	4	-
87	066-665	RESISTOR, C.F., 1K OHM, 1/4W, 5%	R160,216,218,249,256					5
88	066-689	RESISTOR, C.F., 2.2K 1/4W, 5%	R245,246	2	2	2	2	2
89	066-829	RESISTOR, C.F., 6.8K OHM, 1/4W, 5%	R217					1
90	066-720	RESISTOR, C.F., 3.3K OHM, 1/4W, 5%	R217	1	1	1	1	-
91	066-668	RESISTOR, C.F., 4.7K OHM 1/4W, 5%	R265,266,268	3	3	-	-	-
92	066-842	RESISTOR, C.F., 5.1K OHM, 1/4W, 5%	R138-142,144-148,156-158,161,164-166,171,201-205, ,230,234,247,276,290	28	28	28	28	28
93								
94	066-668	RESISTOR, C.F., 4.7K OHM, 1/4W,	R207,265,266,268			4	4	4
95	066-856	RESISTOR, C.F., 15K 1/4W, 5%	R163	-	1	1	1	1
96	066-830	RESISTOR, C.F., 10K OHM, 1/4W, 5%	R218,219,252 ,281	4	4	4	-	-
97	066-856	RESISTOR, C.F., 15K OHM, 1/4W, 5%	R163,101,108	3	-	-	-	-
98	066-830	RESISTOR, C.F., 10K OHM, 1/4W, 5%	R218,219,281				3	-
99	066-712	RESISTOR, C.F., 22K OHMS, ¼w, 5%	R229,289	2	2	2	2	2
100	066-873	RESISTOR, C.F., 20K OHM, 1/4W, 5%	R151	1	1	1	1	1
101	066-847	RESISTOR, C.F., 33K OHM, 1/4W, 5%	R270-272	3	3	3	-	-
102	066-847	RESISTOR, C.F., 33K OHM, 1/4W, 5%	R270-272,R252			-	4	4
103	066-830	RESISTOR, C.F., 10K OHMS, 1/4W, 5%	R219,281					2
104								
105	066-860	RESISTOR, C.F., 39K OHM, 1/4W, 5%	R109,119,162, 170	4	4	4	4	4
106	066-717	RESISTOR, C.F., 47K OHM, 1/4W, 5%	R149, 226,253	3	3	3	3	3
107	066-867	RESISTOR, C.F., 51K OHM, 1/4W, 5%	R220	1	1	1	1	1
108	076-009	RESISTOR, C.F., 68K 1/4W 5%	R101,108	-	2	2	2	2
109	066-849	RESISTOR, C.F., 100K 1/4W 5%	R121,122,269,277, 285,286	-	6	6	6	6
110	076-012	RESISTOR, C.F., 330K 1/4W 5%	R279,283	-	2	2	2	2
111	066-849	RESISTOR, C.F., 100K OHM, 1/4W, 5%	R121,122,239,269,277, 283,285,286	8	-	-	-	-
112	076-012	RESISTOR, C.F., 330K OHMS, ¼W, 5%	R279,280	2	-	-	-	-
113								
114	066-690	RESISTOR, C.F., 1.2M OHM, 1/4W, 5%	R153	1	1	1	1	1
115								
116	062-865	RESISTOR, M.F., 154 OHM, 1/8W, 1%	R222	1	1	1	1	1
117	066-654	RESISTOR, M.F., 174 OHM, 1/8W, 1%	R223	1	1	1	1	1
118	062-872	RESISTOR, M.F., 191 OHM, 1/8W, 1%	R224	1	1	1	1	1
119	066-806	RESISTOR, M.F., 43.2K 1/8W, 1%	R284	-	1	1	1	1
120	062-856	RESISTOR, M.F., 124 OHM, 1/8W, 1%	R274	1	1	1	1	1
121	062-876	RESISTOR, M.F., 215 OHM, 1/8W, 1%	R225	1	1	1	1	1
122	066-190	RESISTOR, M.F., 137 OHM, 1/8W, 1%	R221	1	1	1	1	1
123	062-559	RESISTOR, M.F., 21.0K OHM, 1/8W, 1%	R232	1	1	1	1	1
124	062-624	RESISTOR, M.F., 1.00K OHM, 1/8W, 1%	R275	1	1	1	1	1
125	066-008	RESISTOR, M.F. 28.0K OHMS, 1/8 W, 1%	R284	1	-	1	-	-
126	062-977	RESISTOR, M.F., 7.50K OHM, 1/8W, 1%	R231	1	1	1	1	1
127	062-943	RESISTOR, M.F., 2.32K OHM, 1/8W, 1%	R235,257,258	3	3	3	3	3

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ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -03	-04	-05	-06	-07
128	066-390	RESISTOR,M.F., 107K OHM, 1/8W, 1%	R260	1	1	1	1	1
129	062-949	RESISTOR, M.F., 2.67K OHM, 1/8W, 1%	R209	1	1	1	1	1
130	062-950	RESISTOR, M.F., 2.74K OHM, 1/8W, 1%	R210,215	2	2	2	2	2
131	062-952	RESISTOR, M.F., 2.87K OHM, 1/8W, 1%	R211	1	1	1	1	1
132	062-972	RESISTOR, M.F., 5.62K OHM, 1/8W, 1%	R278,282	2	-	-	-	-
133	066-386	RESISTOR, M.F., 6.65K OHM, 1/8W, 1%	R237,264	2	2	2	2	2
134	062-972	RESISTOR, M.F., 5.62K OHM, 1/8W, 1%	R214 244	2	-	-	-	-
135	066-453	RESISTOR, M.F., 6.49K OHM, 1/8W, 1%	R115	1	1	1	1	1
136	066-060	RESISTOR, M.F., 25.1K OHM, 1/8W, 1%	R242	1	-	-	-	-
137	062-798	RESISTOR, M.F. 56.2K OHM, 1/8W, 1%	R241	1	-	-	-	-
138	076-358	RESISTOR, M.F.,165K OHM, 1/8W, 1%	R254	1	1	1	1	1
139	066-183	RESISTOR, M.F., 60.4K OHM, 1/8W 1%	R243	1	1	1	1	1
140	066-784	RESISTOR, M.F., 30.9K OHM, 1/8W, 1%	R262	1	1	1	1	1
141	076-096	RESISTOR, M.F., 46.4K OHM, 1/8W, 1%	R118	1	1	1	1	1
142	076-126	RESISTOR, M.F., 88.7K OHM, 1/8W, 1%	R236	1	1	1	1	1
143	066-028	RESISTOR, M.F., 332K OHM, 1/8W, 1%	R255	1	1	1	1	1
144	066-014	RESISTOR, M.F., 47.5K OHM, 1/8W, 1%	R123	1	1	1	1	1
145	066-451	RESISTOR, M.F., 17.8K OHM, 1/8W, 1%	R103,110	2	2	2	2	2
146	066-942	RESISTOR, M.F., 93.1K OHM, 1/8W, 1%	R208	1	1	1	1	1
147	066-763	RESISTOR, M.F., 221K OHMS, 1/8W, 1%	R289	1	1	1	1	1
148	066-755	RESISTOR, M.F., 143K OHM, 1/8W, 1%	R259	1	1	1	1	1
149	062-601	RESISTOR, M.F., 100K OHM, 1/8W, 1%	R243,287	2	-	-	-	-
150	041-509	RESISTOR, C.C., 180 OHM, 1W, 5%	R154,155	2	2	2	2	2
151	041-101	RESISTOR, C.C., 620 OHM, 1W, 5%	R117	1	1	1	1	1
152	041-245	RESISTOR, C.C., 1K OHM, 1/2W, 5%	R106,107,113,114	4	4	4	4	4
153	076-991	RESISTOR, C.F., 2.4M OHM, 1/4W, 5%	R152	1	1	1	1	1
154	066-005	RESISTOR, M.F., 25.5K OHMS, 1/8W, 1%	R248	1	-	-	-	-
155	057-375	RESISTOR, M.F., 4.64K OHM, 1/2W, 1%	R116	1	1	1	1	1
156	062-972	RESISTOR, M.F., 5.62K 1/8W, 1%	R214,241,244, 278,282	-	5	5	5	5
157	058-001	RESISTOR, VAR., 50K OHM	R273,267	2	2	2	2	2
158	058-610	RESISTOR, VAR, 20K OHM,	R238,261	2	2	2	2	2
159	066-063	RESISTOR, M.F. 2.61K., 1/8W 1%	R242	-	1	1	1	1
160	062-601	RESISTOR, M.F. 100K., 1/8W 1%	R287	-	1	1	1	1
161	540-169	INDUCTOR, 6800uH, 5%	L101,102	2	2	2	2	2
162	051-580	INDUCTOR, 22mH, 5%	L201	1	1	1	1	1
163	051-579	INDUCTOR, 47mH, 5%	L202,203	2	2	2	2	2
164								
165	066-001	RESISTOR, M.F., 22.6K., 1/8W 1%	R248	-	1	1	1	1
166	586-075	I.C., QUAD 2 INPUT, POS NAND 7400	U113,118,128	3	3	3	3	3
167	586-109	I.C., QUAD 2 INPUT, POS NOR 7402	U201, 204	2	2	2	2	2
168	586-326	I.C., HEX INVERTER, 7404	U108,123,133,209	4	4	-	-	-
169								
170								
171	590-536	I.C., HEX INVERTER BUF/DRV. 7406	U106,119,216,223	4	4	4	4	4
172	590-538	I.C., QUAD 2 INPUT POS AND 7408	U107,132,208	3	3	3	3	3

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ITEM NO.	PART NUMBER	DESCRIPTION		REF DESIG	QTY REQD PER DASH NUMBER -03	-04	-05	-06	-07
173									
174	590-576	I.C., HEX INVERTER HIGH V. OUTPUT	7417	U203	1	1	1	1	1
175	586-917	I.C., TRIP 3 INPUT POS. OR	7427	U129	1	1	-	-	-
176	586-078	I.C., 8 INPUT POS. NAND	7430	U112,122,136	3	3	3	3	3
177									
178									
179	586-784	I.C., QUAD 2 INPUT POS. NAND	7438	U202	1	1	1	1	1
180	587-544	I.C., DEC/DRV	7447	U124,130	2	2	2	2	2
181	586-108	I.C., DUAL D TYPE FLIP-FLOP	7474	U214	1	1	1	1	1
182									
183									
184	586-801	I.C., 4 BIT MAGNITUDE COMP	7485	U121,127	2	2	2	2	2
185	590-537	I.C., QUAD 2 INPUT EXCLUSIVE EXCEL OR	7486	U126	1	1	1	1	1
186	586-797	I.C., DUAL RETRI MONO MULT	74123	U125,215	2	2	2	2	2
187									
188									
189	590-577	I.C., SYNC 4 BIT COUNTER	74161	U219	1	1	1	1	1
190	589-904	I.C., SYNC 4 BIT COUNTER L.POWER	74C161 △	U220,221	2	2	2	2	2
191	586-799	I.C., 4 BIT UP/DOWN COUNTER	74192	U109,120	2	2	2	2	2
192									
193									
194	586-800	I.C., 4 BIT UP/DOWN COUNTER	74193	U110,114-116	4	4	4	4	4
195	587-754	I.C., 4 BIT BINARY FULL ADD	74LS83AN	U217,218	2	2	2	2	2
196									
197	589-798	I.C. HEX BUFFER NON INVERTER	CD4050B △	U210	1	1	1	1	1
198									
199	587-449	I.C., TRIP 3 INPUT NAND	CD4023 △	U206	1	1	1	1	1
200	590-510	I.C., HEX BUF CONVERTER	CD 4010 △	U207	1	1	1	1	1
201	590-509	I.C., TRIP 3 INPUT AND	CD4073 △	U205	1	1	1	1	1
202	589-223	I.C. BUFFER OCTAL	81LS95	U117	1	1	1	1	1
203									
204	589-269	I.C., SYS., INTERFACE, LINE DRVR/RCVR	P8216	U111	1	1	1	1	1
205	587-291	I.C., TIMER	NE555	U131	1	1	1	1	1
206	589-254	I.C., DUAL TIMER	NE556A	U222	1	1	1	1	1
207									
208									
209	590-542	I.C., OP. AMPLIFIER	LM311	U213	1	1	1	1	1
210	589-907	I.C., OP. AMPLIFIER	NE5534	U101-103	3	3	3	3	3
211	587-672	I.C., 8 BIT MULT CONVERTER	MC1408	U211	1	1	1	1	1
212									
213									
214	590-583	I.C., OP. AMPLIFIER	TL084	U212,224	2	2	2	2	2
215	589-647	I.C., VOLTAGE REG.	7815	U135	1	1	1	1	1
216	589-649	I.C., VOLTAGE REG.	7915	U134	1	1	1	1	1
217									

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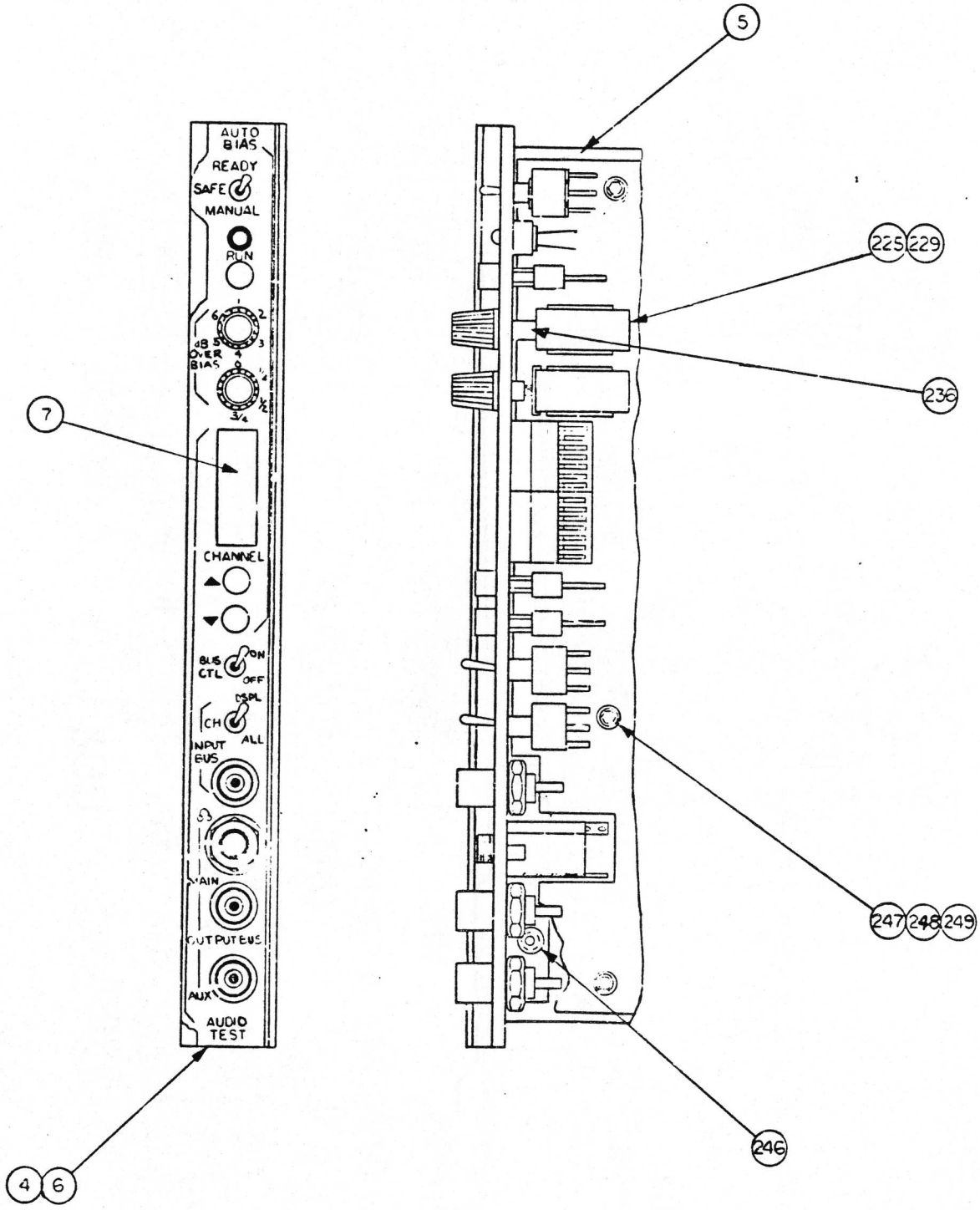
AMPEX	Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4051011 SHEET 6 of 7	REV R

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -03	-04	-05	-06	-07
218	581-357	L.E.D. DISPLAY	DS101,102	2	2	2	2	2
219	581-476	L.E.D. RED	DS201	1	1	1	1	1
220	119-526	SWITCH, PUSH BUTTON, SPDT	S103,104,203	3	3	3	3	3
221	121-243	CAP, PUSH BUTTON, BLACK	REF:S103,104	2	2	2	2	2
222	121-284	CAP, PUSH BUTTON, RED	REF:S203	1	1	1	1	1
223	119-363	SWITCH,TOGGLE,DPDT	S101,102	2	2	2	2	2
224	119-749	SWITCH, TOGGLE, DPDT	S204	1	1	1	1	1
225	122-491	SWITCH, ROTARY, PROGRAMMED, 4 CONTACTS	S201	1	1	1	1	1
226	6000001-20	KNOB FOR DIP SWITCH		2	2	2	2	2
227	581-270	L.E.D. MOUNTING	REF: DS 201	1	1	1	1	1
228	570-500	SOCKET,14 PIN DIP, RT ANGLE	REF: DS101,102	2	2	2	2	2
229	122-495	SWITCH, ROTARY, PROGRAMMED, 6 CONTACTS	S202	1	1	1	1	1
230	020-765	RELAY, REED, SPST	K101	1	1	1	1	1
231	602-012	SHORTING PLUG	P101-104,109	5	5	5	5	5
232	143-981	CONNECTOR P.C. JACK	J101-104,109	14	14	14	14	14
233	139-872	PHONE JACK 1/4"	J107	1	1	1	1	1
234	187-259	TERMINAL, P.C., TEST POINT	TP101-106,201,203-208	13	13	13	13	13
235	139-918	CONNECTOR, JACK, BNC	J105,106,108	3	3	3	3	3
236	280-086	SPACER	REF: S201,202	2	2	2	2	2
237	582-115	SOCKET, I.C., 14 PIN	REF: S201,202	2	2	2	2	2
238	614-931	CABLE, SHIELDED, WHT/BRN, 24AWG		A/R	A/R	A/R	A/R	A/R
239	614-932	CABLE, SHIELDED, WHT/RED, 24AWG		A/R	A/R	A/R	A/R	A/R
240	614-933	CABLE, SHIELDED, WHT/ORN, 24AWG		A/R	A/R	A/R	A/R	A/R
241								
242	617-096	WIRE, HOOK-UP, WHT/BLU, 24AWG		A/R	A/R	A/R	A/R	A/R
243	617-103	WIRE, HOOK-UP, WHT, 24AWG		A/R	A/R	A/R	A/R	A/R
244								
245	471-068	SCREW, PAN HD., 6-32 × 5/16 LG.	REF: U34,35	2	2	2	2	2
246	471-325	SCREW, FLAT HD #4-40, X.188 LG		2	2	2	2	2
247	470-009	SCREW, CAP HEX HD #4-40 × 5/16 LG.		8	8	8	8	8
248	502-002	WASHER LOCK,#4, HELICAL SPRING		8	8	8	8	8
249	501-169	WASHER,#4, SMALL PAT.		8	8	8	8	8
250								
251	498-425	NUT, HEX, WITH ASSY. WASHER	REF: U34,35	2	2	2	2	2
252	018-461	ADHESIVE, THREAD LOCKING		A/R	A/R	A/R	A/R	A/R
253	302-395	STRAP, CABLE		A/R	A/R	A/R	A/R	A/R
254	280-998	TRANSISTOR MTG HDW,	REF: Q103,106,102 105,201		5	5	5	5
255	030-817	CAP.,CER.,DISK, .01uF, 100V, 20%	C117-122,124,125,127-130 135,201-209,211,214,215, 217,219,222-224,226,227, 236,238-242,244,253			40	40	40
257	590-609	I.C., HEX INVERTER, 7404	U108,123,133,209			4	4	4
258	590-325	I.C., TRIP 3 INPUT POS. OR 7427	U129			1	1	1

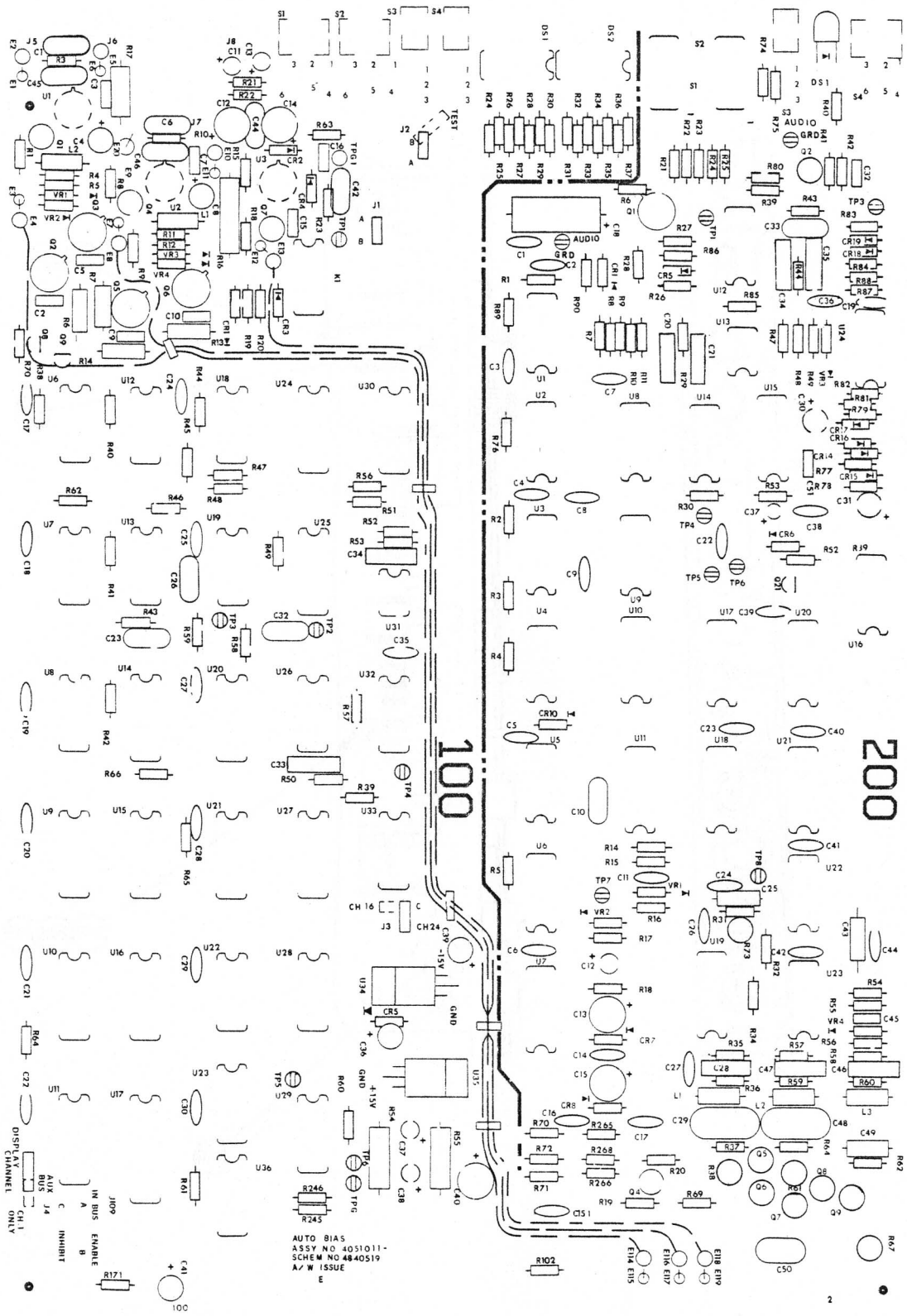
NOTES:

1. STATIC SENSITIVE, SPECIAL HANDLING REQUIRED PER AMPEX STD HE1-1.

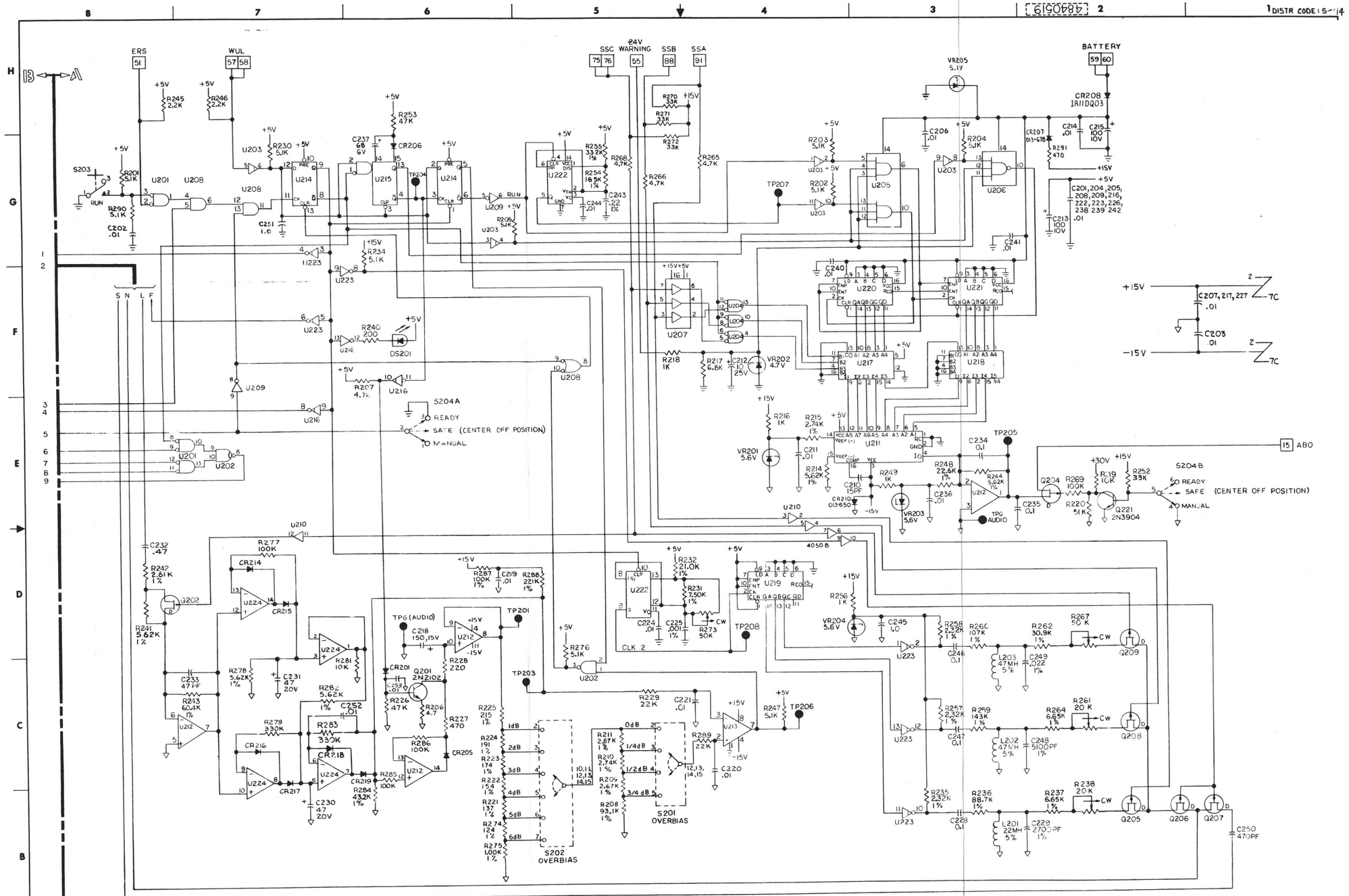
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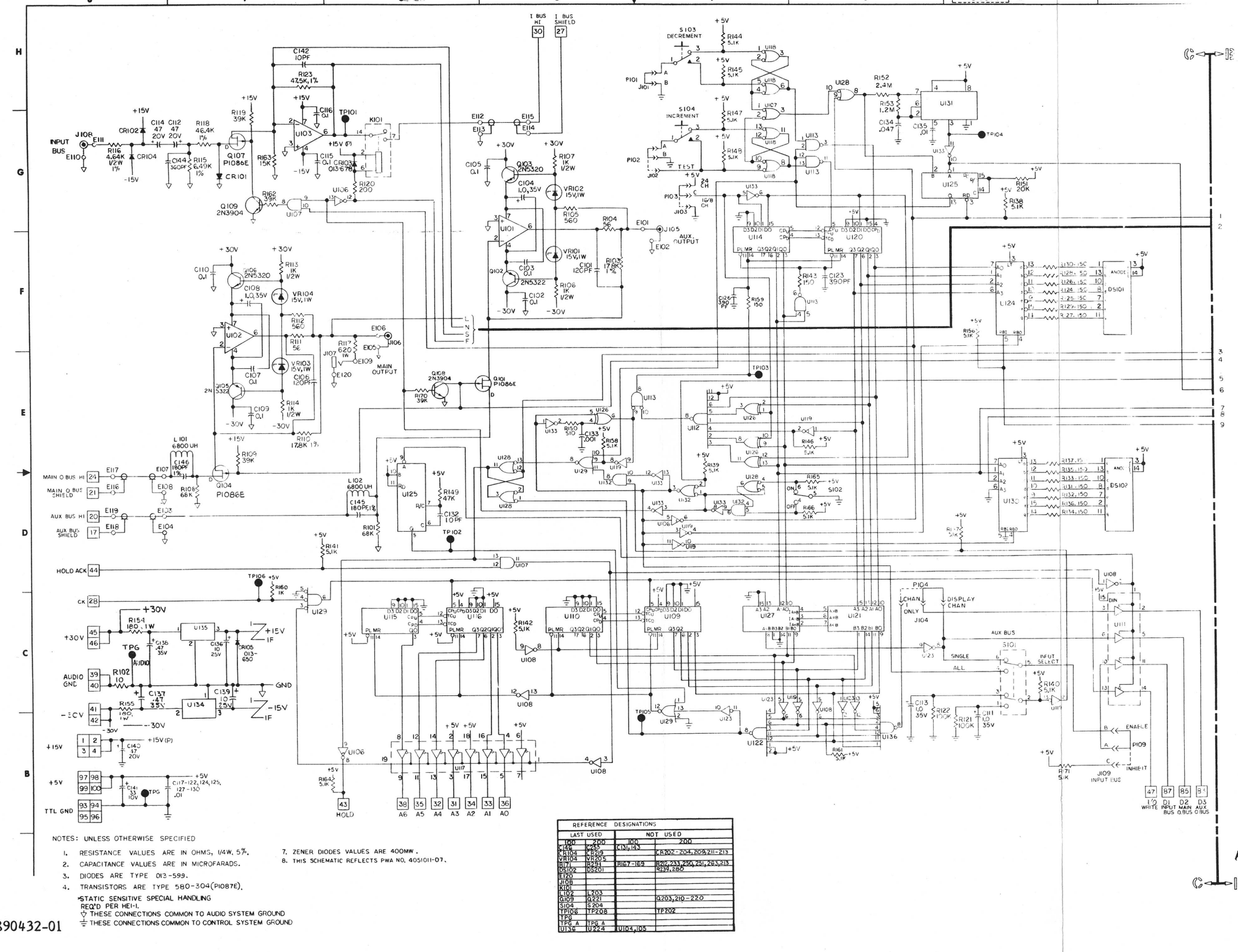


Assembly No. 4051011-07R. Audio Bias/Audio Test PWA (Sheet 1 of 2)



Assembly No. 4051011-07R. Audio Bias/Audio Test PWA (Sheet 2 of 2)


ERS
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SSC
24V WARNING
SSB
SSA
BATTERY
S203
RUN
S204A
READY
SAFE (CENTER OFF POSITION)
MANUAL
S204B
S201 OVERBIAS
S202 OVERBIAS
TPG AUDIO
TPG (AUDIO)
CLK 2
+5V
+15V
-15V
+30V
U201
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NOTES: UNLESS OTHERWISE SPECIFIED

1. RESISTANCE VALUES ARE IN OHMS, 1/4W, 5%.
2. CAPACITANCE VALUES ARE IN MICROFARADS.
3. DIODES ARE TYPE 013-599.
4. TRANSISTORS ARE TYPE 580-304(P1087E).

*STATIC SENSITIVE SPECIAL HANDLING REQ'D PER HEI-1.

▽ THESE CONNECTIONS COMMON TO AUDIO SYSTEM GROUND

⏚ THESE CONNECTIONS COMMON TO CONTROL SYSTEM GROUND

7. ZENER DIODES VALUES ARE 400MW.
8. THIS SCHEMATIC REFLECTS PWA NO. 4051011-07.

REFERENCE DESIGNATIONS			
LAST USED		NOT USED	
100	200	100	200
C146	C235	C131, 143	
CR104	CR219		CR202-204, 208, 211-213
VR104	VR205		
RI71	R231	R167-169	R212, 233, 250, 251, 283, 213
DS102	DS201		R239, 280
E120			
J108			
K101			
L102	L203		
Q109	Q221		Q203, 210-220
S104	S204		
TP106	TP208		TP202
TPG			
TPG A	TPG A		
U136	U224	U104, 105	

Ampex 4890432-01

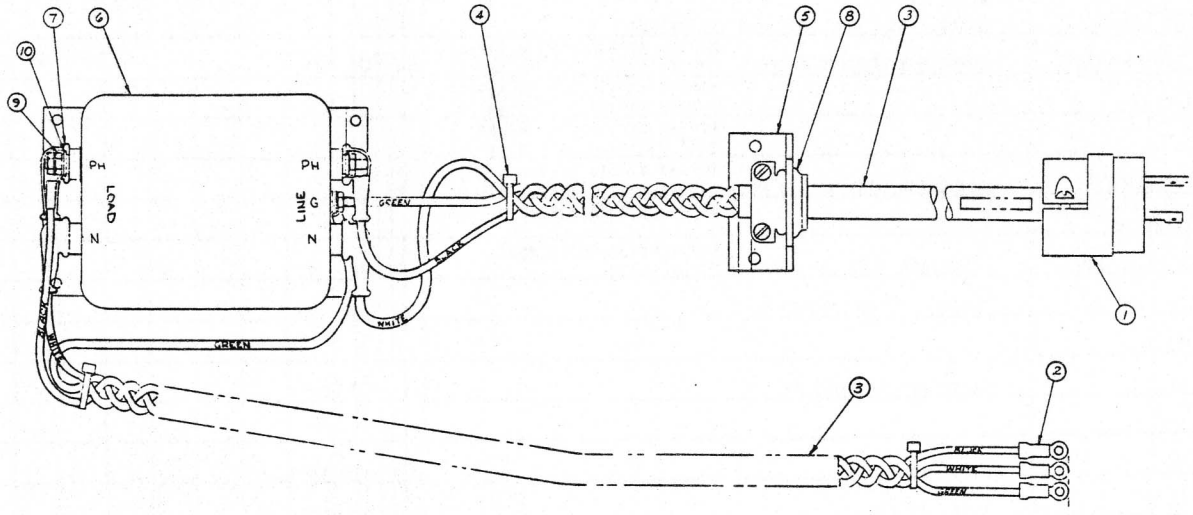
Schematic No. 4840519L.
Auto Bias/Audio Test PWA
(Sheet 2 of 2)

8-55/8-56

4051054-02 AC POWER CABLE ASSEMBLY REV. B

NEXT HIGHER ASSEMBLY 4010334

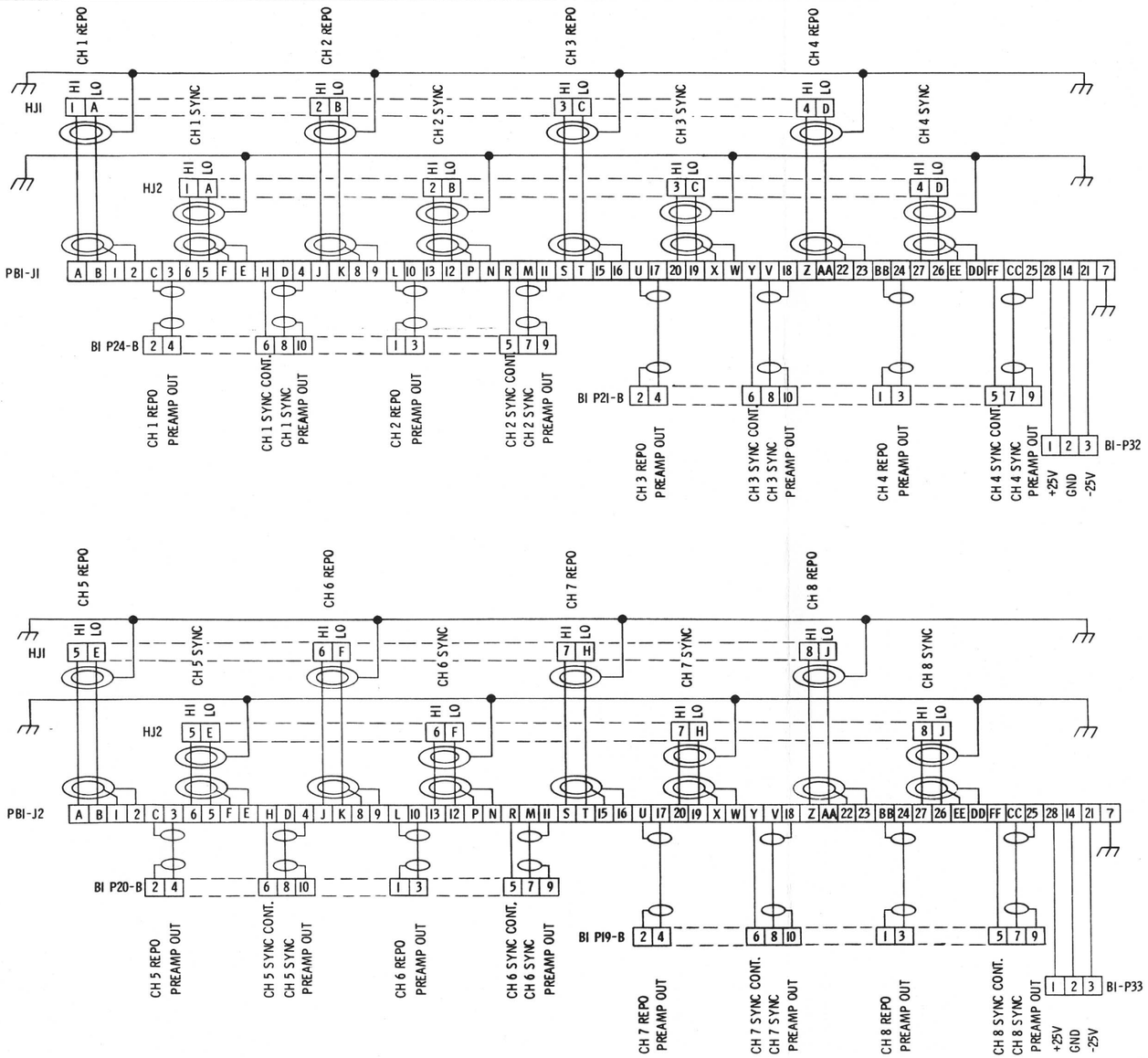
ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -02
1	145-639		CONNECTOR PLUG, PLUG TWIST 3 MALE CONTACTS		1
2	171-016		TERMINAL LUG, CRIMP TONGUE		9
3	616-042		CABLE , JKT, 3 COND BLK, WHT , GRN, 12 AWG		AR
4	302-379		STRAP, CABLE		3
5	4260634-01		BRACKET, STRAIN RELIEF, POWER CORD		1
6	052-247		FILTER, RF INTERFERENCE		1
7	160-282		CAP, PROTECTED		4
8	302-536		BUSHING, STRAIN RELIEF		1
9	492-011		NUT, PLAIN , HEX, 10-32		4
10	501-070		WASHER, PLAIN #10		4



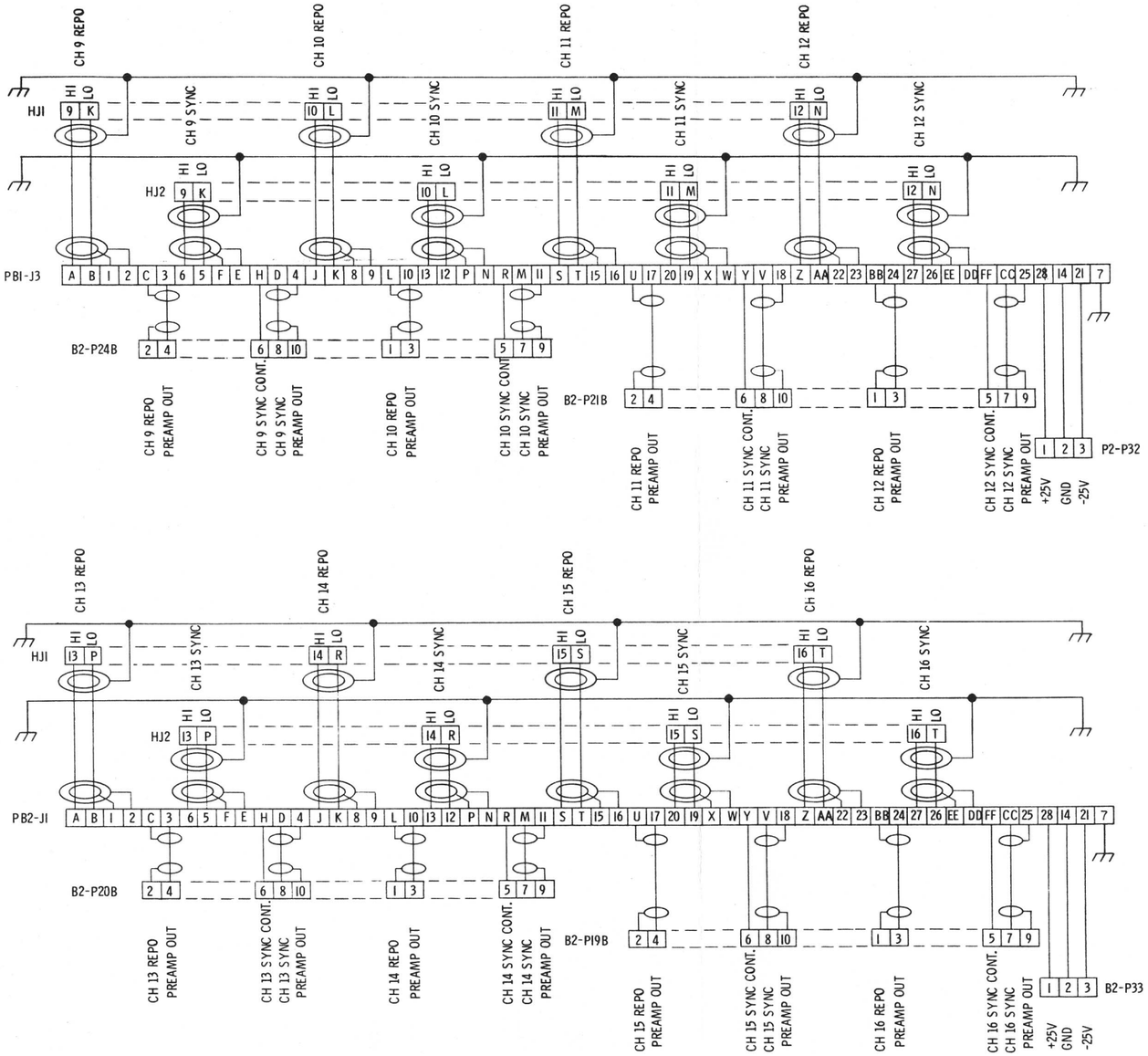
4050949-03 HEAD CABLE AND CONNECTOR ASSEMBLY REV. G
NEXT HIGHER ASSEMBLY 4010334

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03
1	4041300-01	PREAMP BOX, CARD RACK ASSY		2	2	2
2	4030453-02	CONNECTOR BOX KIT, HEAD CABLE		1	1	1
3	4051081-01	BRAID ASSY, HEAD CONN BOX			4	-
4	4260620-01	BRACKET, CONNECTOR, GROUNDING		4	4	4
5	4051082-02	BRAID ASSY, PREAMP CONNECTOR			2	-
6	4051081-02	BRAID ASSY, HEAD CONNECTOR BOX				4
7	4051082-03	BRAID ASSY, PREAMP CONNECTOR				2
8	4700474-01	CABLE, 2-CONDUCTOR, SHIELD		A/R	A/R	A/R
9	4700473-01	CABLE, 2-CONDUCTOR, DOUBLE SHIELDED		A/R	A/R	A/R
10	140-279	CONNECTOR, 28 DUAL	HJ1,HJ2,HJ3,HJ4	4	4	4
11	4840508	SCHEMATIC		A	A	A
12	167-700	CONNECTOR, 3 POS.	J32,33	6	6	6
13	167-726	CONTACT	REF: J32,33	18	18	18
14	470-012	SCREW, CAP, HEX, SOC, 4-40 X .50 LG		12	12	12
15	280-659	SPACER, 0.375 LG		8	8	8
16	501-169	WASHER, #4 SP.		8	8	8
17	470-014	SCREW, CAP, HEX, SOC, 4-40 X .750 LG		8	8	8
18	167-714	CONNECTOR HOUSING (6 POS)	B1P15A,B1P14A,B1P13A,B1P10A, B2P15A,B2P14A,B2P13A,B2P10A,	24	24	24
19			B3P15A,B3P14A,B3P13A,B3P10A, B1P15B,B1P14B,B1P13B,B1P10B,			
20			B2P15B,B2P14B,B2P13B,B2P10B, B3P15B,B3P14B,B3P13B,B3P10B,			
21	167-716	CONNECTOR HOUSING (10 POS)	B1P24B,B1P21B,B1P20B,B1P19B, B2P24B,B2P21B,B2P20B,B2P19B,	12	12	12
22			B3P24B,B3P21B,B3P20B,B3P19B,			
23	143-804	CONNECOTR, PWR, 28 DUAL	PB1J1,PB1J2,PB1J3,PB2J1, PB2J2,PB2J3	6	6	6
24	167-727	CONTACT, CRIMP, SNAP-IN		264	264	264
25						
26		SLEEVING (SHRINKABLE)		A/R	A/R	A/R
27						
28		WIRE, 20 AWG		A/R	A/R	A/R
29		WIRE, 24 AWG		A/R	A/R	A/R
30	614-931	CABLE, SHIELDED, 24 AWG	WHT-BRN	A/R	A/R	A/R
31	614-932		WHT-RED	A/R	A/R	A/R
32	614-933		WHT-ORN	A/R	A/R	A/R
33	614-934		WHT-YEL	A/R	A/R	A/R
34	614-935		WHT-GRN	A/R	A/R	A/R
35	614-936		WHT-BLU	A/R	A/R	A/R
36	614-937		WHT-VIO	A/R	A/R	A/R
37	614-938	CABLE, SHIELDED, 24 AWG	WHT-GRY	A/R	A/R	A/R

LM-4050949

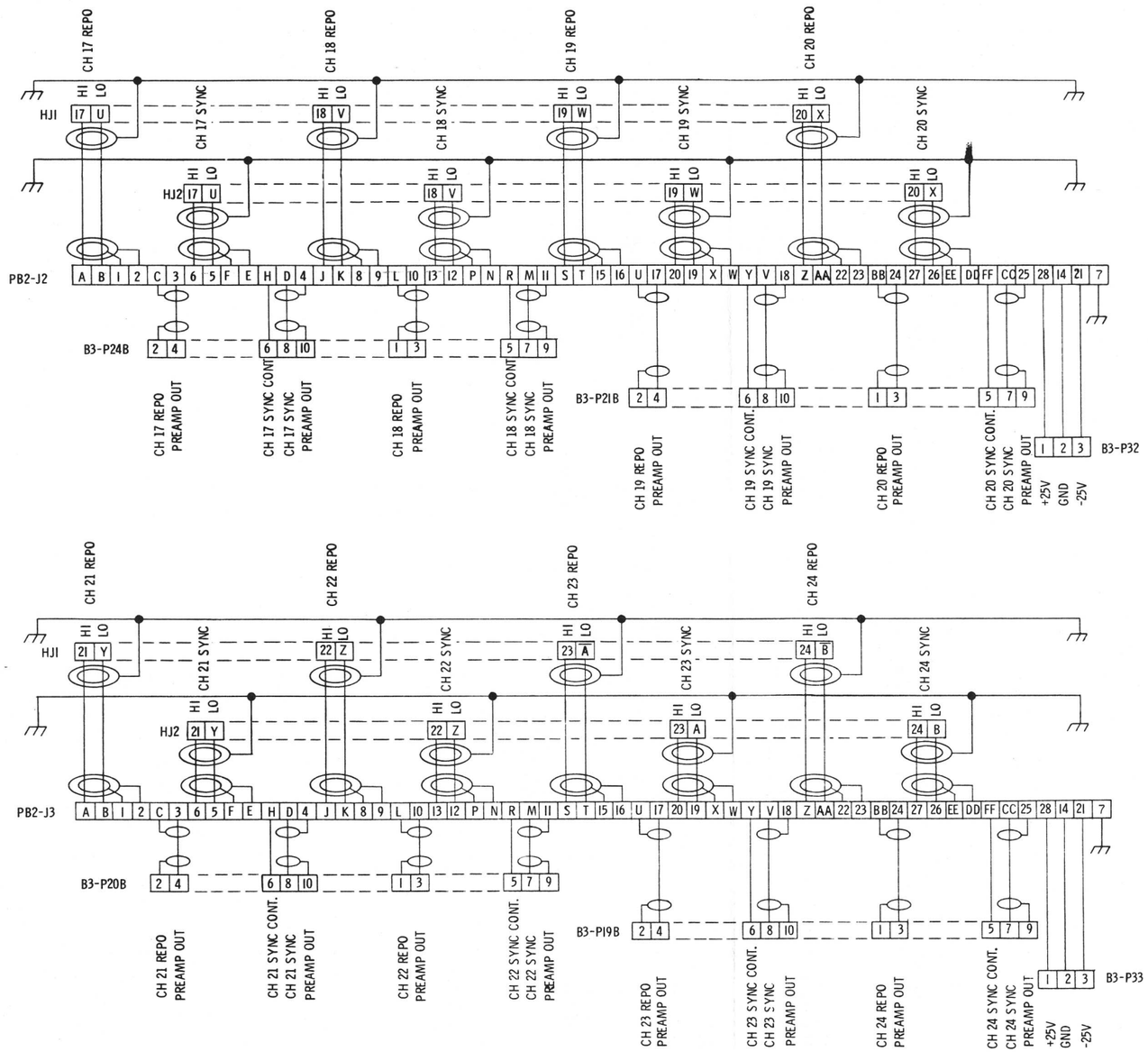


Schematic No. 4840508A.
Head Cable and Connector Assembly
(Sheet 1 of 5)

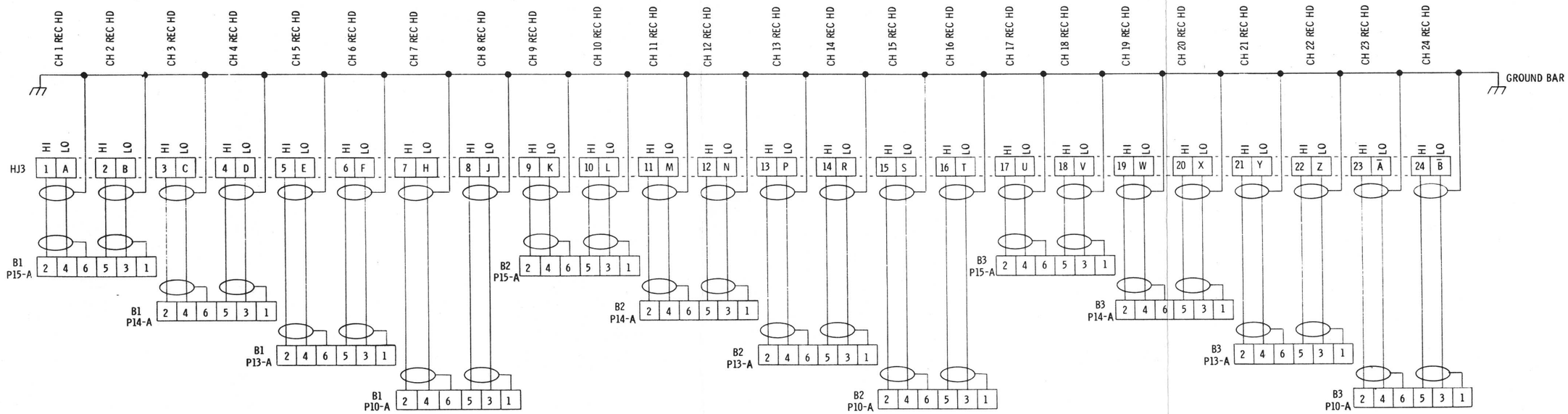


D C B A

Schematic No. 4840508A.
Head Cable and Connector Assembly
(Sheet 2 of 5)



Schematic No. 4840508A.
Head Cable and Connector Assembly
(Sheet 3 of 5)



Schematic No. 4840508A.
Head Cable and Connector Assembly
(Sheet 4 of 5)

Note: 2400 pf series resonating caps mounted on board for Saki erase head

Schematic No. 4840508A.
Head Cable and Connector Assembly
(Sheet 5 of 5)

9-11/9-12

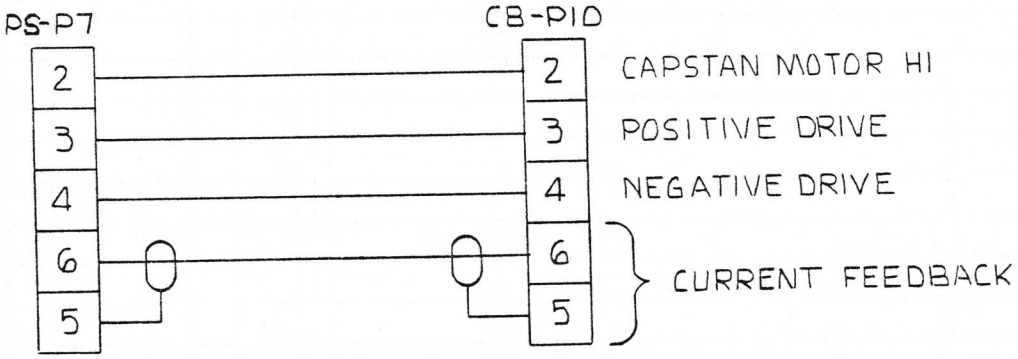
4030453-02 HEAD CABLE CONNECTOR BOX KIT REV. A

NEXT HIGHER ASSEMBLY 4050949

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER 01	02
1	4291014-01	PANEL, CABLE MOUNTING		1	1
2	4291015-01	COVER, CABLE CONNECTOR BOX		1	1
3	4330372-01	CONNECTOR BOX, HEAD CABLE MTG		1	1
4	4600186-01	SHIELD, HEAD CONN. BOX	REF: ITEM 3		2
5	4600187-01	SHIELD, HEAD CONN. SIDE	REF: ITEM 1		1
6	302-355	STRAP ACCESSORIES, MTG PLATE		8	8
7	302-388	STRAP, CABLE, TIE WRAP, 6.75 LG		8	8
8	4600188-01	SHIELD, HEAD CONN. COVER	REF: ITEM 2		1
9	471-068	SCREW, PHD.X -REC. 6-32 X .31LG		8	8
10	473-330	SCREW, ASS. WASHER PHD 6-32 X .25LG		12	12
11	225-475	TAPE, ADHESIVE, DOUBLE SIDED			A/R
12	498-359	LOCKING NUT, HEX, ASSY WASHER 6-32		8	8
13					
14	501-009	WASHER, FLAT, 6-32		20	20
15	501-188	WASHER, FLAT, # 6, SM, PATTERN		8	8

LM-1 30453

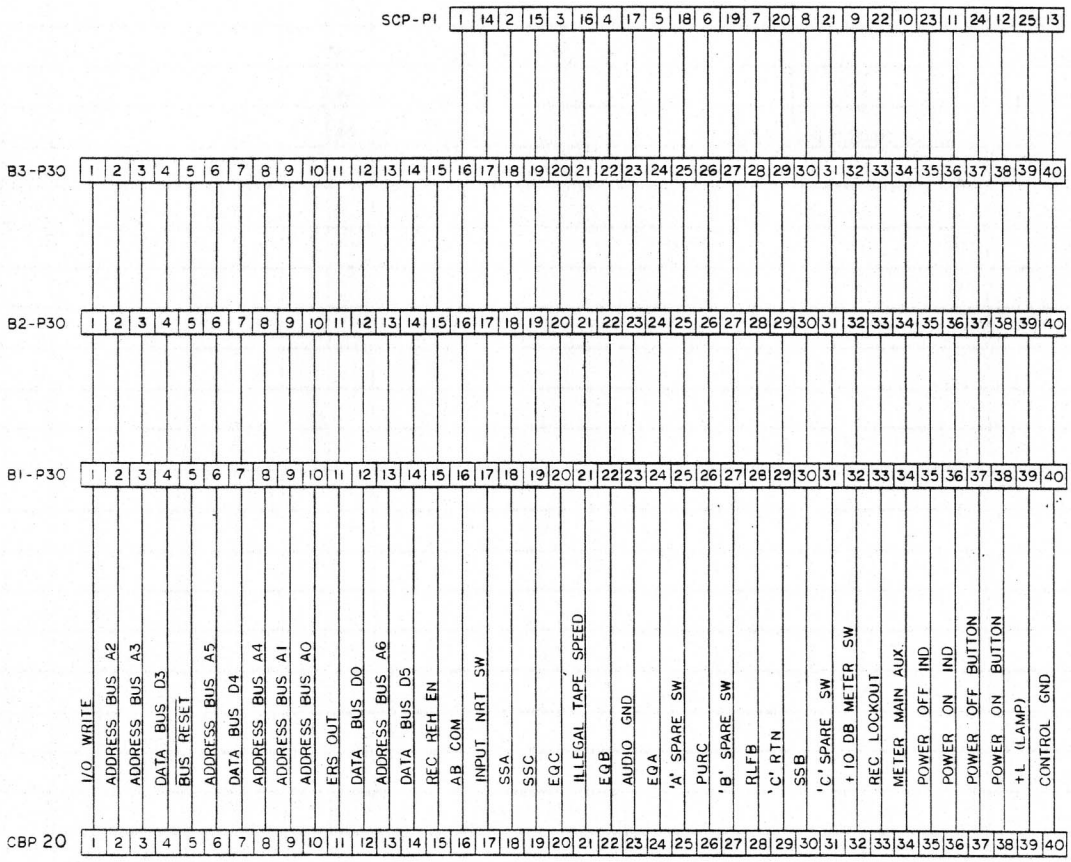
ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02
1					
2	4840575	SCHEMATIC			A
3					
4					
5					
6	167-706	CONNECTOR, 6 POSITION PIN HOUSING		1	1
7	167-725	CONTACT, PIN		6	5
8	167-707	CONNECTOR, 6 POSITION, SOCKET HOUSING		1	1
9	167-726	CONTACT, SOCKET		6	5
10					
11					
12	614-930	CABLE, SHIELDED, 24 AWG WHT-BLK		A/R	A/R
13					
14		WIRE, 20 AWG		A/R	A/R
15					
16					
17					
18					
19		SLEEVING SHRINKABLE		A/R	A/R
20		SLEEVING FLEXIBLE TFE		A/R	A/R



4050955-01 AUDIO CONTROL HARNESS ASSEMBLY REV. D

NEXT HIGHER ASSEMBLY 4010334

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1	140-202	CONNECTOR PART, BODY, RIBBON CABLE, 40 POS. B(1-3)P30,CBP20		4
2	167-821	CONNECTOR PART, COVER, FOR 40 POS. CONN. REF: ITEM 1		4
3	616-623	RIBBON CABLE, 40 COND., GRAY		-
4	616-652	RIBBON CABLE, 40 COND., COLOR CODE		AR
5	140-303	CONNECTOR, 25 SOCKET	SCPP1	1
6				
7	167-806	CONNECTOR PART, PULL TAB, FOR 40 POS.CONN. REF: ITEM 1		4
8				
9	4840521	WIRING DIAGRAM		B



4050994-01 BIAS, ERASE AND TEST BUS HARNESS ASSEMBLY REV. C

NEXT HIGHER ASSEMBLY 4010340

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1				
2				
3	167-717	CONNECTOR		4
4	167-727	CONTACT		60
5				
6				
7				
8				
9	611-208	WIRE, 24 AWG BLK		AR
10				
11	614-931	CABLE SHIELDED 24 AWG	WHT-BRN	AR
12	614-932		WHT-RED	AR
13	614-933		WH T-ORN	AR
14	614-934		WHT-YEL	AR
15	614-935	CABLE SHIELDED 24 AWG	WHT-GRN	AR

LM-

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1	167-700		SOCKET HOUSING 3 POSITION		3
2	167-726		SOCKET		9
3					
4	171-061		CRIMP LUG		3
5					
6	616-756		CABLE SHIELDED AND JACKETED 2 CONDUCTOR		AR
7					
8			SLEEVING, PVC, SHRINKABLE		AR

LM-

4010300-03 MISCELLANEOUS PARTS KIT REV. F
NEXT HIGHER ASSEMBLY 4010334

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03
1	4051052-01	PWA- EXTENDER BOARD, 100 PINS		1	1	1
2	4050800-01	PWA- EXTENDER BOARD, 56 PINS		1	1	1
3	4030467-01	SET-UP CONTROL PANEL, SERVICE FIXTURE		2	2	2
4	616-614	CABLE ASSY, INTERCONNECT 8". SET-UP PANEL	J13,J14		-	2
5	28050-04	REEL, EMPTY 2"		1	1	1
6						
7	4890432	SERVICE DATA PACKAGE		1	1	1
8	4890425	PARTS LISTS AND SCHEMATICS				
9	145-702	CONNECTOR, 75 PIN, MATE TO ACCESSORY (W/HOOD)		1	1	1
10	167-597	HOOD KIT		1	-	-
11						
12						
13						
14						
15	360-478	ALIGNMENT TOOL		1	1	1
16						
17	360-422	TOOL, SCREWDRIVER SET, HEX		1	1	1
18						
19	167-724	CONNECTOR BODY, 5 POSITION		1	-	-
20	167-727	CONTACT		4	-	-
21	167-619	PLUG, KEYING		1	-	-
22						
23	167-648	NRT CONNECTOR BODY, 37 POSITION		1	1	1
24						
25	167-685	NRT CONNECTOR PINS		40	40	40
26	167-597	NRT HOOD KIT			1	1
27	360-470	NRT CONNECTOR PIN REMOVAL TOOL AMP. 91067-2		1	1	1
28						
29						
30						
31						

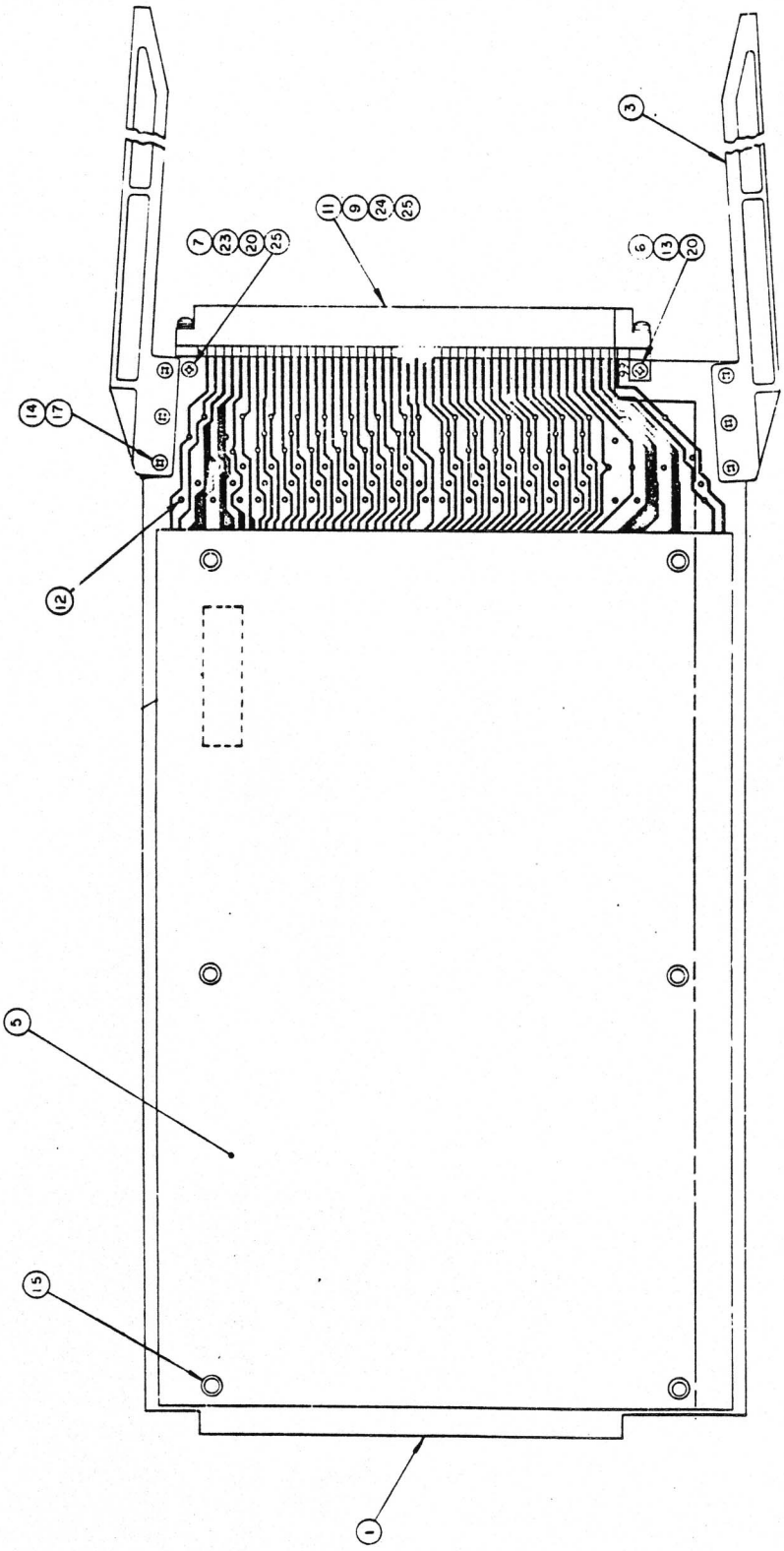
LM-4010300

4051052-01 100 PIN EXTENDER BOARD PWA REV. E

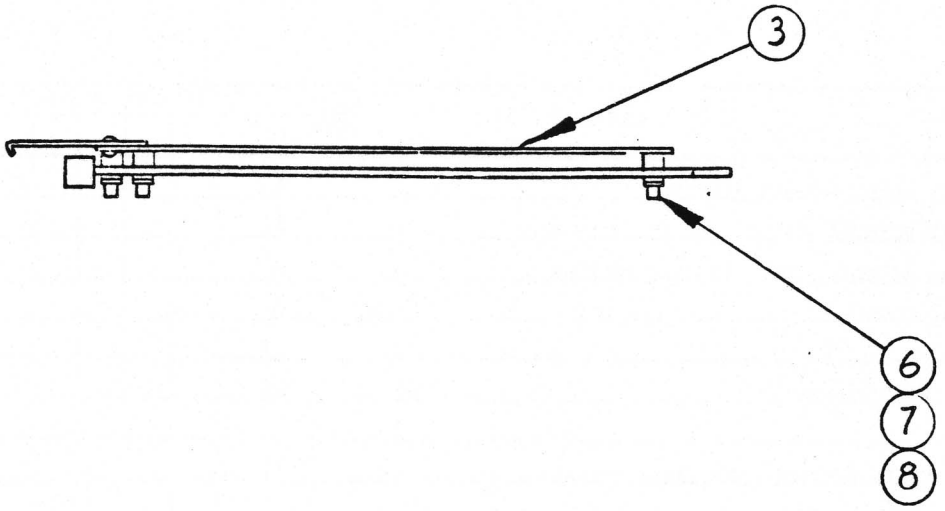
NEXT HIGHER ASSEMBLY 4010300

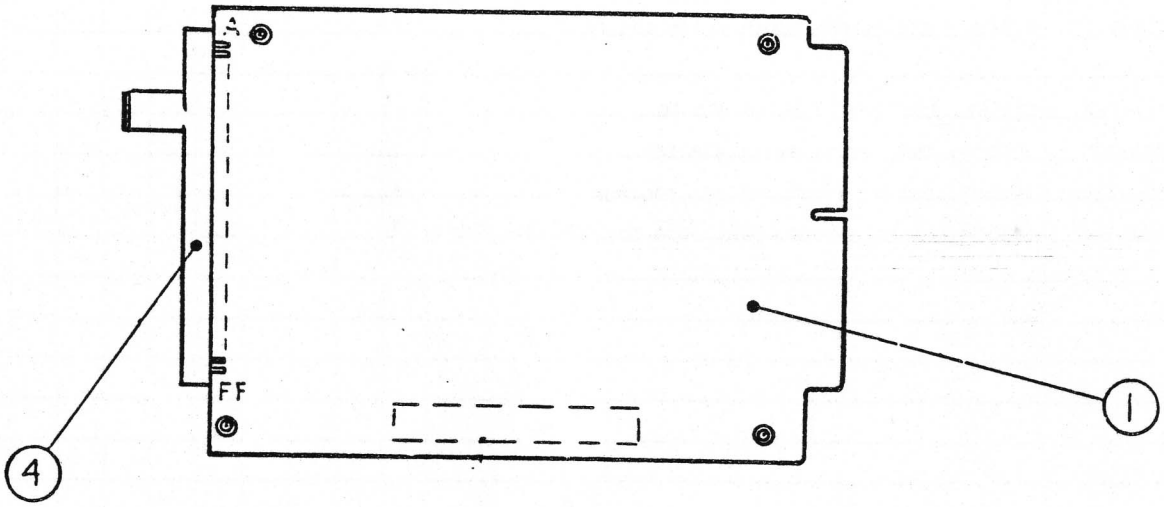
ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1					
2					
3	1373371-03		GUIDE, CARD EXTENDER		2
4	1373372-AB		SHIELD, EXTENDER BOARD		1
5	1373372-AA		SHIELD, EXTENDER BOARD		1
6	1367615-01		BLOCK, CONNECTOR MTG		1
7	1376530-01		BLOCK, CONNECTOR MTG.		1
8					
9	018-461		ADHESIVE THREAD LOCKING		A/R
10					
11	145-674		CONNECTOR, P.C., 100 PIN		1
12	173-510		TERMINAL STUD, TURRET		100
13	471-062		SCREW, MACHINE, XREC, PAN HD, 4-40 X .375		1
14	471-064		SCREW, MACHINE, XREC, PAN HD, 4-40 X .50		6
15	473-331		SCREW, MACHINE, XREC, PAN HD, W/ASSEM. WASHER 6-32 X .50		6
16					
17	493-005		NUT, SELF LOCKING, #4-40		6
18					
19					
20	502-002		WASHER, LOCK, HELICAL SPRING, #4		2
21					
22					
23	471-061		SCREW, MACHINE, EXREC, PAN HD, 4-40 X .312		1
24	471-063		SCREW, MACHINE, EXREC, PAN HD, 4-40 X .438		2
25	501-169		WASHER, PLAIN		3
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					

LM-4051052



Assembly No. 4051052-01E. 100 Pin Extender Board PWA





01	ITEM NO.	PART NUMBER		DESCRIPTION	
	1				
	2				
1	3	4041255-01	SHIELD ASSY, P.W.B. EXTENDER		
1	4	139-842	CONN , P.C. , 28 PIN DUAL		
	5				
4	6	470-009	SCREW , CAP , HEX SOC. , 4-40 × .31 LG		
4	7	501-169	WASHER , FLAT , #4 , SMALL PATTERN		
4	8	502-002	WASHER , LOCK , SPLIT , #4		

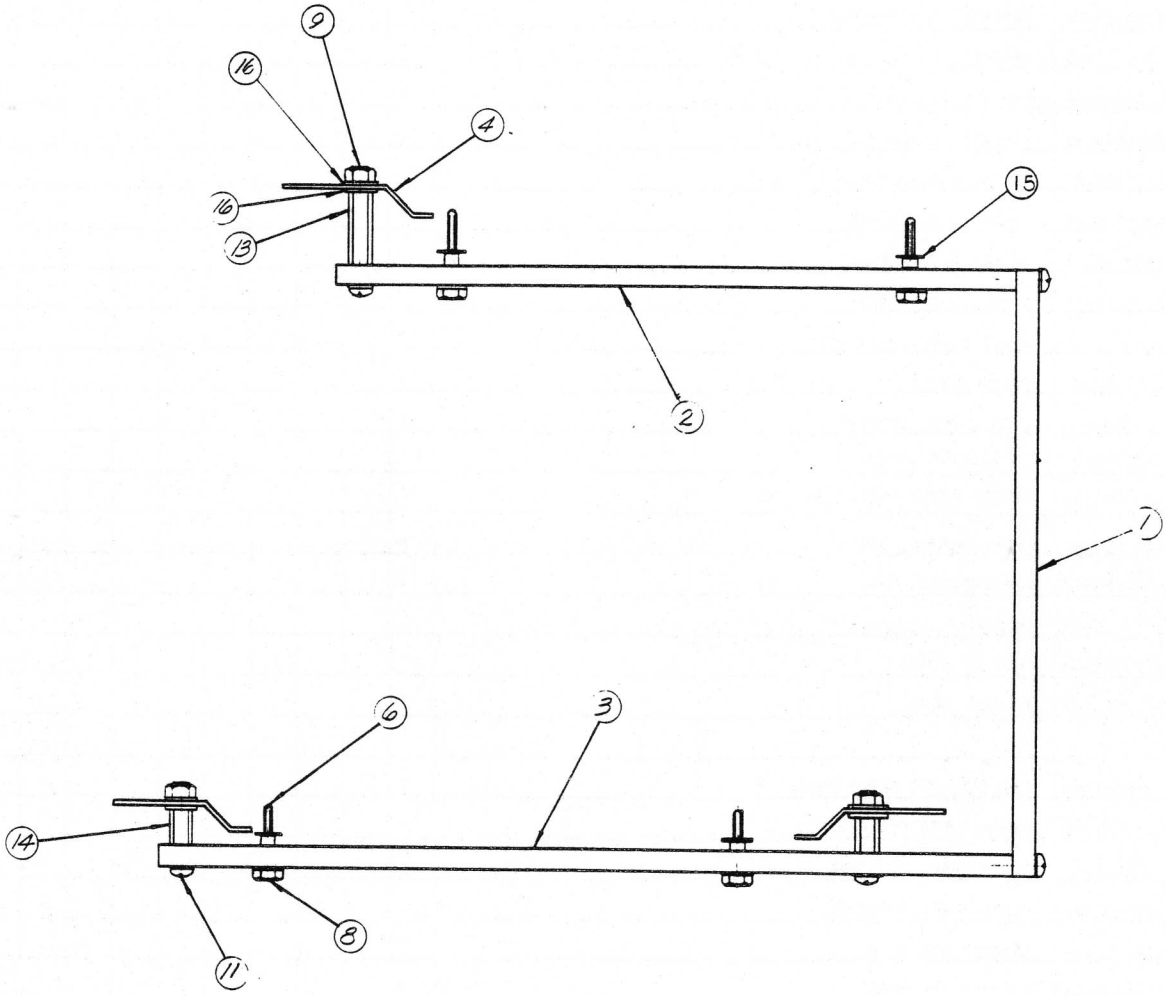
Assembly No. 4050800-01D. 56 Pin Extender Board PWA

4030467-01 SERVICE FIXTURE SET-UP CONTROL PANEL REV. D

NEXT HIGHER ASSEMBLY 4010300

ITEM NO.	PART NUMBER	D	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1	4330389-01		BASE, SERVICE FIXTURE		1
2	4260659-01		SUPPORT, FRONT, SERVICE FIXTURE		1
3	4260660-01		SUPPORT, REAR, SERVICE FIXTURE		1
4	4600182-01		CLAMP, P.W.A.		3
5					
6	140-271		PLUG, BANANA		4
7					
8	496-006		NUT, LOCKING, HEX, ASSY WASHER, # 8		4
9	493-007		NUT, LOCKING, HEX # 8		3
10					
11	475-061		SCREW, MACH. ASSY, WASHER 8-32X.500 LG		5
12					
13	283-207		SPACER, THD, STUD: 8-32X.875 LG		1
14	283-209		SPACER, THD, STUD, 8-32X.438 LG		2
15	501-684		WASHER, PLAIN, NYLON, BLK, #6 .030 THK		4
16	503-310		WASHER, PLAIN, NYLON, BLK, .170 ID; .375 OD; .030THK		6
17					
18					
19					

LM-4030467



Assembly No. 4030467-01 D. Service Fixture Set-Up Control Panel

4020448-04 FRAME ASSEMBLY REV. P

NEXT HIGHER ASSEMBLY 4010334

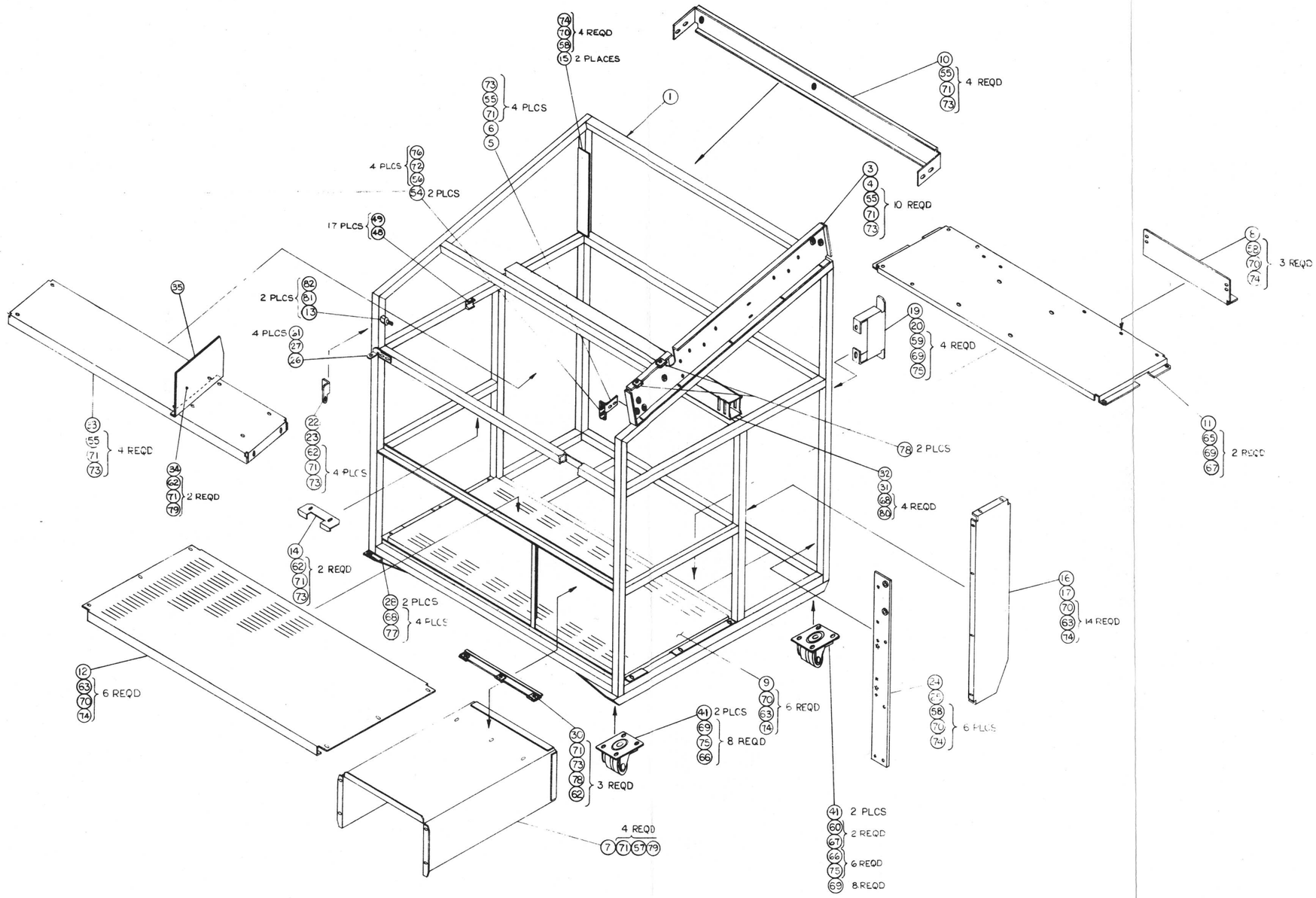
ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -04
1				
2	4291018-05	FRAME		1
3	4260614-AC	BRACKET, CHASSIS MTG		1
4	4260614-AD	BRACKET, CHASSIS MTG		1
5	4260616-AA	BRACKET, LATCH MTG		1
6	4260616-AB	BRACKET, LATCH MTG		1
7	4291026-01	COVER, SHIELD POWER SUPPLY		1
8	4260619-01	BRACKET, SLIDE MTG		1
9	4330378-01	PLATE, BOTTOM FRAME		1
10	4260615-01	BRACKET UPPER REAR		1
11	4330379-01	PLATE TRANSFORMER MTG		1
12	4330380-02	PLATE CENTER		1
13	4120406-01	STUD, HINGE SUPPORT		2
14	4120046-02	CATCH,DOOR LATCH		1
15	4291095-02	PLATE, UPPER PANEL MOUNTING		2
16	4291038-AC	TRAY, HARNESS MTG		1
17	4291038-AD	TRAY HARNESS MTG		1
18	4291025-02	CHASSIS, CONTROL PANEL		1
19	4130067-AA	BUMPER, REAR		1
20	4130067-AB	BUMPER, REAR		1
21				
22	4260621-AA	BRACKET, MTG METER PANEL		1
23	4260621-AB	BRACKET MTG METER PANEL		1
24	4330377-AC	PLATE PANEL MOUNTING		1
25	4330377-AD	PLATE PANEL MOUNTING		1
26	4260622-AA	BRACKET MTG DOOR		1
27	4260622-AB	BRACKET MTG DOOR		1
28	4330353-02	PLATE DOOR HINGE		2
29				
30	4600180-01	CLAMP SHIELD COVER		1
31	4291089-01	COVER WIRING DUCT		1
32	4291090-01	DUCT WIRING		1
33	4291025-03	CHASSIS CONTROL PANEL		1
34	4600192-02	SHIELD OUTSIDE SET-UP PANEL		1
35	4600193-02	SHIELD INSIDE SET-UP PANEL		1
36				
37				

LM-

AMPEX	CODE IDENT NO. 92739	LIST OF MATERIALS	LM- 4020448 SHEET 2	REV P

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -04
38				
39				
40	082-053	CASTER, SWIVEL		4
41				
42				
43				
44				
45				
46				
47				
48	302-443	STRAP ACCESSORIES, MTG BASE		17
49	460-587	RIVET BLIND DOME HD .156 DIA .188/.250 GRIP		17
50				
51				
52				
53				
54	310-694	CATCH PART BALL TENSION STRIKE		2
55	470-027	SCREW, CAP HEX SOC 8-32 X .375 LG		22
56	471-328	SCREW, FLAT HD XREC 4-40 X .375 LG		4
57	471-345	SCREW, FLAT HD XREC 8-32 X .375 LG		4
58	470-038	SCREW, CAP HEX SOC 10-32 X .50 LG		13
59	470-051	SCREW, CAP HEX SOC 1/4-20 X 1.50LG		4
60	470-117	BOLT MACH HEX HD 1/4-20 X .875LG		2
61	473-703	SCREW CAP BUTT HD BLK OX 8-32 X .375 LG		4
62	471-078	SCREW PAN HD XREC #8-32 X .375LG		11
63	471-087	SCREW PAN HD XREC #10-32 X .375LG		26
64				
65	480-095	SCREW BOLT HEX HD 1/4-20 X .625 LG		2
66	480-096	BOLT MACH HEX HD 1/4-20 X .750LG		14
67	496-009	NUT,LKG,HEX ASSEM WASH 1/4-20		4
68	501-009	WASHER, FLAT #6		8
69	501-067	WASHER FLAT 1/4		22
70	501-070	WASHER FLAT #10		39
71	501-205	WASHER FLAT #8		35
72	501-008	WASHER FLAT #4		4
73	502-004	WASHER LOCK HELICAL SPRING #8		31
74	502-005	WASHER LOCK, HELICAL SPRING #10		39
75	502-006	WASHER LOCK HELICAL SPRING 1/4		18
76	496-004	NUT LKG HEX ASSEM WASHER #4		4
77	496-005	NUT LKG HEX ASSEM WASHER #6		4
78	498-600	NUT SHEET SPRING 8-32		7
79	496-006	NUT LKG HEX ASSEM WASHER #8		6
80	475-058	SCREW, ASSEM WASHER PAN HD XREC 6-32 X .375LG		4
81	493-005	NUT LKG HEX 4-40		2
82	501-008	WASHER FLAT #4		2

LM-



Assembly No. 4020448-04P.
Frame Assembly

4030463-01 SPEAKER ASSEMBLY REV. B

NEXT HIGHER ASSEMBLY 4010334

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1	4260647-01	BRACKET, SPEAKER MTG		1
2				
3				
4				
5				
6	4840589	SCHEMATIC, SET UP PANEL		REF
7				
8				
9	104-028	SPEAKER		1
10	058-507	POTENTIOMETER, 100 Ω 1/2W	R1	1
11	230-144	KNOB, ROUND		1
12	167-823	CONNECTOR BODY, 6 POSITION AMP 1-87499-1		1
13	167-619	PLUG, KEYING		1
14	167-727	CONTACT		5
15		WIRE, 24 AWG		AR
16				
17	496-006	NUT, KEP, 8-32		4
18				
19	501-205	WASHER #8		4

LM-

4030455-03 CIRCUIT BREAKER ASSEMBLY REV. G

NEXT HIGHER ASSEMBLY 4010334

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -02	-03
1	4291031-02	BOX, CIRCUIT BREAKER		1	-
2	4291032-01	COVER		1	1
3	4210418-01	ROD		1	1
4	1376716-02	BRACKET, ROD		1	1
5	4291033-01	PANEL, FRONT		1	1
6	126-360	CIRCUIT BREAKER	CB 1	1	1
7	171-016	LUG, CRIMP		8	8
8	302-536	CLAMP, CABLE		1	1
9	473-330	SCREW, SEM. 6-32X.250		6	6
10	4840499	SCHEMATIC, DIAGRAM POWER SUPPLY		REF	(-)
11	250-212	SHOCK, MOUNT		1	1
12	265-025	GROMMET, BUSHING FLANGED SNAP		1	1
13	496-005	KEP NUT # 6-32		1	1
14	408-267	PIN, CLEVIS .124 DIA, 1.00 LG.		1	1
15	401-007	PIN, COTTER .063 DIA, .50 LG.		1	1
16	619-219	WIRE, STRANDED, 12 GA CD569, BLK		A/R	A/R
17	619-221	WIRE, STRANDED, 12 GA, CD569, RED		A/R	A/R
18	619-224	WIRE, STRANDED, 12 GA, CD569, GREEN		A/R	A/R
19	619-225	WIRE, STRANDED, 12 GA, CD569, BLUE		A/R	A/R
20	474-557	SCREW, W/WASHER, 8-32 X .312	1	-	4
21	501-175	WASHER, FLAT, #8, NI/BR	1	-	4
22	4840588	SCHEMATIC, POWER SUPPLY			REF
23	471-080	SCREW, PAN HD, 8-32 X .500	REF: CB1-GND		1
24	496-006	NUT, LOCKING, HEX, ASSEM. WASHER, 8-32			1
25	4291031-03	BOX, CIRCUIT, BREAKER			1

NOTES:

1. REPLACES EXISTING HARDWARE, CB1
   PRETORQUE TO 20 IN/LB. BACK OFF & RESET TO 15 IN/LB.

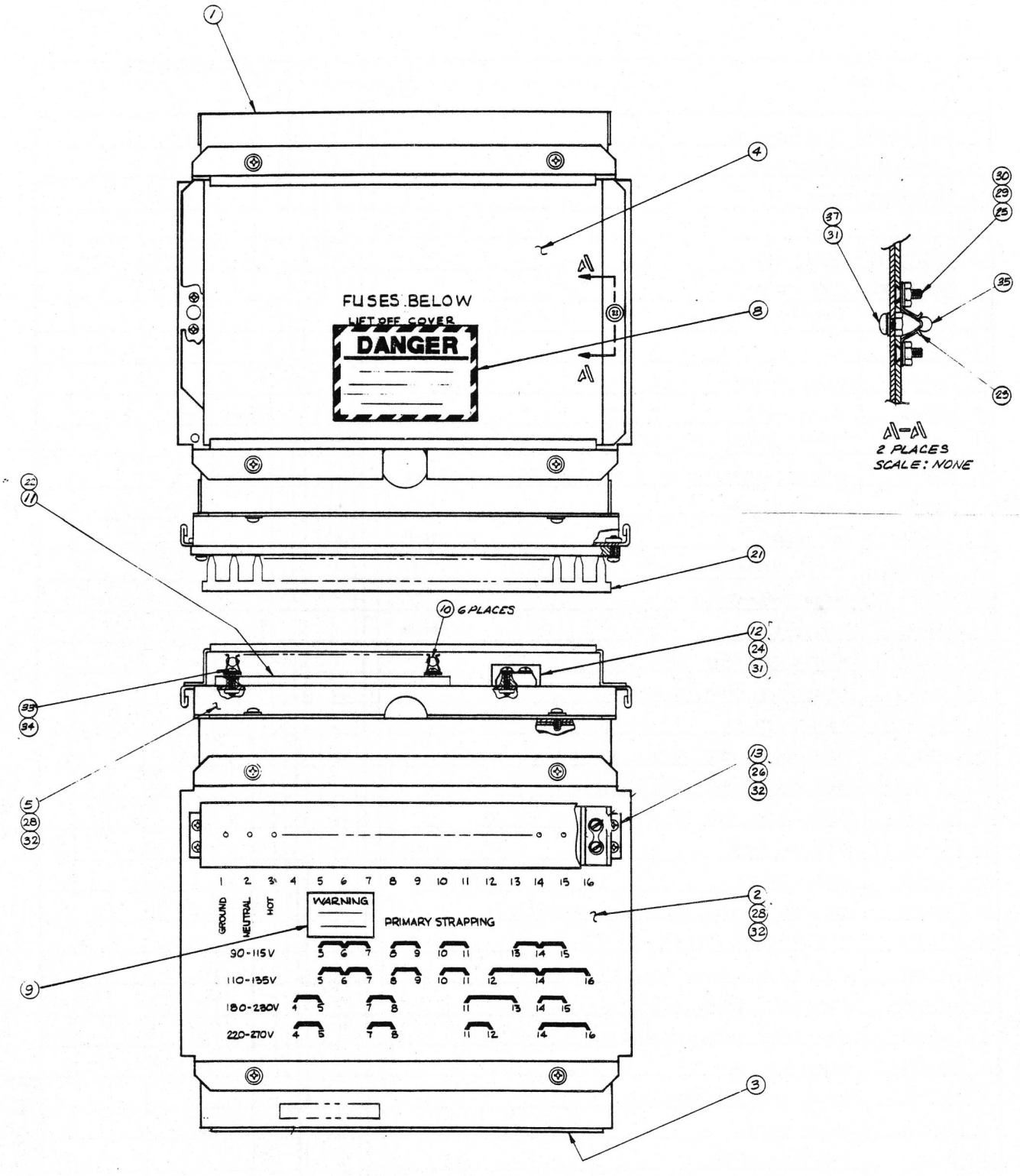
LM-4030455

4030456-04 POWER TRANSFORMER ASSEMBLY REV. U

NEXT HIGHER ASSEMBLY 4010334

ITEM NO.	PART NUMBER	E	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -02	-03	-04
1	4291076-01		SHIELD, TRANSFORMER		1	1	1
2	4291022-01		CHASSIS		1	1	1
3	4580069-01		TRANSFORMER, POWER	T2	1	1	1
4	4291078-01		COVER, FUSE, BLOCK		1	1	1
5	4291040-02		CHASSIS, FUSE BLOCK		1	1	1
6	4051049-01		JUMPER,STRAPING		2	2	2
7	4840499		SCHEMATIC, POWER SUPPLY		E	REF	-
8	4170377-01		LABEL, DANGER		1	1	1
9	4170341-02		LABEL, WARNING		1	1	1
10	070-396		FUSE, 25 AMP FAST BLOW		6	6	6
11	070-428		BLOCK, FUSE,6 POLE		1	1	1
12	181-062		BARRIER STRIP 4 TERM	TB2		—	1
13	181-063		BARRIER STRIP 16 TERM	TB1		—	1
14	4840588		SCHEMATIC, POWER SUPPLY				REF
15	171-202		LUG, CRIMP, 8 STUD, 12-10 GA WIRE		21	21	21
16	171-007		LUG, CRIMP, 10 STUD, 14-16 GA WIRE		10	10	10
17							
18	180-141		BARRIER STRIP, 4 TERM	TB2	1	1	-
19	180-210		BARRIER STRIP 16 TERM	TB1	1	1	-
20	180-599		JUMPER, BARRIER STRIP		6	6	6
21	181-030		COVER, BARRIER STRIP		1	1	1
22	471-337		MACHINE SCREW, 6-32 X .43 LG FL HD		4	2	2
23	310-605		RECEIVER, STUD		2	2	2
24	475-062		SCREW,SEM,6-32X .625 LG, PAN HD		4	4	4
25	471-327		SCREW, FLAT HD, 82°, XREX, 4-40 X .312 LG		4	4	4
26	473-333		MACHINE SCREW 8-32 X .75 LG		4	4	4
27							
28	475-061		MACHINE SCREW 8-32 X .500 LG		4	8	8
29	496-004		NUT, LOCKING, HEX, ASSEM, WASH, #4-40		4	4	4
30	501-008		WASHER, FLAT, #4		4	4	4
31	501-009		WASHER, FLAT, #6		4	6	6
32	501-205		WASHER, FLAT #8		12	12	12
33	474-557		SCREW W/WASHER #8-32 X 5/16 NI/BR	REF: ITEM 11		—	12
34	501-175		WASHER FLAT #8 NI/BR	REF: ITEM 11		—	12
35	310-788		STUD, BALL, 6-32 MTG.HOLE			2	2
36			WIRE, 14 GA		A/R	A/R	A/R
37	473-330		SCREW,SEM,6-32X .25 LG,PAN HD			2	2

LM-4030456



Assembly No. 4030456-04U. Power Transformer Assembly

4051053-06 POWER RELAY ASSEMBLY REV. M

NEXT HIGHER ASSEMBLY 4010334

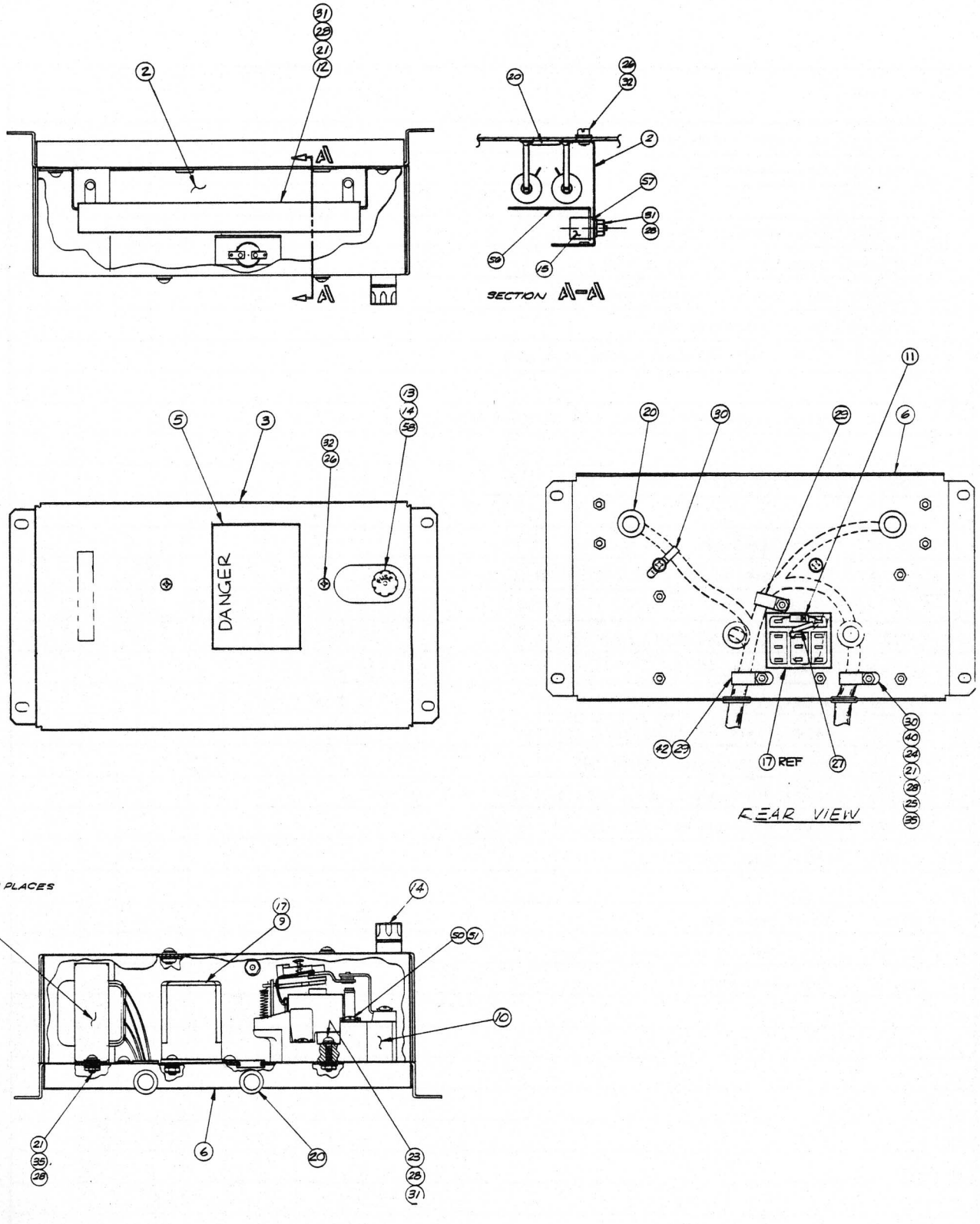
ITEM NO.	PART NUMBER	E	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06
1	4330391-01		PLATE - CHASSIS		1	1	1	1	1	-
2	4260665-01		BRACKET-FUSE		1	1	1	1	1	1
3	4291082-01		COVER		1	1	1	1	1	1
4										
5	4170377-01		LABEL DANGER		1	1	1	1	1	1
6	4330391-02		PLATE - CHASSIS							1
7	4840588		SCHEMATIC, POWER SUPPLY							REF
8										
9	020-566		RELAY, TIME DELAY	K2	1	1	1	1	1	1
10	020-901		RELAY, POWER	K1	1	1	1	1	1	1
11	581-294		DIODE, ZENER, 24V, IN4749A	VR1	-	-	-	1	1	1
12	059-734		RESISTOR, WIREWOUND, 100W, 4 OHM	R1,2	2	2	2	2	2	2
13	070-011		FUSE, D. 5A, FB	F1	-	1	1	1	1	1
14	085-001		FUSE HOLDER	REF:F1	1	1	1	1	1	1
15	119-750		SWITCH, THERMAL N.O., 105°C	S1	-	1	1	1	1	1
16	119-431		SWITCH, THERMAL	S1	1	-	-	-	-	-
17	150-260		SOCKET, RELAY	REF:K2	1	1	1	1	1	1
18	171-006		TERMINAL LUG, CRIMP, 22-18 GA		4	4	4	4	4	4
19	171-007		TERMINAL LUG, CRIMP, 16-14 GA		14	14	14	14	14	14
20	260-013		GROMMET, .375 ID		5	5	5	5	5	6
21	471-069		SCREW, PAN HD, XREC, #6-32 X .375 LG		8	8	8	8	8	9
22	471-070		SCREW, PAN HD, XREC, #6-32 X .438 LG		1	1	1	1	1	-
23	471-073		SCREW, PAN HD, XREC, #6-32 X .75 LG		1	1	1	1	1	2
24	167-707		CONNECTOR, 6 POS	PS P11	-	1	1	1	1	1
25	167-726		CONTACT, SOCKET	REF: PS P11	6	6	6	6	6	6
26	475-053		SCREW, PAN HD, XREC, ASSEM WASH., #6-32X.375 LG		4	4	4	4	4	4
27	041-336		RESISTOR, CARBON .470 OHM, 5%, 1/2W,	R3	-	-	-	1	1	1
28	496-005		NUT, LKG, HEX., ASSEM. WASH., # 6-32		13	13	13	13	13	13
29	302-088		CLAMP, CABLE, NYLON, .50 CABLE DIA		3	3	3	3	3	2
30	302-160		CLAMP, CABLE, NYLON, .25 CABLE DIA		1	1	1	1	1	2
31	501-009		WASHER, FLAT, #6		13	13	13	13	13	13
32	501-188		WASHER, FLAT, SMALL PATT., # 6		4	4	4	4	4	4
33	506-013		WASHER, "D", #6		4	4	4	4	4	-
34	560-482		TRANSFORMER, MEMORY	T1	1	1	1	1	1	1
35	506-027		WASHER, "D", #6							4
36			WIRE, 22 AWG , TEF INSULATION		AR	AR	AR	AR	A/R	A/R
37			WIRE, 14 AWG , TEF INSULATION		AR	AR	AR	AR	A/R	A/R

LM-4051053

AMPEX | Ampex Corporation REDWOOD CITY, CALIFORNIA	CODE IDENT NO. 92739	LIST OF MATERIALS	LM-4051053 SHEET 2	REV M

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01	-02	-03	-04	-05	-06
38									
39	615-002	WIRE, BARE, #22 AWG		A/R	AR	A/R	A/R	A/R	A/R
40	600-007	SLEEVING, PVC, FLEXIBLE, BLK, .263 ID							A/R
41	600-056	SLEEVING, PVC, FLEXIBLE, BLACK, .628 ID		A/R	AR	A/R	A/R	A/R	-
42	600-048	SLEEVING, PVC, FLEXIBLE, BLACK, .375 ID		A/R	AR	A/R	A/R	A/R	A/R
43	600-093	SLEEVING, SHRINKABLE, BLACK, .375 ID		A/R	AR	A/R	A/R	A/R	-
44	600-150	SLEEVING, SHRINKABLE, CLEAR, .250 ID		A/R	AR	A/R	A/R	A/R	A/R
45									
46	302-335	STRAP, CABLE		9	9	9	9	9	9
47									
48	471-071	SCREW, PAN HD. XREC, #6-32 X .500 LG		1	1	1	1	1	—
49	471-074	SCREW, PAN HD, XREC, #6-32 X .875 LG		1	1	1	1	1	1
50	474-557	SCREW, PAN HD., W/WASHER, 8-32 X .312 LG							4
51	501-175	WASHER, FLAT, # 8 SMALL PATTERN							4
52	041-885	RESISTOR, COMP. 200 OHMS, 1W, 5%	R3	-	1	-	-	-	-
53	581-763	DIODE, ZENER 24V, 5%, 3W, IN5075, VR1		-	1	1	-	-	-
54	180-027	TERMINAL STRIP	TB3	-	1	1	1	-	-
55	087-388	HEATSINK COMPOUND	REF: S1						A/R
56	4260694-01	BRACKET, HEAT SENSOR							1
57	502-593	WASHER, FIBER							1
58	502-091	WASHER, LOCK, INT. TOOTH .512 MIN ID	REF: F1						1

LM-4051053



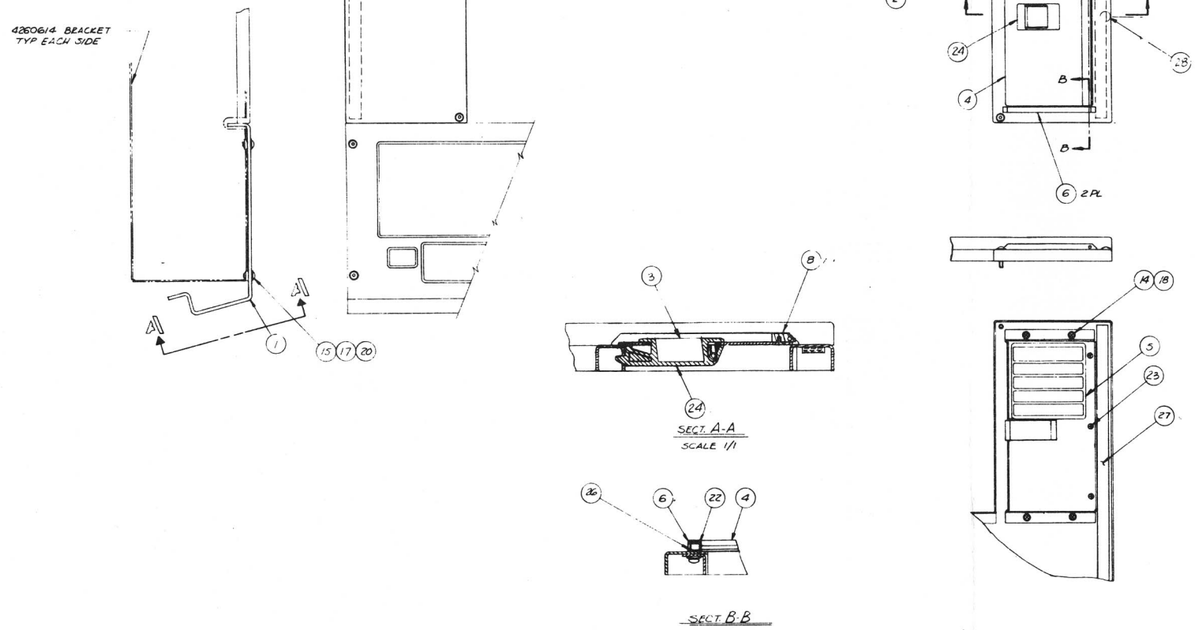
Assembly No. 4051053-06M. Power Relay Assembly

4030451-01 TRANSPORT TRIM KIT REV. E

NEXT HIGHER ASSEMBLY 4010334

ITEM NO.	PART NUMBER	E	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1	4041327-01		ESCUTCHEON CONTROL PANEL ASSEMBLY		1
2	4119312-01		TRIM, TRANSPORT		1
3					
4	4291067-01		DOOR, SECONDARY CONTROL PANEL		1
5	4170357-01		LABEL, SECONDARY CONTROL DOOR		1
6	4210434-01		BAR, SIDE, CONTROL PANEL DOOR		2
7	4260623-01		BRACKET, TRANSPORT TRIM		1
8	4291068-01		STRIP, PIVOT, SECONDARY CONTROL PANEL DOOR		1
9					
10	283-301		SPACER, THREADED, STUD, SST, 8-32 INT & EXT X .50 LG		4
11					
12	470-027		SCREW, CAP, HEX SOC, #8-32 X .38 LG		3
13					
14	473-324		SCREW, ASSM. WSHR, #4-40 X .25 LG		4
15	473-703		SCREW, BUTT. HD., HEX SOC, #8-32 X .31 LG, BLK OX		11
16					
17	498-600		NUT, SHEET SPRING EDGE CLIP"U",#8-32		4
18	501-008		WASHER, PLAIN, #4		4
19	501-205		WASHER, PLAIN, #8		3
20	503-310		WASHER, PLAIN, #8, NYLON BLK., .031 THK		11
21	502-004		WASHER, LOCK, HELICAL SPRING, #8		3
22	502-551		WASHER, PLAIN, NYLON, BLK, .108 I.D. X .247 O.D. X .015 THK		2
23	473-987		SCREW, MACH, FLAT HD., XREC, #4-40 X .19 LG, BLK OX		2
24	310-859		LATCH, SLIDE, FLUSH STYLE		1
25					
26	087-057		GREASE, MOLYLUBE		A/R
27	225-485		TAPE, ADHESIVE, SING. SIDE, NEOPRENE, .50 W X .06 THK		A/R
28	250-188		BUMPER PAD, RUBBER		1
29					
30					
31					
32					
33					
34					
35					
36					
37					

LM-4030451



Assembly 4030451-01E.
Transport Trim Kit

4030452-01 CONSOLE TRIM KIT REV. F

NEXT HIGHER ASSEMBLY 4010334

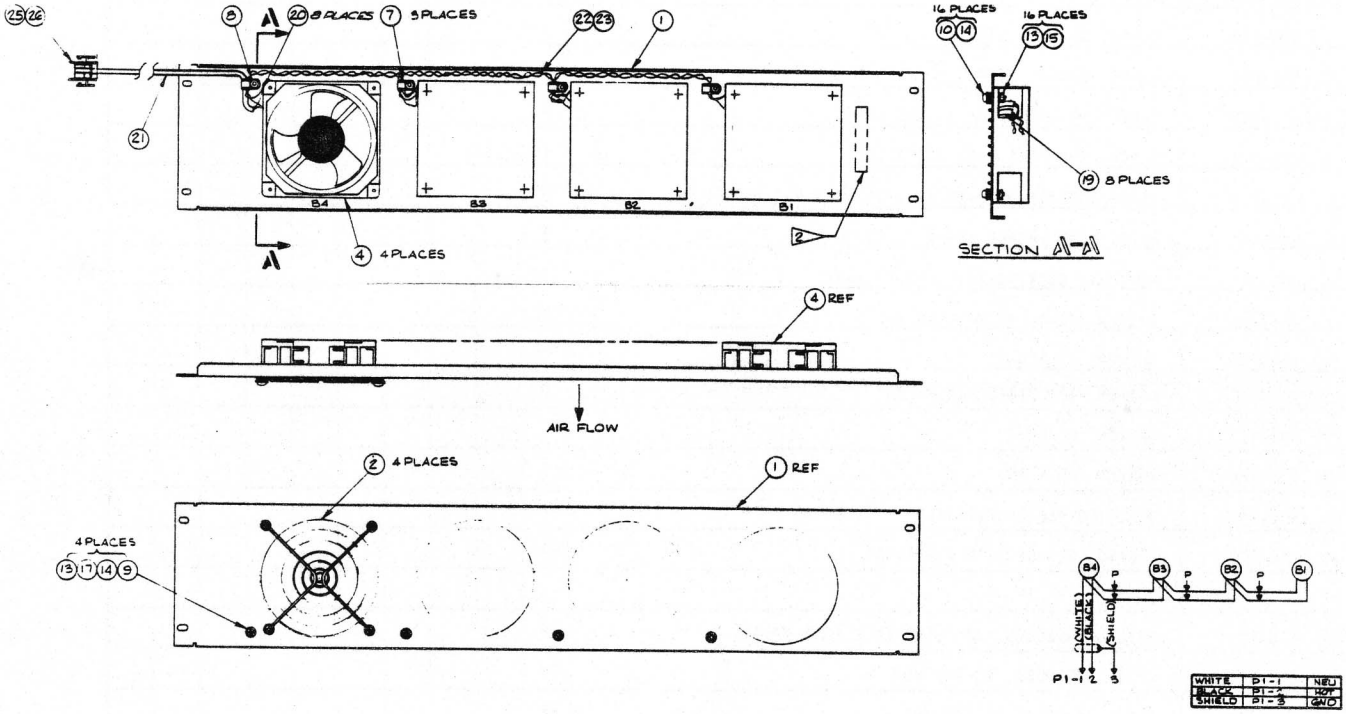
ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1	4291028-AA	PANEL, SIDE		1
2	4291028-AB	PANEL, SIDE		1
3				
4	4150385-AA	DOOR, FRONT		1
5	4150385-AB	DOOR, FRONT		1
6	4291098-01	PANEL, REAR, UPPER		1
7	4291030-02	PANEL, REAR, LOWER		1
8	4120028-01	DOOR STOP MODIFICATION		2
9	4291097-01	PANEL, FILLER , REAR		1
10	4600174-01	CLIP, MTG, SIDE PANEL		4
11				
12	250-155	BUMPER, PAD .140 HG: .500 DIA		2
13	310-745	CATCH , PADDLE		2
14				
15				
16	470-038	SCREW, CAP, HEX SOC 10-32 X .50LG		8
17	473-935	SCREW, PAN HD XREC W/CAP WASH BLK #10-32 X .50LG		13
18	470-531	SCREW, CAP, BUTT, HD, HEX SOC DRIVE, 10-32 X .50 LG		8
19	471-336	SCREW, FLAT HD, 82° ,XREC #6-32 X .375LG		4
20	501-009	WASHER, PLAIN #6		4
21	501-070	WASHER, FLAT #10		8
22	496-005	NUT, LKG, HEX, ASSEM WASHER #6		4
23	502-004	WASHER, LOCK, HELICAL SPRING #10		8

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UPPER COOLING SYSTEM
NEXT HIGHER ASSEMBLY 4010334

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -02
1	4260600-03	PANEL, FAN		1
2	591-207	GUARD, FAN		4
3				
4	591-053	FAN		4
5				
6				
7	302-308	CLAMP, CABLE, .188 DIA		3
8	302-160	CLAMP, CABLE, .250 DIA		1
9	471-069	SCREW, PAN HD, XREC 6-32 X .375 LG		4
10	471-073	SCREW, PAN HD, XREC .6-37 X .750 LG		16
11				
12				
13	496-005	NUT, HEX LOCKING ASSY WASHER 6-32		20
14	501-188	WASHER, FLAT SM PATTERN 6-32		20
15	501-009	WASHER, FLAT 6-32		16
16				
17	506-027	WASHER, :"D" #6		4
18	600-320	SLEEVING TEFLON FLEXABLE .032 ID		AR
19	600-090	TUBING, SHRINK 3/16 DIA BLK		AR
20	187-223	TERMINAL, QUICK CONNECT, FEMALE		8
21	616-756	CABLE, SHIELDED AND JACKETED 2 COND 20 GA		AR
22	611-256	WIRE, STRANDED 20 AWG, BLK		AR
23	611-607	WIRE, STRANDED 20 AWG WHT		AR
24				
25	167-711	HOUSING, 3-PIN		1
26	167-725	PIN		3

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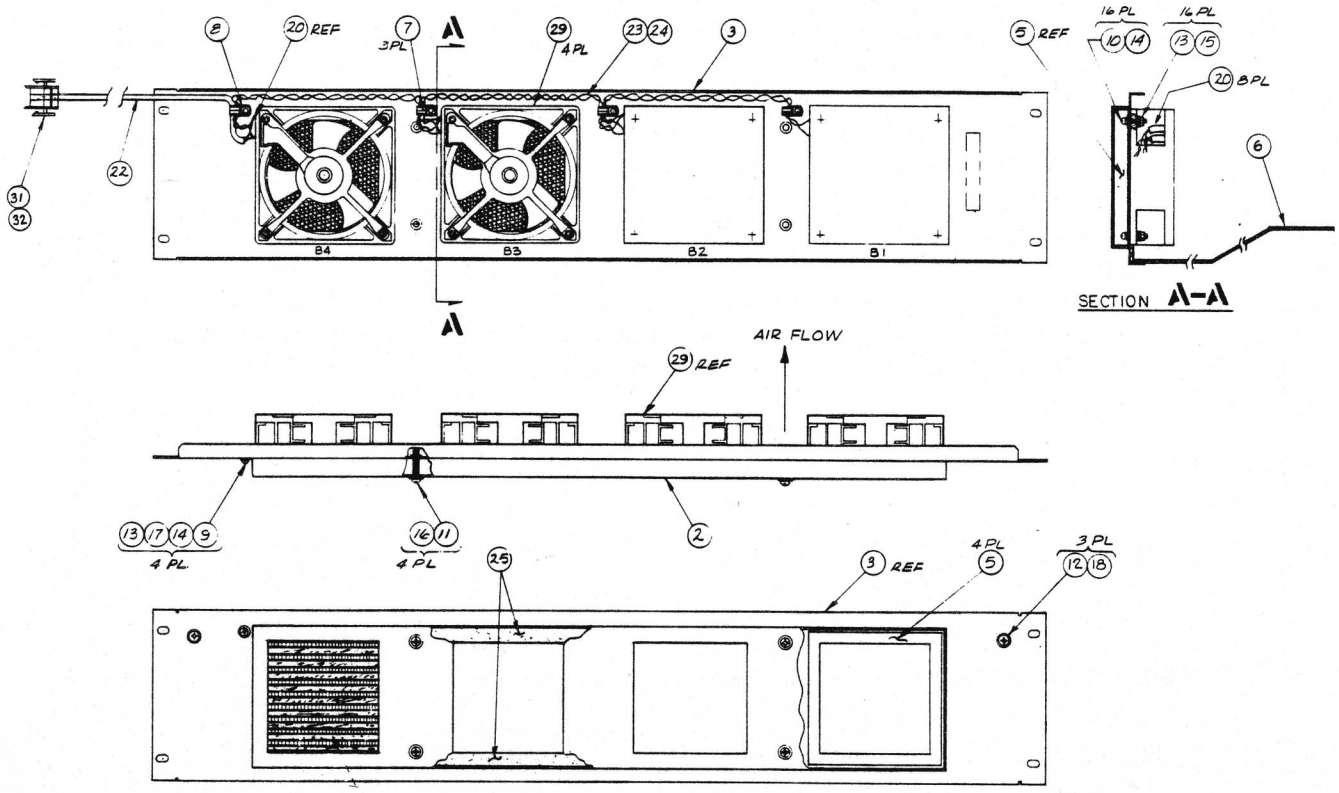
Assembly No. 4051070-02B. Upper Cooling System

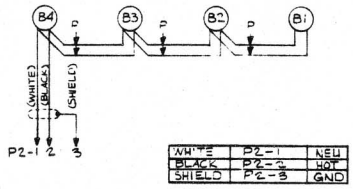
4050930-03 LOWER COOLING SYSTEM
NEXT HIGHER ASSEMBLY 4010334

REV. E

ITEM NO.	PART NUMBER		DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -03
1					
2	4291001-01	HOLDER, FAN FILTER			1
3	4260600-03	PANEL, FAN			1
4					
5	1374158-01	FILTER			4
6	4291100-03	BAFFLE, AIR			1
7	302-308	CLAMP, CABLE .188DIA			3
8	302-160	CLAMP,CABLE .250 DIA			1
9	471-069	SCREW. PHD XREC 6-32 X .375 LG			4
10	471-072	SCREW, PHD XREC 6-32 X .625LG			16
11	470-501	SCREW, BOTTOM HD 8-32 X 1.125, BLK OXD SOC DR			4
12	475-061	SCREW ASSM WASHER #8-32 X .50 LG			3
13	496-005	NUT, HEX LOCKING ASSY WASHER 6-32			20
14	501-188	WASHER, FLAT, SM PATTERN #6			20
15	501-009	WASHER, FLAT 6-32			16
16	503-310	WASHER FLAT 8-32, BLK NYLON			4
17	506-027	WASHER "D" #6			4
18	501-205	WASHER PLAIN #8			3
19	600-320	SLEEVING TEFLON FLEXIBLE .032 ID			AR
20	600-090	TUBING, SHRINK 3/16 DIA BLACK			AR
21					
22	616-756	CABLE, SHIELDED AND JACKETED 2 COND 20 GA			AR
23	611-256	WIRE, STRANDED 20 AWG BLK			AR
24	611-607	WIRE, STRANDED 20 AWG WHT			AR
25	269-317	SPONGE RUBBER 3/8W,3/16THK,(24"LG,2REQ'D)			AR
26					
27					
28					
29	591-053	FAN, AXIAL		B1-4	4
30					
31	167-711	CONN BODY RECEPT 3 POS		P2	1
32	167-725	CONTACT PIN			3

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WHITE	P2-1	NEU
BLACK	P2-2	HOT
SHIELD	P2-3	GND

Assembly No. 4050930-03E. Lower Cooling System

APPENDIX A

INTEGRATED CIRCUITS

Table A1. Integrated Circuit Ampex Part Numbers

Ampex Part No.	Manufacturer's Part No.	Manufacturer	Page No.
586-075	MC7400	Motorola	A-1
586-076	SN7410N	Texas Instruments	A-1
586-077	SN7420N	Texas Instruments	A-1
586-078	SN7430N	Texas Instruments	A-2
586-108	SN7474	Texas Instruments	A-2
586-109	MC7402	Motorola	A-2
586-248	MC7490	Motorola	A-3
586-269	FC741HC	Fairchild	A-4
586-276	CA3046	RCA	A-4
586-283	SN7493N	Texas Instruments	A-5
586-303	FC9328DC	Fairchild	A-6
586-309	FC9601DC	Fairchild	A-6
586-321 See 586-449			A-8
586-325	SN7405N	Texas Instruments	A-7
586-326	MC7404	Motorola	A-7
586-327	SN74H11	Texas Instruments	A-7
586-449	SN72723J	Texas Instruments	A-8
586-478	MC1217L	Motorola	A-8
586-492	SN7496	Texas Instruments	A-8
586-509	SN74154J	Texas Instruments	A-9
586-554	SN7483N	Texas Instruments	A-9
586-617	FC9602DC	Fairchild	A-10
586-623	747DM	Fairchild	A-10
586-688	SN74H04N	Texas Instruments	A-10
586-689	MC3002P	Motorola	A-11
586-690	SN7406N	Texas Instruments	A-11
586-703	SN74151N	Texas Instruments	A-11
586-705	SN7486	Texas Instruments	A-12
586-713	FC740PC	Fairchild	A-12
586-759	SN7408N	Texas Instruments	A-12
586-764 See 586-623			A-10
586-784	SN7438N	Texas Instruments	A-13
586-797	SN74123	Texas Instruments	A-13
586-799	SN74192	Texas Instruments	A-14
586-800	SN74193	Texas Instruments	A-15
586-801 See 587-278			A-23
586-830	SN74S00N	Texas Instruments	A-16
586-831 See 586-688			A-10
586-890	SN7417N	Texas Instruments	A-16
586-903	FC74157PC	Fairchild	A-17
586-905	SN72558P	Texas Instruments	A-17
586-906	SN74191	Texas Instruments	A-18

APPENDIX A

INTEGRATED CIRCUITS
(Continued)

Table A1. Integrated Circuit Ampex Part Numbers

Ampex Part No.	Manufacturer's Part No.	Manufacturer	Page No.
586-912 See 586-509			A-9
586-917	SN7427N	Texas Instruments	A-19
586-918	SN7432	Texas Instruments	A-19
586-922 See 587-772			A-32
586-923	SN74163	Texas Instruments	A-19
586-924	SN74174	Texas Instruments	A-20
586-925	SN74175N	Texas Instruments	A-20
587-051	SN7425N	Texas Instruments	A-21
587-084	SN7492N	Texas Instruments	A-21
587-086	LM311N	National Semiconductor	A-22
587-144 See 586-617			A-10
587-147	SN7414	Texas Instruments	A-22
587-148 See 589-368			A-40
587-266	SN74279	Texas Instruments	A-22
587-278	SN74S85N	Texas Instruments	A-23
587-279	SN74LS138N	Texas Instruments	A-23
587-291	NE555V	Signetics	A-24
587-303	CD4050BE	RCA	A-25
587-319	CD4011AE	RCA	A-25
587-322	CD4049	RCA	A-26
587-387 See 586-108			A-2
587-410	SN74LS139	Texas Instruments	A-27
587-431	SN74221	Texas Instruments	A-27
587-449 See 587-936			A-35
587-465	SN74116	Texas Instruments	A-28
587-478 See 587-656			A-29
587-505 See 586-327			A-7
587-510 See 586-075			A-1
587-523 See 586-918			A-19
587-544	SN7447AN	Texas Instruemtns	A-29
587-656	LM318N	National Semiconductor	A-29
587-672	MC1408	Motorola	A-30
587-683	CD4025AE	RCA	A-31
587-710	SN74S114N	Texas Instruments	A-31
587-746 See 586-705			A-12
587-750 See 586-109			A-2
587-754 See 586-554			A-9
587-760 See 586-903			A-17
587-766 See 586-906			A-18
587-772	SN74LS161	Texas Instruments	A-32
587-773 See 586-923			A-19
587-776	SN74LS113N	Texas Instruemtns	A-32

APPENDIX A

INTEGRATED CIRCUITS
(Continued)

Table A1. Integrated Circuit Ampex Part Numbers

Ampex Part No.	Manufacturer's Part No.	Manufacturer	Page No.
587-777	SN74LS153N	Texas Instruments	A-33
587-778	SN74LS30N	Texas Instruments	A-33
587-858	CD4069	RCA	A-34
587-895	74LS164	Fairchild	A-34
587-905	CD4071	RCA	A-34
587-906	CD4081	RCA	A-35
587-908	CD4001	RCA	A-35
587-914	CD4073	RCA	A-35
587-936	4023PC	RCA	A-35
587-944 See 587-322			A-26
587-950 See 586-703			A-11
587-959	CD4010AE	RCA	A-36
587-984	MC14042B	Motorola	A-36
589-191 See 587-147			A-22
589-214	DM8131	National Semiconductor	A-36
589-223	DM81LS95	National Semiconductor	A-37
589-238	74LS293	Texas Instruments	A-37
589-254	NE556A	Signetics	A-38
589-269	AM8216	Advanced Micro Devices	A-38
589-273	DP8212	National Semiconductor	A-39
589-347	2101-A2	Advance Micro Devices	A-39
589-368	SN74LS132N	Texas Instruments	A-40
589-403	SN74LS148N	Texas Instruments	A-40
589-428	TLO84CN	Texas Instruments	A-40
589-481	NE5534N	Signetics	A-41
589-639	8085	Intel	A-41
589-640	8279	Intel	A-42
589-641	CD4077B	RCA	A-42
589-644	IM6402	Intersil	A-43
589-645	MC7805CJ	Motorola	A-43
589-647	MC7815	Motorola	A-43
589-649	MC7915	Motorola	A-44
589-650	DS75491	National Semiconductor	A-44
589-651	DS8863M	National Semiconductor	A-45
589-652	MWS510EL2	RCA	A-45
589-661	CD4025BE	RCA	A-46
589-692	CD4042B	RCA	A-46
589-715	2716	Intel	A-47
589-782	MC14023BCP	Motorola	A-47
589-798 See 587-303			A-25
589-813 See 586-075			A-25
589-814 See 586-326			A-1

APPENDIX A

INTEGRATED CIRCUITS
(Continued)

Table A1. Integrated Circuit Ampex Part Numbers

Ampex Part No.	Manufacturer's Part No.	Manufacturer	Page No.
589-815 See 586-759			A-12
589-820 See 586-108			A-2
589-823 See 587-279			A-23
589-825 See 586-903			A-17
589-827 See 587-895			A-34
589-838 See 586-326			A-7
589-869	MC14585	Motorola	A-48
589-904	MM74C161	National Semiconductor	A-48
589-907 See 589-481			A-41
589-911	8156	Intel	A-49
589-931 See 587-778			A-33
589-932 See 587-776			A-32
589-933 See 587-772			A-32
589-934 See 587-431			A-27
589-951 See 586-906			A-18
590-002 See 587-319			A-25
590-104	LF353N	National Semiconductor	A-49
590-002 See 587-319			A-23
590-131 See 587-266			A-22
590-134 See 586-924			A-20
590-135 See 586-925			A-20
590-325 See 586-917			A-19
590-328 See 586-918			A-19
590-329 See 586-797			A-13
590-333 See 586-923			A-19
590-440 See 586-325			A-7
590-441 See 587-051			A-21
590-477 See 589-661			A-46
590-495 See 587-147			A-22
590-496 See 586-703			A-11
590-509 See 587-914			A-35
590-510 See 587-959			A-36
590-528 See 587-908			A-35
590-536 See 586-690			A-11
590-537 See 586-705			A-12
590-538 See 586-759			A-12
590-541 See 586-918			A-19
590-542 See 587-086			A-22
590-544 See 586-703			A-11
590-552 See 587-266			A-22
590-556 See 587-147			A-40
590-563 See 587-984			A-36

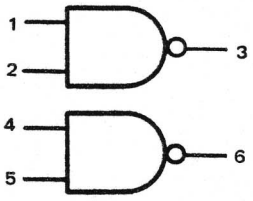
APPENDIX A

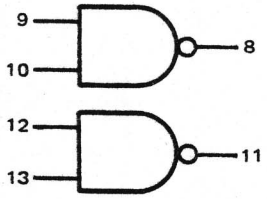
INTEGRATED CIRCUITS
(Continued)

Table A1. Integrated Circuit Ampex Part Numbers

Ampex Part No.	Manufacturer's Part No.	Manufacturer	Page No.
590-577 See 589-904			A-48
590-576 See 586-890			A-16
590-583 See 589-428			A-40
590-593 See 587-905			A-34
590-609 See 586-326			A-7
590-611 See 586-269			A-4
590-615 See 587-410			A-27
590-616 See 587-431			A-27
590-620 See 586-705			A-12
590-721 See 586-276			A-4
590-740 See 589-403			A-40
590-777 See 586-509			A-9
590-792 See 587-303			A-25
590-973 See 586-797			A-13

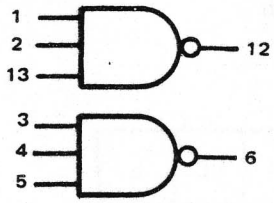
MOTOROLA MC 7400	AMPEX 586-075	QUAD 2-INPUT NAND GATE

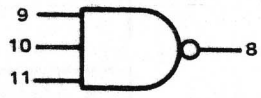




PIN 7 = GND
PIN 14 = V_{cc} (+5V)
3 = $\overline{1.2}$

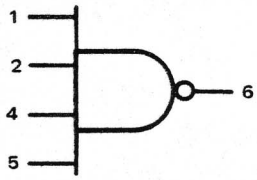
TEXAS INSTRUMENTS SN 7410 N	AMPEX 586-076	3-INPUT NAND GATE

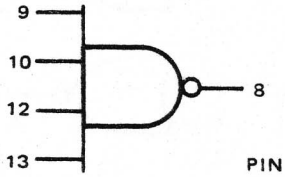




PIN 7 = GND
PIN 14 = V_{cc}
12 = $\overline{1.2.13}$

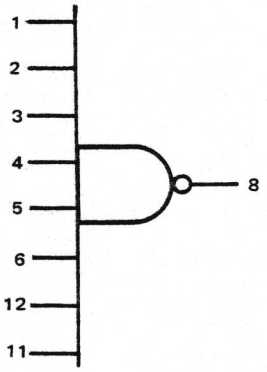
TEXAS INSTRUMENTS SN 7420 N	AMPEX 586-077	4-INPUT NAND GATE





PIN 7 = GND
PIN 14 = V_{cc}
6 = $\overline{1.2.4.5}$

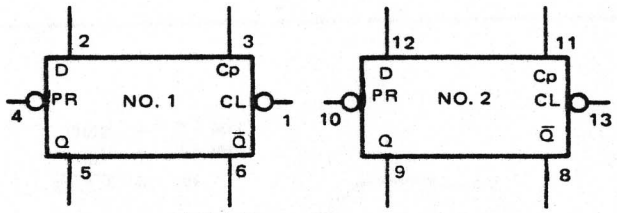
TEXAS INSTRUMENTS SN 7430 N	AMPEX 586-078	8-INPUT NAND GATE



PIN 7 = GND
PIN 14 = V_{cc}

$8 = \overline{(1)(2)(3)(4)(5)(6)(11)(12)}$

TEXAS INSTRUMENTS SN 7474	AMPEX 586-108	DUAL D-TYPE EDGE- TRIGGERED FLIP-FLOP



PR = PRESET
CL = CLEAR
Cp = CLOCK

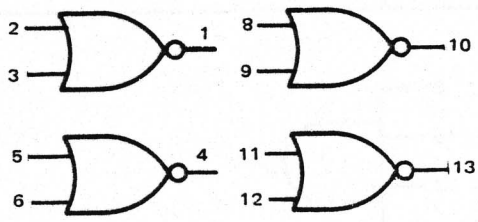
PIN 7 = GND
PIN 14 = V_{cc}

t_n D	$t_n + 1$ Q
L	L
H	H

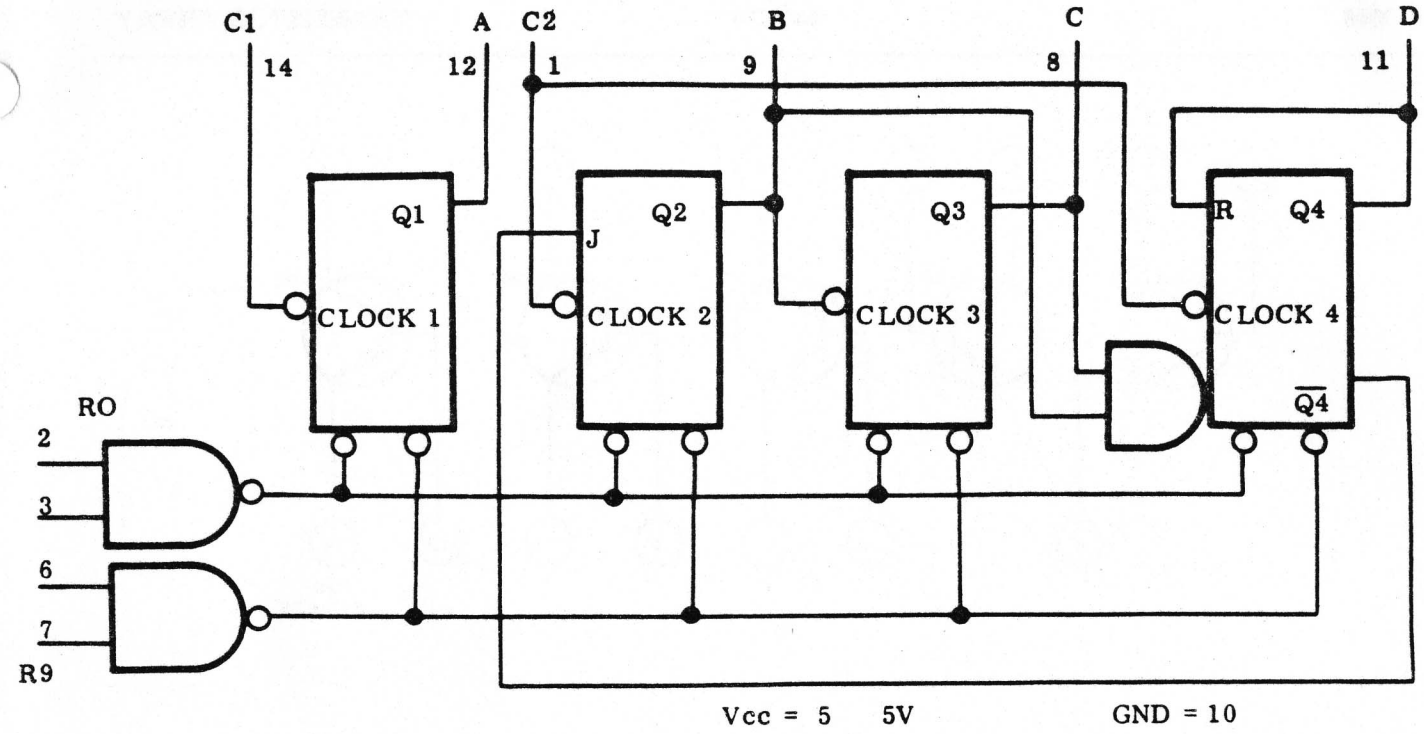
PR	CL	Q
L	H	H
H	L	L
L	L	ND

$t_n + 1$ IS TIME AFTER POSITIVE TRANSITION OF CLOCK

MOTOROLA MC 7402	AMPEX 586-109	QUAD 2-INPUT NOR GATE



1 = $\overline{2+3}$
PIN 7 = GND
PIN 14 = V_{cc} (5V)



Clock 1 operates as a divide-by-two.

Clocks 2, 3, and 4 operate as a divide-by-five.

If A and C2 are connected, operates as a divide-by-ten.

May be reset to 0 (R0) or BCD 9 (R9).

RESET/COUNT TABLE

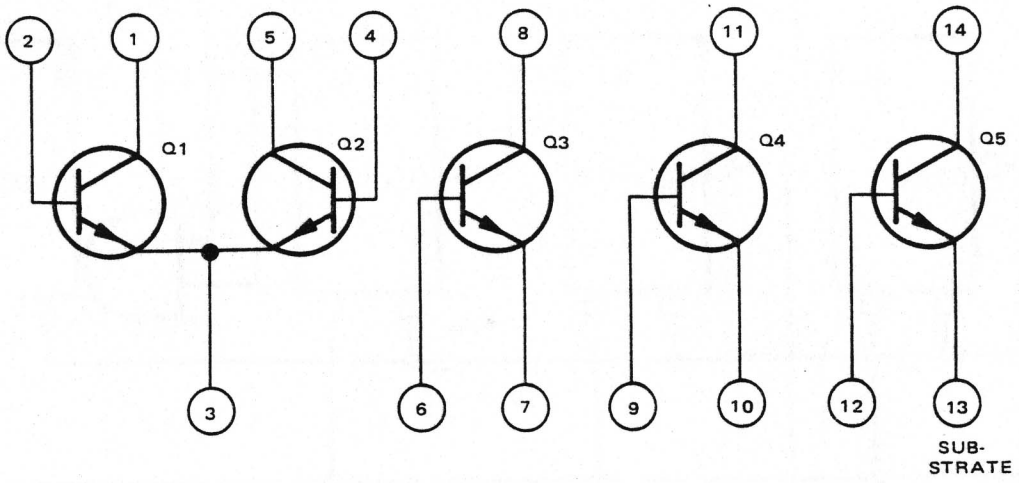
RO		R9		OUTPUT			
PIN 2	PIN 3	PIN 6	PIN 7	D	C	B	A
1	1	0	X	0	0	0	0
1	1	X	0	0	0	0	0
X	X	1	1	1	0	0	1
X	0	X	0	COUNT			
0	X	0	X	COUNT			
0	X	X	0	COUNT			
X	0	0	X	COUNT			

X= DON'T CARE.

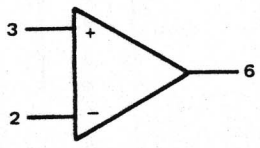
COUNT SEQUENCE

count	OUTPUT			
	D	C	B	A
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1

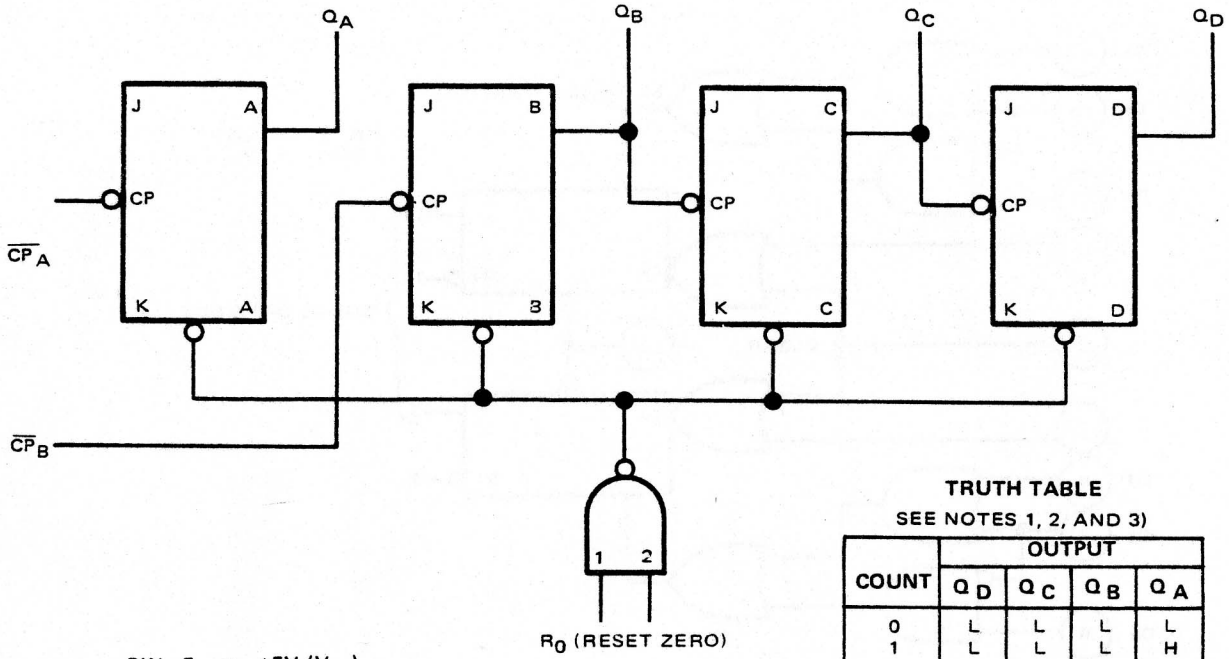
RCA CA 3046	AMPEX 586-276	GENERAL PURPOSE TRANSISTOR ARRAY



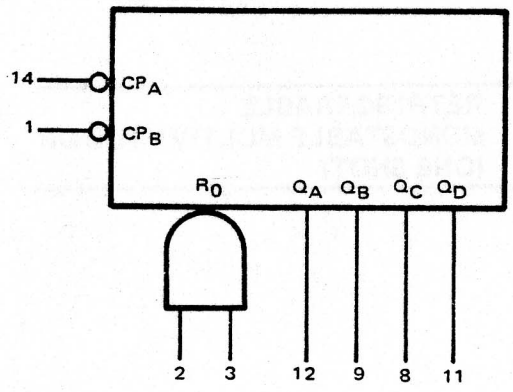
FAIRCHILD FC 741 HC	AMPEX 586-269	OPERATIONAL AMPLIFIER



PIN 1 = OFFSET NULL
PIN 4 = −V (CASE)
PIN 5 = OFFSET NULL
PIN 7 = +V
PIN 8 = NC



PIN 5 = +5V (V_{cc})
PIN 10 = GND
PIN 4, 6, 7, 13 = NC

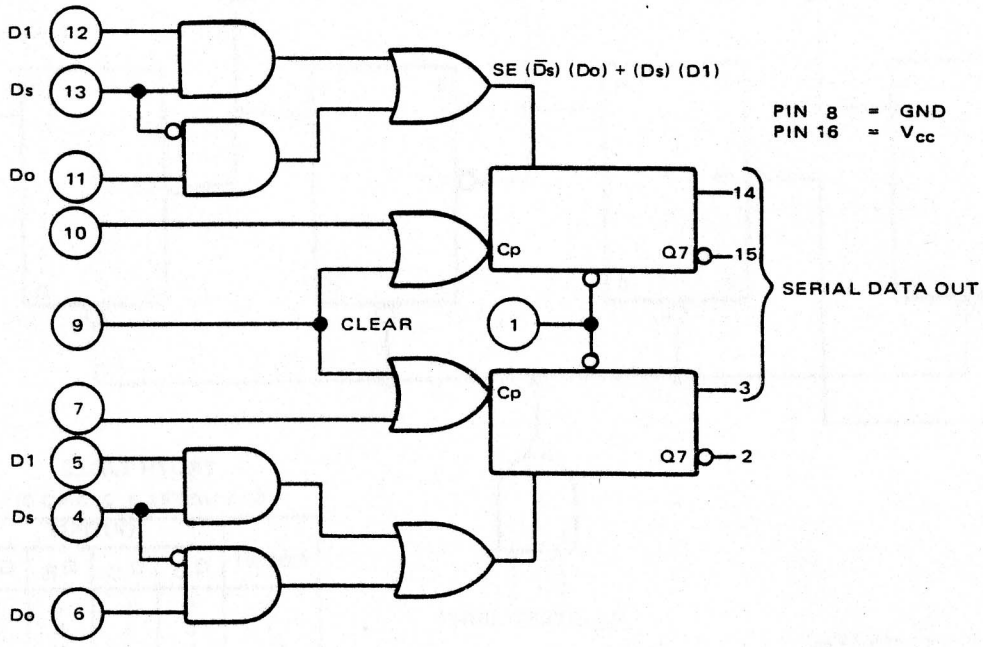


TRUTH TABLE
SEE NOTES 1, 2, AND 3)

COUNT	OUTPUT			
	Q_D	Q_C	Q_B	Q_A
0	L	L	L	L
1	L	L	L	H
2	L	L	H	L
3	L	L	H	H
4	L	H	L	L
5	L	H	L	H
6	L	H	H	L
7	L	H	H	H
8	H	L	L	L
9	H	L	L	H
10	H	L	H	L
11	H	L	H	H
12	H	H	L	L
13	H	H	L	H
14	H	H	H	L
15	H	H	H	H

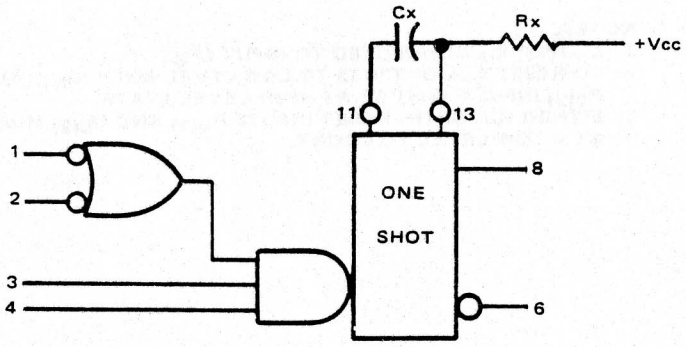
NOTES:
1. OUTPUT Q_A CONNECTED TO INPUT $\overline{CP}_B$.
2. TO RESET ALL OUTPUTS TO LOW LEVEL BOTH $R_{0(1)}$ AND $R_{0(2)}$ INPUTS MUST BE AT HIGH LEVEL STATE.
3. EITHER (OR BOTH) RESET INPUTS $R_{0(1)}$ AND $R_{0(2)}$ MUST BE AT A LOW LEVEL TO COUNT.

FAIRCHILD FC 9328 DC	AMPEX 586-303	DUAL 8-BIT SHIFT REGISTER



PIN 8 = GND
PIN 16 = V_{cc}

FAIRCHILD FC 9601 DC	AMPEX 586-309	RETRIGGERABLE MONOSTABLE MULTIVIBRATOR (ONE SHOT)



PIN 7 = GND
PIN 14 = V_{cc}

PW = 0.36 Rx Cx

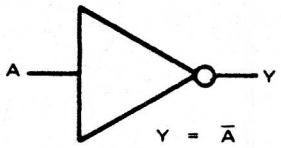
T(ns) = 0.32 Rx Cx (1 + 0.7/Rx)

Cx IN pF
Rx IN K

WITH TRANSISTOR OR DIODE
ACROSS Cx (WHEN LARGE VALUES ARE USED):

T(ns) = 0.36 Cx Rx (1 + 0.7/Rx)

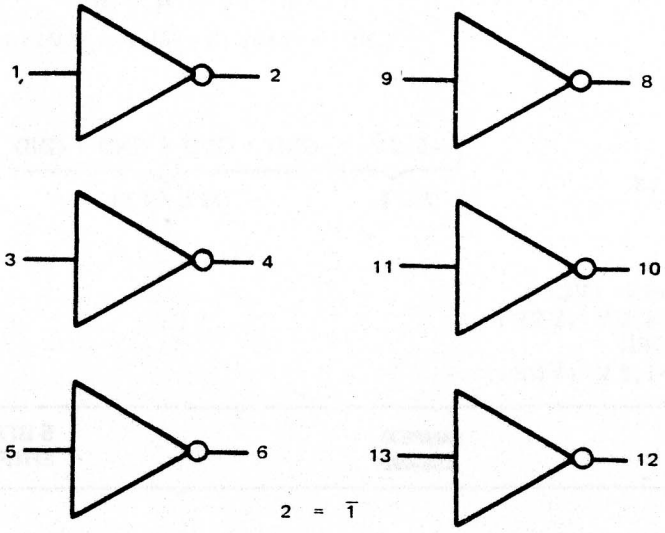
TEXAS INSTRUMENTS SN 7405 N	AMPEX 586-325	HEX INVERTER OPEN COLLECTOR



A	1	3	5	9	11	13
Y	2	4	6	8	10	12

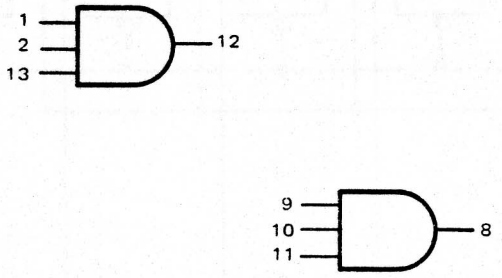
PIN 7 = GND
PIN 14 = V_{cc}

MOTOROLA MC 7404	AMPEX 586-326	HEX INVERTER



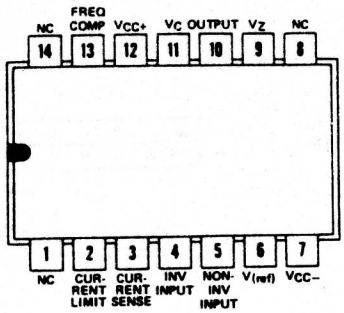
PIN 7 = GND
PIN 14 = V_{cc} (5V)

TEXAS INSTRUMENTS SN 74H11	AMPEX 586-327	TRIPLE 3-INPUT AND GATE

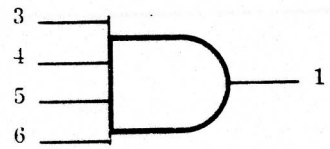


PIN 7 = GND
PIN 14 = +5V(V_{cc})

TEXAS INST	AMPEX	PRECISION VOLTAGE REGULATORS
SN72723J	586-449	



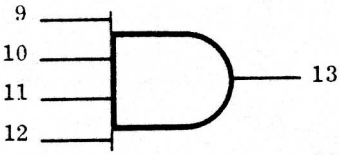
MOTOROLA	AMPEX
MC 1217L	586-478 SATURATED LOGIC TO ECL DUAL TRANSLATORS



$$1 = 3 \cdot 4 \cdot 5 \cdot 6$$

$$H = H \cdot H \cdot H \cdot H$$

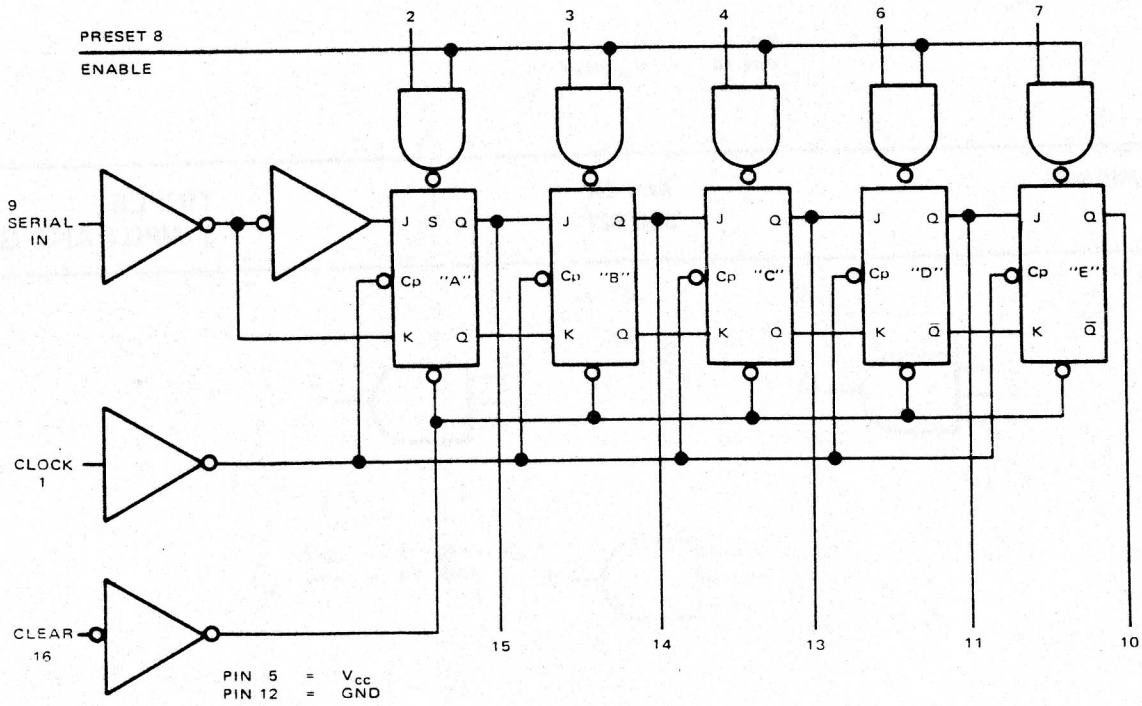
$$GND = (+5V) \cdot (+5V) \cdot (+5V) \cdot (+5V)$$

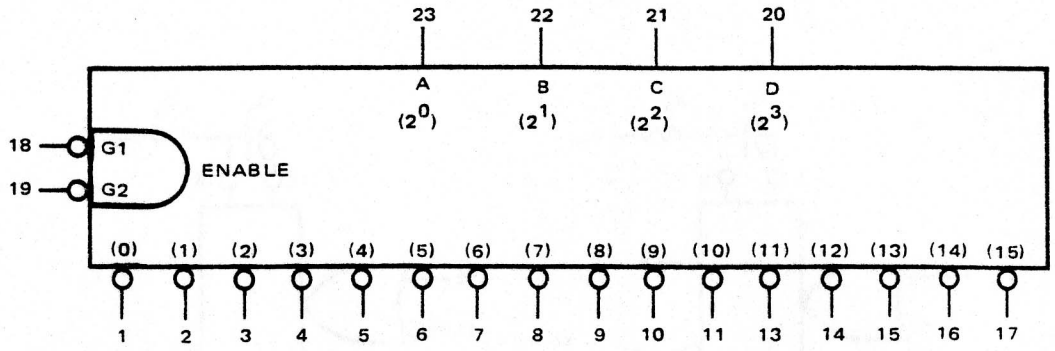


$$\underbrace{-5.2V}_{ECL} = \underbrace{GND + GND + GND + GND}_{DTL/TTL}$$

PIN 8 = +5V (VCC)
PIN 7 = -5.2V (VEE)
PIN 14 = GND
PIN 2 = -1.2V (VBB)

TEXAS INSTRUMENTS	AMPEX	5-BIT
SN 7496	586-492	SHIFT REGISTER





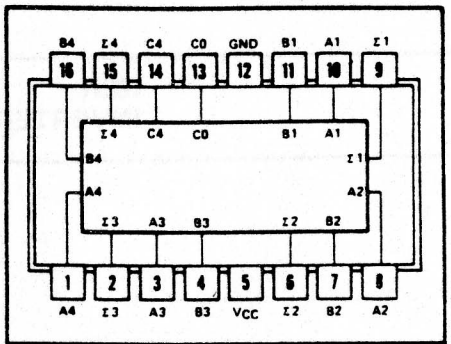
IF G1 OR G2 HIGH, ALL OUTPUTS HIGH.

G1 AND G2 LOW, BINARY NUMBER ON A, B, C, D INPUT DETERMINES WHICH OUTPUT LOW.

PIN 12 = GND
PIN 24 = V_{cc}

D	C	B	A	
L	L	L	L	OUTPUT "N" GOES LOW WITH G1/G2 LOW. "0"
L	L	L	N	"1"
L	L	H	L	"2"
L	L	H	H	"3"

TEXAS INST SN7483N — AMPEX 586-554 — 4-BIT BINARY FULL ADDERS WITH FAST CARRY



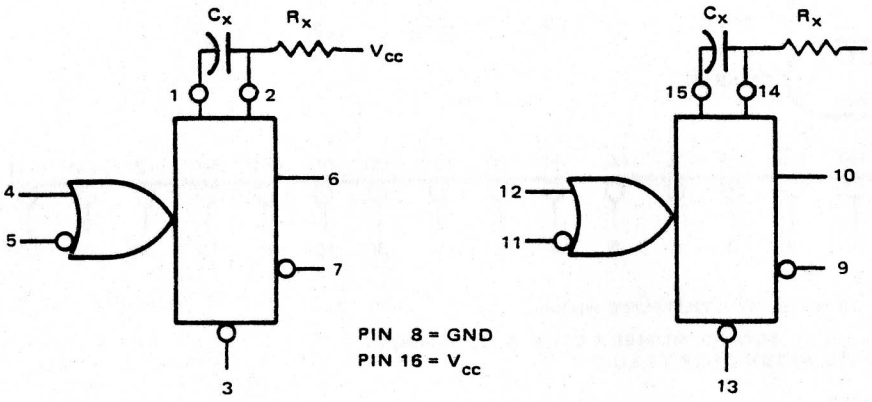
positive logic: see function table

FUNCTION TABLE

INPUT				OUTPUT					
				WHEN C0 = L			WHEN C0 = H		
				WHEN C2 = L			WHEN C2 = H		
A1 / A3	B1 / B3	A2 / A4	B2 / B4	Σ1 / Σ3	Σ2 / Σ4	C2 / C4	Σ1 / Σ3	Σ2 / Σ4	C2 / C4
L	L	L	L	L	L	L	H	L	L
H	L	L	L	H	L	L	L	H	L
L	H	L	L	H	L	L	L	H	L
H	H	L	L	L	H	L	H	H	L
L	L	H	L	L	H	L	H	H	L
H	L	H	L	H	H	L	L	L	H
L	H	H	L	H	H	L	L	L	H
H	H	H	L	L	L	H	H	L	H
L	L	L	H	L	H	L	H	K	L
H	L	L	H	H	H	L	L	L	H
L	H	L	H	H	H	L	L	L	H
H	H	L	H	L	L	H	H	L	H
L	L	H	H	L	L	H	H	L	H
H	L	H	H	H	L	H	L	H	H
L	H	H	H	H	L	H	L	H	H
H	H	H	H	L	H	H	H	H	H

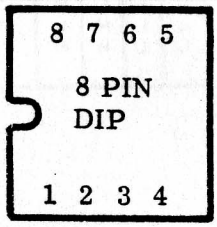
H = high level, L = low level

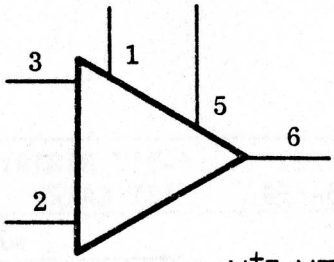
FAIRCHILD	AMPEX	DUAL RETRIGGERABLE
FC 9602 DC	586-617	RESETTABLE MONOSTABLE



$T = 0.31\ R_x\ C_x\ (1 + 1/R_x)$

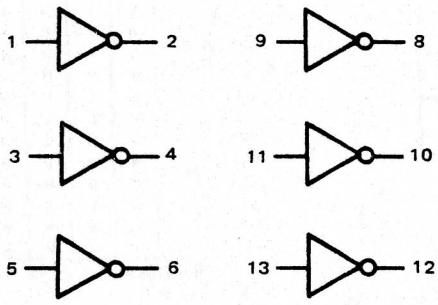
FAIRCHILD	AMPEX	
741 TC	586-764	OFFSET NULL
747 DM	586-623	





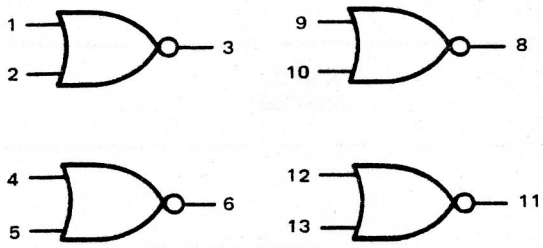
$V^+7\ V^-4$

TEXAS INSTRUMENTS	AMPEX	HEX
SN 74H04N	586-688	INVERTER



PIN 7 = GND
PIN 14 = +5V (V_{cc})

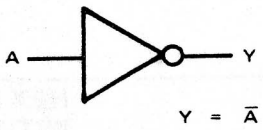
MOTOROLA MC 3002 P	AMPEX 586-689	QUAD 2-INPUT NOR GATE



$3 = \overline{1 + 2}$

PIN 7 = GND
PIN 14 = +5V (V_{cc})

TEXAS INSTRUMENTS SN 7406 N	AMPEX 586-690	HEX INVERTER/BUFFER

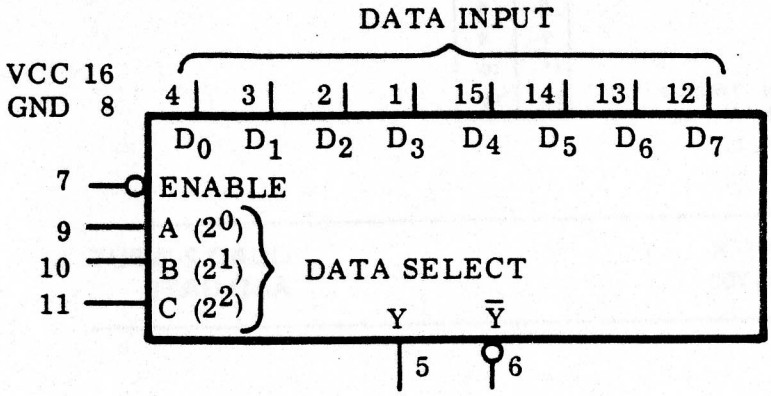


$Y = \overline{A}$

PIN 7 = GND
PIN 14 = V_{cc}
OPEN COLLECTOR

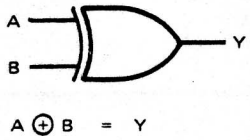
A	Y
1	2
3	4
5	6
9	8
11	10
13	12

TEXAS INSTR SN 74151N SN 74LS151N	AMPEX 586-703 587-950	DATA SELECTOR (MULTIPLEXER)



1. ENABLE (PIN 7) HIGH, Y LOW, Y HIGH.
2. ENABLE LOW, OUTPUT Y FOLLOWS DATA SELECTED (INPUT) BY BINARY NUMBER AT DATA SELECT. PIN 6 (Y) WILL BE COMPLEMENT OF SELECTED DATA INPUT.

TEXAS INSTRUMENTS SN 7486	AMPEX 586-705	QUAD EXCLUSIVE OR GATE

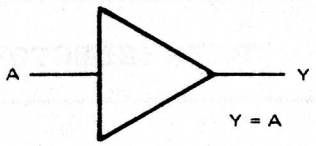


$A \oplus B = Y$

A	B	Y
1	2	3
4	5	6
9	10	8
12	13	11

PIN 7 = GND
PIN 14 = V_{cc}

FAIRCHILD FC 7407 PC	AMPEX 586-713	HEX BUFFER/DRIVER WITH OPEN-COLLECTOR HIGH-VOLTAGE OUTPUT

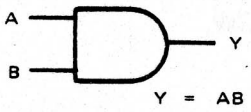


HEX BUFFER

PIN 7 = GND
PIN 14 = V_{cc}

A	Y
1	2
3	4
5	6
9	8
11	10
13	12

TEXAS INSTRUMENTS SN 7408 N	AMPEX 586-759	QUAD 2-INPUT AND GATE

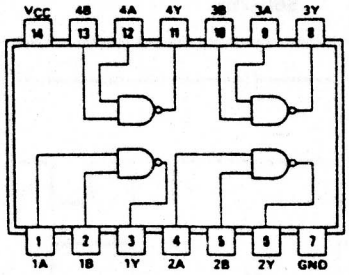


Y = AB

A	1	4	9	12
B	2	5	10	13
Y	3	6	8	11

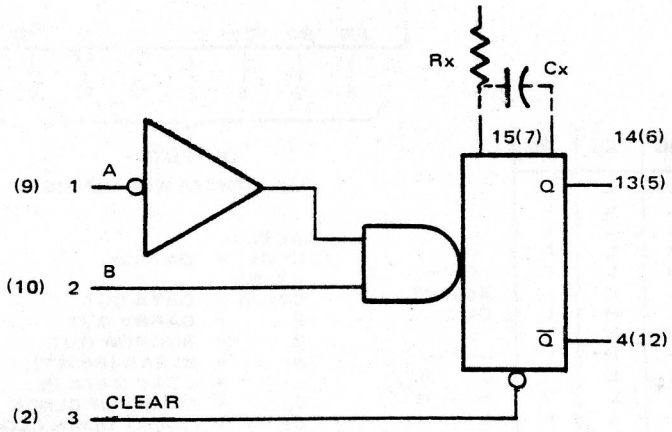
PIN 7 = GND
PIN 14 = V_{cc}

TEXAS INST SN7438N	AMPEX 586-784	QUADRUPLE 2-INPUT POSITIVE-NAND BUFFERS WITH OPEN-COLLECTOR OUTPUTS



positive logic:
$Y = \overline{AB}$

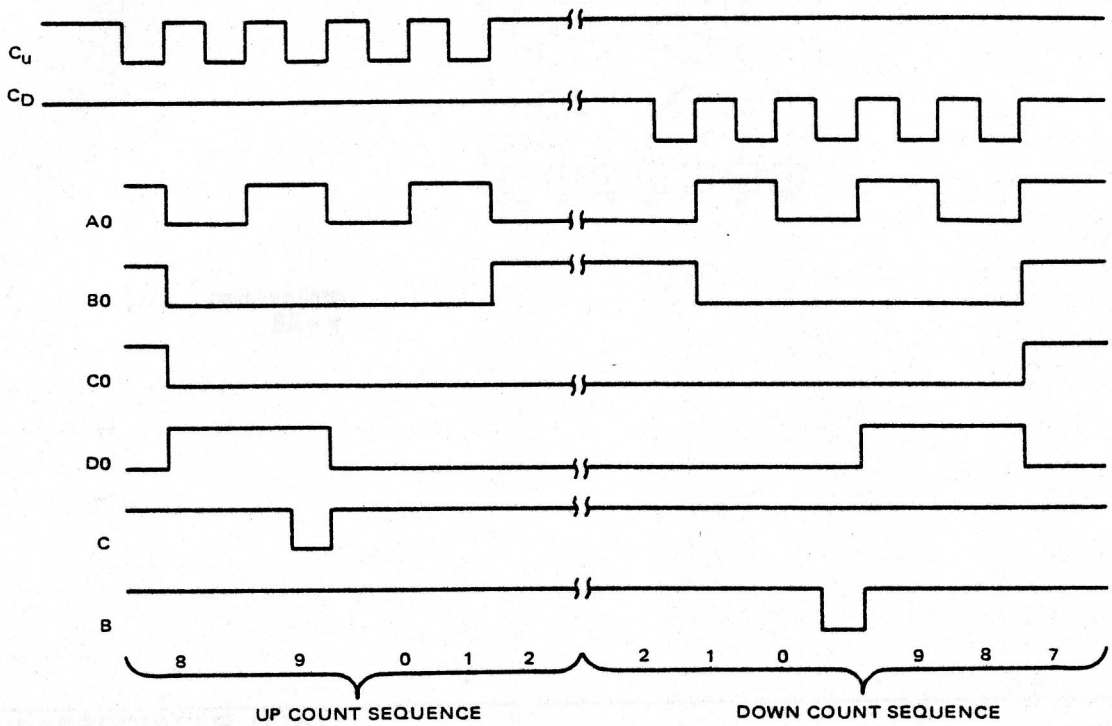
TEXAS INSTRUMENTS **SN 74123**	**AMPEX** **586-797**	**DUAL RETRIGGERABLE MONOSTABLE MULTIVIBRATOR WITH CLEAR**



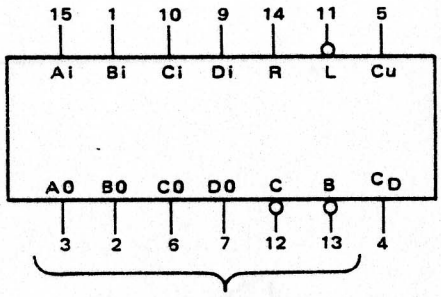
PIN 8 = GND
PIN 16 = +5V (V_{cc})
Rx = 50K MAX
Cx = NO RESTRICTION

PIN NUMBERS IN PARENTHESIS ARE FOR SECTION 2

$PW(ns) = 0.32\ Rx\ Cx\ (1 + \frac{0.7}{Rx})$ WITH Rx IN KΩ AND Cx IN pF.



PIN 8 = GND
PIN 16 = +5V



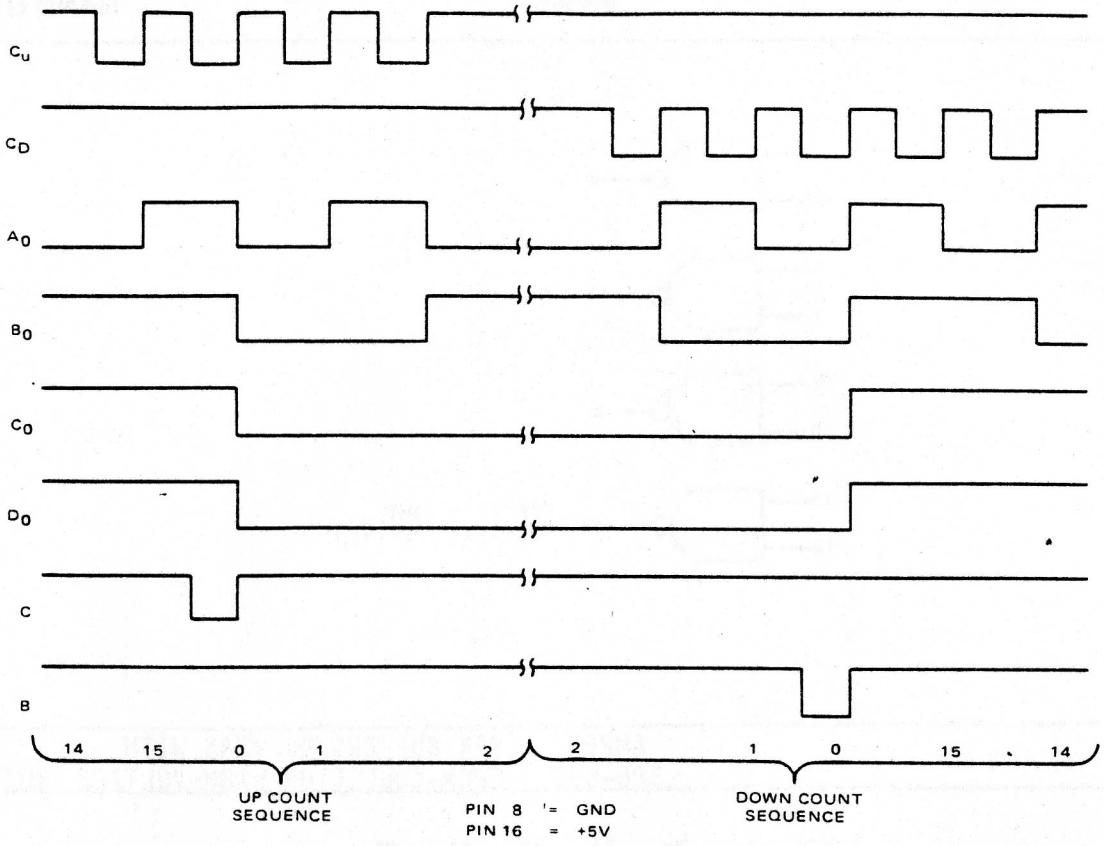
C_D	C_U	R	L	Ai	Bi	Ci	Di	A0	B0	C0	D0
X	X	H	X	X	X	X	X	L	L	L	L
X	X	L	L	L	L	L	L	L	L	L	L
X	X	L	L	H	L	L	L	H	L	L	L
X	X	L	L	L	H	L	L	L	H	L	L
X	X	L	L	H	H	L	L	H	H	L	L
X	X	L	L	L	L	H	L	L	L	H	L
X	X	L	L	H	L	H	L	H	L	H	L
X	X	L	L	L	H	H	L	L	H	H	L
X	X	L	L	H	H	H	L	H	H	H	L
X	X	L	L	L	L	L	H	L	L	L	H
X	H	L	H	H	L	L	H	H	L	L	H
X	L	L	H	H	L	L	H	H	L	L	H
H	X	L	H	L	L	L	L	L	L	L	L
L	X	L	H	L	L	L	L	L	L	L	L

ASYNCHRONOUS LOADING

LOW = ACTIVE OUT

C	B
H	H
L	H
H	H
H	L

Ai, Bi,
Ci, Di = DATA IN
A0, B0,
C0, D0 = DATA OUT
C = CARRY OUT
B = BORROW OUT
R = CLEAR (RESET)
L = LOAD DATA IN
C_u = COUNT UP CLOCK
C_D = COUNT DOWN CLOCK

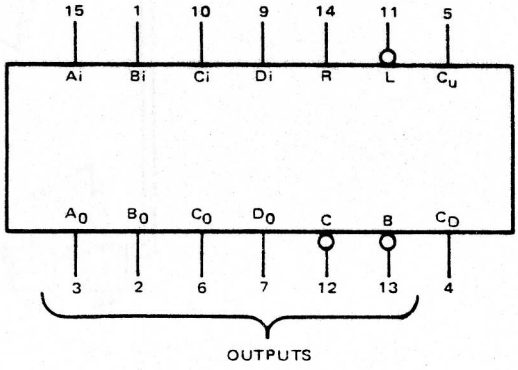


C_D	C_U	R	L	Ai	Bi	Ci	Di	A_0	B_0	C_0	D_0
X	X	H	X	X	X	X	X	L	L	L	L
X	X	L	L	L	L	L	L	L	L	L	L
X	X	L	L	H	L	L	L	H	L	L	L
X	X	L	L	L	H	L	L	L	H	L	L
X	X	L	L	H	H	L	L	H	H	L	L
X	X	L	L	L	L	H	L	L	L	H	L
X	X	L	L	H	L	H	L	H	L	H	L
X	X	L	L	L	H	H	L	L	H	H	L
X	X	L	L	H	H	H	L	H	H	H	L
X	X	L	L	L	L	L	H	L	L	L	H
X	X	L	L	H	L	L	H	H	L	L	H
X	X	L	L	L	H	L	H	L	H	L	H
X	X	L	L	H	H	L	H	H	H	L	H
X	X	L	L	L	L	H	H	L	L	H	H
X	X	L	L	H	L	H	H	H	L	H	H
X	X	L	L	L	H	H	H	L	H	H	H
X	X	L	L	H	H	H	H	H	H	H	H
X	X	H	L	H	H	H	H	H	H	H	H
X	L	L	H	H	H	H	H	H	H	H	H
H	X	L	H	L	L	L	L	L	L	L	L
L	X	L	H	L	L	L	L	L	L	L	L

LOW = ACTIVE OUTPUT

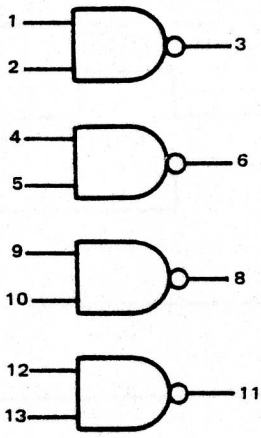
C	B
H	H
L	H
H	H
H	L

ASYNCHRONOUS LOADING



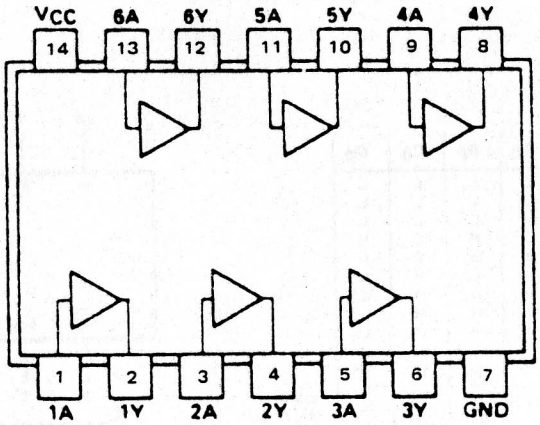
Ai Bi Ci Di = DATA IN
A_0 B_0 C_0 D_0 = DATA OUT
C = CARRY OUT
B = BORROW OUT
R = CLEAR (RESET)
L = LOAD DATA IN (PRESET)
C_U = COUNT UP CLOCK
C_D = COUNT DOWN CLOCK

TEXAS INSTRUMENTS SN 74S00N	AMPEX 586-830	QUAD 2-INPUT NAND GATE

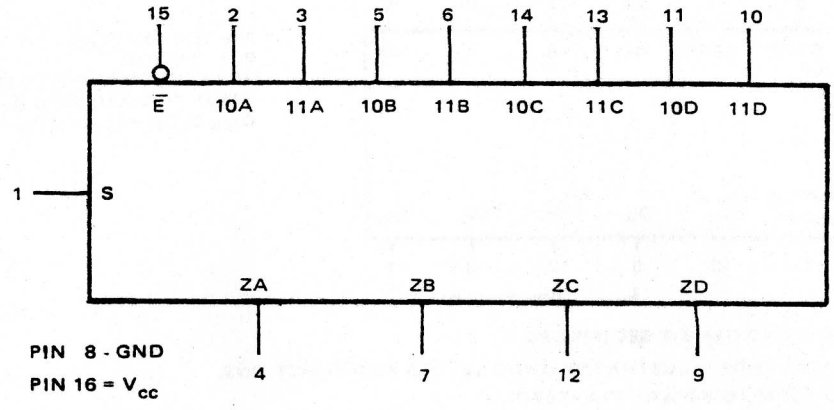


PIN 7 = GND
PIN 14 = +5V (V_{CC})

TEXAS INST SN7417N	AMPEX 586-890	HEX BUFFERS/DRIVERS WITH OPEN-COLLECTOR HIGH-VOLTAGE OUTPUTS



Positive Logic Y=A



TRUTH TABLE

ENABLE	SELECT INPUT	INPUTS		OUTPUT
$\overline{E}$	S	I_{0X}	I_{1X}	Z_X
H	X	X	X	L
L	H	X	L	L
L	H	X	H	H
L	L	L	X	L
L	L	H	X	H

H = HIGH VOLTAGE LEVEL
L = LOW VOLTAGE LEVEL
X = EITHER HIGH OR LOW LOGIC LEVEL

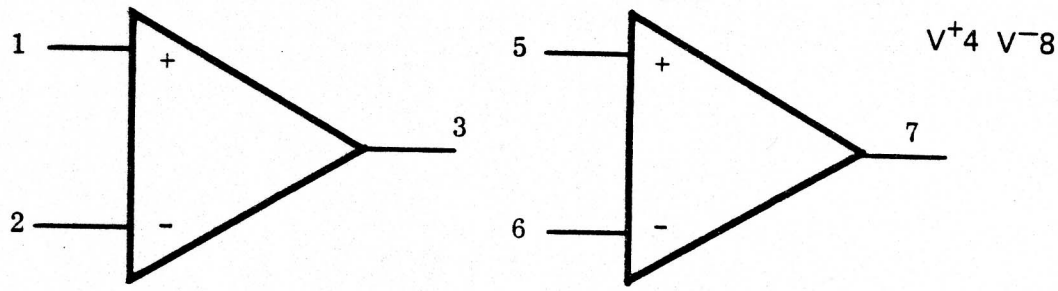
OUTPUT LOGIC EQUATIONS ARE:

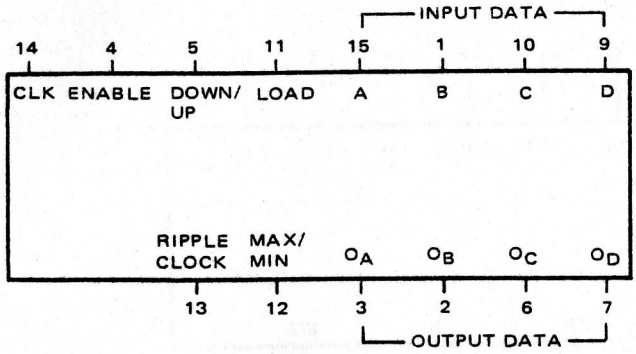
$Z_a = E \bullet (I_{1a} \bullet S + I_{0a} \bullet \overline{S})$ $Z_b = E \bullet (I_{1b} \bullet S + I_{0b} \bullet \overline{S})$
$Z_c = E \bullet (I_{1c} \bullet S + I_{0c} \bullet \overline{S})$ $Z_d = E \bullet (I_{1d} \bullet S + I_{0d} \bullet \overline{S})$

TEXAS INSTR
SN 72558P

AMPEX
586-905

DUAL GENERAL PURPOSE OP. AMPL.



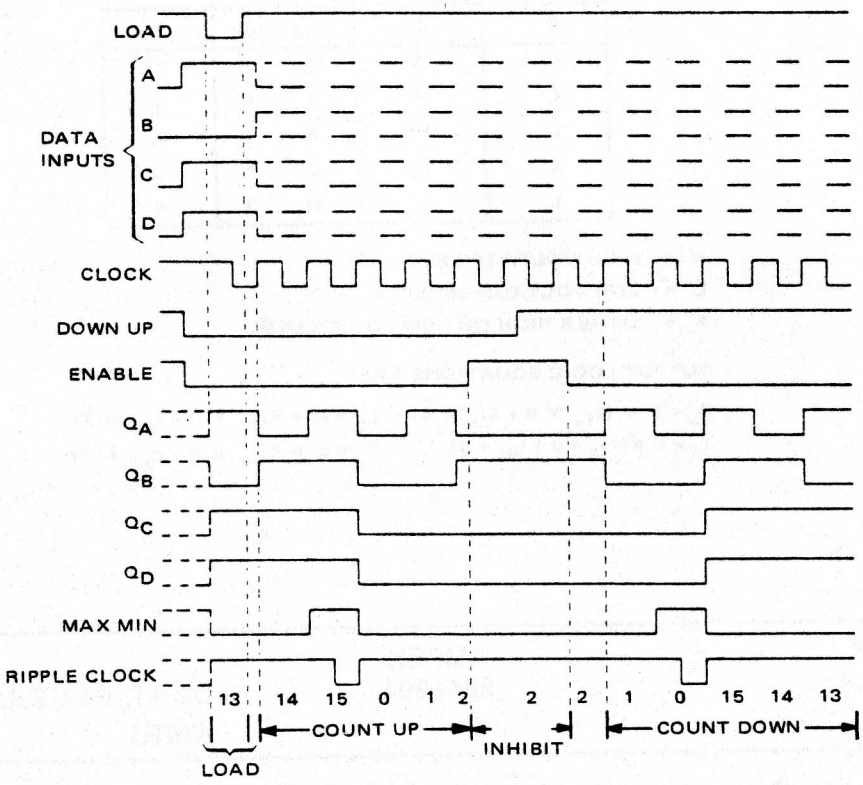


PIN 16 = +5V (V_{cc})
PIN 8 = GND
ASYNCHRONOUR INPUTS: LOW INPUT TO LOAD SETS O_A = A, O_B = B, O_C = C, AND O_D = D.

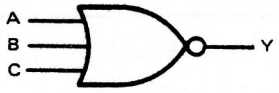
TYPICAL LOAD, COUNT, AND INHIBIT SEQUENCES

THE FOLLOWING SEQUENCE ILLUSTRATES LOGIC LEVELS AND FUNCTIONS.

1. LOAD (PRESET) TO BINARY THIRTEEN
2. COUNT UP TO FOURTEEN, FIFTEEN (MAXIMUM), ZERO, ONE, AND TWO.
3. INHIBIT.
4. COUNT DOWN TO ONE, ZERO (MINIMUM), FIFTEEN, FOURTEEN, AND THIRTEEN.



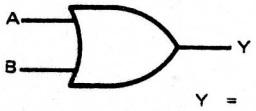
TEXAS INSTRUMENTS SN 7427 N	AMPEX 586-917	3-INPUT NOR GATE



$Y = \overline{A+B+C} = \overline{A}\,\overline{B}\,\overline{C}$

A	1	9	3
B	2	10	4
C	13	11	5
Y	12	8	6

TEXAS INSTRUMENTS SN 7432	AMPEX 586-918	OR GATE



Y = A + B

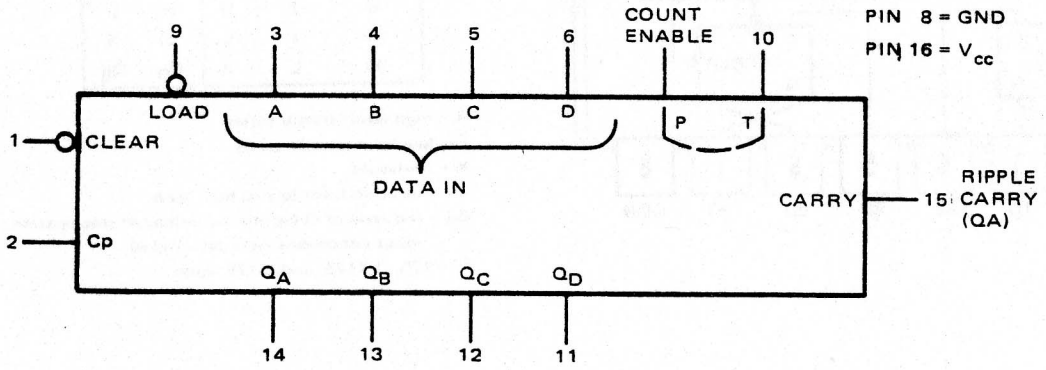
A	B	Y
1	2	3
4	5	6
9	10	8
12	13	11

PIN 7 = GND

PIN 14 = V_{cc}

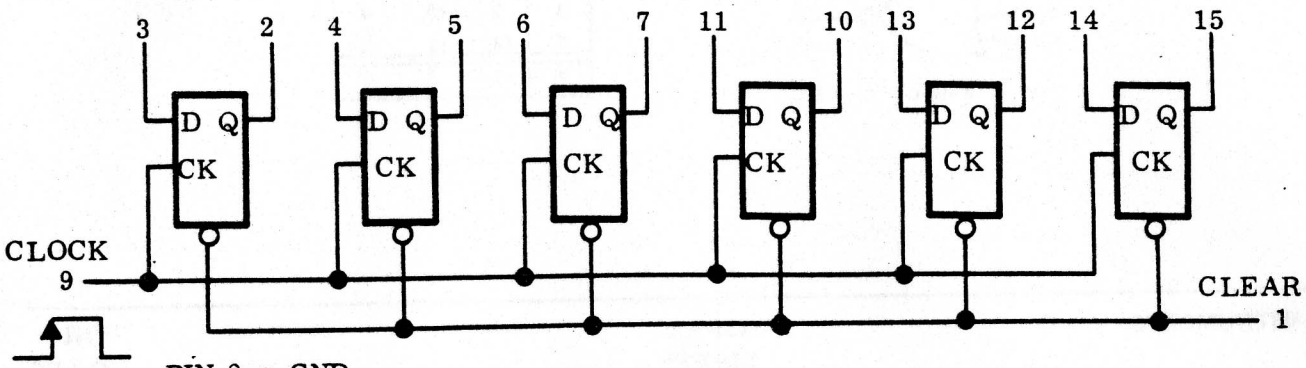
TOTEM OUTPUT

TEXAS INSTRUMENTS SN 74163	AMPEX 586-923	SYNCHRONOUS BINARY COUNTER



CLEAR AND LOAD SYNCHRONOUS WITH POSITIVE TRANSITION OF CLOCK PULSE.

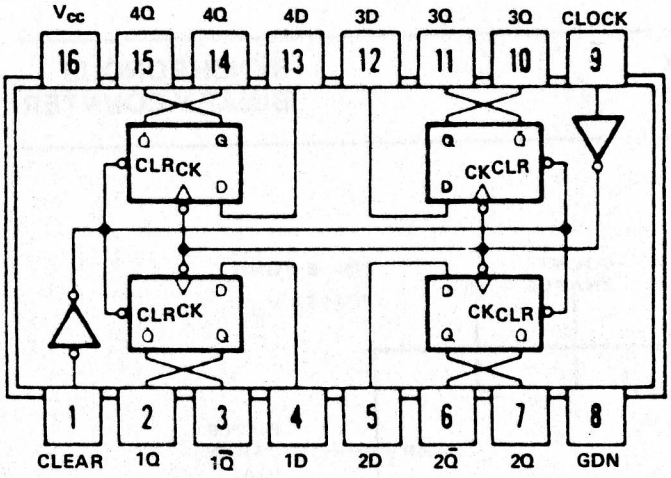
T.I./NATL	AMPEX	
SN74LS174N	587-770	
MM 74C174	587-687	
SN 74174	586-924	HEX D TYPE FLIP-FLOP WITH COMMON CLOCK AND COMMON CLEAR



PIN 8 = GND
PIN 16 = +5V

DATA IS CLOCKED INTO FLIP-FLOP ON POSITIVE TRANSITION. LOW OF THE CLEAR SETS AND HOLDS ALL OUTPUTS LOW.

TEXAS INSTRUMENTS	AMPEX	HEX/QUADRUPLE D-TYPE FLIP-FLOPS
SN74175N	586-925	WITH CLEAR



(EACH FLIP-FLOP)

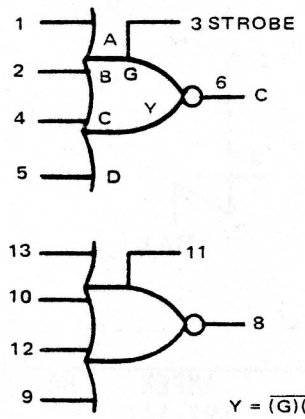
INPUTS			OUTPUTS	
CLEAR	CLOCK	D	Q	Q̄↑
L	X	X	L	H
H	↑	H	H	L
H	↑	L	L	H
H	L	X	Q_0	$\bar{Q}_0$

H = high level (steady state)
L = low level (steady state)
X = irrelevant
↑ = transition from low to high level
Q_0 = the level of Q before the indicated steady-state input conditions were established.
† = '175, 'LS175, and 'S175 only

TRUTH TABLE

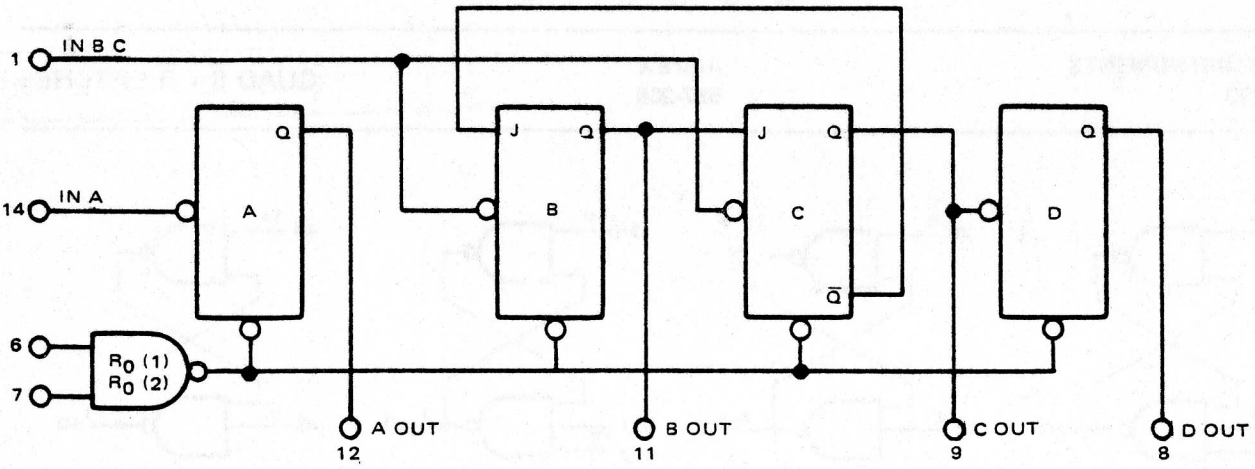
IN					OUT
A	B	C	D	G	Y
H	X	X	X	H	L
X	H	X	X	H	L
X	X	X	X	H	L
X	X	H	X	H	L
X	X	X	H	H	L
L	L	L	L	X	H
X	X	X	X	L	H

X = DON'T CARE



PIN 7 = GND
PIN 14 = V_{cc}

$Y = \overline{(G)(A+B+C+D)} = \overline{G} + \overline{A}\overline{B}\overline{C}\overline{D}$



CT	D	C	B	A
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	1	0	0	0
7	1	0	0	1
8	1	0	1	0
9	1	0	1	1
10	1	1	0	0
11	1	1	0	1

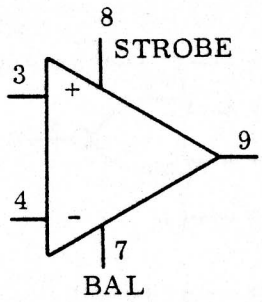
(OUTPUT A TO B IN)

PIN 5 = V_{cc}
PIN 10 = GND

NATIONAL SEMICONDUCTOR
LM311N

AMPEX
587-086

COMPARATOR

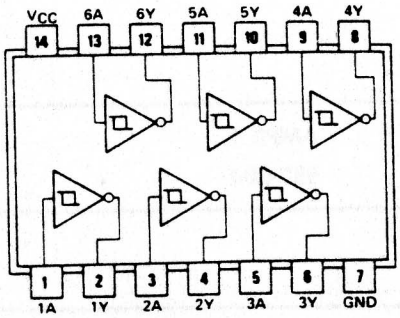


V+ 11
V- 6
Gnd 2

TEXAS INST
SN7414

AMPEX
587-147

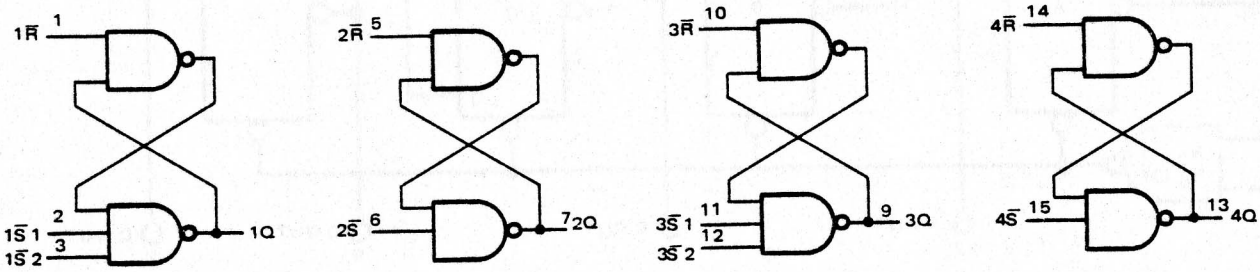
HEX SCHMITT-TRIGGER INVERTER



TEXAS INSTRUMENTS
SN 74279

AMPEX
587-266

QUAD $\overline{S}$ · $\overline{R}$ LATCHES

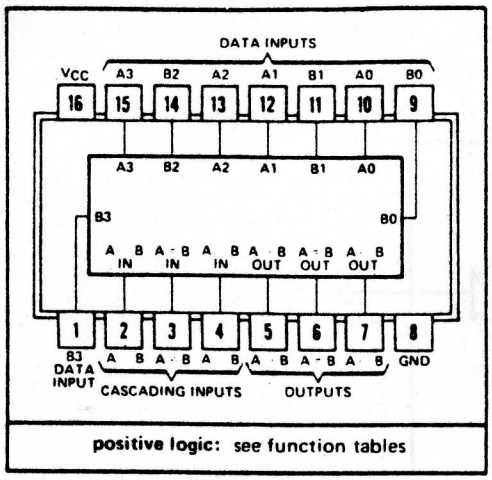


FUNCTION TABLE

INPUTS $\overline{S}$† $\overline{R}$	OUTPUT Q
H H	Q_0
L H	H
H L	L
L L	H*

H = HIGH
L = LOW LEVEL
Q_0 = THE LEVEL OF Q BEFORE THE INDICATED INPUT CONDITIONS WERE ESTABLISHED.
*THIS OUTPUT LEVEL IS PSEUDO STABLE, THAT IS, IT MAY NOT PERSIST WHEN THE $\overline{S}$ AND $\overline{R}$ INPUTS RETURN TO THEIR INACTIVE (HIGH) LEVEL.
†FOR LATCHES WITH DOUBLE $\overline{S}$ INPUTS:
H = BOTH $\overline{S}$ INPUTS HIGH
L = ONE OR BOTH $\overline{S}$ INPUTS LOW

PIN 16 = +5V (V_{CC})
PIN 8 = GND



positive logic: see function tables

FUNCTION TABLES

COMPARING INPUTS				CASCADING INPUTS			OUTPUTS		
A3, B3	A2, B2	A1, B1	A0, B0	A > B	A < B	A = B	A > B	A < B	A = B
A3 > B3	X	X	X	X	X	X	H	L	L
A3 < B3	X	X	X	X	X	X	L	H	L
A3 = B3	A2 > B2	X	X	X	X	X	H	L	L
A3 = B3	A2 < B2	X	X	X	X	X	L	H	L
A3 = B2	A2 = B2	A1 > B1	X	X	X	X	H	L	L
A3 = B3	A2 = B2	A1 < B1	X	X	X	X	L	H	L
A3 = B3	A2 = B2	A1 = B1	A0 > B0	X	X	X	H	L	L
A3 = B3	A2 = B2	A1 = B1	A0 < B0	X	X	X	L	H	L
A3 = B3	A2 = B2	A1 = B1	A0 = B0	H	L	L	H	L	L
A3 = B3	A2 = B2	A1 = B1	A0 = B0	L	H	L	L	H	L
A3 = B3	A2 = B2	A1 = B1	A0 = B0	L	L	H	L	L	H

'85, 'S85

A3 = B3	A2 = B2	A1 = B1	A0 = B0	X	X	H	L	L	H
A3 = B3	A2 = B2	A1 = B1	A0 = B0	H	H	L	L	L	L
A3 = B3	A2 = B2	A1 = B1	A0 = B0	L	L	L	H	H	L

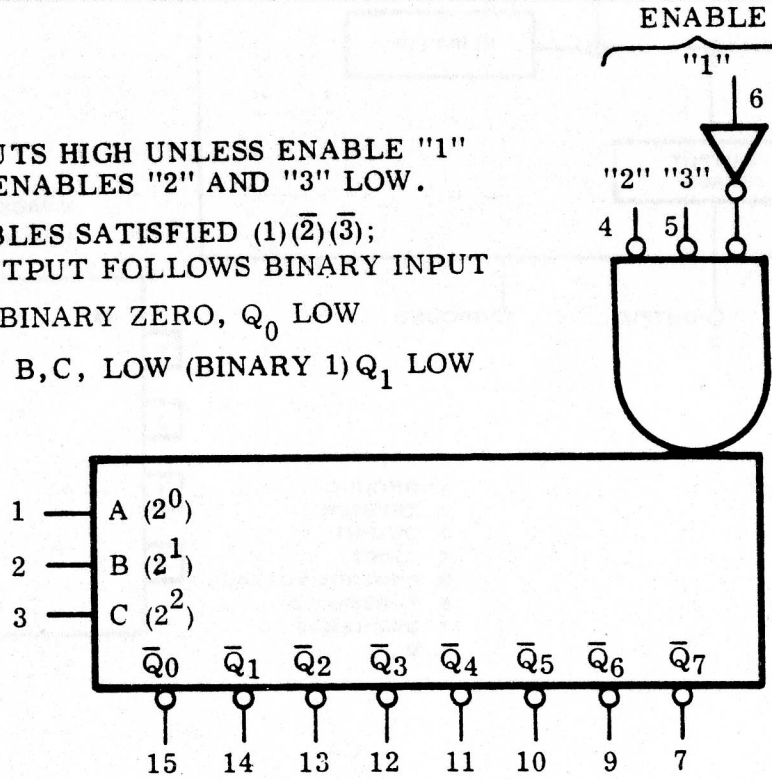
TEXAS INSTR
SN 74S138N
SN 74LS138N

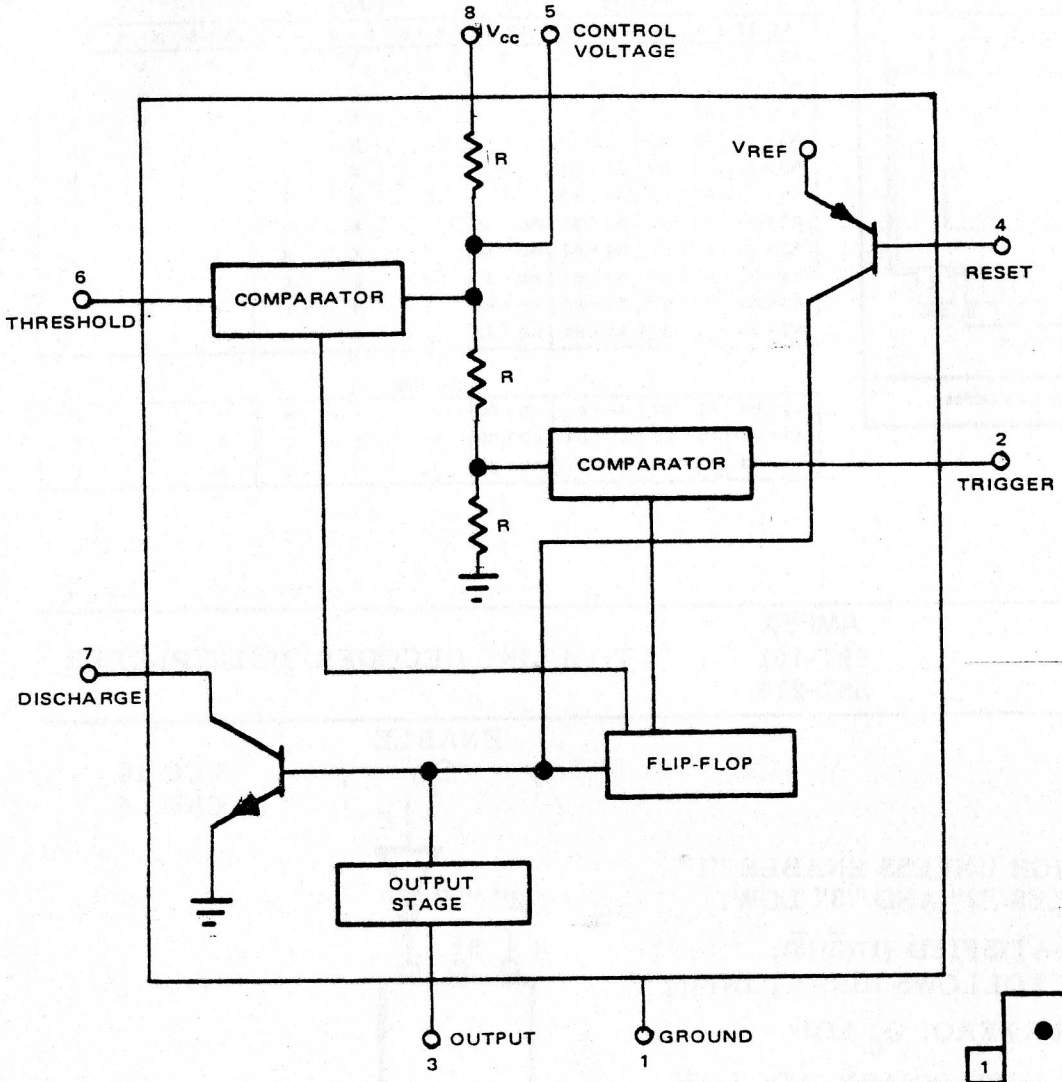
AMPEX
587-151
587-279

3 TO 8 LINE DECODER/MULTIPLEXER

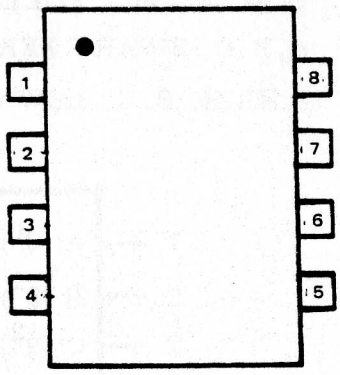
VCC 16
GND 8

1. ALL OUTPUTS HIGH UNLESS ENABLE "1" HIGH AND ENABLES "2" AND "3" LOW.
2. WITH ENABLES SATISFIED (1)($\overline{2}$)($\overline{3}$);
   - LOW OUTPUT FOLLOWS BINARY INPUT
   - A,B,C: BINARY ZERO, Q_0 LOW
   - A HIGH, B,C, LOW (BINARY 1) Q_1 LOW

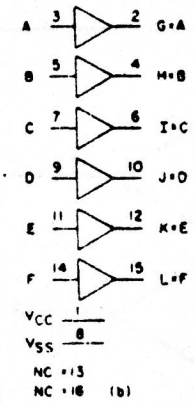




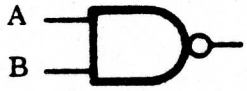
V PACKAGE
(TOP VIEW)



1. GROUND
2. TRIGGER
3. OUTPUT
4. RESET
5. CONTROL VOLTAGE
6. THRESHOLD
7. DISCHARGE
8. V_{CC}



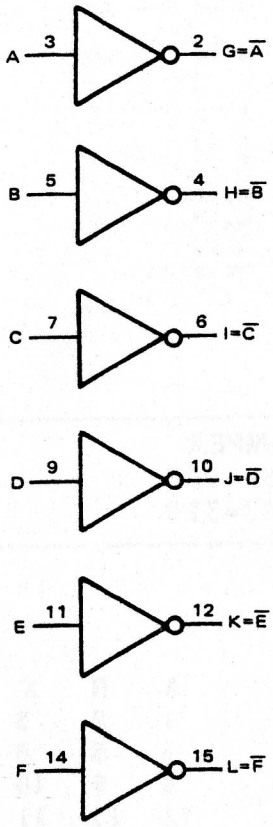
RCA 4011PC CD 4011AE | **AMPEX** 587-909 587-319 | **2 INPUT NAND GATE**



$X = \overline{AB}$

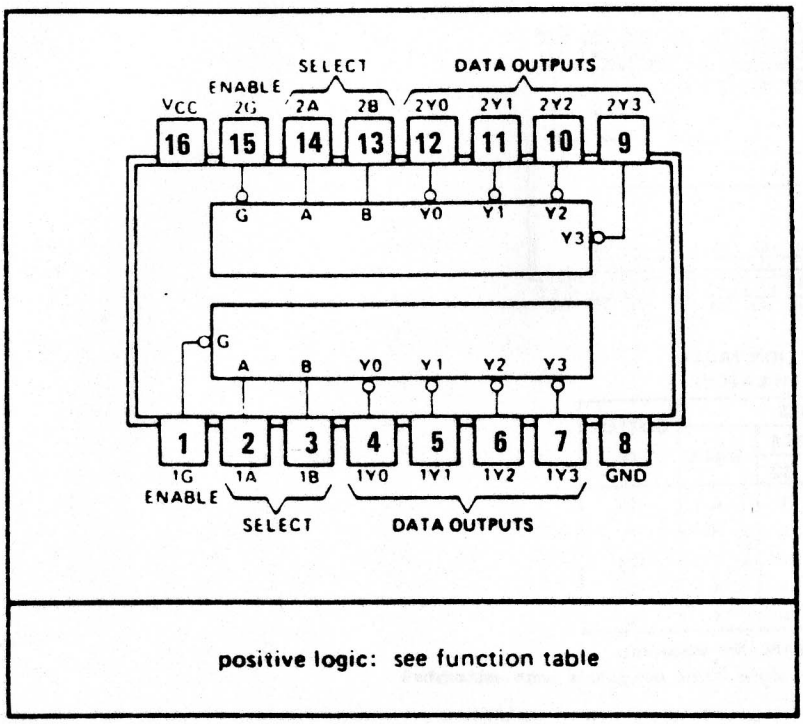
VDD 14
VSS 7

A	B	X
1	2	3
4	5	6
8	9	10
12	13	11



PIN 1 = V_{CC}
PIN 8 = V_{SS}

PIN 13 = NC
PIN 16 = NC



positive logic: see function table

FUNCTION TABLE

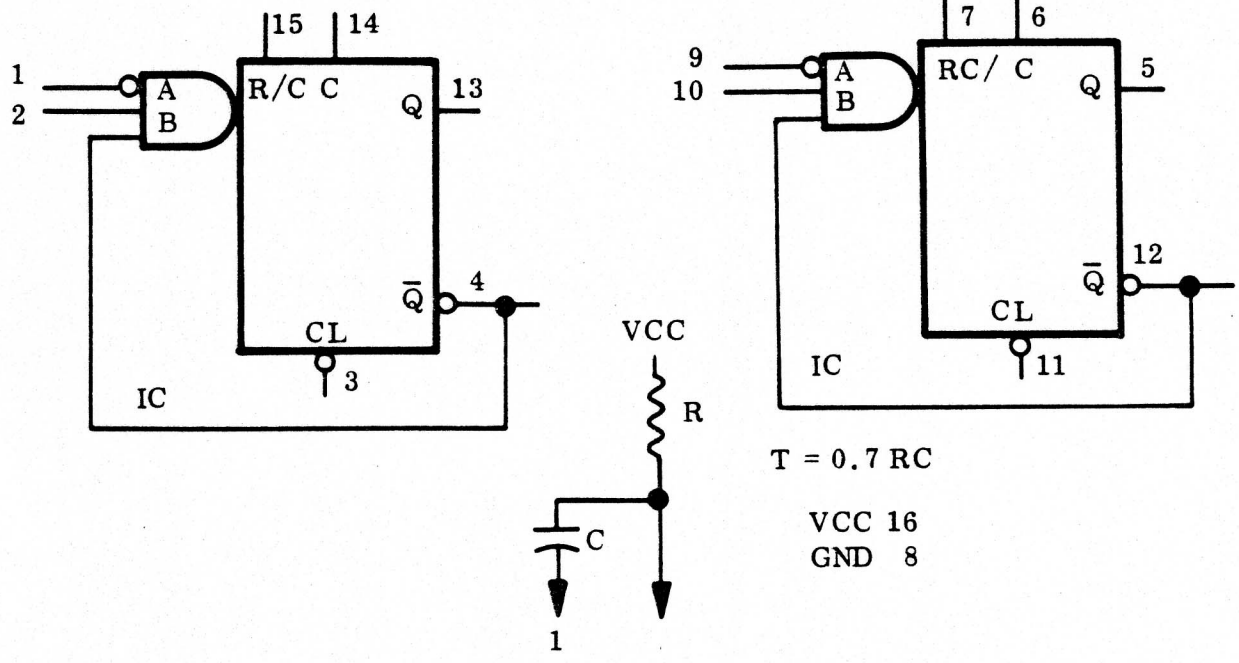
INPUTS			OUTPUTS			
ENABLE	SELECT					
G	B	A	Y0	Y1	Y2	Y3
H	X	X	H	H	H	H
L	L	L	L	H	H	H
L	L	H	H	L	H	H
L	H	L	H	H	L	H
L	H	H	H	H	H	L

H = high level, L = low level, X = irrelevant

TEXAS INST
SN74221

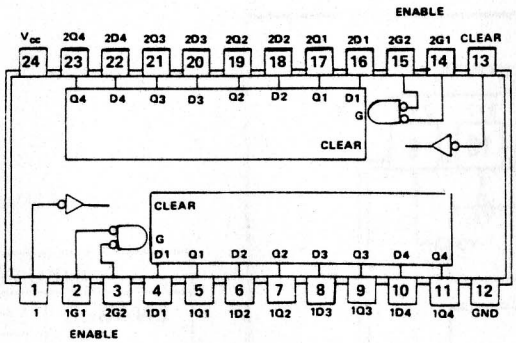
AMPEX
587-431
587-537
589-377

NON-RETRIGGERABLE ONE SHOT
SCHMITT TRIGGER INPUTS



T = 0.7 RC

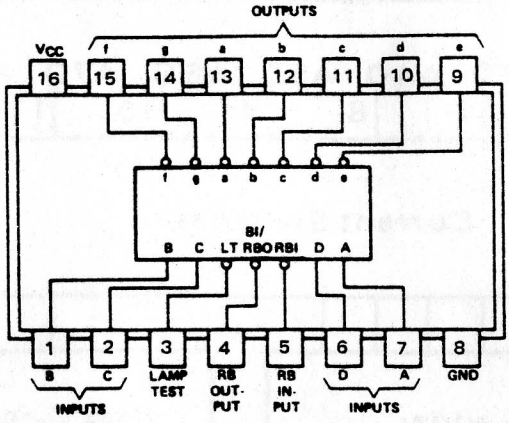
VCC 16
GND 8



FUNCTION TABLE
(EACH LATCH)

INPUTS				OUTPUT
CLEAR	ENABLE		DATA	Q
	$\bar{G}1$	$\bar{G}2$		
H	L	L	L	L
H	L	L	H	H
H	X	H	X	Q_0
H	H	X	X	Q_0
L	X	X	X	L

H = high level, L = low level, X= irrelevant
Q_0= the level of Q before these input conditions were established



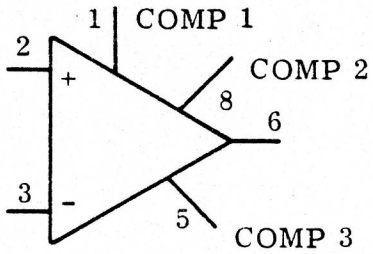
DECIMAL OR FUNCTION	INPUTS						BI/RBO†	OUTPUTS							NOTE
	LT	RBI	D	C	B	A		a	b	c	d	e	f	g	
0	H	H	L	L	L	L	H	ON	ON	ON	ON	ON	ON	OFF	
1	H	X	L	L	L	H	H	OFF	ON	ON	OFF	OFF	OFF	OFF	
2	H	X	L	L	H	L	H	ON	ON	OFF	ON	ON	OFF	ON	
3	H	X	L	L	H	H	H	ON	ON	ON	ON	OFF	OFF	ON	
4	H	X	L	H	L	L	H	OFF	ON	ON	OFF	OFF	ON	ON	
5	H	X	L	H	L	H	H	ON	OFF	ON	ON	OFF	ON	ON	
6	H	X	L	H	H	L	H	OFF	OFF	ON	ON	ON	ON	ON	
7	H	X	L	H	H	H	H	ON	ON	ON	OFF	OFF	OFF	OFF	1
8	H	X	H	L	L	L	H	ON	ON	ON	ON	ON	ON	ON	
9	H	X	H	L	L	H	H	ON	ON	ON	OFF	OFF	ON	ON	
10	H	X	H	L	H	L	H	OFF	OFF	OFF	ON	ON	OFF	ON	
11	H	X	H	L	H	H	H	OFF	OFF	ON	ON	OFF	OFF	ON	
12	H	X	H	H	L	L	H	OFF	ON	OFF	OFF	OFF	ON	ON	
13	H	X	H	H	L	H	H	ON	OFF	OFF	ON	OFF	ON	ON	
14	H	X	H	H	H	L	H	OFF	OFF	OFF	ON	ON	ON	ON	
15	H	X	H	H	H	H	H	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
BI	X	X	X	X	X	X	L	OFF	OFF	OFF	OFF	OFF	OFF	OFF	2
RBI	H	L	L	L	L	L	L	OFF	OFF	OFF	OFF	OFF	OFF	OFF	3
LT	L	X	X	X	X	X	H	ON	ON	ON	ON	ON	ON	ON	4

H = high level, L = low level, X = irrelevant

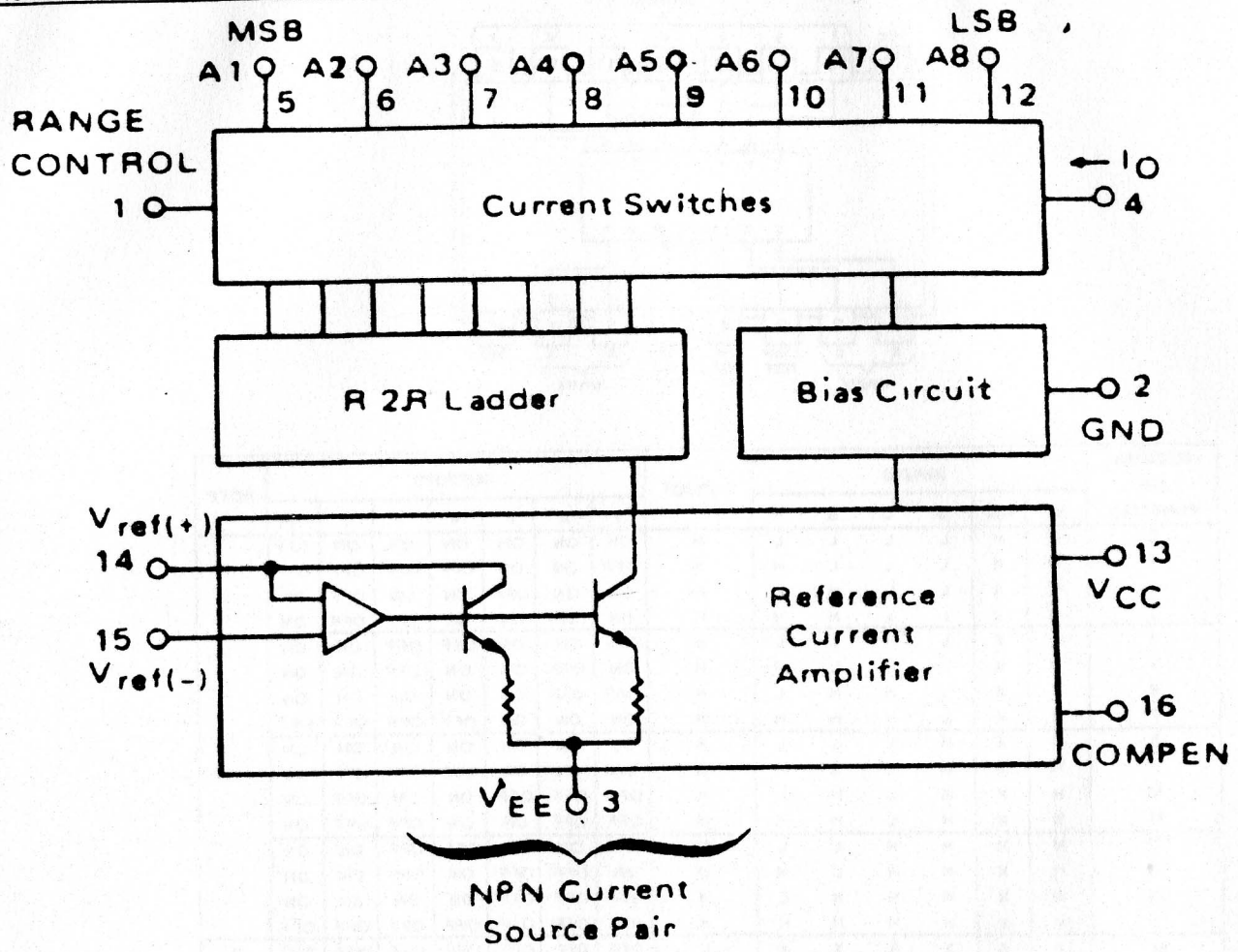
NATIONAL SEMI
LM318H
LM318N

AMPEX
587-478
587-656

OP AMP



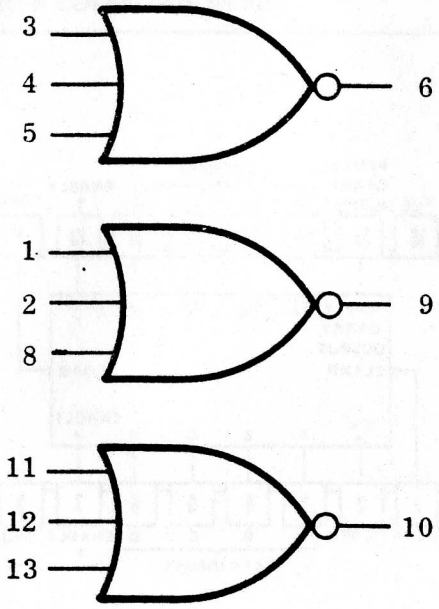
V^+7 V^-4(gnd)


MSB
LSB
A1
A2
A3
A4
A5
A6
A7
A8
5
6
7
8
9
10
11
12
RANGE
CONTROL
1
Current Switches
IO
4
R 2R Ladder
Bias Circuit
2
GND
Vref(+)
14
15
Vref(-)
Reference
Current
Amplifier
13
VCC
16
COMPEN
VEE
3
NPN Current
Source Pair

RCA
CD 4025AE

AMPEX
587-683

TRIPLE 3 INPUT NOR GATE
C-MOS



VDD 14
VSS 7

$Z = \overline{A + B + C}$

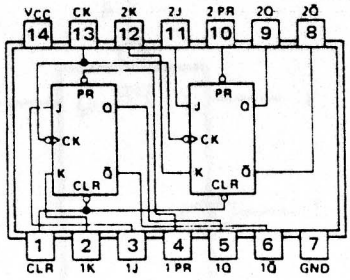
TEXAS INSTRUMENTS
SN74S114N

AMPEX
587-710

DUAL J-K NEGATIVE-EDGE-TRIGGERED
FLIP-FLOPS WITH PRESET,
COMMON CLEAR, AND COMMON CLOCK

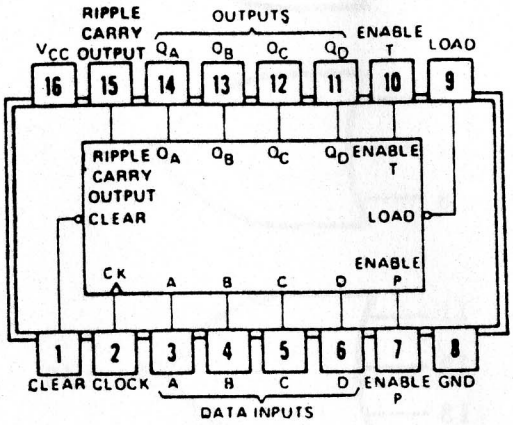
FUNCTION TABLE

INPUTS					OUTPUTS	
PRESET	CLEAR	CLOCK	J	K	Q	$\bar{Q}$
L	H	X	X	X	H	L
H	L	X	X	X	L	H
L	L	X	X	X	H*	H*
H	H	↓	L	L	Q_0	Q_0
H	H	↓	H	L	H	L
H	H	↓	L	H	L	H
H	H	↓	H	H	TOGGLE	
H	H	H	X	X	Q_0	Q_0

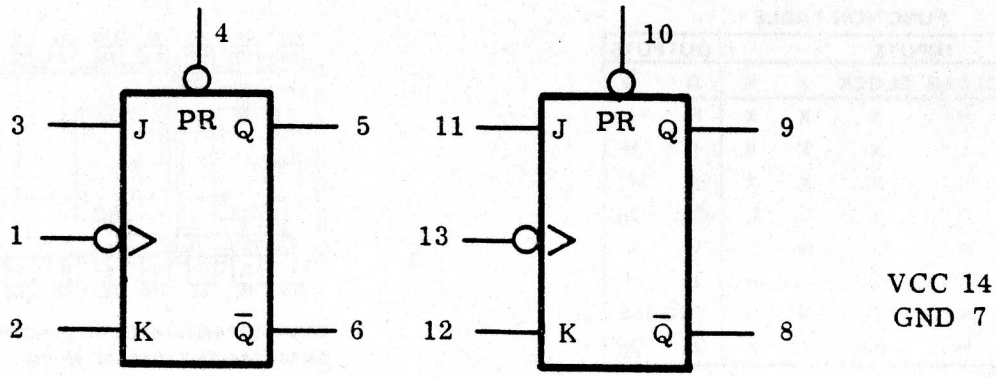


SN54LS114/SN74LS114(J, N, W)
SN54S114/SN74S114(J, N, W)

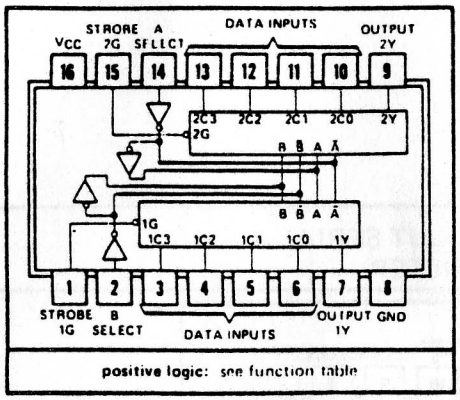
TEXAS INSTR	AMPEX	
SN74LS161	587-772	SYNCHRONOUS 4-BIT COUNTERS



TEXAS INSTR	AMPEX	
SN 74LS113 N	587-776	DUAL J-K FLIP FLOP



TEXAS INST	AMPEX	DUAL 4-LINE-TO-1-LINE DATA
SN74LS153N	587-777	SELECTORS/MULTIPLEXERS

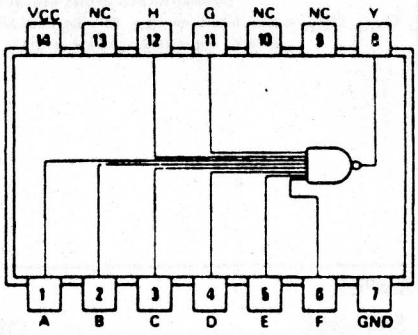


FUNCTION TABLE

SELECT INPUTS		DATA INPUTS				STROBE	OUTPUT
B	A	C0	C1	C2	C3	G	Y
X	X	X	X	X	X	H	L
L	L	L	X	X	X	L	L
L	L	H	X	X	X	L	H
L	H	X	L	X	X	L	L
L	H	X	H	X	X	L	H
H	L	X	X	L	X	L	L
H	L	X	X	H	X	L	H
H	H	X	X	X	L	L	L
H	H	X	X	X	H	L	H

Select inputs A and B are common to both sections.
H = high level, L = low level, X = irrelevant

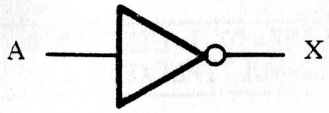
TEXAS INST	AMPEX	8-INPUT POSITIVE-NAND GATES
SN74LS30N	587-778	



positive logic:

$Y = \overline{ABCDEFGH}$

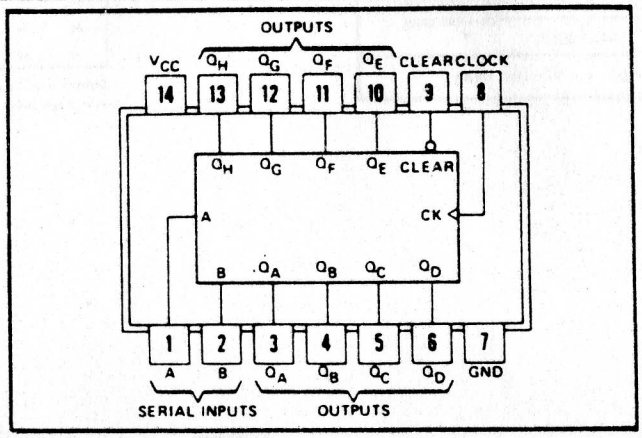
RCA	AMPEX	
CD 4069	587-858	HEX INVERTER



A	X
1	2
3	4
5	6
9	8
11	10
13	12

VDD 14
VSS 7

FAIRCHILD	AMPEX	8-BIT PARALLEL-OUT SERIAL SHIFT REGISTER
74LS164	587-895	



FUNCTION TABLE

INPUTS				OUTPUTS			
CLEAR	CLOCK	A	B	Q_A	Q_B	...	Q_H
L	X	X	X	L	L		L
H	L	X	X	Q_{A0}	Q_{B0}		Q_{H0}
H	↑	H	H	H	Q_{An}		Q_{Gn}
H	↑	L	X	L	Q_{An}		Q_{Gn}
H	↑	X	L	L	Q_{An}		Q_{Gn}

H = high level (steady state), L = low level (steady state)
X = irrelevant (any input, including transitions)
↑ = transition from low to high level.
Q_{A0}, Q_{B0}, Q_{H0} = the level of Q_A, Q_B, or Q_H, respectively, before the indicated steady-state input conditions were established.
Q_{An}, Q_{Gn} = the level of Q_A or Q_G before the most-recent ↑ transition of the clock; indicates a one-bit shift.

RCA	AMPEX	
CD 4071	587-905	OR GATE

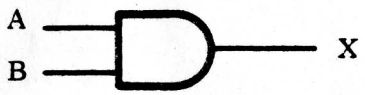


$X = A + B$

A	B	X
1	2	3
5	6	4
8	9	10
12	13	11

VDD 14
VSS 7

RCA	AMPEX	
CD 4081	587-906	2 INPUT AND



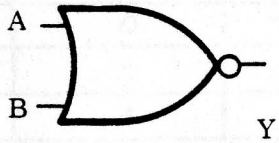
X = AB

A	B	X
1	2	3
5	6	4
8	9	10
12	13	11

VDD 14
VSS 7

RCA	AMPEX	
CD 4001	587-908	
CD 4001 AE	587-318	QUAD NOR

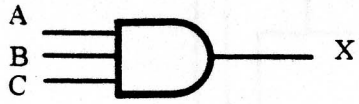
VSS 7
VDD 14



$Y = \overline{A + B}$

A	B	Y
1	2	3
5	6	4
13	14	11
8	9	10

RCA	AMPEX	
CD 4073	587-914	3 INPUT AND



X = ABC

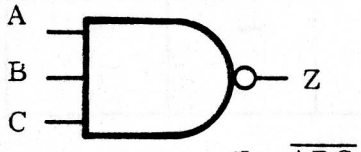
A	B	C	X
1	2	8	9
3	4	5	6
11	12	13	10

VDD 14
VSS 7

RCA	AMPEX	
CD 4023 AE	587-449	TRIPLE 3 INPUT NAND GATES
4023 PC	587-936	C-MOS

V_{DD} 14

V_{SS} 7



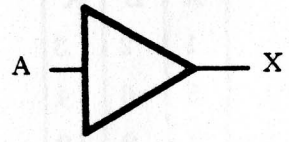
$Z = \overline{ABC}$

f IN			OUT	
1	2	8	9	
3	4	5	6	
11	12	13	10	

RCA
CD 4010AE

AMPEX
587-959

HEX CONVERTER



X=A

A	X
3	2
5	4
7	6
9	10
11	12
14	15

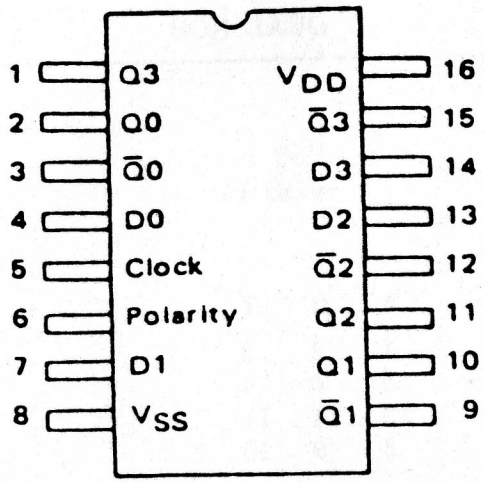
VCC 1
VDD 16
GND 8

MOTOROLA
MC14042B

AMPEX
587-984

QUAD LATCH

QUAD LATCH



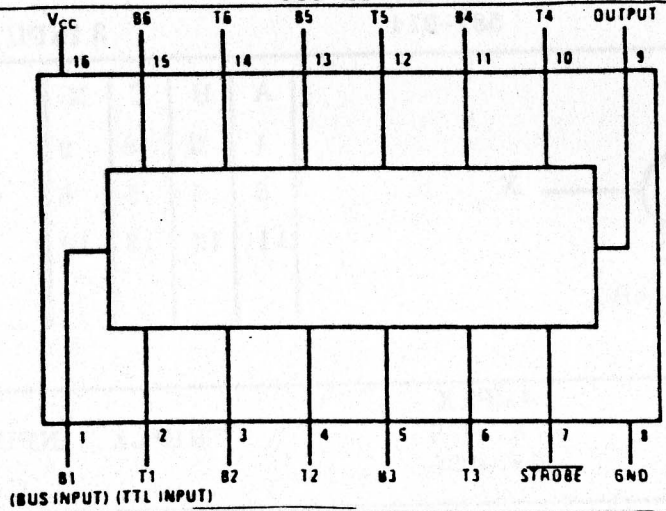
TRUTH TABLE

CLOCK	POLARITY	Q
0	0	Data
⌐	0	Latch
1	1	Data
¬	1	Latch

NATIONAL SEMI
DM8131

AMPEX
589-214

6-BIT UNIFIED BUS COMPARATOR



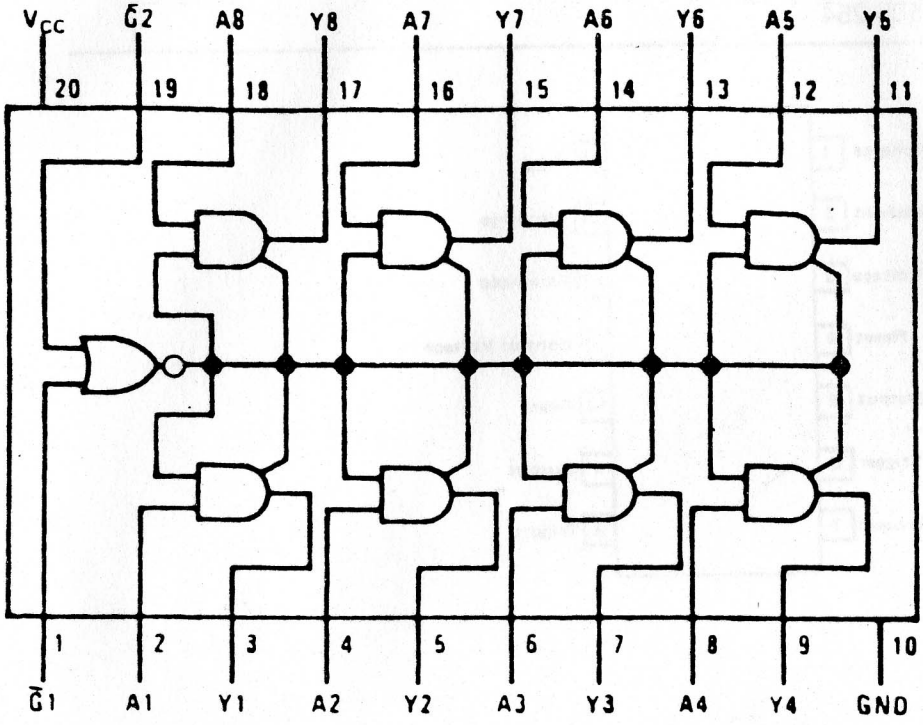
CONDITION	$\overline{\text{STROBE}}$	OUTPUT	
		DM71/8131	DM71/8136
T = B, T ≠ B	H	Q_{N-1}*	Q_{N-1}*
T = B	L	L	H
T ≠ B	L	H	L

*Latched in previous state

NATIONAL SEMI
DM81LS95

AMPEX
589-223

TRI-STATE OCTAL BUFFERS

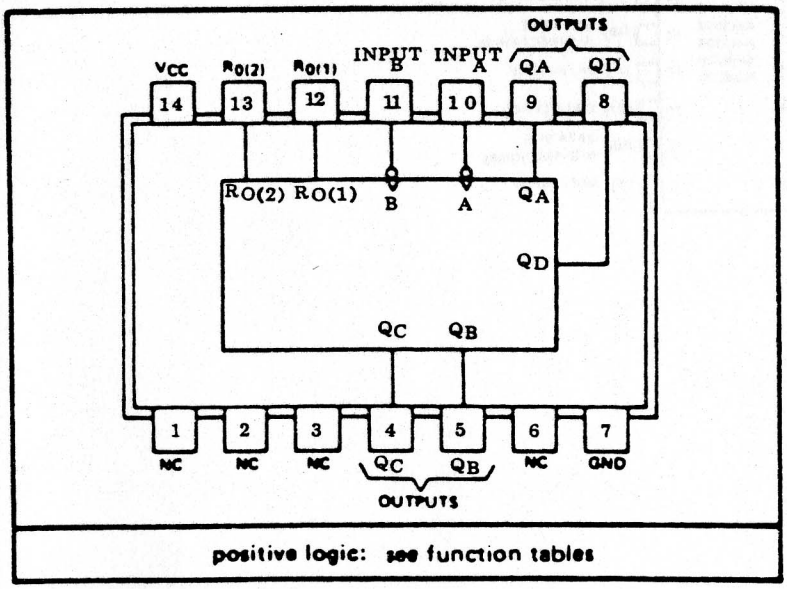


INPUTS			OUTPUT
$\bar{G}1$	$\bar{G}2$	A	Y
H	X	X	Z
X	H	X	Z
L	L	H	H
L	L	L	L

TEXAS INSTRUMENTS
74LS293

AMPEX
589-238

4-BIT BINARY COUNTERS



positive logic: see function tables

NC—No internal connection

NOTES: A. Output Q_A is connected to input B for BCD count.
B. Output Q_D is connected to input A for bi-quinary count.
C. Output Q_A is connected to input B.
D. H = high level, L = low level, X = irrelevant

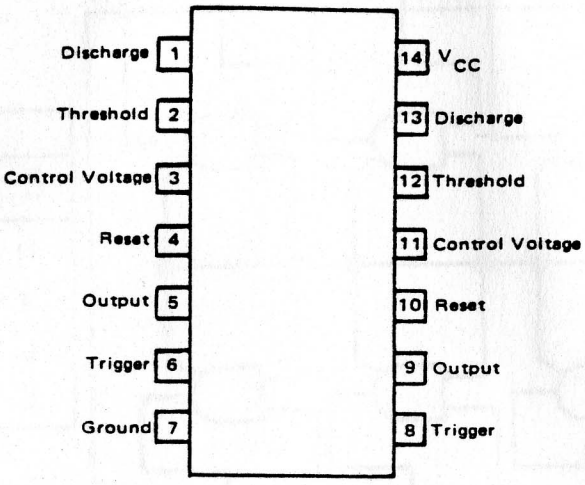
RESET/COUNT FUNCTION TABLE

RESET INPUTS		OUTPUT			
$R_{0(1)}$	$R_{0(2)}$	Q_D	Q_C	Q_B	Q_A
H	H	L	L	L	L
L	X	COUNT			
X	L	COUNT			

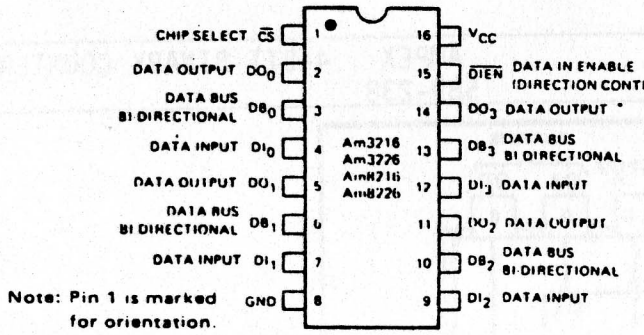
COUNT SEQUENCE
(See Note C)

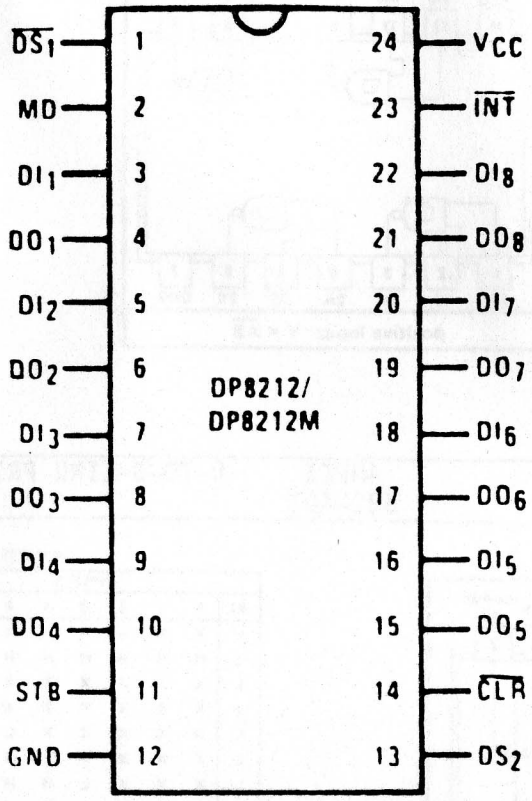
COUNT	OUTPUT			
	Q_D	Q_C	Q_B	Q_A
0	L	L	L	L
1	L	L	L	H
2	L	L	H	L
3	L	L	H	H
4	L	H	L	L
5	L	H	L	H
6	L	H	H	L
7	L	H	H	H
8	H	L	L	L
9	H	L	L	H
10	H	L	H	L
11	H	L	H	H
12	H	H	L	L
13	H	H	L	H
14	H	H	H	L
15	H	H	H	H

SIGNETICS	AMPEX	DUAL TIMER
NE556A	589-254	



ADVANCED MICRO DEVICES	AMPEX	FOUR-BIT PARALLEL BIDIRECTIONAL
AM8216	589-269	BUS DRIVER

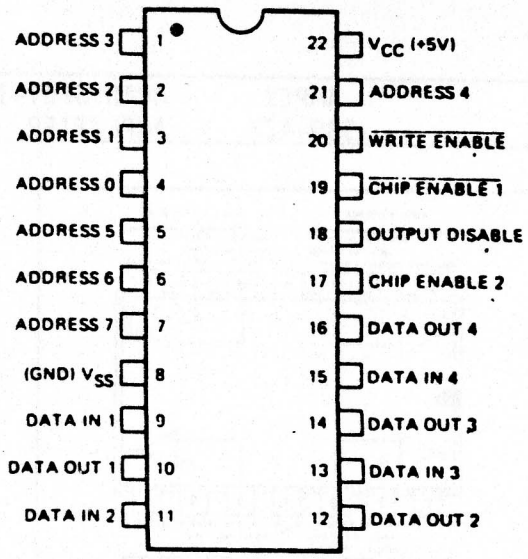




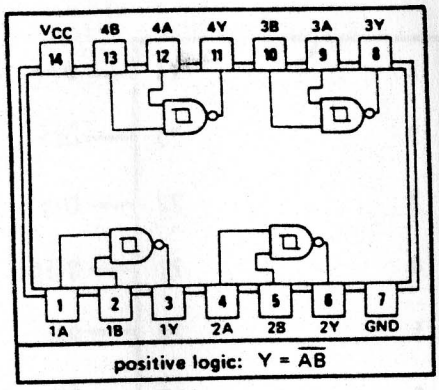
ADVANCED MICRO DEVICES
2101-A2

AMPEX
589-347

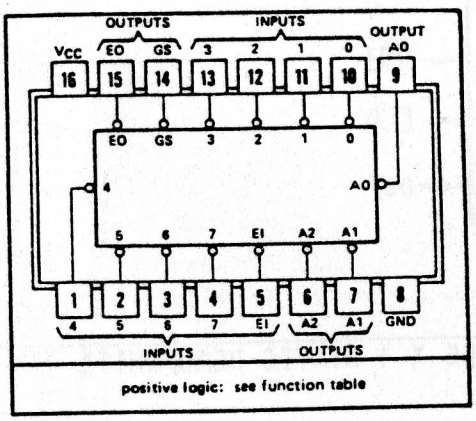
256 X 4 STATIC READ/WRITE RAM



TEXAS INST SN74LS132N | AMPEX 589-368 | SCHMITT-TRIGGER POSITIVE-NAND GATES WITH TOTEM-POLE OUTPUTS



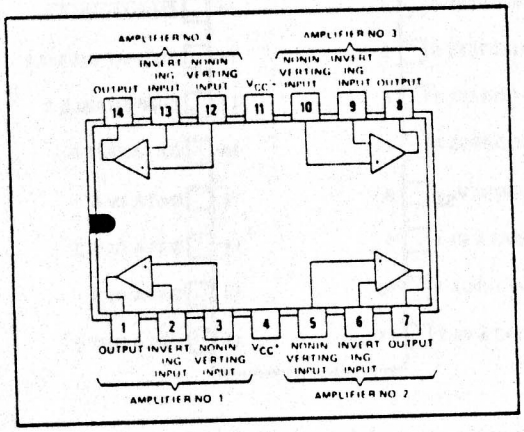
TEXAS INST SN74LS148N | AMPEX 589-403 | 8-TO-3-LINE PRIORITY ENCODERS



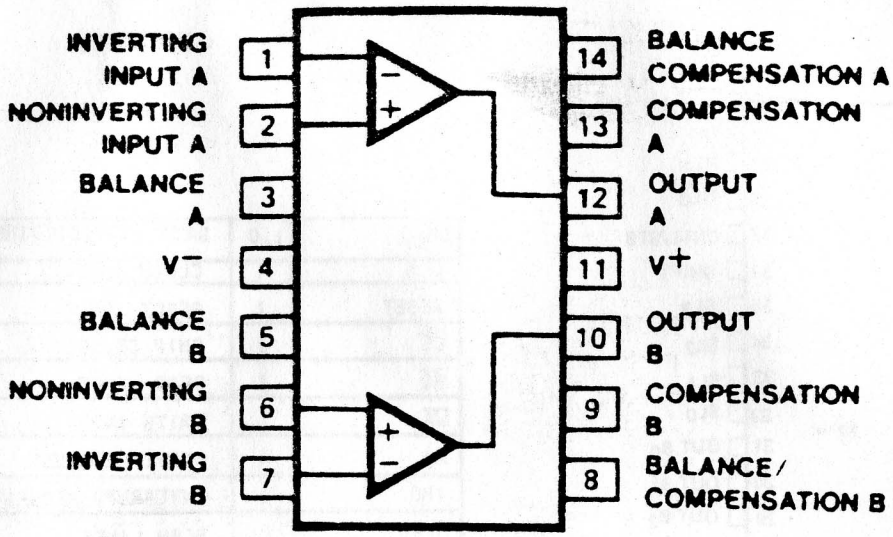
FUNCTION TABLE

INPUTS								OUTPUTS				
EI	0	1	2	3	4	5	6	7	A2	A1	A0	GS	EO
H	X	X	X	X	X	X	X	X	H	H	H	H	H
L	H	H	H	H	H	H	H	H	H	H	H	H	L
L	X	X	X	X	X	X	X	L	L	L	L	L	H
L	X	X	X	X	X	X	L	H	L	L	H	L	H
L	X	X	X	X	X	L	H	H	L	H	L	L	H
L	X	X	X	X	L	H	H	H	L	H	H	L	H
L	X	X	X	L	H	H	H	H	H	L	L	L	H
L	X	X	L	H	H	H	H	H	H	L	H	L	H
L	X	L	H	H	H	H	H	H	H	H	L	L	H
L	L	H	H	H	H	H	H	H	H	H	H	L	H

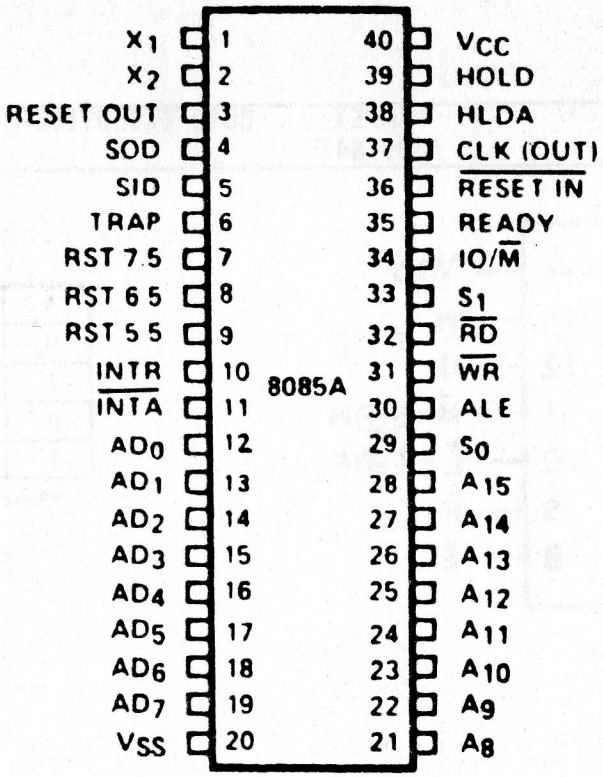
TEXAS INST TL084CN | AMPEX 589-428 | QUAD JFET-INPUT OPERATIONAL AMPLIFIER

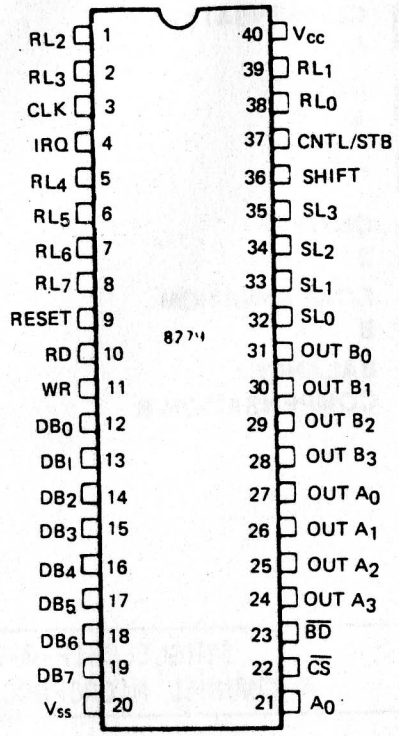


SIGNETICS NE5534N	AMPEX 589-481	SINGLE AND DUAL LOW NOISE OPERATIONAL AMPLIFIER



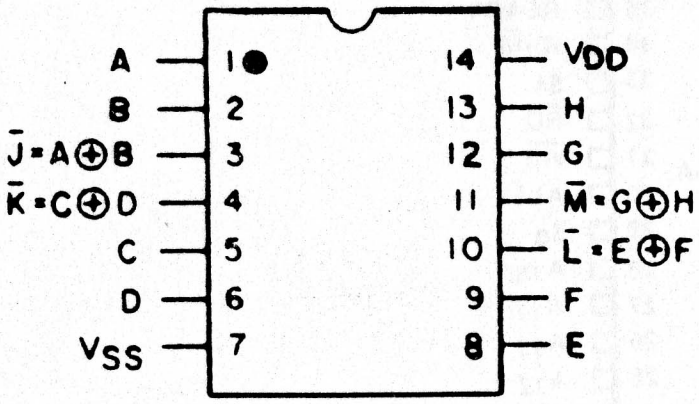
INTEL 8085	AMPEX 589-639	SINGLE CHIP 8-BIT N-CHANNEL MICROPROCESSOR





DB_{0}/	1.0	DATA BUS (BI DIRECTIONAL)
CLK	1	CLOCK INPUT
RESET	1	RESET INPUT
$\overline{CS}$	1	CHIP SELECT
$\overline{RO}$	1	BEAD INPUT
$\overline{WA}$	1	WRITE INPUT
A_0	1	BUFFER ADDRESS
IRO	0	INTERRUPT REQUEST OUTPUT
SL_{03}	0	SCAN LINES
RL_{07}	1	RETURN LINES
SHIFT	1	SHIFT INPUT
CNTL STB	1	CONTROL STROBE INPUT
OUT A_{01}	0	DISPLAY (A) OUTPUTS
OUT B_{03}	0	DISPLAY (B) OUTPUTS
$\overline{BD}$	0	BLANK DISPLAY OUTPUT

RCA CD4077B | AMPEX 589-641 | QUAD EXCLUSIVE-NOR GATE



1 of 4 Gates

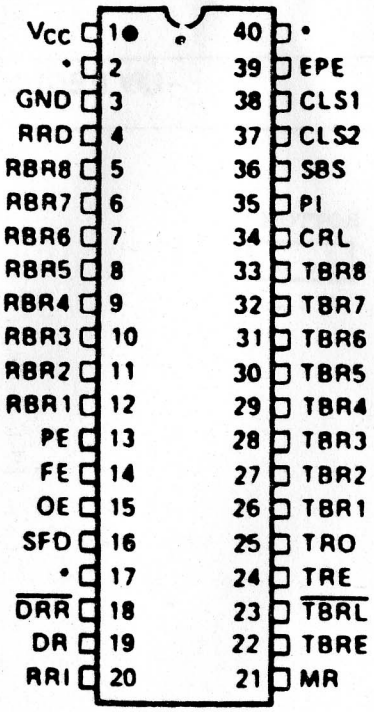
A	B	J
0	0	1
1	0	0
0	1	0
1	1	1

Where 1 = High Level
" 0 = Low Level
$\bar{J} = A \oplus B$

INTERSIL
IM6402

AMPEX
589-644

UNIVERSAL ASYNCHRONOUS RECEIVER TRANSMITTER (UART)



*See Table 1

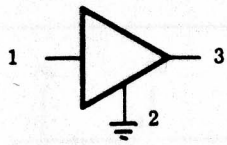
TABLE 1

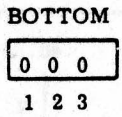
PIN	IM6402	IM6403 w/XTAL	IM6403 w/EXT CLOCK
2	N/C	DIVIDE CONTROL	DIVIDE CONTROL
17	RRC	XTAL	EXTERNAL CLOCK INPUT
40	TRC	XTAL	GND

MOTOROLA
MC7805CT

AMPEX
589-645

+5V REGULATOR

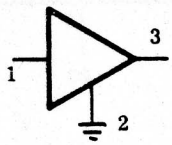


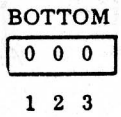


MOTOROLA
MC7815CT

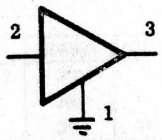
AMPEX
589-647

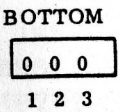
+15V REGULATOR





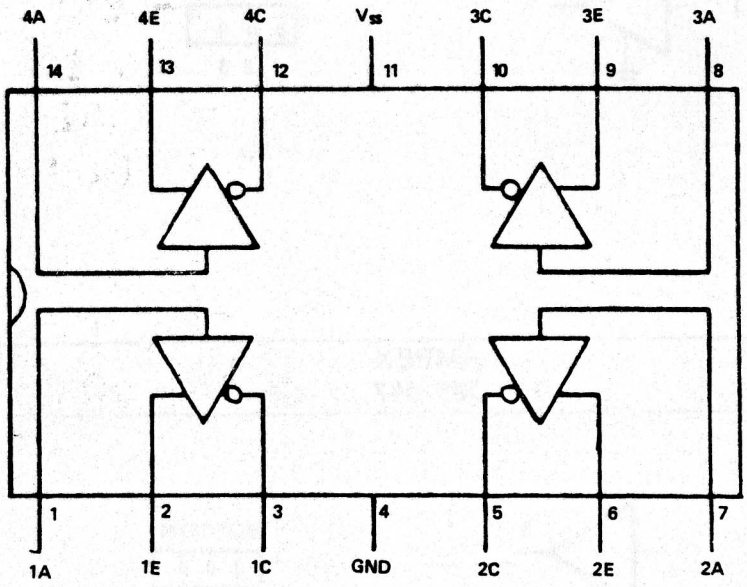
MOTOROLA MC7915CT	AMPEX 590-649	-15V REGULATOR



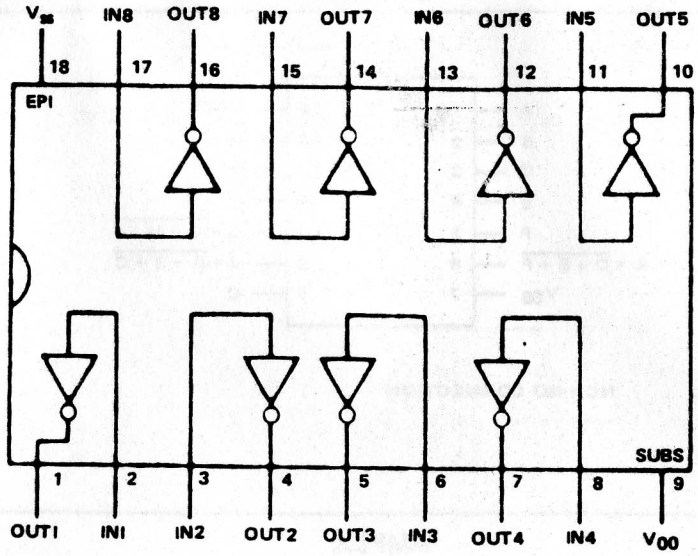


162 A

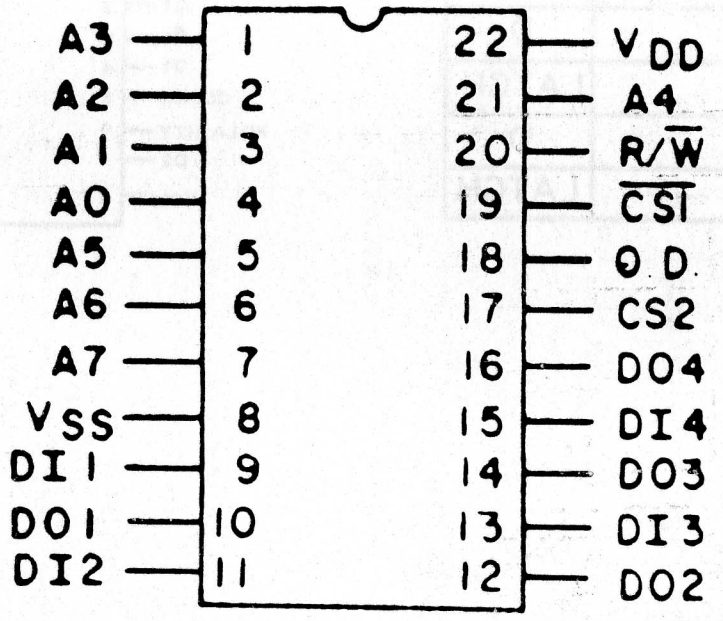
NATIONAL SEMI DS75491	AMPEX 589-650	MOS-to-LED QUAD SEGMENT DRIVER



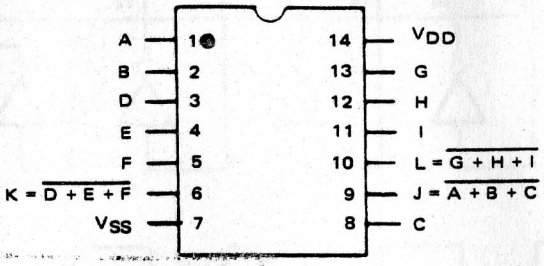
NATIONAL SEMI DS8863M	AMPEX 589-651	MOS-to-LED 8-DIGIT DRIVER



RCA MWS5101EL2	AMPEX 589-652	256 WORD BY 4-BIT LSI STATIC RANDOM-ACCESS MEMORY



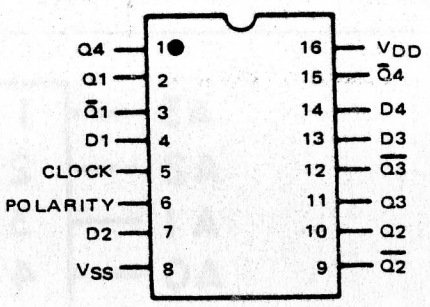
RCA CD4025BE	AMPEX 589-661	NOR GATE TRIPLE 3-INPUT



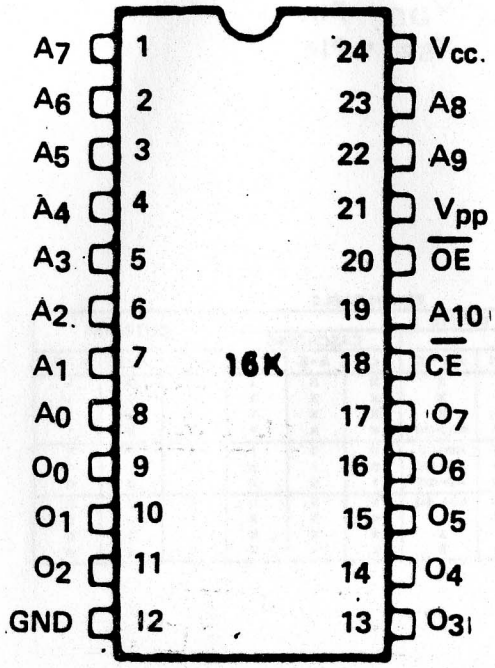
NC = NO CONNECTION

RCA CD4042B	AMPEX 589-692	COS/MOS QUAD CLOCKED "D" LATCH

CLOCK	POLARITY	Q
0	0	D
⌐	0	LATCH
1	1	D
¬	1	LATCH

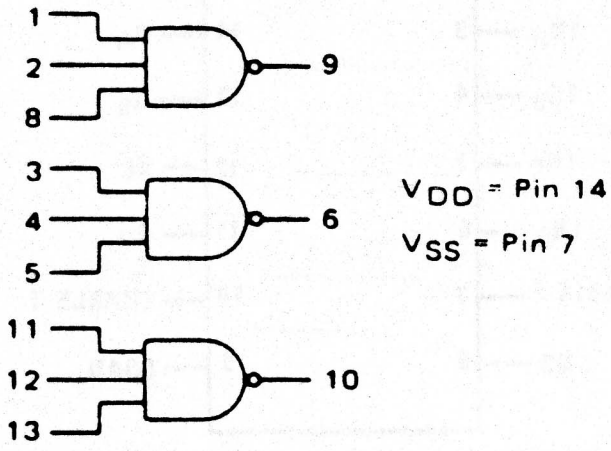


INTEL 2716	AMPEX 589-715	16K (2K X 8) UV ERASABLE PROM



$A_0 - A_{10}$	ADDRESSES
$\overline{CE}$/PGM	CHIP ENABLE PROGRAM
$\overline{OE}$	OUTPUT ENABLE
O_0-O_7	OUTPUTS

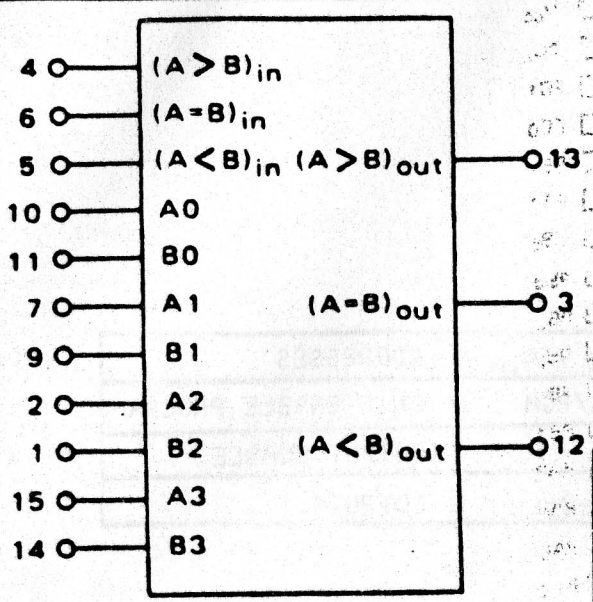
MOTOROLA MC14023BCP	AMPEX 589-782	TRIPLE 3-INPUT "NAND"GATE



MOTOROLA
MC14585

AMPEX
589-869

4-BIT MAGNITUDE COMPARATOR



V_{DD} = Pin 16
V_{SS} = Pin 8

TRUTH TABLE

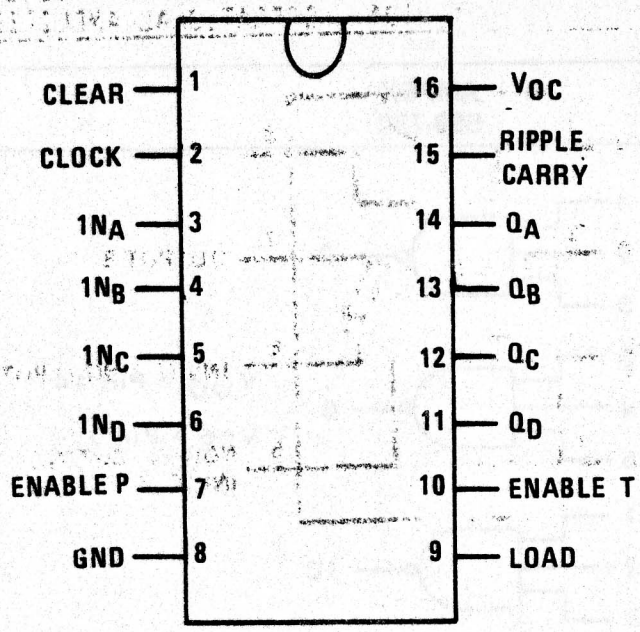
INPUTS							OUTPUTS		
COMPARING				CASCADING					
A3, B3	A2, B2	A1, B1	A0, B0	A<B	A=B	A>B	A<B	A=B	A>B
A3>B3	X	X	X	X	X	1	0	0	1
A3=B3	A2>B2	X	X	X	X	1	0	0	1
A3=B3	A2=B2	A1>B1	X	X	X	1	0	0	1
A3=B3	A2=B2	A1=B1	A0>B0	X	X	1	0	0	1
A3=B3	A2=B2	A1=B1	A0=B0	0	0	1	0	0	1
A3=B3	A2=B2	A1=B1	A0=B0	0	1	X	0	1	0
A3=B3	A2=B2	A1=B1	A0=B0	1	0	X	1	0	0
A3=B3	A2=B2	A1=B1	A0<B0	X	X	X	1	0	0
A3=B3	A2=B2	A1<B1	X	X	X	X	1	0	0
A3=B3	A2<B2	X	X	X	X	X	1	0	0
A3<B3	X	X	X	X	X	X	1	0	0

X = Don't Care

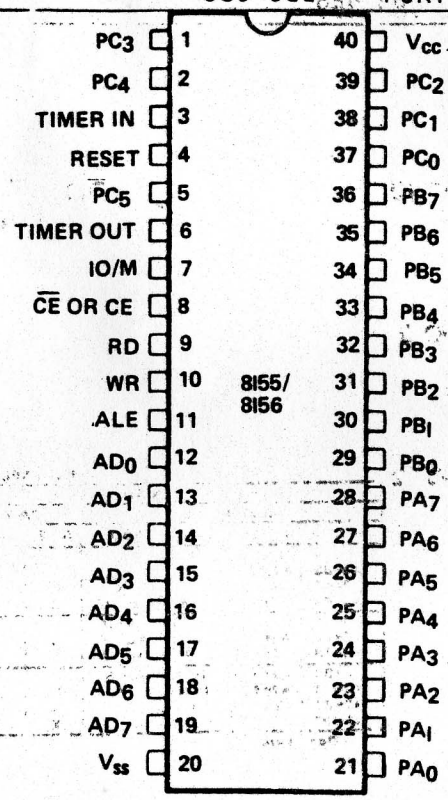
NATIONAL SEMI
MM74C161

AMPEX
589-904

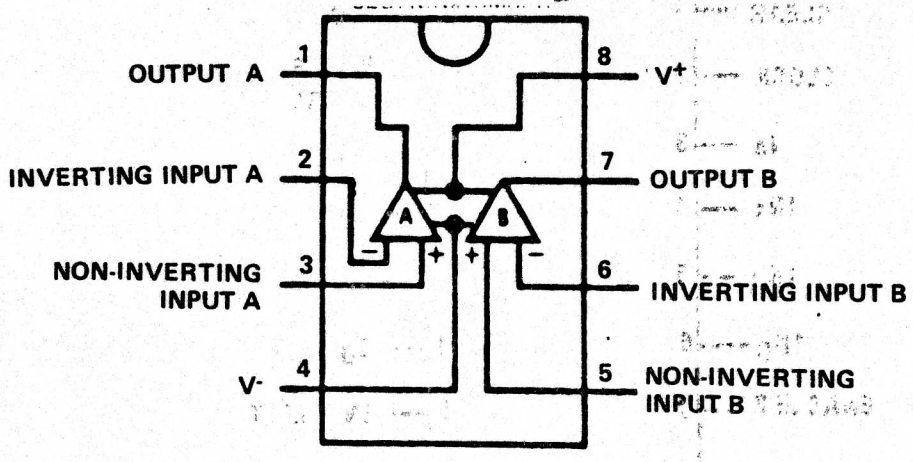
BINARY COUNTER WITH ASYNCHRONOUS CLEAR



INTEL 8156	AMPEX 589-911	2048 BIT STATIC MOS RAM WITH I/O PORTS AND TIMER



NATIONAL SEMI LF353N	AMPEX 590-104	WIDE BANDWIDTH DUAL JFET INPUT OPERATIONAL AMPLIFIER



AMPEX

PRINTED IN USA

AMPEX | Ampex Corporation, Redwood City, California | LIST OF MATERIALS | LM-4051221 SHEET 1 OF 3 | REV -

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
-	PRODUCTION RELEASE	8/15/84	

CODE IDENT NO. 92739 | TITLE: PRINTED WIRING ASSEMBLY, AUTOMATIC OFF-SET ADJUST

SIGNATURE		DATE
DRAWN BY	VONNY F.	8/18/83
CHECKED BY		
ENGR APPD		9-4-84
APPD BY		9-5-84

4020449 | ATR-116/124
NEXT ASSEMBLY | USED ON
APPLICATION

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
1	4050521	PRINTED WIRING BOARD		-01
2				
3	4840655	SCHEMATIC		(-)
4				
5	030-966	CAPACITOR, CER., MOLDED, .01	C39,53,63	3
6	064-062	CAPACITOR, CER., MONO, .1uF, 50V	C1-12,14,15,16,18,19,21,22,24,26-34,38,40,45,50,51,55-58,60	40
7	064-316	CAPACITOR, CER., MONO, 2.2uF, 50V	C23,25,52	3
8				
9	069-160	CAPACITOR, POLY, PLESSEY, .002	C48	1
10	069-166	.047	C49	1
11	069-168	.01	C47	1
12	069-174	CAPACITOR, POLY, PLESSEY, .001	C46	1
13				
14				
15	037-298	CAPACITOR, TANT., DIPPED, 47uF, 6V	C37	1
16	037-944	12uF, 25V	C20,42,43,54,59	5
17	037-954	22uF, 15V	C44	1
18	037-964	39uF, 10V	C13,17,35,36	4
19	037-984	CAPACITOR, TANT., DIPPED, 100uF, 10V	C61,62	2
20				
21				
22	013-599	DIODE, GENERAL PURPOSE	CR1-4,6-11	10
23	013-650	DIODE, GERM.	CR5	1
24	013-166	DIODE, ZENER, 3.3V, 500MW, IN746A	VR2	1
25	013-257	DIODE, ZENER, 6.2V, 400MS, IN753A	VR1,3	2
26	013-865	DIODE, ZENER, 5.1V, 1W, IN733A	VR4	1
27				
28	584-427	INTEGRATED CIRCUIT, TL082, OP. AMP, DUAL	U3,16,22	3
29	586-309	9601	U12,14	2
30	586-533	74121	U9	1
31	587-387	74LS74	U8	1
32	587-505	7411	U15	1
33	587-510	74LS00	U5,10	2
34	587-523	74LS32	U7	1
35	587-533	74LS04	U11	1
36	587-746	INTEGRATED CIRCUIT, 74LS86	U6	1

LM-4051221

AMPEX | Ampex Corporation, Redwood City, California | 92739 | LIST OF MATERIALS | LM-4051221 SHEET 2 OF 3 | REV -

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
37	547-750	INTEGRATED CIRCUIT, 74LS02	U1,13,20	3
38	589-345	LM319, COMPARATOR	U2,4	2
39	589-428	TL084, OP AMP, QUAD	U18,20	2
40		INTEGRATED CIRCUIT, SG211, FFT GATE	U17,19	2
41				
42				
43				
44	041-379	RESISTOR, C.F., 430 OHMS, 1/2W, 5%	R67	1
45				
46	066-661	RESISTOR, C.F., 120 OHMS, 1/4W, 5%	R85	1
47	066-665	1K	R51,52,82	3
48	066-666	2.7K	R28	1
49	066-668	4.7K	R1,2,11,12,34,35,40,42,54,84	10
50	066-669	8.2K	R63,70	2
51	066-689	2.2K	R50,56,64,65,66,68,69,71,72	9
52	066-712	22K	R7,45,57,59,60,62,73,75,76,83	10
53	066-717	47K	R22,23,41	3
54	066-720	3.3K	R8	1
55	066-812	120	R85	1
56	066-823	1.1K	R36,37,55	3
57	066-824	1.5K	R5,46	2
58	066-826	2K	R43,58,74	3
59	066-830	10K	R3,4,9,10,14,26,29-33,48,49,53,77,80,81	17
60	066-832	18K	R27	1
61	066-847	33K	R20	1
62	066-849	100K	R6,17,44	3
63	066-857	91K	R18	1
64	066-866	27K	R13,15,16	3
65	066-867	33K	R20	1
66	066-873	20K	R24,25	2
67	066-913	220K	R61	1
68	076-051	RESISTOR, C.F., 300K OHMS, 1/4W, 5%	R19	1
69				
70				
71				
72	044-927	RESISTOR, WAR., 500 OHMS	R38,39	2
73	058-443	RESISTOR, WAR., 50K OHMS	R47	1
74				
75	014-698	TRANSISTOR, NPN	Q3,4,6	3
76	580-167	TRANSISTOR, 2N5320, 11 PIN	Q5	1
77	580-304	TRANSISTOR, FET, P1087E	Q1,2	2
78	580-647	TRANSISTOR, NPN, 2N3904	Q7	1
79				
80				
81	135-109	CONNECTOR, 50 PIN	J1	1

LM-4051221

ITEM NO.	PART NUMBER	DESCRIPTION	REF DESIG	QTY REQD PER DASH NUMBER -01
82				
83	135-371	HEADER, 3 PIN, RIGHT ANGLE	J2	1
84				
85	143-981	CONNECTOR TIP, JACK		4
86				
87	171-981	TERMINAL, QUICK CONNECT		1
88	173-620	TERMINAL TEST	TPG	1
89	187-259	TERMINAL, TEST	TP1-5	5
90				
91	173-101	SPACER, SWAGE, .750 X .250		4
92	280-998	SPACER, TRANSISTOR	REF:Q5	1
93				
94	602-012	SHORTING PLUG		2

LM-4051221

AUTO-OFFSET BOARD INSTALLATION + ADJUSTMENT

	SHEET 1 OF 2 SHEETS	NUMBER

TITLE INSTALLATION OF ASSEMBLY (AUTOMATIC OFFSET)

PURPOSE:

ASSEMBLY 4051221 WILL REDUCE EXTREME CAPSTAN MOTOR WORK BY SENSING CAPSTAN MOTOR CURRENT AND PROPORTIONALLY ADJUSTING REEL MOTOR TORQUES.

NOTE: MODIFICATION OF REEL SERVO PWA IS ALSO REQUIRED.

TEST EQUIPMENT REQUIRED:

DC VOLTMETER, OSCILLOSCOPE

1.0 MODIFY REEL SERVO PWA

1.1 REMOVE REEL SERVO CARD.

1.2 REPLACE R24 (360 K) WITH 160 K (076-049).

1.3 REPLACE R4 (360 K) WITH 160 K (076-049).

1.4 REPLACE R30 (16 K) WITH 47 K (066-717).

1.5 REPLACE R29 (16 K) WITH 47 K (066-717).

1.6 REPLACE VR5 WITH SHORTING JUMPER.

1.7 REPLACE VR11 WITH SHORTING JUMPER.

1.8 REPLACE REEL SERVO PWA.

2.0 MODIFY CAPSTAN SERVO PWA

2.1 REMOVE CAPSTAN SERVO PWA.

2.2 REPLACE C112, 113 (2.2 uF 20V) WITH 47 uF 20V (037-832).

2.3 REPLACE CAPSTAN SERVO PWA.

3.0 INSTALL NEW AUTO OFFSET PWA.

PROCEDURE:

3.1 REMOVE TRANSPORT OVERLAY.

3.2 REMOVE OLD OFFSET BOARD, PART NO. 4050907 AND REPLACE WITH NEW OFFSET BOARD.

3.3 ON POWER SUPPLY REMOVE CABLE PLUGGED INTO J7 AND INSERT IT INTO P3 OF NEW INTERCONNECTING CABLE SUPPLIED. INSERT P1 ON NEW CABLE INTO J7 OF POWER SUPPLY. PLUG P2 INTO J2 OF NEW OFFSET BOARD.

3.4 TURN SYSTEM POWER ON AND VERIFY THAT ± 15 VOLTS AND +5 VOLTS IS ~~PRESETN~~ PRESENT ON NEW OFFSET BOARD.

NOTE: CONVENIENT LOCATIONS FOR THESE MEASUREMENTS ARE MARKED ON THE PWB ARTWORK NEAR U1.

REVISIONS									
ISSUE	E C N NO	BY	CHKD	AUTH	ISSUE	E C N NO	BY	CHKD	AUTH

	INITIALS	DATE
DRAWN BY	V.F.	2-13-84
CHECKED BY		
SPEC ENG		
ENGINEER		
APPROVED		
APPROVED		
AUTHORIZED		

AMPEX
Ampex Corporation
REDWOOD CITY, CALIFORNIA

NUMBER ISSUE

3.5 ON NEW OFFSET PWA PRESENT R38, R39, AND R47 TO 50% OF ADJUSTMENT RANGE.

3.6 LOAD TRANSPORT WITH TAPE AND WIND IT TO EQUAL PACK SIZES. VERIFY THAT ARM LIMIT SENSING AND POSITION ARE SET CORRECTLY. ALSO VERIFY PRIMARY AND SECONDARY SPRING TENSIONS ARE CORRECTLY ADJUSTED.

NOTE: REFER TO MANUAL, PARAGRAPH 5-16, 5-17 AND 5-18 FOR THESE PROCEDURES. (pp 5-15, 5-16).

3.7 WHILE MANUALLY ROTATING THE CAPSTAN TO MOVE TAPE IN FORWARD AND REVERSE DIRECTION, ADJUST STIP OFFSET POTENTIOMENTER, R47 FOR SMOOTH TAPE MOTION AND MODERATE COASTING. NOTE THAT AN EXCESSIVE AMOUNT OF COASTING MAY RESULT IN TAPE RUNAWAY, 18" TO 20" OF TAPE MOVEMENT IS NORMAL.

NOTE: TURN SYSTEM POWER OFF BEFORE REMOVING OR INSTALLING CAPSTAN SERVO PWA.

3.8 ON CAPSTAN SERVO BOARD PLACE CAPSTAN SERVO PWA ON EXTENDER BOARD. CONNECT DC VOLTMETER BETWEEN TP MOTOR 1 AND GROUND. SELECT PLAY AND ADJUST R39 FOR A -300 MILIVOLT READING ON DC VOLTMETER. PRESS STOP.

3.9 PLACE TRANSPORT IN REVERSE PLAY BY SWITCHING DIPSWITCH S3 ON CAPSTAN SERVO PWA, AND THEN PRESSING PLAY ADJUST R38 FOR +300 mV ON DC VOLTMETER. PRESS STOP. RESTORE S3 ON CAPSTAN SERVO PWA TO ORIGINAL POSITION.

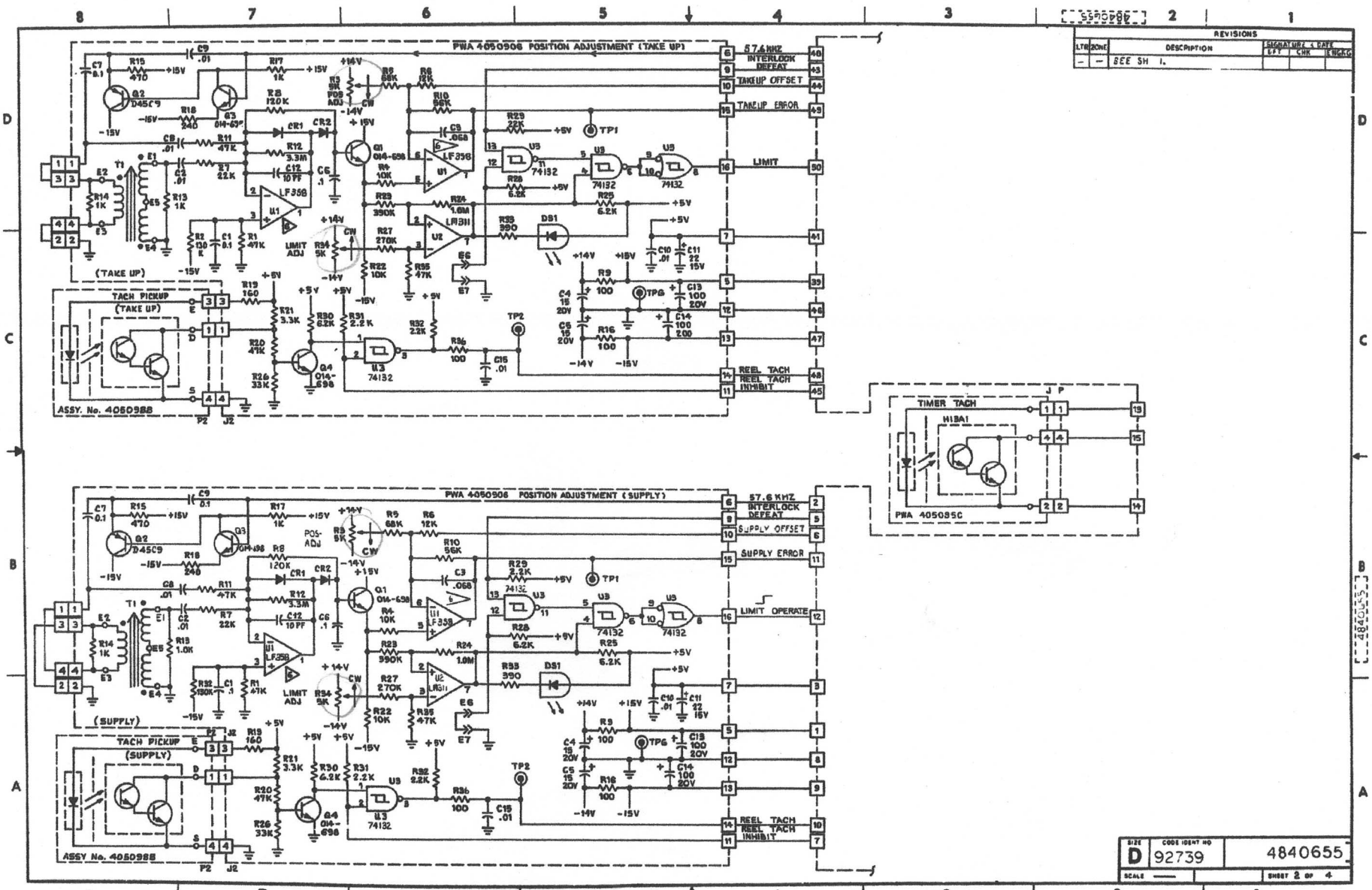
3.10 ON CAPSTAN SERVO BOARD CONNECT OSCILLOSCOPE TO TEST POINT LABELED TACH 1. PRESS FAST FWD. OSCILLOSCOPE SHOULD DISPLAY A PULSE TRAIN OF SQUARE WAVES. ON CAPSTAN SERVO ADJUST SHUT SPD POTENTIOMETER SO THAT AT HIGHEST SPEED SQUARE WAVE PERIOD IS NOT LESS THAN 15 MICROSECONDS. PRESS STOP. REMOVE OSCILLOSCOPE.

3.11 VERIFY THAT MACHINE HANDLES TAPE SMOOTHLY ON ALL MODES. TURN POWER OFF.

3.12 REINSTALL OVERLAY.

3.13 REPEAT STEP 3.11.

3.14 END


PWA 4050906 POSITION ADJUSTMENT (TAKE UP)
57.6 KHZ INTERLOCK DEFEAT
TAKEUP OFFSET
TAKEUP ERROR
LIMIT
REEL TACH
REEL TACH INHIBIT
(TAKE UP)
TACH PICKUP (TAKE UP)
ASSY. No. 4050988
PWA 4050906 POSITION ADJUSTMENT (SUPPLY)
57.6 KHZ INTERLOCK DEFEAT
SUPPLY OFFSET
SUPPLY ERROR
LIMIT OPERATE
REEL TACH
REEL TACH INHIBIT
(SUPPLY)
TACH PICKUP (SUPPLY)
ASSY No. 4050988
TIMER TACH
HIBAI
PWA 4050850
REVISIONS
LTR ZONE DESCRIPTION DSGR APVD CHK DATE
SEE SH 1.
SIZE D
CODE IDENT NO 92739
4840655
SCALE
SHEET 2 OF 4

F02 OF 4

4840655

DISTR CODE: 1

NOTES UNLESS OTHERWISE SPECIFIED:

1. RESISTANCE VALUES ARE IN OHMS 5% 1/4W
2. CAPACITANCE VALUES ARE IN MICRO FARADS
   50V MINIMUM.
3. TRANSISTORS:
   Q14-652 - NEAREST COMMERCIAL EQUIVALENT IS 2N3906.
   Q M-698 - NEAREST COMMERCIAL EQUIVALENT IS MPS3707 (MOT).
4. SCHEMATIC REFLECTS PWA 4050906-03, & 4051221-01.
5. DIODES ARE D13-599.
6. ▷ STATIC SENSITIVE: SPECIAL HANDLING REQUIRED PER AMPEX STD HE1-1.

REFERENCE DESIGNATIONS

4050906		4051221	
LAST USED	NOT USED	LAST USED	NOT USED
U3		U22	
C15		C67	
CR2		CR11	
D81			
C4		U5	
Q4		Q7	
R36		R79	
T1			
TP2		TP10	

I.C. LIST

REFERENCE DESIGNATIONS	VENDOR	AMPEX	GND	POWER PINS		
4051221	P/N	P/N	PINS	15	+15	-15
U1, U15, U20	74LS02	587-750	7	14	–	–
U2, U4	LM319	589-945	3,8	–	11	6
U3, U16	TL082	584-427	3,5	–	8	4
U5, U10	74LS00	587-510	7	14	–	–
U6	74LS86	587-746	7	14	–	–
U7	74L932	587-529	7	14	–	–
U8	74LS74	587-887	7	14	–	–
U9	74121	586-533	7	14	–	–
U11	74LS04	587-533	7	14	–	–
U12, U14	9601	586-309	7	14	–	–
U13	7411	587-805	7	14	–	–
U17, U19	DG211	003-912	5	12	13	4
U18, U21	TL084	589-428	–	–	4	11
U22	TL082	584-427	–	–	8	4
4050906						
U1	LF353N	590-104	–	–	8	4
U2	LM811P	590-542	1	–	8	4
U3	74132	587-148	7	14	–	–
4051221					+14	-14

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REVISIONS

LTR	ZONE	DESCRIPTION	SIGNATURE AND DATE
–	–	PROD. RELEASE	

LM 4050906
LM 4051221

	SIGNATURE	DATE
DRAWN BY	EJH	11/16/83
CHK BY		
DFT APPD		3-6-84
ENGRG APPD		3-14-84
AUTH BY		3/15/84

4020 449 | ATR-116/124
NEXT ASSY | USED ON
APPLICATION

AMPEX — HEADQUARTERS Redwood City, California 94063

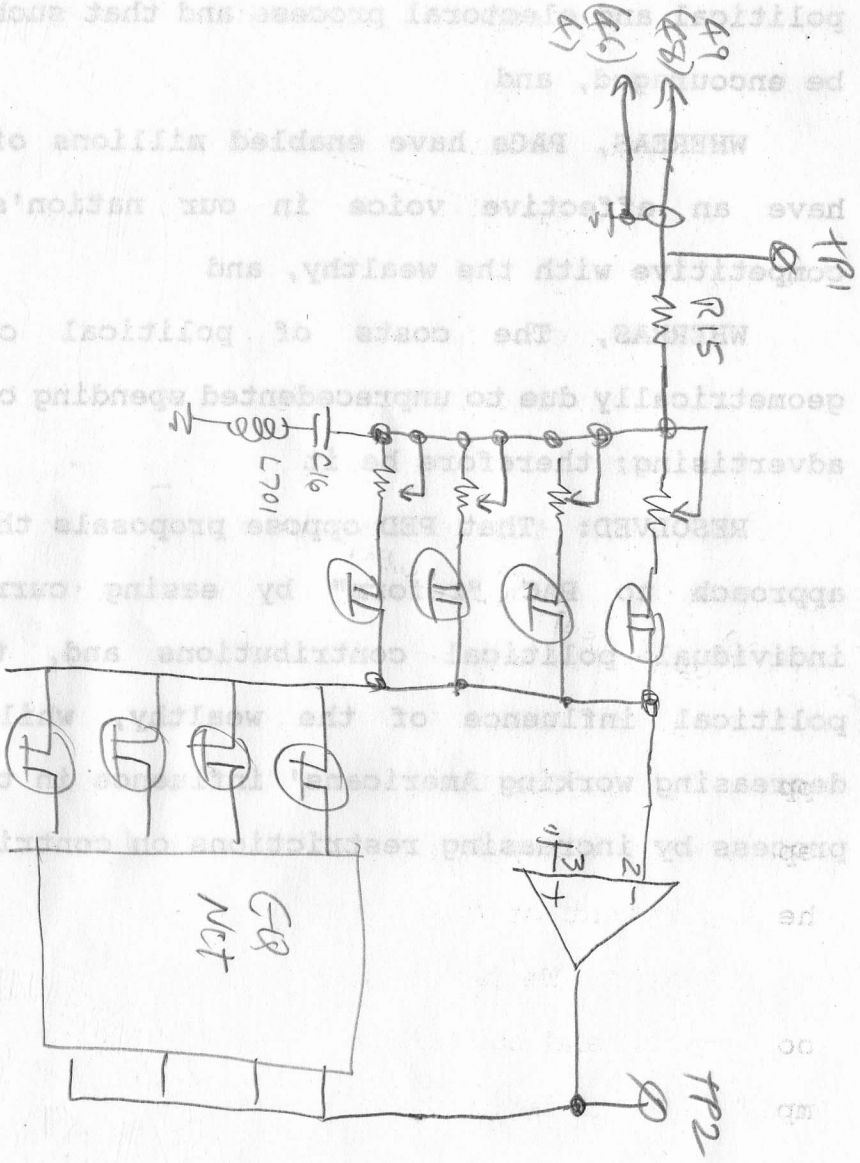
SCHEMATIC TRANSPORT SENSORS OFFSET ADJUST

SIZE	CODE IDENT NO	4840655
D	92739	

SCALE | SHEET 1 OF 4

FOI | 1 OF 4

ACTUAL REPRO EQ/LEVEL CKT W/O DOAL INPUT TRANSISTOR



CAMPAIGN FINANCE REFORM
(Title Line)

WHEREAS, Political action committees (PACs) provide an opportunity for working Americans to become involved in the political and electoral process and that such participation should be encouraged, and

WHEREAS, PACs have enabled millions of American workers to have an effective voice in our nation's political process, competitive with the wealthy, and

WHEREAS, The costs of political campaigns are rising geometrically due to unprecedented spending on television and radio advertising; therefore be it

RESOLVED: That PED oppose proposals that take an unbalanced approach to PAC "reform" by easing current restrictions on individual political contributions and, thus, increasing the political influence of the wealthy, while at the same time decreasing working Americans' influence in the nation's political process by increasing restrictions on contributions made by PACs.

SUBMITTED BY: National Association of Letter Carriers
(Name of Union)

ATR-124 Contacts / Reference Info

5/18/92

Contacts

Ampex-

Oceanway- Bruce Marien, Head Tech, 213-467-9375
Allen Sides, Owner Jack Woltz, Studio Mgr. Dave Rosen, Sales Mgr.

Disney - Al Springer, 407-824-6674
Bill Tomlinson

Other- Greg Orton, Flux Magnetics, 510-657-9934 (designed, builds ATR-124 heads)
Mike Spitz, 415-574-1165, former Ampex, has parts, schematics, etc.
Jim Hartley, 415-599-9996 (9998, fax), former ATR-124 engineer
Peter Butt, LA tech, 213-519-7152
Jeff Peterson, Peter Fine (former Regent Sound techs, whereabouts unkown)
Regent forwarding message: 212-765-4757
John Austin, Sprague Magnetics, 800-553-8712
Ron Newdahl, used equipment broker, may have membrane panel, 415-365-2843
Mike Viljoen, broker in VA area, once had some ATR-124 parts, 703-444-4321

Reference Information

ATR-124 history: Serial number on chassis: 2621059, Ampex lists as sold to Regent Sound as 16-track (demo unit) in 1985. Sold to unknown buyer, possibly Bob Lloyd, when Regent closed in 1988 (Oceanway bought all 24-track units at Regent, but not 16-tr). At some point converted to 24-track, probably with cards and parts out of prototype machine known to be floating around DC/VA area. Ampex warned against purchasing this prototype machine, but serial # on chassis is not that machine.

When purchased by Roar, 24-track erase head was Nortronics, play head was probably MM-1100. Purchased custom modified heads from JRF to match circuit specs: Saki M79 erase, Otari MTR-90 play (used).

ATR-124 record head: part #4350-372-01, 01 had bad channel-channel crosstalk
part #4350-732-01 is ok.

Heads, as of 1/91, when machine put into use by Roar:
Spare 24-track record head is virtually unused.
24-track play head (MTR-90) should be good for at least another year (1/3 life left).
24-track erase head (Saki) is new, should last indefinately.
16-track heads not necessarily ATR-124, refer to JRF evaluation sheets.

Maintenance to do (as of 2/18/92)

EOT stop not working (no reel sensors)
Switch to newer cards on 16 channels
Power supply: +C filter cap
Copy PROMs
Check motor brushes
Other items on maintenance list...

ATR-124 Installed Boards (2/26/91)

? Main CPU - Assy. # 4051058-09 A/W Issue H (updated from D)
Schem. # 4840542 (have 4840543S)

✓ Capstan Servo - Assy # 4050916 A/W Issue L
Schem # 4840473 (have 4840473T)

✓ SP-STC - Assy # 4050960-02F A/W Issue B
Schem # (have 4840504L, for Assy # 4050960)

✓ Audio Test - Assy # 4051010 A/W Issue C
Schem # 4840518 (have 4840518G)

✓ VSO - Assy # 4051059 A/W Issue G (update from D)
Schem # 4840544 (have 4840544L)

✓ Audio Control - Assy # 4050953-01H A/W Iss C
Schem # 4840492-B (have 4840492L)

✓ Audio - Assy # 4050989-06K, -01L, -03N (most)
Schem # (have 4840551G, and 4840486 for Assy # 4050989-0

✓ Reel Servo - Assy # 4050910-04L A/W Iss H (up from E)
Schem # 4840472 (have 4840472R)

? Regulator - Assy # 4050973 A/W Iss C
Schem # 4840499

IRI MAGNETIC SCIENCES

LAB REPORT

On Machine 11/90

ROAR

Customer

90-853

Job Number

201-579-5773

Manufacturer S/N	Initial Test			Final Test					Equip.
AMPEX	Gap	Inductance	DCR	Gap	Inductance	Tip Depth	Pass.	Rej.	ATR 124
REC TK1	OK	2.06	5.8						Assy
(264?) TK2	"	2.34	7.2						
TK3	"	2.59	7.8						
TK4	"	2.59	7.7						
TK5	"	2.61	7.1						
TK6	"	2.26	6.1						
TK7	"	2.25	6.0						
TK8	"	2.42	6.3						
TK9	"	2.36	6.4						
TK10	"	2.32	6.2						
TK11	"	2.06	4.9						
TK12	"	2.47	6.7						
TK13	"	2.37	6.3						
TK14	"	2.62	7.0						
TK15	"	2.21	5.9						
TK16	"	2.45	6.9						
TK17	"	2.46	6.8						
TK18	"	2.15	4.7						
TK19	"	2.47	6.5						
TK20	"	2.58	7.5						
TK21	"	2.47	7.3						
TK22	"	2.49	6.1						
TK23	"	2.33	7.0						
TK24	"								

Optical Alignment _____ _____ Tape Contact Area _____

Additional Repairs / Modifications _____

MAGNETIC SCIENCES

201-579-5773

LAB REPORT

ON MACHINE 11/90

Customer: Ramr

Job Number: 90-883

Manufacturer S/N	Initial Test			Final Test					Equip.
AMPEX	Gap	Inductance	DCR	Gap	Inductance	Tip Depth	Pass.	Rej.	ATR 124
SYNC TK1		359.4	406.0						Assy
TK2		394.7	461.0						
TK3		400.9	457.8						
TK4		429.5	523.5						
TK5		419.8	462.6						
TK6		399.5	456.0						
TK7		389.2	436.1						
TK8		401.4	461.8						
TK9		400.4	453.7						
TK10		401.0	421.7						
TK11		399.7	471.3						
TK12		424.6	471.4						
TK13		397.6	441.5						
TK14		412.3	436.4						
TK15		391.5	471.3						
TK16		414.5	484.5						
TK17		410.0	449.4						
TK18		326.5	305.7						
TK19		380.7	393.1						
TK20		408.9	463.0						
TK21		398.4	448.7						
TK22		403.7	435.9						
TK23		388.6	451.1						
TK24		340.9	363.1						

Optical Alignment _____ _____ Tape Contact Area _____

Additional Repairs / Modifications _____

MAGNETIC SCIENCES

201-579-5773

LAB REPORT

On Machine 11/90

Customer: Roar Recording

Job Number: 90-8924

Manufacturer S/N		Initial Test			Final Test					Equip.
OTARI		Gap	Inductance	DCR	Gap	Inductance	Tip Depth	Pass.	Rej.	Ampex ATR 124
PB	TK1	OK	223.5	478.4			.0035	✓		
	TK2	"	243.2	517.4						
	TK3	"	246.1	498.2						
	TK4	"	242.5	523.0						
	TK5	"	229.7	522.0						
	TK6	"	230.6	541.0						
	TK7	"	230.7	514.2						
	TK8	"	226.0	502.6						
	TK9	"	237.4	507.9						
	TK10	"	247.7	520.9						
	TK11	"	233.6	504.3						
	TK12	"	241.6	526.0						
	TK13	"	249.2	510.1						
	TK14	"	244.5	519.1						
	TK15	"	262.8	539.1						
	TK16	"	242.1	508.2						
	TK17	"	248.2	503.3						
	TK18	"	258.5	520.3						
	TK19	"	246.2	525.9						
	TK20	"	238.1	541.1						
	TK21	"	252.1	523.4						
	TK22	"	251.4	516.0						
	TK23	"	252.0	522.0						
	TK24	"	242.1	493.4					1	

Optical Alignment ✓

Tape Contact Area C

Additional Repairs / Modifications Custom Mount

IRM MAGNETIC SCIENCES

201-579-5773

LAB REPORT

a. Machine 11/90

Customer: Rotor

Job Number: 90-8853

Manufacturer S/N	Initial Test			Final Test					Equip.
SAKI	Gap	Inductance	DCR	Gap	Inductance	Tip Depth	Pass.	Rej.	ATR 124
E81324M TK1	OK	.483	12.6				✓		Assy
ERASE TK2	"	.499	12.7						
99124 TK3	"	.480	12.6						
TK4	"	.492	12.7						
TK5	"	.482	12.6						
TK6	"	.477	12.7						
TK7	"	.485	12.6						
TK8	"	.486	12.6						
TK9	"	.480	12.6						
TK10	"	.490	12.7						
TK11	"	.466	12.5						
TK12	"	.480	12.6						
TK13	"	.481	12.5						
TK14	"	.473	12.6						
TK15	"	.492	12.6						
TK16	"	.478	12.6						
TK17	"	.490	12.5						
TK18	"	.471	12.6						
TK19	"	.489	12.6						
TK20	"	.479	12.5						
TK21	"	.481	12.7						
TK22	"	.475	12.6						
TK23	"	.481	12.7						
TK24	"	.493	12.5						

Optical Alignment ✓

Tape Contact Area 6

Additional Repairs / Modifications

MAGNETIC SCIENCES

201-579-5773

LAB REPORT

Used spare

ROAR
Customer

90-8853
Job Number

Manufacturer S/N		Initial Test			Final Test					Equip.
AMEX		Gap	Inductance	DCR	Gap	Inductance	Tip Depth	Pass.	Rej.	
REC	TK1		2.24	6.8						
221	TK2		2.17	5.6						
	TK3		2.47	6.8						
	TK4		2.18	6.1						
	TK5		2.07	5.1						
	TK6		1.84	3.4						
	TK7		2.54	6.7						
	TK8		2.26	5.5						
	TK9		2.02	4.1						
	TK10		1.76	3.1						
	TK11		1.74	3.1						
	TK12		1.54	2.5						
	TK13		1.58	2.8						
	TK14		1.52	2.5						
	TK15		2.08	4.9						
	TK16		1.57	2.5						
	TK17		1.94	4.1						
	TK18		1.36	2.2						
	TK19		1.12	1.7						
	TK20		1.50	2.4						
	TK21		2.08	4.3						
	TK22		2.17	5.5						
	TK23		2.11	4.2						
	TK24		1.90	4.7						

Optical Alignment _____ _____ Tape Contact Area _____

Additional Repairs / Modifications _____

MAGNETIC SCIENCES

201-579-5773

LAB REPORT

USED SPARE

ROAR
Customer

90-8853
Job Number

Manufacturer S/N	Initial Test			Final Test					Equip.
AMPEX	Gap	Inductance	DCR	Gap	Inductance	Tip Depth	Pass .	Rej.	ATR124
SYNC TK1		306.7	428.5						
221 TK2		285.5	383.2						
TK3		335.8	315.4						
TK4		305.0	326.6						
TK5		297.1	291.8						
TK6		246.1	195.1						
TK7		351.3	332.3						
TK8		334.6	387.6						
TK9		288.3	241.9						
TK10		243.6	214.4						
TK11		249.7	186.8						
TK12		216.5	156.0						
TK13		216.3	175.2						
TK14		209.8	163.0						
TK15		304.3	305.1						
TK16		216.8	168.0						
TK17		280.6	248.9						
TK18		176.27	135.4						
TK19		135.70	84.4						
TK20		194.17	129.0						
TK21		302.7	252.1						
TK22		320.2	395.4						
TK23		305.5	367.3						
TK24		275.9	360.6						

Optical Alignment _____ _____ Tape Contact Area _____

Additional Repairs / Modifications _____

CUSTOMER:

CS 9180

RELAP SHEET

HEAD TYPE ATR-124 -2" 1) Rec w/ Sink 2) Playback

DATE 3/5/96

(nominal

S/N		INDUCTANCE BEFORE	AFTER
REC	1	1.83 m/1.66	216 / 272
	2	2.05 / 1.87	343 / 312
DCR	3	2.25 / 2.05	350 / 332
	4	2.12 / 2.01	348 / 337
	5	1.90 / 1.91	309 / 322
EST.	6	2.03 / 1.91	342 / 324
WEAR	7	1.96 / 1.86	332 / 312
.0010	8	2.06 / 2.04	341 / 324

S/N		INDUCTANCE BEFORE	AFTER
PLAY	1	.214 H	204
	2	.238	223
DCR	3	.231	218
	4	.227	216
	5	.222	209
EST.	6	.223	210
WEAR	7	.221	209
.005	8	.218	204

S/N		INDUCTANCE BEFORE	AFTER
	9	2.03 / 1.91	336 / 323
	10	1.93 / 1.90	347 / 330
DCR	11	1.92 / 1.85	293 / 280
	12	2.11 / 2.05	347 / 340
	13	2.02 / 1.92	336 / 385
EST.	14	2.24 / 2.13	351 / 344
WEAR	15	1.99 / 1.86	326 / 309
	16	2.13 / 2.02	351 / 333

S/N		INDUCTANCE BEFORE	AFTER
	9	.229	212
	10	.239	223
DCR	11	.224	209
	12	.226	215
	13	.239	223
EST.	14	.223	218
WEAR	15	.250	236
	16	.230	216

S/N		INDUCTANCE BEFORE	AFTER
	17	2.12 / 2.00	352 / 337
	18	1.74 / 1.80	286 / 298
DCR	19	1.88 / 1.85	306 / 324
	20	2.15 / 2.06	346 / 330
	21	2.02 / 1.94	321 / 316
EST.	22	2.00 / 2.03	318 / 330
WEAR	23	2.02 / 1.85	329 / 307
.005	24	1.86 / 1.8	308 / 288

S/N		INDUCTANCE BEFORE	AFTER
*	17	.234	209 worn
	18	.242	216
DCR	19	.232	220
	20	.223	210
	21	.237	222
EST.	22	.236	220
WEAR	23	.234	222
.005	24	.219	210

40% left

worn thru at 180

Mod in 1990 8994

ATR SERVICE COMPANY
1602 COBB STREET
SAN MATEO, CA 94401
VOICE OR FAX: 415-574-1165
AMPEX Audio Support

ATR-124 REEL MOTOR SPECS **Facsimile**

To: Eric Wenocur, Roar Productions 301-986-0197

Date: October 9, 1992
Pages: 2
ORIGINAL MOTORS
Subject: Ampex ATR-124 Current Drive Reeling Motor Specification.

1. MOTOR IS USED TO DIRECTLY DRIVE UP TO 33 IN. OZ. SEC^2 INERTIAL LOADS.
2. MOTOR TO BE CONTINUOUS DUTY AT TORQUE VALUES SPECIFIED BELOW.
3. $K_t = 24.5 \pm 2.5$ OZ. IN/AMP ($K_v = 18.1$ V/KRPM REF)
4. $R_t = 2$ OHMS MAX. (AT 5 AMPS THRU MOTOR)
5. MAXIMUM CURRENT = 16 AMPS
6. STALL TORQUE = 160 OZ. IN CONTINUOUS
   490 OZ. IN INTERMITTENT
7. OPERATING TORQUE = 160 OZ. IN AT ANY SPEED FROM 0 RPM TO 2000 RPM.
8. RIPPLE TORQUE 6% PEAK TO PEAK.

9. SHAFT RUN OUT:
   .0020 TIR MAX. AT MOTOR FACE
   .0024 TIR MAX. AT END OF SHAFT

I hope this does it for you. Ampex records Dept.would not allow a paper copy of these specs. so I had to copy them from a micro screen. I have attached an invoice to just 1/2 cover my time. Good luck on your continuing project!

Kind Regards,
Michael Spitz
Michael

Motors in ROAR machine:

Electro-Craft Model # 8-100148
Part # 713-01-015
Ser # 5-5385
Date Code 044

Brushes measure approx. 1/2" on 12/6/92

Problem # 75 - 1/30/94

17-24 all OK

Both lights on - tracks in Record, punch out and STOP ok. Panel Rec LEDs work.

Bottom light on - Tracks stay in Rec, Panel LEDs go off, cannot STOP. (EERS is still active, inhibits transport STOP.)
(EERS active, some channel in Record)

Top light on - Tracks do not enter Rec., STOP ok, Panel LEDs do not light.
(Top light means?)

17-24 always ok. IF other tracks added they are erratic, but Rec. button lamps normal

1-8 cause bottom lamp condition (record stuck)

9-16 cause bottom + top lamp condition (record stuck on, stuck off)

Pulling 1-8 audio control card makes 9-24 all ok.

30 IPS - MANAL OFFS - 996 full reel
9025 ft

12/6/92

☆ = [redacted] OFFSET CARD TPs

Wheel	BEG		MID		END	
STOP/GO	STOP	GO	STOP	GO	STOP	GO
CAPST-TV	—	-.243	—	-.256	—	-.284
☆ FEED ERR (TP6)	-.262	-.175	-.201	-.120	-.115	-.047
☆ TU ERR (TP4)	-.160	-.278	-.265	-.385	-.314	-.47
FEED I	.215	.161	.175	.121	.104	.064
TU I	-.090	-.181	-.175	.240	-.222	-.285

Test points: CAPST I 330 mv/amp
Reel I 100 mv/amp

MEASUREMENT DATA LOG

EQUIP./PROJ. ROAR #TR-124 ROUTINE ☐ EVAL. ☐ DATE 11/8/90

SERIAL(S) INITIAL ERASE HS REPAIR ☑ R&D ☐ BY S

TEST	CONDITIONS				DATA								
set VPP head to 80 TRACK					AMP OUT VPP	HEAD VPP	2.7Ω VPP	≈ 200 ma p-p					
1					8.8	80	519						
2					〃	〃	〃						
3					〃	〃	534						
4					〃	〃	534						
5					8.6	80	512						
6					9.0	80	560	Lo					
7				?	8.6	80	560	Lots of 320k IN AMP OUT					
8					8.8	80	550						
9					9.0	80	550						
10					8.8	80	550						
11					9.6	80	569	320k ?					
Erase warn INOP 12					9.8	80	556						
13					9.6	80	539						
14					10.0	80	562						
15					8.0	80	535	320k ?					
16					9.0	80	550						
OP Amp & 2.7Ω Res. 17					9.8	80	500	~~Terrible Pattern~~					
18					8.6	80	550						
19					8.8	80	550						
20					9.0	80	550						
21					9.2	80	530						
22					10.6	80	545						
23					9.6	80	600	320k					
24					8.8	80	535						

	12/26/90 Erase Voltage
1	700mV
2	700mV
3	700mV
4	700
5	700
6	700
7	700
8	700
9	700
10	700
11	700
12	700
13	700
14	700
15	700
16	700
17	700
18	700
19	700
20	700
21	700
22	700
23	700
24	700

1k
20-20 (+9, 996)
30 ins

8/22/92 Informal tests - JF

THD

THIS	.18
2	.15
3	.25 (30k)
4	.18
5	.20 (up ~~xf~~)
6	.22
7	.24
8	.20
9	.15
10	.14
11	.12
12	.11
13	.11
14	.16
15	.17
16	.16 ?
17	.14
18	.17
19	.20
20	.22
21	.20
22	.19
23	(up) .20
24	.16 (up)

1(- LF NOISE IN Sync when 10-12 IN rec.

at 6 over (+15) typ THD 1k (20→20)
.25→1.00%

at 10 over (+19) typ THD 2.2→2.6%

Gases OVU down ≈ 68→70db ON one pass @ 30 IPS

Track 18 224V erase TP

ATR-124 Installed Boards (2/26/91)

? Main CPU - Assy. # 4051058-09 A/W Issue H (updated from D)
Schem. # 4840542 (have 4840543S)

✓ Capstan Servo - Assy # 4050916 A/W Issue L
Schem # 4840473 (have 4840473T)

✓ SP-STC - Assy # 4050960-02F A/W Issue B
Schem # (have 4840504L) for Assy # 4050980)

✓ Audio Test - Assy # 4051010 A/W Issue C
Schem # 4840518 (have 4840518G)

✓ VSO - Assy # 4051059 A/W Issue G (update from D)
Schem # 4840544 (have 4840544L)

✓ Audio Control - Assy # 4050953-01H A/W Iss C
Schem # 4840492-B (have 4840492L)

✓ Audio - Assy # 4050989-06K, -01L, -03N (most)
Schem # (have 4840551G, and 4840486 for Assy # 4050989-07

✓ Reel Servo - Assy # 4050910-04L A/W Iss H (up from E)
Schem # 4840472 (have 4840472R)

? Regulator - Assy # 4050973 A/W Iss C
Schem # 4840499

? LED PWA Assy # 4050928-03
Schem # 4840503

✓ Panel CPU Assy # 4050933
Schem #

✓ Offset PWA Assy # 4050907
Schem #

✓ Position Adjust Assy # 4050906-01
Schem # (have 4840480M, for Assy # 4050906-03)

✓ Capstan Tach Assy # 4050908
Schem # (have 4840481F)

✓ Preamplifier Assy # 4050926-04L A/W Issue J (update D)
Schem # 4840485 (have 4840485H)

Err 1 = Illegal Speed
Err 2 = Did not receive "servo locked" after play or Rec command
Err 3 = Motion sense - tape did not stop after STOP command
Err 4 = ERS stuck high - did not enter record after REC command.
Err 5 = ERS stuck low

NOTES UNLESS OTHERWISE SPECIFIED:

1. RESISTANCE VALUES ARE IN OHMS 5% 1/4W
2. CAPACITANCE VALUES ARE IN MICROFARADS
   50V MINIMUM.
3. TRANSISTORS:
   - 014-682 - NEAREST COMMERCIAL EQUIVALENT IS 2N3906.
   - 014-698 - NEAREST COMMERCIAL EQUIVALENT IS MPS5707 (MOT).
4. SCHEMATIC REFLECTS PWA 4050906-03, & 4051221-01.
5. DIODES ARE 015-599.
6. STATIC SENSITIVE: SPECIAL HANDLING REQUIRED PER AMPEX STD HEI-1.

REFERENCE DESIGNATIONS			
4050906		4051221	
LAST USED	NOT USED	LAST USED	NOT USED
U3		U22	
C15		C67	
CR2		CR11	
D81			
E4		J15	
Q4		Q7	
R36		R79	
T1			
TP2		TP10	

I.C. LIST						
REFERENCE DESIGNATIONS	VENDOR	AMPEX	SPD	POWER		PINS
4051221	P/N	P/N	PINS	+5	-15	
U1, U15 U20	74LS02	587-750	7	14	-	-
U2-U4	LM319	589-345	8.8	-	11	6
U3, 816	TL082	584-427	3.5	-	8	4
U5, 810	74LS00	587-510	7	14	-	-
U5	74LS86	537-746	7	14	-	-
U7	74LS32	587-523	7	14	-	-
U8	74LS74	587-387	7	14	-	-
U9	74121	586-333	7	14	-	-
U11	74LS04	587-533	7	14	-	-
U12, 814	9601	586-309	7	14	-	-
813	7411	587-505	7	14	-	-
U17, U19	DG211	002-912	5	12	13	4
U18, U21	TL084	589-428	-	-	4	11
U22	TL062	584-417	-	-	8	4
4050906						
U1	LF353N	590-104	-	-	8	4
U2	LM311P	590-542	1	-	8	4
U3	74132	587-748	7	14	-	-
4051221					+14	-14

REVISIONS				
LTR	ZONE	DESCRIPTION	DATE	APPROVED
-	-	PROD. RELEASE	3-14-84	

"AUTO-OFFSET" BOARD

LR 4050906
LR 4051221

4020449 | AYE-ML/BA
NEXT ASSY | USED ON
APPLICATION

	SIGNATURE	DATE
DRAWN BY	C.J.H.	3/14/84
CHK BY		
DFT APPD	S.D.	3-14-84
ENGRG APPD		
AUTH BY		

AMPEX — HEADQUARTERS Redwood City, California 94063

SCHEMATIC TRANSPORT SENSORS OFFSET ADJUST

SIZE D | CODE IDENT NO. 92739 | 4840655

SCALE | SHEET 1 OF 4

F01 | OF 4