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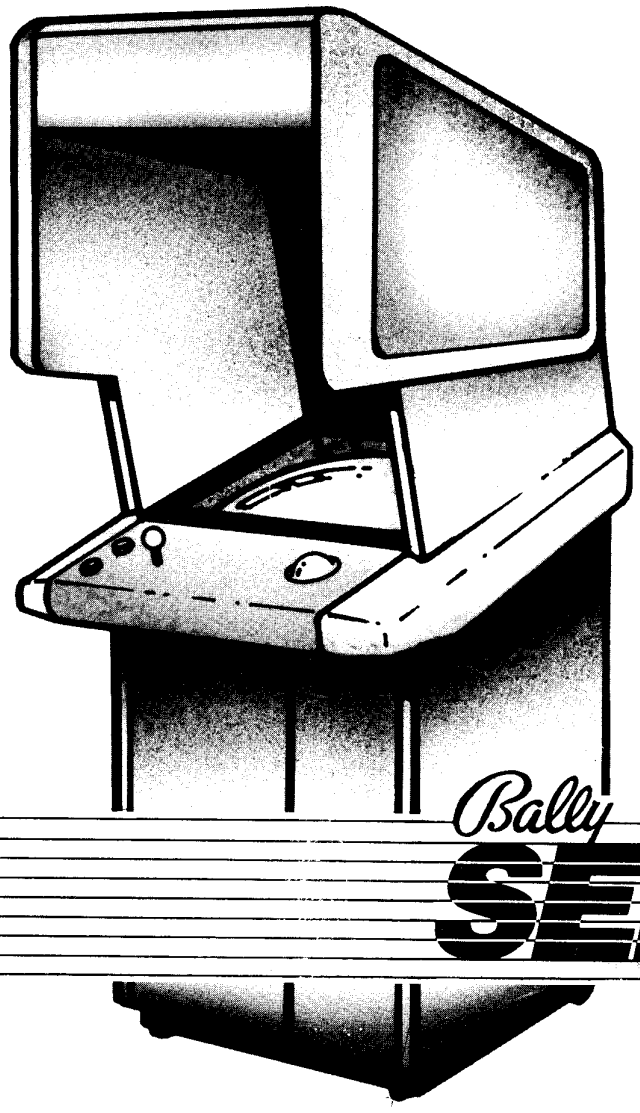
SAC 1



Bally

SENTE™

SAC 1

- OPERATION
- ILLUSTRATED PARTS
- SCHEMATICS

Published by:

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Sunnyvale, CA 94089

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SELF TEST

1. RAM TEST

a. only first error encountered is reported
b. error address is displayed on screen
c. error is reported as 9 tones
   i. 1st tone is address odd/even (high/low pitch)
   ii. next 8 tones report data bits at error address, from bit 0 to bit 7 (high = ok, low = bad)

2. SOUND BOARD TEST

a. all 0s = ok, any 1s = bad, all 1s = bad serial communications

BIT		
0(LSB)	voice 1	0 = ok 1 = bad
1	voice 2	0 = ok 1 = bad
2	voice 3	0 = ok 1 = bad
3	voice 4	0 = ok 1 = bad
4	voice 5	0 = ok 1 = bad
5	voice 6	0 = ok 1 = bad

6, 7	
0 0	ok
0 1	ram bad
1 0	rom bad
1 1	optional ram bad

3. OPTION SWITCHES

a. factory settings: 3 lives
extra life every 20,000 pts
keep top 5 high scores
attract sound on
1 coin 1 play

bit	1	2	3	4	5	6	7	8
option switch H1	off	off	on	on	on	on	on	off
option switch G1	off	on	off	on	on	on	on	on

b. reset high score table during self-test by pressing Alaron button in **OPTION SWITCH MODE**

4. ACCOUNTING

a. reset accounting data during self-test by pressing Alaron button in **ACCOUNTING DATA MODE**

MEANING OF OPTION SWITCH SETTINGS

Bank 0 (HI)

1	2	3	4	5	6	7	8	
off	off							1 Coin 1 Play
off	on							1 Coin 2 Plays
on	off							2 Coins 1 Play
on	on							Free Play
							on	Keep All High Scores
							off	Keep Top 5 High Scores

Bank 1 (GI)

1	2	3	4	5	6	7	8	
on	on							Extra Life Every 10,000
off	on							Extra Life Every 20,000
on	off							Extra Life Every 30,000
off	off							Extra Life Every 40,000
		on	on					2 Lives
		off	on					3 Lives
		on	off					4 Lives
		off	off					5 Lives
						off		Difficulty: Easy
						on		Difficulty: Hard
							off	No Sound In Attract
							on	Attract Sound On

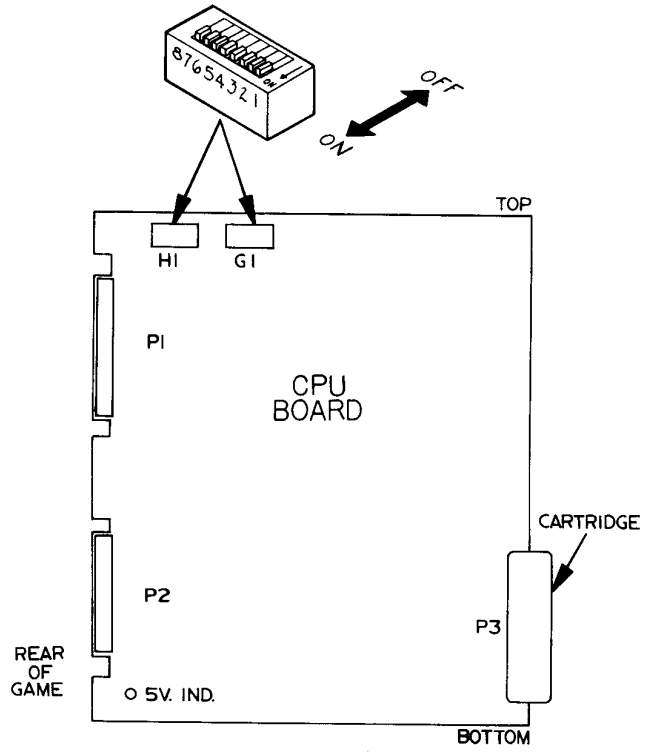


Figure 1. CPU Board/Option Switches

ILLUSTRATED PARTS LISTS

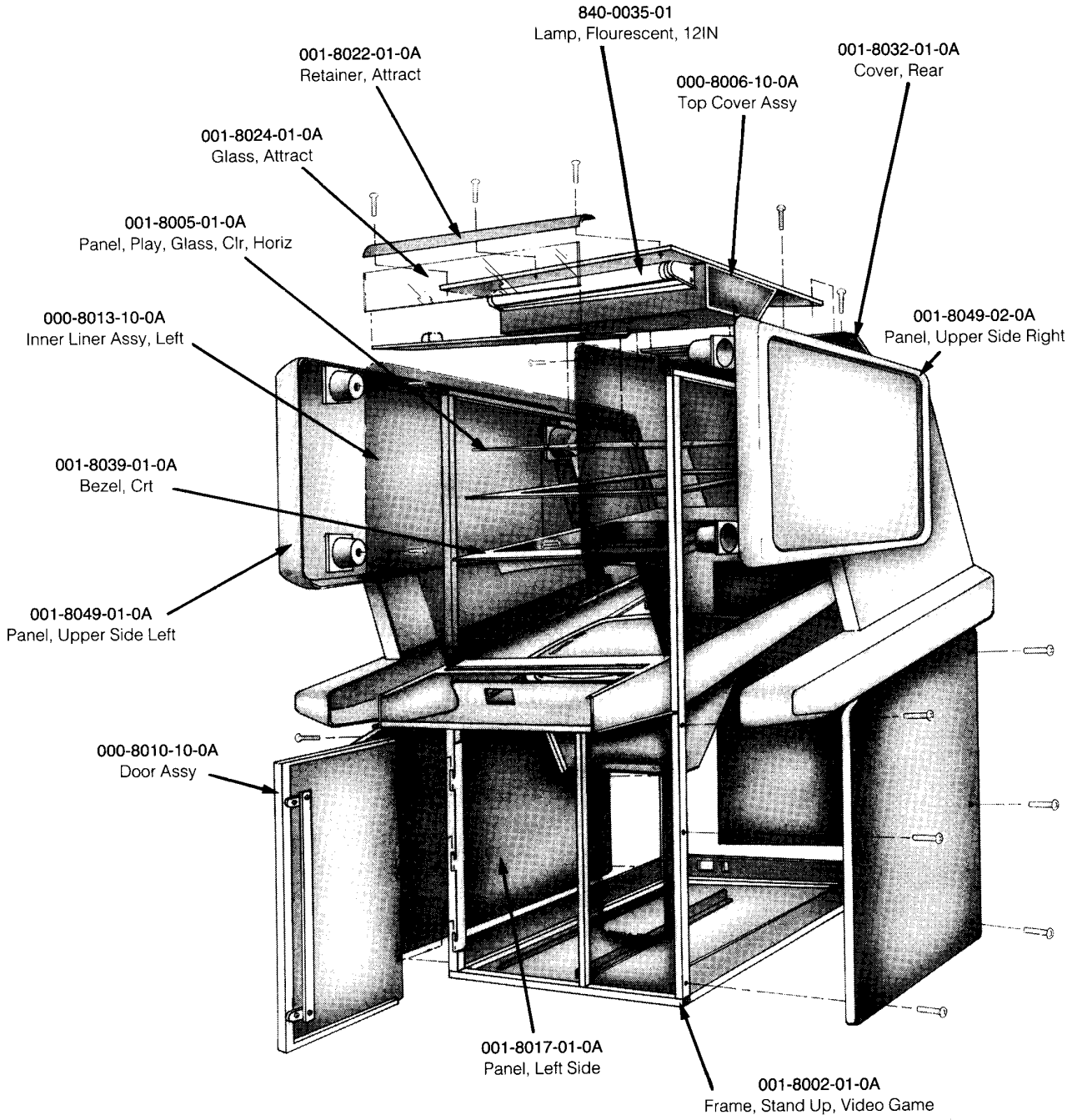


Figure 2. Chassis Assembly, SAC-1 (000-8001-10-0A)

CHASSIS ASSEMBLY, SAC I
(000-8001-10-0A)
PARTS LIST

PART NO.		DESCRIPTION	QUANTITY
000-8002-10-0A	A	CONTROL PANEL ASSY, SNAKEPIT	1
000-8006-10-0A	A	TOP COVER ASSY	1
000-8009-10-0A	A	REAR PANEL ASSY	1
000-8010-10-0A	A	DOOR ASSY	1
000-8011-10-0A	A	ELECTRONIC CHASSIS ASSY	1
000-8012-10-0A	A	CRT ASSY	1
000-8013-10-0A	A	INNER LINER ASSY, LEFT	1
000-8006-20-0A	A	INNER LINER ASSY, RIGHT	1
000-8015-10-0A	A	CARTRIDGE ASSY, SNAKEPIT	1
001-8002-01-0A		FRAME, STAND UP, VIDEO GAME	1
001-8005-01-0A		PANEL, PLAY, GLASS, CLR, HORIZ	1
001-8009-01-0A		COVER, COIN DOOR BRACKET	1
001-8010-01-0A		BRACKET, COIN DOOR	1
001-8012-01-0A		HINGE	1
001-8017-01-0A		PANEL, LEFT SIDE	2
001-8022-01-0A		RETAINER, ATTRACT	1
001-8024-01-0A		GLASS, ATTRACT	2
001-8032-01-0A		COVER, REAR	1
001-8039-01-0A		BEZEL, CRT	1
001-8040-01-0A		BRACKET, CRT MTG, LEFT (VERT)	1
001-8040-02-0A		BRACKET, CRT MTG, RIGHT (VERT)	1
001-8046-01-0A		SUPPORT, PLAY GLASS, LEFT (VERT)	1
001-8046-02-0A		SUPPORT, PLAY GLASS, RIGHT (VERT)	1
001-8047-01-0A		HOLDER, PLAY GLASS, VERTICAL	1
001-8048-01-0A		RETAINER, PLAY GLASS, VERTICAL	1
001-8049-01-0A		PANEL, UPPER SIDE LEFT	1
001-8049-02-0A		PANEL, UPPER SIDE RIGHT	1
001-8051-01-0A		STOP, CRT	2
001-8053-01-0A		BRACKET, VERTICAL HARDWARE	2
042-8001-01-0A		GRAPHICS, SNAKEPIT, L SIDE PANEL	1
042-8002-01-0A		GRAPHICS, SNAKEPIT, R SIDE PANEL	1
042-8003-01-0A		GRAPHICS, SNAKEPIT, O/H ATRCK	1
042-8004-01-0A		GRAPHICS, SNAKEPIT, CRT SURRND	1
700-0164-01		COIN DOOR, OVER/UNDER, W-CASHBOX	1
760-0001-01		TIEWRAP, SMALL (BULK)	15
760-0009-01		CABLE TIE MOUNT (BULK)	15
800-0230-01		LATCH, BODY, LATCHING SPRING	2
800-0235-01		LEG LEVELER, ADJ	4
801-1420-32-02		SCREW, PH, PH, 1/4 20X2" BLK	6
802-0832-10-01		SCR, FLAT HD PHIL, 8-32X5/8, ZINC	8
803-0632-06-02		SCREW, BTN HD, 6-32X3/8"	2
803-0632-16-02		SCREW, BTN HD, 6-32X1"	10
803-1420-32-02		SCREW, SKT, HD, BTN, #1/4-20X2"L	2
805-1402-10-01		SCREW, HEX HEAD, 1/4-20X5/8 ZINC	8
807-1420-32-02		BOLT, CARRIAGE, #1/4-20X2"L	12
807-1420-40-02		BOLT, CARRIAGE, #1/4-20X2 1/2"L	12
809-0632-06-01		SCREW, PH, PH, SIMS, 6 32X3/8"	4
809-0632-16-01		SCREW, PHPH SEMS, 6X32X1"	4
809-0632-16-02		SCREW, PHPH, SEMS, 10-32X1"	6
809-1032-08-01		SCREW, PHPH, SEMS, 10-32X1/2"	10
811-1420-00-01		NUT, NYLOC, 1/4-20, ZINC	4
812-1420-00-01		NUT, HEX HD, 1/4-20, ZINC	18
815-0832-00-01		NUT, "J", TYPE	8
821-0006-00-02		WASHER, FLAT, #6 BLK OXIDE	22
821-0010-00-01		WASHER, FLAT, #10 ZINC	10
821-1004-00-02		WASHER, FLAT, 1/4" BLK OXIDE	34
822-0006-00-01		WASHER, LOCK, SPLIT, #6	16
840-0035-01		LAMP, FLOURESCENT, 12IN	1

TOP COVER ASSEMBLY
(000-8006-10-0A)
PARTS LIST

PART NO.	DESCRIPTION	QUANTITY
000-8005-10-0A	A SPEAKER BOX ASSY	1
001-8006-01-0A	COVER, SPEAKER	1
700-0165-01	LIGHT FIXTURE, FLOURESCENT, 12IN	1
800-0238-01-02	SCREW, FHPH, WOOD, UNDRCUT, 6X1/2"	12
801-0008-08-01	PHPH, WOOD, #8X1/2"	1
821-008-00-01	WASHER, FLAT, #8, ZINC, SAE	2

REAR PANEL ASSEMBLY
(000-8009-10-0A)
PARTS LIST

PART NO.	DESCRIPTION	QUANTITY
001-8008-01-0A	BRACKET, DOOR CATCH	2
001-8021-01-0A	PANEL, REAR	1
801-0008-08-01	SCREW, PHPH, WOOD, #8X1/2"	4
880-0001-01	LOCK, CAM, 7/8L, LEFT, 90 DEG	1

DOOR ASSEMBLY
(000-8010-10-0A)
PARTS LIST

PART NO.	DESCRIPTION	QUANTITY
001-8007-01-0A	BAR, LOCK	1
001-8011-01-0A	PANEL, DOOR	1
001-8015-01-0A	KEEPER, DOOR	2
800-0234-01	SHOULDER BLT, 10-32X1/4, 1/4X1/8	4

CRT ASSEMBLY
(000-8012-10-0A)
PARTS LIST

PART NO.	DESCRIPTION	QUANTITY
001-8042-01-0A	HARNESS, ELEC CHASSIS TO CRT	1
700-0160-01	MONITOR, COLOR 19" RGB IN-LINE	1
760-0001-01	TIEWRAP, SMALL (BULK)	1

INNER LINER ASSEMBLY, LEFT
(000-8013-10-0A)
PARTS LIST

PART NO.	DESCRIPTION	QUANTITY
001-8013-01-0A	BRACKET, SPEAKER SUPPORT, FRONT	1
001-8014-01-0A	BRACKET, SPEAKER SUPPORT, REAR	1
001-8027-01-0A	INNER LINER, LEFT SIDE	1
001-8052-01-0A	BRKT, REAR COVER SUPPORT	1
802-0632-16-01	SCREW, FH, PH #6-32X1"	2
809-0632-16-01	SCREW, PHPH SEMS, 6-32X1"	4
821-0006-00-01	WASHER, FLAT, #6, ZINC, (SAE)	4

INNER LINER ASSEMBLY, RIGHT
(000-8013-20-0A)
PARTS LIST

PART NO.	DESCRIPTION	QUANTITY
001-8013-01-0A	BRACKET, SPEAKER SUPPORT, FRONT	1
001-8014-01-0A	BRACKET, SPEAKER SUPPORT, REAR	1
001-8027-02-0A	INNER LINER, RIGHT SIDE	1
001-8052-01-0A	BRKT, REAR COVER SUPPORT	1
001-0632-16-01	SCREW, FH, PH #6-32X1"	2
809-0632-16-01	SCREW, PHPH SEMS, 6-32X1"	4
821-0006-00-01	WASHER, FLAT, #6, ZINC, (SAE)	4

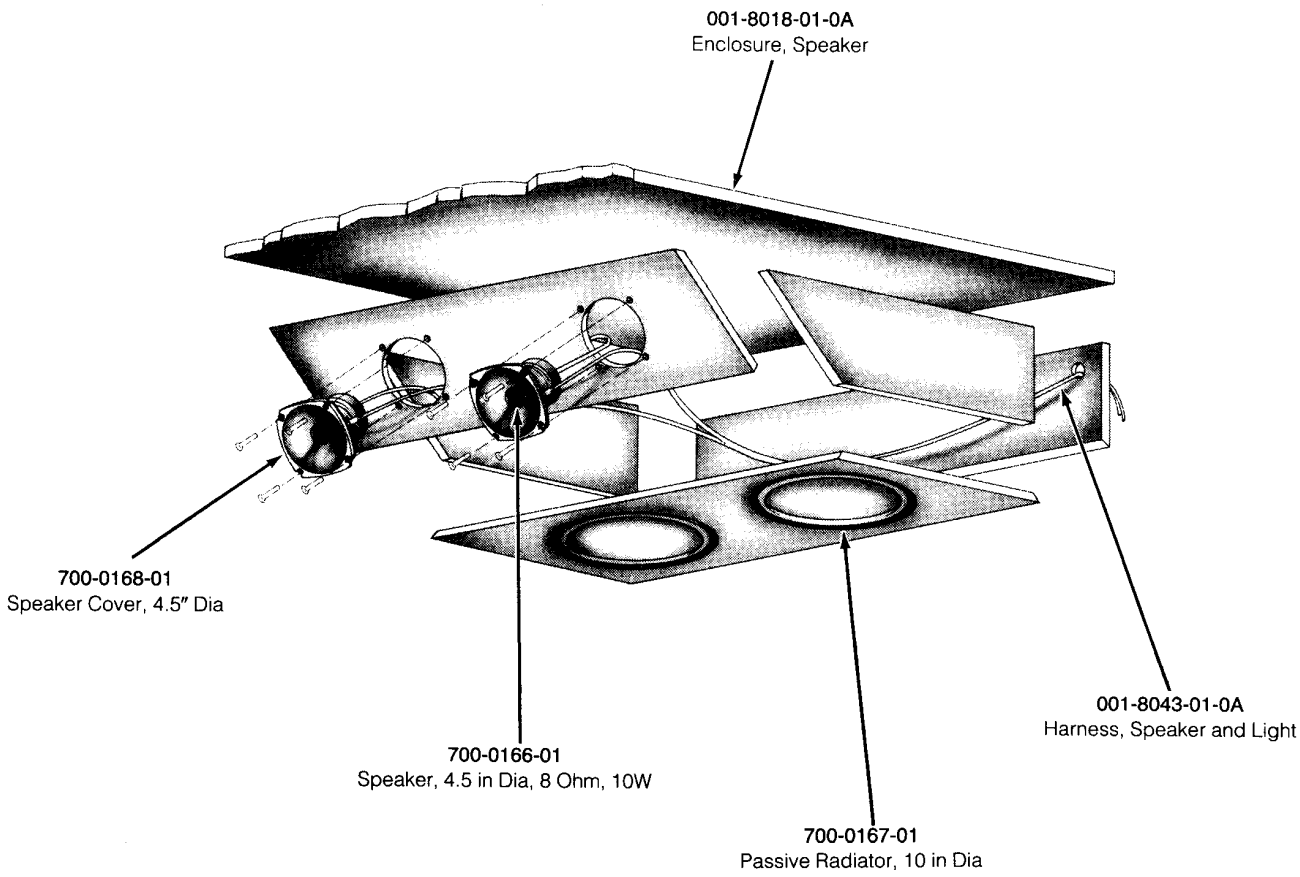
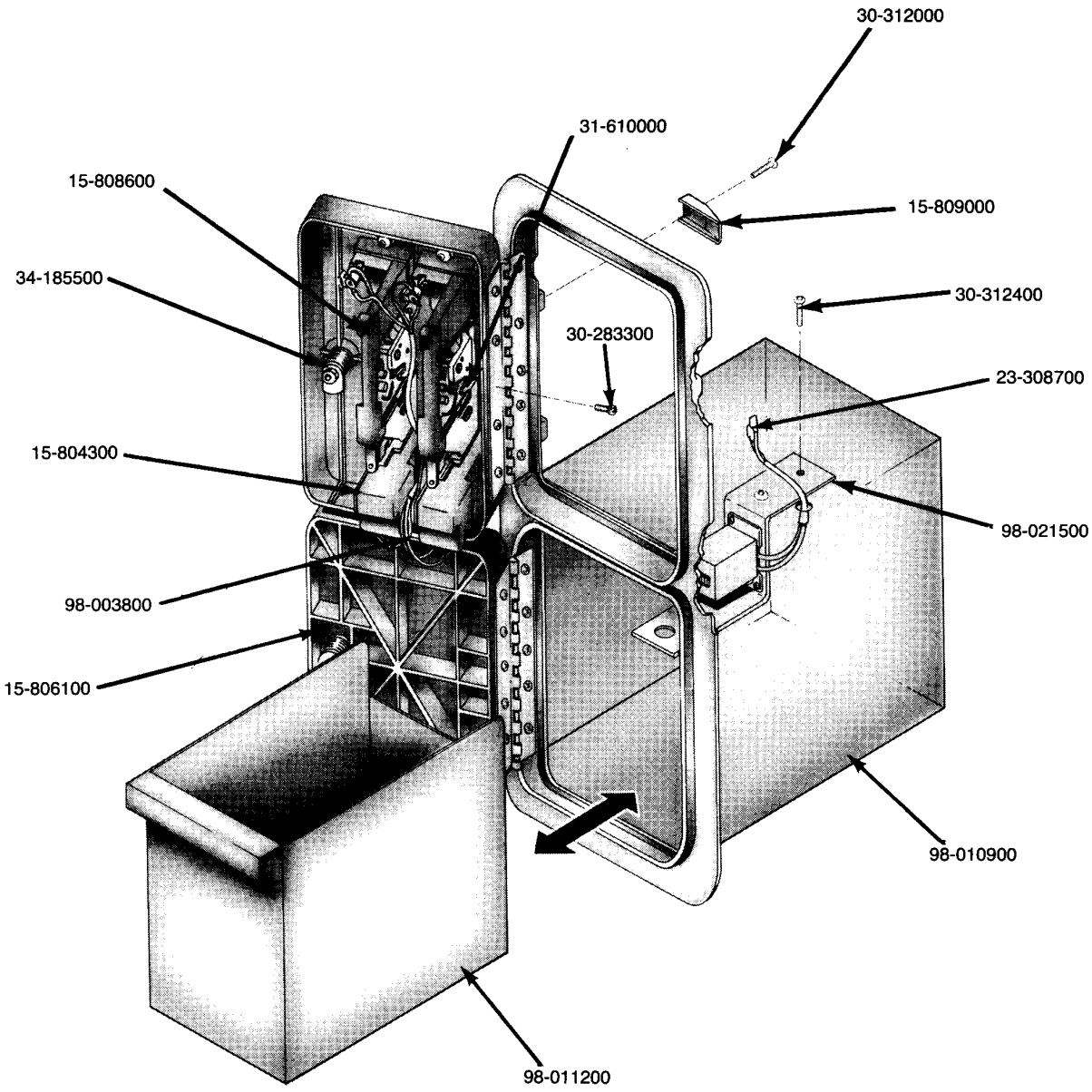


Figure 3. Speaker Box Assembly (000-8005-10-0A)

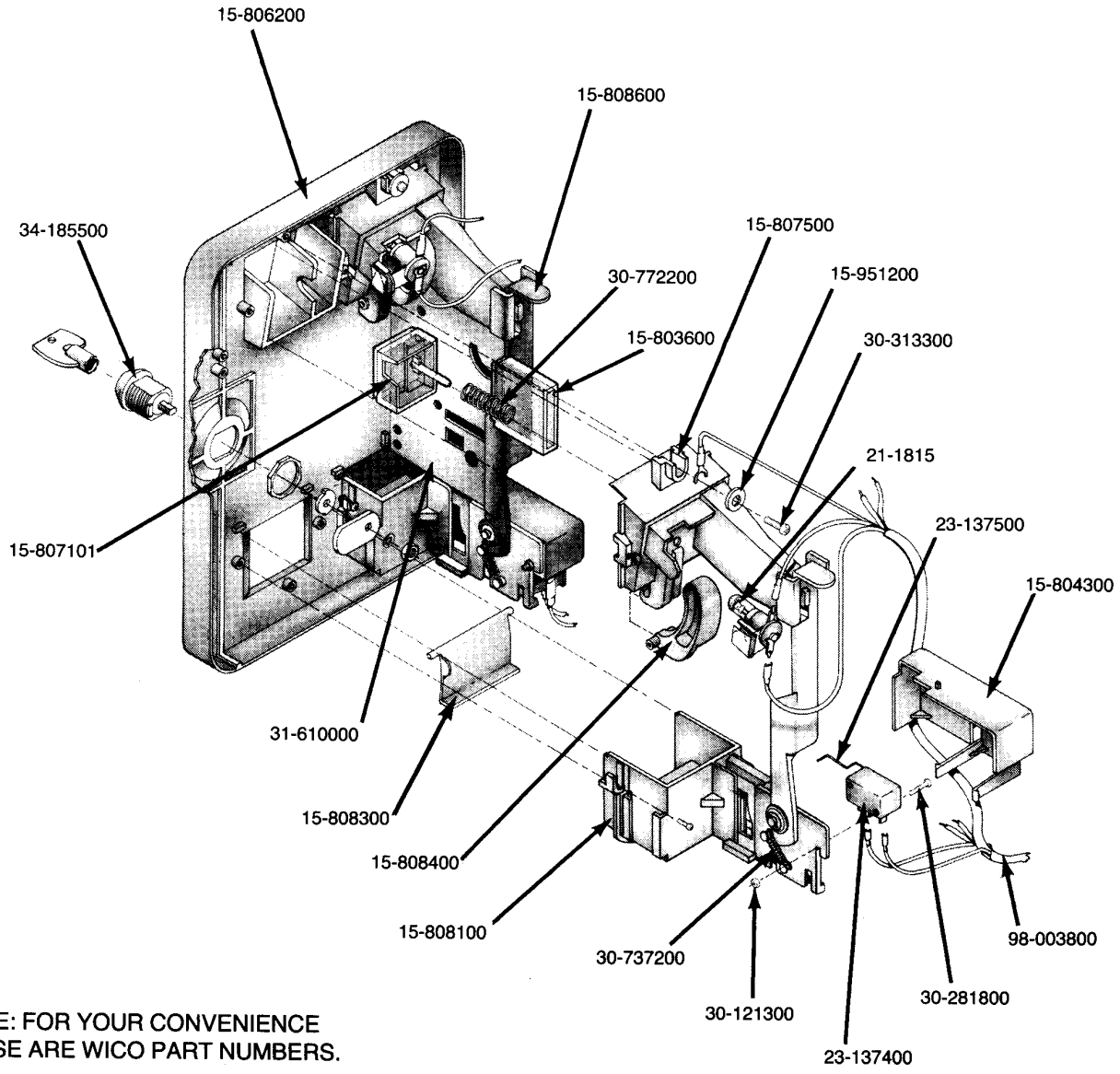
SPEAKER BOX ASSEMBLY (000-8005-10-0A) PARTS LIST

PART NO.	DESCRIPTION	QUANTITY
001-8018-01-0A	ENCLOSURE, SPEAKER	AS REQUIRED
001-8043-01-0A	HARNESS, SPEAKER AND LIGHT	1
700-0166-01	SPEAKER, 4.5 IN DIA, 8 OHM, 10W	2
700-0167-01	PASSIVE RADIATOR, 10 IN DIA	2
700-0168-01	SPEAKER COVER, 4.5" DIA	2



NOTE: FOR YOUR CONVENIENCE
THESE ARE WICO PART NUMBERS.

Figure 4. Coin Door, Over/Under With Cash Box
(700-0164-01)



NOTE: FOR YOUR CONVENIENCE
THESE ARE WICO PART NUMBERS.

Figure 5. Coin Mechanism Assembly
(700-0164-01)

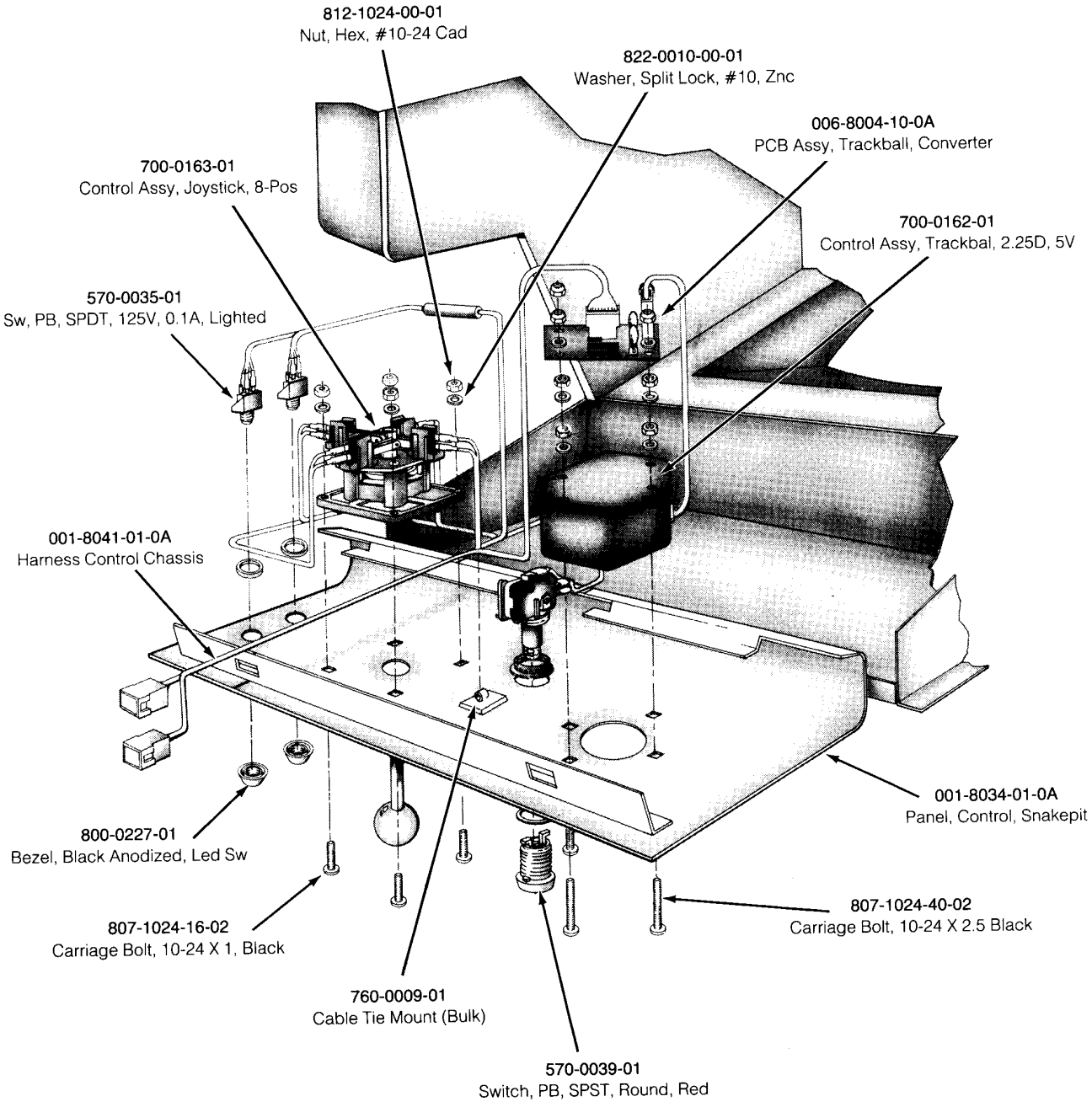


Figure 6. Control Panel Assembly, Snakepit (000-8002-10-0A)

CONTROL PANEL ASSEMBLY, SNAKEPIT
(000-8002-10-0A)
PARTS LIST

PART NO.		DESCRIPTION	QUANTITY
001-8034-01-0A		PANEL, CONTROL, SNAKEPIT	1
001-8041-01-0A		HARNESS CONTROL CHASSIS	1
006-8004-10-0A	A	PCB ASSY, TRACKBALL, CONVERTER	1
042-8004-01-0A		GRAPHICS, SNAKEPIT, CTL PNL OVRL	1
570-0035-01		SW, PB, SPDT, 125V, 0.1A, LIGHTED	2
570-0039-01		SWITCH, PB, SPST, ROUND, RED	1
700-0162-01		CONTROL ASSY, TRACKBAL, 2.25D, 5V	1
700-0163-01		CONTROL ASSY, JOYSTICK, 8-POS	1
760-0007-01		TIEWRAP, MINIATURE (BULK)	4
760-0009-01		CABLE TIE MOUNT (BULK)	4
800-0227-01		BEZEL, BLACK ANODIZED, LED SW	2
807-1024-16-02		CARRIAGE BOLT, 10-24 X 1, BLACK	4
807-1024-40-02		CARRIAGE BOLT, 10-24 X 2.5 BLACK	4
812-1024-00-01		NUT, HEX, #10-24 CAD	12
822-0010-00-01		WASHER, SPLIT LOCK, #10, ZNC	12

NOTE: FOR YOUR CONVENIENCE
THESE ARE WICO PART NUMBERS.

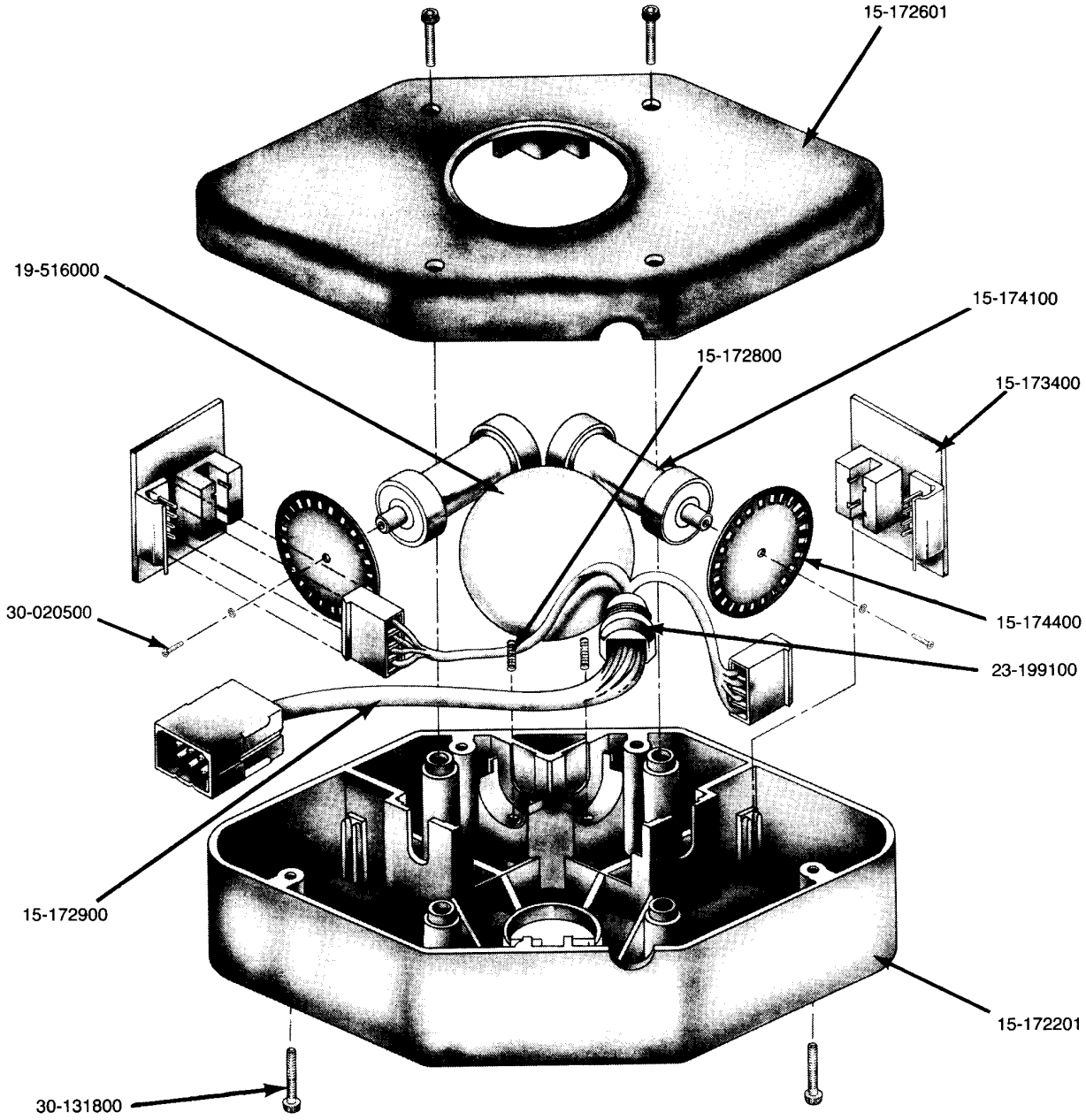


Figure 7. Track Ball Assembly
(700-0162-01)

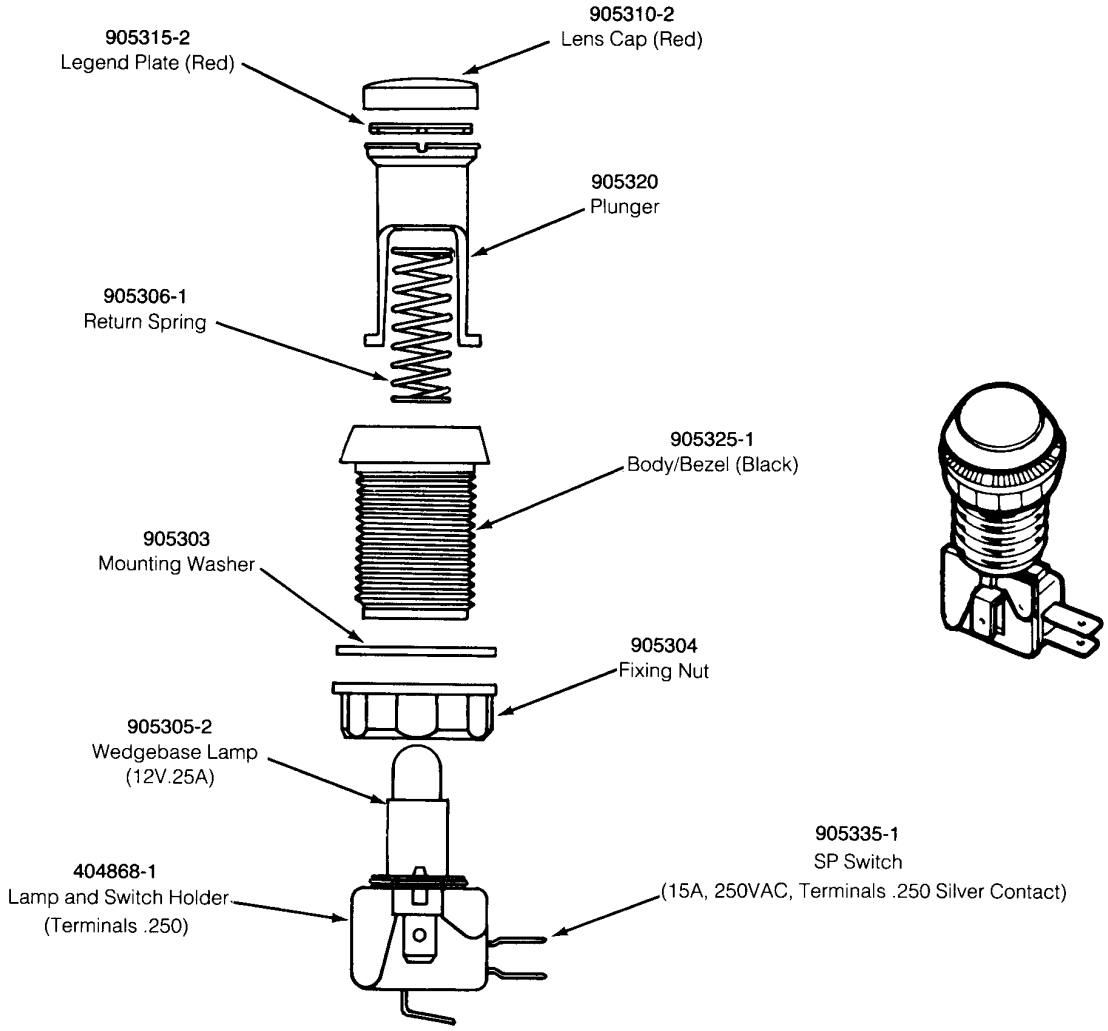


Figure 8. Coinco Switch Assembly (570-0039-01)

COINCO SWITCH ASSEMBLY (570-0039-01) PARTS LIST

PART NO. (COINCO)	DESCRIPTION	QUANTITY
905310-2	LENS CAP (RED)	1
905315-2	LEGEND PLATE (RED)	1
905320	PLUNGER	1
905306-1	RETURN SPRING	1
905325-1	BODY/BEZEL (BLACK)	1
905303	MOUNTING WASHER	1
905304	FIXING NUT	1
905305-2	WEDGEBASE LAMP (12V.25A)	1
404868-1	LAMP AND SWITCH HOLDER (TERMINALS .250)	1
905335-1	SP SWITCH (15A, 250VAC, TERMINALS .250 SILVER CONTACT)	1

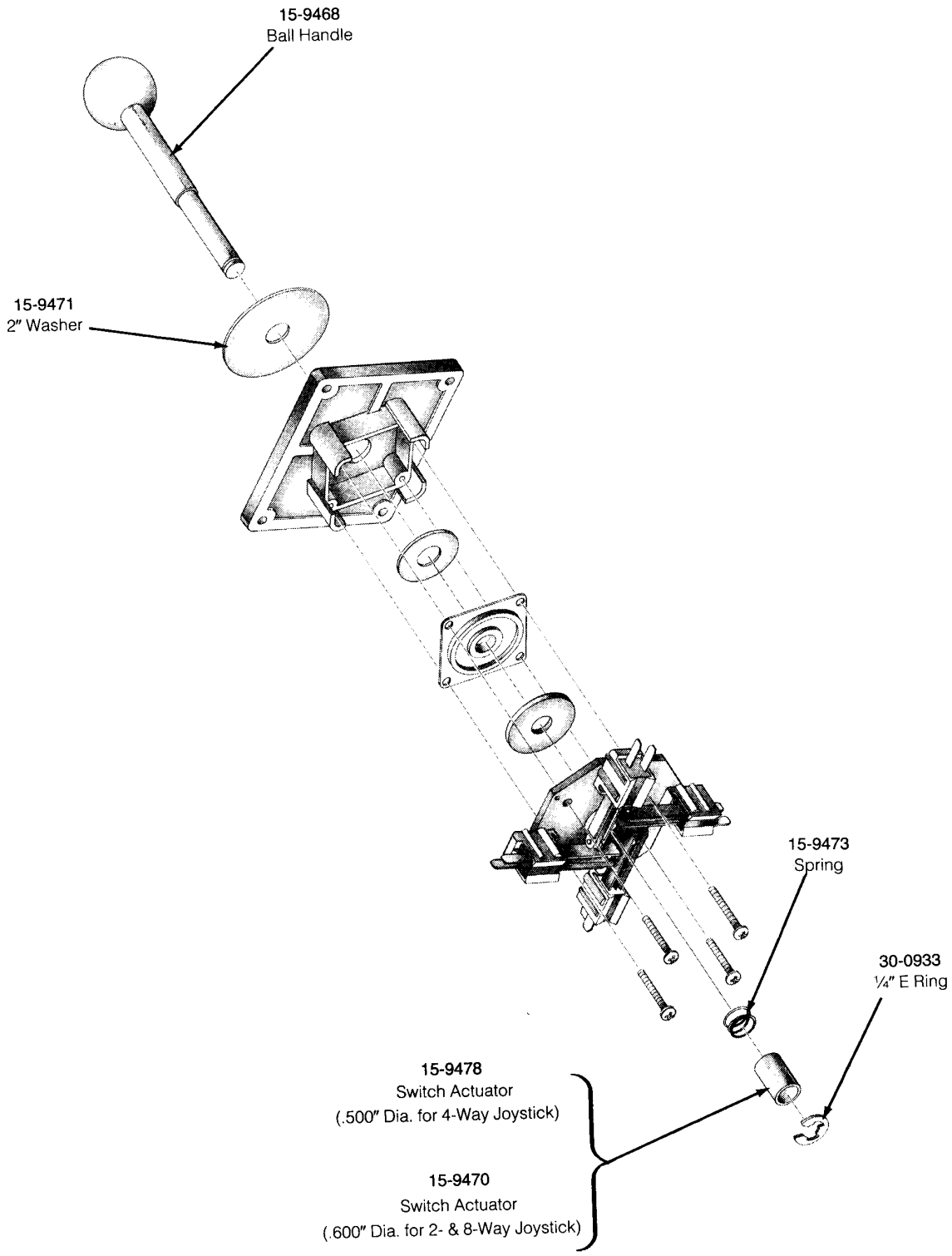


Figure 9. Wico Joystick Assembly (700-0163-01)

WICO JOYSTICK ASSEMBLY
(700-0163-01)
PARTS LIST

PART NO. (WICO)	DESCRIPTION	QUANTITY
15-9468	BALL HANDLE	1
15-9471	2" WASHER	1
15-9473	SPRING	1
15-9470	SWITCH ACTUATOR (.600" DIA. FOR 2- & 8-WAY JOYSTICK)	1
15-9478	SWITCH ACTUATOR (.500" DIA. FOR 4-WAY JOYSTICK)	1
30-0933	¼" E RING	1

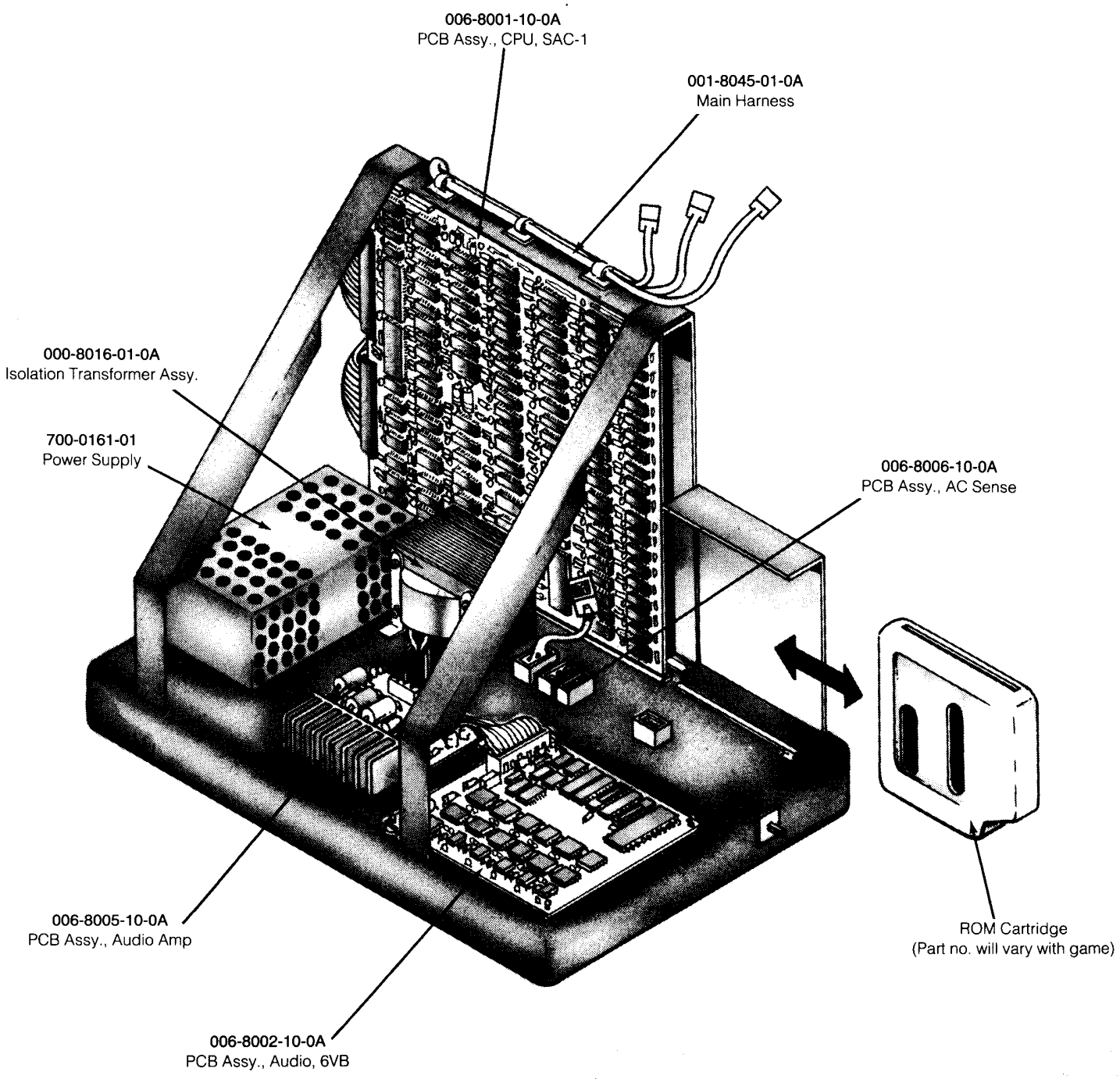


Figure 10. Electronic Chassis Assembly
(000-6011-10-0A)

ELECTRONIC CHASIS ASSEMBLY
(000-8011-10-0A)
PARTS LIST

PART NO.		DESCRIPTION	QUANTITY
000-8016-01-0A	A	ISOLATION TRANSFORMER ASSY	1
001-8016-01-0A		GLIDE	6
001-8019-01-0A		COVER, INTERLOCK SWITCH	1
001-8020-01-0A		BRACKET, SUPPORT HANDLE	2
001-8023-01-0A		PLATE, LOGIC BOARD MOUNTING	1
001-8028-01-0A		PLUG, JUMPER, 6POS, 110VAC	1
001-8028-02-0A		PLUG, JUMPER, 6POS, 220VAC	1
001-8035-01-0A		BASE, ELEC CHASSIS	1
001-8036-01-0A		COVER, POWER, SUPPLY	1
001-8037-01-0A		BKT, POWER, SUPPLY, COVER, MTL	1
001-8044-01-0A		HARNESS, A.C. POWER	1
001-8045-01-0A		HARNESS, MAIN	1
006-8001-10-0A	A	PCB ASSY, CPU, SAC-I	1
006-8002-10-0A	A	PCB ASSY, AUDIO, 6VB	1
006-8005-10-0A	A	PCB ASSY, AUDIO AMP	1
006-8006-10-0A	A	PCB ASSY, AC SENSE	1
015-8002-10	A	PROM, 6VB SOUND	1
550-0073-01		CONN, IEC POWER, RFI FILTER, 6A	1
570-0032-01		SW, SLD, DPDT, 125V, 6A, PNL MTG	1
570-0033-01		SW, PB, DPDT, 250V, 10A, INTERLOCK	2
570-0034-01		SW, RKR, DPST, 125V, 15A, PANEL MTG	2
580-0068-01		FUSE HOLDER, SHOCK-SAFE, 3AG, PNL	1
590-0008-01		PC CARD GUIDE, 4 IN, NYLON	1
590-0009-01		PC CARD GUIDE, 7 IN, NYLON	5
700-0080-01		DANGER LABEL 1-1/2X3-1/4 HI V	1
700-0161-01		POWER SUPPLY, SW, 85W, 4 OUTPUTS	1
760-0009-01		CABLE TIE MOUNT (BULK)	20
760-0022-01		TIEWRAP 1/16" (BULK)	21
760-0047-01		GROMMET, 1.12 OD	1
800-0231-01		BUSHING, SNAP, NYLON, BLK, 625D	2
800-0234-01		SHOULD BLT, 10-32X1/4, 1/4X1/8	6
801-0632-06-06		SCREW, 6-32X3/8, NYLON, SLOTTED	4
802-0632-06-01		SCR, FL HD, 6-32X3/8, ZINC	4
809-0440-08-01		SCREW, PHPH, SEMS, 4-40X1/2"	4
809-0632-06-01		SCREW, PH, PH, SIMS, 6-32X3/8"	21
809-1032-08-01		SCREW, PHPH, SEMS, 10-32X1/2"	4
811-0440-00-01		NUT, NYLOC, 4-40, ZINC	2
811-0632-00-01		NUT, NYLOC, 6-32, ZINC	4
811-0832-00-01		NUT, NYLOC, 8-32, ZINC	1
811-1032-00-01		NUT, NYLOCK, #10-32 CAD	6
821-0008-00-01		WASHER, FLAT, #8, ZINC, SAE	1
821-0010-00-01		WASHER, FLAT, #10, ZINC	4
830-0016-01		FUSE, 3AG, 4AMP SLO-BLO	1

POWER SUPPLY (CONDOR #SA157) PCB ASSEMBLY (700-0161-01) PARTS LIST

LOCATION	PART NO. (CONDOR)	DESCRIPTION
L1	045-22710 1	CHOKE, COMPLETE, 22710
L3	045-22711 1	CHOKE, COMPLETE, 22711, CHOKE-L2 LFM 410
L2	045-22712 1	CHOKE, COMPLETE, 22712, CHOKE,-L3 LFM 410
L6	045-14972 1	CHOKE, COMPLETE, 14972
L8,9	045-22715 2	CHOKE, COMPLETE, 22715
P.C.B., NOM	065-25516 1	P.C. BOARD, 25516, NOM. PRODUCTION IDENTIFIER
P.C.B., CLAD	065-25518 1	P.C. BOARD, 25518
P.C.B., MASK	065-25519 1	P.C. BOARD, 25519
T1	079-25521 1	TRANSFORMER, COMPLETE, 25521
C6	101-201891	CAP., ALUM., ELECT., RADIAL, 2200/16
C8,10,12,26,28,30	101- 6	CAP., ALUM., ELECT., RADIAL, 1000/35
C16	101-10111 1	CAP., ALUM., ELECT., RADIAL, 1/50
C21,22,23,24	101-10108 4	CAP., ALUM., ELECT., RADIAL, 1000/16
C50,53	101-20115 2	CAP., ALUM., ELECT., RADIAL, 10/35
C45,52	101-10110 2	CAP., ALUM., ELECT., RADIAL, 100/35
C46	101-10112 1	CAP., ALUM., ELECT., RADIAL, 47/50
C55,56	101- 2	CAP., ALUM., ELECT., RADIAL, 470/200
C49	101-10111 1	CAP., ALUM., ELECT., RADIAL, 1/50
C47	104-10094 1	CAP., MYLAR, RADIAL .1/100
C57,58	104- 2	CAP., MYLAR, RADIAL .0047/200
C59,60	10 -20223 2	CAP., MYLAR, RADIAL .1/250
C33	105-20047 1	CAP., CERAMIC, RADIAL, .0022/1KV, REF. TO 0 & MTG.
C34,35,36,42,44	105-20118 5	CAP., CERAMIC, RADIAL, .001/1000
C41,61	105- 2	CAP., CERAMIC, RADIAL, 500pf/3KV
C43	105-20118 1	CAP., CERAMIC, RADIAL, .001/1KV
C48,51	107- 2	CAP., CERAMIC, AXIAL, .001/50
CR21	111-10001 1	DIODE, RECTIFIER, AXIAL, IN4007
CR30	111-10251 1	DIODE, RECTIFIER, AXIAL, IN4003
CR33,34,35,36	111-20121 4	DIODE, RECTIFIER, AXIAL, IN5404
CR1	112-10006 1	DIODE, ZENER, AXIAL, IN752A
CR23,24,25,27,29	112-20122 5	DIODE, ZENER, AXIAL, IN4148
CR28	112-10281 1	DIODE, ZENER, AXIAL, IN964B
CR31	112-10011 1	DIODE, ZENER, AXIAL, IN971B
CR11	115-20192 1	DIODE, RECTIFIER, D0-4, MBR3535, HEATSINK COMPOUND
CR22	118-20119 1	DIODE, FAST RECOVERY, AXIAL, IN4934
CR13,15,17	118-20191 3	DIODE, FAST RECOVERY, AXIAL, GI821
F1	120-10922 1	FUSE, 3AG, 4.0A.
U7	130-20131 1	I.C., 14-PIN DIP, MC14093BCP
U6	133-20130 1	I.C., 6-PIN DIP, 4N35
U1	134-20193 1	I.C., TO-92, TL43IM
U4	135-10970 1	I.C., TO-220, LM7815, INSTALL NOM SIDE
R57	145-20129 1	RESISTOR-SURGE, METAL OXIDE CERAMIC, 10 OHM, 3A., AMETEKK, SG220
R1,36	151-10333 2	RESISTOR, 1/2W., 5%, C.F., 47
R6,8	151-10376 2	RESISTOR, 1/2W., 5%, C.F., 3.0K
R11,12,31	151-10347 3	RESISTOR, 1/2W., 5%, C.F., 180
R13,14,15	151-10357 3	RESISTOR, 1/2W., 5%, C.F., 470
R22	151-10341 1	RESISTOR, 1/2W., 5%, C.F., 100
R23,29,48	151-10381 3	RESISTOR, 1/2W., 5%, C.F., 4.7K
R27,42	151-10356 2	RESISTOR, 1/2W., 5%, C.F., 1K
R24,30,44	151-10373 3	RESISTOR, 1/2W., 5%, C.F., 2.2K
R33,34	151-10305 2	RESISTOR, 1/2W., 5%, C.F., 2.7
R37	151-10402 1	RESISTOR, 1/2W., 5%, C.F., 36K
R38	151-10351 1	RESISTOR, 1/2W., 5%, C.F., 270
R39	151-10370 1	RESISTOR, 1/2W., 5%, C.F., 1.6K
R43	151-10379 1	RESISTOR, 1/2W., 5%, C.F., 3.9K
R50,51	151-10422 2	RESISTOR, 1/2W., 5%, C.F., 240K
R55,56	151-10418 2	RESISTOR, 1/2W., 5%, C.F., 160K
R41	151-10422 1	RESISTOR, 1/2W., 5%, C.F., 240K, 160K TO 240K, FREQ. ADJUST
R46	151-10325 1	RESISTOR, 1/2W., 5%, C.F., 22
R32,35	151- 0	RESISTOR, 1/2W., 5%, C.F.
R29	151-10329 1	RESISTOR, 1/2W., 5%, C.F., 33
R49	151-10348 1	RESISTOR, 1/2W., 5%, C.F., 200
R9	151-10341 1	RESISTOR, 1/2W., 5%, C.F., 100
R7,25,40	156-20203 3	RESISTOR, VARIABLE, 1/4W., CARBON, 1.0K
R21	158-20145 1	RESISTOR, 2W., 10%, W.W., 47

R26	158-10079	1	RESISTOR, 2W., 10%, W.W., .22
SCR1	160-10013	1	SCR, TO-220, S0508LS3
Q3	171-20124	1	TRANSISTOR, TO-3, MJ12005, DC 340 COMPOUND
Q4	175-20227	1	TRANSISTOR, TO-220, TIP 125
Q6	175-20226	1	TRANSISTOR, TO-220, TIP 100
Q1	176-20125	1	TRANSISTOR, TO-92, MPSA20
Q2	176-20126	1	TRANSISTOR, TO-92, MPSA70
Q9	176-10247	1	TRANSISTOR, TO-92, 2N2219
Q10	176-10248	1	TRANSISTOR, TO-92, 2N2905
HEATSINK-Q6,U4	300-13639	2	HEATSINK, EXTRUSION, 1.250 in.
HEATSINK-Q3	301-	1	HEATSINK, AAVID, TO-3, 5690-B
HEATSINK-CR11	301-	1	HEATSINK, AAVID, TO-3, 5690-C
F1-HOLDER	565-10226	2	FUSEHOLDER, P.C.B., MOUNTING, CLIP, 44F HO53
B1,2,4,5,7	600-	5	WIRE, JUMPER, 22 GA., 0.6 IN.
Q5 B-E,Q7 B-E	600-	2	WIRE, JUMPER, 22 GA., 0.1 IN.
R10	600-	1	WIRE, JUMPER, 22 GA., 0.6 IN.
B8	600-	1	WIRE, JUMPER, 22 GA., 0.8 IN.
B3	602-	1	WIRE, JUMPER, 20 GA., 3.5 IN.
CR7,8	604-	2	WIRE, JUMPER, 18 GA., .65 IN.
CM1	930-	1	CONNECTOR, MOLEX, 09-65-1051
CM2	930-	1	CONNECTOR, MOLEX, 09-65-1031
CM3	930-	1	CONNECTOR, MOLEX, 09-65-1101
CM4	930-	1	CONNECTOR, MOLEX, 09-65-1091
B3	933-10706	1	CONNECTOR, MOLEX, 03-09-1011
B3	935-	1	PIN, CONNECTOR, MOLEX, PREFIX 934, 02-09-1118

PCB ASSEMBLY, AUDIO 6VB
(006-8002-10-0A)

PART NO.	DESCRIPTION	QUANTITY
007-8002-01-0A	PCB, FABRICATED, AUDIO, 6VB	1
100-0002-01	DIO, SI, 10MA, 75PIV, 1N914	1
100-0006-01	DIO, GR, 50MA, 75PIV, IN34	4
200-0039-01	IC, DIG, TTL, 74LS00, NAND GATE	1
200-0041-01	IC, DIG, TTL, 74LS04, HEX INVERTER	2
200-0043-01	IC, DIG, TTL, 74LS32, OR GATE	1
200-0044-01	IC, DIG, TTL, 74LS74, DUAL D F/F	1
200-0049-01	IC, DIG, TTL, 74LS139, 2-4 DECODER	1
200-0074-01	IC, DIG, TTL, 7493, 4 BIT COUNT	1
210-0005-01	IC, DIG, CMOS, 4049UB, HEX INVERT	1
210-0006-01	IC, DIG, CMOS, 4051B, 8 CHAN MUX	6
210-0007-01	IC, DIG, CMOS, 4174B, HEX D F/F	5
210-0008-01	IC, DIG, CMOS, 4503B, HEX TS BUFFER	1
240-0005-01	IC, DIG, RAM, 6116, 2K X8, 200NS	2
250-0007-01	IC, DIG, MPU, Z-80A	1
250-0008-01	IC, DIG, MPS, 8253-5, TIMER	1
250-0010-01	IC, DIG, MPS, 68B50, ACIA	1
260-0007-01	IC, LIN, COMP, LM311N	1
260-0008-01	IC, LIN, VR, 7805, 5V POS	1
260-0027-01	IC, LIN, VR, 337T, VARIABLE NEG	1
260-0028-01	IC, LIN, VR, 78M05CT, 5V POS	1
260-0029-01	IC, LIN, OPAMP, TL084, QUAD JFET	1
260-0031-01	IC, SP, DAC 12 VIR, 7541	1
260-0033-01	IC, SP, SOUND SYNTH, CEM3394	6
260-0037-01	IC, LIN, OPAMP, TL071, JFET INPUT	1
260-0040-01	IC, SP, NOISE SOURCE, MM5837	1
300-0002-01	CAP, CER, RAD, 0.1UF, 50V, 20%	25
300-0011-01	CAP, CER, RAD, 33PF, 50V, 10%	3
300-0012-01	CAP, CER, RAD, 680PF, 50V, 5%	7
310-0012-01	CAP, TAN, RAD, 1.0UF, 25V, 20%	3
310-0015-01	CAP, TAN, RAD, 47UF, 15V, 20%	1
330-0005-01	CAP, PES, RAD, 0.001UF, 100V, 10%	12
330-0006-01	CAP, PES, RAD, 0.01UF, 100V, 10%	48
330-0007-01	CAP, PES, RAD, 0.033UF, 100V, 10%	20
330-0009-01	CAP, PST, AXL, 0.002UF, 100V, 5%	6
340-0016-01	CAP, ELC, AXL, 2.2UF, 63V, 50/-10%	3
340-0017-01	CAP, ELC, AXL, 10UF, 35V, 50/-10%	6
400-1001-01	RES, CF, 1/4W, 5%, 1K OHM	2
400-1003-01	RES, CF, 1/4W, 5%, 100K OHM	5
400-1004-01	RES, CF, 1/4W, 5%, 1.0M OHM	12
400-2001-01	RES, CF, 1/4W, 5%, 2.0K OHM	6
400-2700-01	RES, CF, 1/4W, 5%, 270 OHM	1
400-2703-01	RES, CF, 1/4W, 5%, 270K OHM	2
400-3300-01	RES, CF, 1/4W, 5%, 330 OHM	3
400-3307-01	RES, CF, 1/4W, 5%, 33 OHM	1
400-4701-01	RES, CF, 1/4W, 5%, 4.7K OHM	3
400-4702-01	RES, CF, 1/4W, 5%, 47K OHM	2
400-6802-01	RES, CF, 1/4W, 5%, 68K OHM	1
401-1005-01	RES, CC, 1/4W, 5%, 10M OHM	1
450-1001-01	RES, MF, 1/8W, 1%, 1.00K OHM	1
450-1002-01	RES, MF, 1/8W, 1%, 10.0K OHM	1
450-1210-01	RES, MF, 1/8W, 1%, 121 OHM	1
450-1962-01	RES, MF, 1/8W, 1%, 19.6K OHM	1
450-2002-01	RES, MF, 1/8W, 1%, 20.0K OHM	1
450-3013-01	RES, MF, 1/8W, 1%, 301K OHM	6
450-4021-01	RES, MF, 1/8W, 1%, 4.02K OHM	1
450-4990-01	RES, MF, 1/8W, 1%, 499 OHM	1
510-0019-01	SOCKET, IC, 24P, LOW PROF, PC	4
510-0020-01	SOCKET, IC, 28P, LOW PROF, PC	1
510-0021-01	SOCKET, IC, 40P, LOW PROF, PC	1
550-0062-01	CONN, PC, M, MLX 09-74-1101	1
801-0632-06-01	SCREW, PH PH, 6-32 X 3/8	3
816-0632-00-01	NUT, HEX, SM PATTERN, 6-32, ZINC	3
820-0003-01	CRYSTAL, 8.000 MHZ	1
822-0006-00-01	WASHER, LOCK, SPLIT, #6	3
850-0006-01	HEATSINK, T0-220, THRM 6107	1

PCB ASSEMBLY, CPU, SAC-I
(006-8001-10-0A)
PARTS LIST

PART NO.		DESCRIPTION	QUANTITY
007-8001-01-0A		PCB, FABRICATED, CPU, SAC-I	1
015-8001-10	A	PAL, SAC-I	1
100-0002-01		DIO, SI, 10MA, 75PIV, 1N914	1
120-0003-01		XSTR, SI, NPN, 2N3904	4
200-0031-01		IC, DIG, TTL, 74LS157, 4 2-1 MUX	1
200-0032-01		IC, DIG, TTL, 74LS175, QUAD D F/F	4
200-0039-01		IC, DIG, TTL, 74LS00, NAND GATE	3
200-0040-01		IC, DIG, TTL, 74LS02, NOR GATE	2
200-0041-01		IC, DIG, TTL, 74LS04, HEX INVERTER	1
200-0042-01		IC, DIG, TTL, 74LS20, 4-IN NAND	1
200-0043-01		IC, DIG, TTL, 74LS32, OR GATE	3
200-0044-01		IC, DIG, TTL, 74LS74, DUAL D F/F	1
200-0045-01		IC, DIG, TTL, 74LS96, 5 BIT SHIFT	1
200-0046-01		IC, DIG, TTL, 74LS109, DUAL JK F/F	2
200-0047-01		IC, DIG, TTL, 74LS125, QUAD BUFFER	1
200-0048-01		IC, DIG, TTL, 74LS138, 3-8 DECODER	2
200-0052-01		IC, DIG, TTL, 74LS163, 4 BIT COUNT	2
200-0053-01		IC, DIG, TTL, 74LS174, HEX D F/F	4
200-0055-01		IC, DIG, TTL, 74LS244, 8 TS BUFFER	7
200-0056-01		IC, DIG, TTL, 74LS245, 8 BUS XCVR	1
200-0057-01		IC, DIG, TTL, 74LS253, DATA SELECT	6
200-0058-01		IC, DIG, TTL, 74LS259, 8 BIT LATCH	1
200-0059-01		IC, DIG, TTL, 74LS273, OCTAL D F/F	1
200-0060-01		IC, DIG, TTL, 74LS374, OCTAL D F/F	5
200-0061-01		IC, DIG, TTL, 74S00, NAND GATE	2
200-0062-01		IC, DIG, TTL, 74S02, NOR GATE	1
200-0063-01		IC, DIG, TTL, 74S04, HEX INVERTER	2
200-0064-01		IC, DIG, TTL, 74S08, AND GATE	1
200-0065-01		IC, DIG, TTL, 74S32, OR GATE	1
200-0066-01		IC, DIG, TTL, 74S74, DUAL D F/F	1
200-0067-01		IC, DIG, TTL, 74S151, 8-1 MUX	7
200-0068-01		IC, DIG, TTL, 74S157, 4 2-1 MUX	2
200-0069-01		IC, DIG, TTL, 74S163, 4 BIT COUNT	6
200-0070-01		IC, DIG, TTL, 74S174, HEX D F/F	3
200-0071-01		IC, DIG, TTL, 74S175, QUAD D F/F	2
200-0072-01		IC, DIG, TTL, 74S273, OCTAL D F/F	2
200-0075-01		IC, DIG, TTL, 74LS86, QUAD X-OR	1
200-0076-01		IC, DIG, TTL, 74LS164, 8 BIT SHIFT	1
200-0077-01		IC, DIG, TTL, 74LS299, 8 BIT SHIFT	1
200-0078-01		IC, DIG, TTL, 74LS257, 4 2-1 MUX	1
210-0005-01		IC, DIG, CMOS, 4049UB, HEX INVERT	1
230-0007-01		IC, DIG, NOVRAM, X2212, 256 X4	1
240-0003-01		IC, DIG, RAM, 2148, 1K X4, 7ONS	3
240-0004-01		IC, DIG, RAM, 4116, 16K X1, 15ONS	32
250-0006-01		IC, DIG, MPU, 68A09E	1
250-0010-01		IC, DIG, MPS, 68B50, ACIA	1
260-0002-01		IC, DIG, INT, ULN2003, DRIVER	1
260-0011-01		IC, LIN, VR, 7905, 5V NEG	1
260-0030-01		IC, SP, ADC 8 BIT, ADC0809	1
300-0009-01		CAP, CER, AXL, 0.1UF, 50V, 20%	168
310-0013-01		CAP, TAN, AXL, 2.2UF, 10V, 20%	8
310-0014-01		CAP, TAN, AXL, 4.7UF, 20V, 20%	8
320-0006-01		CAP, MIC, RAD, 12PF, 500V, 5%	1
320-0007-01		CAP, MIC, RAD, 100PF, 500V, 5%	1
340-0011-01		CAP, ELC, AXL, 100UF, 16V, 50/-10%	2
340-0015-01		CAP, ELC, AXL, 1.0UF, 63V, 50/-10%	2
340-0018-01		CAP, ELC, AXL, 470UF, 6.3V, 50/-10%	1
400-1001-01		RES, CF, 1/4W, 5%, 1K OHM	37
400-1002-01		RES, CF, 1/4W, 5%, 10K OHM	2
400-1003-01		RES, CF, 1/4W, 5%, 100K OHM	2
400-1500-01		RES, CF, 1/4W, 5%, 150 OHM	1
400-2200-01		RES, CF, 1/4W, 5%, 220 OHM	1
400-2700-01		RES, CF, 1/4W, 5%, 270 OHM	1

400-2701-01	RES, CF, 1/4W, 5%, 2.7K OHM	1
400-3307-01	RES, CF, 1/4W, 5%, 33 OHM	10
400-4700-01	RES, CF, 1/4W, 5%, 470 OHM	3
400-4701-01	RES, CF, 1/4W, 5%, 4.7K OHM	6
460-0011-01	RES, PAK, DIP, 16PIN, 8X, 2.2K OHM	5
460-0012-01	RES, PAK, SIP, 10PIN, 9X, 470 OHM	2
460-0013-01	RES, PAK, SIP, 10PIN, 9X, 10K OHM	2
460-0014-01	RES, PAK, SIP, 8PIN, 7X, 1.0K OHM	1
500-0016-01	INDUCTOR, FER, AXL, 100UH, 10%	1
510-0019-01	SOCKET, IC, 24P, LOW PROF, PC	1
510-0020-01	SOCKET, IC, 28P, LOW PROF, PC	1
510-0021-01	SOCKET, IC, 40P, LOW PROF, PC	1
550-0063-01	CONN, AMP, 1-102589-7	1
570-0036-01	SW, DIP, 8PST	2
800-0237-01	SPACER, LED	1
801-0440-06-01	SCR, PAN HD PHIL, 4-40X3/8, ZINC	1
812-0440-00-01	NUT, HEX, 4-40, ZINC	1
820-0004-01	CRYSTAL, 20.000 MHZ	1
822-0004-00-01	WASHER, SPLIT LOCK, #4, ZINC	1
840-0036-01	OPT, DSP, LED, SNG, RED	1

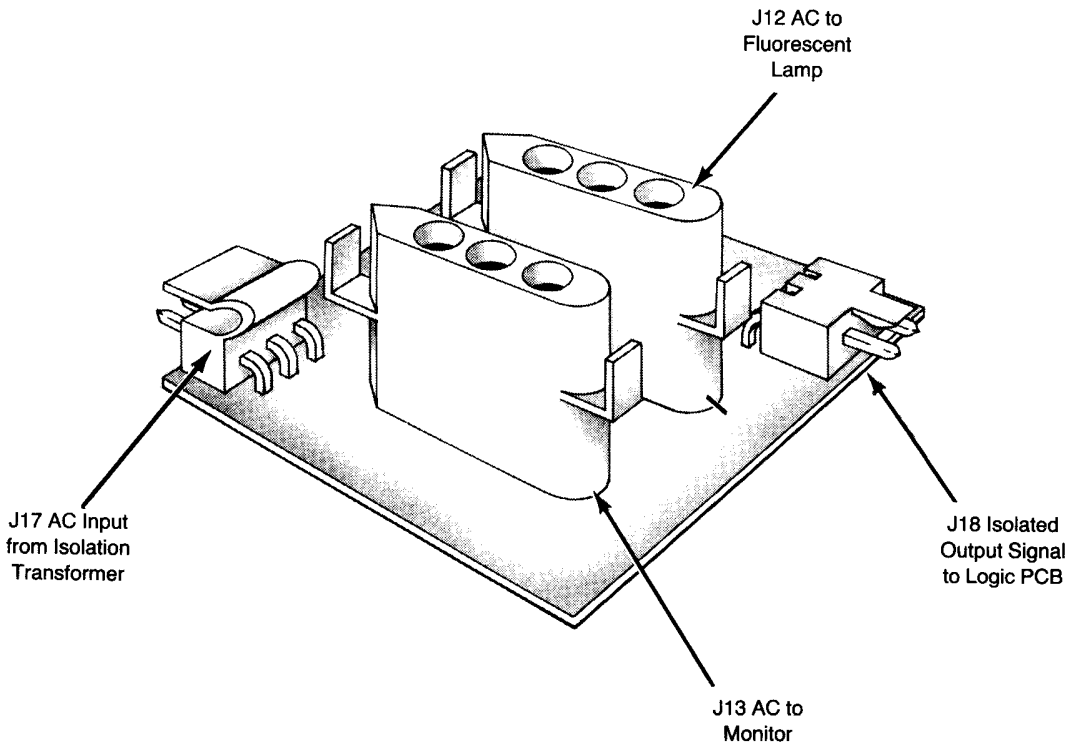


Figure 11. AC Sense PCB Assembly
(006-8006-10-0A)

PCB ASSEMBLY, AC SENSE
(006-8006-10-0A)
PARTS LIST

PART NO.	DESCRIPTION	QUANTITY
007-8006-01-0A	PCB, FABRICATION, AC SENSE	1
420-1502-01	RES, CC, 1W, 5%, 15K OHM	1
550-0018-01	CONN, PC, F, PINS, MLX 02-09-1134	6
550-0069-01	CONN, PC, 3P, F, MLX 03-09-1031	2
550-0086-01	CONN, PC, 2P, M, MLX 22-05-3021	1
550-0087-01	CONN, PC, 3P, M, MLX 09-75-1038	1
840-0037-01	OPT, ISO, LED, XSTR, 4N26	2

PCB ASSEMBLY, CARTRIDGE, SAC-I
(006-8003-10-0B)
PARTS LIST

PART NO.	DESCRIPTION	QUANTITY
007-8003-01-0B	PCB FAB, CARTRIDGE, SAC-I	1
200-0049-01	IC, DIG, TTL, 74LS139, 2-4 DECODER	2
230-0007-01	IC, DIG, NOVRAM, X2212, 2567 X4	1
300-0009-01	CAP, CER, AXL, 0.1UF, 50V, 20%	18
310-0013-01	CAP, TAN, AXL, 2.2UF, 10V, 20%	2
510-0020-01	SOCKET, IC, 28P, LOW PROF, PC	10
550-0064-01	CONN, AMP, 2-102585-0	1

PCB ASSEMBLY, TRACKBALL, CONVERTER
(006-8004-10-0A)
PARTS LIST

PART NO.	DESCRIPTION	QUANTITY
007-8004-01-0A	PCB, FABRICATED, TRACKBALL CONV	1
100-0002-01	DIO, SI, 10MA, 75PIV, 1N914	2
210-0003-01	IC, DIG, CMOS, 4013B, DUAL D F/F	1
210-0009-01	IC, DIG, CMOS, 4584B, HEX INVERTER	1
260-0034-01	IC, LIN, OPAMP, TL082, DUAL JFET	1
300-0009-01	CAP, CER, AXL, 0.1UF, 50V, 20%	3
310-0013-01	CAP, TAN, AXL, 2.2UF, 10V, 20%	1
330-0007-01	CAP, PES, RAD, 0.033UF, 100V, 10%	2
330-0008-01	CAP, PES, RAD, 0.10UF, 100V, 10%	2
400-1002-01	RES, CF, 1/4W, 5%, 10K OHM	2
400-2201-01	RES, CF, 1/4W, 5%, 2.2K OHM	4
400-2203-01	RES, CF, 1/4W, 5%, 220K OHM	2
400-3902-01	RES, CF, 1/4W, 5%, 39K OHM	2
550-0018-01	CONN, PC, F, PINS, MLX 02-09-1134	6
550-0061-01	CONN, CBL, 6P, RCP, MLX 03-09-1064	1
550-0065-01	CONN, PC, 8P, M, MLX 09-74-1081	1

PCB ASSEMBLY, AUDIO AMP
(006-8005-10-0A)
PARTS LIST

PART NO.	DESCRIPTION	QUANTITY
001-8004-01-0A	HEATSINK, CUT/DRILLED, IER, E310	1
007-8005-01-0A	PCB, FABRICATED, AUDIO AMP	1
260-0039-01	IC, LIN, SP, TDA2002, AUDIO AMP	2
300-0002-01	CAP, CER, RAD, 0.1UF, 50V, 20%	4
300-0010-01	CAP, CER, RAD, 0.022UF, 50V, 20%	2
340-0012-01	CAP, ELC, AXL, 1000UF, 25V, 50/-10%	3
340-0017-01	CAP, ELC, AXL, 10UF, 35V, 50/-10%	2
340-0018-01	CAP, ELC, AXL, 470UF, 6.3V, 50/-10%	2
400-1008-01	RES, CF, 1/4W, 5%, 1.0 OHM	2
400-2208-01	RES, CF, 1/4W, 5%, 2.2 OHM	2
400-4701-01	RES, CF, 1/4W, 5%, 4.7K OHM	1
400-4707-01	RES 1/4W, 5% CF 47	2
410-2200-01	RES, CC, 1/2W, 5%, 220 OHM	3
490-0011-01	RES, VAR, STR, PC, 100 OHM	1
550-0067-01	CONN, PC, 4P, M, MOLX 09-74-1041	1
550-0068-01	CONN, PC, 5P, M, MOLX 22-23-2051	1
801-0440-04-01	SCREW, PH PH, 4-40 X 1/4	4
821-0004-00-01	WASHER, FLAT, #4, ZINC, (SAE)	4

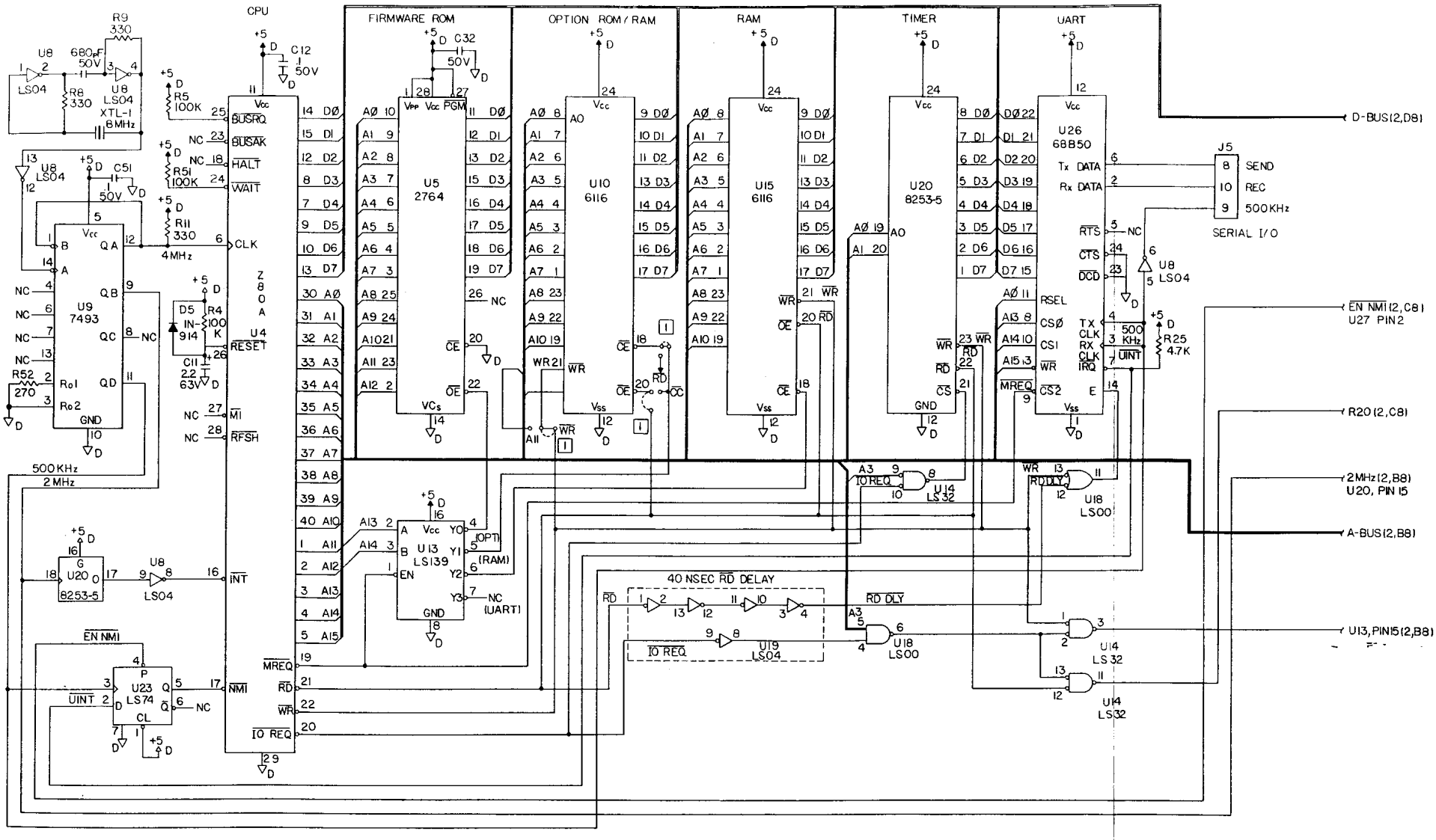
CARTRIDGE ASSEMBLY, SNAKEPIT
(000-8015-10-0A)
PARTS LIST

PART NO.		DESCRIPTION	QUANTITY
001-8003-01-0A		HOUSING, GAME CARTRIDGE, LEFT	1
001-8003-02-0A		HOUSING, GAME CARTRIDGE, RIGHT	1
006-8003-01-0B	A	PCB ASSY, CARTRIDGE, SAC-I	1
015-8003-10-0A	A	PROM, SNAKEPIT, ROMEF	1
015-8003-11-0A	A	PROM, SNAKEPIT, ROMCD	1
015-8003-12-0A	A	PROM, SNAKEPIT, ROMB3	1
015-8003-13-0A	A	PROM, SNAKEPIT, ROMB2	1
015-8003-14-0A	A	PROM, SNAKEPIT, ROMB1	1
015-8003-15-0A	A	PROM, SNAKEPIT, ROMB0	1
015-8003-16-0A	A	PROM, SNAKEPIT, GR3	1
015-8003-17-0A	A	PROM, SNAKEPIT, GR2	1
015-8003-18-0A	A	PROM, SNAKEPIT, GR1	1
015-8003-19-0A	A	PROM, SNAKEPIT, GR0	1
804-0632-04-01		SCREW, SOC. HD. FLT 6-32X1/4"	8
841-0632-06-01		STANDOFF, HEX, 1/4 F/F, 6-32X1/2	4
842-0632-08-01		STANDOFF, HEX, M/F, 6-32X1/2	4

ISOLATION TRANSFORMER ASSEMBLY
(000-8016-10-0A)
PARTS LIST

PART NO.	DESCRIPTION	QUANTITY
500-0015-01	XFMR, PWR, 115/230-, 115V, 1.3A	1
550-0002-01	CRIMP PIN FEMALE .093 DIA	2
550-0003-01	CRIMP PIN MALE .093 DIA	4

SCHEMATICS



NOTES: UNLESS OTHERWISE SPECIFIED

1 ALL RESISTORS ARE IN OHMS, ¼W, 5%.
2 ALL CAPACITORS ARE IN MICROFARADS, .01/100V.
3 LAST REFERENCE DESIGNATORS USED: R52, C134, U40, D5, XTL-1.

Figure 12. Audio Schematic, Sheet 1

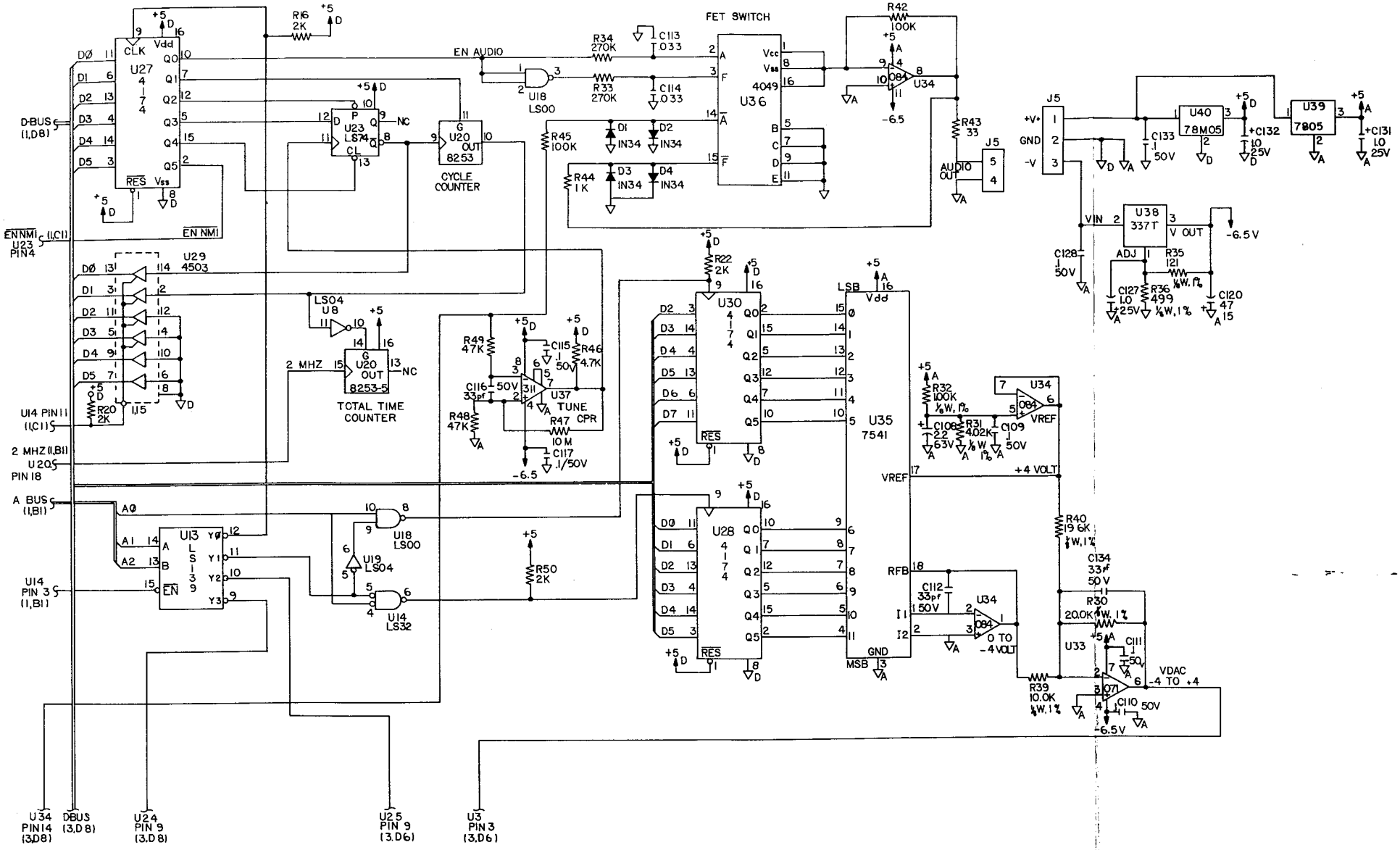


Figure 13 Audio Schematic, Sheet 2

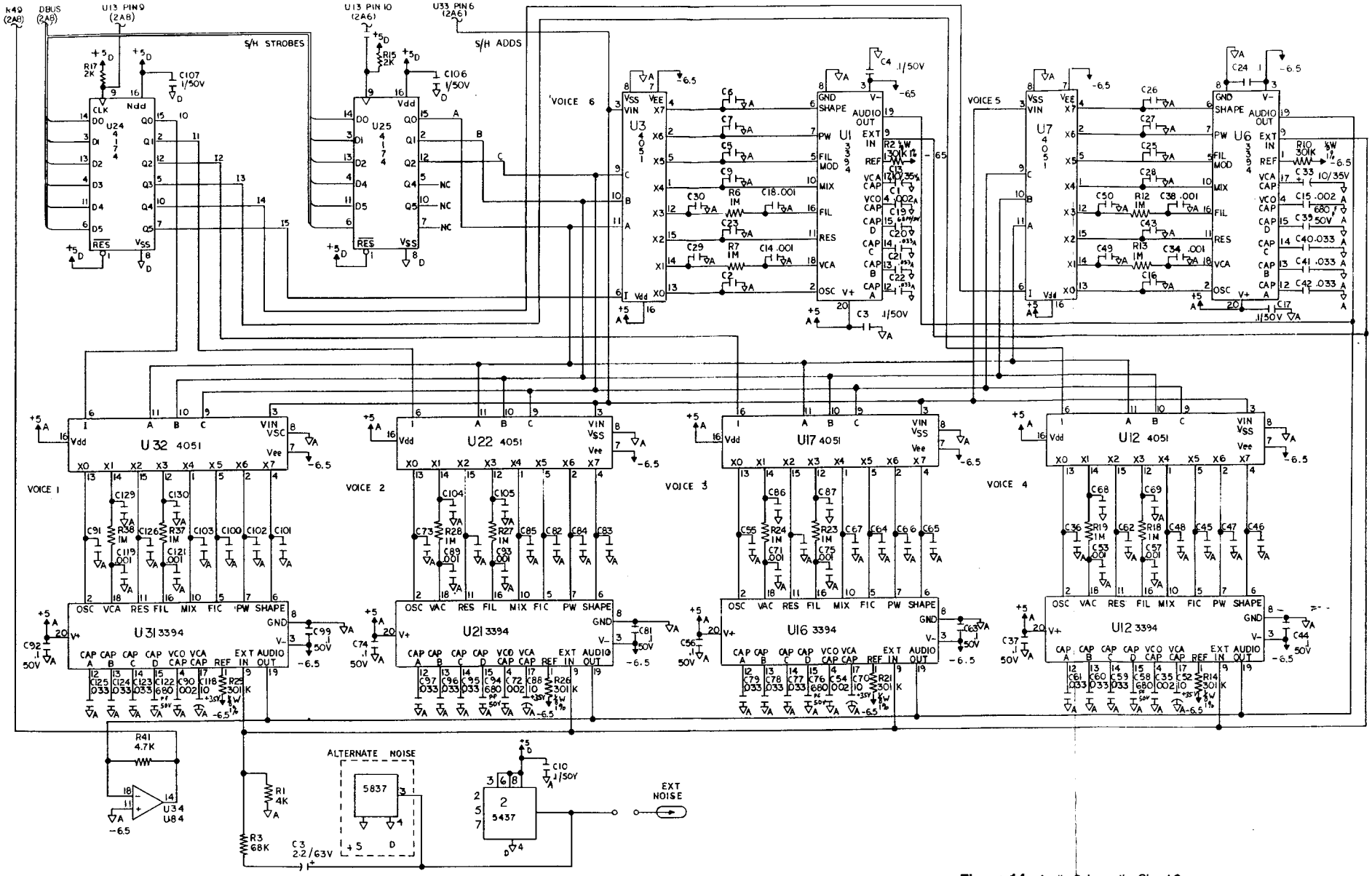


Figure 14 Audio Schematic, Sheet 3

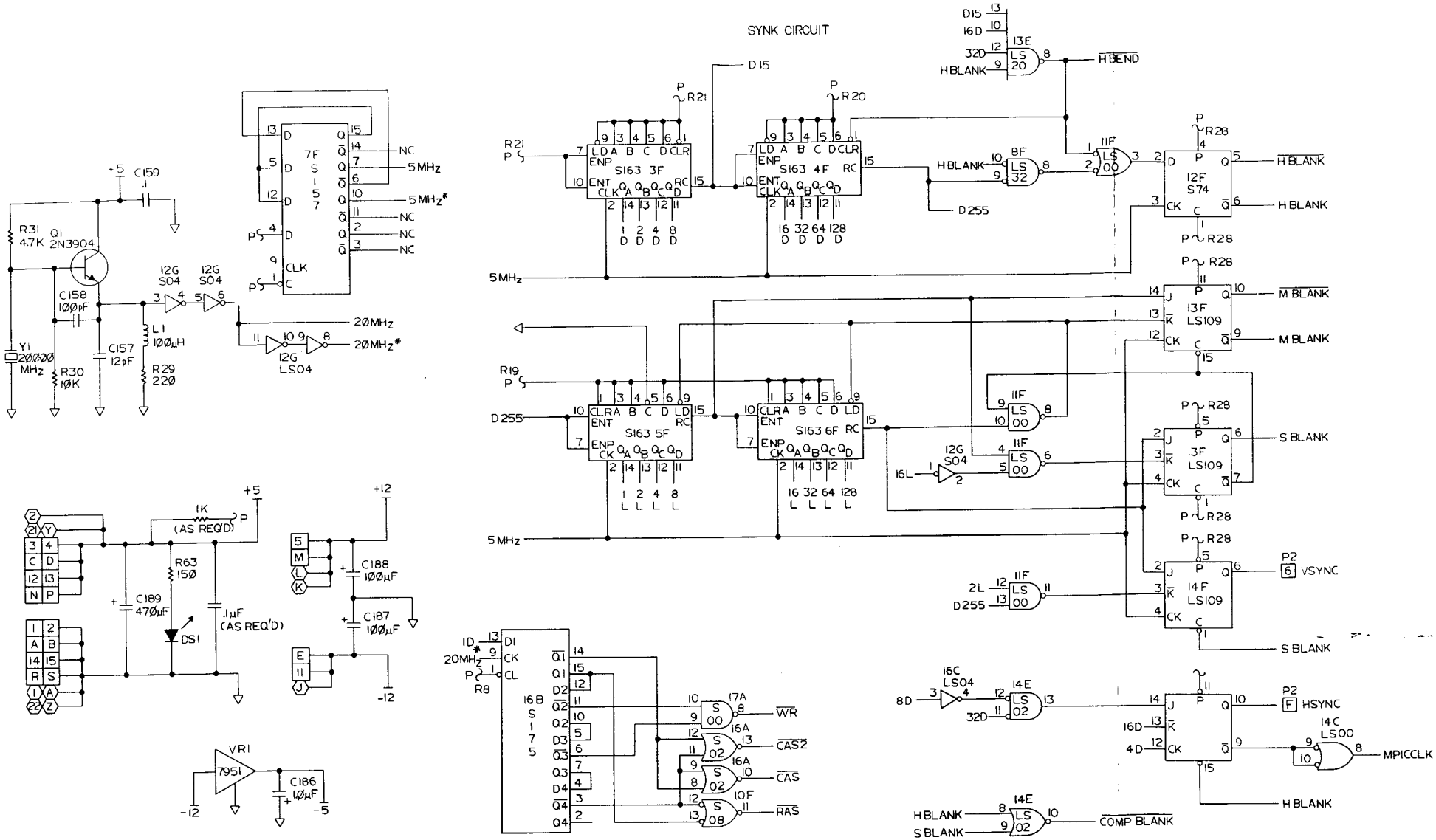


Figure 15. Clock and Synk Circuits, CPU Board

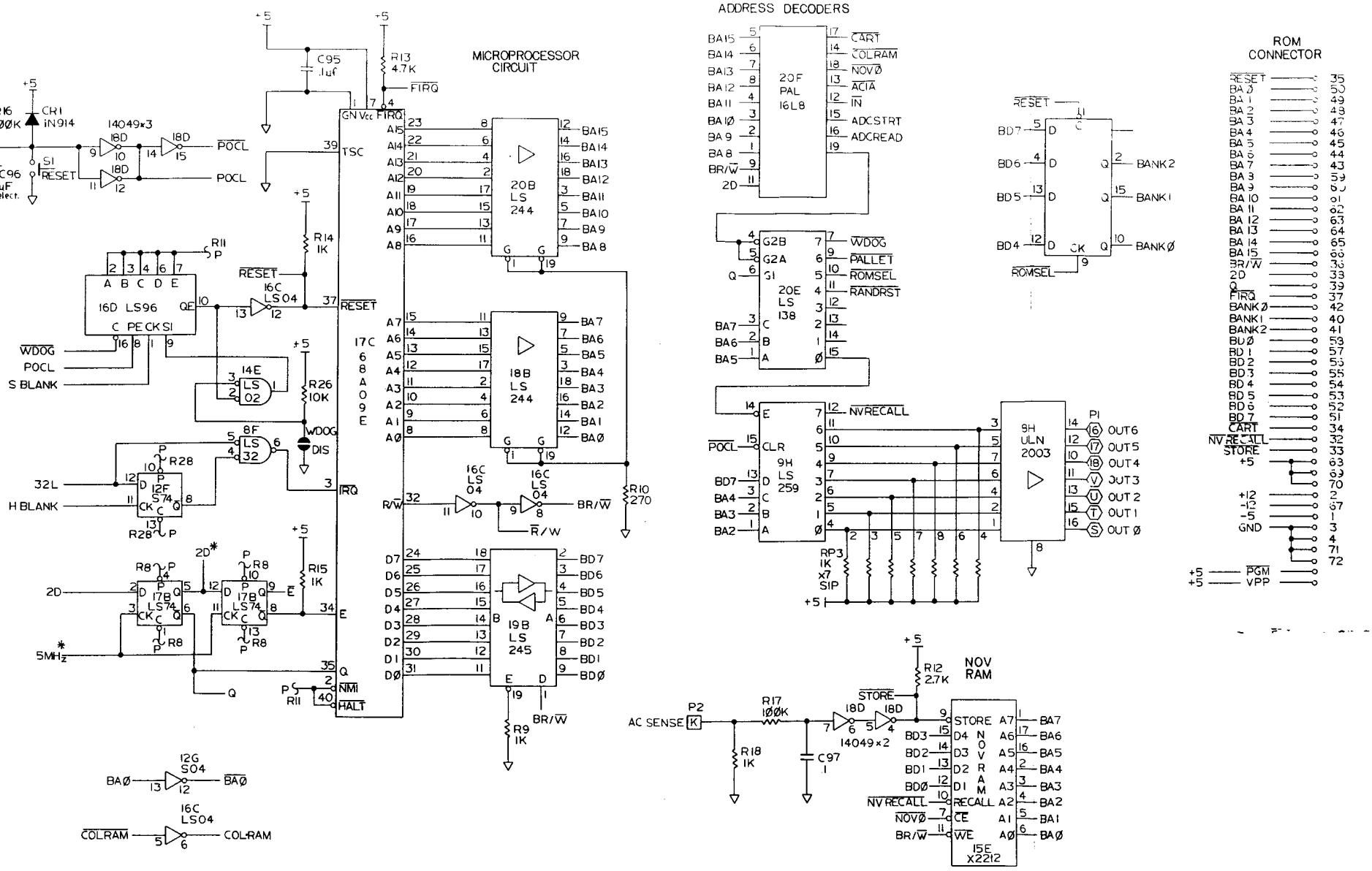


Figure 16. Microprocessor and Decoder Circuits, CPU Board

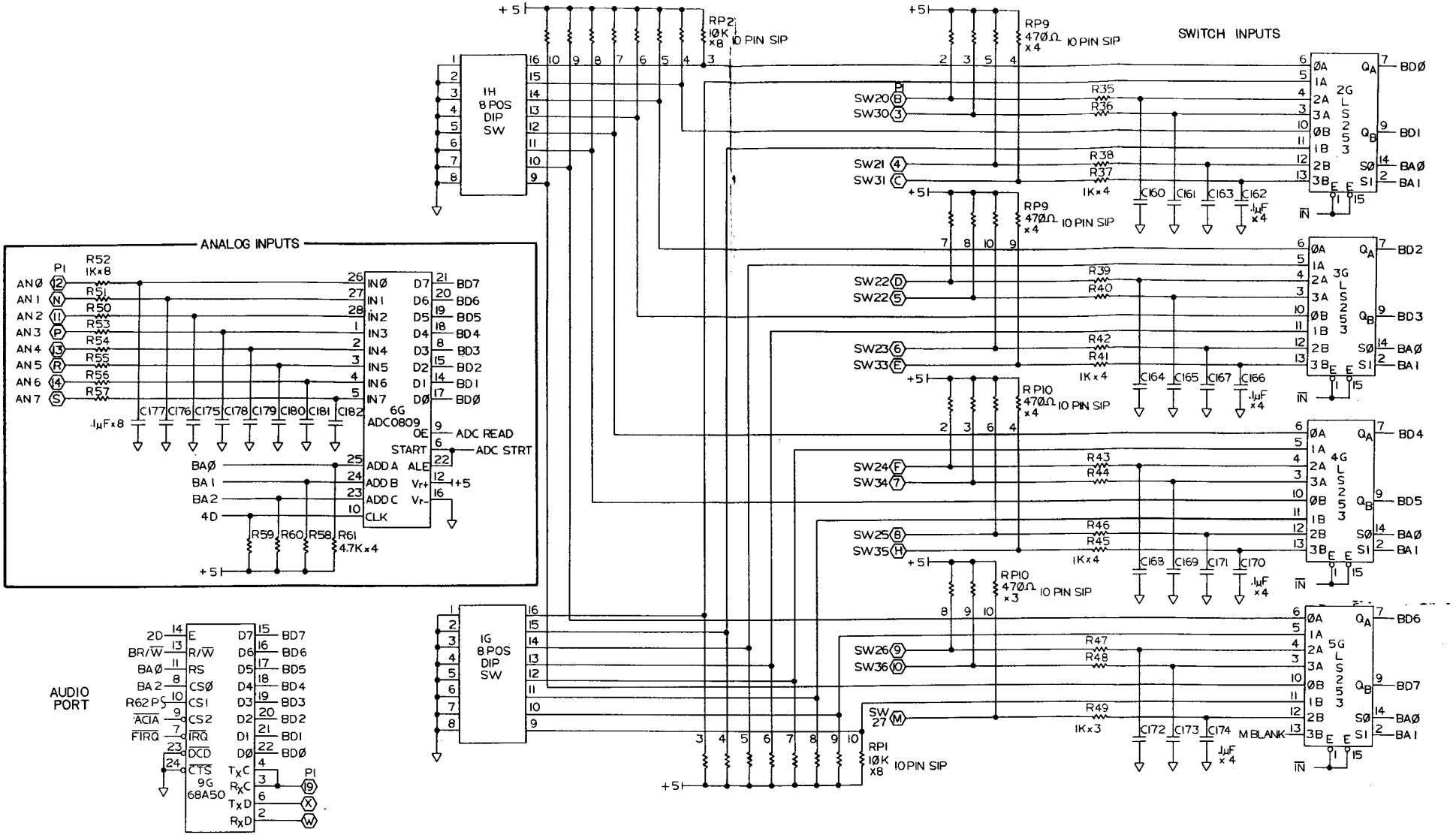


Figure 17. Switch Inputs, CPU Board

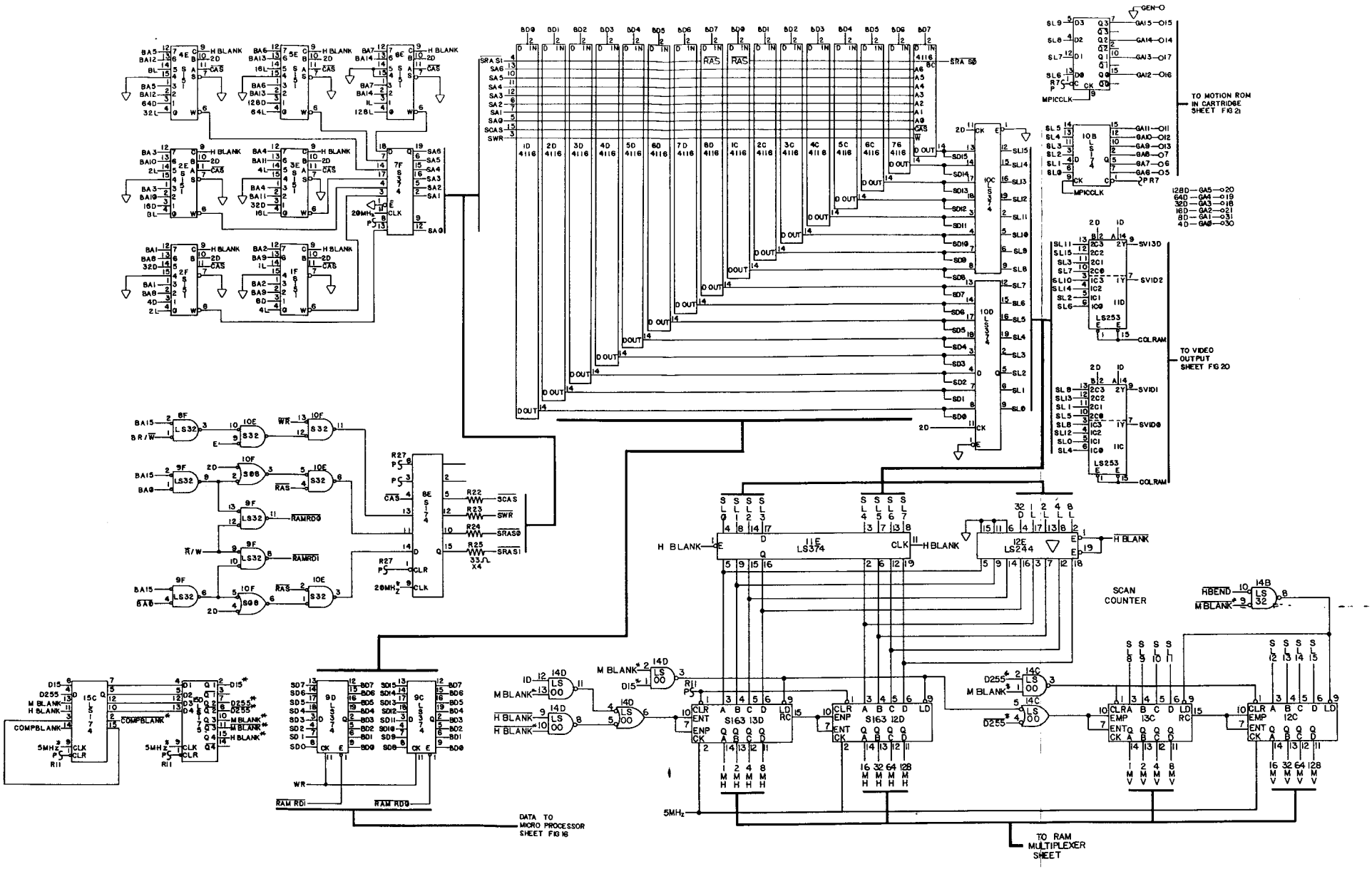


Figure 18. Screen Video Circuit

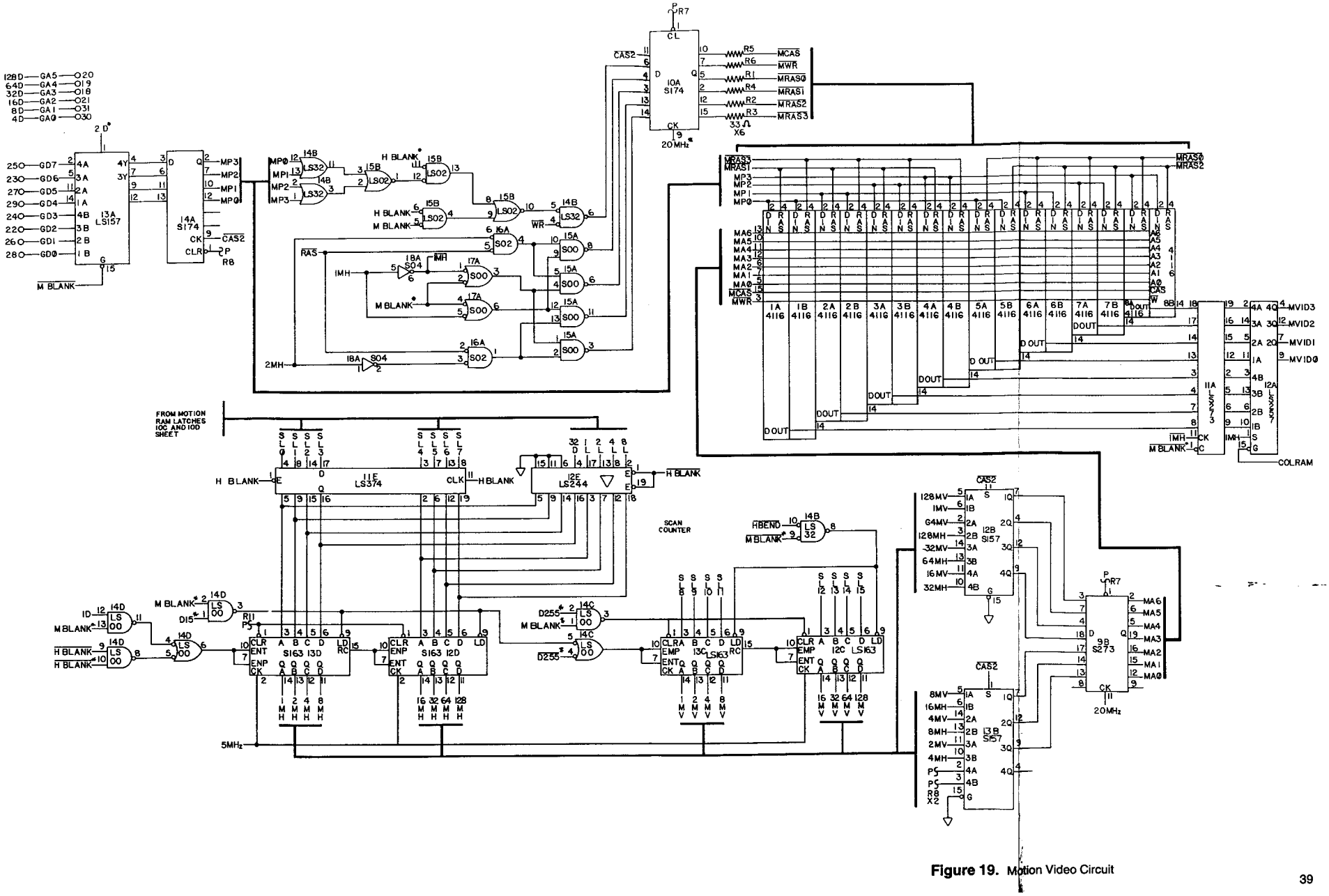


Figure 19. Motion Video Circuit

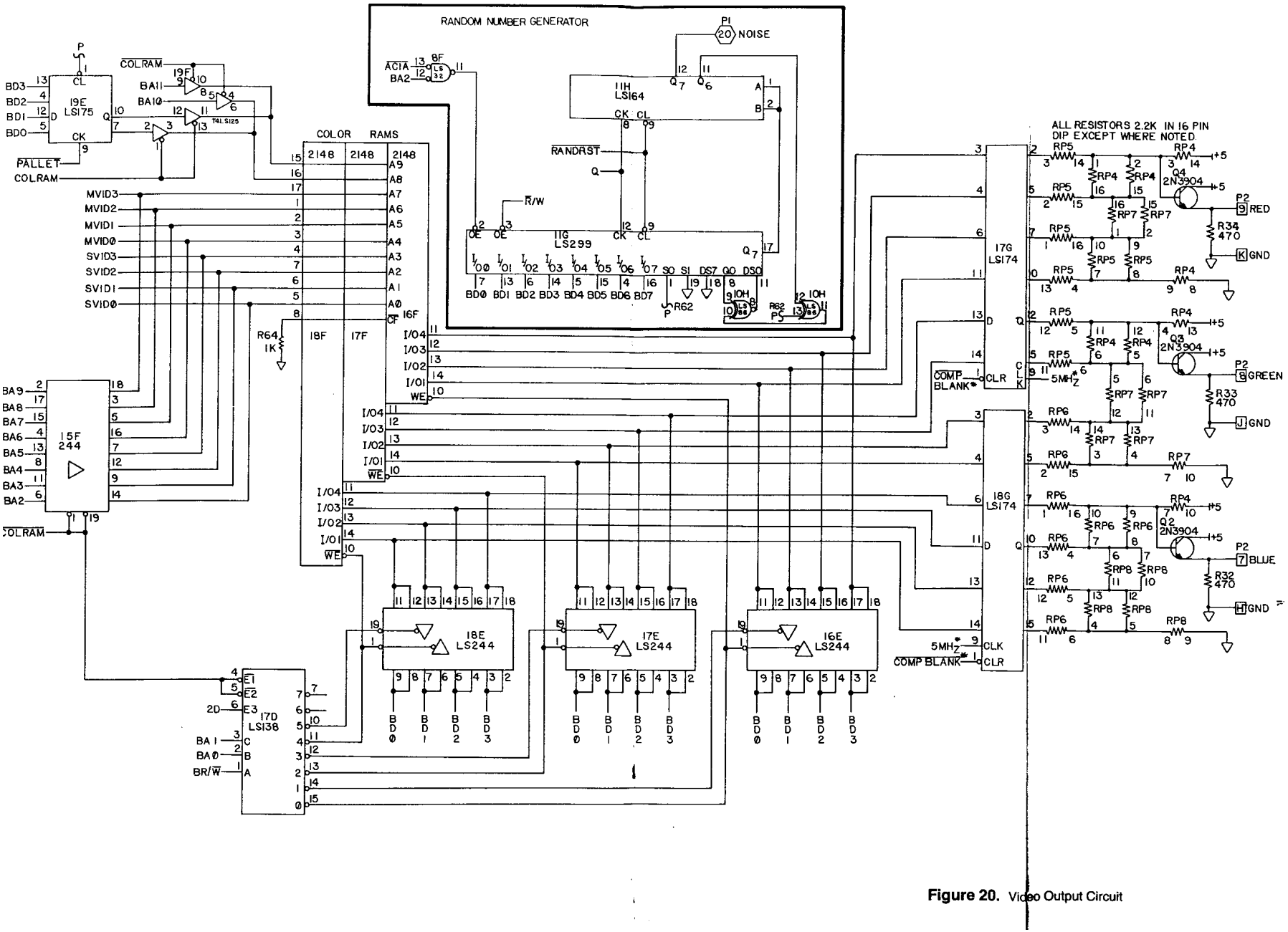


Figure 20. Video Output Circuit

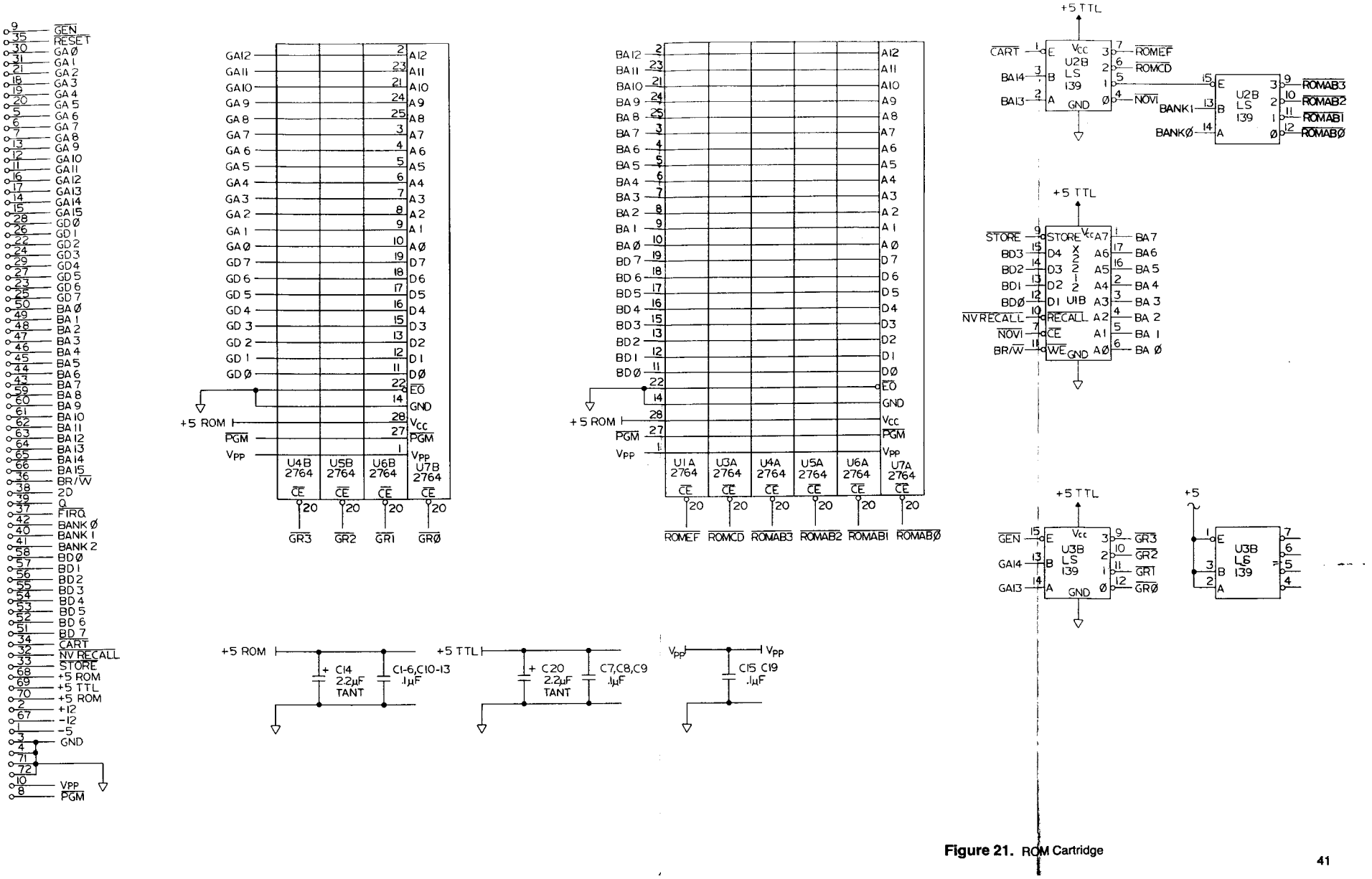


Figure 21. ROM Cartridge

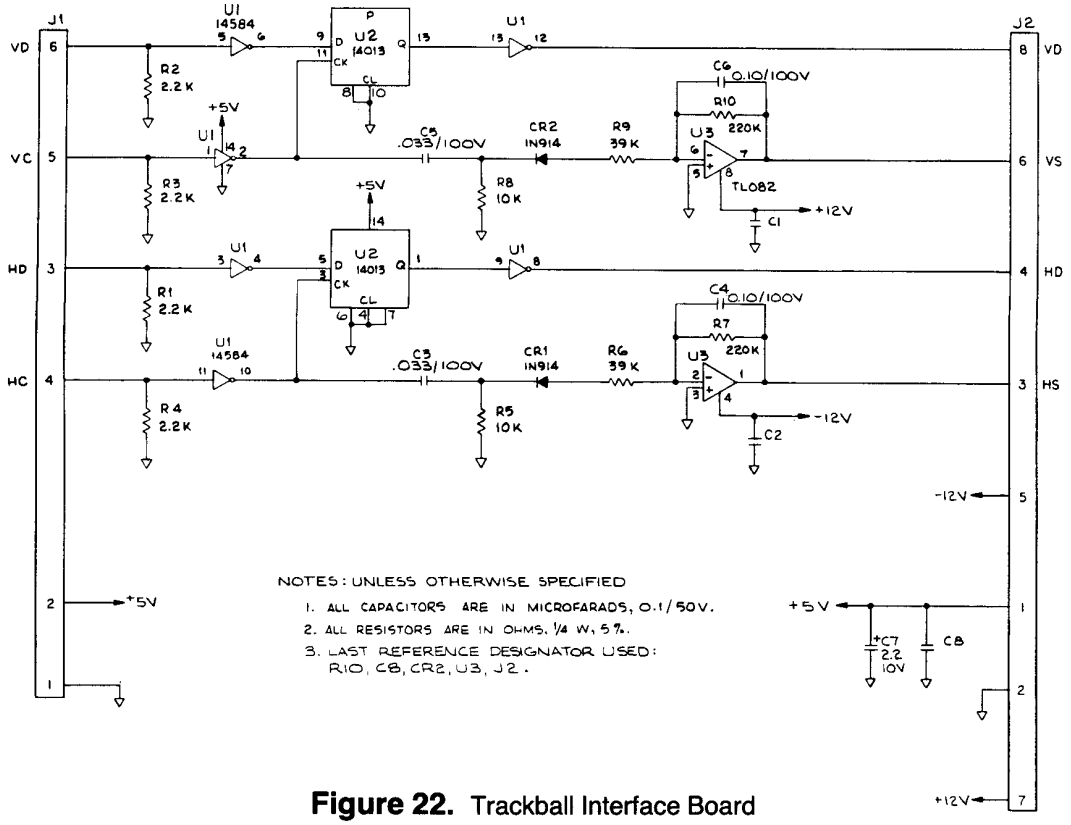


Figure 22. Trackball Interface Board

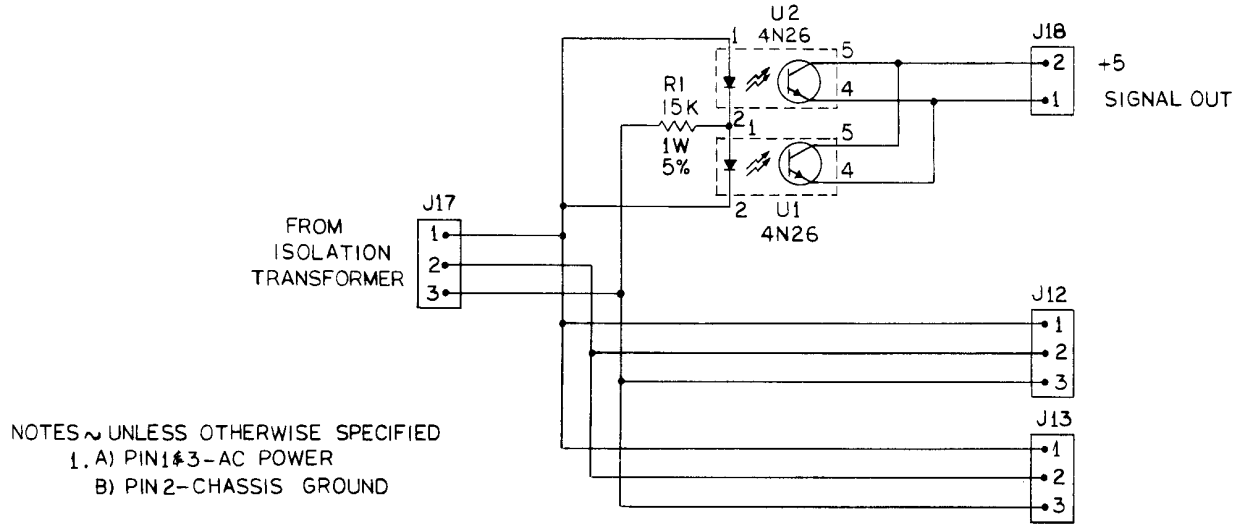


Figure 23. AC Sense PCB

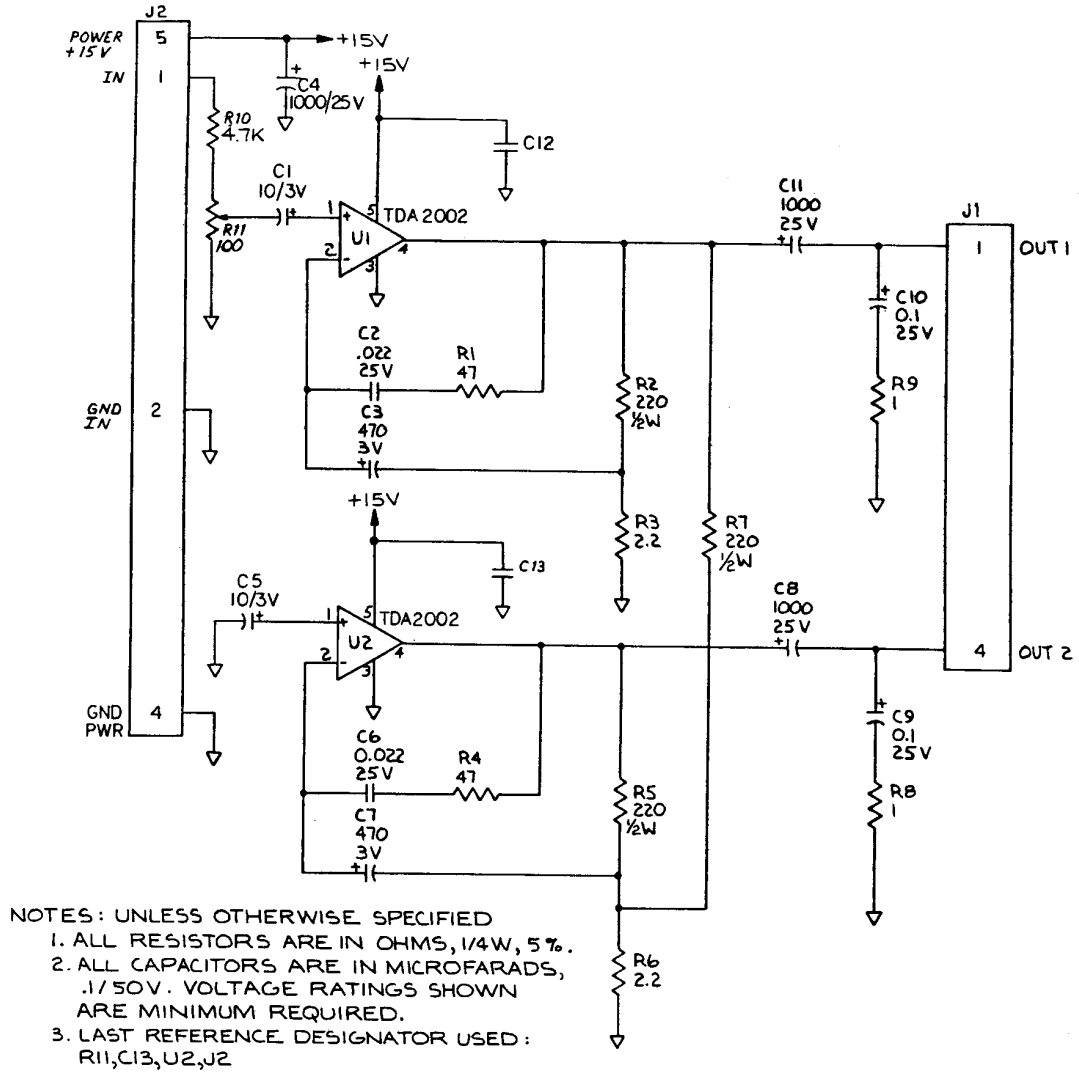


Figure 24. Audio Amp

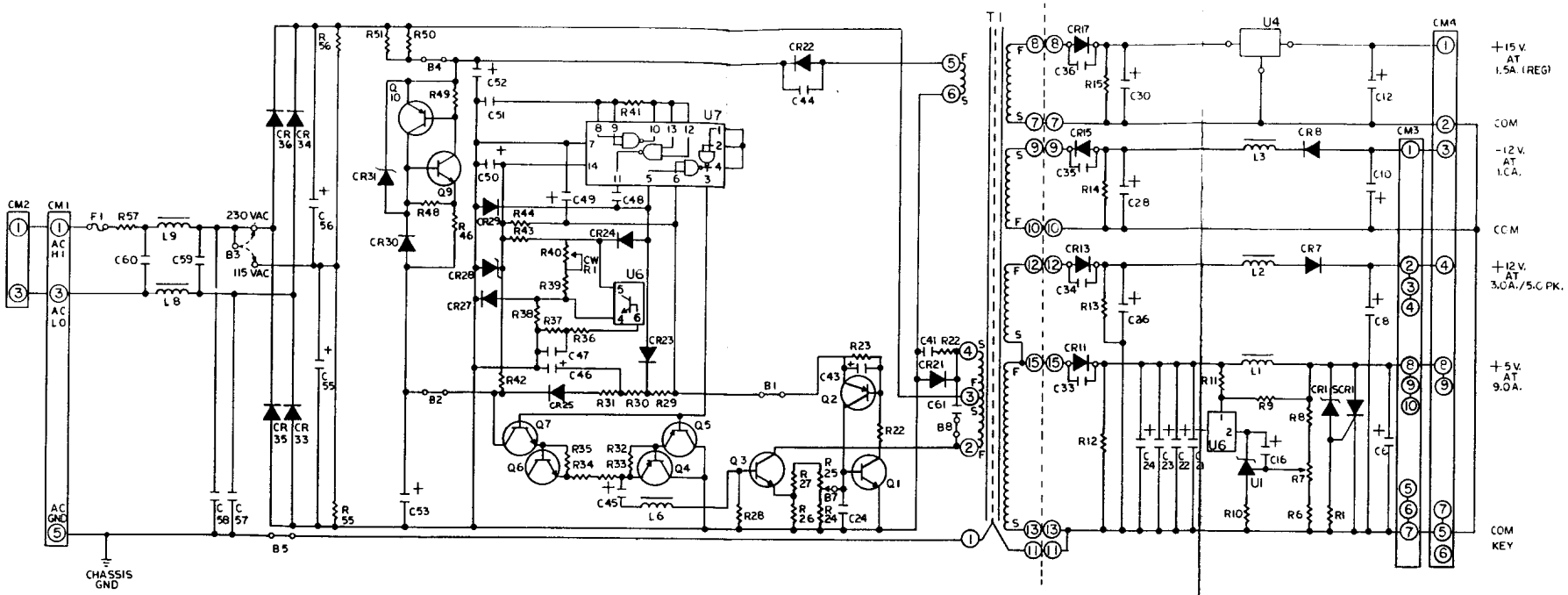


Figure 25. Power Supply

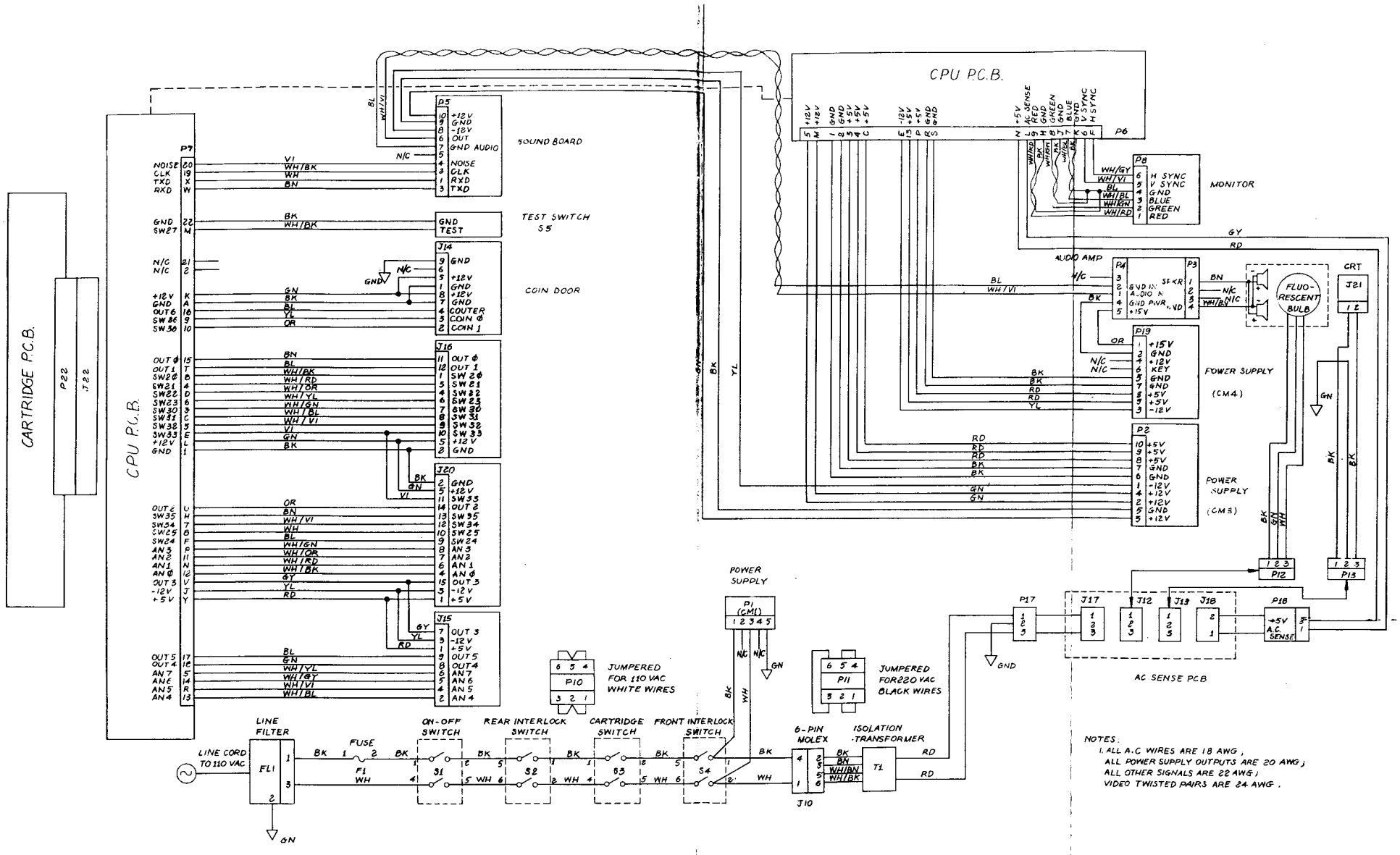
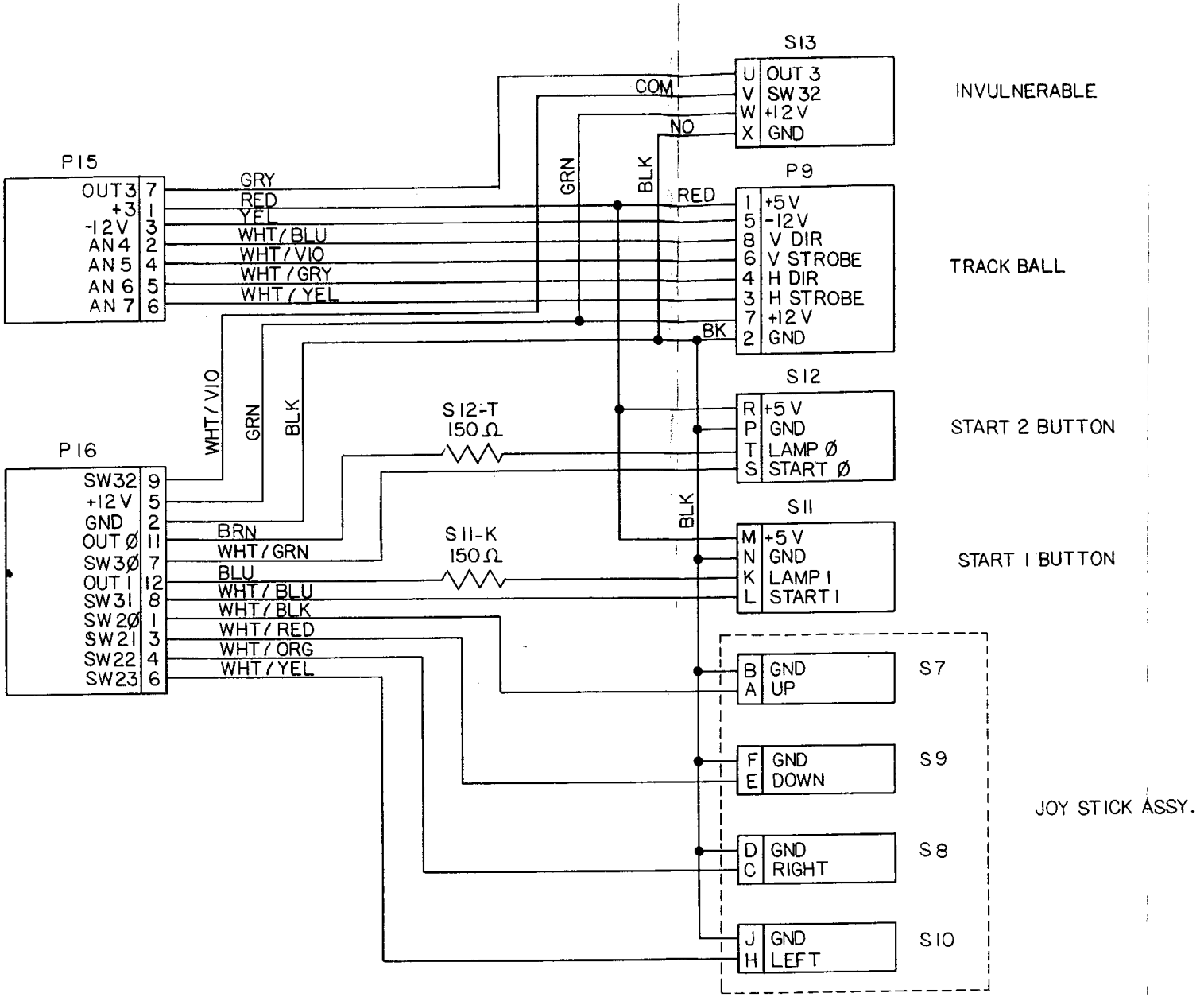


Figure 26. Wiring Harness, SAC-1



SNAKE PIT CONTROL PANEL
WIRING DIAGRAM

Figure 27. Control Panel Wiring Diagram