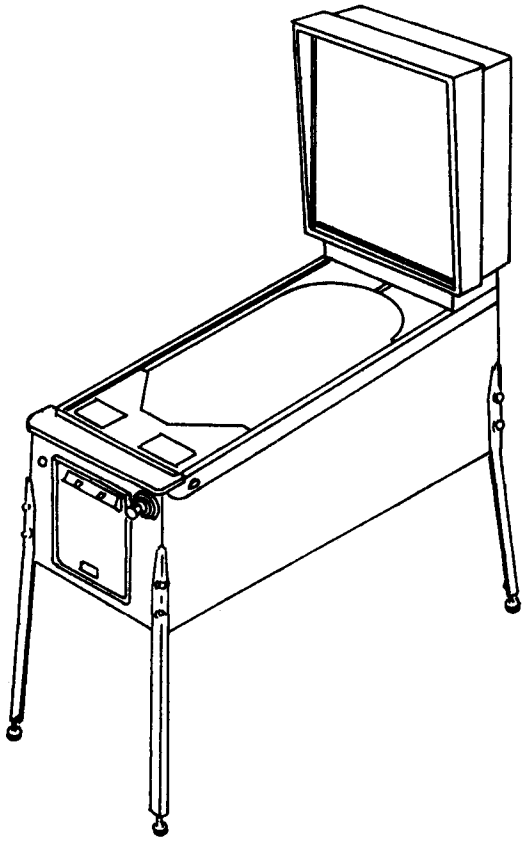
GamePlan

PINBALL
MODEL SPECIFICS



Super Nova

RULES OF PLAY & SCORING – SUPER NOVA

The S-U-P-E-R and N-O-V-A rollovers advance score 1000 pts. and increment lit bonus (liberal), or simply advance score 100 pts. (conservative) for the first time scored. They advance score 100 PTS. for each additional time scored on current ball. Scoring S-U-P-E-R or N-O-V-A (liberal) or S-U-P-E-R and N-O-V-A (conservative) advances bonus multiplier.

Active bonus is selected by arrows at bottom of playfield. The lit arrow points to active bonus and lit arrow alternates when 10 PT. switch or slingshot is activated. 1000 and spin lab targets score 1000 PTS. and cause the Space Lab to spin for a random time. The feature showing at the end of the Space Lab spin has its corresponding playfield feature lit. These features are EXTRA, SPECIAL, 50,000, COMET 500, URSA X3, and ORION X3.

Comet 500 causes the spinner lane to score 500 points per spin instead of the normal 100 points. The spinner always advances the lit bonus once per spin. URSA X3 and ORION X3 score triple bonus when collected from the URSA and ORION kickout holes. The center stand-up target scores 5,000 PTS., 50,000 PTS. when lit, or Special when lit. Scoring Special from center stand-up target causes Space Lab to spin. Scoring 50,000 from center target causes Space Lab to spin (conservative) or not to spin (liberal). The URSA and ORION kickout holes score 500 PTS., collect their respective bonus, and then either restore the bonus (liberal) or cancel the bonus (conservative). Scoring S-U-P-E-R and N-O-V-A after 5X multiplier is achieved gives 50,000 PTS.

The top and bottom thumper score 100 PTS. or 1000 PTS. when lit. The center thumper scores 100 PTS. or 5,000 PTS. when lit. The top thumper is lit by scoring S-U-P-E-R. The bottom thumper is lit by scoring N-O-V-A. The center thumper is lit by advancing bonus to X 3. The lower inside lanes score 1000 PTS. and advance the lit bonus, the lower out lanes score 5,000 PTS.

Liberal or conservative game play is controlled by MPU set up switches 7, 13, 14 and 15.

Exceeding high score to date awards credits, if optioned, at the end of the game and the displayed high score to date is automatically updated.

Tilting the game results in loss of current ball and the flippers and all playfield features go dead. Slamming the machine results in loss of the game, and the game goes into a delay mode for approximately 15 seconds. The kickouts are always active except during this delay. If a ball falls in either kickout hole during the slam delay it will be kicked out immediately after the delay.

At the end of the game, the game over tune plays and the match number shows in the ball play display if optioned. The game goes into a game over delay for approximately 5 seconds and then alternately flashing last game score and high score to date on the displays.

SWITCH # IDENTIFICATION – SUPER NOVA

In the switch checkout section of the diagnostic routine, the number of the closed switch is shown in each display. Closing any switch causes its number to be displayed. The following list identifies each switch by number.

Accounting Reset.....010
Credit Button.....020
Slam Switch.....030
1000 & Spin Lab Target.....040
Coin Chute 2.....050
Coin Chute 3.....060
Coin Chute l.....070
Tilt Switch.....080
10 PT Score Switches.....090
Extra / 1000 PTS.....100
Ball Return.....110
100 & Advance URSA Bonus.....120
100 & Advance ORION Bonus.....130
"A" Rollover.....140
Left Sling Shot.....150
1000 & Advance Lit Bonus.....160
URANUS Target.....170
5000 PT Lane.....180
URSA Kickout.....190
ORION Kickout.....200
Upper Thumper.....210
Bottom Thumper.....220
Spinner.....230
Right Slingshot.....240
"V" Rollover.....250
Diagnostic and Accounting.....260
"S" Rollover.....270
"U" Rollover.....280
"P" Rollover.....290
"E" Rollover.....300
"R" Rollover.....310
"O" Rollover.....320
Middle Thumper.....330
"N" Rollover.....340
ORION X 3*.....350
Special*.....360
Extra Ball.....370
50,000*.....380
URSA X 3*.....390
COMET X 5*.....400

*Space Lab Switches

GAME SPECIFIC DIP SWITCHES – SUPER NOVA

50,000 LITE

Space Lab stays on 50,000 until spun off or Space Lab spins when 50,000 is scored on center target. Switch setting for S7 are as follows:

50,000 LITE	S6
STAY ON UNTIL SPUN	ON
SPINS WHEN 50,000 SCORED	OFF

URSA AND ORION BONUS CARRY OVER

Switch #13 selects whether or not bonus is restored or cancelled after collected.

URSA AND ORION BONUS CARRY OVER	S13
RESTORE BONUS AFTER COLLECTED	ON
CANCEL BONUS AFTER COLLECTED	OFF

ROLL OVER SCORING

DIP switch #14 adjusts rollover scoring.

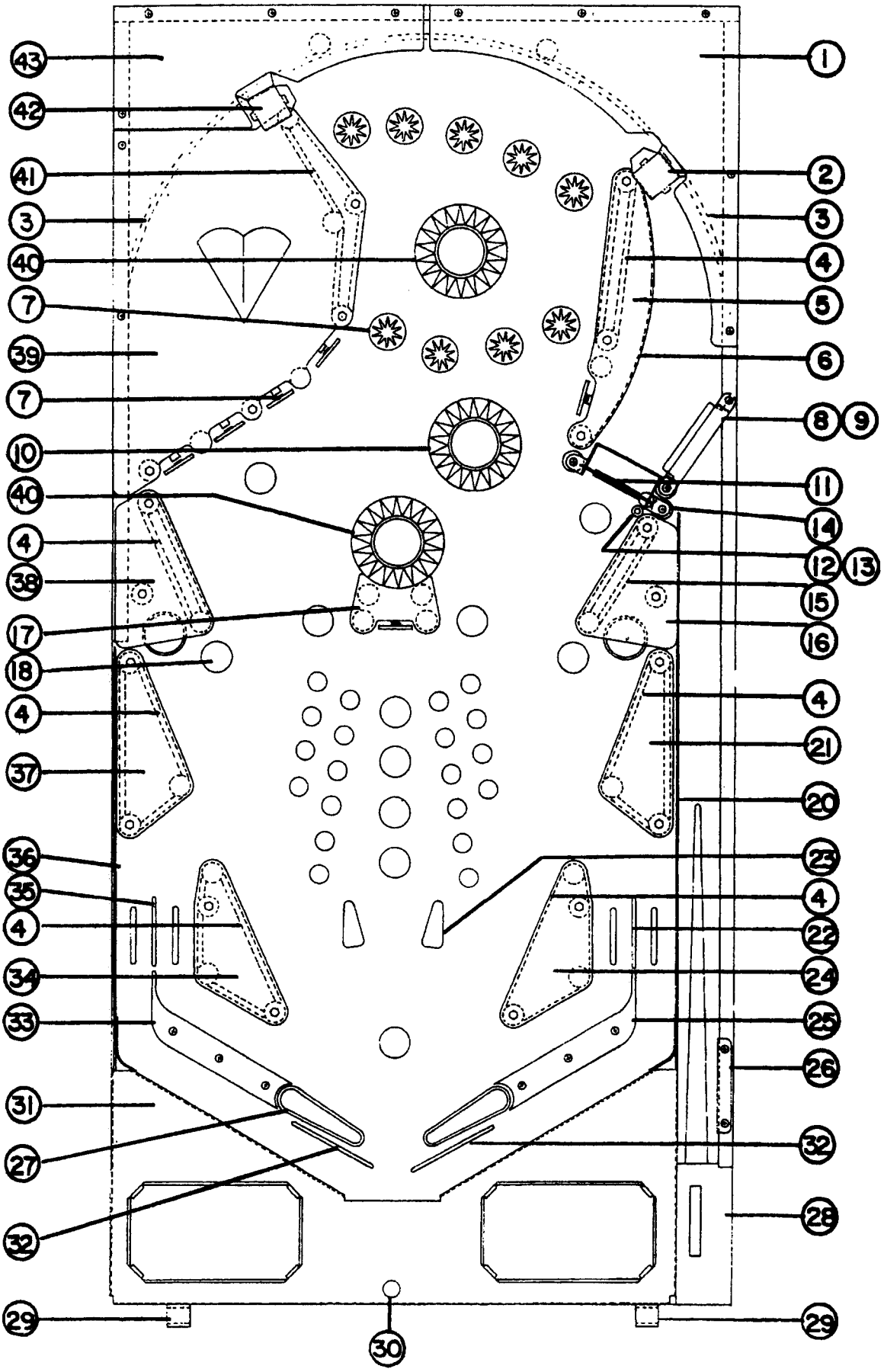
ROLL OVER SCORING	S25
ADVANCE LIT BONUS AND SCORE 1000PTS ON SUPER NOVA ROLLOVERS UNTIL 2X MULTIPLIER IS ACHIEVED	ON
SUPER NOVA ROLLOVERS SCORE 100PTS ONLY	OFF

MULTIPLIER ADVANCE

DIP switch #15 adjusts multiplier advance.

MULTIPLER ADVANCE	S15
SUPER OR NOVA ADVANCE MULTIPLER	ON
SUPER AND NOVA ADVANCE MULTIPLER	OFF

PLAYFIELD TOP DIAGRAM – SUPER NOVA

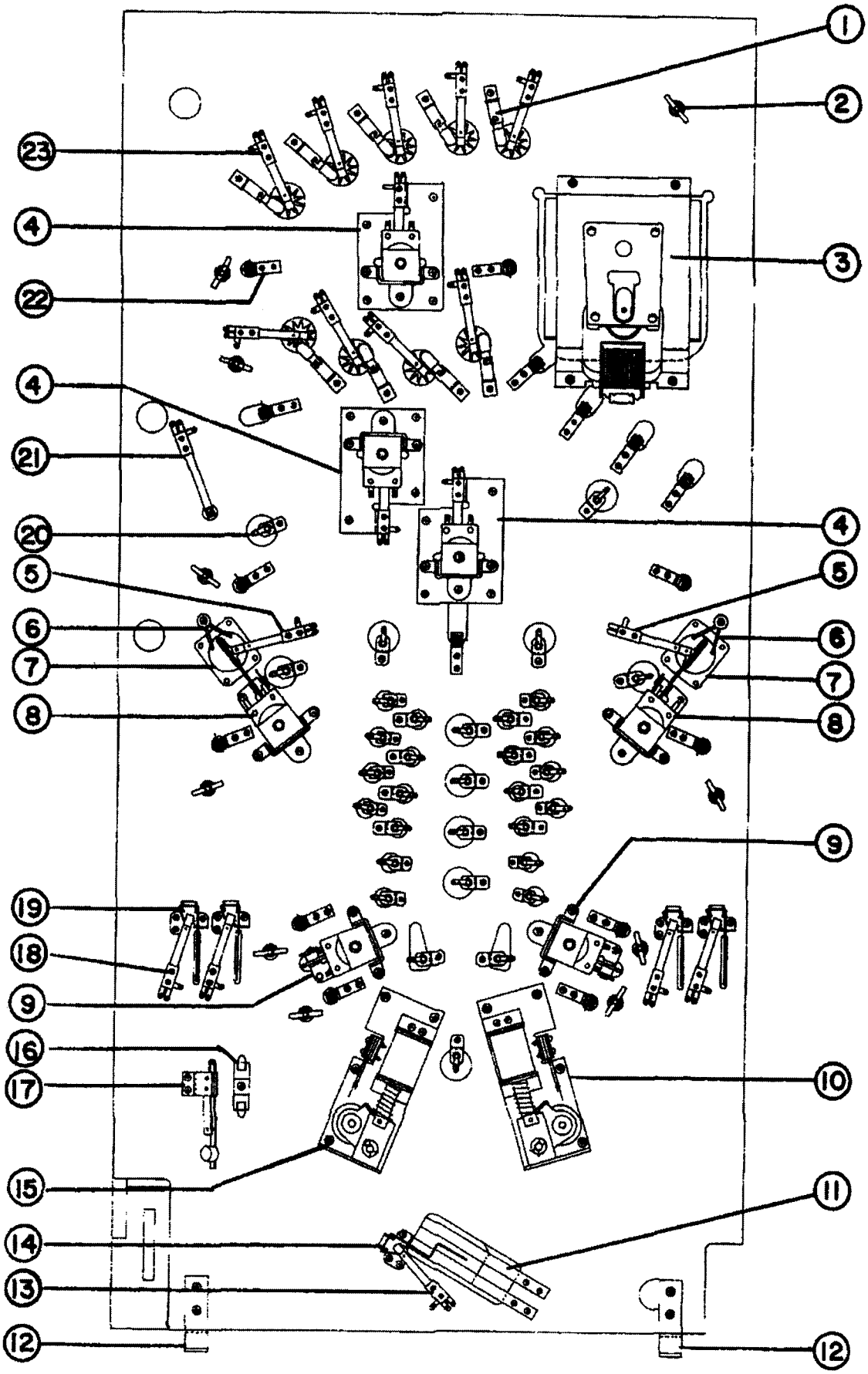


SOLENOID IDENTIFICATION – SUPER NOVA

The solenoid checkout section if the diagnostic routine actuates each solenoid on the playfield. The solenoid number is shown in each display as the solenoid is being actuated. The following list identifies each solenoid by number:

Ball Return.....010
Top Thumper..... 020
Bottom Thumper.....030
Middle Thumper..... 040
Left Kickout (URSA).....050
Right Kickout (ORION)..... 060
Left Slingshot.....070
Right Slingshot..... 080
Not Used..... 090
Not Used..... 100
Not Used..... 110
Not Used..... 120
Not Used..... 130
Not Used..... 140
Not Used..... 150
Flipper Relay Enable.....160
Feature Lamps On.....170
Feature Lamps Off.....180

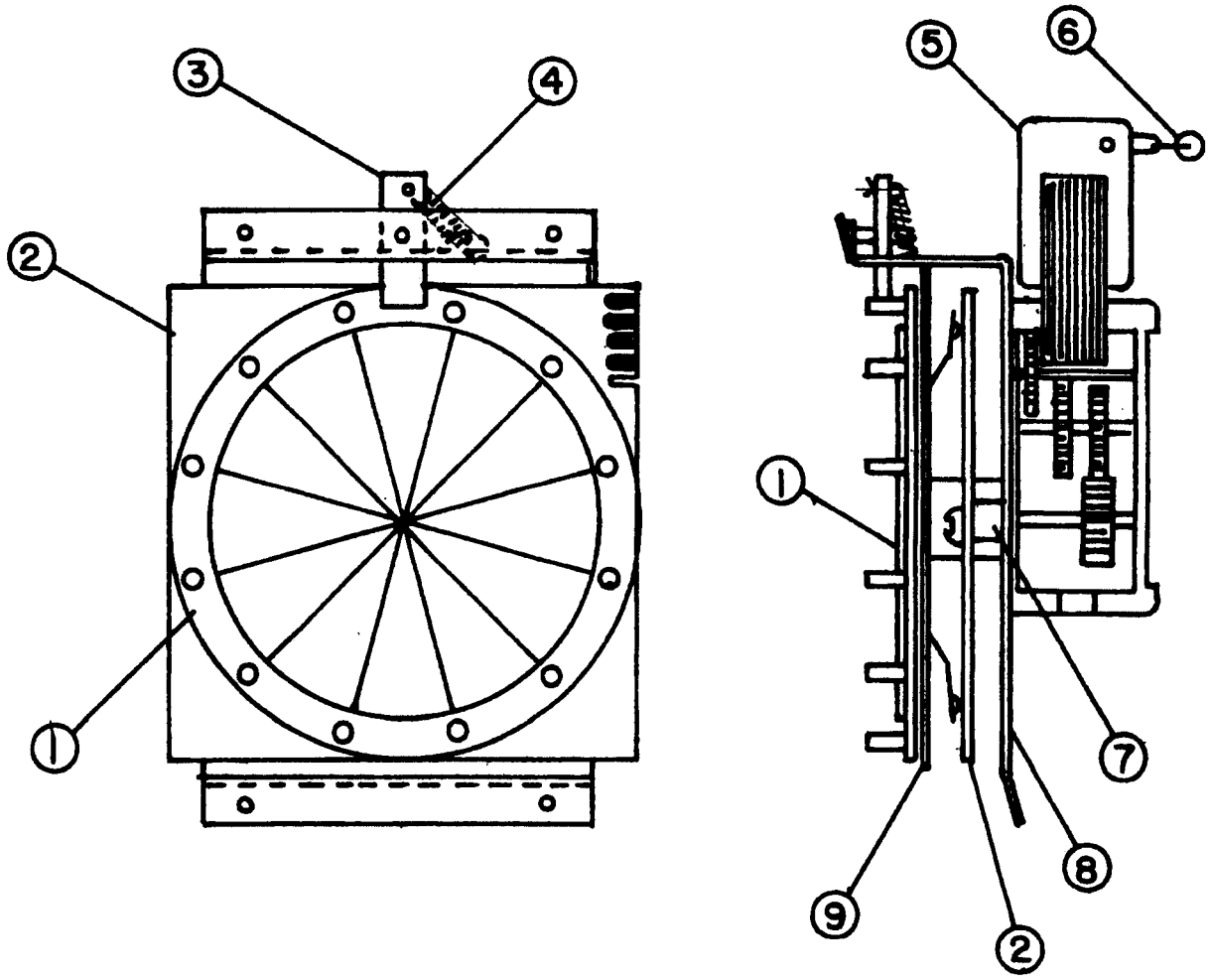
PLAYFIELD BOTTOM DIAGRAM – SUPER NOVA



PLAYFIELD TOP PARTS LIST – SUPER NOVA

ITEM	PART NO.	DESCRIPTION
1	08-00053C	Right Arch. Overlay
2	10-00003A	Ball Gate Ass'y
3	06-00028A	Ball Guide Wire
4	08-30009N	2½" I.D. Rubber Ring
5	08-00055C	Right Top Overlay
6	06-00043A	Ball Guide Wire
7	03-40032N	Star Rollover Button
	03-40031N	Star Rollover Base
8	06-00040A	Wire Gate
9	04-00358A	Wire Gate Brkt.
10	03-40056N	Sunburst Cap (5000) When Lit
11	10-00014A	Spinner Ass'y
	06-00003A	Spinner Switch Wire
12	05-30015A	Mini Post
13	08-30018A	Rubber Ring (Mini Post)
14	03-40033N	Post (Red)
	08-30004N	5/16" I.D. Rubber Ring
15	08-30012N	2" I.D. Rubber Ring
16	08-00061C	Center Right Overlay
17	08-00056C	Center Target Overlay
18	03-40022A	1" Insert (Yellow)
	03-40020A	1" Insert (White)
	03-40050N	5/8" Insert (White)
	03-40044N	1" Insert (Amber)
19	10-10064A	Target Switch Ass'y
20	10-00153A	Guide Rail Ass'y (Right)
21	08-00062A	Lower Right Overlay
22	06-00042A	Ball Guide Wire
23	03-40057N	1¼" Triangle (Red)
24	08-00063C	Right Sling Shot Overlay
25	08-00064C	Right Rail Overlay
26	04-00101A	Rail Guide
27	08-30001N	Flipper Rubber 1½"
28	04-00365N	Shooter Indicator
29	04-00136A	Playfield Support Brkt.
30	08-30003A	Rubber Bumper
31	04-00364N	Bottom Arch.
32	06-00044A	Ball Guide Wire
33	08-00060C	Left Rail Overlay
34	08-00059C	Left Sling Shot Overlay
35	06-00042A	Ball Guide Wire
36	10-00152A	Guide Rail Ass'y (Left)
37	08-00058C	Lower Left Overlay
38	08-00057C	Center Left Overlay
39	08-00054C	Top Left Overlay
40	03-40043N	Sunburst Cap (1000) When lit
41	08-30010N	3½" I.D. Rubber Ring
42	10-00004A	Ball Re-Bound Ass'y
43	08-00052C	Left Arch. Overlay

SPACE LAB ASSEMBLY #10-00148A – SUPER NOVA



ITEM	PART NO.	DESCRIPTION
1	10-00149A	ROTORY DISC
2	20-00001A	CONTACT PLATE
3	08-30016A	SPINNER DOG
4	06-20001A	SPRING
5	21-10001N	MOTOR
6	24-10002N	CAP. 10uf 50 V.
7	32-40001A	SPACER
8	10-00151B	MOTOR MTG. PLATE
9	02-60011A	LITE MASK

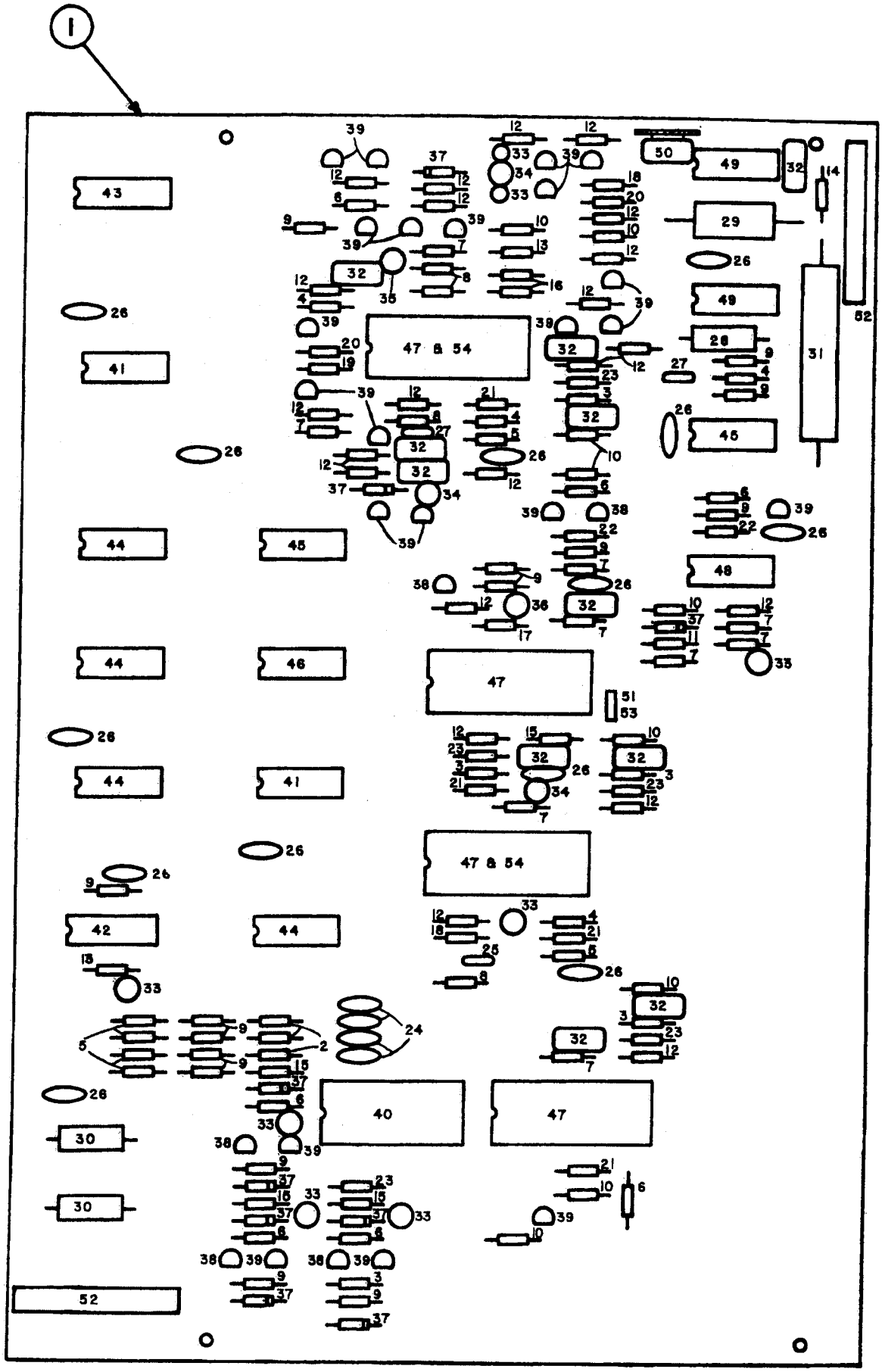
PLAYFIELD BOTTOM PARTS LIST – SUPER NOVA

ITEM	PART NO.	DESCRIPTION
1	29-60004N	Miniature Lamp Socket
2	29-60005N	Miniature Lamp Socket
3	10-00148A	Space Lab. Ass'y. (Page 10)
4	10-10004B	Power Bumper Ass'y. (Page 18)
5	22-00005A	Kicker Hole Switch
6	06-00001A	Kicker Hole Wire Form
7	03-40024A	Kicker Hole Cover
8	10-10010B	Ball Kicker Ass'y. (Page 5)
9	10-10009B	Sling Shot Ass'y. (Page 17)
10	10-10081B	Left Flipper Ass'y. (Page 16)
11	10-00051B	Runway Ball Guide Ass'y.
12	04-00136A	Playfield Support Bracket
13	22-00007A	Playfield Switch
14	10-10017A	Ball Ejector Wire Form Ass'y.
15	10-10082B	Right Flipper Ass'y. (Page 16)
16	30-10002N	1 Way Fuse Holder
17	10-00026A	Tilt Switch Ass'y.
18	22-00007A	Playfield Switch
19	10-10016A	Roll Over Wire Form Ass'y.
20	29-60002N	Miniature Lamp Socket
21	22-00006N	Spinner Switch Ass'y.
22	10-00023A	Sling Shot Switch Ass'y.
23	22-00007A	Playfield Switch

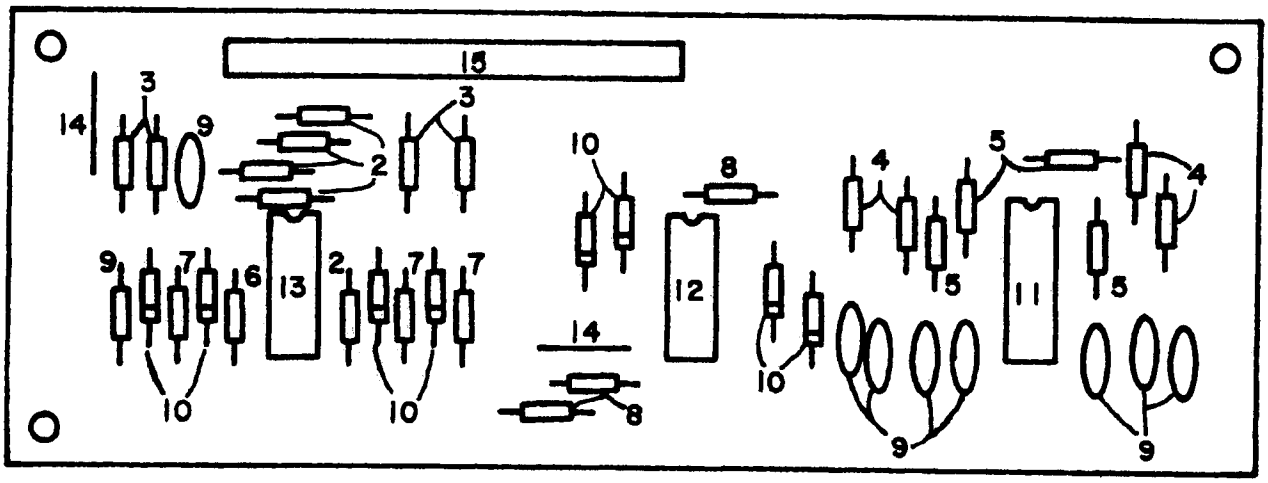
SSU-4 SOUND SIMULATOR UNIT #20-10046A PARTS LIST

ITEM	PART NO.	DESCRIPTION
1	20-00041C	P.C. Board
2	23-00002N	330 OHM ± 5%, ¼ W. Resistor
3	23-00004N	2.2K OHM ± 5%, ¼ W. Resistor
4	23-00005N	4.7K OHM ± 5%. ¼ W. Resistor
5	23-00006N	100 OHM ± 5%, ¼ W. Resistor
6	23-00007N	22K OHM ± 5%, ¼ W. Resistor
7	23-00008N	100K OHM ± 5%, ¼ W. Resistor
8	23-00009N	2.2M OHM ± 5%, ¼ W. Resistor
9	23-00011N	1K OHM ± 5%, ¼ W. Resistor
10	23-00015N	10K OHM ± 5%, ¼ W. Resistor
11	23-00016N	220K OHM ± 5%, ¼ W. Resistor
12	23-00020N	47K OHM ± 5%, ¼ W. Resistor
13	23-00021N	120K OHM ± 5%, ¼ W. Resistor
14	23-00022N	2.7 OHM ± 5%, ¼ W. Resistor
15	23-00023N	39K OHM ± 5%, ¼ W. Resistor
16	23-00024N	56K OHM ± 5%, ¼ W. Resistor
17	23-00028N	4.7M OHM ± 5%, ¼ W. Resistor
18	23-00030N	330K OHM ± 5%, ¼ W. Resistor
19	23-00031N	470K OHM ± 5%, ¼ W. Resistor
20	23-00032N	150K OHM ± 5%, ¼ W. Resistor
21	23-00034N	68K OHM ± 5%, ¼ W. Resistor
22	23-00040N	12K OHM ± 5%, ¼ W. Resistor
23	23-00019N	8.2K OHM ± 5%, ¼ W. Resistor
24	24-00001N	.01 MFD ± 10%, 50V Ceramic Cap
25	24-00004N	680PFD ± 10%, 100V Ceramic Cap
26	24-00005N	.1 MFD $\pm \frac{80}{20}$%, 16V Ceramic Cap
27	24-00006N	220 PFD ± 10%, 100V Ceramic Cap
28	24-10001N	10 MFD, 16V Axial Lytic Cap
29	24-10003N	150 MFD, 25V Axial Lytic Cap
30	24-10004N	22 MFD, 16V Axial Lytic Cap
31	24-10006N	250 MFD, 15V NP Axial Lytic Cap
32	24-20001N	.1 MFD ± 10%, 100V Mylar Cap
33	24-30001N	1 MFD ± 10%, 35V Dipped Tant
34	24-30002N	10 MFD ± 10%, 16V Dipped Tant
35	24-30003N	22 MFD ± 10%, 10V Dipped Tant
36	24-30005N	47 MFD ± 20%, 6V Tant
37	25-00002N	IN4148 Diode
38	25-10003N	2N4403 Transistor
39	25-10004N	2N3904 Transistor
40	26-00004N	74154 I.C.
41	26-00007N	74LS04 I.C.
42	26-00011N	74LS123 I.C.
43	26-00013N	74279 I.C.
44	26-00014N	7420 I.C.
45	26-00015N	7400 I.C.
46	26-00016N	7432 I.C.
47	26-60002N	76477 I.C.
48	26-60001N	LM339 I.C.
49	26-60003N	LM380 I.C.
50	27-00001N	100K OHM Trimmer Pot
51	29-00006N	Berg 3 Pin Gold Header
52	29-00007N	SL-156 9 Pin Header
53	29-10005N	Berg Mini Jump
54	29-50003N	28 Pin I.C. Socket

SSU-4 SOUND SIMULATOR UNIT #20-10046A DIAGRAM



SCU-1 SWITCH CATCHER UNIT #20-10042A



ITEM NO.	PART NO.	DESCRIPTION
1	20-00039A	Printed Circuit Board
2	23-00004N	2.2K OHM ± 5%, ¼ W. Resistor
3	23-00005N	4.7K OHM ± 5%, ¼ W. Resistor
4	23-00006N	100 OHM ± 5%, ¼ W. Resistor
5	23-00011N	1K OHM ± 5%, ¼ W. Resistor
6	23-00013N	3.3K OHM ± 5%, ¼ W. Resistor
7	23-00015N	10K OHM ± 5%, ¼ W. Resistor
8	23-00035N	470 OHM ± 5%, ¼ W. Resistor
9	24-00005N	.1 MFD $\pm \frac{80}{20}$%, 25V Ceramic Disc. Cap
10	25-00002N	IN4148 Diode
11	26-00013N	74279 I.C.
12	26-00016N	7432 I.C.
13	26-60001N	LM339 I.C.
14	28-10008N	½" Bare Jumper
15	29-00004N	SL-156 15 Pin Header

PLAYFIELD WIRE CHANGE MEMO - SUPER NOVA

GamePlan, inc.
A subsidiary of
AES Technology Systems Inc
1515 W. Fullerton Ave.
Addison, Ill. 60101
Telephone 312/628-8200

April 1, 1980

MEMO

TO: All Game Plan, Customers

FROM: Game Plan Field Service

SUBJECT: Model 150 (SUPER NOVA) Wire Color Changes.

GENTLEMEN:

Due to the color similarity in the wires that we are using we are forced to change two of the wire colors already on the Playfield Schematic, and they are as follows:

1. A Black and Brown wire that goes from the Yellow 15 Point connector (Playfield) to the rollover letter "E" was changed to a Blue and Orange wire.

2. A White and Green wire that goes from ground to the SCU-1 board connector was changed to a White Gray wire.

Thank You,

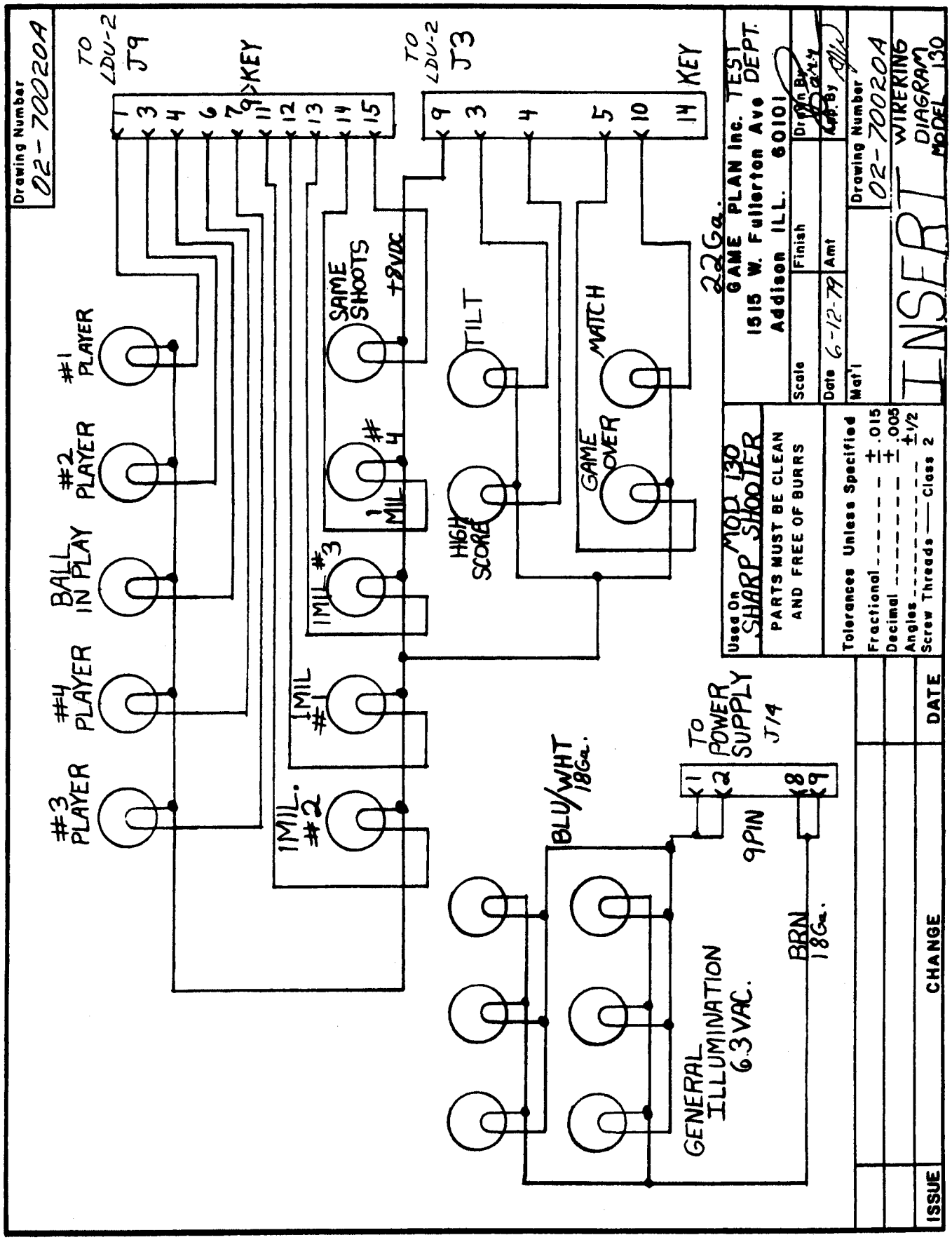
Game Plan Inc.

Rene A Lopez

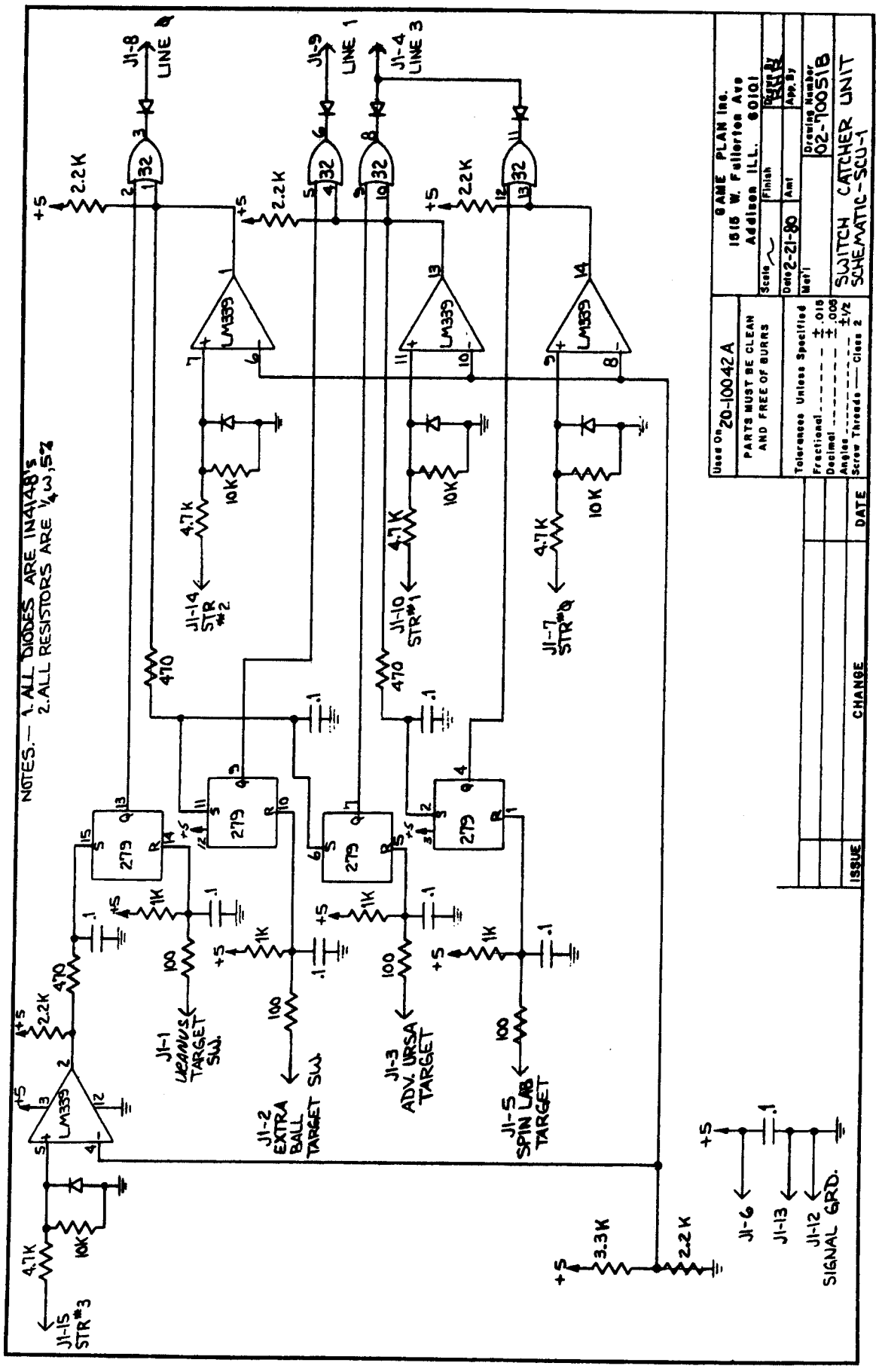
Service Manager

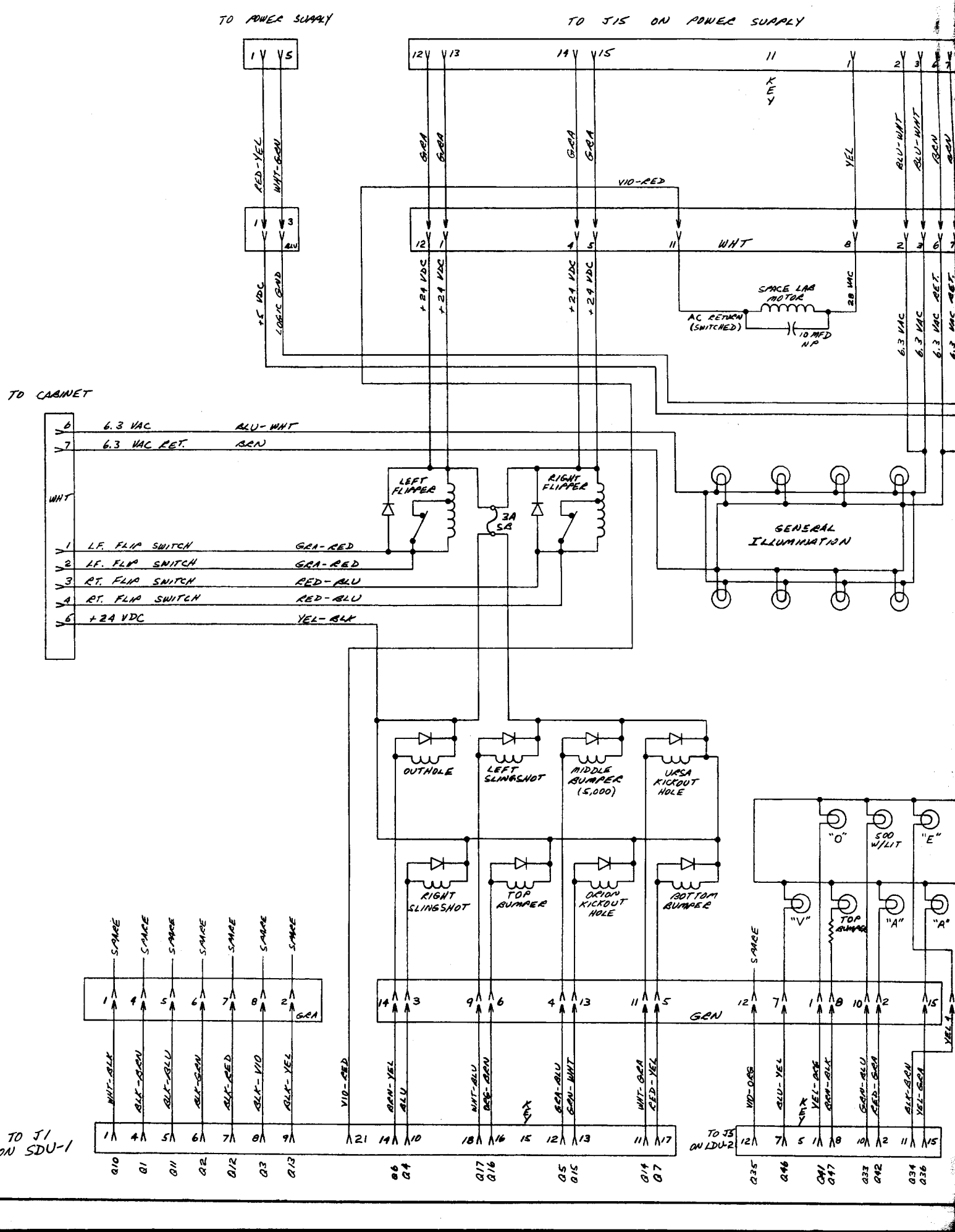
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INSERT DIAGRAM – SUPER NOVA

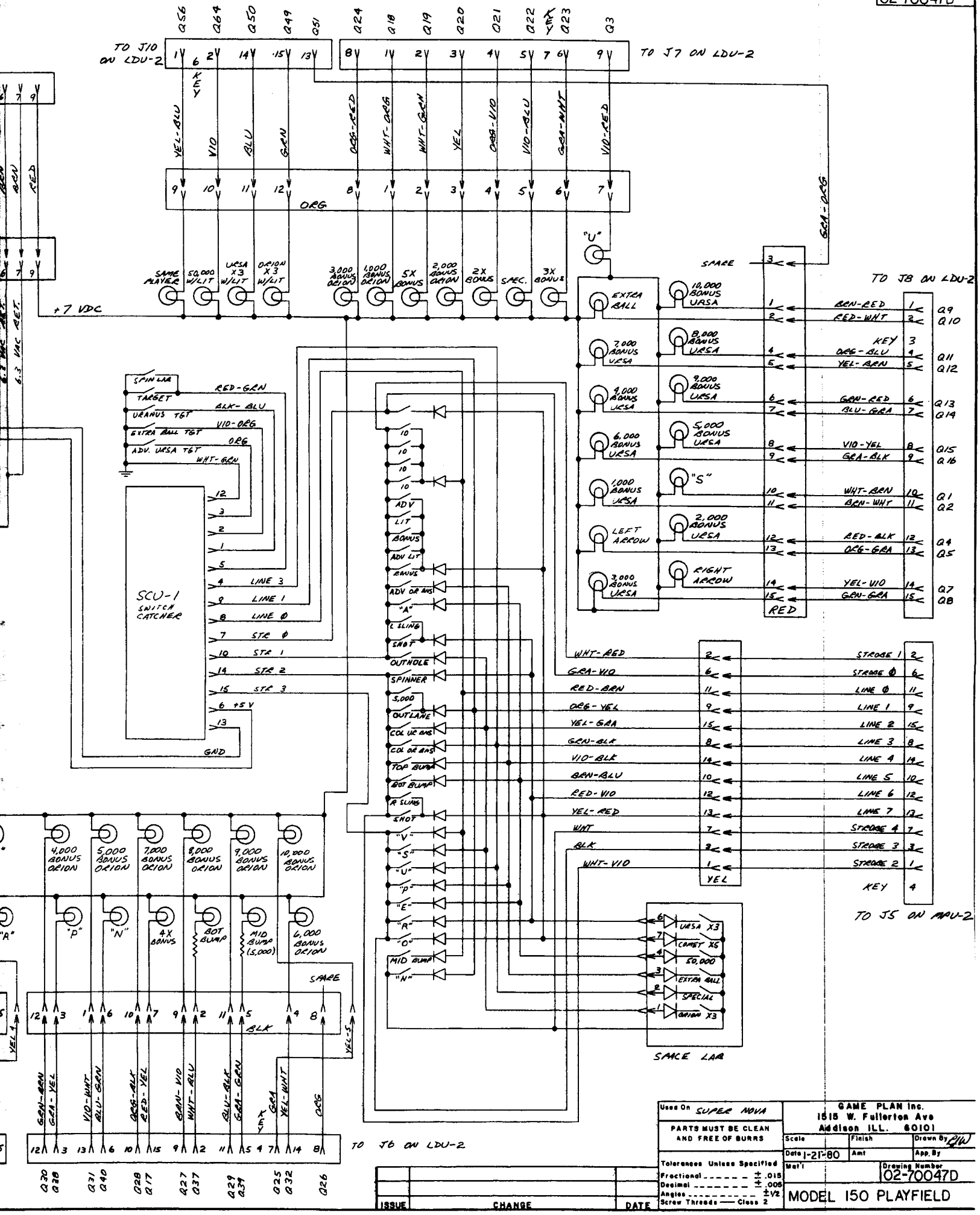


SCU-1 SWITCH CATCHER UNIT – SUPER NOVA

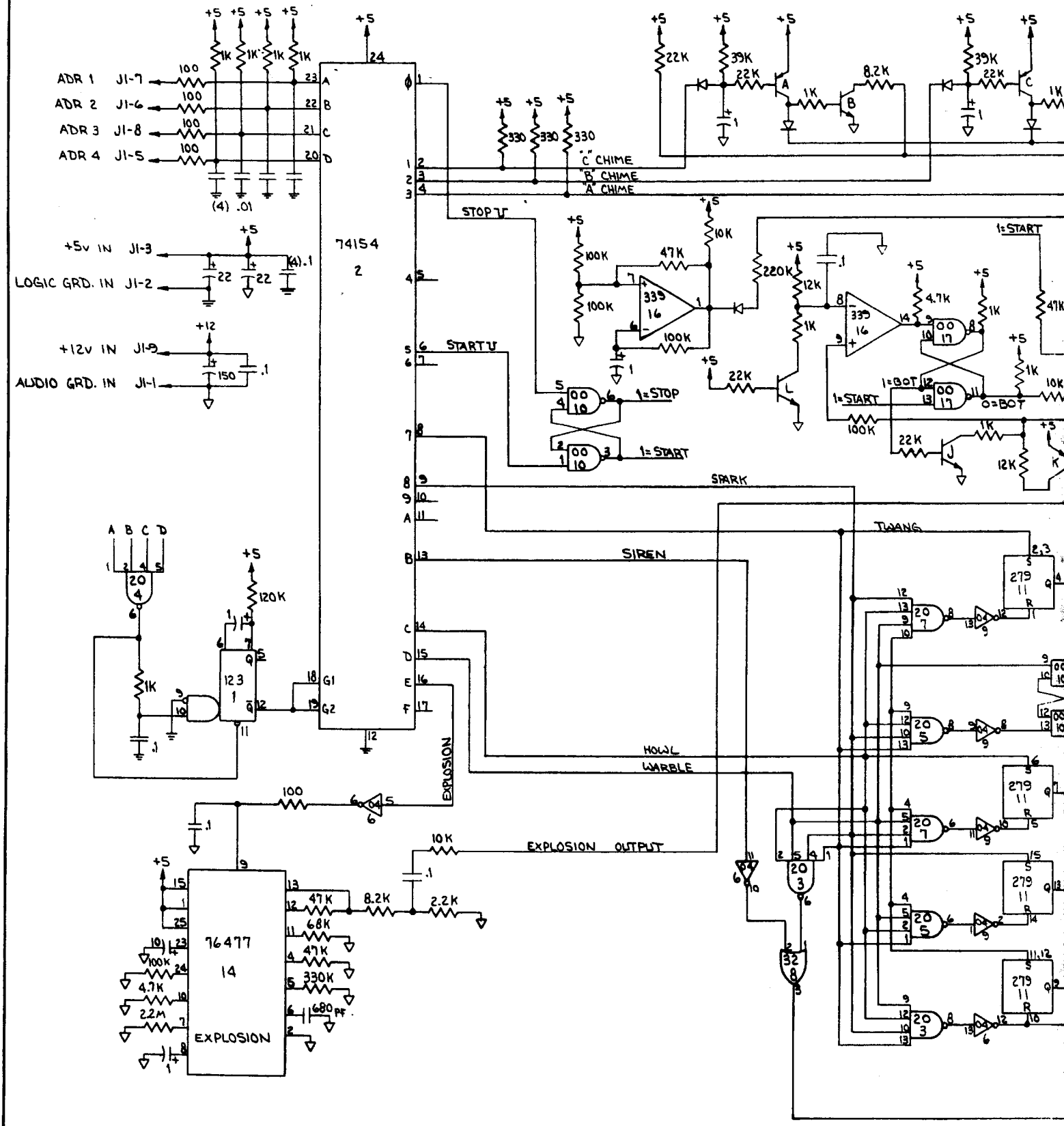



TO POWER SUPPLY
TO J15 ON POWER SUPPLY
KEY
RED-YEL
WHT-BRN
GRN
GRA
VIO-RED
YEL
BLU-WHT
WHT
+5 VDC
LOGIC GND
+24 VDC
28 VAC
SPACE LAB MOTOR
AC RETURN (SWITCHED)
10 MFD NP
6.3 VAC
6.3 VAC RET.
TO CABINET
6.3 VAC
6.3 VAC RET.
LEFT FLIPPER
RIGHT FLIPPER
3A SB
GENERAL ILLUMINATION
LF. FLIP SWITCH
LF. FLIP SWITCH
RT. FLIP SWITCH
RT. FLIP SWITCH
+24 VDC
GRA-RED
GRA-RED
RED-BLU
RED-BLU
YEL-BLK
OUTHOLE
LEFT SLINGSHOT
MIDDLE BUMPER (5,000)
URSA KICKOUT HOLE
RIGHT SLINGSHOT
TOP BUMPER
ORION KICKOUT HOLE
BOTTOM BUMPER
"O"
500 W/LIT
"E"
"V"
TOP BUMPER
"A"
"A"
SPARE
GRA
GRN
TO J1 ON SDU-1
TO J3 ON LDU-2
Q10
Q1
Q11
Q2
Q12
Q3
Q13
Q6 Q4
Q17 Q16
Q5 Q15
Q14 Q7
Q35
Q46
Q41 Q47
Q33 Q42
Q34 Q36

Drawing Number 02-70047D



Used On SUPER NOVA	GAME PLAN Inc. 1515 W. Fullerton Ave Addison ILL. 60101	
PARTS MUST BE CLEAN AND FREE OF BURRS	Scale	Finish / Drawn By CW
Tolerances Unless Specified: Fractional ± .015; Decimal ± .005; Angles ± 1/2; Screw Threads — Class 2	Date 1-21-80 / Amt / App. By	
	Mat'l	Drawing Number 02-70047D
ISSUE / CHANGE / DATE	MODEL 150 PLAYFIELD	



NOTES -

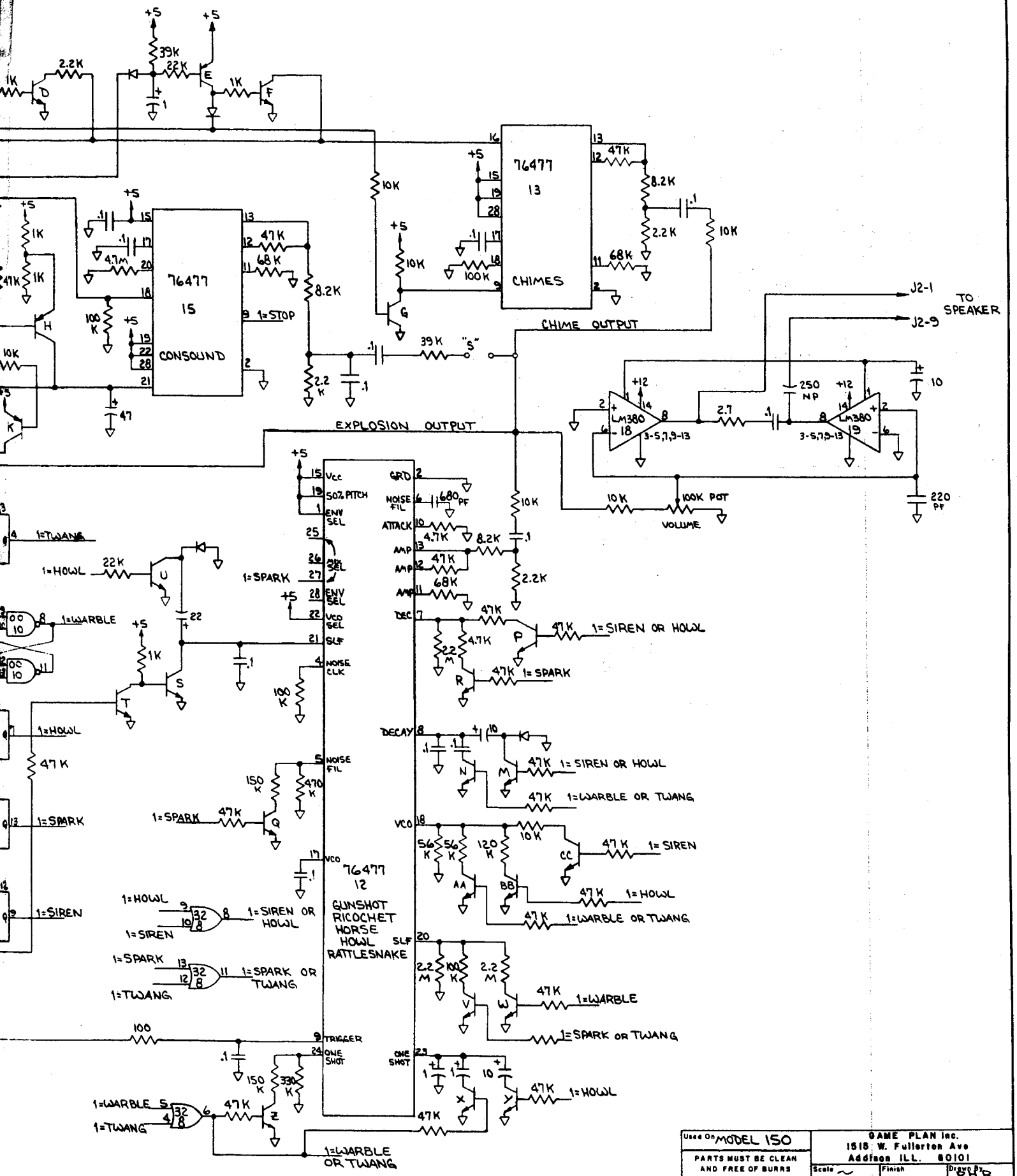
1.) ALL PNP TRANSISTORS ARE 2N4403's.

2.) ALL NPN TRANSISTORS ARE 2N3904's.

3.) ALL DIODES ARE 1N4148's.

4.) ALL CAPACITORS ARE IN MFD's UNLESS OTHERWISE NOTED.

Drawing Number 02-700501D



Used On MODEL 150	GAME PLAN Inc. 1515 W. Fullerton Ave Addison ILL. 60101	
PARTS MUST BE CLEAN AND FREE OF BURRS	Scale ~	Finish
	Date 2-20-80	Amt
Tolerances Unless Specified: Fractional ± .015; Decimal ± .005; Angles ±½; Screw Threads — Class 2	Mat'l	Drawing Number 02-700501D
	SSU-4 SOUND CIRCUIT "SUPER NOVA"	

ISSUE	CHANGE	DATE