

MAGICOM MAIN LOGIC SCHEMATIC REVISIONS

- A. Original release.
- B. R3: Was 1K; became 300.
D0 on U20 incorrectly shown as Pin 8. Changed to pin 18 on 6/23/83.
- C. Addition of capacitor C63, 220pf disc between U24, Pin 3 and ground. 6/27/83.
- D. C54: Was 0.001uf disc. Became 0.1uf disc on 6/29/83.
C63: Was 220pf disc. Became 0.001uf disc on 6/29/83.
74LS244 inserted between 4MHz signal and U1 (Z80), Pin 6.
U17, Pins 13 and 7 used - these were formerly a spare gate. 6/29/83.
- E. C40, 0.01 disc tied between U22, Pin 2 and ground is deleted.
74LS244 inserted between Q1 collector and U22, Pins 1 and 2.
U17, Pins 11 and 9 used - these were formerly a spare gate.
U1(Z80), Pin 25 cut from U7 (MC68705P5), Pin 9. U1(Z80), Pin 25 tied to R48 (new addition) 4.7K $\frac{1}{4}$ W 5% resistor. Other side of R48 tied to +5V.
U18(74LS245), Pin 19 cut from U7(68705, Pin 14. U18, Pin 19 tied to +5V.
U17(74LS244), Pin 17 cut from U7, Pin 19. U17, Pin 17 tied to +5V.
U23(74LS244), Pin 1 cut from U22(74LS00), Pin 11. U23, Pin 1 tied to ground.
All of "E" above were effective on 7/8/83.
- F. Deletion of the following effective 7/8/83:
- | | |
|-----|---------|
| U5 | 74LS244 |
| U6 | 74LS393 |
| U12 | 74LS244 |
| U13 | 74LS393 |
| U17 | 74LS244 |
| U18 | 74LS245 |
- Substitute U23 for U17 (74LS244) for clock signal into Z80 (U1, Pin 6 from U23, Pin 7) and reset signal into U22, Pins 1 and 2 from U23, Pin 9 effective 7/8/83.
- G. C63: Was 0.001uf disc. Became 470pf effective 9/5/83.
- H. Reset signal sent from U23, Pin 9 to U16, Pin 1 to cure false coin count on power up.
- I. Reference letter not used.

J. Correct pin out for inputs on U20(74LS244) effective 9/16/83.

K. C63: Was 470pf disc; became 330pf disc.

C17: Was 330pf mica; became 330pf disc.

Addition of U31(74LS74) to divide clock.

Y1: Was 4.000MHz; became 16.000MHz.

U24: Was 74LS04; became 74S04.

Addition of R29 between U29, Pin 4 and C24.

Addition of R50 between U30, Pin 4 and C50.

These two additions allow option for U29 and 30 with the following components:

	<u>LM383</u>	<u>CA2002</u>
R49, R50	= 0 ohm jumper	2.2 ohm, $\frac{1}{4}$ W 5%
C24, C50	= 0.2 Disc	0.1 disc

Addition of Jumper W1, when installed, allows board to be used with Pioneer 7820 disc player with proper software.

Deleted: U7 MC68705

Addition (reinstallation) U6, 74LS393

U13, 74LS393

U6, Pins 2 and 12, and U13, Pins 2 and 12 all grounds.

U6, Pin 6 tied to U26, Pin 11 (RTC).

U13, Pin 13 tied to U26, Pin 5 (GI CLK)

All of "K" above effective 10/10/83.

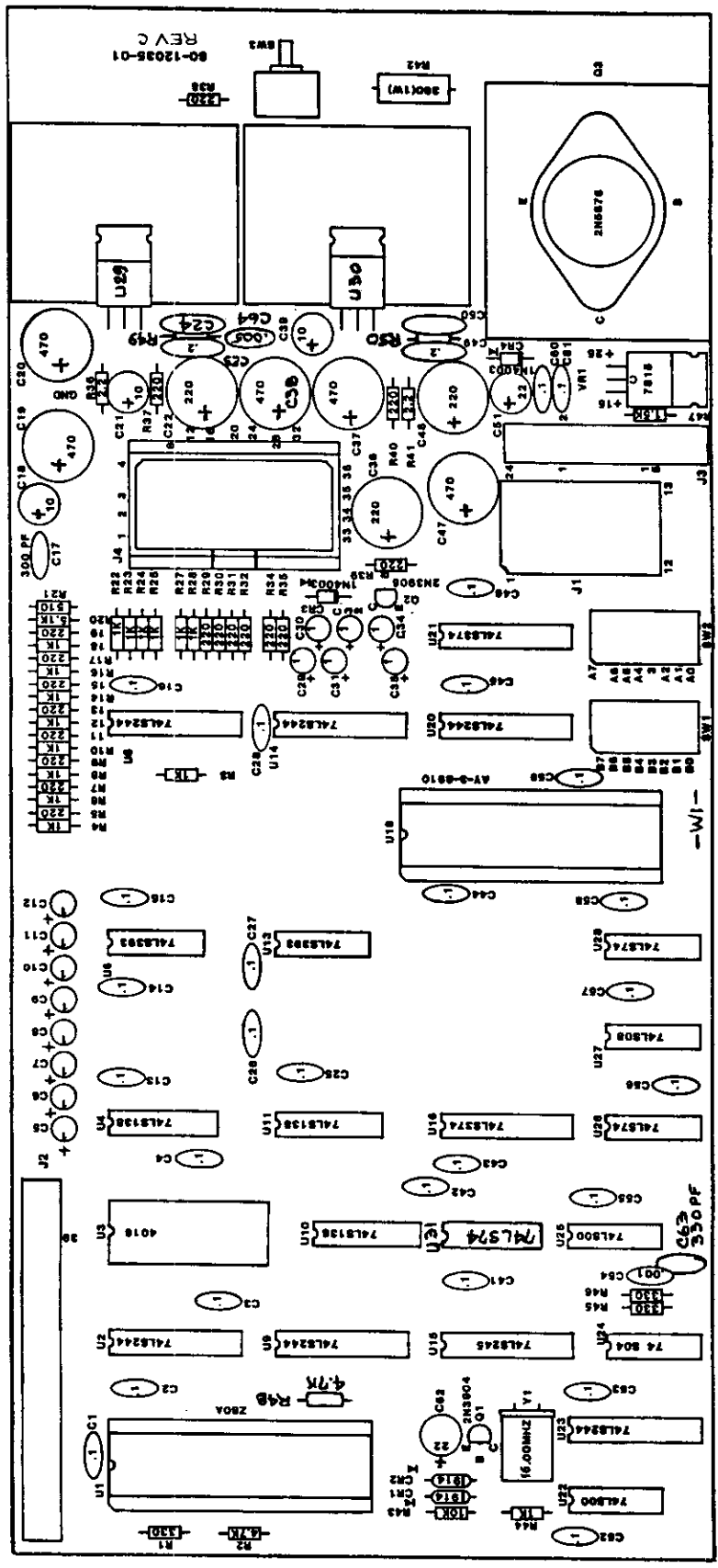
"K" revision schematic is for "C" revision printed circuit board used with LDV-1000 laser disc player.

D C B A

1 2 3 4 5 6 7 8

REV	DESCRIPTION	DATE	APPROVED

U29.30 LM383 CA2002
 R49.50 0 2.2
 C24.50 0.2 0.1



REV C
 80-12025-01

DRAWN BY: ALBERT		DATE: 01/15/80	PROJECT: EMUR	SCALE: 1:1
CHECKED BY: ALBERT		DATE: 01/15/80	PROJECT: EMUR	SCALE: 1:1
RELEASE APPROVAL:		DATE:	DWG TITLE: MAGICOM MAIN LOGIC	
MATERIAL:				
FINISH:				
DO NOT SCALE DWG TOLERANCE UNLESS OTHERWISE SPECIFIED				
MODEL NO:	DWG NO:	REV:	DATE:	REV:
PRODUCTION:	SCALE:	CODE IDENT:	SHEET: 01 OF 1	

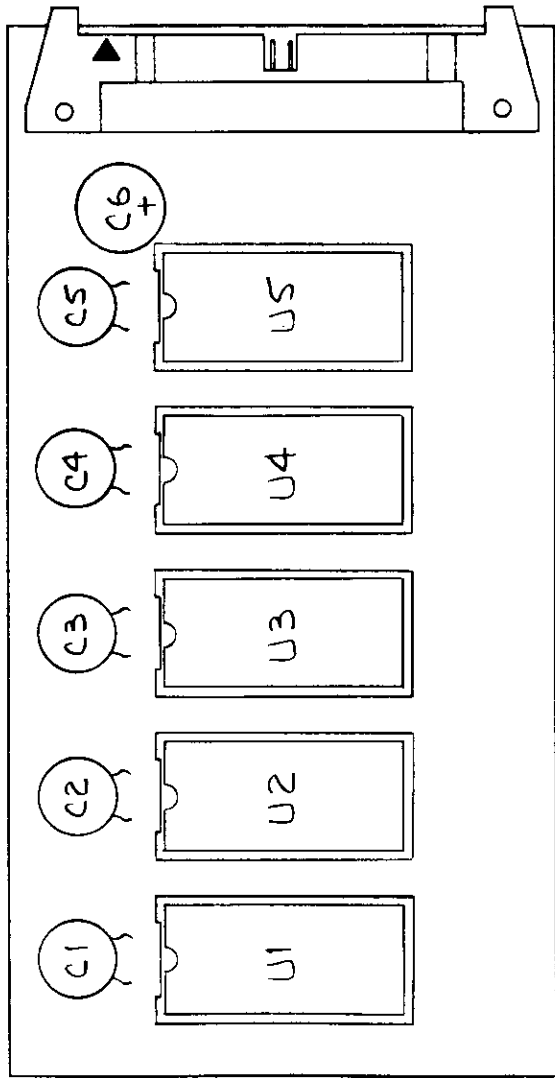
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NOTES: UNLESS OTHERWISE SPECIFIED

D C B A

1 2 3 4 5 6 7 8

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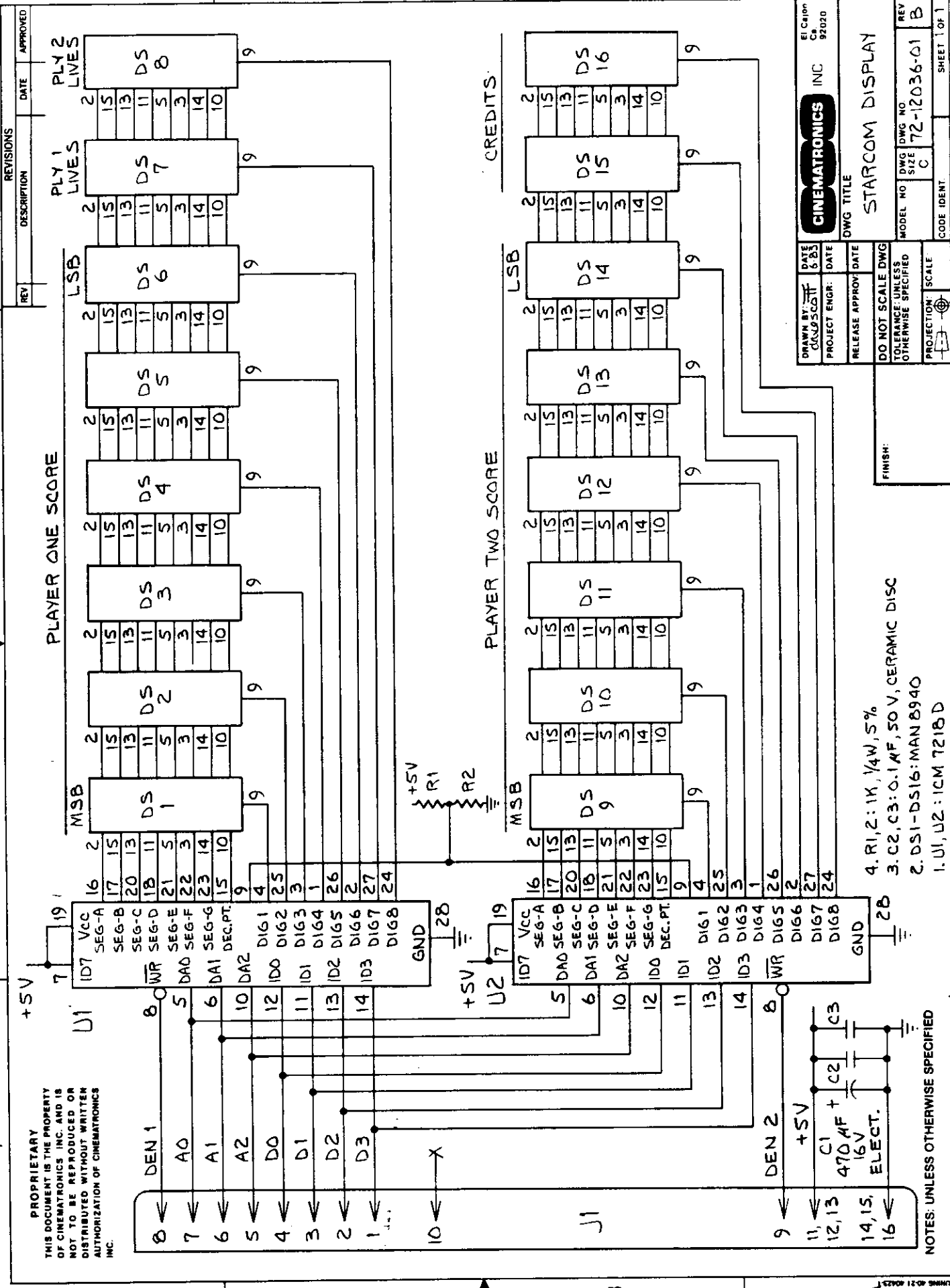


J2
 SYMBEX 32351-1-90

3. DRAGON'S LAIR (81-12056-01): U1-U5, 2764 WITH SOCKET
 2. C6; 470 μ F, 16 V MINIMUM, ELECTROLYTIC
 1. C1-C5; 0.1 μ F, 50V, DISC
- NOTES: UNLESS OTHERWISE SPECIFIED

REV	DESCRIPTION	DATE	APPROVED
1			

DRAWN BY: DAVID SCOTT		DATE: 6-83		E1 Capon C4 92020
PROJECT ENGR:	DATE:	DATE:		
RELEASE APPROV:	DATE:	DATE:	DWG TITLE: STARCOM ROM	
DO NOT SCALE DWG TOLERANCE: UNLESS OTHERWISE SPECIFIED			MODEL NO: DWG NO: 81-12056-XX	REV: A
PROJECTION: SCALE: 2:1			CODE IDENT:	SHEET 1 OF 1
MATERIAL:		FINISH:		



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REV	DESCRIPTION	DATE	APPROVED

DRAWN BY: GREG SCOTT	DATE: 6-83	PROJECT ENGR: DATE:	RELEASE APPROV: DATE:
CINEMATRONICS INC			
DWG TITLE: STARCOM DISPLAY			
MODEL NO: C	DWG DWG NO: 72-12036-01	REV: B	SHEET 1 OF 1

- FINISH:
1. U1, U2: 1CM 7218D
 2. DS1-DS16: MAN B940
 3. C2, C3: 0.1µF, 50V, CERAMIC DISC
 4. R1, 2: 1K, 1/4W, 5%

NOTES: UNLESS OTHERWISE SPECIFIED

9

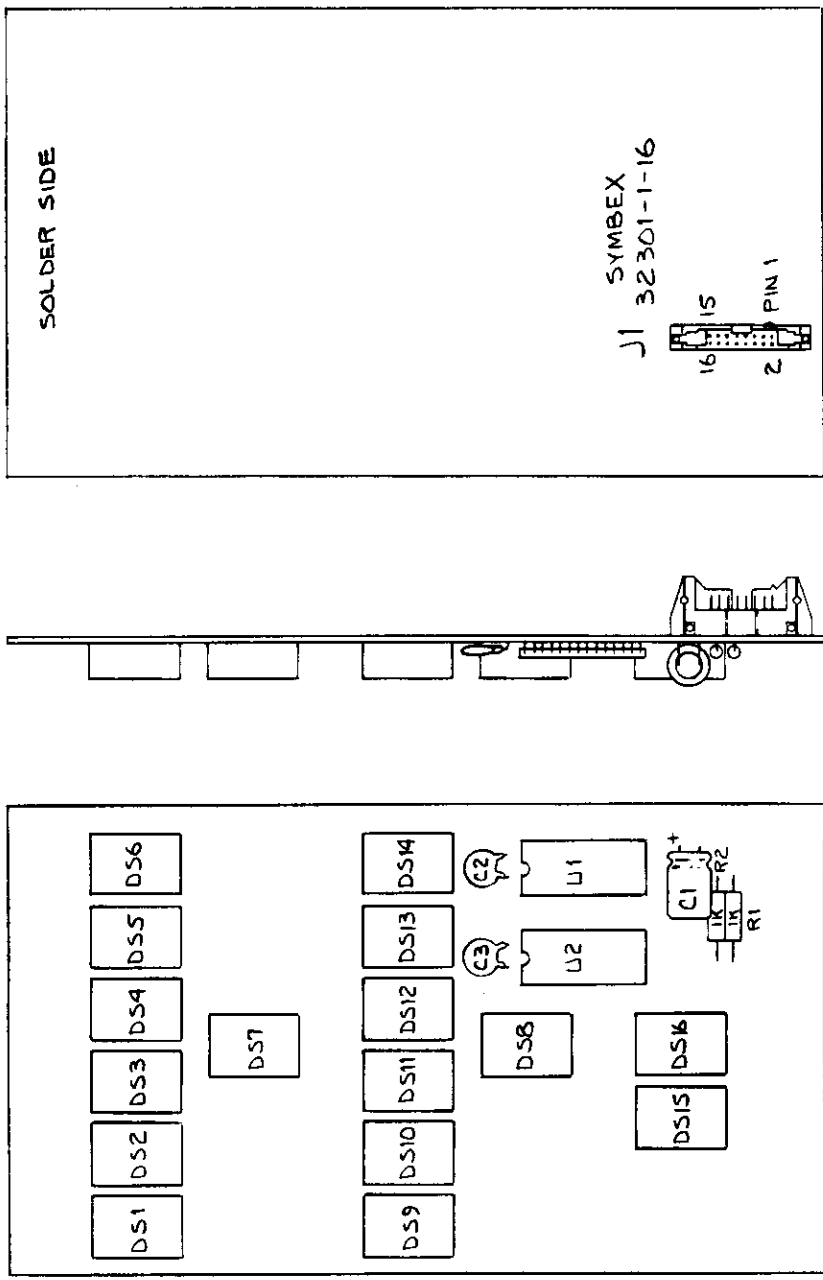
5

1 2 3 4

D C B A

REVISIONS		
REV	DESCRIPTION	DATE
B	ADD R1, R2	9.29.83

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6. CONNECTOR INSTALLED ON SOLDER SIDE OF P.C.B.
 5. ALL CAPACITORS TO BE LAYED DOWN
 4. C2, C3 : 0.1 MF 50 V DISC 20%
 3. C1 : 470 MF ELECTROLYTIC 16 V MINIMUM
 2. U1, U2 : ICM 7218 D
 1. DS1 - DS16 : L.E.D. MAN8940
- NOTES: UNLESS OTHERWISE SPECIFIED

31 MAY 1983

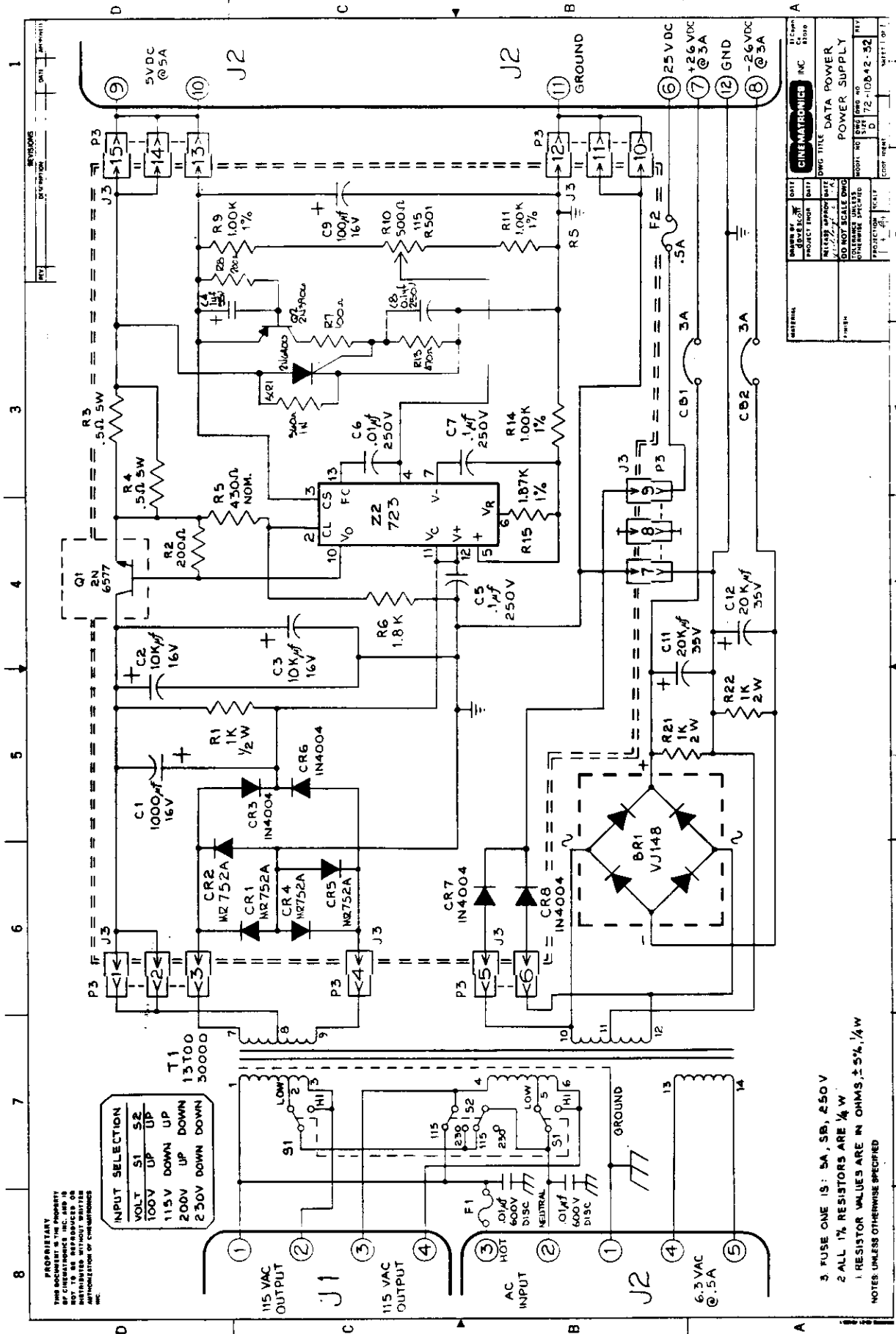
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PROJECT ENGR:		DATE:	CA: 8200	
RELEASE APPROV:		DATE:	CINEMATRONICS INC	
DO NOT SCALE DWG		DWG TITLE: STARCOM DISPLAY		
TOLERANCE: UNLESS OTHERWISE SPECIFIED		MODEL NO:	DWG NO:	REV:
PROJECTION:		SCALE: FULL	C	81-12036-01 B
MATERIAL:		CODE IDENT:		SHEET 1 OF 1

4 3 2 1

SHIPPING 0021 0423

DATA POWER

10042-52
DATA POWER P.S.



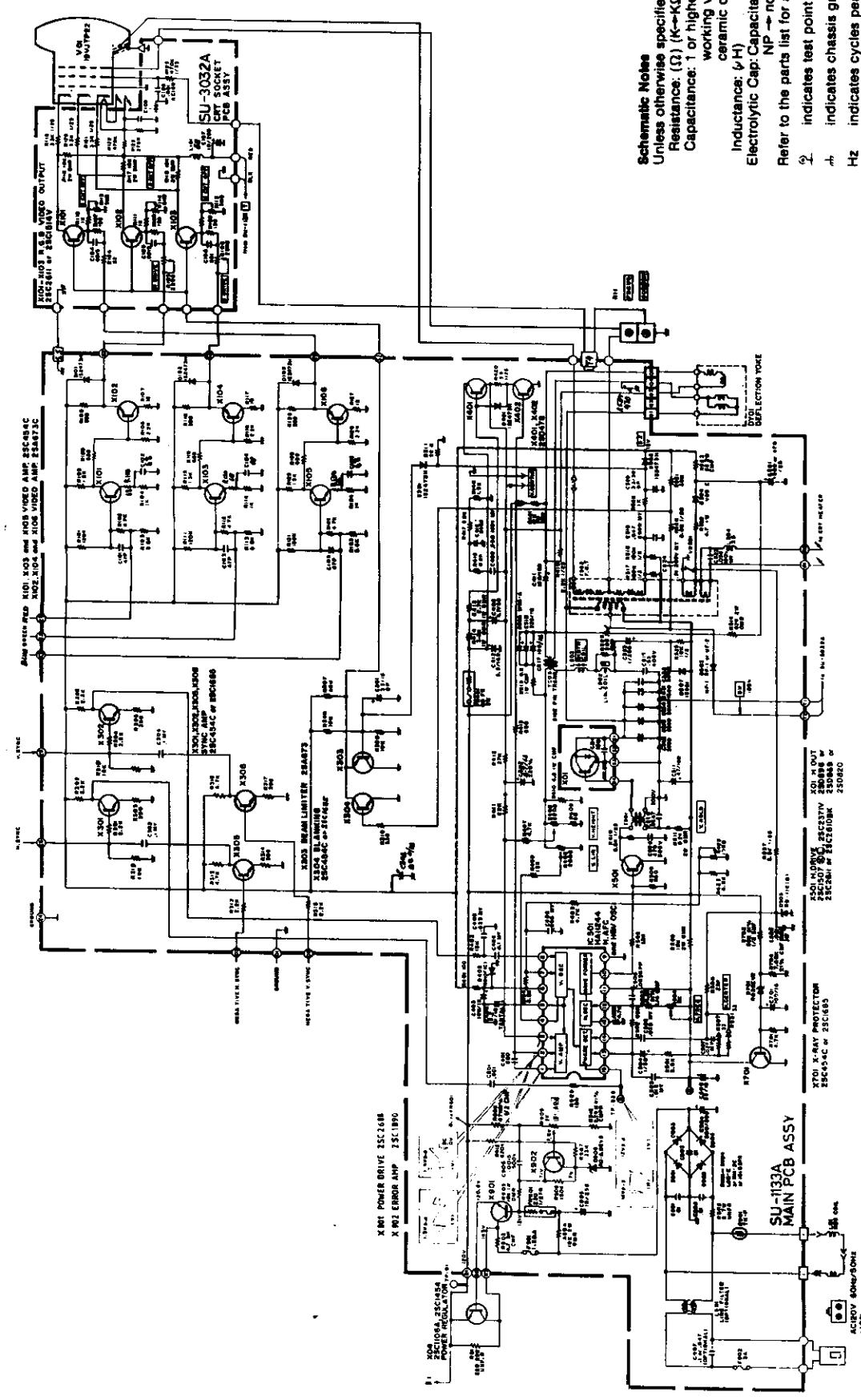
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INPUT SELECTION	
VOLT	S1 S2
100V UP	UP
115V DOWN	UP
200V UP	DOWN
250V DOWN	DOWN

DATE	BY	DESCRIPTION	REV.

DESIGNED BY	DATE	12/28/67
PROJECT NO.	DATE	10/1/67
RELEASE APPROVAL	DATE	11/1/67
DD FORM SCALE 0-100	DATE	10/1/67
DRAWING SPECIFIED		
WORK NO.	DATE	72-10842-52
PROJECT	DATE	10/1/67
CONTRACT	DATE	
COMP. NAME	DATE	

- 5 FUSE ONE IS: 5A, SB, 250V
 - 2 ALL 1% RESISTORS ARE 1/4 W
 - 1 RESISTOR VALUES ARE IN OHMS ±5%, 1/4 W
- NOTES UNLESS OTHERWISE SPECIFIED

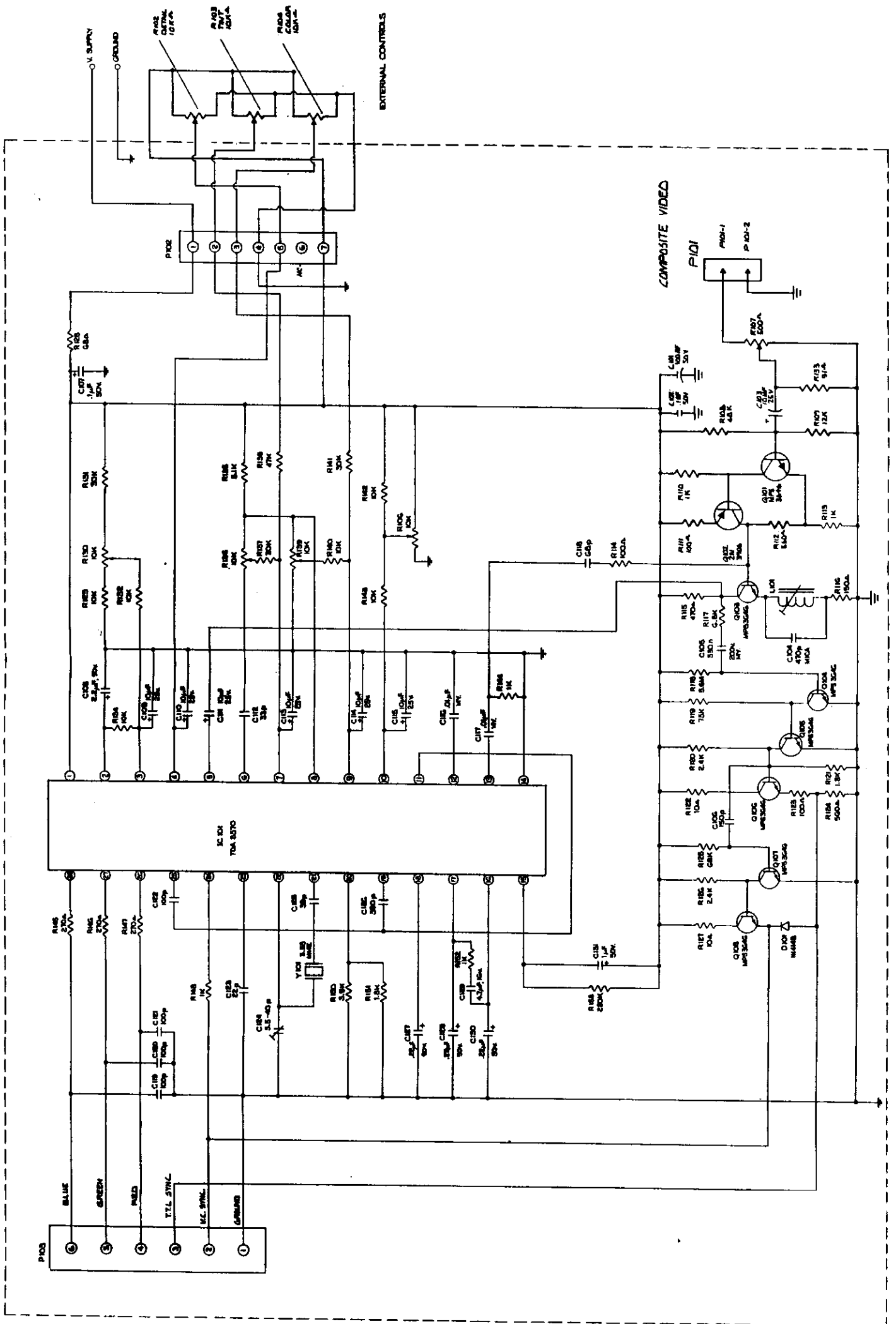


Schematic Notes
 Unless otherwise specified
 Resistance: (Ω) (K→KΩ, M→MΩ), 1/4 (W) carbon resistor
 Capacitance: 1 or higher→ (pF), less than 1→ (μF)
 working voltage → 50 (V)
 ceramic capacitor
 Inductance: (μH)
 Electrolytic Cap: Capacitance Value (μF)/working voltage (V),
 NP → non-polar (or bipolar) electrolytic cap.
 Refer to the parts list for additional component information.

⊕ indicates test point connection
 ⊕ indicates chassis ground unless otherwise specified
 Hz indicates cycles per second
 For safety purposes (and continuing reliability)
 replace all components marked with safety symbol with
 identical type.
 NOTE: FR → fusible resistor

00-4147-04
 G07-C60

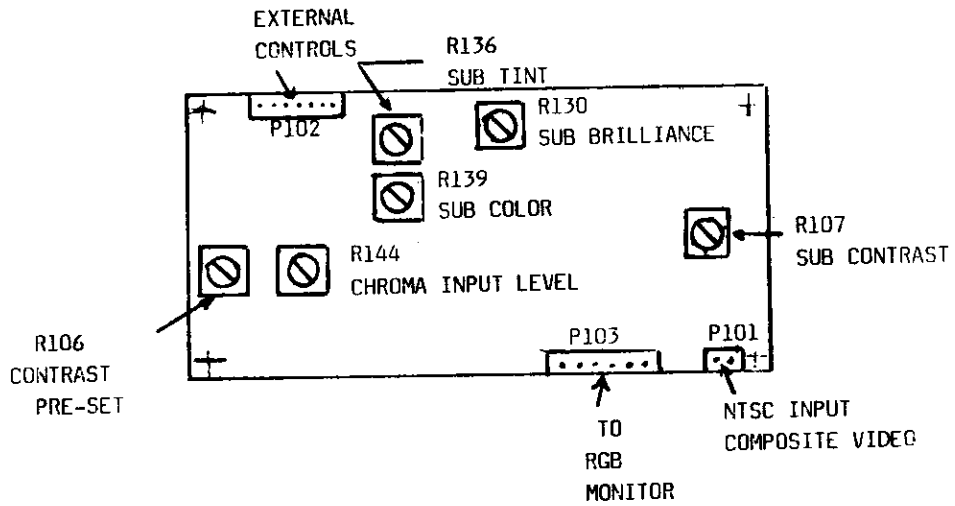
Parts identification on circuit boards:
 e.g. SU1126A (R107 = R1107)
 SU3030A (R113 = R3113)

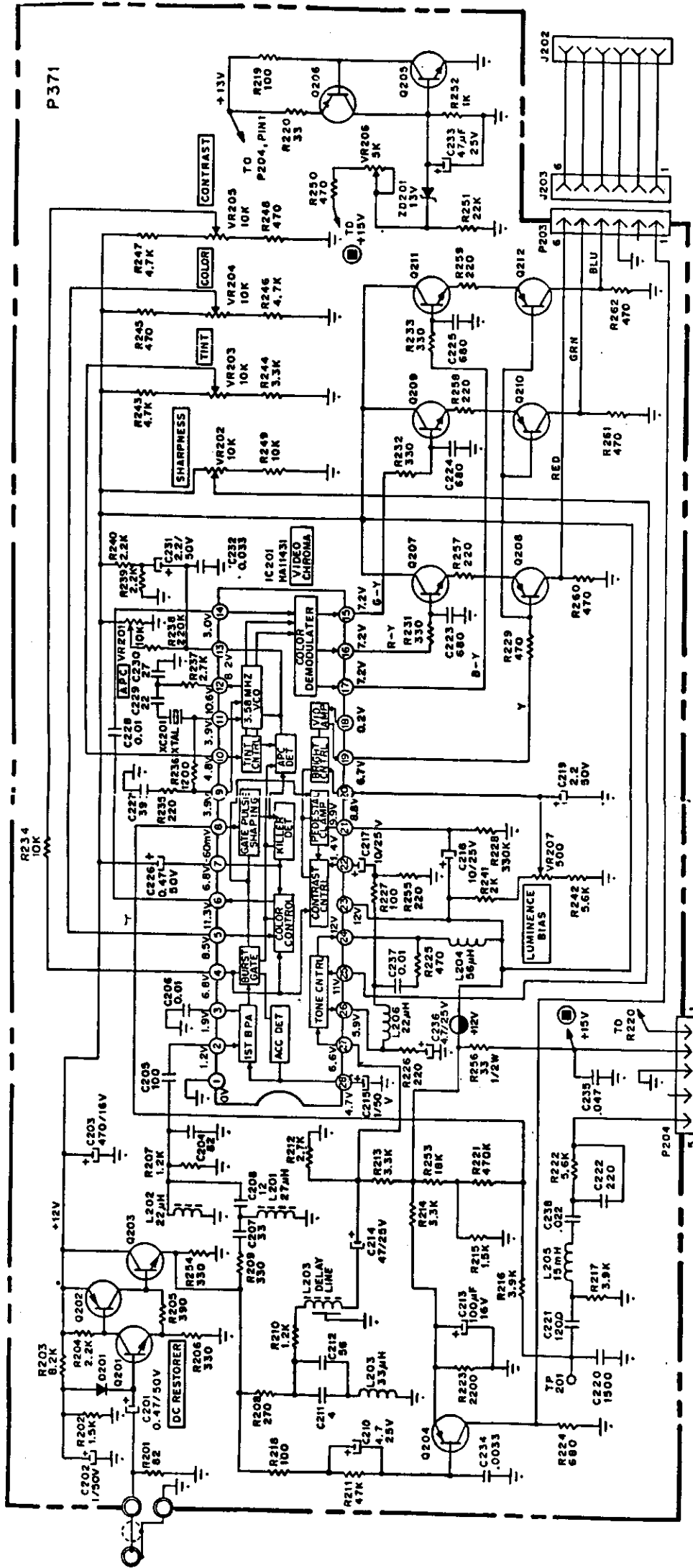


NTSC DECODER SPECIFICATIONS

Pin Outs

- P101-1 75 ohm Input
- P101-2 Ground
- P102-1 Vs Supply (16V)
- P102-2 External Tint Wiper
- P102-3 External Color Wiper
- P102-4 Ground to Control
- P102-5 External Detail Wiper
- P102-6 Not Used
- P102-7 Vcc to Control (12V)
- P103-1 Ground
- P103-2 Blanking Output
- P103-3 Positive Composite Sync.
- P103-4 Red Output
- P103-5 Green Output
- P103-6 Blue Output





WELLS GARDNER NTSC DECODER SCHEMATIC

MAGICOM WIRING HARNESS

FROM	PIN	TO	PIN	SIGNAL
LF	HOT	SW	COMMON	AC LINE HOT
SW	N/OPEN	PS1	3	AC LINE HOT
SW	N/OPEN	VDP	HOT	AC LINE HOT
LF	NEUTRAL	PS1	2	AC LINE NEUTRAL
LF	NEUTRAL	VDP	NEUTRAL	AC LINE NEUTRAL
PS2	1	ISO	PRI	115V AC #1 HOT
PS2	3	LAMP	HOT	115V AC #2 HOT
PS2	3	FAN	HOT	115V AC #2 HOT
PS2	2	ISO	PRI	115V AC #1 NEUTRAL
PS2	4	LAMP	NEUTRAL	115V AC #2 NEUTRAL
PS2	4	FAN	NEUTRAL	115V AC #2 NEUTRAL
MON	FRAME	LAMP	FRAME	FRAME GROUND
PS1	1	MON	FRAME	FRAME GROUND
LF	FRAME	PS1	1	FRAME GROUND
LF	FRAME	CPU	FRAME	FRAME GROUND
CPU	FRAME	COIN	3	FRAME GROUND
COIN	3	OCP	9	FRAME GROUND
OCP	9	CP	7	FRAME GROUND
PS1	9	CPU	3	+5V
PS1	10	CPU	4	+5V
PS1	11	CPU	7	+5V RETURN
PS1	7	CPU	30	+25V
PS1	12	CPU	8	+25V RETURN
PS1	5	COIN	8	6.3V AC LAMPS
PS1	4	COIN	9	6.3V AC LAMPS RETURN
COIN	1	CPU	10	COIN SLOT 0
COIN	2	CPU	14	COIN SLOT 1
COIN	7	CPU	11	COIN RETURN
CP	2	CPU	6	2 PLAYER START
CP	3	CPU	2	1 PLAYER START
CP	4	CPU	1	JOYSTICK RIGHT
CP	5	CPU	29	SWORD/ACTION
CP	6	CPU	5	JOYSTICK LEFT
CP	8	CPU	9	JOYSTICK DOWN
CP	9	CPU	13	JOYSTICK UP
CP	1	CPU	12	CONTROL PANEL RETURN
OCP	4	CPU	33	COIN COUNTER
OCP	8	CPU	32	COIN COUNTER RETURN
OCP	3	VDP	CENTER	DISC AUDIO (LEFT)
OCP	1	VDP	SHIELD	DISC AUDIO RETURN (LEFT)
OCP	5	VDP	CENTER	DISC AUDIO (RIGHT)

1.9.84

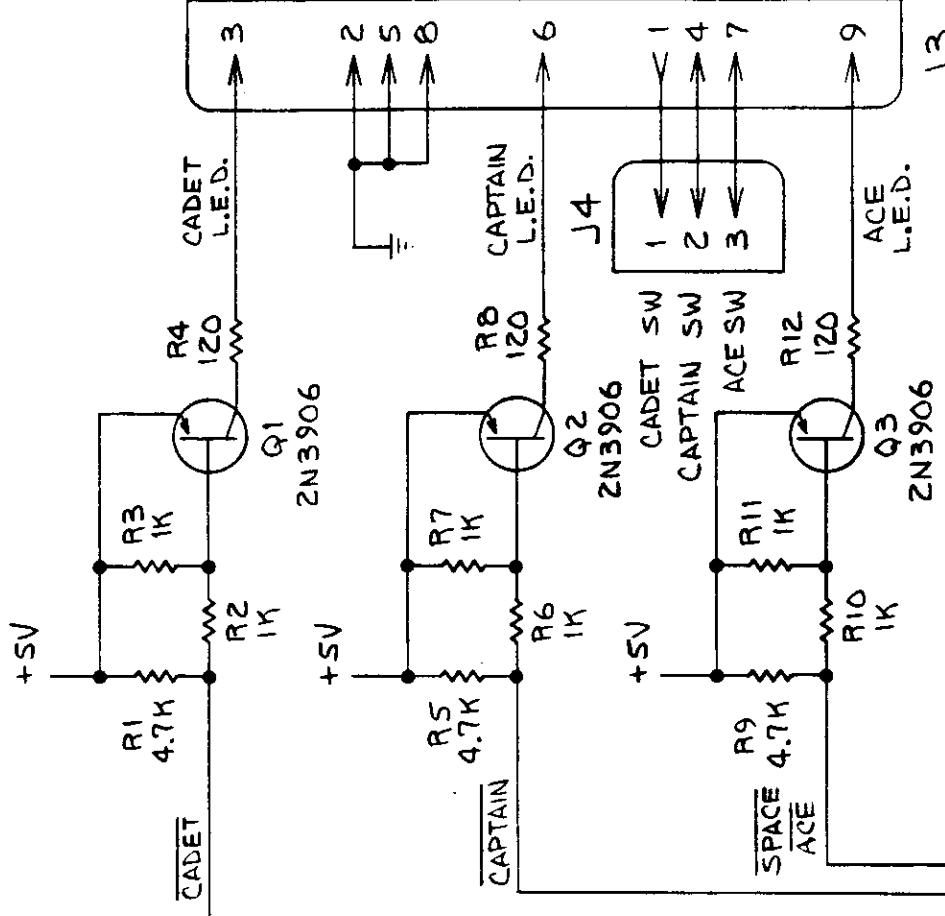
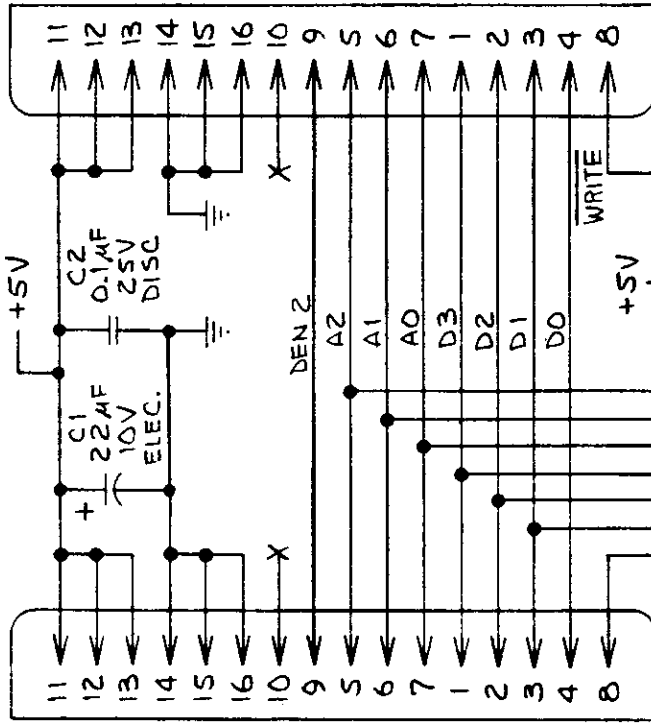
OCP	7	VDP	SHIELD	DISC AUDIO RETURN (RIGHT)
OCP	2	CPU	24	VOLUME OUT (LEFT)
OCP	1	CPU	23	VOLUME OUT RETURN (LEFT)
OCP	6	CPU	16	VOLUME OUT (RIGHT)
OCP	7	CPU	15	VOLUME OUT RETURN (RIGHT)
CPU	28	SPKR	L+	SPEAKER (LEFT)
CPU	27	SPKR	L-	SPEAKER RETURN (LEFT)
CPU	20	SPKR	R+	SPEAKER (RIGHT)
CPU	19	SPKR	R-	SPEAKER RETURN (RIGHT)

- PS1 = POWER SUPPLY 12 PIN CONNECTOR
- PS2 = POWER SUPPLY 4 PIN CONNECTOR
- FAN = COOLING FAN
- SW = POWER SWITCH
- CPU = LOGIC BOARD
- LAMP = FLORESCENT LAMP
- CP = CONTROL PANEL
- SPKR = SPEAKERS
- COIN = COIN DOOR
- MON = MONITOR
- VDP = VIDEODISC PLAYER
- LF = AC LINE FILTER
- OCP = OPERATOR CONVENIENCE PANEL
- ISO = MONITOR ISOLATION TRANSFORMER

NOTE: GAMES EQUIPPED WITH PR7820 DISC PLAYERS HAVE DISC
 PLAYER FRAME GROUND TIED TO LINE FILTER FRAME GROUND.

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J2
 TO
 DISPLAY



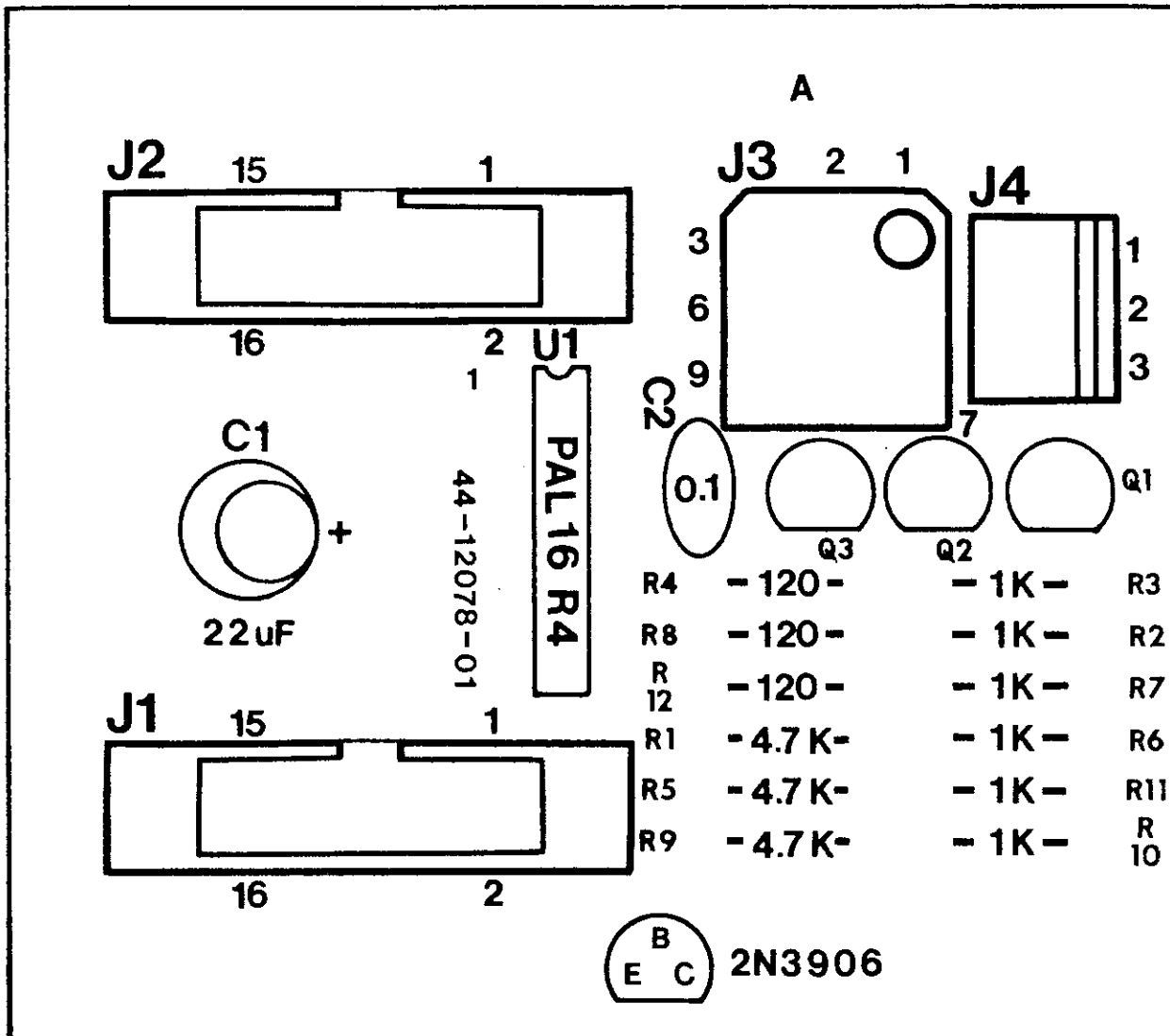
REV	DESCRIPTION	DATE	APPROVED
1			

DRAWN BY C. G. S. C. J.		DATE 17 JANUARY 1984	PROJECT ENGR.		DATE	RELEASE APPROV.		DATE
MATERIAL		FINISH		DO NOT SCALE DWG TOLERANCE UNLESS OTHERWISE SPECIFIED		PROJECTION SCALE		SCALE
CINEMATRONICS INC			DWG TITLE PANEL ANNUNCIATOR CONVERSION			MODEL NO SIC 72-12079-01		REV A
SHEET 1 OF 1			CODE IDENT			DWG NO		SHEET 1 OF 1

U1
 PAL 16 R 4
 44-12087-01

2. RESISTORS ARE 1/4W. 5% C
 1. RESISTOR VALUES IN OHMS
 *NOTES: UNLESS OTHERWISE SPECIFIED

APPLICATION			REVISIONS			
NEXT ASSY	USED ON	APPROVED	DATE	DESCRIPTION	REV	



UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE:
 FRAC. DEC. ANGL.
 + .XX± +
 - .XXX± -

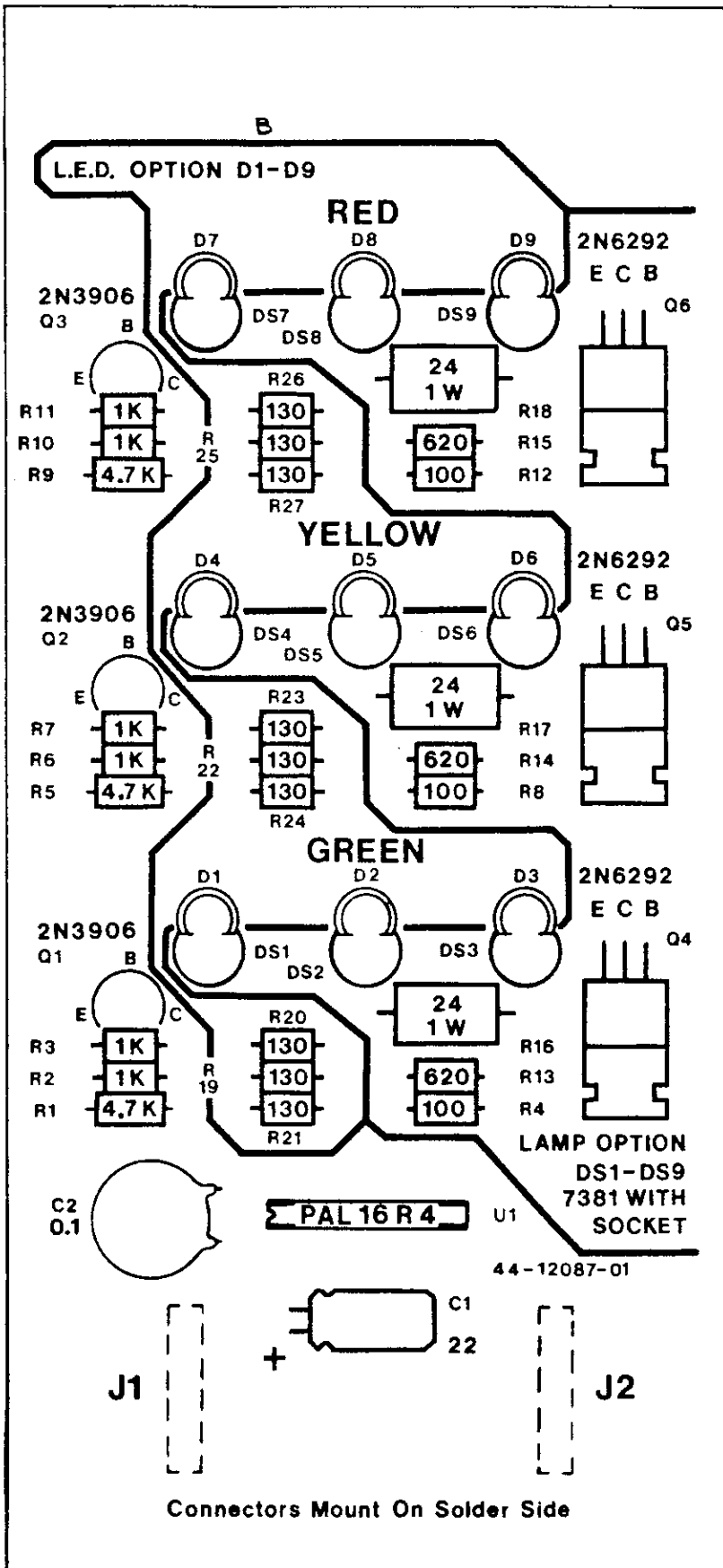
APPROVALS	DATE
BY <i>davescoff</i>	1.28.84
CHK	
APPD	
APPD	
APPD	

CINEMATRONICS INC. El Cajon Ca. 92020

PANEL ANNUNCIATOR BOARD CONVERSION

MATERIAL
 FINISH
 DO NOT SCALE DWG

SIZE A	DRAWING NUMBER REV A	81-12079-01
SCALE 2:1	SHEET 1 OF 1	



1 FEBRUARY 1984

El Cajon CINEMATRONICS INC. Ca. 92020		DWG TITLE ANNUNCIATOR WITH LAMPS		MODEL NO 81-12079-02	DWG NO. B	REV B
DATE	DATE	DATE	DATE	DO NOT SCALE DWG	TOLERANCE UNLESS OTHERWISE SPECIFIED	PROJECTION: 2:1
DRAWN BY: <i>DAVE SCOTT</i>	PROJECT ENGR:	RELEASE APPROV:	SCALE: 2:1	MATERIAL: FINISH: BREAK ALL SHARP EDGES AND DEBURR ALL HOLES.		
CODE IDENT. SHEET 1 OF 1						

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Connectors Mount On Solder Side