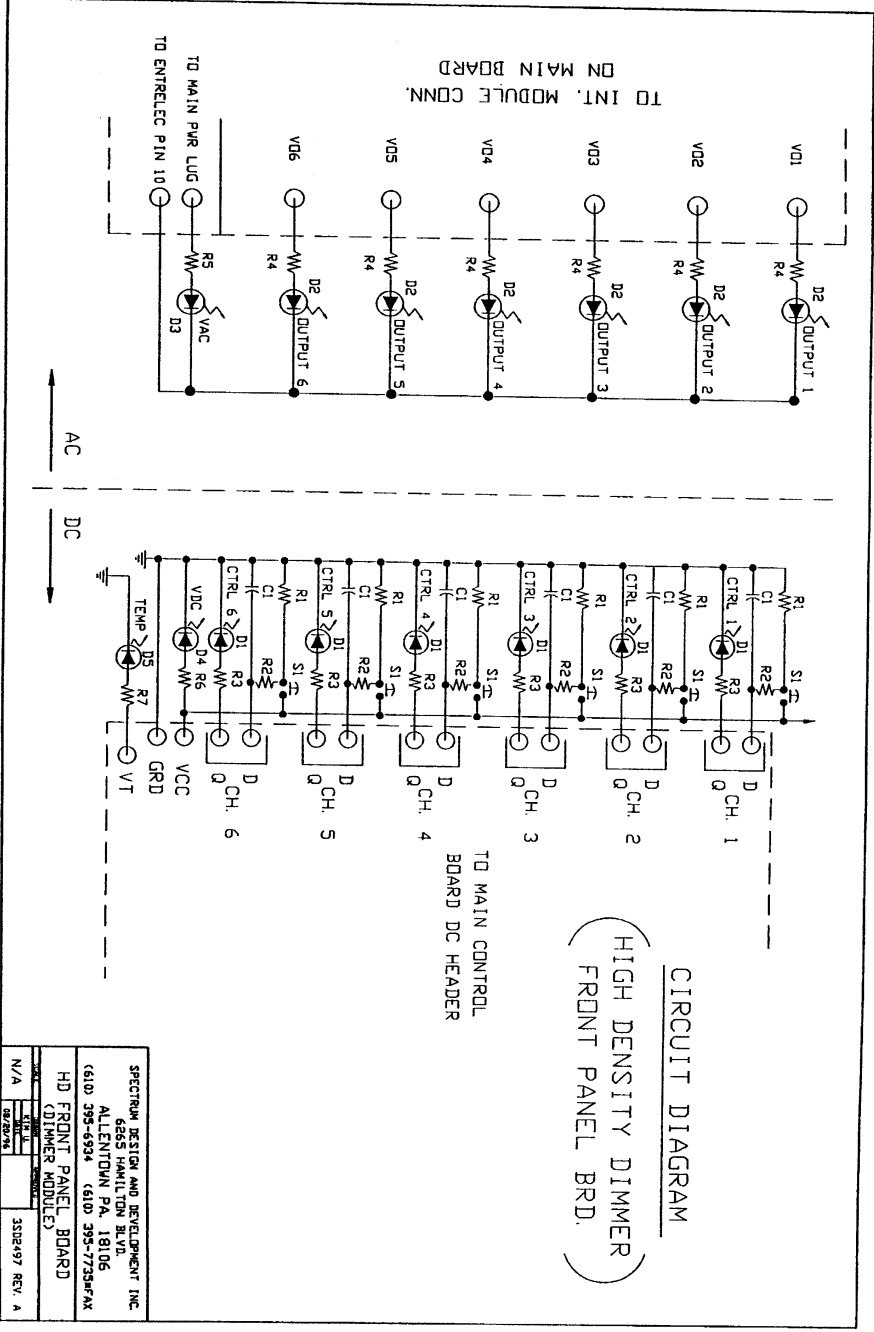


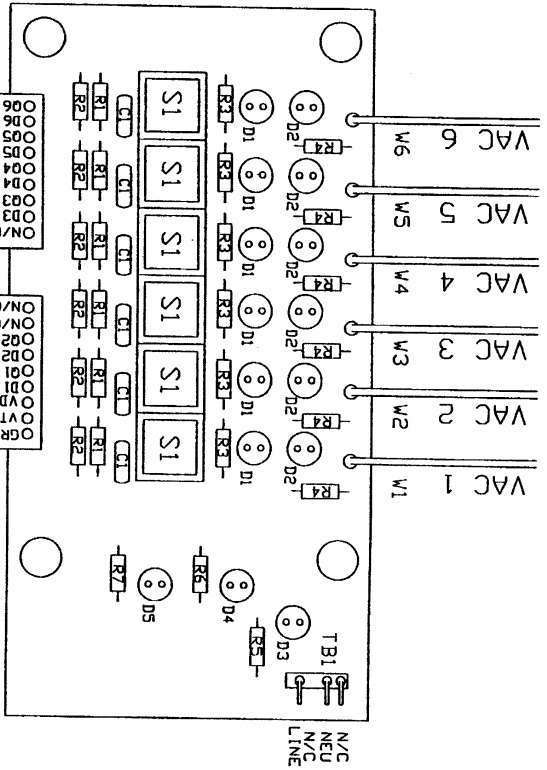
( HIGH DENSITY DIMMER  
FRONT PANEL BRD. )

CIRCUIT DIAGRAM



SPECTRUM DESIGN AND DEVELOPMENT INC.	
6265 HAMILTON BLVD.	
ALLENTOWN PA. 18106	
(610) 395-6934 (610) 395-7735#FAX	
HD FRONT PANEL BOARD	
(DIMMER MODULE)	
REV.	DATE
N/A	8/20/74
3512497 REV. A	

COMPONENT MAP  
COMPONENT SIDE VIEW

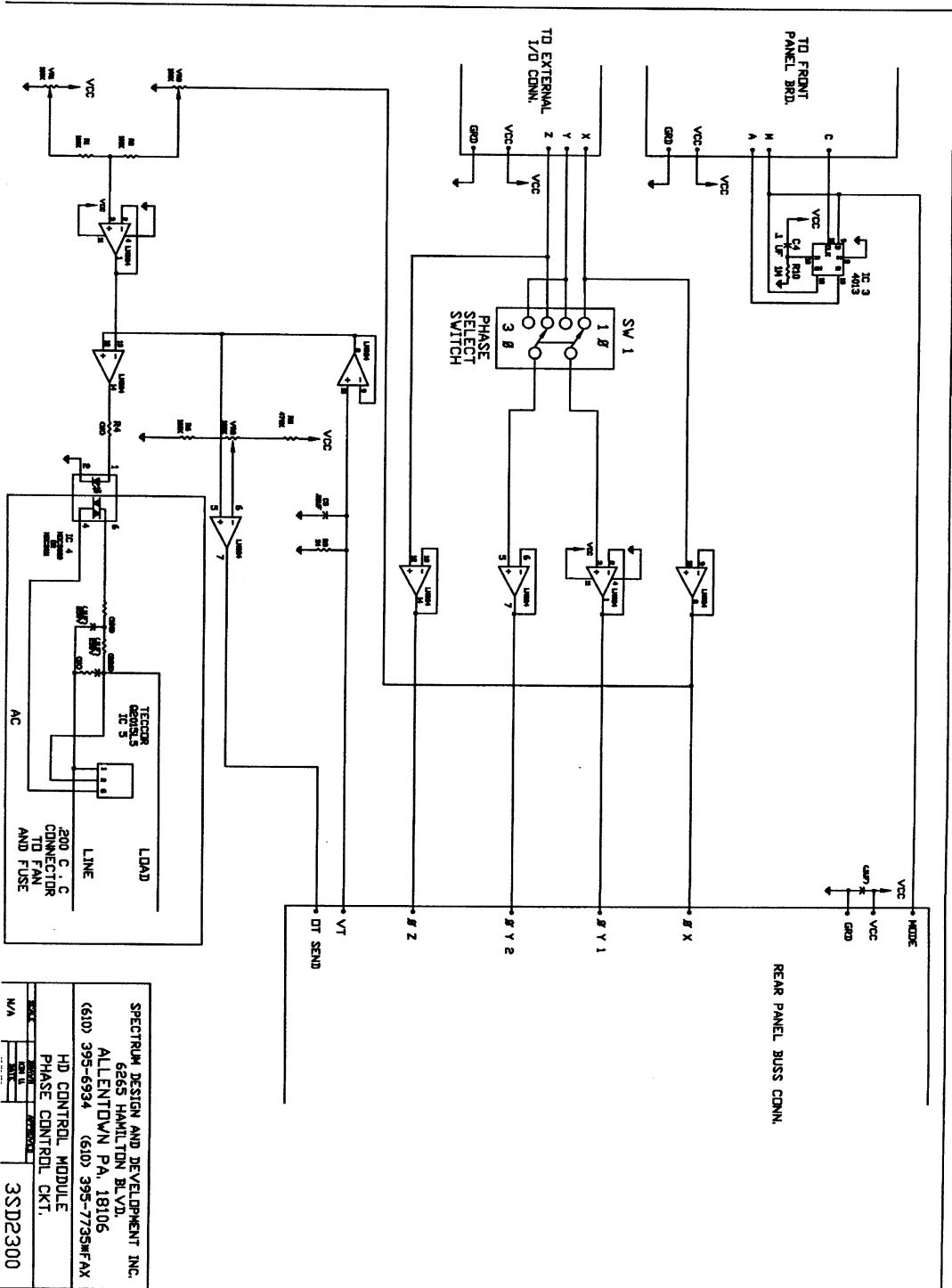


ID	DESCRIPTION
W1	WIRE WHITE 24GA.
W2	WIRE YELLOW 24GA.
W3	WIRE BLACK 24 GA.
W4	WIRE RED 24 GA.
W5	WIRE ORANGE 24GA.
W6	WIRE BROWN 24 GA.
CA1	FFC- M/F .100C-C 3.5L 9P
TB1	HDR-RA .02550X.318L .100C-C 4P
S1	SW- SPST M C&K KS11-GRAY
D1	LED-.125" DIA. GREEN
D2	LED-.125" DIA. ORANGE
D3	LED-.125" DIA. RED
D4	LED-.125" DIA. RED
D5	LED-.125" DIA. RED
R1	RES- 5.1K .25W
R2	RES- 10K .25W
R3	RES- 1K .25W
R4	RES- 18K .5W
R5	RES- 18K .5W
R6	RES- 1K .25W
R7	RES- 1K .25W
C1	CAP- DISK .02MF 50V

SPECTRUM DESIGN AND DEVELOPMENT INC.  
6255 HAMILTON BLVD.  
ALLENTOWN PA. 18106  
(610) 395-6934 (610) 395-7735#FAX

HD DIMMER FRONT PANEL PCB  
( BUMP/LATCH BOARD )

DATE: 09/26/98  
KRL  
3SD2498 REV.A

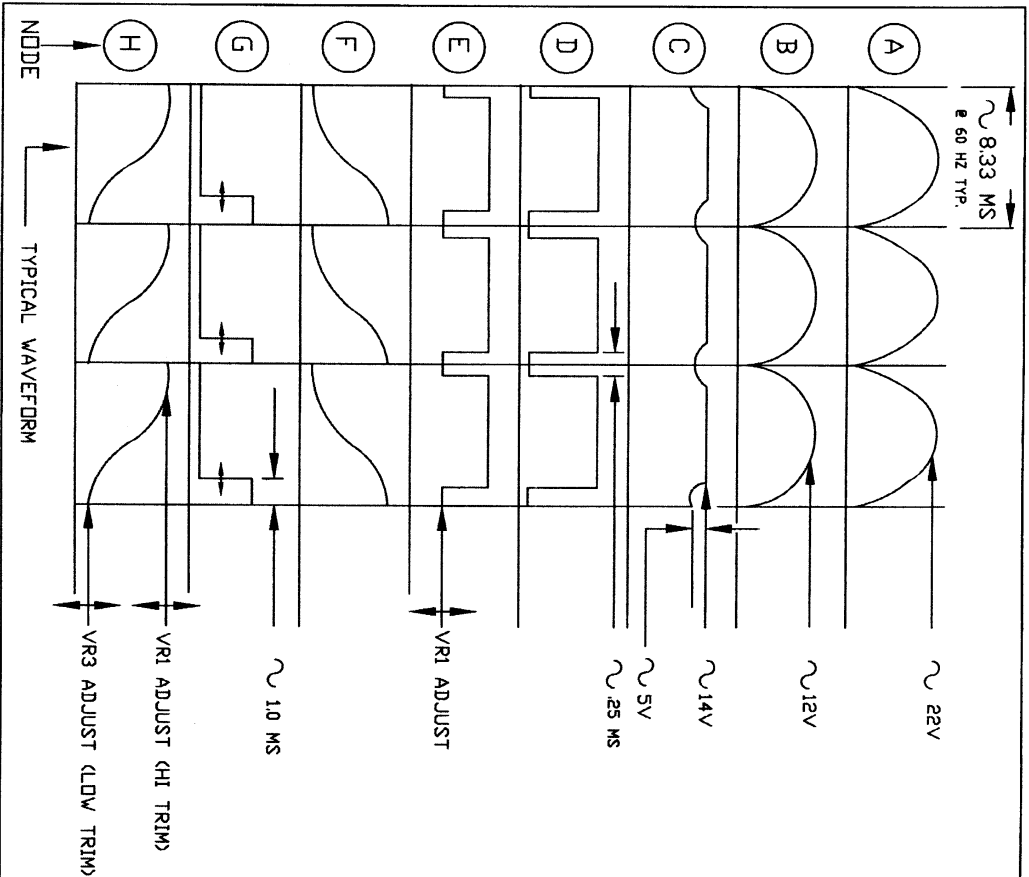


SPECTRUM DESIGN AND DEVELOPMENT INC.  
 6265 HAMILTON BLVD.  
 ALLENTOWN PA, 18106  
 (610) 395-6934 (610) 395-7735\*FAX

HD CONTROL MODULE  
 PHASE CONTROL CKT.

3SD2300



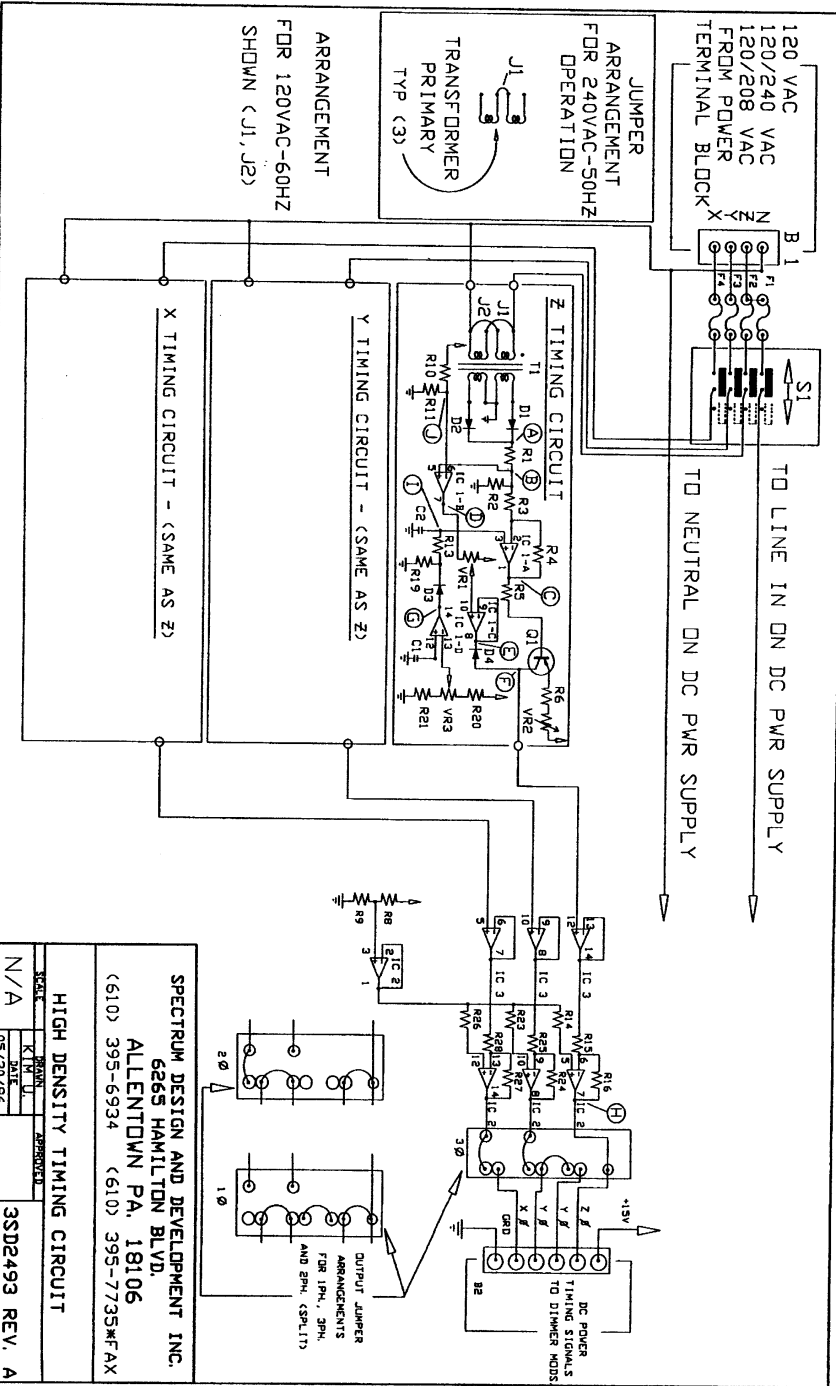


NODE	TYPICAL VOLTAGE (DC)
Ⓐ	10.0V
Ⓝ	.70V

VCC = +15VDC  
 LINE VOLTAGE = 120VAC RMS  
 VR1 SETS HIGH VOLTAGE OF TIMING CURVE (H)  
 VR2 SETS LOW VOLTAGE OF TIMING CURVE (H)  
 VR3 INTERNAL ADJUSTMENT LIMITS CURRENT FLOW INTO C1

**SPECTRUM DESIGN AND DEVELOPMENT**  
 6265 HAMILTON BLVD. ALLENTOWN, PA. 18106  
 (610) 395-6934\*VOICE (610) 395-3386\*FAX

SCALE	DRAWN	DATE	APPROVED	DRAWING # / JOB NAME
N/A	KIM U	10/99		3SD2492 REV. A



ARRANGEMENT  
FOR 120VAC-60HZ  
SHOWN (J1, J2)

JUMPER  
ARRANGEMENT  
FOR 240VAC-50HZ  
OPERATION

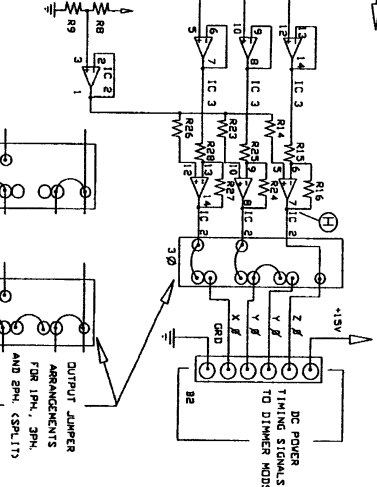
120 VAC  
120/240 VAC  
120/208 VAC  
FROM POWER  
TERMINAL BLOCK X

X TIMING CIRCUIT - (SAME AS Z)

Y TIMING CIRCUIT - (SAME AS Z)

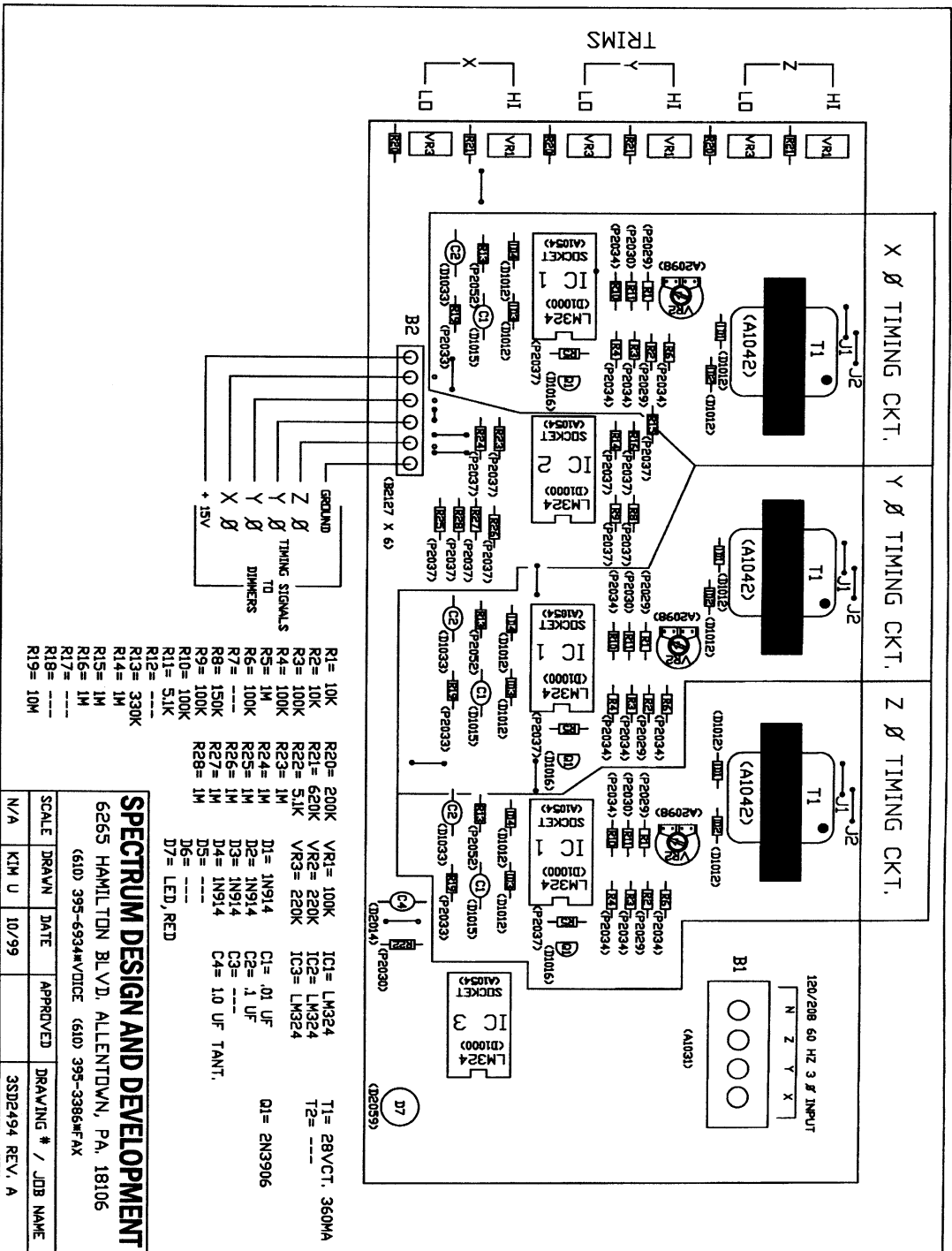
Z TIMING CIRCUIT

TD LINE IN DN DC PWR SUPPLY  
TD NEUTRAL DN DC PWR SUPPLY



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6265 HAMILTON BLVD.  
ALLENTOWN PA. 18106  
(610) 395-6934 (610) 395-7735\*FAX

HIGH DENSITY TIMING CIRCUIT  
N/A  
05/30/56  
3SD2493 REV. A

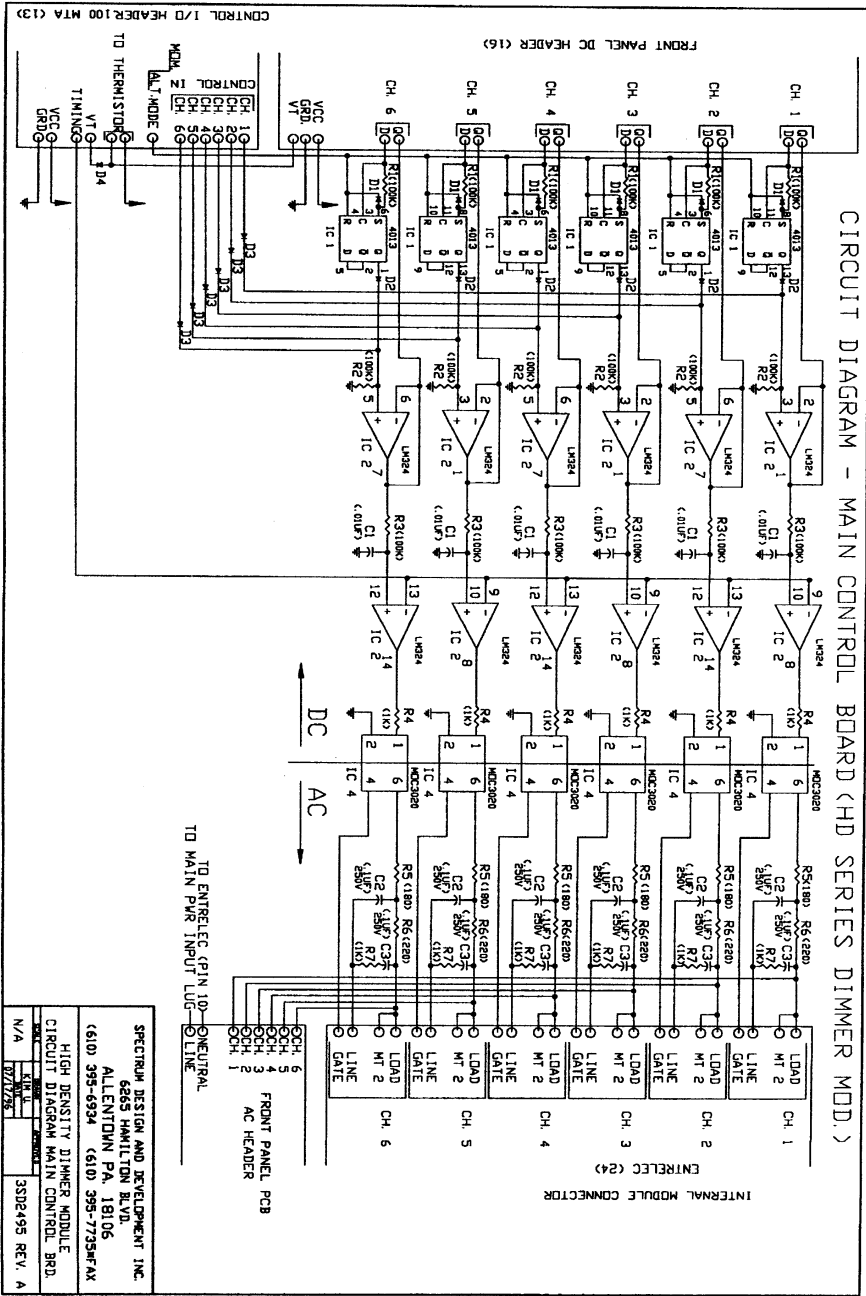


- R1= 10K
  - R2= 10K
  - R3= 100K
  - R4= 100K
  - R5= 1M
  - R6= 100K
  - R7= ---
  - R8= 150K
  - R9= 100K
  - R10= 100K
  - R11= 5.1K
  - R12= ---
  - R13= 330K
  - R14= 1M
  - R15= 1M
  - R16= 1M
  - R17= ---
  - R18= ---
  - R19= 10M
- R20= 200K
  - R21= 100K
  - R22= 620K
  - R23= 5.1K
  - R24= 1M
  - R25= 1M
  - R26= 1M
  - R27= 1M
  - R28= 1M
- VR1= 100K
  - VR2= 220K
  - VR3= 220K
- D1= 1N914
  - D2= 1N914
  - D3= 1N914
  - D4= 1N914
  - D5= ---
  - D6= ---
  - D7= LED, RED
- IC1= LM324
  - IC2= LM324
  - IC3= LM324
  - IC4= LM324
  - IC5= LM324
  - IC6= LM324
  - IC7= LM324
  - IC8= LM324
  - IC9= LM324
  - IC10= LM324
  - IC11= LM324
  - IC12= LM324
  - IC13= LM324
  - IC14= LM324
  - IC15= LM324
  - IC16= LM324
  - IC17= LM324
  - IC18= LM324
  - IC19= LM324
  - IC20= LM324
  - IC21= LM324
  - IC22= LM324
  - IC23= LM324
  - IC24= LM324
  - IC25= LM324
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  - IC28= LM324
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  - IC90= LM324
  - IC91= LM324
  - IC92= LM324
  - IC93= LM324
  - IC94= LM324
  - IC95= LM324
  - IC96= LM324
  - IC97= LM324
  - IC98= LM324
  - IC99= LM324
  - IC100= LM324
- T1= 28VCT, 360MA
  - T2= ---
  - T3= 2N3906

**SPECTRUM DESIGN AND DEVELOPMENT**  
 6265 HAMILTON BLVD. ALLENTOWN, PA. 18106  
 (610) 395-6934/VOICE (610) 395-3386/FAX

SCALE	DRAWN	DATE	APPROVED	DRAWING # / JOB NAME
N/A	KIM U	10/99		3SD2494 REV. A

# CIRCUIT DIAGRAM - MAIN CONTROL BOARD (HD SERIES DIMMER MOD.)

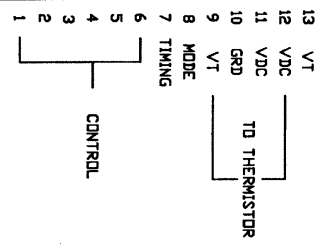
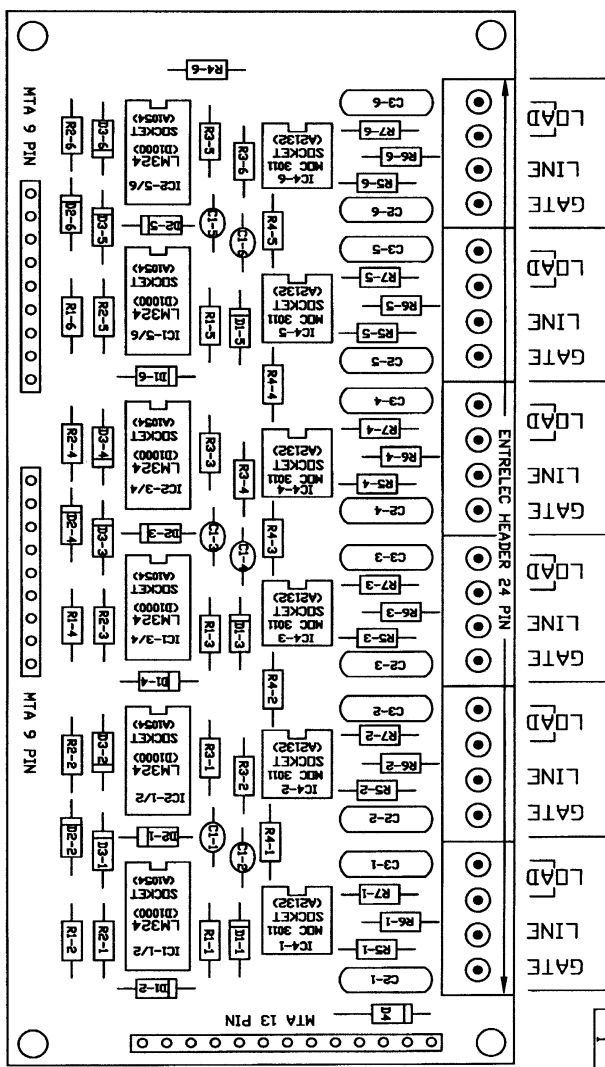


SPECTRUM DESIGN AND DEVELOPMENT INC.  
 6805 HAMILTON BLVD  
 ALLENTOWN, PA. 18106  
 (610) 395-8994 (610) 395-7735/FAX

HIGH DENSITY DIMMER MODULE  
 CIRCUIT DIAGRAM MAIN CONTROL BRD.  
 DATE: 8/27/78  
 3SD2495 REV. A

R1,R2,R3=100K(P2034)  
 R4,R7=1K (P2027)  
 R5=180 (P2039)  
 R6=220 (P2040)  
 C1=01uF (D1015)  
 C2,C3=1uF 250V (D1001)  
 D1,D2,D3,D4=1N914 (D1012)  
 PCB=(B2086)  
 ENTRELEC HEADER=(A2122) X 4  
 MTA 9 PIN=(EJ59)  
 MTA 13 PIN=(EJ62)

13 PIN MTA HEADER (PCB)	D CONN.
PIN #	PIN #
1	VT
2	WHITE/RED
3	BLACK
4	WHITE/BLACK
5	GREEN
6	BLACK
7	GREY
8	PURPLE
9	BROWN
10	ORANGE
11	RED
12	BLUE
13	YELLOW
14	WHITE



**SPECTRUM DESIGN AND DEVELOPMENT**  
 6265 HAMILTON BLVD. ALLENTOWN, PA. 18106  
 (610) 395-6934\*VOICE (610) 395-3866\*FAX  
 SCALE DRAWN DATE APPROVED DRAWING # / JOB NAME  
 N/A KIM U 10/99 4SD2496 REV. A

Ⓐ 25 POS SUBMINI 'D' MALE

PIN	COLOR	TO
1 +15V	W/B	+15V BUS
2 N/C	-	-
3 N/C	-	-
4 N/C	-	-
5 QT SEND	W/R	H-2
6 Z	BLUE	H-8
7 Y2	BRN	H-5
8 Y1	RED	H-9
9 X	BLK	H-4
10 N/C	-	-
11 VT	WHITE	H-3
12 MODE	GREY	H-1
13 COM	GRN	GROUND BUS
14-25 N/C	-	-

Ⓑ 25 POS SUBMINI 'D' MALE  
EXT I/O

PIN	COLOR	TO
1 +15V	W/B	D-9
2 X	BLK	I-9
3 Y	RED	I-3
4 Z	BLUE	I-6
5 +15V	W/B	+15V BUS
6 X	BLK	H-14
7 Y	RED	H-13
8 Z	BLUE	H-12
9-25 N/C	-	-

Ⓒ 10 POS ENTRELEC - MALE

PIN	COLOR	TO
1 NEU 18-G	WHITE	NEU BUS
2 FAN 24-G	RED	H-17
3 N/C	-	-
4 N/C	-	-
5 N/C	-	-
6 NEU IN	18 WHITE	NEU BUS
7 NEU	18 WHITE	NEU BUS
8 X	18 BLK	FUSE X
9 Y	18 RED	FUSE Y
10 Z	18 BLUE	FUSE Z



