29 Series
Schematic

BIAMP®

SYSTEMS

10074 SW Arctic Drive Beaverton, OR 97005 503-641-7287

December 22, 1982

29 SERIES AMPLIFIER MODULE REPAIR

WHEN A POWER AMPLIFIER MODULE IN THE 29 SERIES POWERED MIXER SUFFERS AN OUTPUT TRANSISTOR FAILURE, THE REPAIR IS DIFFICULT BECAUSE OF A RIPPLE EFFECT THROUGHOUT THE CIRCUIT AND THE PHYSICAL LOCATION AND CONSTRUCTION OF THE MODULE ASSEMBLY. THE FOLLOWING PROCEDURE HAS PROVEN TO BE A SIMPLE AND EFFECTIVE REPAIR METHOD.

1. REMOVE THE MODULE ASSEMBLY FROM THE MIXER BOTTOM PANEL. THIS REQUIRES UNPLUGGING 3 HARNESS CABLES AND REMOVING 3 SCREWS THROUGH THE BOTTOM PANEL.

2. REMOVE THE DRIVER CIRCUIT BOARD FROM THE MODULE ASSEMBLY BY USING NEEDLE NOSE PLIERS TO SQUEEZE THE LOCK TAB ON THE 4 INSULATED STANDOFFS, LIFTING ONE CORNER AT A TIME.

3. WHEN AN OUTPUT TRANSISTOR BECOMES DEFECTIVE THE 4.7ohm RESISTOR IN SERIES WITH THE BASE LEAD WILL BURN UP. REPLACE ALL BURNED RESISTORS ON THE OUTPUT BOARD AND THE TRANSISTORS THEY ARE CONNECTED TO. THE DRIVER TRANSISTOR BASE RESISTORS R25 AND R26 (22ohms) ARE USUALLY BURNED VERY BADLY. REPLACE THESE AND THE 2SA1006 (Q5) AND 2SC2336 (Q1) DRIVER TRANSISTORS.

4. TEST THE MJE 180 (Q9) BIAS TRANSISTOR.

5. INSPECT THE DRIVER BOARD FOR ANY BURNED RESISTORS AND REPLACE THEM IF FOUND.

6. REPLACE THE 2N3904 (Q9) AND 2N3906 (Q10) PROTECTION TRANSISTORS ON THE DRIVER BOARD.

7. USING A DVM SET FOR THE 2000ohm RANGE TEST EACH DIODE ON THE DRIVER BOARD FOR FORWARD CONDUCTION AND CHANGE ANY SHORTED OR OPEN DIODES. CAUTION THERE ARE 3 DIFFERENT TYPES OF DIODES ON THIS BOARD.

8. TEST THE 2 L.E.D.'s FOR DAMAGE BY TESTING THEM FOR FORWARD CONDUCTION. THEY MAY LIGHT AND THEIR RESISTANCE SHOULD BE 15-1800 ohms. IF THEY ARE OVER 2000ohms OR SHORTED REPLACE THEM WITH THE SAME TYPE DIODE. THESE ARE USED AS A VOLTAGE REFERENCE SOURCE. TEST ANY NEW L.E.D.'s IN CIRCUIT AS A PRECAUTION.

9. U1 AND U2 ARE OPTO-COUPLERS. THEY CLOSELY SPACED LEADS ARE L.E.D.'s AND SHOULD BE CHECKED AS IN STEP #8.

10. ALL REMAINING TRANSISTORS EXCEPT THE 2N5638 FET CAN BE TESTED IN CIRCUIT. THEY HAVE NOT SHOWN A TENDANCY TO FAIL. [redacted]

11. MEASURE THE 2.2ohm RESISTORS ON EACH CIRCUIT BOARD.

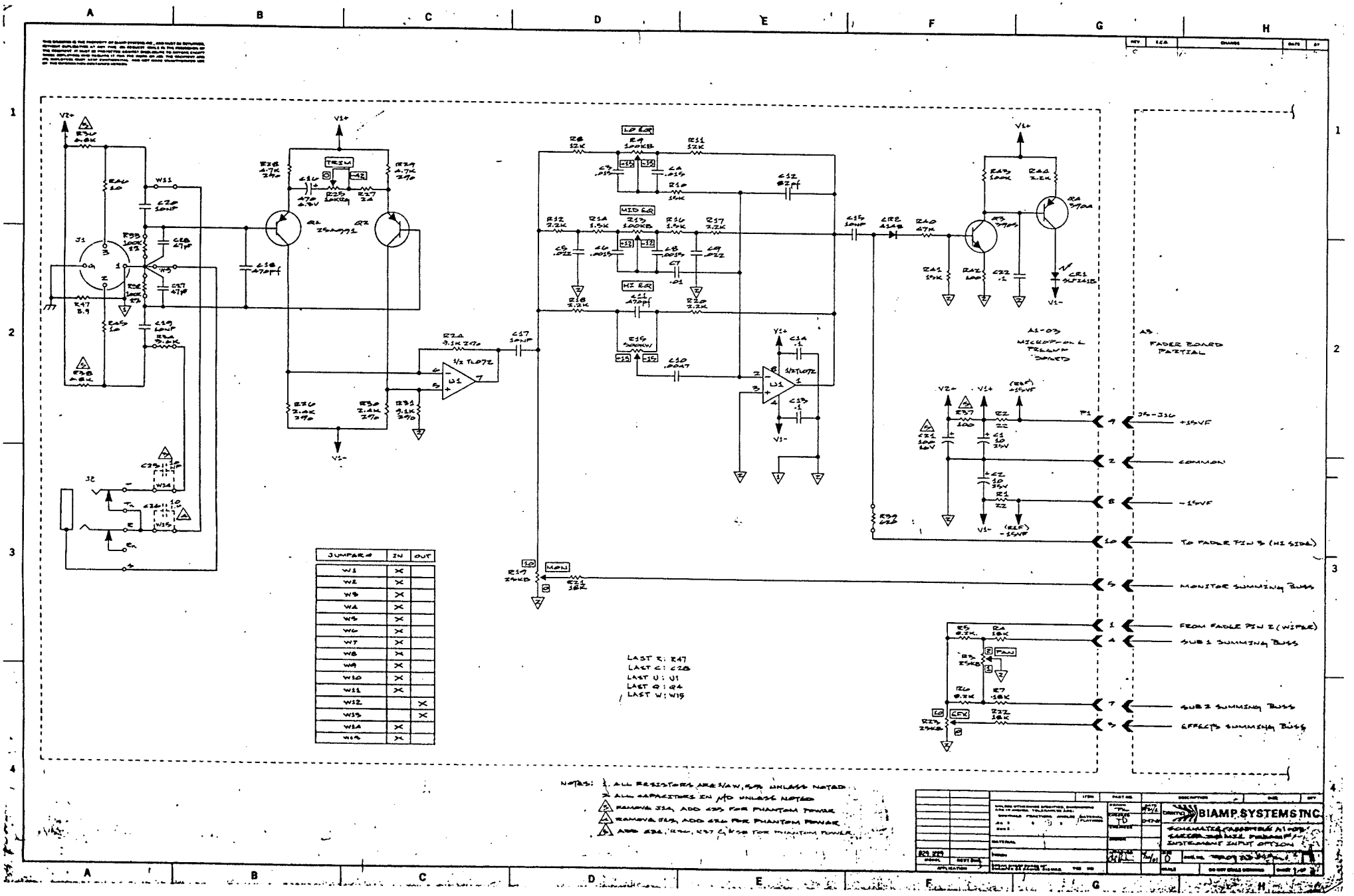
12. REMOUNT THE DRIVER BOARD TO THE MODULE ASSEMBLY AND REINSTALL THE MODULE ASSEMBY TO THE BOTTOM PANEL AND WIRING HARNESSES.

13. TEST ALL POWER SUPPLY FUSES.

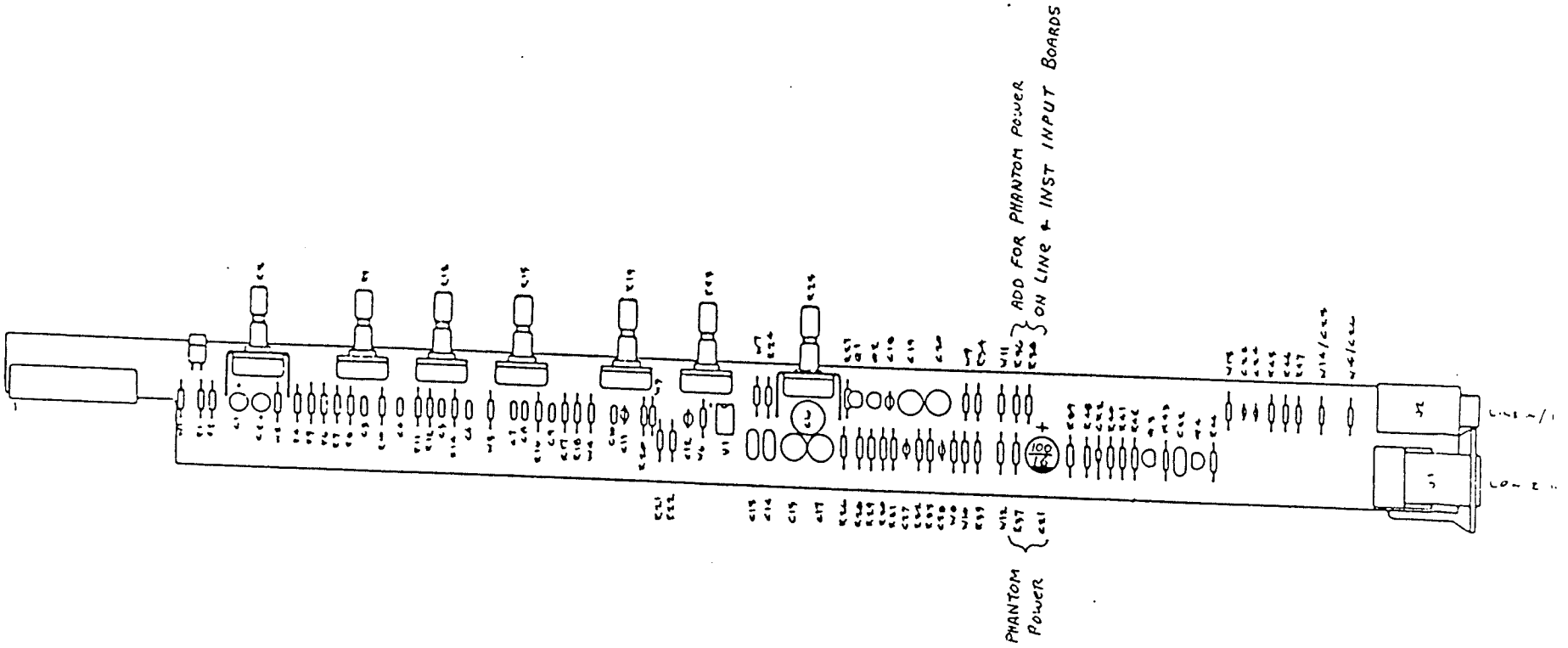
14. IF POSSIBLE USE A VARIAC TO TURN THE MIXER ON. MONITOR THE OUTPUT OFFSET VOLTAGE BETWEEN PIN NUMBER 1 OF THE TEST POINT STRIP AND GROUND. MAXIMUM VOLTAGE SHOULD BE LESS THAN 50 MV.

15. MEASURE BETWEEN PINS #1,2 OF THE TEST POINT STRIP AND ADJUST THE BIAS CONTROL FOR A READING OF 8 MV (HEAT SINK COLD). THE BIAS READING BETWEEN PINS 1 AND 3 SHOULD BE ABOUT THE SAME AND OPPOSITE IN POLARITY.

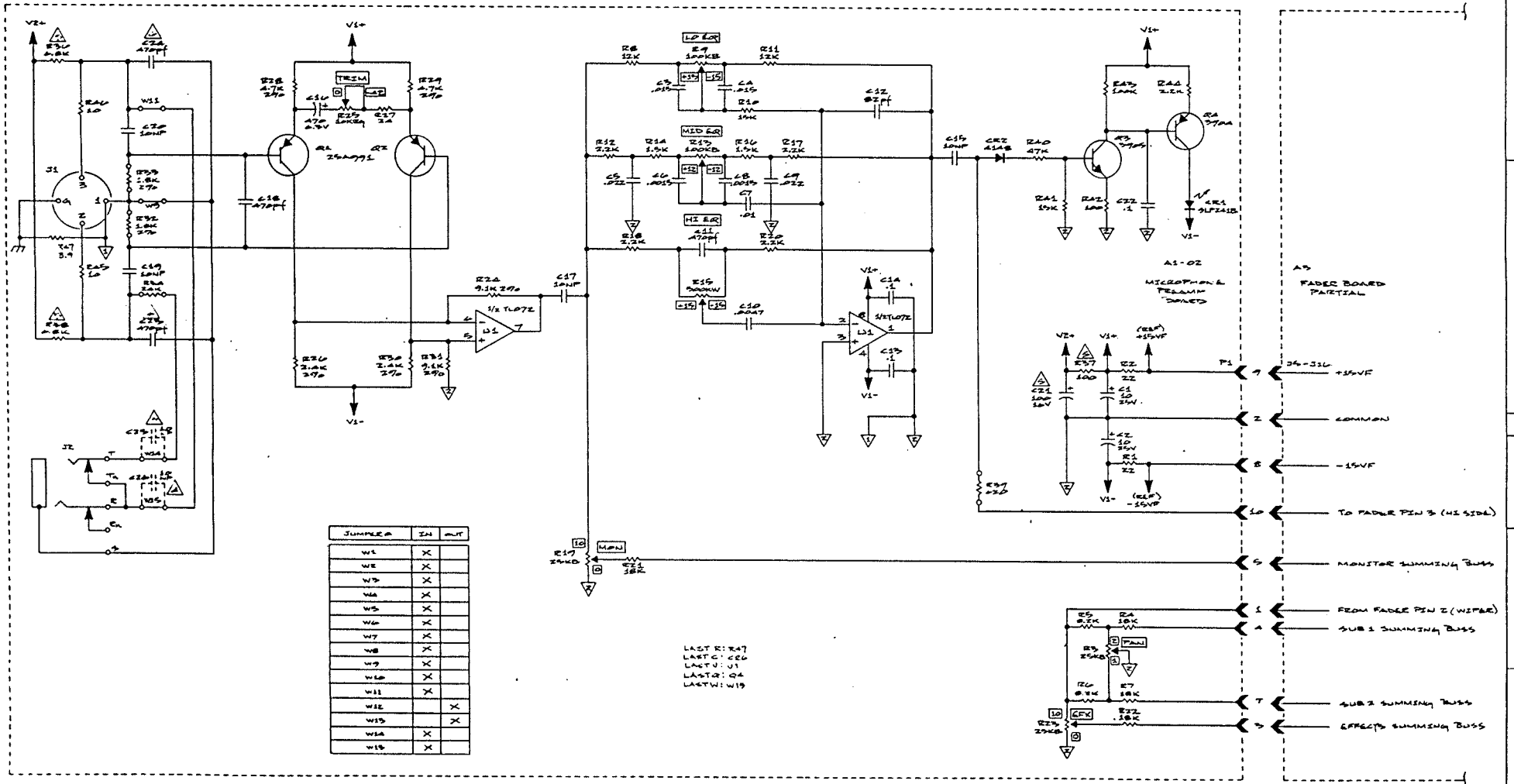
16. TEST THE AMPLIFIER FOR SIGNAL AND POWER. IT SHOULD FUNCTION NORMALLY.



JUMPER #	IN	OUT
W1	X	
W2	X	
W3	X	
W4	X	
W5	X	
W6	X	
W7	X	
W8	X	
W9	X	
W10	X	
W11	X	
W12		X
W13		X
W14	X	
W15	X	



29 INPUT BOARD
COMPONENT LAYOUT



JUMPER	IN	OUT
W1	X	
W2	X	
W3	X	
W4	X	
W5	X	
W6	X	
W7	X	
W8	X	
W9	X	
W10	X	
W11	X	
W12		X
W13		X
W14	X	
W15	X	

LAST R: R47
LAST C: C26
LAST U: U1
LAST Q: Q4
LAST W: W15

NOTES: 1. ALL RESISTORS ARE 1/4W, 5% UNLESS NOTED.
2. ALL CAPACITORS IN μfd UNLESS NOTED.
3. REMOVE D14, AND C26 FOR PHANTOM POWER.
4. REMOVE D15, AND C26 FOR PHANTOM POWER.
5. ADD C27, C1, C2A FOR EXTERNAL PFI.
6. SEE SHEET FOR PCB ASSEMBLY.

ITEM	PART NO	DESCRIPTION	DATE	QTY

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE: DECIMALS FRACTIONS ANGLES MATERIAL FINISH

DRAWN TJS 8/31/1
CHECKED TJS 9-17-91
ENGINEER
MATERIAL
FINISH
APPROVED 9/16/91

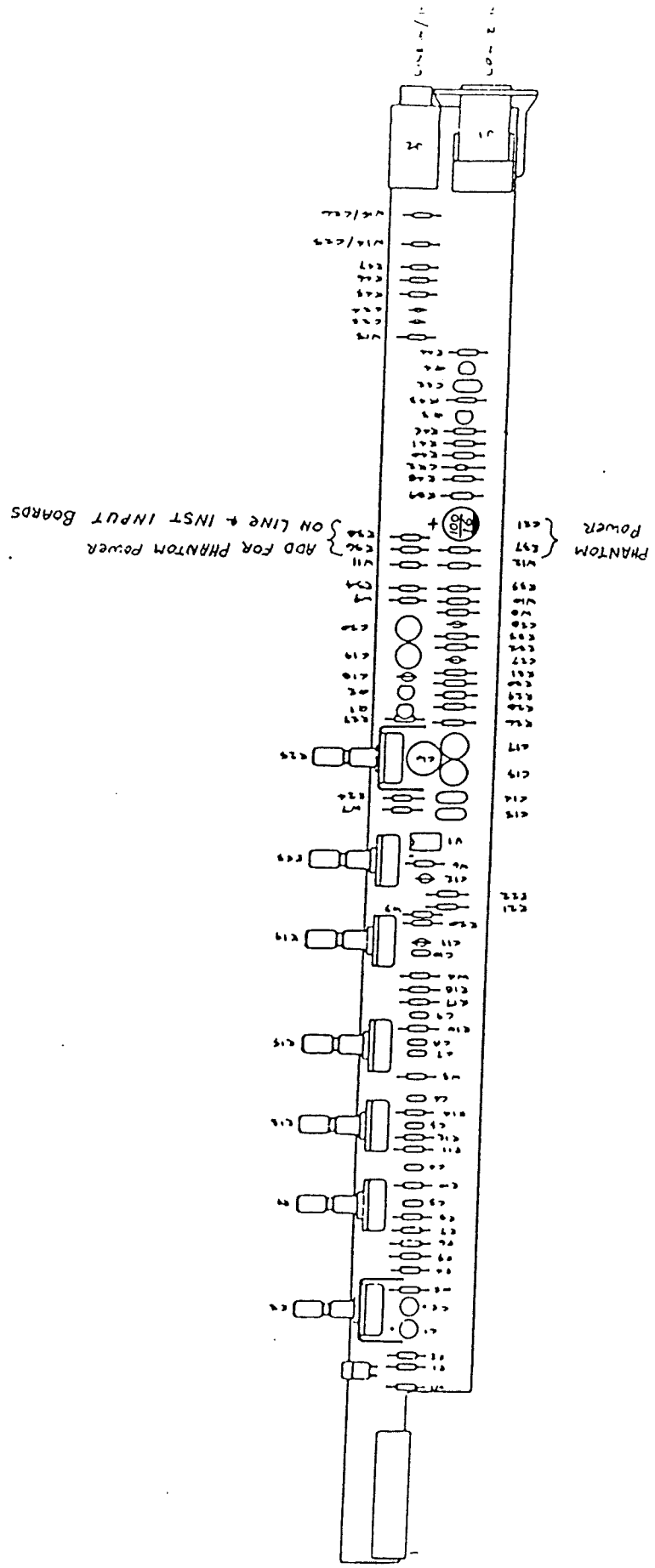
BIAMP SYSTEMS INC.

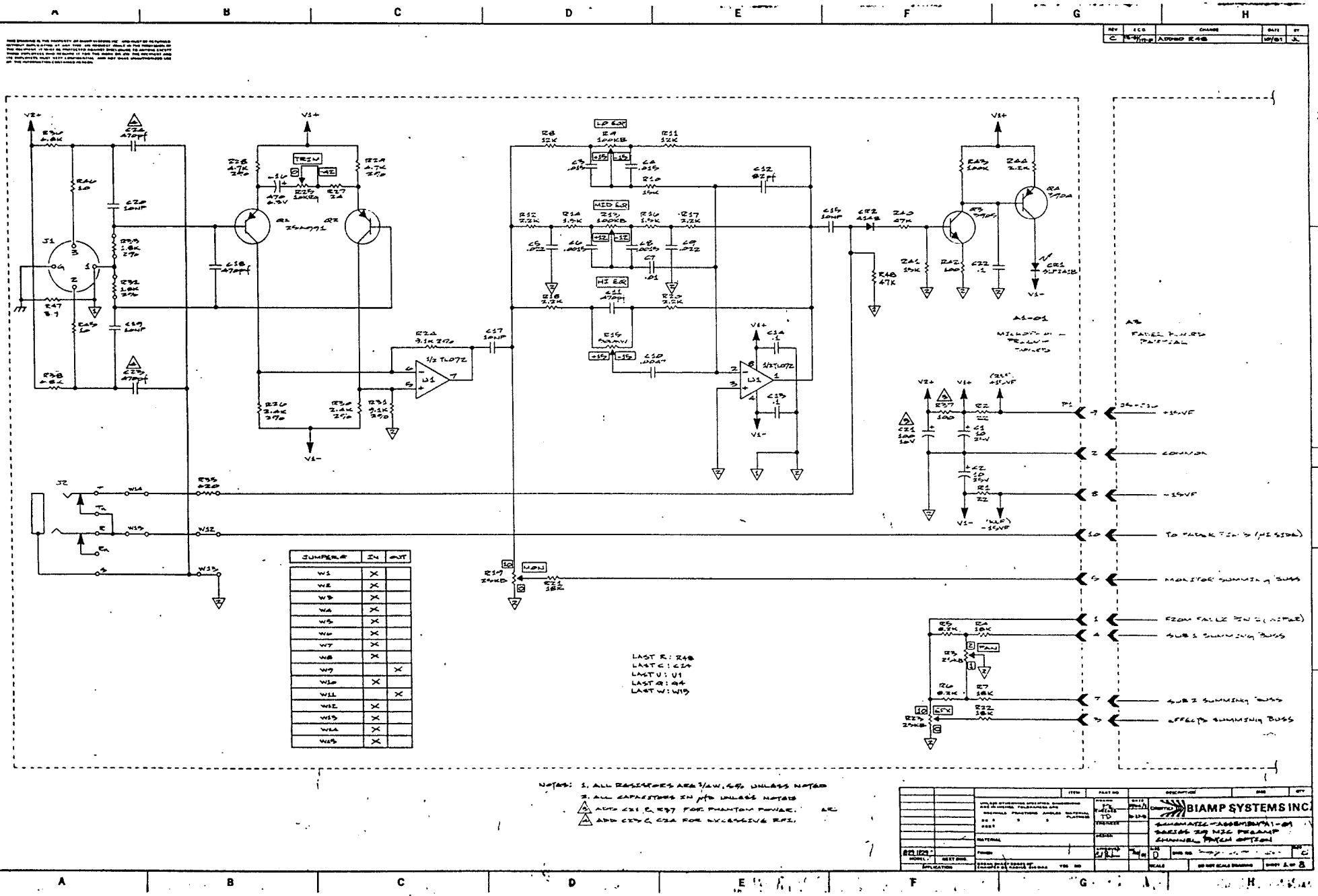
SCHEMATIC-ASSEMBLY A1-02
SERIES II MIC PREAMP
LINE INPUT OPTION

SIZE D DWG NO REV B

SCALE DO NOT SCALE DRAWING SHEET 1 OF 2

29 INPUT BOARD
COMPONENT LAYOUT





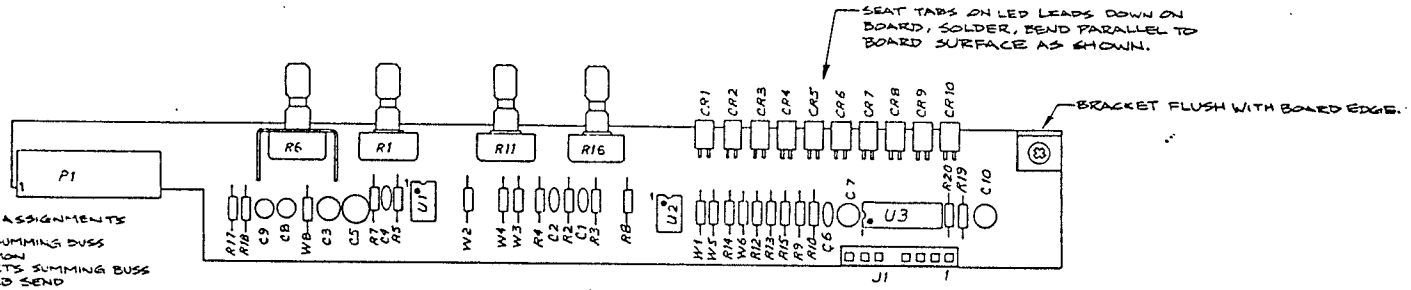
JUMPER	IN	OUT
W1	X	
W2	X	
W3	X	
W4	X	
W5	X	
W6	X	
W7	X	
W8	X	
W9		X
W10	X	
W11		X
W12	X	
W13	X	
W14	X	
W15	X	

NOTES: 1. ALL RESISTORS ARE 1/4W, 5% UNLESS NOTED
2. ALL CAPACITORS IN μfd UNLESS NOTED
3. ADD C21, C23, C27 FOR PHANTOM POWER. ALL
4. ADD C24, C26 FOR EXCESSIVE RFI.

REV	ECO	CHANGE	DATE	BY
C	16-91	ADDED R48	10/1/91	JL

BIAMP SYSTEMS INC.
SCHEMATIC ASSEMBLY A1-01
SERIES 20 MIC PREAMP
CHANNEL FALLX OPTION

REV.	E.C.O.	CHANGE	DATE	BY



P1 PIN ASSIGNMENTS

1. MAIN SUMMING BUSS
2. COMMON
3. EFFECTS SUMMING BUSS
4. REVERB SEND
5. SUB 1 SUMMING BUSS
6. KEY
7. BLANK
8. SUB 2 SUMMING BUSS
9. -15VF
10. +15VF

J1 PIN ASSIGNMENTS

1. +5V
2. MAIN AMP REFERENCE
3. MAIN AMP OUT FILTERED
4. COMMON +5V
5. VOID
6. SUBS RETURN
7. EFFECTS RETURN
8. EFFECTS SEND

2. ALL COMPONENTS TO BE FULLY SEATED DOWN ON BOARD.

1. SEE SHEET 1 FOR SCHEMATIC.

NOTES:

ITEM	PART NO	DESCRIPTION	SIZE	QTY

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE:
DECIMALS FRACTIONS ANGLES MATERIAL FLATNESS
.XX ± ± ±
.XXX ±

MATERIAL

FINISH

BREAK SHARP EDGES .01" CHAMFER OR RADIUS .010 MAX. YES NO

MODEL NEXT DWG.

APPLICATION

DRAWN	JA	4/3/91
CHECKED	TD	4-27-91
ENGINEER		
DESIGN		
APPROVED		5/14/91

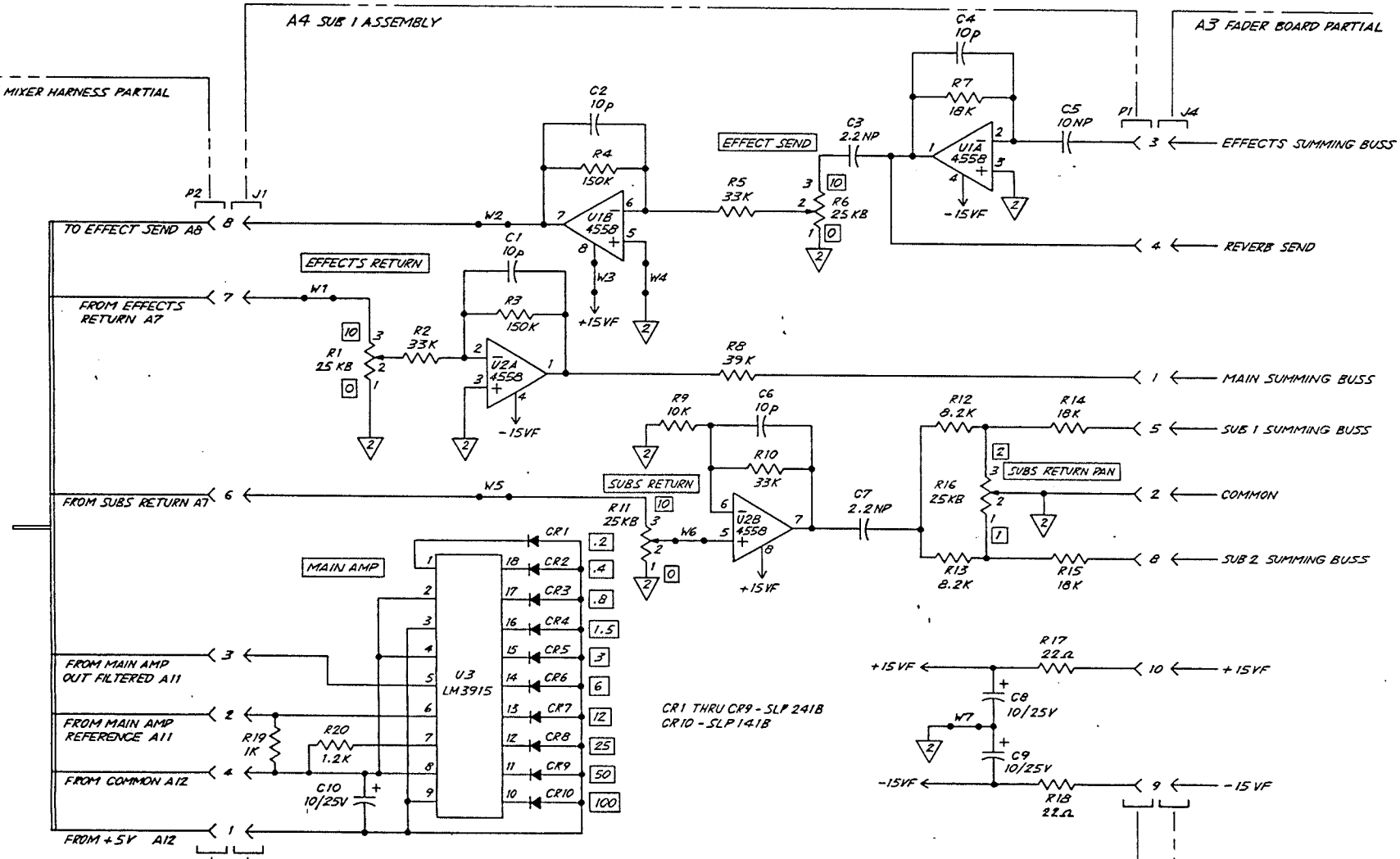
BIAMP SYSTEMS INC.

ASSEMBLY A4
29 SERIES SUB 1 BOARD

SIZE C DWG NO. REV A

SCALE 1:1 DO NOT SCALE DRAWING SHEET 2 OF 2

REV.	E.C.O.	CHANGE	DATE	BY



LAST R : R20
- C : C10
- CR : CR10
- W : W7
- U : U3
- J : J1
- P : P1

3. SEE SHEET 2 FOR PCB ASSEMBLY.
2. ALL RESISTORS ARE 1/4 W, 5% UNLESS NOTED.
1. ALL CAPACITORS IN µFD UNLESS NOTED.

NOTES:

ITEM	PART NO.	DESCRIPTION	SIZE	QTY.

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE:
DECIMALS .XX ± .XXX ± FRACTIONS ± ANGLES ± MATERIAL FLATNESS

MATERIAL
FINISH
BREAK SHARP EDGES 45° CHAMFER OR RADIUS .015 MAX. YES NO

DRAWN	JL	DATE 7/7/81
CHECKED	TD	10/12/81
ENGINEER		
DESIGN		
APPROVED		10/19/81

BIAMP SYSTEMS INC.

SCHEMATIC - ASSEMBLY A4
29 SERIES SUB 1 BOARD

SIZE	DWG. NO.	REV.
C		A

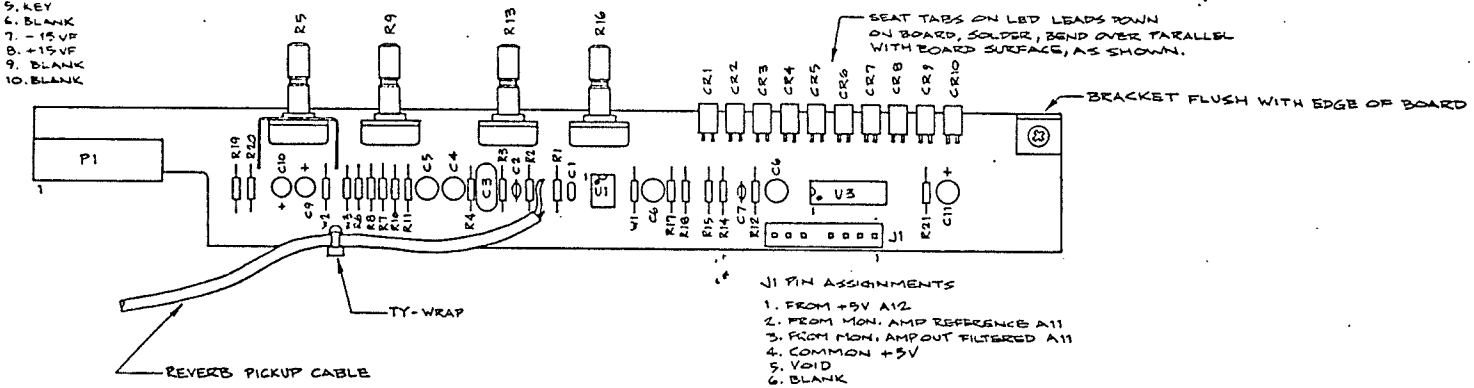
SCALE — DO NOT SCALE DRAWING — SHEET 1 OF 2

8/28/79 MODEL NEXT DWG. APPLICATION

REV.	E.C.O.	CHANGE	DATE	BY
C		ADDED W2 & W3.	11/81	JL

P1 PIN ASSIGNMENTS

1. MAIN SUMMING BUSS
2. COMMON
3. BLANK
4. MONITOR SUMMING BUSS
5. KEY
6. BLANK
7. -15 VF
8. +15 VF
9. BLANK
10. BLANK



J1 PIN ASSIGNMENTS

1. FROM +5V A12
2. FROM MON. AMP REFFRENCE A11
3. FROM MON. AMP OUT FILTERED A11
4. COMMON +5V
5. VOID
6. BLANK
7. FROM MAINS RETURN A7
8. TO REVERB FOOT SWITCH A7

2. ALL COMPONENTS TO BE FULLY SEATED DOWN ON BOARD.

1. SEE SHEET 1. FOR SCHEMATIC.

NOTE :

ITEM	PART NO.	DESCRIPTION	SYMBOL	QTY

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE: DECIMALS .XX ± .XXX ± FRACTIONS ± ANGLES ± MATERIAL FLATNESS

MATERIAL

FINISH

NEXT ASSY

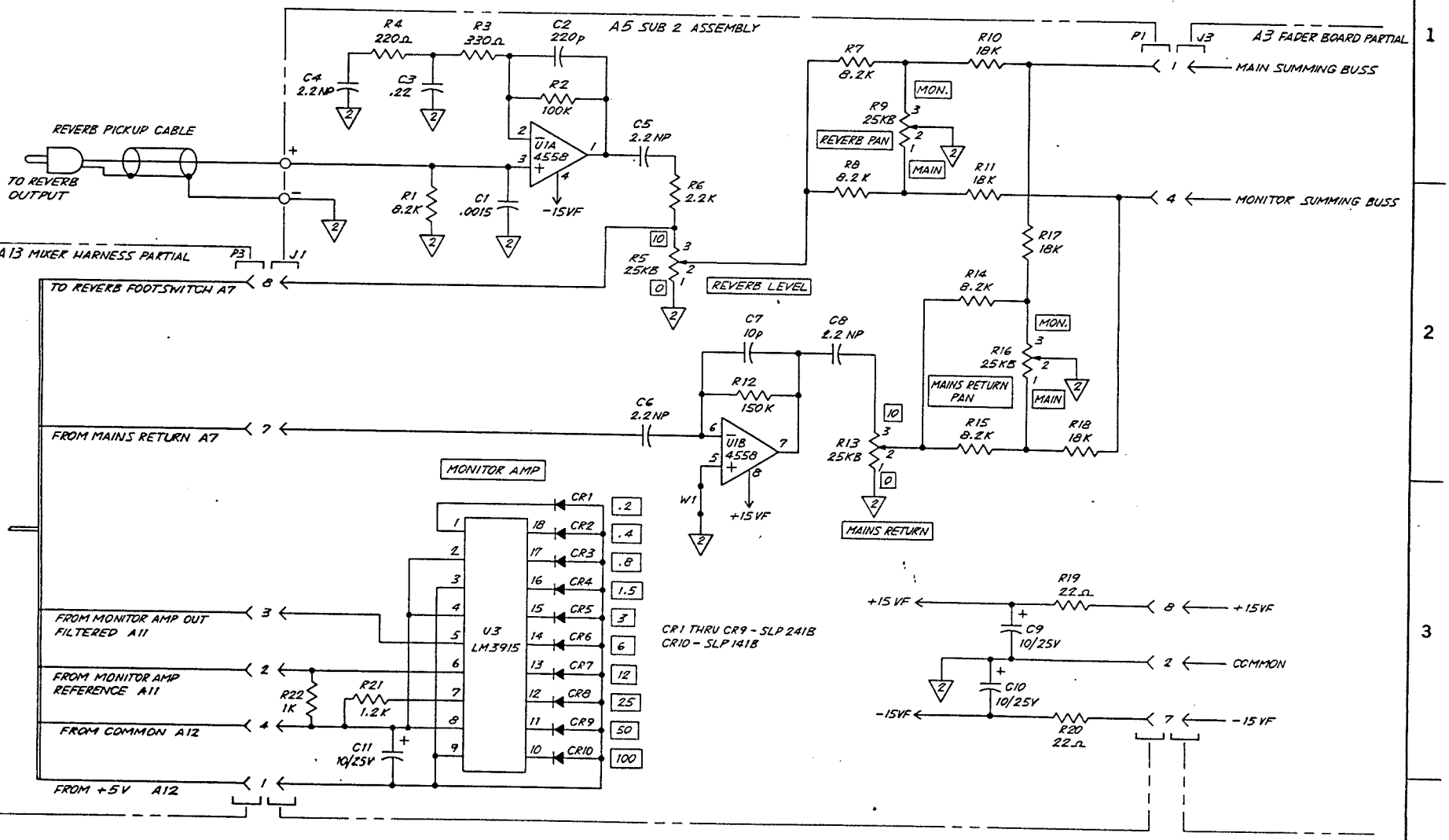
DRAWN	JL	DATE 8/11/81
CHECKED	TD	10-22-81
ENGINEER		
DESIGN		
APPROVED		12/11/81

BIAMP SYSTEMS INC.

ASSEMBLY AS
29 SERIES SUB 2 BOARD

SIZE C DWG. NO REV. C

REV.	E.C.O.	CHANGE	DATE	BY
C		REVISED CIRCUITRY AT REVERB LEVEL CONTROL. R6 WAS 470Ω	11/31	



LAST R: R22
- C: C11
- CR: CR10
- W: W1
- U: U2
- J: J1
- P: P1

NOTES:
1. ALL CAPACITORS IN μFD UNLESS NOTED.
2. ALL RESISTORS ARE 1/4 W, 5% UNLESS NOTED.
3. SEE SHEET 2 FOR PCB ASSEMBLY.

ITEM	PART NO.	DESCRIPTION	SIZE	QTY.

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE:
DECIMALS FRACTIONS ANGLES MATERIAL FLATNESS
.XX ± ± ±
.XXX ±
MATERIAL
FINISH
BREAK SHARP EDGES 45° CHAMFER OR RADIUS .010 MAX. YES NO

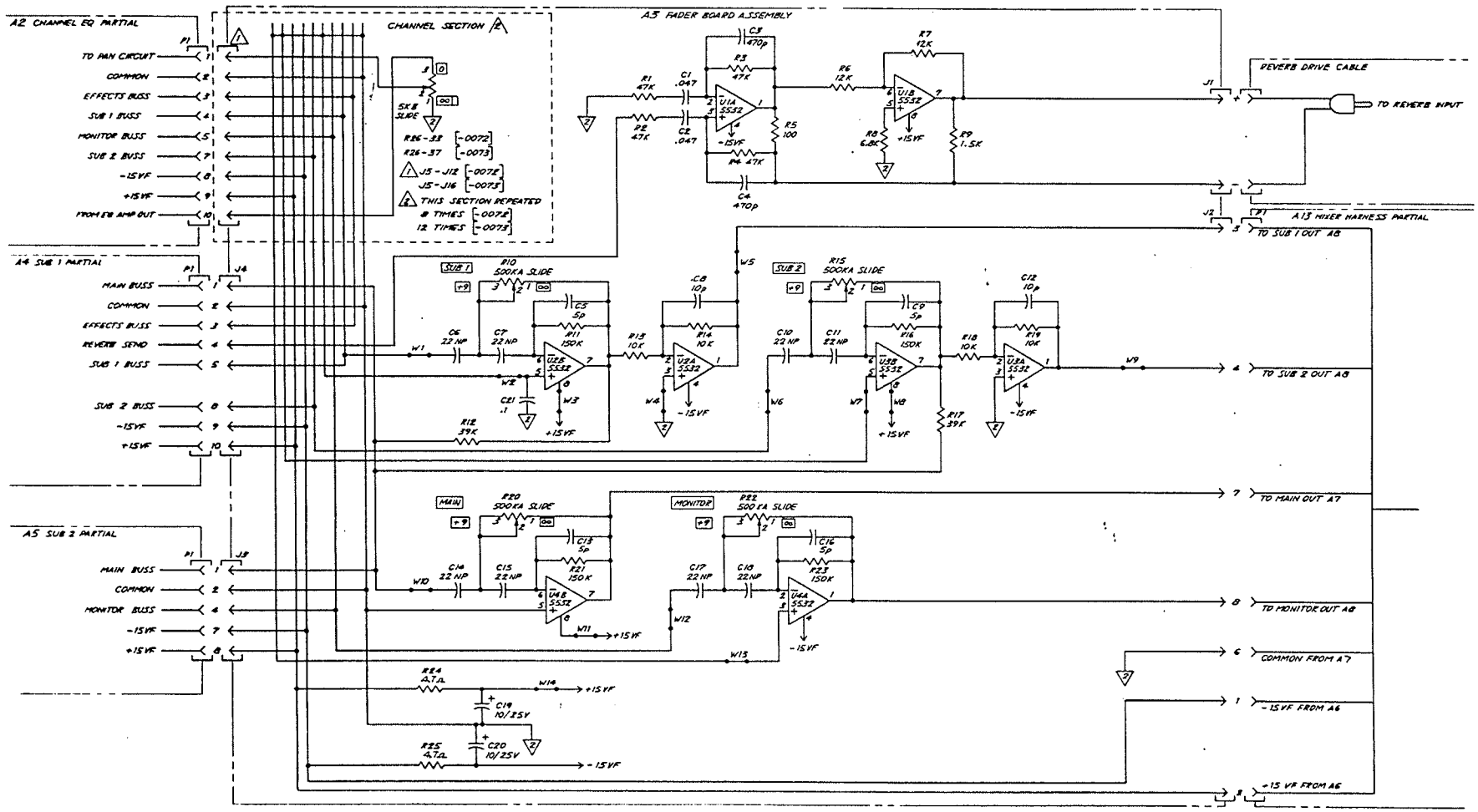
DRAWN	JL	DATE 7/8/84
CHECKED	TD	10-23-84
ENGINEER		
DESIGN		
APPROVED		12-4-84

BIAMP SYSTEMS INC.

SCHEMATIC - ASSEMBLY A5
29 SERIES SUB 2 BOARD

MODEL	NEXT DWG.
829,1229	
APPLICATION	

SIZE C | DWG. NO. | REV. C
SCALE | DO NOT SCALE DRAWING | SHEET 1 OF 2

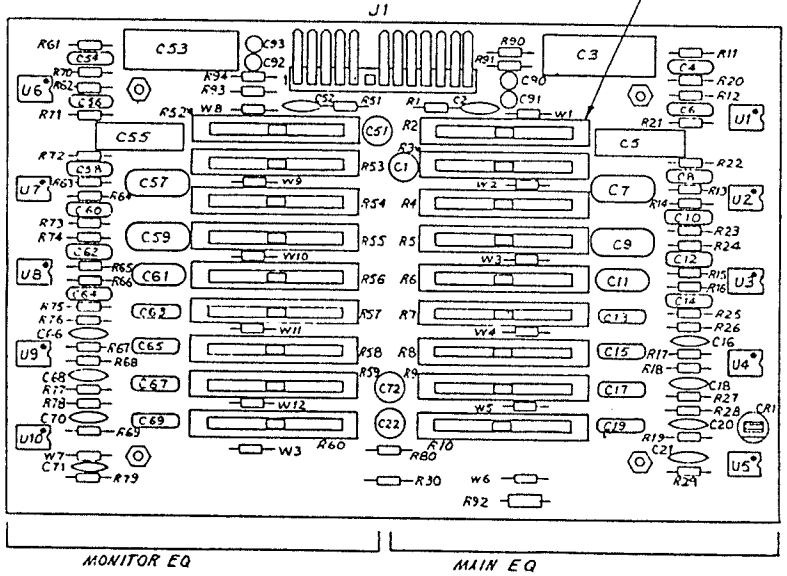

A2 CHANNEL EQ PARTIAL
TO PAN CIRCUIT
COMMON
EFFECTS BUSS
SUB 1 BUSS
MONITOR BUSS
SUB 2 BUSS
-15VF
+15VF
FROM EQ AMP OUT
CHANNEL SECTION
5K B SLIDE
R26-33 [-0072] [-0073]
R26-37 [-0072] [-0073]
J5 - J12 [-007E] [-007S]
J5 - J16 [-007E] [-007S]
THIS SECTION REPEATED
8 TIMES [-007E]
12 TIMES [-007S]
A3 FADER BOARD ASSEMBLY
REVERB DRIVE CABLE
TO REVERB INPUT
A13 MIXER HARNESS PARTIAL
TO SUB 1 OUT A8
A4 SUB 1 PARTIAL
MAIN BUSS
REVERB SEND
SUB 1
P10 500KA SLIDE
P11 150K
P12 150K
P13 10K
P14 10K
P15 500KA SLIDE
P16 150K
P17 150K
P18 10K
P19 10K
C5 5p
C6 22 NP
C7 22 NP
C8 10p
C9 5p
C10 22 NP
C11 22 NP
C12 10p
R18 39K
R17 39K
TO SUB 2 OUT A8
A5 SUB 2 PARTIAL
P20 500KA SLIDE
P21 150K
P22 500 KA SLIDE
P23 150K
C13 5p
C14 22 NP
C15 22 NP
C16 5p
C17 22 NP
C18 22 NP
TO MAIN OUT A7
TO MONITOR OUT A8
COMMON FROM A7
-15VF FROM A6
R24 4.7Ω
R25 4.7Ω
C19 10/25V
C20 10/25V
300-007E
LAST R: R24
C: C21
J: J12
U: U4
W: W14
300-007S
LAST R: R37
C: C21
J: J16
U: U4
W: W14
NOTES:
1. ALL CAPACITORS IN μFD UNLESS NOTED.
2. ALL RESISTORS ARE 1/4 W, 5% UNLESS NOTED.
3. SEE SHEET 2 FOR PCB ASSEMBLY.
BIAMP SYSTEMS INC.
SCHEMATIC - ASSEMBLY A3
29 SERIES FADER BOARD

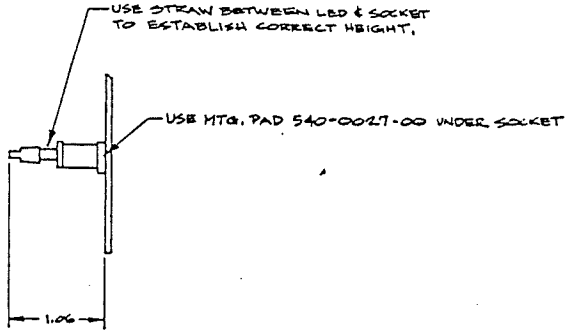
REV.	E.C.O.	CHANGE	DATE	BY

J1 PIN ASSIGNMENTS

1. +15 VF FROM A12
2. -15 VF FROM A12
3. FROM MON. EQ IN GND A8
4. FROM MON. EQ IN A8
5. TO MON. EQ OUT A8
6. VOID
7. TO MON. EQ OUT GND A8
8. TO MAIN EQ OUT A7
9. TO MAIN EQ OUT GND A7
10. FROM MAIN EQ IN A7
11. FROM MAIN EQ IN GND A7
12. -15 VF FROM A12
13. +15 VF FROM A12

SEAT POTS DOWN ON BOARD; MAINTAIN .140" CENTER-TO-CENTER.





2. ALL COMPONENTS TO BE FULLY SEATED DOWN ON BOARD.
1. SEE SHEET 1 FOR SCHEMATIC.

NOTE:

ITEM	PART NO.	DESCRIPTION	SIZE	QTY

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE:
DECIMALS FRACTIONS ANGLES MATERIAL FINISHES
XX ±.01 ± ±
XXX ±

MATERIAL

FINISH

BREAK SHARP EDGES 45° CHAMFER OR RADIUS .010 MAX. YES NO

DRAWN	KLI 9-7-87
CHECKED	TO 10-27-87
ENGINEER	
DESIGN	
APPROVED	12/28/87

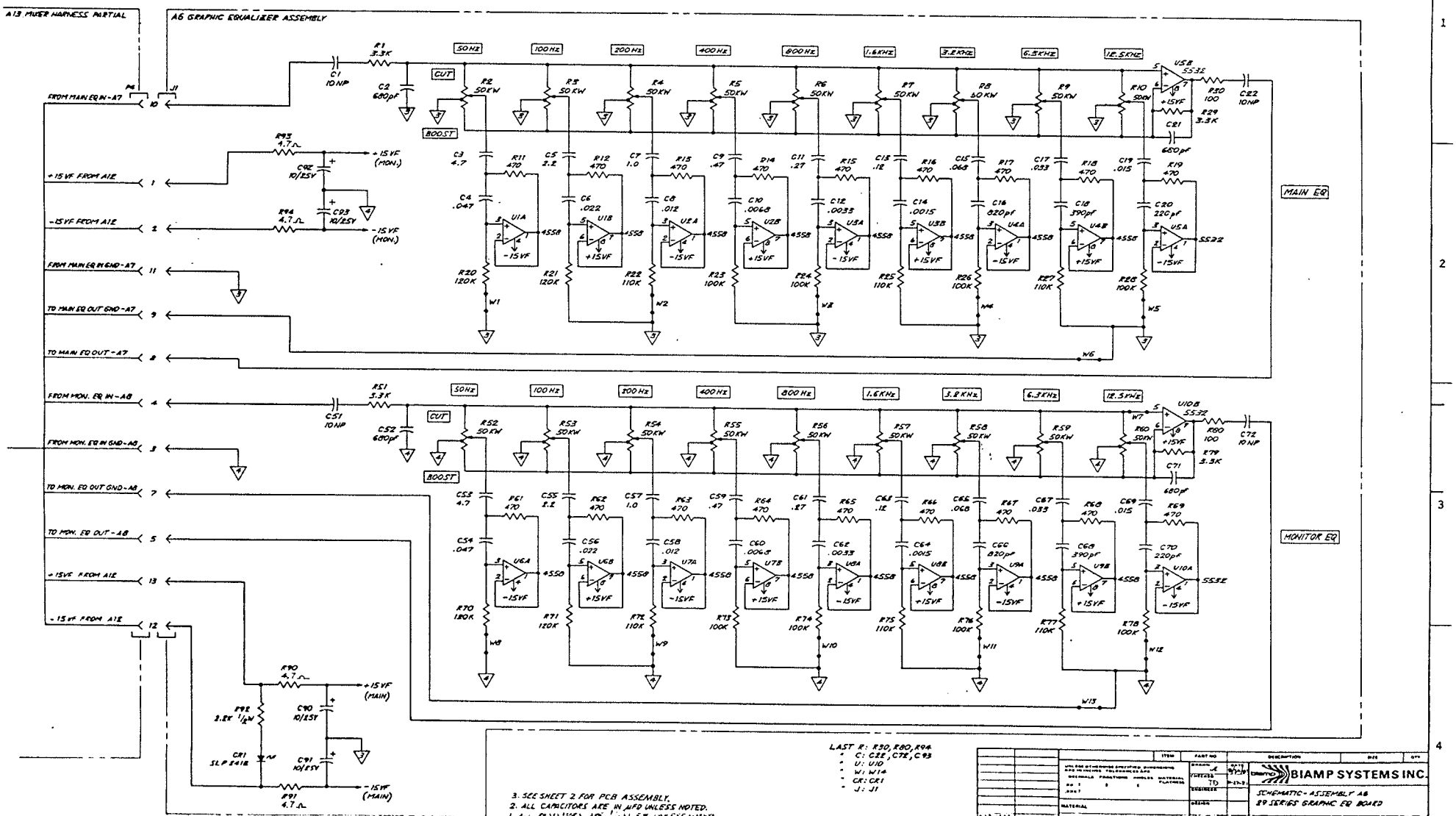
BIAMP SYSTEMS INC.

ASSEMBLY A6
29 SERIES GRAPHIC EQ BOARD

MODEL	NEXT DWG.
APPLICATION	

SIZE C | DWG. NO | REV C

SCALE 1:1 | DO NOT SCALE DRAWING | SHEET 2 OF 2


A13 MIXER HARNESS PARTIAL
A6 GRAPHIC EQUALIZER ASSEMBLY
FROM MAIN EQ IN - A7
+15VF FROM A1E
-15VF FROM A1E
FROM MAIN EQ IN GND - A7
TO MAIN EQ OUT GND - A7
TO MAIN EQ OUT - A7
FROM MON. EQ IN - A8
FROM MON. EQ IN GND - A8
TO MON. EQ OUT GND - A8
TO MON. EQ OUT - A8
+15VF FROM A1E
-15VF FROM A1E
50HZ
100HZ
200HZ
400HZ
800HZ
1.6KHZ
3.2KHZ
6.3KHZ
12.5KHZ
CUT
BOOST
MAIN EQ
MONITOR EQ
+15VF (MON.)
-15VF (MON.)
+15VF (MAIN)
-15VF (MAIN)
5532
5522
4558
W1
W2
W3
W4
W5
W6
W7
W8
W9
W10
W11
W12
W13
3. SEE SHEET 2 FOR PCB ASSEMBLY.
2. ALL CAPACITORS ARE IN μFD UNLESS NOTED.
1. ALL RESISTORS ARE 1/4 W, 5% UNLESS NOTED.
NOTES:
LAST R: R30, R80, R94
" C: C22, C72, C93
" U: U10
" W: W14
" CR: CR1
" J: J1
BIAMP SYSTEMS INC.
SCHEMATIC - ASSEMBLY A6
89 SERIES GRAPHIC EQ BOARD
SHEET 1 OF 2

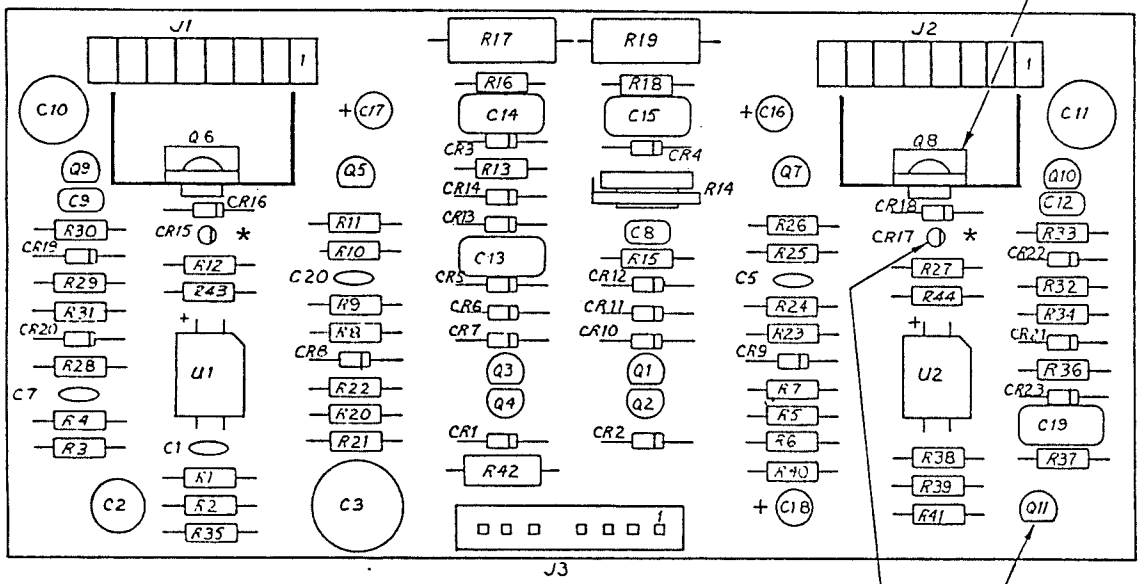
REV.	E.C.O.	CHANGE	DATE	BY
C	116-6/117-6	ADDED R43 & R44	11/81	JL

J1 PIN ASSIGNMENTS

1. OUTPUT
2. THERMAL RESISTOR - TS
3. THERMAL RESISTOR - T
4. + VI SENSE
5. + DRIVE/BIAS
6. + Vcc 1
7. + Vcc 2
8. + Vcc 1

J2 PIN ASSIGNMENTS

1. GROUND
2. - Vcc 1
3. - Vcc 2
4. - Vcc 2
5. OUTPUT
6. - VI SENSE
7. - DRIVE/BIAS
8. BIAS



HEIGHT (FROM BOARD TO TOP OF TRANSISTOR HEAT SINK) TO BE 7/8" MAX. (FOR Q6 & Q8)

HEIGHT (FROM BOARD TO TOP OF CASE) TO BE 3/8". (FOR Q1-Q5, Q7, Q9-Q11)

HEIGHT (FROM BOARD TO TOP OF LED) TO BE 5/8". (FOR CR19 & CR17)

J3 PIN ASSIGNMENTS

1. FILTERED LED CONTROL VOLTAGE
2. LED REFERENCE GROUND
3. FAST OFF CONTROL
4. + Vcc 1 LED REFERENCE VOLTAGE
5. VOID (- DC INPUT)
6. + DC INPUT
7. INPUT GROUND
8. SIGNAL INPUT

* CR15 & CR17 replaced with 1N5226B (3.3v Zener) with reversed polarity.

2. ALL COMPONENTS TO BE FULLY SEATED

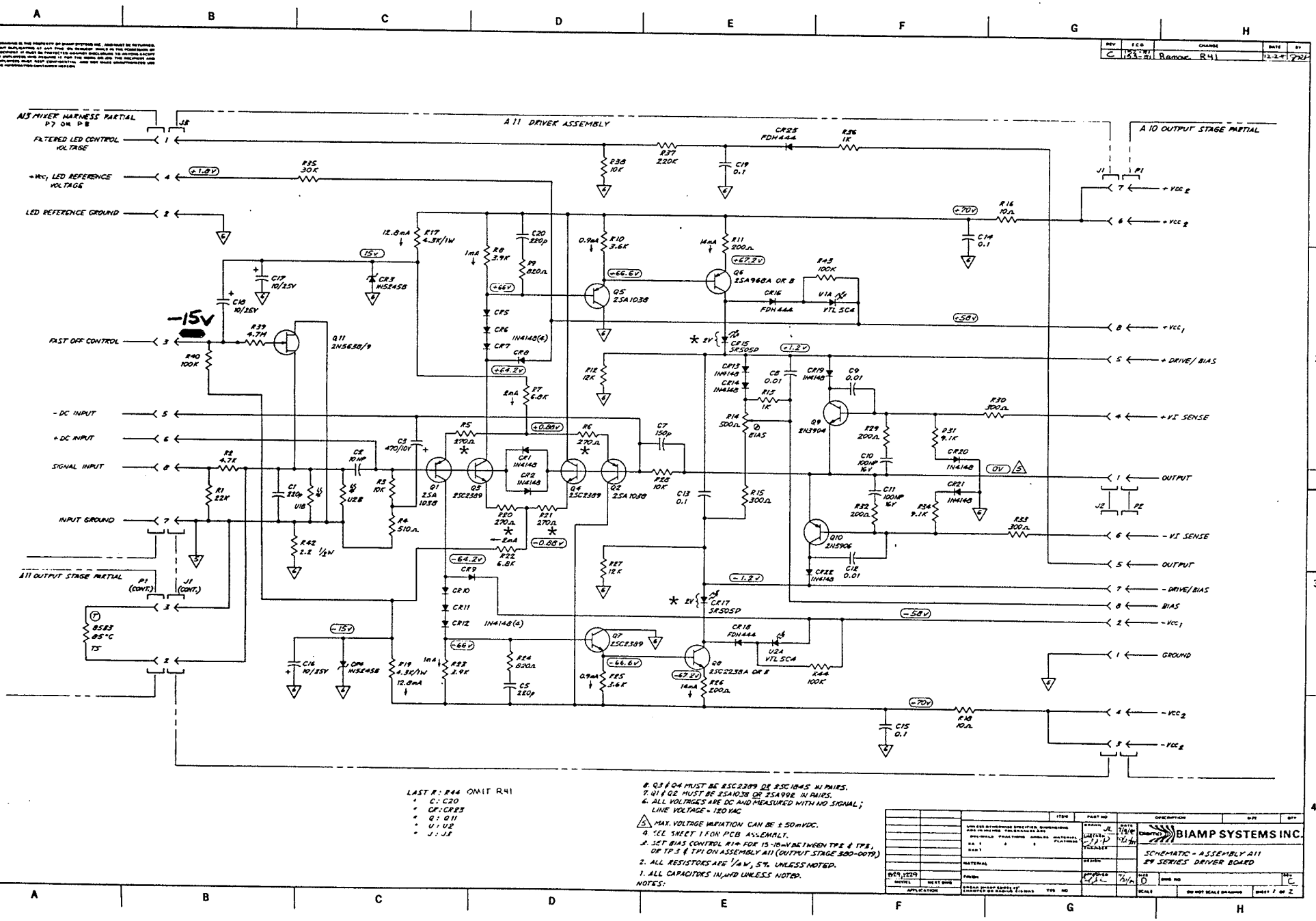
ITEM	PART NO.	DESCRIPTION	SIZE	QTY

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE:
DECIMALS FRACTIONS ANGLES MATERIAL FLATNESS
.XX ± ± ±
.XXX ±
MATERIAL

DRAWN JO 8/25/81
CHECKED TP 11/13/81
ENGINEER
DESIGN

BIAMP SYSTEMS INC.

ASSEMBLY A11
29 SERIES DRIVER BOARD



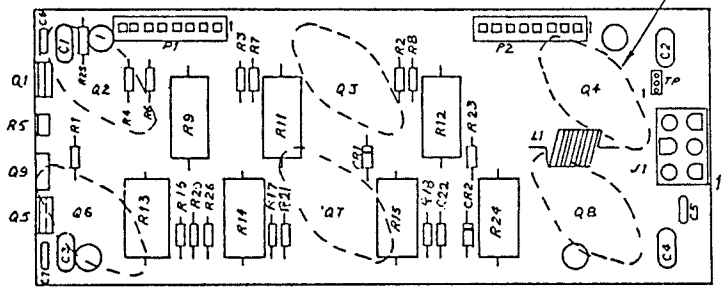
* CR15 & CR17 changed to 1N5226B 3.3v Zener (reversed polarity).
* R5, R6, R20, R21 changed to 30 ohm (reduced THD).

REV.	E.C.O.	CHANGE	DATE	BY

P1 PIN ASSIGNMENTS
1. OUTPUT
2. THERMAL RESISTOR - TS
3. THERMAL RESISTOR - T
4. + VI SENSE
5. + DRIVE / BIAS
6. + Vcc 2
7. + Vcc 2
8. + Vcc 1

P2 PIN ASSIGNMENTS
1. GROUND
2. - Vcc 1
3. - Vcc 2
4. - Vcc 2
5. OUTPUT
6. - VI SENSE
7. - DRIVE / BIAS
8. BIAS

HAND ADD SOCKETS ON BACK OF BOARD AT TIME OF AMP MODULE ASSEMBLY.



J1 PIN ASSIGNMENTS
1. - Vcc 2
2. AMP GROUND
3. + Vcc 2
4. - Vcc 1
5. AMP OUT
6. + Vcc 1

NOTE :
1. SEE SHEET 1 FOR SCHEMATIC.
2. ALL COMPONENT TO BE FULLY SEATED DOWN ON BOARD.

ITEM	PART NO.	DESCRIPTION	SIZE	QTY

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE:
DECIMALS .XX ± .2 .XXX ± .2 FRACTIONS ± 2 ANGLES ± 2 MATERIAL FLATNESS

DRAWN JL 6-11-81
CHECKED TD
ENGINEER
DESIGN
MATERIAL
FINISH
APPROVED 9/24/81

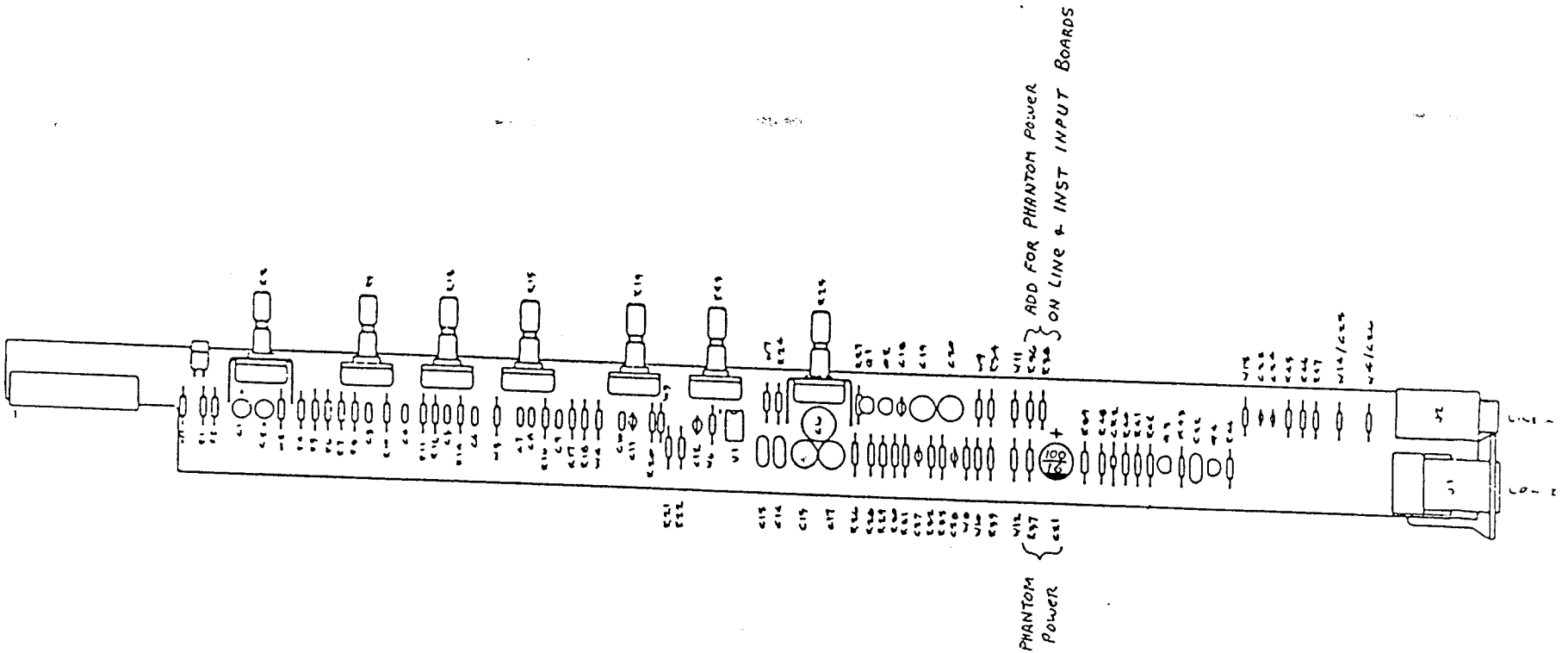
BREAK SHARP EDGES .01" CHAMFER OR RADIUS .010 MAX. YES NO

BIAMP SYSTEMS INC.

ASSEMBLY A 10
29 SERIES OUTPUT STAGE BOARD

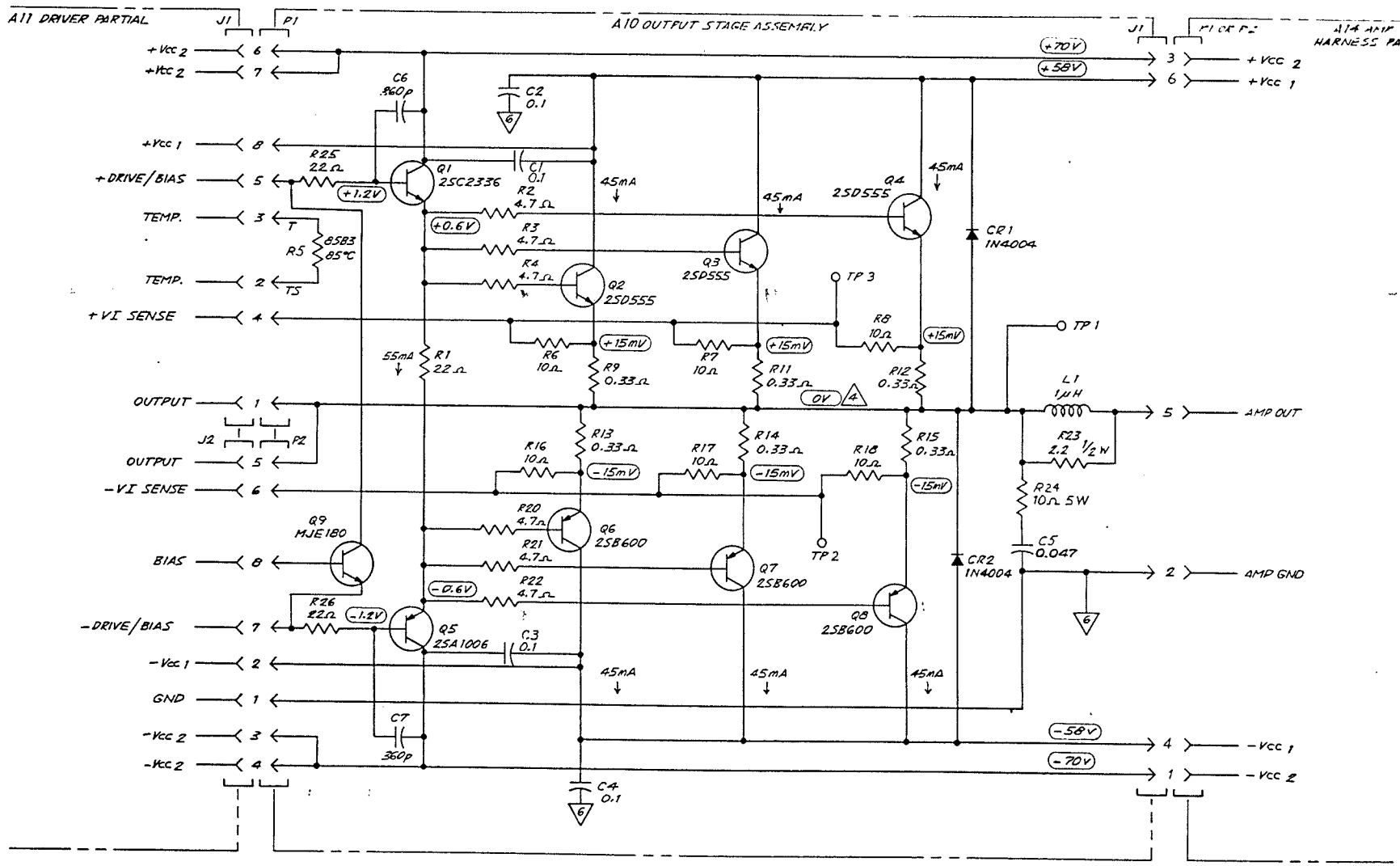
SIZE C DWG. NO. REV. A
SCALE DO NOT SCALE DRAWING SHEET 2 OF 2

829, 1229
MODEL NEXT DWG.
APPLICATION



29. INPUT BOARD
COMPONENT LAYOUT

REV.	E.C.O.	CHANGE	DATE	BY



LAST R: R26
- C: C7
- CR: CR2
- Q: Q9
- L: L1
- J: J1
- P: P2

5. ALL VOLTAGES ARE DC AND MEASURED WITH NO SIGNAL; LINE VOLTAGE = 120 VAC.
4. MAX. VOLTAGE VARIATION CAN BE ± 50mVDC.
3. SEE SHEET 2 FOR PCB ASSEMBLY.
2. ALL RESISTORS ARE 1/4 W, 5% UNLESS NOTED.
1. ALL CAPACITORS IN µFD UNLESS NOTED.

NOTES:

ITEM	PART NO.	DESCRIPTION	SIZE	QTY

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE:
DECIMALS FRACTIONS ANGLES MATERIAL FLATNESS
.XX ± ± ±
.XXX ±

MATERIAL
FINISH
BREAK SHARP EDGES 45° CHAMFER OR RADIUS .010 MAX. YES NO

DRAWN	JL	7/10/81
CHECKED	TD	10-27-81
ENGINEER		
DESIGN		
APPROVED	Carl Wilmer	10/27/81

BIAMP SYSTEMS INC.

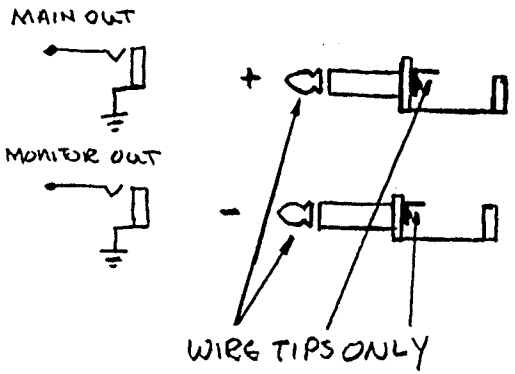
SCHEMATIC - ASSEMBLY A10
29 SERIES OUTPUT STAGE BOARD

879,1229	
MODEL	NEXT DWG.
APPLICATION	

SIZE C | DWG NO. | REV. A
SCALE | DO NOT SCALE DRAWING | SHEET 1 OF 3

29 SERIES MONO-BRIDGE WIRING DIAGRAM (REVISED)

6/26/89
W.L.R.



OPEN: STEREO
CLOSED: MONO-BRIDGED

10K 4W INLINE W/ HEAT-SHRINK

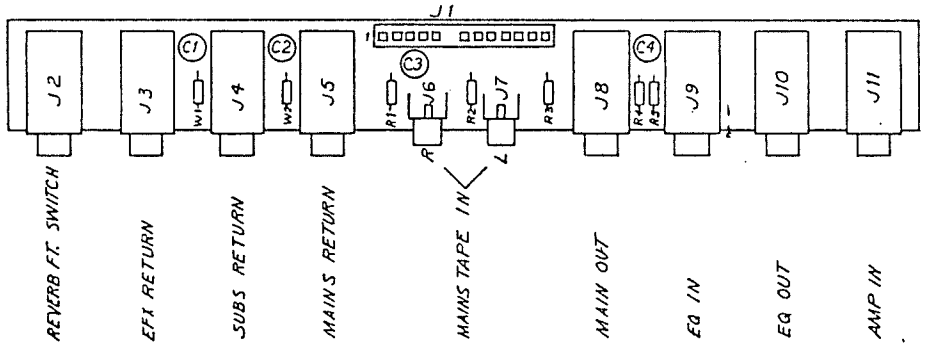
MAIN AMP

MONITOR AMP

REV.	E.C.O.	CHANGE	DATE	BY

J1 PIN ASSIGNMENTS

1. TO REMS RETURN A4
2. TO EFFECTS RETURN A4
3. FROM REVERB PICKUP A5
4. TO MAINS RETURN A5
5. COMMON TO MAIN AMP A11
6. VOID
7. TO MAIN AMP A11
8. COMMON TO A6
9. COMMON FROM A6
10. FROM MAIN EQ A6
11. TO MAIN EQ IN A6
12. COMMON FROM A8
13. FROM MAIN OUT A3



2. ALL COMPONENTS TO BE FULLY SEATED DOWN ON BOARD.

1. SEE SHEET 1 FOR SCHEMATIC

NOTES:

ITEM	PART NO.	DESCRIPTION	SIZE	QTY

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES, TOLERANCES ARE:
DECIMALS FRACTIONS ANGLES MATERIAL FLATNESS
.XX ± .1 ± 2 ± 2
.XXX ± .2

MATERIAL

FINISH

BREAK SHARP EDGES .45° CHAMFER OR RADIUS .010 MAX. YES NO

MODEL | NEXT DWG.

APPLICATION

DRAWN	AJ	11/5/11
CHECKED	TD	11/28/11
ENGINEER		
DESIGN		
APPROVED		11/28/11

BIAMP SYSTEMS INC.

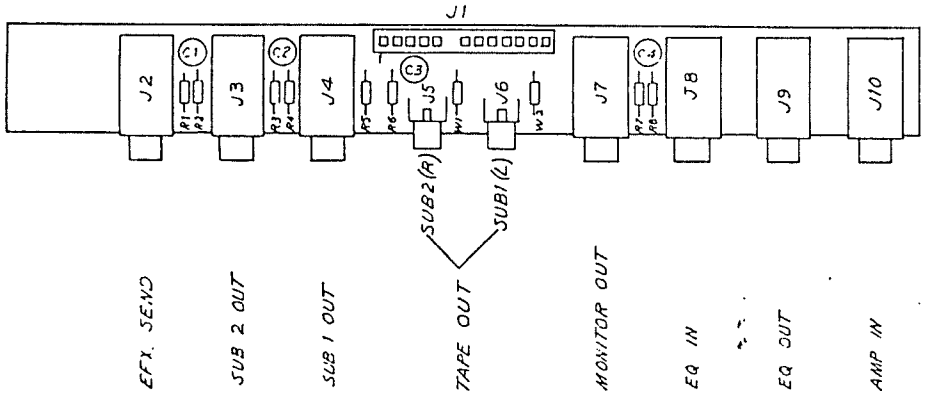
ASSEMBLY A7
29 SERIES MAIN JACK BOARD

SIZE C | DWG NO. | REV B

SCALE 1:1 | DO NOT SCALE DRAWING | SHEET 2 OF 2

REV.	E.C.O.	CHANGE	DATE	BY

J1 PIN ASSIGNMENTS
1. FROM SUB 2 A8
2. FROM EFFECTS SEND A4
3. BLANK
4. FROM SUB 1 A3
5. COMMON TO MON. AMP A11
6. VOID
7. TO MON. AMP A11
8. COMMON TO A6
9. COMMON FROM A6
10. FROM MON. EQ A6
11. TO MON. EQ IN A6
12. COMMON FROM A12
13. FROM MON. OUT A3



2. ALL COMPONENTS TO BE FULLY SEATED DOWN ON BOARD.

1. SEE SHEET 1 FOR SCHEMATIC

NOTE :

ITEM	PART NO.	DESCRIPTION	SIZE	QTY

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE:
DECIMALS FRACTIONS ANGLES MATERIAL FLATNESS
.XX ± .XXX ±

MATERIAL

FINISH

BREAK SHARP EDGES .01" CHAMFER OR RADIUS .010 MAX. YES NO

MODEL | NEXT DWG.

APPLICATION

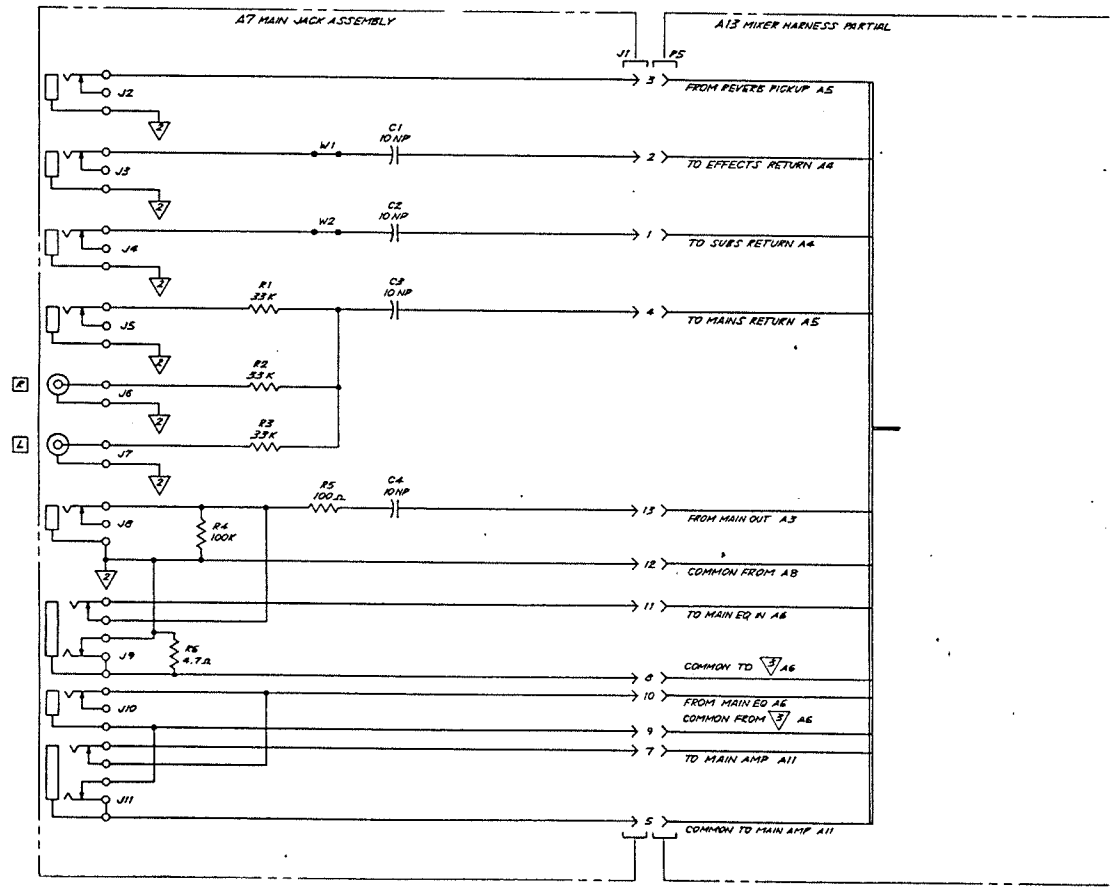
DRAWN	JD	9/21/11
CHECKED	TD	9/22/11
ENGINEER		
DESIGN		

BIAMP SYSTEMS INC.

ASSEMBLY A8
29 SERIES MONITOR JACK BOARD

SIZE C | DWG NO. | REV B

SCALE 1:1 | DO NOT SCALE DRAWING | SHEET 2 OF 2



LAST #: R6
" C: C4
" W: W2
" J: J11

NOTES:
1. ALL CAPACITORS IN MFD UNLESS NOTED.
2. ALL RESISTORS ARE 1/4 W, 5% UNLESS NOTED.
3 SEE SHEET 2 FOR PCB ASSEMBLY.

REV.	E.C.O.	CHANGE	DATE	BY

ITEM	PART NO.	DESCRIPTION	SIZE	QTY

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE: DECIMALS FRACTIONS ANGLES MATERIAL FINISH

DRAWN JK 7-6-84
CHECKED TD 10-12-84
ENGINEER
APPROVED 7/16

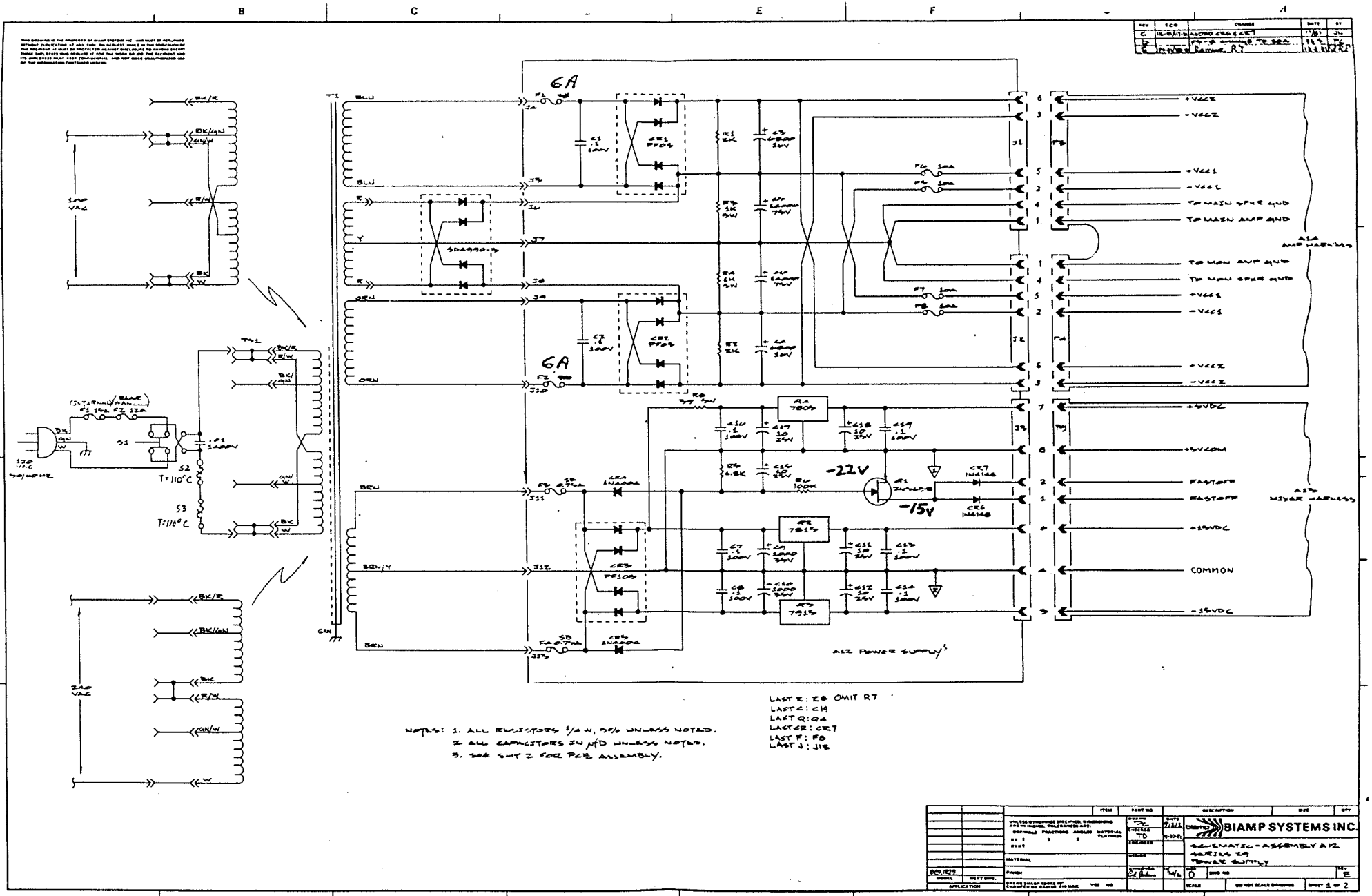
MATERIAL
FINISH

824, 1624
MODEL NEXT DWG
APPLICATION
USED ON NEXT ASSY
YES NO

BIAMP SYSTEMS INC.

SCHEMATIC - ASSEMBLY A7
E9 SERIES MAIN JACK BOARD

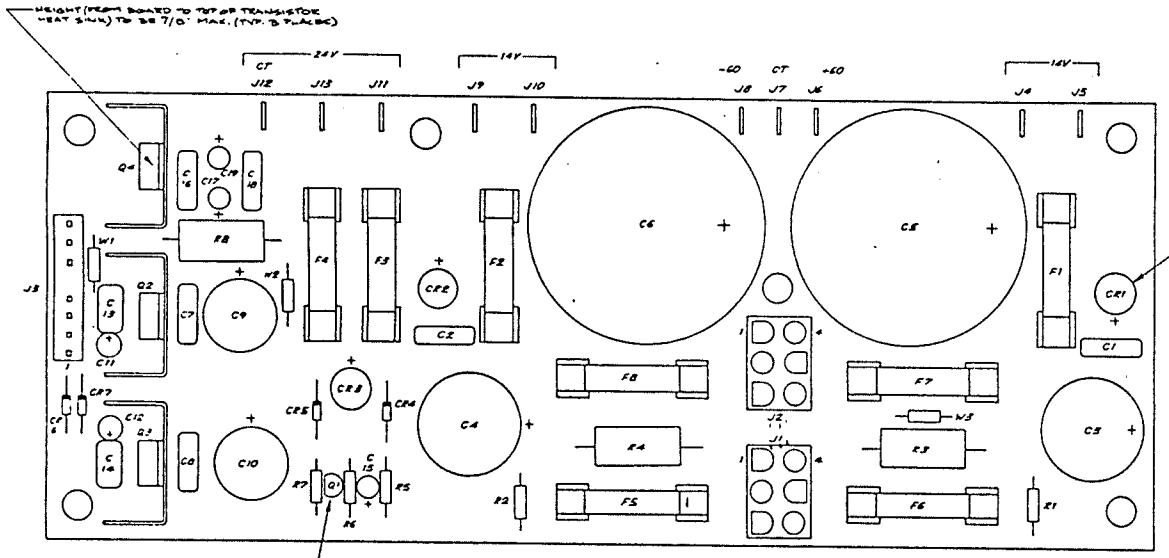
SIZE D DWG NO. REV B
SCALE DO NOT SCALE DRAWING SHEET 1 OF 2



NOTES: 1. ALL RESISTORS 1/4 W, 5% UNLESS NOTED.
2. ALL CAPACITORS IN MFD UNLESS NOTED.
3. SEE SHT 2 FOR PCB ASSEMBLY.

LAST E: E8 OMIT R7
LAST C: C19
LAST Q: Q4
LAST CR: CR7
LAST F: F8
LAST J: J18

BIAMP SYSTEMS INC.
SCHEMATIC - ASSEMBLY A12
MATRIX 8/4
POWER SUPPLY
SIZE D
REV E
SCALE
DO NOT SCALE DRAWING
SHEET 1 OF 2



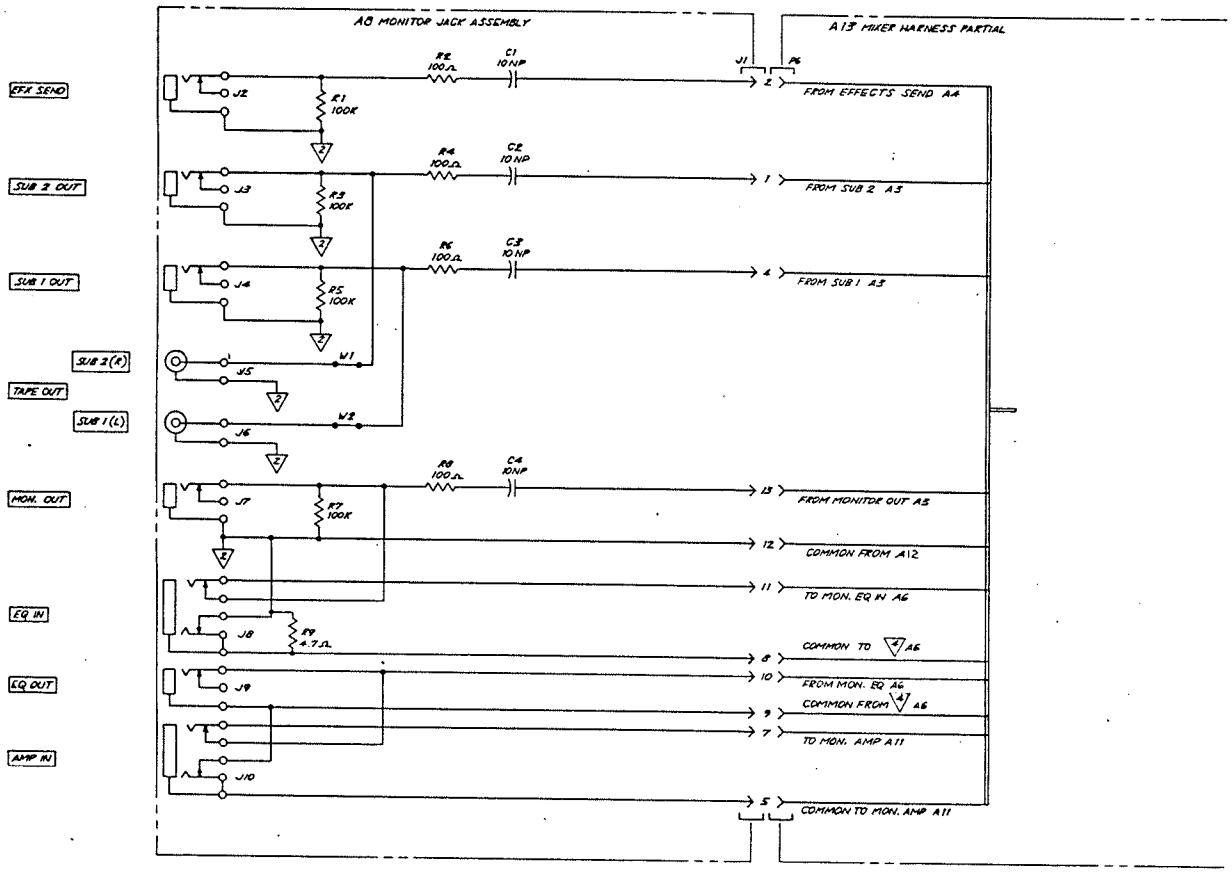
J3 PIN ASSIGNMENTS
1 FAULTSW
2 RAMSWITCH
3 -15VDC
4 COMMON
5 +15VDC
6 -15 VDC
7 +5 VDC
8 +5 V COM

J2 PIN ASSIGNMENTS
1. TO MONI. AMP GND
2. - VCC 1
3. - VCC 2
4. TO MONI. STRAUSS GND
5. + VCC 1
6. + VCC 2

J1 PIN ASSIGNMENTS
1. TO MAIN AMP GND
2. - VCC 1
3. - VCC 2
4. TO MAIN STRAUSS GND
5. + VCC 1
6. + VCC 2

NOTES
1. ALL COMPONENTS TO BE FULL SEATED DOWN ON BOARD EXCEPT AS NOTED.
2. SEE SHEET 1 FOR SCHEMATIC

BIAMP SYSTEMS INC.
ASSEMBLY #12
BY 3SC85 POWER SUPPLY BOARD



LAST #: R9
" C: C4
" W: W2
" J: J10

NOTES:
1. ALL CAPACITORS IN µFD UNLESS NOTED.
2. ALL RESISTORS ARE 1/4 W, 5% UNLESS NOTED.
3. SEE SHEET 2 FOR PCB ASSEMBLY.

REV	ECO	CHANGE	DATE

ITEM	PART NO	DESCRIPTION	SIZE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE:
DECIMALS FRACTIONS ANGLES MATERIAL FINISH
.XX ± .X ± .X ±
.XXX ±

DRAWN JL 7/8/81
CHECKED TD 8-27-81
ENGINEER
DESIGN
MATERIAL
FINISH
APPROVED 9/4/81

CRYSTAL BIAMP SYSTEMS INC

SCHEMATIC - ASSEMBLY A8
29 SERIES MONITOR JACK PANEL

SIZE D DWG NO
SCALE DO NOT SCALE DRAWING SHEET 1 OF 2

029,1229
MODEL NEXT DWG
APPLICATION

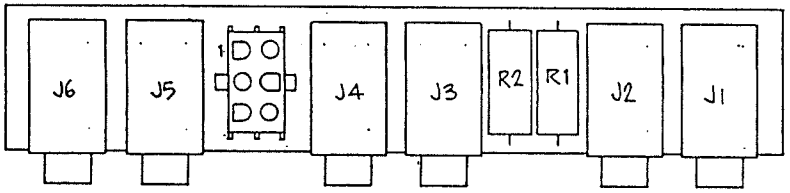
USED ON NEXT ASSY OR CHAPTER OR RADIUS THIS DWG YES NO

A | B | C | D

REV.	E.C.O.	CHANGE	DATE	BY

J7 PIN ASSIGNMENTS
1. FROM MAIN AMP OUT A10
2. BLANK
3. MAIN AMP GND A12
4. FROM MON. AMP OUT A10
5. BLANK
6. MON. AMP GND A12

MATES WITH P5 OF A14
AMP HARNESS
J7



2. ALL COMPONENTS TO BE FULLY SEATED DOWN ON BOARD.
1. REFER TO SHEET 1 FOR SCHEMATIC DIAGRAM.

NOTES:

ITEM	PART NO.	DESCRIPTION	SIZE	QTY

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE:
DECIMALS FRACTIONS ANGLES MATERIAL FLATNESS
.XX ± ± ±
.XXX ±

MATERIAL

FINISH

BREAK SHARP EDGES 45° CHAMFER OR RADIUS .010 MAX. YES NO

MODEL | NEXT DWG.
APPLICATION

		DATE
DRAWN	JL	9/2/81
CHECKED	TD	10/28/81
ENGINEER		
DESIGN		
APPROVED		10/28/81

biamp BIAMP SYSTEMS INC.

ASSEMBLY A9
29 SPEAKER JACK PC BRD

SIZE B | DWG. NO. | REV A

SCALE 1:1 | DO NOT SCALE DRAWING | SHEET 2 OF 2

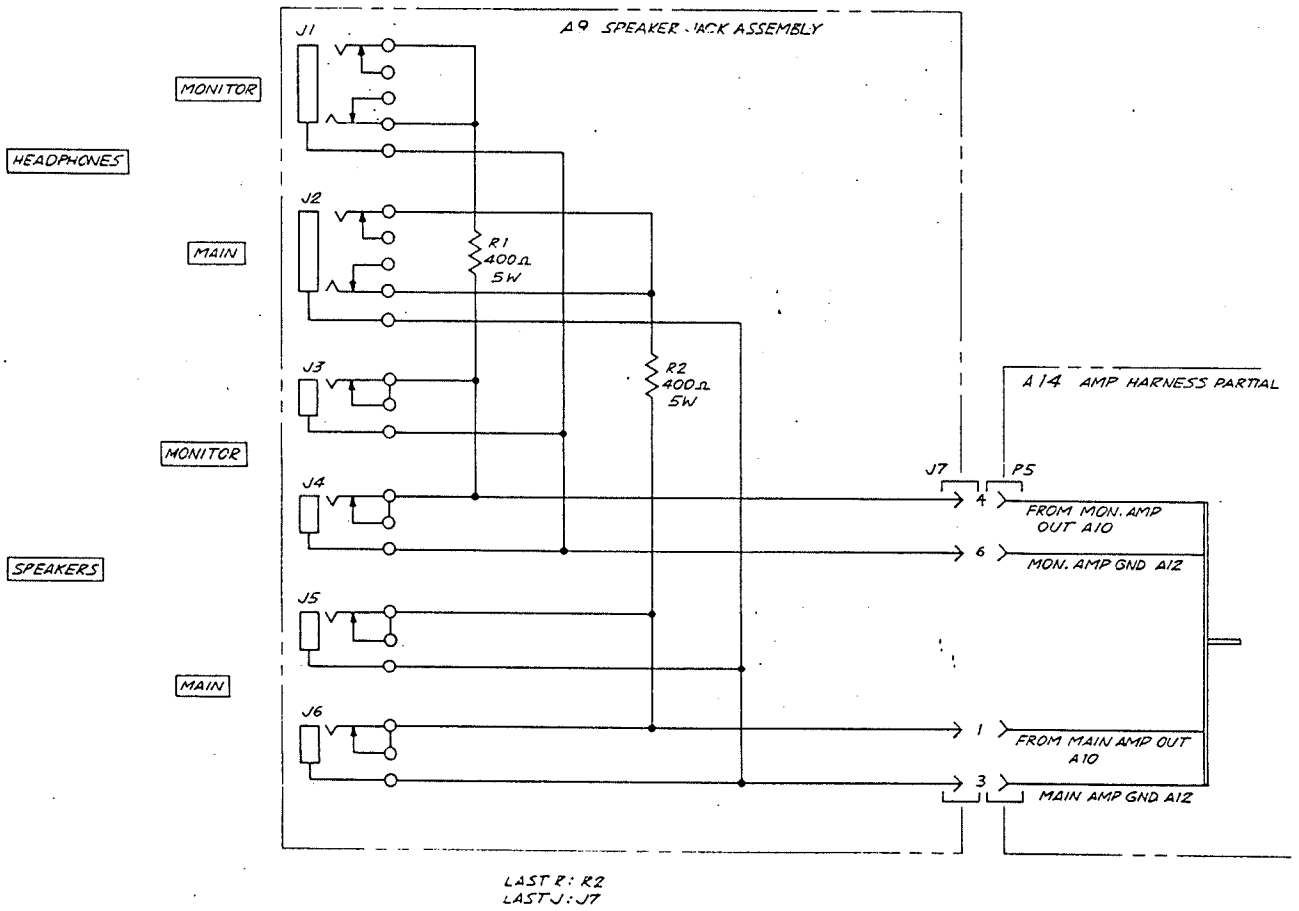
1

2

A | B | C | D

25

REV.	E.C.O.	CHANGE	DATE	BY



LAST R: R2
LAST J: J7

NOTE :
1. SEE SHEET 2 FOR PCB ASSEMBLY.

ITEM	PART NO.	DESCRIPTION	SIZE	QTY.

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE:
DECIMALS FRACTIONS ANGLES MATERIAL FLATNESS
.XX ± ± ±
.XXX ±

MATERIAL
FINISH
BREAK SHARP EDGES 45° CHAMFER OR RADIUS .010 MAX. YES NO

DRAWN	JL
CHECKED	TD
ENGINEER	
DESIGN	
APPROVED	
DATE	9/1/81

MODEL | NEXT DWG.
APPLICATION

BIAMP SYSTEMS INC.

SCHEMATIC - ASSEMBLY A9
29 SERIES SPEAKER JACK BOARD

SIZE C | DWG. NO. | REV. A
SCALE | DO NOT SCALE DRAWING | SHEET 1 OF 2