



1200W into 4 ohms per channel



# ***SERVICE MANUAL***

TYPE: YS1026

## **A4.4**

**WEB ACCESS:** <http://www.yorkville.com>

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**Quality and Innovation Since 1963**  
Printed in Canada

## IMPORTANT SAFETY INSTRUCTIONS



**INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS.**

**INSTRUCTIONS RELATIVES AU RISQUE DE FEU, CHOC ÉLECTRIQUE, OU BLESSURES AUX PERSONNES.**

### **CAUTION:**

**TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE.**

**REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**

### **AVIS:**

**AFIN DE REDUIRE LES RISQUE DE CHOC ELECTRIQUE, N'ENLEVEZ PAS LE COUVERT (OU LE PANNEAU ARRIERE). NE CONTIENT AUCUNE PIECE REPARABLE PAR L'UTILISATEUR.**

**CONSULTEZ UN TECHNICIEN QUALIFIE POUR L'ENTRETIEN.**

### **Read Instructions:**

The *Owner's Manual* should be read and understood before operation of your unit. Please, save these instructions for future reference.

### **Packaging:**

Keep the box and packaging materials, in case the unit needs to be returned for service.

### **Warning:**

When using electric products, basic precautions should always be followed, including the following:

#### **Power Sources:**

Your unit should be connected to a power source only of the voltage specified in the owners manual or as marked on the unit. This unit has a polarized plug. Do not use with an extension cord or receptacle unless the plug can be fully inserted. Precautions should be taken so that the grounding scheme on the unit is not defeated.

#### **Hazards:**

Do not place this product on an unstable cart, stand, tripod, bracket or table. The product may fall, causing serious personal injury and serious damage to the product. Use only with cart, stand, tripod, bracket, or table recommended by the manufacturer or sold with the product. Follow the manufacturer's instructions when installing the product and use mounting accessories recommended by the manufacturer.

The apparatus should not be exposed to dripping or splashing water; no objects filled with liquids should be placed on the apparatus.

Terminals marked with the "lightning bolt" are hazardous live; the external wiring connected to these terminals require installation by an instructed person or the use of ready made leads or cords.

No naked flame sources, such as lighted candles, should be placed on the apparatus.

#### **Power Cord:**

The AC supply cord should be routed so that it is unlikely that it will be damaged. If the AC supply cord is damaged **DO NOT OPERATE THE UNIT.**

#### **Service:**

The unit should be serviced only by qualified service personnel.

### **Veillez lire le manuel:**

Il contient des informations qui devraient étre comprises avant l'opération de votre appareil. Conservez S.V.P. ces instructions pour consultations ultérieures

### **Emballage:**

Conservez la boîte au cas où l'appareil devait étre retourner pour réparation.

### **Attention:**

Lors de l'utilisation de produits électrique, assurez-vous d'adhérer à des précautions de bases incluant celle qui suivent:

#### **Alimentation:**

L'appareil ne doit étre branché qu'à une source d'alimentation correspondant au voltage spécifié dans le manuel ou tel qu'indiqué sur l'appareil. Cet appareil est équipé d'une prise d'alimentation polarisée. Ne pas utiliser cet appareil avec un cordon de raccordement à moins qu'il soit possible d'insérer complètement les trois lames. Des précautions doivent étre prises afin d'éviter que le système de mise à la terre de l'appareil ne soit désengagé.

#### **Risque:**

Ne pas placer cet appareil sur un chariot, un support, un trépied ou une table instables. L'appareil pourrait tomber et blesser quelqu'un ou subir des dommages importants. Utiliser seulement un chariot, un support, un trépied ou une table recommandés par le fabricant ou vendus avec le produit. Suivre les instructions du fabricant pour installer l'appareil et utiliser les accessoires recommandés par le fabricant.

Il convient de ne pas placer sur l'appareil de sources de flammes nues, telles que des bougies allumées.

L'appareil ne doit pas étre exposé à des égouttements d'eau ou des éclaboussures et qu'aucun objet rempli de liquide tel que des vases ne doit étre placé sur l'appareil.

Les dispositifs marqués d'une symbole "d'éclair" sont des parties dangereuses au toucher et que les câblages extérieurs connectés à ces dispositifs de connection extérieure doivent étre effectués par un opérateur formé ou en utilisant des cordons déjà préparés.

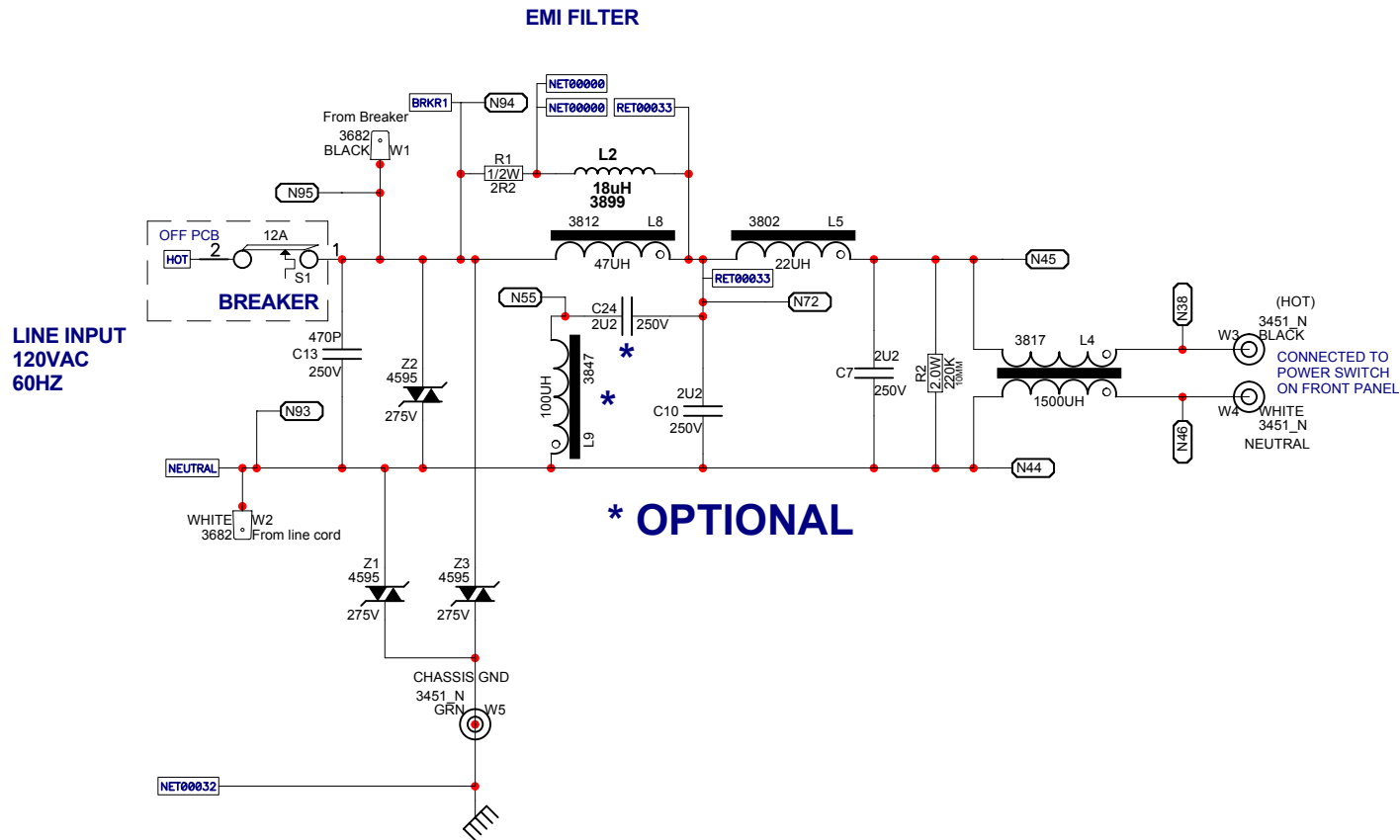
#### **Cordon d'alimentation:**

Évitez d'endommager le cordon d'alimentation. **N'UTILISEZ PAS L'APPAREIL** si le cordon d'alimentation est endommagé.

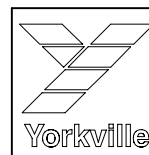
#### **Service:**

Consultez un technicien qualifié pour l'entretien de votre appareil.





| M1164 LINE FILTER FOR ( SMPS ) |              |       |                                      |
|--------------------------------|--------------|-------|--------------------------------------|
| MODEL(S):- A4.4 / A4.4CE       |              |       |                                      |
| #                              | DATE         | VER#  | DESCRIPTION OF CHANGE                |
| 1                              | AUG 28 2001  | V2.00 | Mounting NPH changed from 156 to 189 |
| 2                              | Sept 17 2001 | V2.00 | W3 & W4 changed from tab to eyelets  |
| 3                              | SEPT 17 2001 | V2.00 | L4,L5,L8 POLARITY SHOWN              |
| 4                              | OCT 04 2001  | V2.00 | ADD L2&R1 ACROSS L8                  |
| 5                              | JAN 24 2002  | V2.10 | pc#6497 ADD R2 ACROSS C7             |
| 6                              | D            | V     | N                                    |
| 7                              | D            | V     | N                                    |
| 8                              | D            | V     | N                                    |
| 9                              | D            | V     | N                                    |
| 10                             | D            | V     | N                                    |
| 11                             | D            | V     | N                                    |
| 12                             | D            | V     | N                                    |
| 13                             | D            | V     | N                                    |

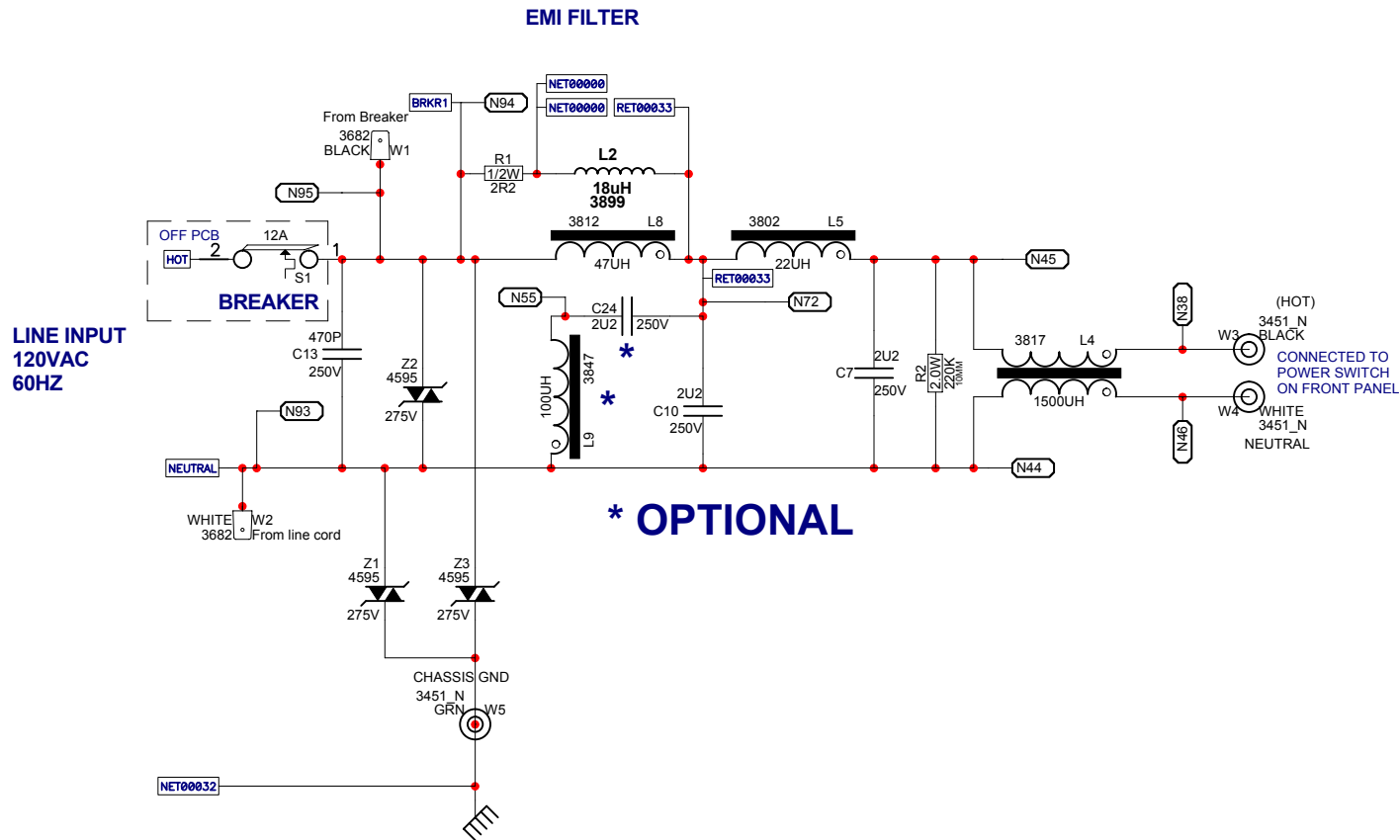


Product **{Drawing Number}**

EMI FILTER      PCB# M1164      Sheet 1 of 2

Date: Sat Feb 23, 2002      Rev: V2.10

Filename: M11642V1sch.SCH2001



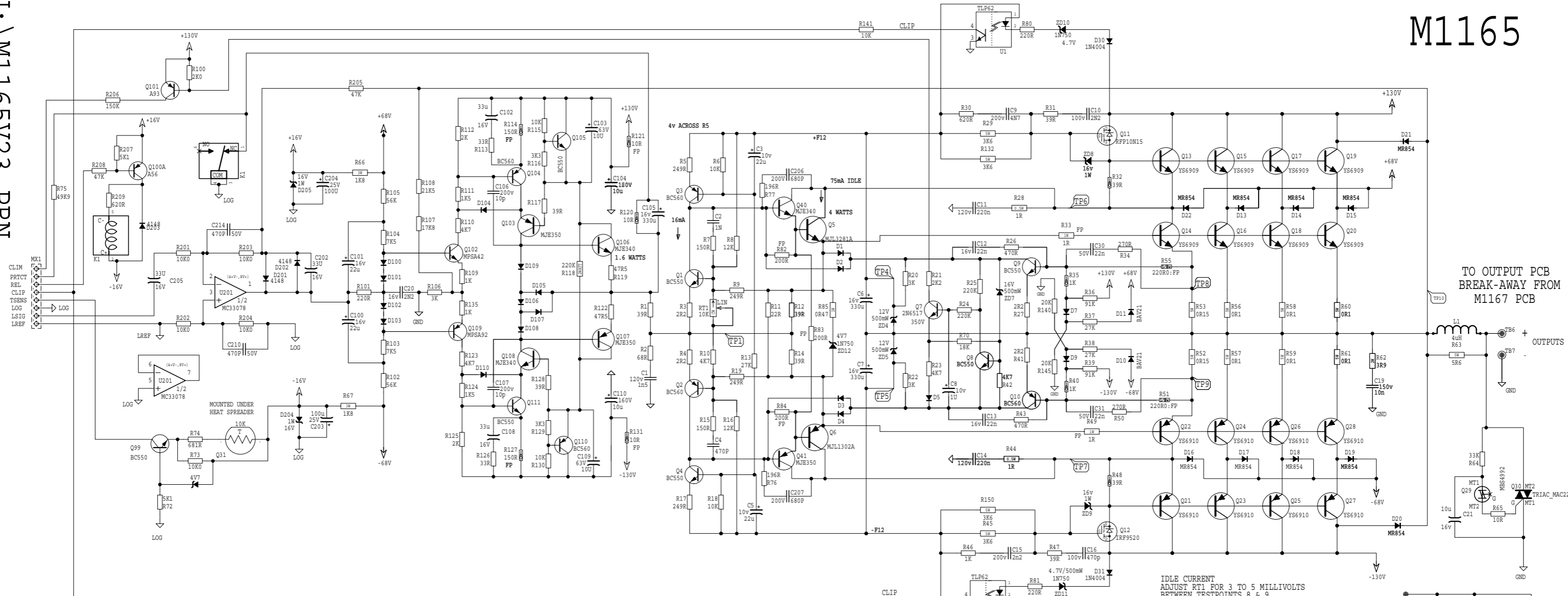
| M1164 LINE FILTER FOR ( SMPS ) |              |       |                                      |
|--------------------------------|--------------|-------|--------------------------------------|
| MODEL(S):- A4.4 / A4.4CE       |              |       |                                      |
| #                              | DATE         | VER#  | DESCRIPTION OF CHANGE                |
| 1                              | AUG 28 2001  | V2.00 | Mounting NPH changed from 156 to 189 |
| 2                              | Sept 17 2001 | V2.00 | W3 & W4 changed from tab to eyelets  |
| 3                              | SEPT 17 2001 | V2.00 | L4,L5,L8 POLARITY SHOWN              |
| 4                              | OCT 04 2001  | V2.00 | ADD L2&R1 ACROSS L8                  |
| 5                              | JAN 24 2002  | V2.10 | pc#6497 ADD R2 ACROSS C7             |
| 6                              | D            | V     | N                                    |
| 7                              | D            | V     | N                                    |
| 8                              | D            | V     | N                                    |
| 9                              | D            | V     | N                                    |
| 10                             | D            | V     | N                                    |
| 11                             | D            | V     | N                                    |
| 12                             | D            | V     | N                                    |
| 13                             | D            | V     | N                                    |



|                                 |            |              |
|---------------------------------|------------|--------------|
| Product <b>{Drawing Number}</b> |            |              |
| EMI FILTER                      | PCB# M1164 | Sheet 1 of 2 |
| Date: Sat Feb 23, 2002          |            | Rev: V2.10   |
| Filename: M11642V1sch.SCH2001   |            |              |

# M1165

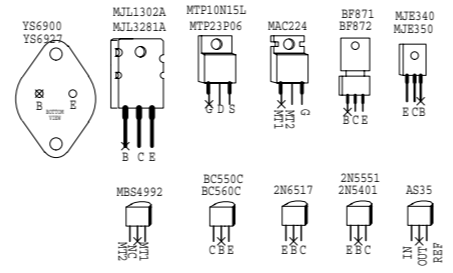
J:\M1165V23.PRN



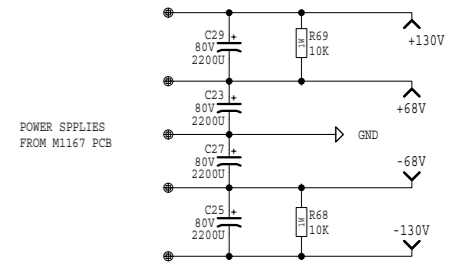
TO OUTPUT PCB  
BREAK-AWAY FROM  
M1167 PCB

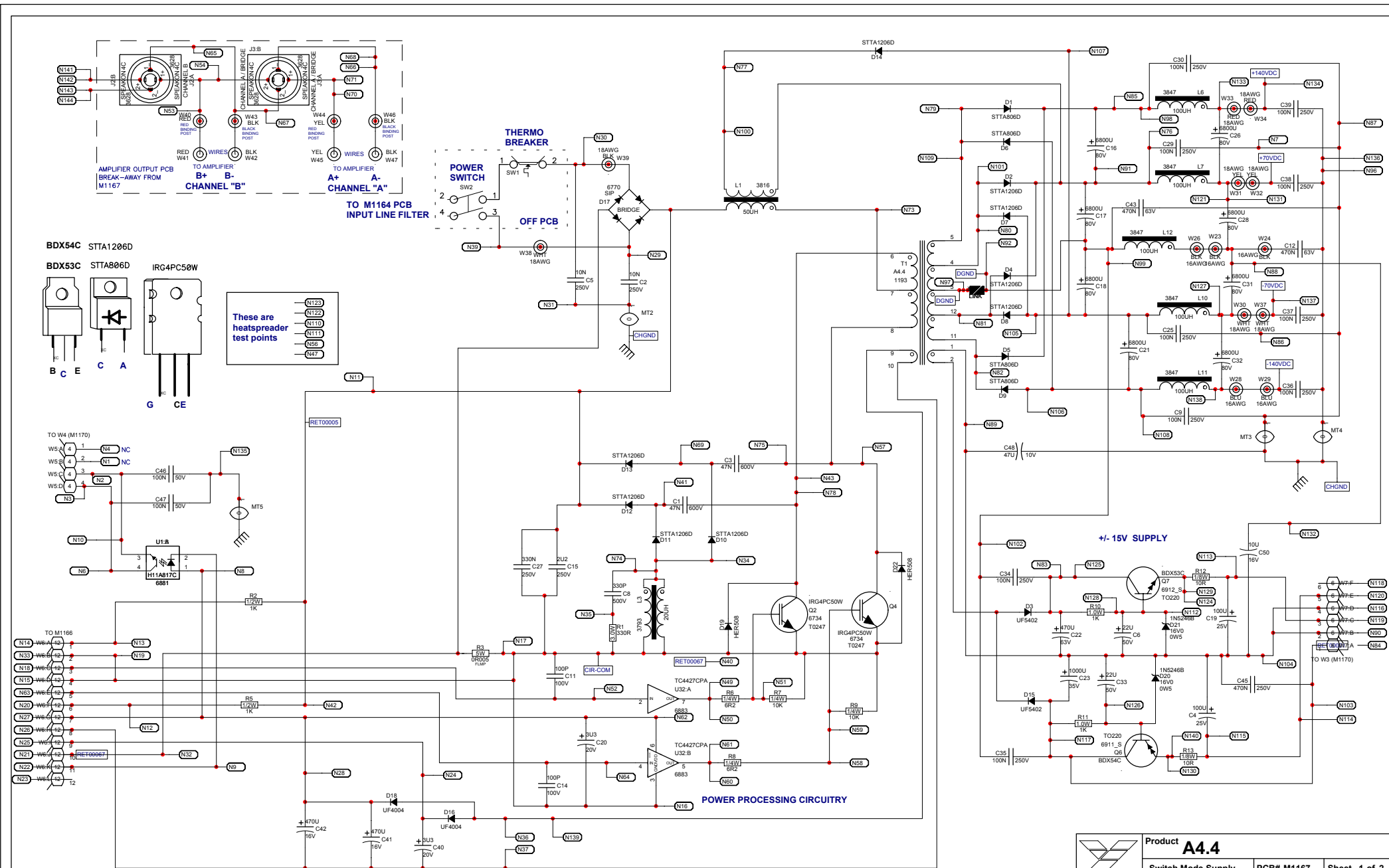
OUTPUTS

IDLE CURRENT  
ADJUST RT1 FOR 3 TO 5 MILLIVOLTS  
BETWEEN TESTPOINTS 8 & 9  
FP = FLAME PROOF



| M1165.SCH DATABASE HISTORY |           |       |   |
|----------------------------|-----------|-------|---|
| #                          | DATE      | VER#  | DESCRIPTION OF CHANGE                               |
| 1                          | SEP/05/01 | V2.00 | R72-->5K1, R66&R67-->1K8/3W                         |
| 2                          | SEP/05/01 | 2.00  | ADD 470R&220P ACROSS (BASE-EMITTER)                 |
| 3                          | D         | V     | Q40K041   |
| 4                          | OCT/18/01 | 2.00  | YS6900-->YS6909&YS6927-->YS6910                     |
| 5                          | JAN/21/02 | 2.10  | PC#6495 R76/R77 470R->196R<br>C206/C207 220P->5680P |
| 6                          | FEB/05/02 | 2.20  | PC#6510 ADD R141 @ U1                               |
| 7                          | FEB/12/02 | 2.30  | PC#6510 ADD R141 @ U1                               |
| 8                          | D         | V     | C23, 25, 27, 29 4700u->2200u                        |
| 9                          | D         | V     | N   |
| 10                         | D         | V     | N   |





BIAS SUPPLY

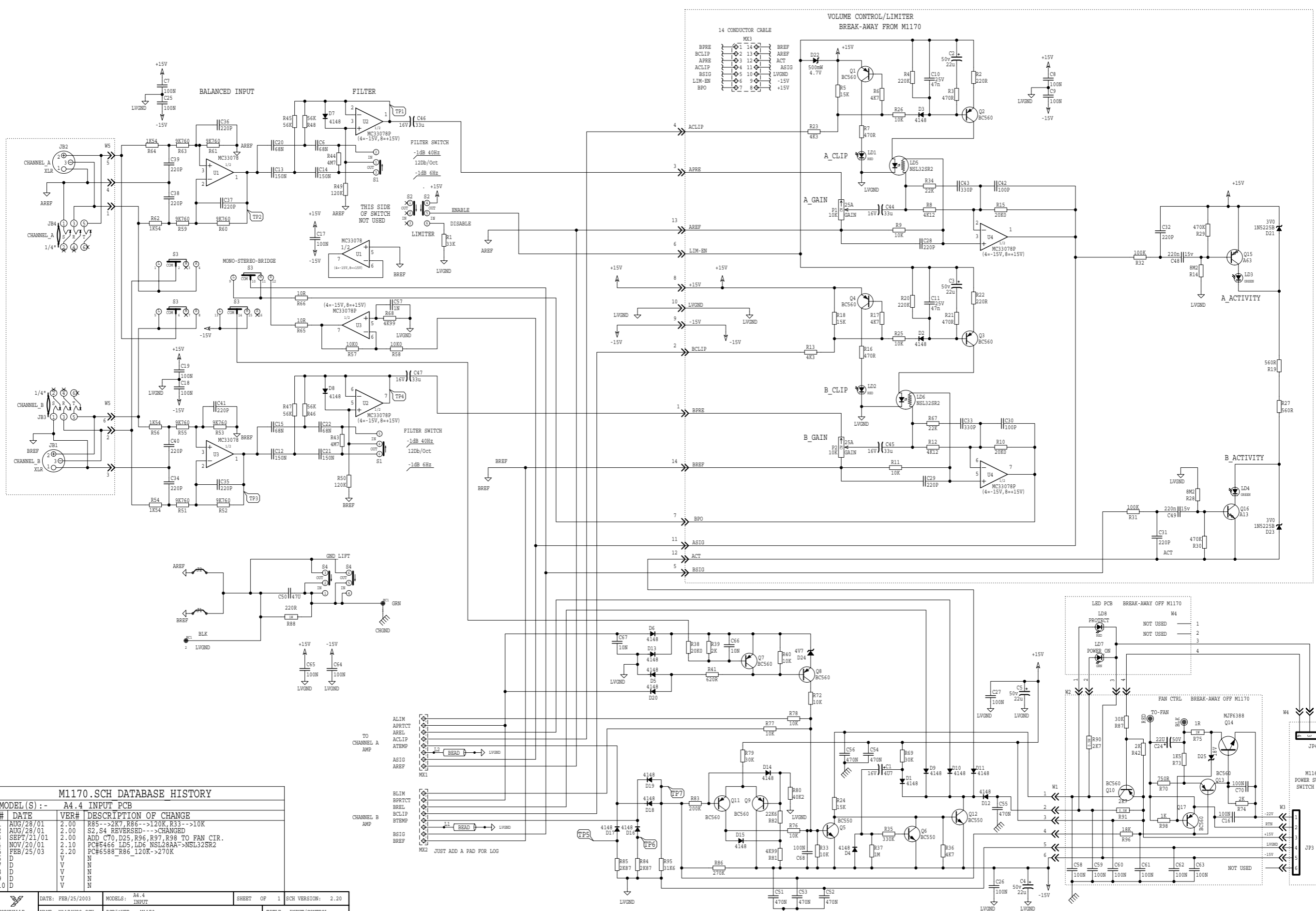
POWER PROCESSING CIRCUITRY

+/- 15V SUPPLY

NOTE: PRIMARY LINE IS LIVE  
DANGER HIGH VOLTAGE ON PRIMARY SIDE



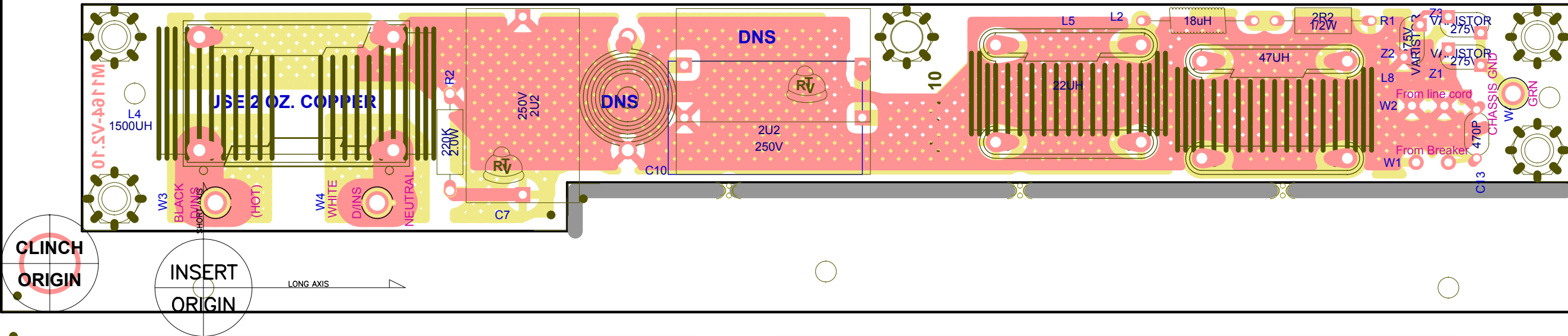
|                                 |            |              |
|---------------------------------|------------|--------------|
| Product <b>A4.4</b>             |            |              |
| Switch Mode Supply              | PCB# M1167 | Sheet 1 of 2 |
| Date: Tue Oct 07, 2003          | Rev: 2.20  |              |
| Filename: m1167 2V2 SCH.SCH2002 |            |              |



M1170.SCH DATABASE HISTORY

| #  | DATE       | VER# | DESCRIPTION OF CHANGE                   |
|----|------------|------|---|
| 1  | AUG/28/01  | 2.00 | R85-->2K7, R86-->120K, R33-->10K        |
| 2  | AUG/28/01  | 2.00 | S2, S4 REVERSED-->CHANGED               |
| 3  | SEPT/21/01 | 2.00 | ADD C70, D25, R96, R97, R98 TO FAN CIR. |
| 4  | NOV/20/01  | 2.10 | PC#6466 LD5, LD6 NSL28AA->NSL32SR2      |
| 5  | FEB/25/03  | 2.20 | PC#6588_R86_120K->270K                  |
| 6  | D          | V    | N                                       |
| 7  | D          | V    | N                                       |
| 8  | D          | V    | N                                       |
| 9  | D          | V    | N                                       |
| 10 | D          | V    | N                                       |





### M1164 LINE FILTER FOR ( SMPS )

MODEL(S):- A4.4 / A4.4CE

| #  | DATE         | VER#  | DESCRIPTION OF CHANGE                |
|----|--------------|-------|--------------------------------------|
| 1  | AUG 28 2001  | V2.00 | Mounting NPH changed from 156 to 189 |
| 2  | Sept 17 2001 | V2.00 | W3 & W4 changed from tab to eyelets  |
| 3  | SEPT 17 2001 | V2.00 | L4,L5,L8 POLARITY SHOWN              |
| 4  | OCT 04 2001  | V2.00 | ADD L2&R1 ACROSS L8                  |
| 5  | FEB 14 2002  | V2.1  | ADD R2 220K 2W ACROSS C7             |
| 6  | FEB 14 2002  | V2.1  | FIX HOLE SIZE FOR L5&L8              |
| 7  | FEB 14 2002  | V2.1  | FIX MASKING PROBLEM FOR R1&L2        |
| 8  | D            | V     | N                                    |
| 9  | D            | V     | N                                    |
| 10 | D            | V     | N                                    |
| 11 | D            | V     | N                                    |
| 12 | D            | V     | N                                    |
| 13 | D            | V     | N                                    |

### M1164 PENDING CHANGES

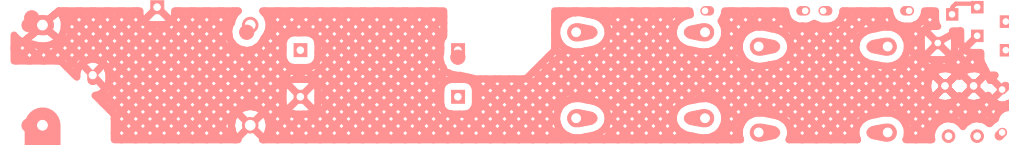
MODEL(S):- A4.4

| #  | PC# | PENDING CHANGE   |
|----|-----|--|
| 1  | PC  | Force update parts #4595, 5521, 3682 which have new pads that reduce the chance of shorting. |
| 2  | PC  |  |
| 3  | PC  | X  |
| 4  | PC  | X  |
| 5  | PC  | X  |
| 6  | PC  | X  |
| 7  | PC  | X  |
| 8  | PC  | X  |
| 9  | PC  | X  |
| 10 | PC  | X  |
| 11 | PC  | X  |
| 12 | PC  | X  |
| 13 | PC  | X  |

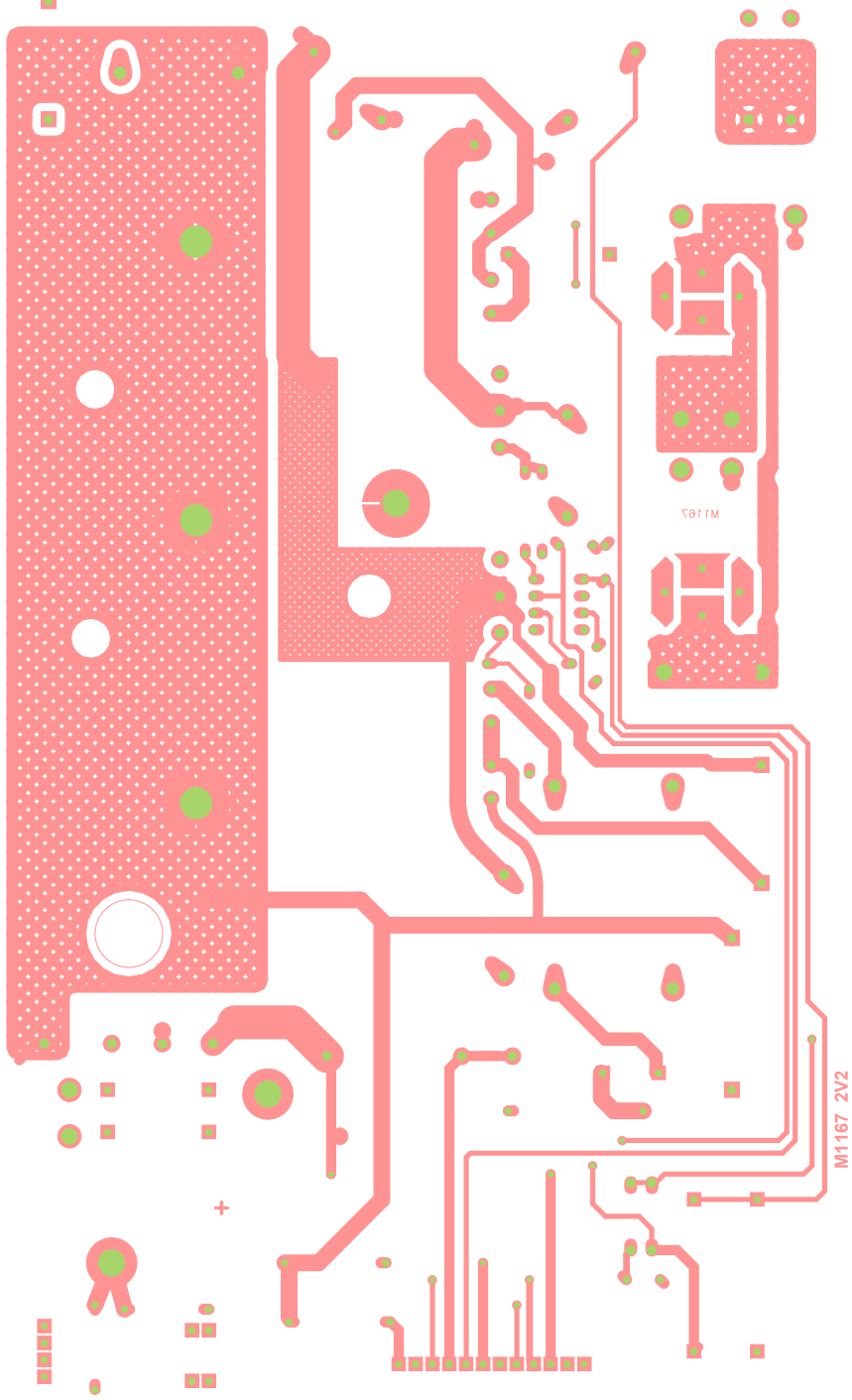
\*PLACE IMPLEMENTED CHANGES INTO BOARD HISTORY



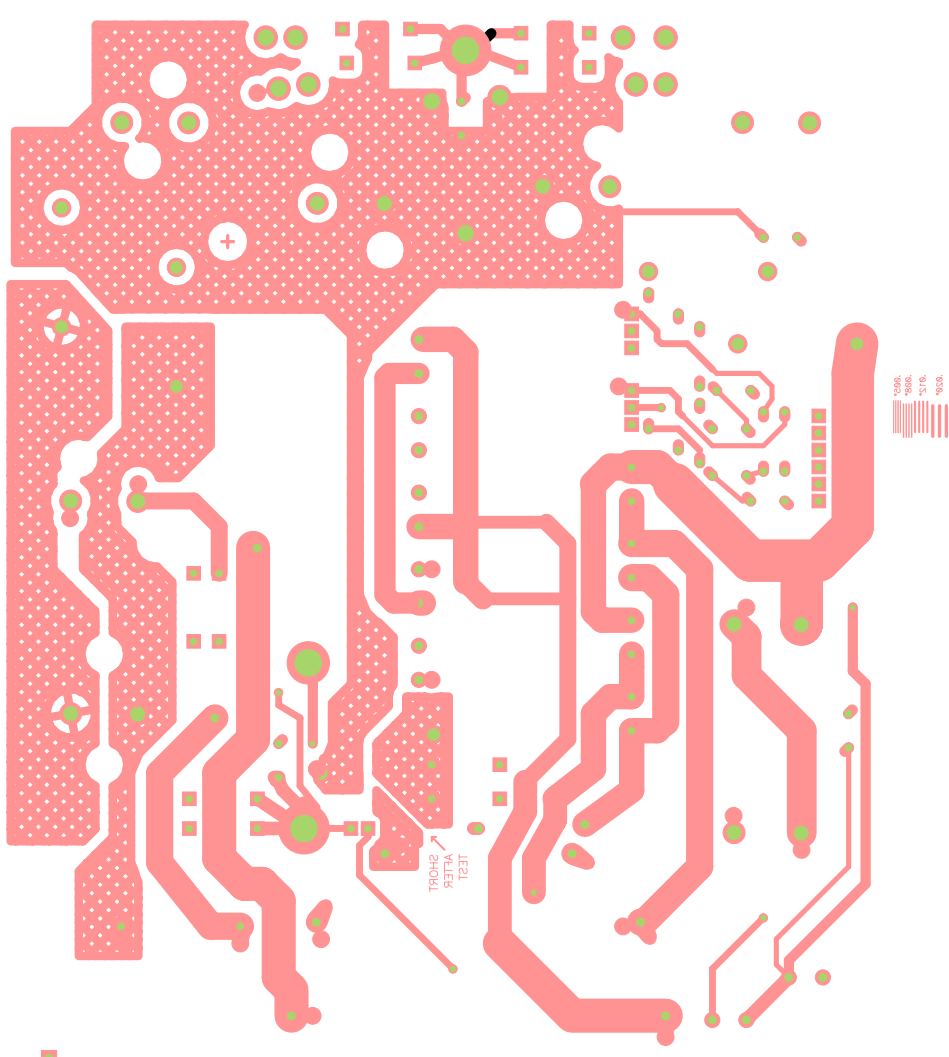
Ø1.5V-4ø1rM





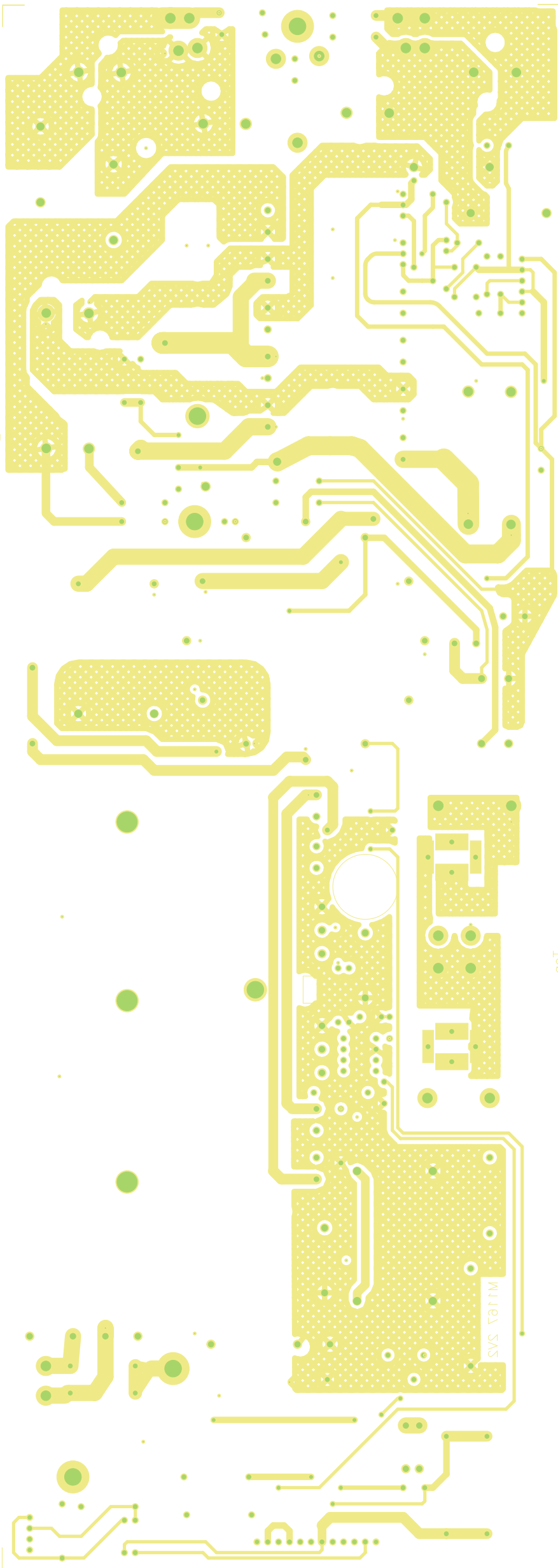


D2 Bottom M1167



0.005"  
0.005"  
0.010"  
0.010"  
0.020"

PROBE  
GAGE  
CATCHHOLE



qoT

USE 2 OZ. COPPER

0.005"  
0.005"  
0.010"  
0.010"  
0.020"

.005"  
.010"  
.010"  
.020"

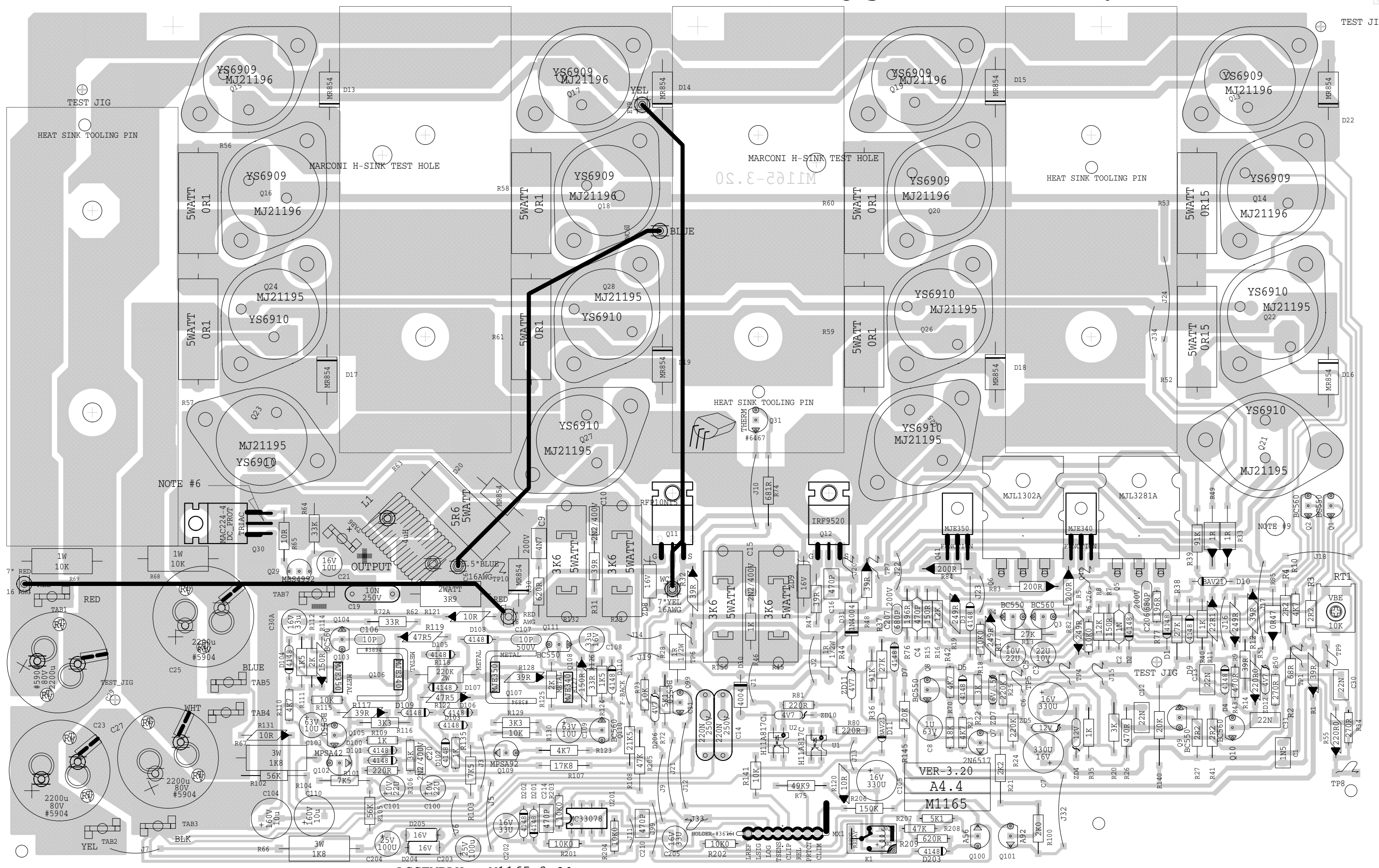
BLANK SIZE=14.500" X 9.500" X 0.0625" (1.1875" X 2.4125" X 0.015625")

SOZ. COBBLER

BLANK SIZE=14.500" X 9.500" X 0.0625" (1.1875" X 2.4125" X 0.015625")

M1165

A4.4

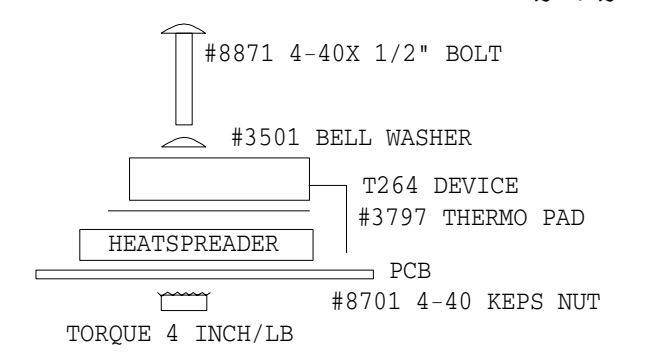


ASSEMBLY M1165-3.20  
PCB MECH M1165-3.20

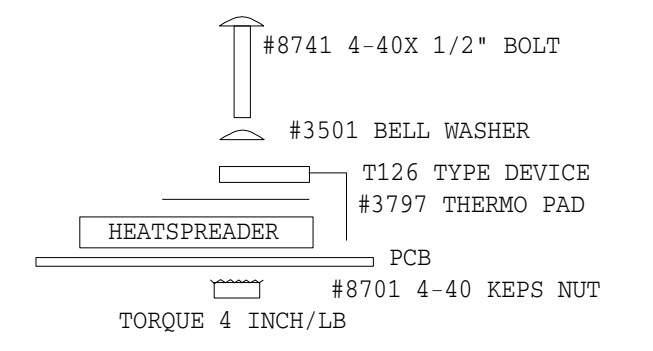
M1165 USE 2 oz. COPPER

PRODUCTION NOTES

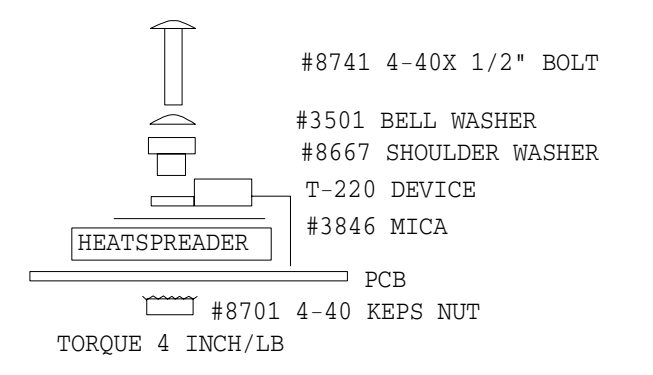
1 MOUNTING HARDWARE FOR Q5,Q6



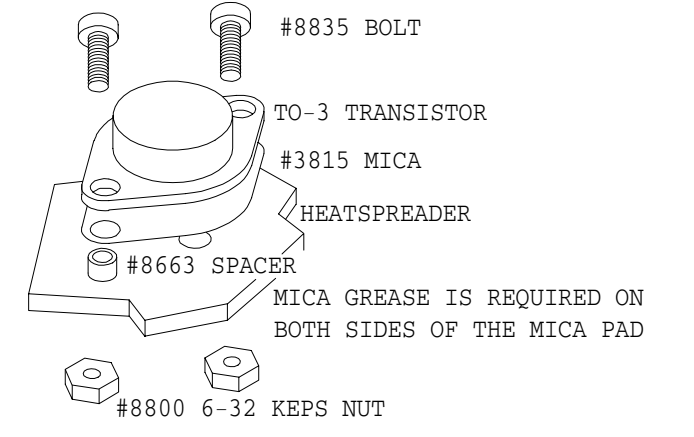
2 MOUNTING HARDWARE FOR Q40,Q41



3 MOUNTING HARDWARE FOR Q11,Q12



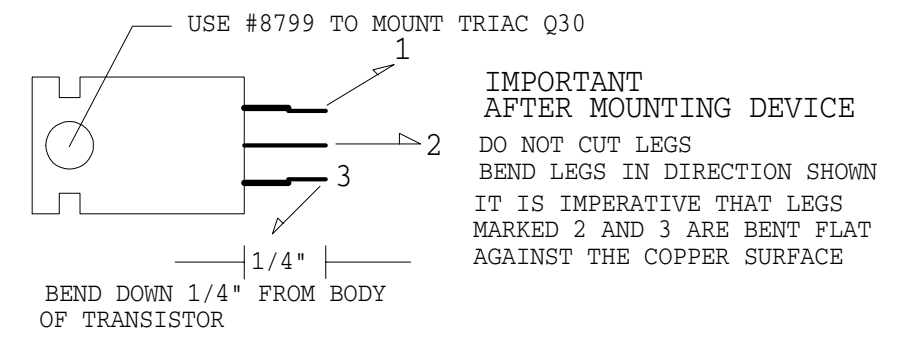
4 MOUNTING HARDWARE FOR TO3 OUTPUTS



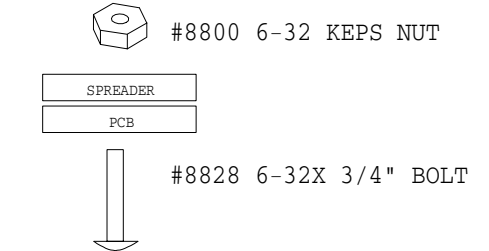
INITIAL TORQUE FOR TO-3'S IS 8 INCH/LB  
FINAL TORQUE AFTER HEATSINK HAS COOLED FROM WAVE SOLDER IS 6 INCH/LB

5 USE #4973FP SMALL BODY 1R 1W FOR R33,R49

6 MOUNTING DETAILS FOR Q30 TRIAC



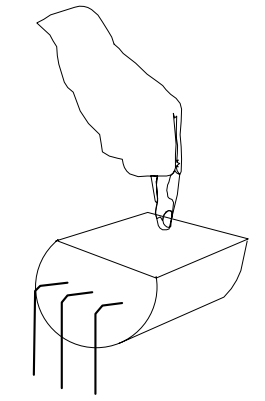
9 MOUNTING DETAILS FOR #6 SCREW



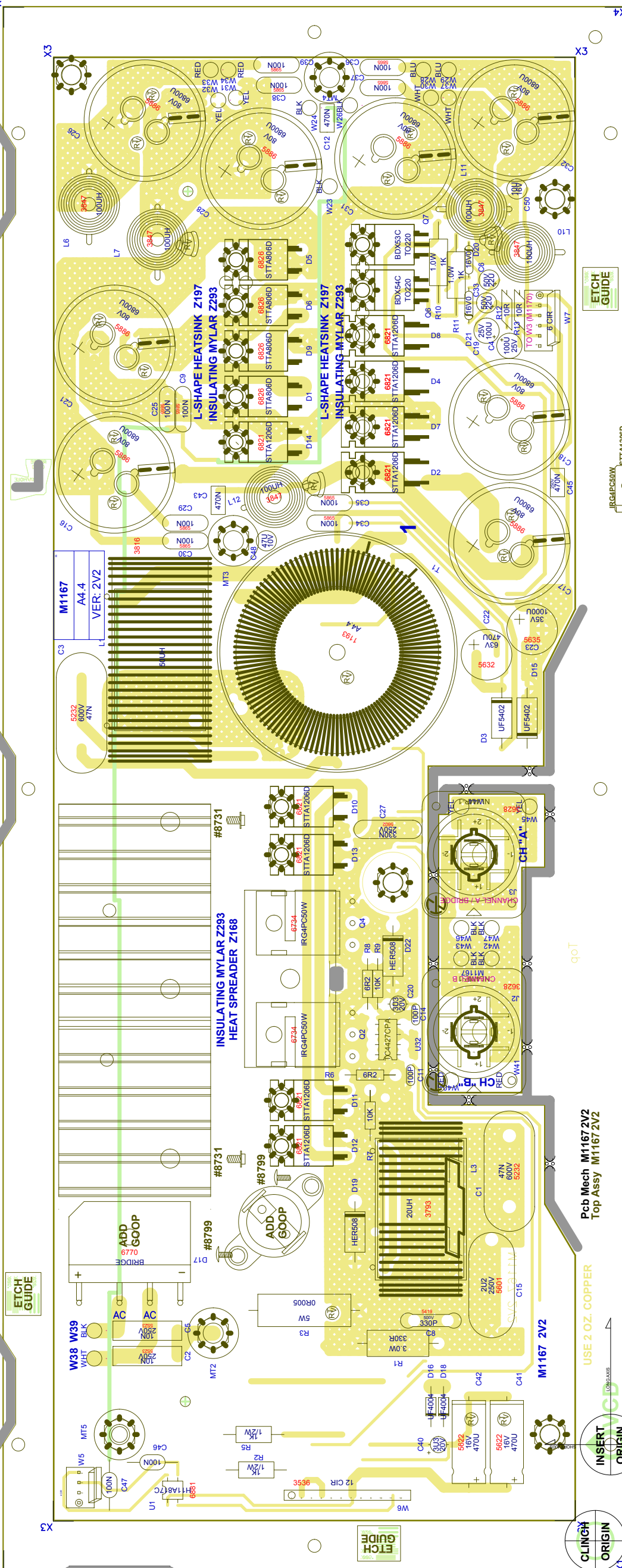
7 TAB WIRE COLOURS

|       |          |       |
|-------|----------|-------|
| TAB 1 | RED      | 16AWG |
| TAB 2 | YEL      | 16AWG |
| TAB 3 | BLK      | 16AWG |
| TAB 4 | WHT      | 16AWG |
| TAB 5 | BLU      | 16AWG |
| TAB 6 | OUTPUT + |       |
| TAB 7 | OUTPUT - |       |

8 Q31 IS HAND INSERTED AND BENT OVER WITH FLAT SIDE UP AS SHOWN.



| M1165.PCB_DATABASE_HISTORY |            |      |  |
|----------------------------|------------|------|--|
| MODEL(S) :- A4.4           |            |      |  |
| #                          | DATE       | VER# | DESCRIPTION OF CHANGE  |
| 1                          | SEPT/05/01 | 2.00 | ADD RC NETWORK ON Q40,Q41                                      |
| 2                          | SEPT/05/01 | 2.00 | R66&R67-->1K8/3W R72-->5K1                                     |
| 3                          | JAN/21/02  | 3.00 | PC#6495 R76/R77 470R->196R C206/C207 220P->680P TRACES_CHANGED |
| 4                          |            |      | PC#6510 J4->R141 10K   |
| 5                          | FEB/05/02  |      |  |
| 6                          | MAY/16/03  | 3.10 | PC#6607 C10,C15,C20 #5427->#5208                               |
| 7                          | SEP/08/03  | 3.20 | PC#6621 Q101 MPSA93->MPSA92                                    |
| 8                          |            | V    | N  |
| 9                          |            | V    | N  |
| 10                         |            | V    | N  |
| 11                         |            | V    | N  |



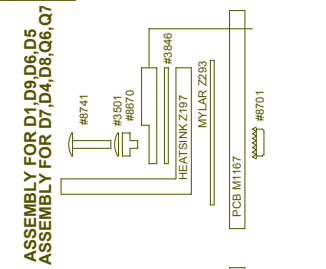
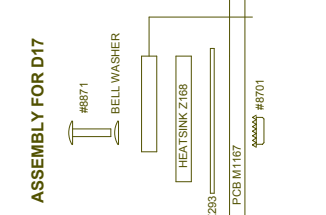
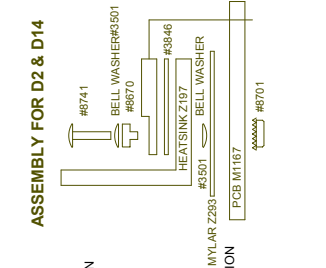
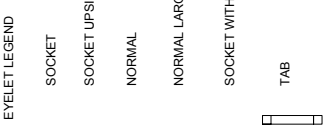
CLINGH ORIGIN

INSERT ORIGIN

USE 2 OZ. COPPER

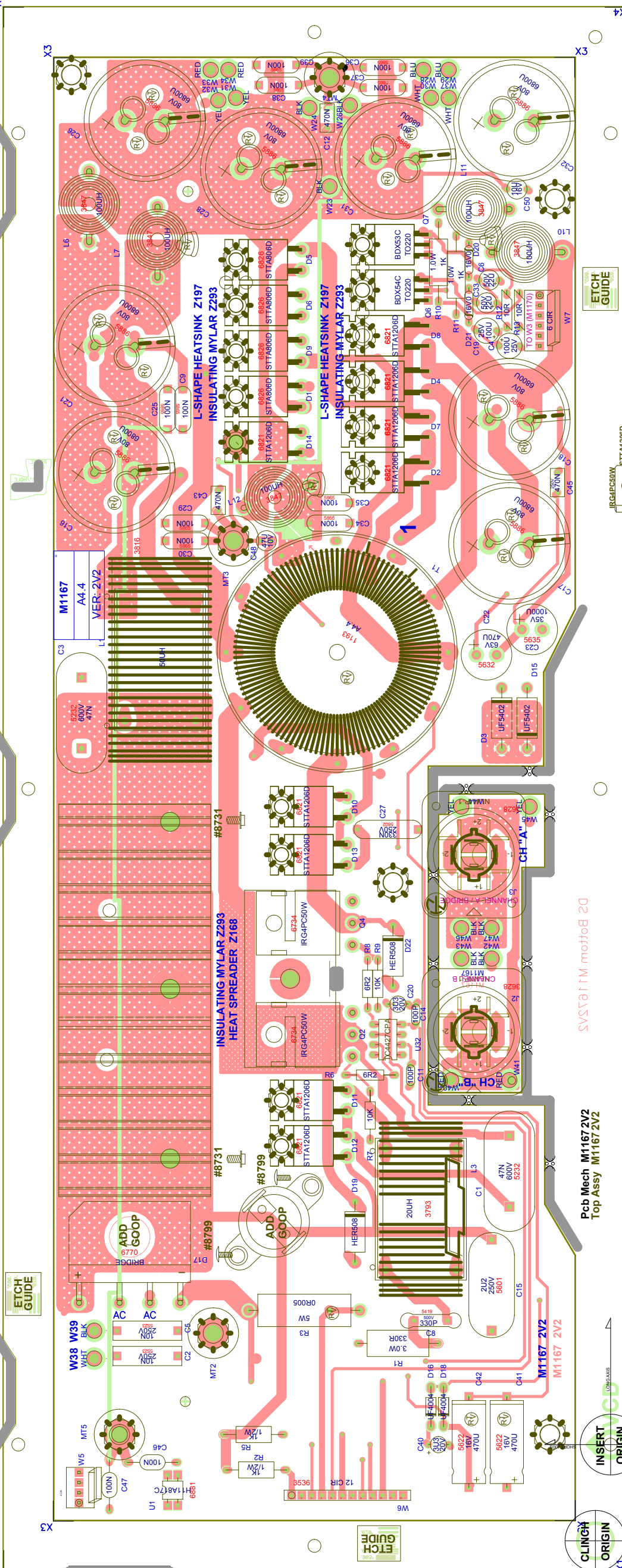
Pcb Mech M11672V2  
Top Assy M1167 2V2

| MODEL(S):- |             | A4.4 SWITCH MODE POWER SUPPLY  |                     |
|------------|-------------|--|---------------------|
| A4.4       |             | A4.4   |                     |
| #          | DATE        | DESCRIPTION OF CHANGE  | VER#                |
| 1          | D           | Mounting NPH changed from 156 to 189                                     | 2.00                |
| 2          | D           | move mounting hole near C24 and C15&C1 moved. Enlarge MTH pad for D14&D2 | 2.00                |
| 3          | D           | Corrections to some pads   | 2.10                |
| 4          | APR/05/02   | D2, D4, D7, D8 #6826->#6821  | 2.20                |
| 5          | Oct/07/2003 | N N N N N N N N N N  | V V V V V V V V V V |
| 6          | D           | N N N N N N N N N N  | V V V V V V V V V V |
| 7          | D           | N N N N N N N N N N  | V V V V V V V V V V |
| 8          | D           | N N N N N N N N N N  | V V V V V V V V V V |
| 9          | D           | N N N N N N N N N N  | V V V V V V V V V V |
| 10         | D           | N N N N N N N N N N  | V V V V V V V V V V |
| 11         | D           | N N N N N N N N N N  | V V V V V V V V V V |
| 12         | D           | N N N N N N N N N N  | V V V V V V V V V V |
| 13         | D           | N N N N N N N N N N  | V V V V V V V V V V |



**PRODUCTION NOTES:**

1. CHECK ALL TO-220 & TO-3 PBL FOR SHORTS BEFORE WAVE SOLDER
2. SHORT SOLDER LINK AFTER FINISHING
3. USE I.C SOCKET FOR U32 PART #3564
4. FOR PARTS USING TEAR DROP SHAPE PAD BEND LEADS TO FOLLOW BARE COPPER OF THE PAD AS SHOWN
5. USE EPOXY TO GLUE T1 AND L1 TO PCB
- USE NUT AND BOLT (8747-8800) TO MOUNT T1



CLINGH ORIGIN

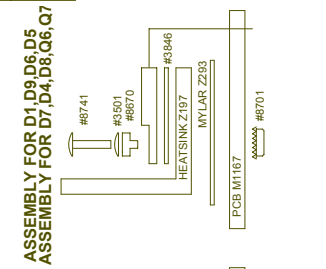
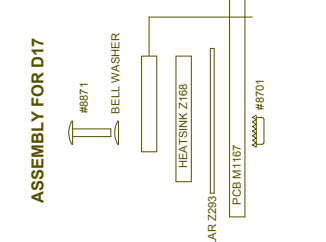
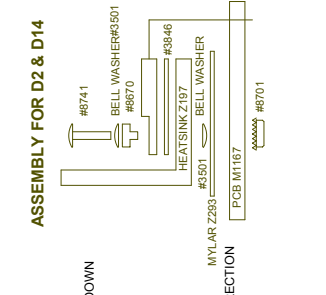
Pcb Mech M1167 2V2  
Top Assy M1167 2V2

SVS5811 motorB 2d

ETCH GUIDE

ETCH GUIDE

| MODEL(S):- |             | A4.4 SWITCH MODE POWER SUPPLY  |                     |
|------------|-------------|--|---------------------|
| #          | DATE        | DESCRIPTION OF CHANGE  | VER#                |
| 1          | D           | Mounting NPH changed from 156 to 189                                     | 2.00                |
| 2          | D           | move mounting hole near C24 and C15&C1 moved. Enlarge MTH pad for D14&D2 | 2.00                |
| 3          | D           | Corrections to some pads   | 2.10                |
| 4          | APR/05/02   | D2, D4, D7, D8 #6826->#6821  | 2.20                |
| 5          | Oct/07/2003 | N N N N N N N N N N  | V V V V V V V V V V |
| 6          | D           | N N N N N N N N N N  | V V V V V V V V V V |
| 7          | D           | N N N N N N N N N N  | V V V V V V V V V V |
| 8          | D           | N N N N N N N N N N  | V V V V V V V V V V |
| 9          | D           | N N N N N N N N N N  | V V V V V V V V V V |
| 10         | D           | N N N N N N N N N N  | V V V V V V V V V V |
| 11         | D           | N N N N N N N N N N  | V V V V V V V V V V |
| 12         | D           | N N N N N N N N N N  | V V V V V V V V V V |
| 13         | D           | N N N N N N N N N N  | V V V V V V V V V V |



**PRODUCTION NOTES:**

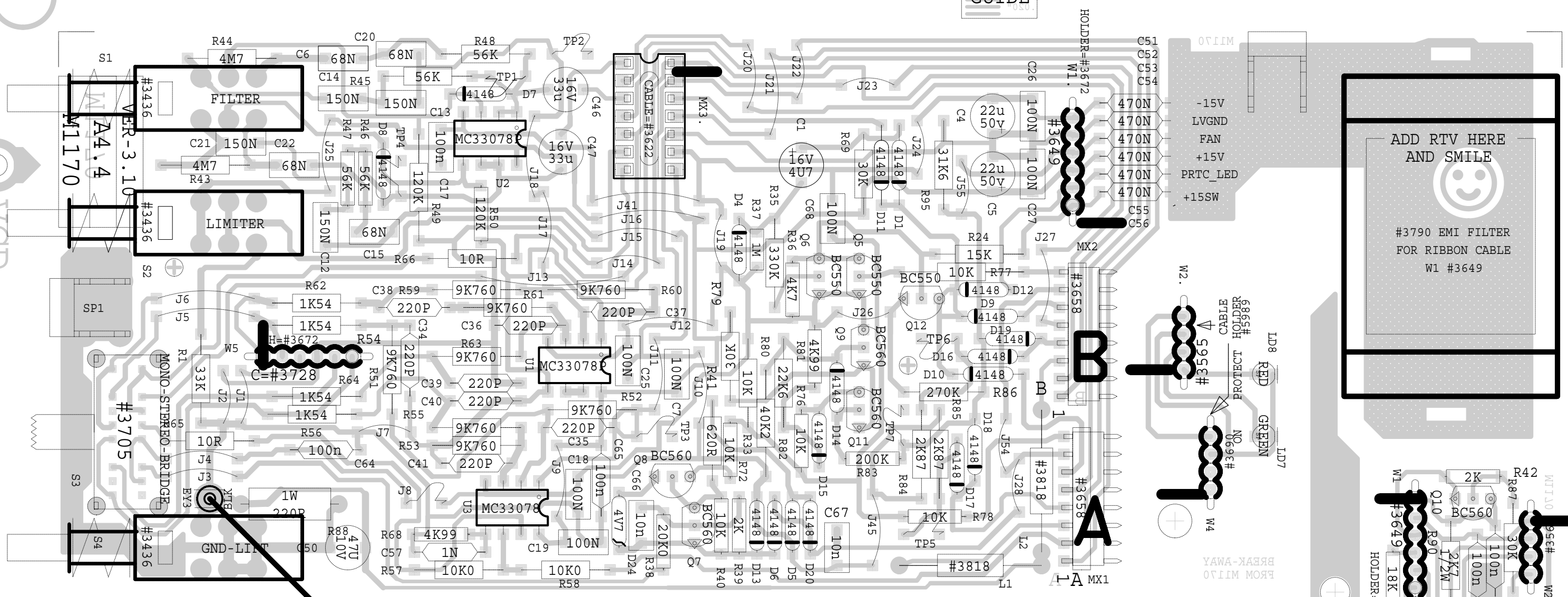
- CHECK ALL TO-220 & TO-3 PBL FOR SHORTS BEFORE WAVE SOLDER
- SHORT SOLDER LINK AFTER FINISHING
- USE I.C SOCKET FOR U32 PART #3564
- FOR PARTS USING TEAR DROP SHAPE PAD BEND LEADS TO FOLLOW BARE COPPER OF THE PAD AS SHOWN
- USE EPOXY TO GLUE T1 AND L1 TO PCB
- USE NUT AND BOLT (#8747-8800) TO MOUNT T1





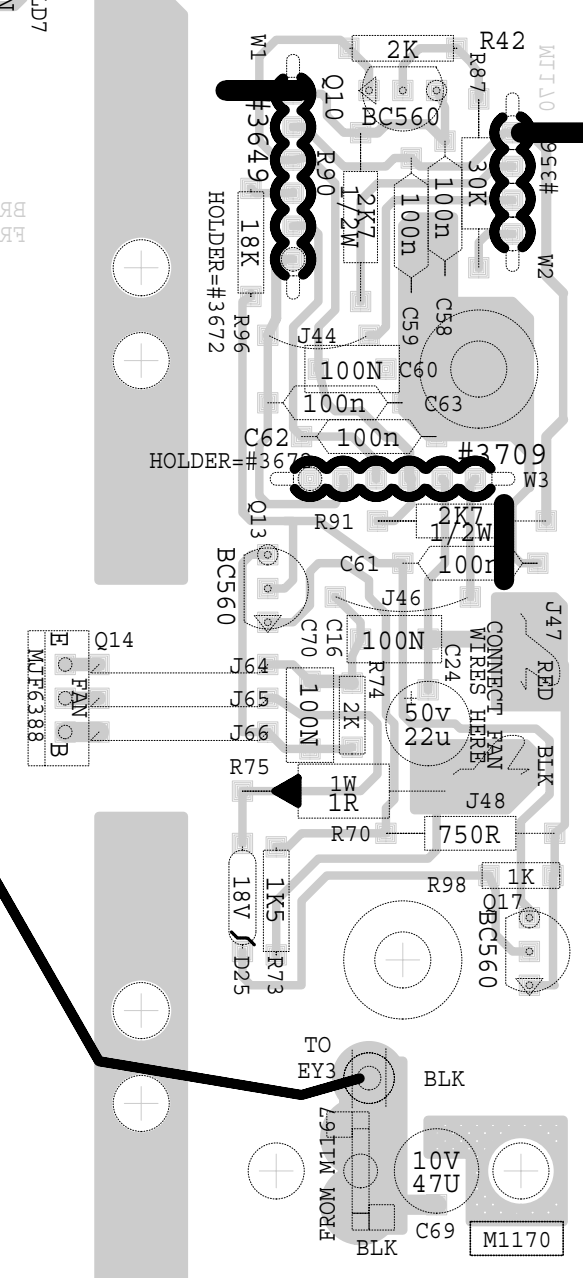
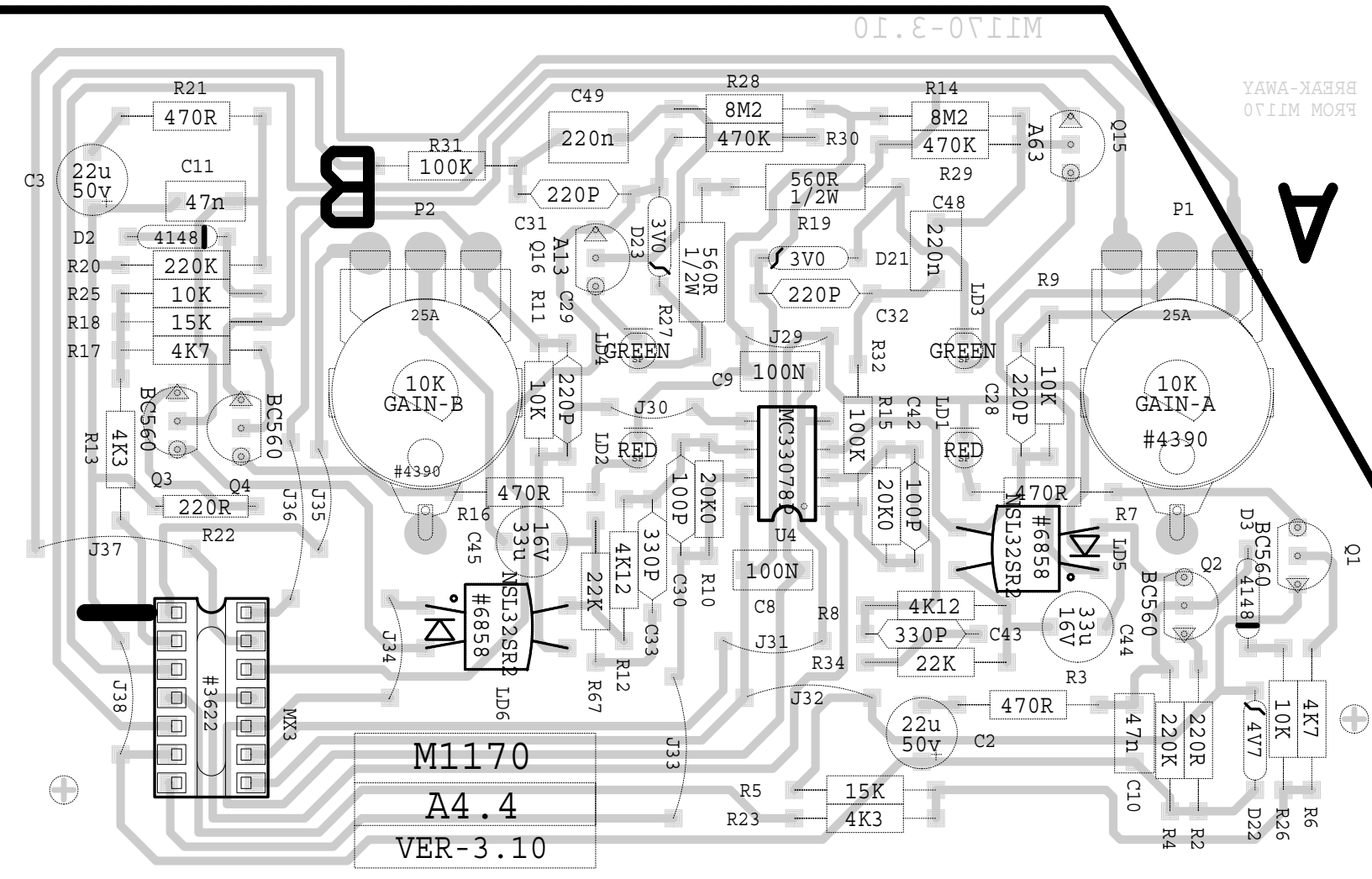
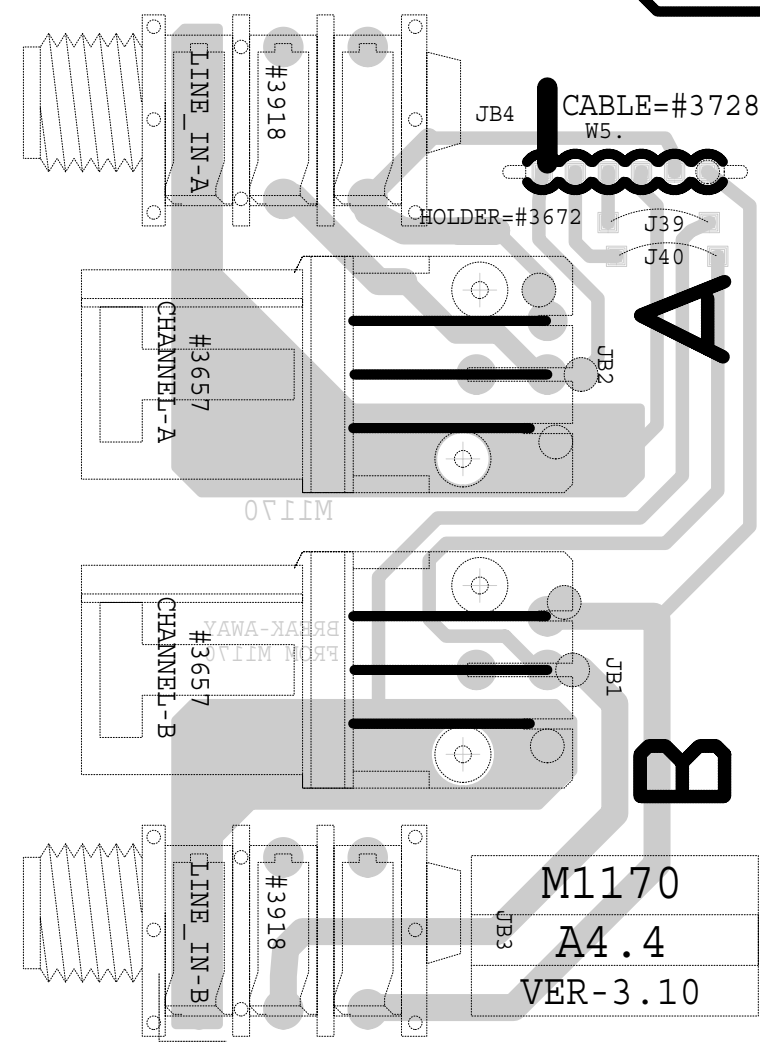
1170CMP.PRN

VCD



ADD RTV HERE AND SMILE

#3790 EMI FILTER FOR RIBBON CABLE W1 #3649



GOLDBRIDGE M1170-3.10

M1170.PCB DATABASE HISTORY

M1170.PCB POT LIST

MODEL(S) :- A4.4 PCB MECH M1170-3.10

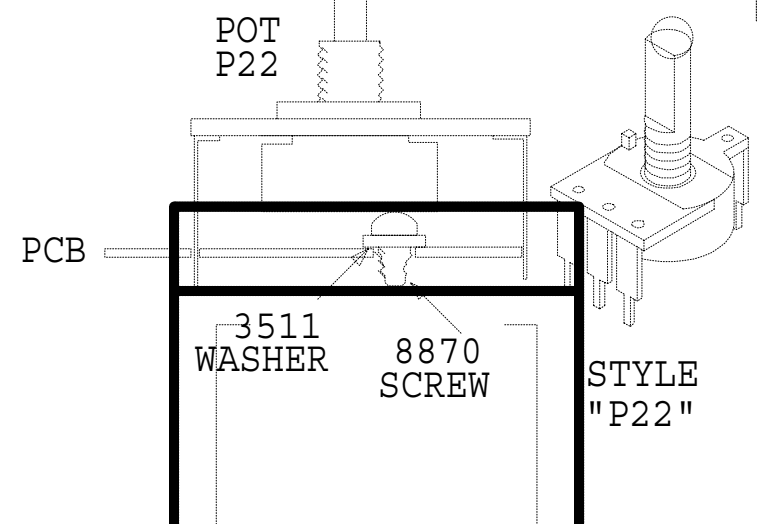
MODEL(S) :- A4.4

| #  | DATE      | VER# | DESCRIPTION OF CHANGE                               |
|----|-----------|------|---|
| 1  | FEB/07/00 | P1   | FIRST PROTO   |
| 2  | MAY/05/01 | P2   | 2nd PROTO   |
| 3  | AUG/28/01 | V2   | R33-->10K, R86-->120K, R85&R84-->2K87               |
| 4  | AUG/28/01 | V2   | S2, S4 REVERSED--->CHANGED                          |
| 5  | AUG/28/01 | V2   | JB1, JB2 ADD HOLES FOR MOUNTING                     |
| 6  | SEP/11/01 | V2   | R73-->1K3, Q14-->MJF6388                            |
| 7  | SEP/11/01 | V2   | MOVE LED-PCB MOUNTING-HOLE                          |
| 8  | NOV/15/01 | 2.10 | PC#6466 LD5, LD6 NSL28AA->NSL32SR2                  |
| 9  | FEB/11/02 | 3.00 | PC# --- REPLACE AN WIRE_EYELETS WITH RADIAL JUMPERS |
| 11 | FEB/25/03 | 3.10 | PC#6588_R86_120K->270K                              |

| REF | FUNCTION    | PART# | KNOB | AS OF     |
|-----|-------------|-------|------|-----------|
| P1  | CHAN_A_GAIN | 4395  | 8433 | FEB/07/00 |
| P2  | CHAN_B_GAIN | 4395  | 8433 | FEB/07/00 |
| R   | F           | P     | K    | N         |
| R   | F           | P     | K    | N         |
| R   | F           | P     | K    | N         |
| R   | F           | P     | K    | N         |

PRODUCTION NOTES:

- C24 USE #5631 (SHORT) 22U/50V



A4.4 AC WIRES  
JUN/2001

POWER PCB,S

