



SERVICE MANUAL

MODEL TYPE: YS1002

ef500p

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

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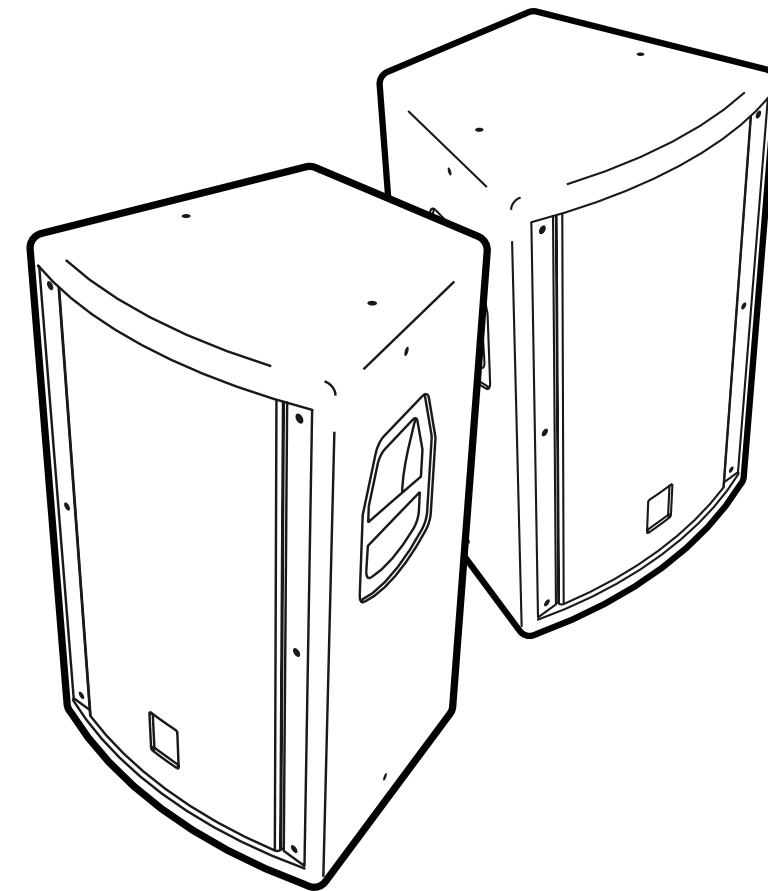
U.S.A.

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Quality and Innovation Since 1963
Printed in Canada



IMPORTANT SAFETY INSTRUCTIONS



This lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

Ce symbole d'éclair avec tête de flèche dans un triangle équilatéral est prévu pour alerter l'utilisateur de la présence d'un « voltage dangereux » non-isolé à proximité de l'enceinte du produit qui pourrait être d'ampleur suffisante pour présenter un risque de choc électrique.



CAUTION AVIS

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**

**RISQUE DE CHOC ELECTRIQUE
NE PAS OUVRIR**



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Le point d'exclamation à l'intérieur d'un triangle équilatéral est prévu pour alerter l'utilisateur de la présence d'instructions importantes dans la littérature accompagnant l'appareil en ce qui concerne l'opération et la maintenance de cet appareil.

FOLLOW ALL INSTRUCTIONS

**Instructions pertaining to a risk of fire,
electric shock, or injury to a person**

**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.

THIS DEVICE IS FOR INDOOR USE ONLY!

SUIVEZ TOUTES LES INSTRUCTIONS

**Instructions relatives au risque de feu,
choc électrique, ou blessures aux personnes**

**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

CE PRODUIT EST POUR L'USAGE À L'INTÉRIEUR SEULEMENT

Read Instructions: The Owner's Manual should be read and understood before operation of your unit. Please, save these instructions for future reference and heed all warnings.

Clean only with dry cloth.

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

Warning: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. *Do not use this apparatus near water!*

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. An apparatus with CLASS I construction shall be connected to a Mains socket outlet with a protective earthing ground. Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

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. Only use attachments/accessories specified by the manufacturer

Note: Prolonged use of headphones at a high volume may cause health damage on your ears.

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.

Ensure that proper ventilation is provided around the appliance. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

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

Power Cord

Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet. The AC supply cord should be routed so that it is unlikely that it will be damaged. Protect the power cord from being walked on or pinched particularly at plugs. If the AC supply cord is damaged DO NOT OPERATE THE UNIT. To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle. The mains plug of the power supply cord shall remain readily operable.

Unplug this apparatus during lightning storms or when unused for long periods of time.

Service

The unit should be serviced only by qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Veillez Lire le Manuel: Il contient des informations qui devraient être comprises avant l'opération de votre appareil. Conservez. Gardez S.V.P. ces instructions pour consultations ultérieures et observez tous les avertissements.

Nettoyez seulement avec le tissu sec.

Emballage: Conservez la boîte au cas où l'appareil devait être retourner pour réparation.

Avertissement: Pour réduire le risque de feu ou la décharge électrique, n'exposez pas cet appareil à la pluie ou à l'humidité. *N'utilisez pas cet appareil près de l'eau!*

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 être 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 être prises afin d'éviter que le système de mise à la terre de l'appareil ne soit désengagé. Un appareil construit selon les normes de CLASS I devrait être raccordé à une prise murale d'alimentation avec connexion intacte de mise à la masse. Lorsqu'une prise de branchement ou un coupleur d'appareils est utilisée comme dispositif de débranchement, ce dispositif de débranchement devra demeurer pleinement fonctionnel avec raccordement à la masse.

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. Utilisez seulement les attachments/accessoires indiqués par le fabricant

Note: L'utilisation prolongée des écouteurs à un volume élevé peut avoir des conséquences néfastes sur la santé sur vos oreilles. .

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

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

Assurez que l'appareil est fourni de la propre ventilation. Ne procédez pas à l'installation près de source de chaleur tels que radiateurs, registre de chaleur, fous ou autres appareils (incluant les amplificateurs) qui produisent de la chaleur.

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

Cordon d'Alimentation

Ne pas enlever le dispositif de sécurité sur la prise polarisée ou la prise avec tige de mise à la masse du cordon d'alimentation. Une prise polarisée dispose de deux lames dont une plus large que l'autre. Une prise avec tige de mise à la masse dispose de deux lames en plus d'une troisième tige qui connecte à la masse. La lame plus large ou la tige de mise à la masse est prévu pour votre sécurité. La prise murale est désuète si elle n'est pas conçue pour accepter ce type de prise avec dispositif de sécurité. Dans ce cas, contactez un électricien pour faire remplacer la prise murale. Évitez d'endommager le cordon d'alimentation. Protégez le cordon d'alimentation. Assurez-vous qu'on ne marche pas dessus et qu'on ne le pince pas en particulier aux prises. **N'UTILISEZ PAS L'APPAREIL** si le cordon d'alimentation est endommagé. Pour débrancher complètement cet appareil de l'alimentation CA principale, déconnectez le cordon d'alimentation de la prise d'alimentation murale. Le cordon d'alimentation du bloc d'alimentation de l'appareil doit demeurer pleinement fonctionnel.

Débranchez cet appareil durant les orages ou si inutilisé pendant de longues périodes.

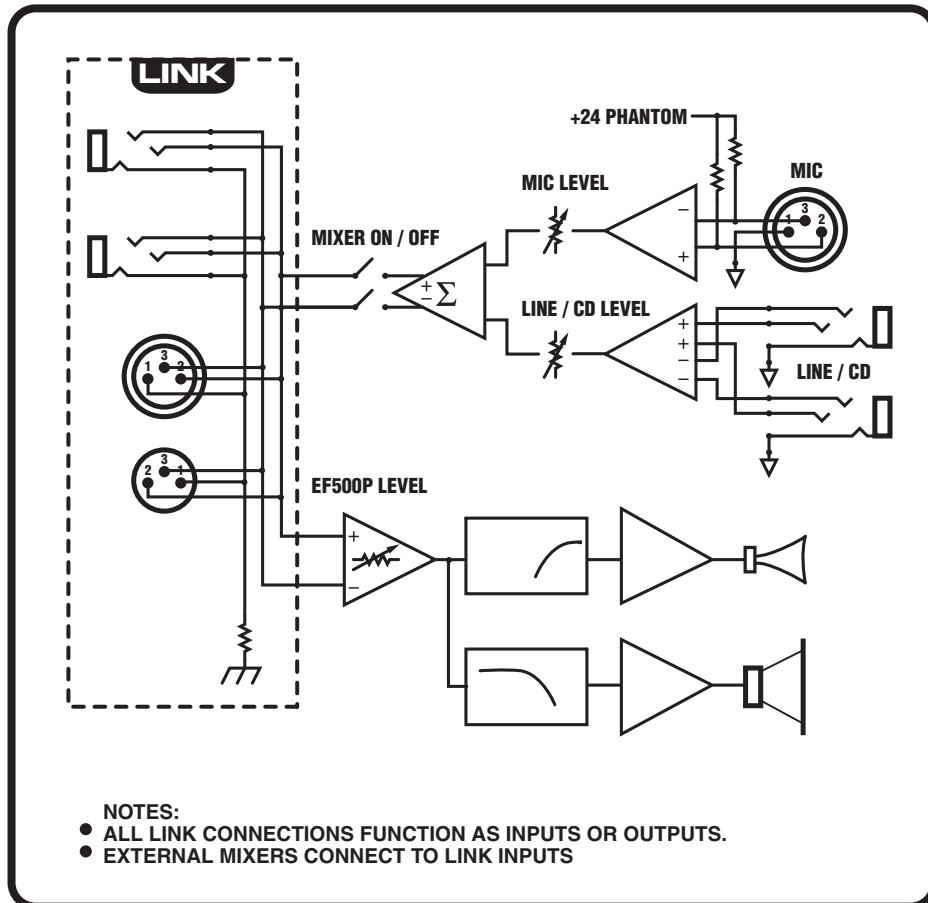
Service

Consultez un technicien qualifié pour l'entretien de votre appareil. L'entretien est nécessaire quand l'appareil a été endommagé de quelque façon que se soit. Par exemple si le cordon d'alimentation ou la prise du cordon sont endommagés, si il y a eu du liquide qui a été renversé à l'intérieur ou des objets sont tombés dans l'appareil, si l'appareil a été exposé à la pluie ou à l'humidité, si il ne fonctionne pas normalement, ou a été échappé.

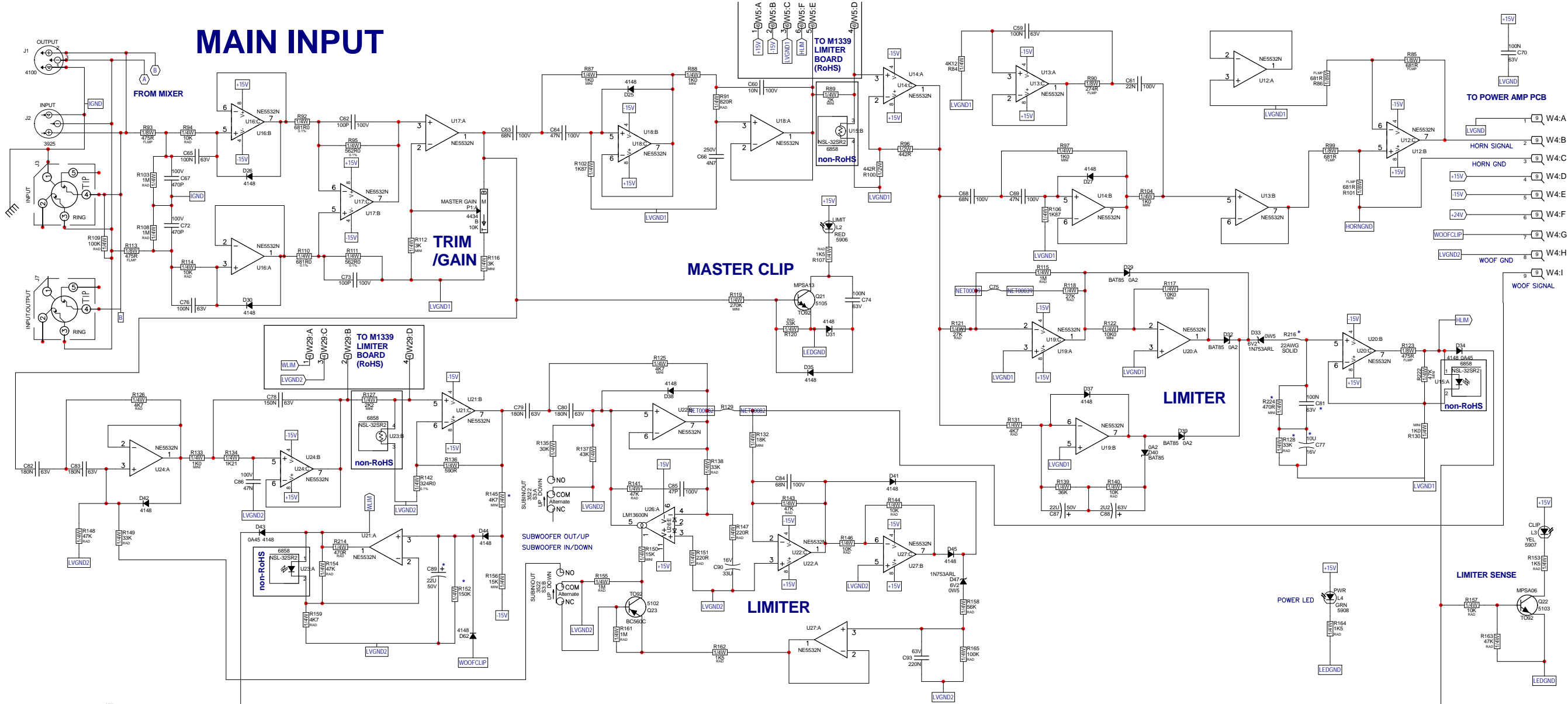


élite EF500P

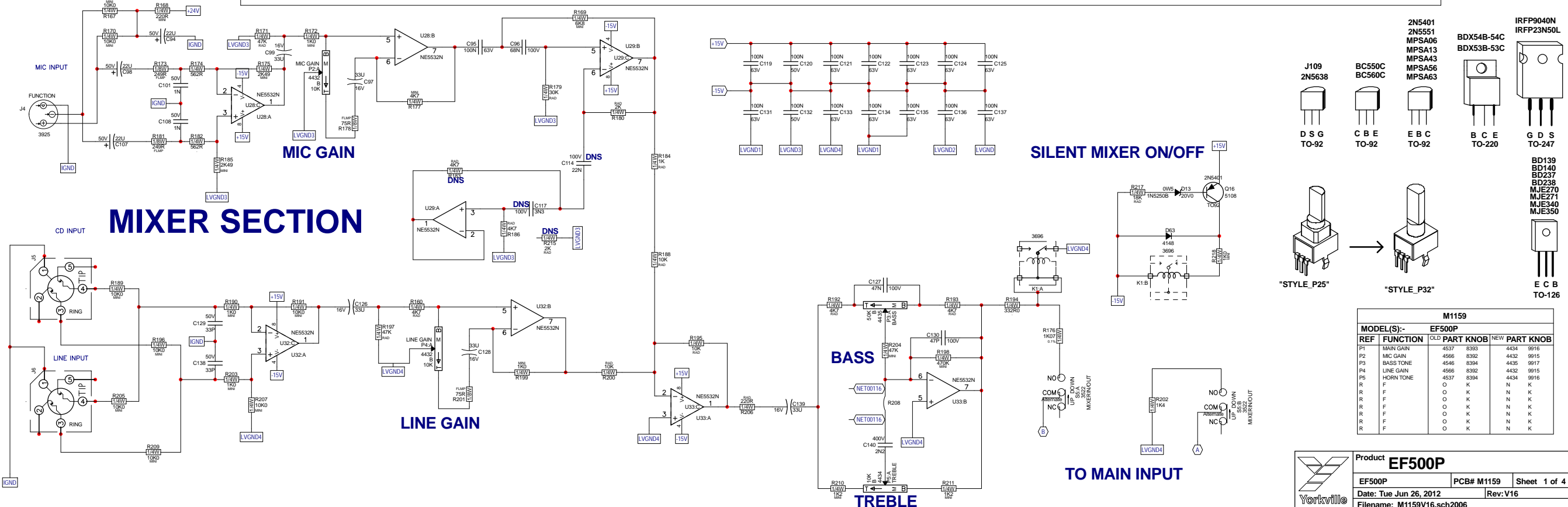
800 WATT POWERED LOUDSPEAKER ENCLOSURE



MAIN INPUT



MIXER SECTION

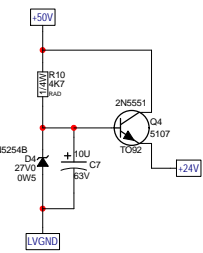


- 2N5401
- 2N5551
- MPSA06
- MPSA13
- MPSA43
- MPSA56
- MPSA63
- BDX54B-54C
- BDX53B-53C
- IRFP9040N
- IRFP23N50L
- J109 2N5638
- BC550C BC560C
- D S G TO-92
- C B E TO-92
- E B C TO-92
- B C E TO-220
- G D S TO-247
- BD139
- BD140
- BD237
- BD238
- MJE270
- MJE271
- MJE340
- MJE350
- E C B TO-126

M1159

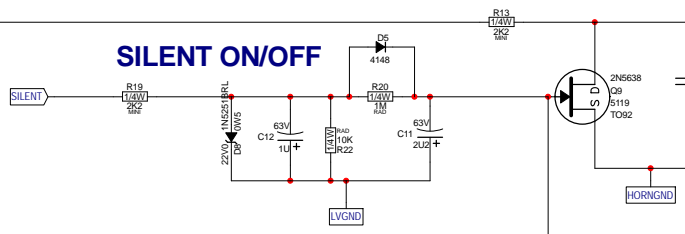
MODEL(S):-	EF500P		
REF	FUNCTION	OLD PART	NEW PART
P1	MAIN GAIN	4537	8393
P2	MIC GAIN	4566	8392
P3	BASS TONE	4546	8394
P4	LINE GAIN	4566	8392
P5	HORN TONE	4537	8394
R	F	O	K
R	F	O	K
R	F	O	K
R	F	O	K
R	F	O	K
R	F	O	K
R	F	O	K
R	F	O	K

PHANTOM SUPPLY

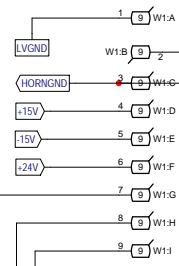


HORN AMP

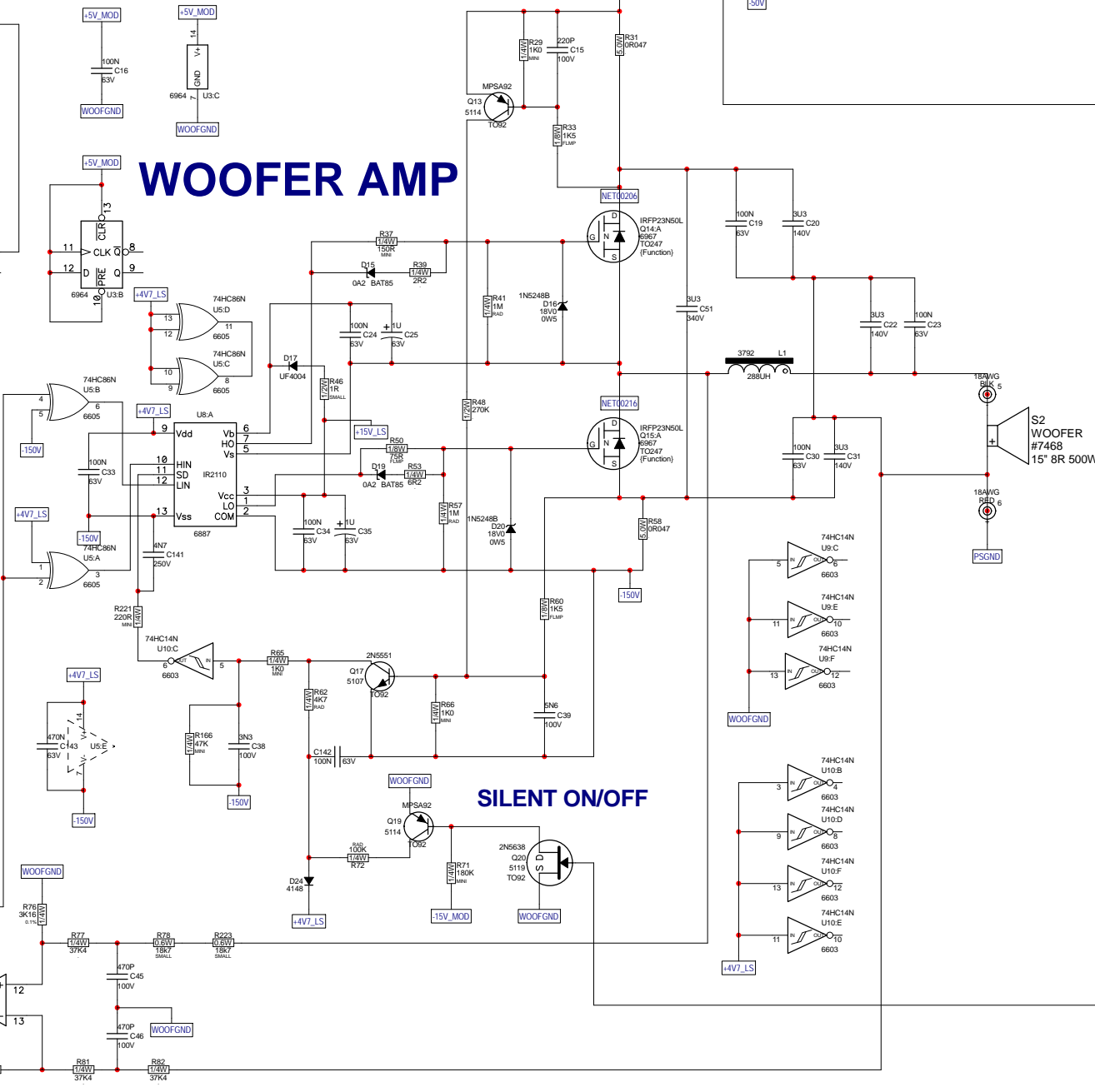
SILENT ON/OFF



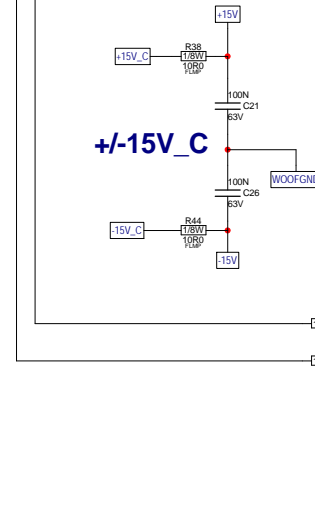
FROM INPUT PCB



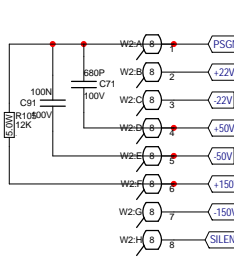
WOOFER AMP



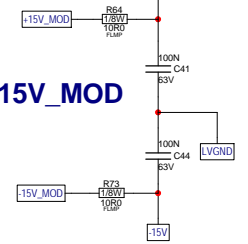
+/-15V_C



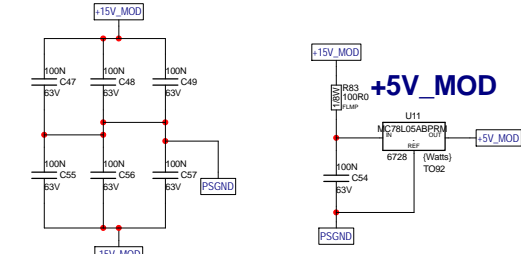
FROM POWER SUPPLY

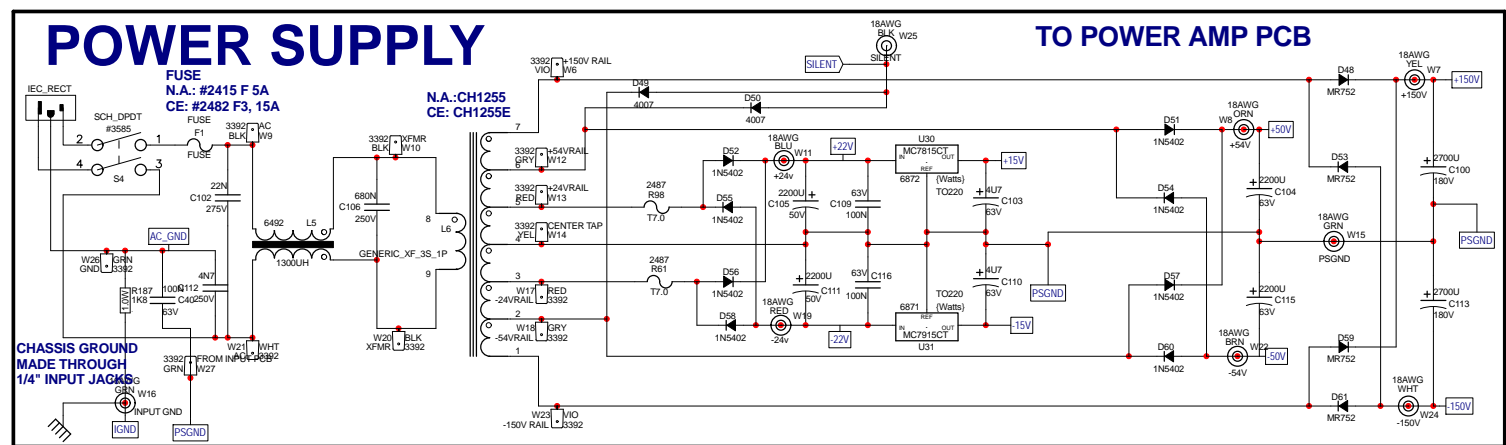


+/-15V_MOD



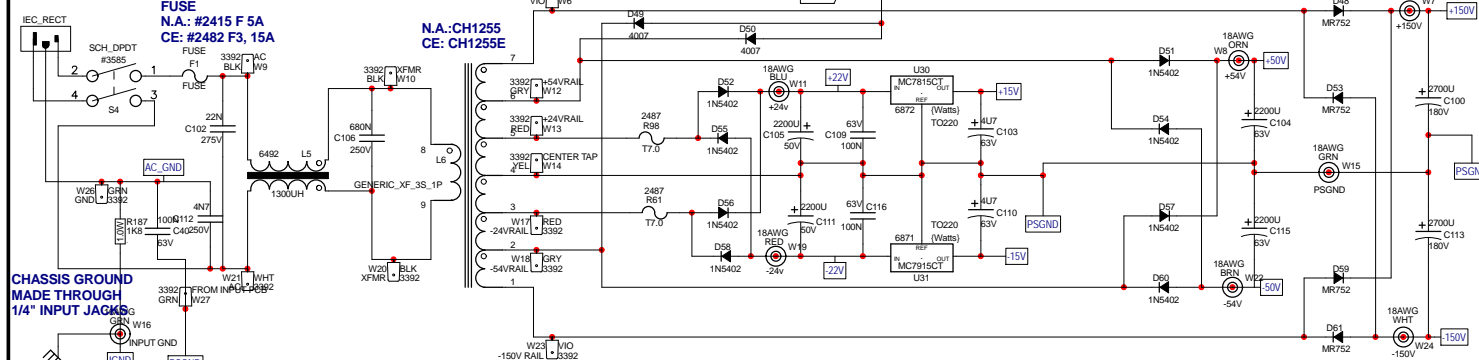
+5V_MOD





POWER SUPPLY

TO POWER AMP PCB

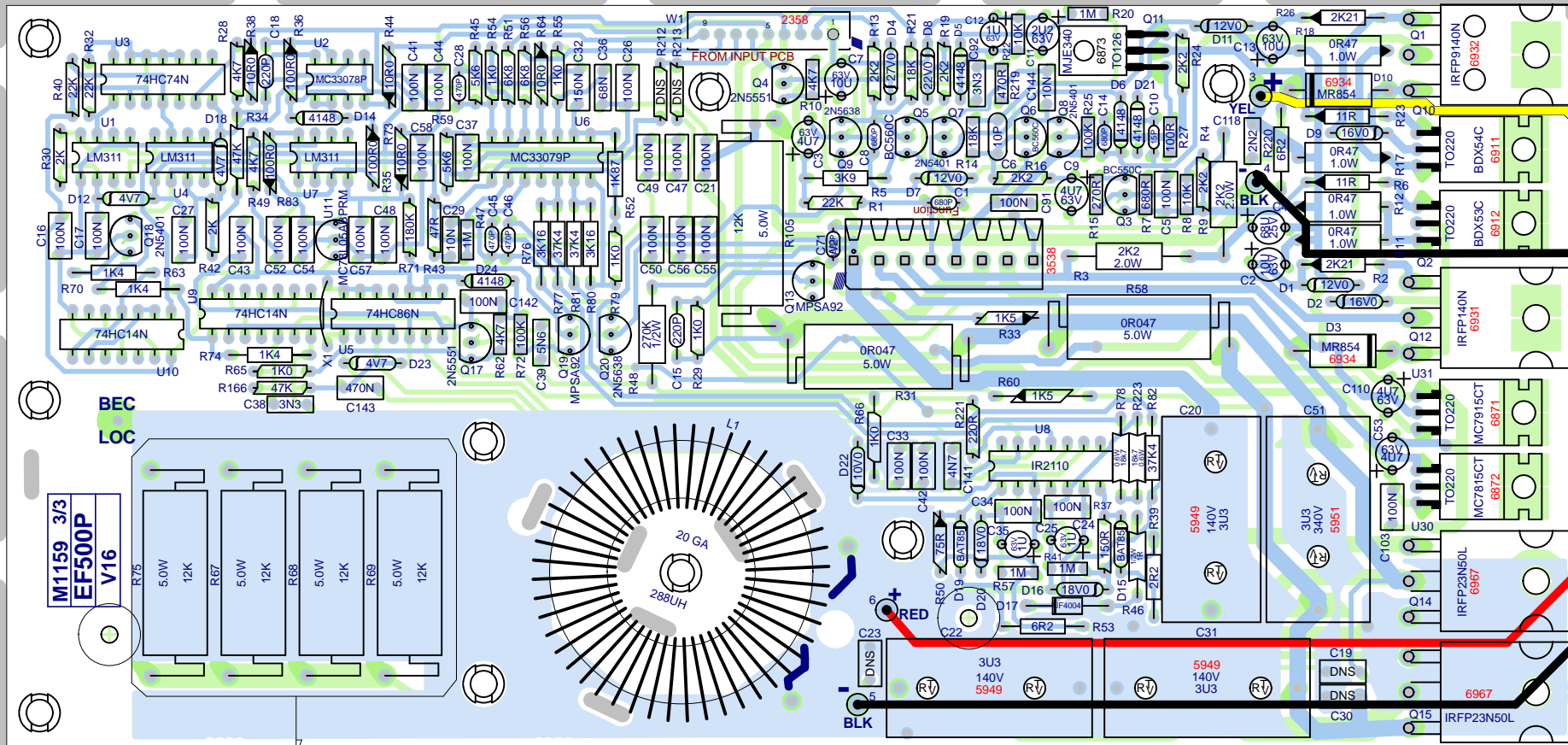
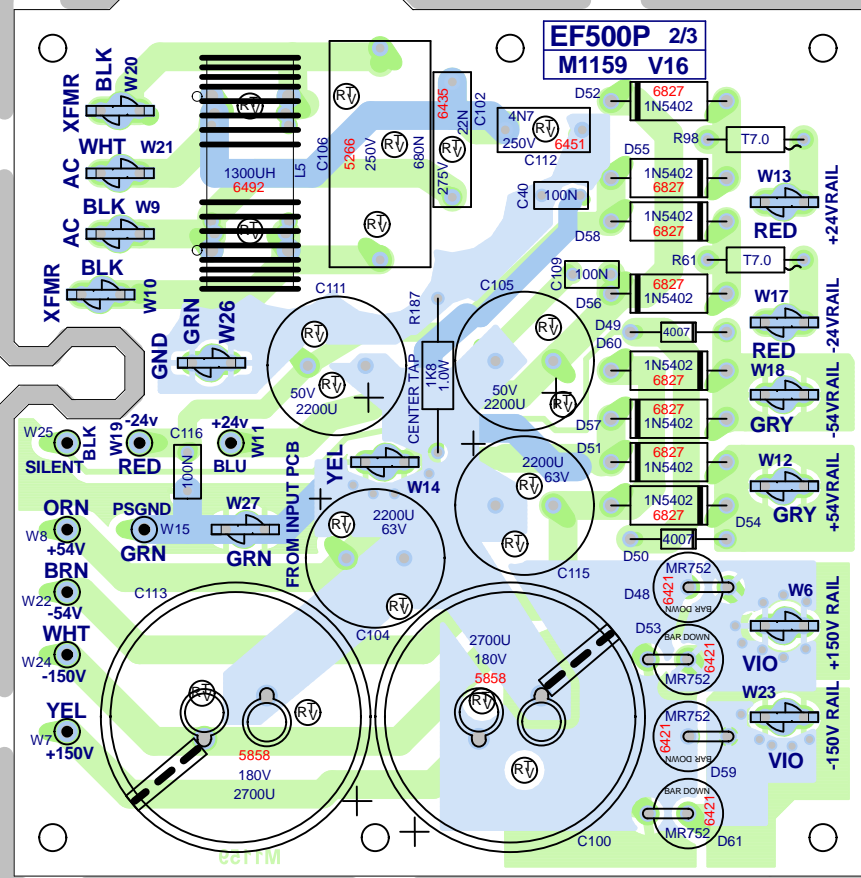
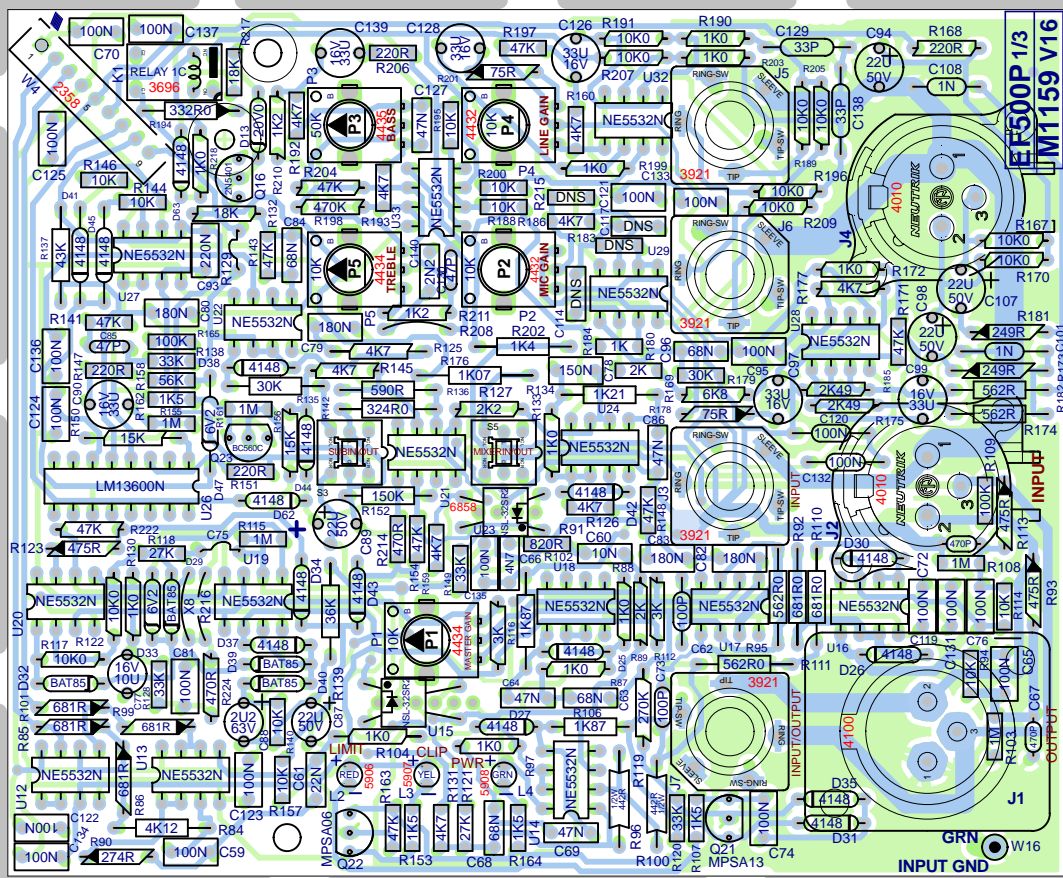


CHASSIS GROUND
MADE THROUGH
1/4" INPUT JACKS

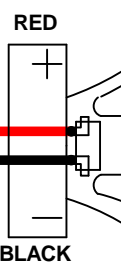
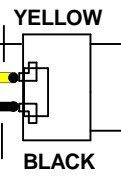
	N.A.	CE
R145	4k7(#4982)	5k1(#6138)
R152	150k(#4839)	56k(#4835)
R157	10k(#4940)	3k3(#4938)
C89	22u(#5631)	33u(#5961)
C77	PC7454	4u7(#5258)
D34	1N4148(#6825)	BAT85(#6733)
D43	1N4148(#6825)	BAT85(#6733)
R128	1k(#4981)	220k(#6126)
R89	2k(#6113)	DNS
R124	1k0(6110)	(#4599)
U15	(#6858)	DNS
R127	2k2(#6104)	DNS
U23	(#6858)	DNS
W5	DNS	(#3709)
W29	DNS	(#4036)
_X64	DNS	(#4599)
_X65	(#4599)	DNS

	WITHOUT CROWBAR		WITH CROWBAR	
	N.A.	CE	N.A.	CE
TRANSFORMER	CH1255	CH1255E	CH1255	CH1255E
FUSE F1	#2415 F 5A	#2482 F3.15A	#2465 F 7A	#2479 F 5A

BlankSize - 11000x10000



X65 M1159A
X64 M1159B



SEE NOTE 5

M1159 V16

BlankSize - 11000x10000

SEE LAYOUT DOCUMENTATION



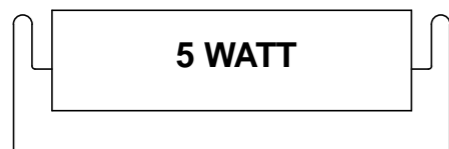
SEE LAYOUT DIAGRAM



M1159B PRODUCTION NOTES

*****IMPORTANT*****

1. ADD AMPLE RTV UNDER ENTIRE BASE OF OUTPUT COIL L1
2. LEADS FOR 5 WATT RESISTORS MUST BE BENT ON THE MACHINE LEAD LOOP MUST NOT BE ABOVE TOP OF RESISTOR



3. #5858 APPLY A RING OF RTV ON CAPS SLEEVE AS SHOWN.



5. Q11 ONLY: MOUNT #8871 4-40 SCREW WITH HEAD ON BOTTOM. #8793 NUT AND 3501 WASHER ON TOP.

6. FIT #8921 FLAT WASHER BETWEEN #3501 BELL WASHER AND #8667 SHOULDER WASHER FOR Q2, Q10 U30 AND U31.

*NOTE: IF THE NX520P MODEL IS BEING USED AS A REFERENCE, NOTE THAT THE HORN OF THE EF500P IS WIRED OPPOSITE TO THAT OF THE NX520P.

7. PC7398, ADD CROWBAR CIRCUIT AND CHANGE THE FUSE VALUE AT THE SAME TIME.

	WITHOUT CROWBAR		WITH CROWBAR	
	N.A.	CE	N.A.	CE
XFRM	CH1255	CH1255E	CH1255	CH1255E
FUSE F1	#2415 F 5A	#2482 F3.15A	#2465 F 7A	#2479 F 5A

8. M1159, PARTS REFERENCE TABLE

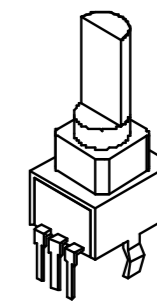
	M1159B
C77	#5282, 10U 16V 20% NP
C81	#5212, 100N 63V 5%
C89	#5631, 22U 50V 20% NP
R127	#6104, 2K2 1/4W 5% MINI
R128	#6122, 33K 1/4W 5% MINI
R145	#4982, 4K7 1/4W 5% MINI
R152	#4839, 150K 1/4W 5%
R157	#4940, 10K 1/4W 5%
R216	#4599, 22AWG SOLID JUMPER
R224	#4980, 470R 1/4W 5%MINI
D34	#6825, 1N4148 75V 0A45
D43	#6825, 1N4148 75V 0A45
U23	#6858 OPTO-COUPLER
U15	#6858 OPTO-COUPLER
_X64	#4599, 22AWG SOLID JUMPER
W28	X - NO PART
W5	X - NO PART



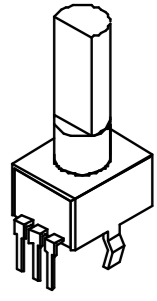
SEE LAYOUT DIAGRAM



PIN CONFIGURATION

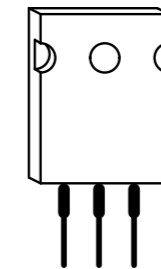


"STYLE_P25"
OLD



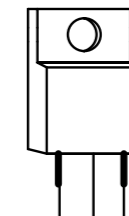
"STYLE_P32"
NEW

IRFP9140N
IRFP23N50L



G D S
TO-247

BDX54B-54C
BDX53B-53C



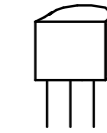
B C E
TO-220

BD139
BD140
BD237
BD238
MJE270
MJE271
MJE340
MJE350



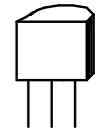
E C B
TO-126

2N5401
2N5551
MPSA06
MPSA13
MPSA43
MPSA56
MPSA63
MPSA92



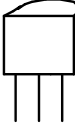
E B C
TO-92

J109
2N5638



D S G
TO-92

BC550C
BC560C



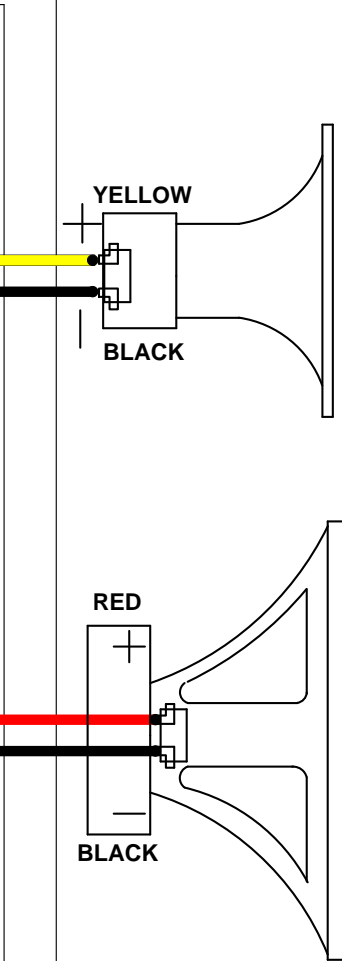
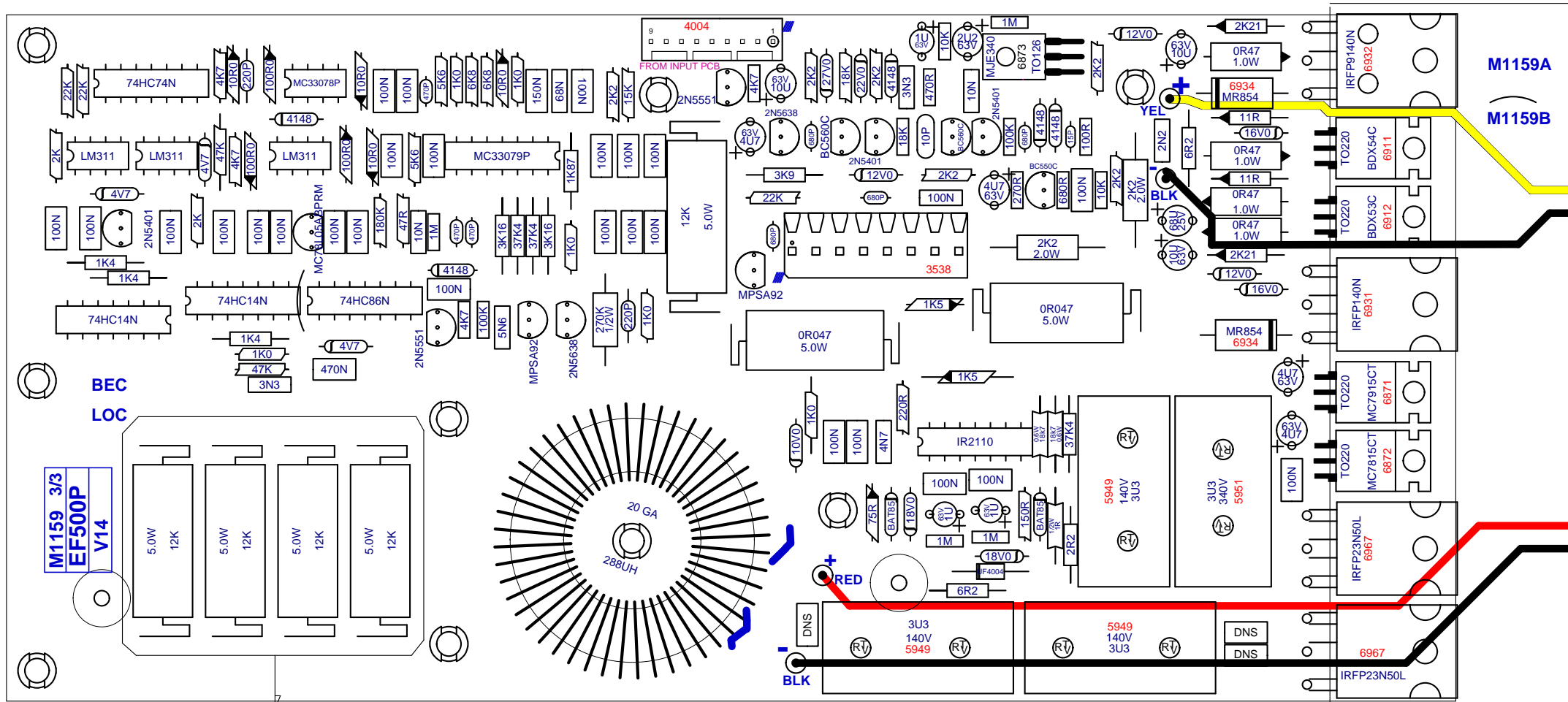
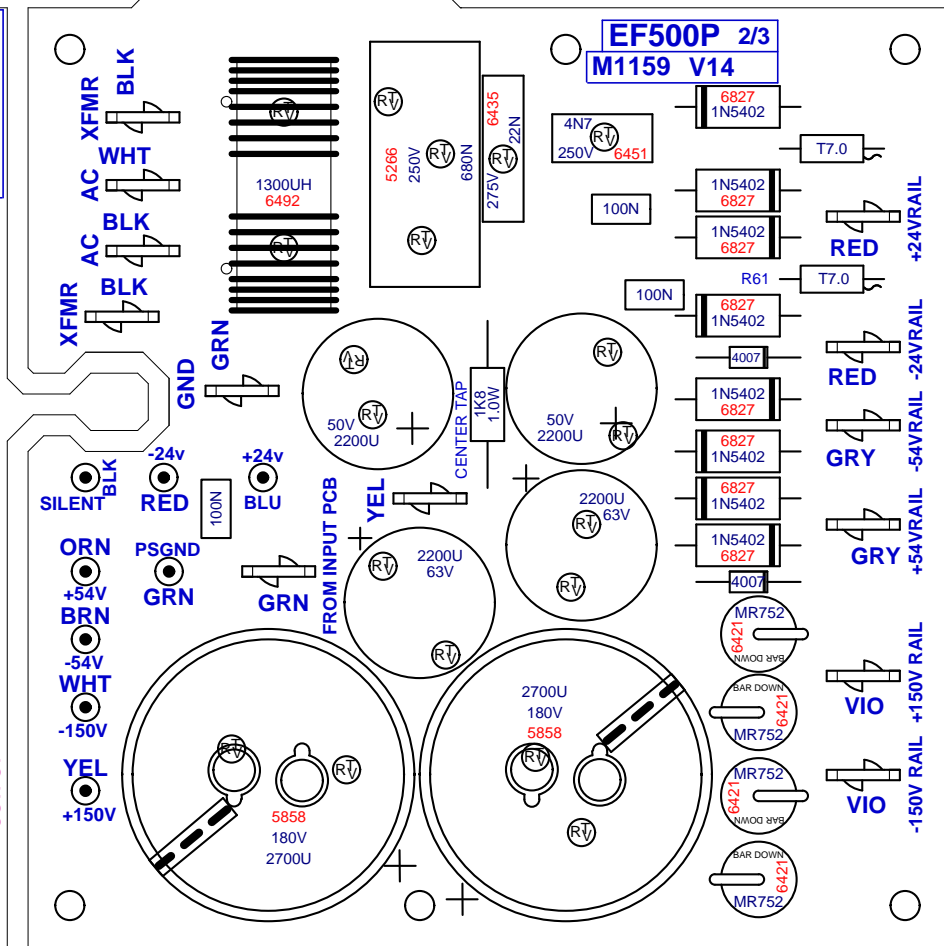
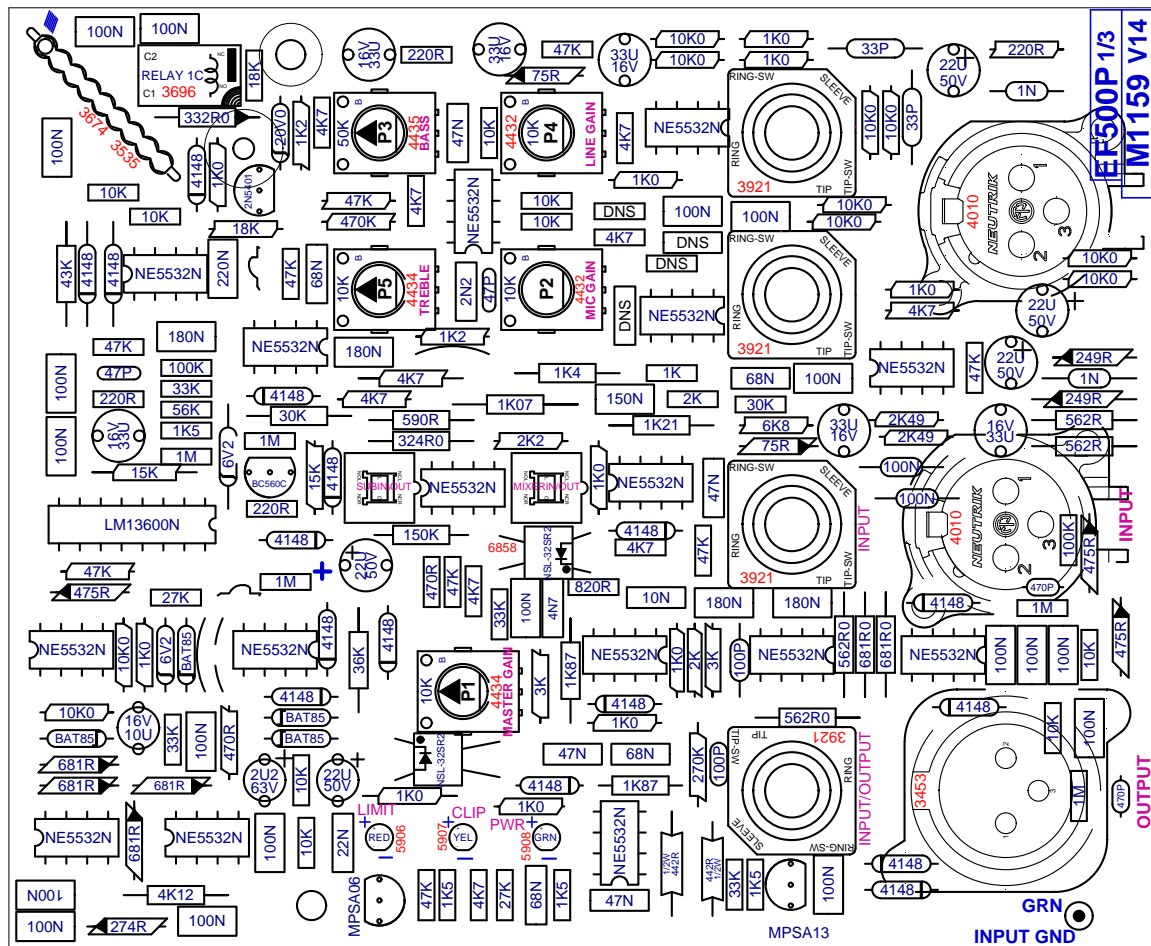
C B E
TO-92

M1159					
MODEL(S):- EF500P					
REF	FUNCTION	OLD PART	NOB	NEW PART	NOB
P1	MAIN GAIN	4537	8393	4434	9916
P2	MIC GAIN	4566	8392	4432	9915
P3	BASS TONE	4546	8394	4435	9917
P4	LINE GAIN	4566	8392	4432	9915
R	HORN TONE	4537	8394	4434	9916
R	F	O	K	N	K
R	F	O	K	N	K
R	F	O	K	N	K
R	F	O	K	N	K
R	F	O	K	N	K
R	F	O	K	N	K
R	F	O	K	N	K

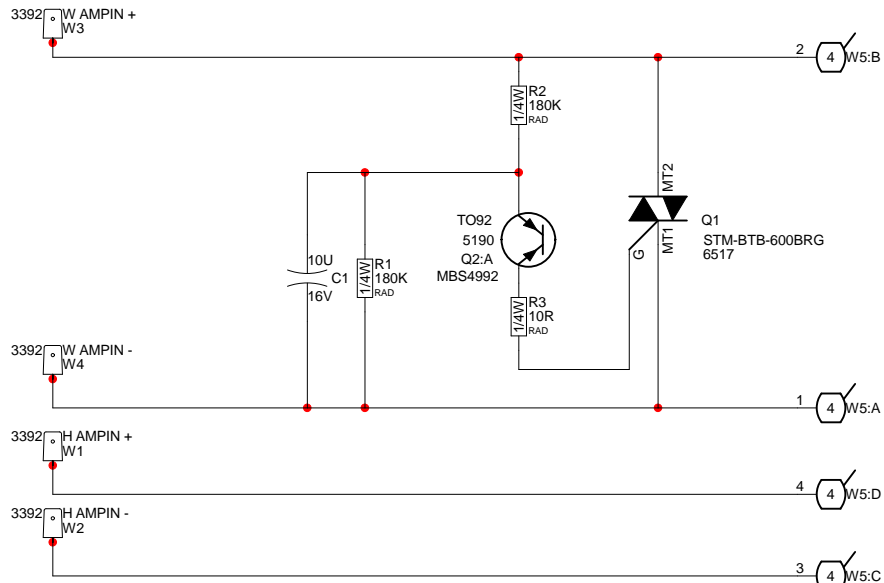
M1159 PENDING CHANGES		
MODEL(S):- EF500P		
#	PC#	PENDING CHANGE
1	7244	CHANGING #4599 TO #4597 IS NOT EXECUTABLE
2	PC	.
3	PC	.
4	PC	X
5	PC	X
6	PC	X
7	PC	X
8	PC	X
9	PC	X
10	PC	X
11	PC	X
12	PC	X
13	PC	X

*PLACE IMPLEMENTED CHANGES INTO BOARD HISTORY

M1159			
MODEL(S):- EF500P			
#	DATE	VER#	DESCRIPTION OF CHANGE
1	AUG 22 2001	2.00	1st RUN CHANGES FOR VER.2.00
2	D	V	SEE ATTACHED NOTES ON DATA BASE.
3	SEPT 18 2001	2.00	CHANGE R28 FROM 10K TO 4K7 AND R34 FROM 33K TO 47K
4	SEPT 20 2001	2.10	PC#6453 R39 6R2 TO 2R2
5	OCT 22 2001	3.00	REPOUR CHASSIS GROUND FOR CSA STANDARD 4mm clr
6	D	V	ADD COPPER POURS UNDER ALL OUTPUT DEVICES.
7	NOV 06 2001	3.10	PC#6464 R37 75R TO 150R PC#6469 R130 4K7 TO 2K
8	NOV 29 2001	4.00	MOVED TRACES UNDER 1/4" JACKS #3921
9	D	&V4.10	MOVE R24, ADD D21 AND C144, R27 FROM 47R TO 100R.
10	MAR/27/2002	V4.10	CHANGE R208 3K TO JUMPER, R204 3K TO 47K, R206 1K TO 220R, C140 1N5 TO 2N2
11	D	V	AND C91 FROM 680P TO 100N.
12	D	V	-INVERT BOTH AMP OUTPUT WIRE COLORS-INVERT BOX
13	D	V	
1	1-APR-2002	4.20	PC#6513 R130 2K TO R123 1K TO 470R
2	11-APR-2002	5.00	PC#6523 UPDATE TABS, REMOVE COPPER UNDER XFMR
3	23-OCT-2003	6.00	BOARD NOT USED FOR NX520P - REMOVE M1159A
4	19-FEB-2004	7.00	PC#6671 P.S. MODIFIED TO MEET CE SPACING STNDS.
5	OCT-07-2004	7.10	PC#6694 CHANGE POTS TO P32 STYLE
6	.	.	PC#6743 CHANGE C23, C19, C30 TO "DO NOT STUFF"
7	OCT/15/2004	8.00	UPDATE TABS FOR DS PCB'S
8	SEP-13-2005	9.00	PC#6964:INCREASE SPACING OF PADS AT POW. DIODES
9	.	.	PC#6979:GT:R6&R23 #4815 12R->#2038 11R FUSIBLE
10	OCT-31-2005	.	PC7003:GT:R9 #4979 15K->#6104 2K2, ADD 8921 WASHER
11	APR-27-2006	.	PC#7098:GT:Q14&Q15 6914 IRFP350->6967 IRFP23N50LPBF
12	AUG-16-2006	9.01	HA, PC#7136, REPLACE R77, R81 AND R82 WITH #4686
13	.	.	37K4 1% 1/4W. REPLACE R78 WITH TWO #4611
1	OCT-31-2006	10.00	ROUTE TRACE FROM R22 TO R20 AROUND Q11 MOUNT
2	.	.	PC# 7167, ENLARGE HOLE SIZE FOR #3522
3	.	.	PC#7178, Updated limiter for RoHS compliance
4	.	.	PC#7245, CHANGE VCD PARTS VALUE, HEAD LIMITATION
5	28-MAY-2007	11.00	FIX AUTO INSERT PROGRAM
6	05-JUL-2007	12.00	FIX AUTO INSERT PROGRAM
7	06-FEB-2008	13.00	PC#7290,CE VERSION ONLY, REPLACE R157 10K #4940
8	.	.	WITH 3K3 #4938. REPLACE D34 AND D43 1N4148 #6825
9	.	.	WITH BAT85 #6733
10	.	.	PC#7454, ONLY FOR N.A. REMOVE C77, R128 AND R124.
11	.	.	BA WILL PUT 33K,470R,100N AND 10U AS SHOWN, PAGE3
12	.	.	PC#7398, ADD CROWBAR CIRCUIT AND CHANGE FUSE
13	.	.	AT THE SAME TIME SEE PRODUCTION NOTE
1	05-APR-2010	14.00	PC#7356 CHANGED SQUARE PADS TO OVAL
2	.	.	ADD OPTO-COUPPLERS TO PCB AND REMOVED REWORKS
3	02-FEB-2011	.	PC8185: CHANGE #3453 TO #4100 GG
4	06-DEC-2011	.	NET NAMES UPDATED AS PER PAUL B. - ML
5	23-FEB-2012	V15	PC8373: FORCE UPDATED RELAY PATTERN. - ML
6	.	.	NEW PATTERN FOR J1 AND RADIAL TABS. - ML
7	25-JUN-2012	V16	PC8448: Changed tab pattern to large slot. - ML
8	D	V	N
9	D	V	N
10	D	V	N
11	D	V	N
12	D	V	N
13	D	V	N



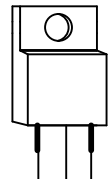
M1159B - EF500P



M1369 PCB_DATABASE_HISTORY			
MODEL(S):-	CROW BAR		
#	DATE	VER#	DESCRIPTION OF CHANGE
1	28-NOV-2007	1.00	FIRST DESIGN
2	02-JUN-2008	2.00	UPDATE TABS
3	19-JAN-2009	3.00	CHANGE THE BECLOC HOLE TO NON PLATED
4	06-MAY-2011	V04	Reduce size of the panel. - GG
5	28-JUN-2012	V05	PC8448: Updated tab pattern - ML
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

LEAD/PIN REFERENCE

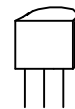
STM-BTB-600BRG



MT1 G MT2

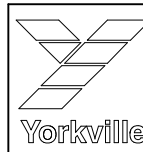
TO-220

MBS4992



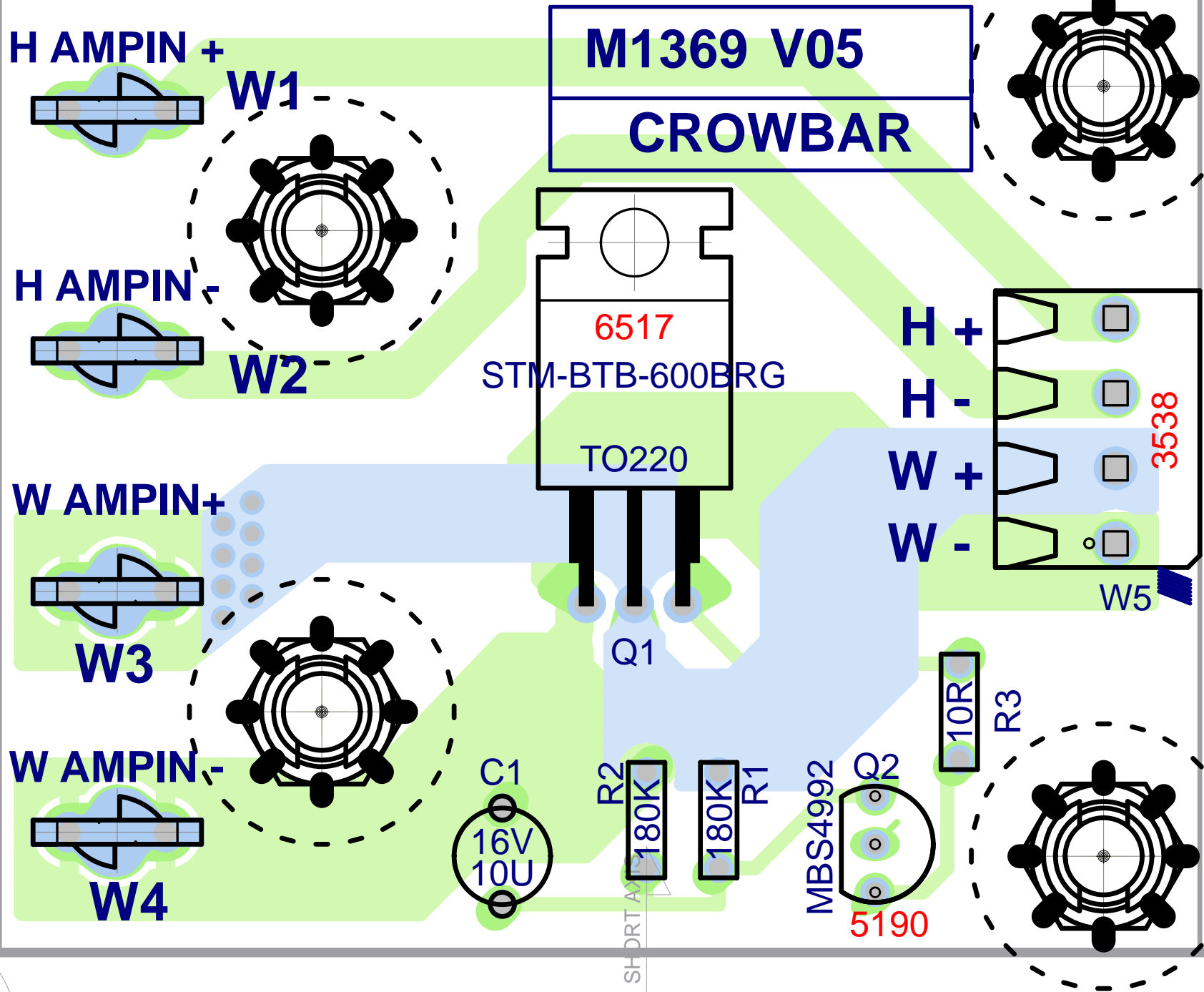
MT1 G MT2

TO-92



Product	CROWBAR		
MAIN	PCB# M1369	Sheet 1 of 2	
Date: Thu Jun 28, 2012	Rev: V05	YsType: YsType	
Filename: M1369V05.sch2006			

BlankSize - 13500x9000



CLINCH
ORIGIN

INSERT
ORIGIN

LONG AXIS

M1369 V05



SEE LAYOUT DIAGRAM



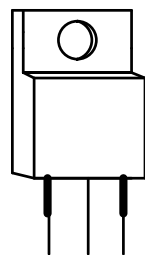
M1369 V05 PRODUCTION NOTES

1. USE #8799, #6 1/4 PAN SCREW FOR TRIAC Q1

M1369 PCB_DATABASE_HISTORY			
MODEL(S):-		CROW BAR	
#	DATE	VER#	DESCRIPTION OF CHANGE
1	28-NOV-2007	1.00	FIRST DESIGN
2	02-JUN-2008	2.00	UPDATE TABS
3	19-JAN-2009	3.00	CHANGE THE BECLOC HOLE TO NON PLATED
4	06-MAY-2011	V04	Reduce size of the panel. - GG
5	28-JUN-2012	V05	PC8448 - Updated tab pattern - ML
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

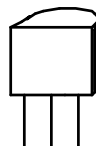
LEAD/PIN REFERENCE

STM-BTB-600BRG



MT1 G MT2
TO-220

MBS4992



MT1 G MT2
TO-92

We have experienced some failures with the short pilot runs of 520P and EF500P due to an incorrectly mounted resistor on the power board. There are only about a dozen of each of these in each of our market territories. These failures at first sight will seem somewhat intimidating due to the blackening soot which is produced when the resistor arcs out to the printed high voltage rails under the resistor designated R60. The damage looks far worse than it really is and is generally repairable by anyone with basic electronics and soldering skills.

The greatest difficulty with servicing class "D" amplifiers is that most service people have never serviced one before. And, like all things new, they don't like being in unfamiliar water. When you have done a couple of these kinds of amps, you will realize that they are probably easier to repair than their linear counterparts. But there are two dramatic differences to be observed in testing this class of amp. They are:

- 1) You cannot soft start this type of amplifier as it has an error amplifier, which will deny start up at low voltage.
- 2) You must have a load connected to the output upon startup. The amp sends a test pulse upon startup which must be registered in the feedback loop before it will activate the driver chip. If there is no load there is no current in the output, if there is no current, there is no voltage and consequently no feedback pulse.

The good news is that this class of amp will generally not cook off if you failed to repair it and then try to fire it up. It usually just sits there dumbfounded waiting for you to find the missing faulty bits.

The process for repair of units suffering from an R60 arc over is as follows.

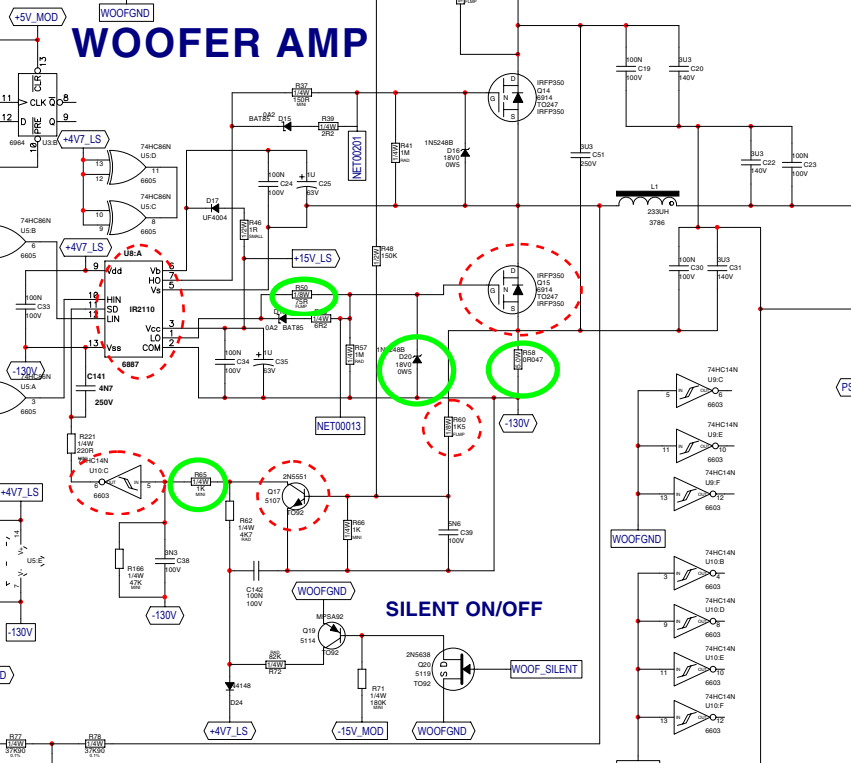
- A) Remove the remains of R60 and clean the soot from the board. Please remember this is a double-sided circuit board with thru plated component holes. Do not use excess force to remove the component leads from their solder holes. They will come out easy enough when you have enough heat on the joint.
- B) Replace the following components : 1) Q15 , IRFP350 2) Q17 , 2N5551 3) U10 , 74HC14N 4) U8 , IR2110 And finally, R60 , 1K5 , which should be installed about ¼" above the board so as not to arc out to the high voltage traces again.
- C) Measure the following parts; just to be sure we don't have any stragglers. 1) R58, .47ohms 2) R50 , 75R 3) R65 , 1K and 4) D20 , 18 volt zener.
- D) Yorkville Part #'s (Q15 = 6914) (Q17 = 5107) (U10 = 6603) (U8 = 6887) (R60 = 2034)

When all the bits have been replaced and the other parts measured, you are ready to fire it up.

Do not forget the startup rules mentioned above and you should have a 95% chance of a first shot success on the job.

Address any further questions to: Guy Beresford (gberesford@yorkville.com) or 905-837-8481 extension 236.

WOOFER AMP



NOTE 1: CE WIRING SAME AS NORTH AMERICAN
NOTE 2: TRANSFORMER IS 230V-CE



YS#9916 Gray Knob (qty: 1)



YS#9917 Green Knob (qty: 2)



YS#89915 Red Knob (qty: 2)

EF500P Parts List 8/15/2012

YS #	Description	Qty.	YS #	Description	Qty.	YS #	Description	Qty.	YS #	Description	Qty.
5906	RED 3MM LED 1V9 20MA 4SPCER T&R	1	5951	3U3 250D10%CAP BLK MPOLYP FLM	1	4944	1/4W 220R 5% 2/U T&R RES	3	8832	6-32 X 1/4 PAN PH TAPTITE JS500	2
5907	YEL 3MM LED 1V9 20MA 4SPCER T&R	1	5258	4U7 63V 20%CAP T&R 8X7MM .2EL	4	4977	1/4W 220R 5%MINI T&R RES	2	8801	6-32 X 3/8 PAN PH TAPTITE JS500	19
5908	GRN 3MM LED 1V9 20MA 4SPCER T&R	1	5282	10U 16V 20%CAP T&R 5X7MM .2NP	3	2024	1/6W 249R 2%FLAME PROOF T&R RES	2	8829	6-32 X 3/8 FLAT PH TAPTITE BOHC HEA	4
6825	1N4148 75V 0A45 DIODE T&R	21	5945	10U 63V 20%CAP T&R RAD .2EL	3	4945	1/4W 270R 5% 2/U T&R RES	1	8796	6-32 X 5/8 PAN PH TAPTITE ZINC	11
6892	UF4004 200V 1A0 DIODE ULTRAFAS	1	5260	22U 50V 20%CAP T&R RAD .2EL	1	2025	1/6W 274R 1%FLAME PROOF T&R RES	1	8803	6-32 X 3/8 PAN PHIL TAPTITE JS500	7
6438	1N4007 1000V 1A0 DIODE T&R	2	5631	22U 50V 20%CAP T&R 6X7MM .2EL	4	4789	1/4W 324R0 0.1% *** T&R RES	1	8804	6-32X1.25 PAN PH MS ZINC CLEAR	4
6827	1N5402 200V 3A0 DIODE	8	5961	33U 16V 20%CAP T&R RAD .2IN NP	6	2026	1/4W 332R0 1%FLAME PROOF T&R RES	1	8786	10-32 X 1 1/4 PAN QD MS JS500 BLACK	4
6934	MR854 400V 3A0 DIODE FASREC	2	5265	68U 25V 20%CAP T&R RAD .2EL	1	4690	1/2W 442R 1% T&R RES	2	8926	5/16-18X3 CARRIAGE BOLT ZINC	1
6421	MR752 200V 6A0 DIODE	4	5887	2200U 50V 20%CAP BLK 18X27MM EL	2	4933	1/4W 470R 5% 2/U T&R RES	2	8709	1/4-20 X 1.5 PAN PHIL MS ZINC CLEAR	4
6733	BAT85 30V 0A2 DIODE SCHT T&R	6	5912	2200U 63V 20%CAP RADIAL ELECT BULK	2	4980	1/4W 470R 5%MINI T&R RES	1	8739	M6 X 30 PAN PHIL M/S ZINC CLEAR	4
6426	1N5254B 27V0 0W5 ZENER 5% T&R	1	5858	2700U 180V 20%CAP RAD 35X63MM ELS	2	2028	1/6W 475R 1%FLAME PROOF T&R RES	3	3751	SNAP IN 5/16 SPACER RICHO	11
6432	1N5248B 18V0 0W5 ZENER 5% T&R	2	4432	10K B LIN 9MM P32	2	4799	1/4W 562R 1% T&R RES	2	3859	1/2 PLASTIC HEX SPACER #4	2
6436	1N753ARL 6V2 0W5 ZENER 5% T&R	2	4434	10K B LIN 9MM DETENT P32	2	5014	1/4W 562R 0.1% *** T&R RES	2	7524	15" 8R 500WPGM SPEAK CER B&C	1
6440	1N750ARL 4V7 0W5 ZENER 5% T&R	3	4435	50K B LIN 9MM DETENT P32	1	4994	1/4W 590R 1% T&R RES	1	8667	SHOULDER WASHER SWS-229 LENGTH 1/8	4
6450	1N5242B 12V0 0W5 ZENER 5% T&R	3	713	25 X 20 X 50 2 MIL PLASTIC BAG	1	4923	1/4W 680R 5% 2/U T&R RES	1	8489	1/4-20 SPLIT WASHER BLACK OXIDE	4
6461	1N5240BRL 10V0 0W5 ZENER 5% T&R	1	6492	1300UH COIL COMMON MODE 4AMP	1	2030	1/6W 681R 1%FLAME PROOF T&R RES	4	8482	3/8 1D FLAT WASHER	4
6463	1N5251BRL 22V0 0W5 ZENER 5% T&R	1	8467	2X2-IB-3/8" FLYING HARDWARE BRACKET	4	4743	1/4W 681R 0.1% *** T&R RES	2	3511	#6 FLAT WASHER NYLON	2
6465	1N5250B 20V0 0W5 ZENER 5% T&R	1	8483	ADAPTOR, SPEAKER STAND, METAL BLACK	1	4925	1/4W 820R 5% 2/U T&R RES	1	8818	3/4 OD X 3/8 ID X .080 THICK WASHER	9
6824	1N5246B 16V0 0W5 ZENER 5% T&R	2	8547	PLASTIC FOOT BLACK, POLYETHYLENE	4	4934	1/4W 1K 5% 2/U T&R RES	1	8921	#3MM D3.2MM OVD .0MM THICK 5MM	4
6728	MC78L05ACP TO92 P 5V0 REG TR V4	1	8562	CORNER, 3 LEGS, BLACK POWDER COAT	4	6110	1/4W 1K 1%MINI MF T&R RES	17	3522	DDPT MINI PC VERT. SNM FLAT	2
6871	MC7915CT TO220 N 15V0 REG V2	1	8569	CORNER, 2 LEGS/NO LIP BLACK POWDER C	4	4996	1/4W 1K070 0.1% *** T&R RES	1	3585	DDPT ROKR SW QUIK 250" AC/PWR IEC65	1
6872	MC7815CT TO220 P 15V0 REG V1	1	8988	NEOPRENE DRIVER GASKET 4.4 X 4.4	1	4585	1/4W 1K2 5%MINI T&R RES	2	CH1255	XFMR:EF500P	1
5101	BC550C TO92 NPN TRAN T&R TB	1	ZC453	M1158/59/1231/1309 HEATSREADER	1	4802	1/4W 1K21 1% T&R RES	1			
5102	BC560C TO92 PNP TRAN T&R TB	3	3485	CLIP 250X032 18-22AWG RIGHT ANGL	4	4769	1/4W 1K4 1% T&R RES	4			
5103	MPSA06 TO92 NPN TRAN T&R TA	1	3489	CLIP 250X032 18-22AWG DISCO/INSL	7	2034	1/8W 1K5 5%FLAME PROOF T&R RES	2			
5107	2N5551 TO92 NPN TRAN T&R TA	2	3490	CLIP 250X032 14-16AWG DISCO/INSL	6	4935	1/4W 1K5 5% 2/U T&R RES	4			
5108	2N5401 TO92 PNP TRAN T&R TA	4	3921	1/4" JCK PCB MT VERT STER RT SWT	4	4683	1.0W 1K8 5% T&R RES	1			
5114	MPSA92 TO92 PNP TRAN T&R TA	2	4010	XLR FEML PCB MT VERT 24MM AA-SERIES	2	4993	1/4W 1K87 1% T&R RES	3			
5105	MPSA13 TO92 NPN DARL T&R TA	1	4100	XLR MALE PCB MT VERT	1	4946	1/4W 2K 5% 2/U T&R RES	1			
5119	J111 TO92 NCH JFET T&R TC	2	4095	EMI FILTER FOR RIBBON CABLE	2	6113	1/4W 2K 5%MINI T&R RES	3			
6873	MJE340 TO126 NPN TRAN TG	1	3482	LOWPROFILE FUSEHOLDER 1/4" BUSSMANN	1	4705	2.0W 2K2 5% T&R RES	2			
6911	BDX54C TO220 PNP TRAN DARL TE	1	2465	7.0 AMP FAST-BLO 25X1.25 FUSE	1	6104	1/4W 2K2 5%MINI T&R RES	6			
6912	BDX53C TO220 NPN TRAN DARL TE	1	2487	7.0 AMP SLO-BLO T&R FUSE	2	2035	1/4W 2K21 1%FLAME PROOF T&R RES	2			
6931	IRFP140N TO247 NCH MFET TM	1	8565	BAR HANDLE ALL METAL RECTANGULAR	2	6114	1/4W 2K49 1%MINI MF T&R RES	2			
6932	IRFP9140N TO247 PCH MFET TM	1	7401	8R 120W 1.50" DRIVER TI DE72P B&C	1	6124	1/4W 3K 5%MINI T&R RES	2			
6967	IRFP23N50L TO247 NCH MFET TM	2	3501	B52200F006 COMP WASH #4 SMALL	9	4788	1/4W 3K160 0.1% *** T&R RES	2			
6804	MC33079P IC QUAD OP AMP	1	8721	3/8-16X11/4 GRD5 FLAT SCTK HD JS500	9	4850	1/4W 3K9 5% T&R RES	1			
6840	MC33078P IC DUAL OP AMP	1	9897	SPEAKER COVER, BLACK POLYPRO, 54" W	25	4774	1/4W 4K12 1% T&R RES	1			
6884	NE5532N IC DUAL OP AMP	16	3552	NYLON SPRING CLAMP	1	4943	1/4W 4K7 5% 2/U T&R RES	9			
6640	LM311 IC VOLTAGE COMPARATOR	3	3645	AC SOCKET RECEPTACLE WITH 0.250 TAB	1	4982	1/4W 4K7 5%MINI T&R RES	5			
6745	LM13800N IC XCONDUCTANCE AMP	1	3803	NYLON SECUR-A-TACH MINI PLASTIC TIE	1	6141	1/4W 5K6 5%MINI T&R RES	2			
6887	IR2110 IC HILO FET DRIVER	1	3810	4" NYLON CABLE TIE	11	4978	1/4W 6K8 5%MINI T&R RES	3			
6603	74HC14N IC HEX INV SCHMID	2	3841	5.5" NYLON CABLE TIE	2	4940	1/4W 10K 5% 2/U T&R RES	11			
6605	74HC86N IC QUAD 2INP XOR	1	3852	STICK ON CABLE WRAP ANCHOR	1	6116	1/4W 10K0 1%MINI MF T&R RES	10			
6964	74HC74N IC DUAL FLIPFLOP	1	3559	TERM HOUSING 8 CIR. .156/RAMP	1	4768	5.0W 12K 5% BLK RES	5			
5190	MBS4992 TO92 8V5 DIAC T&R	1	3538	24 PIN BREAKAWAY LOC. .156	0.5	4979	1/4W 15K 5%MINI T&R RES	2			
6517	BTB24-600 TO220A 25A TRIAC 600V	1	3549	TRIFURCON TERM. .156	8	4954	1/4W 18K 5% 2/U T&R RES	2			
6858	NSL-32SR2 OPTO-COUPLER LDR	2	8632	KNOB ROUND PUSHBUTTON 1/4" GREY	2	6125	1/4W 18K 5%MINI T&R RES	2			
5401	10P 500V 5%CAP T&R RAD CER.2NPO	1	9915	KNOB 0-DEG RED SOFT GRAY RIB	2	4611	0.6W 18K7 1% MF T&R RES	2			
5817	15P 100V 2%CAP T&R RAD CER.2NPO	1	9916	KNOB 0-DEG GRY SOFT GRAY RIB	1	6118	1/4W 22K 5%MINI T&R RES	3			
5406	33P 50V 10%CAP BLK BEAD NPO	2	9917	KNOB 0-DEG GRN SOFT GRAY RIB	2	4956	1/4W 27K 5% 2/U T&R RES	2			
5203	47P 100V 2%CAP T&R RAD CER.2NPO	2	3426	8' 3/16 SJT AC LINE CORD REMOV-B-CSA	1	4890	1/4W 30K 5% T&R RES	1			
5199	100P 100V 2%CAP T&R RAD CER.2NPO	1	2364	HEYCO LOCKIT STRAIN RELIEF 1852	1	4941	1/4W 30K 5% 2/U T&R RES	1			
5410	100P 100V 10%CAP T&R BEAD NPO	1	8259D	LOGO ELITE SERIES LARGE DOME	1	4947	1/4W 33K 5% 2/U T&R RES	4			
5412	220P 100V 10%CAP T&R BEAD NPO	2	3792CORE	77091-A7 KOOL-MU TOROID CORE	1	4868	1/4W 36K 5% T&R RES	1			
5201	470P 100V 5%CAP T&R RAD CER.2NPO	5	3792	288UH CHOKE 89T20AWG/77091MAGNTKS	1	4686	1/4W 37K4 1% METAL FILM T&R RES	3			
5816	680P 100V 5%CAP T&R RAD CER.2NPO	4	8701	4-40 KEPS NUT ZINC	8	4878	1/4W 43K 5% T&R RES	1			
5422	1N 50V 10%CAP T&R BEAD NPO	2	8793	4-40 HEX NUT ZINC	1	4927	1/4W 47K 5% 2/U T&R RES	7			
5208	2N2 400V 5%CAP T&R RAD .2FLM	2	8800	6-32 KEPS NUT ZINC	2	6119	1/4W 47K 5%MINI T&R RES	4			
5275	3N3 100V 5%CAP T&R RAD .2FLM	2	8787	8-32 KEPS NUT ZINC	3	4928	1/4W 56K 5% 2/U T&R RES	1			
5209	4N7 250V 5%CAP T&R RAD .2FLM	2	8604	10-32 T NUT	4	4942	1/4W 100K 5% 2/U T&R RES	4			
6451	4N7 250V 20%CAP BLK Y 10MM AC	1	8602	1/4-20 T NUT	4	4839	1/4W 150K 5% T&R RES	1			
5271	5N6 100V 5%CAP T&R RAD .2F	1	8797	5/16-18 KEPS NUT JS500	1	4796	1/4W 180K 5%MINI T&R RES	1			
5204	10N 100V 10%CAP T&R RAD .2FLM	3	8724	3/8-16 T-NUT (SCREW MOUNT)	1	4949	1/4W 180K 5% 2/U T&R RES	1			
5210	22N 100V 10%CAP T&R RAD .2FLM	1	3884	SARCON THERMAL GASKET 4.55"X1.00"	1	4679	1/2W 270K 5% T&R RES	2			
6435	22N 275V 20%CAP BLK X'2 15MM AC	1	4599	22AWG SOLID SC WIR T&R JMP	5	6135	1/4W 270K 5%MINI T&R RES	1			
5224	47N 100V 10%CAP T&R RAD .2FLM	4	5299	24AWG SOLID SC WIR RAD JMP	2	6127	1/4W 470K 5%MINI T&R RES	1			
5226	68N 100V 5%CAP T&R RAD .2FLM	5	4660	5.0W 0R047 5% BLK RES	2	4948	1/4W 1M 5% 2/U T&R RES	9			
5212	100N 63V 5%CAP T&R RAD .2FLM	48	2005	1.0W 0R47 5%FLAME PROOF T&R RES	4	3696	RELAY 1C 02AMP DC24 006MA PC-S	1			
5228	100N 100V 5%CAP T&R RAD .2FLM	2	4682	1/2W 1R 5%PHILIPS SMAL T&R RES	1	8842	#4 X 5/16 PAN QUAD TYPE A JS500 BLK	6			
5314	100N 50V 10%CAP T&R BEAD X7R	2	4911	1/4W 2R2 5% T&R RES	1	8799	#6 X 1/4 PAN PH TYPE B JS500	1			
5229	150N 63V 10%CAP T&R RAD .2FLM	2	4813	1/4W 6R2 5% T&R RES	2	8811	#6 X 1/4 FLAT HD SQ SCTK WS 2N CL	22			
5230	180N 63V 5%CAP T&R RAD .2FLM	4	2010	1/6W 10R0 2%FLAME PROOF T&R RES	4	8785	#8 X 3/4 OVAL PH TYPE A BLACK OXIDE	19			
5231	220N 63V 5%CAP T&R RAD .2FLM	1	4930	1/4W 10R 5% 2/U T&R RES	1	8756	#10 X 3/4 PAN PH TYPE A BLACK OXIDE	50			
5234	470N 63V 10%CAP T&R RAD .2FLM	1	2038	1/4W 11R FUSIBLE T&R RES	2	8781	#10 X 7/8 FLAT QUAD TYPE A JS500BLK	4			
5266	680N 250V 20%CAP BLK X'2 30MM AC	1	6134	1/4W 47R 5%MINI T&R RES	1	8727	#10 X 1" PAN PH TYPE A JS500 BLACK	16			
5254	1U 63V 20%CAP T&R 4X7MM .2EL	1	2018	1/6W 75R 2%FLAME PROOF T&R RES	3	8777	#14 X 1 FLAT PH TYPE A JS500 M6 HEAD	4			
5255	1U 63V 20%CAP T&R RAD .2EL	2	2019	1/8W 100R0 1%FLAME PROOF T&R RES	3	8928	#14X11/4 ALLEN FLHD WOOD SCRW JS500	6			
5257	2U2 63V 20%CAP T&R RAD .2EL	2	4921	1/4W 100R 5% 2/U T&R RES	1	8865	4-40 X 5/16 PAN PH MS JS500	4			
5949	3U3 140AC10%CAP BLK RAD POLYP FLM	3	4984	1/4W 150R 5%MINI T&R RES	1	8871	4-40 X 5/8 PAN PH MS JS500	9			