



TX-SERIES

PROFESSIONAL LOUDSPEAKER SYSTEMS

SERVICE MANUAL

WEB: www.yorkville.com

WORLD HEADQUARTERS CANADA

Yorkville Sound
550 Granite Court
Pickering, Ontario
L1W-3Y8 CANADA

Voice: (905) 837-8481
Fax: (905) 837-8746

U.S.A.

Yorkville Sound Inc.
4625 Witmer Industrial Estate
Niagara Falls, New York
14305 USA

Voice: (716) 297-2920
Fax: (716) 297-3689



Quality and Innovation Since 1963

Printed in Canada

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	2. TX2P <ul style="list-style-type: none">• Schematic• m453 Layout• m457* Layout	5. TX5P <ul style="list-style-type: none">• Schematic• m457* Layout• m462 Layout
	3. TX3P <ul style="list-style-type: none">• Schematic• m461 Layout• m458* Layout	6. TX8P <ul style="list-style-type: none">• Schematic• m454 Layout• m458* Layout
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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:

DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE.

REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

AFIN DE RÉDUIRE LES RISQUE DE CHOC ÉLECTRIQUE, N'ENLEVEZ PAS LE COUVERT (OU NE CONTIENT AUCUNE PIÈCE RÉPARABLE PAR L'UTILISATEUR.

CONSULTEZ UN TECHNICIEN QUALIFIÉ 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 all three blades can be fully inserted to prevent blade exposure. Precautions should be taken so that the grounding scheme on the unit is not defeated.

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.

Veuillez lire le manuel:

Il contient des informations qui devraient être 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 être retourner pour réparation.

Warning:

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.

Cordon d'alimentation:

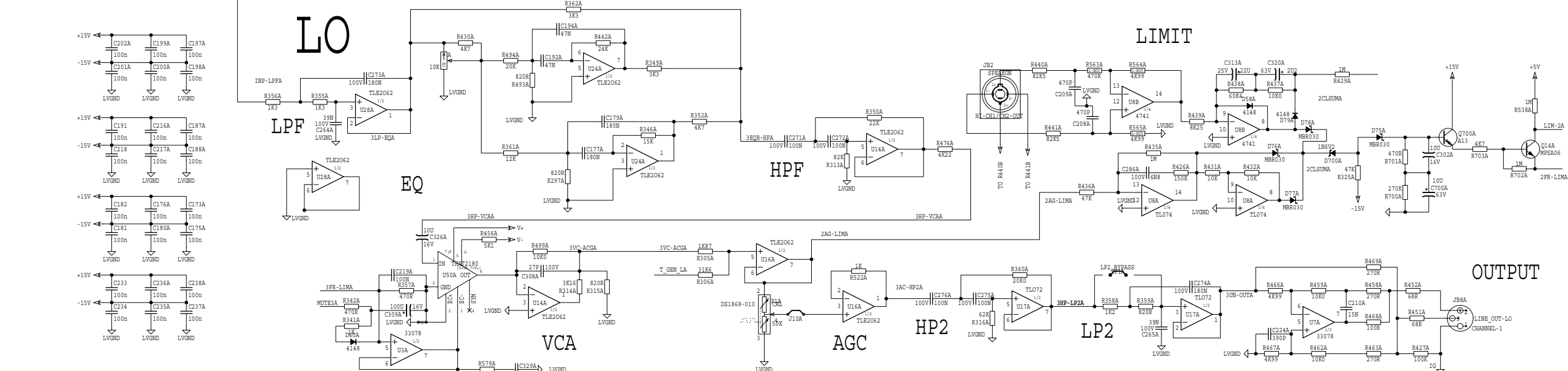
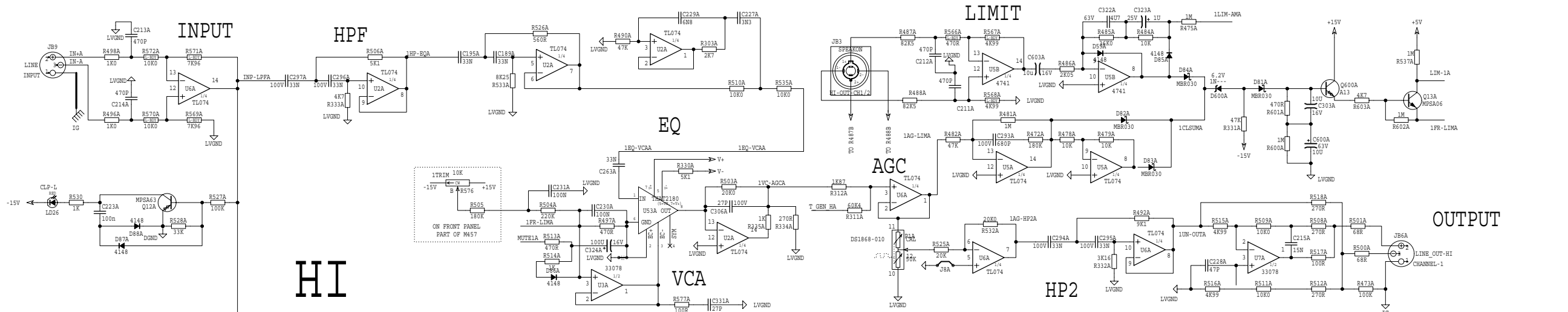
Évitez d'endommager le cordon d'alimentation. **N'UTILISEZ PAS L'APPAREIL** si le cordon d'alimentation est endommagé.

Service:

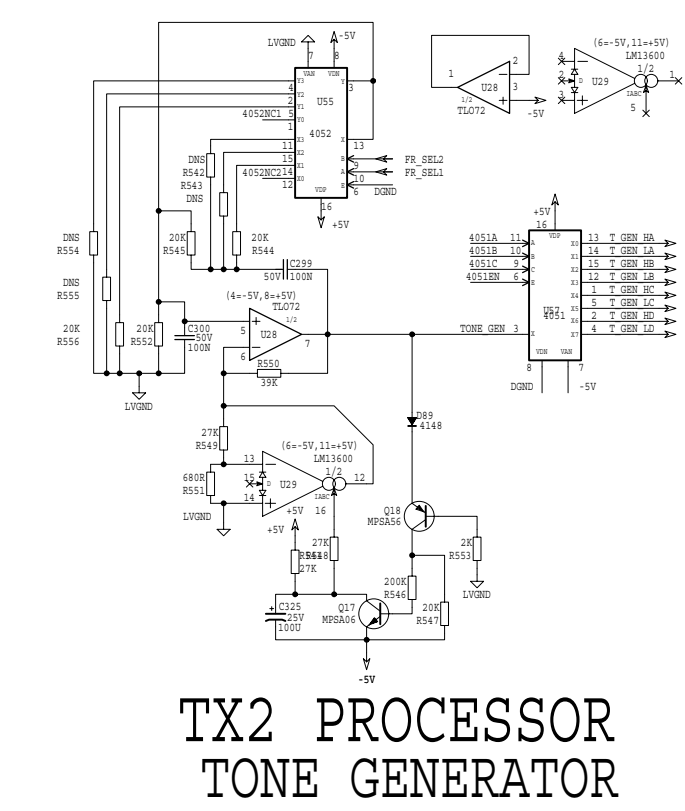
Consultez un technicien qualifié pour l'entretien de votre appareil.

TX2P Parts List 11/5/98

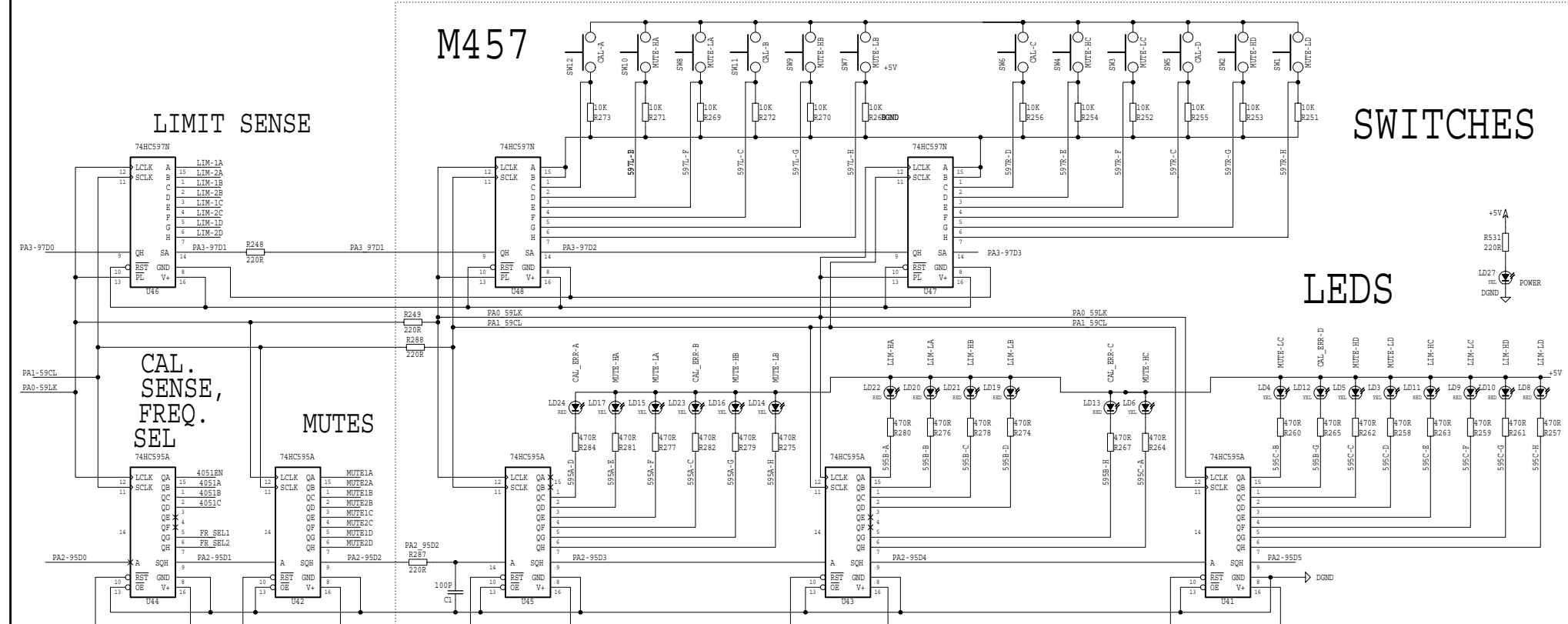
YS No.	Description	Qty.	YS No.	Description	Qty.
3571	28 PIN X .6" I.C. SOCKET	1	3583	8 CIR WAFER W/LCK 0.1"	1
6997	4MHZ CRYSTAL HC495	1	4811	1/4W 68R 5% T&R RES	16
6405	RED 3MM LED 1V7 5MA BRIGHT PACE	16	4602	1/8W 100R 5% T&R RES	17
6407	YELLOW3MM LED 1V8 5MA EVRLITE204YD	8	4645	1/8W 220R0 1%FLAME PROOF T&R RES	6
6408	GREEN 3MM LED 1V9 5MA FROSTED	1	4977	1/4W 220R 5%MINI T&R RES	4
6438	1N4004 400V 1A0 DIODE T&R	6	4867	1/4W 270R 5% T&R RES	4
6825	1N4148 75V 0A45 DIODE T&R	33	4986	1/4W 270R 5%MINI T&R RES	24
6733	BAT85/11330V 0A2 DIODE SCHTKY T&R	32	4855	1/4W 330R 5% T&R RES	2
6439	1N5225B 3V0 0W5 ZENER 5% T&R	2	4821	1/4W 470R 5% T&R RES	20
6436	1N753ARL 6V2 0W5 ZENER 5% T&R	8	4933	1/4W 470R 5% .2"U T&R RES	8
6732	MC79L05ACP TO92 NEG 5V0 REG	1	4980	1/4W 470R 5%MINI T&R RES	24
6855	NJM7805FA TO220 POS 5V0 REG IS	1	4871	1/4W 560R 5% T&R RES	4
6856	NJM7815FA TO220 POS 15V0 REG IS	1	4873	1/4W 680R 5% T&R RES	1
6857	NJM7915FA TO220 NEG 15V0 REG IS	1	4822	1/4W 820R 5% T&R RES	11
5103	MPSA06 TO92 NPN TRANS. T&R	9	5016	1/8W 820R 5%FLAME PROOF T&R RES	5
5104	MPSA56 TO92 PNP TRANS. T&R	1	4823	1/4W 1K 5% T&R RES	4
5105	MPSA13 TO92 NPN DARLINGTON&R	8	4981	1/4W 1K 5%MINI T&R RES	17
5106	MPSA63 TO92 PNP DARLINGTON&R	4	6110	1/4W 1K0 1%MINI MF T&R RES	8
6798	MC4741CP IC QUAD OP AMP	4	4854	1/4W 1K2 5% T&R RES	4
6840	MC33078P IC DUAL OP AMP	8	4889	1/4W 1K3 5% T&R RES	8
6882	TL072CP IC FET DUAL OP AMP	7	4993	1/4W 1K87 1% T&R RES	8
6889	TLO74CN IC QUAD O/A TEXASI ONLY	12	6113	1/4W 2K 5%MINI T&R RES	1
6950	TLE2062CP IC LOW CUR DUAL OP AMP	16	4919	1/4W 2K05 1%-NO SUBS- T&R RES	4
6745	LM13600N IC XCONDUCTANCE AMP	1	4864	1/4W 2K7 5% T&R RES	4
6999	THAT 2180LB IC VCA SIP	8	6124	1/4W 3K 5%MINI T&R RES	2
6959	4052 IC DUAL 1/4 CMOS SWITC	1	4992	1/4W 3K16 1% T&R RES	8
6980	MC74HC595AN IC 8 BIT SHIFT REGISTER	5	6136	1/4W 3K3 5%MINI T&R RES	8
6995	74HC597N IC 8BIT SHRE6 PARE IN	3	4774	1/4W 4K12 1% T&R RES	4
7001	74HC4051N IC 8TO1 CMOS SWITCH	2	4827	1/4W 4K7 5% T&R RES	7
6641	DS1233D-10 IC RESET SENSE	1	4943	1/4W 4K7 5% .2"U T&R RES	8
6970	AT24C02 IC EEPROM 128 BYTES	1	4982	1/4W 4K7 5%MINI T&R RES	10
6996	68HC705P9CP IC MICROCOMPUTER	1	4639	1/4W 4K99 1% T&R RES	16
7000	DS1868-10 IC (DIGITAL POTENTIOMETER	4	6128	1/4W 4K99 1%MINI MF T&R RES	16
5404	27P 100V 10%CAP T&R TUBULAR NPO	8	4893	1/4W 5K1 5% T&R RES	4
5405	27P 200V 5%CAP T&R RAD CER.2"NPO	10	6138	1/4W 5K1 5%MINI T&R RES	8
5203	47P 100V 2%CAP T&R RAD CER.2"NPO	4	4787	1/4W 7K960 0.1% *** T&R RES	8
5410	100P 100V 10%CAP T&R BEAD NPO	1	4792	1/4W 8K25 1% T&R RES	8
5197	220P 100V 2%CAP T&R RAD CER.2"NPO	4	4810	1/4W 9K1 5% T&R RES	4
5201	470P 100V 5%CAP T&R RAD CER.2"NPO	24	4800	1/4W 10K0 1% T&R RES	12
5420	680P 50V 10%CAP T&R BEAD NPO	4	4829	1/4W 10K 5% T&R RES	10
5275	3N3 100V 5%CAP T&R RADIAL.2"FILM	4	4983	1/4W 10K 5%MINI T&R RES	18
6451	4N7 250V 20%CAP AC Y ONLY RAD10MM	1	6116	1/4W 10K0 1%MINI MF T&R RES	32
5272	6N8 100V 5%CAP T&R RADIAL.2"FILM	4	4856	1/4W 12K 5% T&R RES	4
5376	6N8 50V 5%CAP T&R BEAD X7R	4	4953	1/4W 12K 5% .2"U T&R RES	3
5205	15N 100V 10%CAP T&R RADIAL.2"FILM	8	4979	1/4W 15K 5%MINI T&R RES	4
6435	22N 275V 20%CAP AC X2 RAD BLK15MM	1	6123	1/4W 20K0 1%MINI MF T&R RES	23
5222	33N 100V 10%CAP T&R RADIAL.2"FILM	20	6118	1/4W 22K 5%MINI T&R RES	4
5306	33N 50V 10%CAP T&R BEAD X7R	8	4902	1/4W 24K 5% T&R RES	4
5223	39N 100V 10%CAP T&R RADIAL.2"FILM	8	6129	1/4W 27K 5%MINI T&R RES	3
5224	47N 100V 10%CAP T&R RADIAL.2"FILM	8	4917	1/4W 31K6 1% T&R RES	4
5228	100N 100V 5%CAP T&R RADIAL.2"FILM	61	6122	1/4W 33K 5%MINI T&R RES	4
5314	100N 50V 10%CAP T&R BEAD X7R	10	4767	1/4W 36K0 1%FLAME PROOF T&R RES	4
5230	180N 63V 5%CAP T&R RADIAL.2"FILM	16	4853	1/4W 39K 5% T&R RES	1
5255	1U 63V 20%CAP T&R RADIAL ELE.2"	5	6119	1/4W 47K 5%MINI T&R RES	20
5257	2U2 63V 20%CAP T&R RADIAL ELE.2"	4	4761	1/4W 60K4 1% T&R RES	8
5259	4U7 63V 20%CAP T&R RADIAL ELE.2"	4	6139	1/4W 62K 5%MINI T&R RES	4
5281	10U 16V 20%CAP NONPOLAR T&R .2"	16	4586	1/4W 82K 5%MINI T&R RES	4
5945	10U 63V 20%CAP T&R RADIAL ELECTR	8	4772	1/4W 82K5 1% T&R RES	16
5260	22U 50V 20%CAP T&R RADIAL ELE.2"	4	6120	1/4W 100K 5%MINI T&R RES	12
5267	100U 25V 20%CAP T&R RADIAL ELE.2"	3	4851	1/4W 120K 5% T&R RES	4
5879	100U 16V 20%CAP T&R RAD EL.2"8X7M	8	4839	1/4W 150K 5% T&R RES	4
5848	1000U 25V 20%CAP AXIAL ELECTR BULK	2	4972	1/4W 270K 5% .2"U T&R RES	4
5868	4700U 16V 10%CAP RADIAL ELECT BULK	1	4796	1/4W 180K 5%MINI T&R RES	5
4520	10K TRIM POT (ENCLOSED)	4	4849	1/4W 180K 5% T&R RES	3
4388	100K ROT B KNUR 9MM 25MM DETENT VER	4	6137	1/4W 200K 5%MINI T&R RES	1
3682	250 MALE PCB TAB BULK ON CATRIGE	2	4844	1/4W 1M 5% T&R RES	24
6956	SPEAKON CONN PCB MNT HOR NL4MD-H	4	4948	1/4W 1M 5% .2"U T&R RES	12
3923	NC3MAH MALE XLR PC MT	8	4951	1/4W 4M7 5% .2"U T&R RES	1
3657	FEMALE XLR PC MOUNT HORIZONTAL	4	3690	.8" 4C-28AWG RIB 1 W/LCK HDR 0.1"	3
3414	INTERNATIONAL PC MOUNT FUSEHOLDER	2	3706	13" 8C-26AWG RIB 1 W/LCK HDR 0.1"	1
2480	0.600 AMP SLO-BLO .25X1.25 FUSE	1	8774	1/4-20 X 1 1/2 GRD 5 BUTTON HEX JS5	1
3501	B52200F006 COMP WASH #4 SMALL	3	3629	SNAP IEC PWR SOC W/.250TAB FOR .04	1
8659	TX SERIES PUSH SW CAP GREY	12	3739	CUSTOM .4 LED SPACER	25
3473	87 3/18 SVT AC LINE CORD REMOVABLE	1	3859	1/2 PLASTIC HEX SPACER #4	5
3654	PCB CONN 4 CIR .100 LOCKING	3	8818	3/4 OD X 5/16 ID X .08 THICK WASHER	1
3676	8 CIR CABLE HOLDER .098	1	8491	#10 SPLIT LOCK WASHER BO	11
5989	4 CIR CABLE HOLDER .098	3	3439	SP SERIES VERTICAL MOM PCB SWITCH	12
8800	6-32 KEPS NUT ZINC	1	1317	TXP SERIES PC MOUNT XFMR	1
8787	8-32 KEPS NUT ZINC	2			
8788	1/4-20 KEPS NUT ZINC	1			



TX2P PROCESSOR



TX2 PROCESSOR TONE GENERATOR



SWITCHES

LEDS

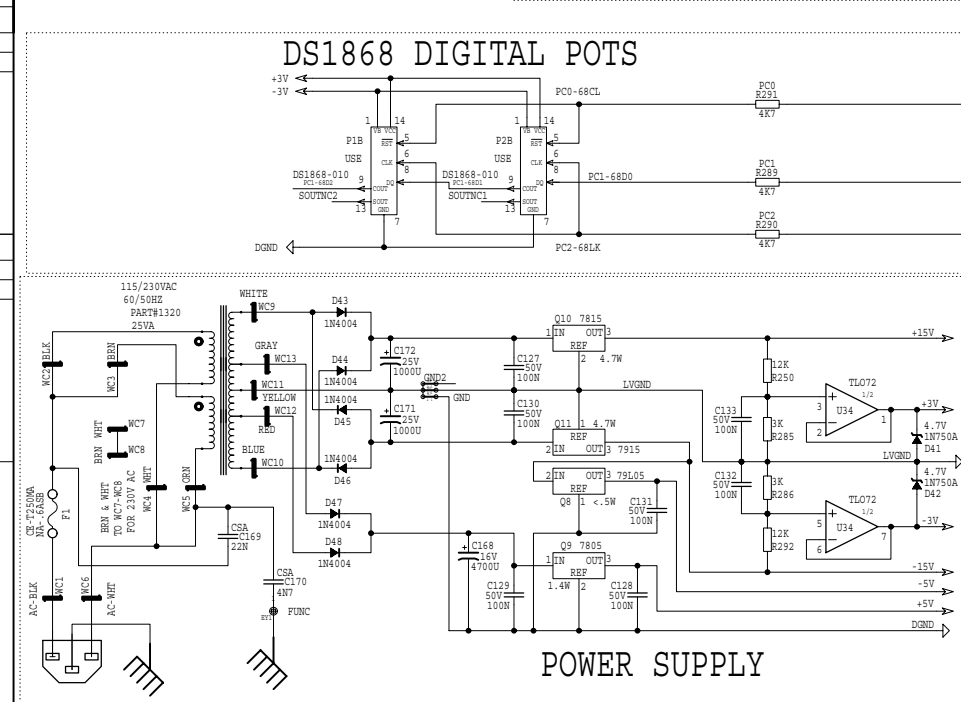
M453_SCH DATABASE HISTORY

#	DATE	VER#	DESCRIPTION OF CHANGE
1	06/01/96		CORRECT TO MATCH LAYOUT
2	06/07/96	1.40	PC#5187 R470A 10K -> 20K C266A 10K -> 50K R700 IM -> 270K
3	06/14/96	1.50	PC#5191 ADD_100P_FROM_PIN_14_OF_U45 TO GROUND
4	06/13/96	1.60	XFORM TO TONOID
5	NOV/14/96		PC#5242 SEE LIST BELOW
6			PC#5243 U28A TL062->TL072 USA 4741->TL074 R314A 1K->30K R315A 270K->820K

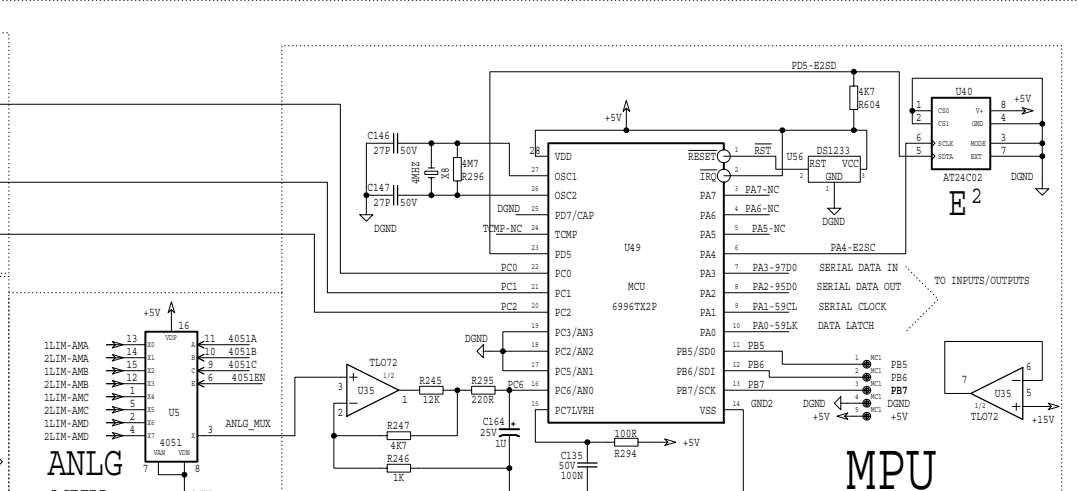
M453_SCH DATABASE HISTORY

#	DATE	VER#	DESCRIPTION OF CHANGE
1	06/07/96		U28A TL062->TL062C U17A TL072->
2	APR/10/98	2.00	PC#5110 U40 MCM0314->M24002
3	06/10/98	2.10	PC#5111 ADD_DIP_CIRCUIT_TO_LO_U24A
4	FEB/12/01	2.20	CORRECT C12A 500NF
5			PC#5330 U45,D47,548 MOTOROLA 74HC597A->PHILIPS_74HC597N

- PC#5242 NOV. 14, 96
- R512A 48K TO 200K
- R470A 45K TO 100K
- R499A 45K TO 100K
- R525A 20K TO 1K
- R466A, R467A, R515A, R516A 10K TO 4K93
- R459A, R462A, R505A, R511A 20K TO 100K
- R472A 39K TO 100K
- C23A 47P TO 68P
- R521A DELETE



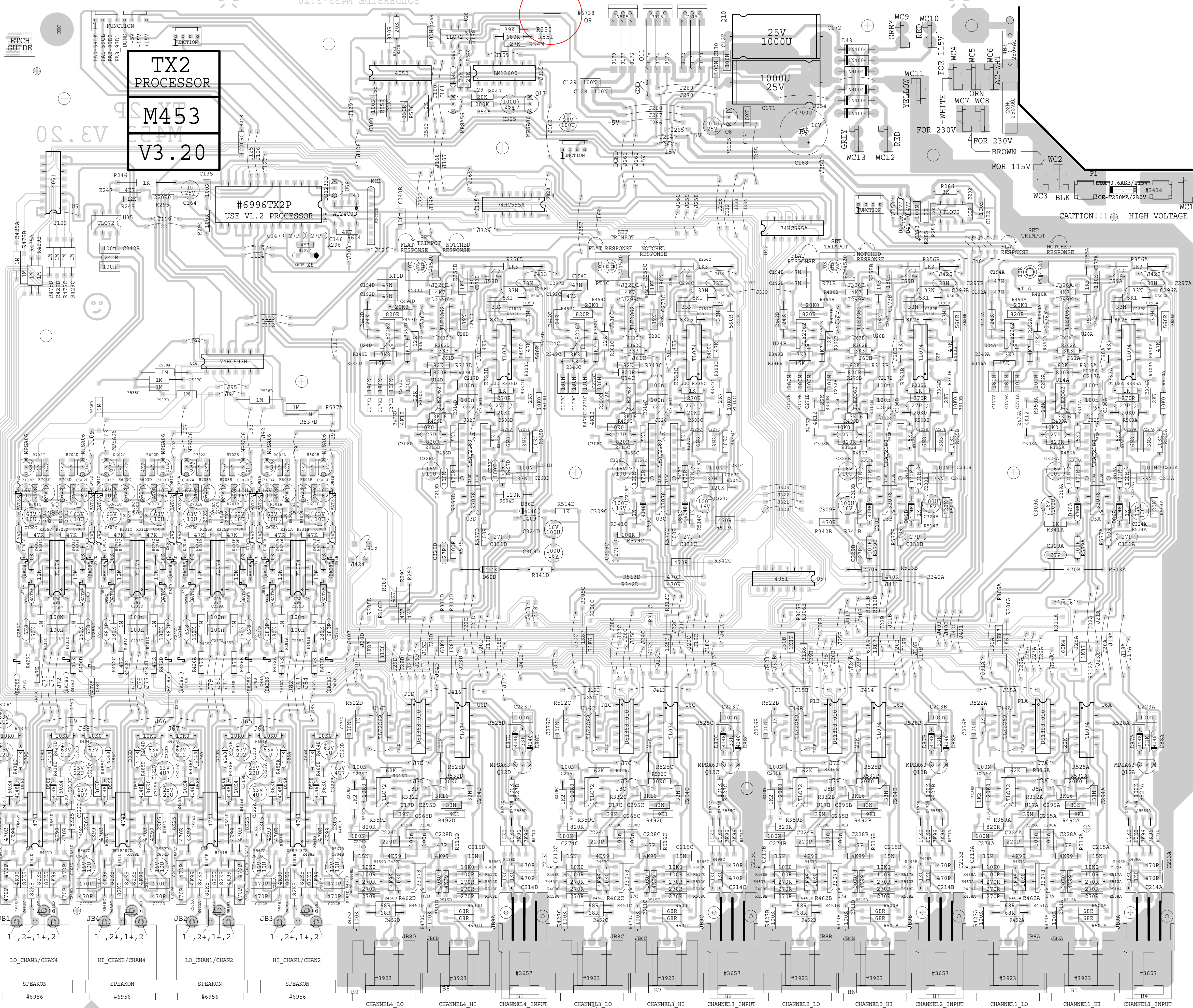
POWER SUPPLY



ANLG MUX

MPU

TX PROCESSOR MICRO PROCESSOR & SUPPLIES



- FOR 120V OPERATION STUFF J200 AND J202 REMOVE J201
- FOR 220VAC OPERATION REMOVE J200 AND J202 STUFF J201
- R499A/B/C/D ARE HAND INSERTED FOR R315A/B/C/D USE PT#5016
- 820R 1/8WFP FOR ALL 20K USE 20K0 MINI

M453.PCB DATABASE HISTORY

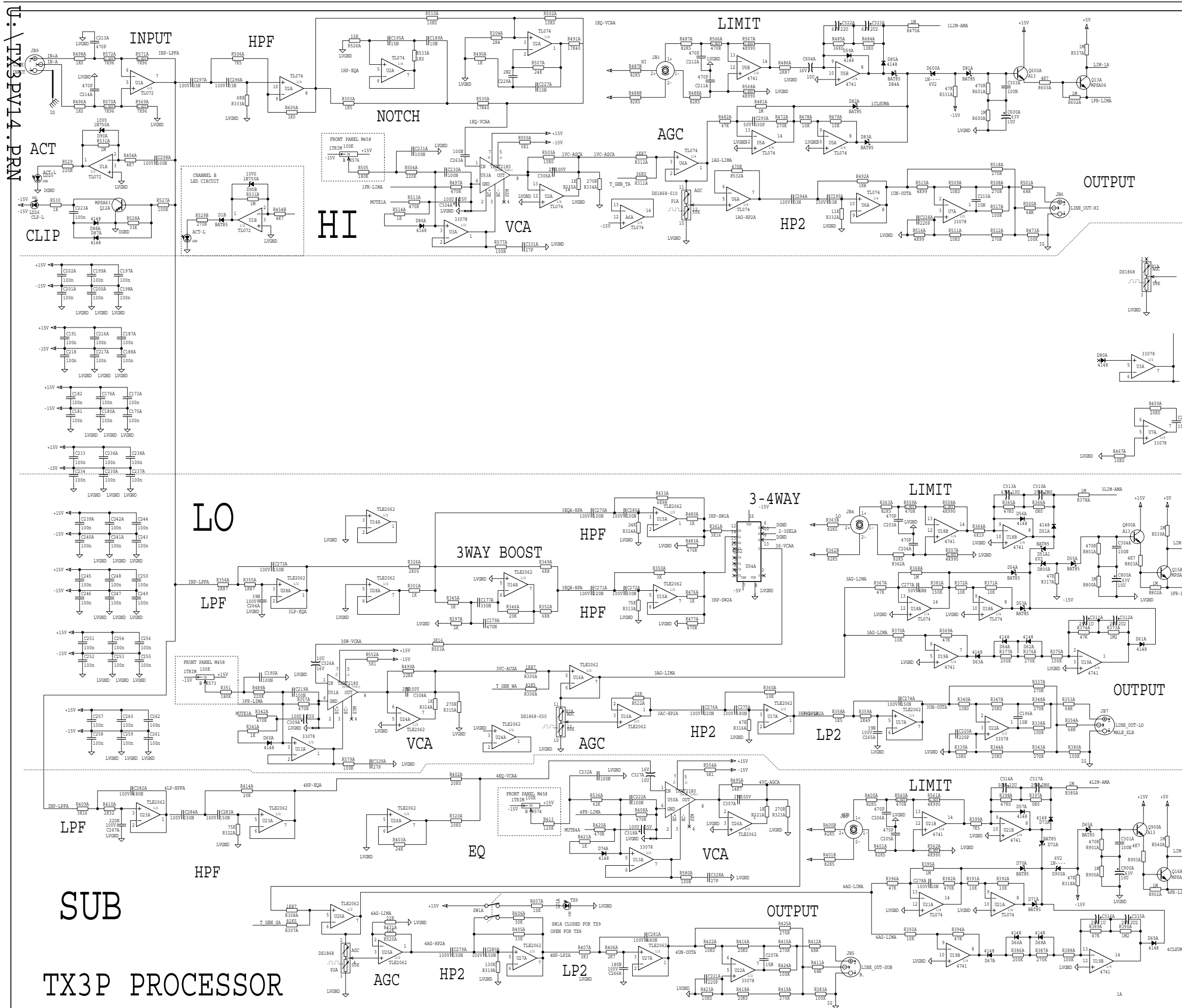
#	DATE	VER#	DESCRIPTION OF CHANGE
1	JUL/96	1.00	1ST PRODUCTION
2	NOV/14/96	1.10	PC#5242 SEE LIST BELOW
3	NOV/14/96	1.10	PC#5243 U28A,B,C,D TL062->TL072
4	NOV/14/96	1.10	USA,C U8A,C 4741->TL074
5	NOV/14/96	1.10	R314A,B,C,D 1K-3K16 R315A,B,C,D 270R->820R
6	NOV/14/96	1.10	PC#5261 R472A,B,C,D 100K->180K
7	NOV/14/96	1.10	PC#5272 U28A,B,C,D TL072->TL2062
8	NOV/14/96	1.10	U14/U16A,B,C,D TL052->TL2062
9	NOV/14/96	1.10	U17A,B,C,D TL052->TL072
10	NOV/14/96	1.10	PC#5180 SEE LIST BELOW
11	JAN/30/96	1.20	PC#5711 ADD DIP CIRCUIT TO LO
12	MAY/14/98	2.00	U24A/B/C/D RT17B/C/D
13	MAY/14/98	2.00	PC#5308 U40 MCM2814P->AT24C02
14	MAY/14/98	2.00	POWER XFMR TO TOROID
15	JUN/23/98	3.00	PC#5828 R476A,B,C,D 4K220->4K12
16	SEP/09/98	3.10	PC#6168 UPDATE XLR #3657
17	SEP/07/00	3.10	PC#6330 U46 MOTOROLA-74HC597A
18	FEB/12/01	3.10	PHILIPS 74HC597N
19	FEB/12/01	3.10	D41,D42 3V0->4V7 UPDATE TABS
20	APR/16/02	3.20	

- PC#5242 CHANGES
- R532A,B,C,D 49K9 TO 20K0
 - R476A,B,C,D 45K3 TO 10K0
 - R499A,B,C,D 45K3 TO 10K0
 - R529A,B,C,D 20K TO 1K
 - R466A,B,C,D 10K TO 4K99
 - R475A,B,C,D 10K TO 4K99
 - R515A,B,C,D 10K TO 4K99
 - R516A,B,C,D 10K TO 4K99
 - R459A,B,C,D 20K TO 10K0
 - R462A,B,C,D 20K TO 10K0
 - R509A,B,C,D 20K TO 10K0
 - R511A,B,C,D 20K TO 10K0
 - R472A,B,C,D 39K TO 10K0
 - C293A,B,C,D 470P TO 680P
 - R521A,B,C,D DELETED

- PC#5180 CHANGES
- R426A,B,C,D 33K TO 150K
 - R700A,B,C,D 1M TO 270K
 - C286A,B,C,D 3N3 TO 6N8



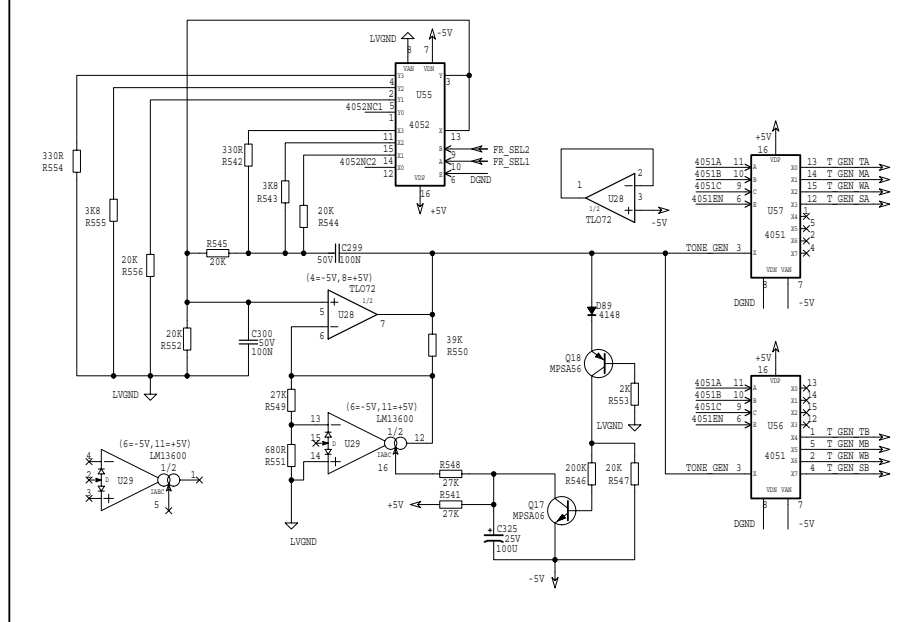
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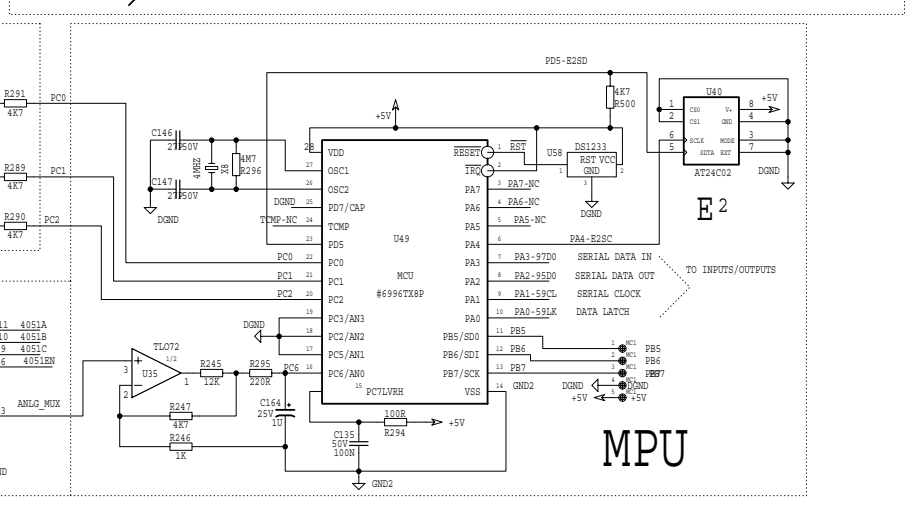
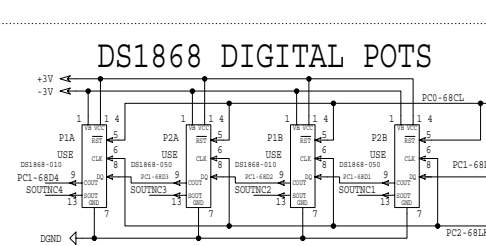
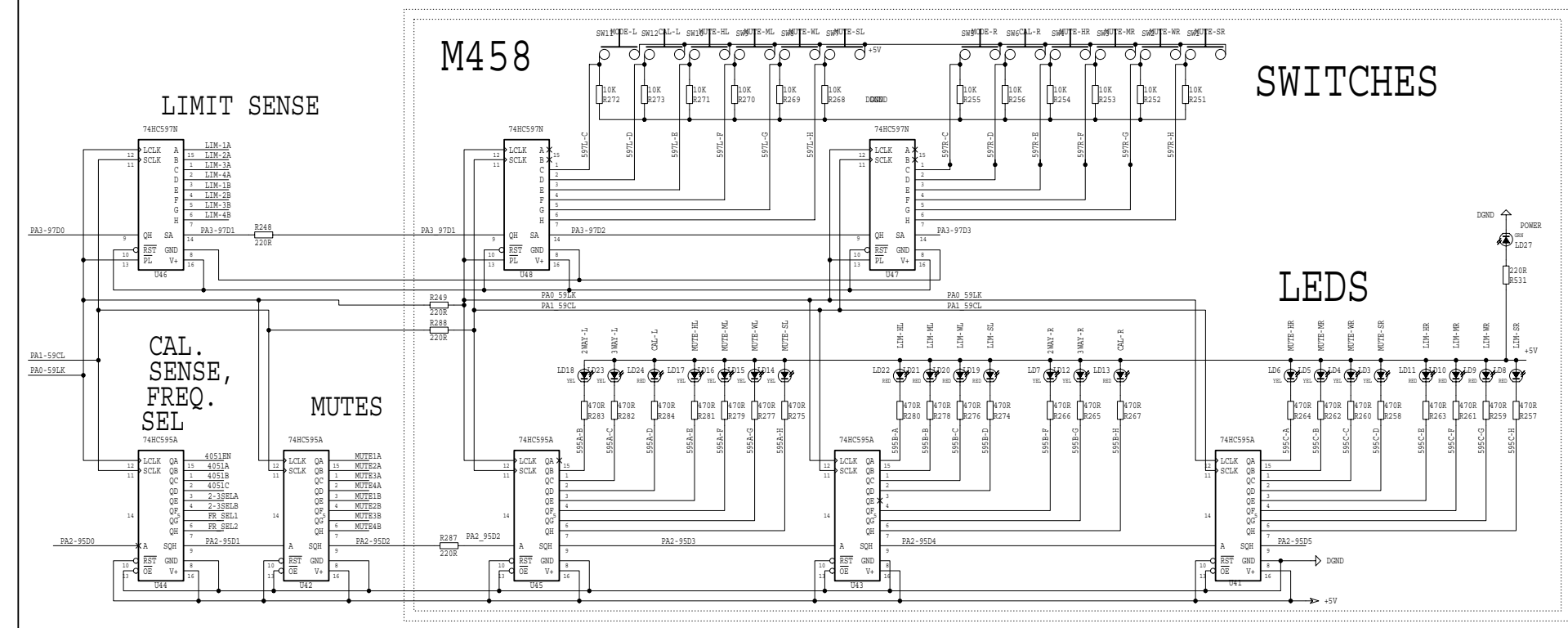
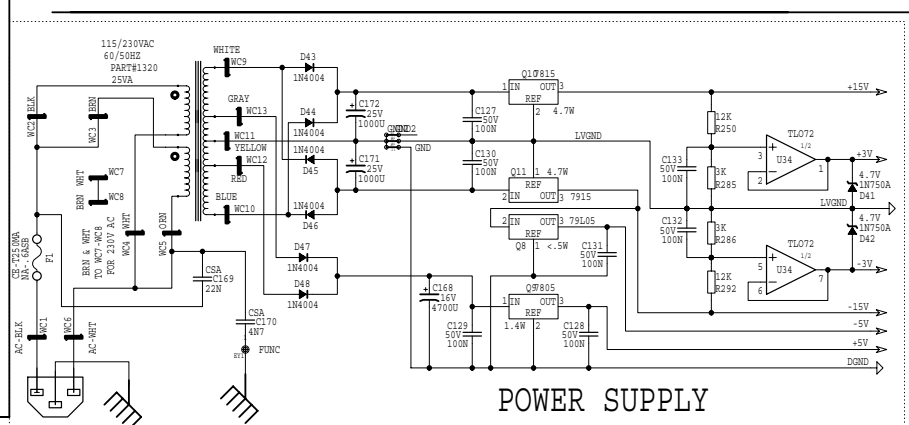
M461/M458.SCH DATABASE HISTORY

MODEL(S)	DATE	DESCRIPTION OF CHANGE
TX-3P	96/11/28	1.000 FIRST PROTOTYPE
		1.001 REVISED POWER WISS T4
		1.002 ADDED T28/9 SWITCH SWITCHES
		1.003 ADDED T28/10 QMG TO T28/20/22
		1.004 PCF3108 QMG MCMGELAP-NAT24C02
		1.005 REVISED QMG
		1.006 PCF3107 QMG QMG7 U48 MOTOROLA
		1.007 PCF3108 QMG7 U48 MOTOROLA
		1.008 PCF3108 QMG7 U48 MOTOROLA
		1.009 PCF3108 QMG7 U48 MOTOROLA
		1.010 PCF3108 QMG7 U48 MOTOROLA
		1.011 PCF3108 QMG7 U48 MOTOROLA
		1.012 PCF3108 QMG7 U48 MOTOROLA
		1.013 PCF3108 QMG7 U48 MOTOROLA
		1.014 PCF3108 QMG7 U48 MOTOROLA
		1.015 PCF3108 QMG7 U48 MOTOROLA
		1.016 PCF3108 QMG7 U48 MOTOROLA
		1.017 PCF3108 QMG7 U48 MOTOROLA
		1.018 PCF3108 QMG7 U48 MOTOROLA
		1.019 PCF3108 QMG7 U48 MOTOROLA
		1.020 PCF3108 QMG7 U48 MOTOROLA
		1.021 PCF3108 QMG7 U48 MOTOROLA
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		1.023 PCF3108 QMG7 U48 MOTOROLA
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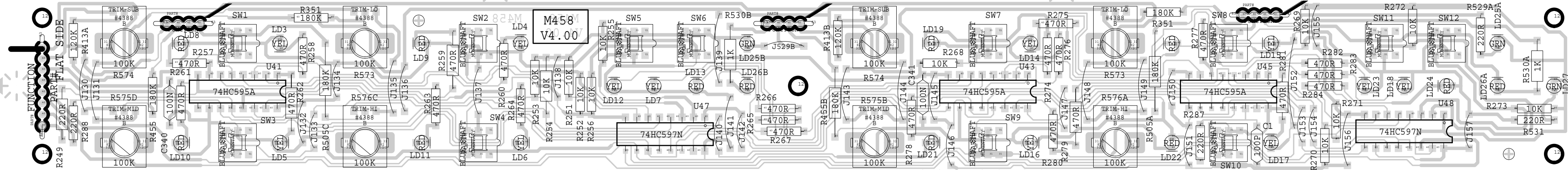
TX PROCESSOR TONE GENERATOR



POWER SUPPLY



TX PROCESSOR MICRO PROCESSOR & SUPPLIES



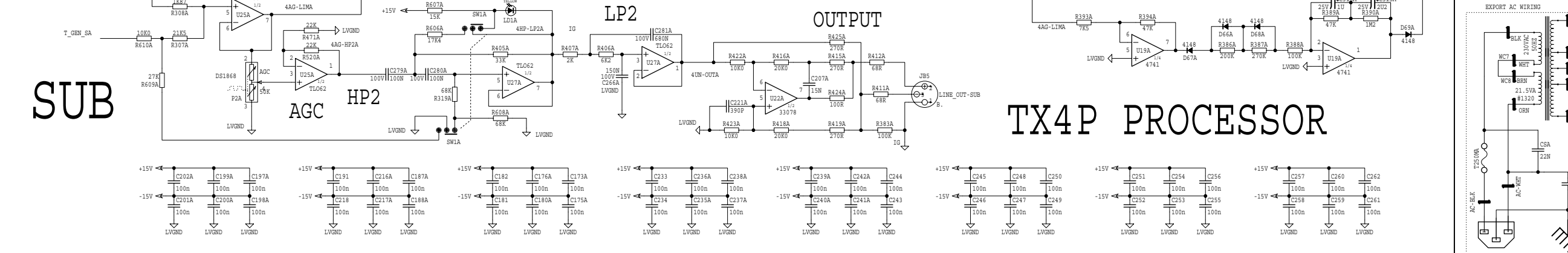
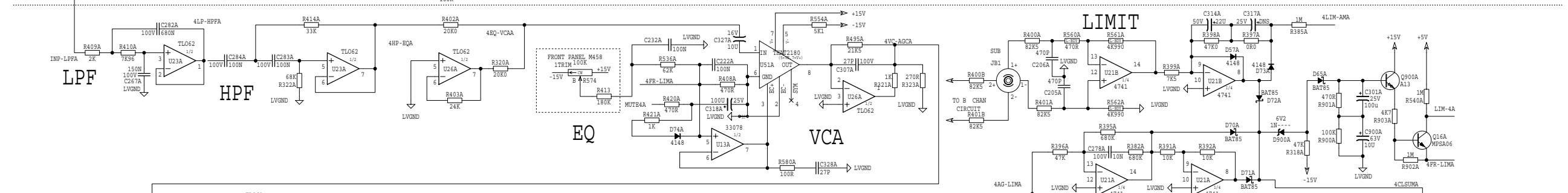
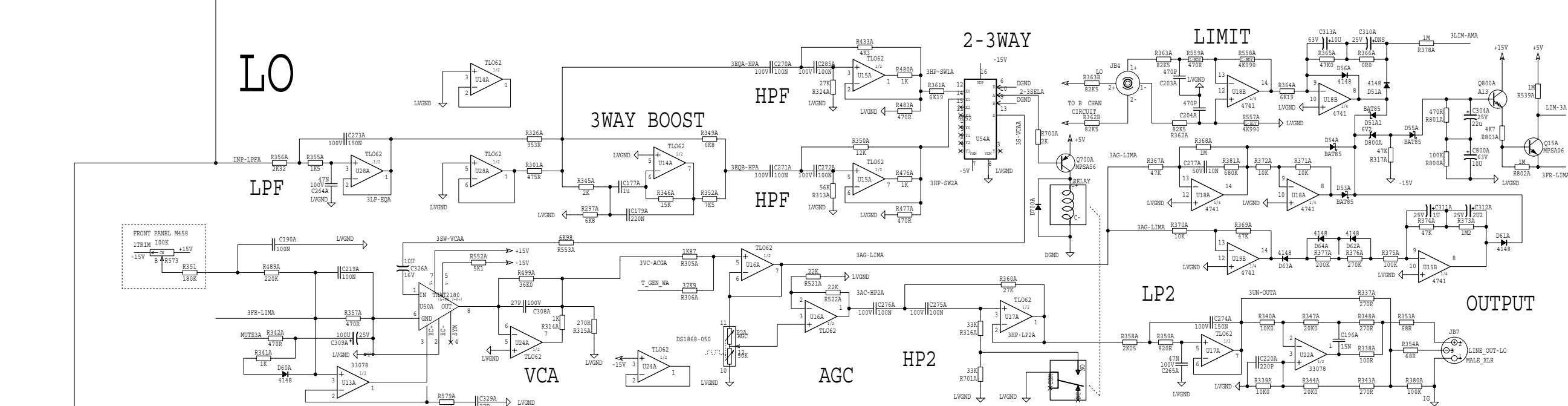
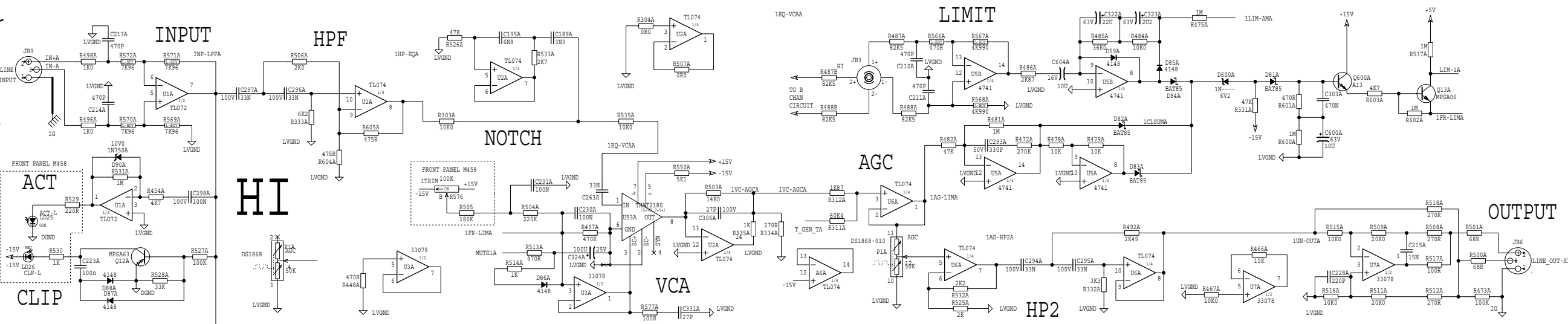
M458.PCB DATABASE HISTORY

MODEL(S) :- TX-PROCESSORS

#	DATE	VERSION	DESCRIPTION OF CHANGE
1	OCT/16//96	2.00	PC#5213 ADD_100P_FROM_PIN_14_OF_U45 TO GROUND
2	.	.	.
3	OCT/21/96	.	PC# R529B MOVED_TO_M454_
4	.	.	REPLACED BY JUMPER
5	DEC/04/96	2.10	PC#5263 R413A/B 180K->120K
6	FEB/15/99	3.00	PC#5932-ALL LED TO AUTO_INSERTED_LED WITH SPACER
7	.	.	.
8	APR/04/00	3.01	ADD_CLINCH_ORG_MOVE_SHEAR_HOLES
9	FEB/12/01	3.10	PC#6330 U47,U48 MOTOROLA_74HC597A ->PHILIPS 74HC597N
10	.	.	.
11	JUN/03/05	4.00	PC#6918: REDO SOLDERMASK 30MIL SPREAD

FOR TX3 & TX4 OMIT 8 PARTS MARKED WITH X
 R575D, R575B, LD10, SW3, LD5
 LD21, SW9, LD16
 ALL SWITCHES ARE BLUE PT#3439

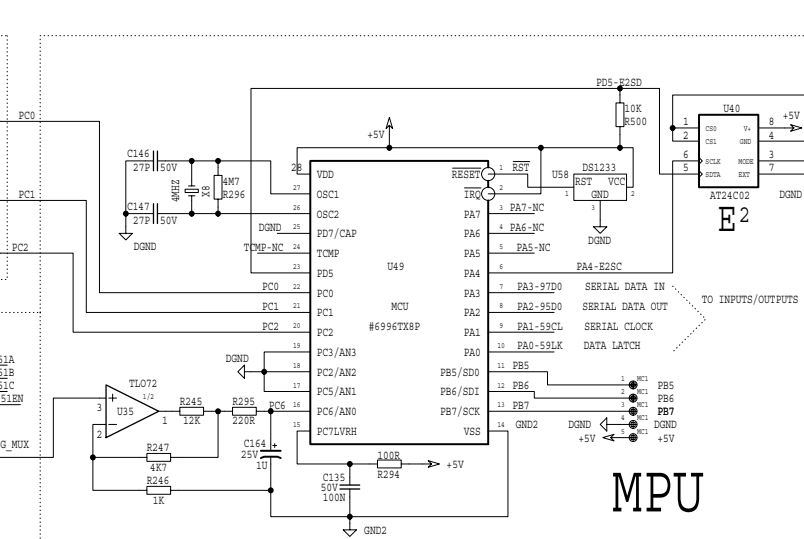
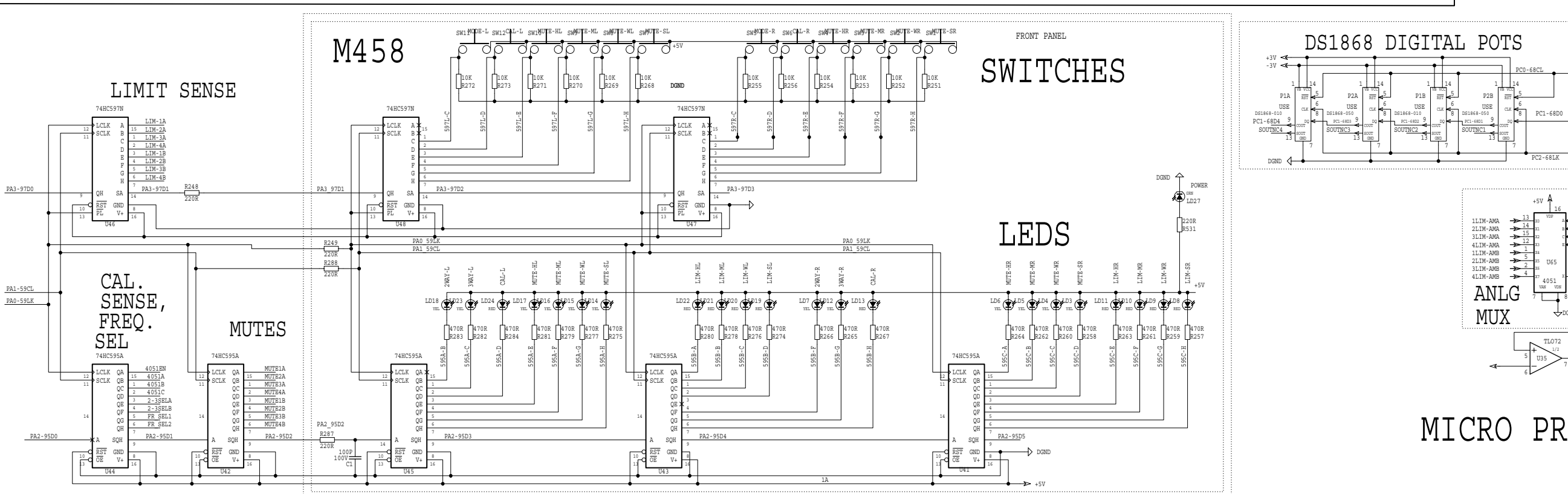
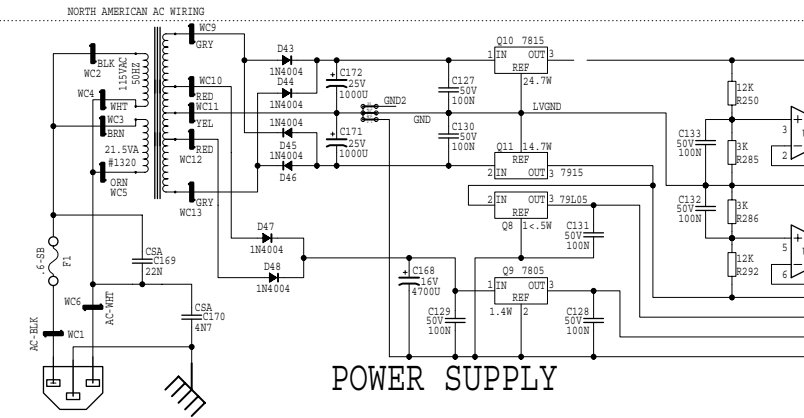
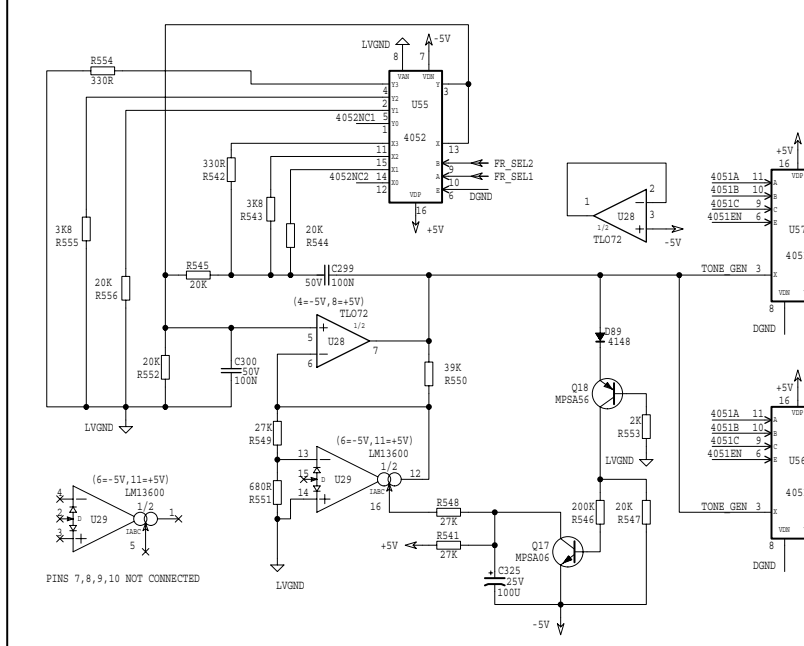
TX4P V2.5 PRN



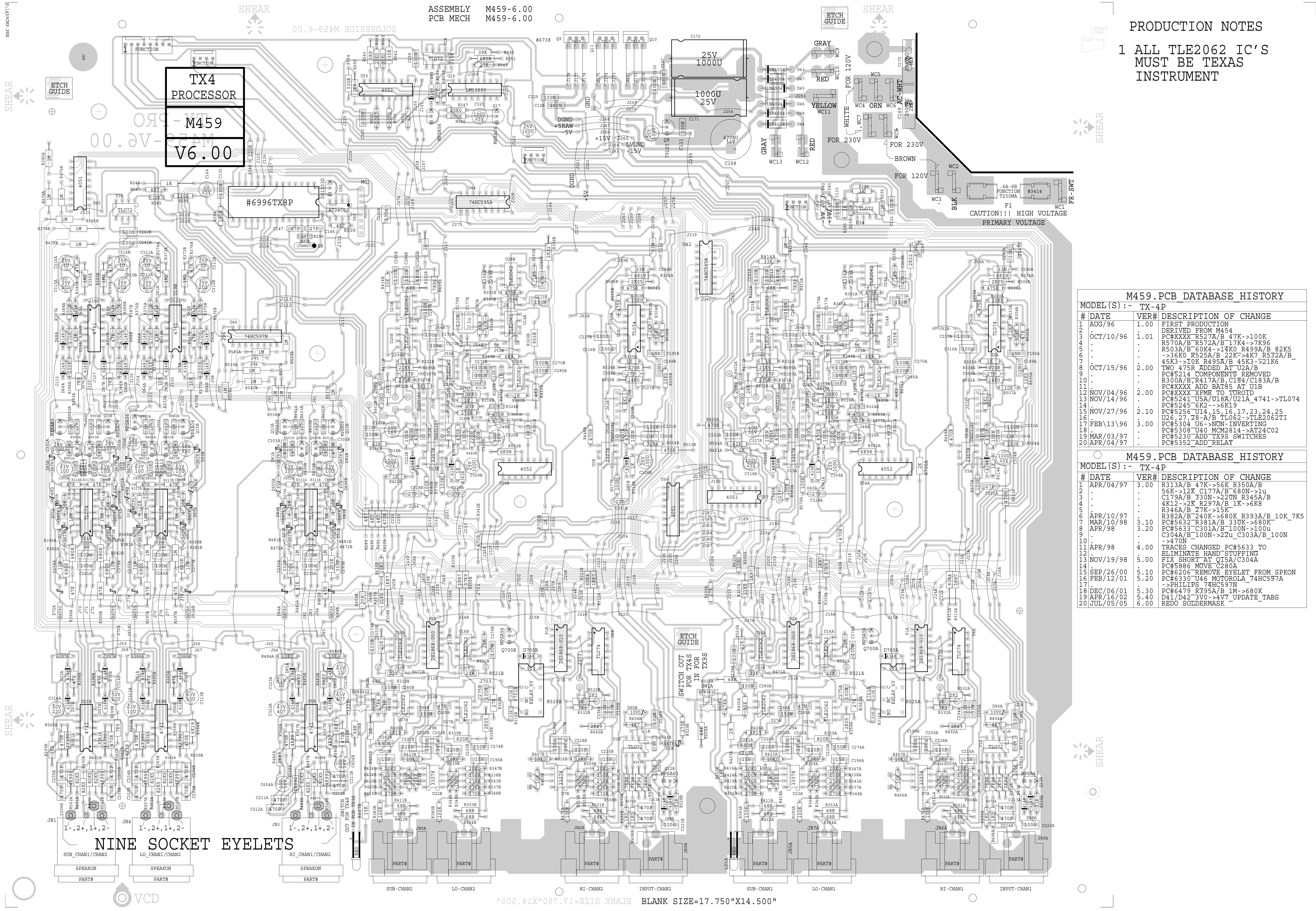
TX4P NOTE:
 R307A/B 31K->39K
 R405A/B 33K->31K
 R319A/B 68K->130K

M459/M458 .SCH DATABASE HISTORY			
#	DATE	VERSION	DESCRIPTION OF CHANGE
1	NOV/76	1.00	1ST PRODUCTION
2	AUG/13/96	1.10	PC#5179 C239A 270P->330P C278A_
3			R307A 270K->240K R307A/R307A_
4			1M->2100K
5	OCT/11/96	1.20	PC#5224 ADD R604A/R605A AT U2A
6			R570A R572A 175K->75K
7			R527A 47K->100K R503A 60K 14K0
8			R494A 33K->380K R526A 22K->84K
9			R322A 45K->380K R323A 22K->84K
10			R476A 12K->1K
11			R477A 12K->1K
12	OCT/16/96	1.30	PC#5233 ADD 100P FROM PIN-14 OF U45
13			TO GROUND
14	FEB/13/97	1.40	PC#5314 U2A--NON-INVERTING
15			PC#5308 U4D MCM2614->AT24C02
16	APR/04/97	1.50	PC#5342 ADD R214A R700A C700A D700A
17			R701A R500A 56K->12K R313A 47K->56K
18			C177A 500P U1 C178A 330K->220K R297
19			A 1K->68K R346A 27K->15K
20			PC#5345 ADD SW1A TX9S SWITCH ADD
21			R307A 270K
22	APR/10/97	2.00	R307A 240K->680K R393A 10K->775
23			PC#5372 R313A 470K->1M/R494A 10K->
24			44K
25	FEB/02/98	2.10	PC#5373 C131A 100N->100U C104A 100N
26	MAR/10/98	2.20	->50K C103A 100N->470N R303A 330K->
27			680K
28	NOV/03/98	2.30	COMBACT 012A SYMBOL
29	FEB/12/01	2.40	PC#5330 U4E R47, U4E MOTOROLA
30			PC#5374--PHILIPS 74HC597N
31			PC#4479_R393A 1M->360K
32	DEC/05/01	2.50	
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TX PROCESSOR TONE GENERATOR



TX4 PROCESSOR MICRO PROCESSOR & SUPPLIES



**TX4
PROCESSOR
- M459
V6.00**

#6996TX8P

74HC595A

**25V
1000U**

**1000U
25V**

PRODUCTION NOTES

- 1 ALL TLE2062 IC'S MUST BE TEXAS INSTRUMENT

M459.PCB DATABASE HISTORY

MODEL(S) :- TX-4P

#	DATE	VER#	DESCRIPTION OF CHANGE
1	AUG/96	1.00	FIRST PRODUCTION
2			DERIVED FROM M454
3			PC#XXXX R527A/B 47K->100K
4			R570A/B R572A/B 17K4->7K96
5			R503A/B 60K4->14K0 R499A/B 82K5
6			->36K0 R525A/B 22K->4K7 R532A/B
7			45K3->10K R495A/B 45K3->21K6
8	OCT/15/96	2.00	TWO 475R ADDED AT U2A/B
9			PC#5214 COMPONENTS REMOVED
10			R300A/B, R417A/B, C184/C183A/B
11			PC#XXXX XFRM TO TOROID
12	NOV/04/96	2.00	PC#XXXX U5A/U18A/U21A 4741->TL074
13	NOV/14/96		PC#5241 U5A/U18A/U21A 4741->TL074
14			PC#5245 6K2-->6K19
15	NOV/27/96	2.10	PC#5256 U14, 15, 16, 17, 23, 24, 25
16			U26 27, 28-A/B TL062->TLE2062TI
17	FEB/13/96	3.00	PC#5304 U6->NON-INVERTING
18			PC#5308 U40 MCM2814->AT24C02
19	MAR/03/97		PC#5230 ADD TX9S SWITCHES
20	APR/04/97		PC#5352 ADD RELAY

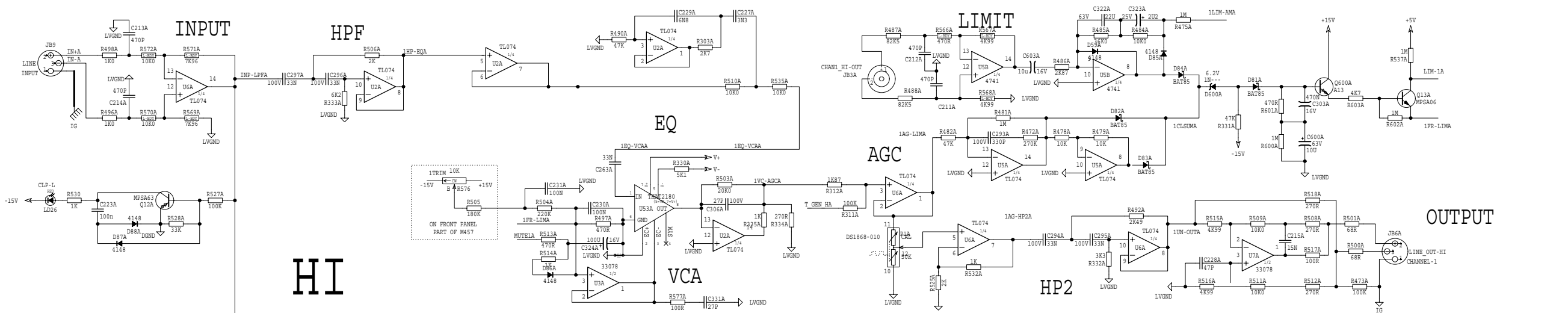
M459.PCB DATABASE HISTORY

MODEL(S) :- TX-4P

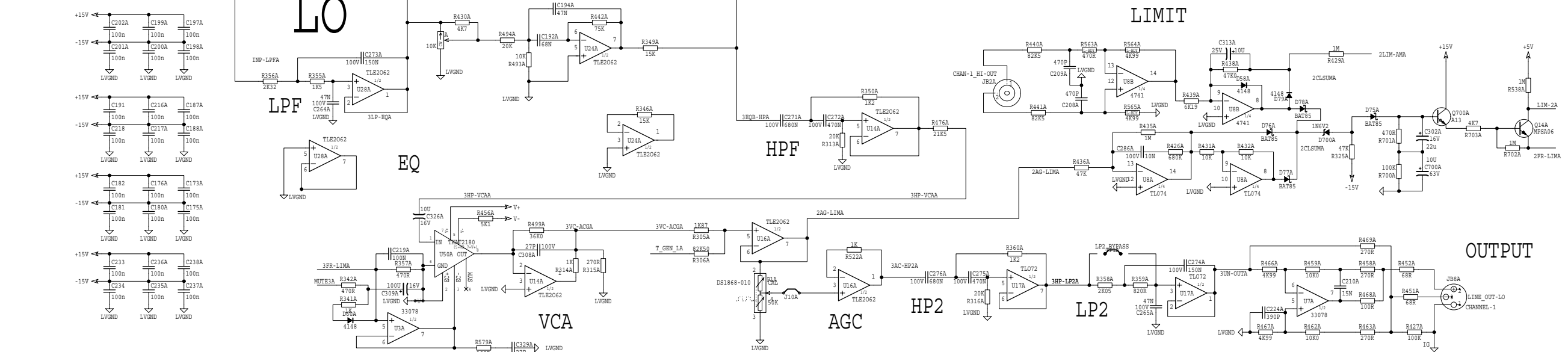
#	DATE	VER#	DESCRIPTION OF CHANGE
1	APR/04/97	3.00	R313A/B 47K->56K R350A/B
2			56K->32K C177A/B 680N->1u
3			C179A/B 330N->220N R345A/B
4			4K12->2K R297A/B 1K->6K8
5			R346A/B 27K->15K
6	APR/10/97		R382A/B 240K->680K R393A/B 10K_7K5
7	MAR/10/98	3.10	PC#5632 R381A/B 330K->680K
8	APR/98	3.20	PC#5633 C301A/B 100N->100u
9			C304A/B 100N->22u C303A/B 100N
10			->470N
11	APR/98	4.00	TRACES CHANGED PC#5633 TO
12			ELIMINATE HAND STUFFING
13	NOV/19/98	5.00	FIX SHORT AT C15A/C304A
14			PC#5886 MOVE C280A
15	SEP/26/00	5.10	PC#6206 REMOVE EYELET FROM SPKON
16	FEB/12/01	5.20	PC#6330 U46 MOTOROLA 74HC597A
17			->PHILIPS 74HC597N
18	DEC/06/01	5.30	PC#6479 R395A/B 1M->680K
19	APR/16/02	5.40	D41/D42 3V0->4V7 UPDATE TABS
20	JUL/05/05	6.00	REDO SOLDERMASK

NINE SOCKET EYELETS

SUB-CHAN1/CHAN2 LO-CHAN1/CHAN2 HI-CHAN1/CHAN2 INPUT-CHAN1 INPUT-CHAN2 SUB-CHAN1 LO-CHAN1 HI-CHAN1 INPUT-CHAN1

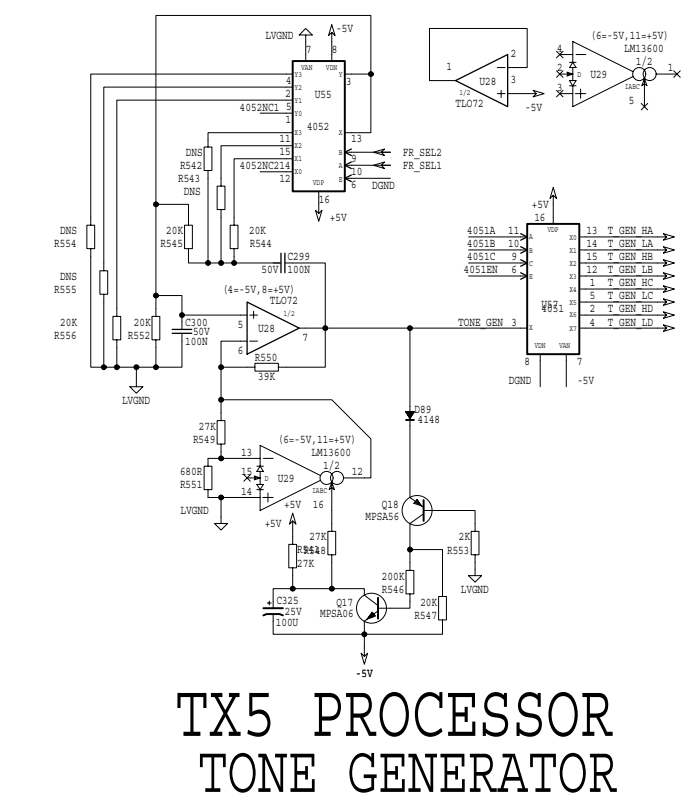


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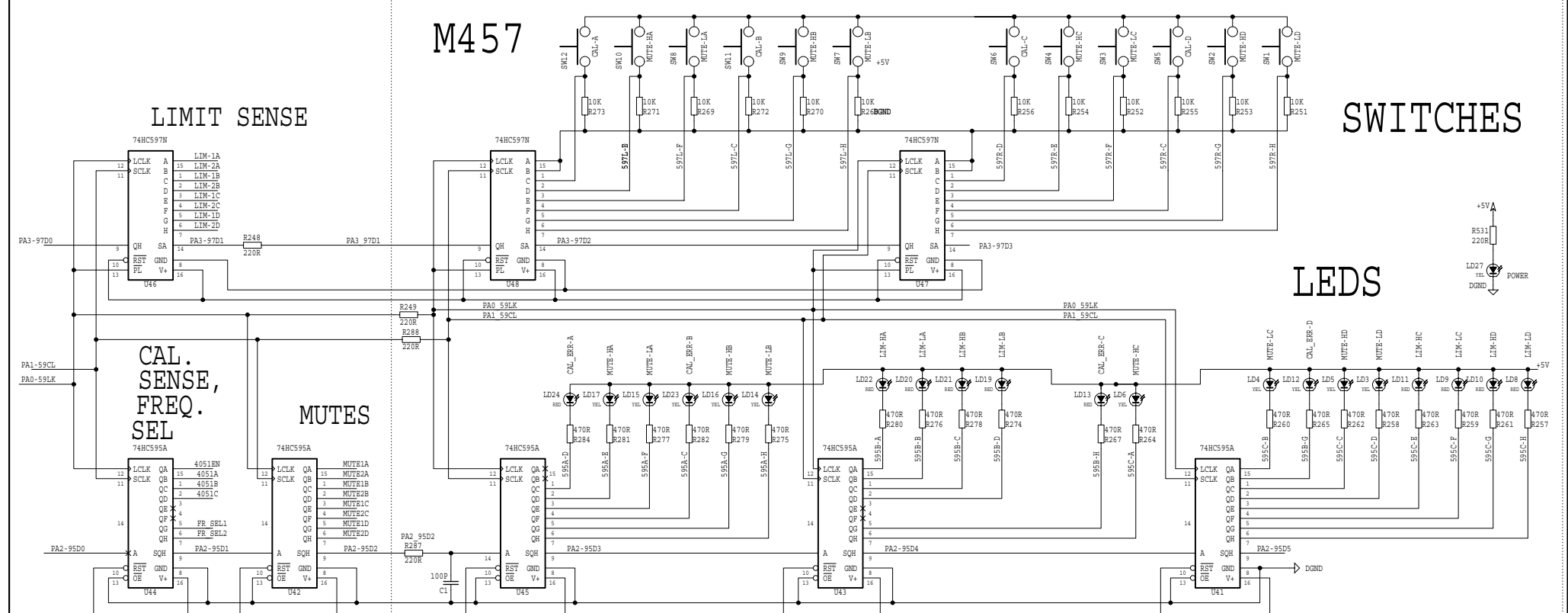


LO

TX5P PROCESSOR



TX5 PROCESSOR TONE GENERATOR



LIMIT SENSE

CAL. SENSE, FREQ. SEL

MUTES

SWITCHES

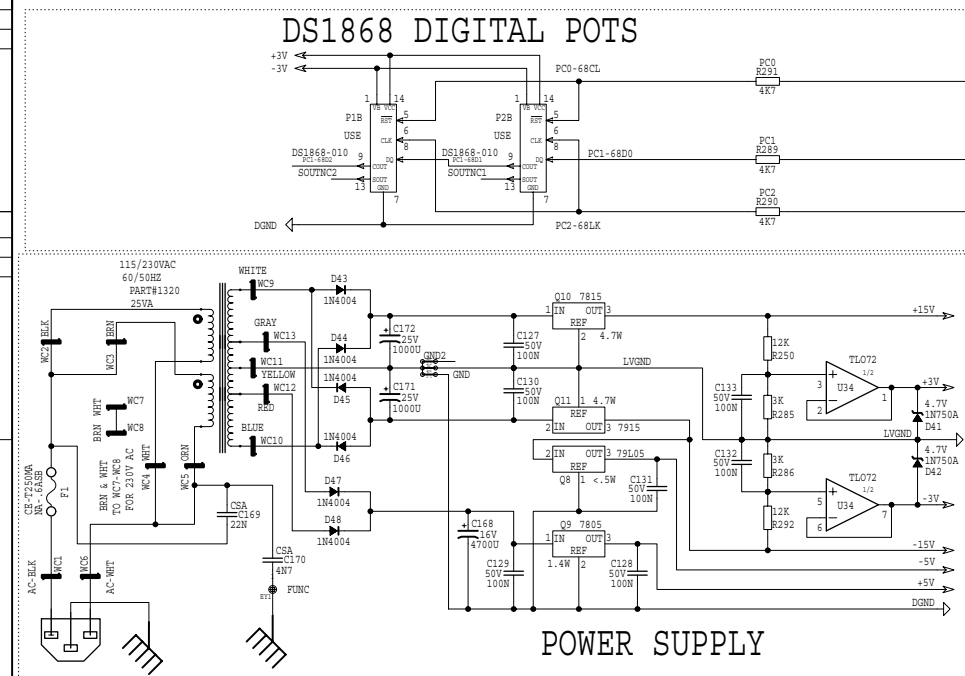
LEDS

M462.SCH DATABASE HISTORY

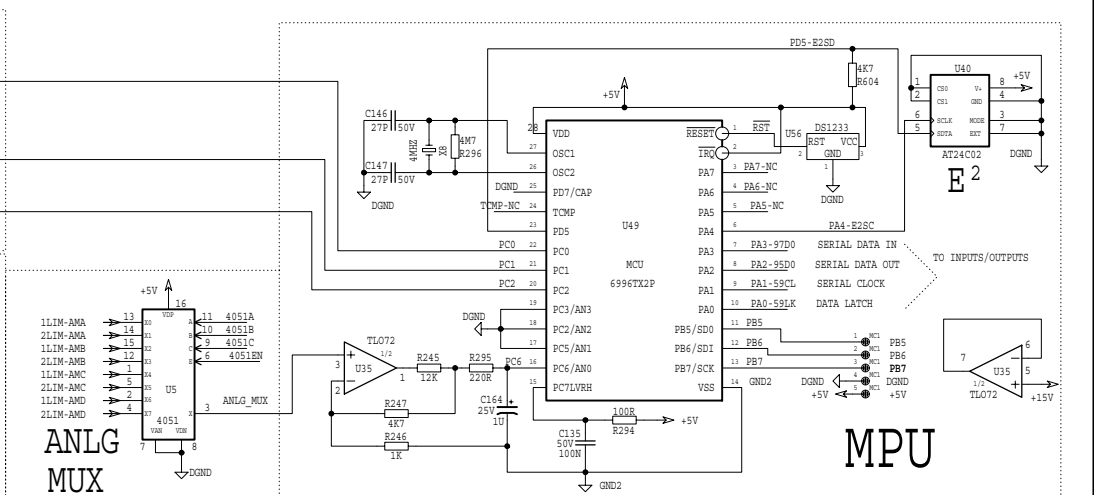
MODEL(S)	DATE	DESCRIPTION OF CHANGE
TX5-PROCESSOR		
VER#1		MADE FROM 8022 M453
		C302A NON-POLARIZED->POLARIZED
		C286230 14K4, 14K7, 14K8 NOT REQUIRED
		748C597A->PHILIPS_748C597M

M462.SCH DATABASE HISTORY

MODEL(S)	DATE	DESCRIPTION OF CHANGE
TX5-PROCESSOR		
VER#1		



POWER SUPPLY



ANLG MUX

MPU

TX PROCESSOR MICRO PROCESSOR & SUPPLIES

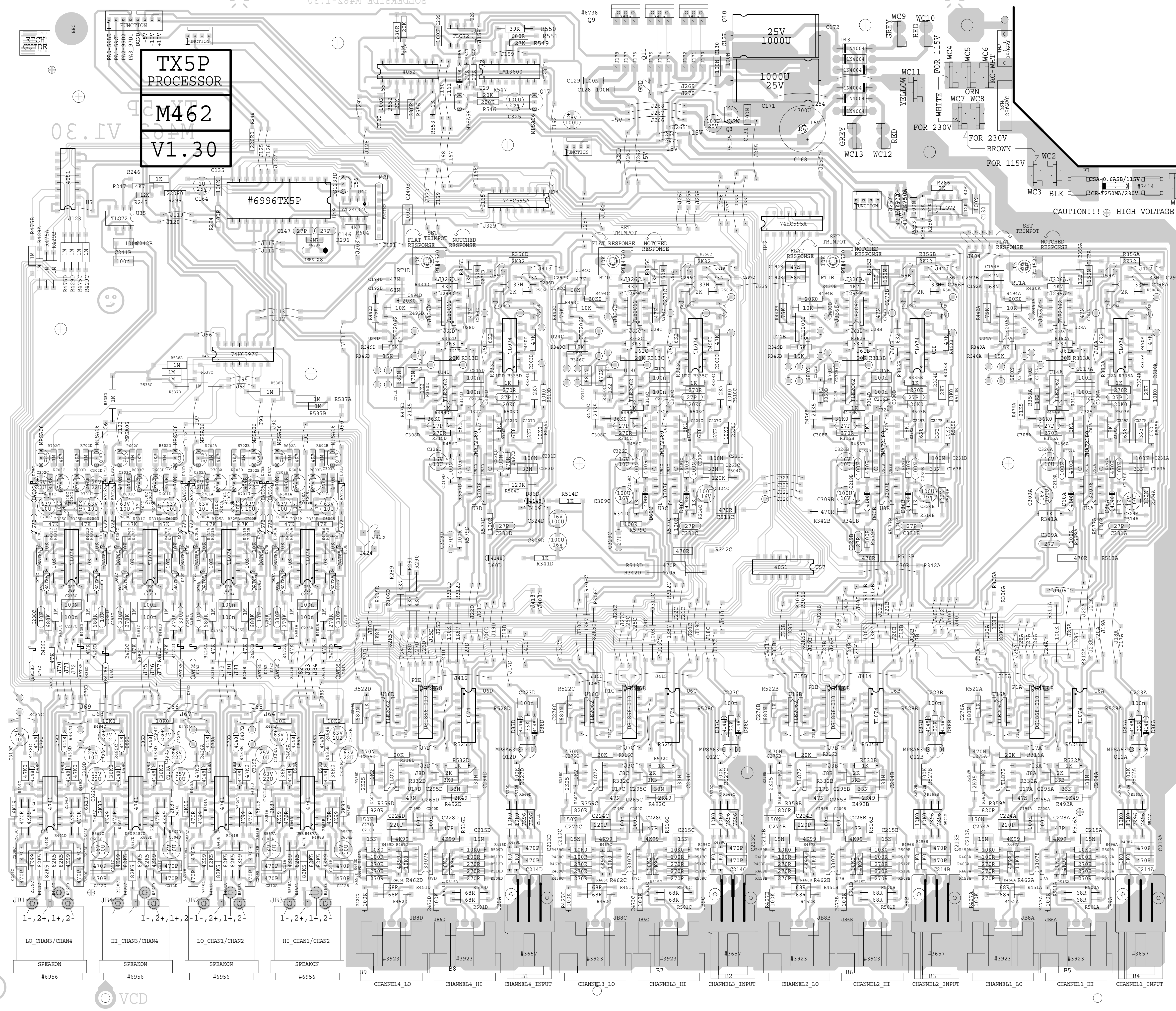
TX5P
PROCESSOR
M462
V1.30

- 1 FOR 120V OPERATION STUFF J200 AND J202 REMOVE J201
- 2 FOR 220VAC OPERATION REMOVE J200 AND J202 STUFF J201
- FOR R315A/B/C/D USE PT#5016 820R 1/8WFP
- FOR ALL 20K USE 20K0 MINI

M462.PCB DATABASE HISTORY

MODEL(S) :- TX-5P

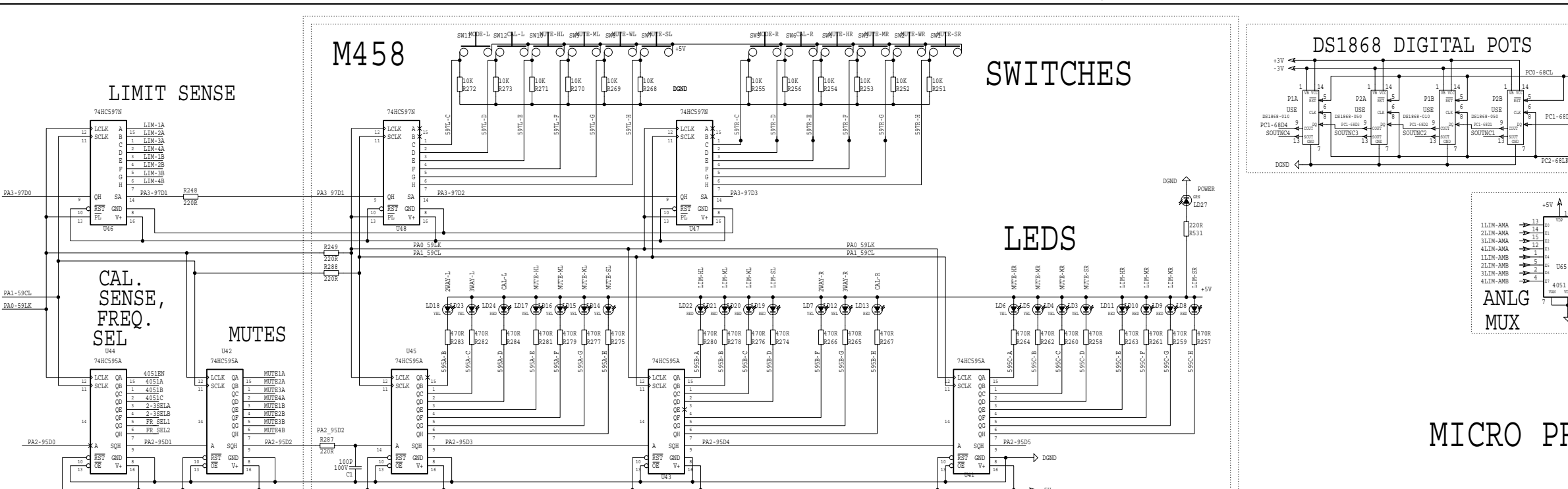
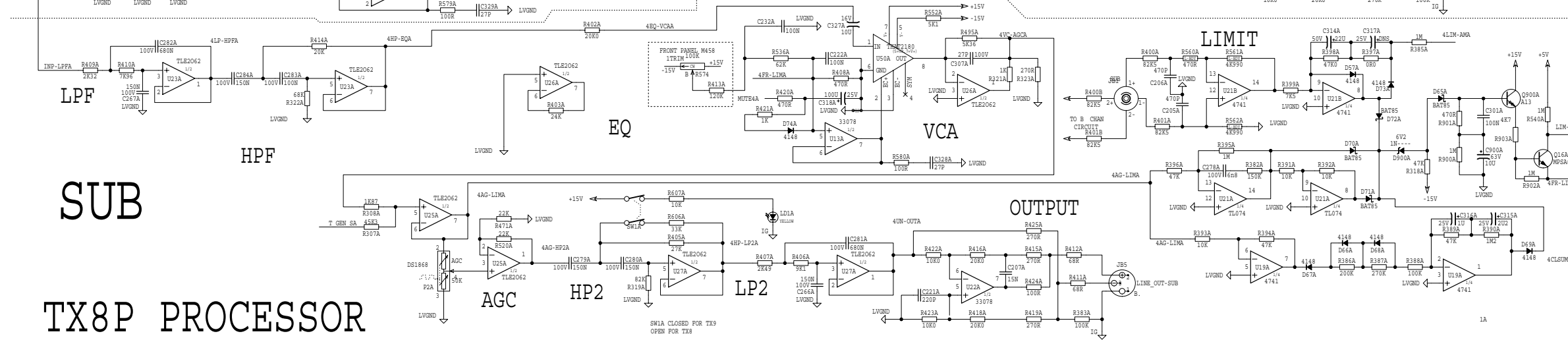
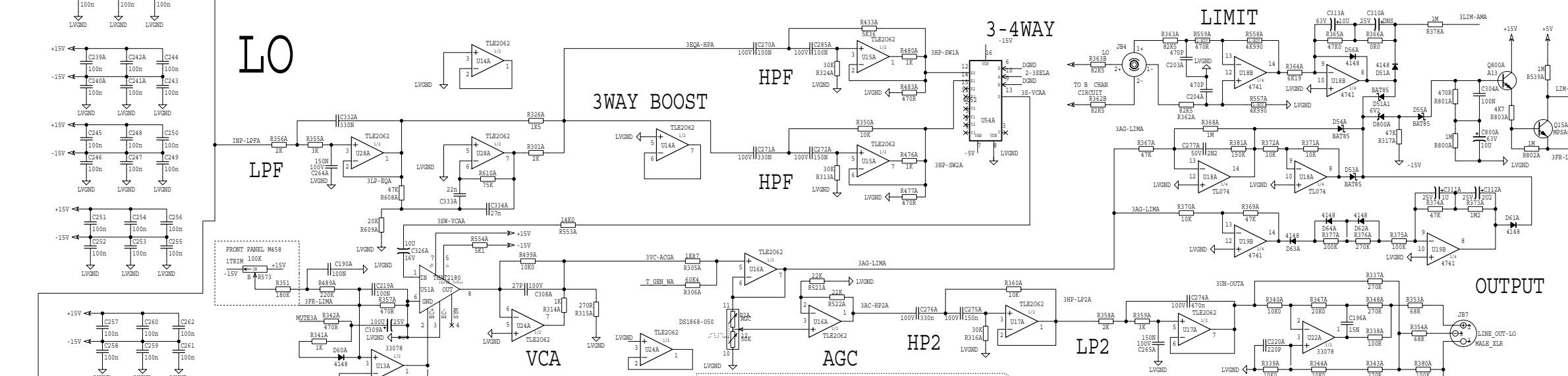
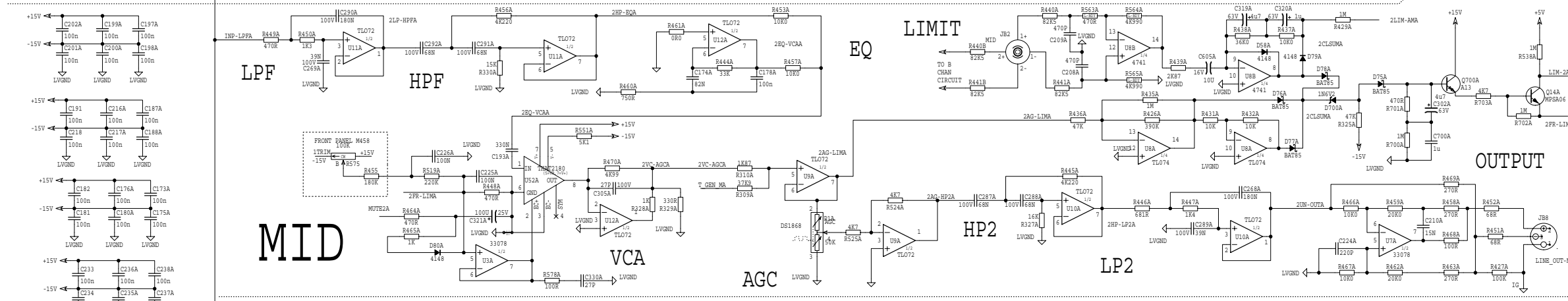
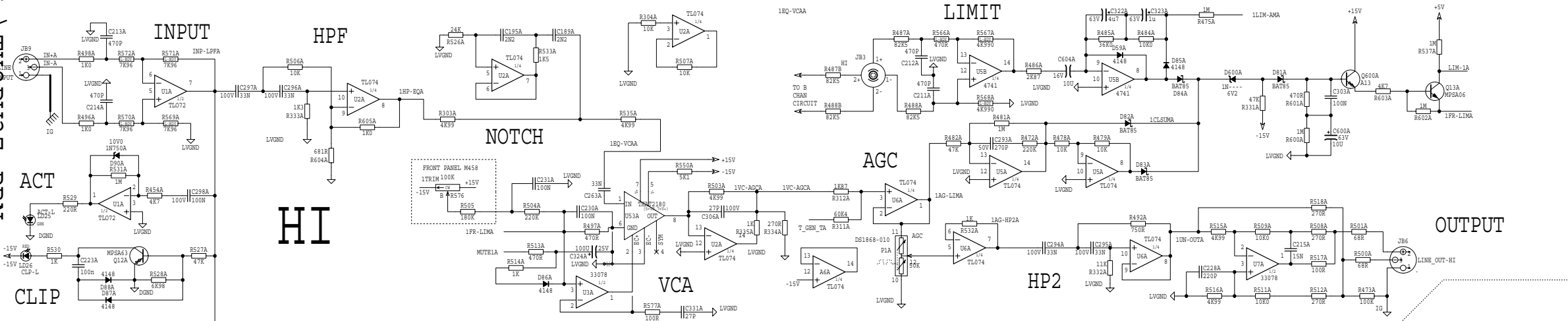
#	DATE	DESCRIPTION OF CHANGE
1	OCT/99	V1.00 MADE FROM TX-2P M453
2	OCT/07/00	PC#6168 UPDATE XLR #3657
3	SEP/13/00	PC#6181 C302A, B, C, D NON POLARIZED->POLARIZED
4	SEP/26/00	PC#6206 REMOVE SPKON EYELET
5	FEB/12/01	PC#6330 U46 MOTOROLA 74HC597A > PHILIPS 74HC597N
7	APR/16/02	D41/D42_3V0->4V7_UPDATE TABS
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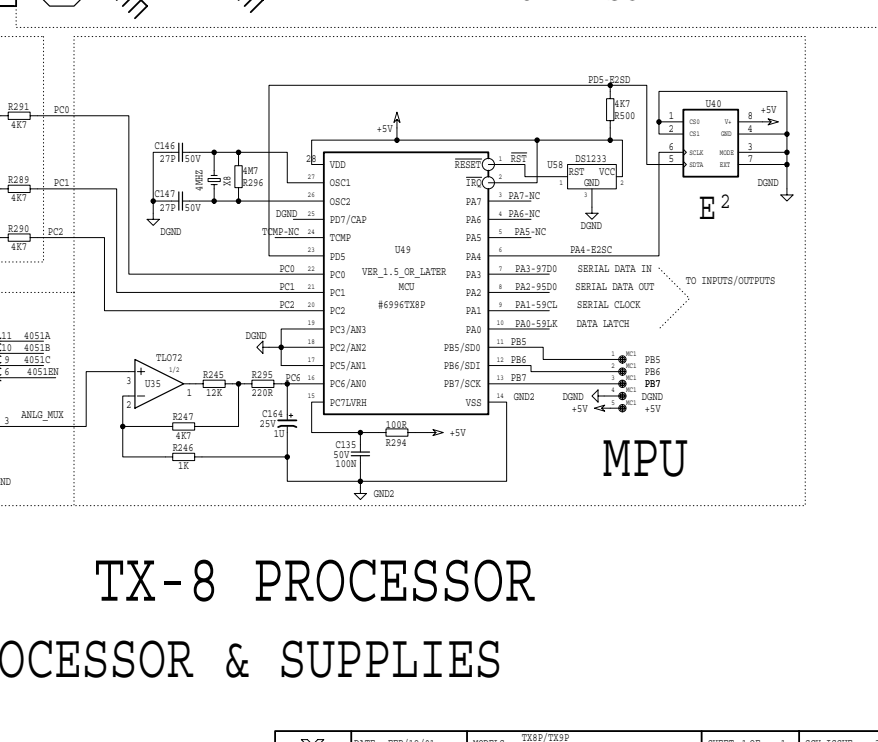
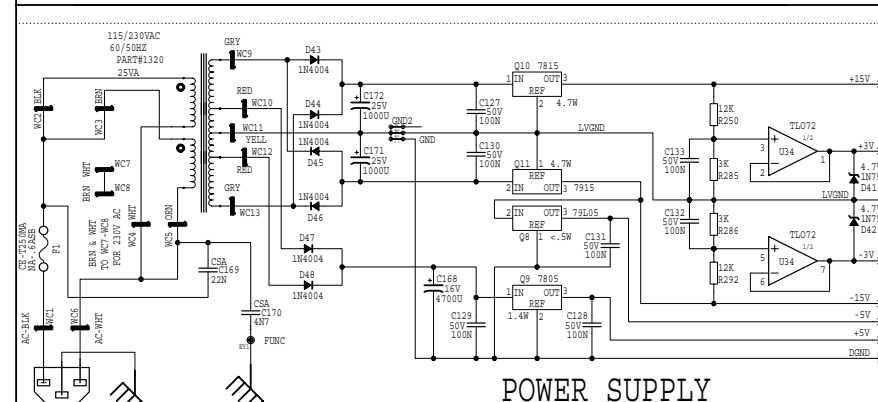
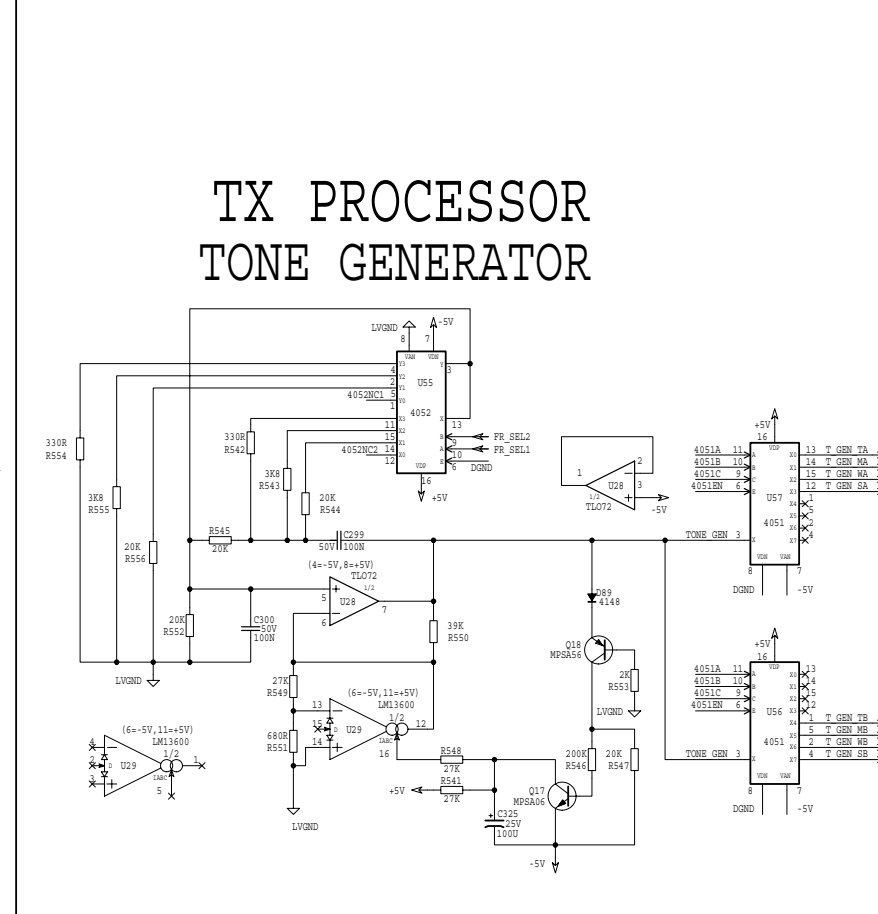
SHEAR

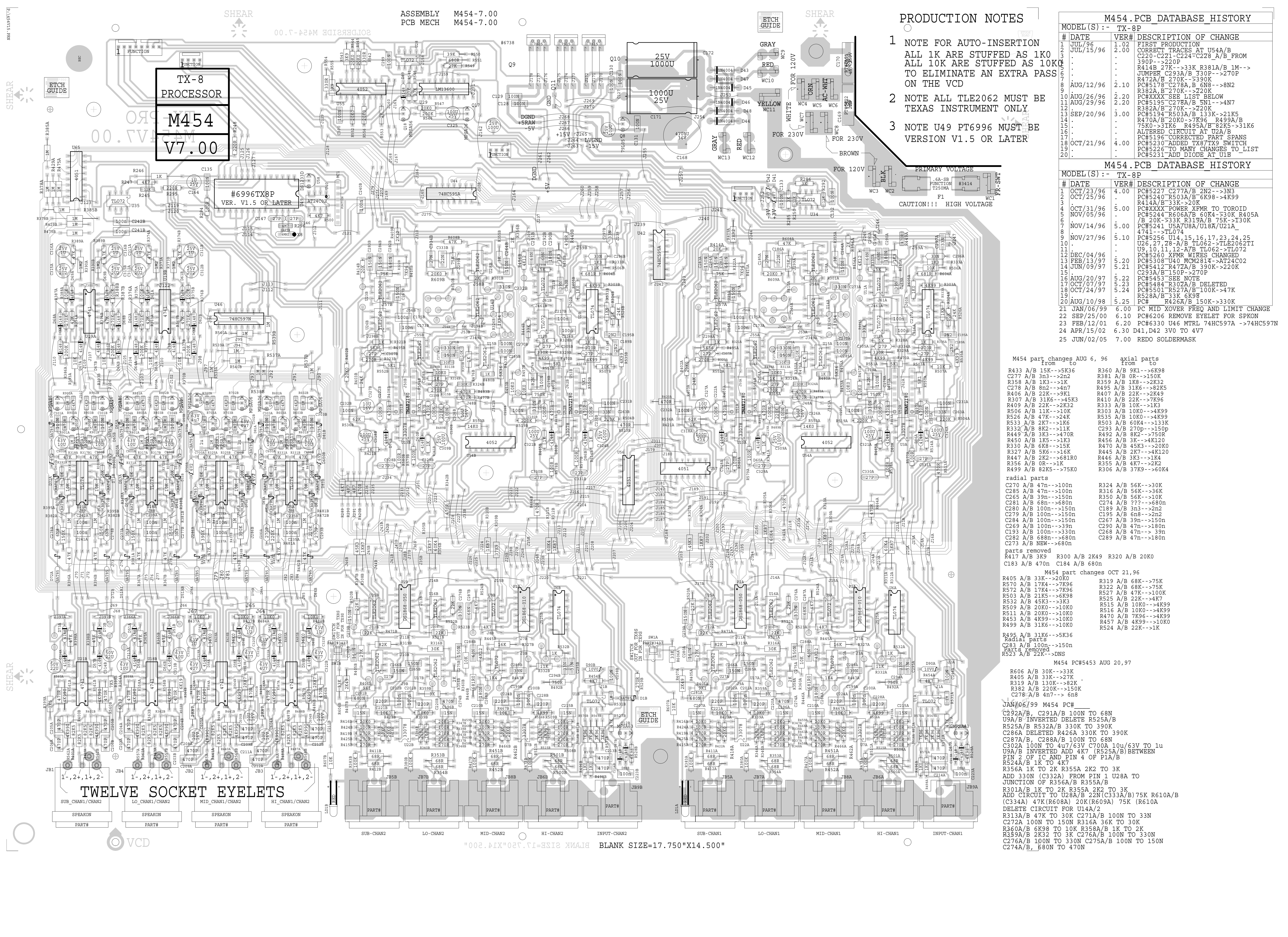
VCD

TX8PV37.PRN



M454/M458.SCH DATABASE HISTORY			NOTES
MODEL(S)	TX-8P		
#	DATE	VER#	DESCRIPTION OF CHANGE
1	JUL/95	1.00	1ST PRODUCTION
2	JUL/15/96	1.10	R472A 270K->390K C23A 330P->270P C23B 220P->330P C23C 330P->220P SCHEMATIC ERRORS CORRECTED
3	AUG/12/96	1.20	PCB5178 R382A 270K->220K C278 68K->82K
4	AUG/27/96	1.30	PCB5181 CORRECT U19A/B PIN-OUTS FROM U19A/B TO U19C
5	AUG/30/96	1.40	PCB5195 C278A 5M1->4M7 R382A 270K->220K
6	SEP/20/96	1.50	PCB5194 NEW CIRCUIT AT U2A/B R503A 15K->22K R504 20K->7K96 R499A 75K->31K R495A 82K->31K PCB5195 400K BOOT CIRCUIT ADDED CORRECTED TO MATCH HAVONUE
7	SEP/23/96	2.00	PCB5194 NEW CIRCUIT AT U2A/B R503A 15K->22K R504 20K->7K96 R499A 75K->31K R495A 82K->31K
8	OCT/08/96	2.10	CORRECTED TO MATCH HAVONUE
9	OCT/16/96	2.20	DELETE CIRCUIT FOR U14A/2 R476A 12K->15K PCB5212 ADD 100P FROM PIN 14 OF U45 TO GROUND
10	OCT/21/96	2.30	PCBXXXX ADDR SWIA R606A R405A R406A R407A R408A
11	NOV/06/96	2.40	PCB5274 R606A 60K->30K R405A 20K->10K R327A 5K->10K XFER TO BOARD
12	NOV/12/96	2.50	PCB5241 U5A, U5A, U5A, U21A 4741->->47K
13	NOV/14/96	2.50	PCB5241 U5A, U5A, U5A, U21A 4741->->47K
14			
15			
16	FEB/13/97	2.90	PCB5240 R503A 6K98->4K99 R414A--R316->20K
17	NOV/27/96	2.60	PCB5256 U15A, 14A, 28A, 17A, 16A, 24A, U17A, 25A, 26A, 23A, U162->U162062 U9A, 10A, 11A, 12A, U102->U1072
18	DEC/04/96	2.70	PCB5260 XFORM WIRES CHG COLOUR
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ASSEMBLY M454-7.00
PCB MECH M454-7.00

PRODUCTION NOTES

- NOTE FOR AUTO-INSERTION
ALL 1K ARE STUFFED AS 1K0
ALL 10K ARE STUFFED AS 10K0
TO ELIMINATE AN EXTRA PASS
ON THE VCD
- NOTE ALL TLE2062 MUST BE
TEXAS INSTRUMENT ONLY
- NOTE U49 PT6996 MUST BE
VERSION V1.5 OR LATER

M454.PCB DATABASE HISTORY

MODEL(S) :- TX-8P		
#	DATE	VER# DESCRIPTION OF CHANGE
1	JUL/96	1.02 FIRST PRODUCTION
2	JUL/15/96	2.00 CORRECT TRACES AT U54/B
3		C220 C221 C224-C228 A/B FROM 390P->220P
4		R414B 27K->33K R381A/B 1M->JUMPER C293A/B 330P->270P
5		R472A/B 270K->330K R472B 382A/B 270K->220K PCHXXXX SEE LIST BELOW
6	AUG/12/96	2.10 R382A/B 270K->220K PCH5195 C278A/B 5M1->4N7
7	AUG/26/96	2.20 R382A/B 270K->220K PCH5194 R503A/B 33K->21K5
8	AUG/29/96	2.20 R402A/B 200K->7K95 R499A/B 75K->31K6
9	SEP/20/96	3.00 R402A/B 200K->7K95 R499A/B 75K->31K6
10		15.1 75K->31K6 R495A/B 82K5->31K6
11		15.2 ALTERED CIRCUIT AT U2A/B
12		15.3 PCH5196 CORRECTED PART SPANS
13		15.4 PCH5230 ADDED TX8/TX9 SWITCH
14	OCT/21/96	4.00 PCH5230 ADDED TX8/TX9 SWITCH
15		20.0 PCH5231-TO MANY CHANGES TO LIST
16		PCH5231-ADD DIODE AT U1E

M454.PCB DATABASE HISTORY

MODEL(S) :- TX-8P		
#	DATE	VER# DESCRIPTION OF CHANGE
1	OCT/23/96	4.00 PCH5227 C277A/B 2N2->3N3
2	OCT/25/96	5.00 PCH5240 R503A/B 6K98->4K99
3		R414A/B 33K->20K
4	OCT/31/96	5.00 PCHXXXX POWER XFMR TO TOROID
5	NOV/05/96	5.00 PCH5244 R606A/B 60K4->30K R405A/B 20K->33K R319A/B 75K->130K
6	NOV/14/96	5.00 PCH5241 U5A/U8A/U18A/U21A 4741->TL074
7	NOV/27/96	5.10 PCH5256 U14,15,16,17,23,24,25 U26,27,28-A/B TL062->TLE2062TI
8		U9,10,11,12-A/B TL062->TL072
9	DEC/04/96	5.20 PCH5308 U40 MCM2814->AT24C02
10	FEB/13/97	5.20 PCH5412 R472A/B 390K->220K
11	JUN/09/97	5.21 C293A/B 150P->270P
12		PCH5453-SEE NOTE
13	AUG/20/97	5.22 R506 A/B 11K->4K99
14	OCT/07/97	5.24 PCH5501 R527A/B 100K->47K
15		R528A/B 33K 6K98
16	AUG/10/98	5.25 PCH R426A/B 150K->330K
17	JAN/06/99	6.00 PC MID XOVER FREQ AND LIMIT CHANGE
18	SEP/25/00	6.10 PCH6206 REMOVE EYELET FOR SPKON
19	FEB/12/01	6.20 PCH6330 U46 MTL 74HC597A ->74HC597N
20	APR/15/02	6.30 D41,D42 3V0 TO 4V7
21	JUN/02/05	7.00 REDO SOLDERMASK

M454 part changes AUG 6, 96

R433 A/B 15K->5K36	R360 A/B 9K1->6K98
R351 A/B 01K->1K	R371 A/B 01K->1K
R358 A/B 1K3->1K	R359 A/B 1K8->2K32
C278 A/B 8n2->4n7	R495 A/B 31K6->2K45
R406 A/B 22K->9K1	R407 A/B 22K->82K9
R307 A/B 31K6->45K3	R410 A/B 22K->7K96
R409 A/B 22K->2K32	R333 A/B 10K->1K3
R503 A/B 10K0->4K99	R303 A/B 10K0->4K99
R526 A/B 47K->24K	R535 A/B 10K0->4K99
R533 A/B 2K7->1K6	R503 A/B 60K4->133K
R332 A/B 8K2->11K	C293 A/B 270P->150P
R449 A/B 3K3->470R	R492 A/B 8K2->750R
R456 A/B 3K->4K120	R456 A/B 3K->4K120
R330 A/B 6K8->15K	R470 A/B 45K3->20K0
R327 A/B 5K6->16K	R445 A/B 2K7->4K120
R447 A/B 2K2->681R0	R446 A/B 3K3->1K2
R356 A/B 0R->1K	R355 A/B 4K7->2K2
R499 A/B 82K5->75K0	R306 A/B 37K9->60K4

radial parts

C270 A/B 47n->100n	R324 A/B 56K->30K
C285 A/B 47n->100n	R316 A/B 56K->36K
C265 A/B 39n->150n	R350 A/B 56K->310K
C281 A/B 68n->680n	C274 A/B ???->680n
C280 A/B 100n->150n	C189 A/B 3n3->2n2
C279 A/B 100n->150n	C195 A/B 6n8->2n2
C284 A/B 100n->150n	C267 A/B 39n->150n
C269 A/B 100n->39n	C290 A/B 47n->180n
C193 A/B 100n->330n	C268 A/B 47n->39n
C282 A/B 688n->680n	C289 A/B 47n->180n
C273 A/B NEW->680n	

parts removed

R417 A/B 3K9 R300 A/B 2K49 R320 A/B 20K0
C183 A/B 470n C184 A/B 680n

M454 part changes OCT 21,96

R405 A/B 33K->20K0	R319 A/B 68K->75K
R570 A/B 17K4->7K96	R322 A/B 68K->75K
R572 A/B 17K4->7K96	R527 A/B 47K->100K
R532 A/B 45K3->3K3	R525 A/B 22K->4K7
R509 A/B 20K0->10K0	R515 A/B 10K0->4K99
R511 A/B 20K0->10K0	R516 A/B 10K0->4K99
R453 A/B 4K99->10K0	R470 A/B 7K96->4K99
R499 A/B 31K6->10K0	R457 A/B 4K99->10K0
R495 A/B 31K6->5K36	R524 A/B 22K->1K

radial parts

C283 A/B 100n->150n

parts removed

R523 A/B 22K->DMS

M454 PCH5453 AUG 20, 97

R606 A/B 30K->33K
R405 A/B 33K->27K
R319 A/B 130K->82K
R382 A/B 220K->150K
C278 A/B 4n7-> 6n8

JAN/06/99 M454 PC#

C292A/B, C291A/B 100N TO 68N
U9A/B INVERTED DELETE R525A/B
R525A/B R532A/B 330K TO 390K
C286A DELETED R426A 330K TO 390K
C287A/B, C288A/B 100N TO 68N
C283A 100N TO 47/63V C200A 10u/63V TO 1u
U9A/B INVERTED ADD 4K7 (R525A/B) BETWEEN
PIN 2 OF IC AND PIN 4 OF P1A/B
R524A/B 1K TO 4K7
R356A 1K TO 2K R355A 2K2 TO 3K
ADD 330N (C332A) FROM PIN 1 U28A TO
JUNCTION OF R356A/B R355A/B
R301A/B 1K TO 2K R355A 2K2 TO 3K
ADD CIRCUIT TO U27A/B 22N(C333A/B) 75K R610A/B
(C334) 47K(R608A) 20K(R609A) 75K (R610A)
DELETE CIRCUIT FOR U14A/2
R313A/B 47K TO 30K C271A/B 100N TO 33N
C272A 100N TO 150N R316A 36K TO 30K
R360A/B 6K98 TO 10K R358A/B 1K TO 2K
R359A/B 2K32 TO 3K C276A/B 100N TO 330N
C276A/B 100N TO 330N C275A/B 100N TO 150N
C274A/B, 680N TO 470N

BLANK SIZE=17.750"X14.500"