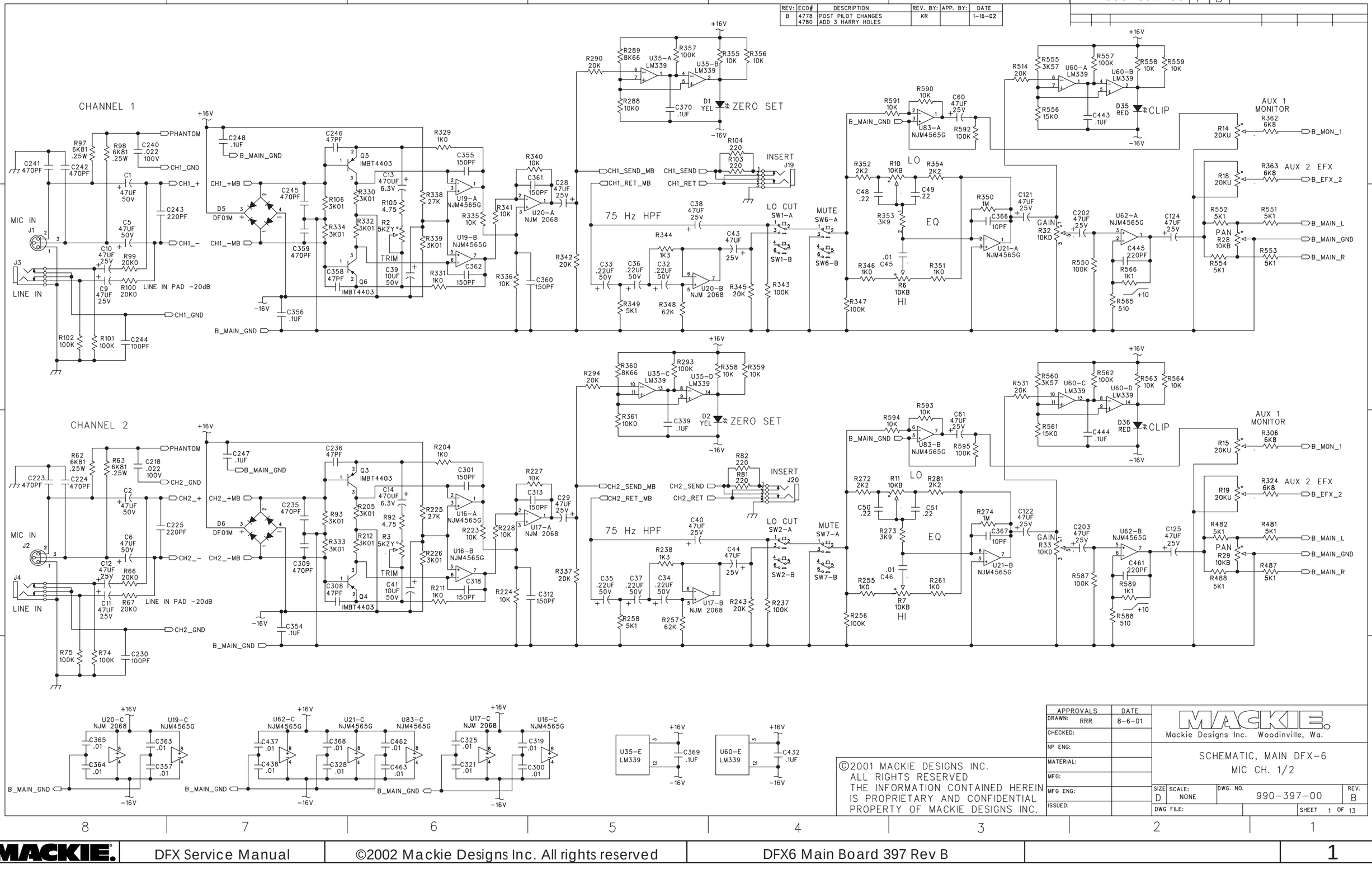
REV:	ECO#	DESCRIPTION	REV. BY:	APP. BY:	DATE
B	4778	POST PILOT CHANGES	KR		1-16-02
	4780	ADD 3 HARRY HOLES			

DWG. NO. 990-397-00 | SHT 1 | REV: B



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APPROVALS	DATE
DRAWN: RRR	8-6-01
CHECKED:	
NP ENG:	
MATERIAL:	
MFG:	
MFG ENG:	
ISSUED:	

MACKIE. Mackie Designs Inc. Woodinville, Wa.

SCHEMATIC, MAIN DFX-6
MIC CH. 1/2

SIZE D | SCALE: NONE | DWG. NO. 990-397-00 | REV. B
DWG FILE: | SHEET 1 OF 13

CHANNEL 3/4

LINE IN L — J7 — CH3_LN_IN / CH3_LN_OUT — R73 5K1

MIC IN — J5 — C7 47UF 50V — CH3/4_- — C222 220PF

C3 47UF 50V — CH3/4_+ — C221 220PF — C229 470PF — CH3/4_GND — R80 5K1

LINE IN R — J21 — CH4_LN_IN

CH3_LN_IN_MB / CH3_LN_OUT_MB — C15 47UF 25V — R202 30K — +/- 20 GAIN — R4-A 50KG — U15-A NJM4565G — C30 47UF 25V

R203 100K — C299 20PF — C24 47UF 25V — R234 3K3

CH3/4_-MB — C311 220PF — R222 10K0 — R221 10K0 — R236 100K — C317 10PF — C26 47UF 25V — U18-A NJM 2068 — R242 1K0

CH3/4_+MB — R235 100K — C316 10PF — R241 100K

B_MAIN_GND — U18-B NJM 2068

CH4_LN_IN_MB — C22 47UF 25V — R210 30K — +/- 20 GAIN — R4-B 50KG — U15-B NJM4565G — C31 47UF 25V

R214 100K — C305 20PF — C25 47UF 25V — R233 3K3

R248 100K

B_MAIN_GND

MUTE SW8-A

SW8-B

R249 100K

R207 20K — D45 BAV70LT1 — R208 20K — R206 100K

+16V — R86 8K66 — U3-A LM339 — R89 100K — U3-B LM339 — R88 10K — R87 10K

R85 10K0 — C233 .1UF — D3 YEL ZERO SET — -16V

R508 20K — D51 BAV70LT1 — R507 20K — R523 100K

+16V — R509 3K57 — U58-A LM339 — R511 100K — U58-B LM339 — R512 10K — R513 10K

R510 15K0 — C428 .1UF — D37 RED CLIP — -16V

LO — R12-A 10KB — R271 2K2 — R286 2K2 — C59 .22 — C58 .22 — EQ — R285 3K9 — C47 .01 — R8-A 10KB HI — R254 1K0 — R264 1K0 — R498 100K

R267 1M — C331 10PF — U34-A NJM4565G — C54 47UF 25V

LO — R12-B 10KB — R270 2K2 — R279 2K2 — C53 .22 — C52 .22 — R280 3K9 — C42 .01 — R8-B 10KB HI — R253 1K0 — R265 1K0 — R499 100K

R287 1M — C338 10PF — U34-B NJM4565G — C55 47UF 25V

FADER +10 — R34-A 50KD — R34-B 50KD

C204 47UF 25V — R549 200K — U59-A NJM4565G — +10 — C442 20PF — R547 11K — R548 5K1 — C123 47UF 25V

C200 47UF 25V — R586 200K — U59-B NJM4565G — +10 — C460 20PF — R584 11K — R585 5K1 — C126 47UF 25V

PAN R30 10KB — R480 5K1 — R479 5K1 — B_MAIN_L

B_MAIN_GND

R486 5K1 — R485 5K1 — B_MAIN_R

R313 10K — R312 10K — R314 10K — C347 20PF — C62 47UF 25V — U36-A NJM4565G — AUX 1 MONITOR — R16 20KU — R305 6K8 — B_MON_1

R315 10K — R322 100K — R323 10K — C352 20PF — C63 47UF 25V — U36-B NJM4565G — AUX 2 EFX 2 — R20 20KU — R320 6K8 — B_EFX_2

U15-C NJM4565G — C459 .01 — C441 .01

U34-C NJM4565G — C304 .01 — C298 .01

U59-C NJM4565G — C336 .01 — C334 .01

U36-C NJM4565G — C351 .01 — C346 .01

U18-C NJM 2068 — C327 .01 — C324 .01

+16V — -16V — B_MAIN_GND

+16V — C234 .1UF — U3-E LM339 — -16V

+16V — C431 .1UF — U58-E LM339 — -16V

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SCHEMATIC, DFX-6: ST. CH. 3/4

SIZE	SCALE:	DWG. NO.	REV.
D	NONE	990-397-00	B

DWG FILE: | SHEET 2 OF 13

CHANNEL 5/6

LINE IN L — J8 — CH5_LN_IN / CH5_LN_OUT — CH5_LN_IN_MB / CH5_LN_OUT_MB

MIC IN — J6 — CH5/6_– / CH5/6_+ / CH5/6_GND

LINE IN R — J22 — CH6_LN_IN / CH6_LN_IN_MB

CH5/6_–MB / CH5/6_+MB / B_MAIN_GND

U14-A NJM 2068 · U14-B NJM 2068

C16 47UF 25V · R200 30K · +/– 20 · GAIN · R5-A 50KG · C68 47UF 25V · R230 3K3 · R201 100K · C297 20PF · R240 1K0

U12-A NJM4565G · C76 47UF 25V · C237 47PF · R94 30K

MUTE SW9-A

LO · R13-A 10KB · R269 2K2 · R283 2K2 · C105 .22 · C104 .22 · EQ · R282 3K9 · C90 .01 · R252 1K0 · R262 1K0 · R9-A 10KB HI · R496 100K · R247 100K

R266 1M · C330 10PF · C56 47UF 25V · U30-A NJM4565G

+16V · R259 20K · D46 BAV70LT1 · R260 20K · R83 8K66 · R96 100K · R90 10K · R91 10K · U3-C LM339 · U3-D LM339 · R250 100K · R84 10K0 · C239 .1UF · D4 YEL · ZERO SET · –16V

R524 20K · D52 BAV70LT1 · R525 20K · R526 3K57 · R528 100K · R529 10K · R530 10K · U58-C LM339 · U58-D LM339 · R522 100K · R527 15K0 · C433 .1UF · D38 RED · CLIP · –16V

FADER +10 · R35-A 50KD · C205 47UF 25V · U57-A NJM4565G · +10 · C172 47UF 25V · R546 200K · C440 20PF · R544 11K · R545 5K1

PAN · R31 10KB · R478 5K1 · R477 5K1 · R484 5K1 · R483 5K1 · B_MAIN_L · B_MAIN_GND · B_MAIN_R

R309 10K · R310 10K · C345 20PF · C64 47UF 25V · AUX 1 MONITOR · U33-A NJM4565G · R17 20KU · R307 6K8 · B_MON_1

R311 10K · R319 10K · R318 100K · C350 20PF · C65 47UF 25V · AUX 2 EFX 2 · R317 100K · U33-B NJM4565G · R21 20KU · R316 6K8 · B_EFX_2

+/– 20 · C23 47UF 25V · R209 30K · GAIN · R5-B 50KG · C69 47UF 25V · R213 100K · C303 20PF · R229 3K3 · U12-B NJM4565G · C77 47UF 25V · C306 47PF · R215 30K · R246 100K · SW9-B

LO · R13-B 10KB · R268 2K2 · R277 2K2 · C100 .22 · C99 .22 · R278 3K9 · C84 .01 · R251 1K0 · R263 1K0 · R9-B 10KB HI · R497 100K

R284 1M · C337 10PF · C57 47UF 25V · U30-B NJM4565G

R35-B 50KD · C201 47UF 25V · U57-B NJM4565G · +10 · C182 47UF 25V · R583 200K · C458 20PF · R581 11K · R582 5K1

B_MAIN_GND

+16V · U12-C NJM4565G · U30-C NJM4565G · U57-C NJM4565G · U33-C NJM4565G · U14-C NJM 2068

C302 .01 · .01 C296 · C335 .01 · C333 .01 · C456 .01 · .01 C436 · C349 .01 · C344 .01 · C326 .01 · C323 .01

B_MAIN_GND · –16V

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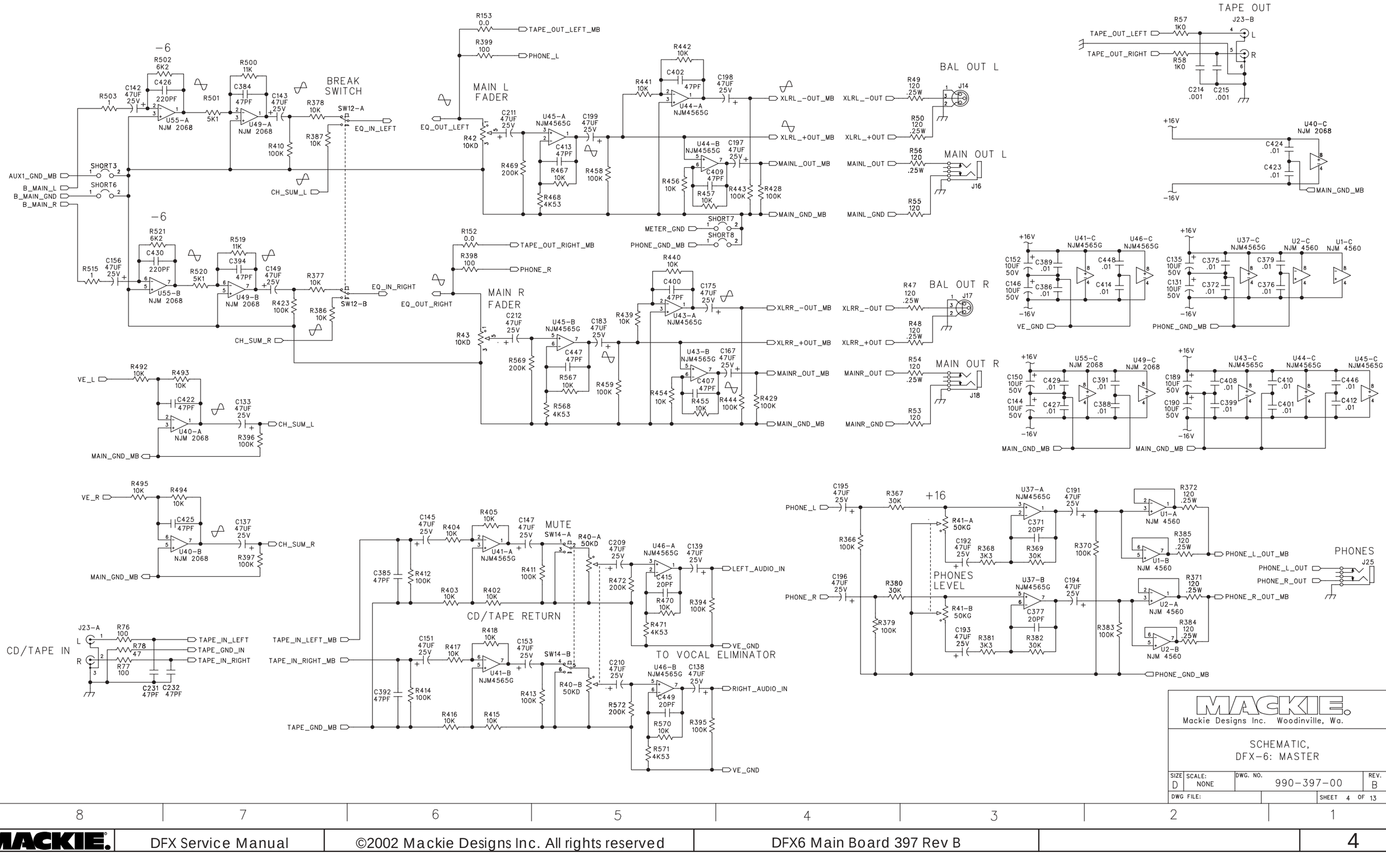
SCHEMATIC,
DFX-6: ST. CH. 5/6

SIZE	SCALE:	DWG. NO.	REV.
D	NONE	990-397-00	B
DWG FILE:		SHEET 3 OF 13	



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SCHEMATIC,
DFX-6: MASTER

SIZE	SCALE:	DWG. NO.	REV.
D	NONE	990-397-00	B
DWG FILE:		SHEET 4 OF 13	

B_MAIN_GND → J35-1
CH1_-MB → J35-2
CH1_+MB → J35-3
B_MAIN_GND → J35-4
CH1_SEND_MB → J35-5
B_MAIN_GND → J35-6
CH1_RET_MB → J35-7
J35-8
B_MAIN_GND → J35-9
CH2_-MB → J35-10
CH2_+MB → J35-11
B_MAIN_GND → J35-12
CH2_SEND_MB → J35-13
B_MAIN_GND → J35-14
CH2_RET_MB → J35-15

CH1_GND → J33-1
CH1_- → J33-2
CH1_+ → J33-3
CH1_GND → J33-4
CH1_SEND → J33-5
CH1_GND → J33-6
CH1_RET → J33-7
J33-8
CH2_GND → J33-9
CH2_- → J33-10
CH2_+ → J33-11
CH2_GND → J33-12
CH2_SEND → J33-13
CH2_GND → J33-14
CH2_RET → J33-15

B_MAIN_GND → J34-1
CH3_LN_OUT_MB → J34-2
CH3_LN_IN_MB → J34-3
B_MAIN_GND → J34-4
CH3/4_+MB → J34-5
CH3/4_-MB → J34-6
B_MAIN_GND → J34-7
J34-8
CH4_LN_IN_MB → J34-9
B_MAIN_GND → J34-10
B_MAIN_GND → J34-11
CH5_LN_OUT_MB → J34-12
CH5_LN_IN_MB → J34-13
B_MAIN_GND → J34-14
CH5/6_+MB → J34-15
CH5/6_-MB → J34-16
B_MAIN_GND → J34-17
J34-18
CH6_LN_IN_MB → J34-19
B_MAIN_GND → J34-20

CH3/4_GND → J32-1
CH3_LN_OUT → J32-2
CH3_LN_IN → J32-3
CH3/4_GND → J32-4
CH3/4_+ → J32-5
CH3/4_- → J32-6
CH3/4_GND → J32-7
J32-8
CH4_LN_IN → J32-9
CH3/4_GND → J32-10
CH5/6_GND → J32-11
CH5_LN_OUT → J32-12
CH5_LN_IN → J32-13
CH5/6_GND → J32-14
CH5/6_+ → J32-15
CH5/6_- → J32-16
CH5/6_GND → J32-17
J32-18
CH6_LN_IN → J32-19
CH5/6_GND → J32-20

SO1 706-033-01 STDF SWAGE NO.4 X .542L F
SO2 706-033-01 STDF SWAGE NO.4 X .542L F
SO3 706-033-01 STDF SWAGE NO.4 X .542L F
CHGND_MB
SO4 706-033-01 STDF SWAGE NO.4 X .542L F
SO5 706-033-01 STDF SWAGE NO.4 X .542L F
SO6 706-033-01 STDF SWAGE NO.4 X .542L F
SO7 706-033-01 STDF SWAGE NO.4 X .542L F
SO8 706-033-01 STDF SWAGE NO.4 X .542L F
SO9 706-033-01 STDF SWAGE NO.4 X .542L F

STANDOFFS FOR REVERB CARD
SO10 706-038-00 STDF NO.4 X .250L
SO11 706-038-00 STDF NO.4 X .250L
SO12 706-038-00 STDF NO.4 X .250L

B1 0000210 Button Switch 5x7
B2 0000210 Button Switch 5x7
B3 0000210 Button Switch 5x7
B4 0000210 Button Switch 5x7
B5 0000210 Button Switch 5x7
B11 0000210 Button Switch 5x7
B12 0000210 Button Switch 5x7
B6 0000211 Button Switch 11.5 x 8.5
B7 0000211 Button Switch 11.5 x 8.5
B8 0000211 Button Switch 11.5 x 8.5
B9 0000211 Button Switch 11.5 x 8.5
B10 0000211 Button Switch 11.5 x 8.5
B13 0000211 Button Switch 11.5 x 8.5
B14 0000211 Button Switch 11.5 x 8.5

Z100 450-397-01 PCB MAIN DFX-6

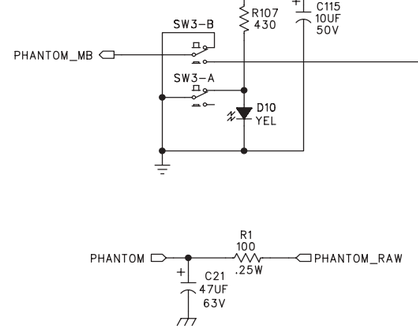
E4 B_MAIN_GND
E6
E1
E9
E11
E8
E10
E12
E7
E5
E3
E2
FOR STITCHING OF CHANNEL "RIBS" TO COPPER POUR AROUND THE BUS AREA

E13 SHIELD TRACE, FOLLOWS EQ_OUT_LEFT&RIGHT TO MAIN FADERS.

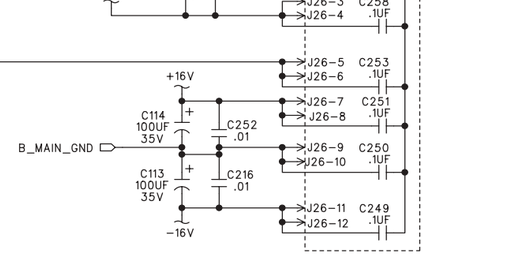
PHANTOM_MB → J31-1 J29-1 ← PHANTOM_RAW
PHANTOM_MB → J31-2 J29-2 ← PHANTOM_RAW
AUX1_IN_LEFT_MB → J31-3 J29-3 ← AUX1_IN_LEFT
AUX1_GND_MB → J31-4 J29-4 ← AUX1_GND
AUX1_IN_RIGHT_MB → J31-5 J29-5 ← AUX1_IN_RIGHT
AUX1_GND_MB → J31-6 J29-6 ← AUX1_GND
AUX2_RTN_LEFT_MB → J31-7 J29-7 ← AUX2_RTN_LEFT
AUX2_GND_MB → J31-8 J29-8 ← AUX2_GND
AUX2_RTN_RIGHT_MB → J31-9 J29-9 ← AUX2_RTN_RIGHT
AUX2_GND_MB → J31-10 J29-10 ← AUX2_GND
TAPE_IN_LEFT_MB → J31-11 J29-11 ← TAPE_IN_LEFT
TAPE_GND_MB → J31-12 J29-12 ← TAPE_GND_IN
TAPE_IN_RIGHT_MB → J31-13 J29-13 ← TAPE_IN_RIGHT
TAPE_GND_MB → J31-14 J29-14 ← TAPE_GND_IN
EFX_SW_MB → J31-15 J29-15 ← EFX_SW

TAPE_OUT_LEFT_MB → J30-1 J28-1 ← TAPE_OUT_LEFT
TAPE_GND_OUT_MB → J30-2 J28-2
TAPE_OUT_RIGHT_MB → J30-3 J28-3 ← TAPE_OUT_RIGHT
J30-4 J28-4
PHONE_L_OUT_MB → J30-5 J28-5 ← PHONE_L_OUT
PHONE_GND_MB → J30-6 J28-6
PHONE_R_OUT_MB → J30-7 J28-7 ← PHONE_R_OUT
PHONE_GND_MB → J30-8 J28-8
MON1_SEND_MB → J30-9 J28-9 ← MON1_SEND
MON1_SEND_GND_MB → J30-10 J28-10 ← MON1_SEND_GND
EFX2_SEND_MB → J30-11 J28-11 ← EFX2_SEND
EFX2_SEND_GND_MB → J30-12 J28-12 ← EFX2_SEND_GND
XLRL_-OUT_MB → J30-13 J28-13 ← XLRL_-OUT
XLRL_+OUT_MB → J30-14 J28-14 ← XLRL_+OUT
MAINL_OUT_MB → J30-15 J28-15 ← MAINL_OUT
MAIN_GND_MB → J30-16 J28-16 ← MAINL_GND
XLRR_-OUT_MB → J30-17 J28-17 ← XLRR_-OUT
XLRR_+OUT_MB → J30-18 J28-18 ← XLRR_+OUT
MAINR_OUT_MB → J30-19 J28-19 ← MAINR_OUT
MAIN_GND_MB → J30-20 J28-20 ← MAINR_GND

48 volt global Phantom power



TO POWER SUPPLY



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SCHEMATIC,
DFX-6: CONNECTORS/POWER

SIZE	SCALE:	DWG. NO.	REV.
D	NONE	990-397-00	B
DWG FILE:		SHEET 5 OF 13	

EQ LEFT CHANNEL SUMMING AMP

BYPASS SWITCH

EQ_IN_LEFT
C81 47UF 25V
R130 10K
C266 100PF
U11-A NJM 2068
R131 100K
SW5-A
C101 47UF 25V
MON_BP_A
R151 100K
EQ_GND
MON_BP_B
R275 6K2
R276 510K
R217 51K
C332 220PF
R22-A 50KW TOP 60 HZ
C91 2.2UF 50V
C73 .047
R218 1K5
U13-A NJM4565G
R23-A 50KW TOP 250 HZ
C92 .47
C71 .01
R115 1K5
R114 51K
U9-A NJM4565G
R24-A 50KW TOP 1 KHZ
C94 .1
C66 .0047
R113 2K
R112 30K
U8-A NJM4565G
R25-A 50KW TOP 3.5 KHZ
C95 .033
C67 0.0015uF
R111 1K5
R110 27K
U7-A NJM4565G
R26-A 50KW TOP 12 KHZ
C93 .01
C72 470pF
R109 1K5
R108 27K
U4-A NJM4565G
C96 47UF 25V
R136 510K
U11-B NJM 2068
C275 100PF
R137 6K2
MON_BP_C
MON_BP_D
SW5-B BYPASS SWITCH
EQ_OUT_LEFT

MON_BP_A
R299 51
U32-C DG213
MON_BP_B
MON_BP_C
R301 51
U32-D DG213
R300 510K
MON_BP_D
R292 510K
U32-A DG213
U32-B DG213
LOGIC
C341 .01

TO_BYPASS
SW5-C BYPASS SWITCH
C98 47UF 25V
R144 6K2
R145 100K
C329 220PF
R22-B 50KW TOP 60 HZ
C87 2.2UF 50V
C83 .047
R245 1K5
R244 51K
U13-B NJM4565G
R23-B 50KW TOP 250 HZ
C85 .47
C79 .01
R123 1K5
R122 51K
U9-B NJM4565G
R24-B 50KW TOP 1 KHZ
C88 .1
C74 .0047
R121 2K
R120 30K
U8-B NJM4565G
R25-B 50KW TOP 3.5 KHZ
C89 .033
C75 0.0015uF
R119 1K5
R118 27K
U7-B NJM4565G
R26-B 50KW TOP 12 KHZ
C86 .01
C80 470pF
R117 1K5
R116 27K
U4-B NJM4565G
C97 47UF 25V
R134 510K
U10-B NJM 2068
C274 100PF
R135 6K2
SW5-D BYPASS SWITCH
FROM_BYPASS

EQ RIGHT CHANNEL SUMMING AMP

EQ_IN_RIGHT
C82 47UF 25V
R128 10K
C265 100PF
U10-A NJM 2068
R129 100K
R146 470
C279 100PF
SW4-A
SW4-B
+5V
R148 10K
C280 .01
LOGIC
MAIN/AUX1 SWITCH
TO_BYPASS
SW4-C
FROM_BYPASS
SW4-D
EQ_OUT_RIGHT
U31-A DG213
U31-B DG213
R291 510K
U31-C DG213
U31-D DG213
R198 510K
MON1_SEND_GND_MB
C286 .01

MONITOR 1 IN
B_MON_1
B_MAIN_GND
SHORT5
SHORT4
C418 47PF
R476 6K8
C110 47UF 25V
U39-A NJM4565G
R325 10
R596 6K8
R36 20KU
C127 47UF 25V
R489 27K
C421 20PF
C129 47UF 25V
U39-B NJM4565G
MON1_SEND_MB
R328 100K
MON1_SEND_GND_MB

MON1_SEND
R46 120 2.5W
R45 120
J13
MONITOR 1 OUT
MON1_SEND_GND

+5V
R303 10K
+16V
D50 BAV70LT1
C353 .01
R327 10
C348 .1UF
U31-E DG213
C343 .01
R304 10
D49 BAV70LT1
-16V
C342 .01
R302 10
D48 BAV70LT1
U32-E DG213
C340 .01
R298 10
D47 BAV70LT1

U11-C NJM 2068
U10-C NJM 2068
U4-C NJM4565G
U13-C NJM4565G
U7-C NJM4565G
U9-C NJM4565G
U8-C NJM4565G
C78 10UF 50V
C70 10UF 50V
C272 .01
C268 .01
C271 .01
C267 .01
C259 .01
C256 .01
C322 .01
C320 .01
C260 .01
C254 .01
C262 .01
C255 .01
C261 .01
C257 .01

U39-C NJM4565G
C419 .01
C420 .01

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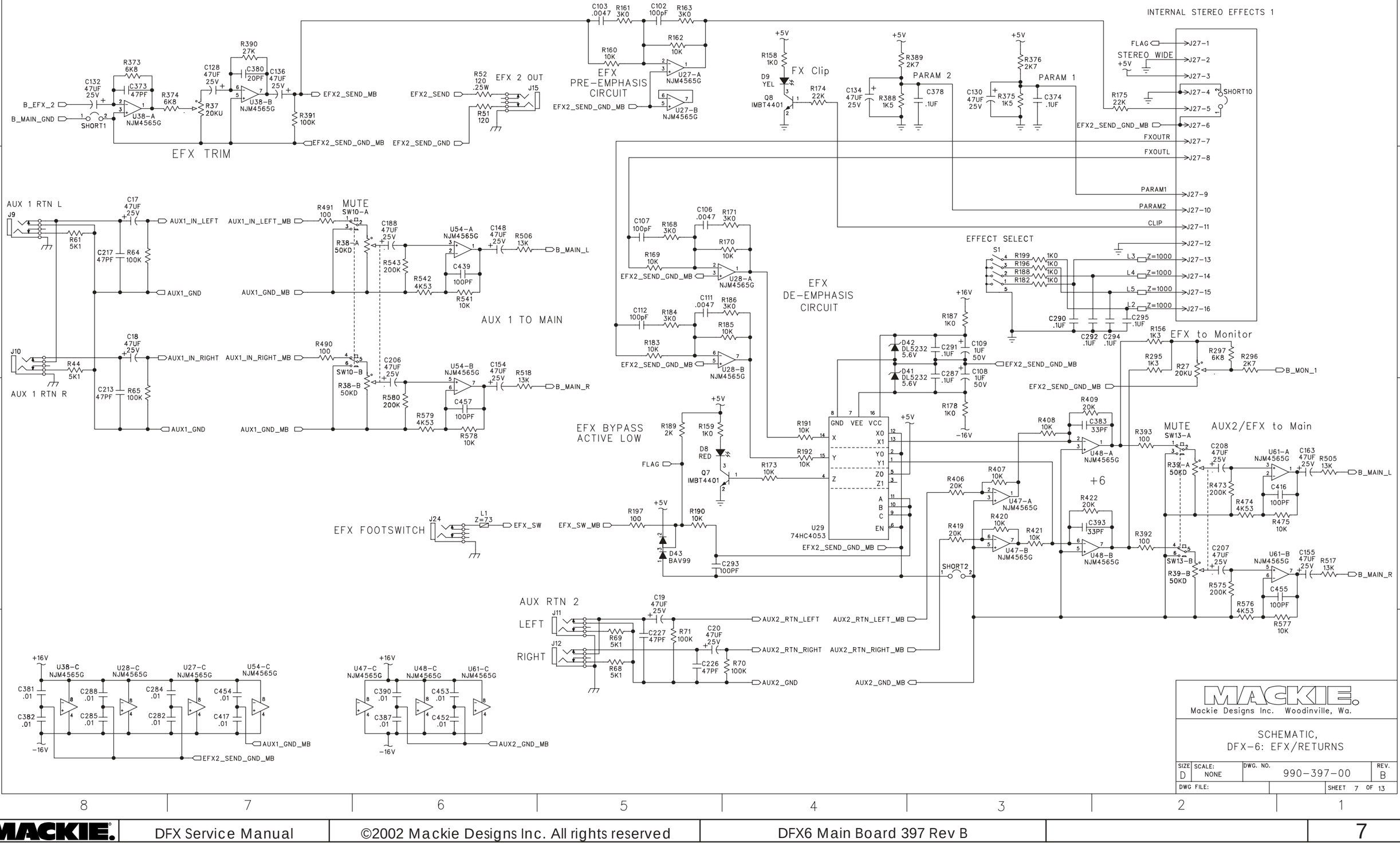
Mackie Designs Inc. Woodinville, Wa.

SCHEMATIC,
DFX-6: GRAPHIC EQ

SIZE	SCALE:	DWG. NO.	REV.
D	NONE	990-397-00	B
DWG FILE:		SHEET 6 OF 13	



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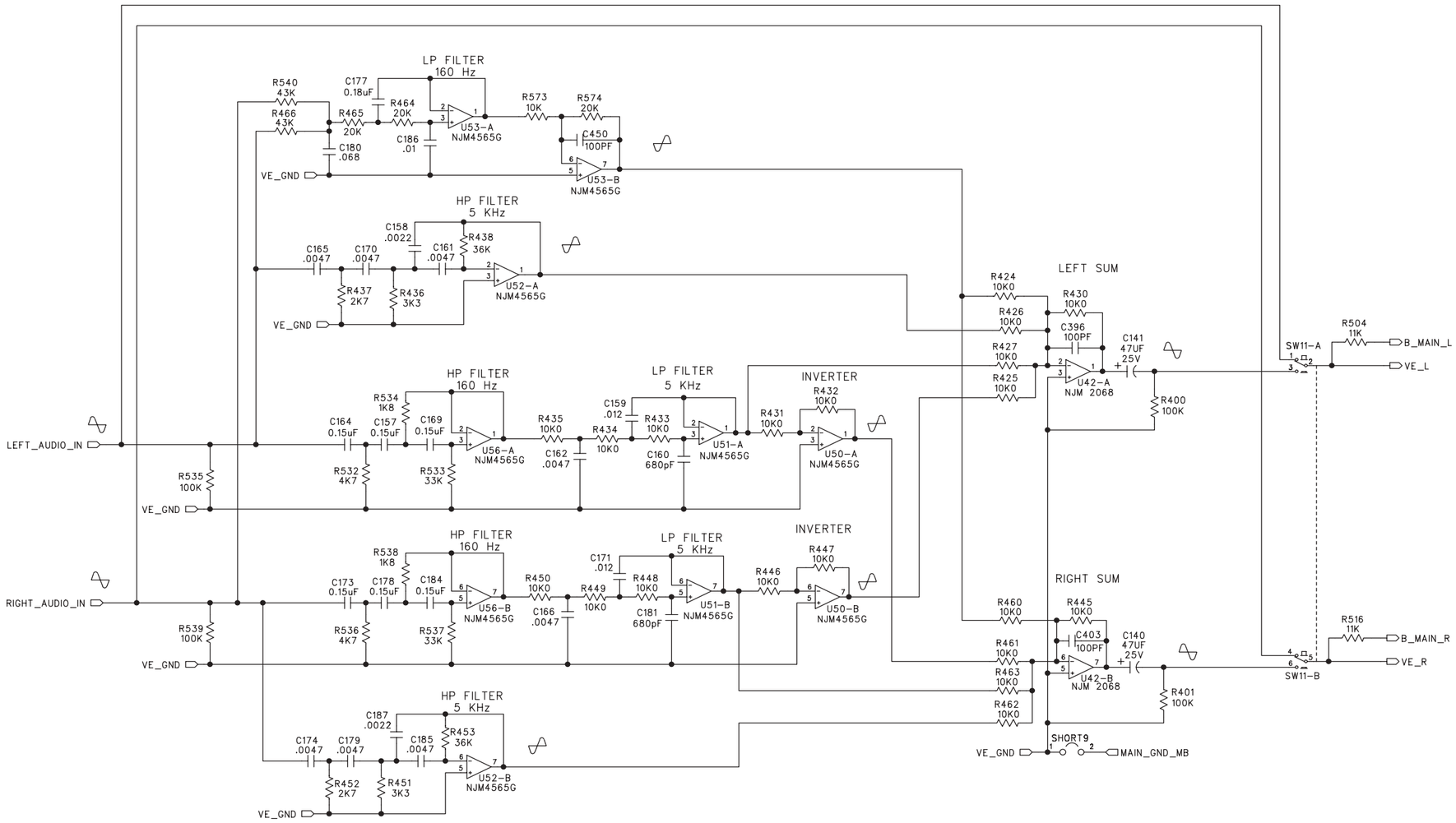
SCHEMATIC,
DFX-6: EFX/RETURNS

SIZE	SCALE:	DWG. NO.	REV.
D	NONE	990-397-00	B
DWG FILE:		SHEET 7 OF 13	



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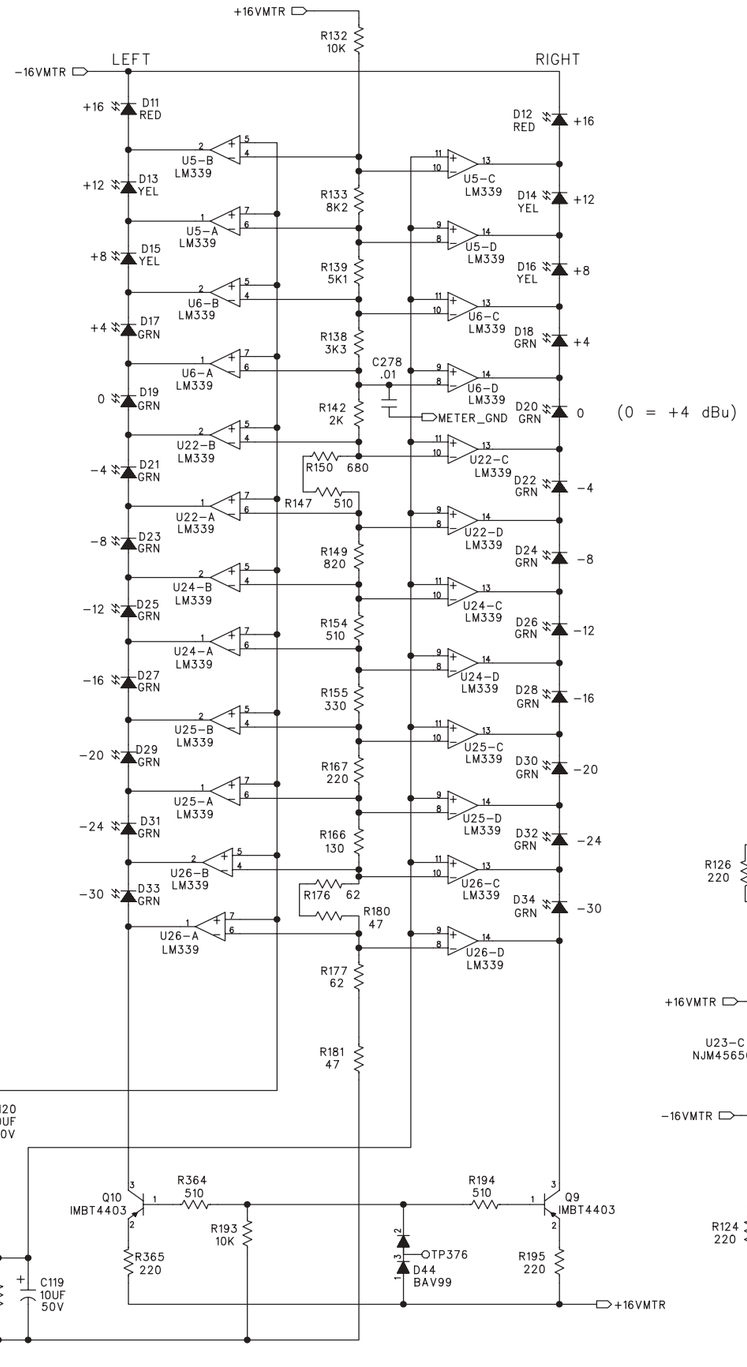
SCHEMATIC,
DFX-6: VOCAL ELIMINATOR

SIZE	SCALE:	DWG. NO.	REV.
D	NONE	990-397-00	B
DWG FILE:		SHEET 8 OF 13	



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Mackie Designs Inc. Woodinville, Wa.

SCHEMATIC,
DFX-6: METER

SIZE	SCALE:	DWG. NO.	REV.
D	NONE	990-397-00	B
DWG FILE:		SHEET 9 OF 13	