| | REVISIONS | | |
|---|---|---|---|
| REV | DESCRIPTION | DATE | APPROVED |
| 1 | PROTOTYPE RELEASE | 4-11-95 | TM |
| 2 | PROTOTYPE RELEASE | 6-5-95 | TM |
| A | PRODUCTION RELEASE PER EDR 42-587 | 6-22-95 | AKS |
| B | REVISED PER ECO# 3133 | 10-18-95 | AKS |
| C | REVISED PER ECO# 3140 | 11-02-95 | AKS |
| D | REVISED PER ECO# 3207 | 01-23-96 | TM |
| E | REVISED PER ECO# 3375 | 09-09-96 | |
| F | REVISED PER ECO# 3374 | 09-11-96 | |


SHT 1 COVER SHEET

SHT 2 MICROPROCESSOR, ROM, RAM, I/O

SHT 3 GATE ARRAY

SHT 4 MIDI, CLOCKS

SHT 5 ESP 1

SHT 6 ESP 2

SHT 7 KEYPAD/DISPLAY, FOOTSWITCH INPUTS

SHT 8 DIGITAL BYPASS CAPS, POWER SUPPLY CONN., UNUSED GATES

SHT 9 CV PEDAL A/D CONVERTER

SHT 10 REAR PANEL INPUT CONNECTORS & DIFFERENTIAL AMPLIFIERS.

SHT 11 D/A CONVERTER, FRONT PANEL INPUT, PRE-EMPHASIS AND LEVEL CONTROLS.

SHT 12 A/D CONVERTER AND MASTER CLOCK GENERATOR.

SHT 13 VOLTAGE REGULATORS & OFF BOARD CONNECTORS.

SHT 14 RECONSTRUCTION FILTER, DE-EMPHASIS, OUTPUT DRIVERS, HEADPHONE OUTPUT, MUTING CIRCUITS AND OUTPUT CONNECTORS.


NOTES - UNLESS SPECIFIED OTHERWISE:

1. ALL RESISTOR VALUES ARE IN OHMS, 1/8W 5%.
2. ALL CAPACITOR VALUES ARE IN MICROFARADS, 16V MINIMUM.
3. ALL 0.1UF BYPASS CAPACITORS ARE 25V +80/-20% Z5U.
4. THIS BOARD IS DESIGNED TO ACCEPT TWO PACKAGE TYPES FOR THE 1N5229B ZENER DIODES.

SEP 1 9 1996

COVER SHEET

ENSONIQ Corp

155 GREAT VALLEY PKWY, MALVERN PA 19355

| APPROVALS | DATE | PCB SCHEMATIC DP2 MAIN BOARD | | |
|---|---|---|---|---|
| DWN BY: B.CARR | 1-16-95 | | | |
| CHKD BY: | | | | |
| APPD BY: | | SIZE B | DWG. NO. 4010028001 | REV F |
| USED ON: DP-2 | | SCALE — | SHEET 1 OF 14 | |

OSROM/
ALGROM/
IJAK_SW2
RAM BANK SELECTS
ROM BANK SELECTS
u MUXED A/D BUS
u CTRL BUS
u ADDR BUS

U27 27C2001: A0–A16; D0–D7 → A/D0–A/D7; VPP → +5D; PGM → 31; A17 → 30 ROMBS4; OE → 24 RD/; CS → 22 ALGROM/; GND → DGND

U28 27256: A0–A14; D0–D7 → A/D0–A/D7; VPP → +5D; OE → 22 RD/; CS → 20 OSROM/; GND → DGND

U26 62256BLG RAM: A0–A14; D0–D7 → A/D0–A/D7; GRAMBS0 → 26; GRAMBS1 → 1; CS → 20; OE → 22 RD/; WE → 27 WE/; GND → DGND; VCC → +5D

C41 0.1uF: X396 GOSRAM/ — X400 VRAM — DGND

U25 63B03: VSS → DGND; VCC → +5D; C4 0.1uF; C75 22uF 20V TANT, TAJD

P10 IJAK_SW2 13
P11 14
P12 15
P13 DISPRES/ 16
P14 ENCEN 17
P15 IN_CAL/ 18
P16 BADCC 19
P17 BATLOW/ 20
P20 ENCACT/ 8
P21 ENCDIR 9
P22 250KHZB 10
P23 MIDIN 11
P24 MIDIO 12
NMI 4 +5D
IRQI ACIAIRQ/ 5
SC1 AS/ 39
VCCSTBY 21 +5D
RESET BRES/ 6
XTAL1 2 X529
EXTAL2 3
SC2 38
E 40 → R/W, E
P30 37 → X358 → R701 330 A/D0
P31 36 → X357 → R702 330 A/D1
P32 35 → X356 → R703 330 A/D2
P33 34 → X355 → R704 330 A/D3
P34 33 → X368 → R705 330 A/D4
P35 32 → X367 → R706 330 A/D5
P36 31 → X366 → R7707 330 A/D6
P37 30 → X364 → R708 330 A/D7
P40 29 A8
P41 28 A9
P42 27 A10
P43 26 A11
P44 25 A12
P45 24 A13
P46 23 A14
P47 22 A15
X681 AS/

R76 3.3K +5D
R28 3.3K +5D X246
R22 3.3K +5D 250KHZB

U44 ADM691A: BAT1 3.0V; R79 1K X528; R39 1 MEG; R40 1 MEG; C17 0.1uF
VBAT → X389; BATTON → X504 VRAM; VOUT → +5D
RESET → 16 RES; RESET → 15 RES/
WDI → X500; Cein → 13; WDO → 14 X505 GOSRAM/
Pfi → 9; Ceout → 12; Pfo → 10 BATLOW/
OSCIN → X501; OSCSEL → X502; LOWLINE → 6 X506

U30 7407D ×4:
- 9 → 8 BRES/ X680; 14 → +5D; 7 → DGND
- 13 → 12; 14 → +5D; 7 → DGND
- 250KHZ 1 → 2; 14 → +5D; 7 → DGND
- 11 → 10; 14 → +5D; 7 → DGND

R101 3.3K +5D X249
R71 3.3K +5D X324
R33 3.3K +5D

OSRAM/

ACIAIRQ/
8MHZ
MIDIO
MIDIN
ENCDIR
ENCACT/
BADCC
IN_CAL/
ENCEN
DISPRES/
MUTE/
BRES/
250KHZ
OSRAM/
RES

MICROPROCESSOR, ROM, RAM, I/O

SEP 19 1996

ENSONIQ Corp

PCB SCHEMATIC
DP2
MAIN BOARD

| SIZE | DWG. NO. | REV | SHEET | OF |
|---|---|---|---|---|
| B | 4010028001 | F | 2 | 14 |

CH26DB
CH16DB

CR3 1N914 — X67 — R2 39.2K 1% — X68 — CH26DB/
C1 0.1uF → DGND
Q17 2N3904 (3 / 1 / 2) → DGND

CR4 1N914 — X66 — R1 39.2K 1% — X69 — CH16DB/
C32 0.1uF → DGND
Q16 2N3904 (3 / 1 / 2) → DGND

C43 0.1uF +5D
C77 22uF 20V TANT, TAJD +5D
C44 0.1uF → DGND
C150 0.1uF +5D
C76 22uF 20V TANT, TAJD
C46 0.1uF +5D → DGND

13 16 42 63 66 92
VCC VCC VCC VCC VCC VCC

8ADCC X97
S8AD_CC X32
8ADHALT/ X33
DISPIN
DISPOUT
18.96MHZ
MCLK/
DA_1_2
IJAK_SW2
LRCLK/ X20
WCLK X49
BCLK/
AD_1_2 X52

8ADCC 81 — 8ADCC
S8AD_CC 21 — S8ADCC
8ADHALT/ 22 — 8ADHALT/
CH130DB 32 — CH130DB
DISPIN 33 — DISPIN
18.96MHZ 11
MCLK/ X34 12 — 18.96MHZ / MCLK/
ELRCLK 43 — ELRCLK
GA4MHZ 39 — 4MHZ
BCLK/ 26 — BCLK/
EBCLK X63 44 — EBCLK
CH16DB X30 28 — CH16DB
AD_1_2 NC X6 40 — I/O
25 — AD_1_2
IJAK_SW2 24 — IJAK_SW2
WCLK 30 — WCLK
CH26DB X29 29 — CH26DB
CH230DB 31 — CH230DB
ESPADDR/ NC X18 89 — ESPCS/
60 — ESPADDR/
ESPDATA/ 58 — ESPDATA/
ESPCLK 52 — ESPCLK
ESP1SER0 47 — ESP1SER0
ESP1SER2 45 — ESP1SER2
ESP1SER3 46 — ESP1SER3
ESPCS1/ 55 — ESPCS1/
E1HALTS 56 — E1HALTS
ESP2SER0 48 — ESP2SER0
ESP2SER1 49 — ESP2SER1
ESP2SER2 50 — ESP2SER2
ESP2SER3 51 — ESP2SER3
ESPCS2/ 54 — ESPCS2/
E2HALTS 57 — E2HALTS
14 — I
15 — I
65 — I
ENCEN 80 — ENCEN
ENCDIR 79 — ENCDIR
ENCACT/ 78 — ENCACT/
8MHZ X12 91 — 8MHZ
DA_1_2 X23 53 — DA_1_2
EWCLK X15 41 — EWCLK
LRCLK/ 27 — LRCLK/
NC X17 90 — I/O

U45
DP2 GATE ARRAY

A15 68 X72 — A15
A14 82 X73 — A14
A13 83 X74 — A13
A12 84 X75 — A12
A11 93 X76 — A11
A10 94 X77 — A10
A9 86 X78 — A9
A7 4 — A7
A6 3 — A6
A5 2 — A5
A4 100 — A4
A3 99 — A3
A2 97 — A2
A1 96 — A1
A0 95 — A0
A/D7 69 X79 — A/D7
A/D6 70 X80 — A/D6
A/D5 71 X81 — A/D5
A/D4 72 X82 — A/D4
A/D3 73 X83 — A/D3
A/D2 74 X84 — A/D2
A/D1 75 X85 — A/D1
A/D0 76 X86 — A/D0
E 62 X87 — E
R/W 64 X88 — R/W
RD/ 1 X89 — RD/
WE/ 19 X90 — WE/
AS/ 61 — AS/
RES 87 X98 — RES
ROMBS0 5 X103 — ROMBS0
ROMBS1 7 X104 — ROMBS1
ROMBS2 8 X105 — ROMBS2
ROMBS3 18 X106 — ROMBS3
ROMBS4 10 X107 — ROMBS4
GRAMBS0 6 X101 — GRAMBS0
GRAMBS1 17 X102 — GRAMBS1
OSROM/ 98 — OSROM/
OSRAM/ 23 X108 — OSRAM/
ALGROM/ 20 X109 — ALGROM/
ACIAIRQ/ 77 — ACIAIRQ/
DGROTB 37
250KHZ 67 X92 — 250KHZ
DISPOUT 34 — DISPOUT
DGROTA 36 X91
GND 9
GND 35
GND 38
GND 59
GND 85
GND 88
→ DGND

u ADDR BUS
u MUXED A/D BUS
u CTRL BUS
ROM BANK SELECTS
RAM BANK SELECTS

R94 560 — DGROTB
C116 0.1uF → DGND
R93 560 — DGROTA
C117 0.1uF → DGND

GATE ARRAY

CH230DB/ X329 — 6 — U33 74HCU04D — 5 X331 — CH230DB
CH130DB/ X328 — 8 — U33 74HCU04D — 9 X330 — CH130DB
+5D 14 / DGND 7

ELRCLK
EBCLK

ESPADDR/ X5
ESPDATA/ X7
ESPCLK X99
ESP1SER0 X96
ESP1SER2
ESP1SER3 X2
ESPCS1/ X38
E1HALTS X1
ESP2SER0 X100
ESP2SER1 X3
ESP2SER2 X4
ESP2SER3
ESPCS2/ X41
E2HALTS
ENCEN X93
ENCDIR X94
ENCACT/ X95
ESP CLOCKS

8MHZ

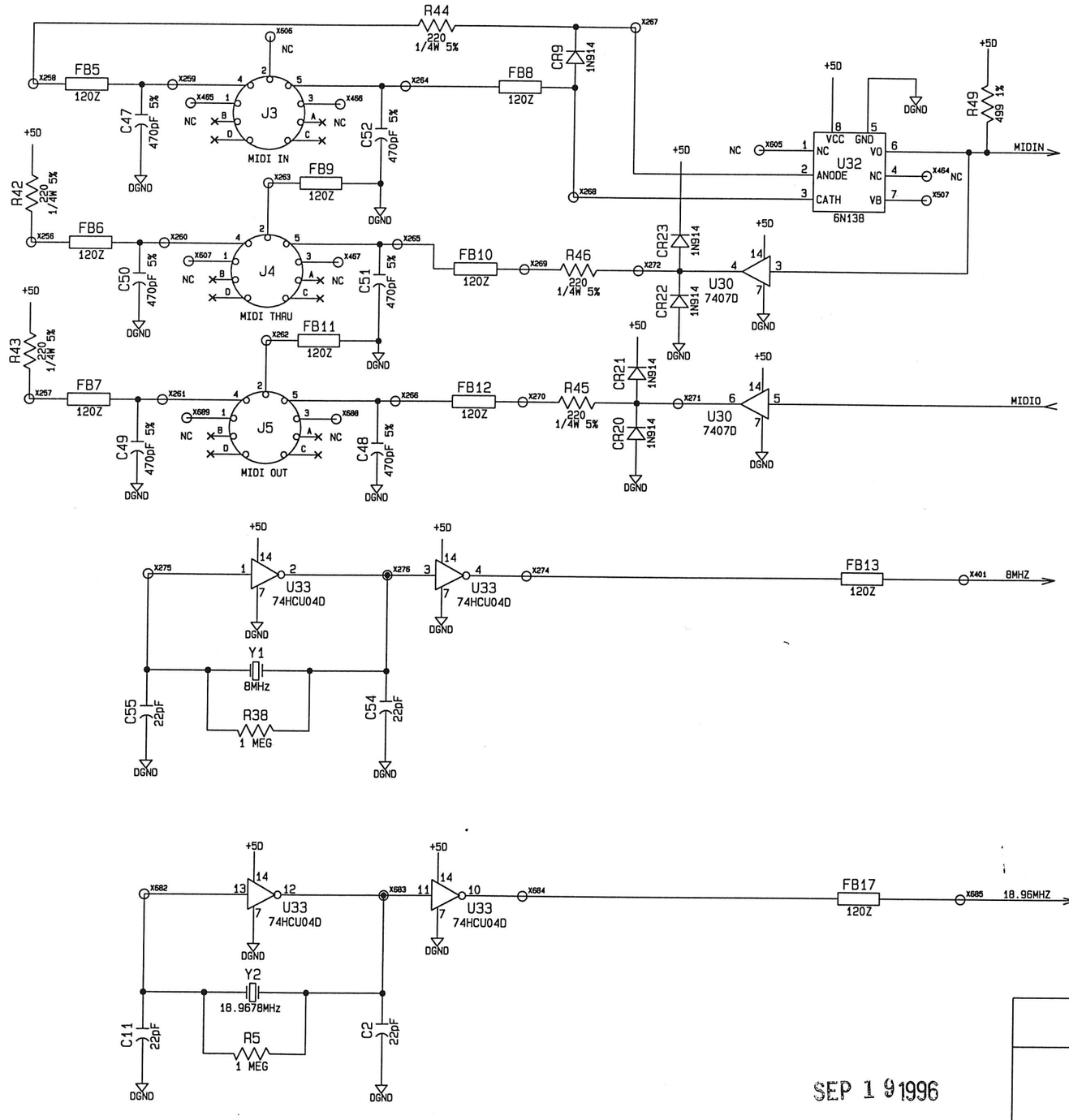
4MHZ — FB14 120Z — X615 GA4MHZ
250KHZ — X8 250KHZ

SEP 1 9 1996

ENSONIQ Corp

PCB SCHEMATIC
DP2
MAIN BOARD

| SIZE | DWG. NO. | REV | SHEET | OF |
|---|---|---|---|---|
| B | 4010028001 | F | 3 | 14 |



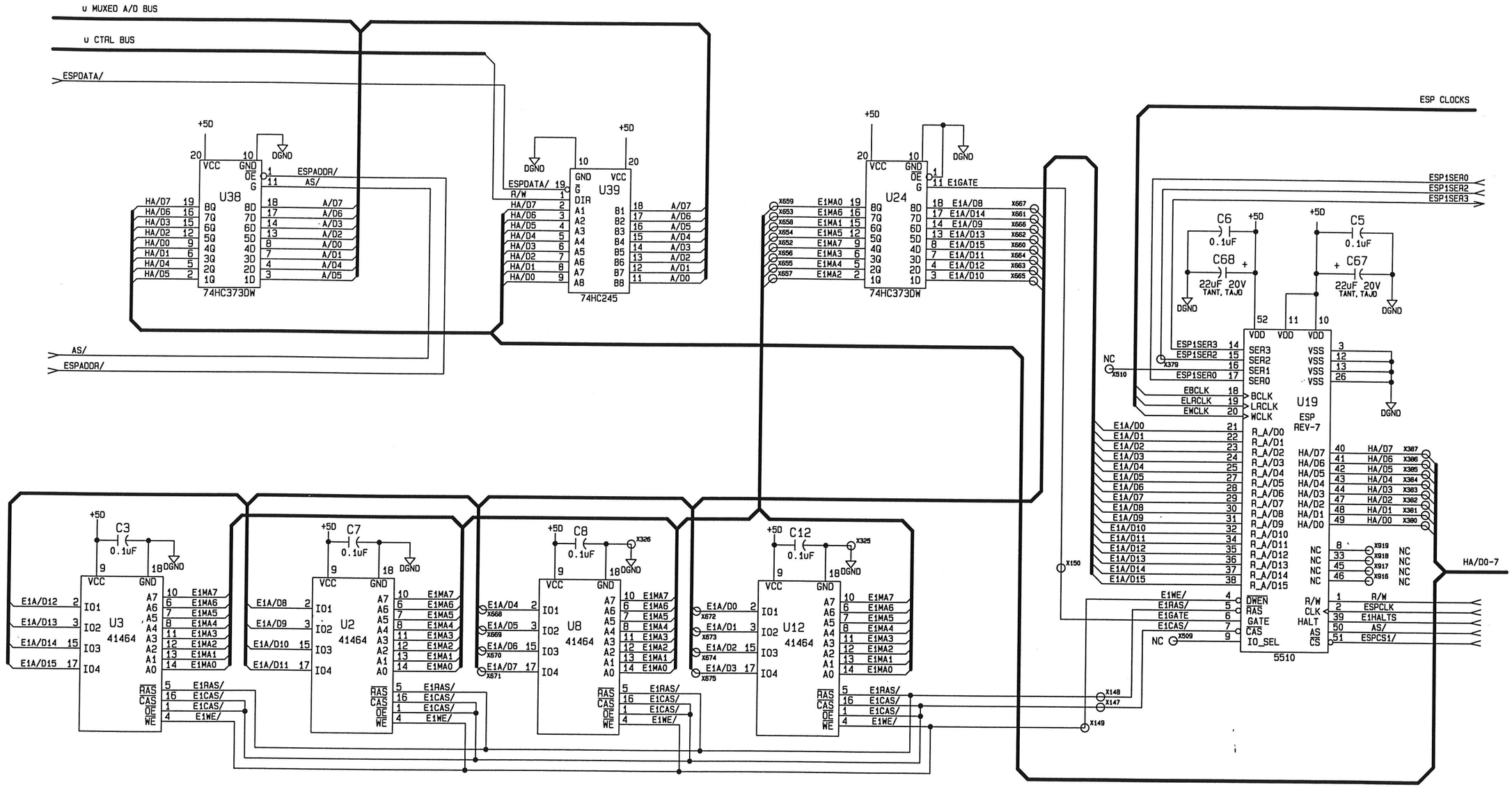

SEP 1 9 1996

MIDI, CLOCKS

ENSONIQ Corp

PCB SCHEMATIC
DP2
MAIN BOARD

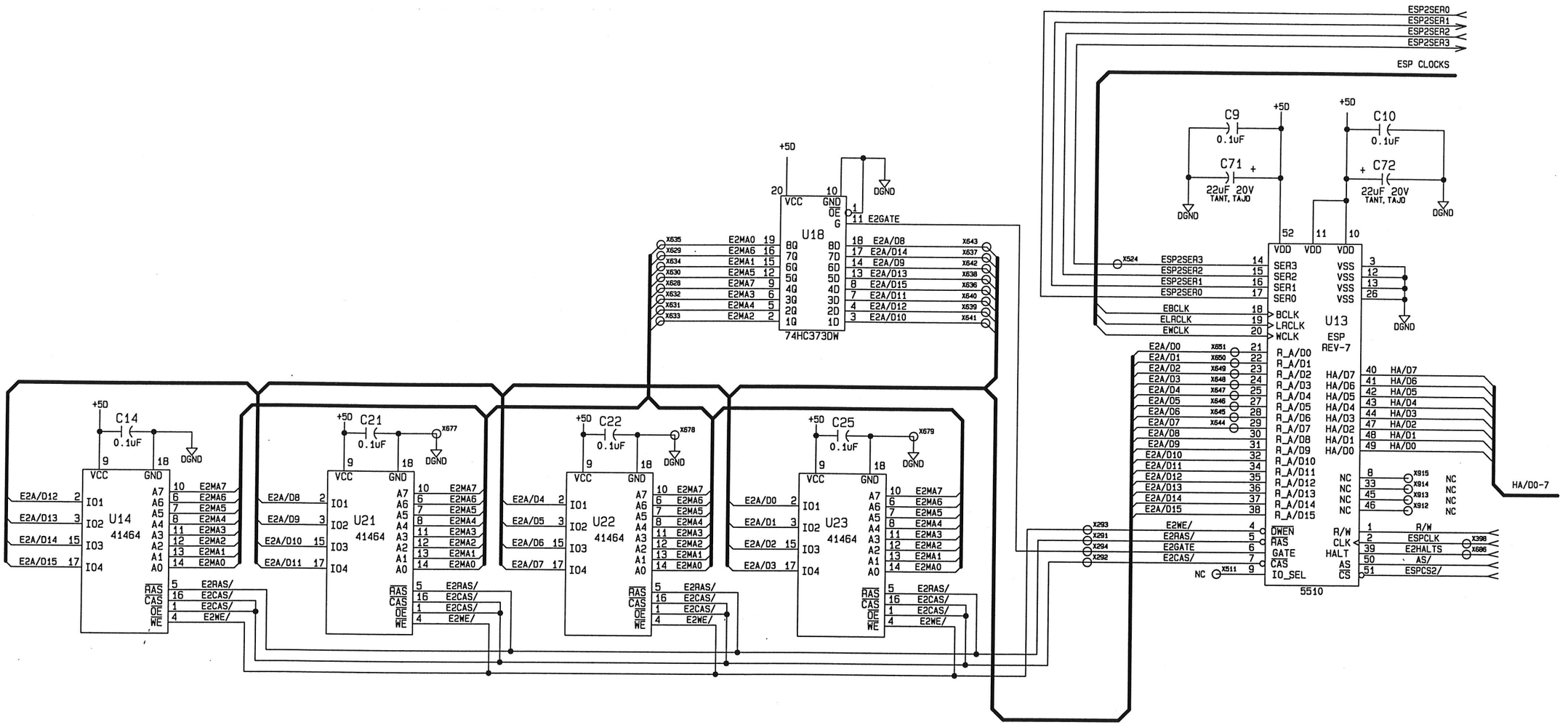
| SIZE | DWG. NO. | REV | SHEET | OF |
|---|---|---|---|---|
| B | 4010028001 | F | 4 | 14 |




ESP 1

SEP 1 9 1996

| ENSONIQ Corp | | | | |
|---|---|---|---|---|
| PCB SCHEMATIC<br>DP2<br>MAIN BOARD | | | | |
| SIZE | DWG. NO. | REV | SHEET | OF |
| B | 4010028001 | F | 5 | 14 |




SEP 19 1996

ESP 2

ENSONIQ Corp

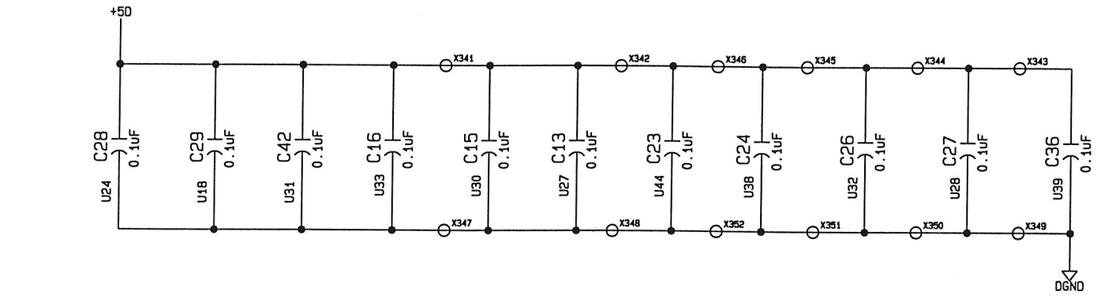
PCB SCHEMATIC
DP2
MAIN BOARD

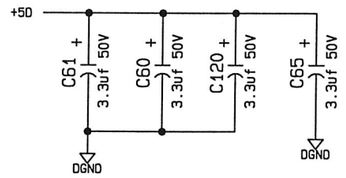
| SIZE | DWG. NO. | REV | SHEET | OF |
|---|---|---|---|---|
| B | 4010028001 | F | 6 | 14 |

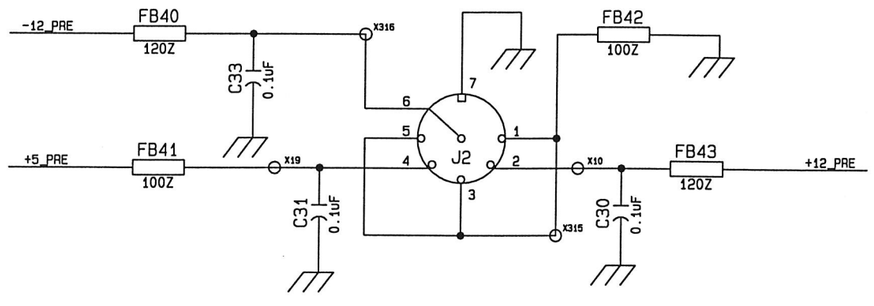
KEYPAD/DISPLAY, FOOTSWITCH INPUTS

| ENSONIQ Corp | | | | |
|---|---|---|---|---|
| PCB SCHEMATIC<br>DP2<br>MAIN BOARD | | | | |
| SIZE | DWG. NO. | REV | SHEET | OF |
| B | 4010028001 | F | 7 | 14 |

SEP 19 1996



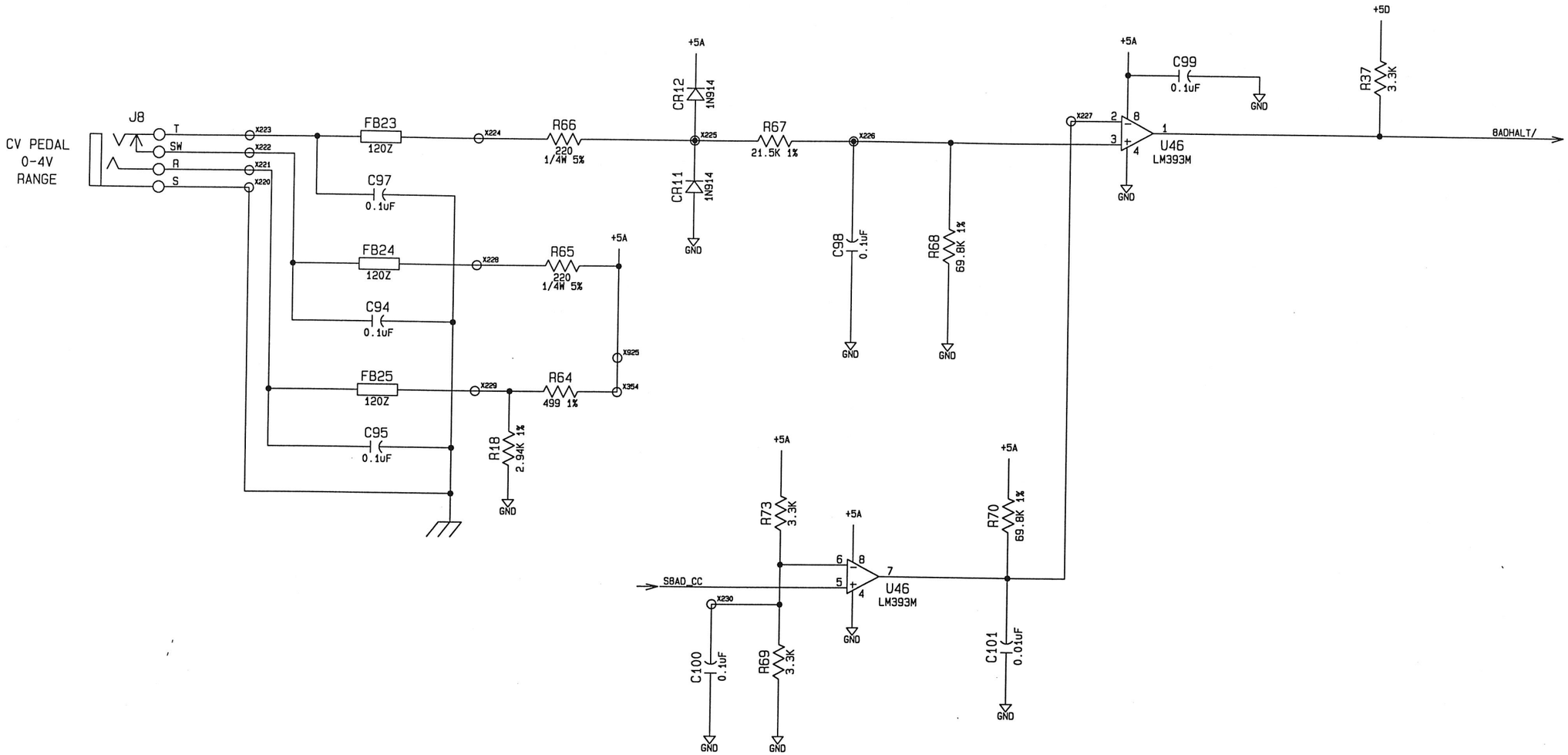




DIGITAL BYPASS CAPS, POWER SUPPLY CONN., UNUSED GATES

SEP 19 1996

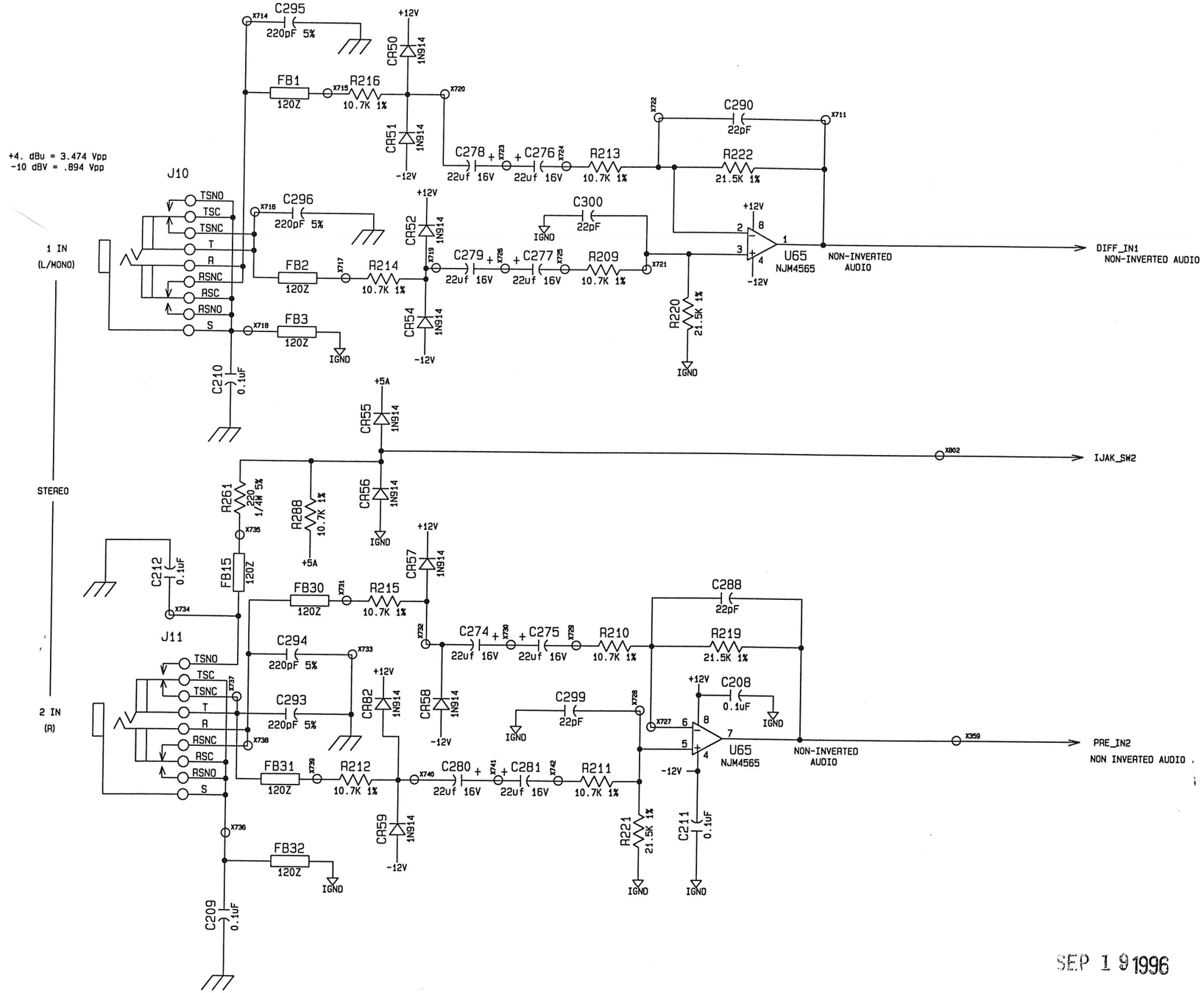
| ENSONIQ Corp | | | | |
|---|---|---|---|---|
| PCB SCHEMATIC<br>DP2<br>MAIN BOARD | | | | |
| SIZE<br>B | DWG. NO.<br>4010028001 | REV<br>F | SHEET<br>8 | OF<br>14 |

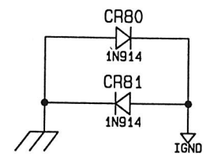



SEP 1 9 1996

CV PEDAL A/D CONVERTER

| ENSONIQ Corp | | | | |
|---|---|---|---|---|
| PCB SCHEMATIC<br>DP2<br>MAIN BOARD | | | | |
| SIZE<br>B | DWG. NO.<br>4010028001 | REV<br>F | SHEET<br>9 | OF<br>14 |

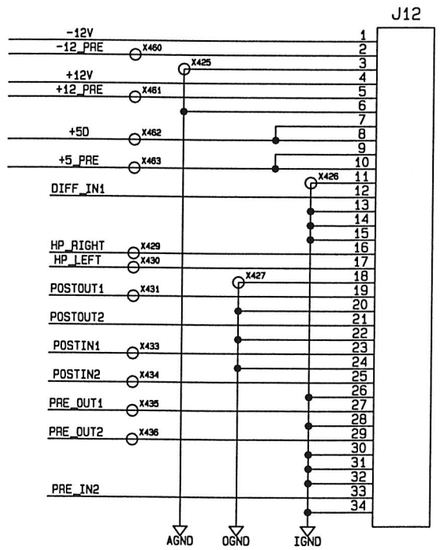


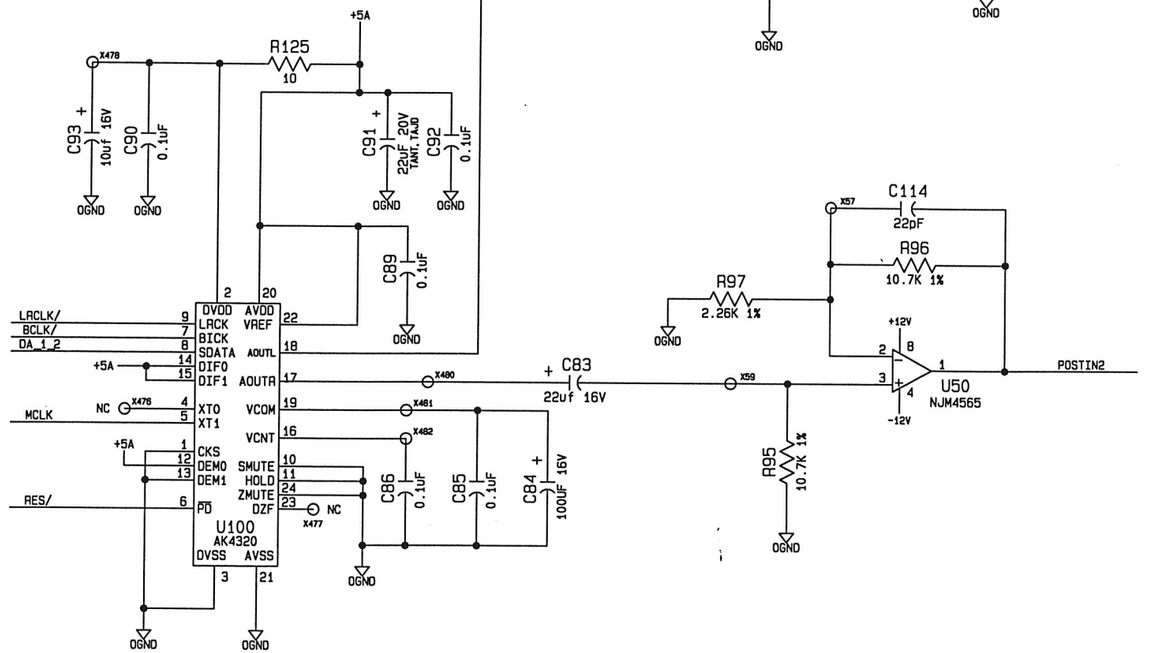




REAR PANEL INPUT CONNECTORS &
DIFFERENTIAL AMPLIFLIERS

SEP 19 1996

| ENSONIQ Corp | | | | |
|---|---|---|---|---|
| PCB SCHEMATIC<br>DP2<br>MAIN BOARD | | | | |
| SIZE | DWG. NO. | REV | SHEET | OF |
| B | 4010028001 | F | 10 | 14 |

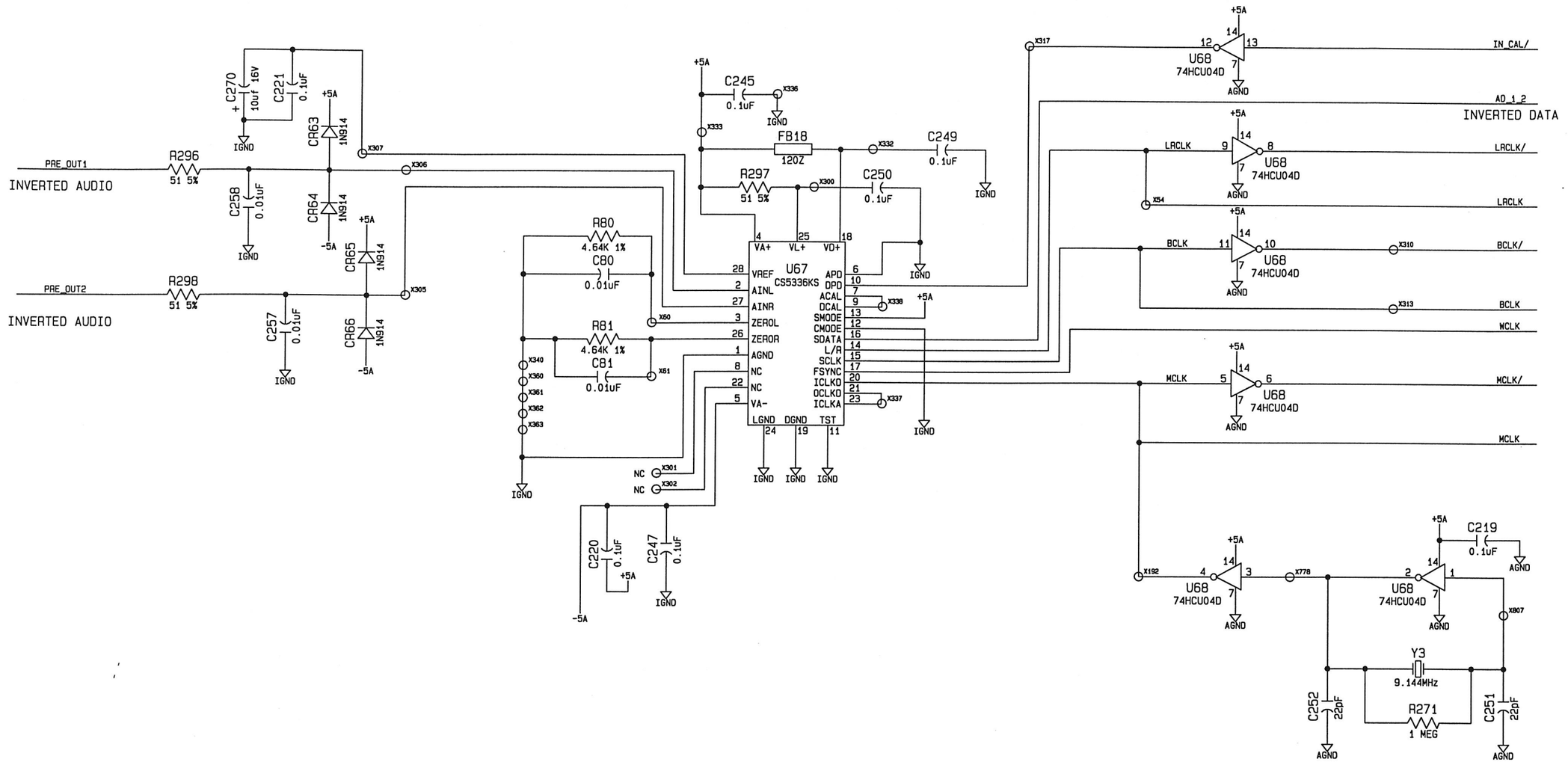



D/A CONVERTER, FRONT PANEL INPUT & PRE-EMPHASIS

SEP 19 1996

| ENSONIQ Corp | | | | |
|---|---|---|---|---|
| PCB SCHEMATIC<br>DP2<br>MAIN BOARD | | | | |
| SIZE | DWG. NO. | REV | SHEET | OF |
| B | 4010028001 | F | 11 | 14 |



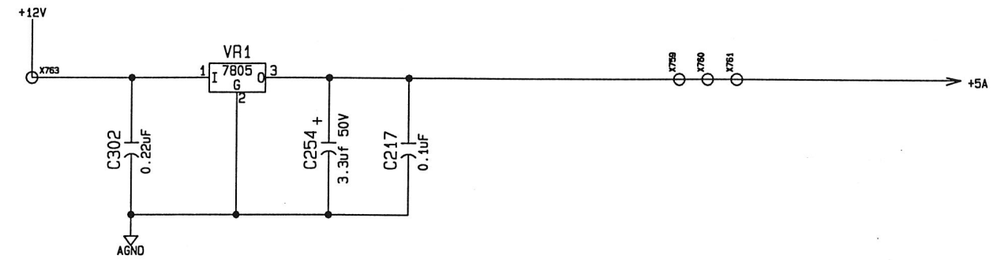

A/D CONVERTER

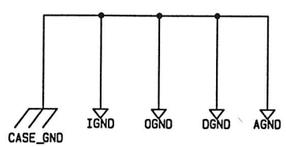
ENSONIQ Corp

PCB SCHEMATIC
DP2
MAIN BOARD

| SIZE | DWG. NO. | REV | SHEET | OF |
|---|---|---|---|---|
| B | 4010028001 | F | 12 | 14 |

1996



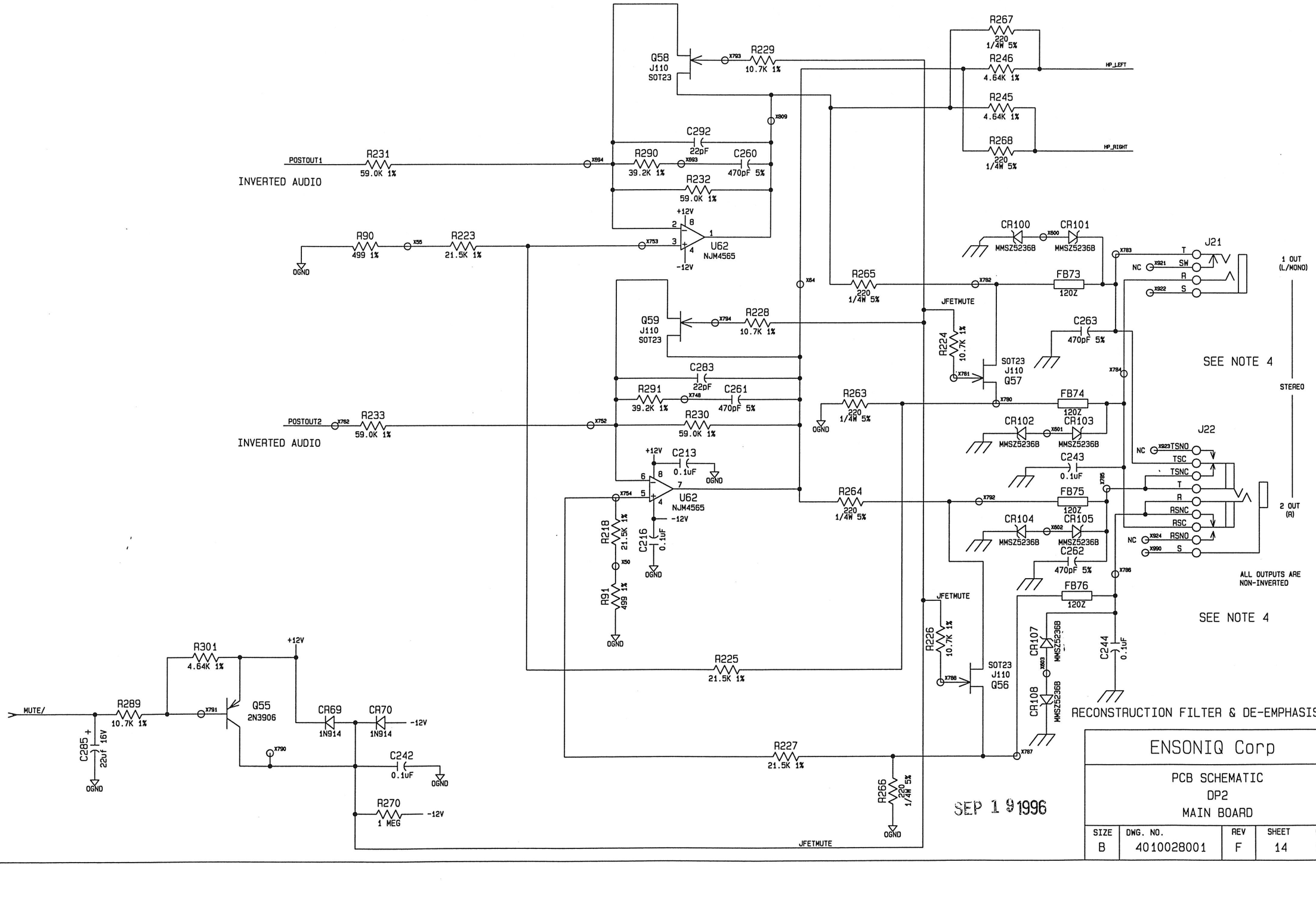

SEP 19 1996

VOLTAGE REGULATORS & OFF BOARD CONNECTORS

ENSONIQ Corp

PCB SCHEMATIC
DP2
MAIN BOARD

| SIZE | DWG. NO. | REV | SHEET | OF |
|---|---|---|---|---|
| B | 4010028001 | F | 13 | 14 |




| ENSONIQ Corp | | | | |
|---|---|---|---|---|
| PCB SCHEMATIC<br>DP2<br>MAIN BOARD | | | | |
| SIZE<br>B | DWG. NO.<br>4010028001 | REV<br>F | SHEET<br>14 | OF<br>14 |