

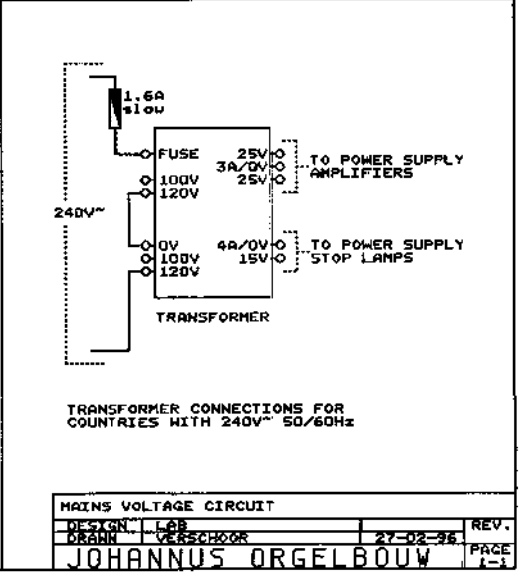
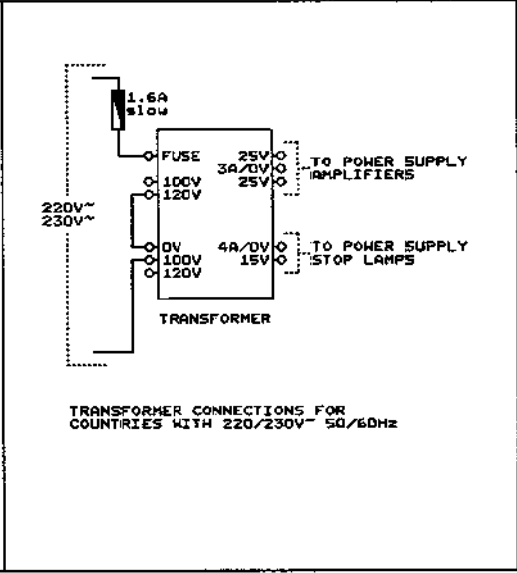
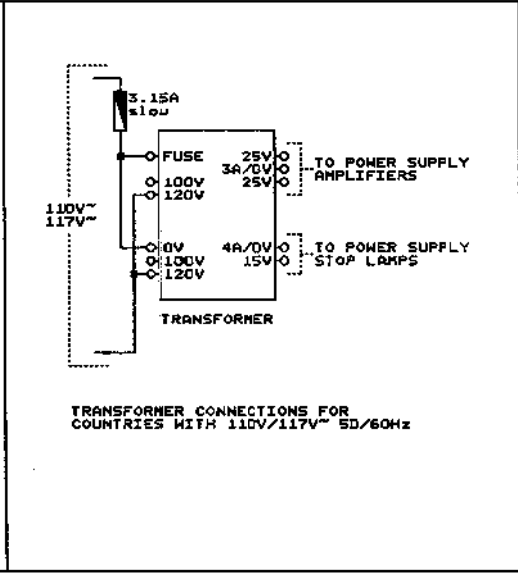
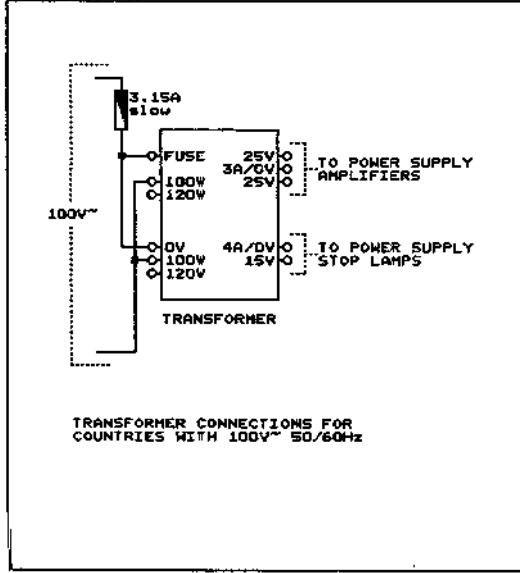
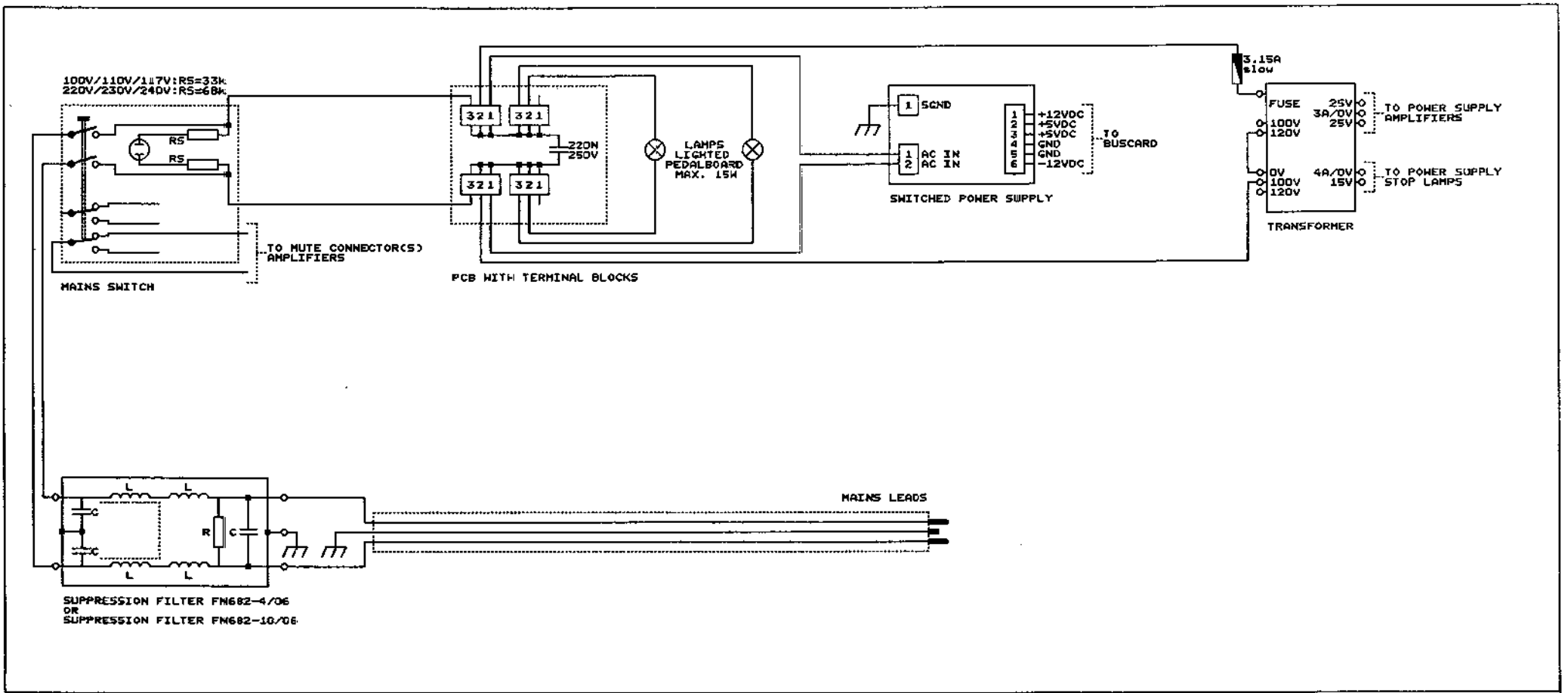
JOHANNUS

SERVICE MANUAL

DRAWINGS 9500 TECHNOLOGY



All - series

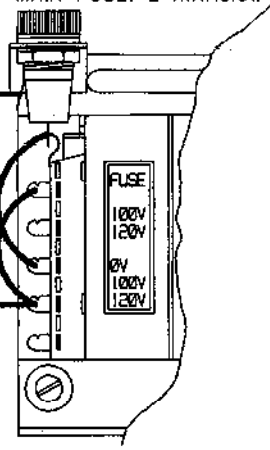


MAIN FUSE: 2*X.XAslow

GREY = SWITCHED MAIN VOLTAGE

100V~ 50/60Hz

GREY = SWITCHED MAIN VOLTAGE

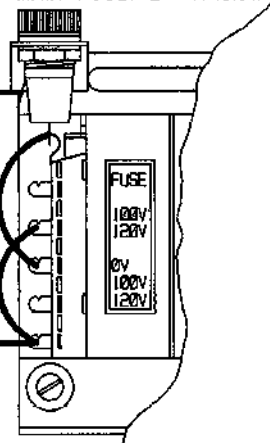


MAIN FUSE: 2*X.XAslow

GREY = SWITCHED MAIN VOLTAGE

110V~ 50/60Hz
117V~ 50/60Hz

GREY = SWITCHED MAIN VOLTAGE

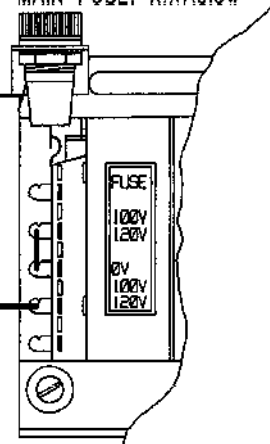


MAIN FUSE: X.XAslow

GREY = SWITCHED MAIN VOLTAGE

220V~ 50/60Hz
230V~ 50/60Hz

GREY = SWITCHED MAIN VOLTAGE

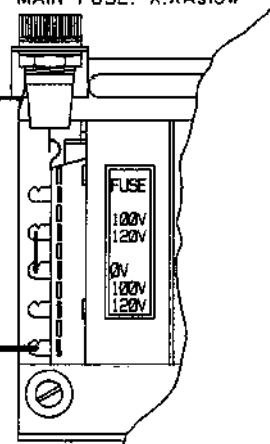


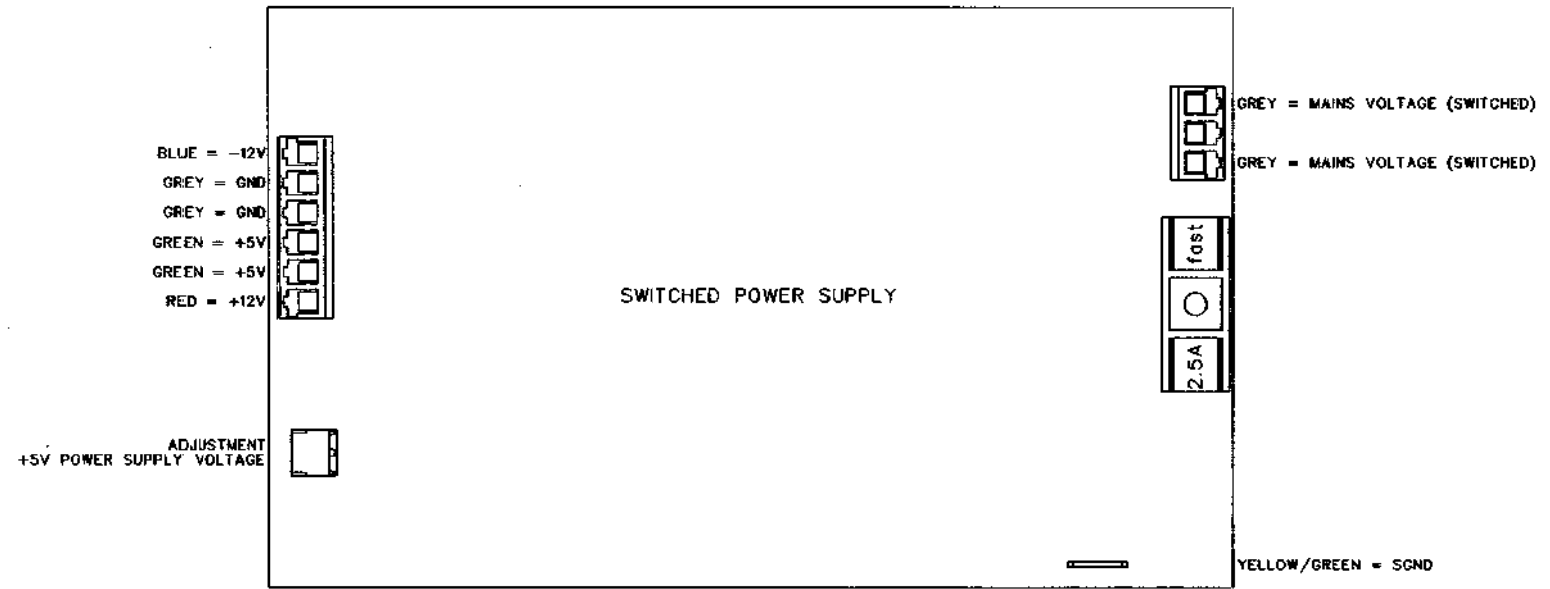
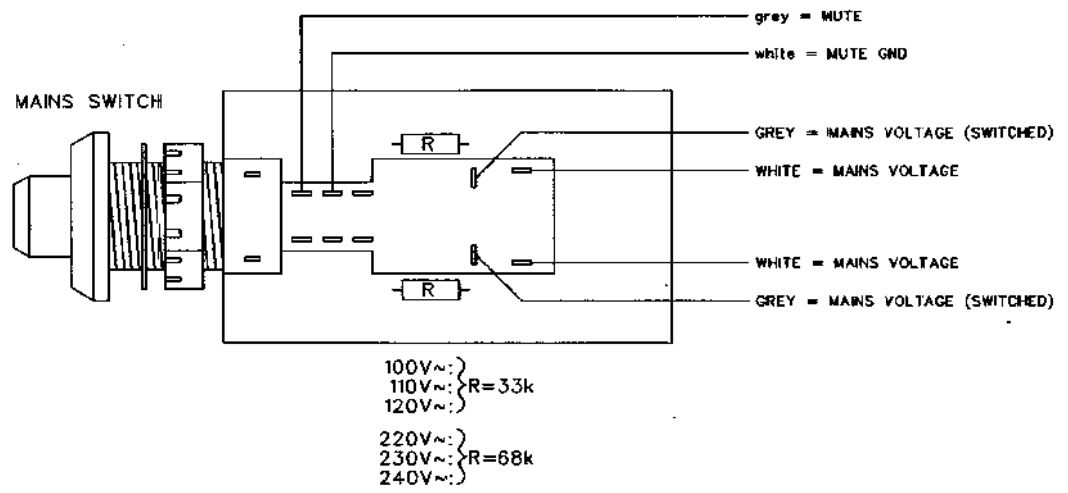
MAIN FUSE: X.XAslow

GREY = SWITCHED MAIN VOLTAGE

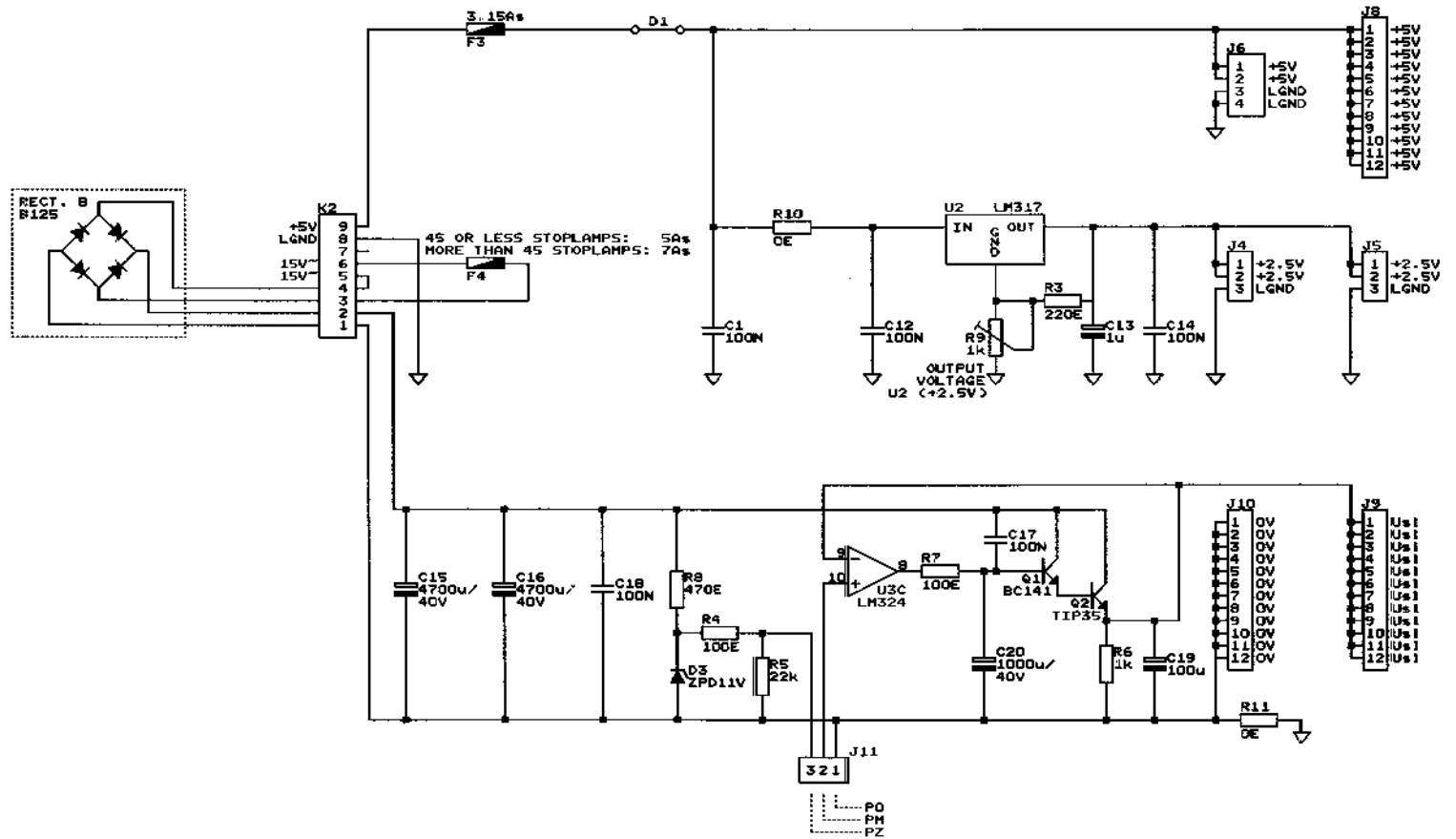
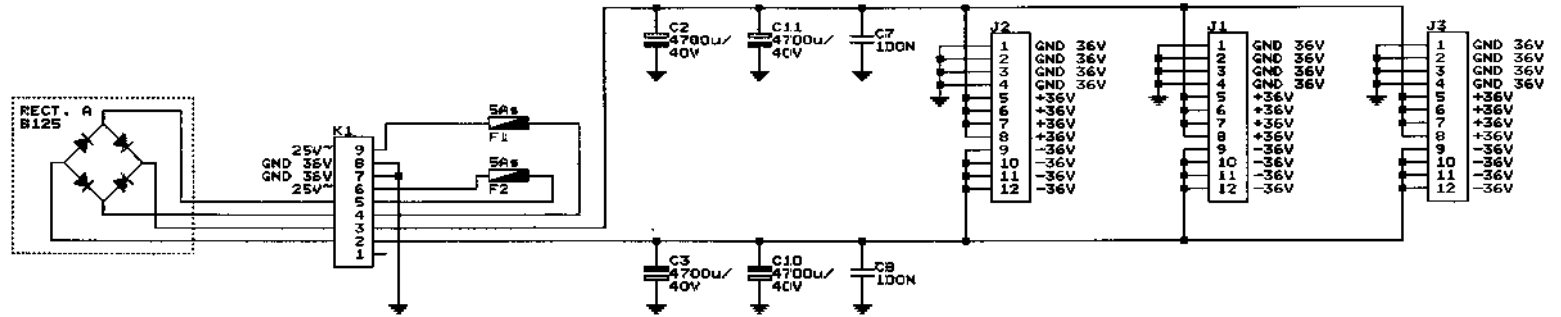
240V~ 50/60Hz

GREY = SWITCHED MAIN VOLTAGE



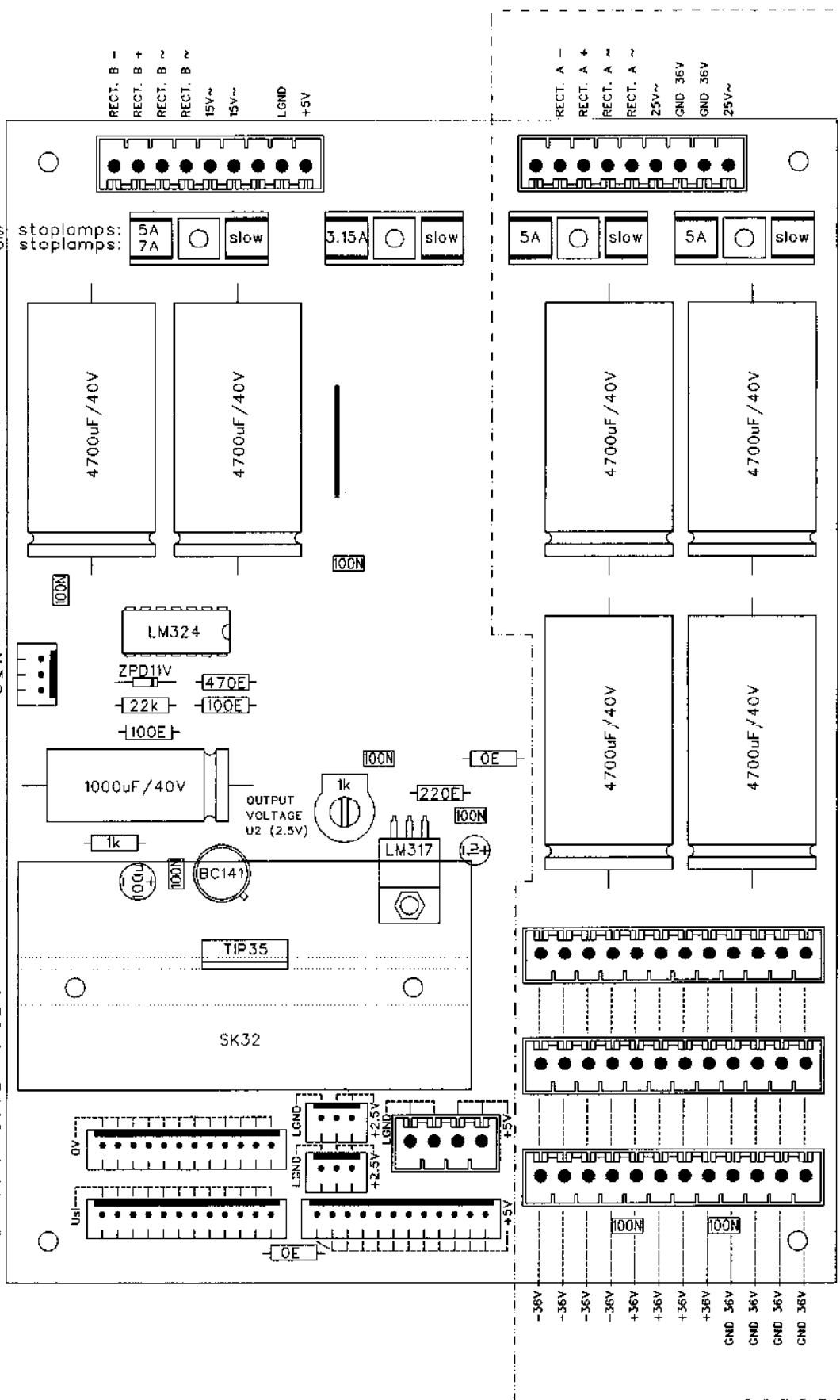


NO COMPONENTS IF AN AMPLIFIER RACK IS USED

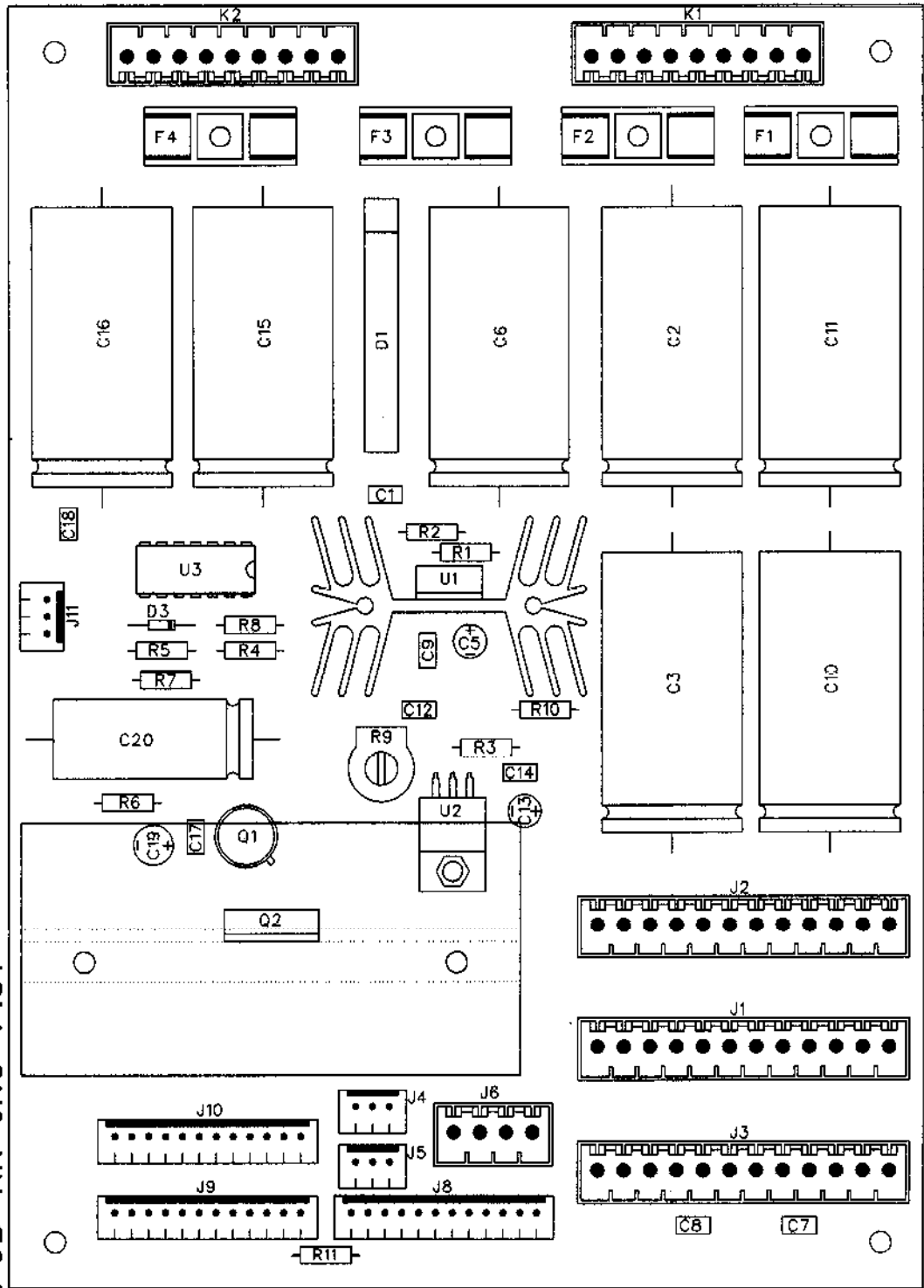


45 or less stoplamps:
more than 45 stoplamps:

PCB-NR JHO 7151

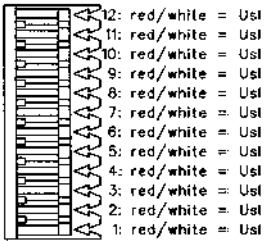


PCB-NR JHO 7151



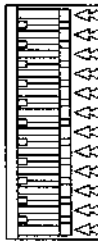
| | | | |
|---|-----------|----------|------|
| COMPONENT NUMBERING POWER SUPPLY | | | |
| AMPLIFIERS (+/-36V), STOP LAMPS (Ust) AND +2.5V | | | |
| DESIGN | LAB | | REV. |
| DRAWN | VERSCHOOR | 12-02-98 | 3 |
| JOHANNUS ORGELBOUW | | | PAGE |
| | | | 1-8 |

J9

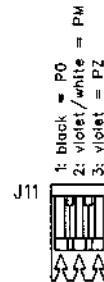


- 12: red/white = Us1
- 11: red/white = Us1
- 10: red/white = Us1
- 9: red/white = Us1
- 8: red/white = Us1
- 7: red/white = Us1
- 6: red/white = Us1
- 5: red/white = Us1
- 4: red/white = Us1
- 3: red/white = Us1
- 2: red/white = Us1
- 1: red/white = Us1

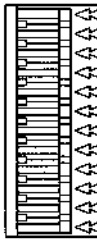
J10



- 12: black/white = 0V
- 11: black/white = 0V
- 10: black/white = 0V
- 9: black/white = 0V
- 8: black/white = 0V
- 7: black/white = 0V
- 6: black/white = 0V
- 5: black/white = 0V
- 4: black/white = 0V
- 3: black/white = 0V
- 2: black/white = 0V
- 1: black/white = 0V



J8



- 12: green/white = +5V
- 11: green/white = +5V
- 10: green/white = +5V
- 9: green/white = +5V
- 8: green/white = +5V
- 7: green/white = +5V
- 6: green/white = +5V
- 5: green/white = +5V
- 4: green/white = +5V
- 3: green/white = +5V
- 2: green/white = +5V
- 1: green/white = +5V

J5



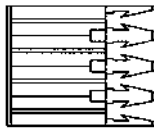
- 3: black = LGND
- 2: brown = +2.5V
- 1: brown = +2.5V

J4



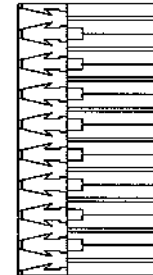
- 3: black = LGND
- 2: brown = +2.5V
- 1: brown = +2.5V

J6



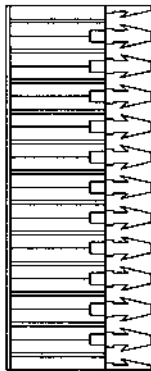
- 4: GREY = LGND
- 3: GREY = LGND
- 2: GREEN = +5V
- 1: GREEN = +5V

K2



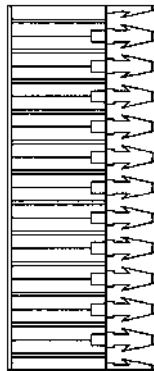
- 1: BLACK = RECT. B -
- 2: RED = RECT. B +
- 3: WHITE = RECT. B ~
- 4: WHITE = RECT. B ~
- 5: RED = 15V~
- 6: RED = 15V~
- 7: N.C.
- 8: GREY = LGND
- 9: GREEN = +5V

J3



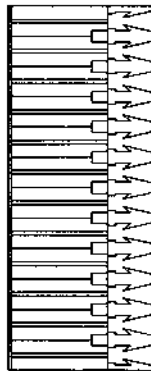
- 12: VIOLET = -36V
- 11: VIOLET = -36V
- 10: VIOLET = -36V
- 9: VIOLET = -36V
- 8: ORANGE = +36V
- 7: ORANGE = +36V
- 6: ORANGE = +36V
- 5: ORANGE = +36V
- 4: BLACK = GND 36V
- 3: BLACK = GND 36V
- 2: BLACK = GND 36V
- 1: BLACK = GND 36V

J1



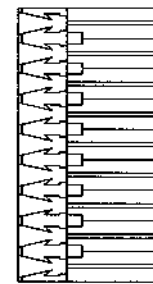
- 12: VIOLET = -36V
- 11: VIOLET = -36V
- 10: VIOLET = -36V
- 9: VIOLET = -36V
- 8: ORANGE = +36V
- 7: ORANGE = +36V
- 6: ORANGE = +36V
- 5: ORANGE = +36V
- 4: BLACK = GND 36V
- 3: BLACK = GND 36V
- 2: BLACK = GND 36V
- 1: BLACK = GND 36V

J2

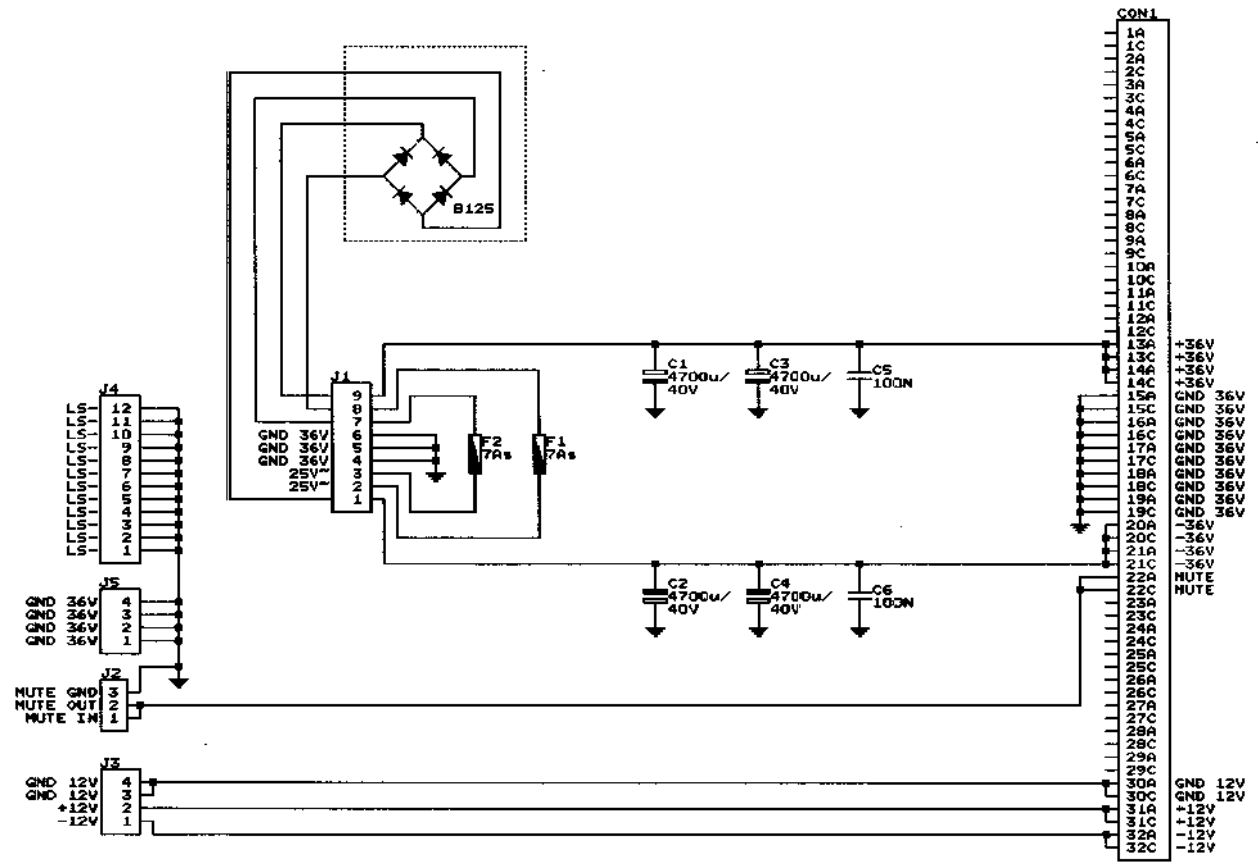


- 12: VIOLET = -36V
- 11: VIOLET = -36V
- 10: VIOLET = -36V
- 9: VIOLET = -36V
- 8: ORANGE = +36V
- 7: ORANGE = +36V
- 6: ORANGE = +36V
- 5: ORANGE = +36V
- 4: BLACK = GND 36V
- 3: BLACK = GND 36V
- 2: BLACK = GND 36V
- 1: BLACK = GND 36V

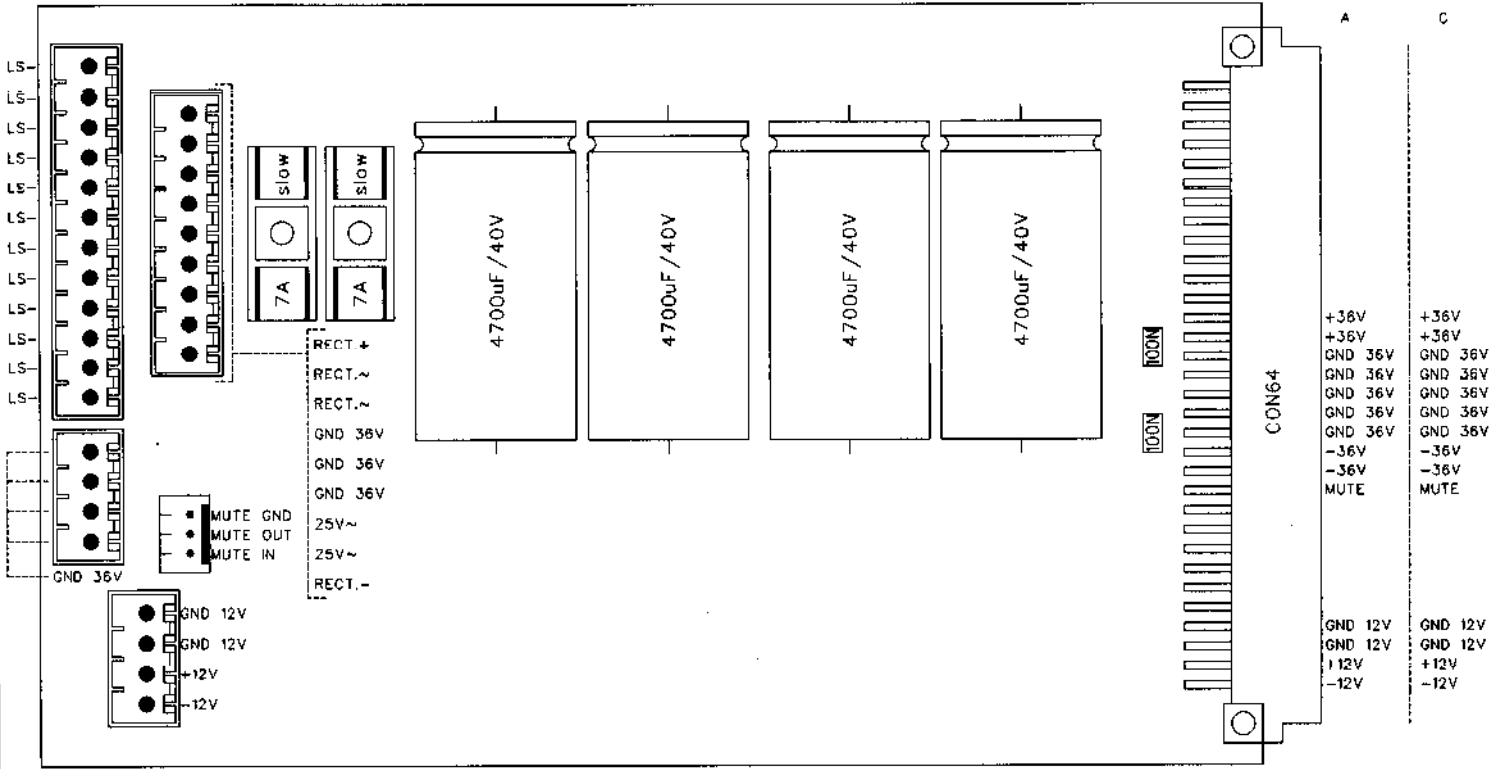
K1



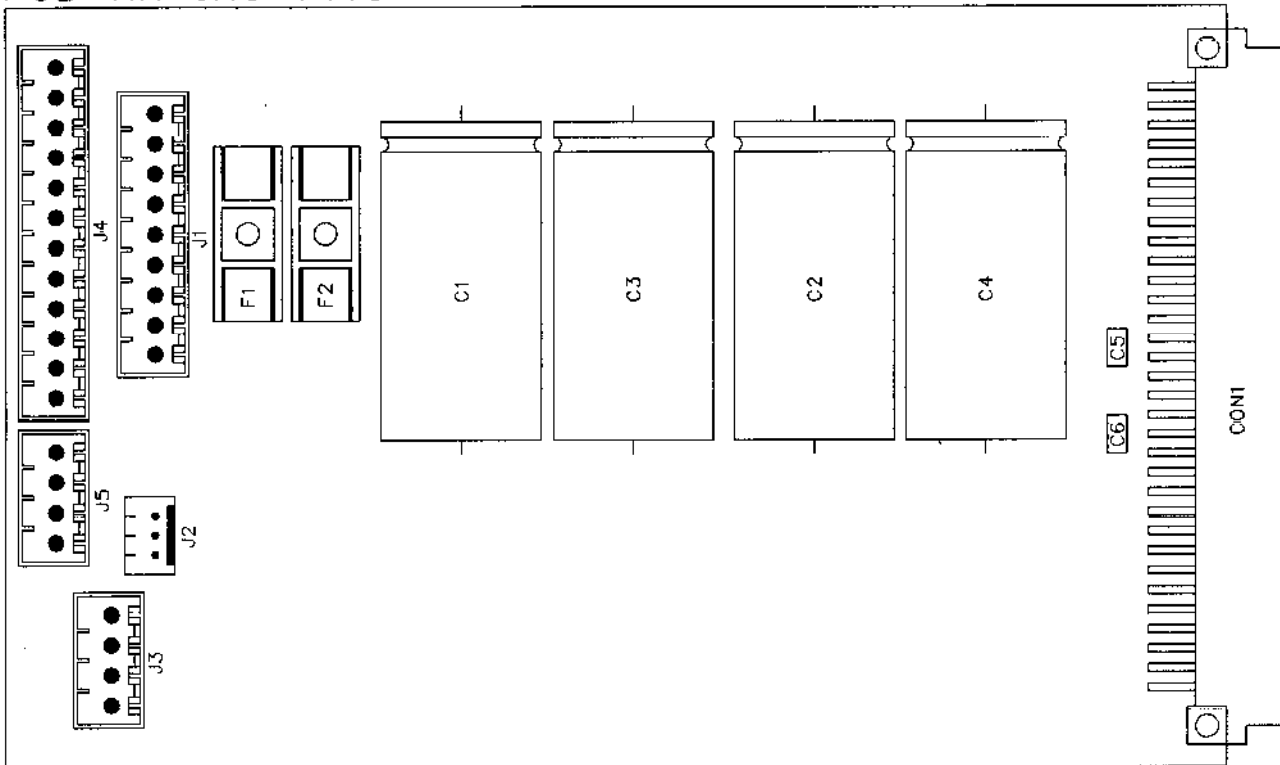
- 1: N.C.
- 2: VIOLET = RECT. A -
- 3: ORANGE = RECT. A +
- 4: WHITE = RECT. A ~
- 5: WHITE = RECT. A ~
- 6: ORANGE = 25V~
- 7: BLACK = GND 36V
- 8: BLACK = GND 36V
- 9: ORANGE = 25V~



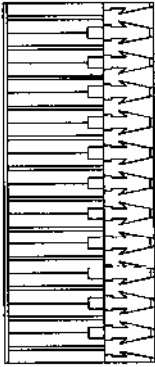
PCB-NR JHO 7143



PCB-NR JHO 7143

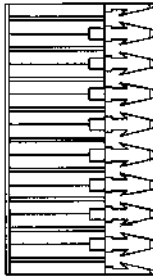


J4



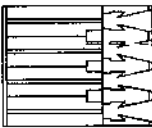
- 12: WHITE or BLACK = LS-
- 11: WHITE or BLACK = LS-
- 10: WHITE or BLACK = LS-
- 9: WHITE or BLACK = LS-
- 8: WHITE or BLACK = LS-
- 7: WHITE or BLACK = LS-
- 6: WHITE or BLACK = LS-
- 5: WHITE or BLACK = LS-
- 4: WHITE or BLACK = LS-
- 3: WHITE or BLACK = LS-
- 2: WHITE or BLACK = LS-
- 1: WHITE or BLACK = LS-

J1



- 9: YELLOW = RECT. +
- 8: WHITE = RECT. ~
- 7: WHITE = RECT. ~
- 6: BLACK = GND 36V
- 5: BLACK = GND 36V
- 4: BLACK = GND 36V
- 3: ORANGE = 25V ~
- 2: ORANGE = 25V ~
- 1: VIOLET = RECT. -

J5



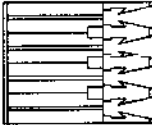
- 4: BLACK = GND 36V
- 3: BLACK = GND 36V
- 2: BLACK = GND 36V
- 1: BLACK = GND 36V

J2

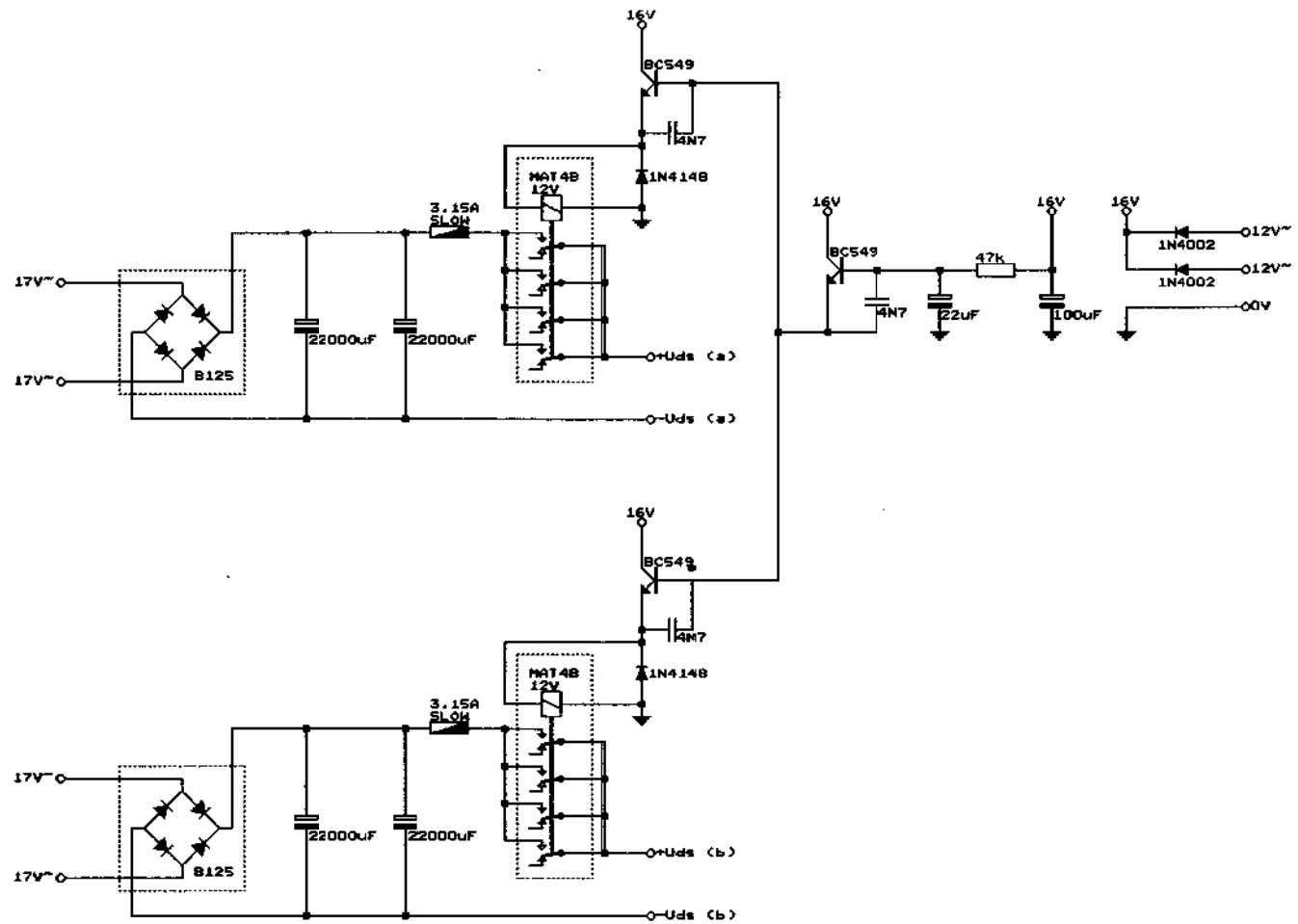


- 3: white = MUTE GND
- 2: grey = MUTE OUT
- 1: grey = MUTE IN

J3

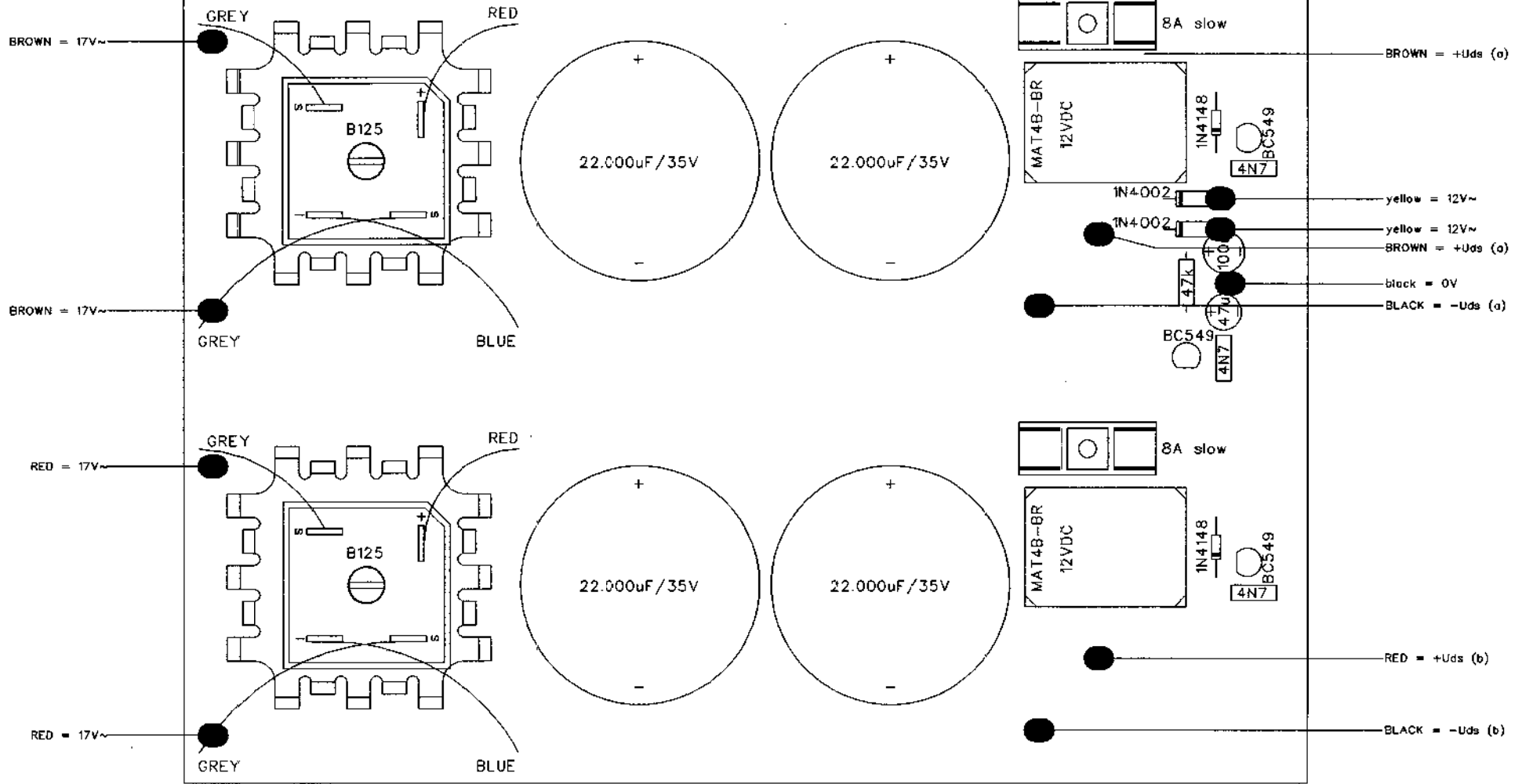


- 4: BLACK = GND 12V
- 3: BLACK = GND 12V
- 2: RED = +12V
- 1: BLUE = -12V



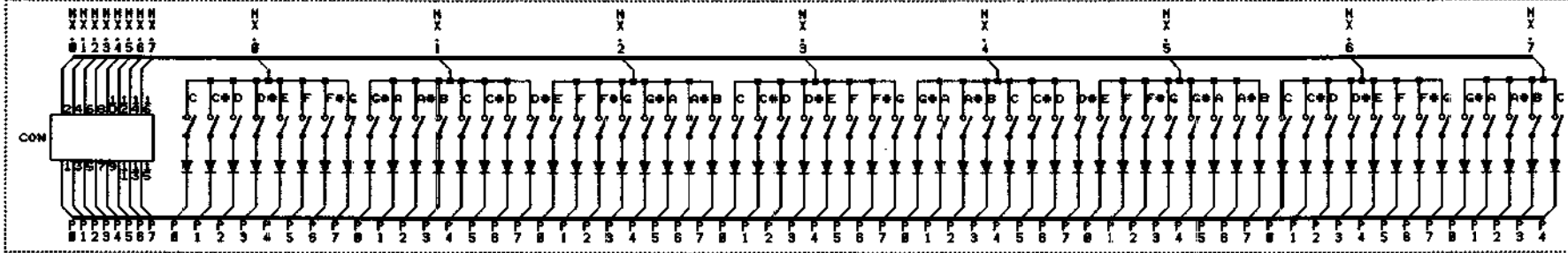
| | | | |
|---|-----------|----------|------|
| POWER SUPPLY DRAWSTOP COILS (PCB-NR JHO 3365) | | | |
| DESIGN | LAB | | REV. |
| DRAWN | VERSCHOOR | 04-07-96 | PAGE |
| JOHANNUS ORGELBOUW | | | 1 |

PCB-NR JHO 3365

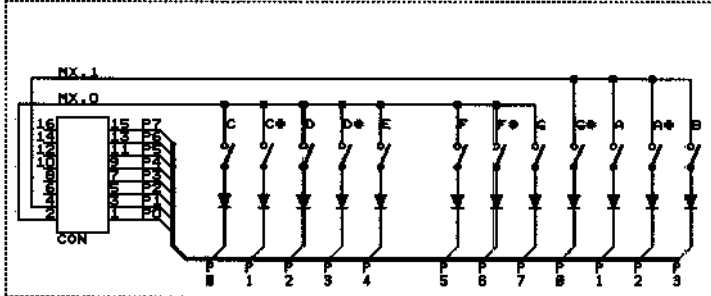


| | | | |
|---------------------------------|-----------|----------|------|
| LAY OUT AND WIRING POWER SUPPLY | | | |
| DRAWSTOP COILS | | | |
| DESIGN | LAB | 23-07-96 | REV. |
| DRAWN | VERSCHOOR | | PAGE |
| JOHANNUS ORGELBOUW | | | 1-12 |

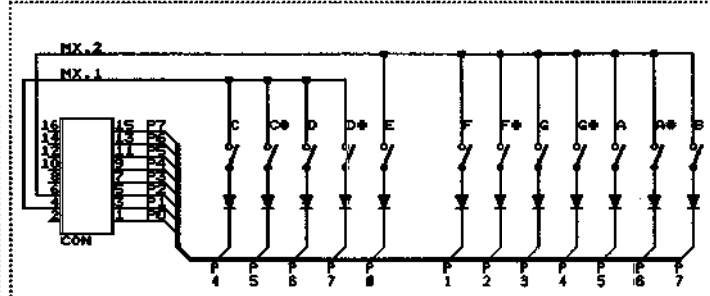
KEYBOARD PCB



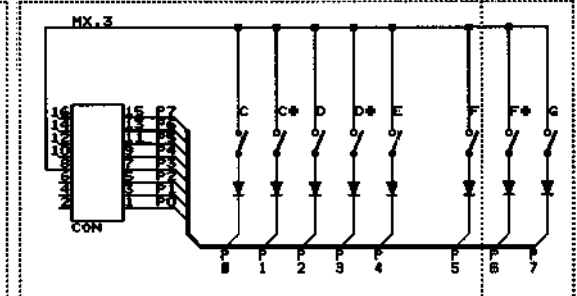
PEDALBOARD PCB 1st OCTAVE (PCB-NR 3270)



PEDALBOARD PCB 2nd OCTAVE (PCB-NR 3280)



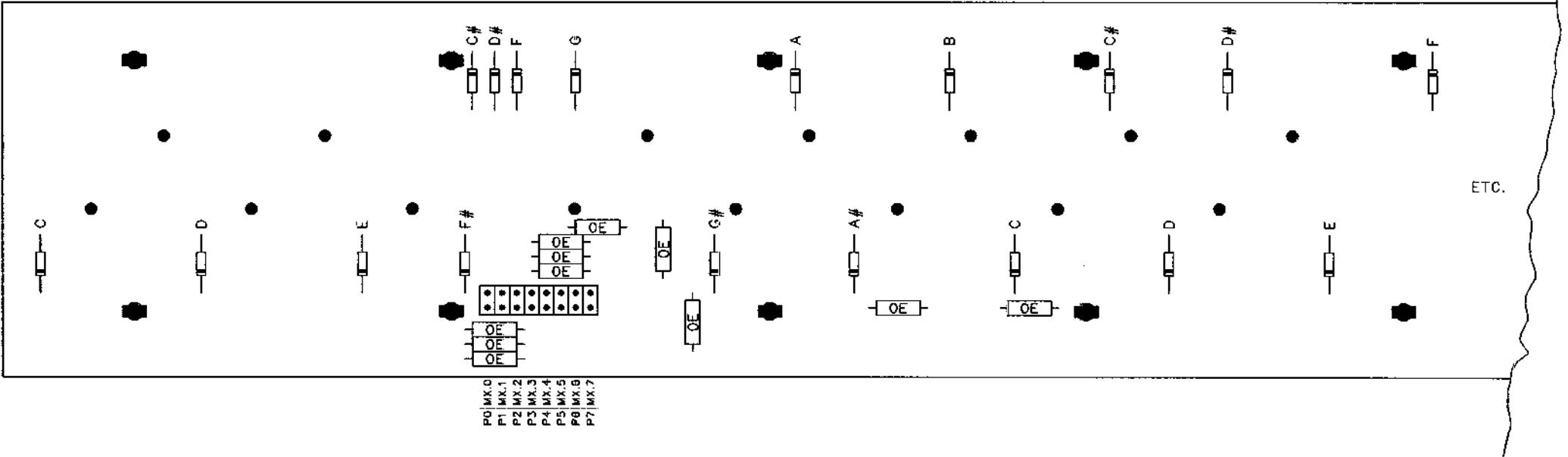
PEDALBOARD PCB 3rd OCTAVE (PCB-NR 3290)



ALL CONNECTORS: TO MASTER PROCESSOR CARD
ALL DIODES: 1N4148

| | | | |
|---|-----------|----------|----------|
| SCHEMATIC DIAGRAM KEYBOARD AND PEDALBOARD | | | |
| DESIGN | FILE | DATE | REV. |
| DRPAIN | VERSCHOOR | 15-02-96 | |
| JOHANNUS ORGELBOUW | | | PAGE 2-1 |

KEYBOARD PCB

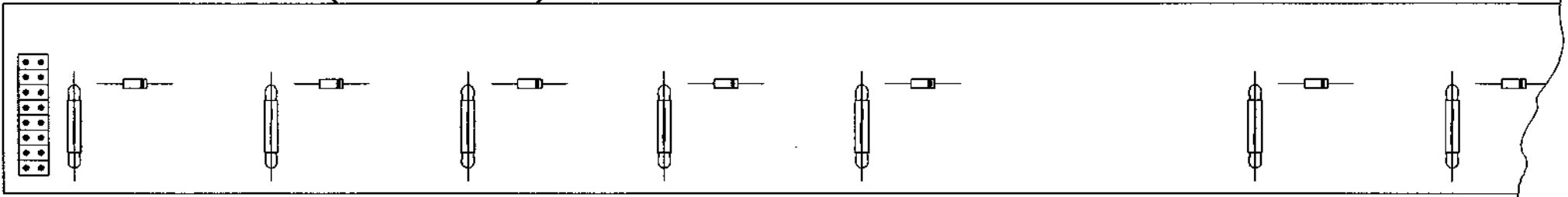


P0|MX.0
P1|MX.1
P2|MX.2
P3|MX.3
P4|MX.4
P5|MX.5
P6|MX.6
P7|MX.7

| | | | |
|----------------------|-----------|----------|------|
| LAY-OUT KEYBOARD PCB | | | |
| DESIGN | LAB | | REV. |
| DRAWN | VERSCHOOR | 15-07-96 | PAGE |
| JOHANNUS ORGELBOUW | | | 2-2 |

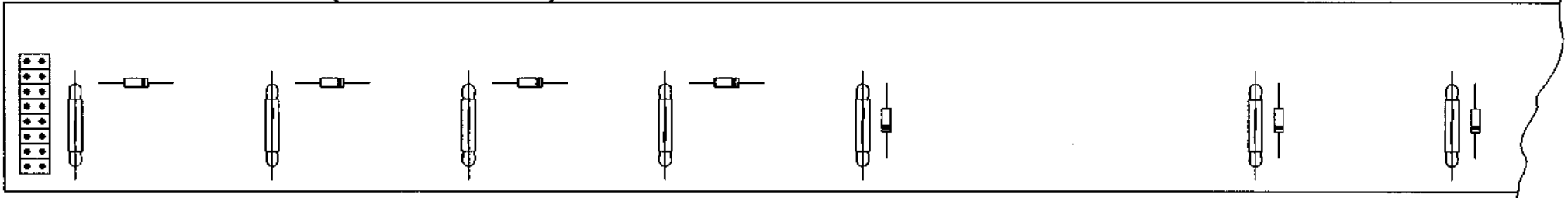
PCB-NR JHO 3270 (1st OCTAVE)

P7
P6
P5
P4
P3
P2
P1
MX.1
MX.0
P0



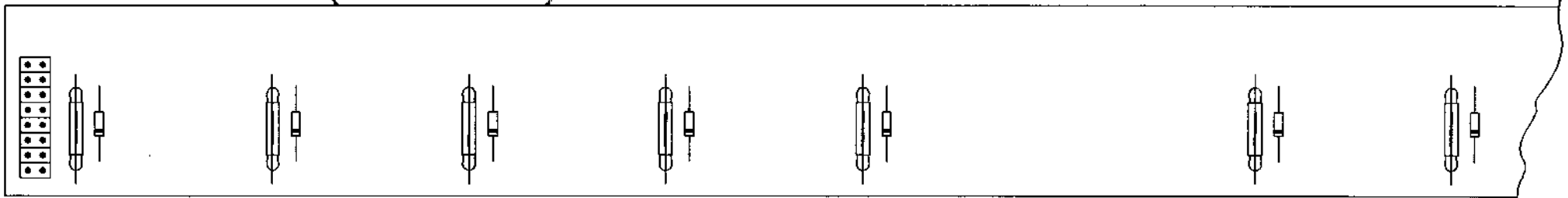
PCB-NR JHO 3280 (2nd OCTAVE)

P7
P6
P5
P4
P3
MX.2
P2
MX.1
P1
P0

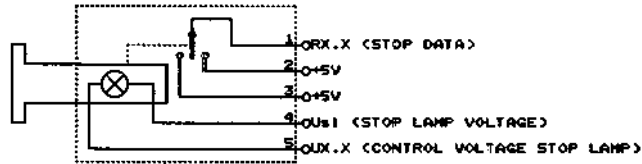


PCB-NR JHO 3290 (3rd OCTAVE)

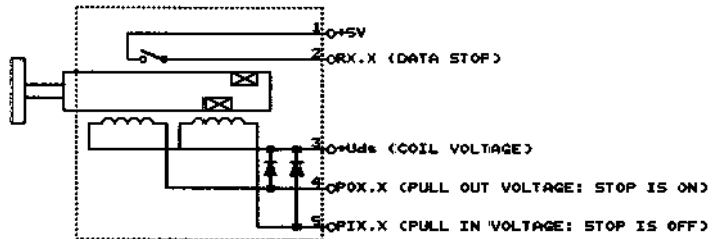
P7
P6
P5
P4
P3
MX.3
P2
P1
P0



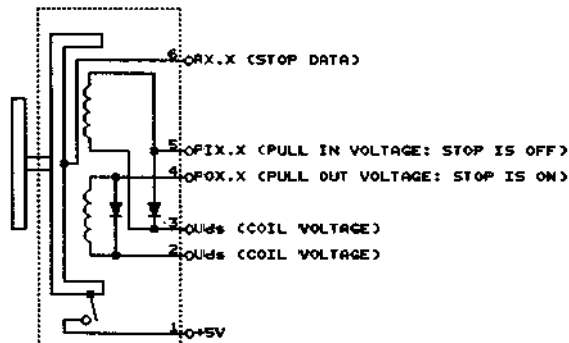
LIGHTED DRAWSTOP



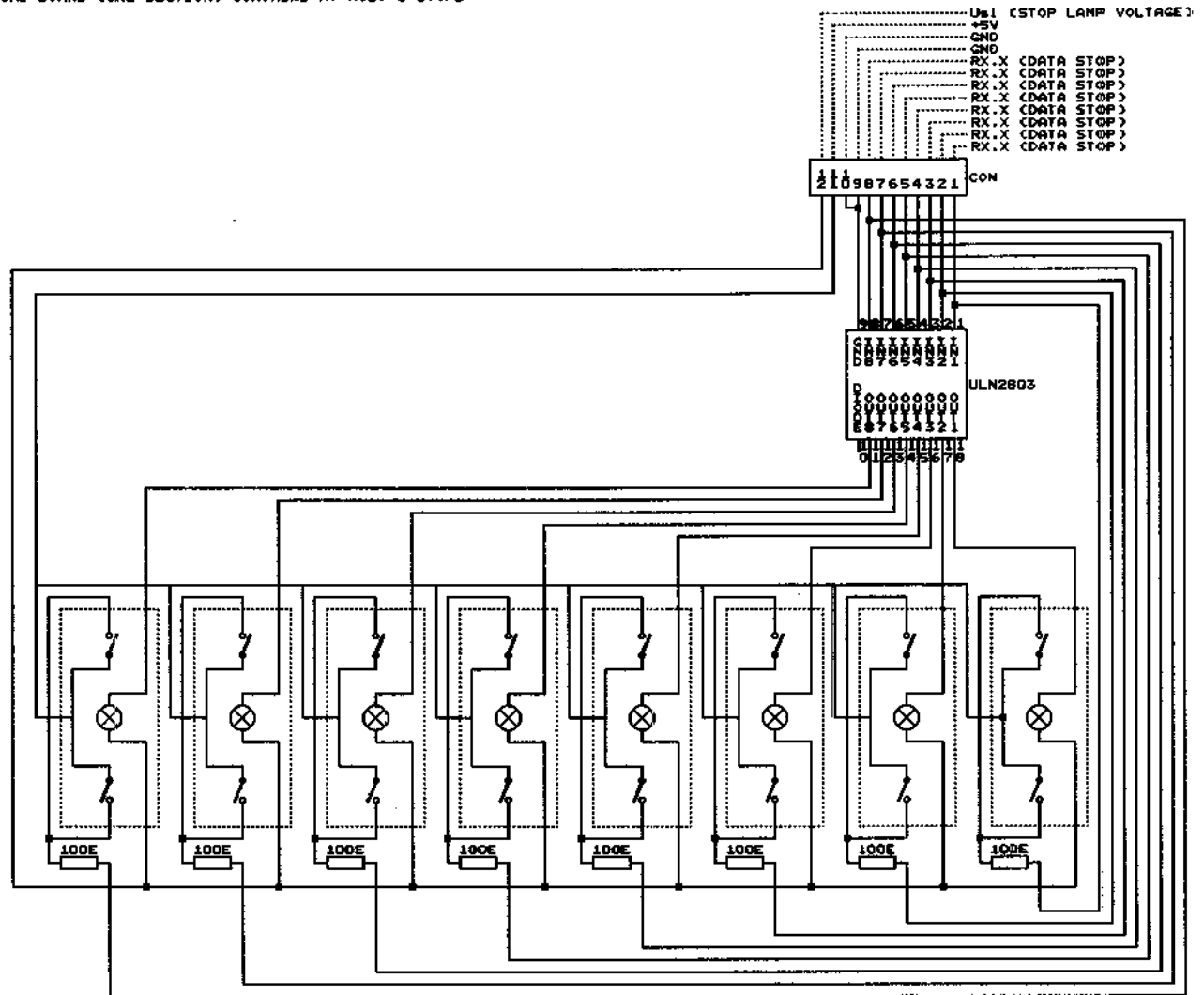
MECHANICAL DRAWSTOP



MECHANICAL TILTING TAB



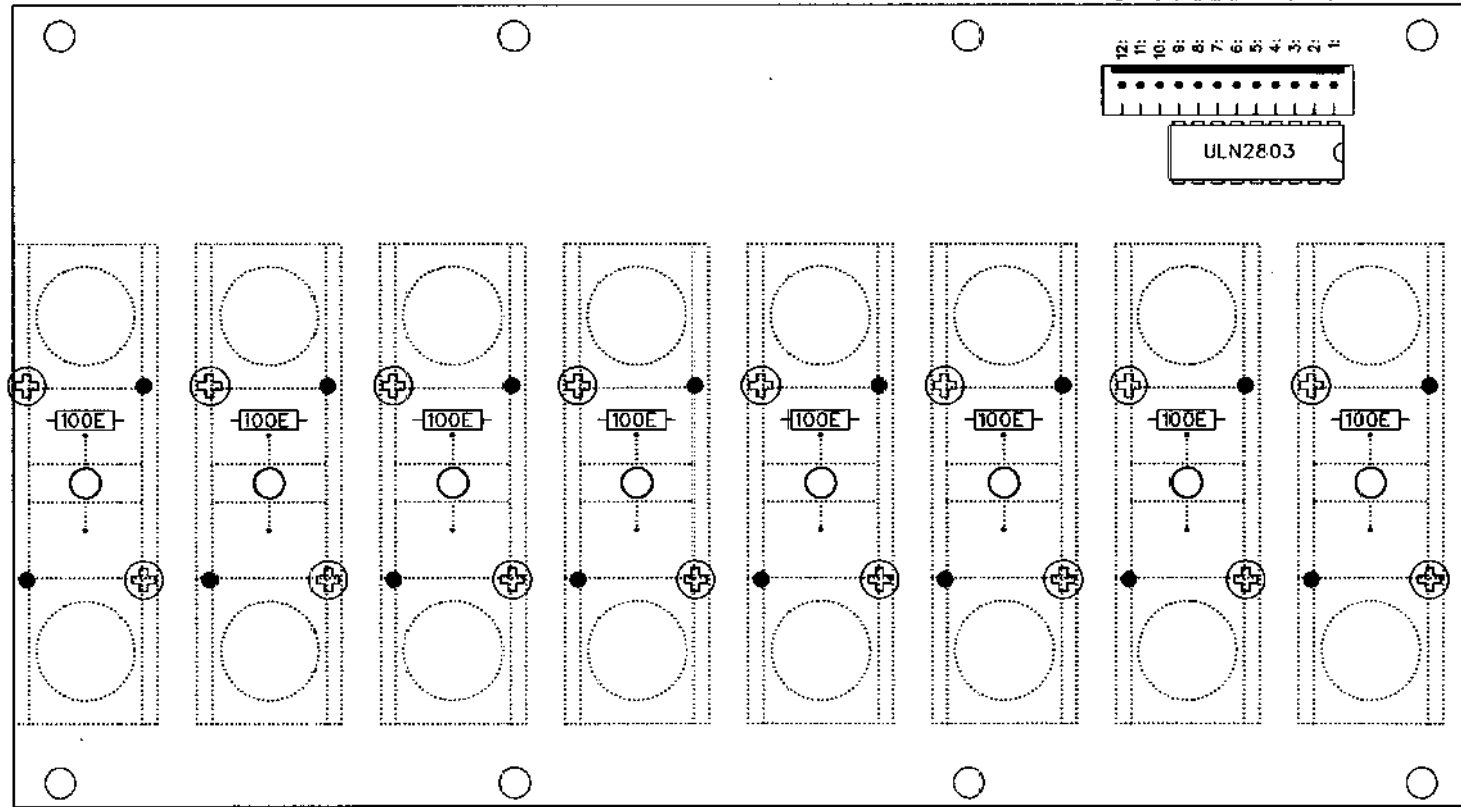
LIGHTED ROCKERTABS (PCB-NR JHO 3305)
 ONE BOARD (ONE SECTION) CONTAINS AT MOST 8 STOPS



PCB-NR JHO 3305

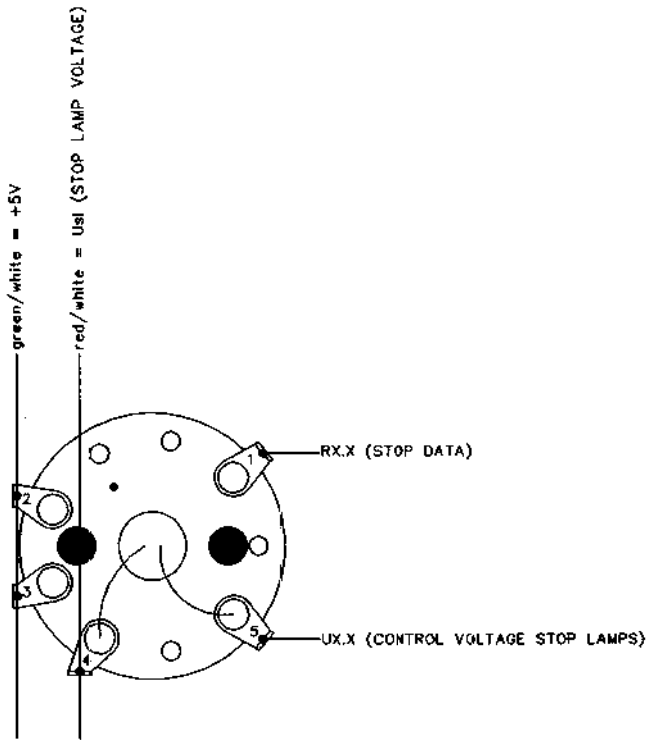
U01 (STOP LAMP VOLTAGE)
 +5V
 GND
 RX.X (DATA STOP)
 RX.X (DATA STOP)
 RX.X (DATA STOP)
 RX.X (DATA STOP)
 RX.X (DATA STOP)
 RX.X (DATA STOP)
 RX.X (DATA STOP)

| COLOUR CODE TABLE WIRING ROCKERTAB | |
|---------------------------------------|--------|
| STOP NR. | RX.X |
| RX.0 | black |
| RX.1 | brown |
| RX.2 | red |
| RX.3 | orange |
| RX.4 | yellow |
| RX.5 | green |
| RX.6 | blue |
| RX.7 | violet |

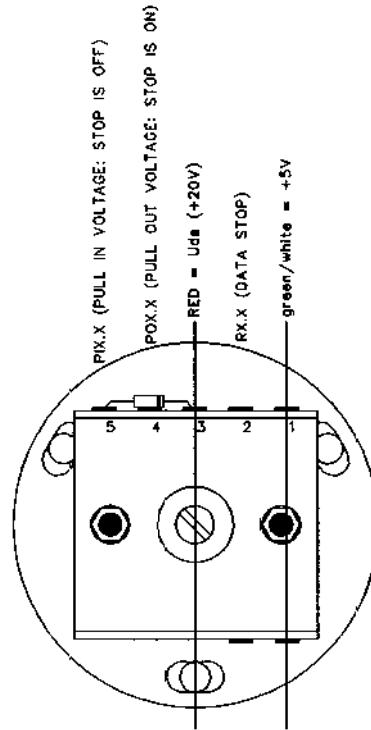


STOP LAMP: 14V/75mA

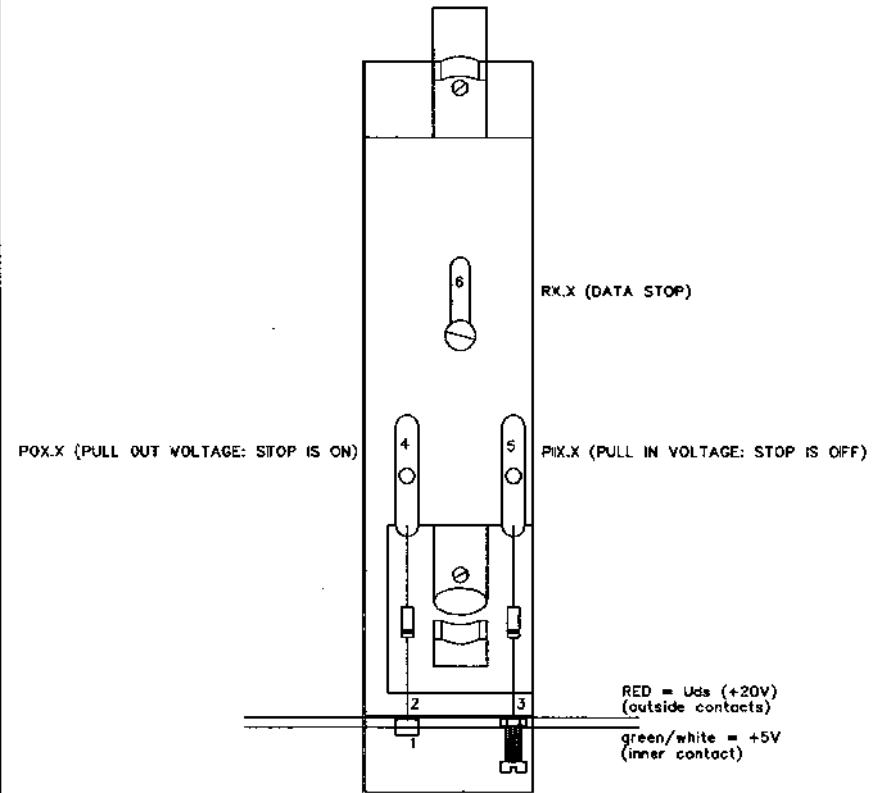
| COLOUR CODE TABLE WIRING LIGHTED DRAWSTOP | | |
|---|--------|--------------|
| STOP NR. | RX.X | UX.X |
| RX.0 | black | black/white |
| RX.1 | brown | brown/white |
| RX.2 | red | red/white |
| RX.3 | orange | orange/white |
| RX.4 | yellow | yellow/white |
| RX.5 | green | green/white |
| RX.6 | blue | blue/white |
| RX.7 | violet | violet/white |



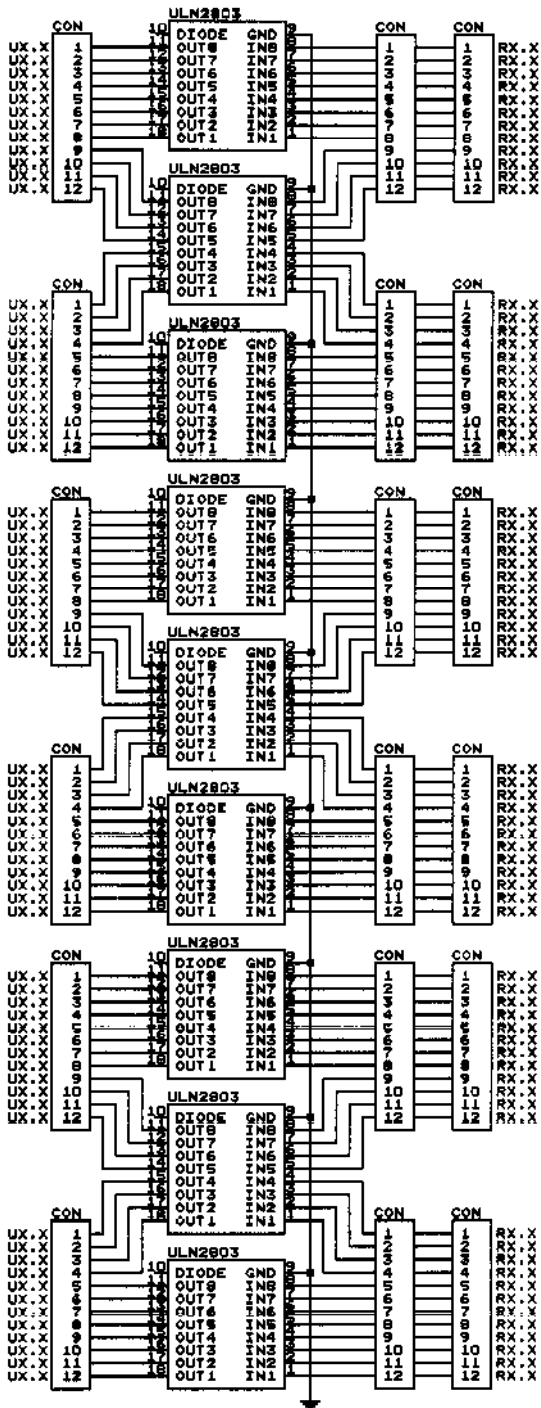
| COLOUR CODE TABLE WIRING MECHANICAL DRAWSTOP | | | |
|--|--------|--------------|--------------|
| STOP NR. | RX.X | POX.X | PIX.X |
| RX.0 | black | white | black/white |
| RX.1 | brown | brown/black | brown/white |
| RX.2 | red | red/black | red/white |
| RX.3 | orange | orange/black | orange/white |
| RX.4 | yellow | yellow/black | yellow/white |
| RX.5 | green | green/black | green/white |
| RX.6 | blue | blue/black | blue/white |
| RX.7 | violet | grey | violet/white |



| COLOUR CODE TABLE WIRING MECHANICAL TILTING TAB | | | |
|---|--------|--------------|--------------|
| STOP NR. | RX.X | POX.X | PIX.X |
| RX.0 | black | white | black/white |
| RX.1 | brown | brown/black | brown/white |
| RX.2 | red | red/black | red/white |
| RX.3 | orange | orange/black | orange/white |
| RX.4 | yellow | yellow/black | yellow/white |
| RX.5 | green | green/black | green/white |
| RX.6 | blue | blue/black | blue/white |
| RX.7 | violet | grey | violet/white |

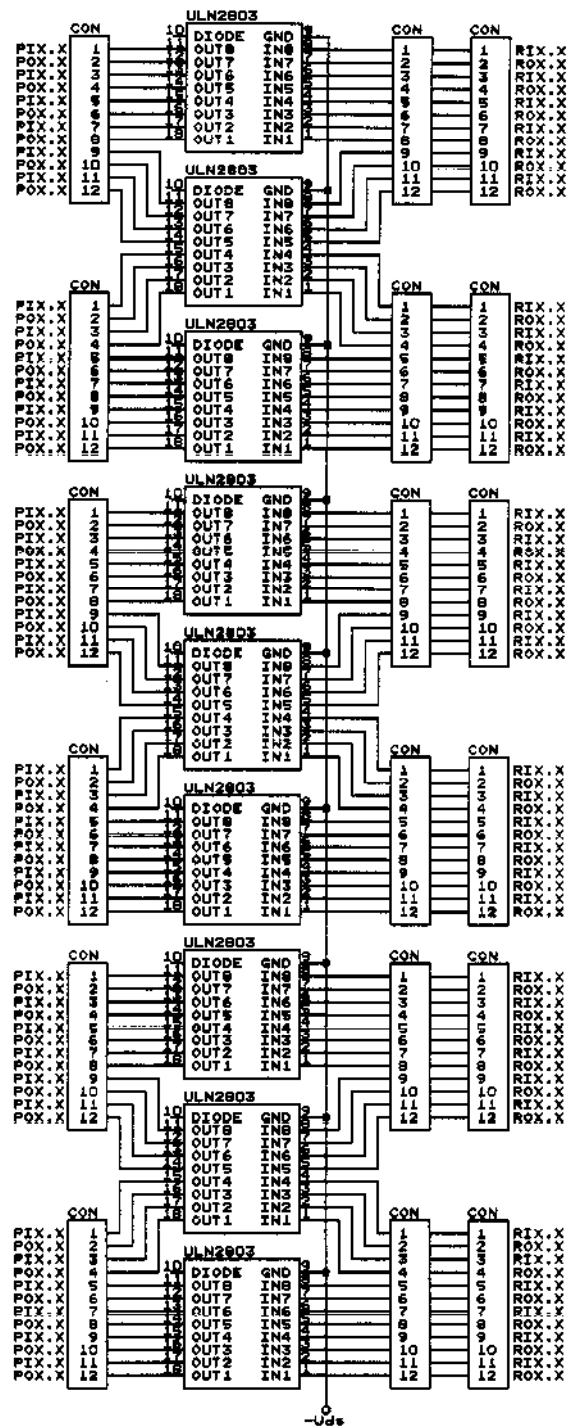


DRIVER STOPLAMPS LIGHTED DRAWSTOPS



RX.X = STOP DATA
UX.X = CONTROL VOLTAGE STOP LAMP

DRIVER COILS MECHANICAL DRAWSTOPS

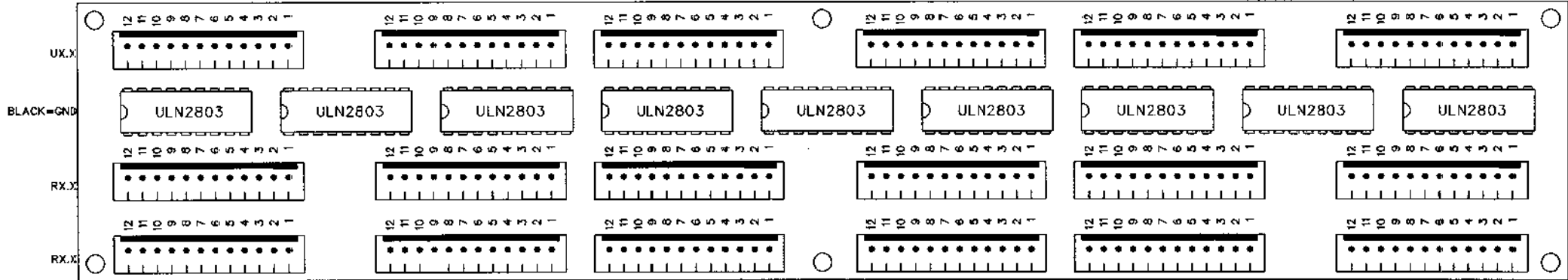


ROX.X = DATA PULL OUT VOLTAGE (STOP IS ON)
RIX.X = DATA PULL IN VOLTAGE (STOP IS OFF)
POX.X = PULL OUT VOLTAGE (STOP IS ON)
PIX.X = PULL IN VOLTAGE (STOP IS OFF)

| COLOUR CODE TABLE WIRING DRIVER LIGHTED DRAWSTOPS | | |
|---|--------|--------------|
| STOP NR. | RX.X | UX.X |
| RX.0 | black | black/white |
| RX.1 | brown | brown/white |
| RX.2 | red | red/white |
| RX.3 | orange | orange/white |
| RX.4 | yellow | yellow/white |
| RX.5 | green | green/white |
| RX.6 | blue | blue/white |
| RX.7 | violet | violet/white |

RX.X = STOP DATA
UX.X = CONTROL VOLTAGE STOP LAMP

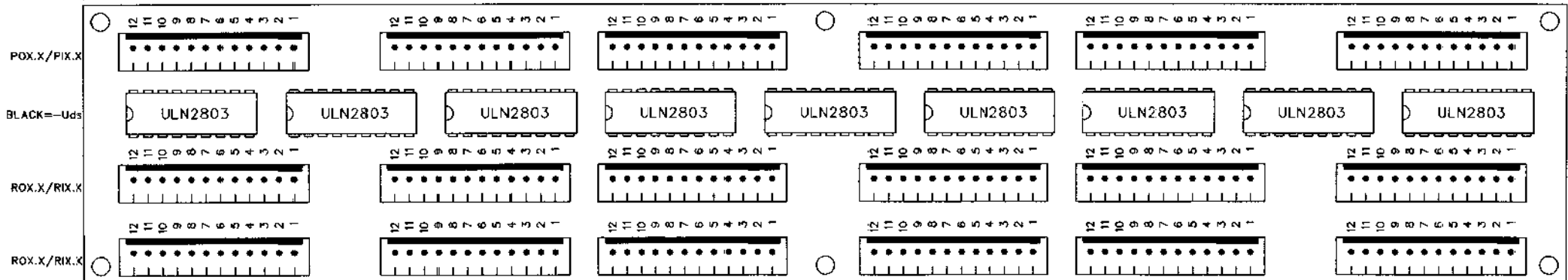
PCB-NR JHO 3371



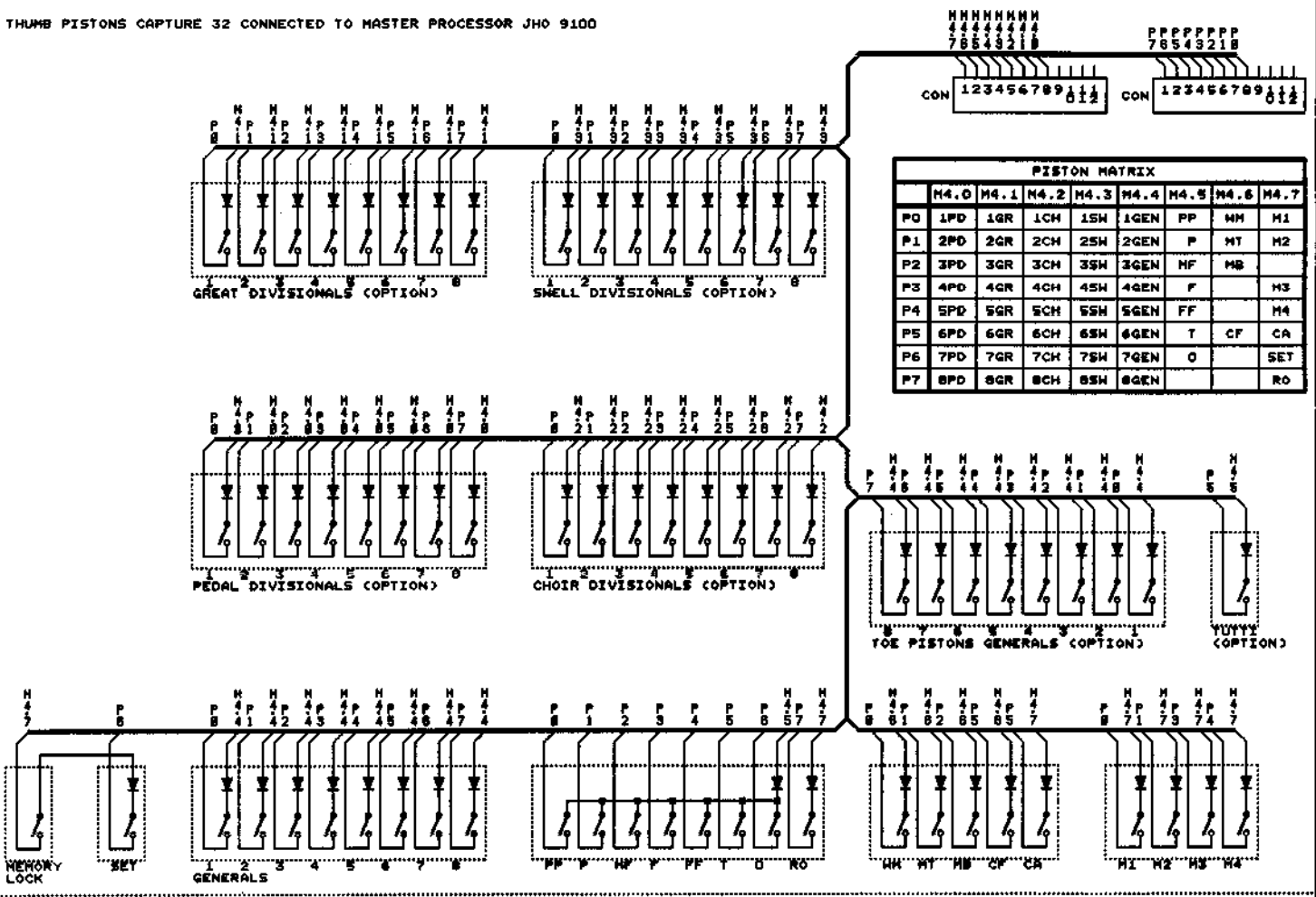
| COLOUR CODE TABLE WIRING DRIVER MECHANICAL DRAWSTOPS | | | | |
|--|--------|--------------|--------------|--------------|
| STOP NR. | ROX.X | RIX.X | PDX.X | PIX.X |
| RX.0 | black | black/white | white | black/white |
| RX.1 | brown | brown/white | brown/black | brown/white |
| RX.2 | red | red/white | red/black | red/white |
| RX.3 | orange | orange/white | yellow/blue | orange/white |
| RX.4 | yellow | yellow/white | yellow/black | yellow/white |
| RX.5 | green | green/white | green/black | green/white |
| RX.6 | blue | blue/white | blue/black | blue/white |
| RX.7 | violet | violet/white | gray | violet/white |

ROX.X = DATA PULL OUT VOLTAGE (STOP IS ON)
RIX.X = DATA PULL IN VOLTAGE (STOP IS OFF)
PDX.X = PULL OUT VOLTAGE (STOP IS ON)
PIX.X = PULL IN VOLTAGE (STOP IS OFF)

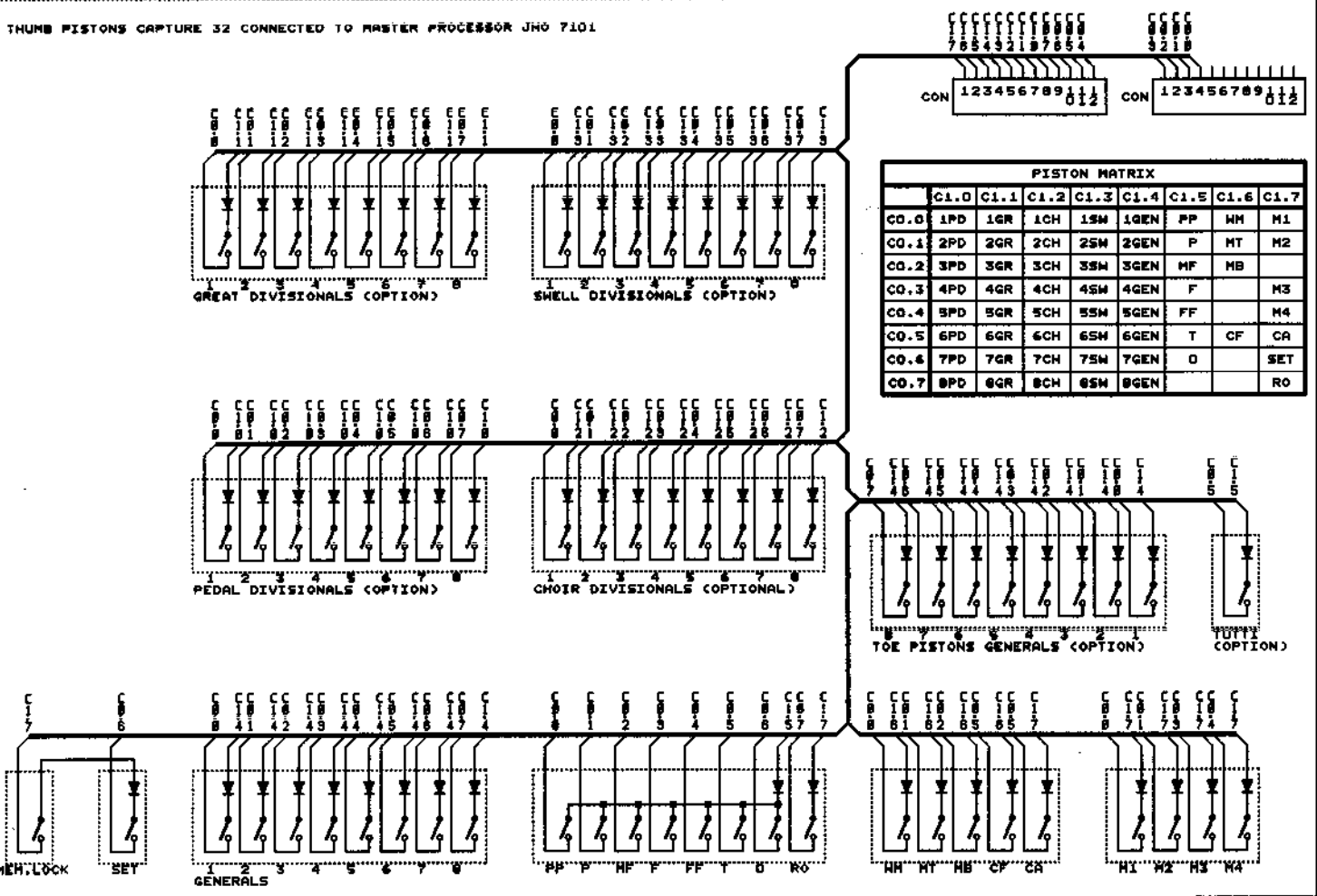
PCB-NR JHO 3371

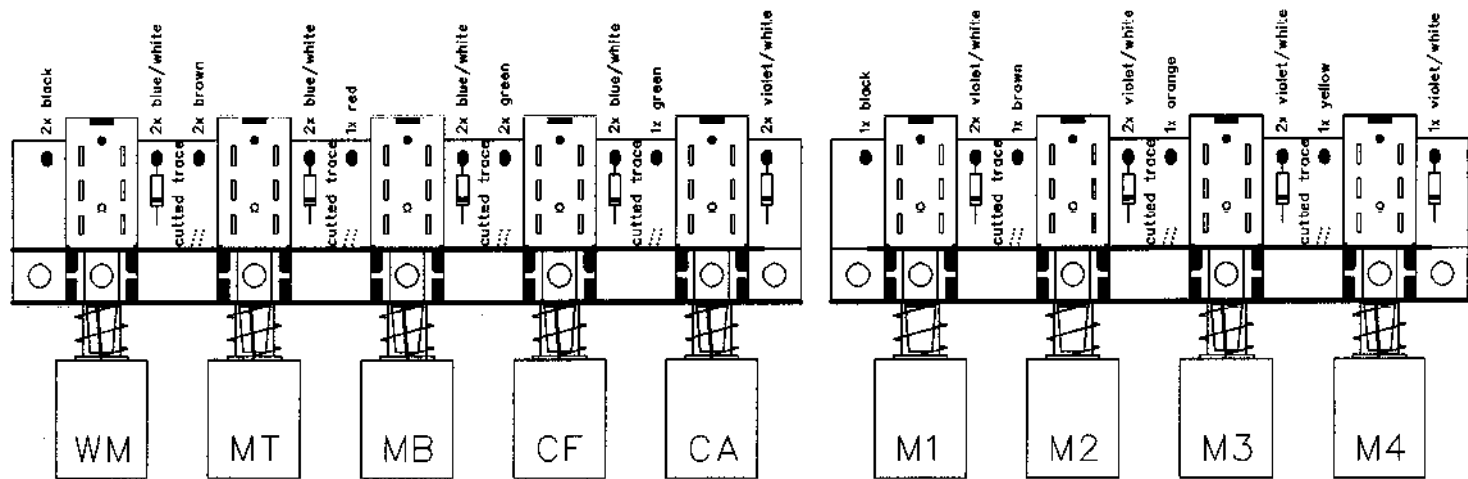
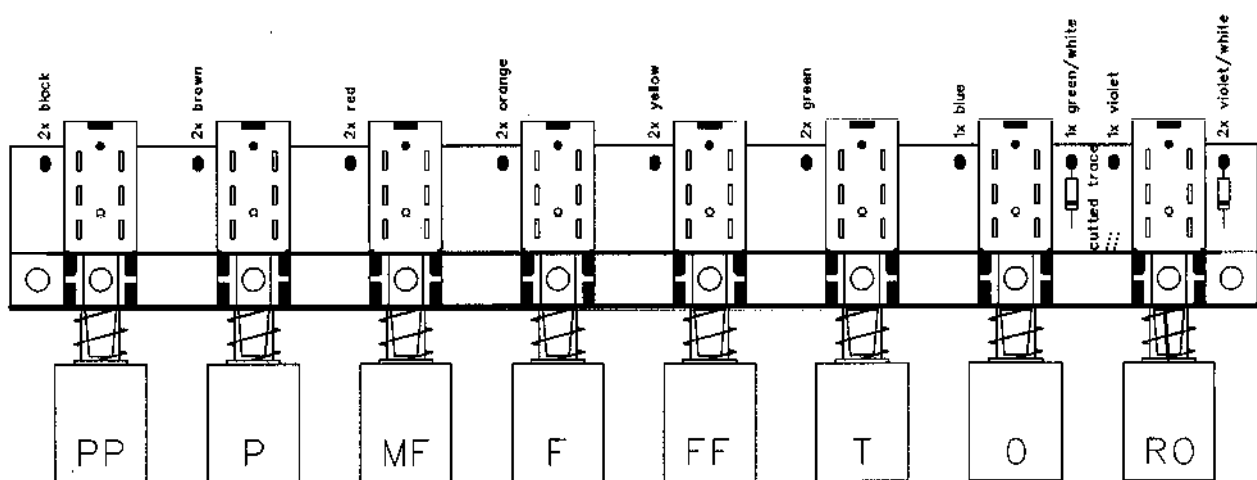
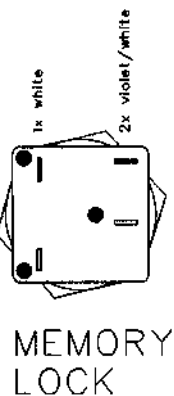
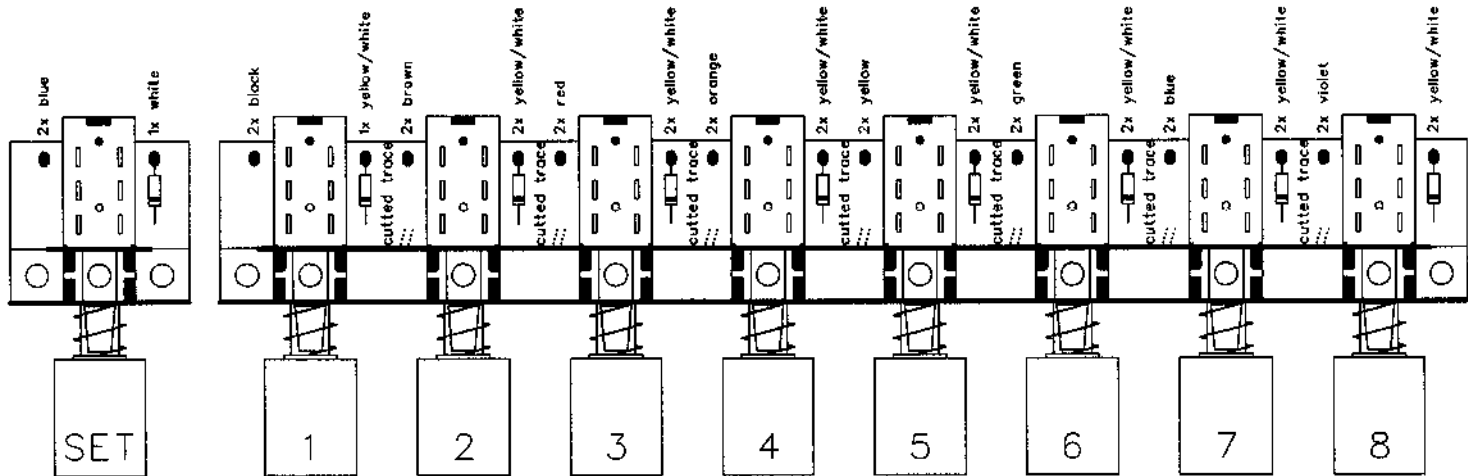


THUMB PISTONS CAPTURE 32 CONNECTED TO MASTER PROCESSOR JHO 9100



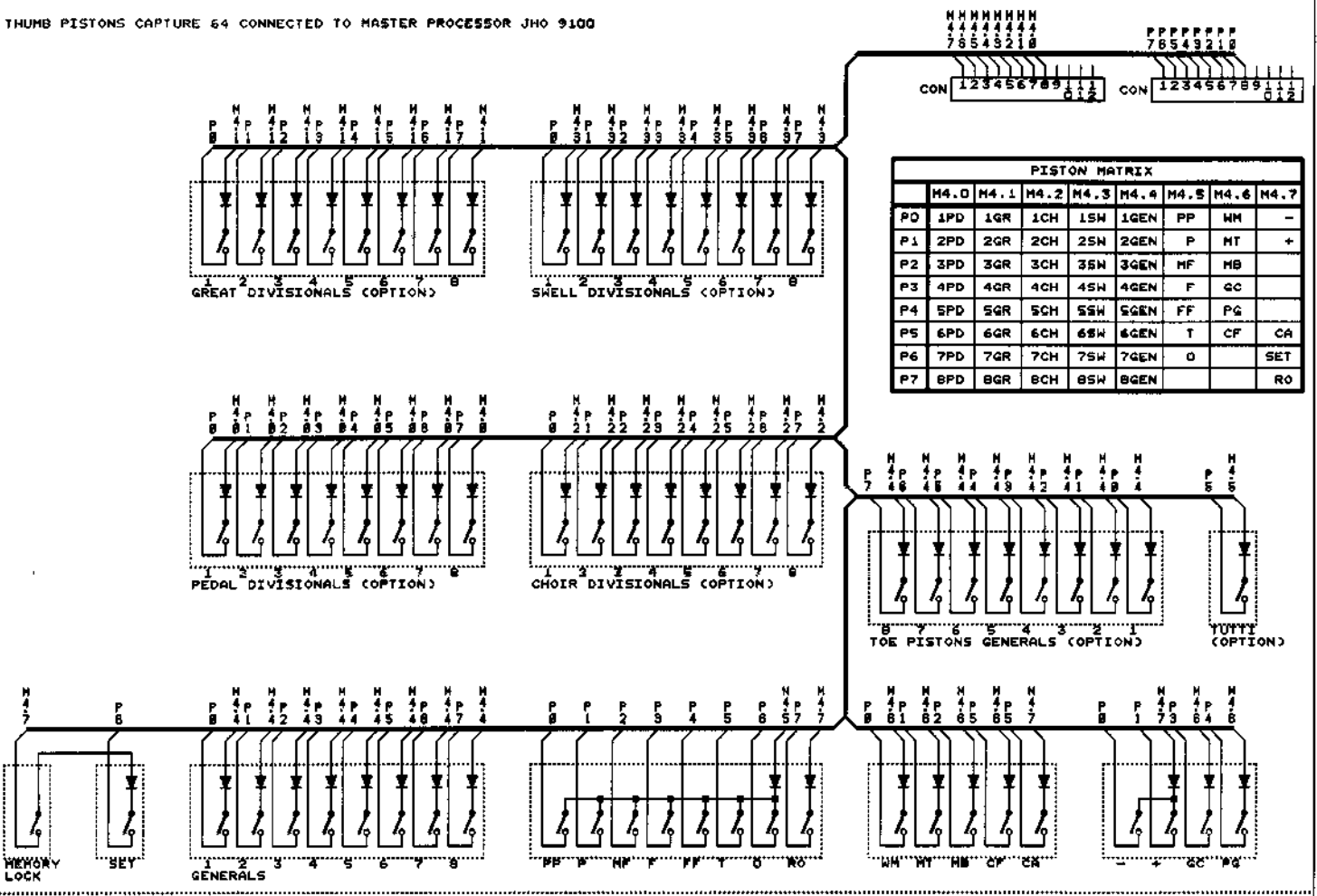
THUMB PISTONS CAPTURE 32 CONNECTED TO MASTER PROCESSOR JHO 7101



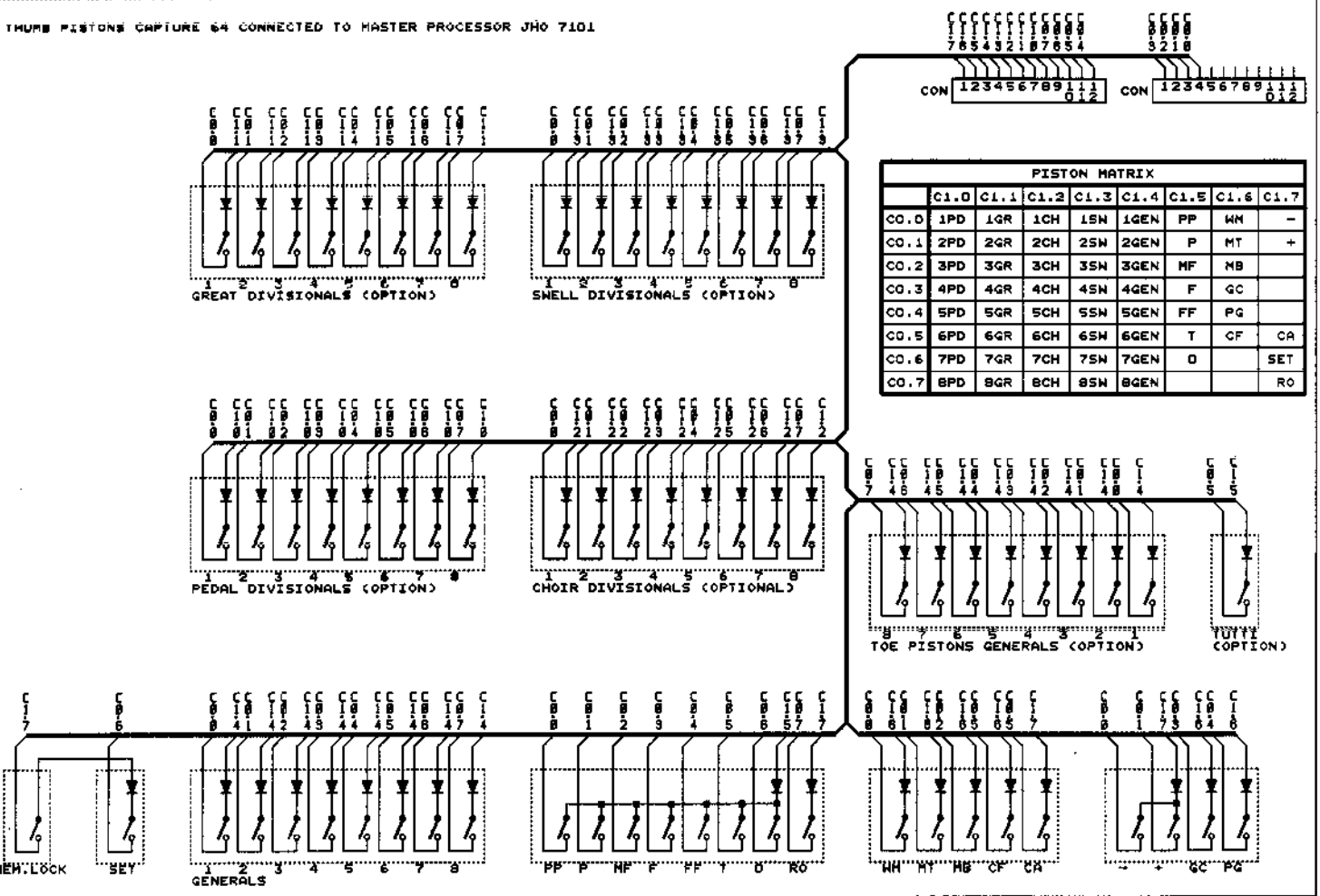


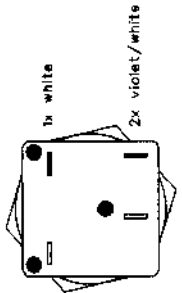
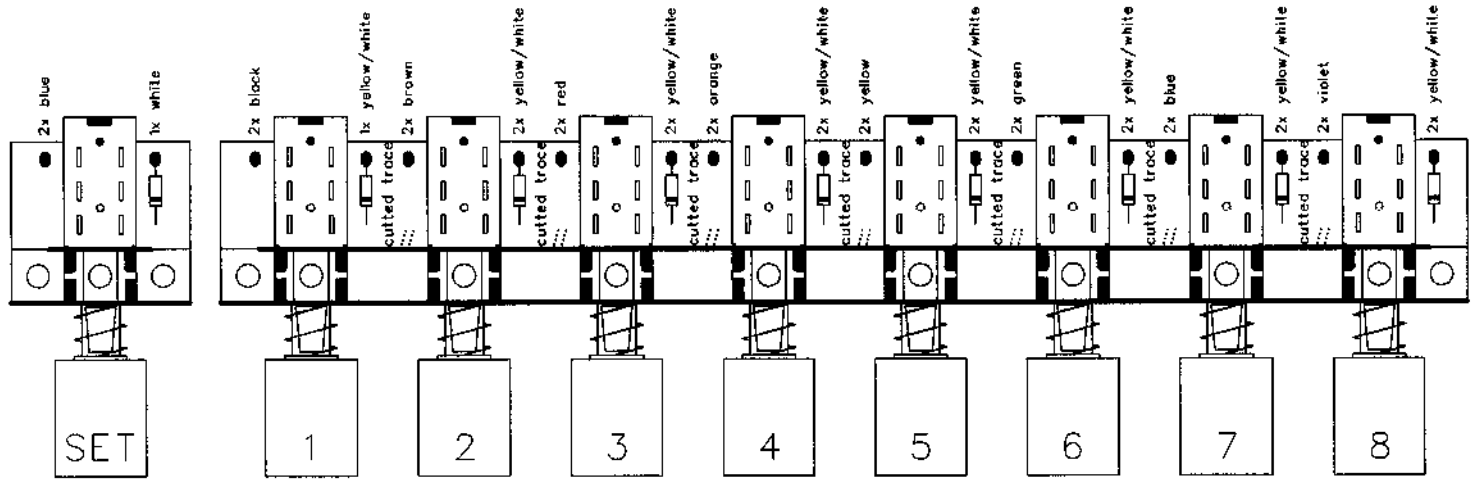
| COLOUR CODE TABLE PISTONS CAPTURE 64 | | | |
|--------------------------------------|----------------------|-------------------|-------------------|
| WIRE COLOUR | FUNCTION | NAME PCB JHO 9500 | NAME PCB JHO 7101 |
| black | DATA 1/PP/WM/M1 | P0 | C0.0 |
| brown | DATA 2/P/MT/M2 | P1 | C0.1 |
| red | DATA 3/MF/MB | P2 | C0.2 |
| orange | DATA 4/FF/M3 | P3 | C0.3 |
| yellow | DATA 5/FF/M4 | P4 | C0.4 |
| green | DATA 6/T/CF/CA | P5 | C0.5 |
| blue | DATA SET/7/O | P6 | C0.6 |
| violet | DATA B/RO | P7 | C0.7 |
| white | MEM. LOCK | | |
| black/white | SCAN 1-8 PED | M4.0 | C1.0 |
| brown/white | SCAN 1-8 GREAT | M4.1 | C1.1 |
| red/white | SCAN 1-8 CHOIR | M4.2 | C1.2 |
| orange/white | SCAN 1-8 SWELL | M4.3 | C1.3 |
| yellow/white | SCAN 1-8 GENERALS | M4.4 | C1.4 |
| green/white | SCAN PRESETS/O | M4.5 | C1.5 |
| blue/white | SCAN WM/MT/MB/CF | M4.6 | C1.6 |
| violet/white | SCAN MEM. LOCK/M1-M4 | M4.7 | C1.7 |

THUMB PISTONS CAPTURE 64 CONNECTED TO MASTER PROCESSOR JHO 9100

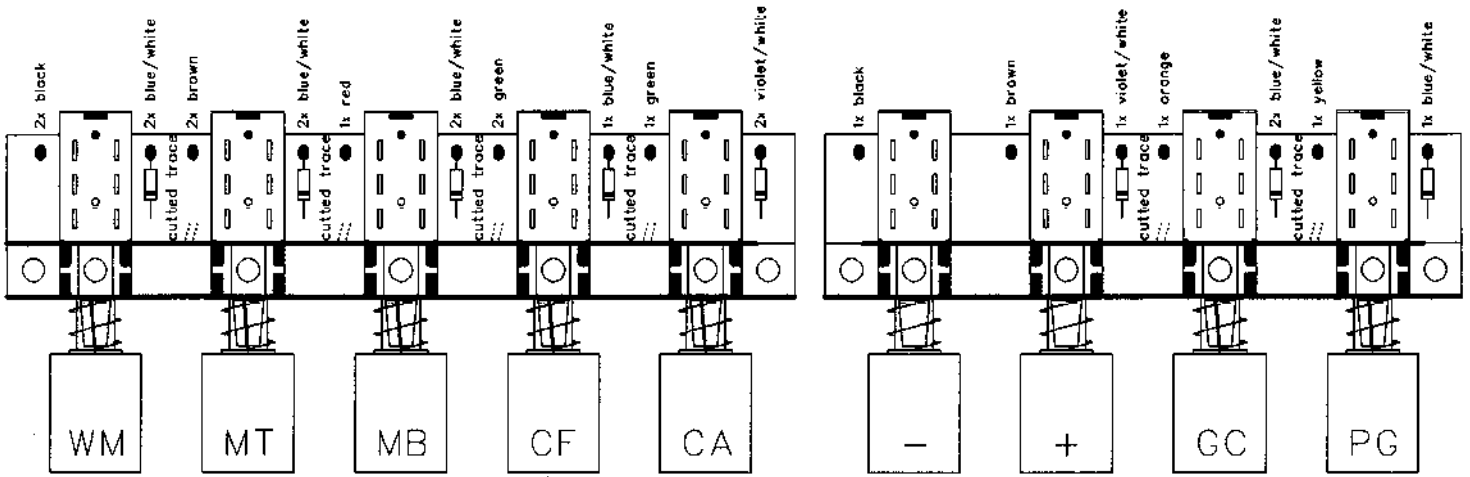
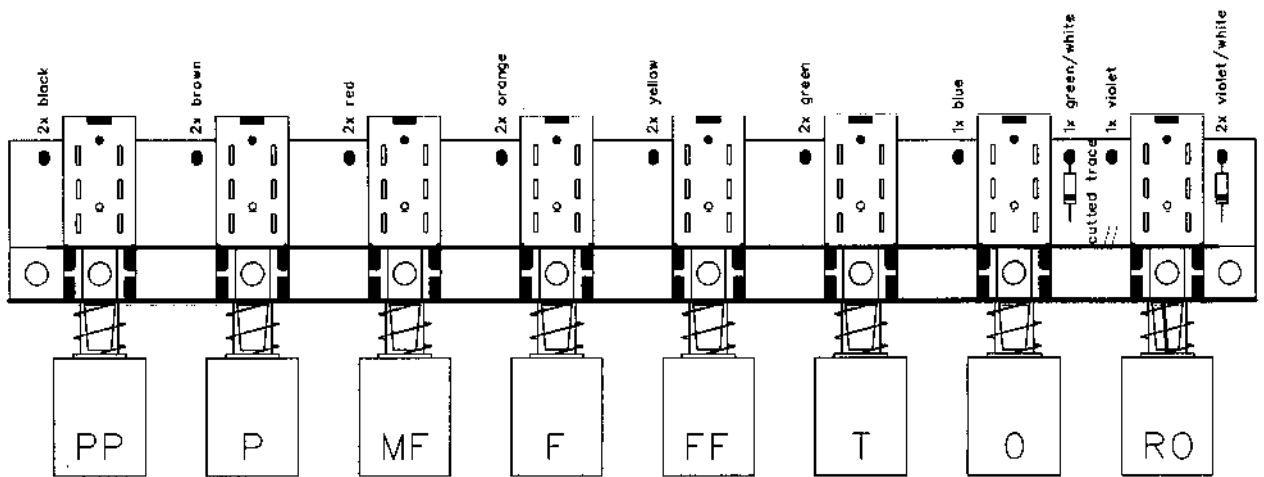


THUMB PISTONS CAPTURE 64 CONNECTED TO MASTER PROCESSOR JHO 7101



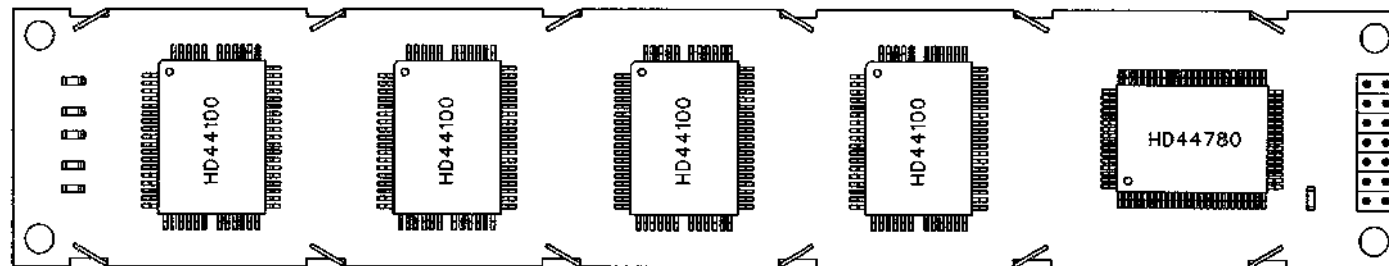
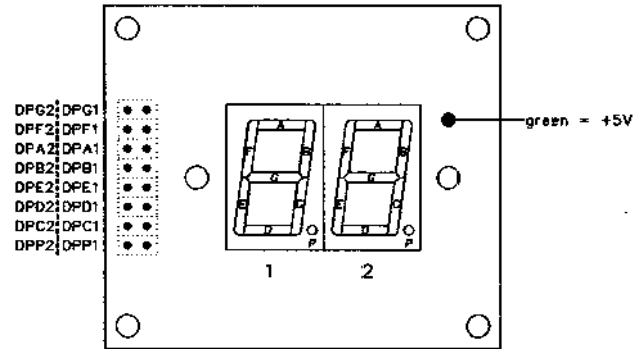


MEMORY LOCK

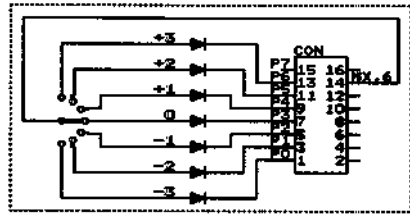


| COLOUR CODE TABLE PISTONS CAPTURE 64 | | | |
|--------------------------------------|--------------------------|-------------------|-------------------|
| WIRE COLOUR | FUNCTION | NAME PCB JHO 9500 | NAME PCB JHO 7101 |
| black | DATA 1/PP/WM/- | P0 | C0.0 |
| brown | DATA 2/P/MT/+ | P1 | C0.1 |
| red | DATA 3/MF/MB | P2 | C0.2 |
| orange | DATA 4/F/GC | P3 | C0.3 |
| yellow | DATA 5/FF/PG | P4 | C0.4 |
| green | DATA 6/T/CF/CA | P5 | C0.5 |
| blue | DATA SET/7/0 | P6 | C0.6 |
| violet | DATA 8/RO | P7 | C0.7 |
| white | MEM. LOCK | | |
| black/white | SCAN 1-8 PED | M4.0 | C1.0 |
| brown/white | SCAN 1-8 GREAT | M4.1 | C1.1 |
| red/white | SCAN 1-8 CHOIR | M4.2 | C1.2 |
| orange/white | SCAN 1-8 SWELL | M4.3 | C1.3 |
| yellow/white | SCAN 1-8 GENERALS | M4.4 | C1.4 |
| green/white | SCAN PRESETS/0 | M4.5 | C1.5 |
| blue/white | SCAN WM/MT/MB/CF/GC/PG | M4.6 | C1.6 |
| violet/white | SCAN MEM. LOCK/RO/CA/-/+ | M4.7 | C1.7 |

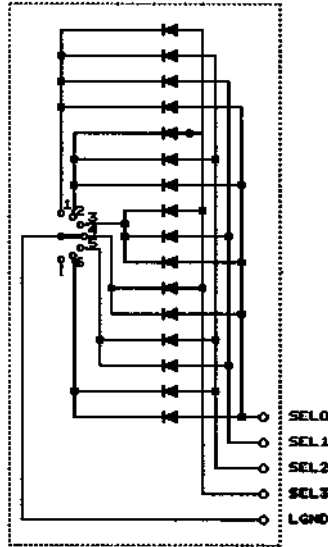
PCB-NR JHO 7182



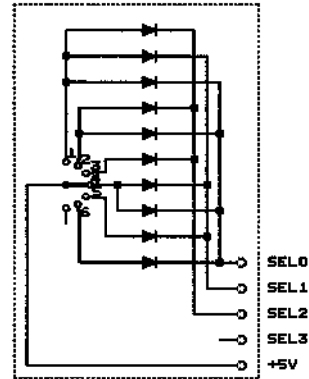
D6 D7
D4 D5
D2 D3
D0 D1
R/W (L28) CS (L22)
CVL A0
LGND +5V



TRANSFER SWITCH

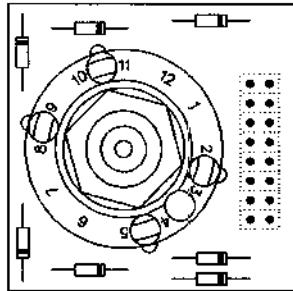


PROGRAM SWITCH REVERSE
(ALEXIS)



PROGRAM SWITCH ACOUSTICS
(LEXICON)

PCB-NR
JHO 3321

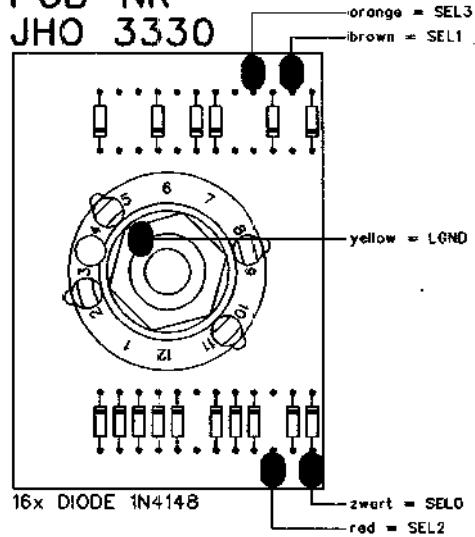


7x DIODE 1N4148

TRANSPOSER SWITCH
RING IN HOLE 7

P7
P6 | MX.6
P5
P4
P3
P2
P1
P0

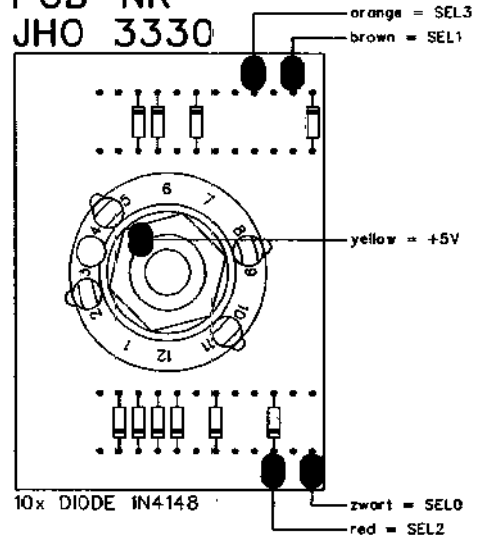
PCB-NR
JHO 3330



16x DIODE 1N4148

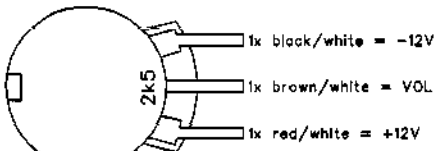
PROGRAM SWITCH REVERB (ALESIS)
RING IN HOLE 6

PCB-NR
JHO 3330

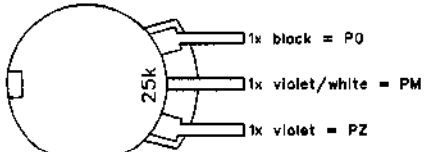


10x DIODE 1N4148

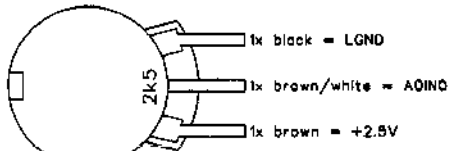
PROGRAM SWITCH REVERB (LEXICON)
RING IN HOLE 6



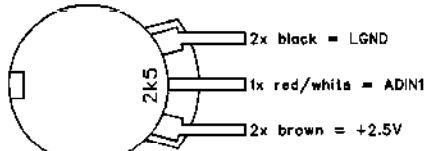
VOLUME REVERB



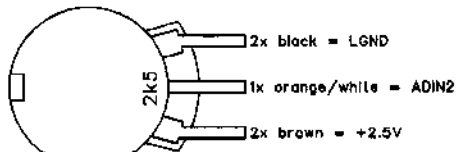
STOP LAMPS



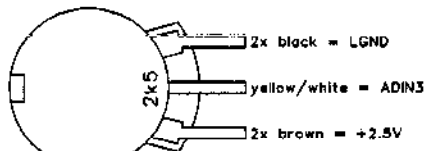
EXPR. PEDAL GREAT/PEDAL



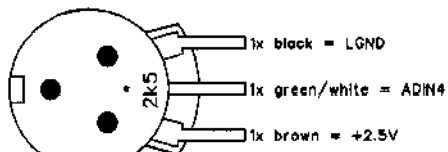
EXPR. PEDAL SWELL/(CHOIR)



GEN. CRESC. PEDAL

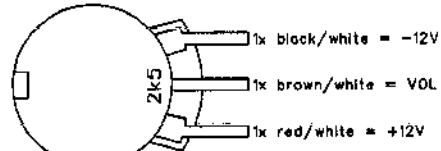


GENERAL VOLUME

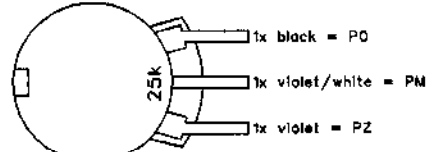


PITCH

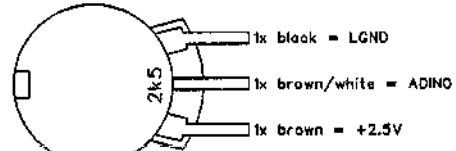
ORGANS WITH 2 EXPRESSION PEDALS



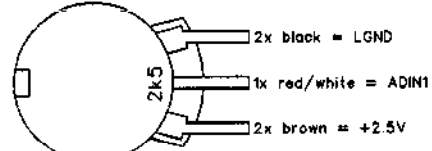
VOLUME REVERB



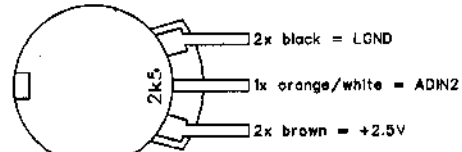
STOP LAMPS



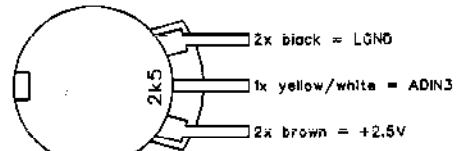
EXPR. PEDAL CHOIR



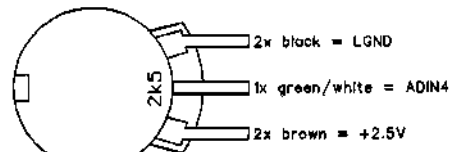
EXPR. PEDAL GREAT/PEDAL



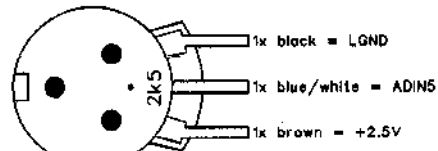
EXPR. PEDAL SWELL



GEN. CRESC. PEDAL



GENERAL VOLUME



PITCH

ORGANS WITH 3 EXPRESSION PEDALS

AUX IN CONNECTOR

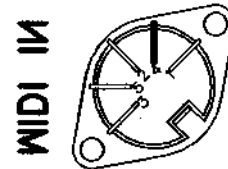
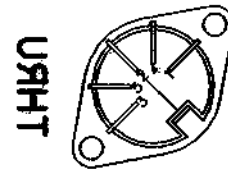
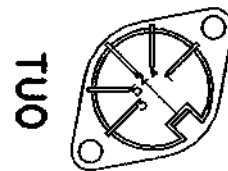
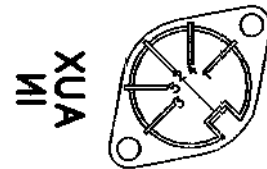
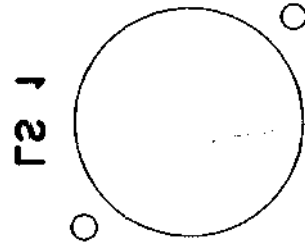
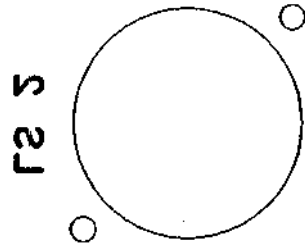
NOTE: PIN 2 IS CONNECTED TO THE CASE

- 1: 1x GREY SHIELDED/white core = AUX IN L
- 2: 2x black (shielding) = AUDIO GND
- 3: N.C.
- 4: 1x GREY SHIELDED/red core = AUX IN R
- 5: N.C.

EXTERN REVERB CONNECTOR

NOTE: PIN 2 IS CONNECTED TO THE CASE

- 1: 1x WHITE SHIELDED/white core = AUX OUT L
- 2: 4x black (shielding) = AUDIO GND
- 3: N.C.
- 4: 1x WHITE SHIELDED/red core = AUX OUT R
- 5: N.C.



MIDI IN CONNECTOR

NOTE: PIN 2 IS CONNECTED TO THE CASE

- 1: N.C.
- 2: black = GND MIDI out
- 3: N.C.
- 4: orange = +5V MIDI OUT
- 5: orange/white = MIDI OUT

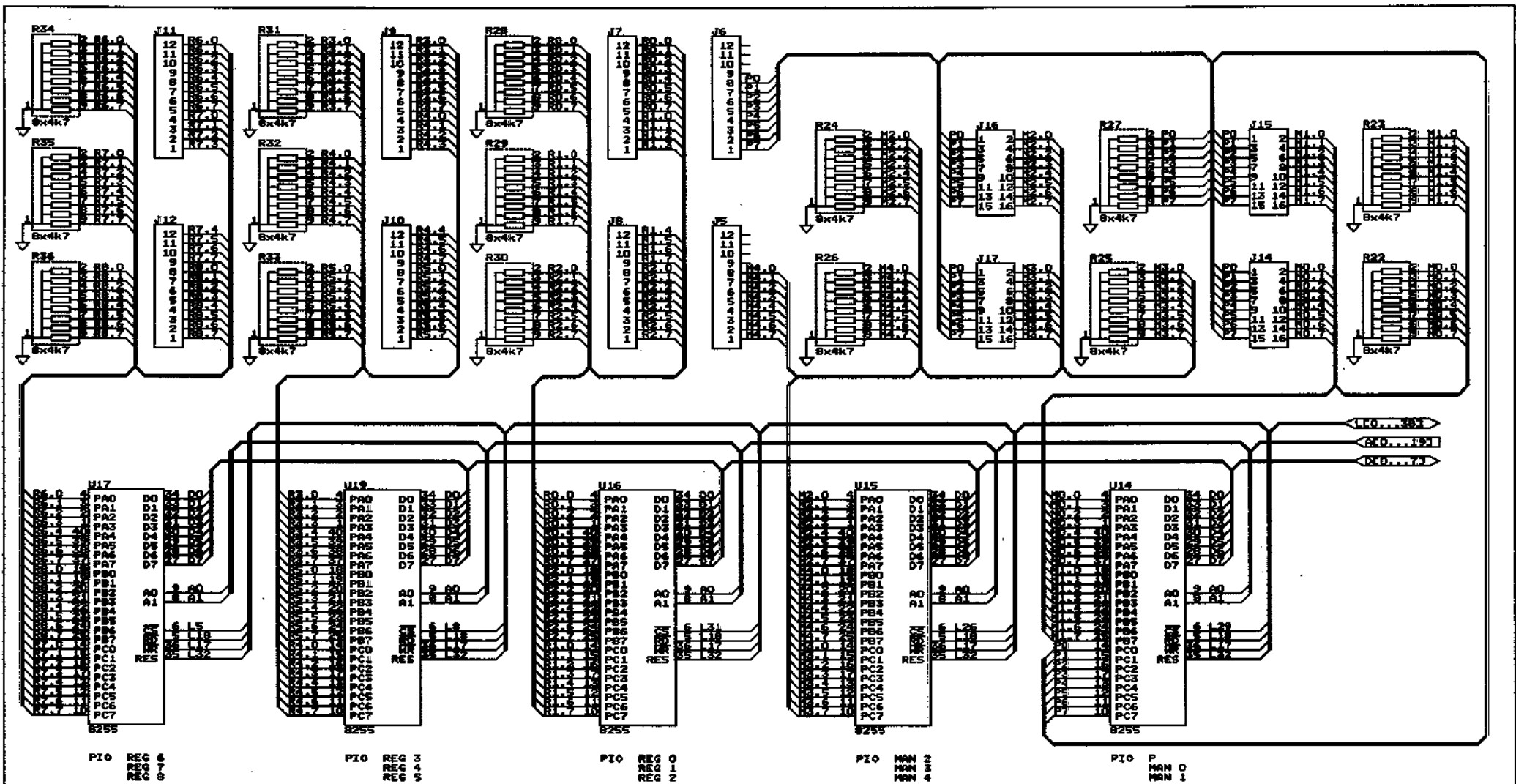
MIDI IN CONNECTOR

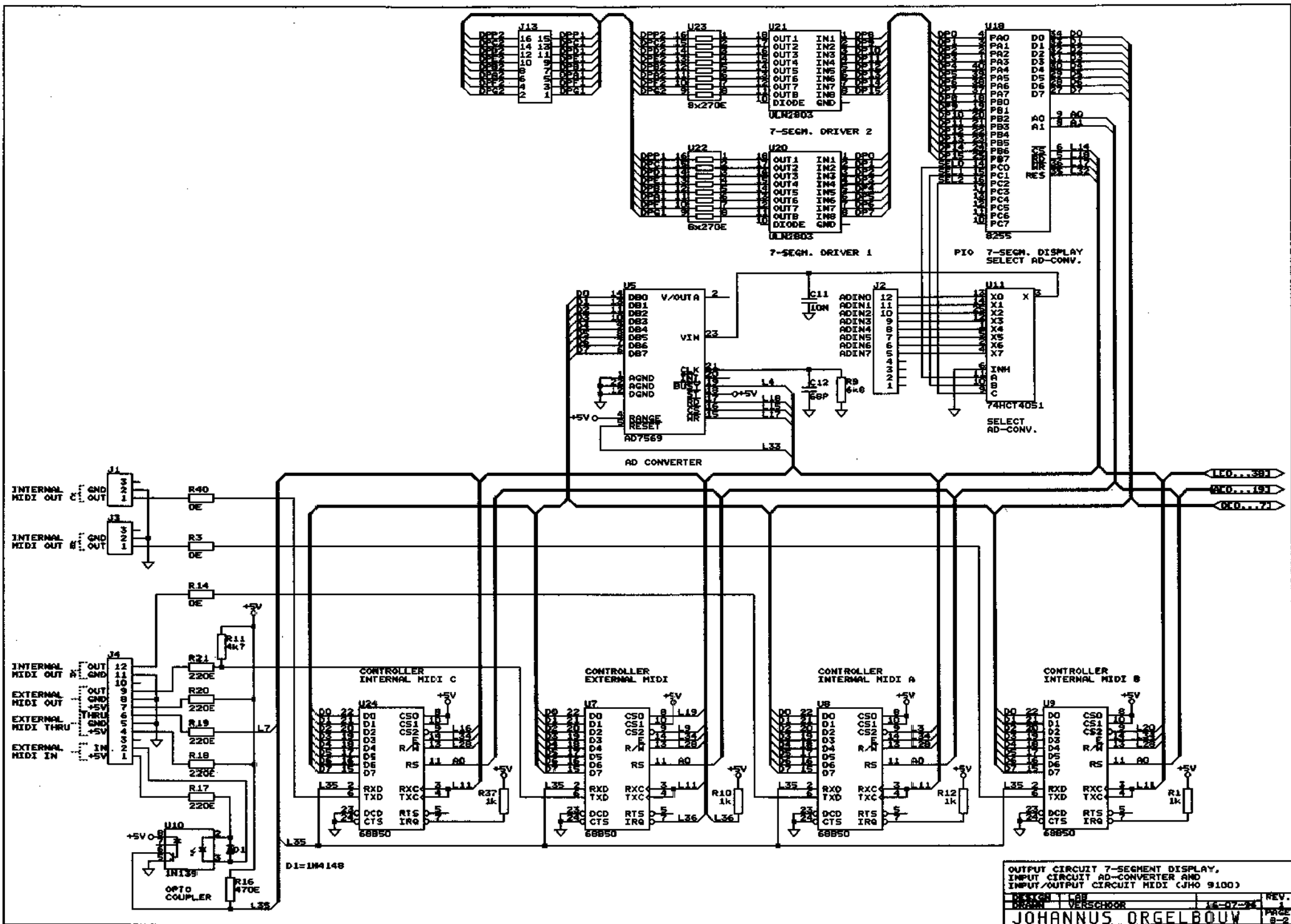
NOTE: PIN 2 IS CONNECTED TO THE CASE

- 1: N.C.
- 2: black = GND MIDI THRU
- 3: N.C.
- 4: red = +5V MIDI THRU
- 5: red/white = MIDI THRU

MIDI IN CONNECTOR

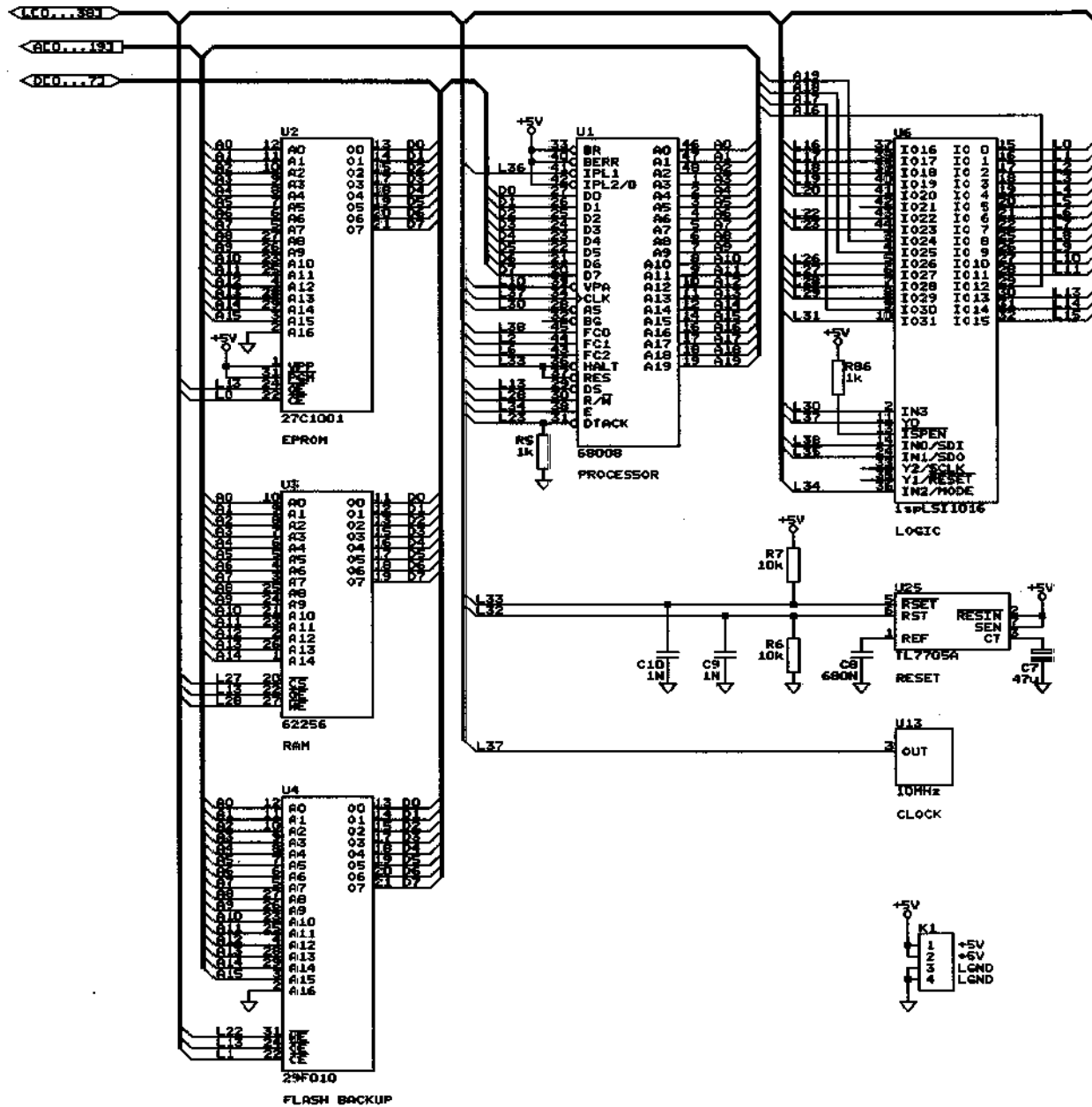
- 1: N.C.
- 2: N.C.
- 3: N.C.
- 4: brown = +5V MIDI IN
- 5: brown/white = MIDI IN





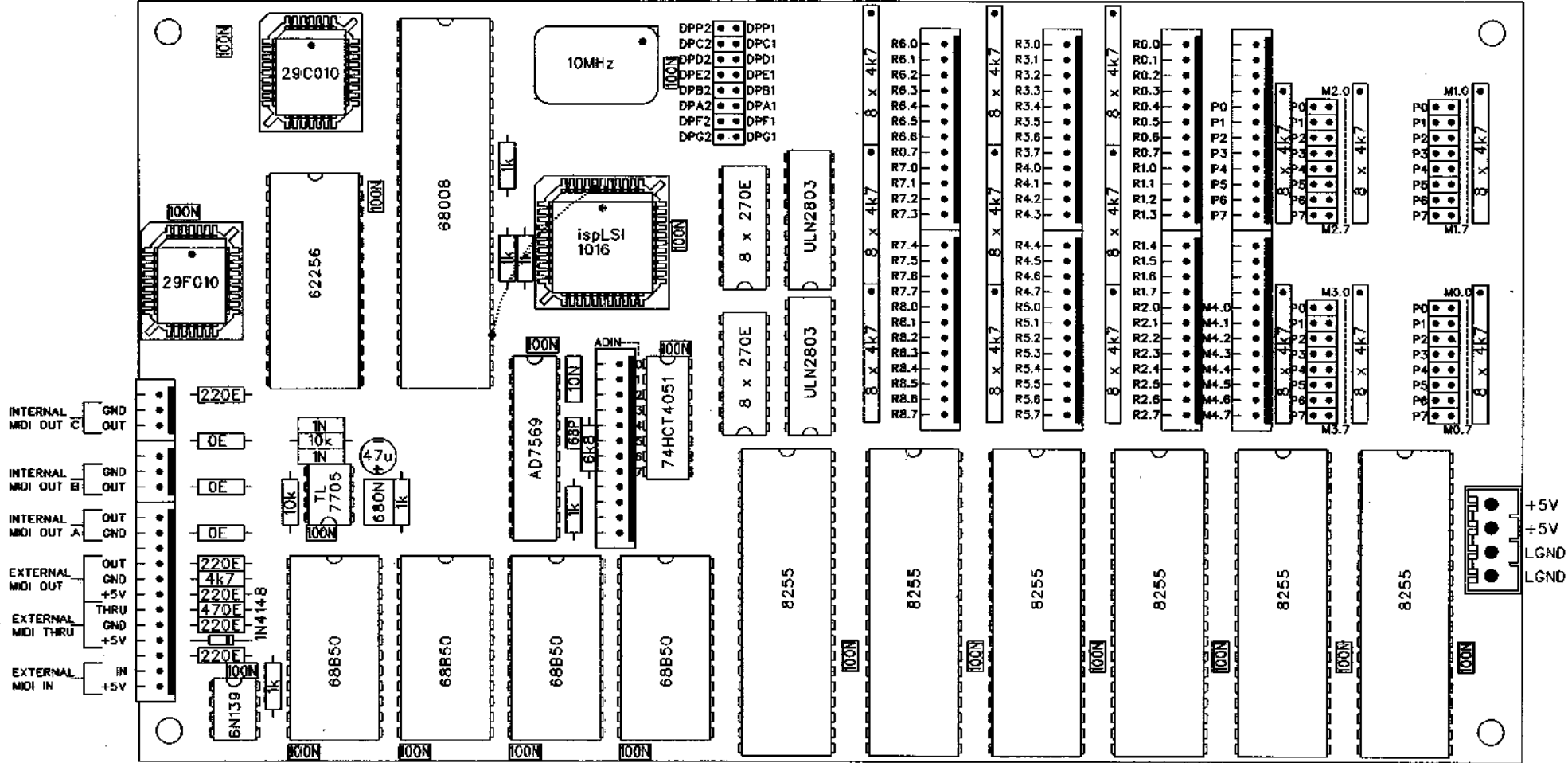
OUTPUT CIRCUIT 7-SEGMENT DISPLAY,
 INPUT CIRCUIT AD-CONVERTER AND
 INPUT/OUTPUT CIRCUIT MIDI (JHO 9100)

| | | |
|--------------------|-----------|----------|
| DESIGN | T. LAB | REV. |
| DRAWN | VERSCHOOR | 16-07-84 |
| JOHANNUS ORGELBOUW | | 8-2 |

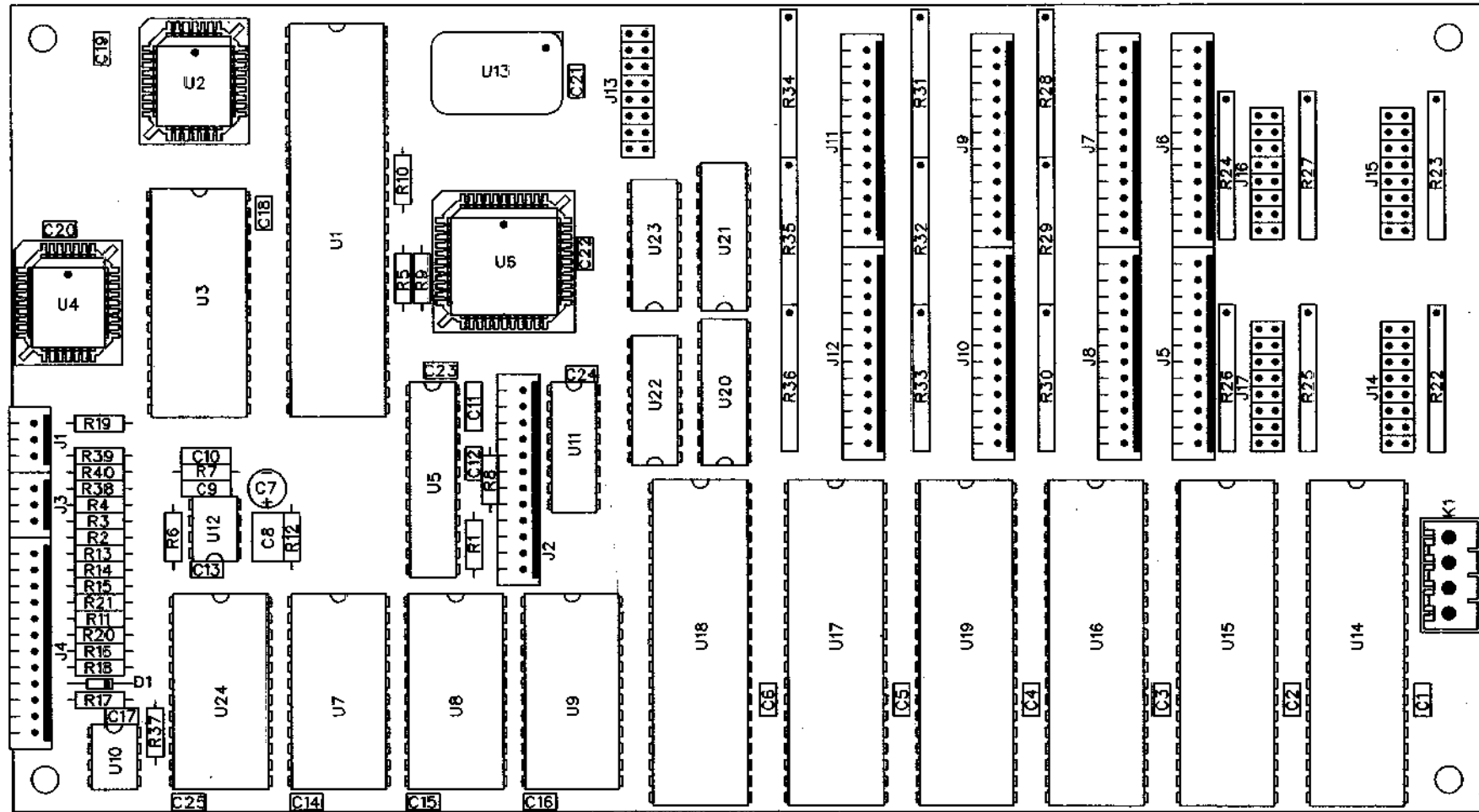


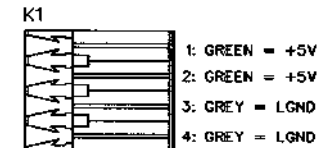
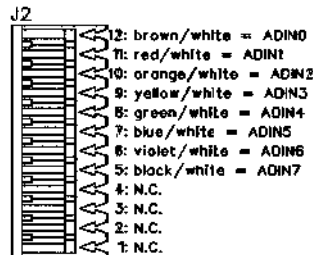
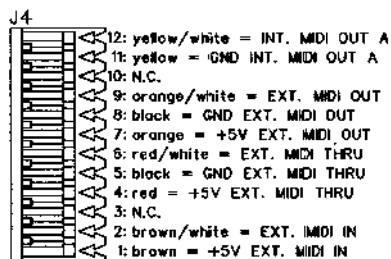
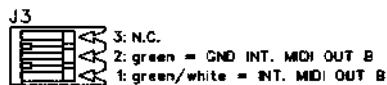
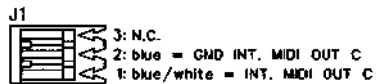
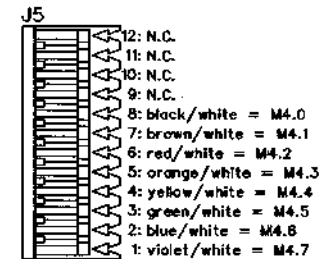
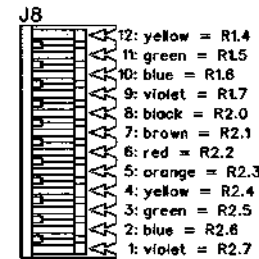
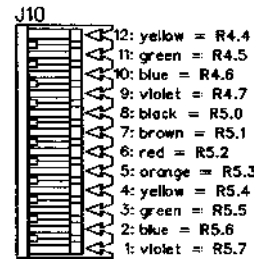
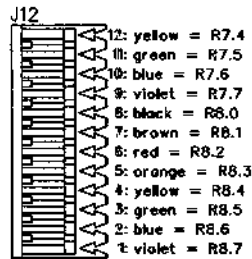
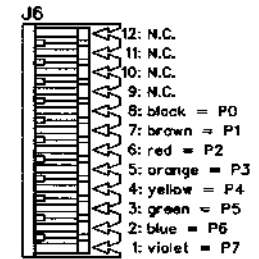
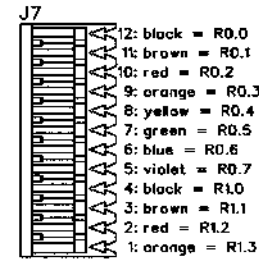
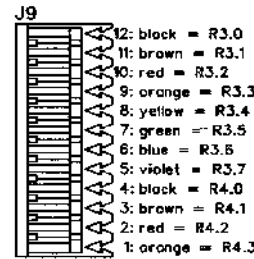
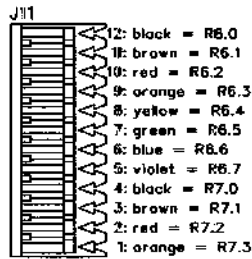
- L 0 = CS EPROM (U 2)
- L 1 = CS FLASH BACKUP (U 4)
- L 2 = FC1
- L 3 = CS CONTR. INT. MIDI A (U B)
- L 4 = BUSY
- L 5 = CS PIO STOPS (U17)
- L 6 = FC2
- L 7 = MIDI THRU
- L 8 = CS PIO STOPS (U19)
- L 9 = CS CONTR. EXT. MIDI (U 7)
- L10 = VPA
- L11 = 0.5MHz CLOCK
- L13 = DS
- L14 = CS PIO DISPL+ADC (U18)
- L15 = CS AD CONVERTER (U 5)
- L16 = CS CONTR. INT. MIDI C (U24)
- L17 = WRITE
- L18 = READ
- L19 = VMA
- L20 = CS CONTR. INT. MIDI B (U 9)
- L22 = WRITE FLASH
- L23 = DTACK
- L26 = CS PIO KEYING (U15)
- L27 = CS RAM (U 3)
- L28 = R/M
- L29 = CS PIO KEYING (U14)
- L30 = AS
- L31 = CS PIO STOPS (U16)
- L32 = RESET
- L33 = RESET (NOT)
- L34 = ENABLE
- L35 = RXD
- L36 = IPL1
- L37 = 10MHz CLOCK
- L38 = FCO

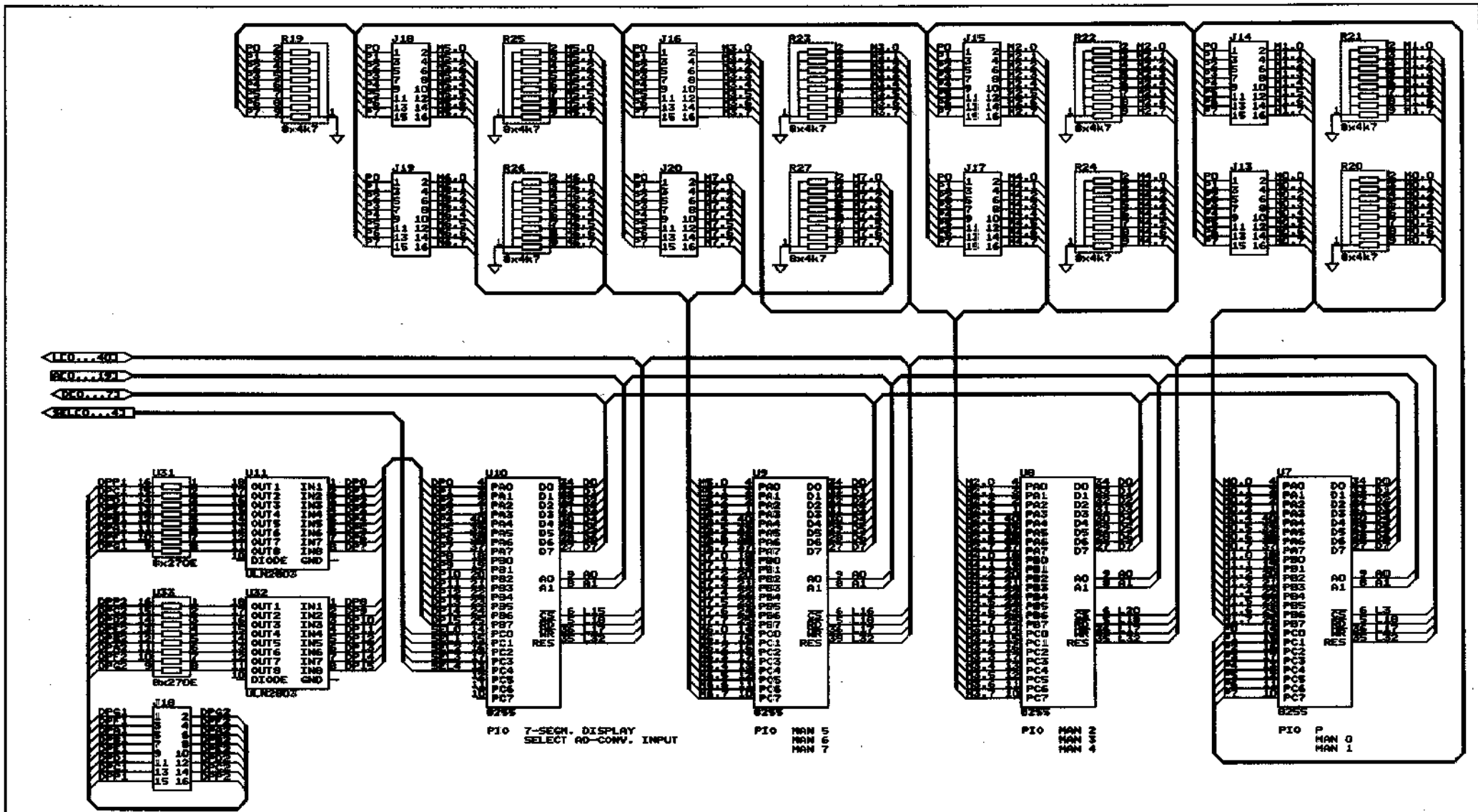
PCB-NR JHO 9100

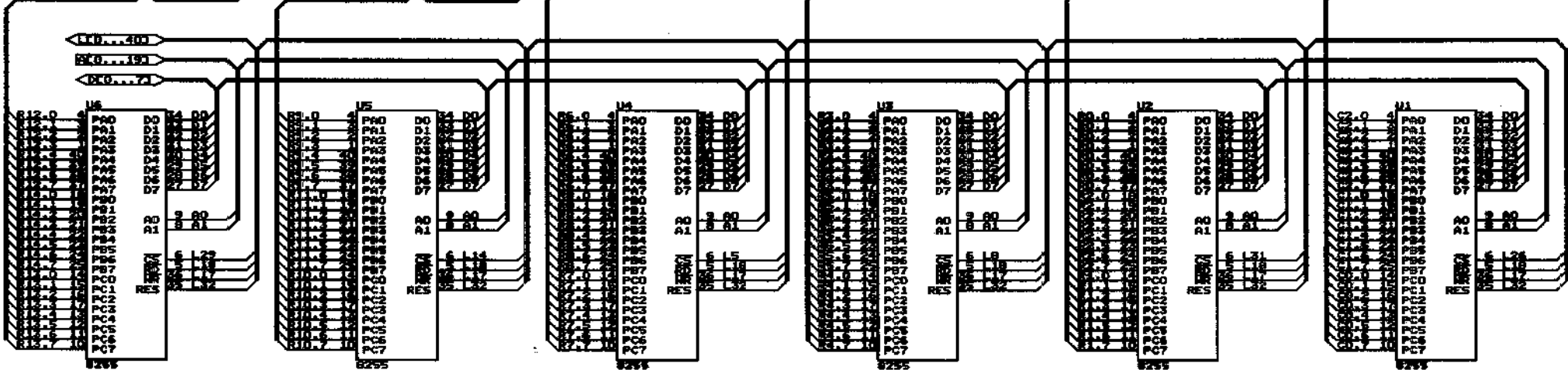
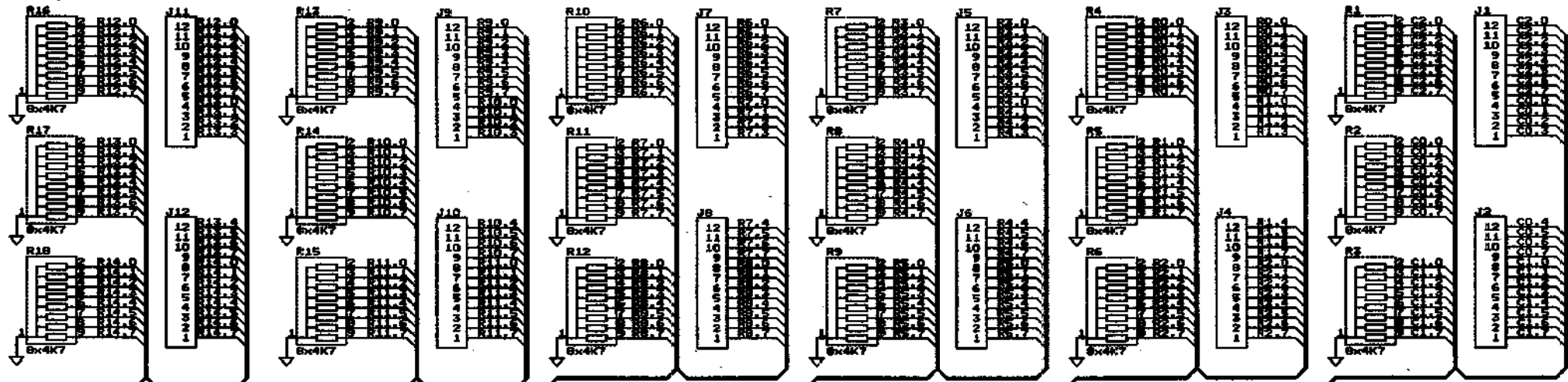


PCB-NR JHO 9100









P10
REC 16
REC 13
REC 14

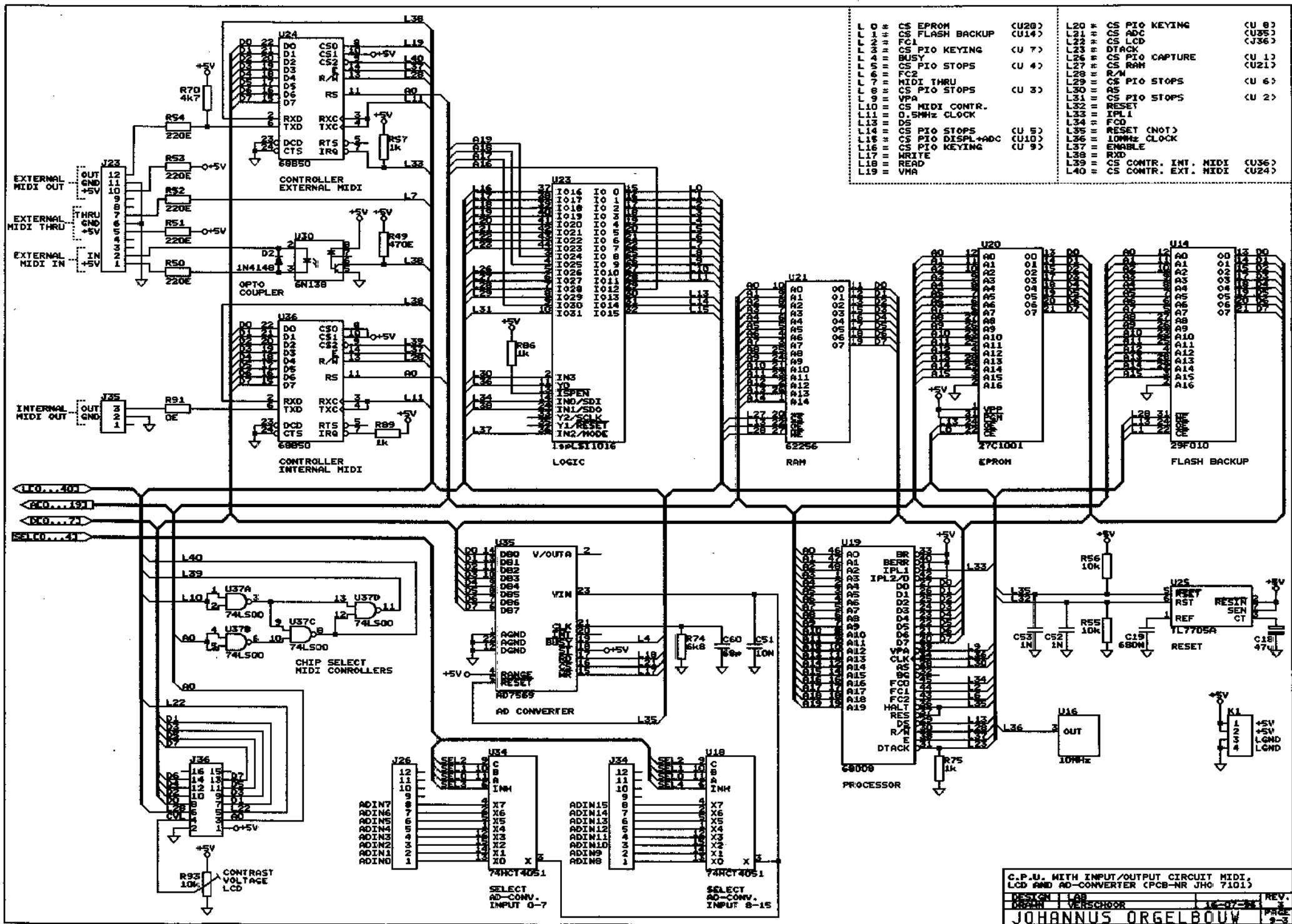
P10
REC 16
REC 11

P10
REC 16
REC 8-7

P10
REC 16
REC 4-4

P10
REC 16
REC 1-0

P10 CAPTURE



| | | | | | | |
|-----|------|------------------|------|-----|---------------------|-------|
| L1 | FFFF | CS EPROM | CU20 | L20 | CS PIO KEYING | CU 8 |
| L2 | FFFF | CS FLASH BACKUP | CU14 | L21 | CS ADC | CU36 |
| L3 | FFFF | CS FC1 | CU 7 | L22 | CS LCD | CU36 |
| L4 | FFFF | CS PIO KEYING | CU 7 | L23 | DTACK | CU 13 |
| L5 | FFFF | BUSY | CU 4 | L24 | CS PIO CAPTURE | CU21 |
| L6 | FFFF | CS PIO STOPS | CU 4 | L25 | CS RAM | CU 6 |
| L7 | FFFF | FC2 | CU 3 | L26 | R/W | CU 2 |
| L8 | FFFF | MIDI THRU | CU 3 | L27 | CS PIO STOPS | CU 2 |
| L9 | FFFF | CS PIO STOPS | CU 3 | L28 | CS PIO STOPS | CU 2 |
| L10 | FFFF | VPA | CU 3 | L29 | CS PIO STOPS | CU 2 |
| L11 | FFFF | CS MIDI CONTR. | CU 3 | L30 | CS PIO STOPS | CU 2 |
| L12 | FFFF | D.5MHz CLOCK | CU 3 | L31 | CS PIO STOPS | CU 2 |
| L13 | FFFF | DS | CU 3 | L32 | RESET | CU 2 |
| L14 | FFFF | CS PIO STOPS | CU 5 | L33 | IPL1 | CU 2 |
| L15 | FFFF | CS PIO DISPL-ADC | CU10 | L34 | FC0 | CU 2 |
| L16 | FFFF | CS PIO KEYING | CU 9 | L35 | RESET (NOT) | CU 2 |
| L17 | FFFF | WRITE | CU 9 | L36 | 10MHz CLOCK | CU 2 |
| L18 | FFFF | READ | CU 9 | L37 | ENABLE | CU 2 |
| L19 | FFFF | VMA | CU 9 | L38 | RXD | CU 2 |
| | | | | L39 | CS CONTR. INT. MIDI | CU36 |
| | | | | L40 | CS CONTR. EXT. MIDI | CU24 |

C.P.U. WITH INPUT/OUTPUT CIRCUIT MIDI, LCD AND AD-CONVERTER (PCB-NR JHO 7101)

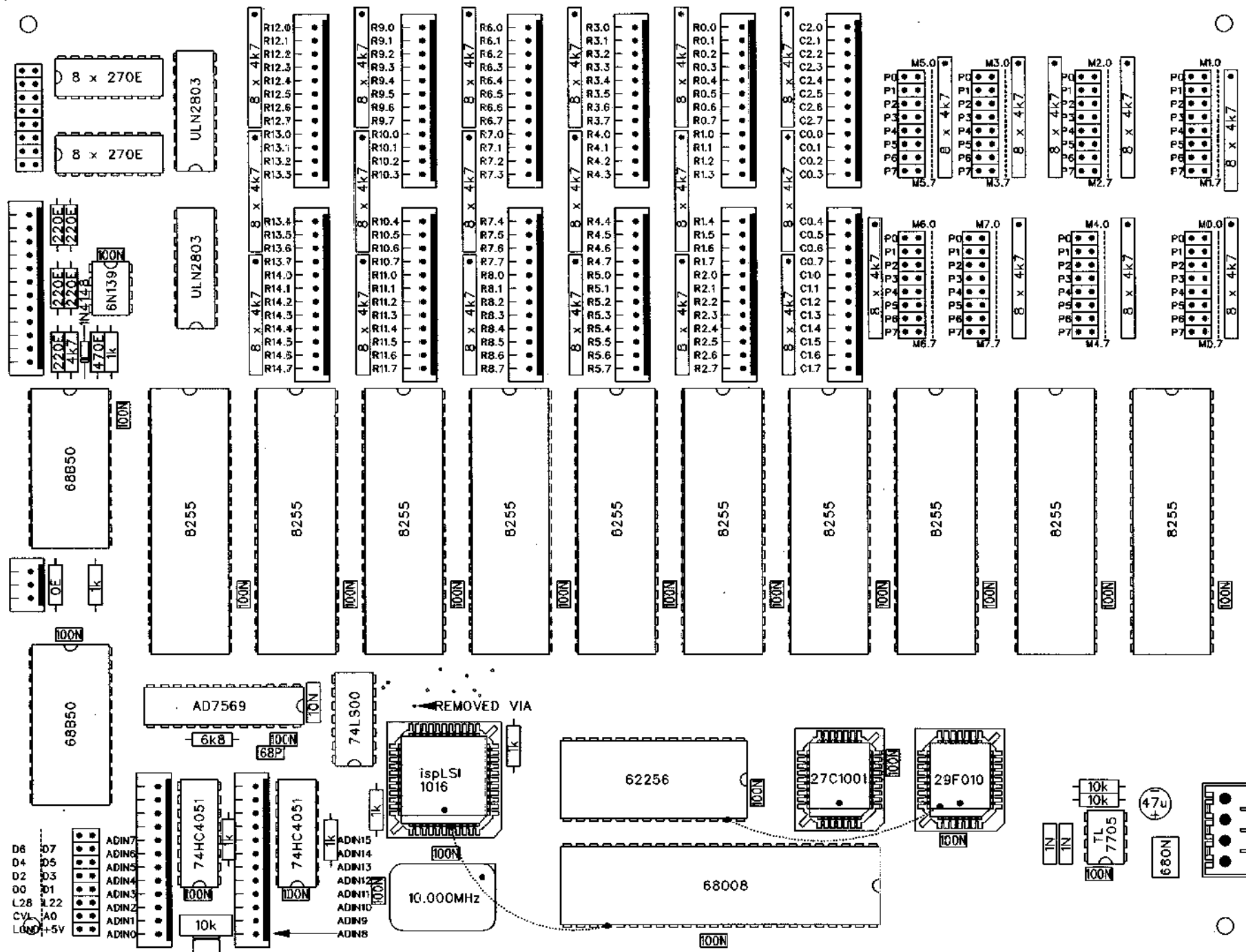
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|--------------------|-----------|----------|
| DESIGN | LAB | REV. |
| DRAWN | VERSCHOOR | 1E-07-84 |
| JOHANNUS ORGELBOUW | | PAGE 2-3 |

PCB-NR JHO 7101

DPC1 DPC2
 DPF1 DPF2
 DPA1 DPA2
 DPB1 DPB2
 DPE1 DPE2
 DPO1 DPO2
 DPC1 DPC2
 DPP1 DPP2

EXTERNAL MIDI OUT
 OUT GND +5V
 THRU GND +5V
 EXTERNAL MIDI IN
 IN +5V

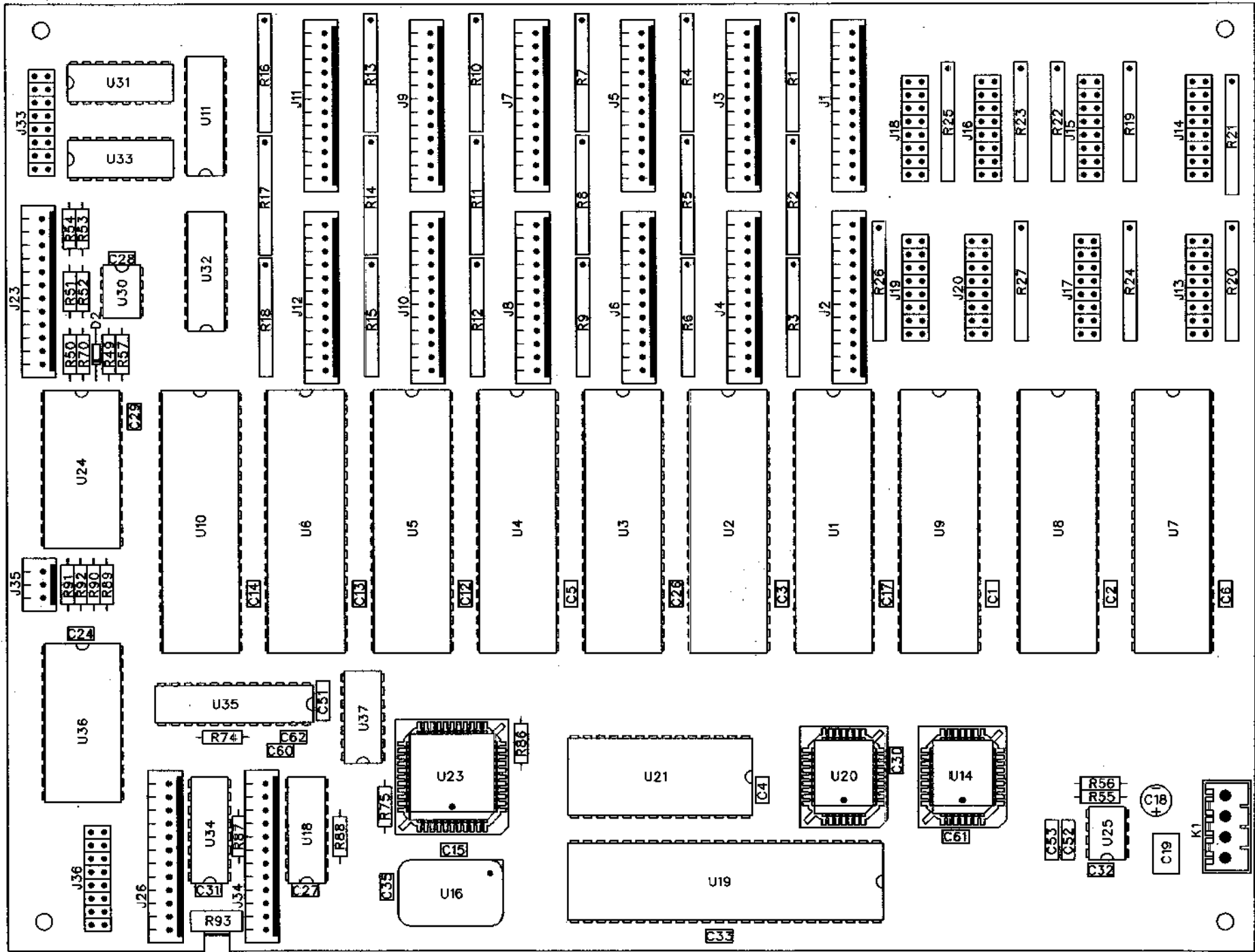
INTERNAL MIDI OUT
 OUT GND



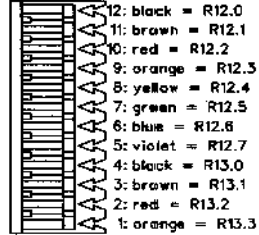
D8 D7
 D4 D5
 D2 D3
 D0 D1
 L28 L22
 CVL A0
 LGND +5V

ADIN7
 ADIN6
 ADIN5
 ADIN4
 ADIN3
 ADIN2
 ADIN1
 ADIN0
 ADIN15
 ADIN14
 ADIN13
 ADIN12
 ADIN11
 ADIN10
 ADIN9
 ADIN8

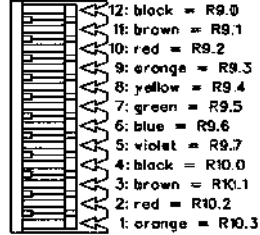
CONTRAST VOLTAGE LCD



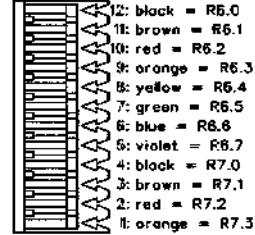
J11



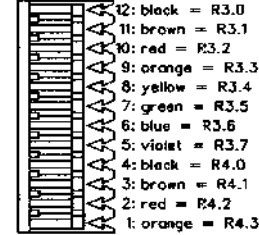
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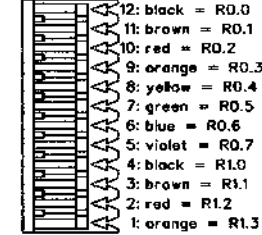
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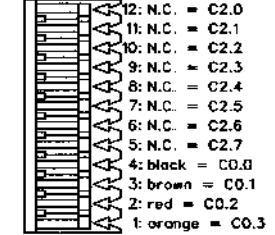
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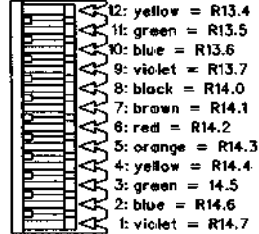
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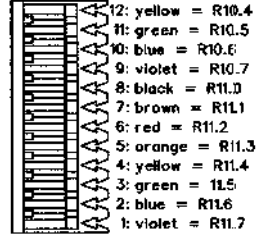
J1



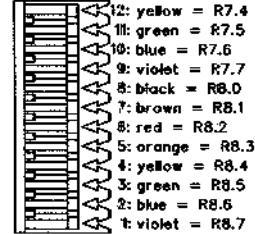
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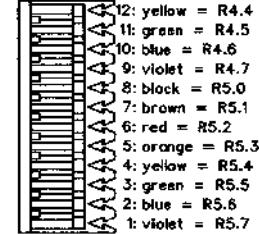
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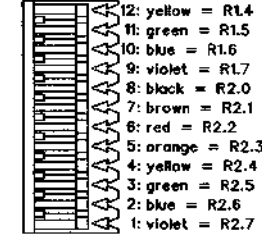
J8



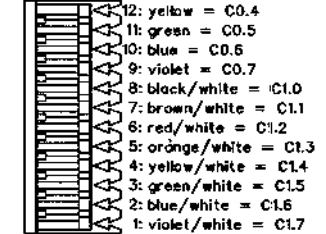
J6



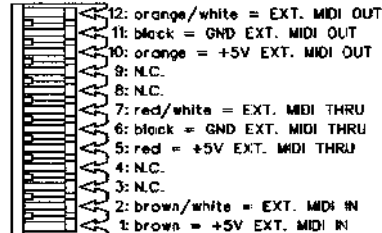
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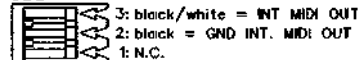
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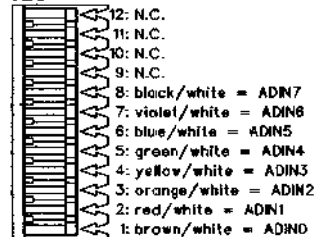
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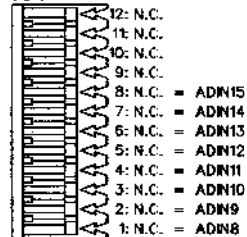
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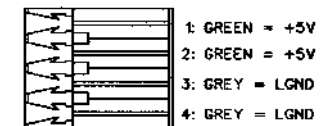
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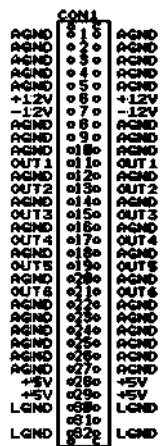
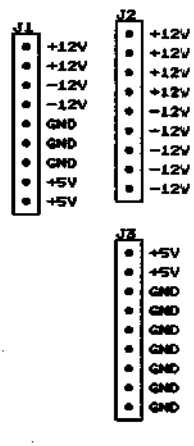


J34



K1

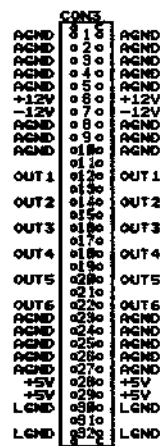




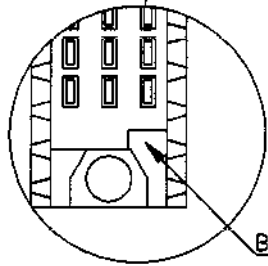
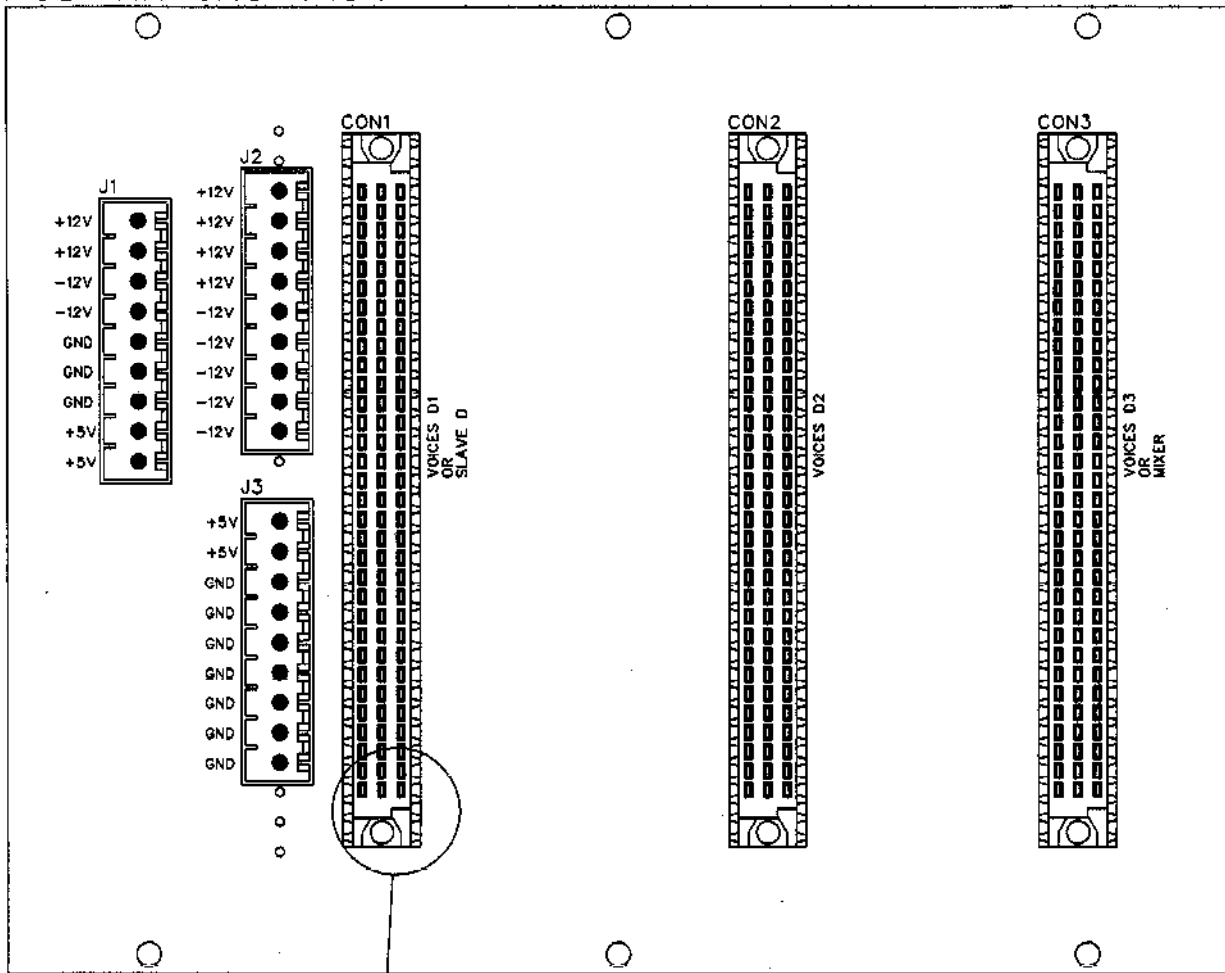
VOICES D1
OR
SLAVE 0



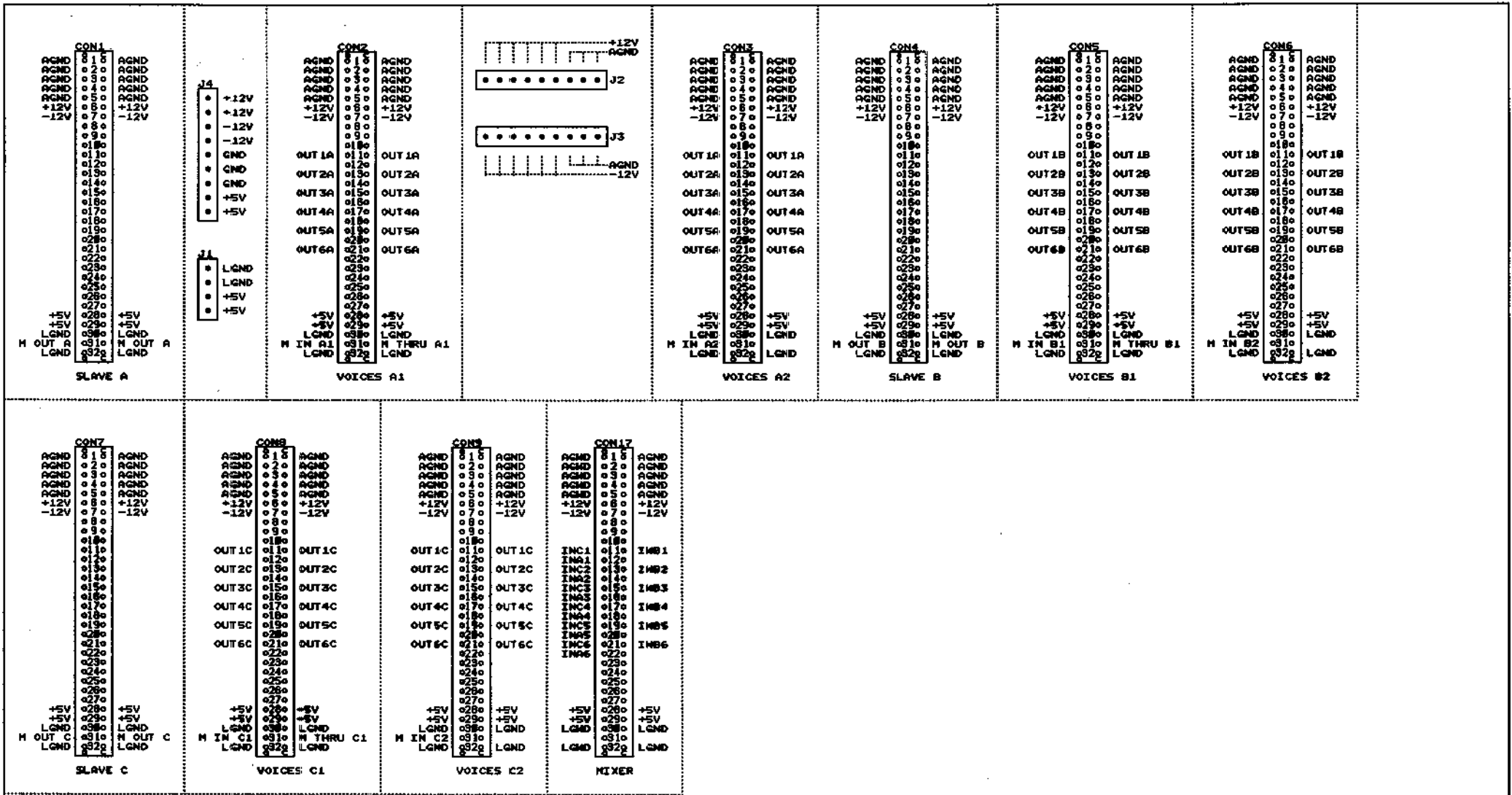
VOICES D2



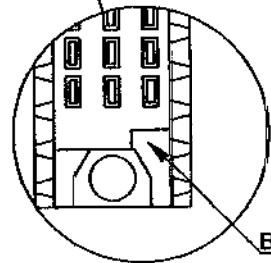
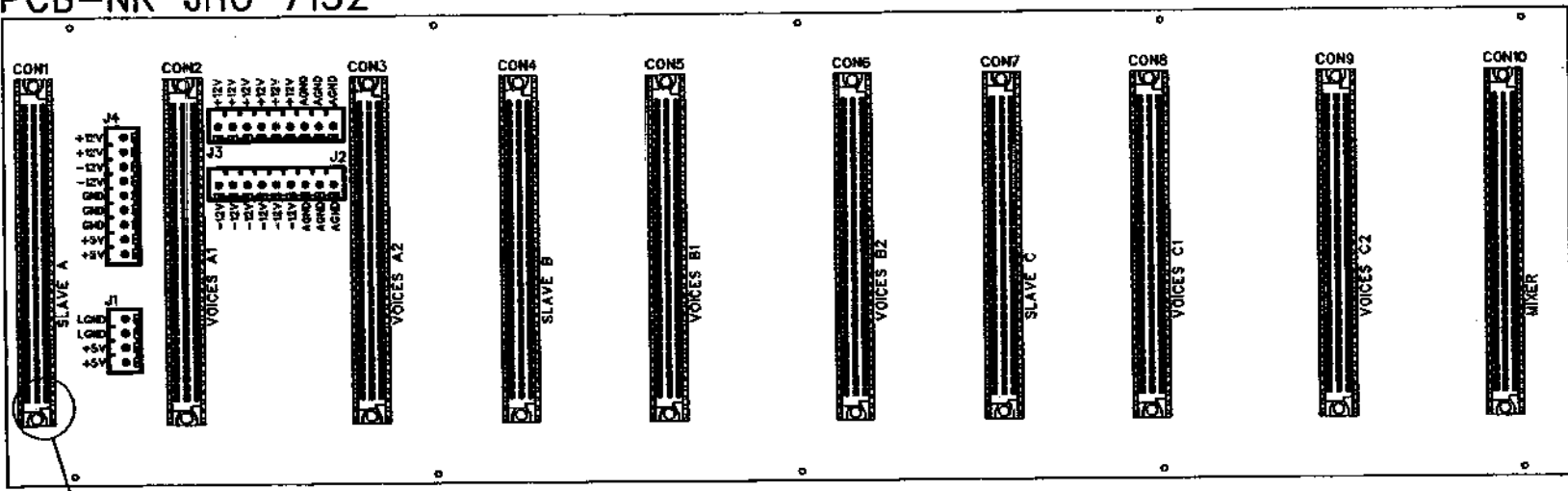
VOICES D3
OR
MIXER



BE CARE OF SLOT



PCB-NR JHO 7132

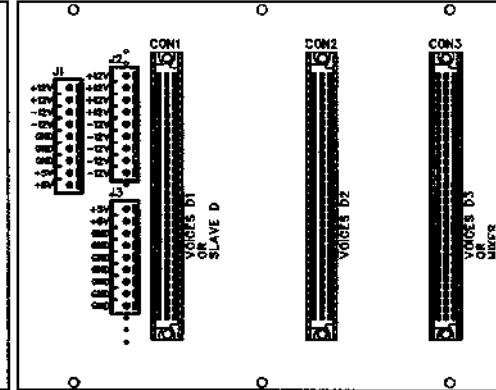
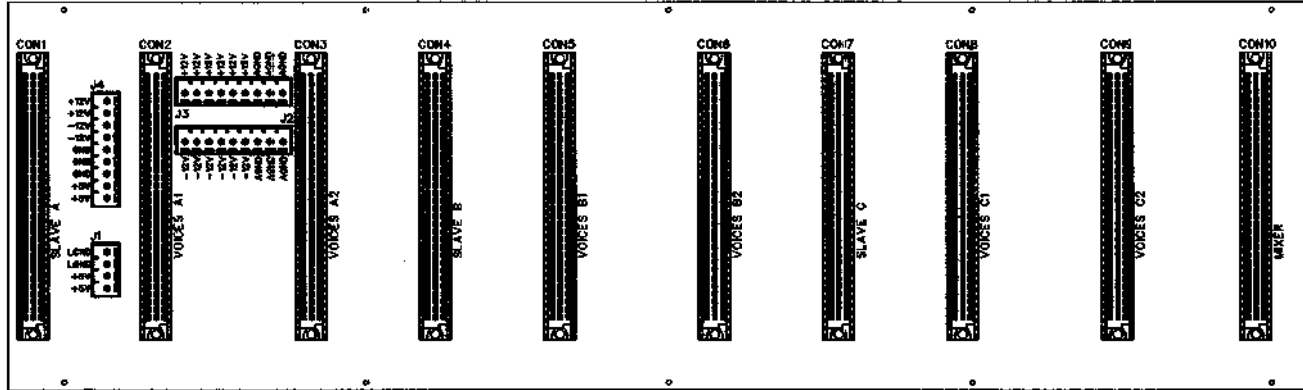


BE CARE OF SLOT

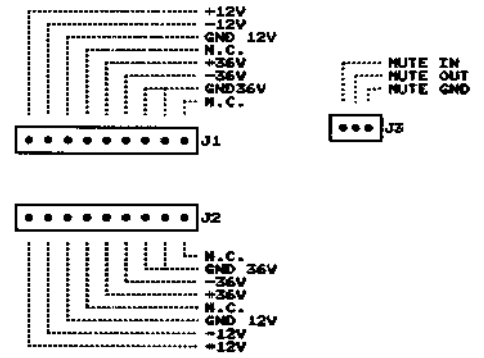
| | | | |
|-----------------------------------|-----------|----------|------|
| LAY-OUT LARGE BUSCARD (SCALE 50X) | | | |
| DESIGN | LAR | | REV. |
| DRAWN | VERSCHOOR | 28-88-85 | PAGE |
| JOHANNUS ORGELBOUW | | | 10-4 |

PCB-NR JHO 7132

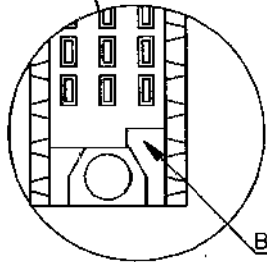
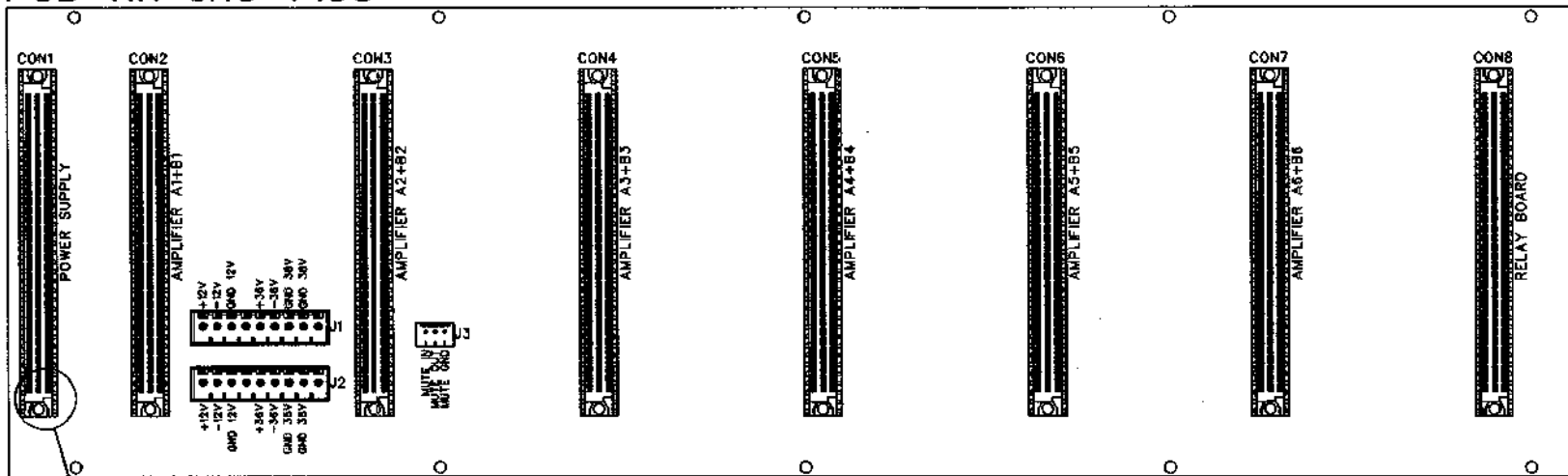
PCB-NR JHO 7134



| | | | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| CON1 8 1 8 0 2 0 0 3 0 0 4 0 0 5 0 0 6 0 0 7 0 0 8 0 0 9 0 0 10 0 11 0 12 +36V 0 13 +36V 0 14 GND 36V 0 15 GND 36V 0 16 GND 36V 0 17 GND 36V 0 18 GND 36V 0 19 -36V 0 20 -36V 0 21 MUTE 0 22 0 23 0 24 0 25 0 26 0 27 0 28 0 29 GND 12V 0 30 GND 12V 0 31 +12V 0 32 -12V 0 32p | | CON2 OUT B1 0 1 OUT A1 0 2 0 3 0 4 0 5 0 6 0 7 0 8 0 9 0 10 0 11 0 12 +36V 0 13 +36V 0 14 GND 36V 0 15 GND 36V 0 16 GND 36V 0 17 GND 36V 0 18 GND 36V 0 19 -36V 0 20 -36V 0 21 MUTE 0 22 0 23 0 24 0 25 0 26 0 27 0 28 0 29 IN A1 0 30 GND 12V 0 31 +12V 0 32 -12V 0 32p | | CON3 OUT B2 0 1 OUT A2 0 2 0 3 0 4 0 5 0 6 0 7 0 8 0 9 0 10 0 11 0 12 +36V 0 13 +36V 0 14 GND 36V 0 15 GND 36V 0 16 GND 36V 0 17 GND 36V 0 18 GND 36V 0 19 -36V 0 20 -36V 0 21 MUTE 0 22 IN B1 0 23 0 24 0 25 0 26 0 27 0 28 0 29 IN A2 0 30 GND 12V 0 31 +12V 0 32 -12V 0 32p | | CON4 OUT B3 0 1 OUT A3 0 2 0 3 0 4 0 5 0 6 0 7 0 8 0 9 0 10 0 11 0 12 +36V 0 13 +36V 0 14 GND 36V 0 15 GND 36V 0 16 GND 36V 0 17 GND 36V 0 18 GND 36V 0 19 -36V 0 20 -36V 0 21 MUTE 0 22 IN B1 0 23 IN B2 0 24 0 25 0 26 0 27 0 28 0 29 IN A3 0 30 GND 12V 0 31 +12V 0 32 -12V 0 32p | | CON5 OUT B4 0 1 OUT A4 0 2 0 3 0 4 0 5 0 6 0 7 0 8 0 9 0 10 0 11 0 12 +36V 0 13 +36V 0 14 GND 36V 0 15 GND 36V 0 16 GND 36V 0 17 GND 36V 0 18 GND 36V 0 19 -36V 0 20 -36V 0 21 MUTE 0 22 IN B1 0 23 IN B2 0 24 IN B3 0 25 0 26 0 27 0 28 0 29 IN A4 0 30 GND 12V 0 31 +12V 0 32 -12V 0 32p | | CON6 OUT B5 0 1 OUT A5 0 2 0 3 0 4 0 5 0 6 0 7 0 8 0 9 0 10 0 11 0 12 +36V 0 13 +36V 0 14 GND 36V 0 15 GND 36V 0 16 GND 36V 0 17 GND 36V 0 18 GND 36V 0 19 -36V 0 20 -36V 0 21 MUTE 0 22 IN B1 0 23 IN B2 0 24 IN B3 0 25 IN B4 0 26 0 27 0 28 0 29 IN A5 0 30 GND 12V 0 31 +12V 0 32 -12V 0 32p | | CON7 OUT B6 0 1 OUT A6 0 2 0 3 0 4 0 5 0 6 0 7 0 8 0 9 0 10 0 11 0 12 +36V 0 13 +36V 0 14 GND 36V 0 15 GND 36V 0 16 GND 36V 0 17 GND 36V 0 18 GND 36V 0 19 -36V 0 20 -36V 0 21 MUTE 0 22 IN B1 0 23 IN B2 0 24 IN B3 0 25 IN B4 0 26 IN B5 0 27 0 28 0 29 IN A6 0 30 GND 12V 0 31 +12V 0 32 -12V 0 32p | | CON8 OUT B6 0 1 OUT A6 0 2 0 3 0 4 0 5 0 6 0 7 0 8 0 9 0 10 0 11 0 12 +36V 0 13 +36V 0 14 GND 36V 0 15 GND 36V 0 16 GND 36V 0 17 GND 36V 0 18 GND 36V 0 19 -36V 0 20 -36V 0 21 MUTE 0 22 IN B1 0 23 IN B2 0 24 IN B3 0 25 IN B4 0 26 IN B5 0 27 0 28 0 29 IN A6 0 30 GND 12V 0 31 +12V 0 32 -12V 0 32p | |
| POWER SUPPLY | | AMPLIFIER A1+B1 | | AMPLIFIER A2+B2 | | AMPLIFIER A3+B3 | | AMPLIFIER A4+B4 | | AMPLIFIER A5+B5 | | AMPLIFIER A6+B6 | | RELAY BOARD | |



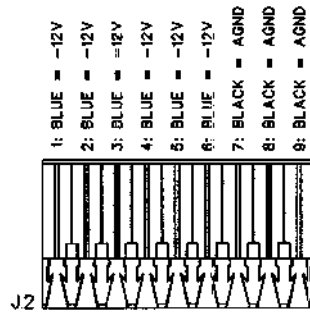
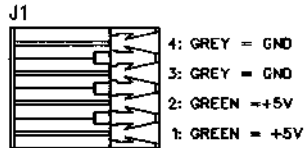
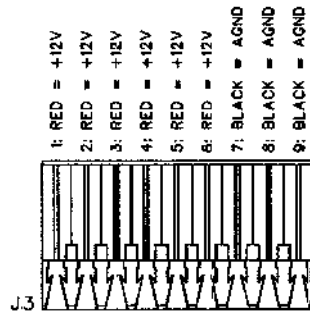
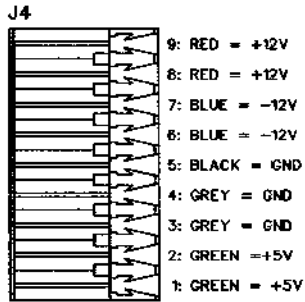
PCB-NR JHO 7135



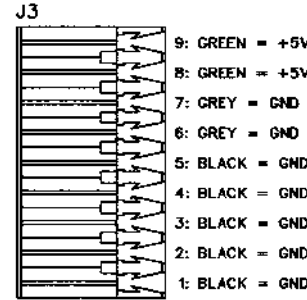
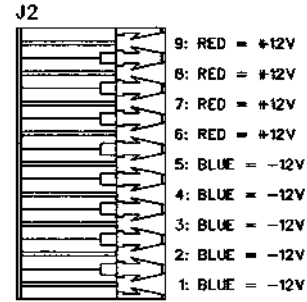
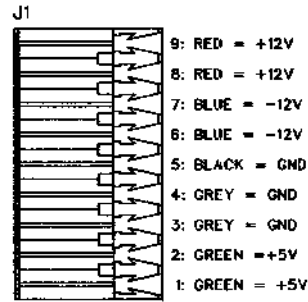
BE CARE OF SLOT

| | | | |
|--|-----------|----------|------|
| LAY OUT LARGE BUSCARD DUAL POWER AMPLIFIERS (SCALE 50X) | | | |
| DESIGN | LAB | | REV. |
| DRAWN | VERSCHOOR | 25-01-88 | PAGE |
| JOHANNUS ORGELBOUW | | | 10-7 |

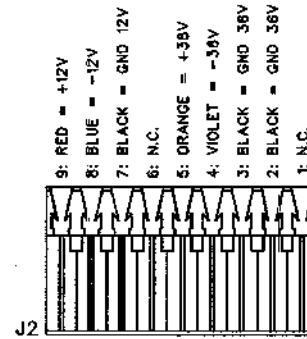
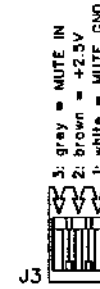
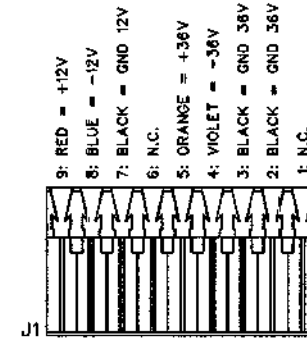
LARGE BUSCARD
PCB-NR JHO 7132

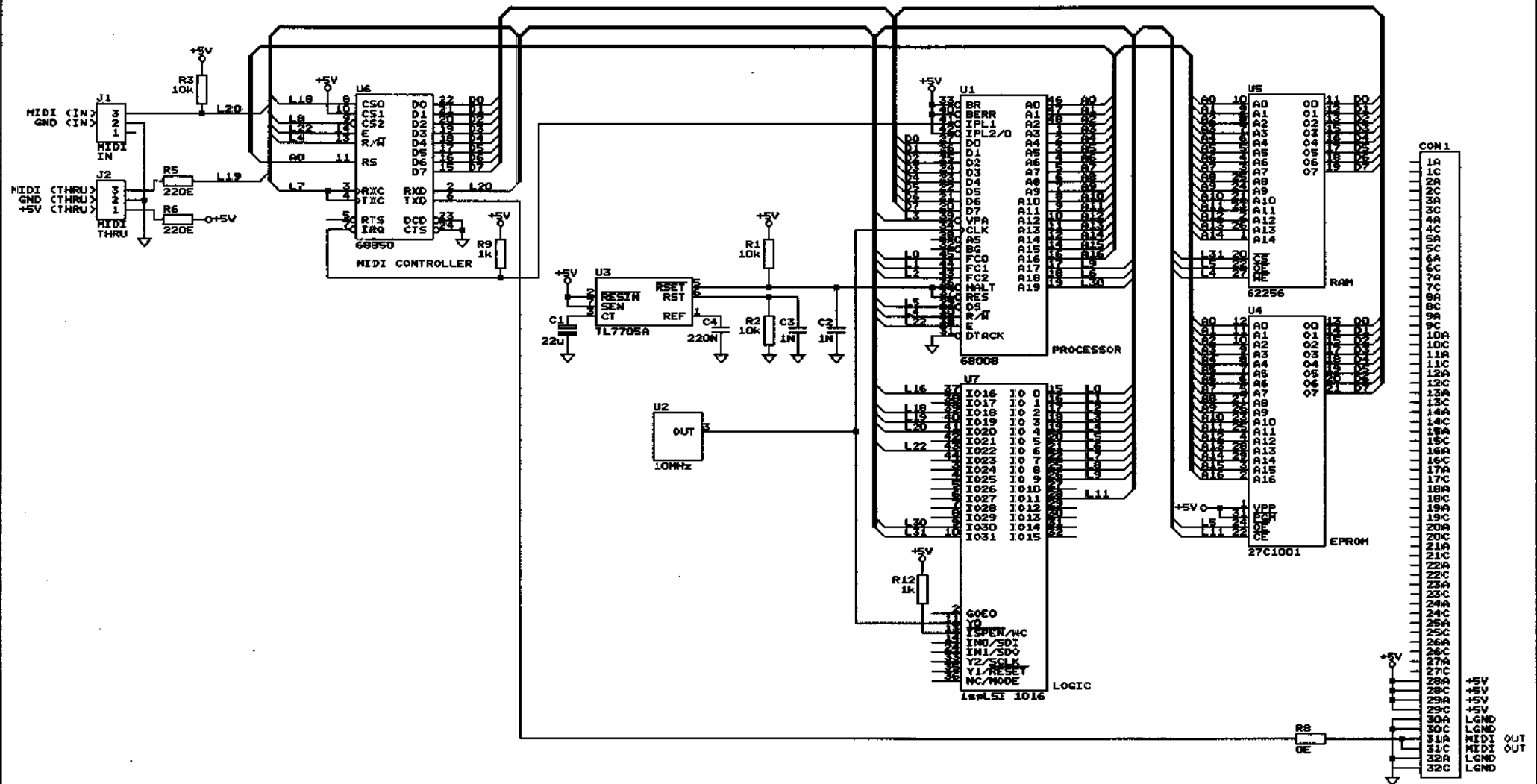


SMALL BUSCARD
PCB-NR JHO 7134

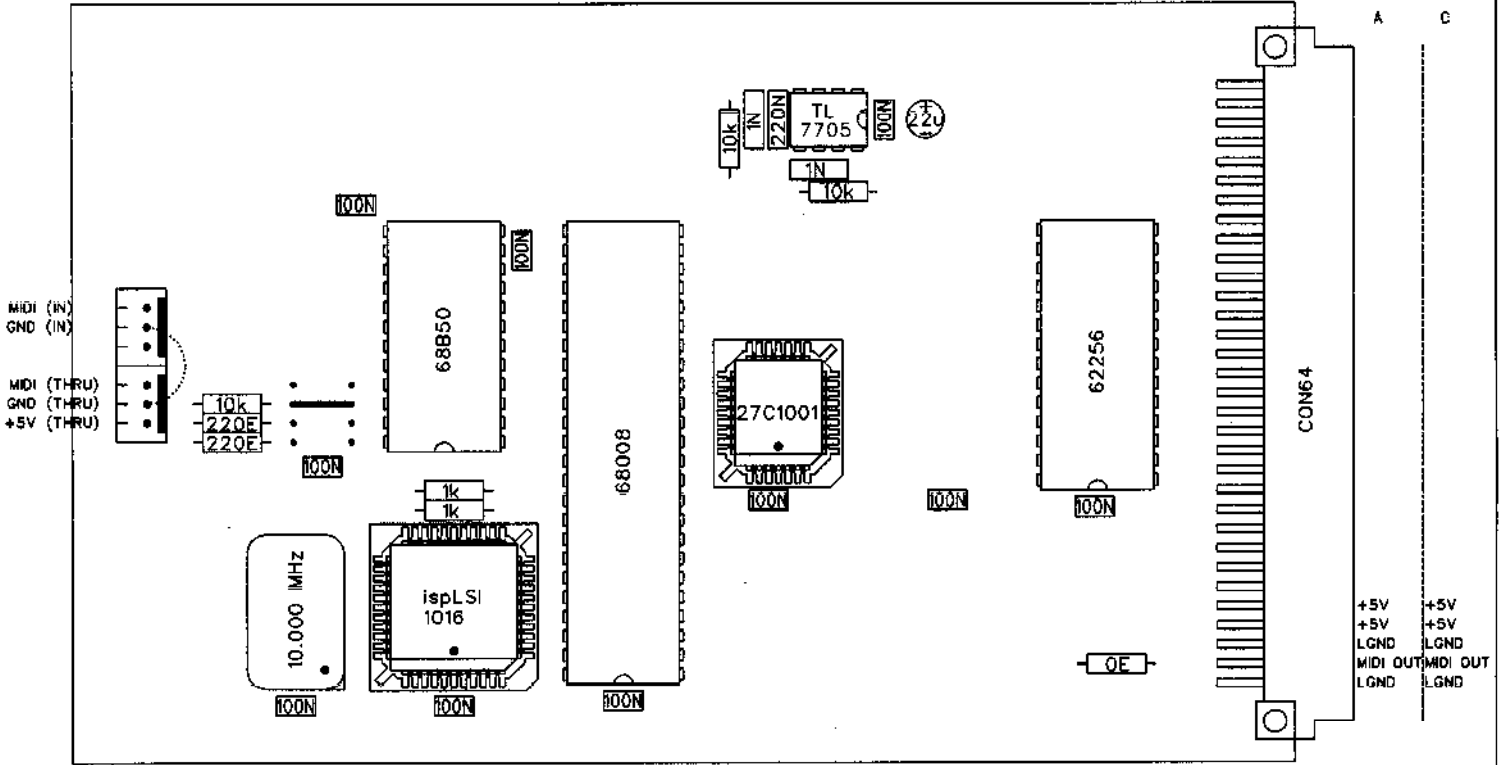


BUSCARD DUAL POWER AMPLIFIERS
PCB-NR JHO 7135

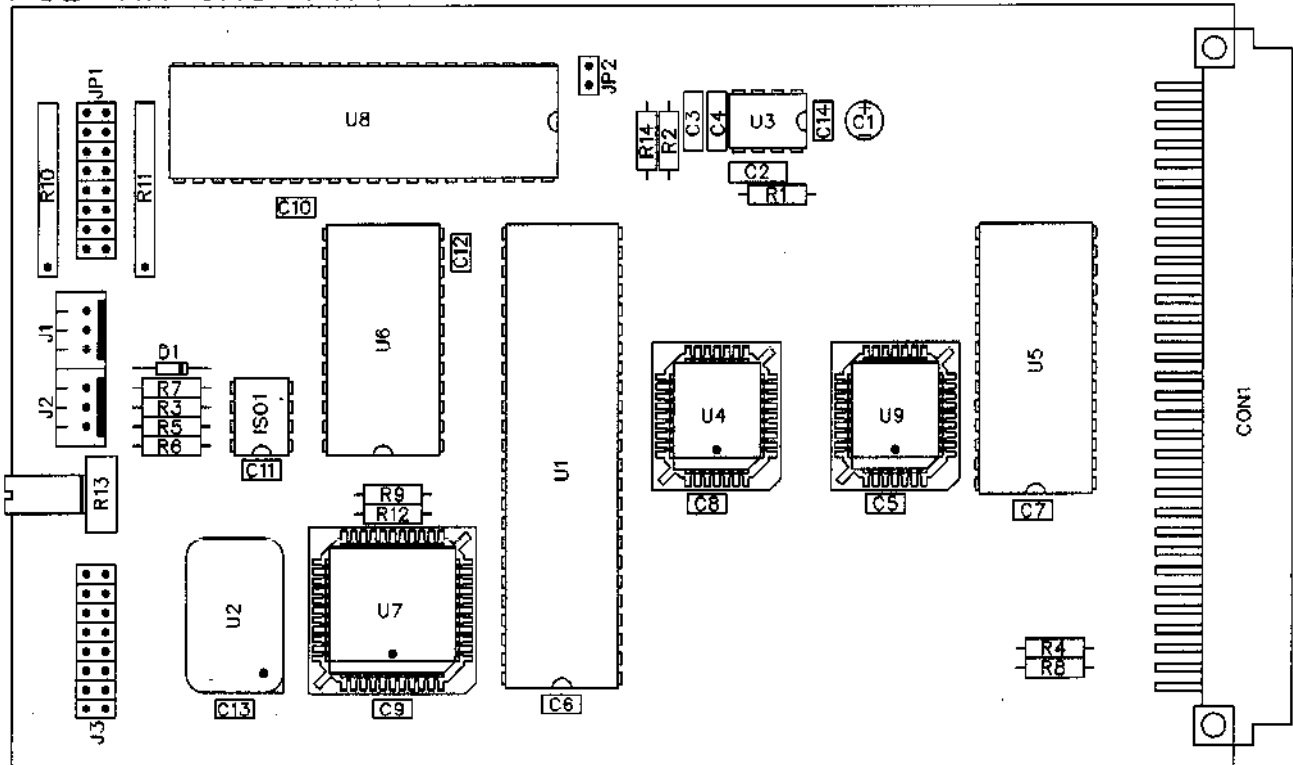


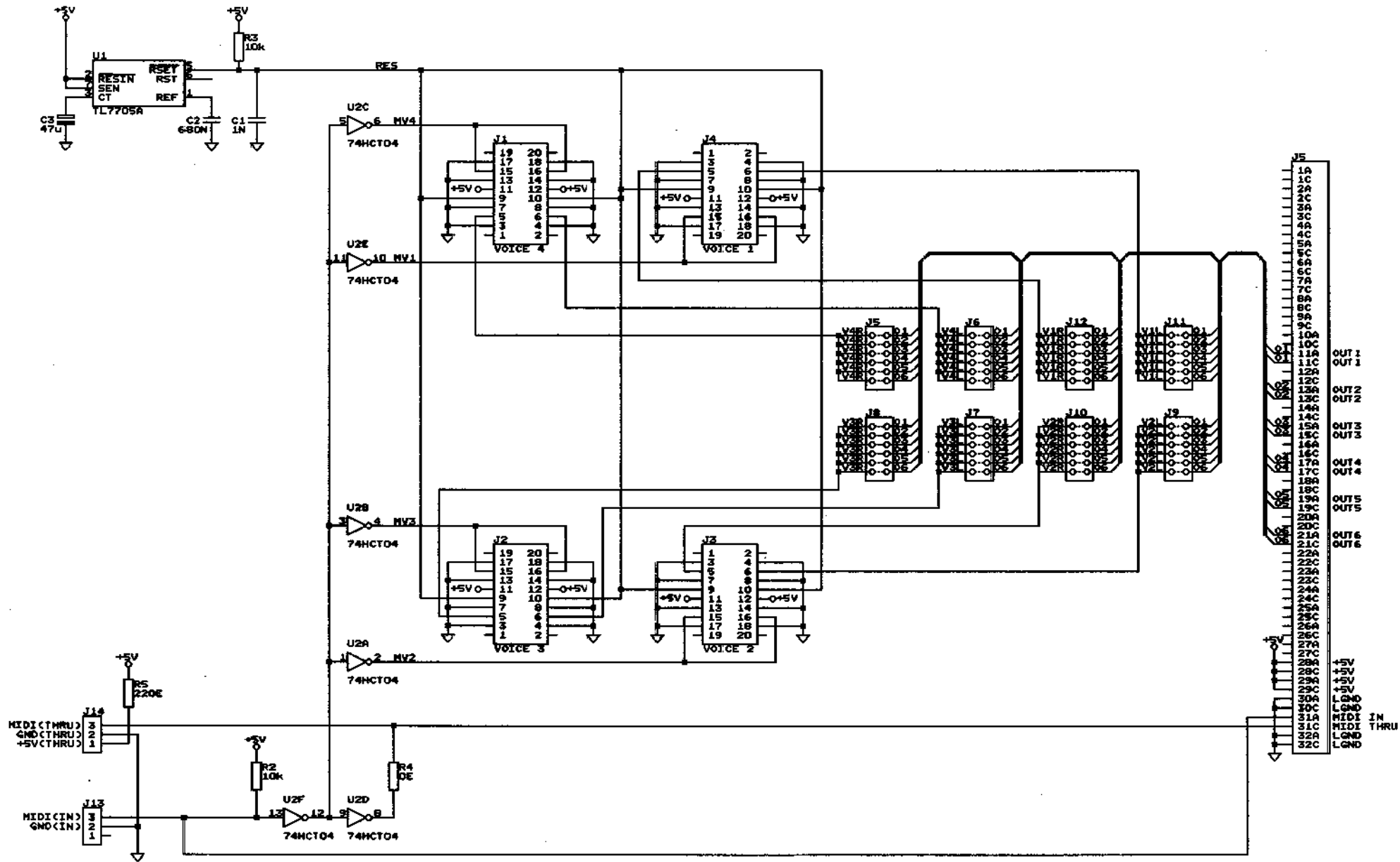


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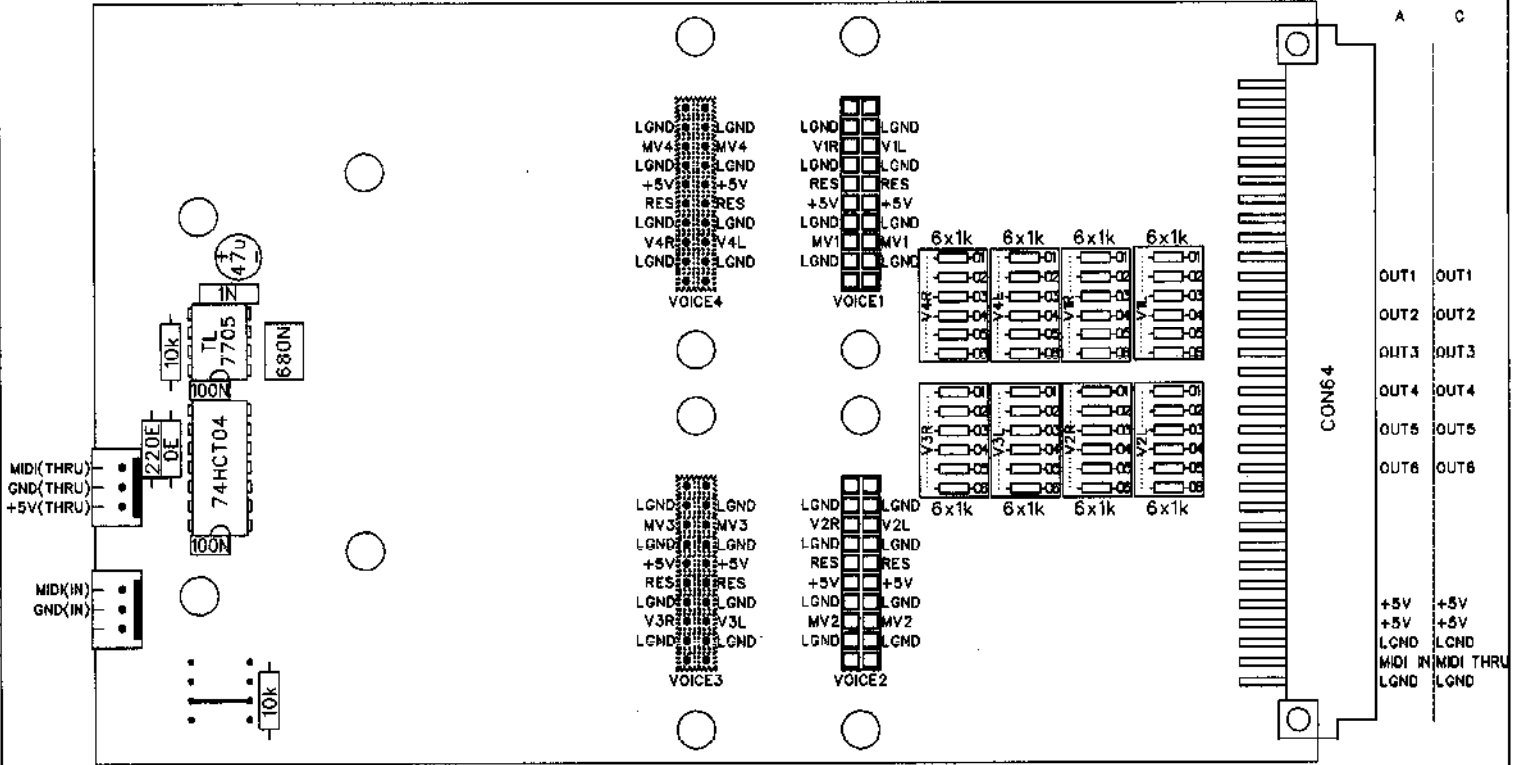


PCB-NR JHO 7171

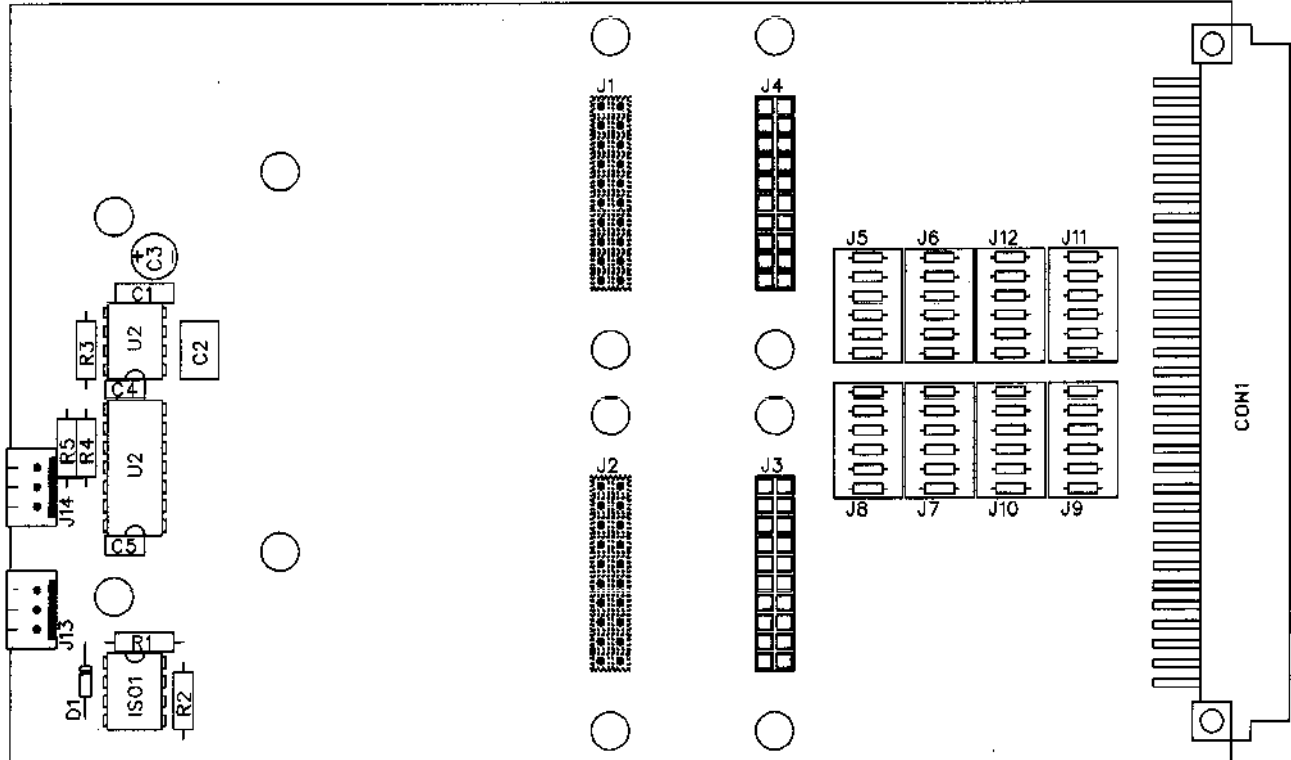


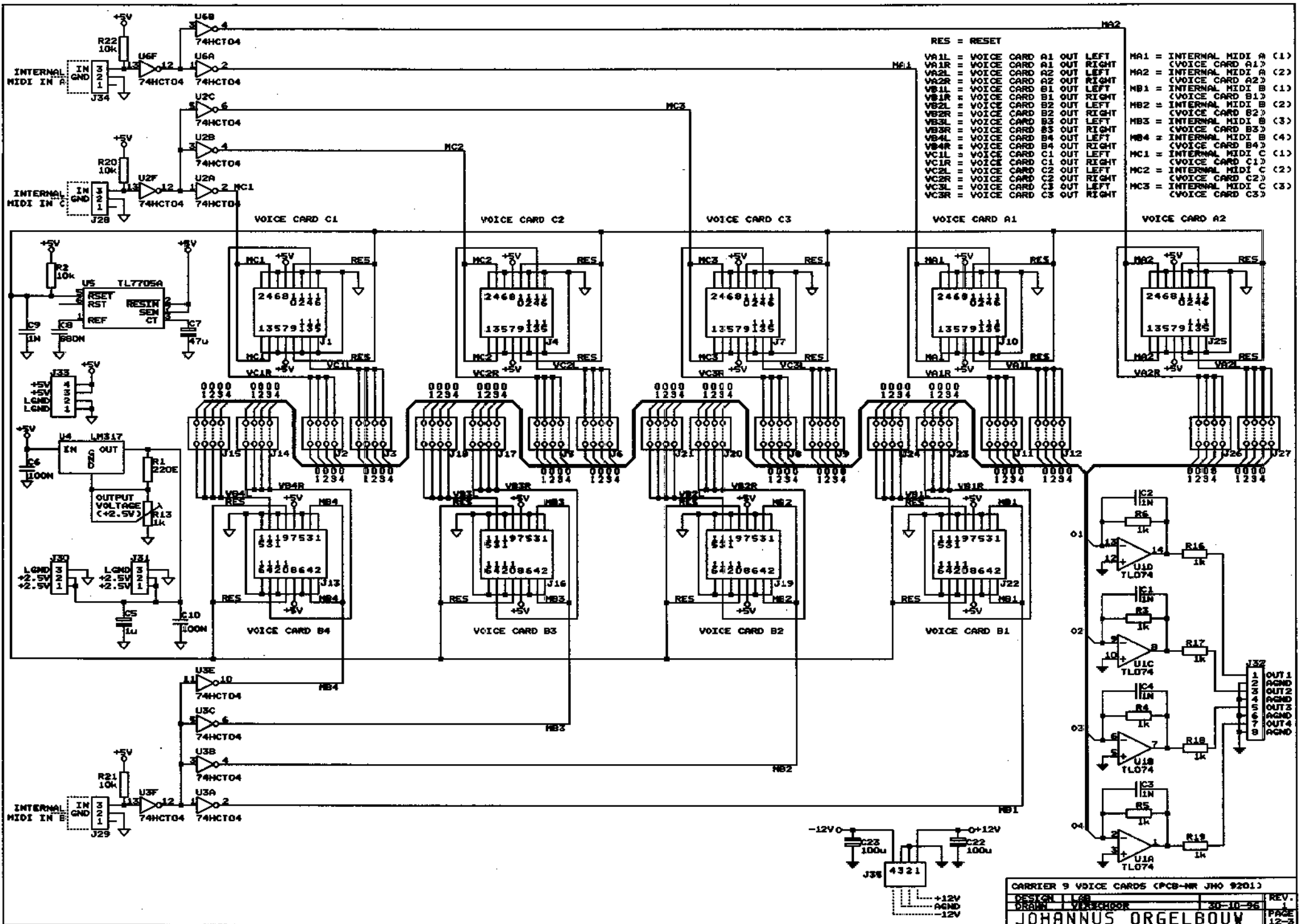


PCB-NR JHO 9511



PCB-NR JHO 9511





RES = RESET

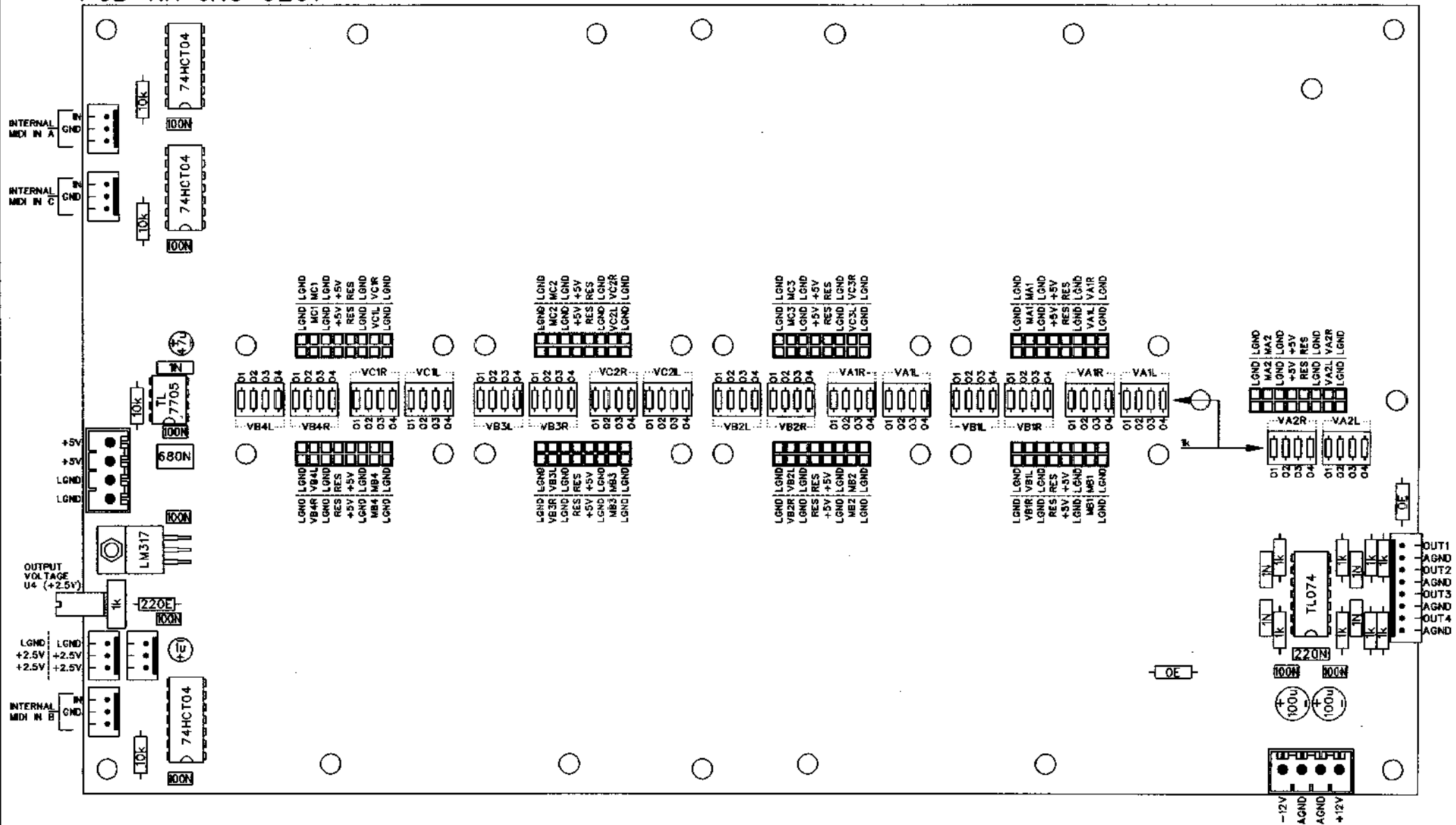
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 VA1R = VOICE CARD A1 OUT RIGHT
 VA2L = VOICE CARD A2 OUT LEFT
 VA2R = VOICE CARD A2 OUT RIGHT
 VB1L = VOICE CARD B1 OUT LEFT
 VB1R = VOICE CARD B1 OUT RIGHT
 VB2L = VOICE CARD B2 OUT LEFT
 VB2R = VOICE CARD B2 OUT RIGHT
 VB3L = VOICE CARD B3 OUT LEFT
 VB3R = VOICE CARD B3 OUT RIGHT
 VB4L = VOICE CARD B4 OUT LEFT
 VB4R = VOICE CARD B4 OUT RIGHT
 VC1L = VOICE CARD C1 OUT LEFT
 VC1R = VOICE CARD C1 OUT RIGHT
 VC2L = VOICE CARD C2 OUT LEFT
 VC2R = VOICE CARD C2 OUT RIGHT
 VC3L = VOICE CARD C3 OUT LEFT
 VC3R = VOICE CARD C3 OUT RIGHT

MA1 = INTERNAL MIDI A (1)
 MA1R = INTERNAL MIDI A (1)
 MA2 = INTERNAL MIDI A (2)
 MA2R = INTERNAL MIDI A (2)
 MB1 = INTERNAL MIDI B (1)
 MB1R = INTERNAL MIDI B (1)
 MB2 = INTERNAL MIDI B (2)
 MB2R = INTERNAL MIDI B (2)
 MB3 = INTERNAL MIDI B (3)
 MB3R = INTERNAL MIDI B (3)
 MB4 = INTERNAL MIDI B (4)
 MB4R = INTERNAL MIDI B (4)
 MC1 = INTERNAL MIDI C (1)
 MC1R = INTERNAL MIDI C (1)
 MC2 = INTERNAL MIDI C (2)
 MC2R = INTERNAL MIDI C (2)
 MC3 = INTERNAL MIDI C (3)
 MC3R = INTERNAL MIDI C (3)

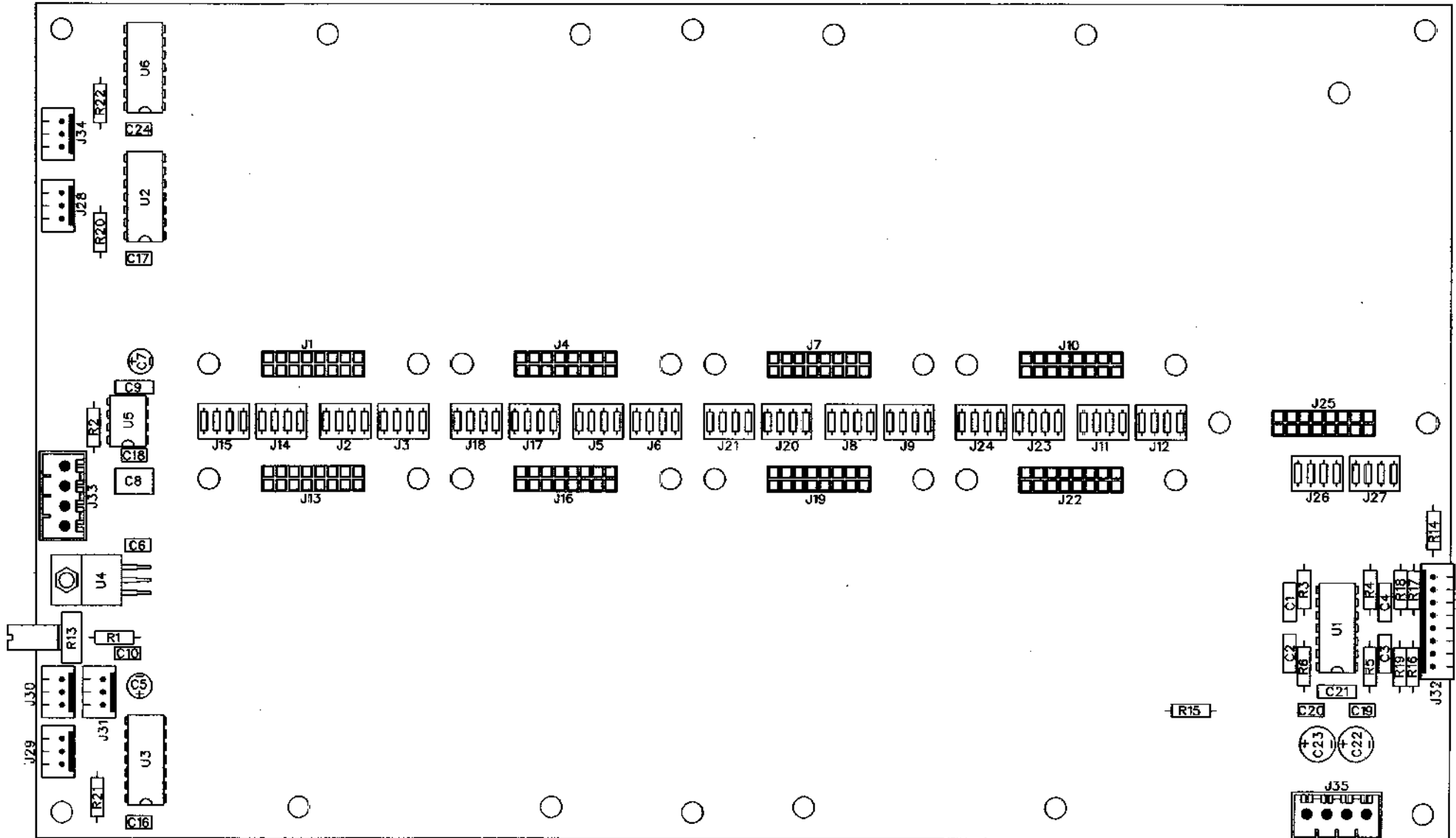
CARRIER 9 VOICE CARDS (PCB-NR JMO 9201)

| | | |
|--------------------|----------|------|
| DESIGN | DATE | REV. |
| DRAWN | 30-10-96 | PAGE |
| JOHANNUS ORGELBOUW | | 12-3 |

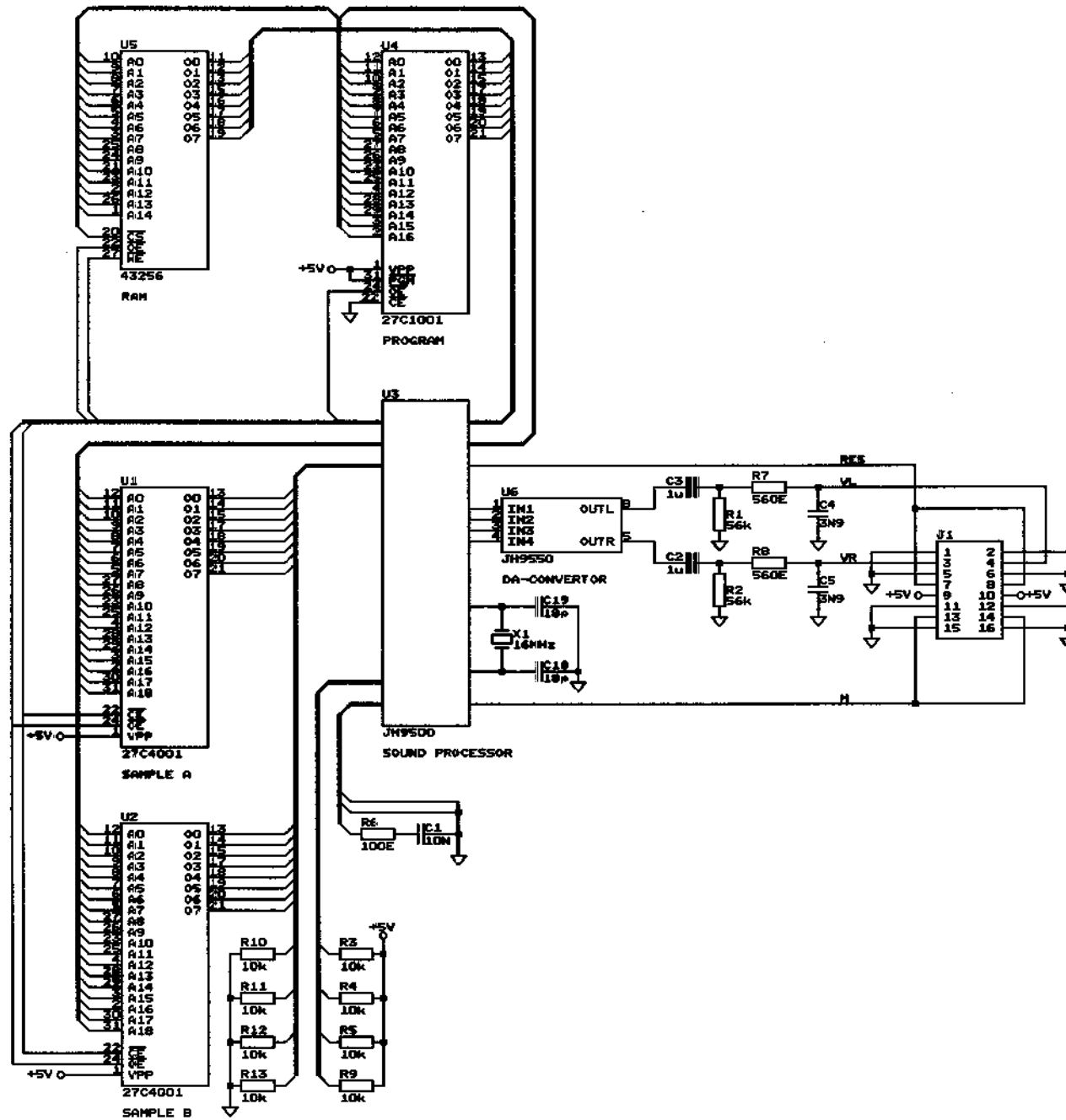
PCB-NR JHO 9201



PCB-NR JHO 9201

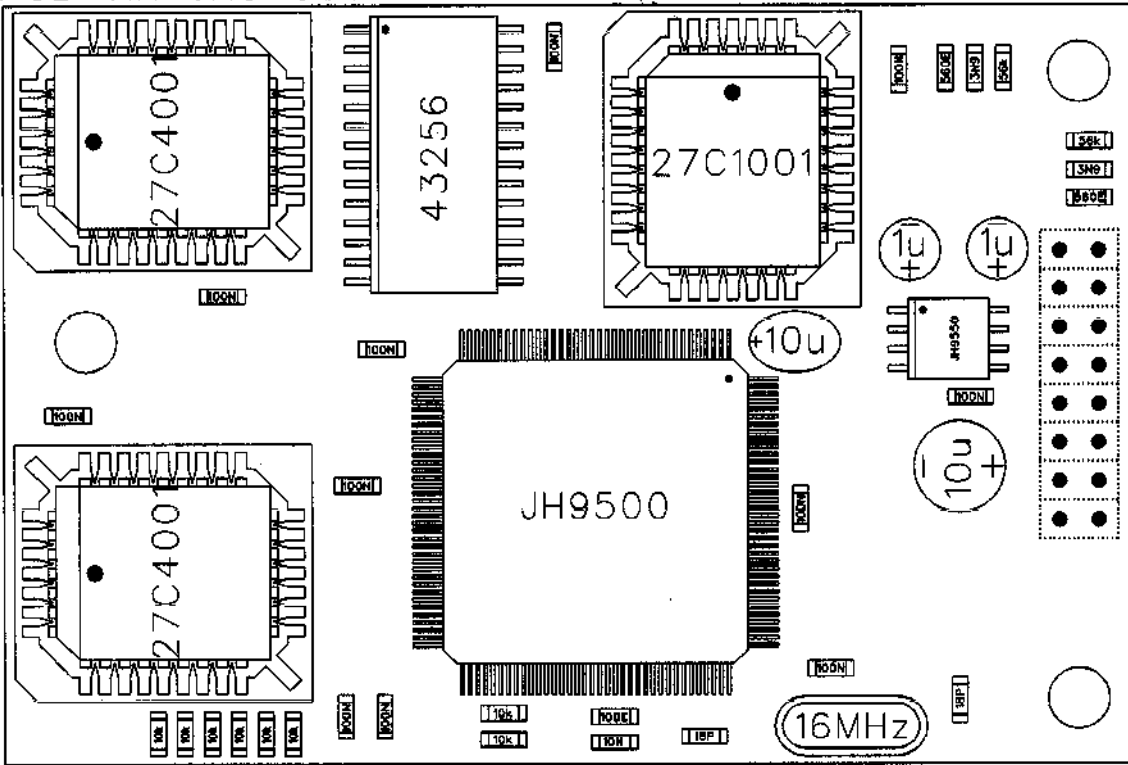


| COMPONENT NUMBERING CARRIER & VOICECARDS | | | |
|--|-----------|----------|-----------|
| (SCALE 90%) | | | |
| DESIGN | LAP | | REV. 7 |
| DRAWN | VERSCHOOR | 19-08-86 | PAGE 7 |
| JOHANNUS ORGELBOUW | | | PAGE 12-5 |



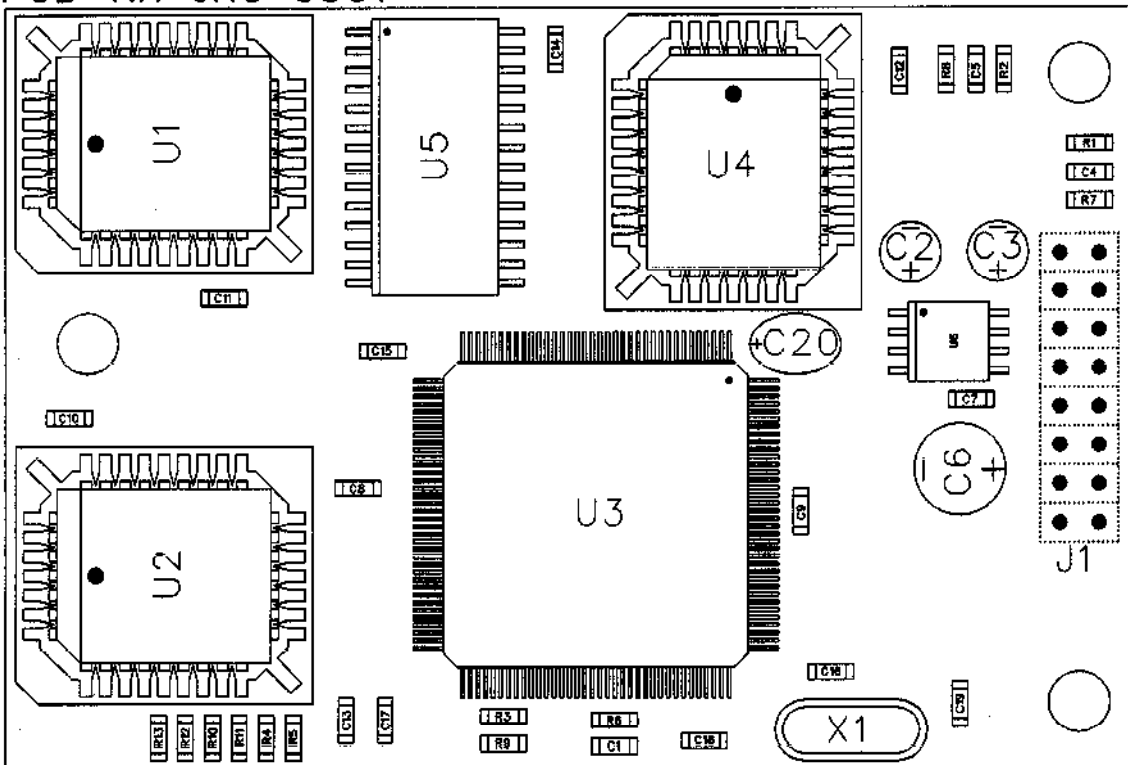
- PIN 1 == L&N&D
- PIN 2 == L&N&D
- PIN 3 == VOICE RIGHT OUT
- PIN 4 == VOICE LEFT OUT
- PIN 5 == L&N&D
- PIN 6 == L&N&D
- PIN 7 == RESET
- PIN 8 == RESET
- PIN 9 == +5V
- PIN 10 == +5V
- PIN 11 == L&N&D
- PIN 12 == L&N&D
- PIN 13 == H&I&D&I
- PIN 14 == H&I&D&I IN
- PIN 15 == L&N&D
- PIN 16 == L&N&D

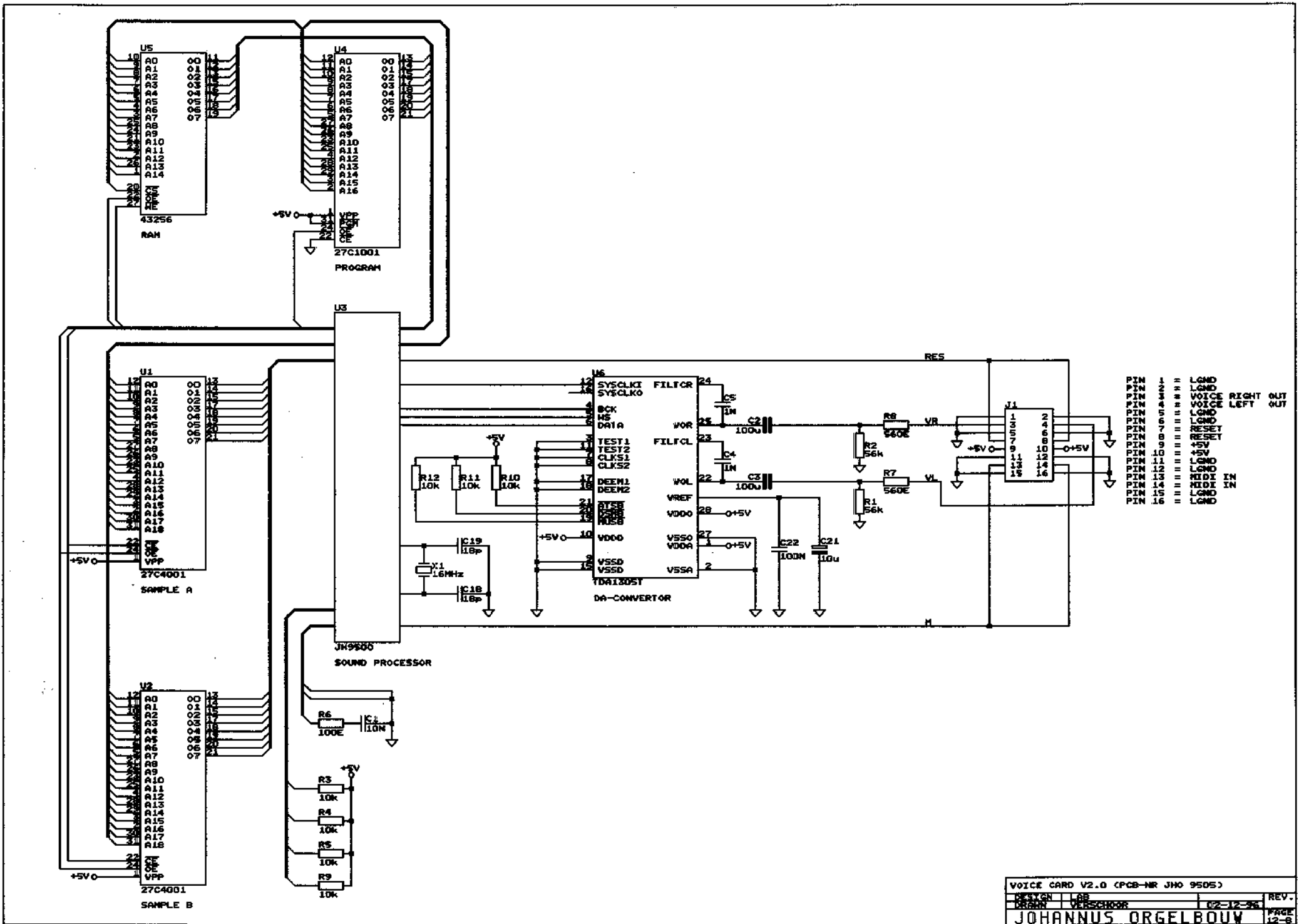
PCB-NR JHO 9501



| | |
|------|------|
| LGND | LGND |
| VR | VL |
| LGND | LGND |
| RES | RES |
| +5V | +5V |
| LGND | LGND |
| MV | MV |
| LGND | LGND |

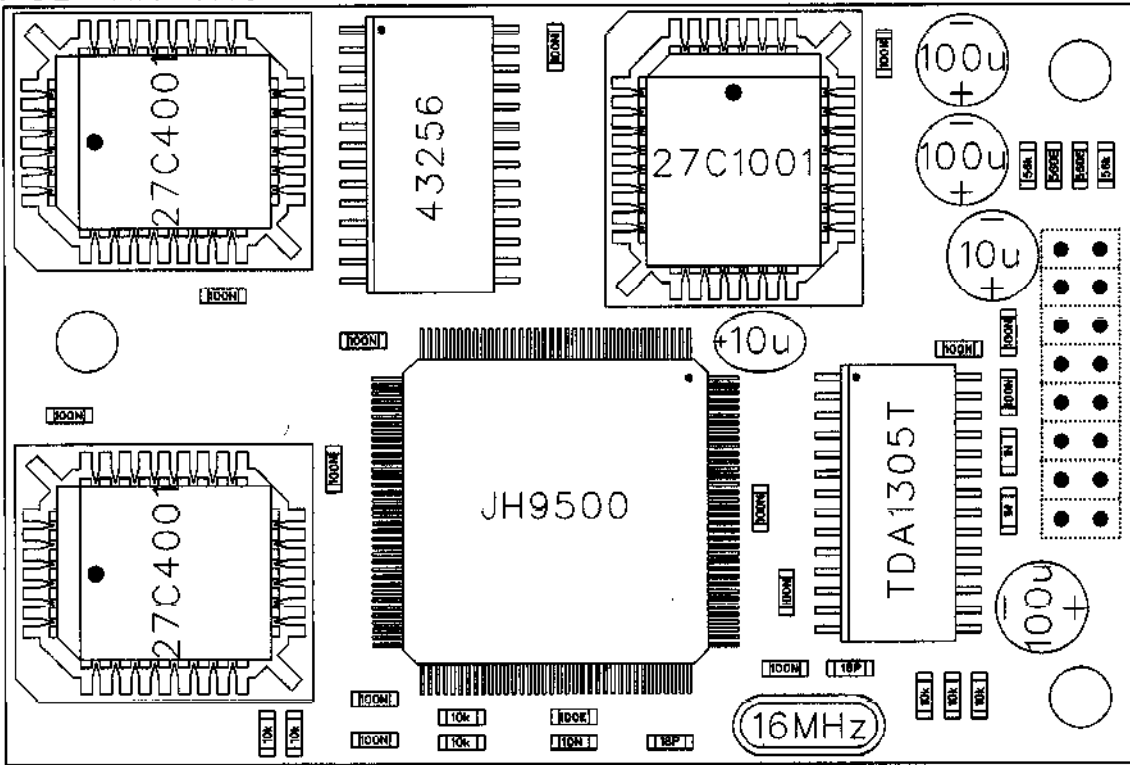
PCB-NR JHO 9501





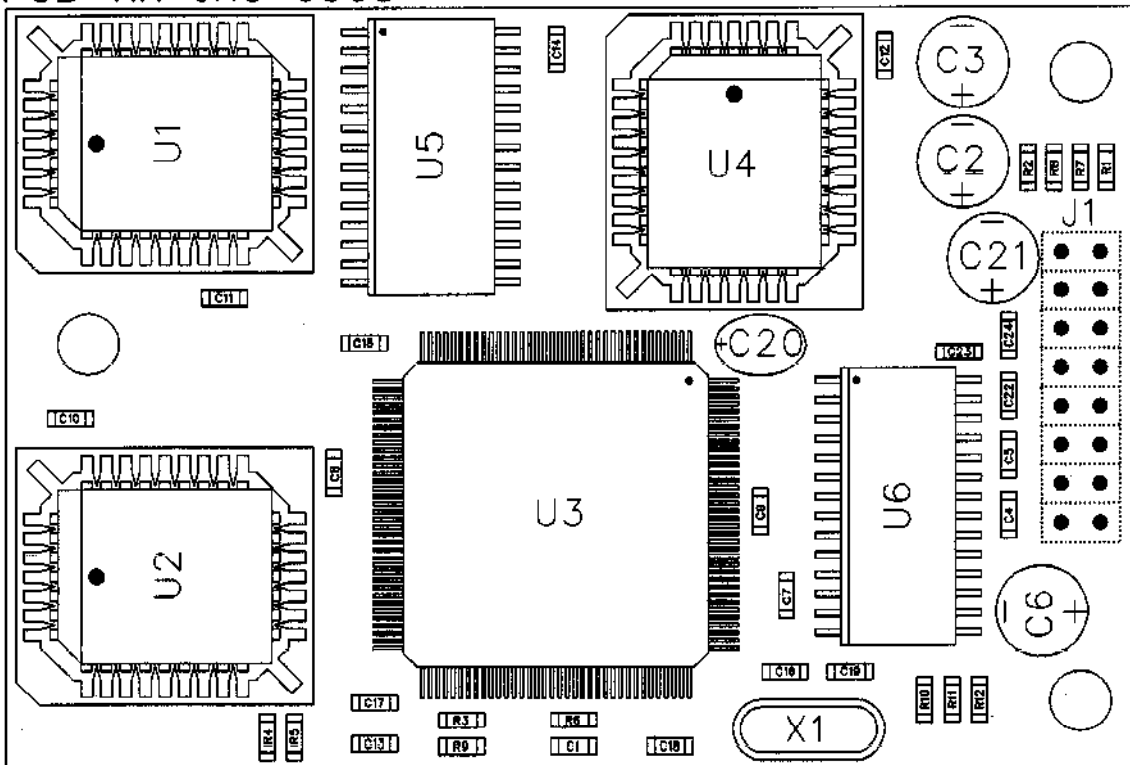
- PIN 1 LGND
- PIN 2 LGND
- PIN 3 VOICE RIGHT OUT
- PIN 4 VOICE LEFT OUT
- PIN 5 LGND
- PIN 6 RESET
- PIN 7 RESET
- PIN 8 +5V
- PIN 9 +5V
- PIN 10 LGND
- PIN 11 LGND
- PIN 12 LGND
- PIN 13 HIDI IN
- PIN 14 HIDI IN
- PIN 15 LGND
- PIN 16 LGND

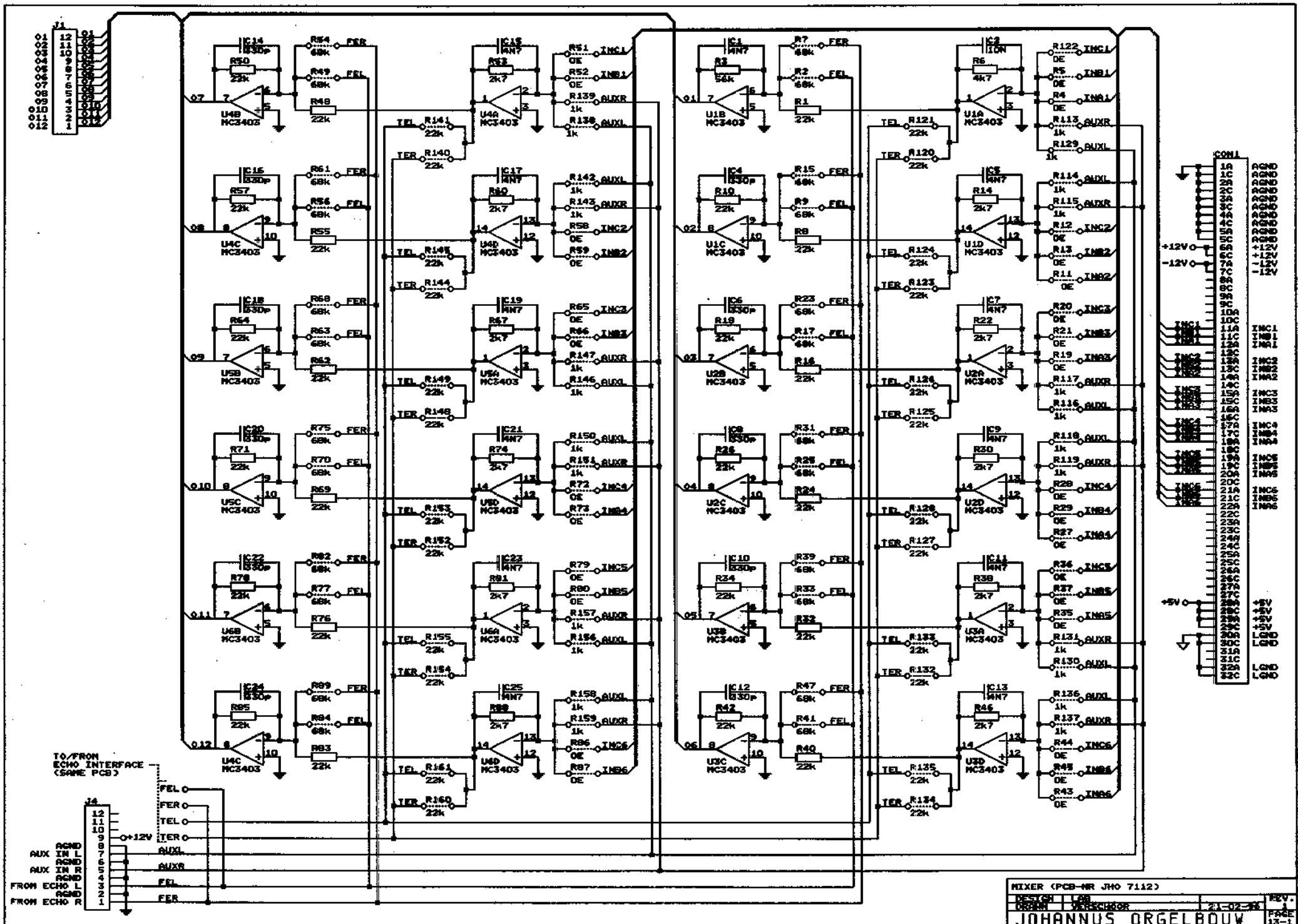
PCB-NR JHO 9505

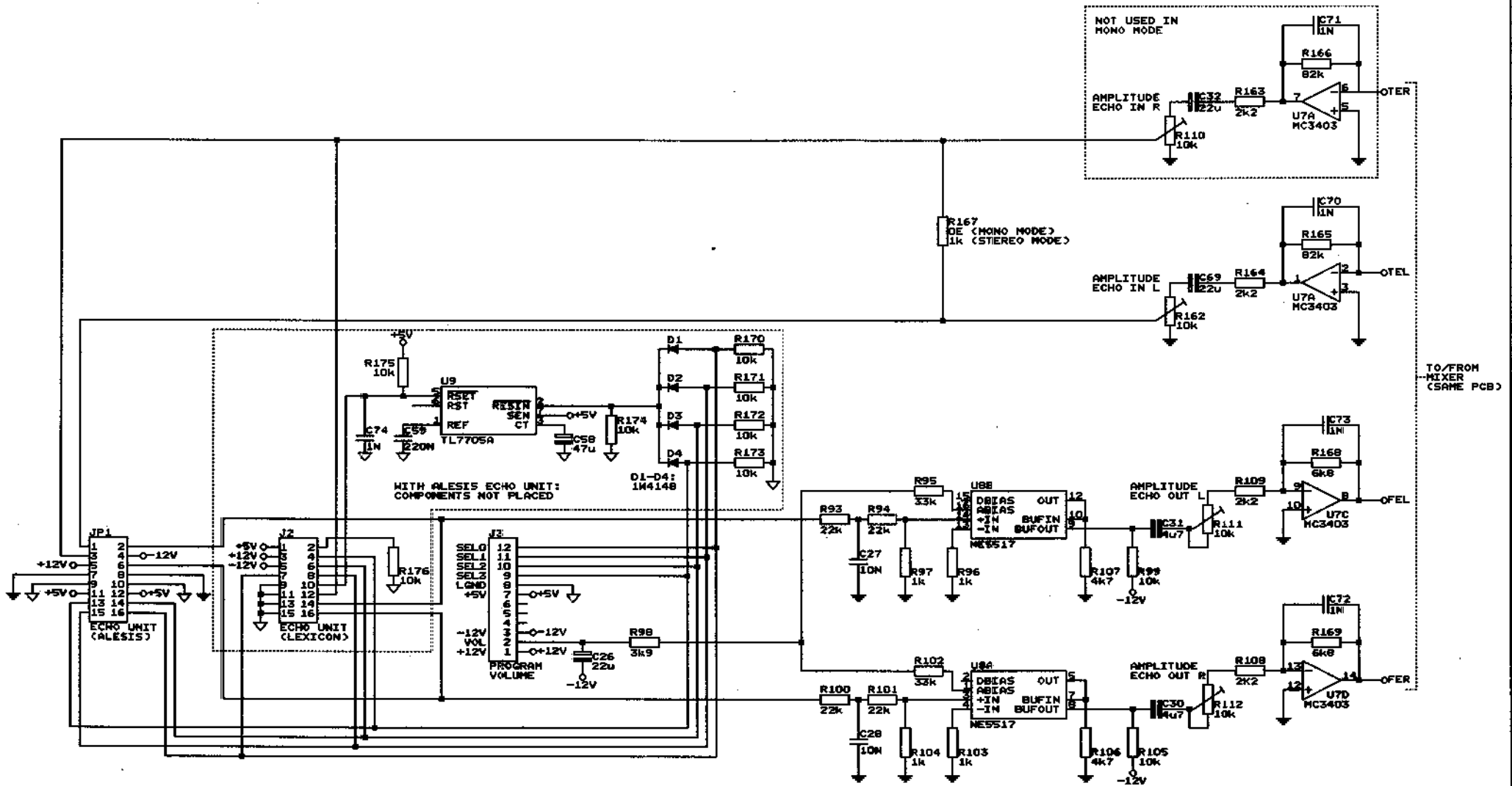


| | |
|------|------|
| LGND | LGND |
| VR | VL |
| LGND | LGND |
| RES | RES |
| +5V | +5V |
| LGND | LGND |
| MV | MV |
| LGND | LGND |

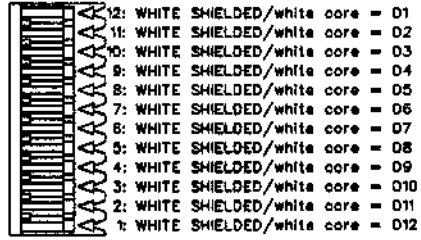
PCB-NR JHO 9505



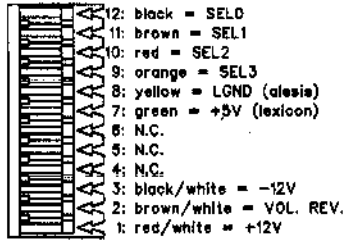




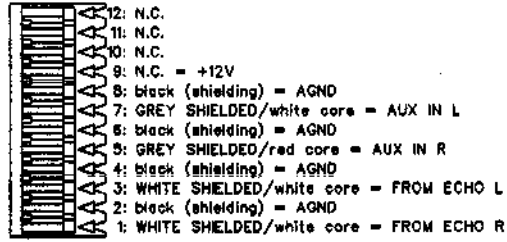
J1

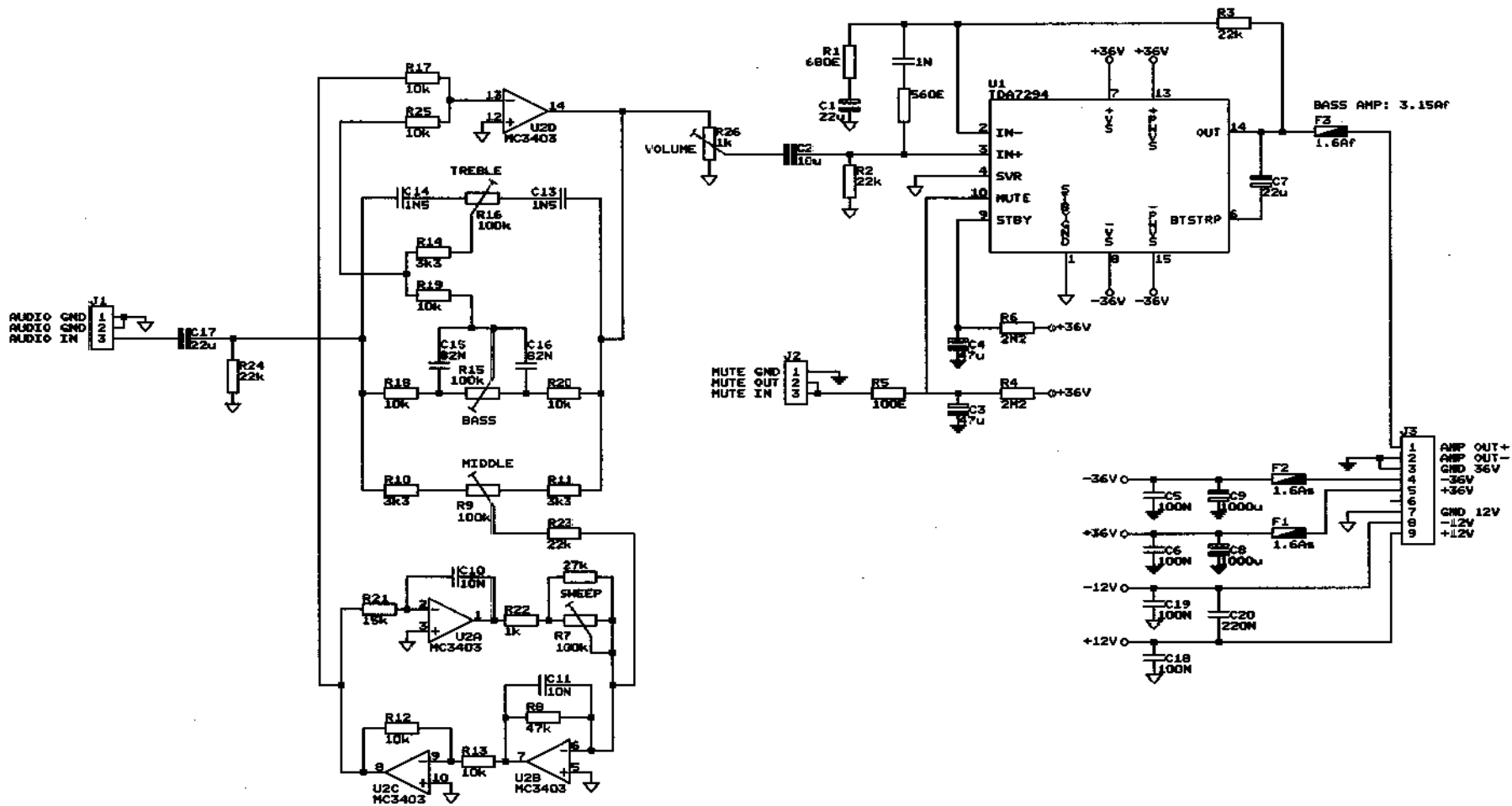


J3



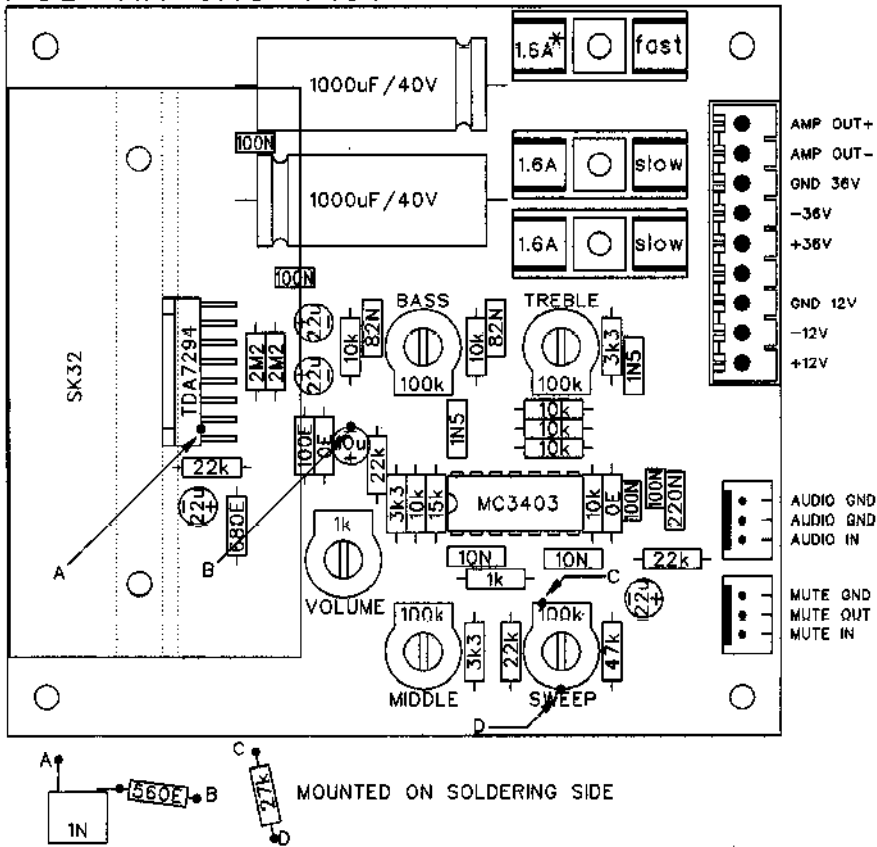
J4



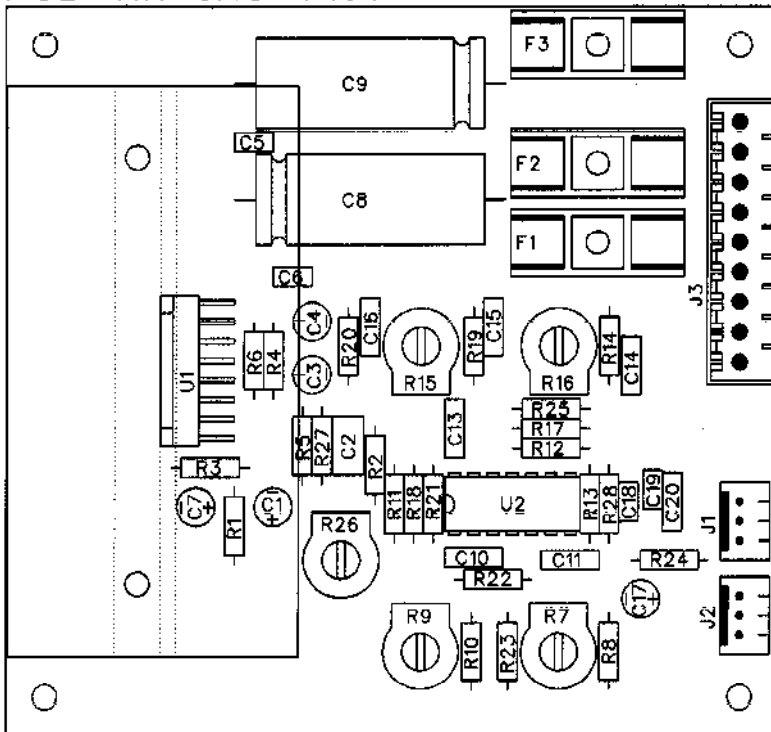


PCB-NR JHO 7191

* BASS AMP: 3.15Afast

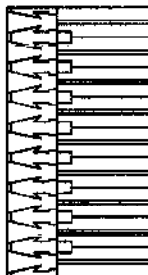


PCB-NR JHO 7191



* THE WIRE COLOR OF PIN 1 (AMP OUT +) DEPENDS ON THE CHANNEL NUMBER:
 CHANNEL 1 = BROWN
 CHANNEL 2 = RED
 CHANNEL 3 = ORANGE
 CHANNEL 4 = YELLOW
 CHANNEL 5 = GREEN
 CHANNEL 6 = BLUE
 CHANNEL 7 = VIOLET
 CHANNEL 8 = GREY

J3



- 1: COLOR* = AMP OUT +
- 2: WHITE = AMP OUT -
- 3: BLACK = GND 36V
- 4: VIOLET = -36V
- 5: ORANGE = +36V
- 6: N.C.
- 7: BLACK = GND 12V
- 8: BLUE = -12V
- 9: RED = +12V

J1

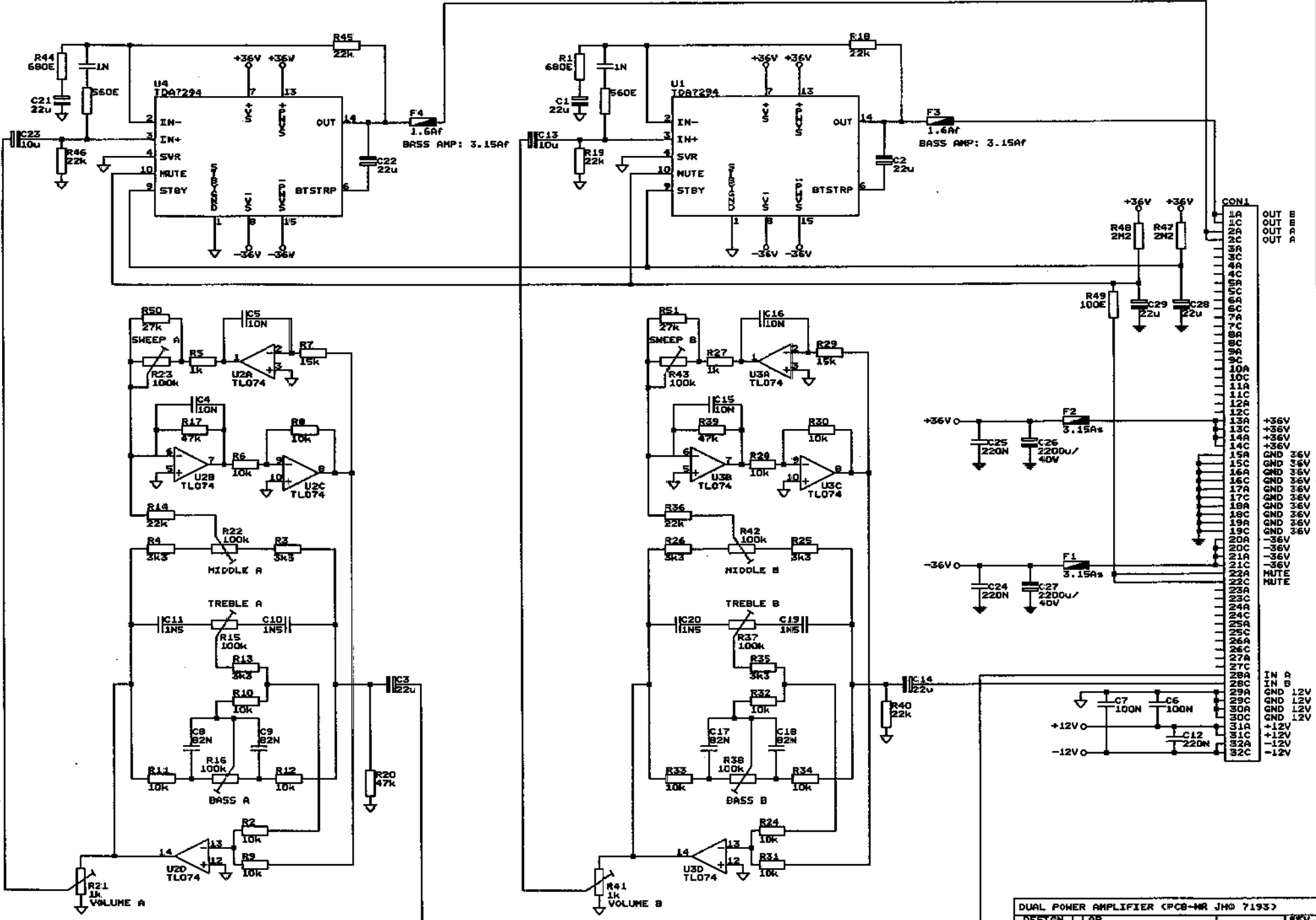


- 1: N.C. = AUDIO GND
- 2: black (shielding) = AUDIO GND
- 3: WHITE SHIELDED/white core = AUDIO IN

J2

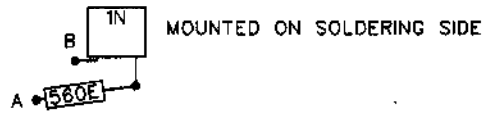
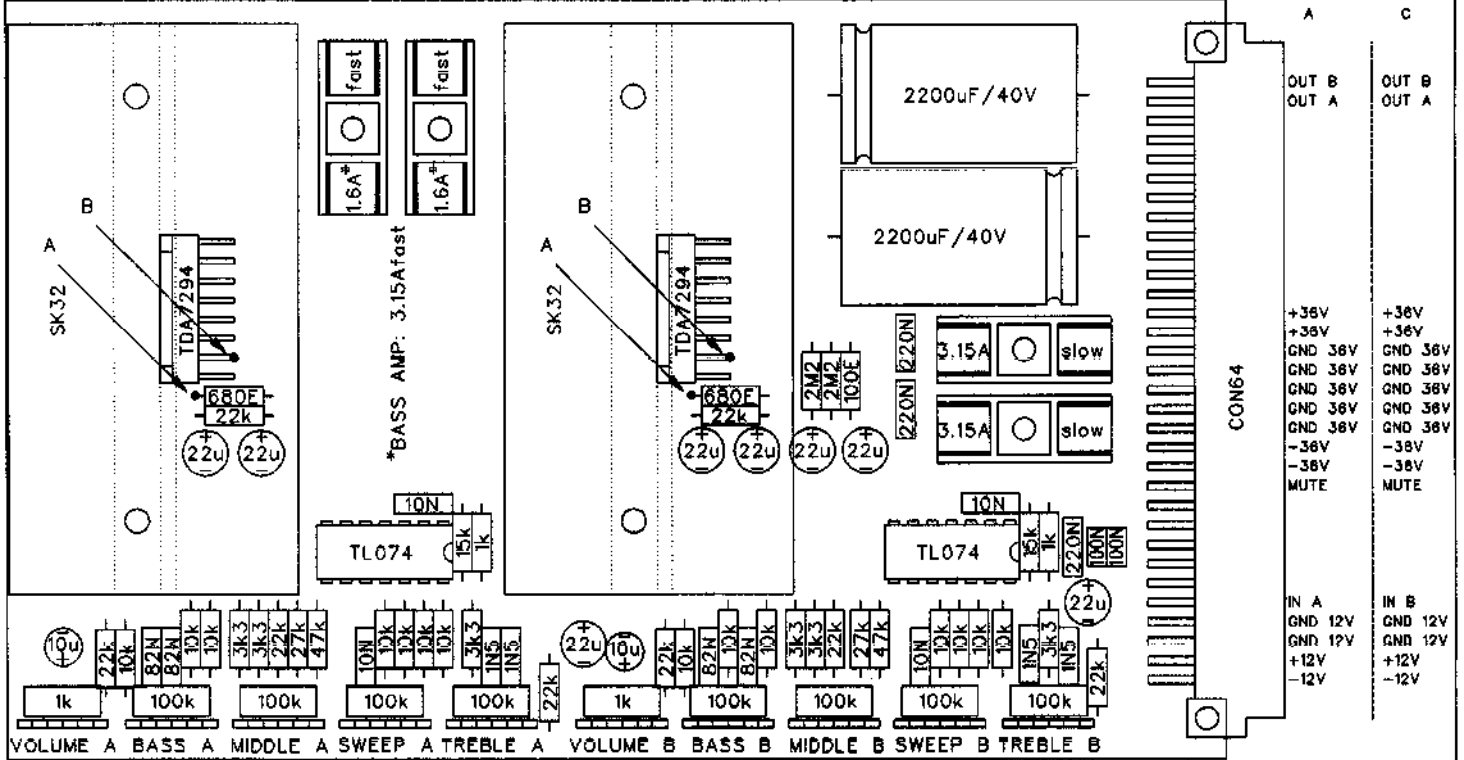


- 1: white = MUTE GND
- 2: grey = MUTE OUT
- 3: grey = MUTE IN

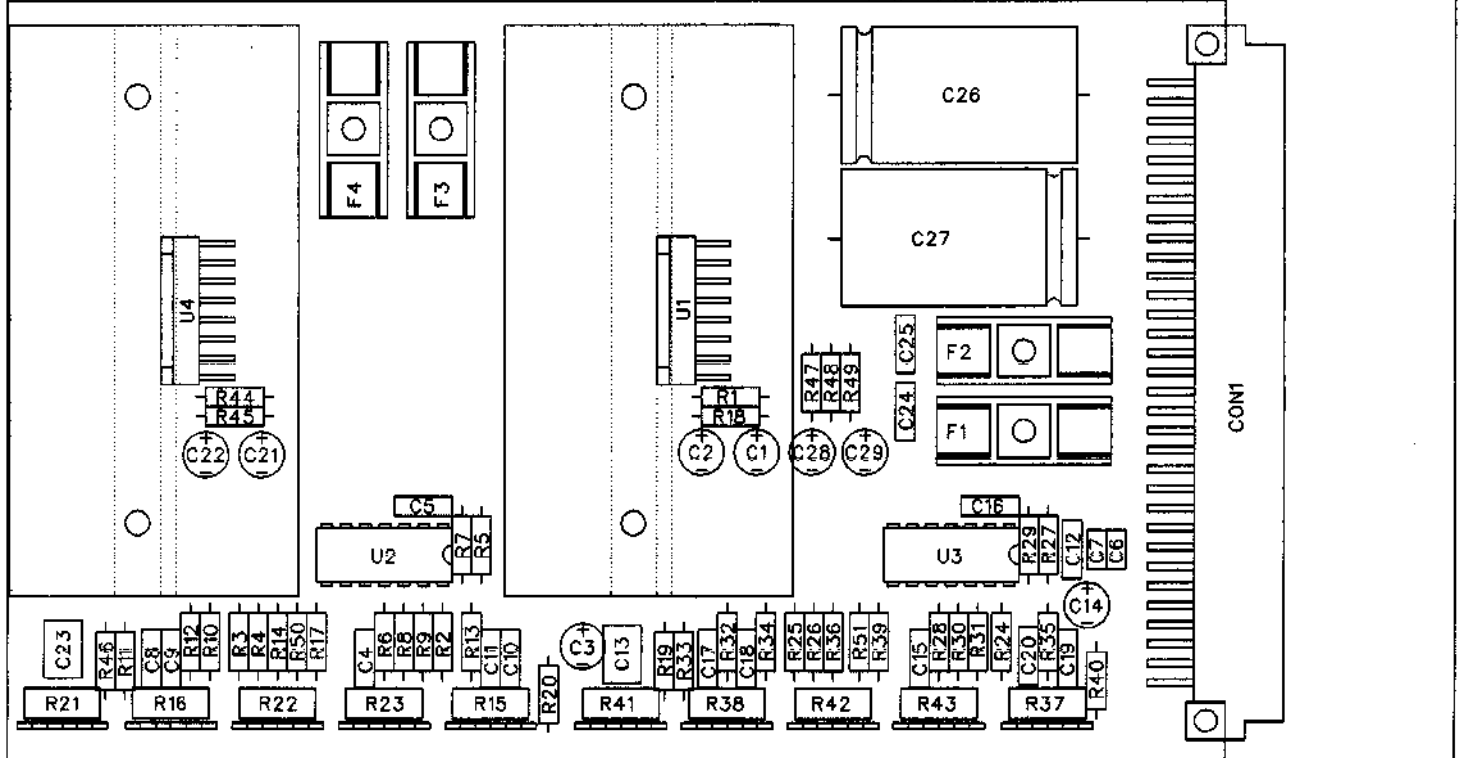


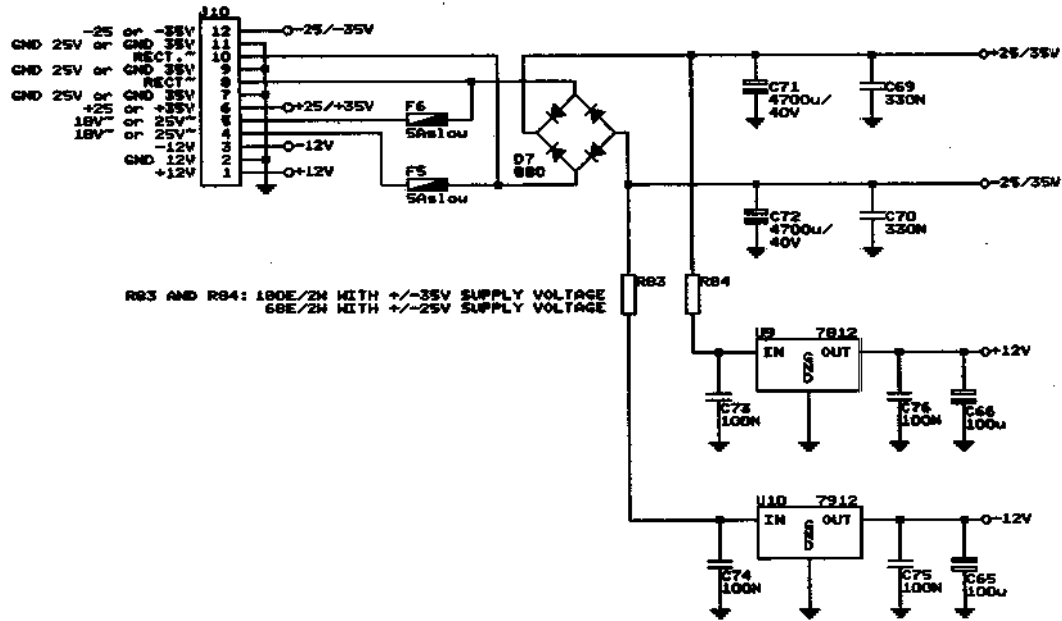
| DUAL POWER AMPLIFIER (PCB-NR JHO 7193) | | | |
|--|-----------|----------|------|
| DESIGN | LAB | | REV. |
| DRAWN | VERSCHOOR | 30-10-96 | 1 |
| JOHANNUS ORGELBOUW | | | 14-1 |

PCB-NR JHO 7193

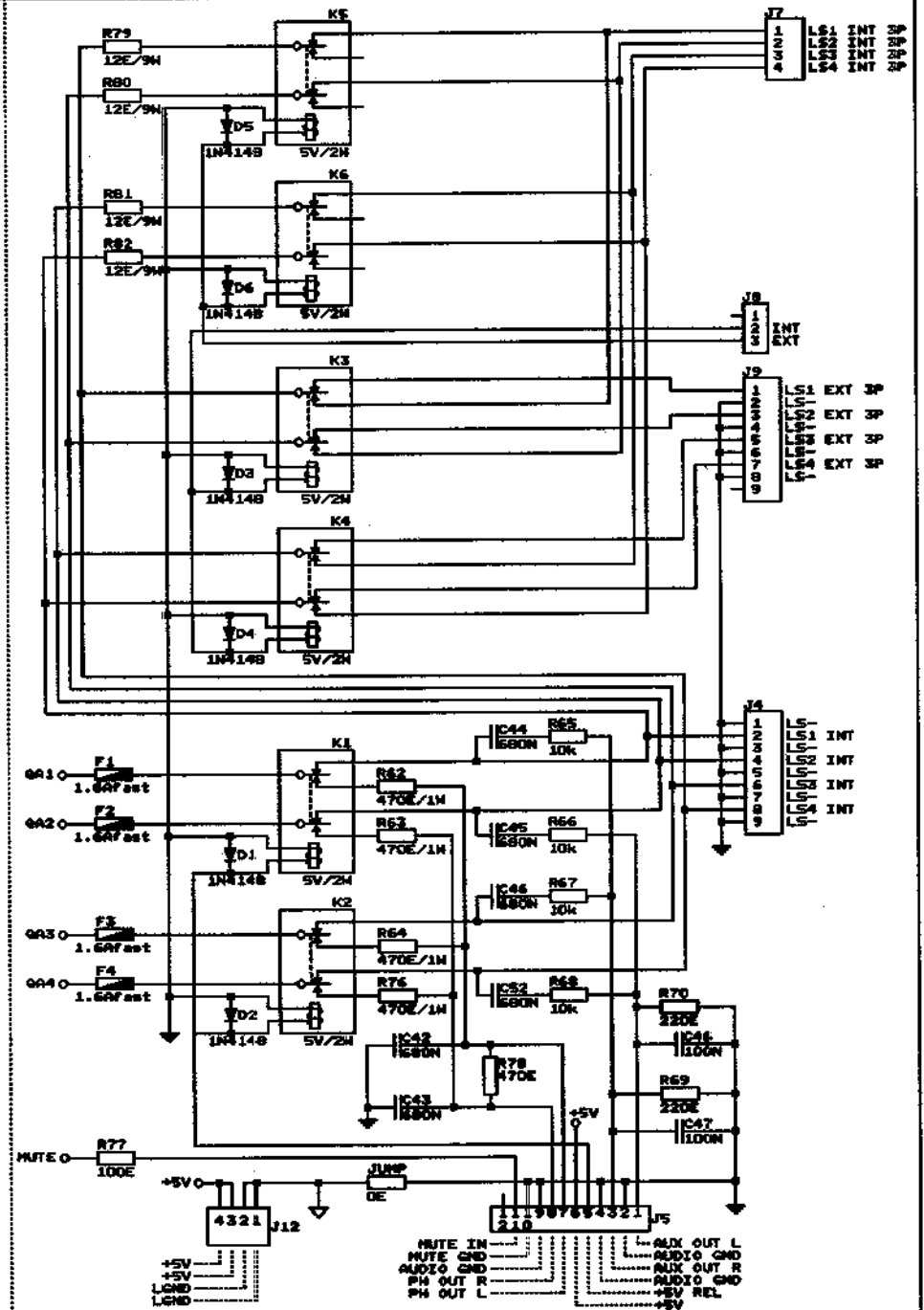


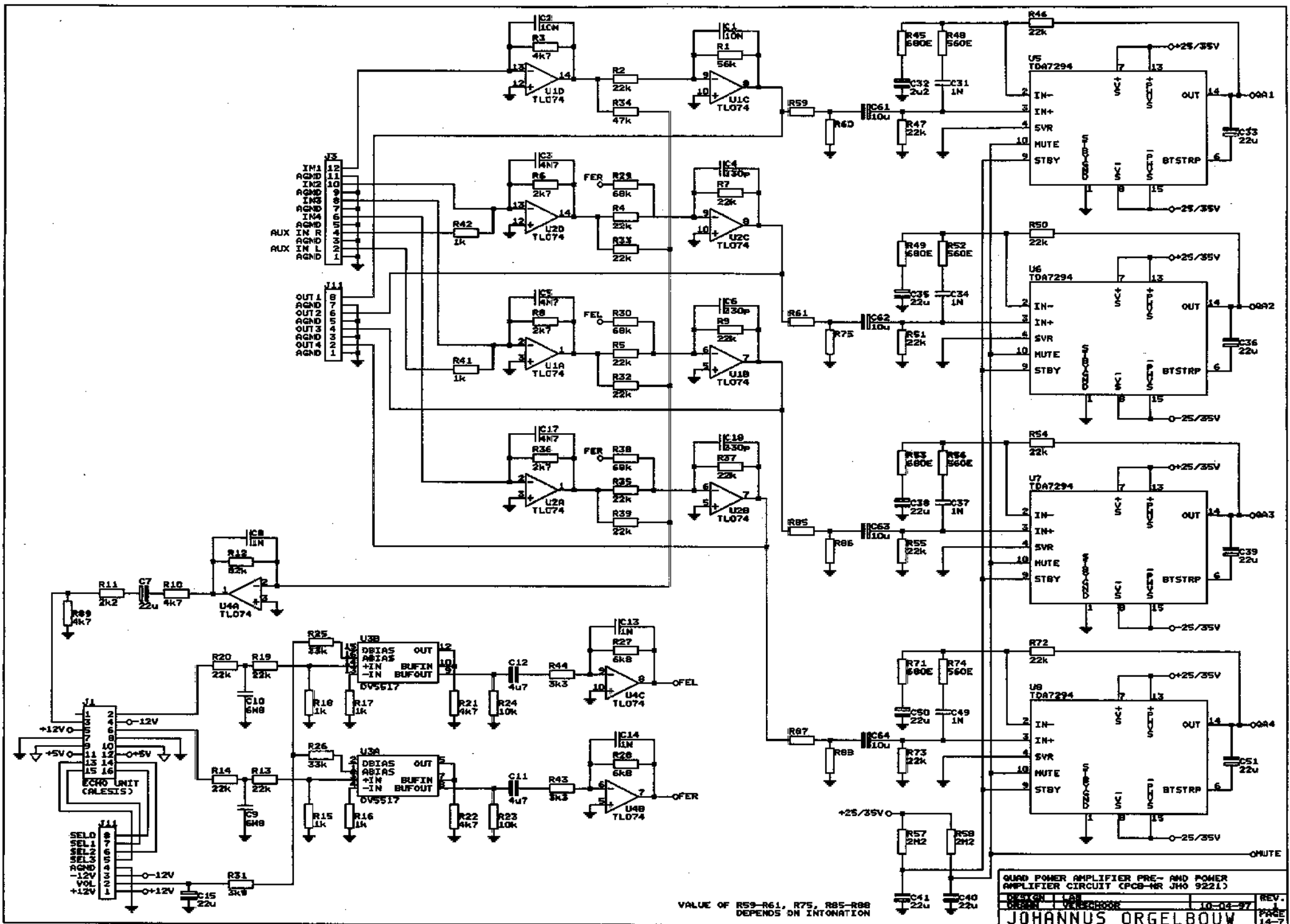
PCB-NR JHO 7193





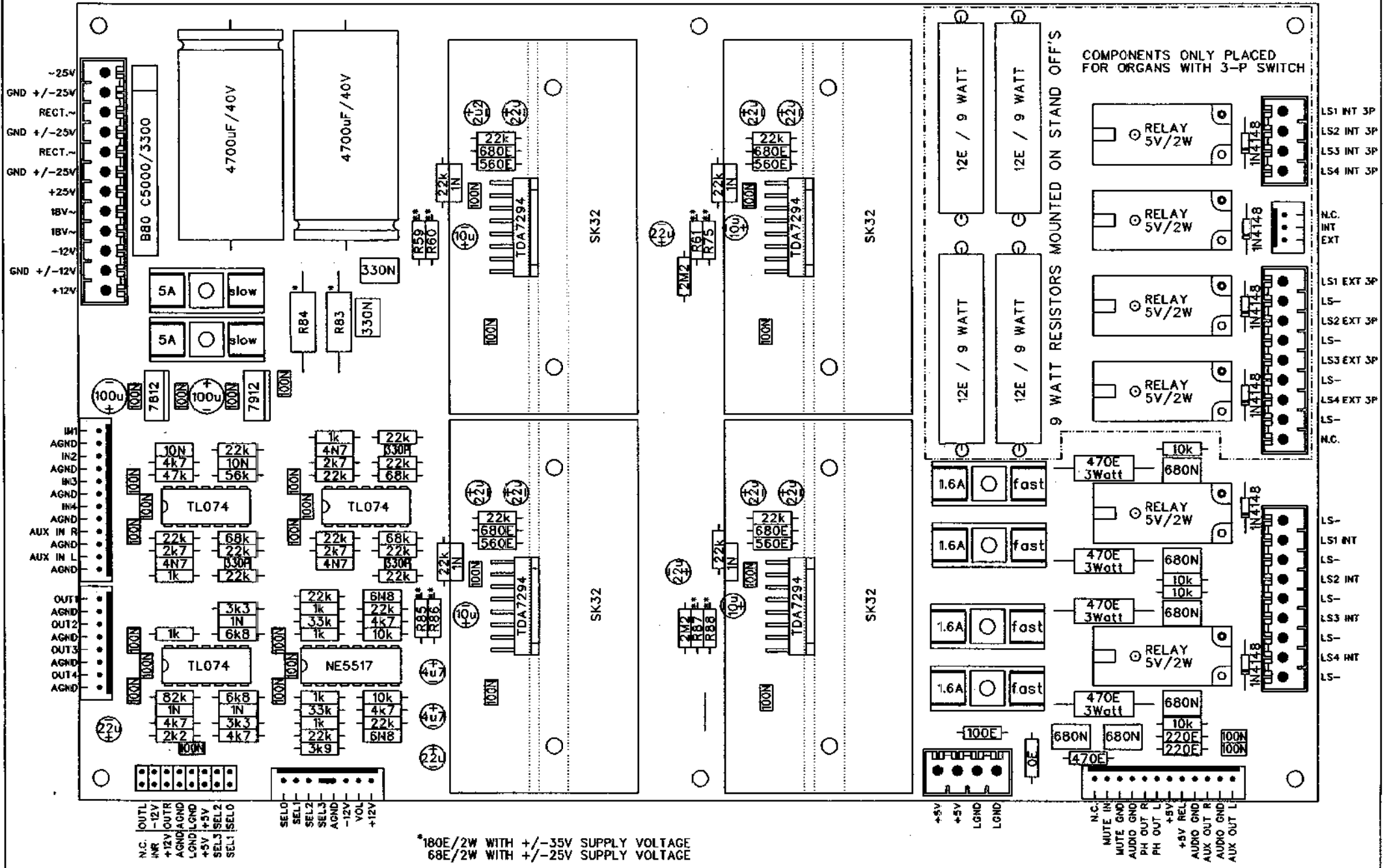
R83 AND R84: 180E/2W WITH +/-35V SUPPLY VOLTAGE
 68E/2W WITH +/-25V SUPPLY VOLTAGE





VALUE OF R59-R61, R75, R85-R88
DEPENDS ON INTONATION

PCB-NR JHO 9221



COMPONENTS ONLY PLACED FOR ORGANS WITH 3-P SWITCH

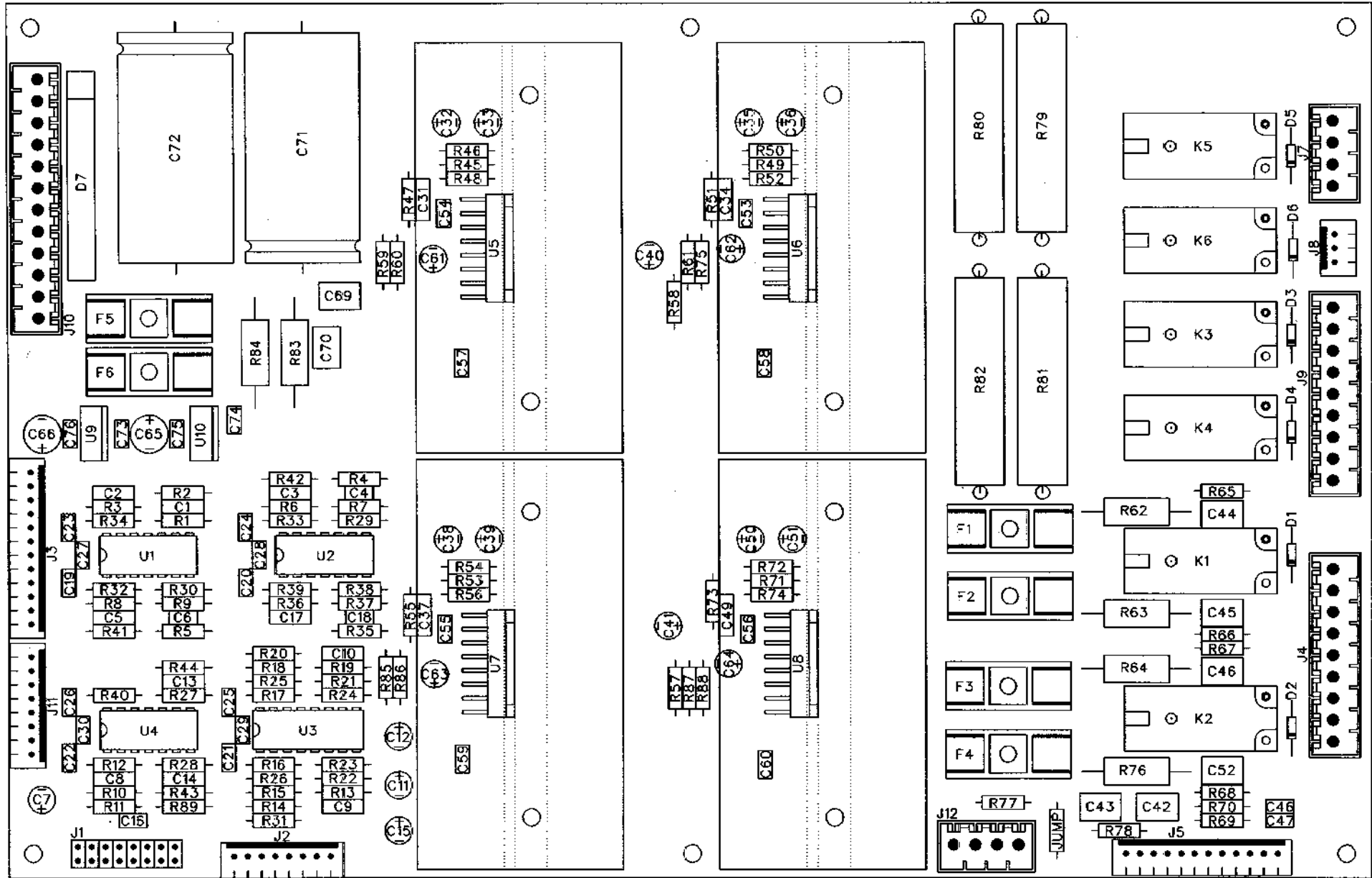
9 WATT RESISTORS MOUNTED ON STAND OFF'S

*180E/2W WITH +/-35V SUPPLY VOLTAGE
68E/2W WITH +/-25V SUPPLY VOLTAGE

**VALUE DEPENDS ON INTONATION

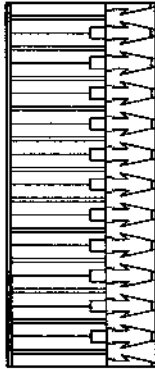
| | | | |
|------------------------------|-----------|----------|-----------|
| LAY-OUT QUAD POWER AMPLIFIER | | | |
| DESIGN | LAB | REV. | |
| DRAWN | VERSCHOOR | 10-04-97 | 3 |
| JOHANNUS ORGELBOUW | | | PAGE 16-B |

PCB-NR JHO 9221



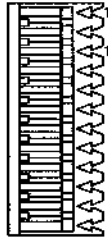
| COMPONENT NUMBERING QUAD POWER AMPLIFIER | | | |
|--|-----------|----------|------|
| DESIGN | LAB | | REV. |
| DRAWN | VFRSCHOOR | 19-08-87 | PAGE |
| JOHANNUS ORGELBOUW | | | 14-9 |

J10



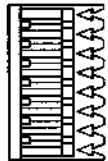
- 12: N.C.
- 11: N.C.
- 10: N.C.
- 9: N.C.
- 8: N.C.
- 7: BLACK = GND 25V or GND 35V
- 6: N.C.
- 5: ORANGE = 18V~ or 25V~
- 4: ORANGE = 18V~ or 25V~
- 3: BLUE = -12V
- 2: BLACK = GND 12V
- 1: RED = +12V

J3

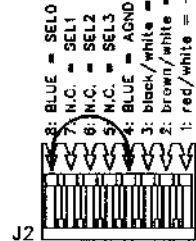


- 12: WHITE SHIELDED/red core = IN1
- 11: black (shielding) = AGND
- 10: WHITE SHIELDED/white core = IN2
- 9: black (shielding) = AGND
- 8: WHITE SHIELDED/red core = IN3
- 7: black (shielding) = AGND
- 6: WHITE SHIELDED/white core = IN4
- 5: black (shielding) = AGND
- 4: GREY SHIELDED/red core = AUX IN R
- 3: black (shielding) = AGND
- 2: GREY SHIELDED/white core = AUX IN L
- 1: black (shielding) = AGND

J11

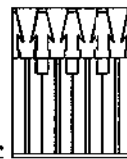


- 8: WHITE SHIELDED/red core = OUT1
- 7: black (shielding) = AGND
- 6: WHITE SHIELDED/white core = OUT2
- 5: black (shielding) = AGND
- 4: WHITE SHIELDED/red core = OUT3
- 3: black (shielding) = AGND
- 2: WHITE SHIELDED/white core = OUT4
- 1: black (shielding) = AGND



- 8: BLUE = SEL0
- 7: N.C. = SEL1
- 6: N.C. = SEL2
- 5: N.C. = SEL3
- 4: BLUE = AGND
- 3: black/white = -12V
- 2: brown/white = VOL
- 1: red/white = -12V

J12



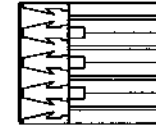
- 1: GREEN = +5V
- 2: GREEN = +5V
- 3: GREY = LOND
- 4: GREY = LOND

J5



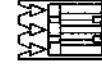
- 12: N.C.
- 11: grey = MUTE IN
- 10: white = MUTE GND
- 9: black = AUDIO GND
- 8: red = PHONES OUT R
- 7: white = PHONES OUT L
- 6: green = +5V
- 5: green/white = +5V REL
- 4: black (shielding) = AUDIO GND
- 3: WHITE SHIELDED/red core = AUX OUT R
- 2: N.C.
- 1: WHITE SHIELDED/white core = AUX OUT L

J7



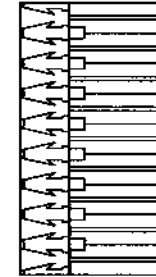
- 1: BROWN = LS1 INT 3P
- 2: RED = LS2 INT 3P
- 3: ORANGE = LS3 INT 3P
- 4: YELLOW = LS4 INT 3P

J8



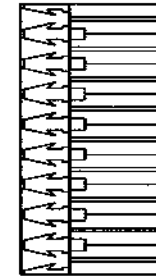
- 1: N.C.
- 2: green/white = INT
- 3: green/blue = EXT

J9

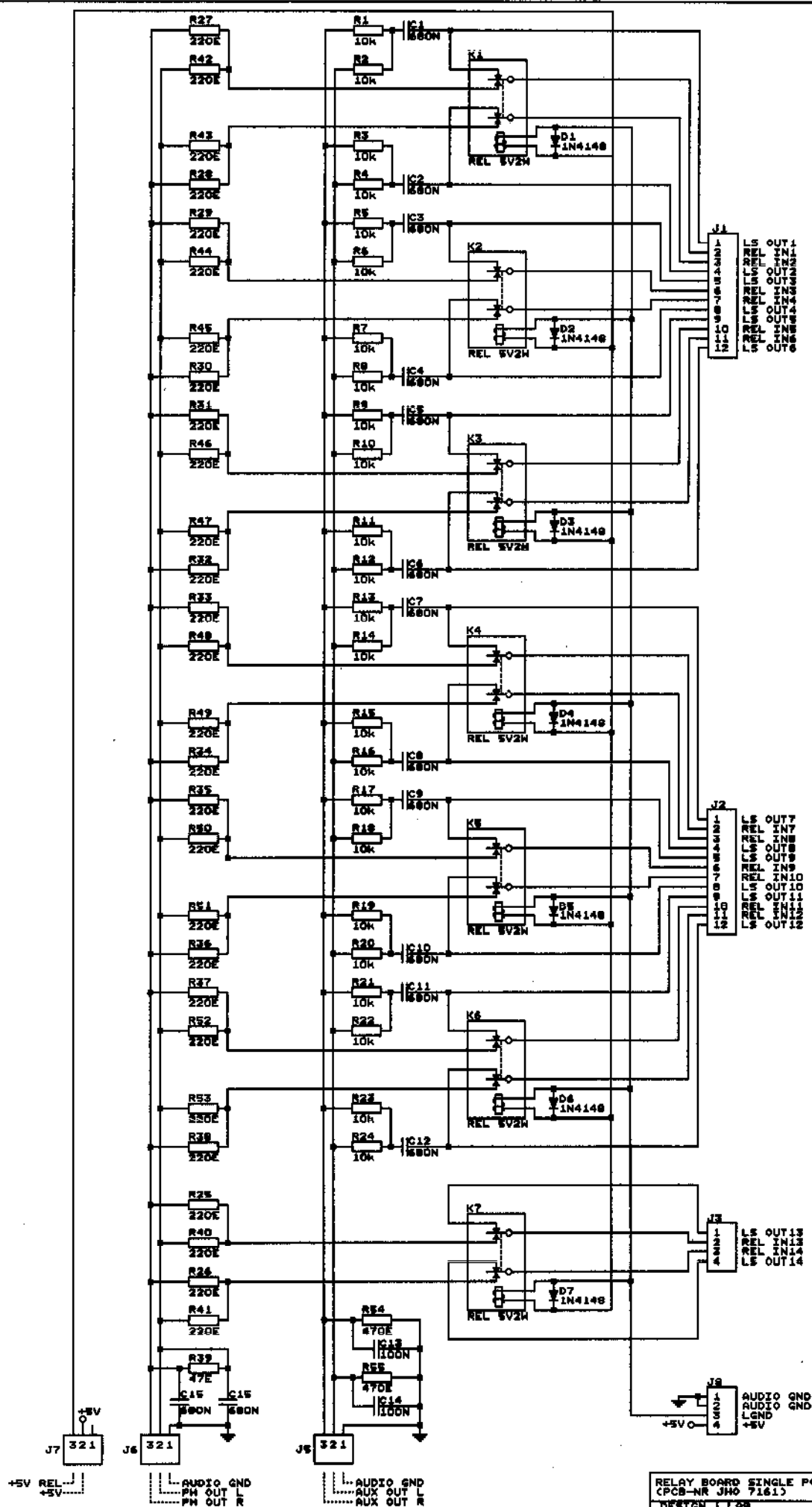


- 1: BROWN = LS1 EXT 3P
- 2: BLACK = LS-
- 3: RED = LS2 EXT 3P
- 4: BLACK = LS-
- 5: ORANGE = LS3 EXT 3P
- 6: BLACK = LS-
- 7: YELLOW = LS4 EXT 3P
- 8: BLACK = LS-
- 9: N.C.

J4



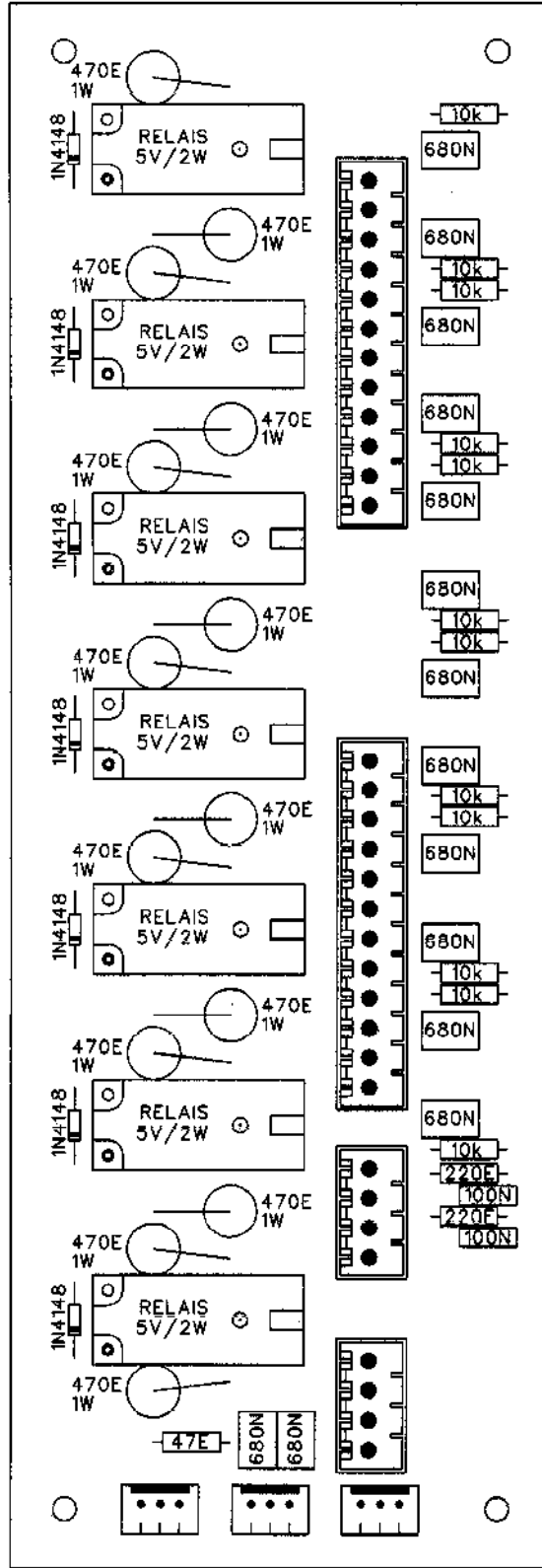
- 1: N.C.
- 2: BROWN = LS1 EXT 3P
- 3: BLACK = LS-
- 4: RED = LS2 EXT 3P
- 5: BLACK = LS-
- 6: ORANGE = LS3 EXT 3P
- 7: BLACK = LS-
- 8: YELLOW = LS4 EXT 3P
- 9: BLACK = LS-



RELAY BOARD SINGLE POWER AMPLIFIER
(PCB-NR JHO 7161)

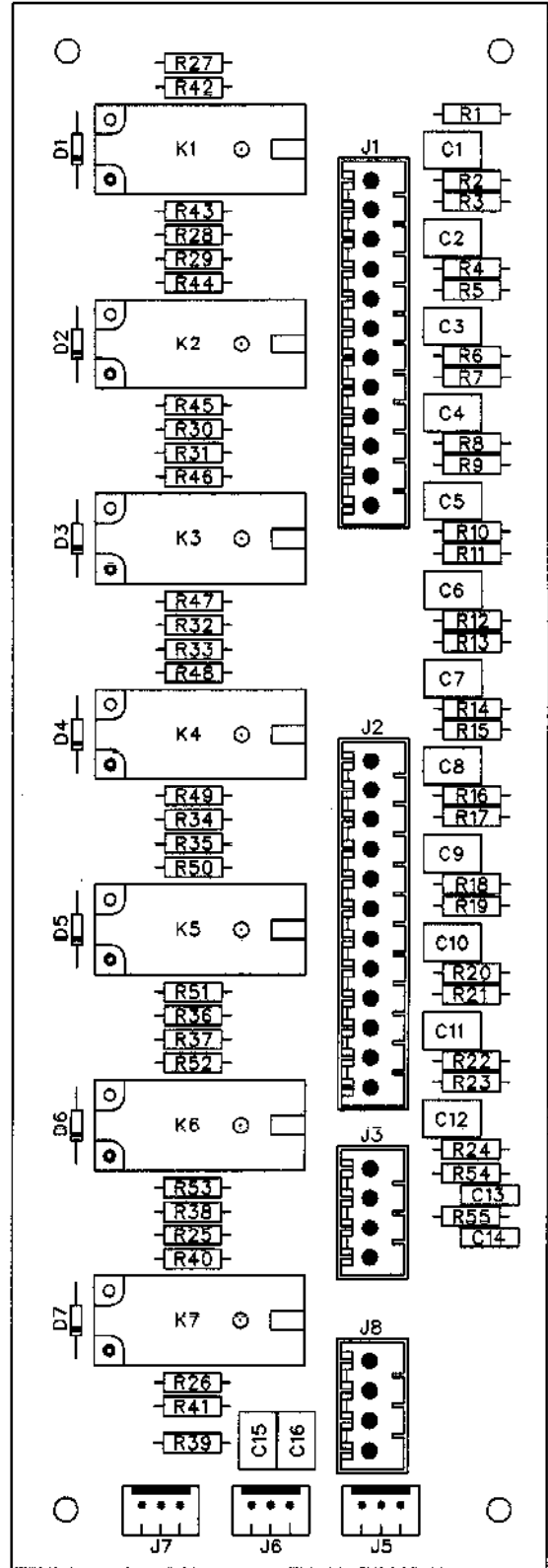
| | | |
|--------------------|-----------|-----------|
| DESIGN | LSB | REV. |
| DRAWN | VEERHOGON | 03-09-96 |
| JOHANNUS ORGELBOUW | | PAGE 15-1 |

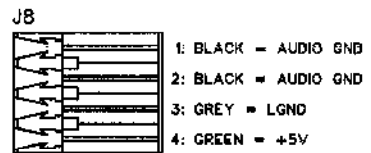
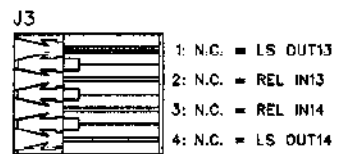
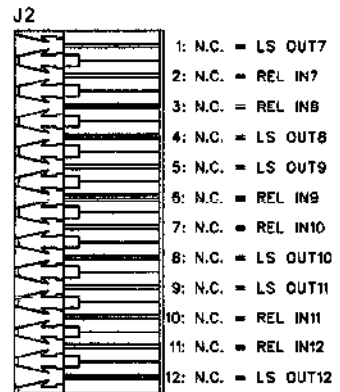
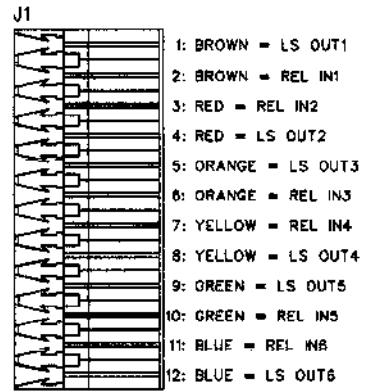
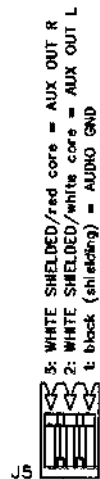
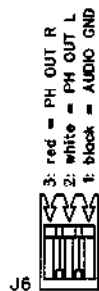
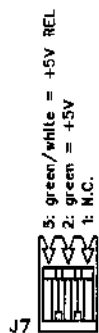
PCB-NR JHO 7161

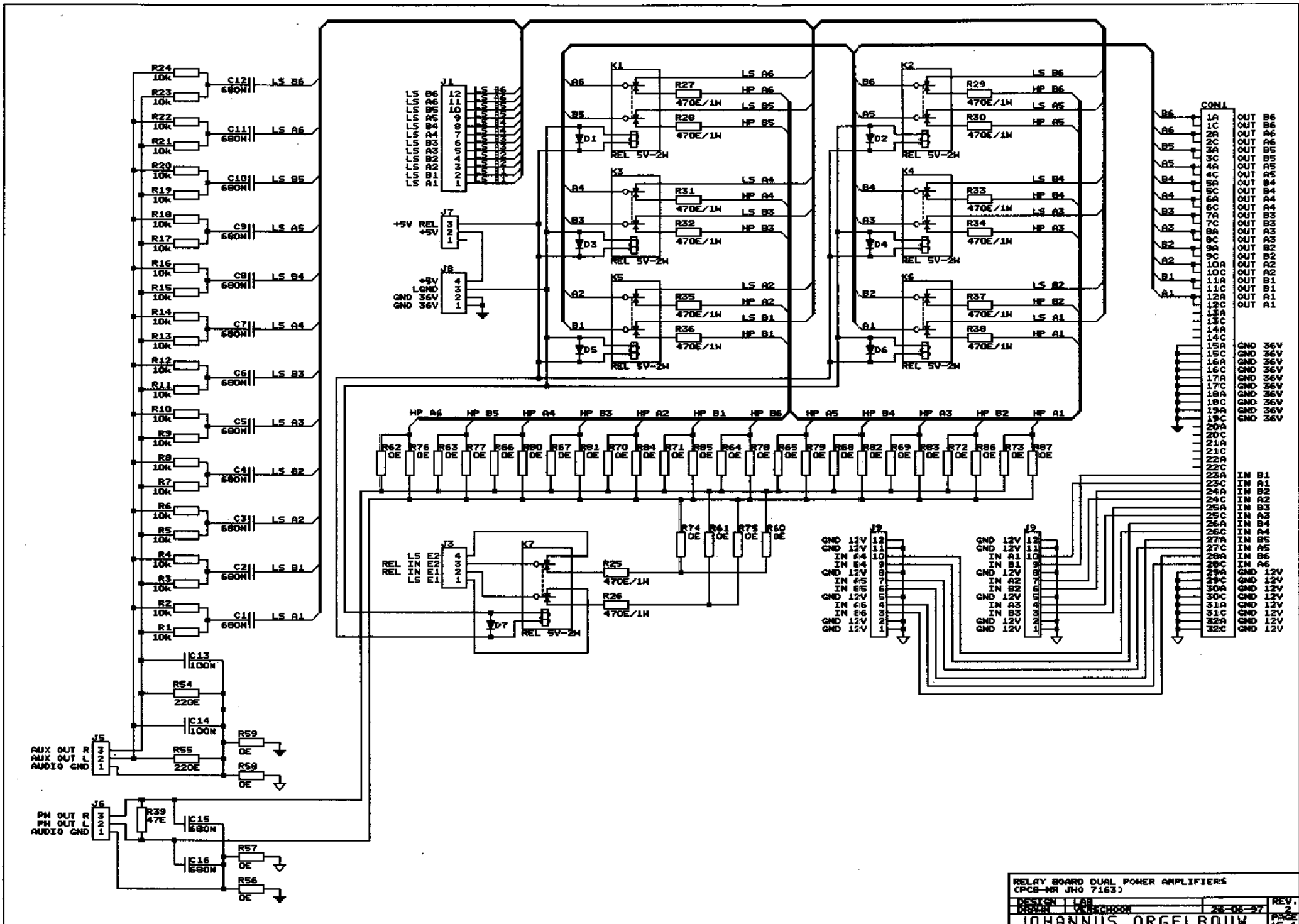


- LS OUT1
- REL IN1
- REL IN2
- LS OUT2
- LS OUT3
- REL IN3
- REL IN4
- LS OUT4
- LS OUT5
- REL IN5
- REL IN6
- LS OUT6
- LS OUT7
- REL IN7
- REL IN8
- LS OUT8
- LS OUT9
- REL IN9
- REL IN10
- LS OUT10
- LS OUT11
- REL IN11
- REL IN12
- LS OUT12
- LS OUT13
- REL IN13
- REL IN14
- LS OUT14
- AUDIO GND
- AUDIO GND
- LGND
- +5V

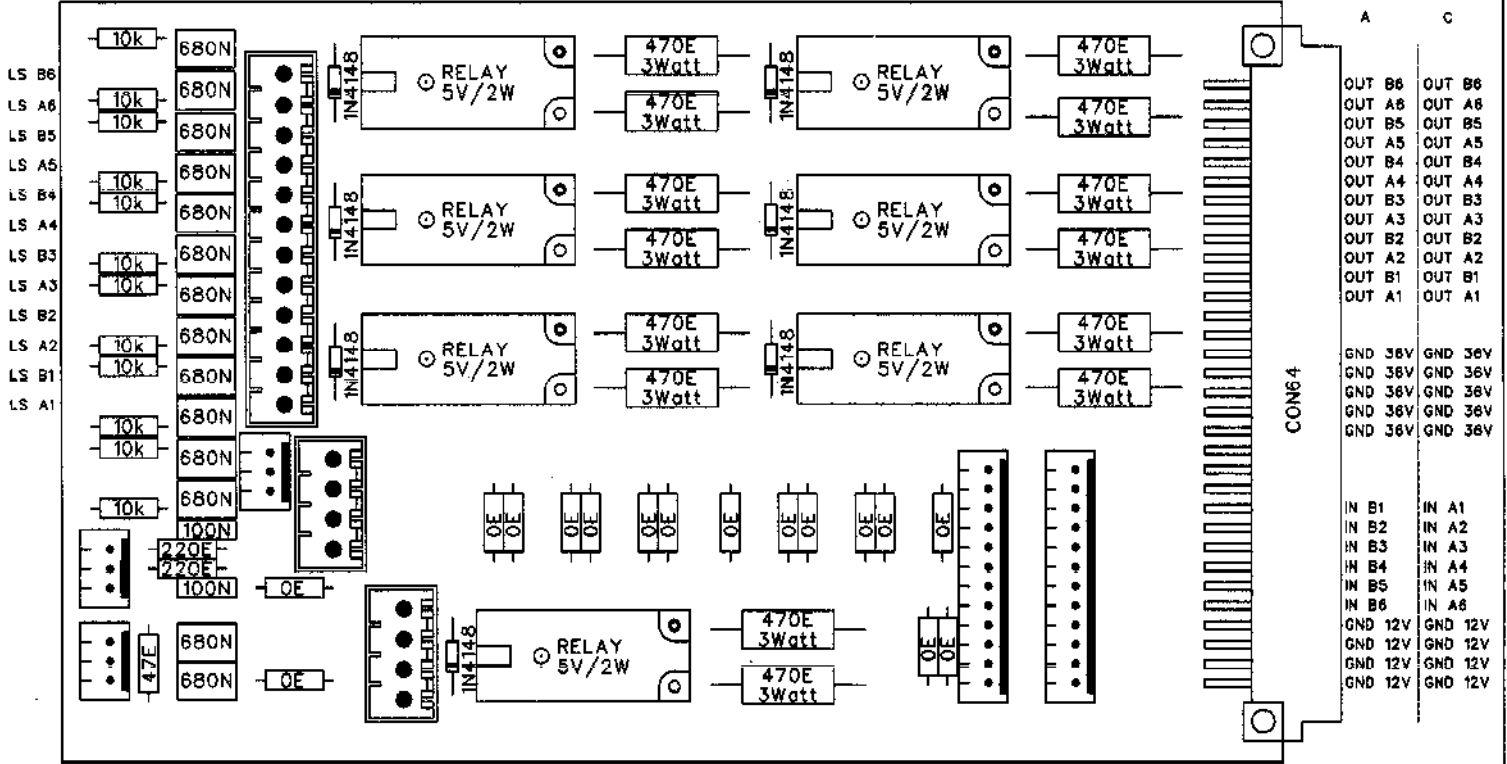
PCB-NR JHO 7161







PCB-NR JHO 7163

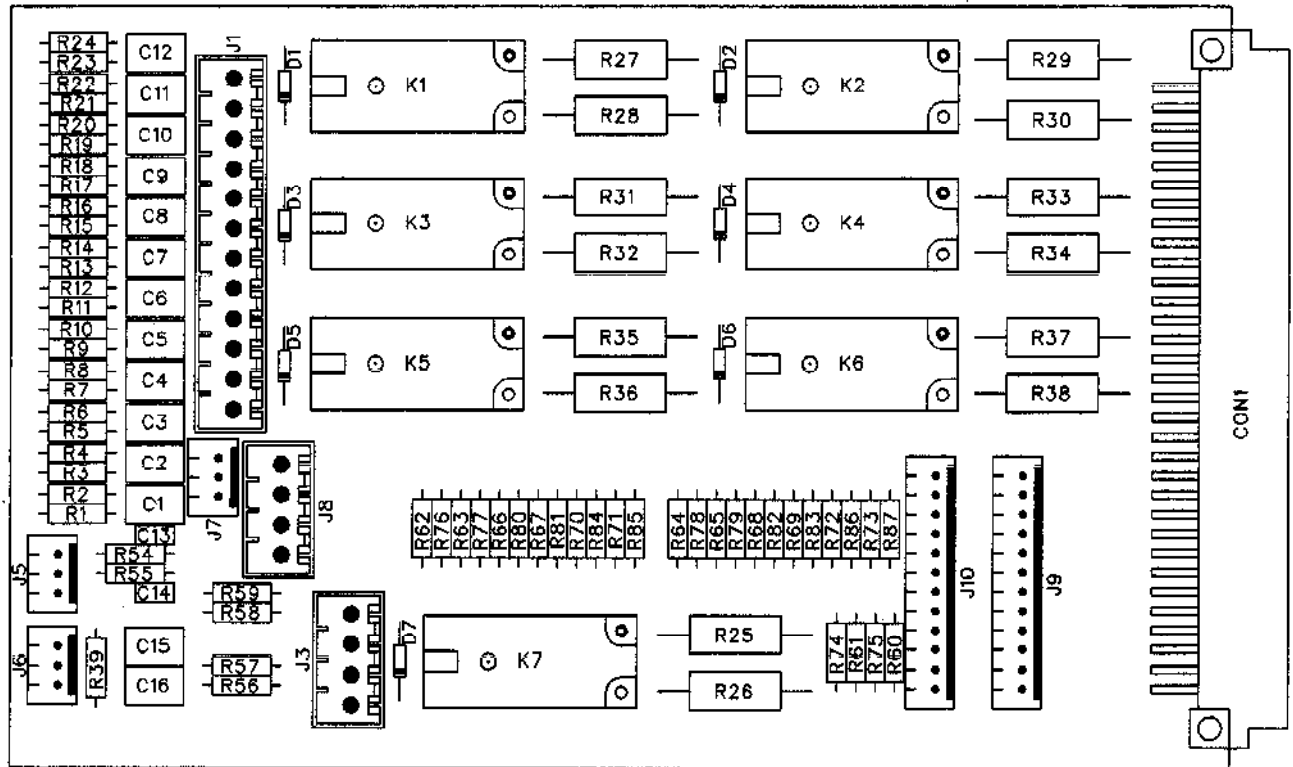


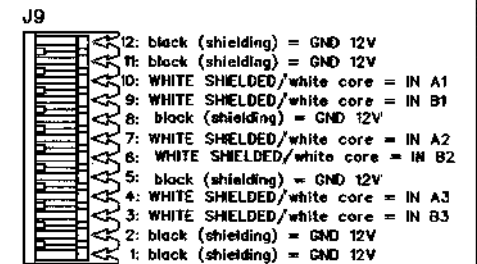
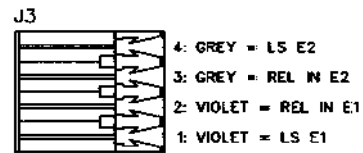
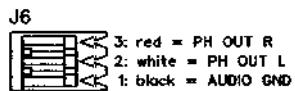
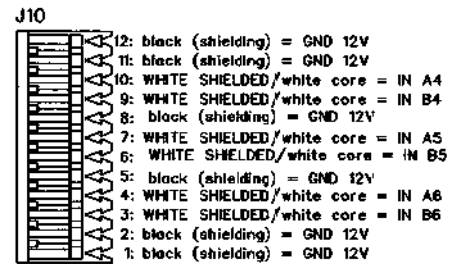
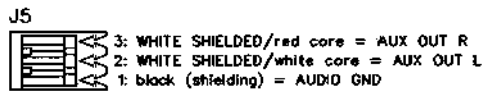
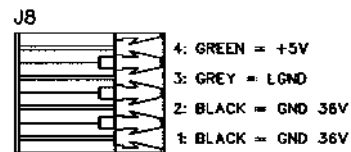
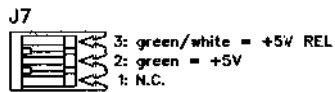
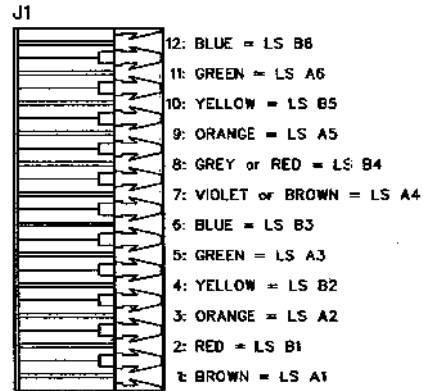
AUX OUT R +5V REL +5V LS E2
 AUX OUT L +5V LGND REL IN E2
 AUDIO GND N.C. GND 36V REL IN E1
 GND 36V LS E1

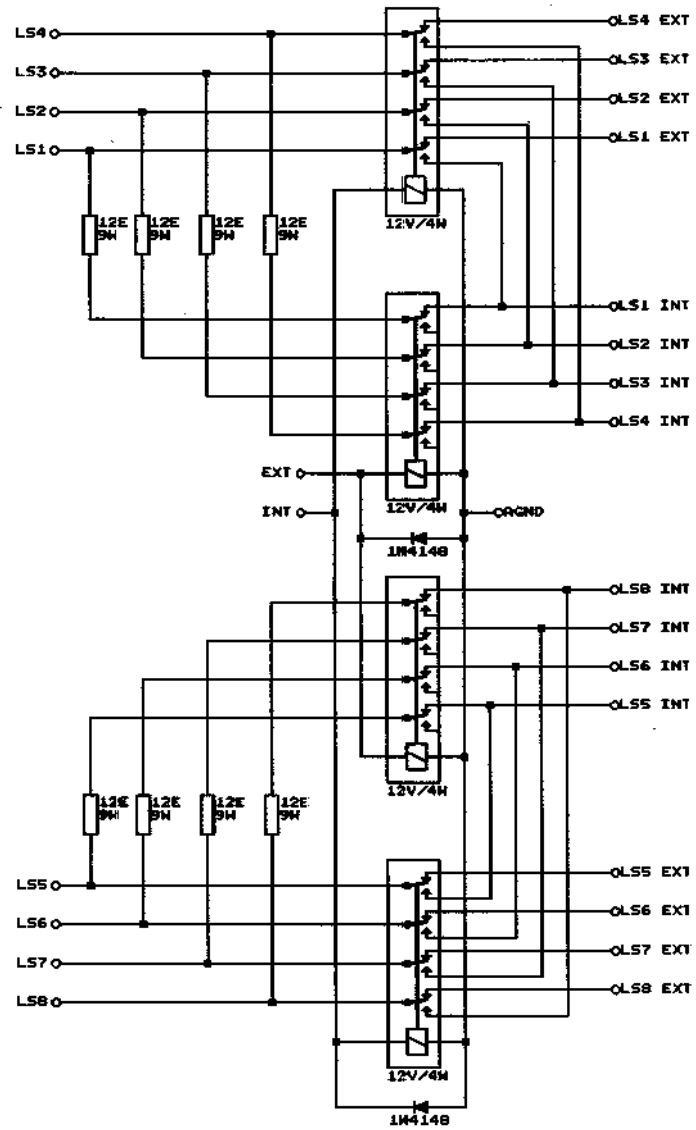
PH OUT R
 PH OUT L
 AUDIO GND

GND 12V GND 12V
 GND 12V GND 12V
 IN A4 IN A1
 IN B4 IN B1
 GND 12V GND 12V
 IN A5 IN A2
 IN B5 IN B2
 GND 12V GND 12V
 IN A6 IN A3
 IN B6 IN B3
 GND 12V GND 12V
 GND 12V GND 12V

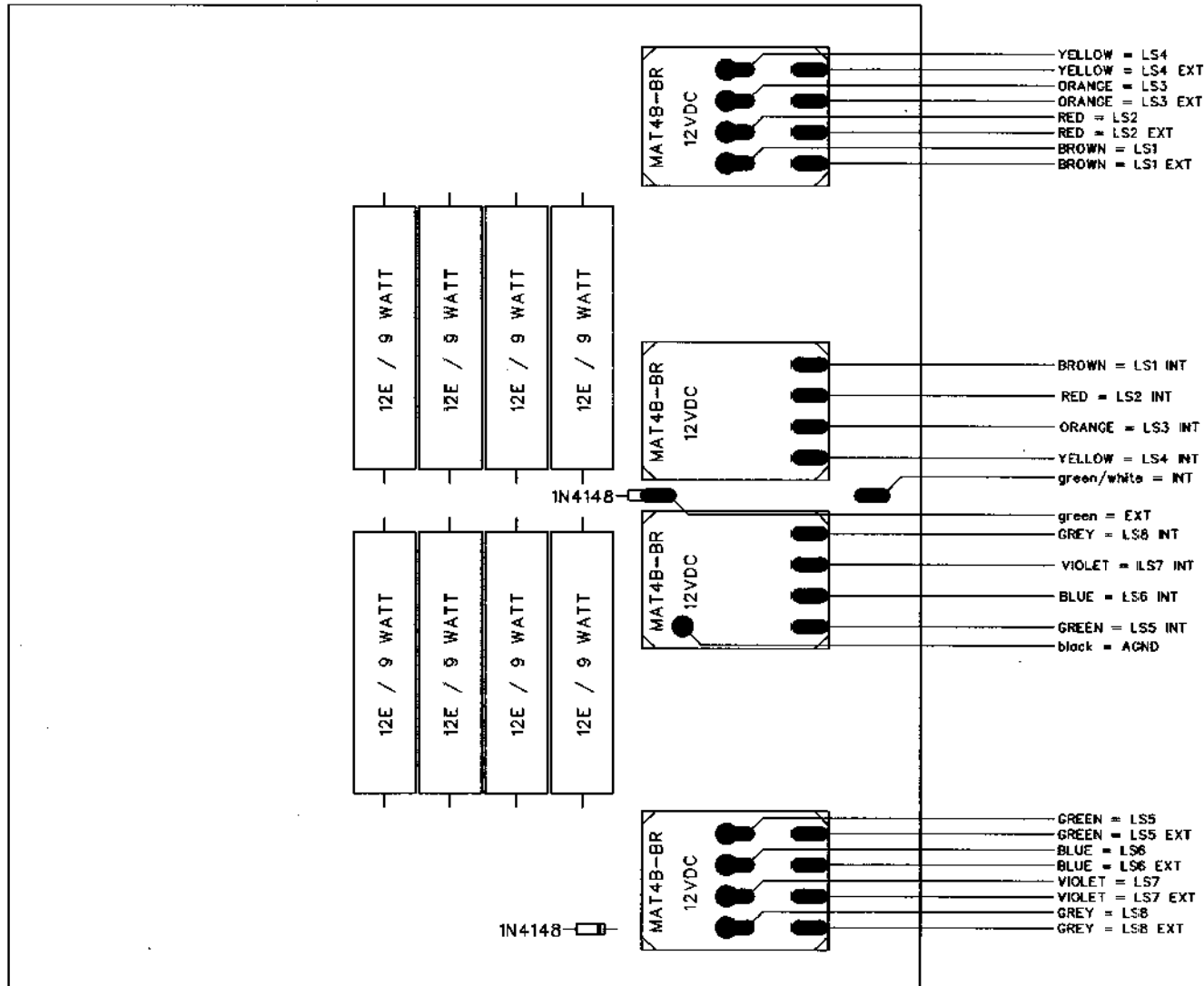
PCB-NR JHO 7163

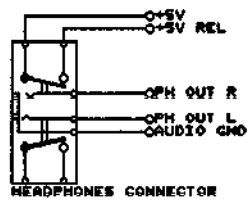




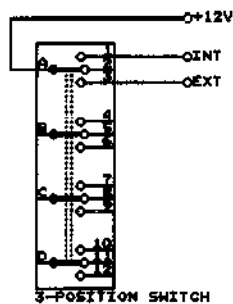


PCB-NR JHO 3080



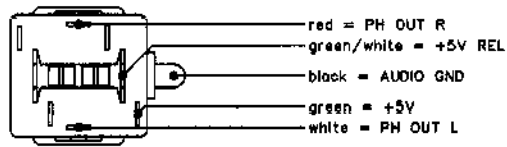


HEADPHONES CONNECTOR

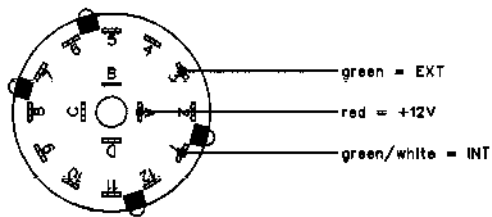


3-POSITION SWITCH

POSITION 1 = INTERNAL SPEAKERS
 POSITION 2 = INTERNAL + EXTERNAL SPEAKERS
 POSITION 3 = EXTERNAL SPEAKERS



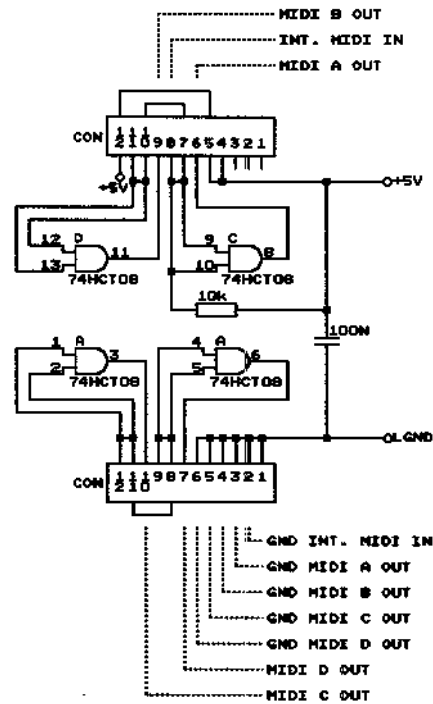
HEADPHONES CONNECTOR



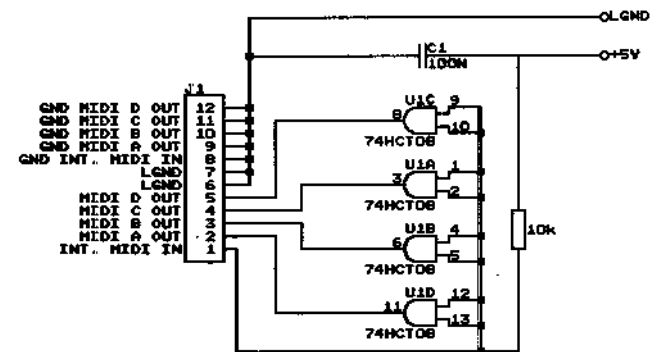
3-POSITION SWITCH

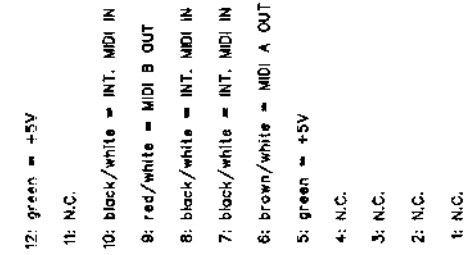
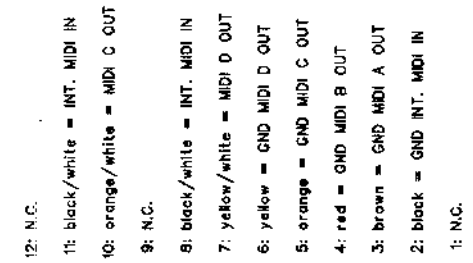
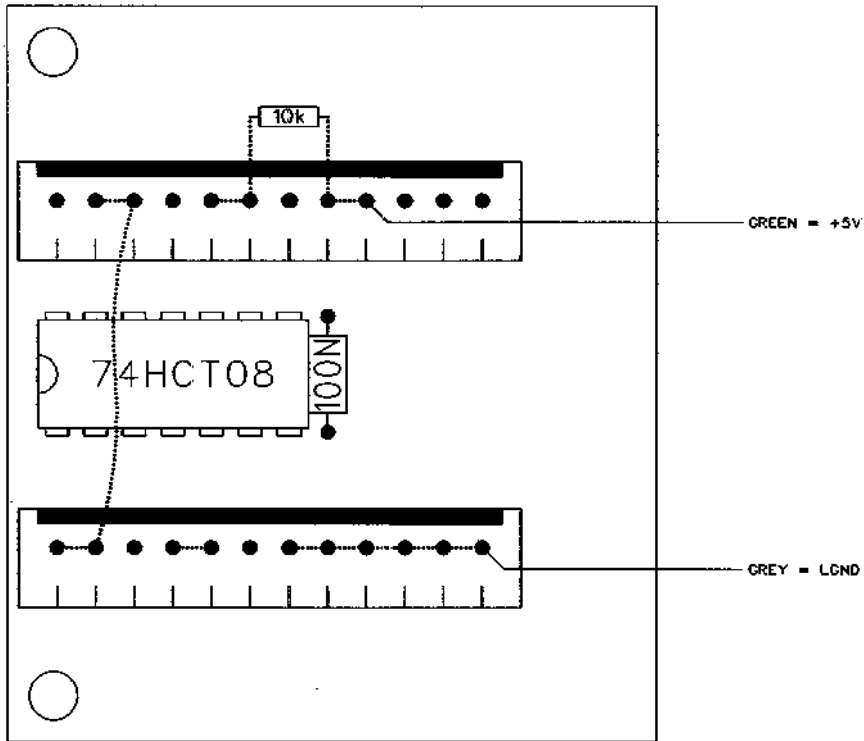
| | | | |
|---|-----------|----------|------------|
| WIRING HEADPHONES CONNECTOR AND 3-POS. SWITCH | | | |
| DESIGN | LAE | | REV. |
| DRAWN | VERSCHOOR | 04-09-88 | 1 |
| JOHANNUS ORGELBOUW | | | PAGE 14-10 |

OLD TYPE

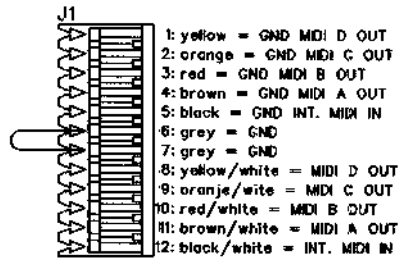
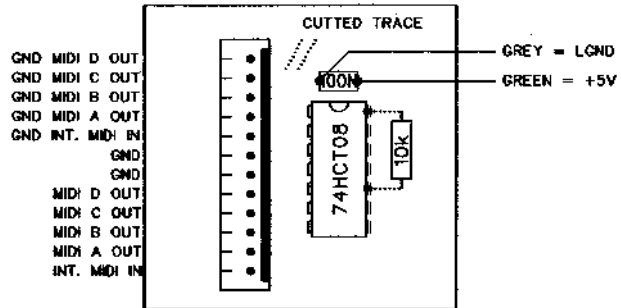


NEW (MODIFIED) TYPE





PCB-NR JHO 9999



PCB-NR JHO 9999

