

JOHANNUS

SCHEMATIC DIAGRAMS

OPUS 1110

ALSO USABLE FOR OPUS 1120

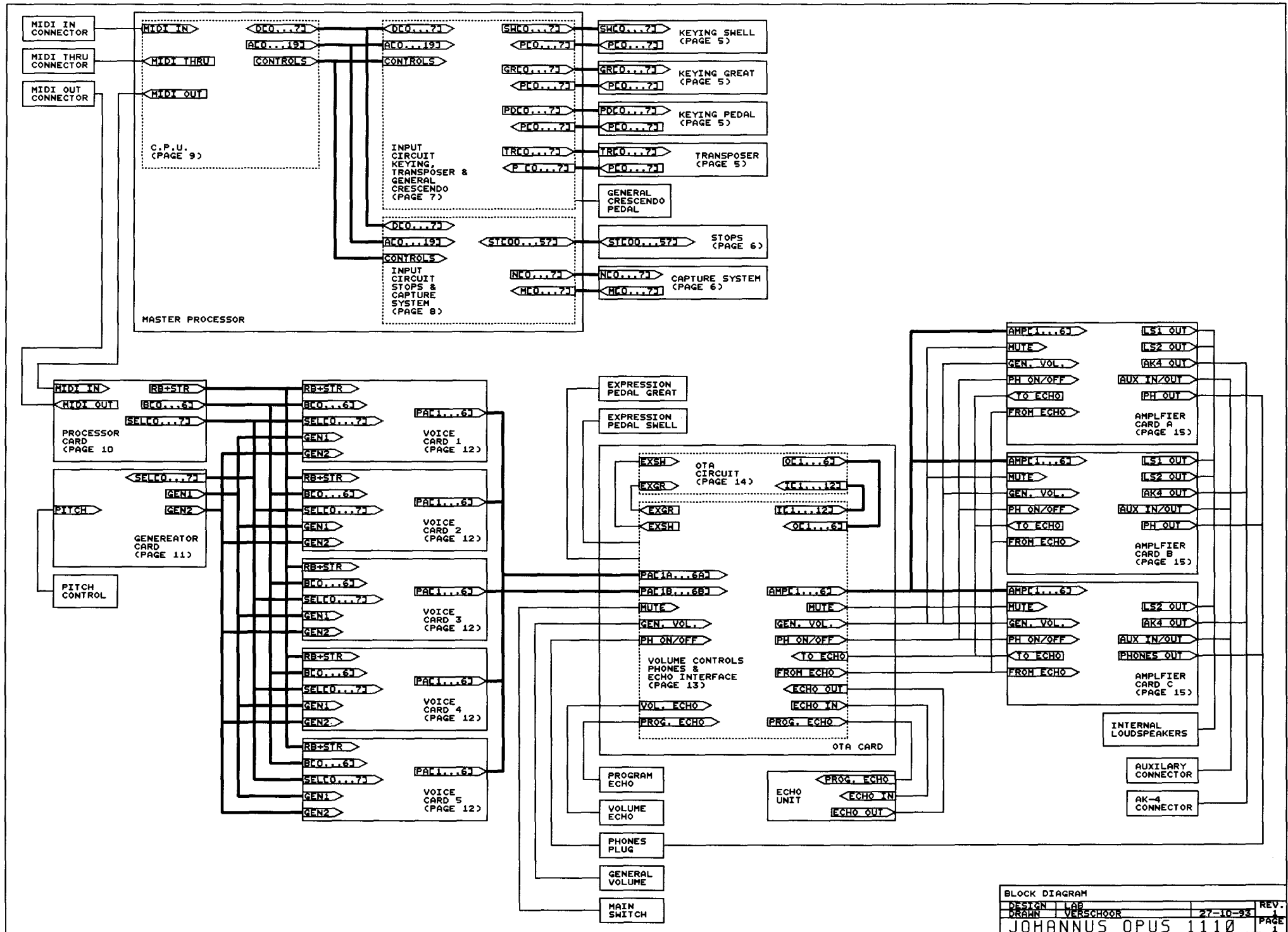
ALTERATIONS RESERVED

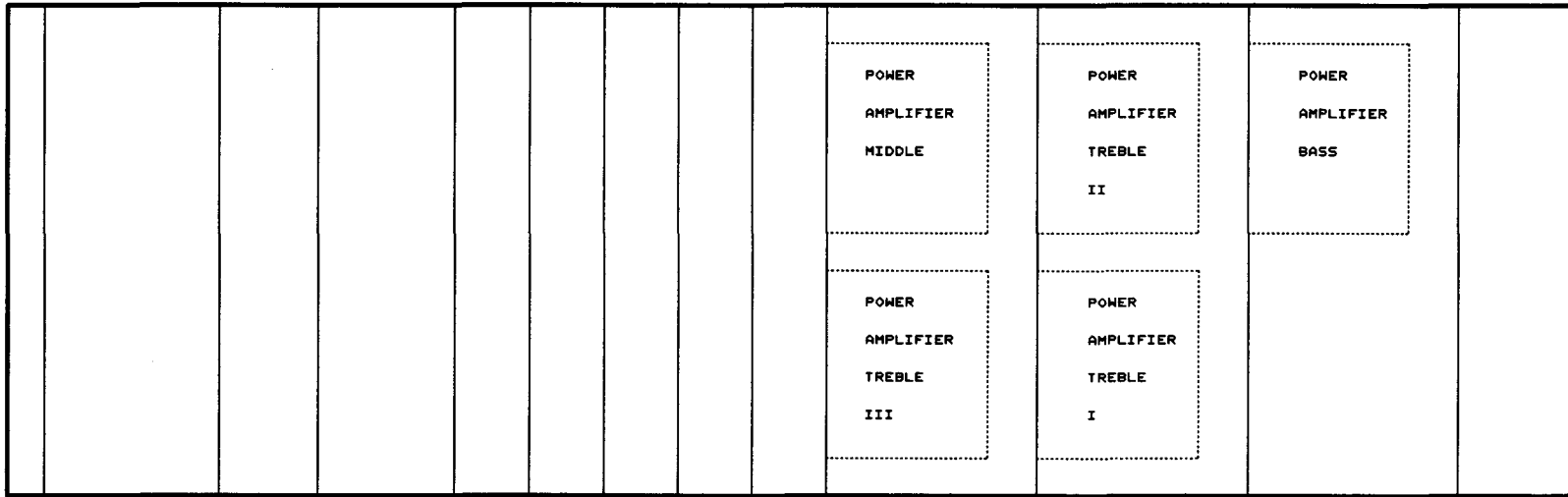
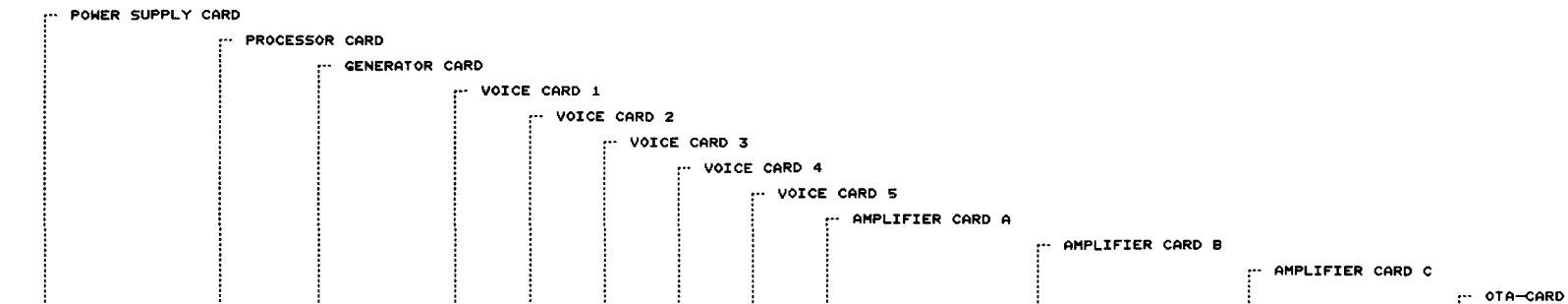
JOHANNUS Orgelbouw b.v.

Morsestraat 28 - 6716 AH Ede - Tel. (08380) 37403 - Fax (08380) 222338

C O N T E N T S

1. BLOCK DIAGRAM
2. POSITION DIAGRAM CARDS (TOPVIEW) & EXTERNAL CONNECTIONS (mounted on the rearside of the organ)
3. PINNING BUS CARD CONNECTORS
4. TRANSFORMER CONNECTIONS & POWER SUPPLY
5. SCANNING KEYING & TRANSPOSER
6. STOP-BANK & SWITCH-BANK CAPTURE SYSTEM
7. INPUT CIRCUIT SCANNING KEYING, TRANSPOSER & GENERAL CRESCENDO CIRCUIT (master processor)
8. INPUT CIRCUIT STOPS & CAPTURE SYSTEM (master processor)
9. C.P.U. (master processor)
10. PROCESSOR CARD
11. GENERATOR CARD
12. VOICE CARD
13. VOLUMECONTROLS; HEADPHONES CONNECTIONS & ECHO INTERFACE (ota card)
14. EXPRESSION PEDAL CIRCUIT (ota card)
15. AMPLIFIER CARD
16. POSITION DIAGRAM ADJUSTMENTS
INTERNAL POTENTIOMETERS





1. NOT CONNECTED
2. NOT CONNECTED
3. NOT CONNECTED
4. +5V MIDI IN
5. MIDI IN



MIDI IN

1. NOT CONNECTED
2. NOT CONNECTED
3. NOT CONNECTED
4. +5V MIDI THRU
5. MIDI THRU



MIDI THRU

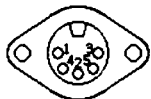
1. NOT CONNECTED
2. NOT CONNECTED
3. NOT CONNECTED
4. +5V MIDI OUT
5. MIDI OUT



MIDI OUT

SOLDERINGSIDE VIEW

1. AK-4 OUT CHANNEL A
2. GROUND
3. NOT CONNECTED
4. AK-4 OUT CHANNEL B
5. NOT CONNECTED



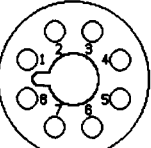
AK-4 OUT

1. AUX OUT CHANNEL A
2. GROUND
3. AUX IN CHANNEL A
4. AUX OUT CHANNEL B
5. AUX IN CHANNEL B



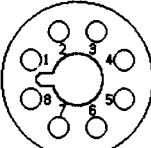
AUX IN/OUT

1. - MIDDLE AMPLIFIER
2. + MIDDLE AMPLIFIER
3. - TREBLE I AMPLIFIER
4. + TREBLE I AMPLIFIER
5. - TREBLE II AMPLIFIER
6. + TREBLE II AMPLIFIER
7. - TREBLE III AMPLIFIER
8. + TREBLE III AMPLIFIER



LS OUT A

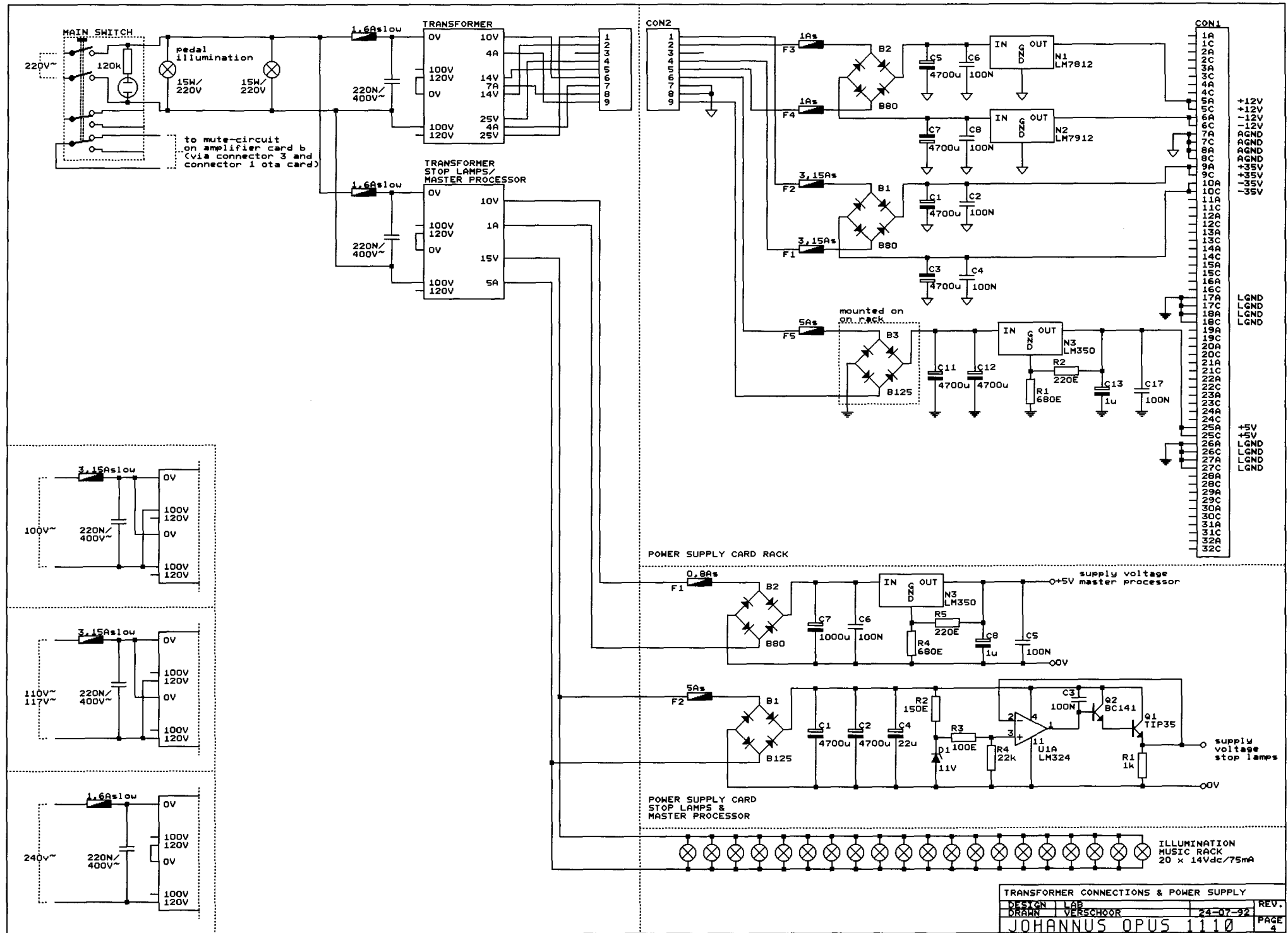
1. - BASS AMPLIFIER
2. + BASS AMPLIFIER



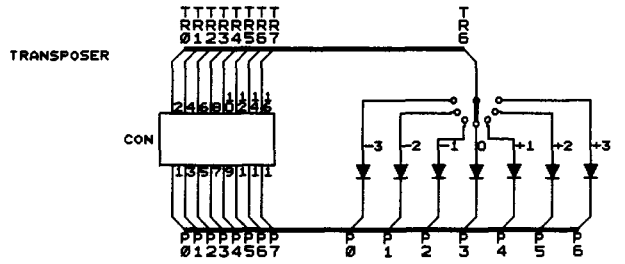
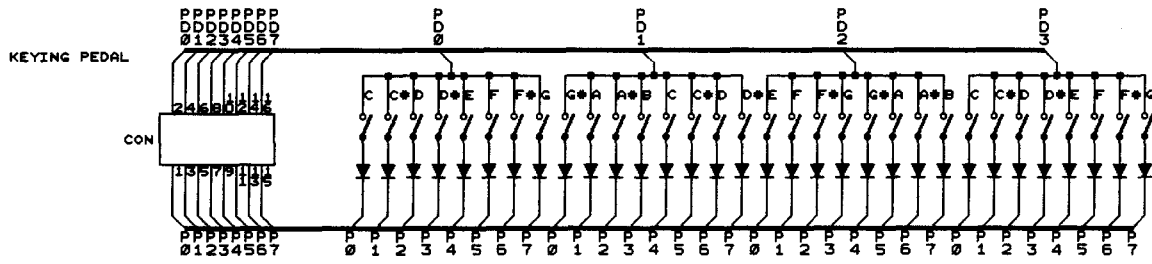
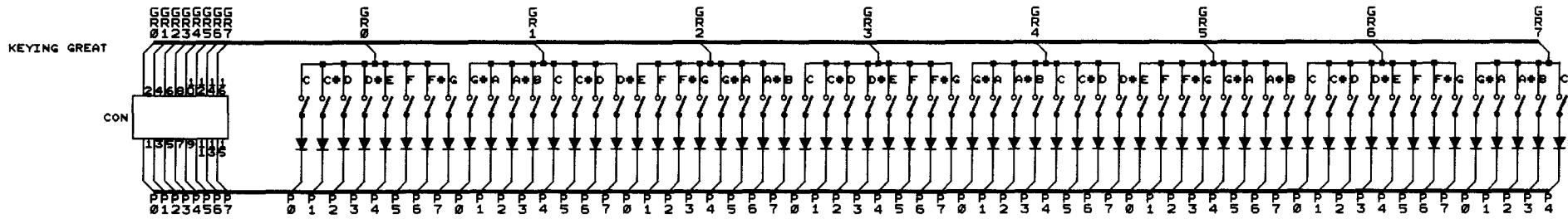
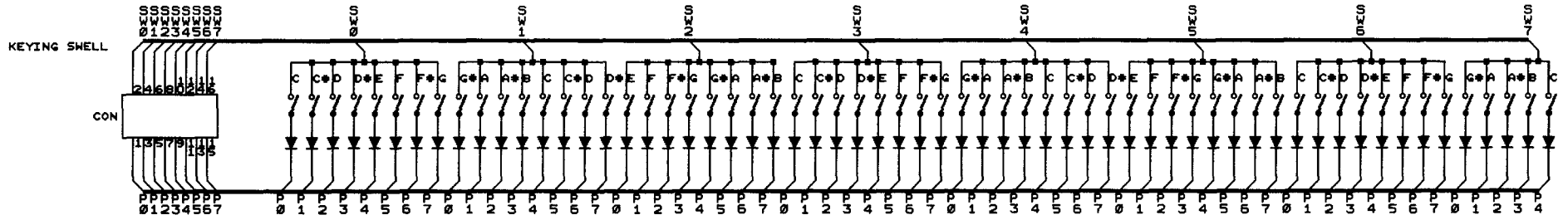
LS OUT B

(OPTIONAL)

CON1	CON2	CON3	CON4-5	CON6-8	CON9-10	CON11	CON12
8 1 5 0 2 0 0 3 0 0 4 0 +12V 0 5 0 -12V 0 6 0 AGND 0 7 0 AGND 0 8 0 +35V 0 9 0 -35V 0 10 0 0 11 0 0 12 0 0 13 0 0 14 0 0 15 0 0 16 0 0 17 0 0 18 0 0 19 0 0 20 0 0 21 0 0 22 0 0 23 0 0 24 0 +5V 0 25 0 LGND 0 26 0 LGND 0 27 0 0 28 0 0 29 0 0 30 0 0 31 0 0 32 0	8 1 5 0 2 0 0 3 0 0 4 0 +12V 0 5 0 -12V 0 6 0 AGND 0 7 0 AGND 0 8 0 +35V 0 9 0 -35V 0 10 0 0 11 0 0 12 0 0 13 0 0 14 0 0 15 0 0 16 0 0 17 0 0 18 0 0 19 0 0 20 0 0 21 0 0 22 0 0 23 0 0 24 0 +5V 0 25 0 LGND 0 26 0 LGND 0 27 0 0 28 0 0 29 0 0 30 0 0 31 0 0 32 0	8 1 5 0 2 0 0 3 0 0 4 0 +12V 0 5 0 -12V 0 6 0 AGND 0 7 0 AGND 0 8 0 +35V 0 9 0 -35V 0 10 0 0 11 0 0 12 0 0 13 0 0 14 0 0 15 0 0 16 0 0 17 0 0 18 0 0 19 0 0 20 0 0 21 0 0 22 0 0 23 0 0 24 0 +5V 0 25 0 LGND 0 26 0 LGND 0 27 0 0 28 0 0 29 0 0 30 0 0 31 0 0 32 0	8 1 5 0 2 0 0 3 0 0 4 0 +12V 0 5 0 -12V 0 6 0 AGND 0 7 0 AGND 0 8 0 +35V 0 9 0 -35V 0 10 0 0 11 0 0 12 0 0 13 0 0 14 0 0 15 0 0 16 0 0 17 0 0 18 0 0 19 0 0 20 0 0 21 0 0 22 0 0 23 0 0 24 0 +5V 0 25 0 LGND 0 26 0 LGND 0 27 0 0 28 0 0 29 0 0 30 0 0 31 0 0 32 0	8 1 5 0 2 0 0 3 0 0 4 0 +12V 0 5 0 -12V 0 6 0 AGND 0 7 0 AGND 0 8 0 +35V 0 9 0 -35V 0 10 0 0 11 0 0 12 0 0 13 0 0 14 0 0 15 0 0 16 0 0 17 0 0 18 0 0 19 0 0 20 0 0 21 0 0 22 0 0 23 0 0 24 0 +5V 0 25 0 LGND 0 26 0 LGND 0 27 0 0 28 0 0 29 0 0 30 0 0 31 0 0 32 0	8 1 5 0 2 0 0 3 0 0 4 0 +12V 0 5 0 -12V 0 6 0 AGND 0 7 0 AGND 0 8 0 +35V 0 9 0 -35V 0 10 0 0 11 0 0 12 0 0 13 0 0 14 0 0 15 0 0 16 0 0 17 0 0 18 0 0 19 0 0 20 0 0 21 0 0 22 0 0 23 0 0 24 0 +5V 0 25 0 LGND 0 26 0 LGND 0 27 0 0 28 0 0 29 0 0 30 0 0 31 0 0 32 0	8 1 5 0 2 0 0 3 0 0 4 0 +12V 0 5 0 -12V 0 6 0 AGND 0 7 0 AGND 0 8 0 +35V 0 9 0 -35V 0 10 0 0 11 0 0 12 0 0 13 0 0 14 0 0 15 0 0 16 0 0 17 0 0 18 0 0 19 0 0 20 0 0 21 0 0 22 0 0 23 0 0 24 0 +5V 0 25 0 LGND 0 26 0 LGND 0 27 0 0 28 0 0 29 0 0 30 0 0 31 0 0 32 0	8 1 5 0 2 0 0 3 0 0 4 0 +12V 0 5 0 -12V 0 6 0 AGND 0 7 0 AGND 0 8 0 +35V 0 9 0 -35V 0 10 0 0 11 0 0 12 0 0 13 0 0 14 0 0 15 0 0 16 0 0 17 0 0 18 0 0 19 0 0 20 0 0 21 0 0 22 0 0 23 0 0 24 0 +5V 0 25 0 LGND 0 26 0 LGND 0 27 0 0 28 0 0 29 0 0 30 0 0 31 0 0 32 0
POWER SUPPLY CARD	PROCESSOR CARD	GENERATOR CARD	VOICE CARD 1-2	VOICE CARD 3-5	AMPLIFIER CARD A & B	AMPLIFIER CARD C	OTA CARD

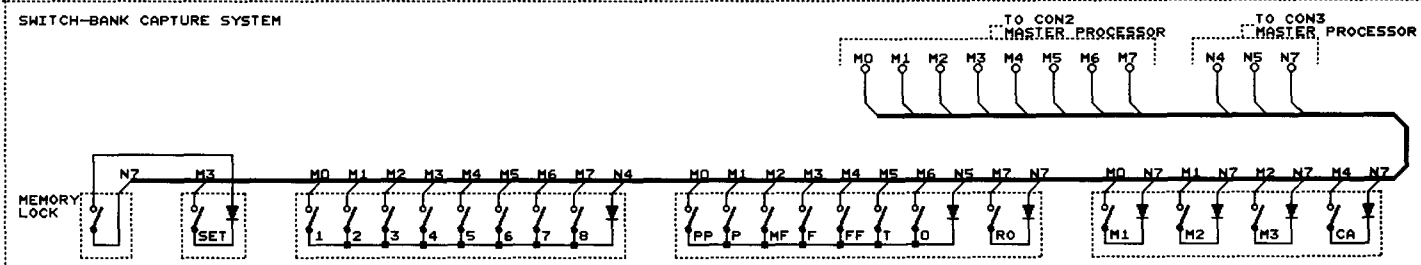
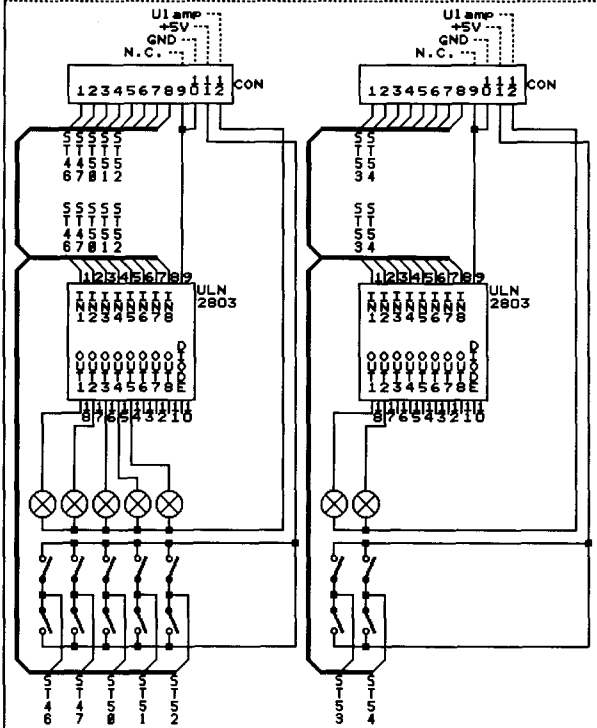
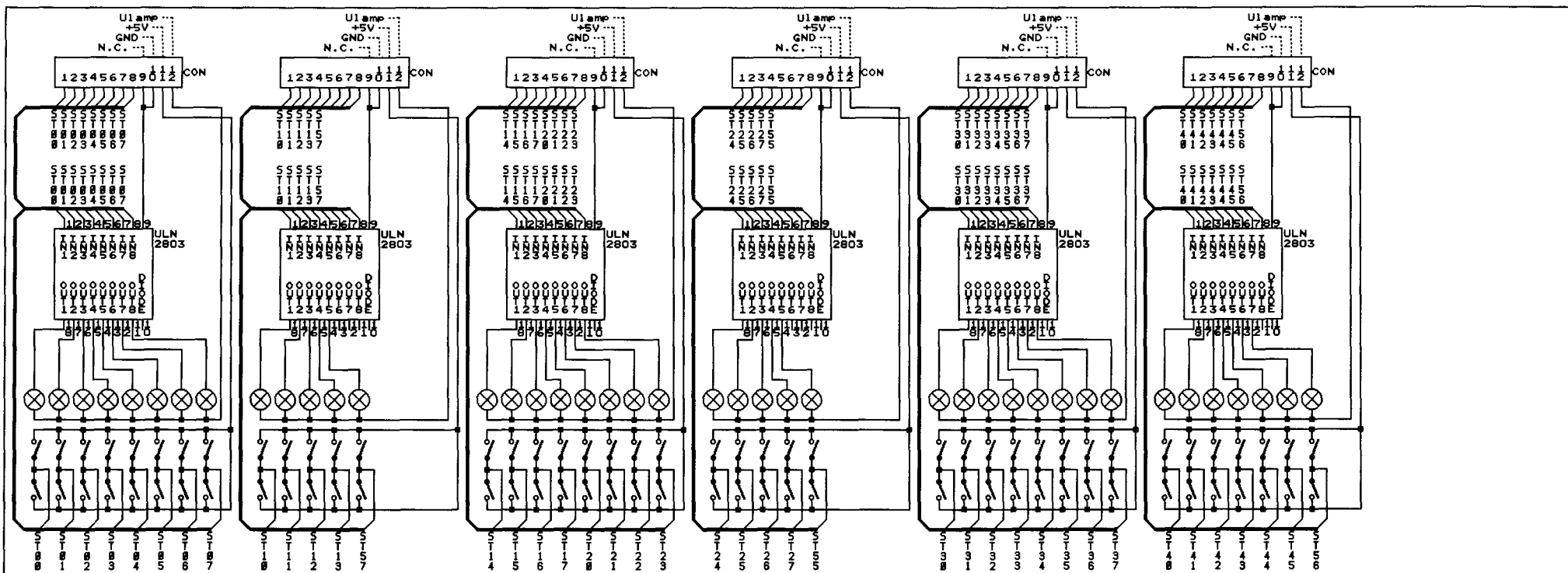


TRANSFORMER CONNECTIONS & POWER SUPPLY			
DESIGN	LAB		REV.
DRAWN	VERSCHOOR	24-07-92	PAGE 4
JOHANNUS OPUS 1110			



ALL CONNECTORS: TO MASTER PROCESSOR
 ALL DIODES: 1N4148

SCANNING KEYING & TRANSPOSER		
DESIGN	LAB	REV.
DRAHN	VERSCHOOR	24-07-92
JOHANNUS OPUS 1110		PAGE 5



- STOPLIST**
- | | | | |
|---------------------------|--------------------------------|-----------------------------|--------------------------------|
| PEDAL | ST00 = DOUBLE BASS 16' | SWELL | ST30 = QUINTATON 16' |
| ST01 = SUBBASS 16' | ST02 = OCTAVE 8' | ST31 = OPEN DIAPASON 8' | ST32 = STOPPED FLUTE 8' |
| ST03 = GEDACKT 8' | ST04 = CHORALBASS 4' | ST33 = VIOLA 8' | ST34 = CELESTE 8' |
| ST05 = BASSFLUTE 4' | ST06 = OPEN FLUTE 2' | ST35 = OCTAVE 4' | ST36 = ROHRFLUTE 4' |
| ST07 = MIXTURE III | ST10 = BOMBARDE 32' | ST37 = FLUTE TWELFTH 2 2/3' | ST40 = HALDFLUTE 2' |
| ST11 = CONTRA TRUMPET 16' | ST12 = TRUMPET 8' | ST41 = TIERCE 1 3/5' | ST42 = NAZARD 1 1/3' |
| ST13 = CLARION 4' | ST57 = MIDI TO PEDAL (CHAN. 3) | ST43 = RAUSCHPFEIFE III-V | ST44 = CROMORNE 8' |
| GREAT | ST14 = BOURDON 16' | ST45 = OBOE 8' | ST46 = MIDI TO SWELL (CHAN. 2) |
| ST15 = OPEN DIAPASON 8' | ST16 = ROHRFLUTE 8' | ACCESSORIES | ST46 = SWELL TO GREAT |
| ST17 = GAMBA 8' | ST20 = OCTAVE 4' | ST47 = GREAT TO PEDAL | ST50 = SWELL TO PEDAL |
| ST21 = OPEN FLUTE 4' | ST22 = TWELFTH 2 2/3' | ST51 = TREMULANT GREAT | ST52 = TREMULANT SWELL |
| ST23 = SUPEROCTAVE 2' | ST24 = CORNET IV | ST53 = CHORUS | ST54 = MANUAL BASS |
| ST25 = MIXTURE V-VII | ST26 = CONTRA TRUMPET 16' | | |
| ST27 = TRUMPET 8' | ST55 = MIDI TO GREAT (CHAN. 1) | | |

TO CON2 MASTER PROCESSOR

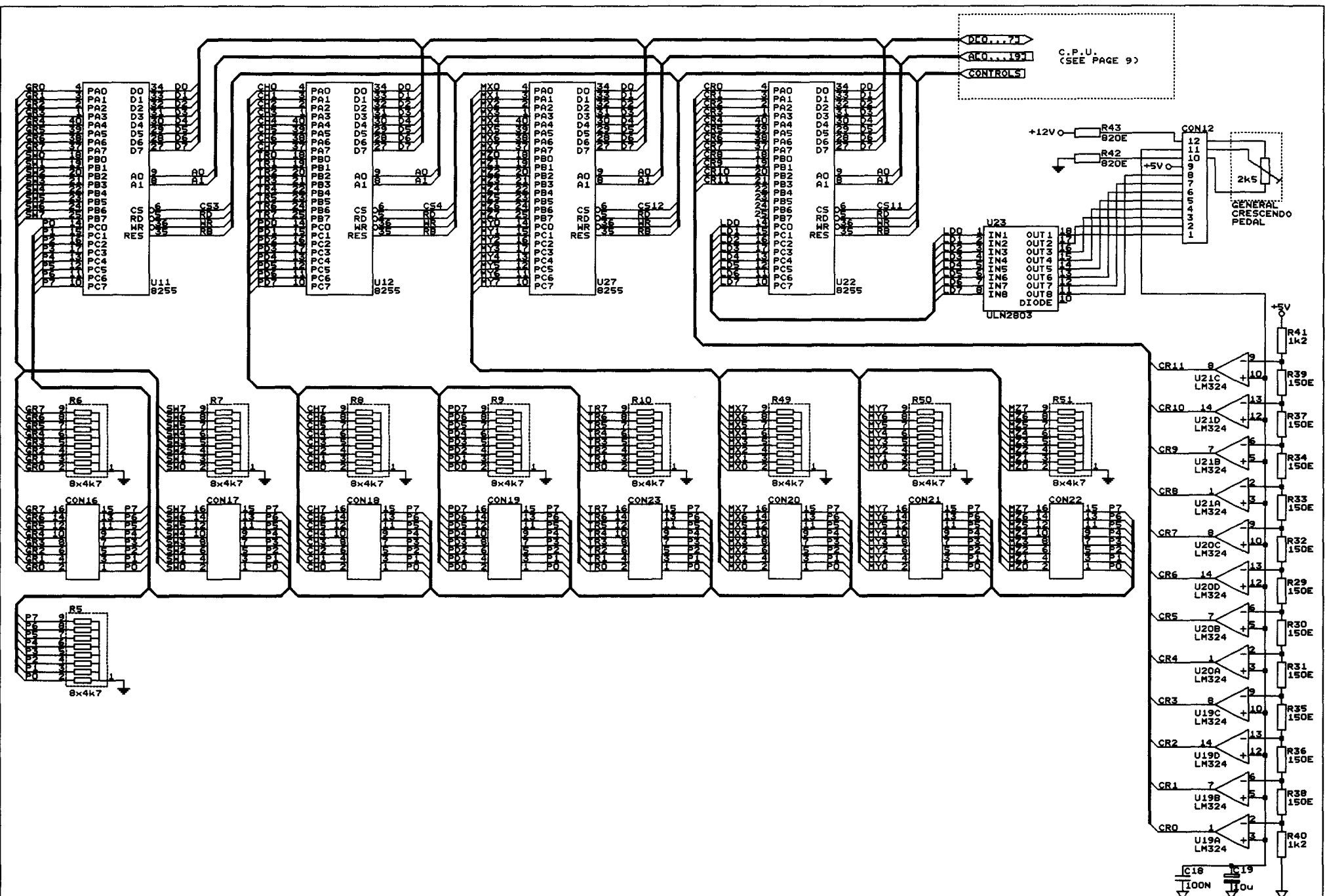
TO CON3 MASTER PROCESSOR

ALL CONNECTORS: TO MASTER PROCESSOR

ALL STOPLAMPS: 14Vdc/75mA

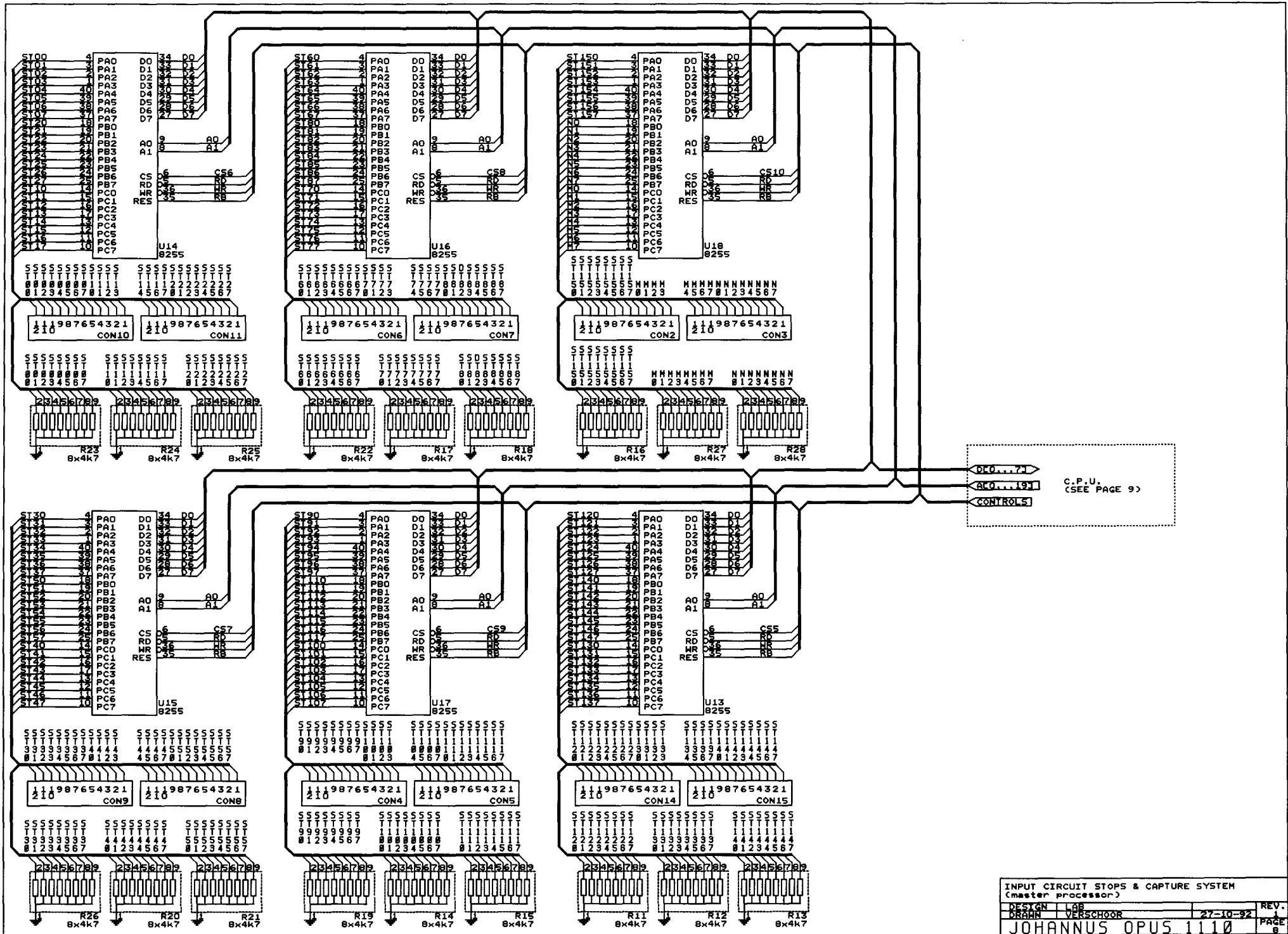
STOP-BANK AND SWITCH-BANK CAPTURE SYSTEM		
DESIGN	LAB	REV.
DRAWN	VERSCHOOR	27-10-93
JOHANNUS OPUS 1110		PAGE 6

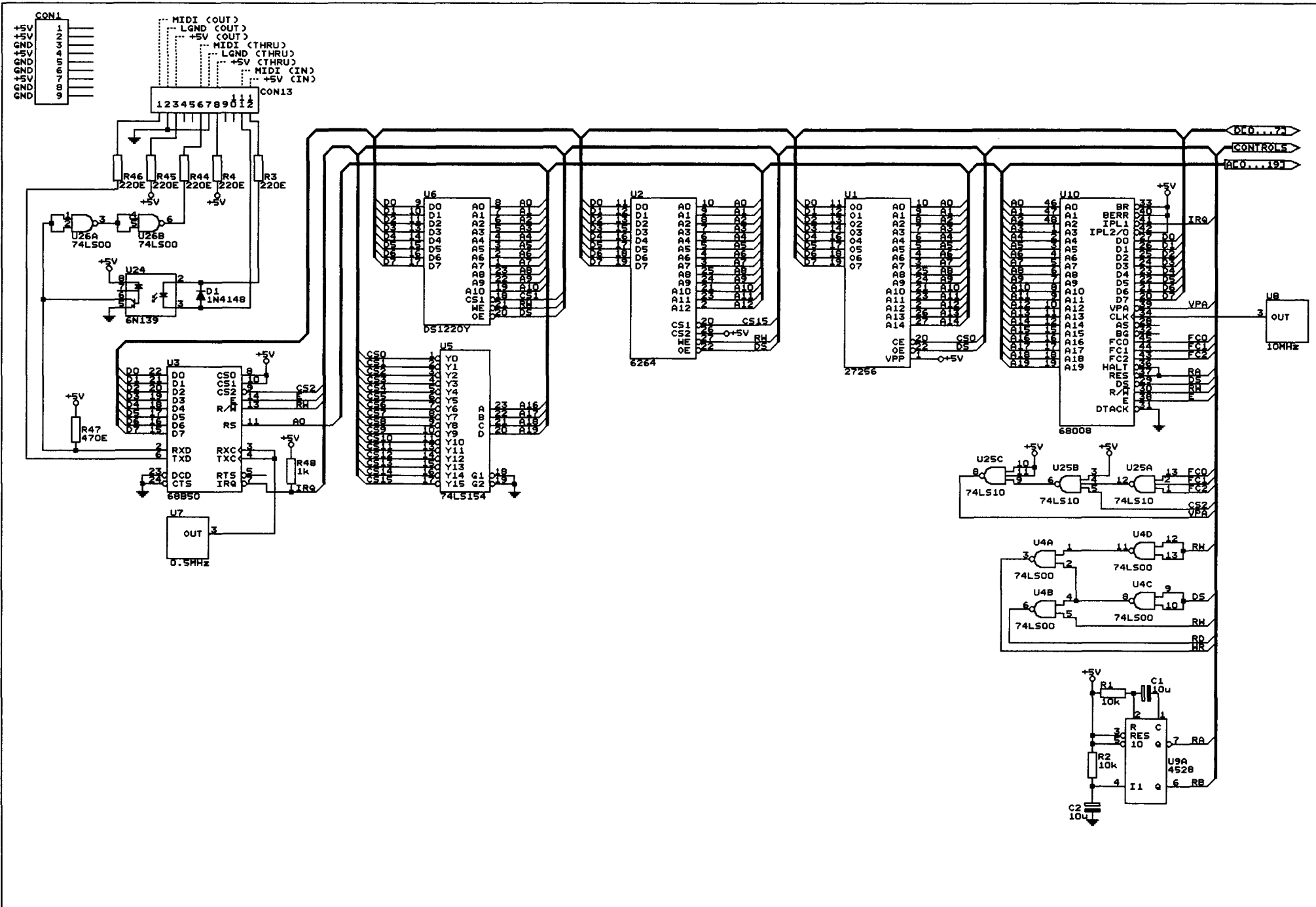
C.P.U.
(SEE PAGE 9)

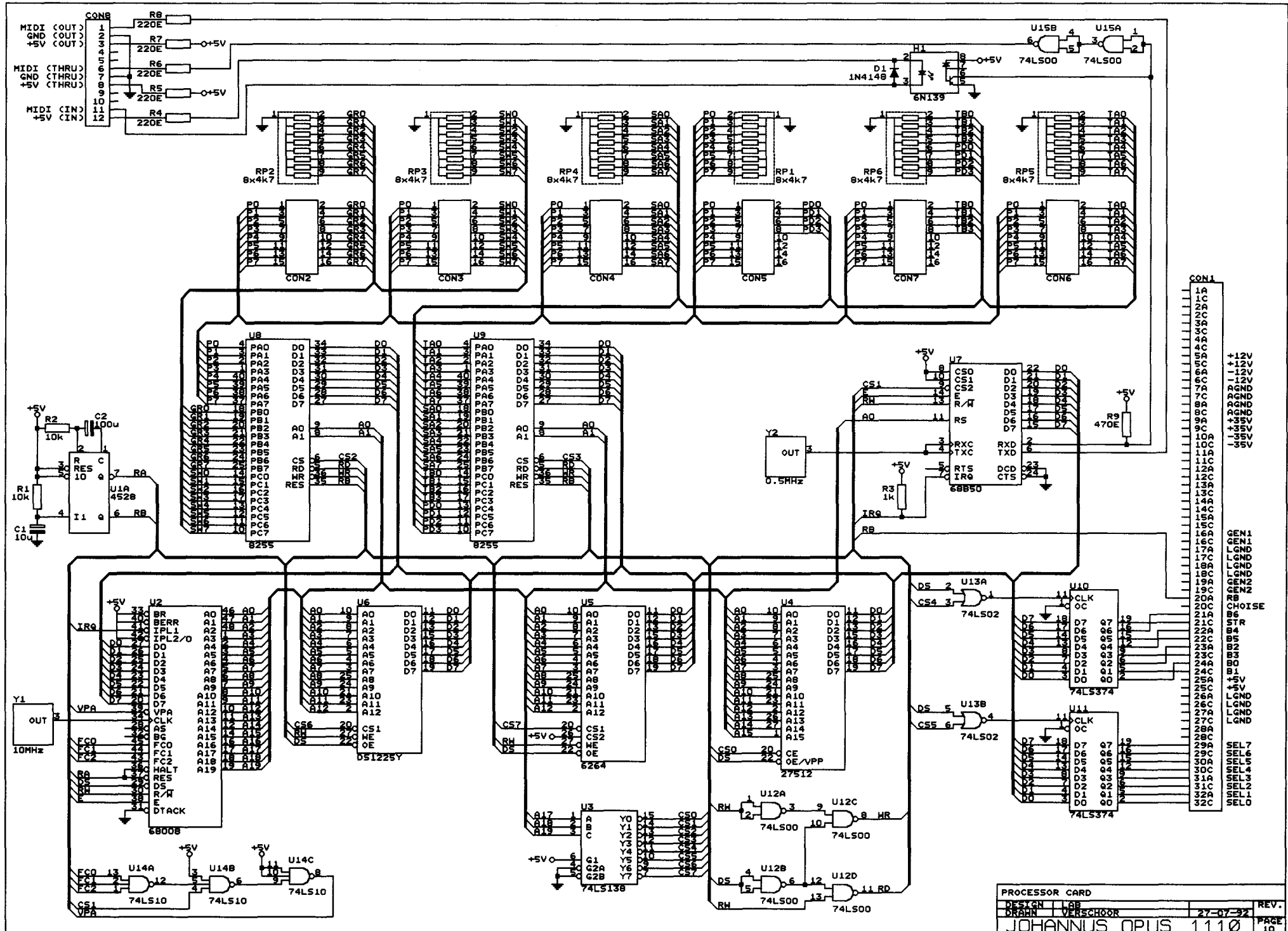


INPUT CIRCUIT SCANNING KEYING, TRANSPOSER &
GENERAL CRESCENDO CIRCUIT (master processor)

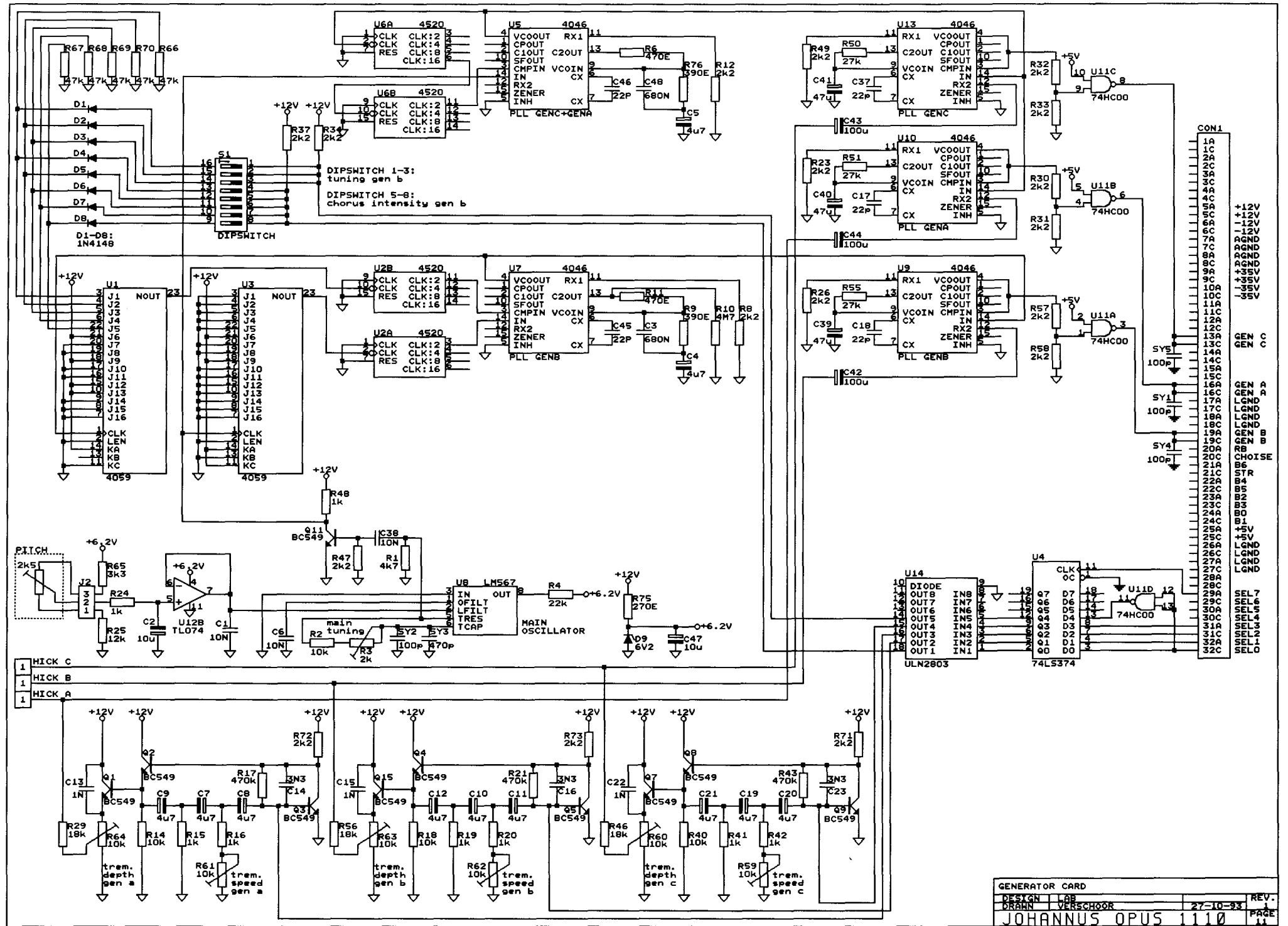
DESIGN	LAB	REV.
DRAHN	VERSCHOOR	27-07-92
JOHANNUS OPUS 1110		PAGE 7

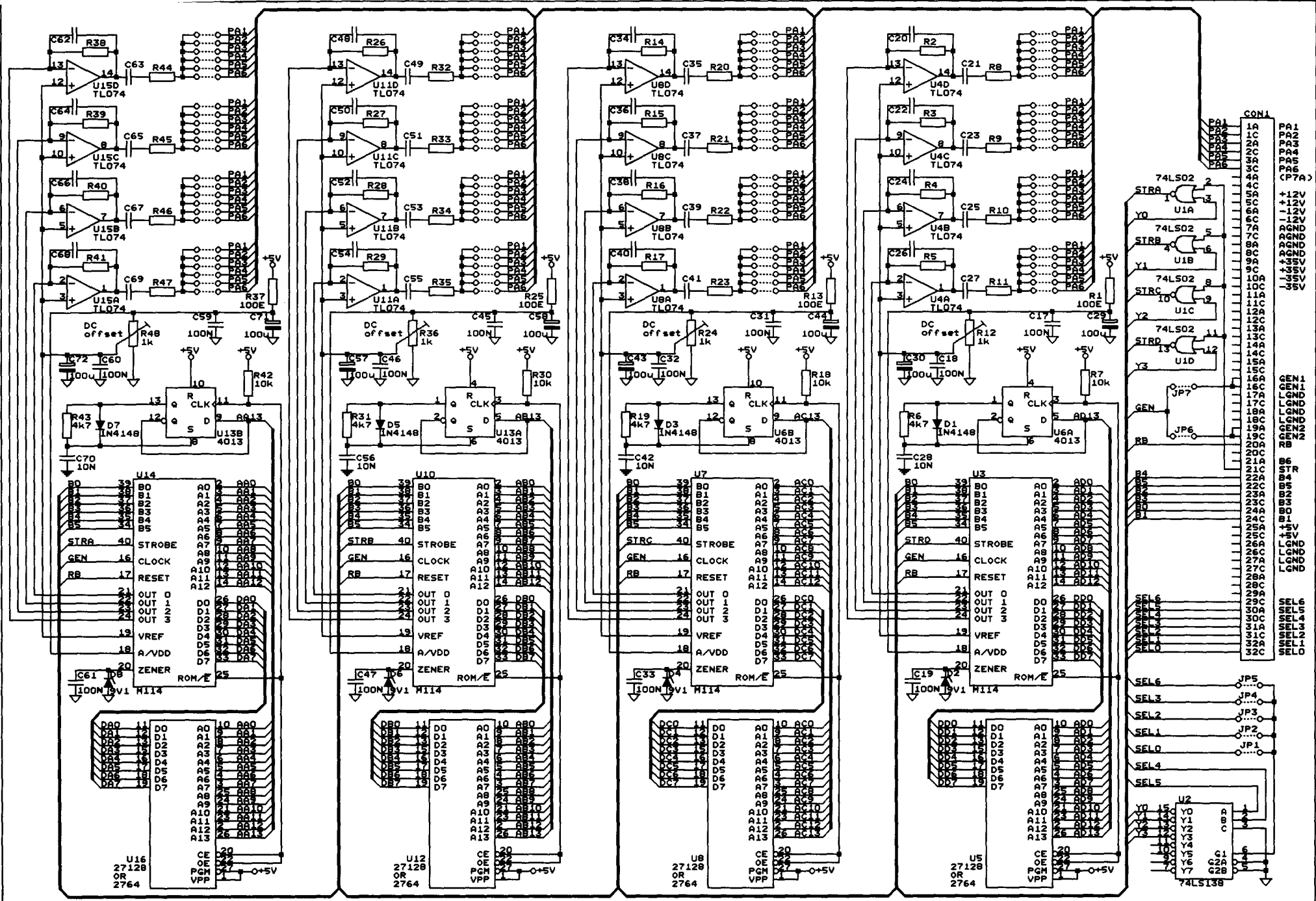




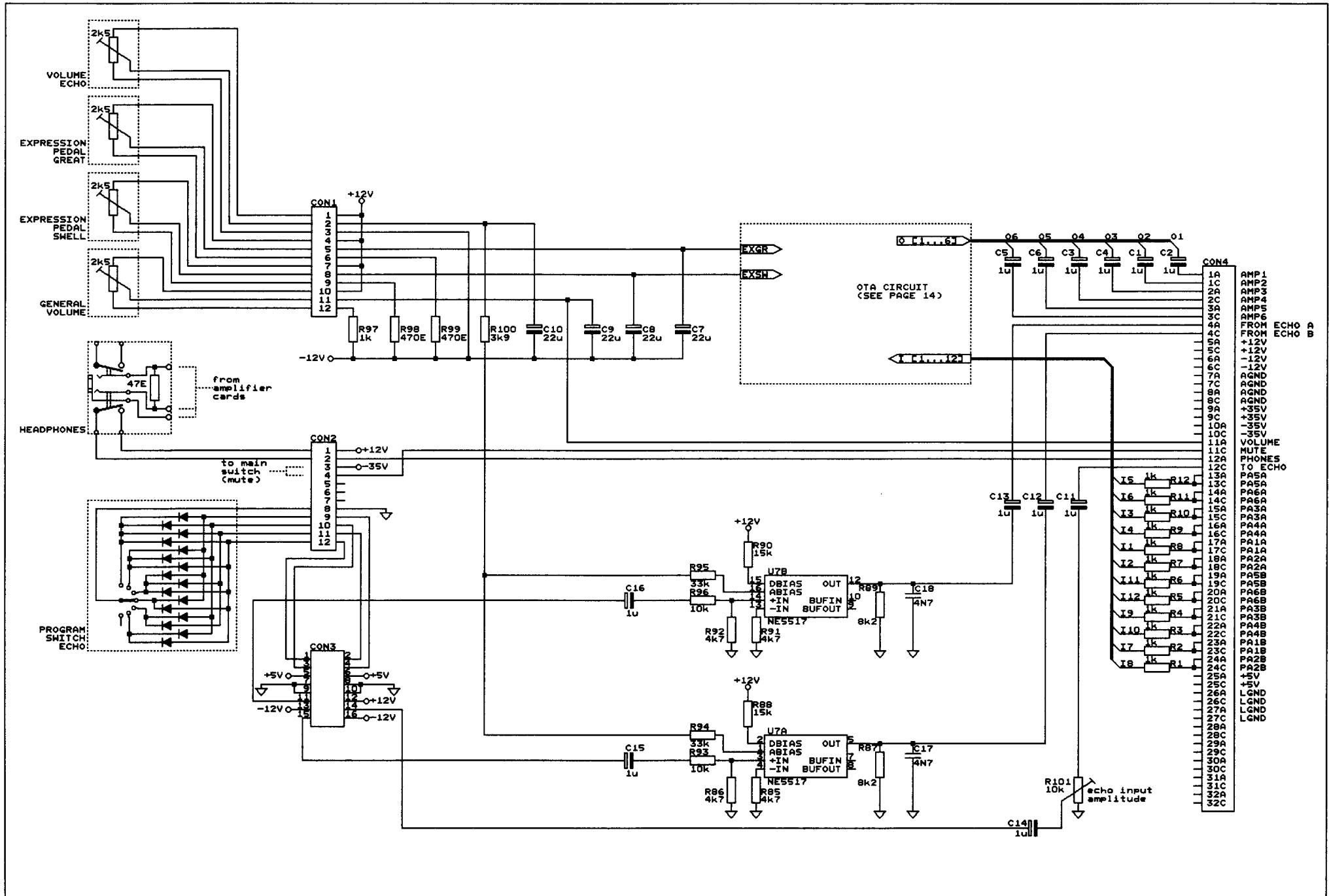


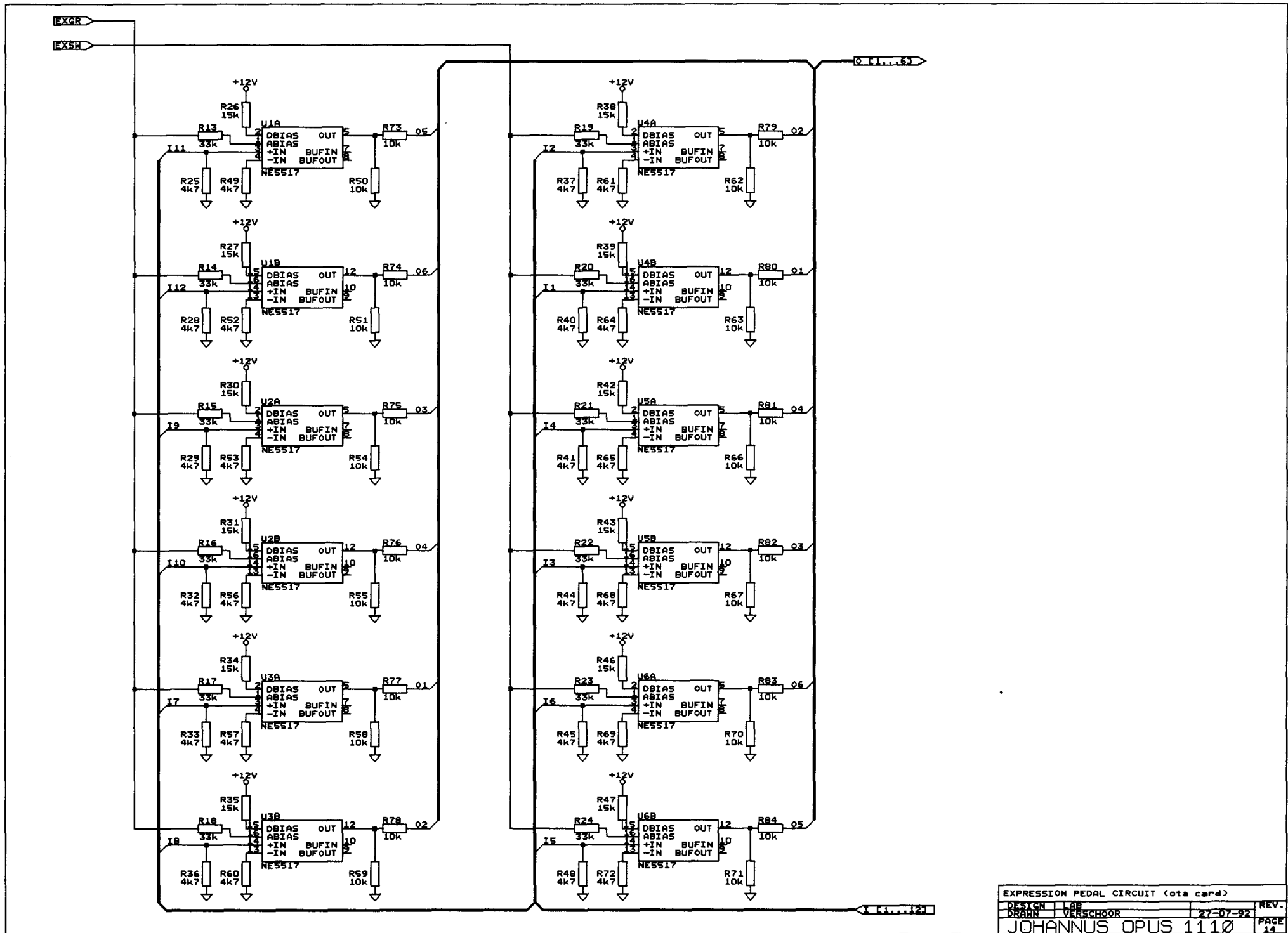
PROCESSOR CARD			
DESIGN	LAB	DATE	REV.
DRAHN	VERSCHOOR	27-07-92	
JOHANNUS OPUS 1110			PAGE 10



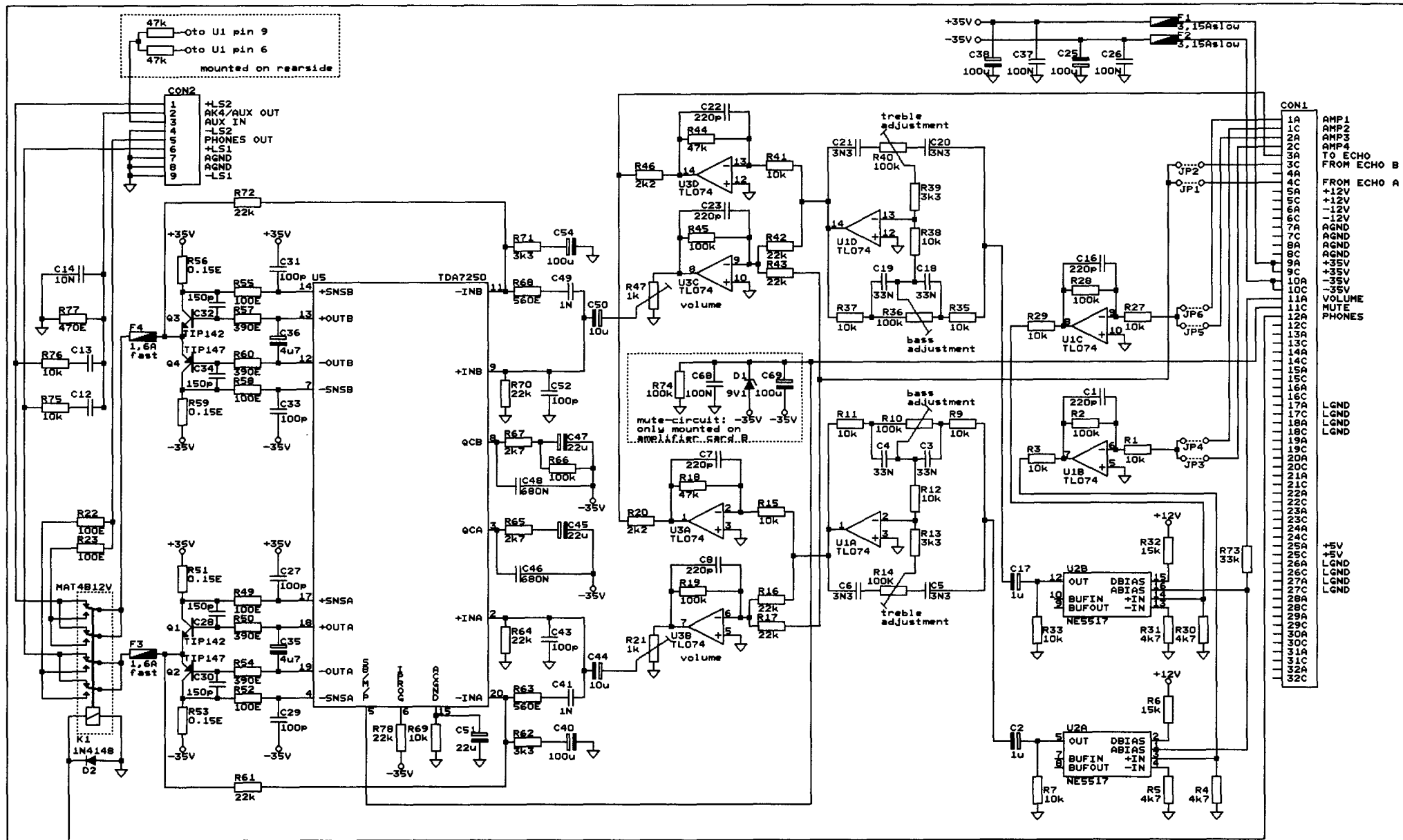


NOTE: IF FOR U5, U8, U12 OR U16 A 2764 EPROM IS PLACED INSTEAD OF A 27128 EPROM, THE 1/2 4013 (U6 AND U13) USED FOR SWITCHING THE UPPER 8K ROM AND THE LOWER 8K ROM, IS NOT NECESSARY.

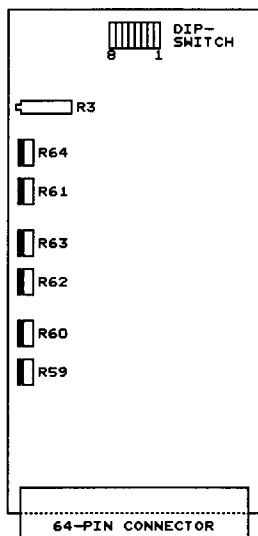




EXPRESSION PEDAL CIRCUIT (ota card)			
DESIGN	LAB	REV.	
DRAWN	VERSCHOOR	27-07-92	PAGE
JOHANNUS OPUS 1110			14

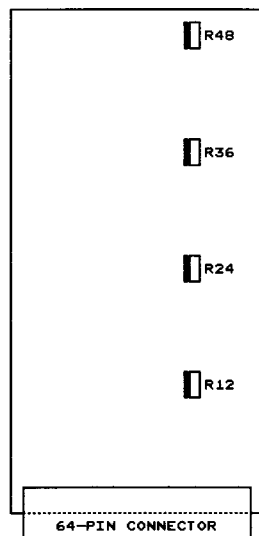


GENERATOR CARD
(COMPONENT-SIDE VIEW)



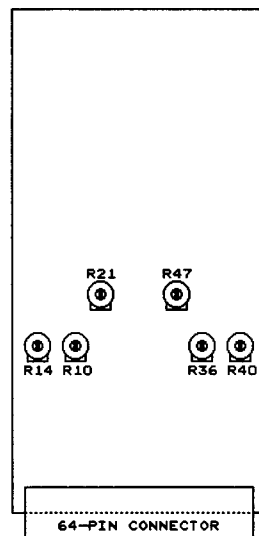
- R3 = MAIN TUNING
- R64 = TREMULANT DEPTH GREAT
- R61 = TREMULANT SPEED GREAT
- R63 = TREMULANT DEPTH SWELL
- R62 = TREMULANT SPEED SWELL
- R60 = TREMULANT DEPTH CHOIR
- R59 = TREMULANT SPEED CHOIR
- DS1-DS3 = TUNING SWELL
- DS4-DS8 = CHORUS INTENSITY SWELL

VOICE CARD
(COMPONENT-SIDE VIEW)



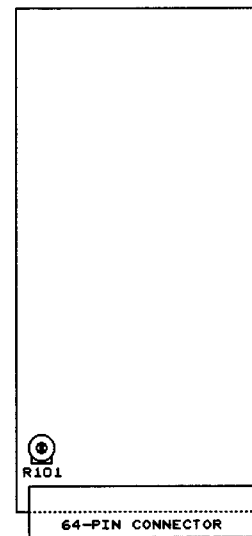
- R12 = DC-OFFSET VOICE D
(DISTORSION VOICE D)
 - R24 = DC-OFFSET VOICE C
(DISTORSION VOICE C)
 - R36 = DC-OFFSET VOICE B
(DISTORSION VOICE B)
 - R48 = DC-OFFSET VOICE A
(DISTORSION VOICE A)
- NOTE: R12-R24-R36-R48 ARE NOT
FOR CHANGING VOLUMES!!
TURNING THESE POTENTIOMETERS
WILL GIVE DISTORSION!!

AMPLIFIER CARD
(COMPONENT-SIDE VIEW)



- R10 = BASS LEFT AMPLIFIER
- R14 = TREBLE LEFT AMPLIFIER
- R21 = VOLUME LEFT AMPLIFIER
- R36 = BASS RIGHT AMPLIFIER
- R40 = TREBLE RIGHT AMPLIFIER
- R47 = VOLUME RIGHT AMPLIFIER

OTA CARD
(COMPONENT-SIDE VIEW)



- R101 = INPUT AMPLITUDE ECHO