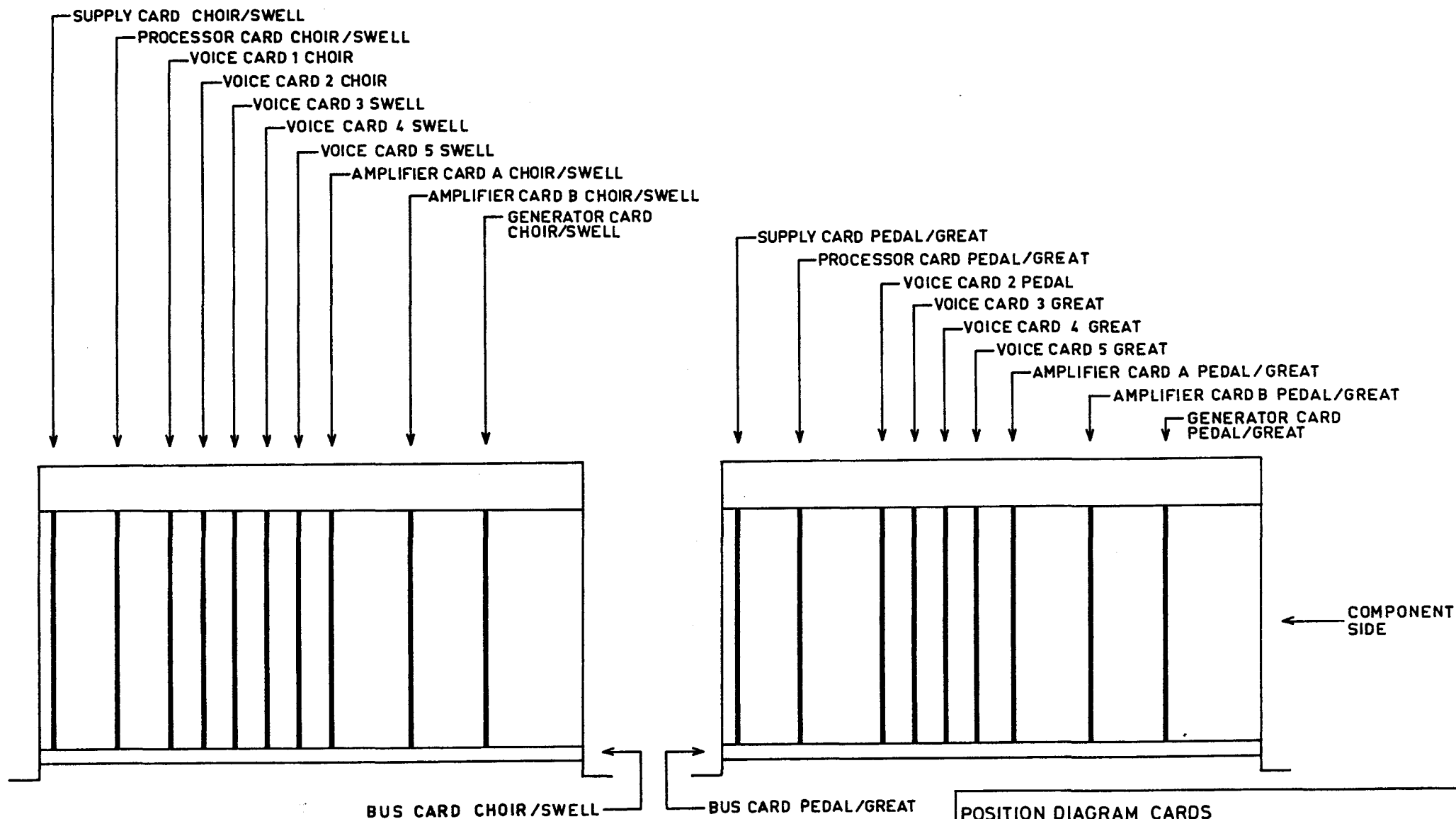


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SCHEMATIC DIAGRAMS
JOHANNUS
OPUS 1400
=====
alterations reserved
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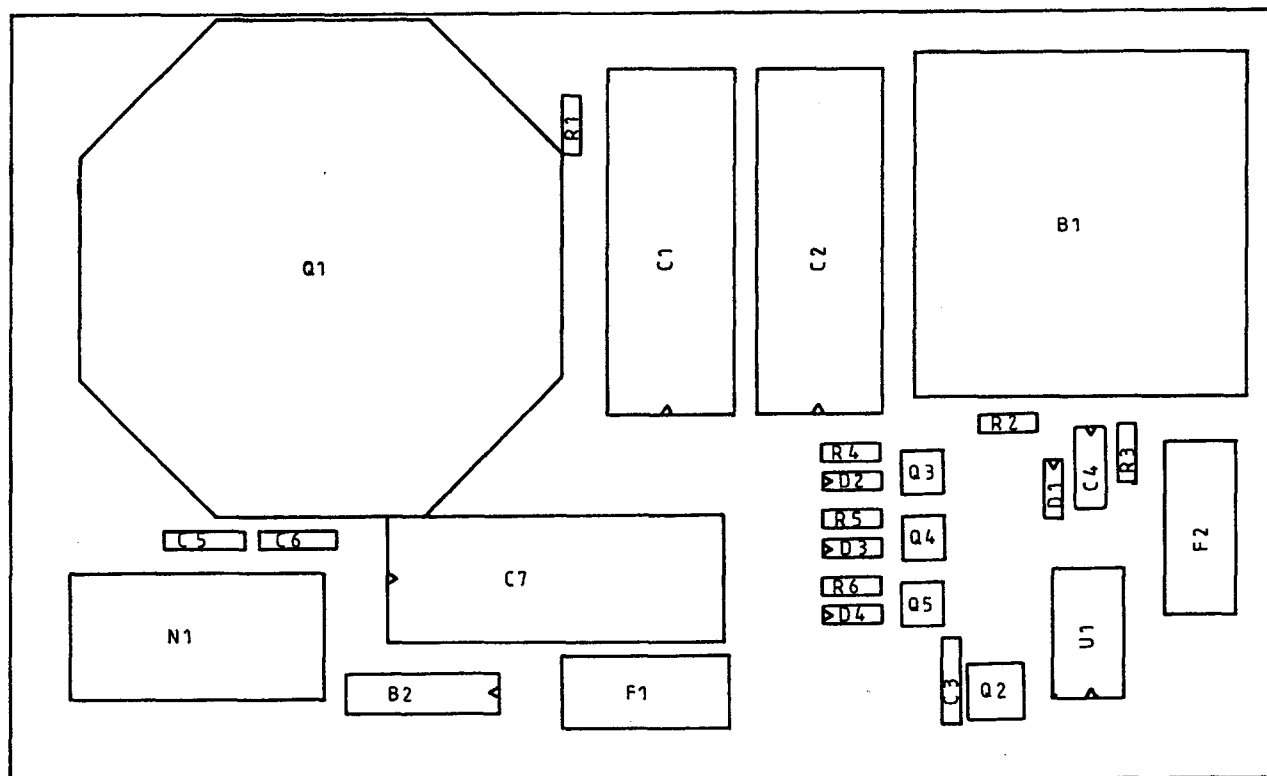
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3. LAY OUT POWER SUPPLY MASTER PROCESSOR and STOP LAMPS
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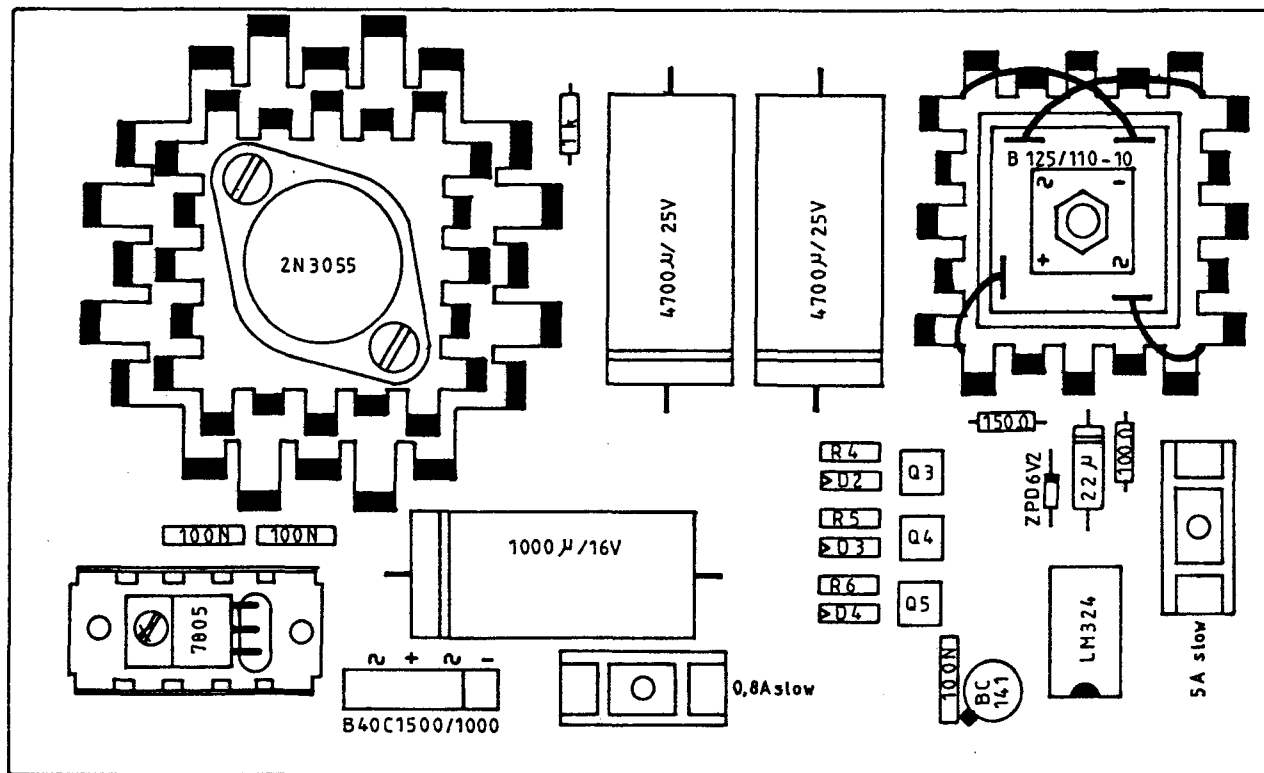


POSITION DIAGRAM CARDS

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DRAWN:	VERSCHOOR	18 - 04 - 90	
MODIFIED:	-	-	
			OPUS 1400
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Tel. 08380-37403 Tlx. 37044 Jove NL Fax. 08380-22238			



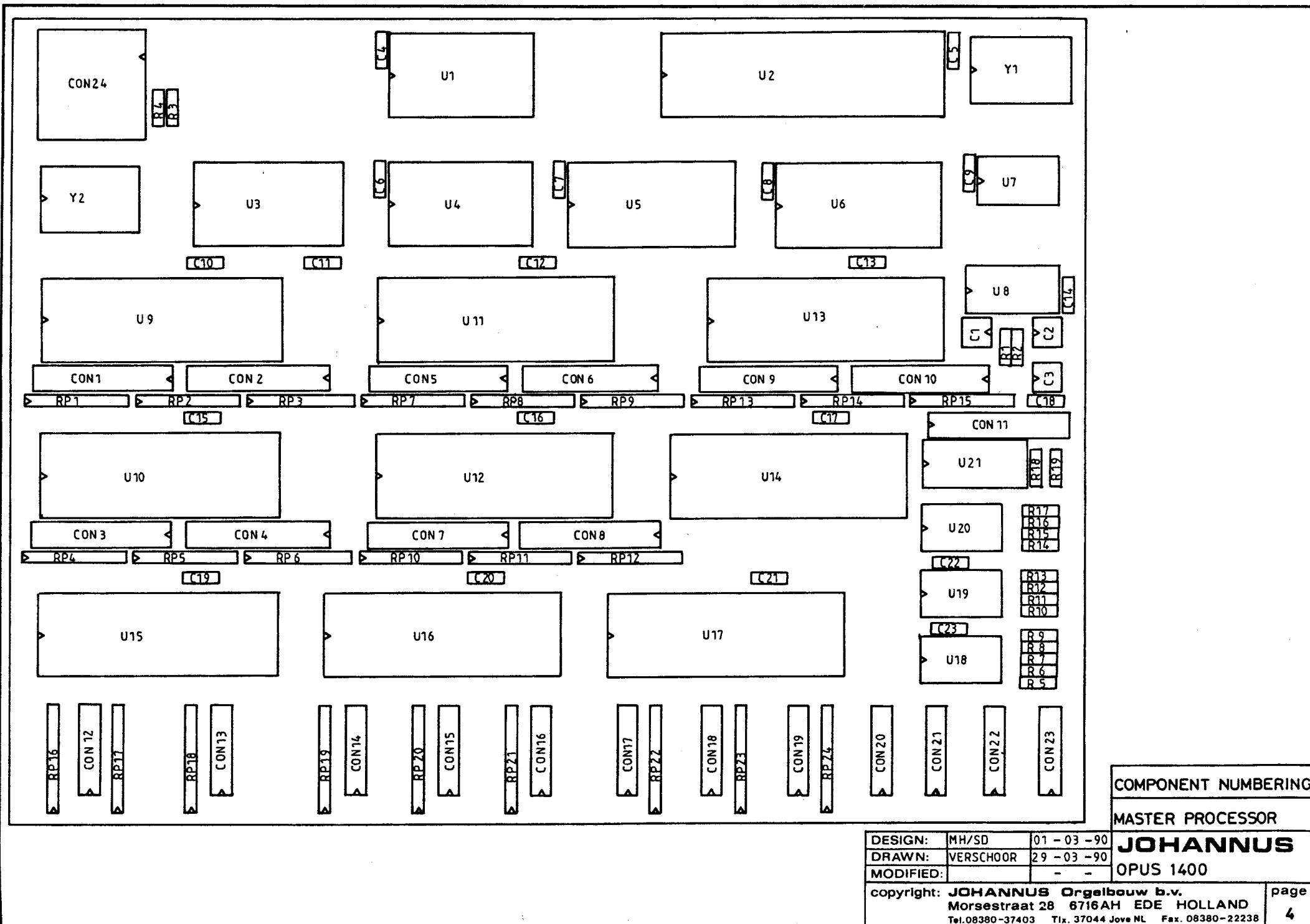
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MASTER PROCESSOR and STOP LAMPS			
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DRAWN:	VERSCHOOR	16-01-90	
MODIFIED:		- -	
copyright: JOHANNUS Orgelbouw b.v. Morsestraat 28 6716AH EDE HOLLAND Tel.08380-37403 Tlx. 37044 Jove NL Fax. 08380-22238			page 2



LAY OUT POWER SUPPLY

MASTER PROCESSOR and STOP LAMPS

DESIGN:	R B	24-10-89	JOHANNUS OPUS 1400
DRAWN:	VERSCHOOR	16-01-90	
MODIFIED:	-	-	



COMPONENT NUMBERING

MASTER PROCESSOR

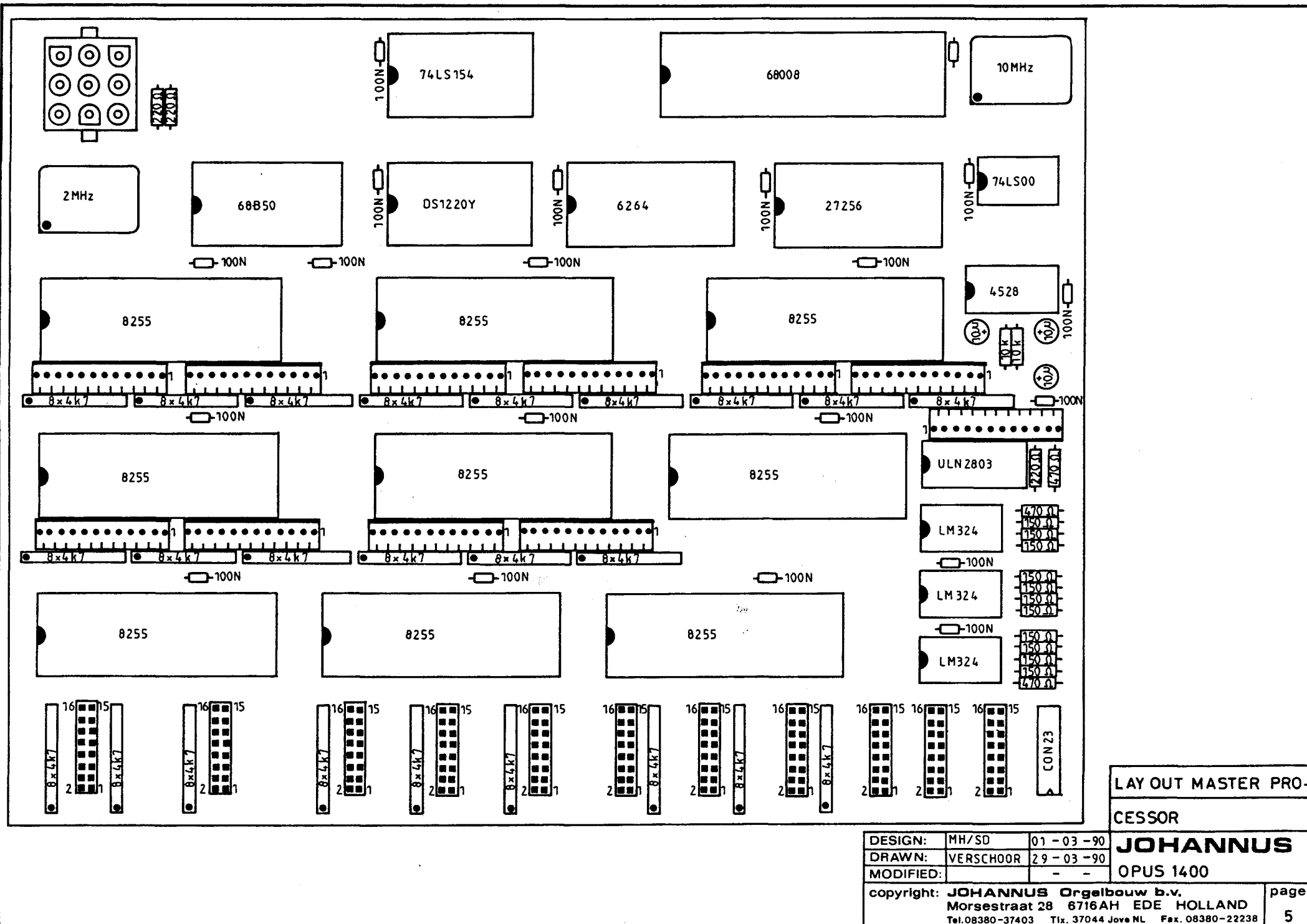
JOHANNUS

OPUS 1400

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LAY OUT MASTER PRO-
CESSOR

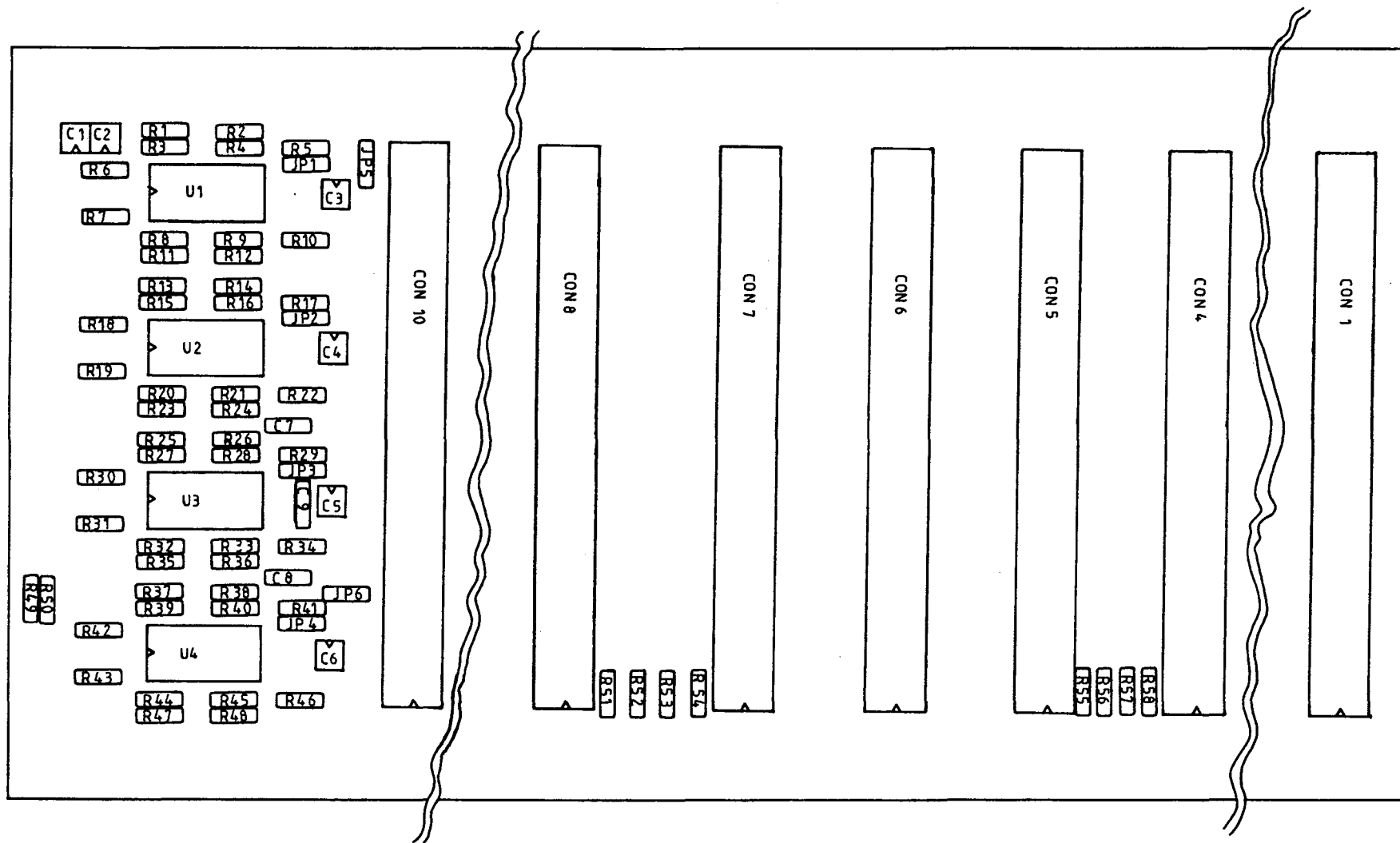
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OPUS 1400

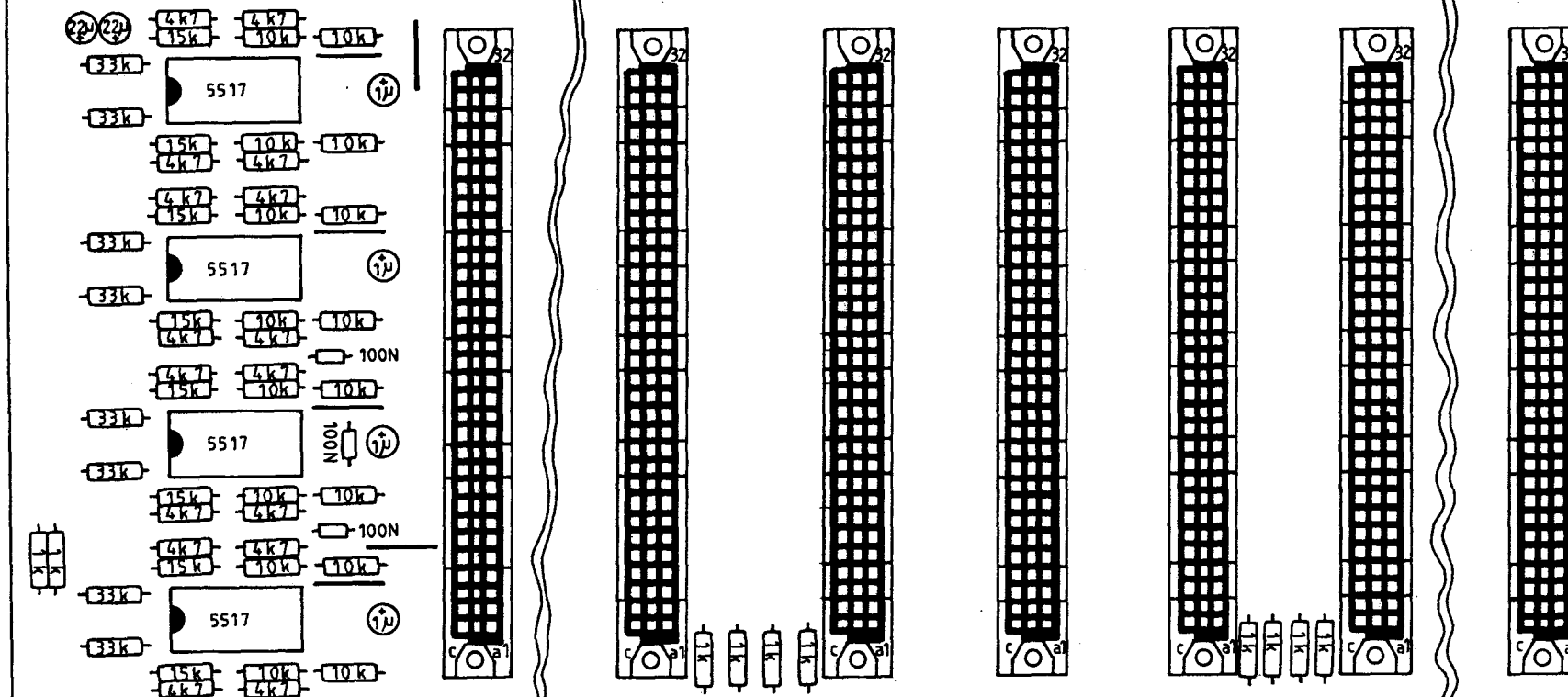
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DRAWN: VERSCHOOR 29-03-90
MODIFIED: - -

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Tel. 08380-37403 Tlx. 37044 Jove NL Fax. 08380-22238

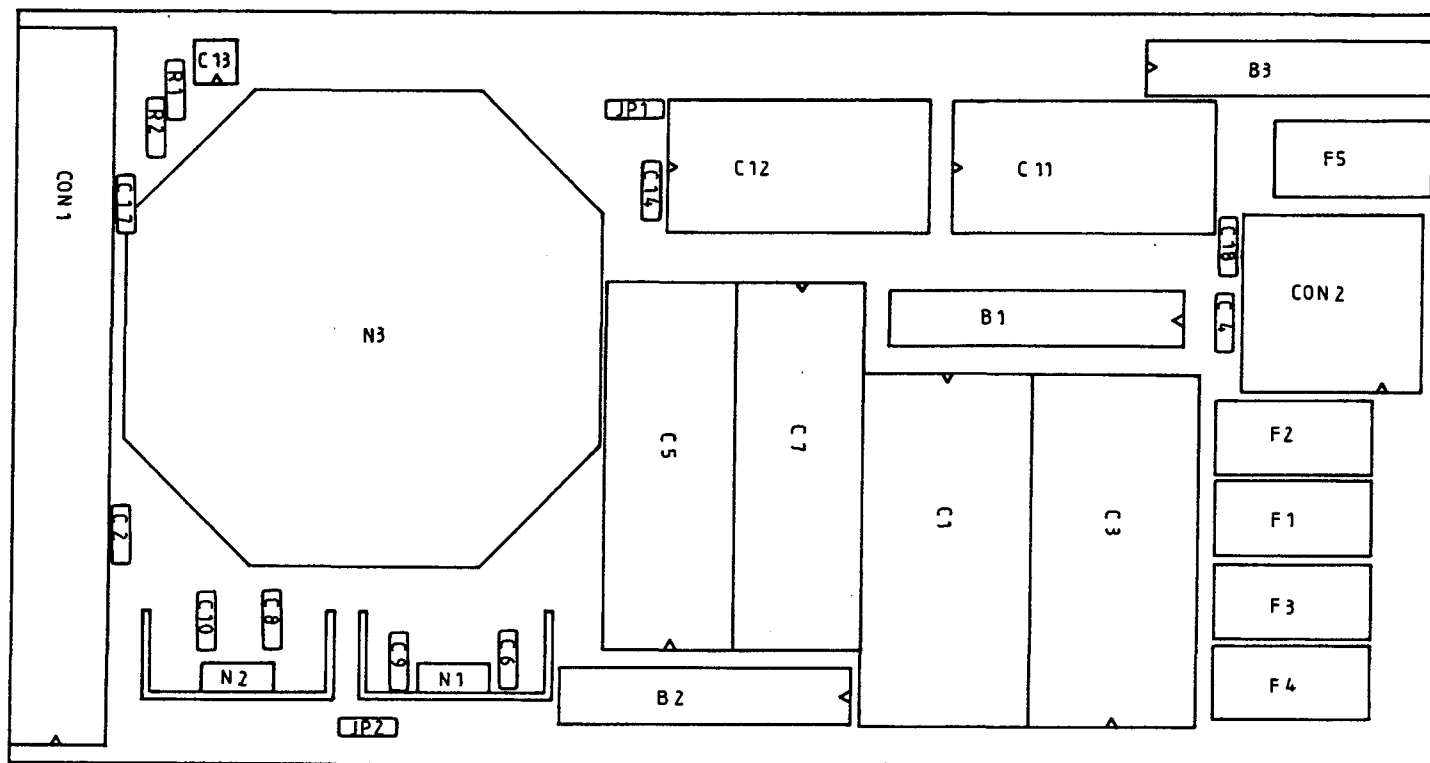
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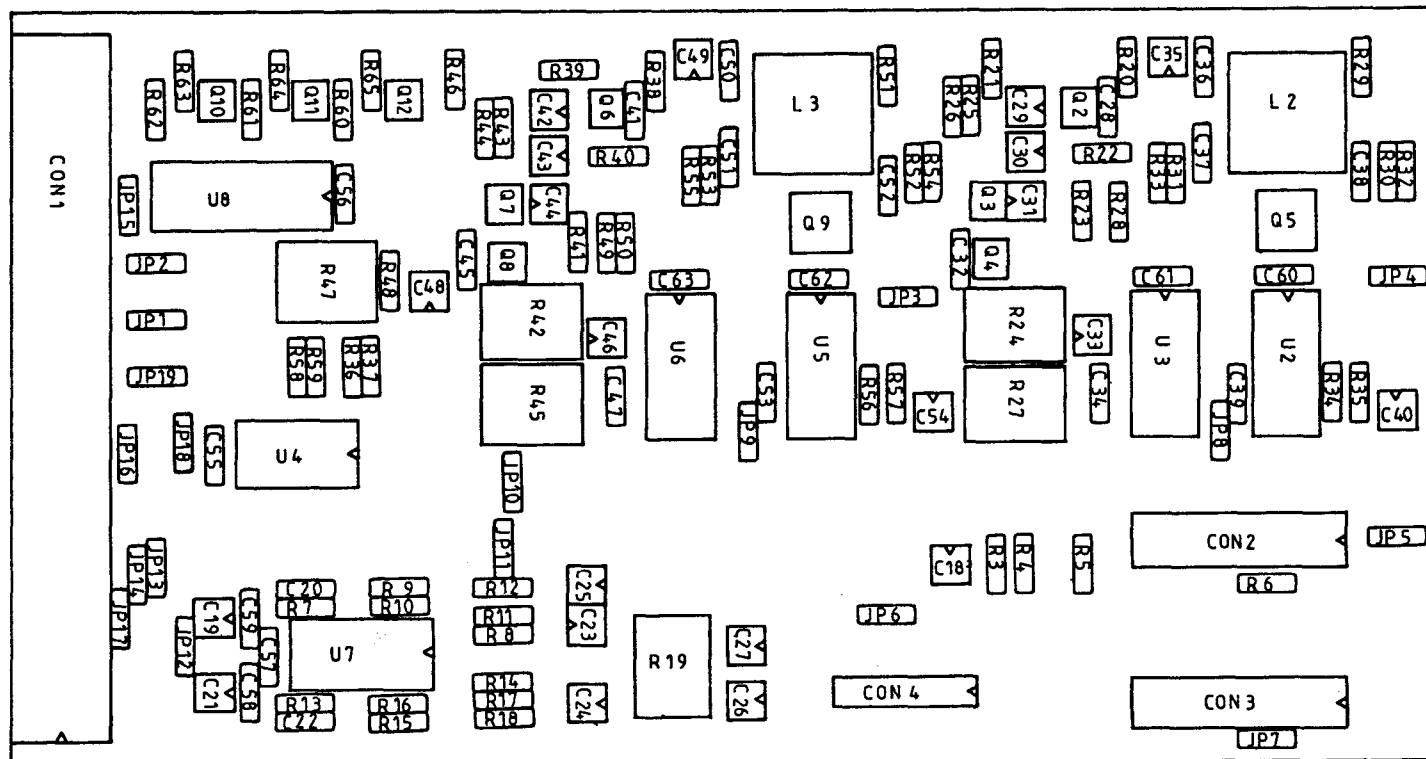
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DRAWN:	VERSCHOOR	02-06-89	
MODIFIED:		- -	
copyright: JOHANNUS Orgelbouw b.v. Morsestraat 28 6716AH EDE HOLLAND Tel. 08380-37403 Tlx. 37044 Jove NL Fax. 08380-22238			page 6



LAY OUT BUS CARD (2x)			
DESIGN:	R.B./SvD/MH	01 - 06 - 89	JOHANNUS OPUS 1400
DRAWN:	VERSCHOOR	02 - 06 - 89	
MODIFIED:	-	-	
copyright: JOHANNUS Orgelbouw b.v. Morsestraat 28 6716AH EDE HOLLAND Tel. 08380-37403 Tlx. 37044 Jove NL Fax. 08380-22238			page 7



COMPONENT NUMBERING SUPPLY CARD (2x)			
DESIGN:	RB/SvD/MH	01 - 08 - 89	JOHANNUS OPUS 1400
DRAWN:	VERSCHOOR	21 - 08 - 89	
MODIFIED:	-	-	
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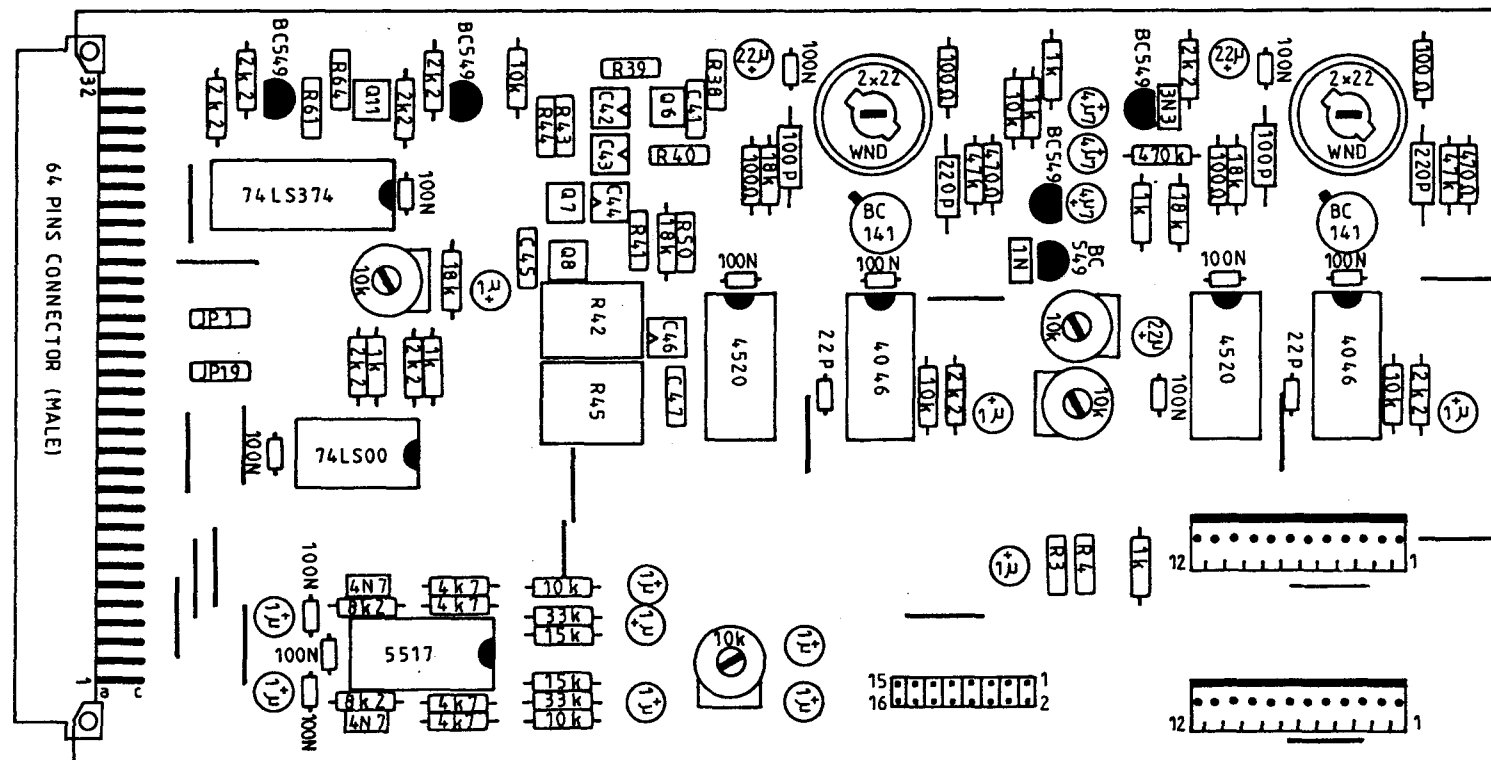
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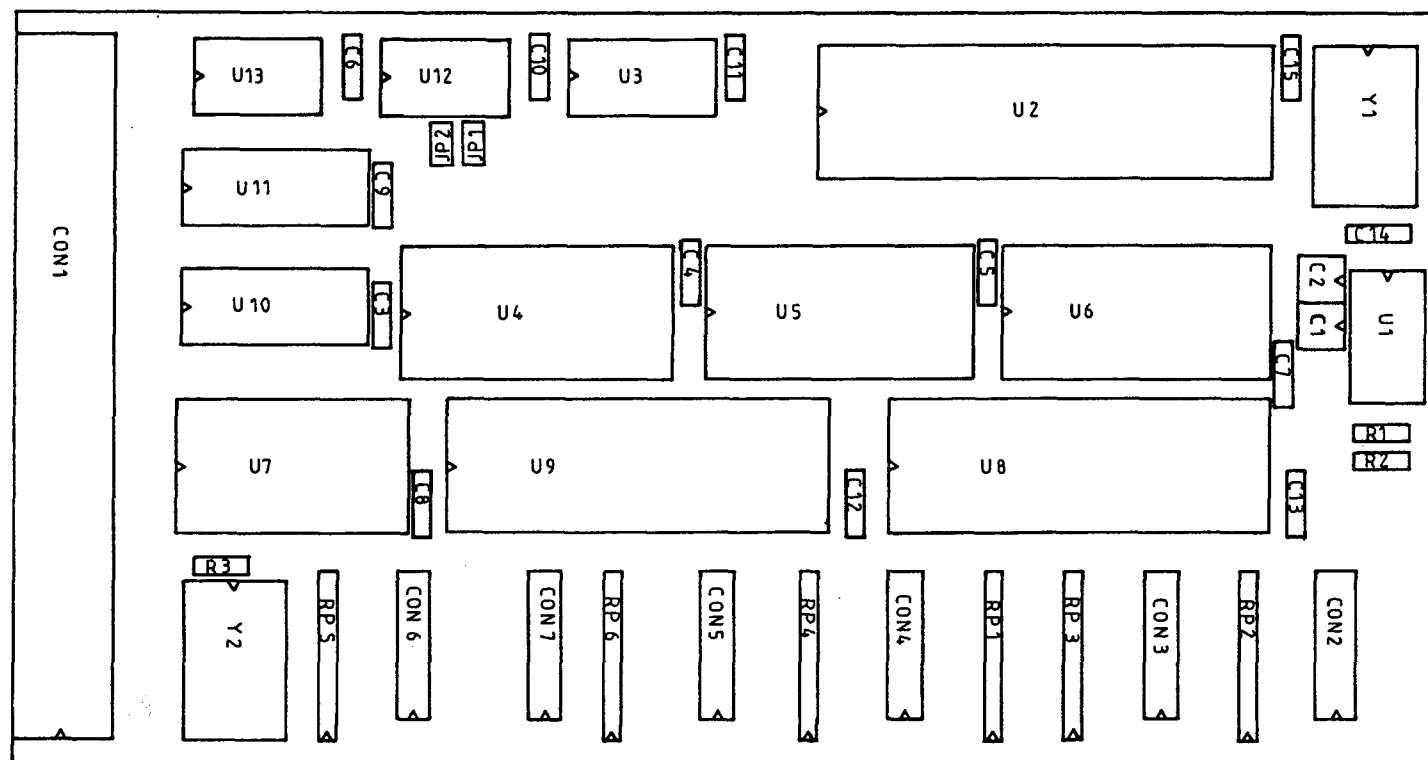
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LAY OUT GENERATOR CARD PEDAL /GREAT			
DESIGN:	RB/SvD/MH	01-06-89	JOHANNUS OPUS 1400
DRAWN:	VERSCHOOR	25-04-89	
MODIFIED:	VERSCHOOR	25-09-89	
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COMPONENT NUMBERING PROCESSOR CARD (2x)

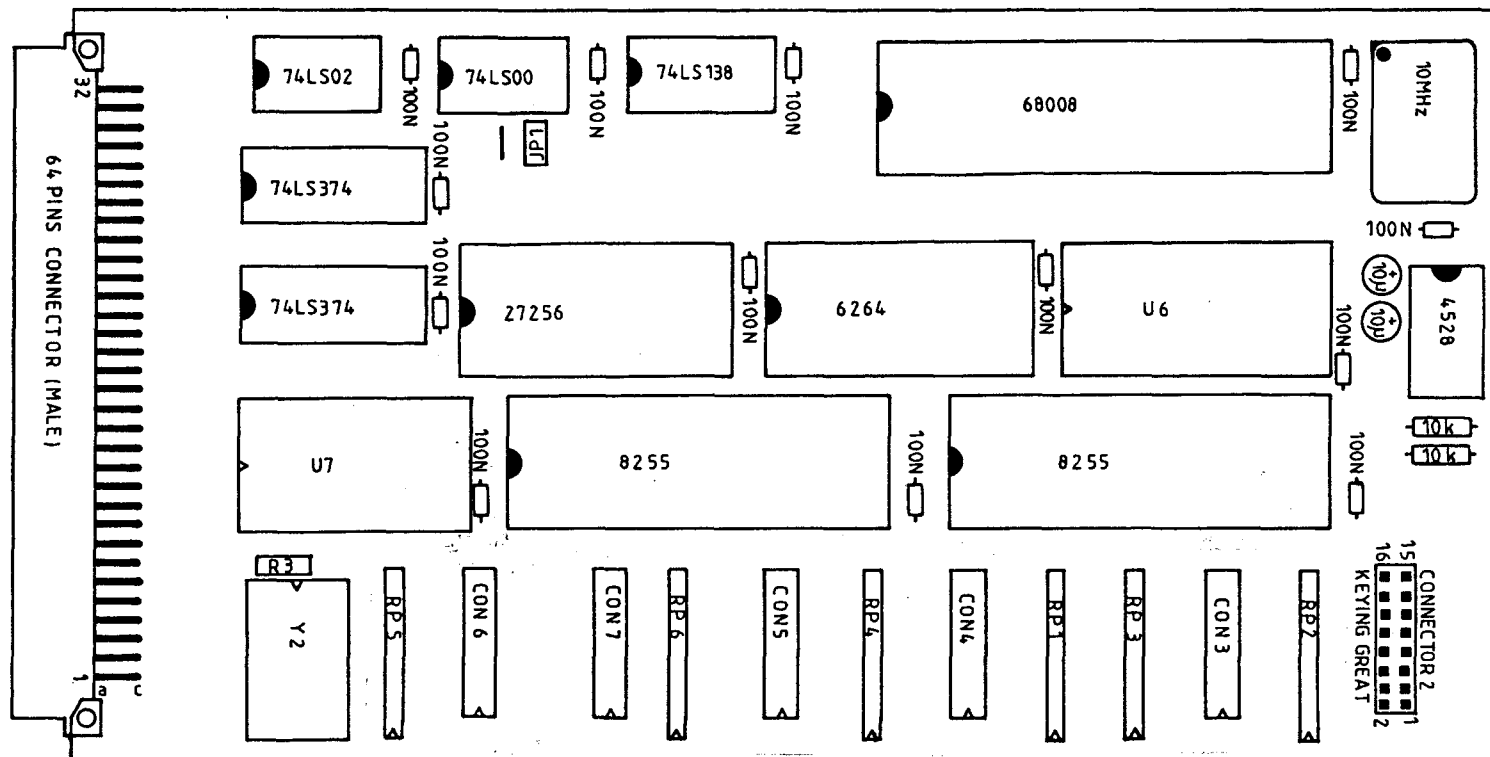
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MODIFIED:		- -

JOHANNUS
OPUS 1400

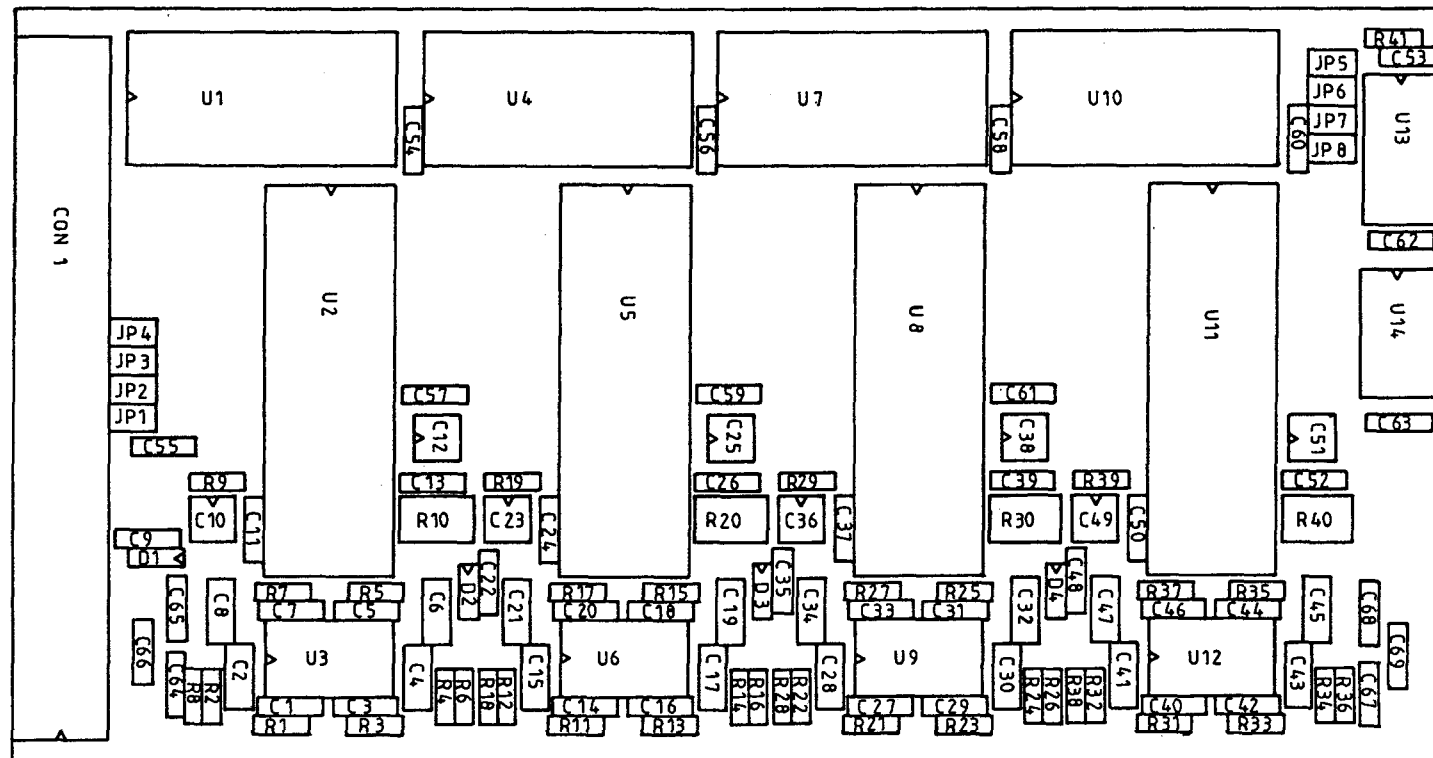
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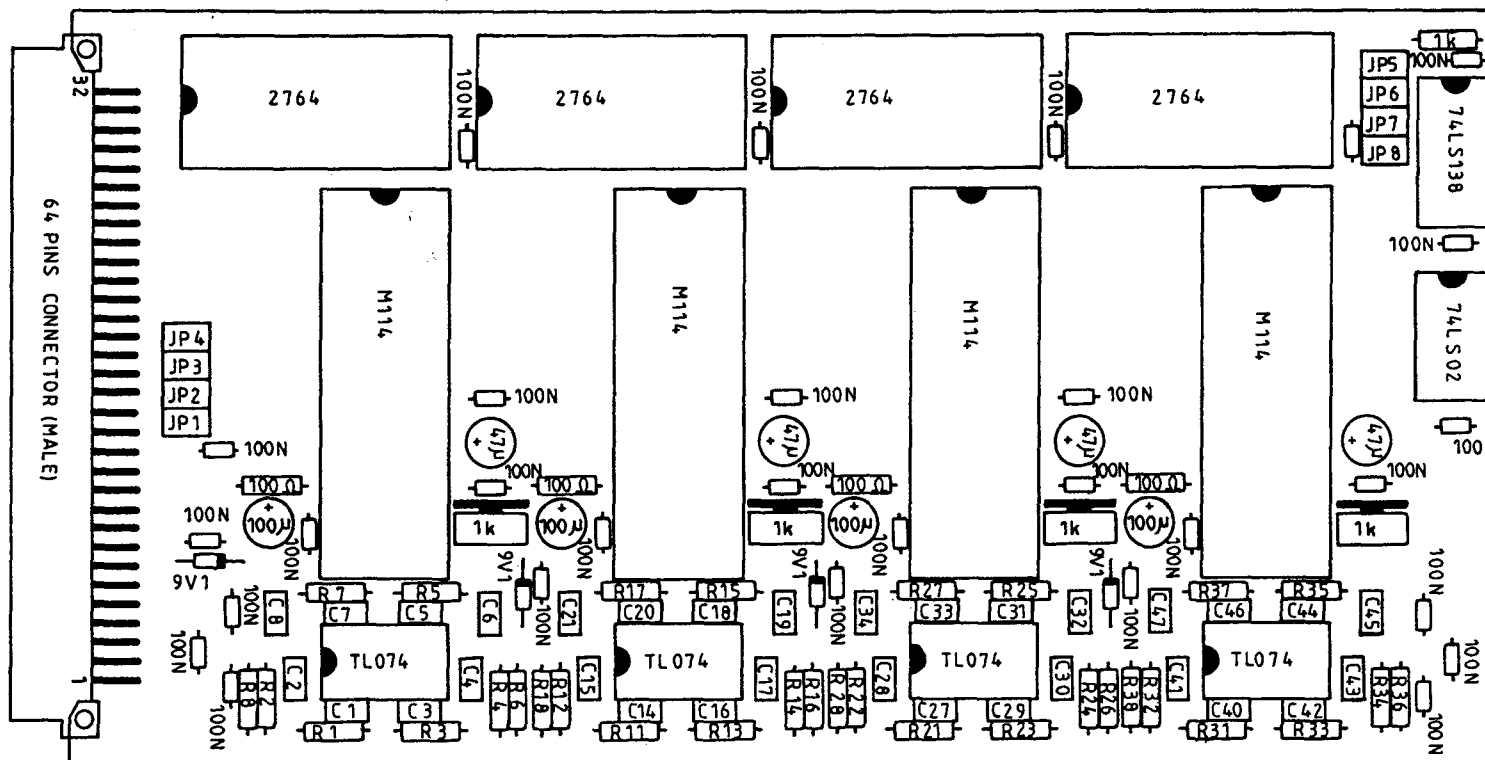
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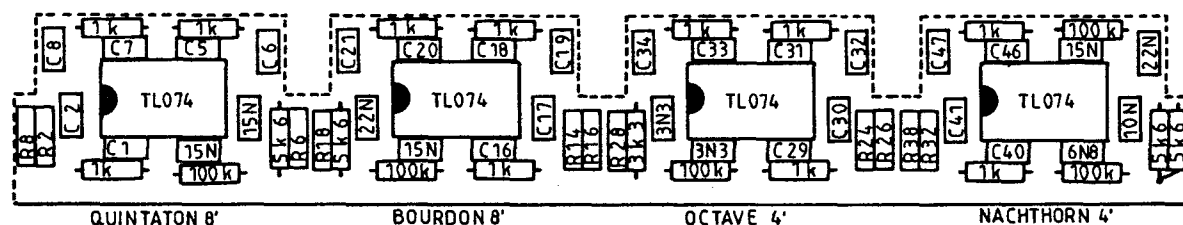
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MODIFIED:	VERSCHOOR	03 - 04 - 90	
copyright: JOHANNUS Orgelbouw b.v. Morsestraat 28 6716AH EDE HOLLAND Tel. 08380-37403 Tlx. 37044 Jove NL Fax. 08380-22238			page 14



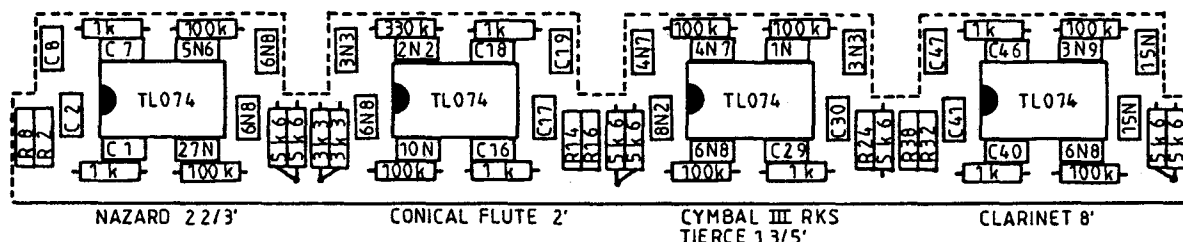
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MODIFIED:	-	-	
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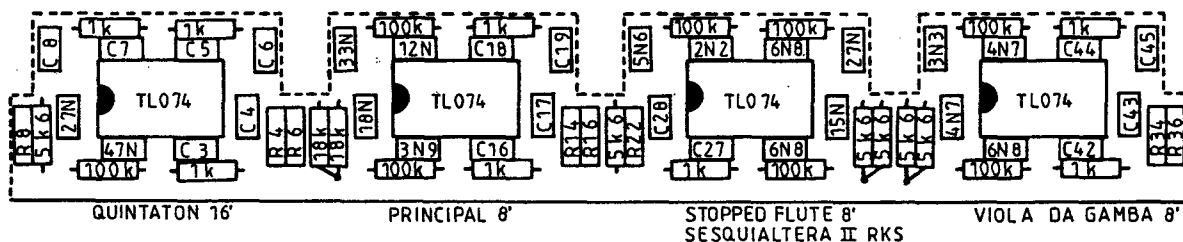
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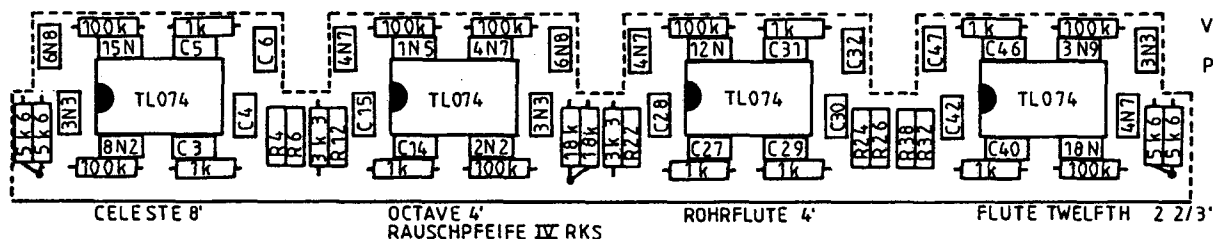
VOICE CARD 1 CHOIR
PLACED JUMPERS: JP1 AND JP5



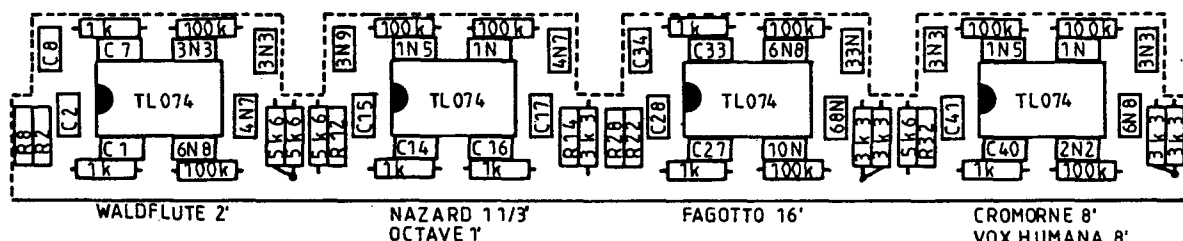
VOICE CARD 2 CHOIR
PLACED JUMPERS: JP1 AND JP6



VOICE CARD 3 SWELL
PLACED JUMPERS: JP4 AND JP7



VOICE CARD 4 SWELL
PLACED JUMPERS: JP4 AND JP8



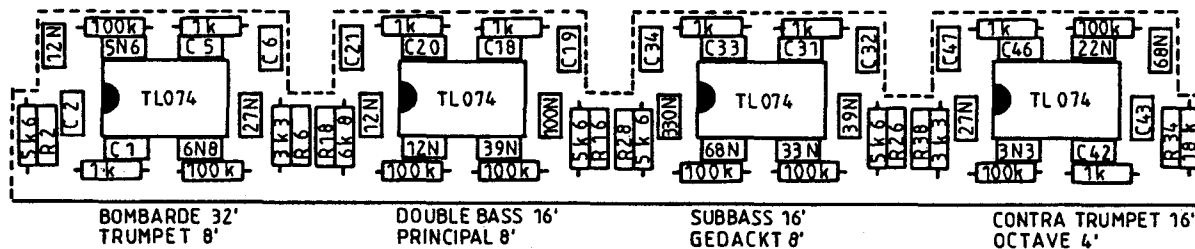
VOICE CARD 5 SWELL
PLACED JUMPER: JP4

VALUES OF INTONATION DEPENDENT COMPONENTS

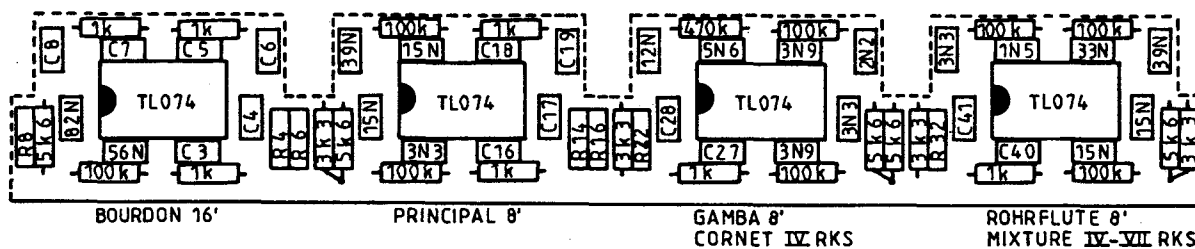
ON VOICE CARD OF CHOIR AND SWELL

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DRAWN:	VERSCHOOR	20-04-90	
MODIFIED:	-	-	OPUS 1400

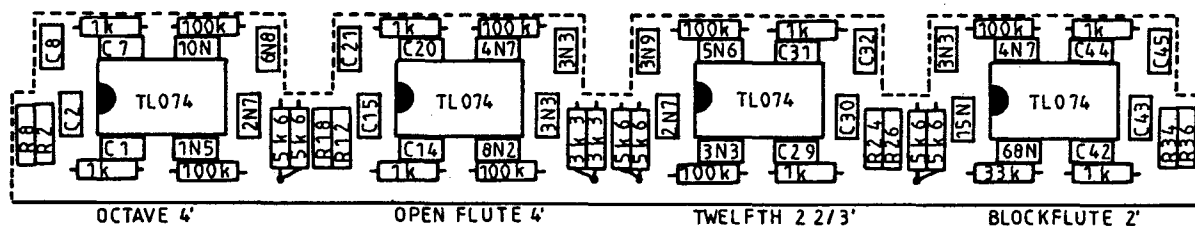
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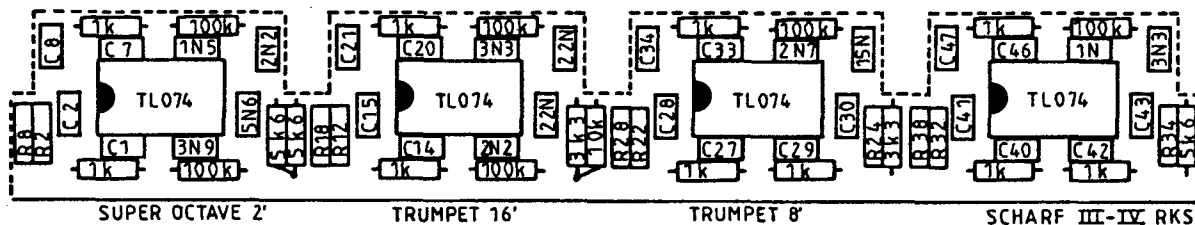
VOICE CARD 2 PEDAL
PLACED JUMPERS: JP4 AND JP5



VOICE CARD 3 GREAT
PLACED JUMPERS: JP1 AND JP6



VOICE CARD 4 GREAT
PLACES JUMPERS: JP1 AND JP7

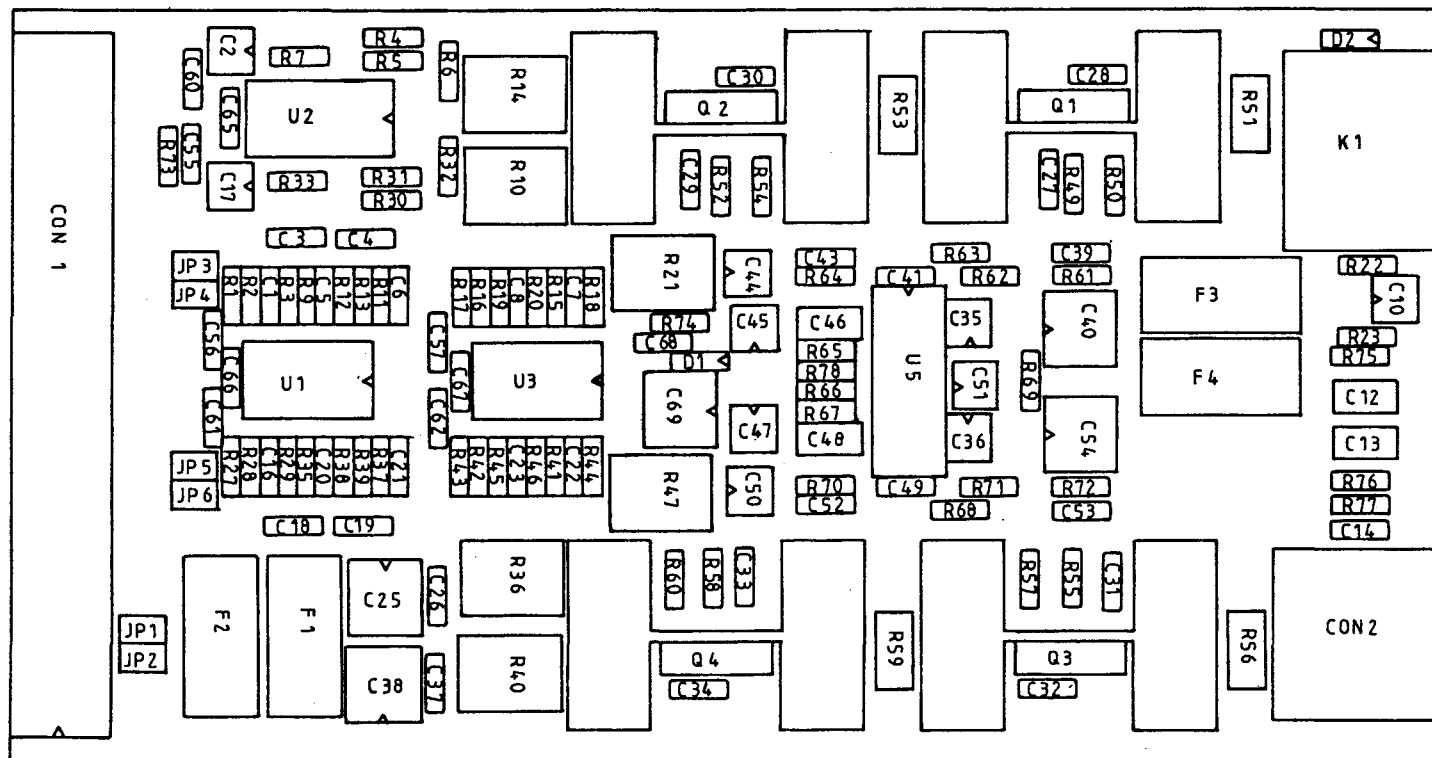


VOICE CARD 5 GREAT
PLACED JUMPERS: JP1 AND JP8

VALUES OF INTONATION DEPENDENT COMPONENTS

ON VOICE CARDS OF PEDAL AND GREAT

DESIGN:	DK/GK	01 - 04 - 90	JOHANNUS OPUS 1400
DRAWN:	VERSCHOOR	20 - 04 - 90	
MODIFIED:	VERSCHOOR	07 - 06 - 90	
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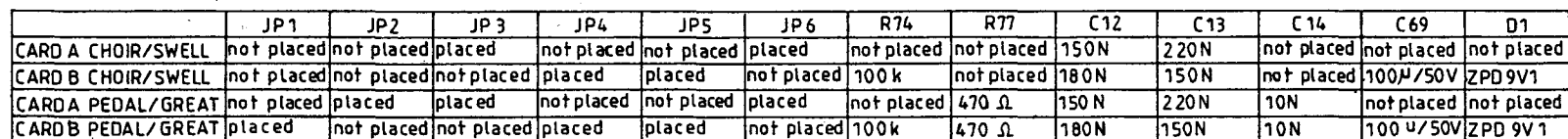
COMPONENT NUMBERING AMPLIFIER CARD (4x)

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 MODIFIED: - -

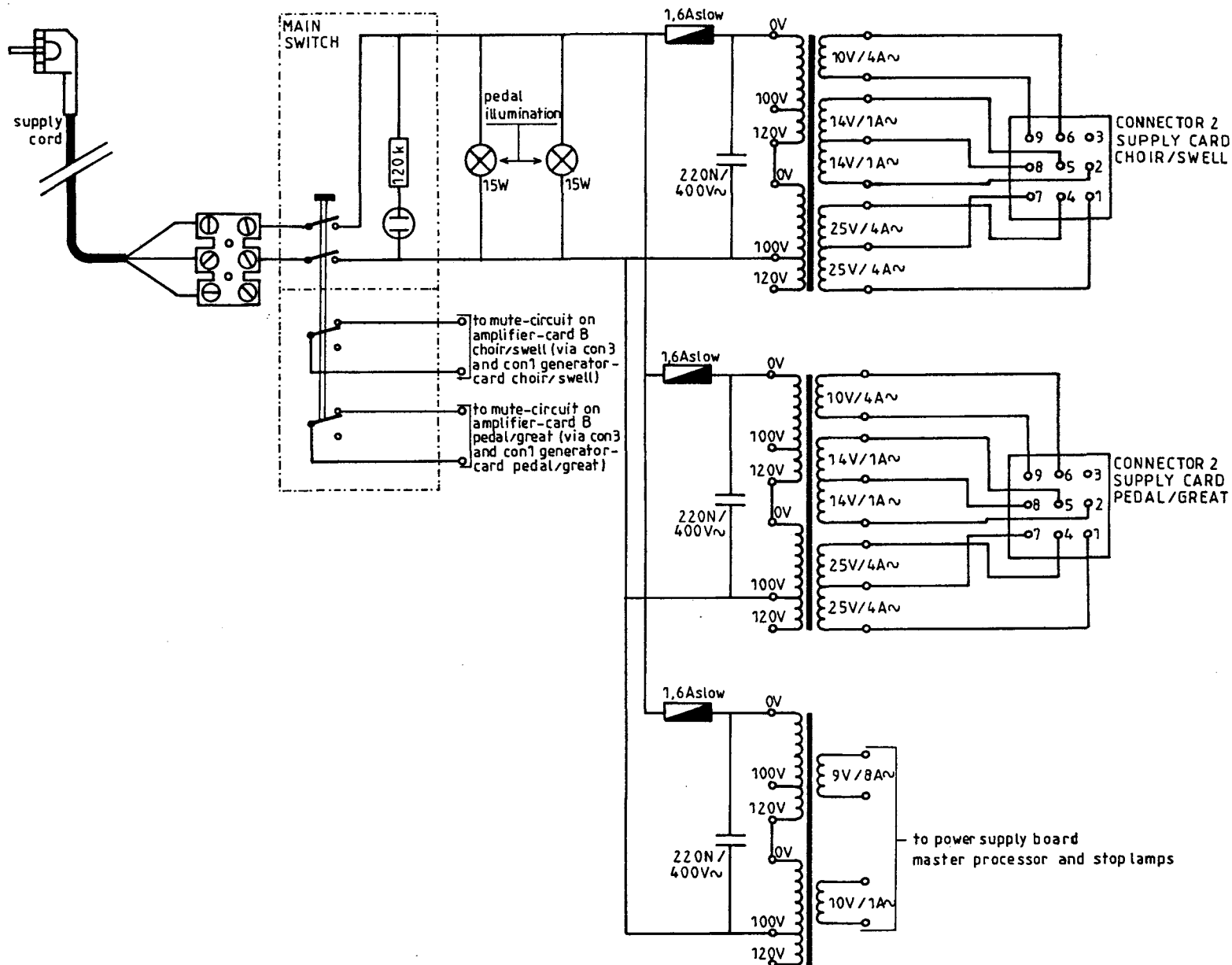
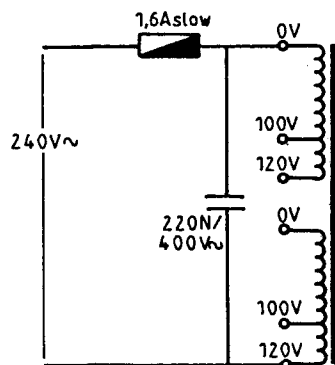
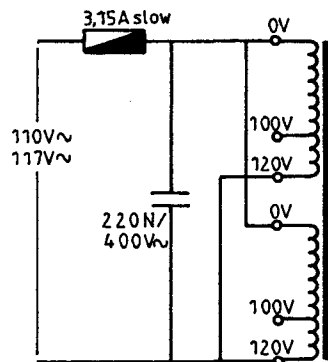
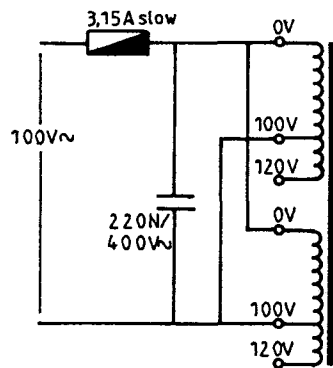
JOHANNUS
 OPUS 1400

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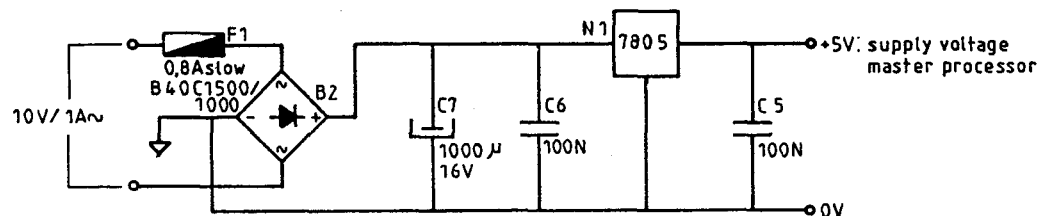
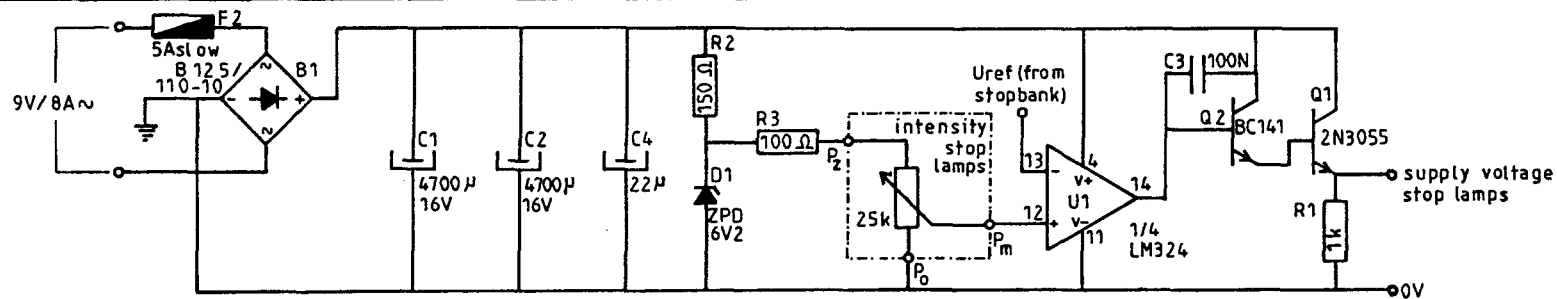
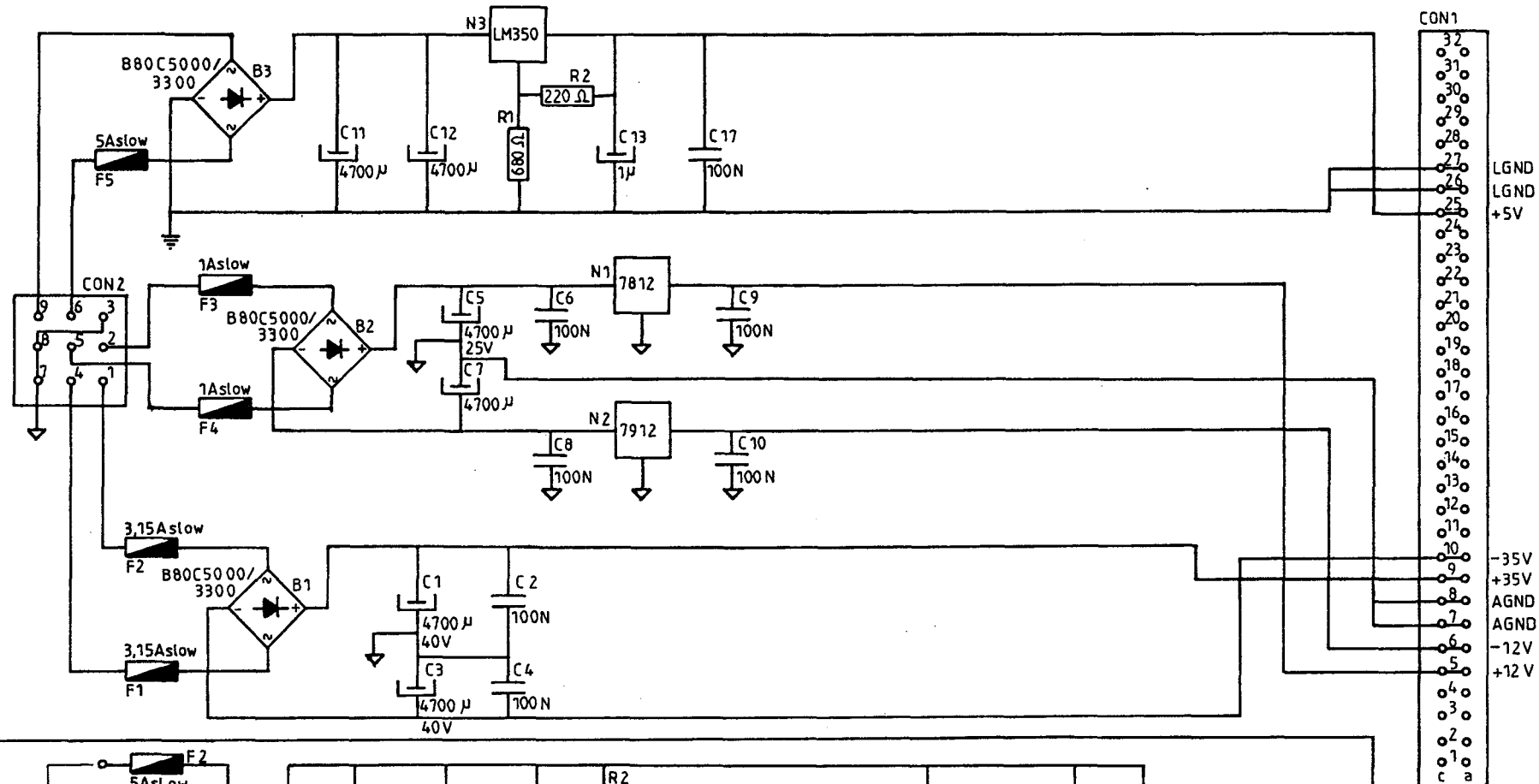
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TRANSFORMER CONNECTIONS

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DRAWN:	VERSCHOOR	24-04-90	
MODIFIED:	-	-	

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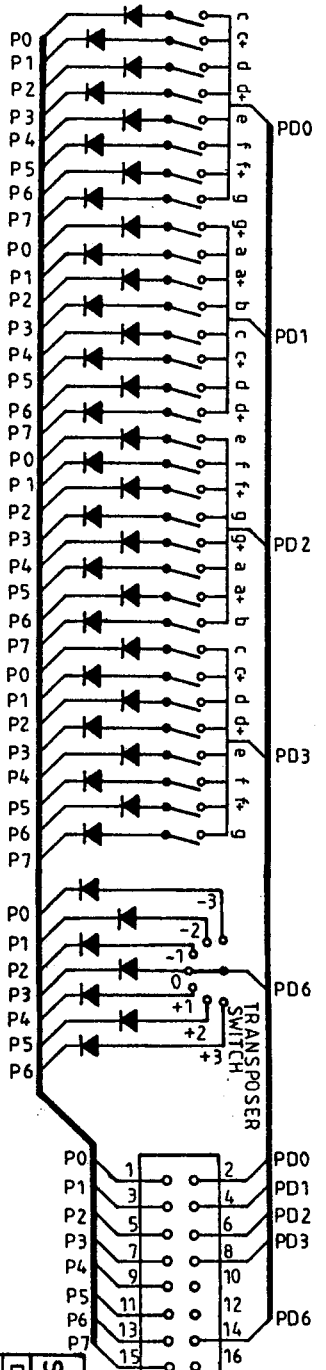
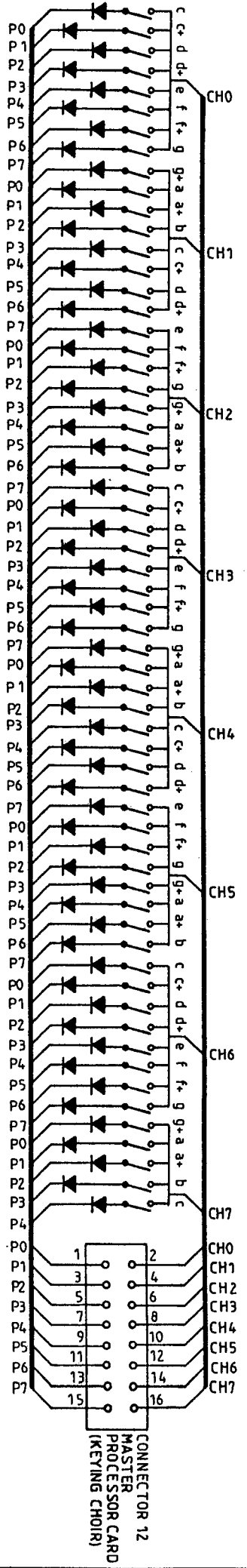
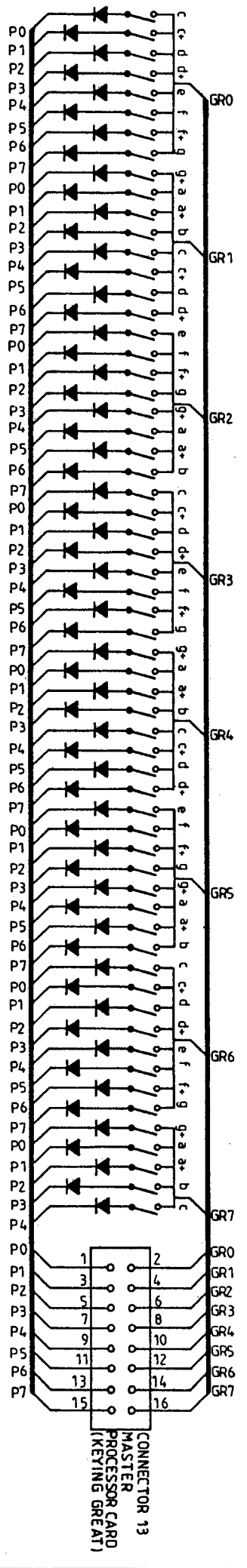
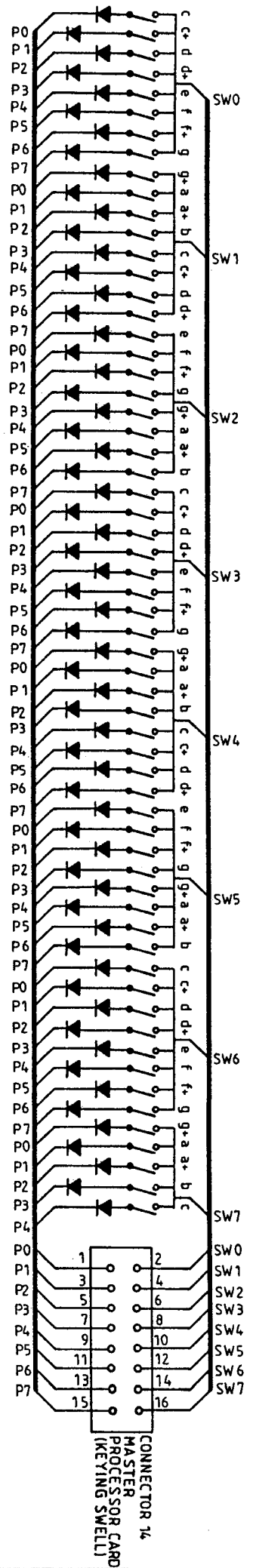
POWER SUPPLIES (supply cards)

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DRAWN:	VERSCHOOR	24-04-90	
MODIFIED:		- -	
copyright: JOHANNUS Orgelbouw b.v.			
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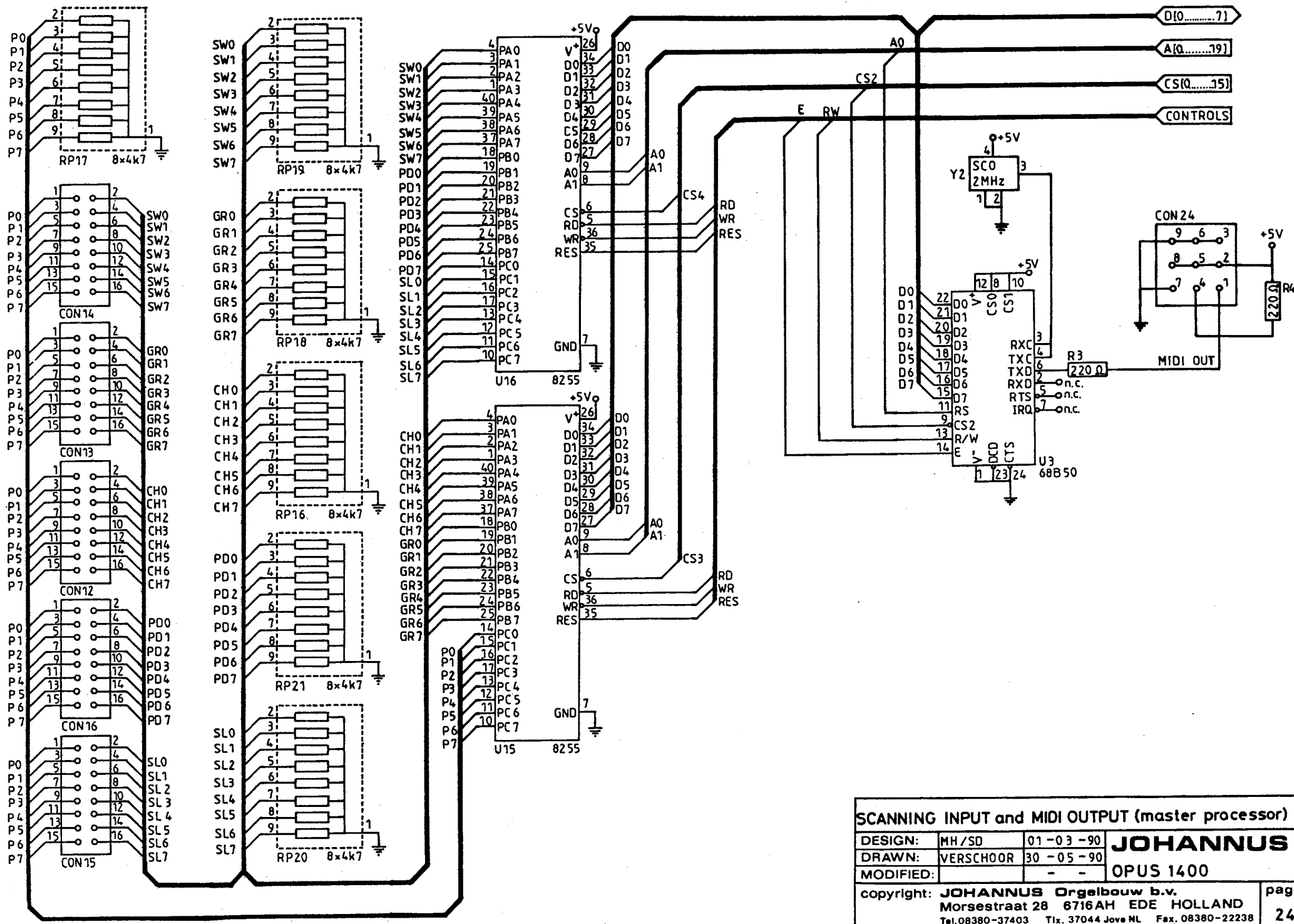


SCANNING KEYING & TRANSPOSER

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 DRAWN: VERSCHOOR 29-05-90
 MODIFIED: - - -
 OPUS 1400

JOHANNUS

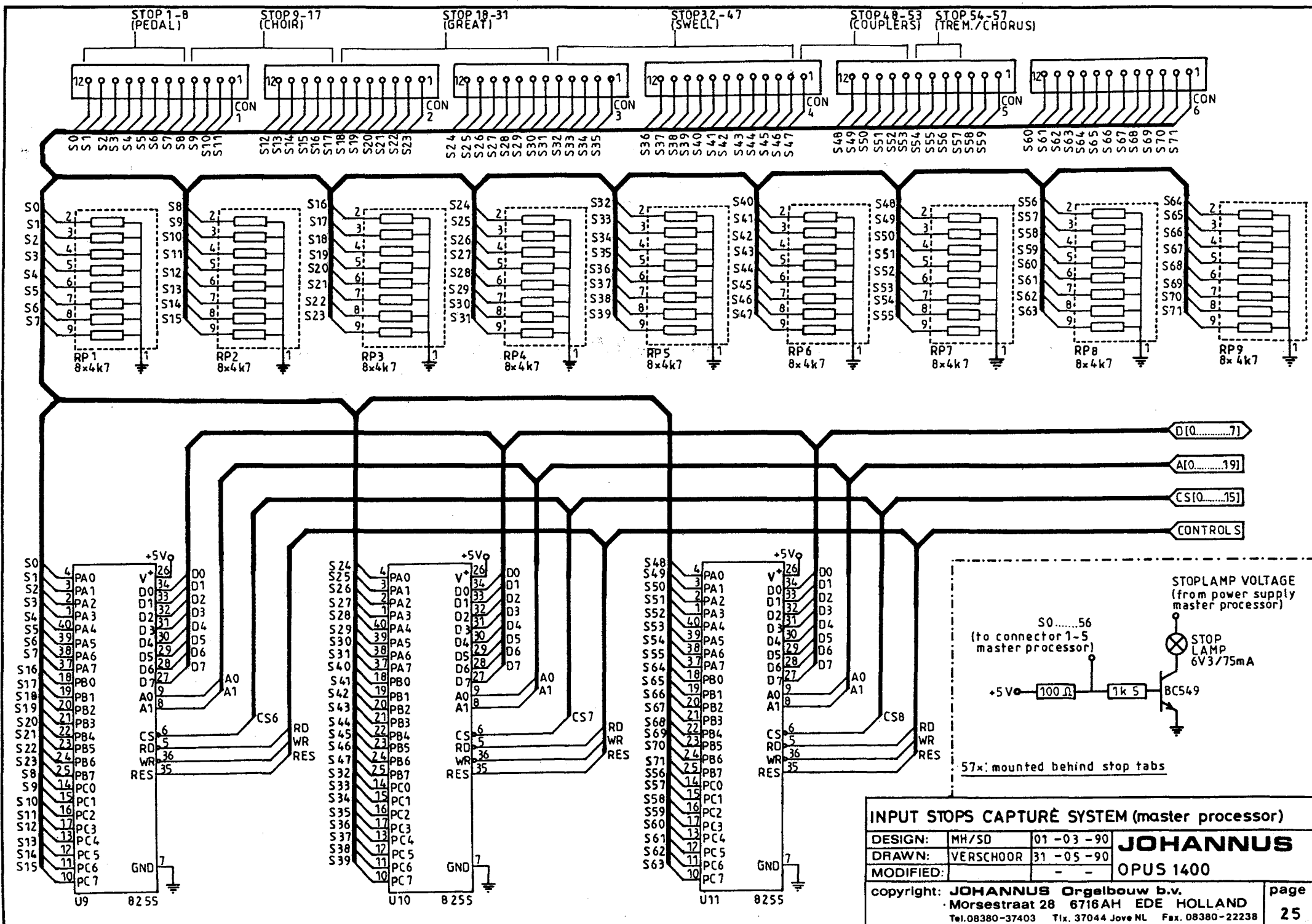
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SCANNING INPUT and MIDI OUTPUT (master processor)

DESIGN:	MH/SD	01-03-90	JOHANNUS OPUS 1400
DRAWN:	VERSCHOOR	30-05-90	
MODIFIED:	-	-	

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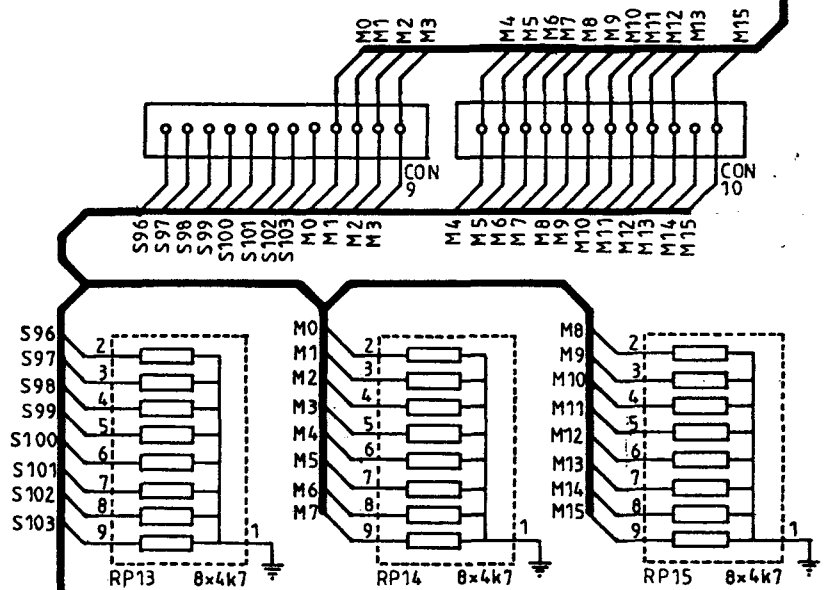
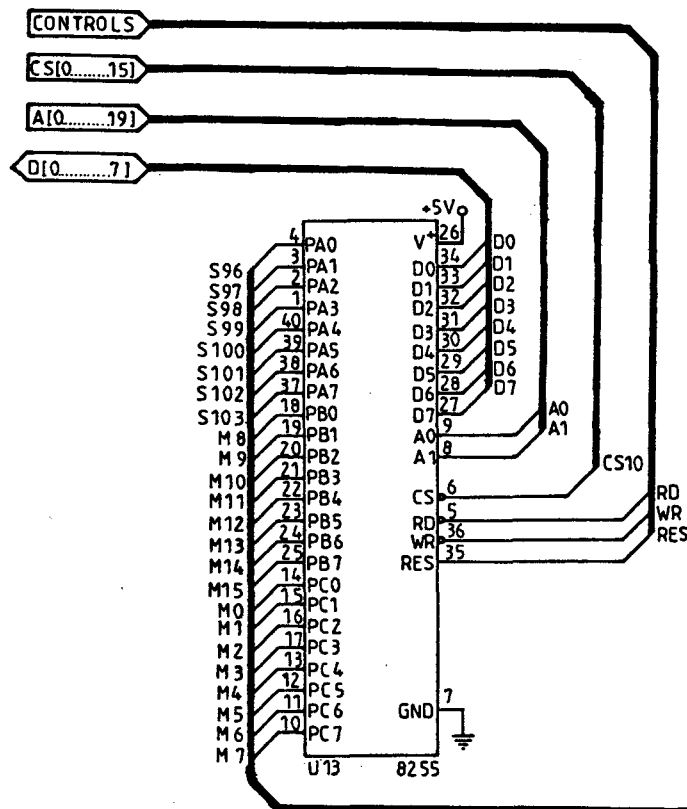
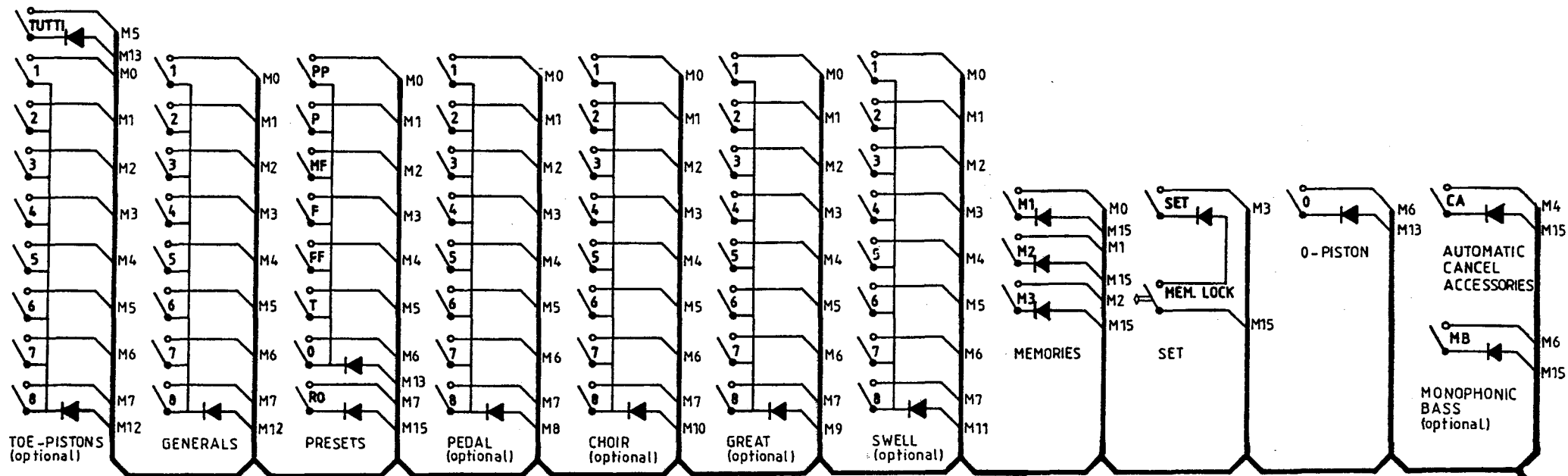


INPUT STOPS CAPTURE SYSTEM (master processor)

DESIGN:	MH/SD	01 - 03 - 90	JOHANNUS OPUS 1400
DRAWN:	VERSCHOOR	31 - 05 - 90	
MODIFIED:	-	-	

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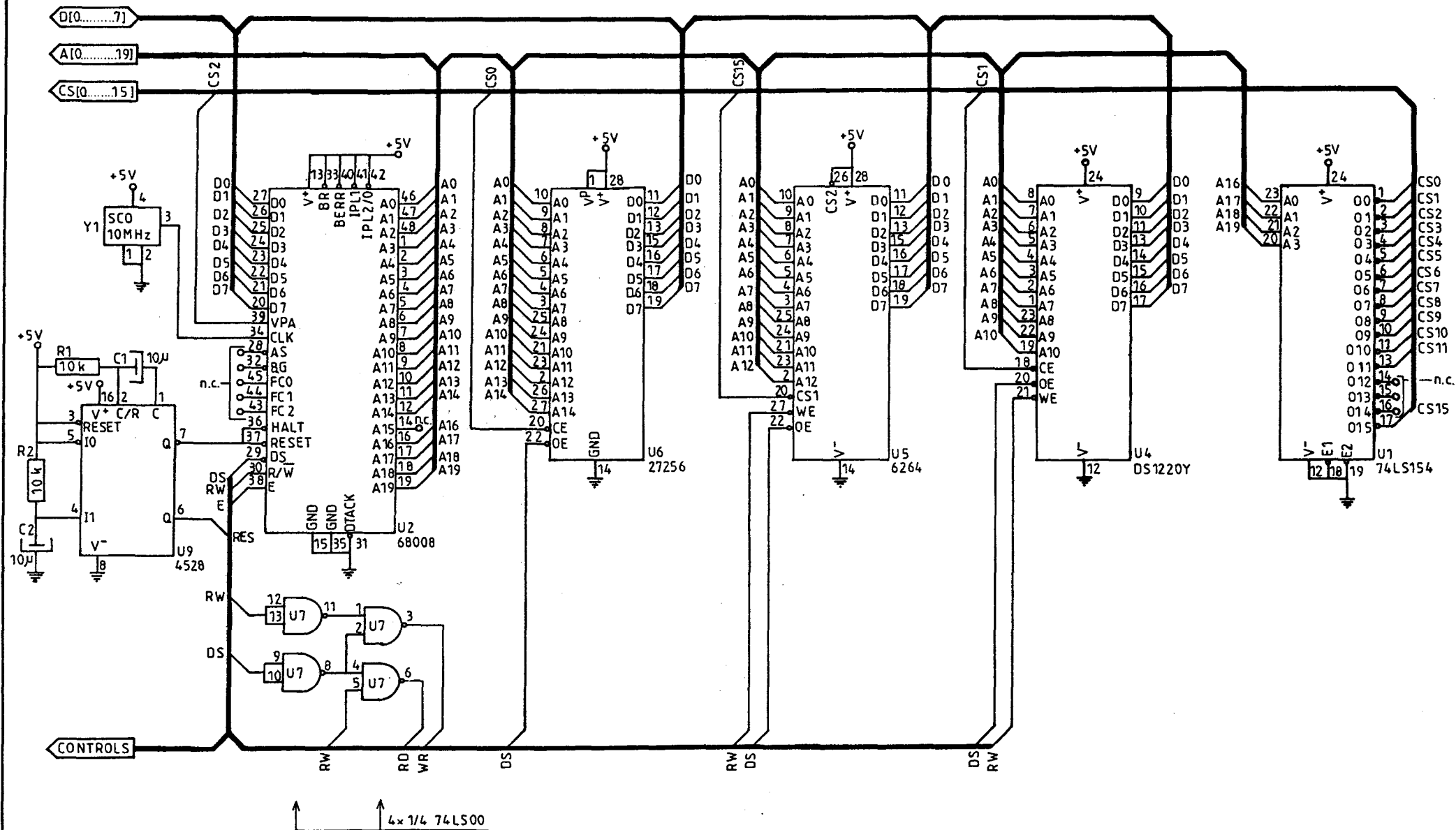


INPUT CONTROLS CAPTURE SYSTEM (master processor)

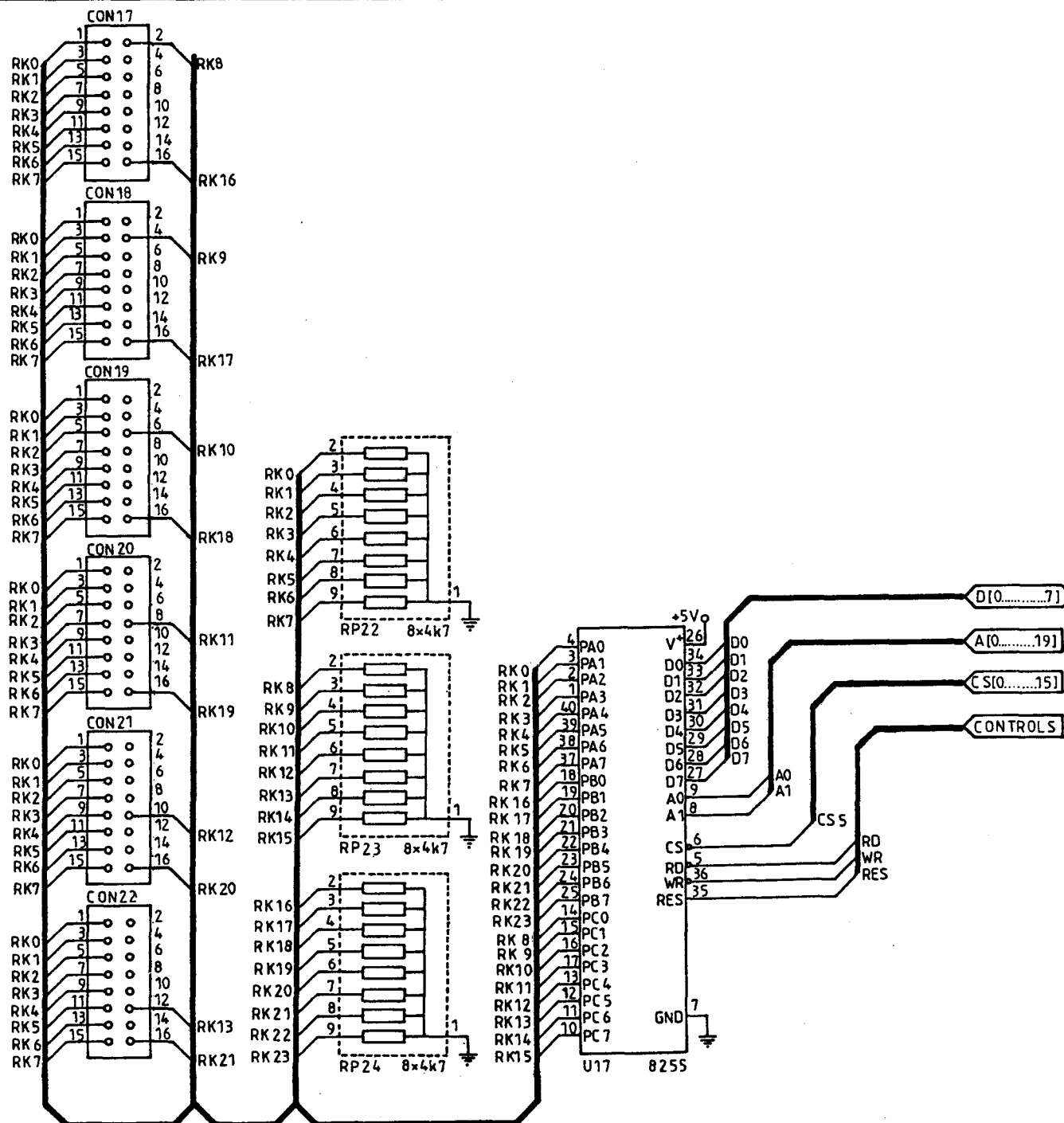
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MODIFIED:	-	-	

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M.P.U. (master processor)			
DESIGN:	MH/SD	01 - 03 - 90	JOHANNUS OPUS 1400
DRAWN:	VERSCHOOR	05 - 06 - 90	
MODIFIED:		- -	
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IN-/OUTPUTS RACKS (master processor)			
DESIGN:	MH/SD	01-03-90	JOHANNUS OPUS 1400
DRAWN:	VERSCHOOR	05-06-90	
MODIFIED:		- -	
copyright: JOHANNUS Orgelbouw b.v. Morsestraat 28 6716 AH EDE HOLLAND Tel. 08380-37403 Tlx. 37044 Jove NL Fax. 08380-22238			page 29

CON. 10			CON. 8,9			CON. 3,4,5,6,7			CON. 2			CON. 1		
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SEL4	030	SEL5	030			SEL4	030	SEL5	030	SEL5	030			
SEL6	029	SEL7	029			SEL6	029	SEL7	029	SEL7	029			
	028		028				028		028		028			
LGND	027	LGND	027	LGND	LGND	LGND	027	LGND	027	LGND	027	LGND	LGND	
LGND	026	LGND	026	LGND	LGND	LGND	026	LGND	026	LGND	026	LGND	LGND	
+5V	025	+5V	025	+5V	+5V	+5V	025	+5V	025	+5V	025	+5V	+5V	
	024		024			B1	024	B0	024	B0	024			
	023		023			B3	023	B2	023	B2	023			
	022		022			B5	022	B4	022	B4	022			
	021		021			DATA STROBE	021	B6	021	B6	021			
EPROM CHOISE	020		020			EPROM CHOISE	020	RESM114	020	RESM114	020			
CLOCK SWELL	019	MIDI OUT	019	MIDI OUT		CLOCK SWELL	019	MIDI OUT	019	MIDI OUT	019			
LGND	018	LGND	018	LGND		LGND	018	LGND	018	LGND	018			
LGND	017	LGND	017	LGND		LGND	017	LGND	017	LGND	017			
CLOCK GREAT	016	CLOCK GREAT	016	CLOCK GREAT		CLOCK GREAT	016	CLOCK GREAT	016	CLOCK GREAT	016			
	015		015				015		015		015			
	014		014				014		014		014			
EXPR. PED. GREAT	013		013				013		013		013			
EXPR. PED. SWELL	012	PHONES ON/OFF	012	PHONES ON/OFF			012		012		012			
MUTE	011	GEN. VOL.	011	GEN. VOL.			011		011		011			
-35V	010	-35V	010	-35V		-35V	010	-35V	010	-35V	010	-35V	-35V	
+35V	09	+35V	09	+35V		+35V	09	+35V	09	+35V	09	+35V	+35V	
AGND	08	AGND	08	AGND		AGND	08	AGND	08	AGND	08	AGND	AGND	
AGND	07	AGND	07	AGND		AGND	07	AGND	07	AGND	07	AGND	AGND	
-12V	06	-12V	06	-12V		-12V	06	-12V	06	-12V	06	-12V	-12V	
+12V	05	+12V	05	+12V		+12V	05	+12V	05	+12V	05	+12V	+12V	
ECHO IN A	04		04				04		04		04			
ECHO IN B	03	ECHO OUT	03	ECHO OUT			03		03		03			
POWER-AMP IN4	02	POWER-AMP IN3	02	POWER-AMP IN3		PRE-AMP OUT4	02	PRE-AMP OUT3	02		02			
POWER-AMP IN2	01	POWER-AMP IN1	01	POWER-AMP IN1		PRE-AMP OUT2	01	PRE-AMP OUT1	01		01			
	c	a		c	a		c	a		c	a			
GENERATOR CARD			AMPLIFIER CARD			VOICE CARD			PROCESSOR CARD			SUPPLY CARD		

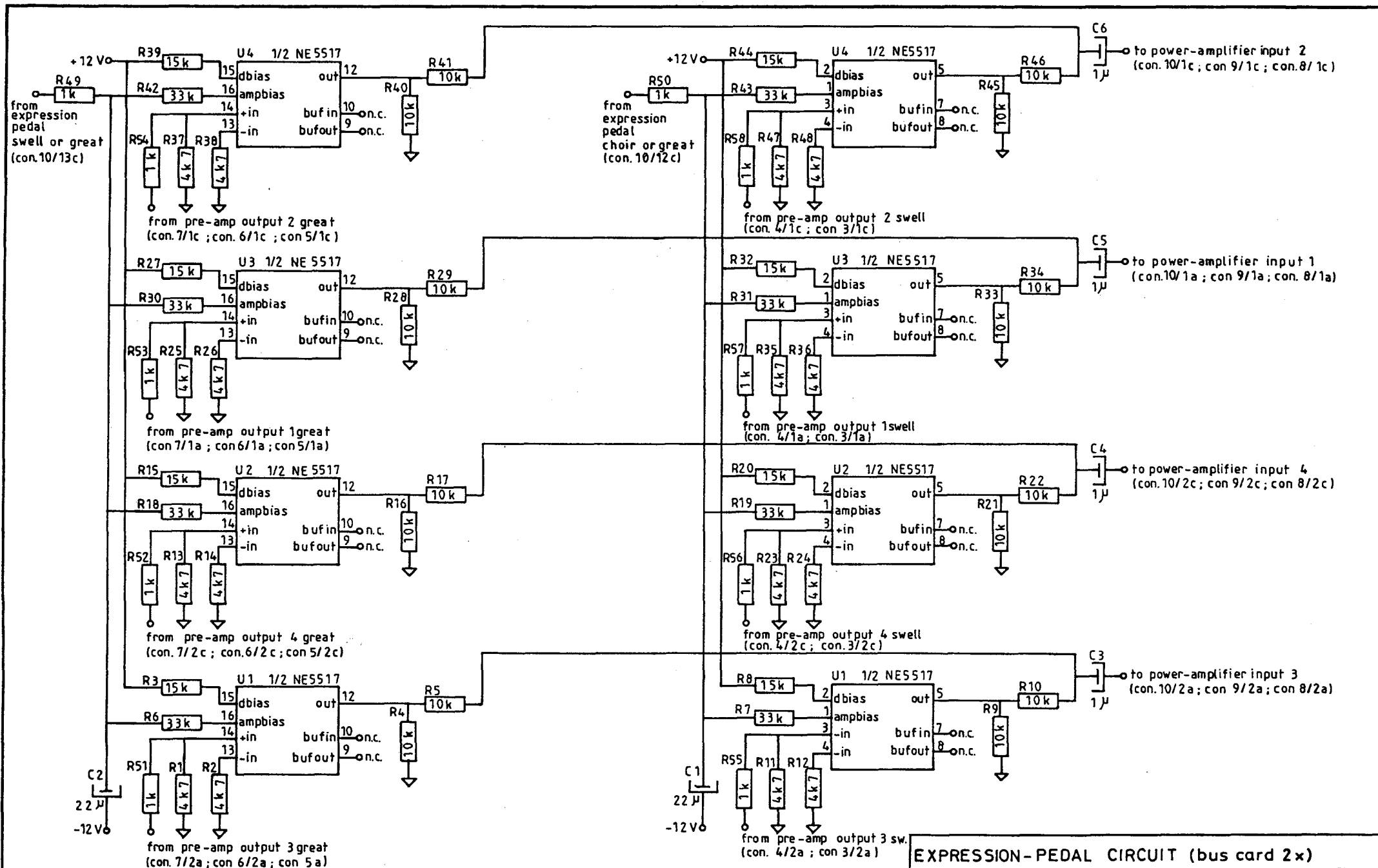
PINNING BUS CARD CONNECTORS (2x)

DESIGN:	RB/SvD/MH	01-06-89	JOHANNUS
DRAWN:	VERSCHOOR	26-06-89	
MODIFIED:	-	-	

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EXPRESSION - PEDAL CIRCUIT (bus card 2x)

DESIGN: RB/SvD/MH 01-06-89

DRAWN: VERSCHOOR 23-06-89

MODIFIED: - -

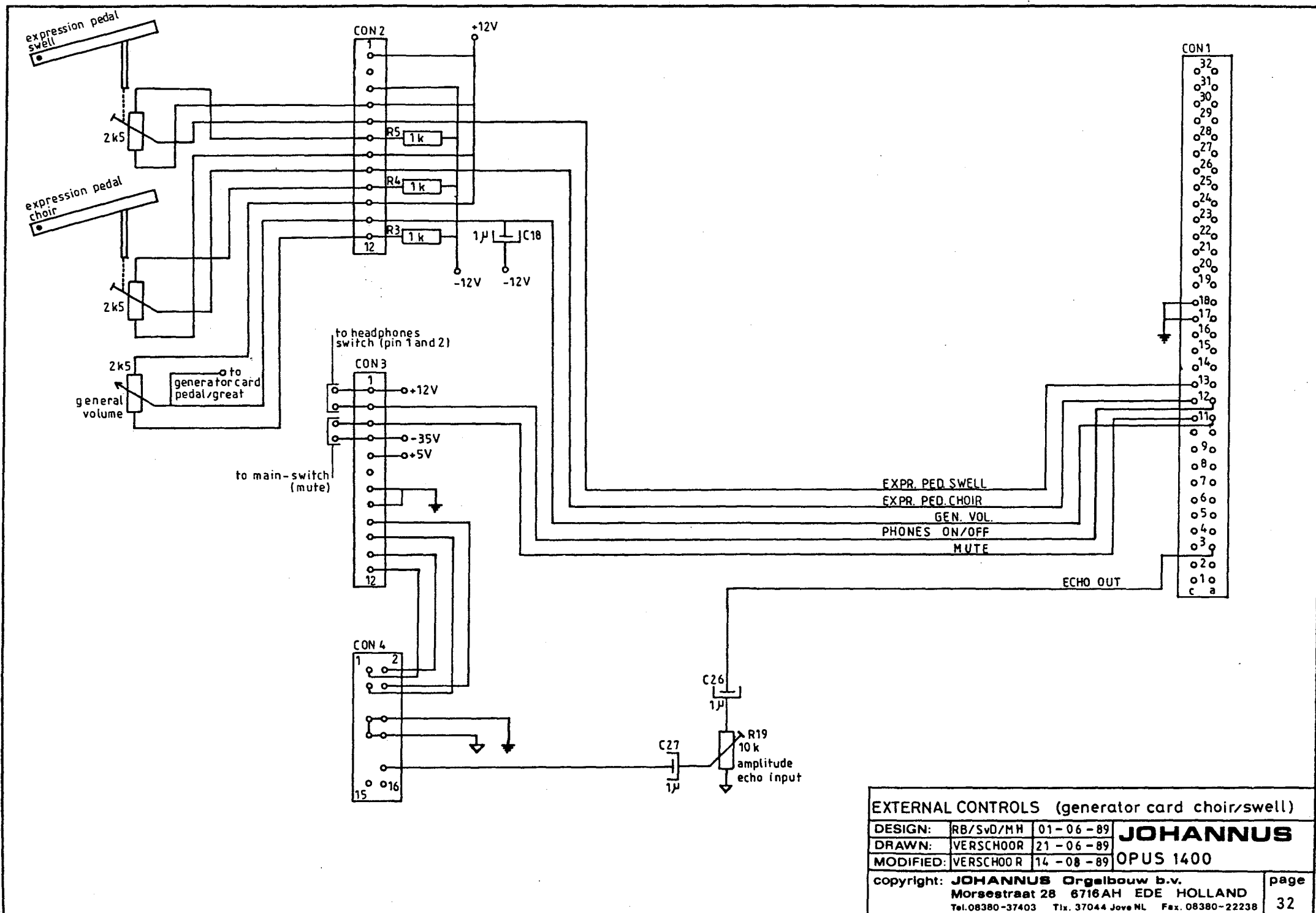
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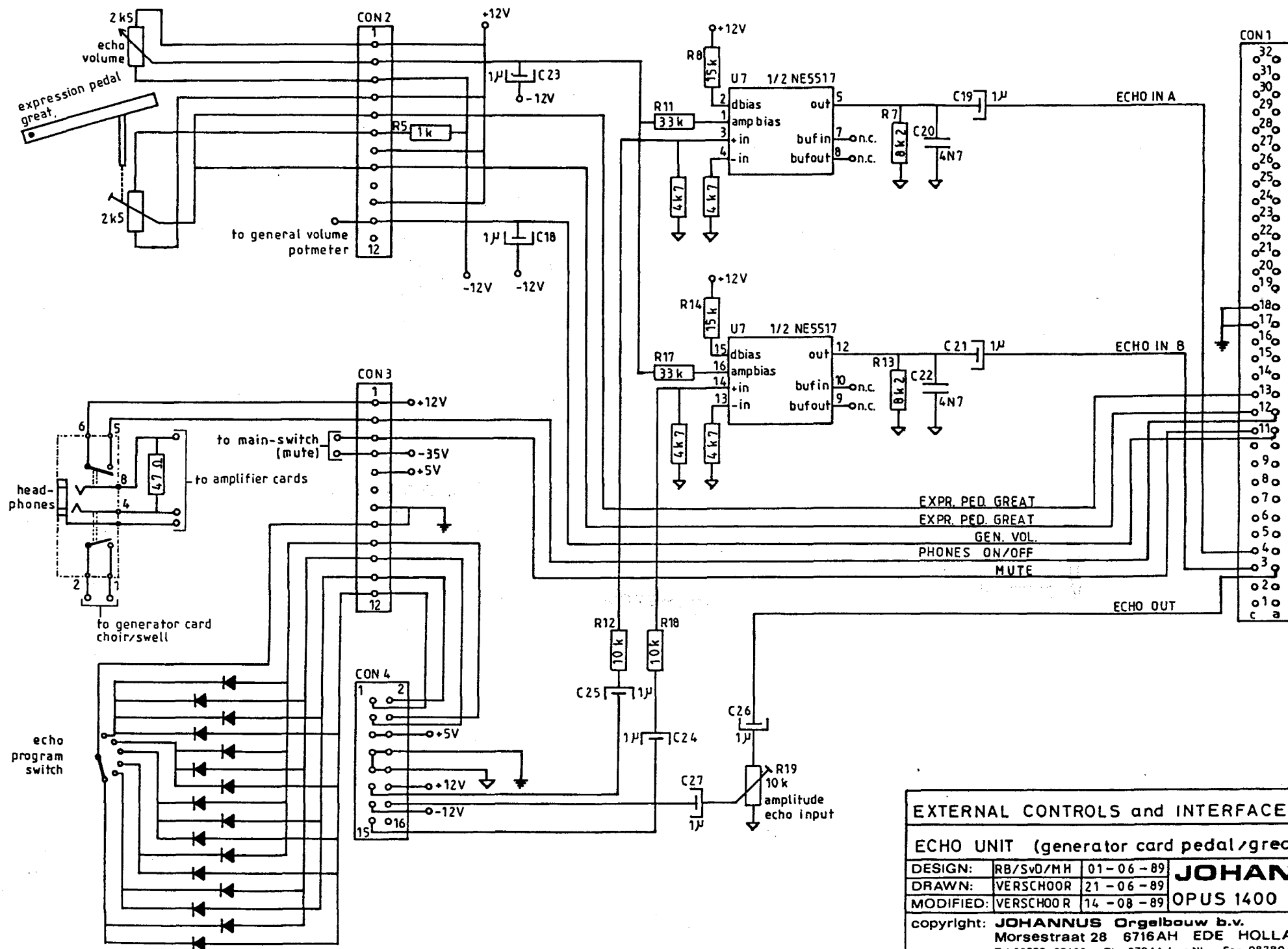
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EXTERNAL CONTROLS (generator card choir/swell)

DESIGN:	RB/SvD/MH	01-06-89	JOHANNUS OPUS 1400
DRAWN:	VERSCHOOR	21-06-89	
MODIFIED:	VERSCHOOR	14-08-89	



EXTERNAL CONTROLS and INTERFACE

ECHO UNIT (generator card pedal/great)

DESIGN: RB/SvD/MH 01-06-89

DRAWN: VERSCHOOR 21-06-89

MODIFIED: VERSCHOOR 14-08-89

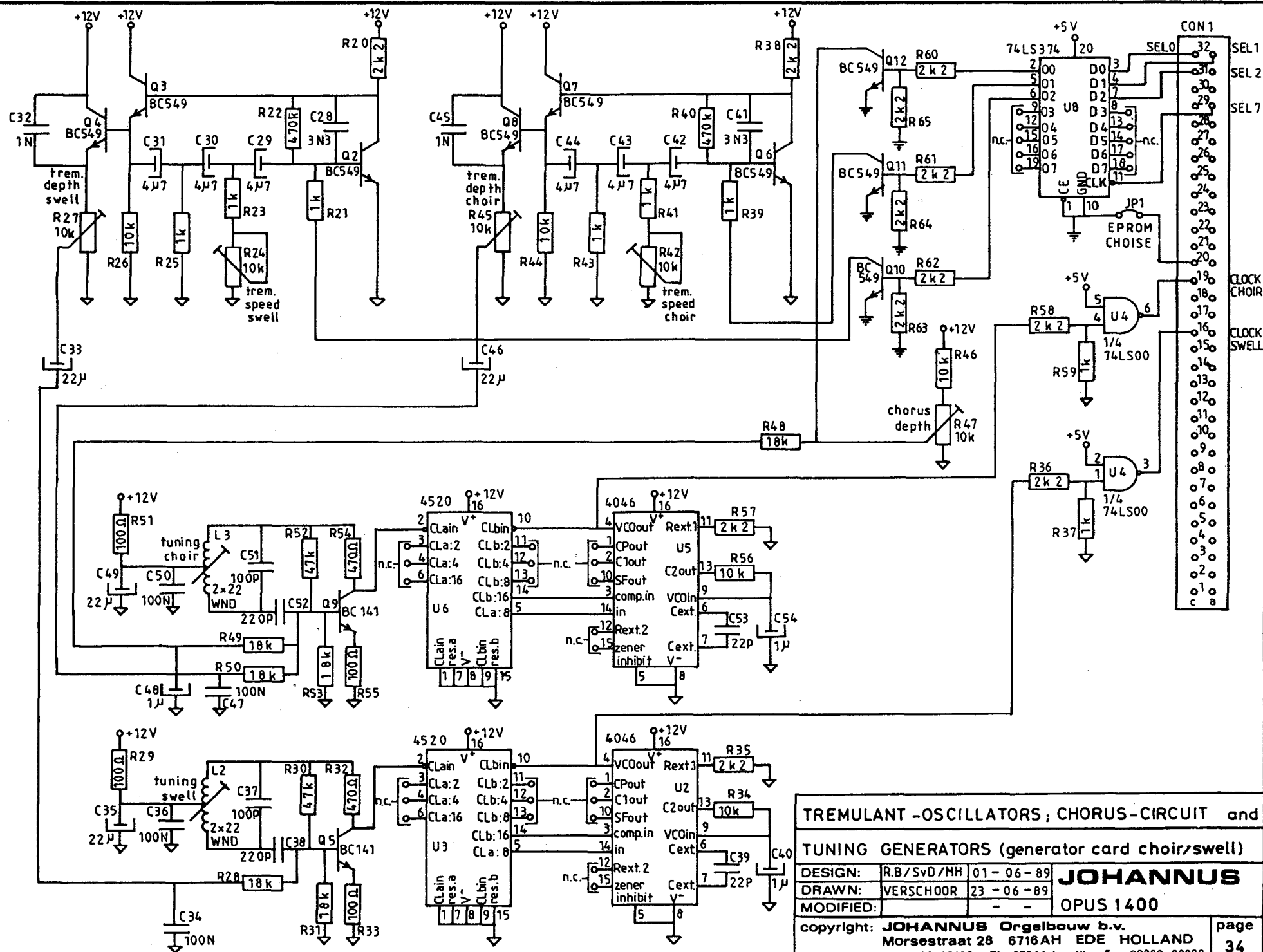
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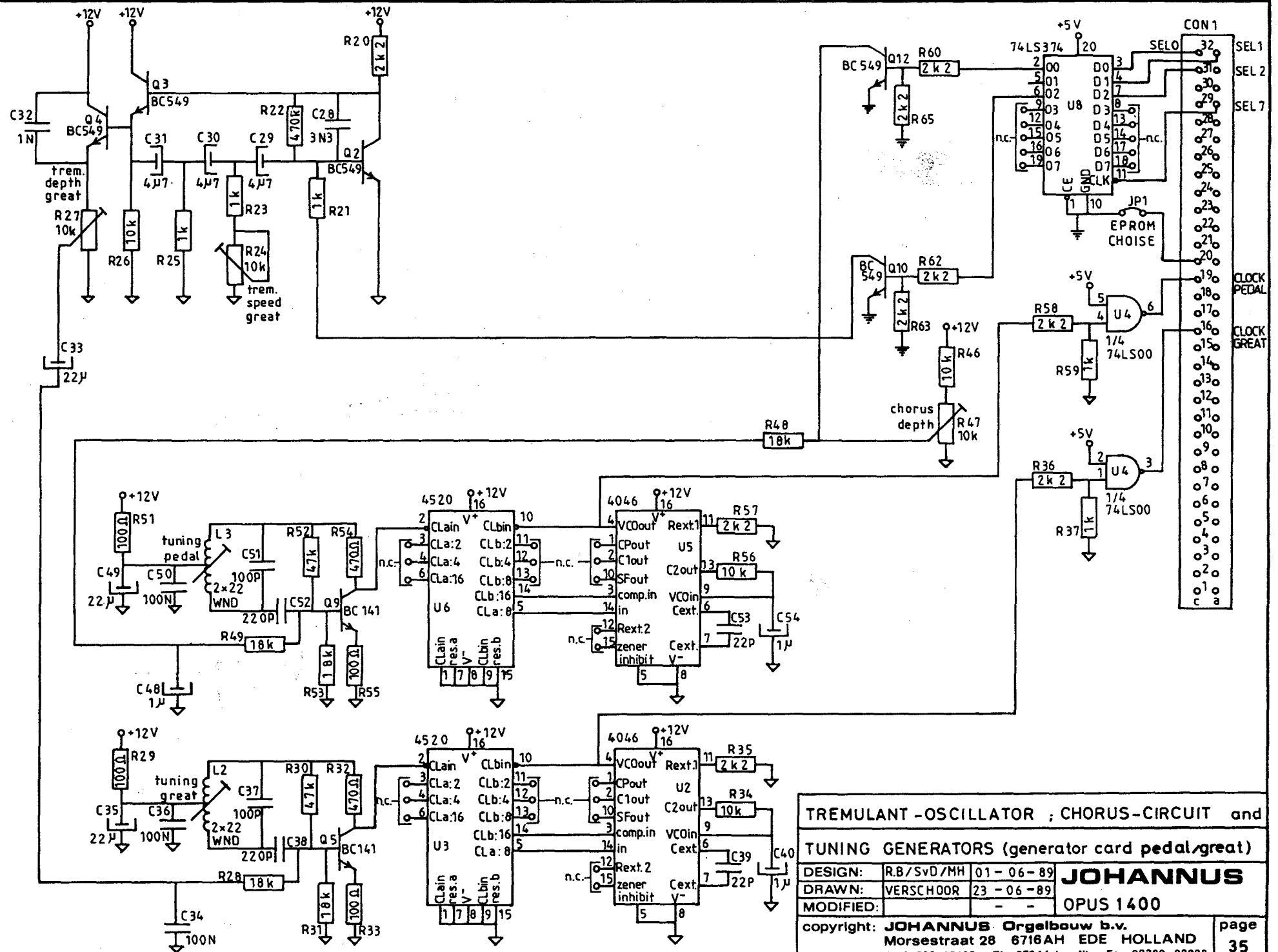
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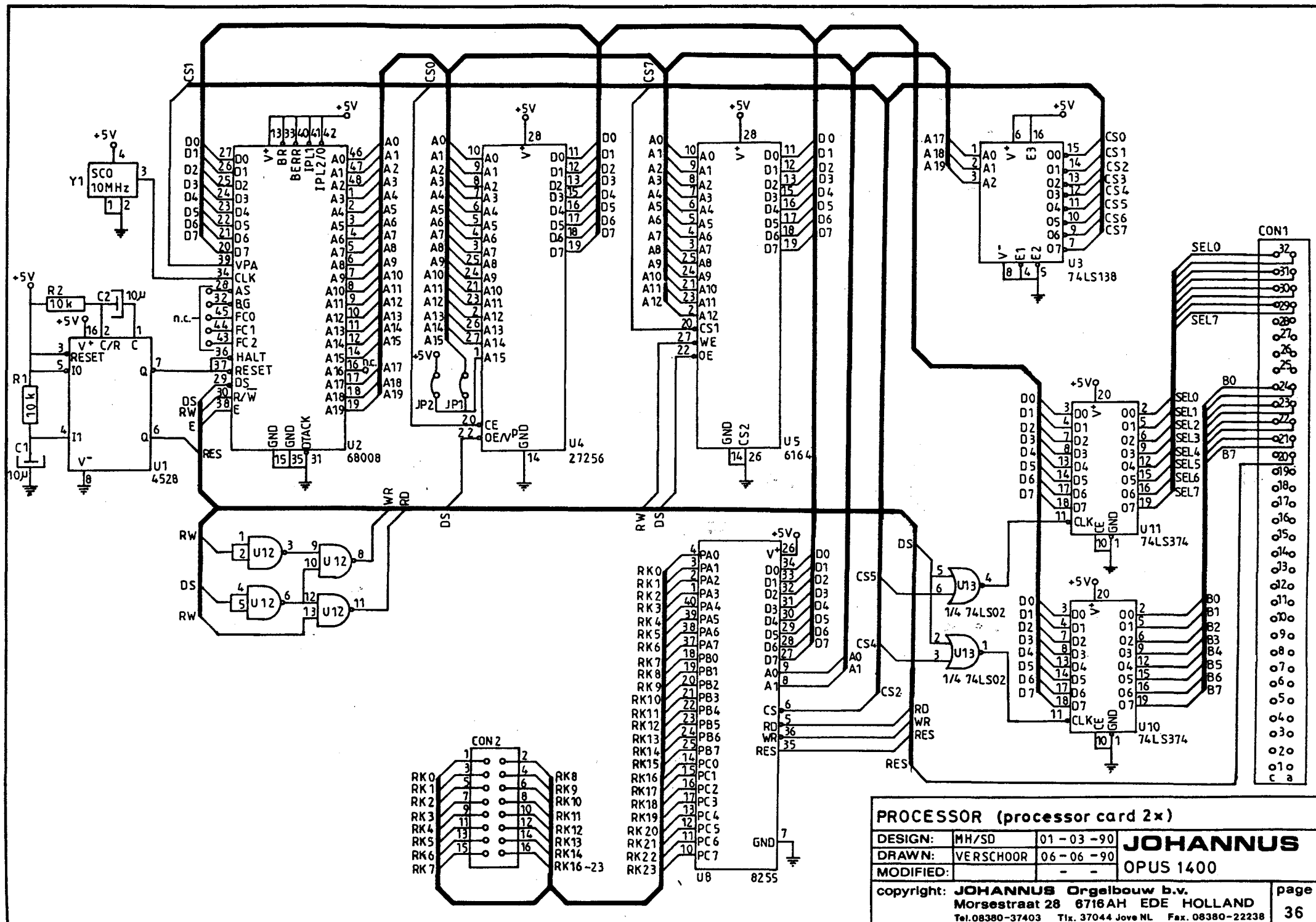
TREMULANT -OSCILLATORS; CHORUS-CIRCUIT and

TUNING GENERATORS (generator card choir/swell)

DESIGN:	R.B./SvD/MH	01 - 06 - 89	JOHANNUS
DRAWN:	VERSCHOOR	23 - 06 - 89	
MODIFIED:	-	-	
			OPUS 1400

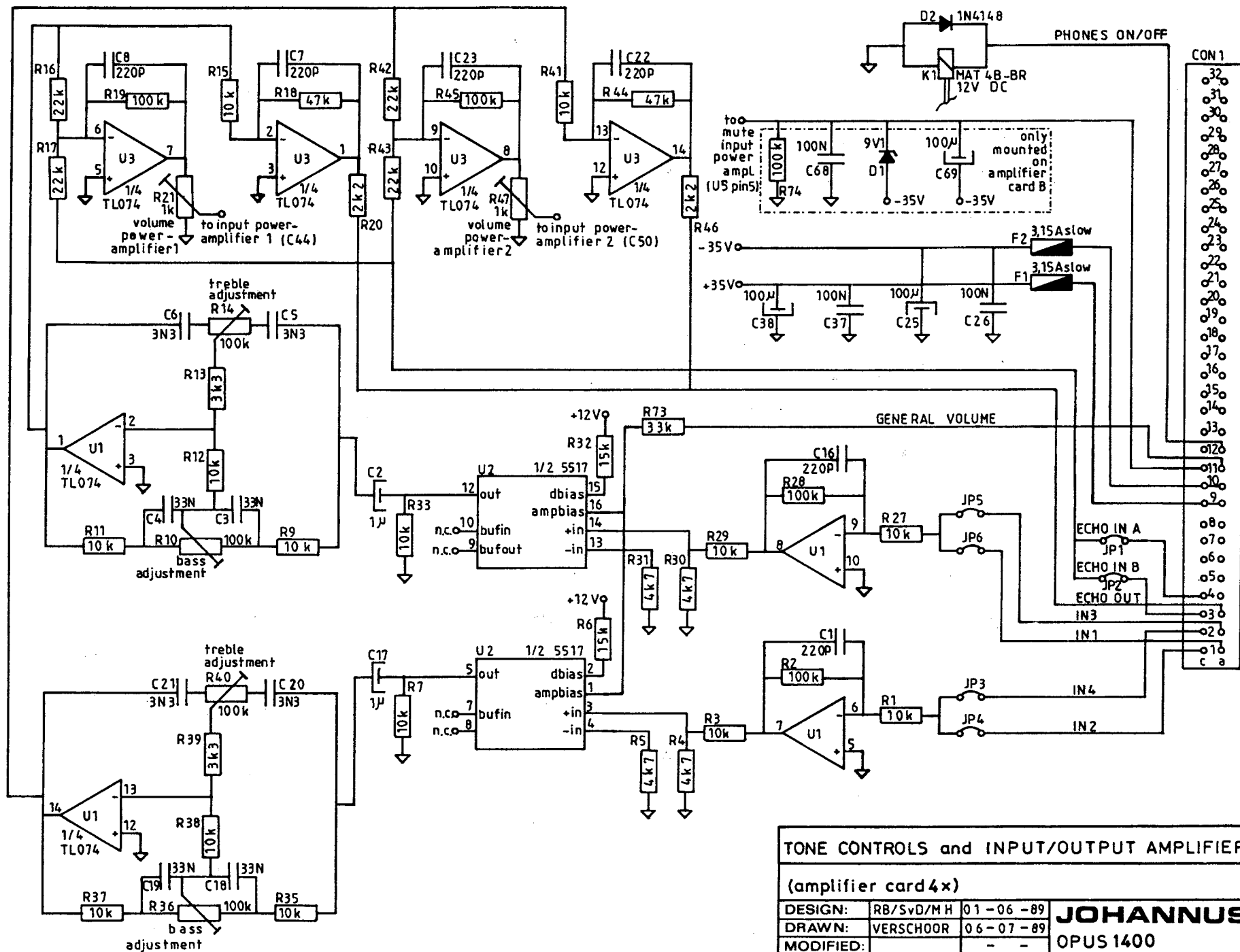


TREMULANT - OSCILLATOR ; CHORUS - CIRCUIT and			
TUNING GENERATORS (generator card pedal/great)			
DESIGN:	R.B./SvD/MH	01 - 06 - 89	JOHANNUS
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PROCESSOR (processor card 2x)

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DRAWN:	VERSCHOOR	06-06-90	
MODIFIED:	-	-	



TONE CONTROLS and INPUT/OUTPUT AMPLIFIERS

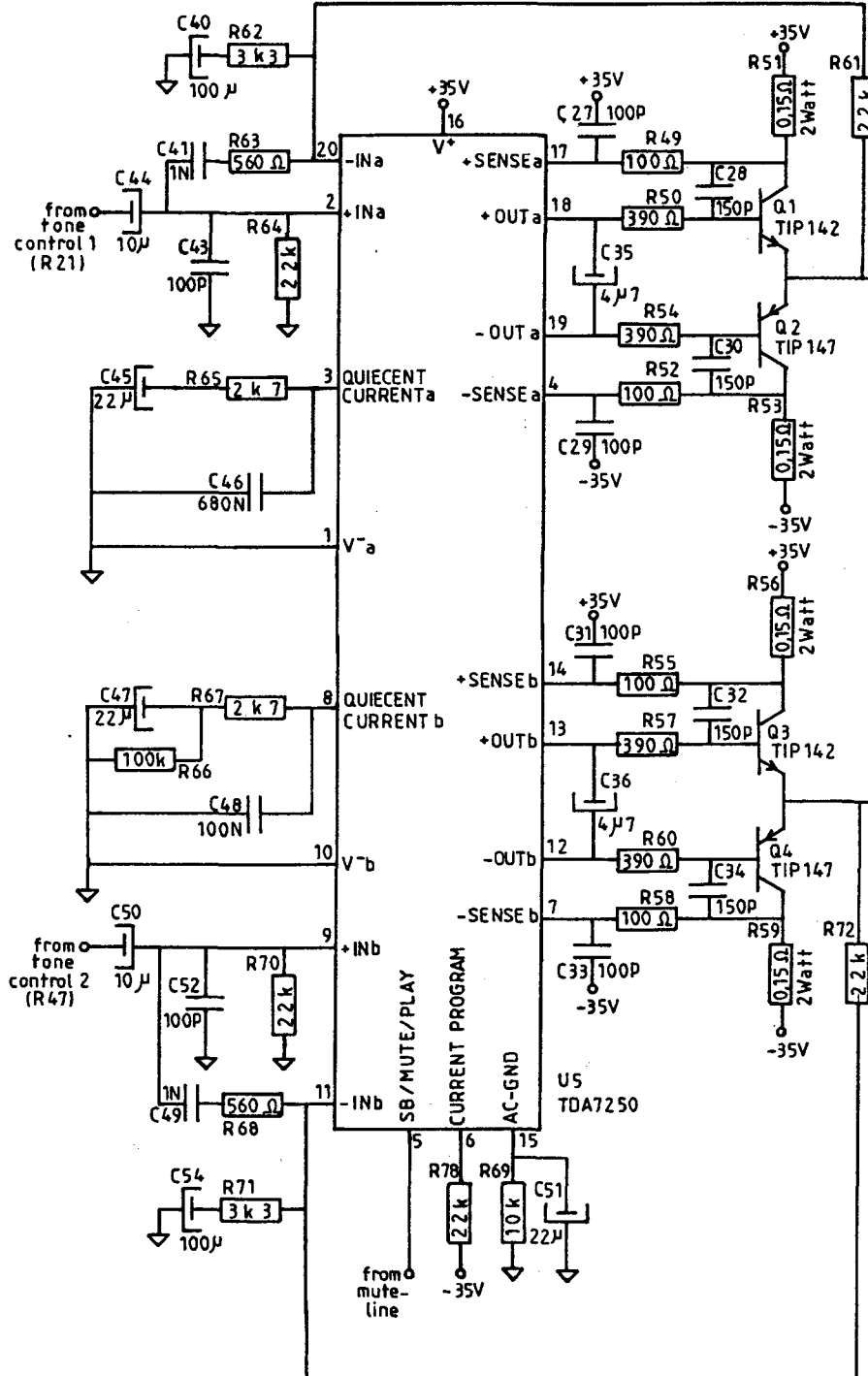
(amplifier card 4x)

DESIGN:	RB/SvD/MH	01-06-89	JOHANNUS OPUS 1400
DRAWN:	VERSCHOOR	06-07-89	
MODIFIED:	-	-	

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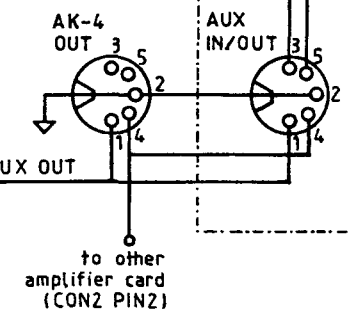


OPTIONAL

to pin6 U1 $47k$
to pin9 U1 $47k$

OPTIONAL

to other
amplifier card
(CON2 PIN3)



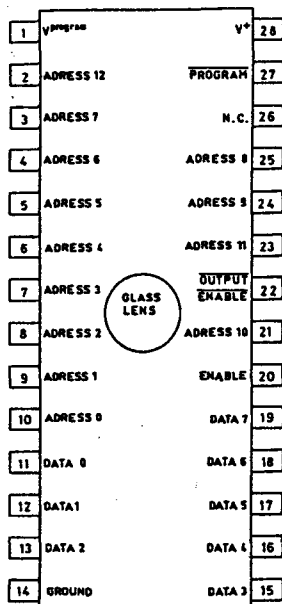
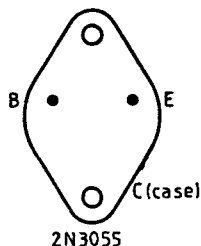
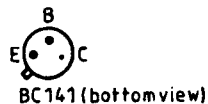
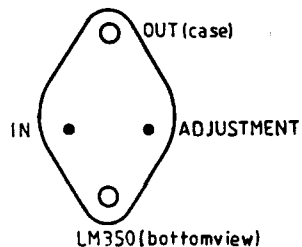
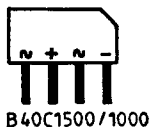
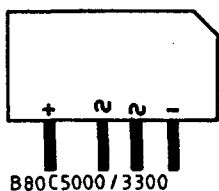
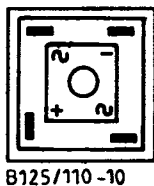
POWER AMPLIFIER (amplifier card 4 x)

DESIGN: RB/SvD/MH 01-06-89
DRAWN: VERSCHOOR 07-07-89
MODIFIED: - -

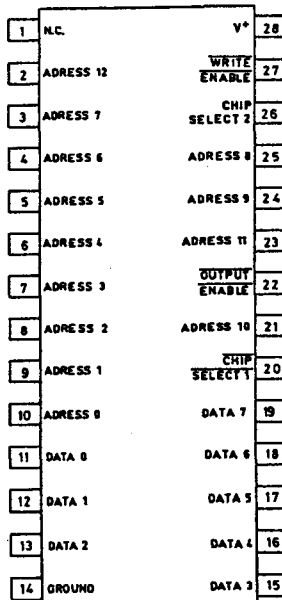
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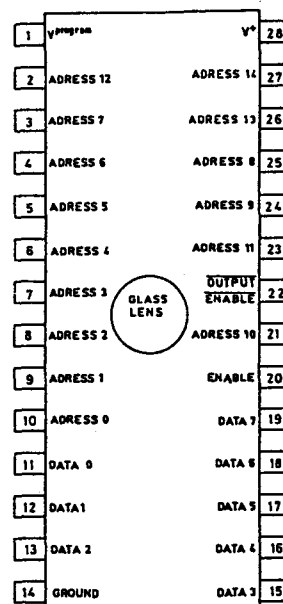
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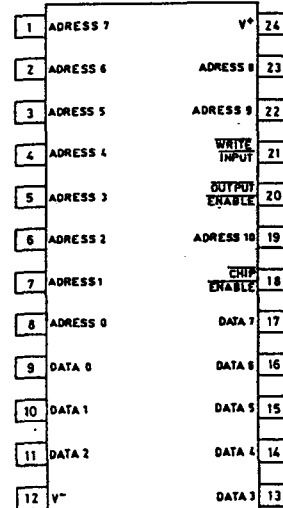
2764: 64k ultraviolet erasable programmable read only memory



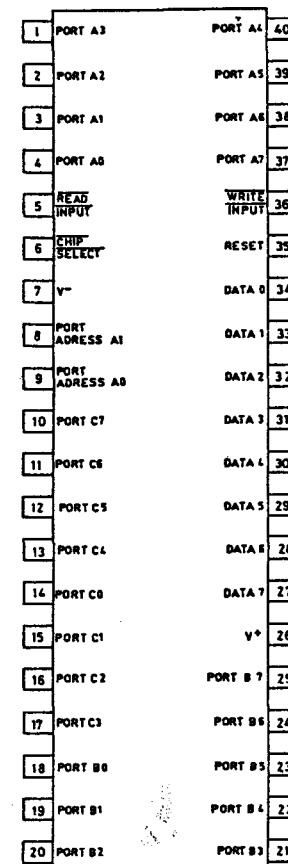
6264: 64k random access memory



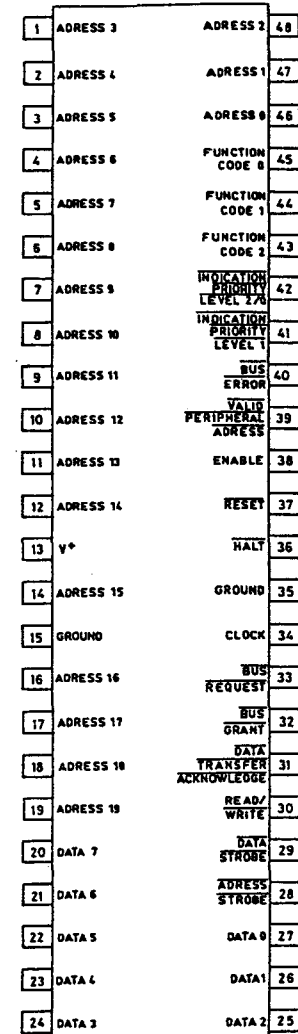
27256: 256k ultraviolet erasable programmable read only memory



OS 1220Y: 16k non-volatile random access memory

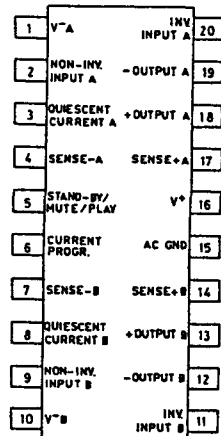


8255: programmable input/output interface

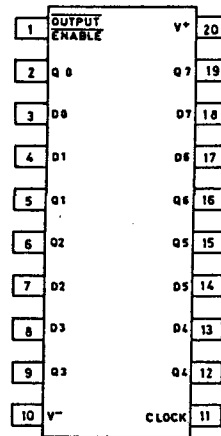


68008: 8-/32-bit micro-processor with 8-bit data bus

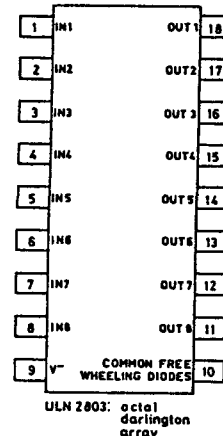
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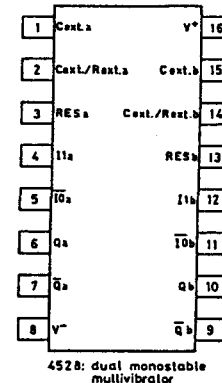
TDA7250: 60W hi-fi dual audio driver



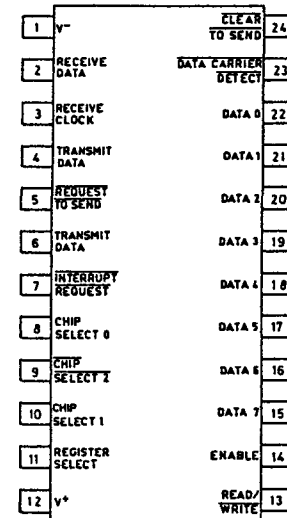
74374: octal D-flip-flop with 3-state outputs



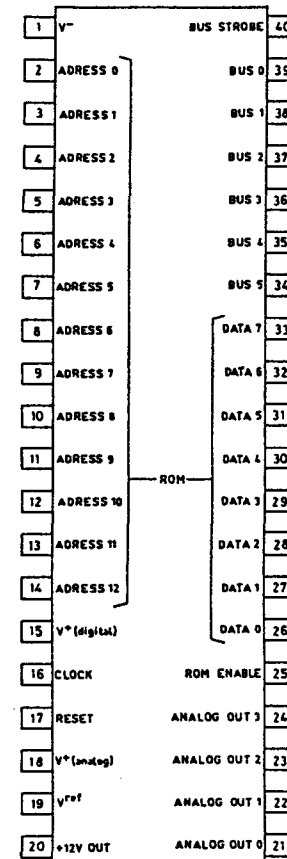
ULN2803: octal darlington array



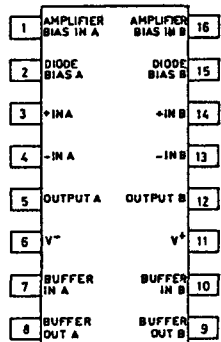
4528: dual monostable multivibrator



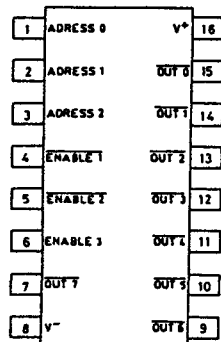
6850: asynchronous communication interface adapter



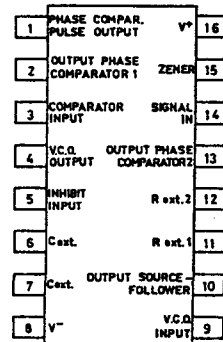
M1445 digital sound generator



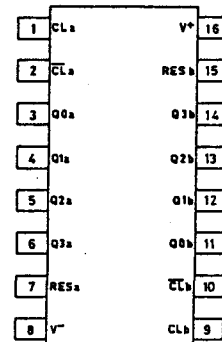
NE5517: dual operational transconductance amplifier



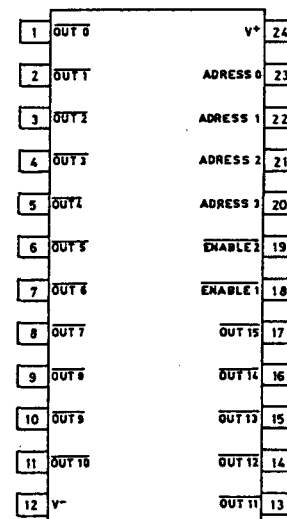
74138: 1-of-8 decoder/demultiplexer



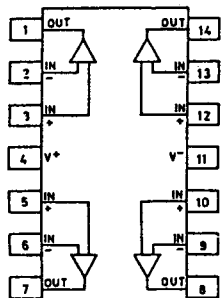
4046 phase locked loop circuit



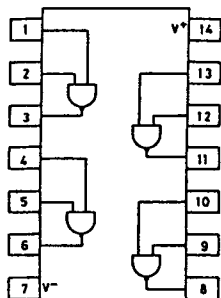
4520 dual binary counter



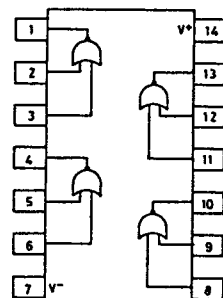
74154: 4-to-16 decoder/demultiplexer



TL074: quad opamp
LM324: quad opamp



7400: quad nand



7402: quad nor

GENERAL INFORMATION SEMI CONDUCTORS II

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