

=====

SCHEMATIC DIAGRAMS

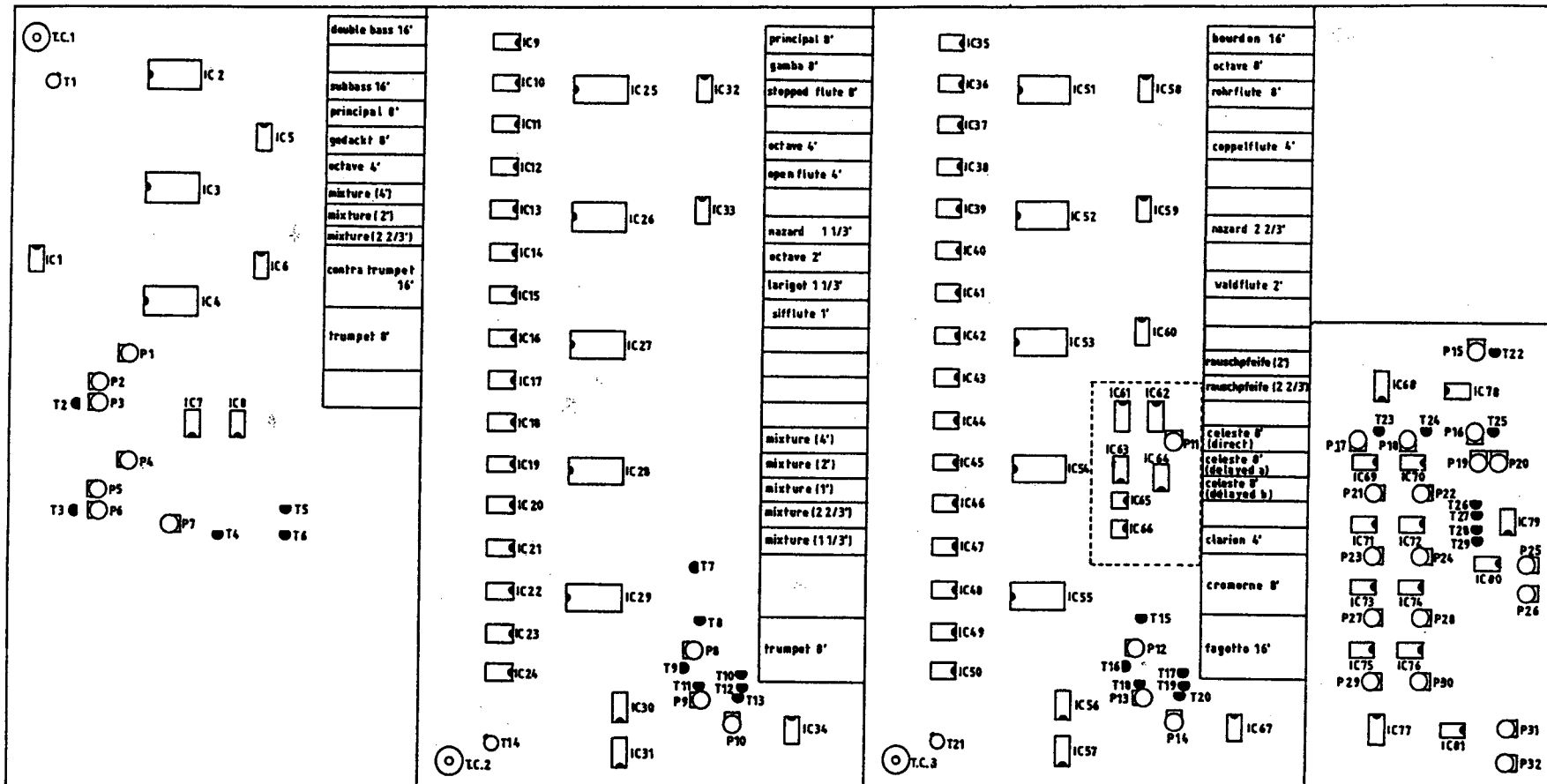
JOHANNUS

OPUS 200 / 205 / 215

alterations reserved

## C O N T E N T S

1. POSITION DIAGRAM
2. POWER SUPPLY
3. SWITCH-SECTION PRESETS, HICK-, TREMULANT-, EXPRESSION PEDAL CIRCUIT & CHORUS
4. COUPLER CIRCUIT
5. GENERATOR & KEYING PEDAL
6. PRE-AMP'S AND VOICES PEDAL
7. GENERATOR GREAT & SWELL
8. KEYING GREAT
9. PRE-AMP'S GREAT
10. VOICES GREAT
11. KEYING SWELL
12. PRE-AMP'S SWELL
13. CELESTE CIRCUIT SWELL
14. VOICES SWELL
15. INPUT/OUTPUT CIRCUIT ECHO UNIT
16. DELAY LINE ECHO UNIT
17. VOICE AMPLIFIERS
18. POWER-AMPLIFIER (2x)
19. LOUDSPEAKER- & HEADPHONES-CIRCUIT
20. GENERAL INFORMATION SEMI-CONDUCTORS



T.C.1: tuning pedal  
 T.C.2: tuning great  
 T.C.3: tuning swell

P1: volume treble amplifier  
 P2: bass adjustment treble amplifier  
 P3: treble adjustment treble amplifier  
 P4: volume bass amplifier  
 P5: bass adjustment bass amplifier  
 P6: treble adjustment bass amplifier  
 P7: linearity expression pedal  
 P8: tremulant speed great  
 P9: hick depth great  
 P10: tremulant depth great  
 P11: equalization celeste clocks  
 P12: tremulant speed swell  
 P13: hick depth swell  
 P14: tremulant depth swell

P15: amplitude output channel A echo unit  
 P16: amplitude output channel B echo unit  
 P17: clockripple elimination delay line echo unit channel A  
 P18: clockripple elimination delay line echo unit channel B  
 P19: amplitude feedback-signal channel B to channel A  
 P20: amplitude feedback-signal channel A to channel B  
 P21: DC-offset IC 69  
 P22: DC-offset IC 70  
 P23: DC-offset IC 71  
 P24: DC-offset IC 72  
 P25: clockfrequency  
 P26: amplitude chorus  
 P27: DC-offset IC 73  
 P28: DC-offset IC 74  
 P29: DC-offset IC 75  
 P30: DC-offset IC 76  
 P31: amplitude input channel B echo unit  
 P32: amplitude input channel A echo unit

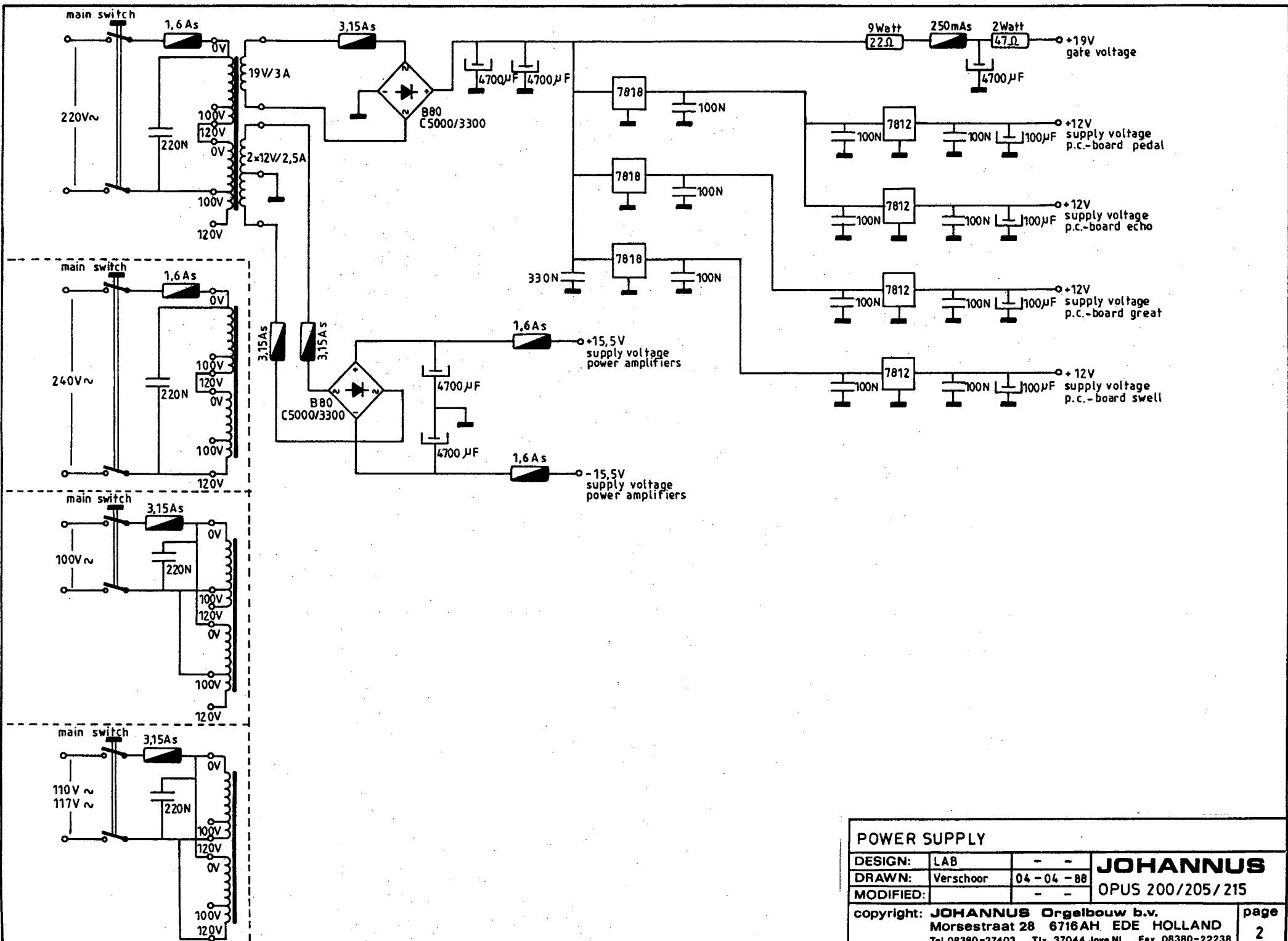
IC 1, 30, 31, 56, 57.....4520  
 IC 2-4, 25-29, 51-55.....TMS 3617  
 IC 5-8, 32-34, 58-60, 64, 67, 78, 81.....TL 074  
 IC 9-24, 35-50.....LM 339  
 IC 61, 62.....4046  
 IC 63.....4013  
 IC 65, 66.....TDA 2107  
 IC 68, 77.....NE 570  
 IC 69-76.....TDA 2108  
 IC 79.....4093  
 IC 80.....LM 324

T 1, 14, 21.....BC 141  
 T 2-4, 7-13, 15-20, 22-25, 27, 28.....BC 549  
 T 5, 6.....BC 337  
 T 26, 29.....BC 558

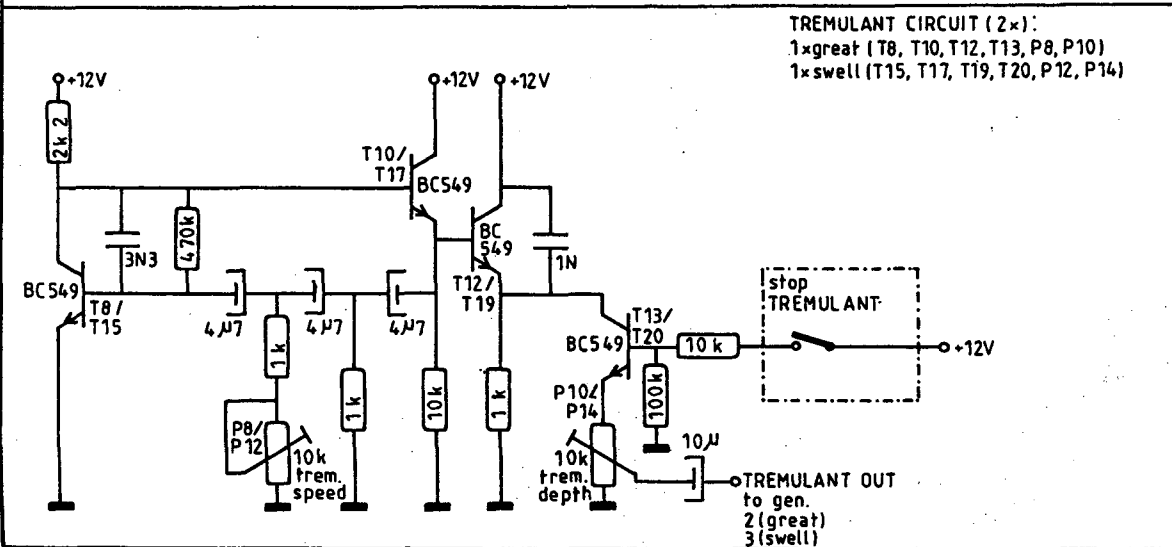
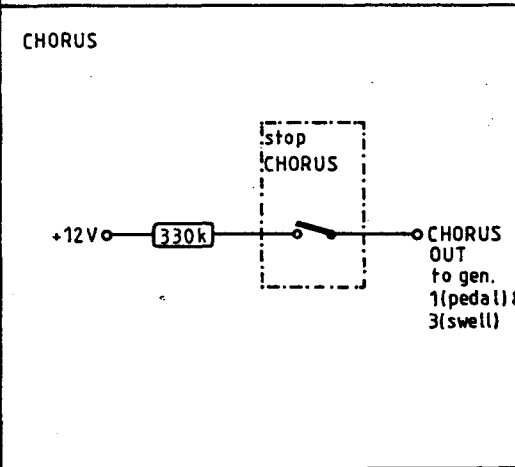
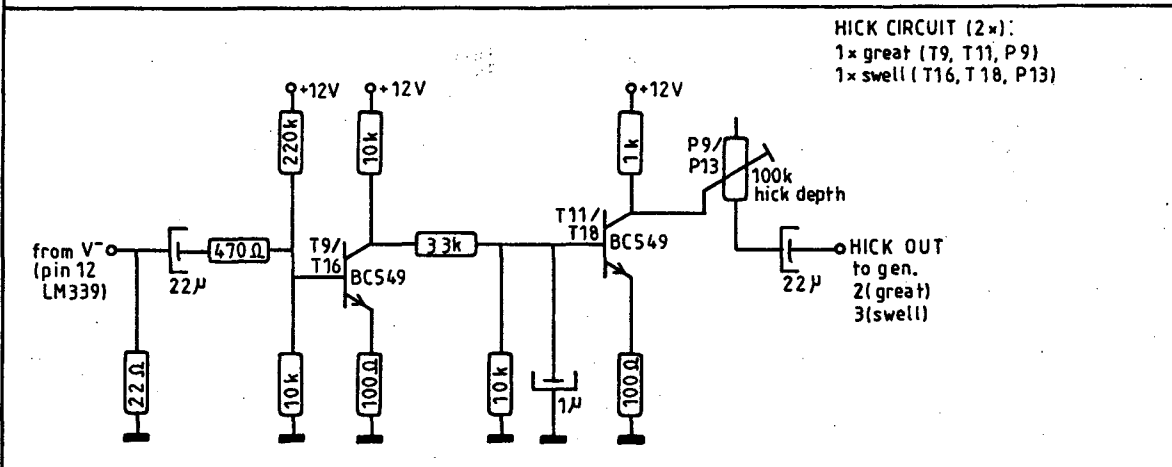
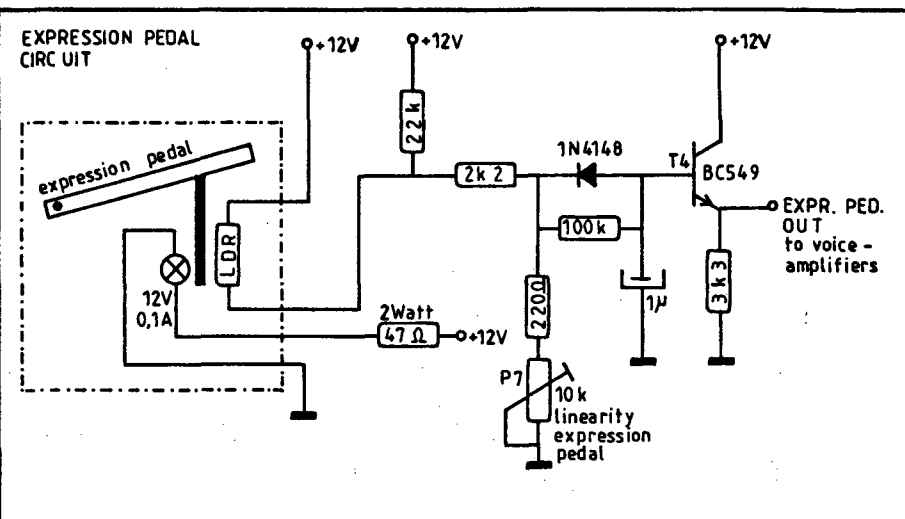
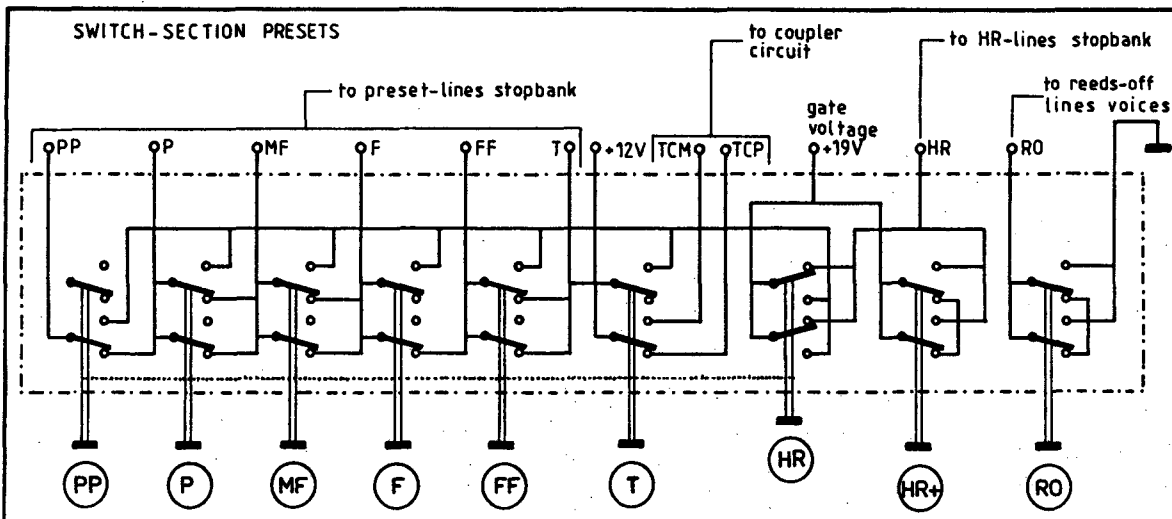
**POSITION DIAGRAM**

DESIGN:	LAB	- -	<b>JOHANNUS</b> OPUS 200/205/215
DRAWN:	Verschoor	04-04-88	
MODIFIED:	- -	- -	

copyright: **JOHANNUS Orgelbouw b.v.** page  
 Morsestraat 28 6716AH EDE HOLLAND  
 Tel.08380-37403 Tlx. 37044 Jove NL Fax. 08380-22238 1



<b>POWER SUPPLY</b>		
DESIGN:	LAB	- -
DRAWN:	Verschoor	04-04-88
MODIFIED:	-	-
<b>JOHANNUS</b>		OPUS 200/205/215
copyright: <b>JOHANNUS Orgelbouw b.v.</b>		page
Morsestraat 28 6716AH EDE HOLLAND		2
Tel. 08380-37403 Tlx. 37044 Jove NL Fax. 08380-22238		



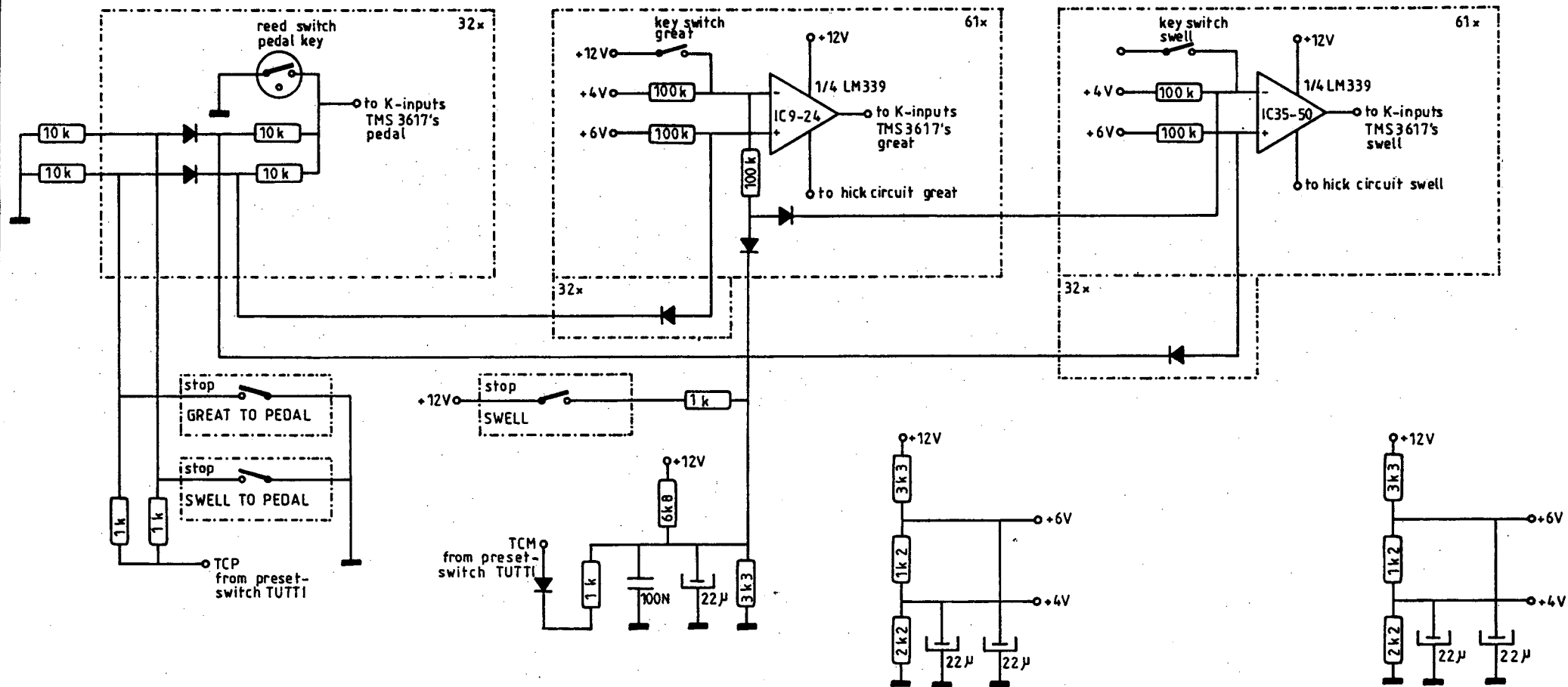
**SWITCH-SECTION PRESETS, HICK-, TREMULANT-,  
 EXPRESSION PEDAL CIRCUIT & CHORUS**

DESIGN:	LAB	- -	<b>JOHANNUS</b>
DRAWN:	Verschoor	06-04-88	
MODIFIED:	- -	- -	

OPUS 200/205/215

copyright: **JOHANNUS Orgelbouw b.v.**  
 Morsestraat 28 6716AH EDE HOLLAND  
 Tel. 08380-37403 Tlx. 37044 Jove NL Fax. 08380-22238

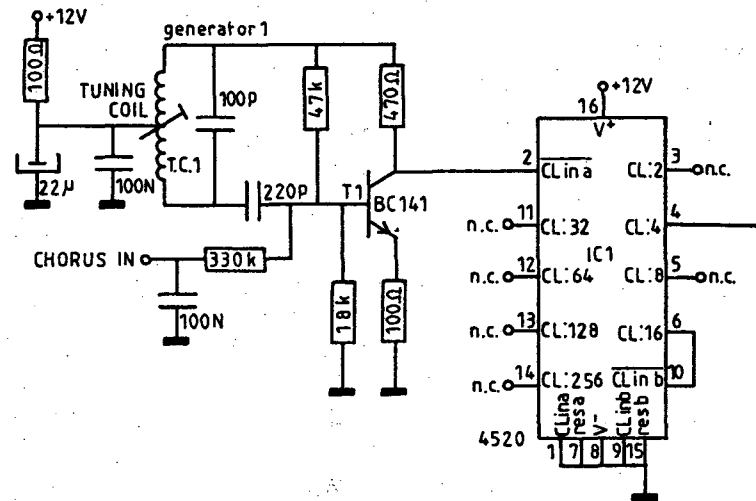
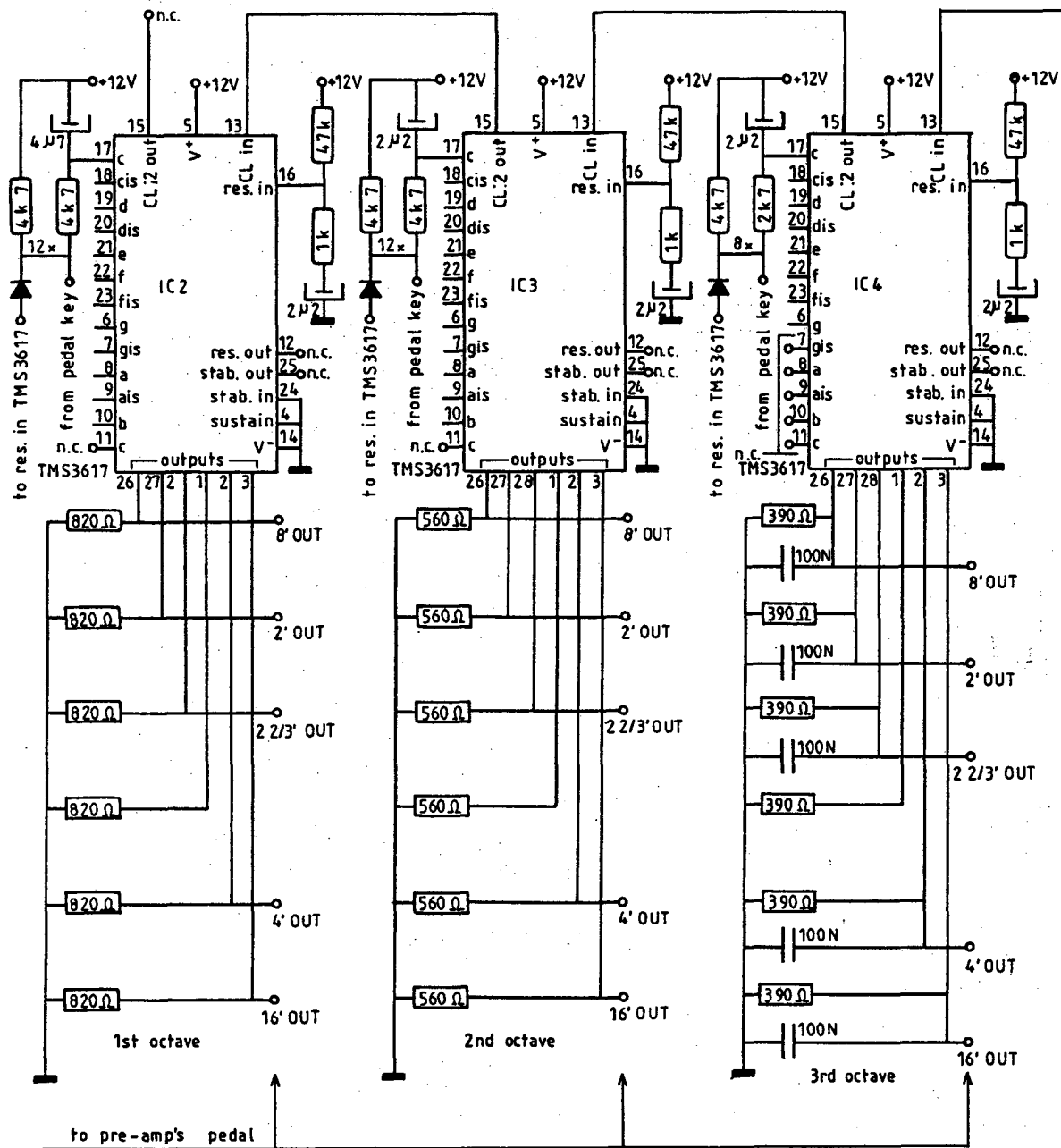
page 3



ALL DIODES: 1N4148

**COUPLER CIRCUIT**

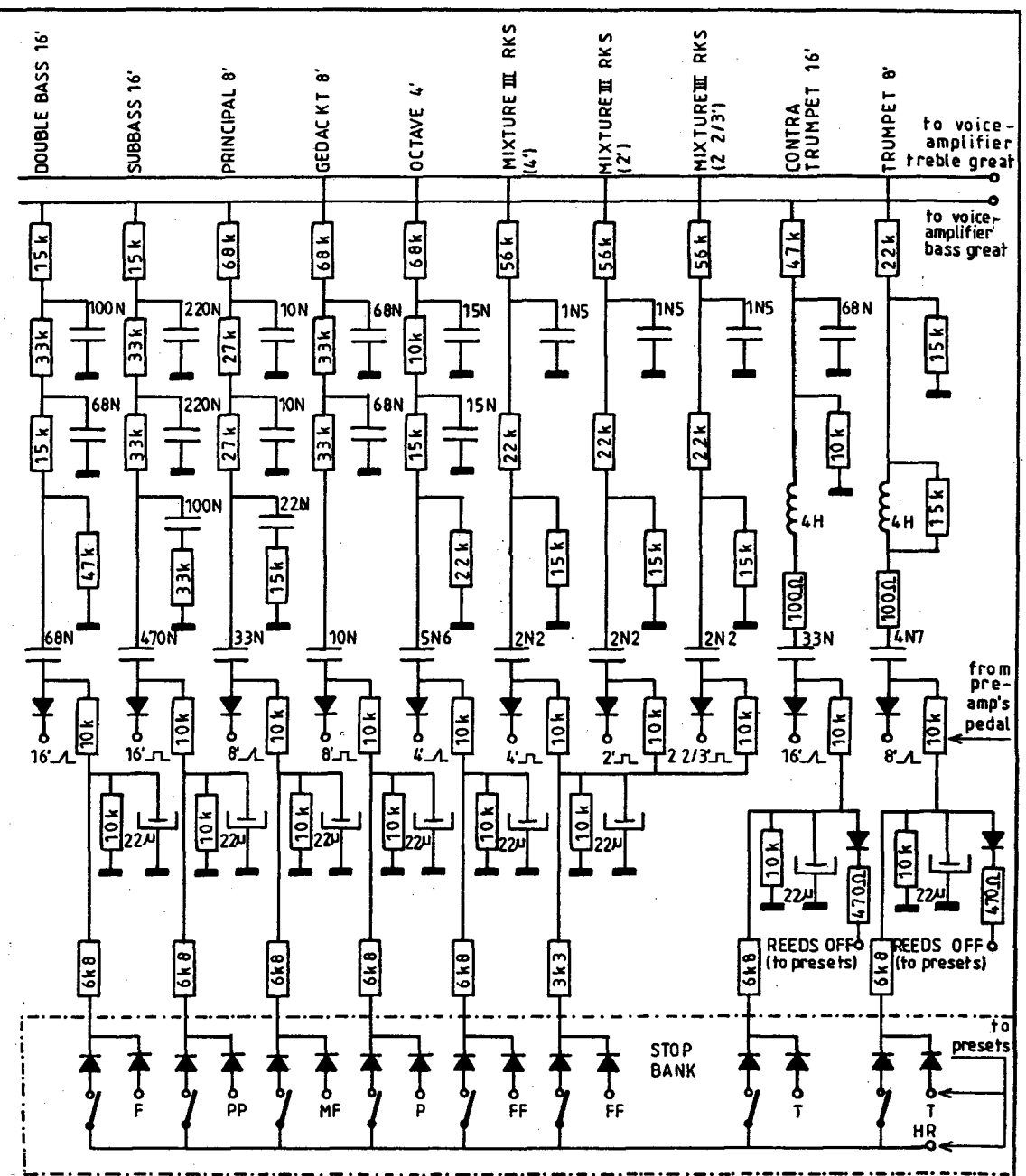
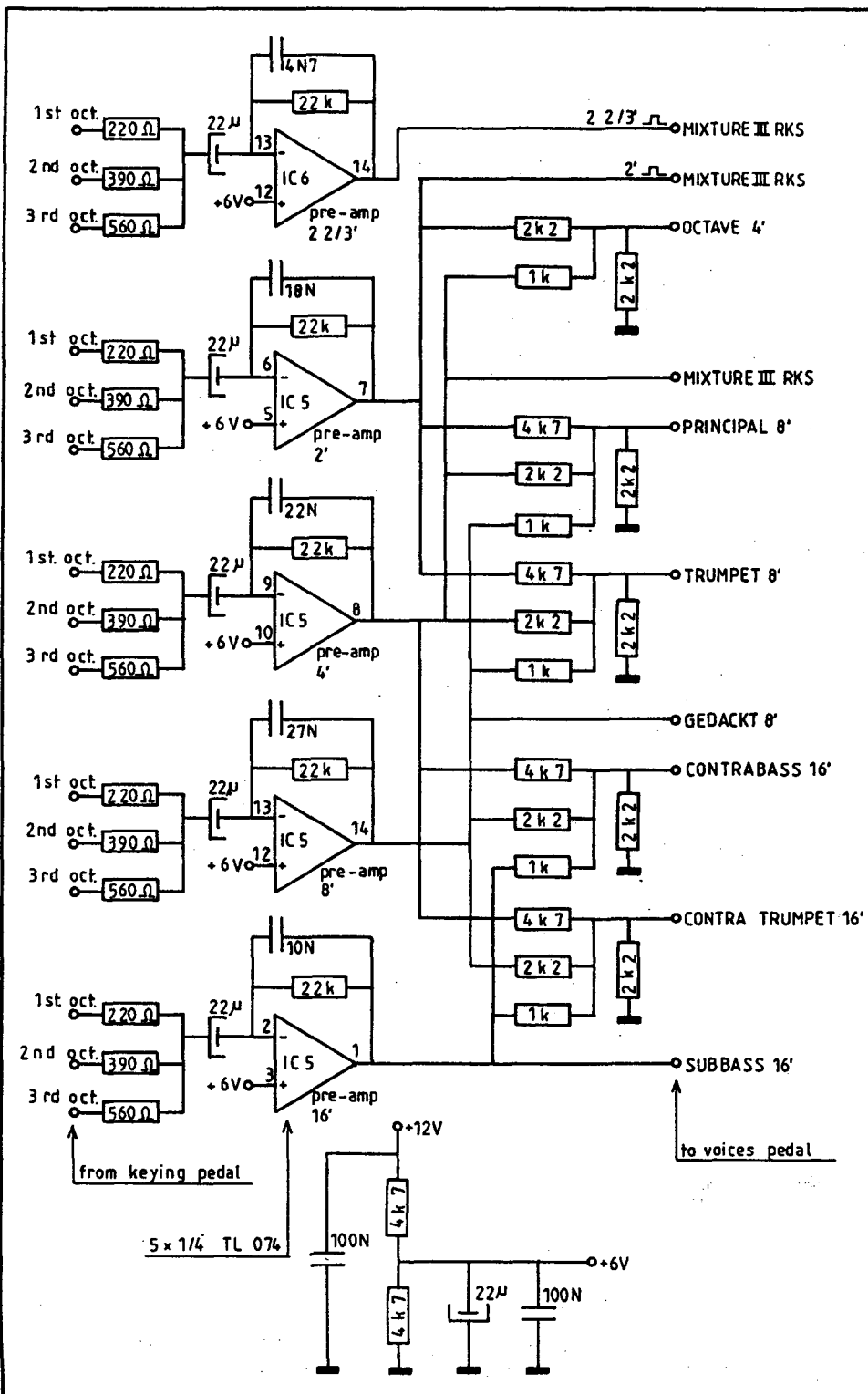
DESIGN:	LAB	- -	<b>JOHANNUS</b>
DRAWN:	Verschoor	06-04-88	
MODIFIED:	- -	- -	
copyright: <b>JOHANNUS Orgelbouw b.v.</b>			page
Morsestraat 28 6716AH EDE HOLLAND			4
Tel. 08380-37403 Tlx. 37044 Jova NL Fax. 08380-22238			



ALL DIODES 1N4148

GENERATOR & KEYING PEDAL

DESIGN:	LAB	- -	<b>JOHANNUS</b> OPUS 200/205/215
DRAWN:	Verschoor	06-04-88	
MODIFIED:		- -	
copyright: JOHANNUS Orgelbouw b.v. Morsestraat 28 6716AH EDE HOLLAND Tel. 08380-37403 Tlx. 37044 Jove NL Fax. 08380-22238			page 5



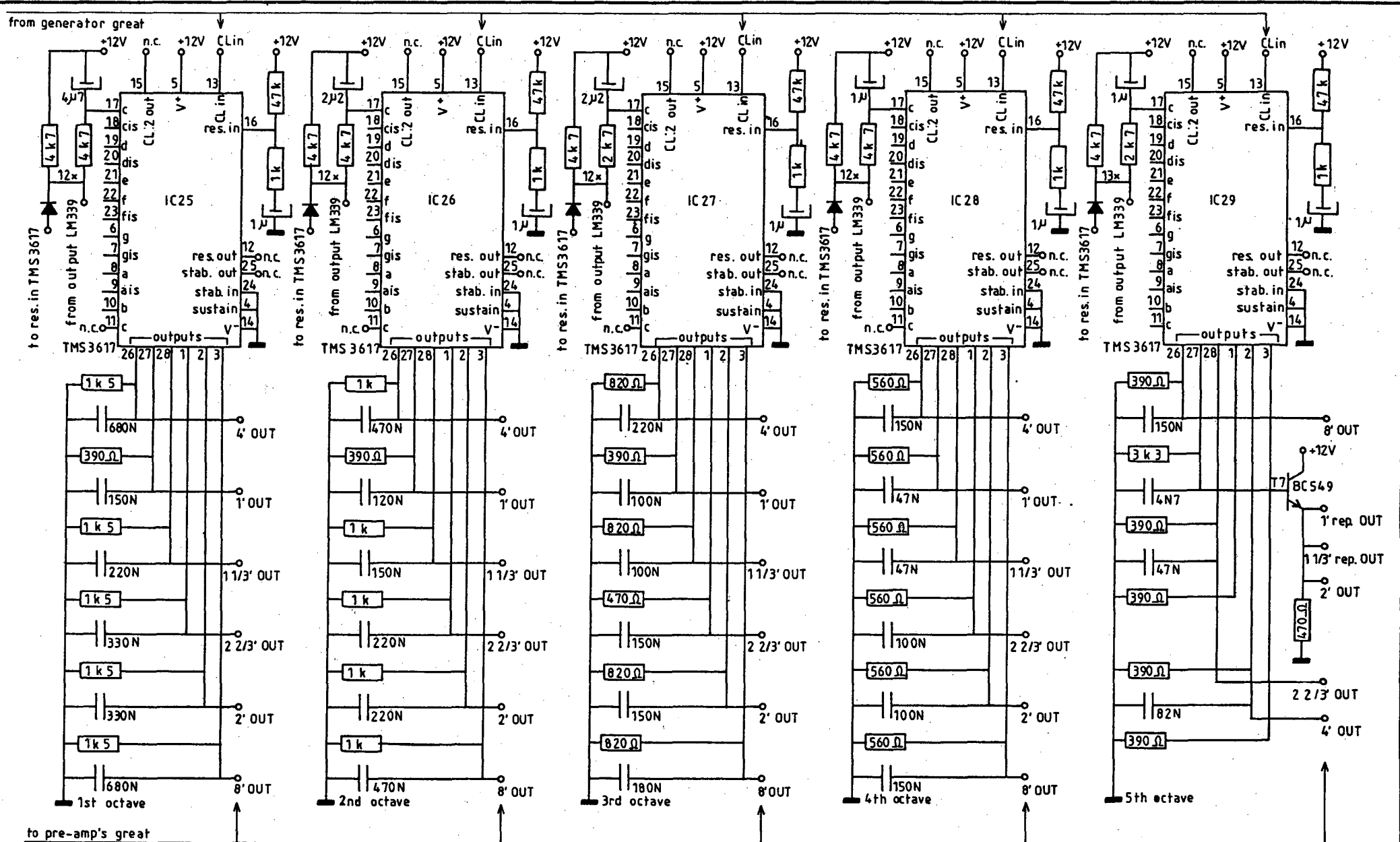
DIODES 1N4148

**PRE-AMP'S AND VOICES PEDAL**

DESIGN:	LAB	- -	<b>JOHANNUS</b>
DRAWN:	Verschoor	18-05-88	
MODIFIED:	-	-	
copyright: <b>JOHANNUS Orgelbouw b.v.</b>			page
Morsestraat 28 6716AH EDE HOLLAND			6
Tel. 08380-37403 Tlx. 37044 Jova NL Fax. 08380-22238			

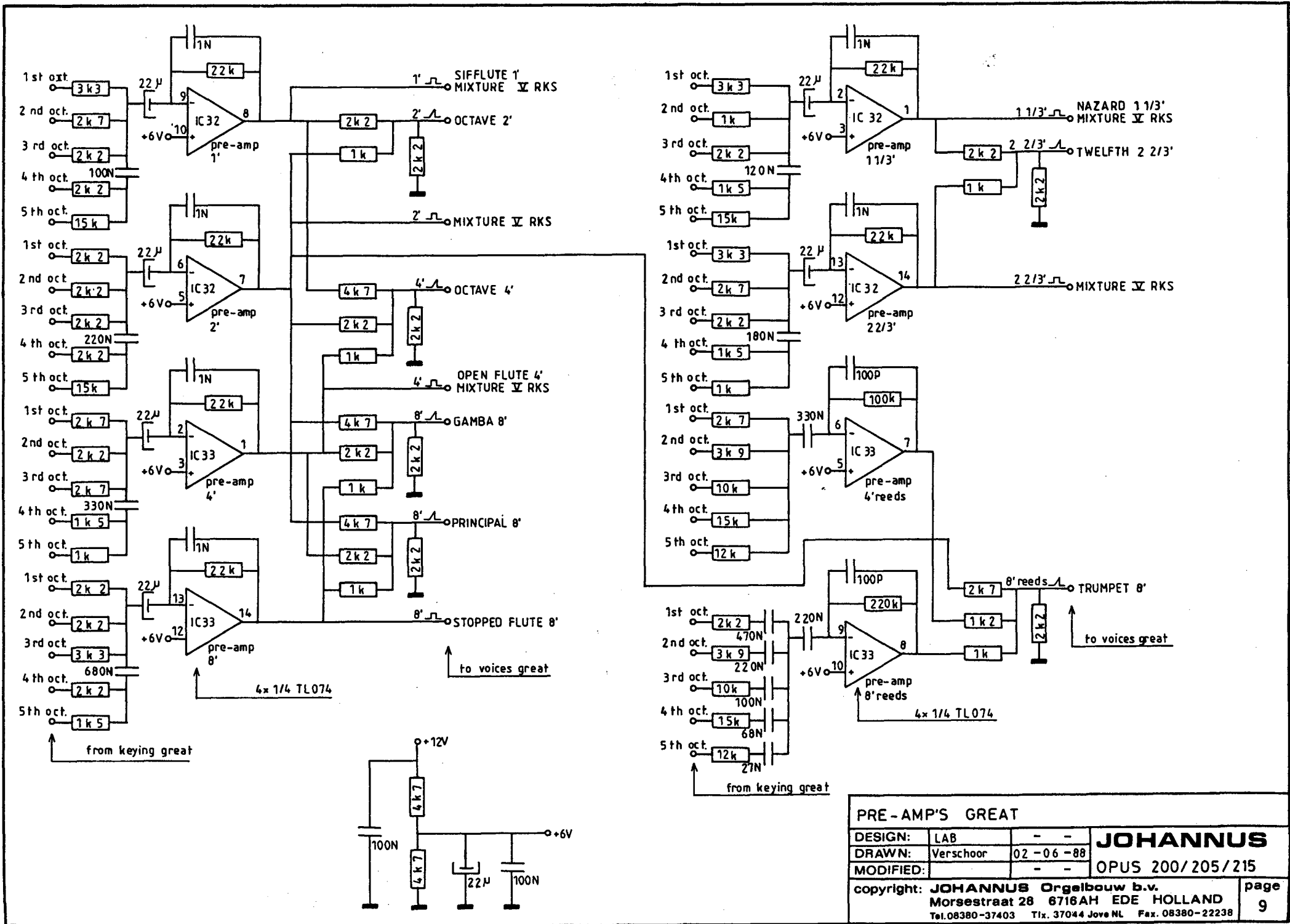






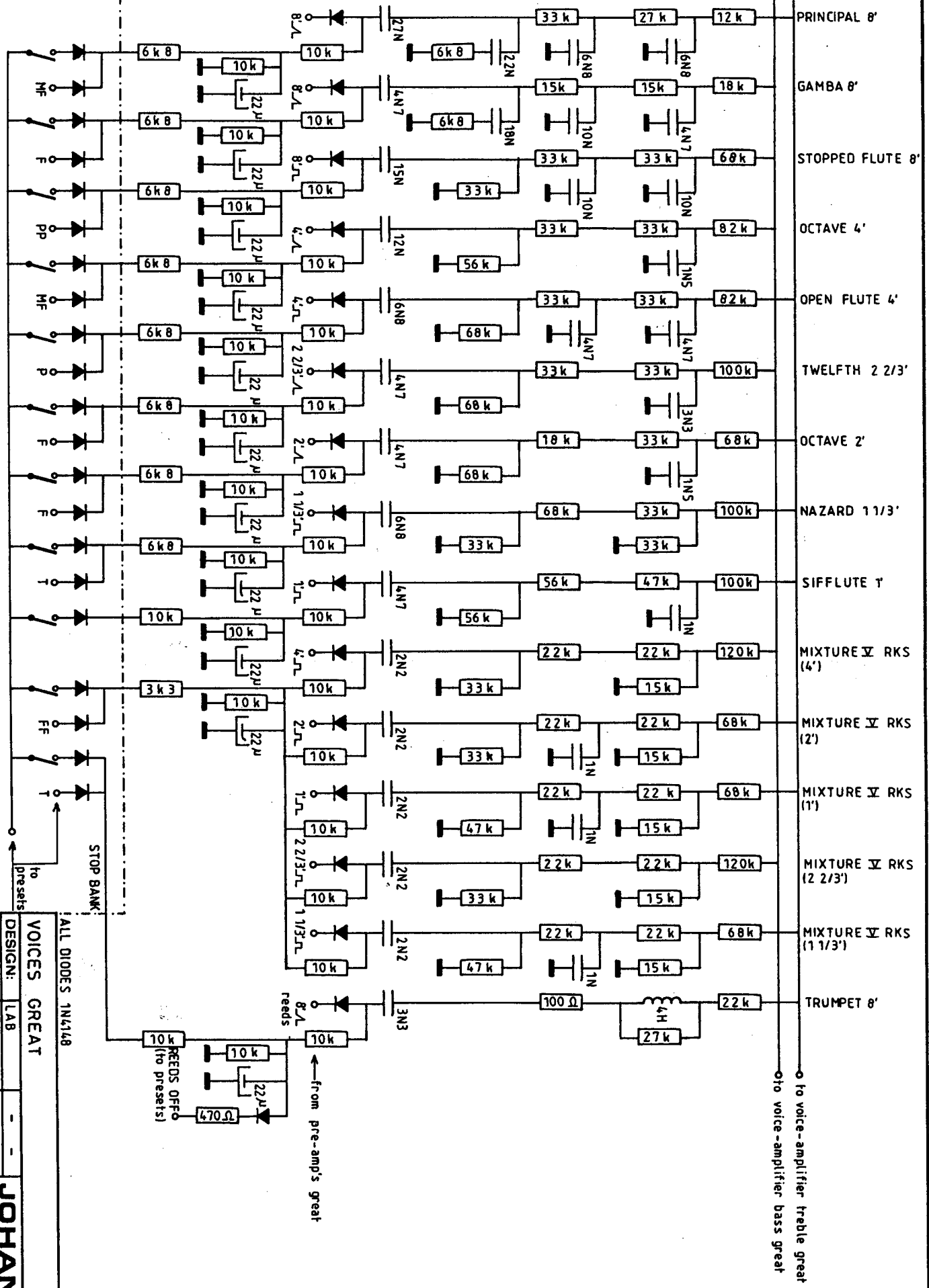
ALL DIODES: 1N4148

KEYING GREAT		
DESIGN:	LAB	- - -
DRAWN:	Verschoor	30 - 05 - 88
MODIFIED:	- - -	- - -
copyright: JOHANNUS Orgeibouw b.v. Morsestraat 28 6716AH EDE HOLLAND Tel. 08380-37403 Tlx. 37044 Jove NL Fax. 08380-22238		page 8



**PRE-AMP'S GREAT**

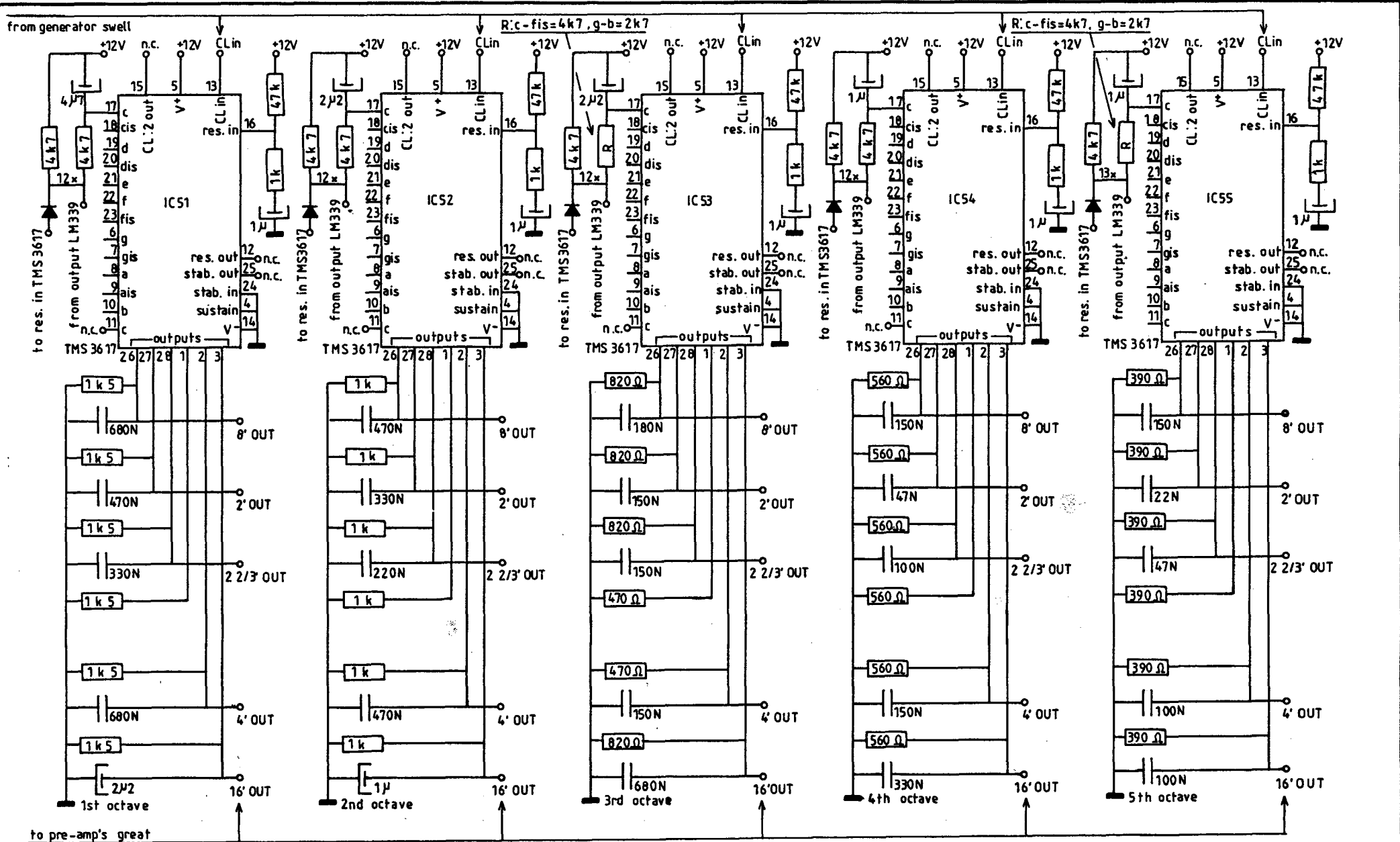
DESIGN:	LAB	- -	<b>JOHANNUS</b>
DRAWN:	Verschoor	02 - 06 - 88	
MODIFIED:	- -	- -	
copyright: <b>JOHANNUS Orgelbouw b.v.</b> Morsestraat 28 6716AH EDE HOLLAND Tel. 08380-37403 Tlx. 37044 Jove NL Fax. 08380-22238			page 9



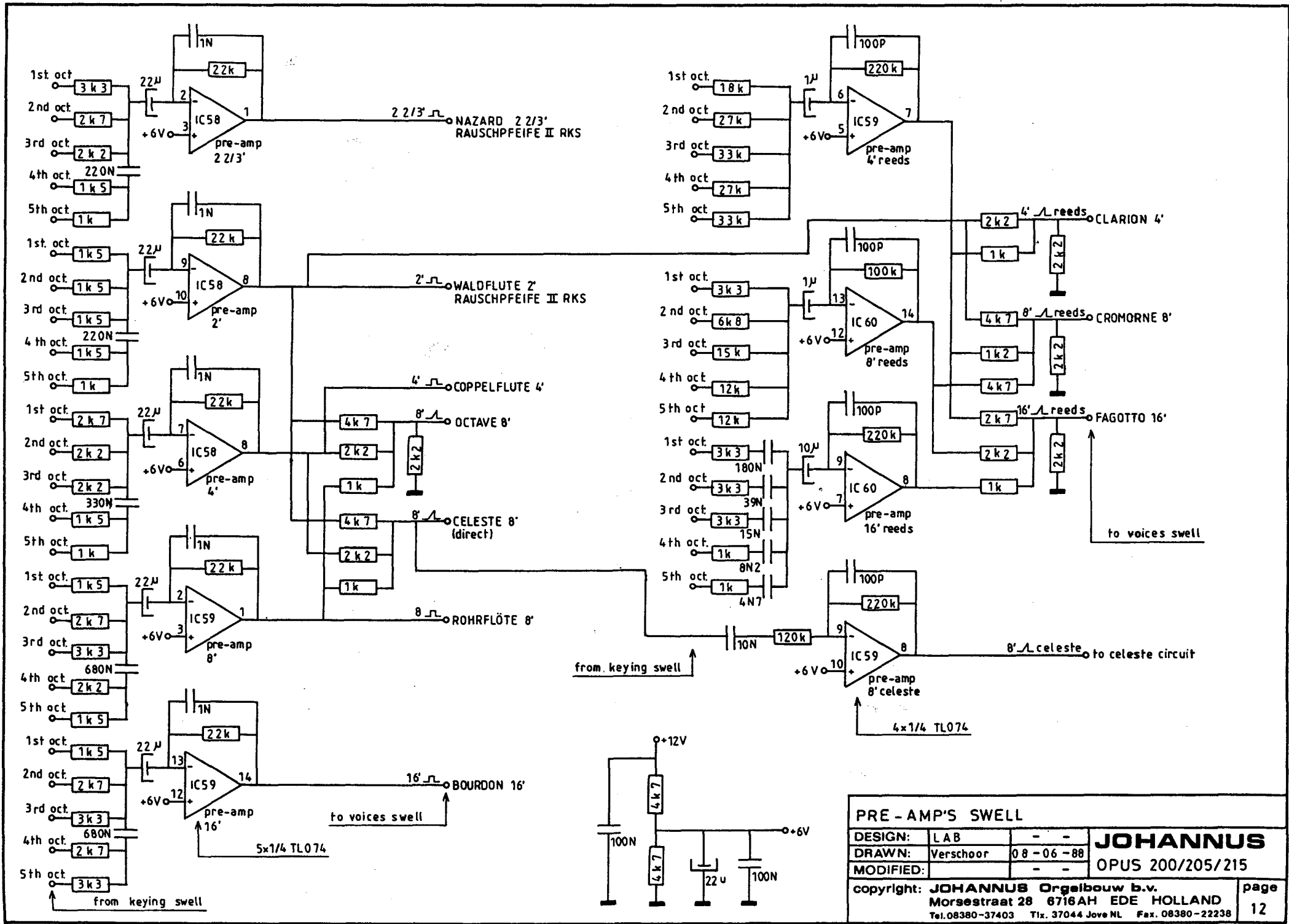
ALL DIODES 1N4148  
 VOICES GREAT

**JOHANNUS**  
 OPUS 200/205/215

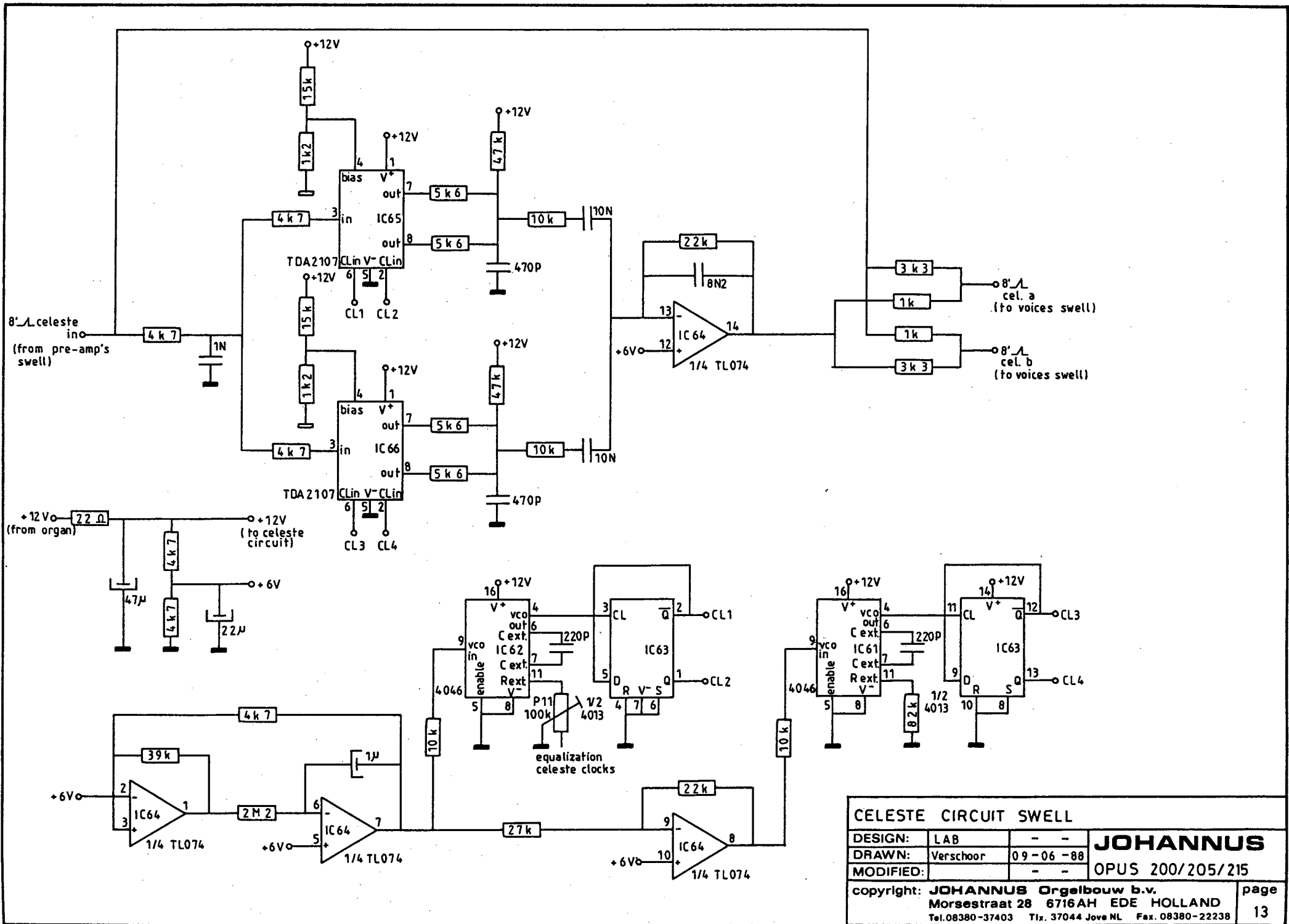
DESIGN: LAB  
 DRAWN: Verschoor 06-06-88  
 MODIFIED:  
 copyright: **JOHANNUS Orgelbouw b.v.**  
 Morsestraat 28 6716AH EDE HOLLAND  
 Tel: 08380-37403 Tlx: 37044 Jove NL Fax: 08380-22238  
 page 10



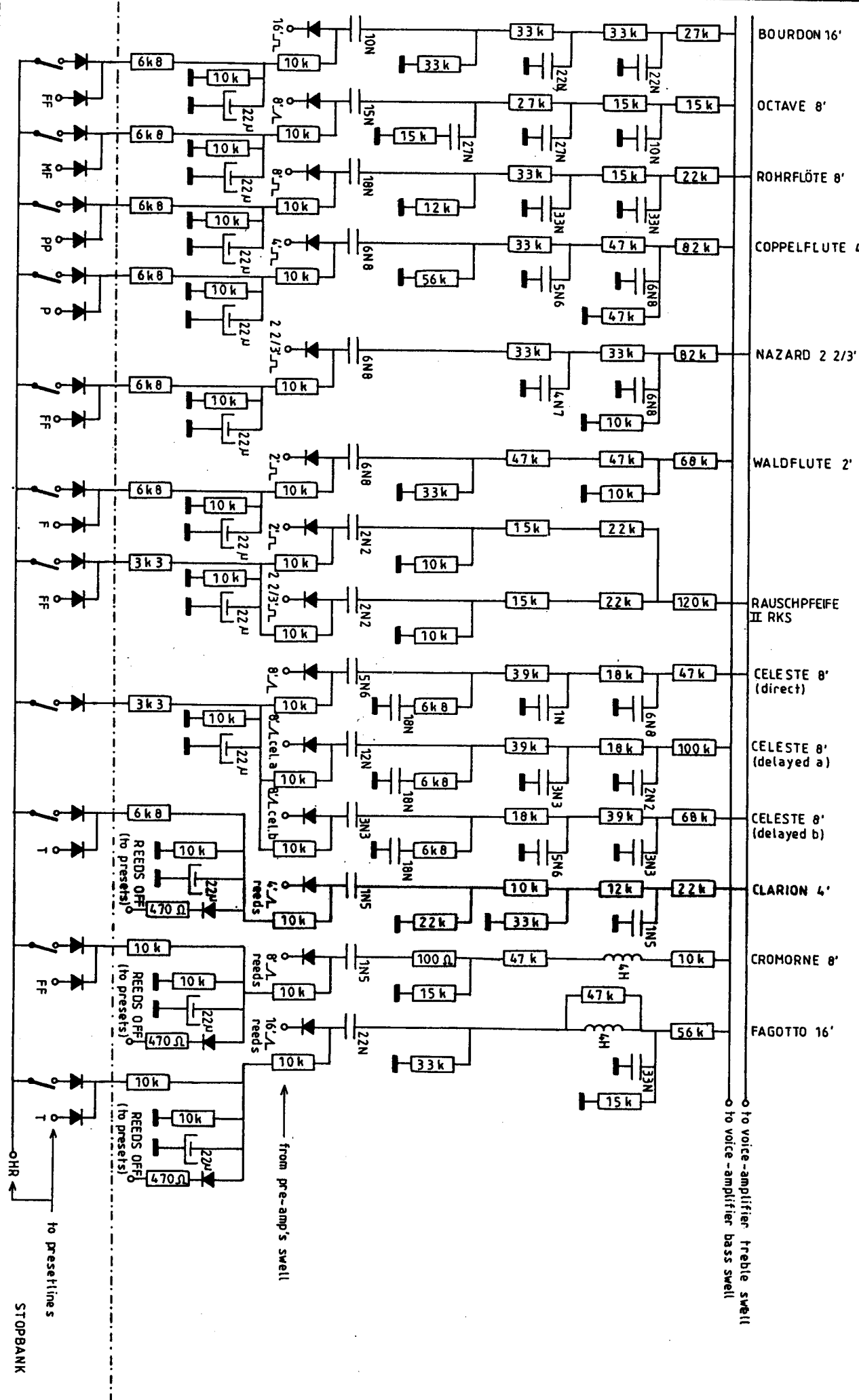
KEYING SWELL			<b>JOHANNUS</b>
DESIGN:	LAB	- -	
DRAWN:	Verschoor	06-06-88	
MODIFIED:	-	-	OPUS 200/205/215
copyright: JOHANNUS Orgelbouw b.v.			page
Morsestraat 28 6716AH EDE HOLLAND			11
Tel. 08380-37403 Tlx. 37044 Jove NL Fax. 08380-22238			



PRE - AMP'S SWELL			<b>JOHANNUS</b>
DESIGN:	LAB	- -	
DRAWN:	Verschoor	08 - 06 - 88	
MODIFIED:	-	-	
copyright: <b>JOHANNUS</b> Orgelbouw b.v. Morsestraat 28 6716AH EDE HOLLAND			page
Tel. 08380-37403 Tlx. 37044 Jove NL Fax. 08380-22238			12



CELESTE CIRCUIT SWELL			
DESIGN:	LAB	- -	<b>JOHANNUS</b>
DRAWN:	Verschoor	09-06-88	
MODIFIED:	- -	OPUS 200/205/215	
copyright: JOHANNUS Orgelbouw b.v.			page
Morsestraat 28 6716AH EDE HOLLAND			13
Tel. 08380-37403 Tlx. 37044 Jove NL Fax. 08380-22238			



- BOURDON 16'
- OCTAVE 8'
- ROHRFLÖTE 8'
- COPPELFLUTE 4'
- NAZARD 2 2/3'
- WALDFLUTE 2'
- RAUSCHPFEIFE II RKS
- CELESTE 8' (direct)
- CELESTE 8' (delayed a)
- CELESTE 8' (delayed b)
- CLARION 4'
- CROMORNE 8'
- FAGOTTO 16'

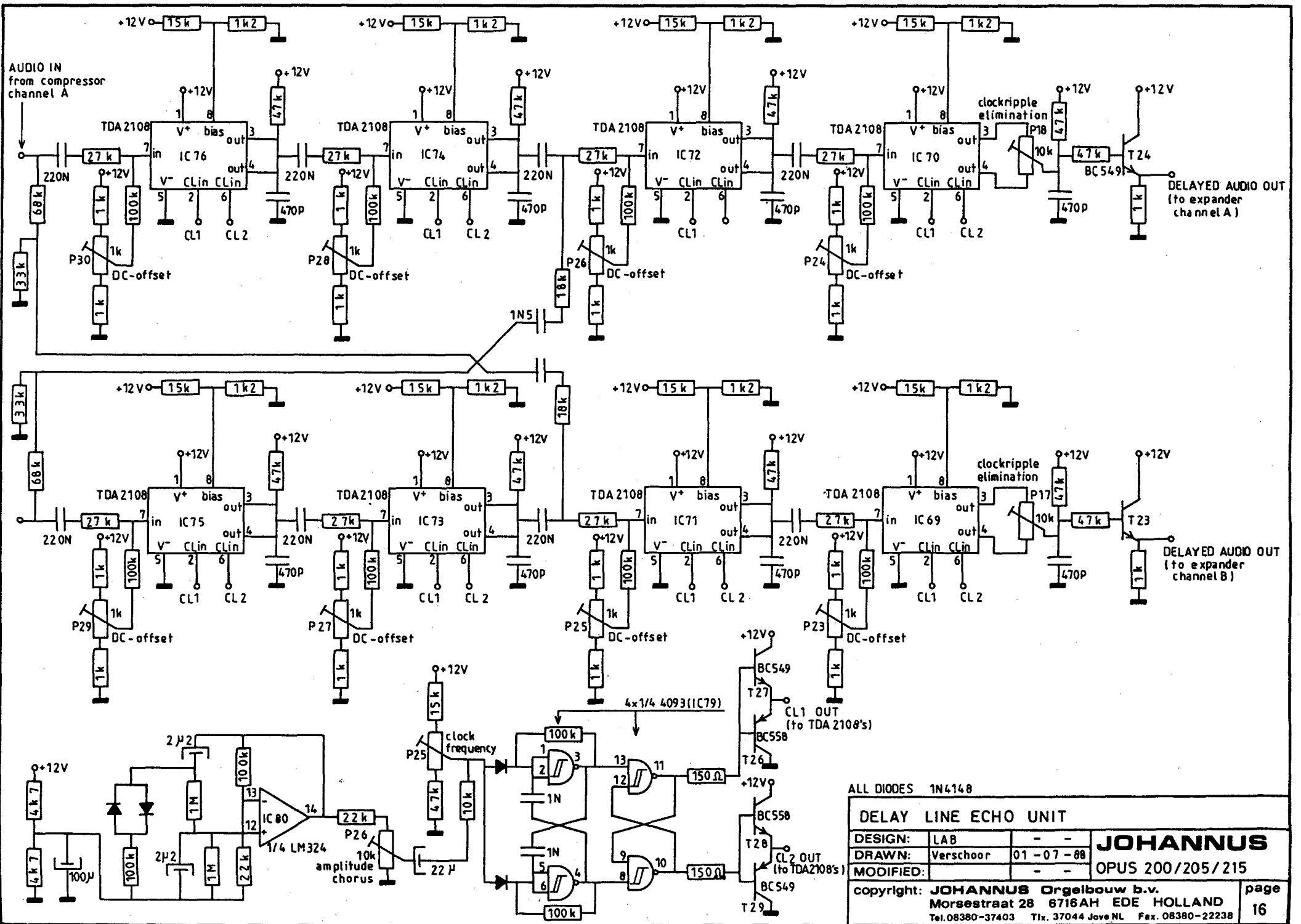
**VOICES SWELL**

DESIGN:	LAB	
DRAWN:	Verschoor	28-06-88
MODIFIED:		
COPYRIGHT: JOHANNUS Orgelbouw b.v.		OPUS 200/205/215
Morsestraat 28 6716AH EDE HOLLAND		
Tel: 08380-37403		Tlx: 37044 Jove NL Fax: 08380-22238
page		14

**JOHANNUS**

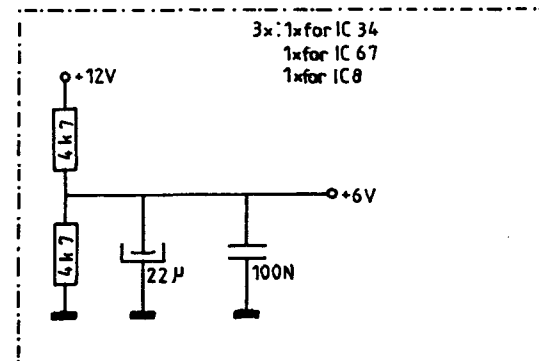
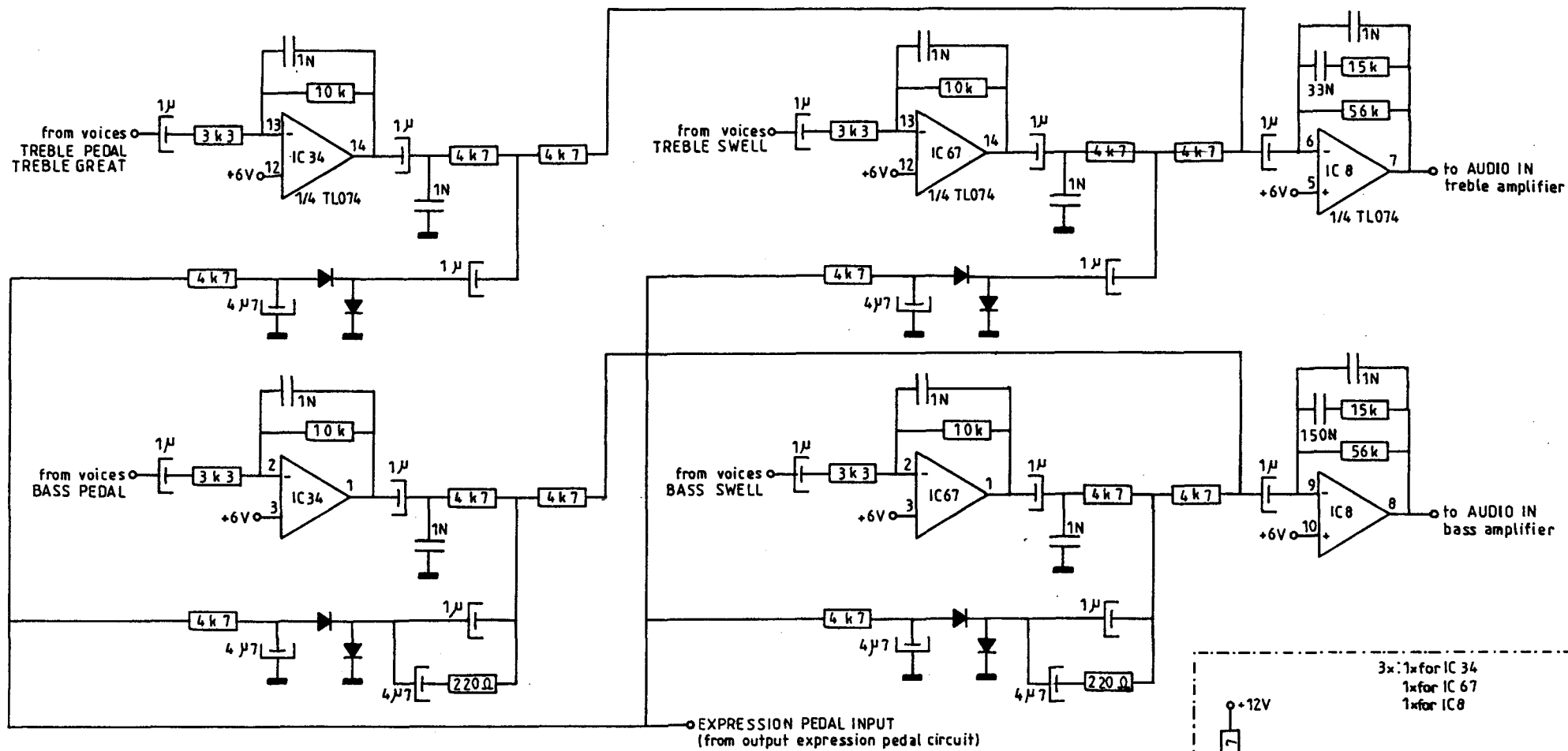




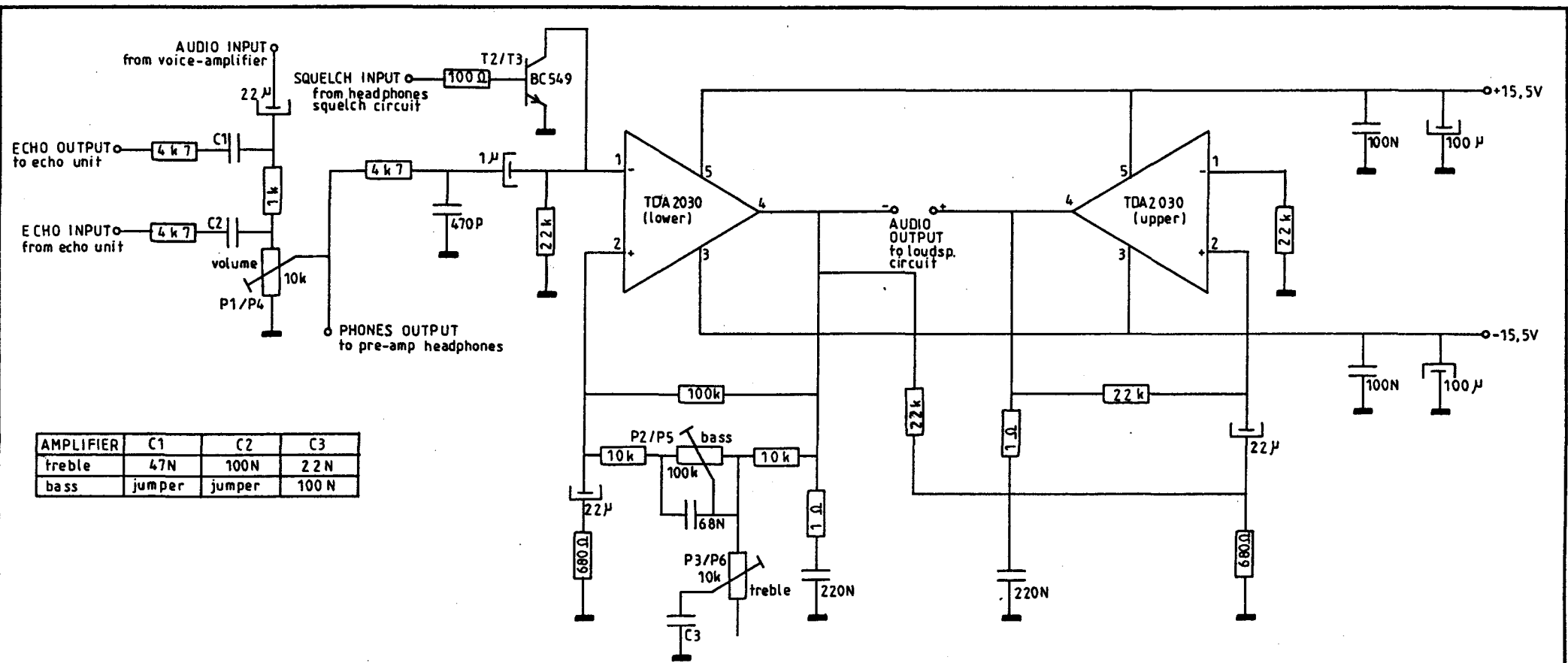


ALL DIODES 1N4148

DELAY LINE ECHO UNIT			
DESIGN:	LAB	- -	<b>JOHANNUS</b> OPUS 200/205/215
DRAWN:	Verschoor	01-07-88	
MODIFIED:	- -	- -	
copyright: JOHANNUS Orgelbouw b.v. Morsestraat 28 6716AH EDE HOLLAND Tel. 08380-37403 Tlx. 37044 Jove NL Fax. 08380-22238			page 16

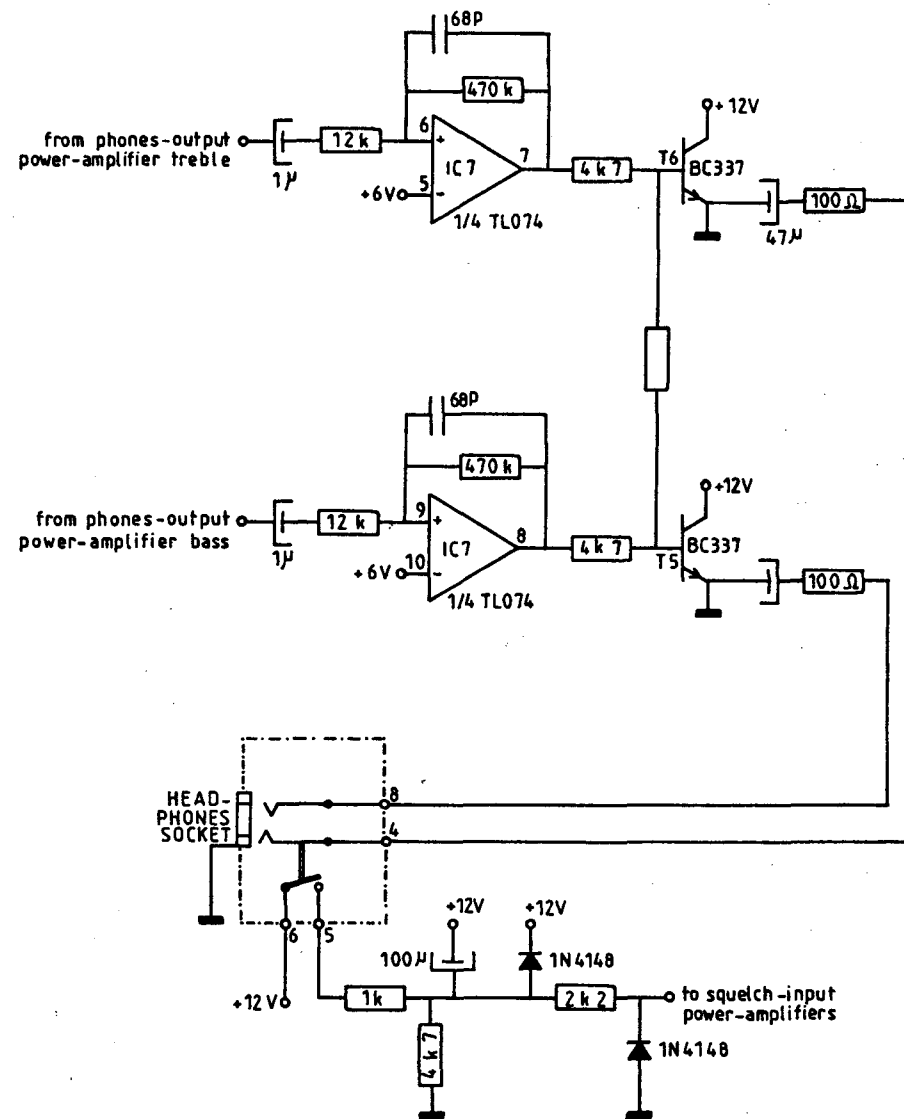
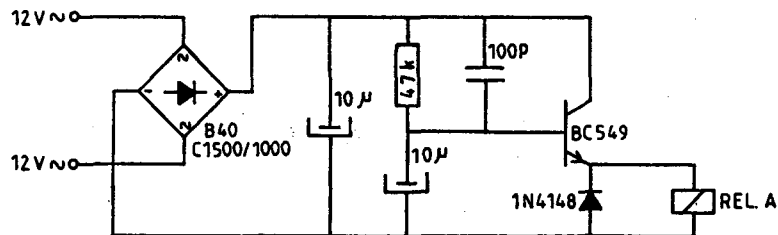
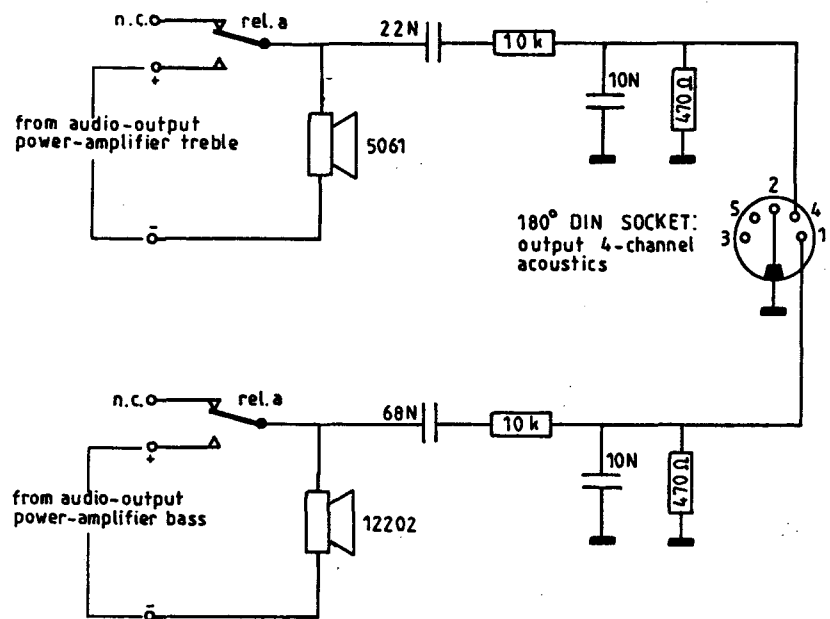


VOICE AMPLIFIERS			
DESIGN:	LAB	- -	<b>JOHANNUS</b> OPUS 200/205/215
DRAWN:	Verschoor	04-07-88	
MODIFIED:	-	-	
copyright: <b>JOHANNUS Orgelbouw b.v.</b> Morsestraat 28 6716AH EDE HOLLAND Tel.08380-37403 Tlx. 37044 Jove NL Fax. 08380-22238			page 17



AMPLIFIER	C1	C2	C3
treble	47N	100N	22N
bass	jumper	jumper	100N

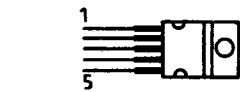
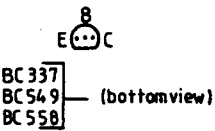
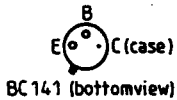
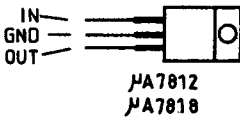
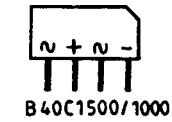
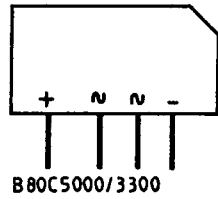
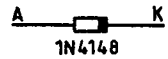
<b>POWER-AMPLIFIER (2x)</b>			
DESIGN:	LAB	- -	<b>JOHANNUS</b> OPUS 200/205/215
DRAWN:	Verschoor	05-07-88	
MODIFIED:	-	-	
copyright: <b>JOHANNUS Orgelbouw b.v.</b> Morsestraat 28 6716AH EDE HOLLAND			page
Tel. 08380-37403 Tlx. 37044 Jove NL Fax. 08380-22238			18



LOUDSPEAKER- & HEADPHONES-CIRCUIT

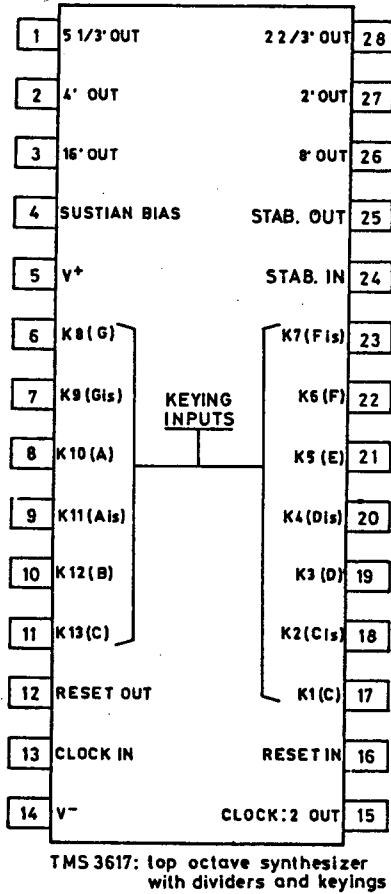
DESIGN:	LAB	- -	<b>JOHANNUS</b> OPUS 200/205/ 215
DRAWN:	Verschoor	06 - 07 - 88	
MODIFIED:		- -	

copyright: **JOHANNUS Orgelbouw b.v.**  
 Morsestraat 28 6716AH EDE HOLLAND  
 Tel.08380-37403 Tlx. 37044 Jove NL Fax. 08380-22238

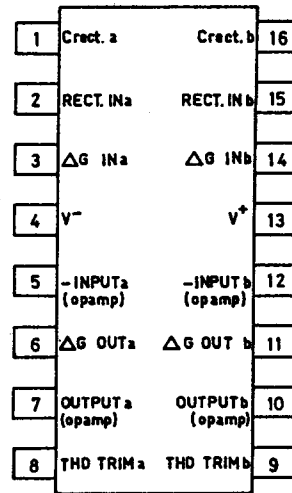


1=non-inverting input  
2=inverting input  
3=V<sup>-</sup>  
4=output  
5=V<sup>+</sup>

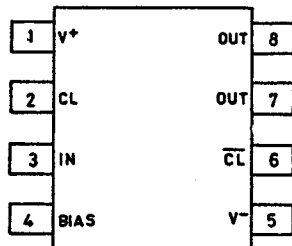
TDA 2030



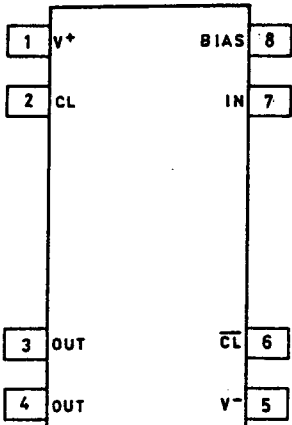
TMS 3617: top octave synthesizer with dividers and keyings



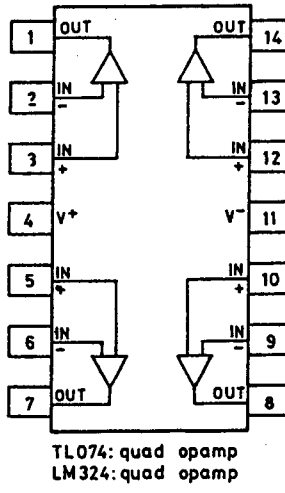
NE 570: dual compandor



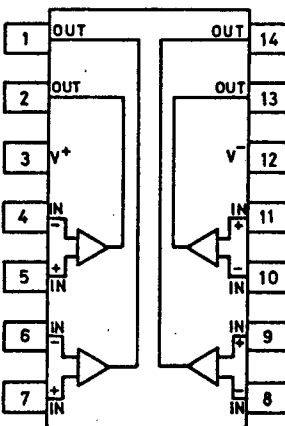
TDA 2107: delay line



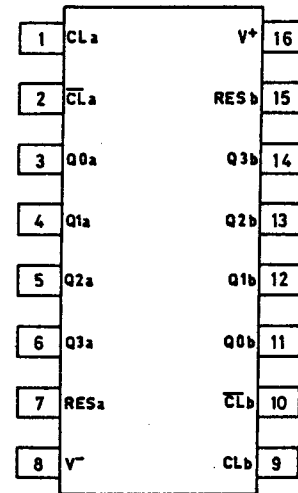
TDA 2108: delay line



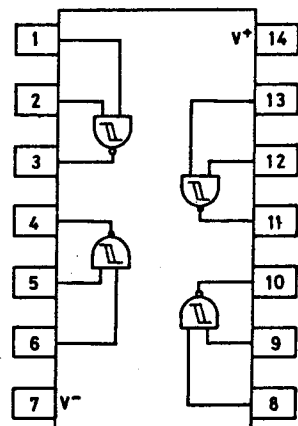
TL074: quad opamp  
LM324: quad opamp



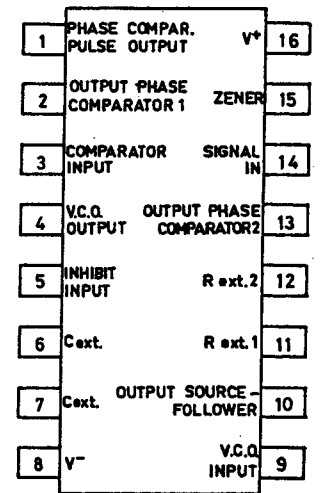
LM339: quad opamp



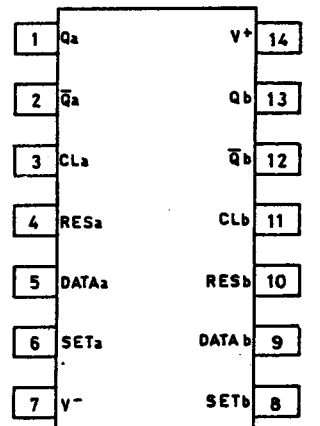
4520 dual binary counter



4093: quad schmitt-trigger



4046 phase locked loop circuit



4013: dual D-flip-flop

GENERAL INFORMATION SEMI-CONDUCTORS

DESIGN:	-	-	<b>JOHANNUS</b>
DRAWN:	Verschoor	06-07-88	
MODIFIED:	-	-	

copyright: **JOHANNUS Orgelbouw b.v.** page  
Morsestraat 28 6716AH EDE HOLLAND  
Tel.08380-37403 Tlx. 37044 Jove NL Fax. 08380-22238 20