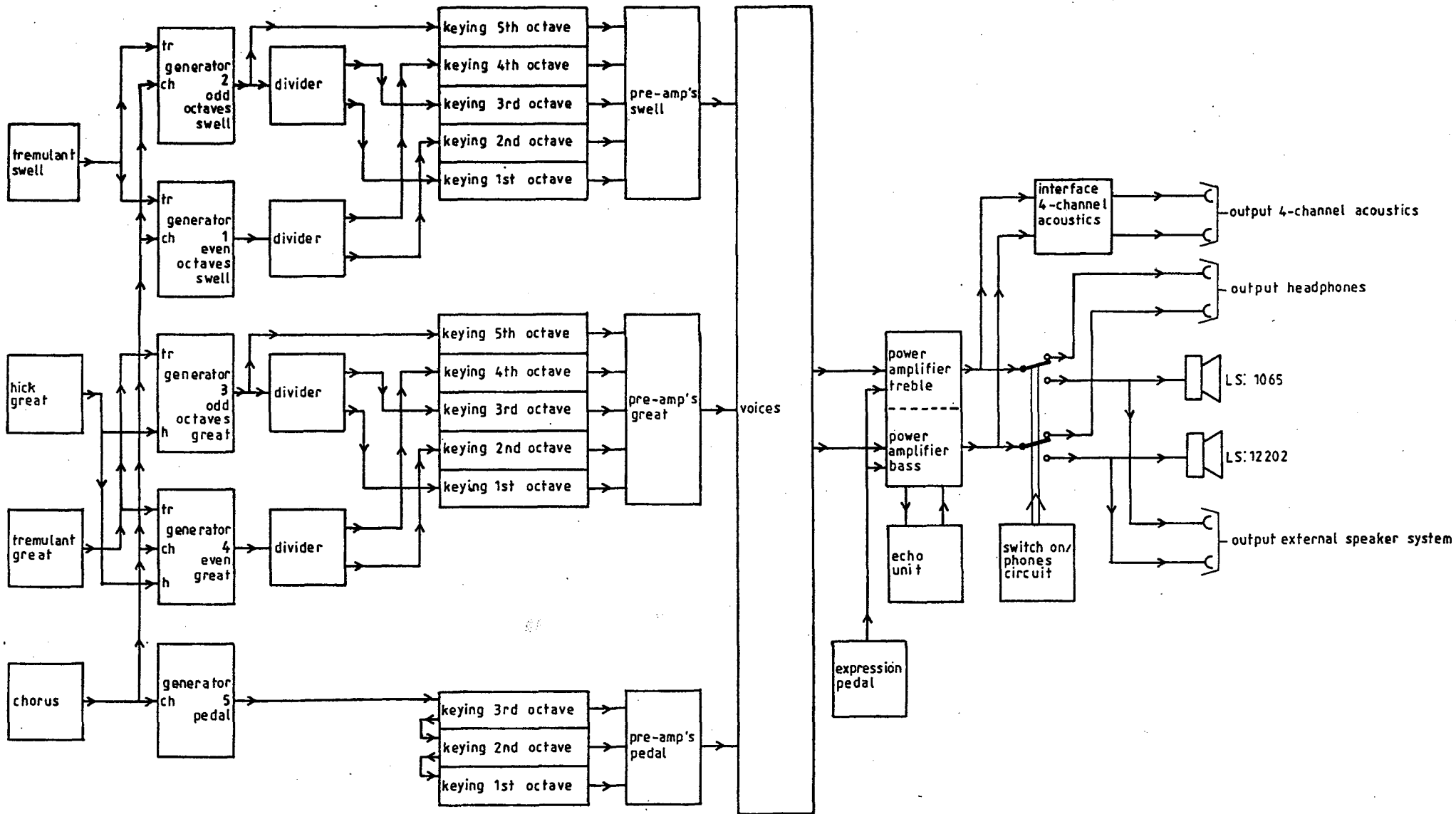


=====
= S C H E M A T I C D I A G R A M S =
= J O H A N N U S =
= O P U S 2 2 0 =
=====
alterations reserved

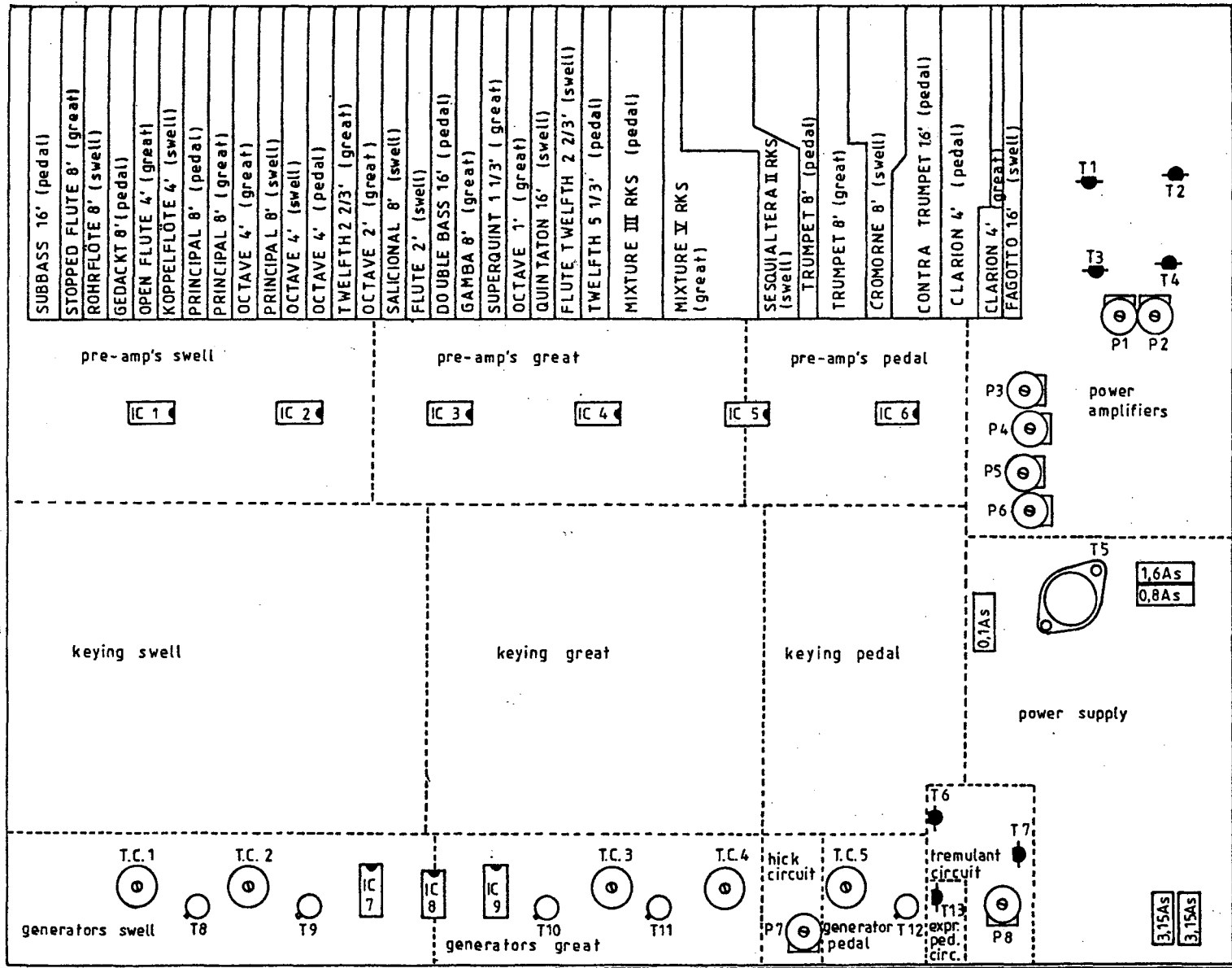
C O N T E N T S

1. BLOCKDIAGRAM
2. POSITIONDIAGRAM (componentside view)
3. POWER SUPPLY
4. ACCESSORIES (tremulant; chorus; hich; presets & couplers)
5. GENERATOR; KEYING & PRE-AMP'S PEDAL
6. GENERATORS & KEYING GREAT
7. PRE-AMP'S GREAT
8. GENERATORS & KEYING SWELL
9. PRE-AMP'S SWELL
10. VOICES PART I
11. VOICES PART II
12. VOICES PART III
13. POWER AMPLIFIERS
14. LOUDSPEAKER-/HEADPHONES-/SWITCH ON-CIRCUIT & INTERFACE 4-CH. ACOUSTICS
15. REVERBERATION UNIT
16. GENERAL INFORMATION SEMI-CONDUCTORS



BLOCKDIAGRAM

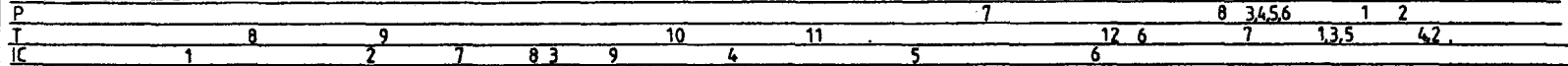
Drawn	Date	Modified	Date	JOHANNUS ORGAN OPUS 220
Verschoor	30-05-85			
DESIGN				
J. Versteegt				
copyright: ELECTRONIUM B.V.	JOHANNUS ORGELBOUW b.v.	morsestraat 28 6716 AH EDE HOLLAND Tel. 08380-37403		page: 1



P1: volume bass
 P2: volume treble
 P3: treble adjustment } treble amplifier
 P4: bass adjustment }
 P5: treble adjustment } bass amplifier
 P6: bass adjustment }
 P7: hick depth
 P8: tremulant speed (common)

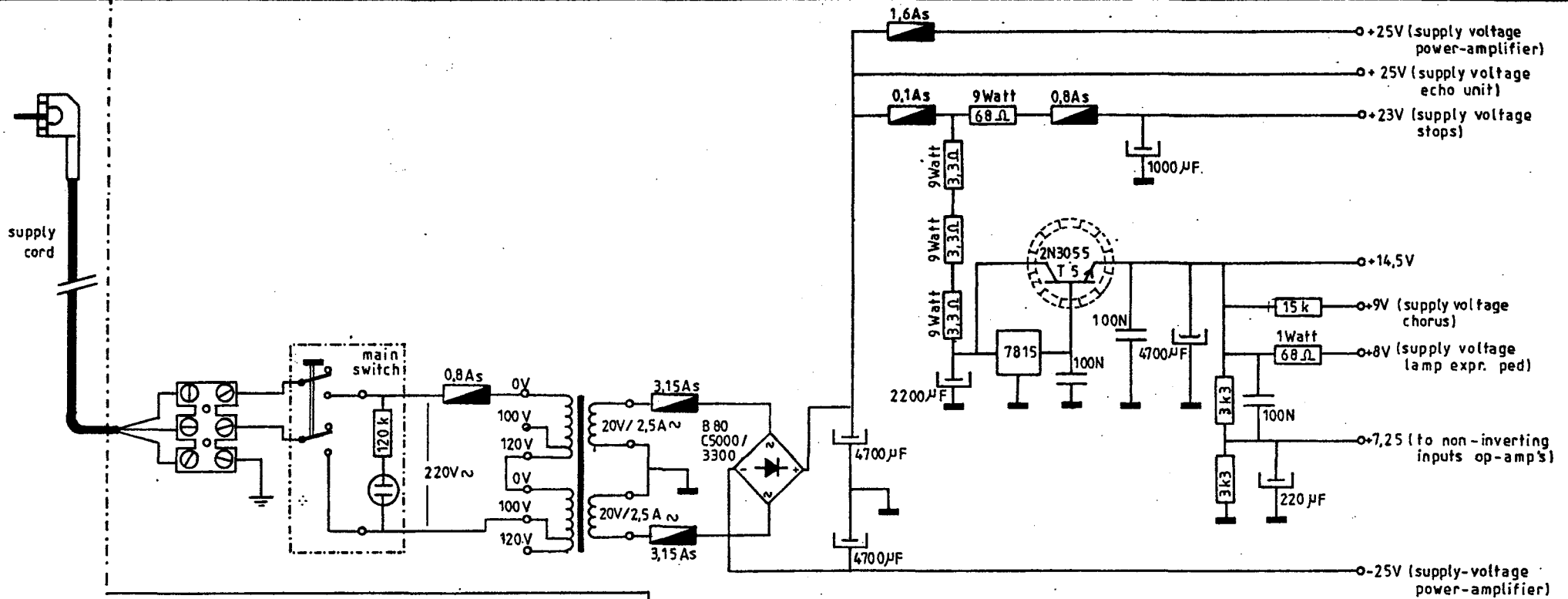
T.C.1: tuning even octaves swell
 T.C.2: tuning odd octaves swell
 T.C.3: tuning odd octaves great
 T.C.4: tuning even octaves great
 T.C.5: tuning pedal

note: tuning only with closed frame (in connection with induction loud-speaker magnets)

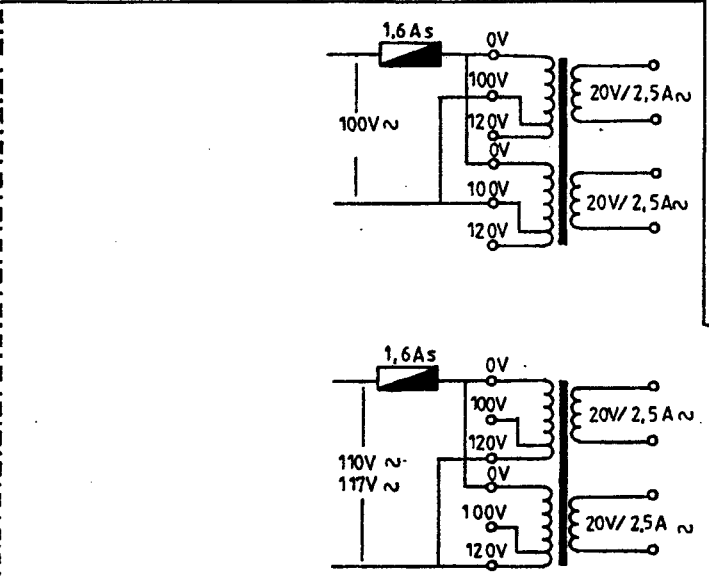
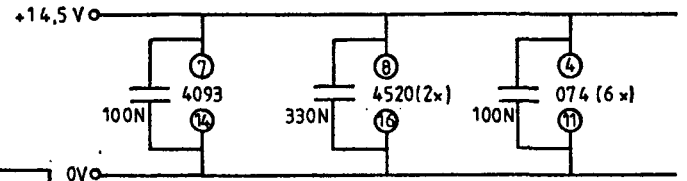


T1-4;6;7;13: BC 549 or BC 239
 T5: 2N3055
 T8-12 BC 141
 IC 1-6: TL074
 IC 7;9: 4520
 IC 8: 4093

POSITIONDIAGRAM (componentside view)			
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Verschoor	31-05-85		
DESIGN			
J. Versteegt			
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		Tel. 08380-37403	



NOTES: 1Watt and 9Watt resistors are mounted on ceramic stand off's (to avoid overheating p.c.-board)
 7815 and 2N3055 are mounted with nuts between p.c.-board and component (to avoid overheating p.c.-board)

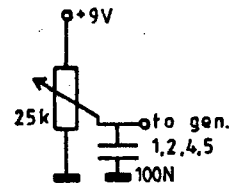
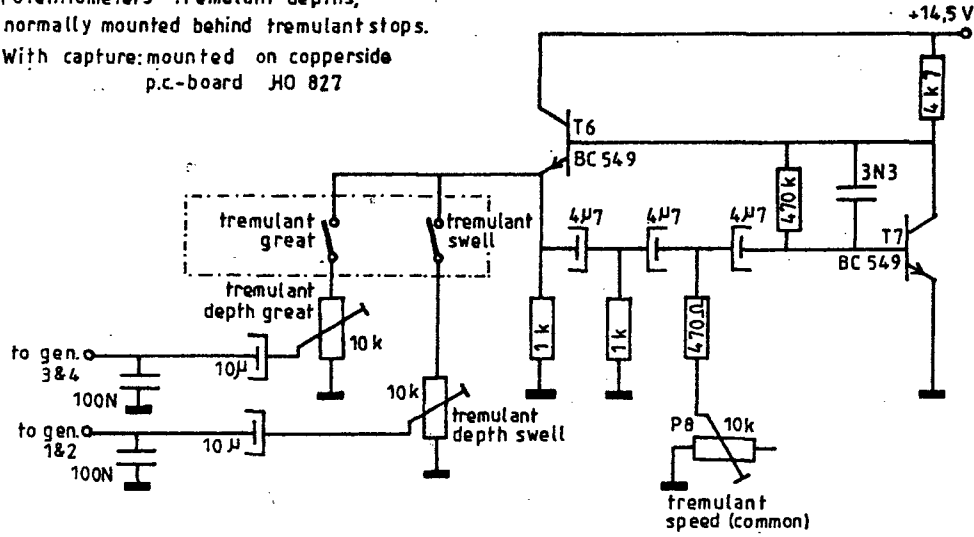


TRANSFORMER CONNECTIONS FOR COUNTRIES WITH OTHER VOLTAGES

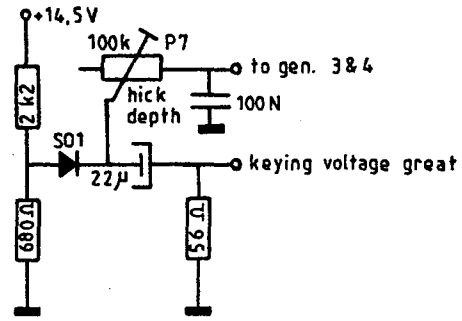
POWER SUPPLY

Drawn	Date	Modified	Date	JOHANNUS ORGAN OPUS 220
Verschoor	31-05-85			
DESIGN				
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				page: 3

Potentiometers tremulant depths;
normally mounted behind tremulant stops.
With capture: mounted on copper side
p.c.-board HO 827

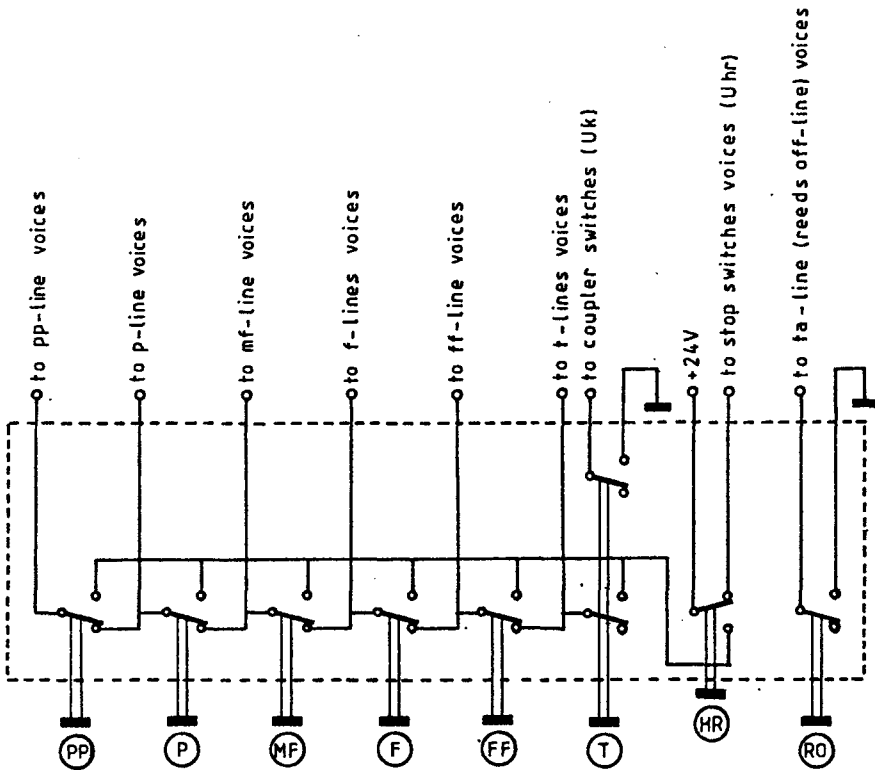


CHORUS (mounted next to the keyboard)



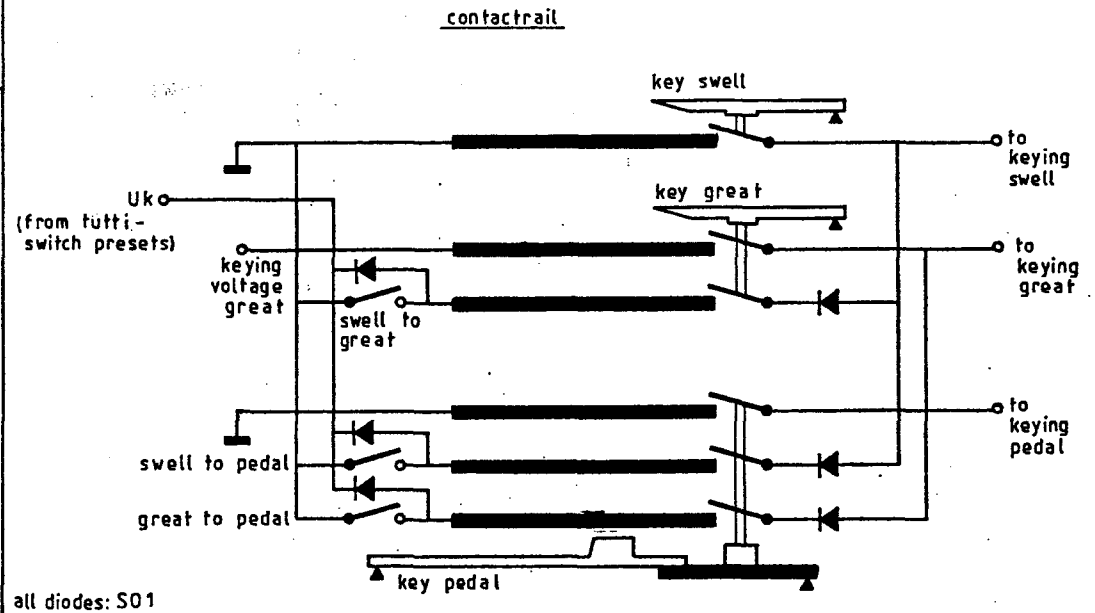
HICK CIRCUIT

PRESET SWITCH SECTION (mounted under keyboard great)



PP.....HR: interlocked

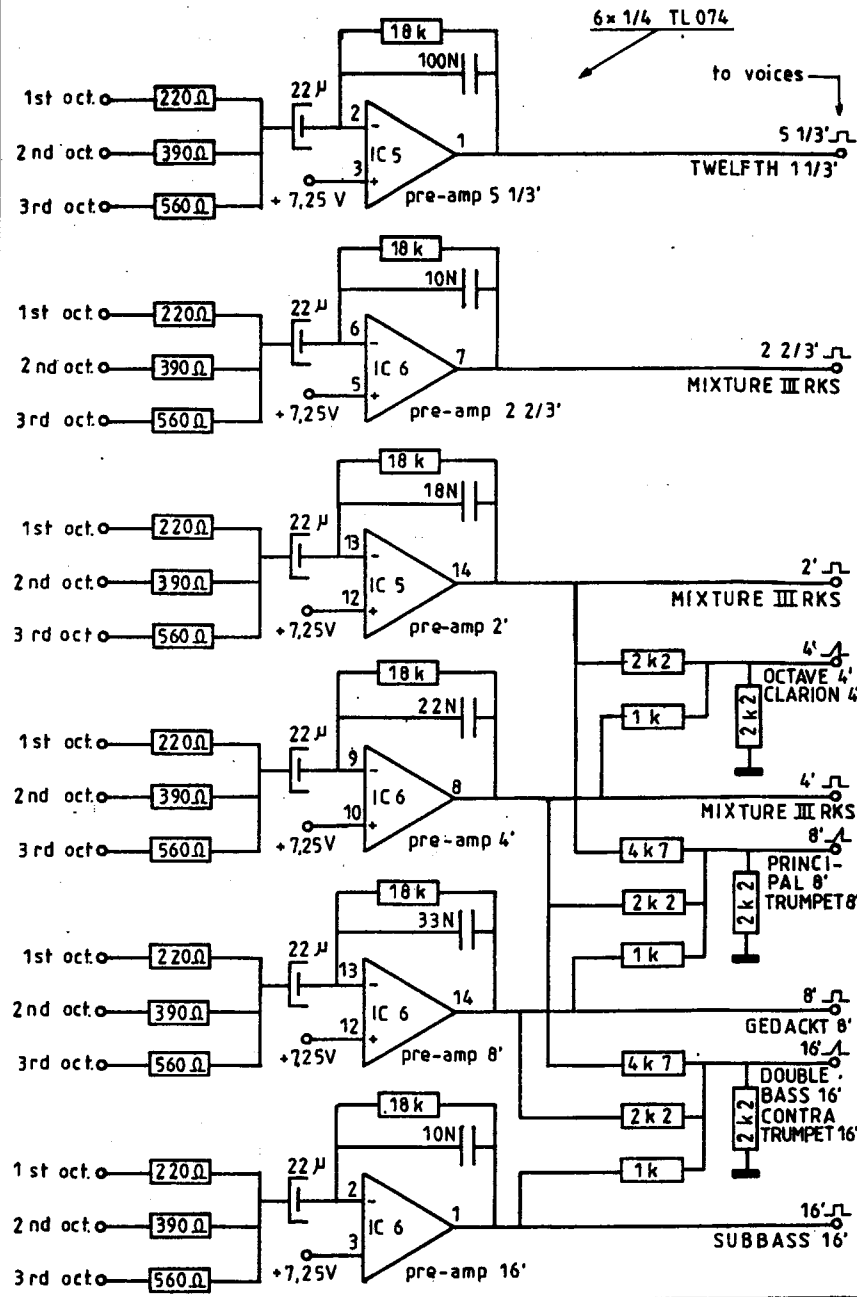
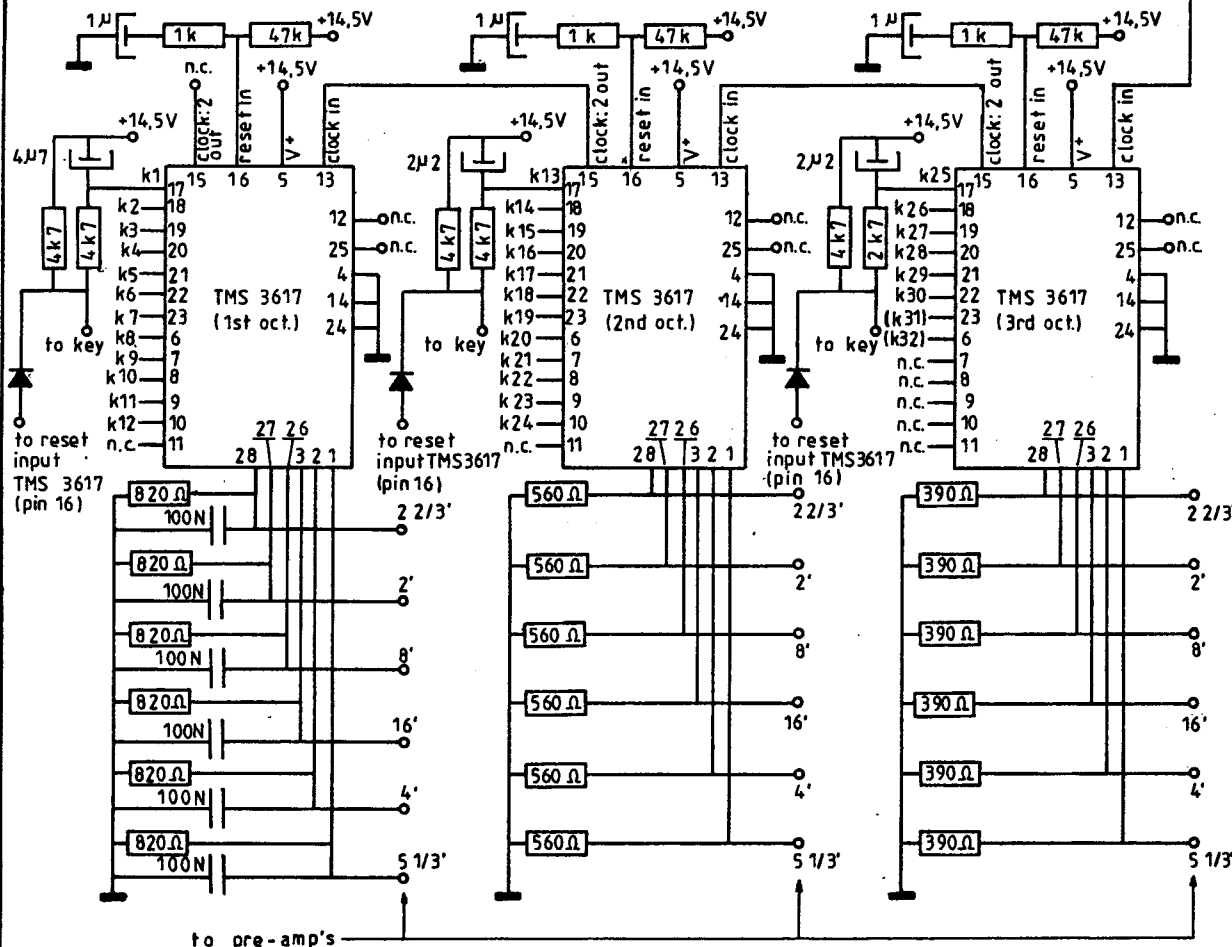
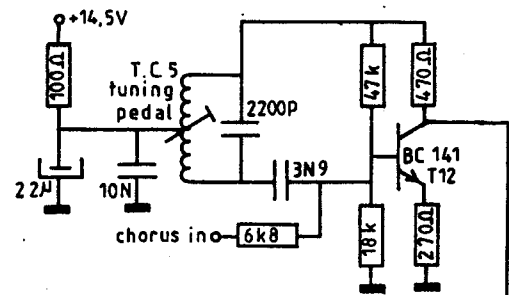
COUPLER SYSTEM



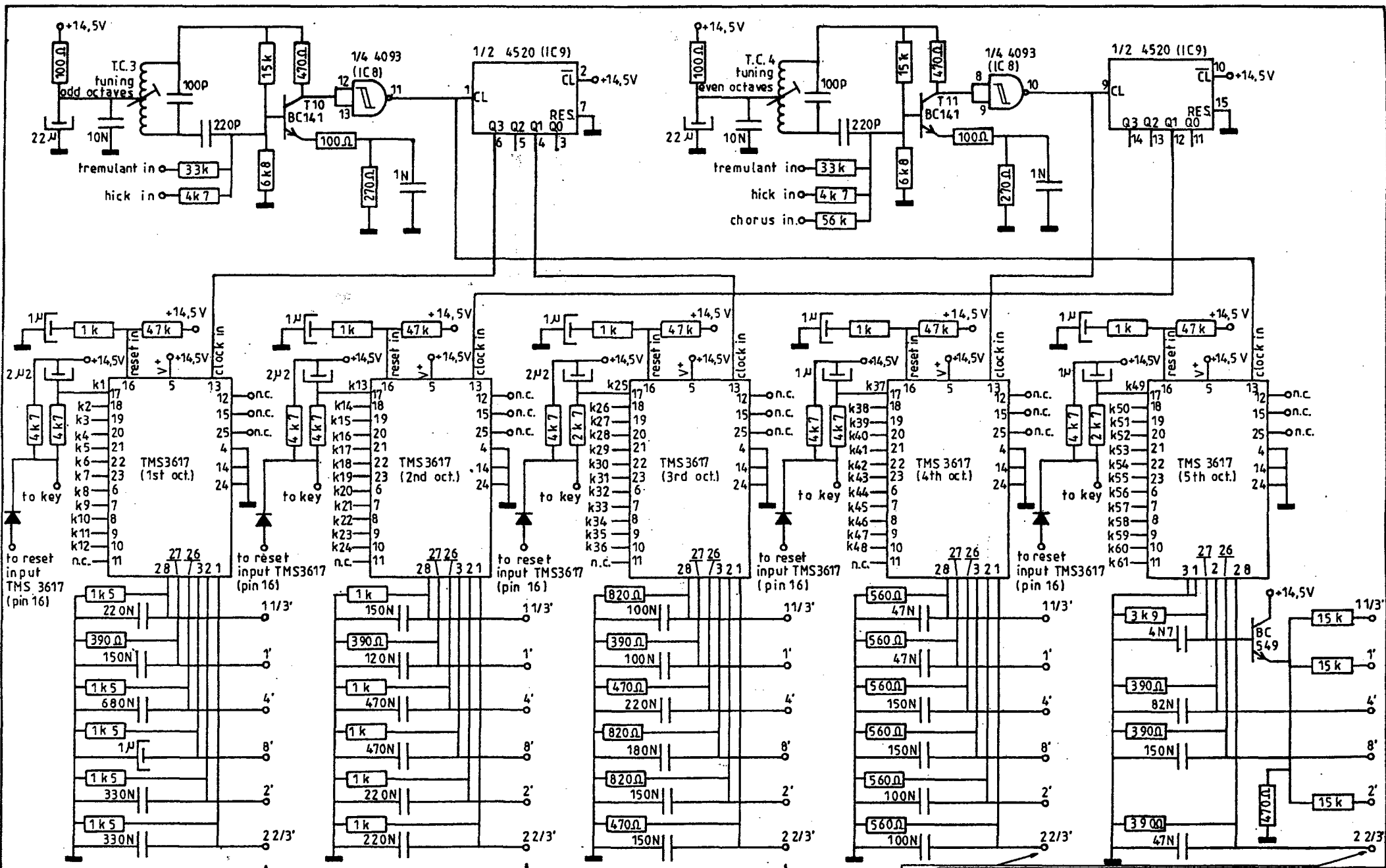
all diodes: S01

ACCESSORIES (tremulant; chorus; hick; presets & couplers)

Drawn	Date	Modified	Date	JOHANNUS ORGAN OPUS 220
Verschoor	03-06-85			
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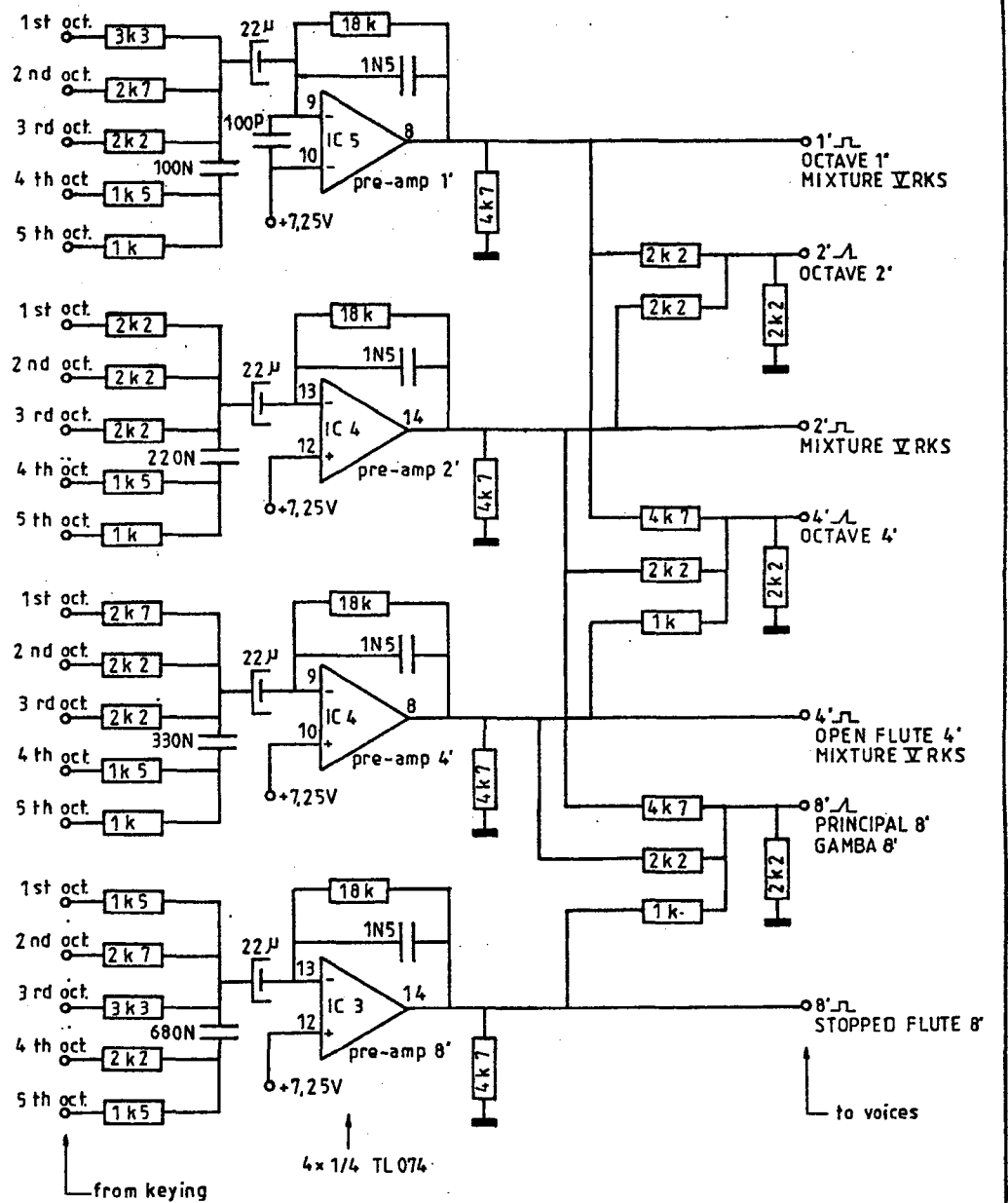
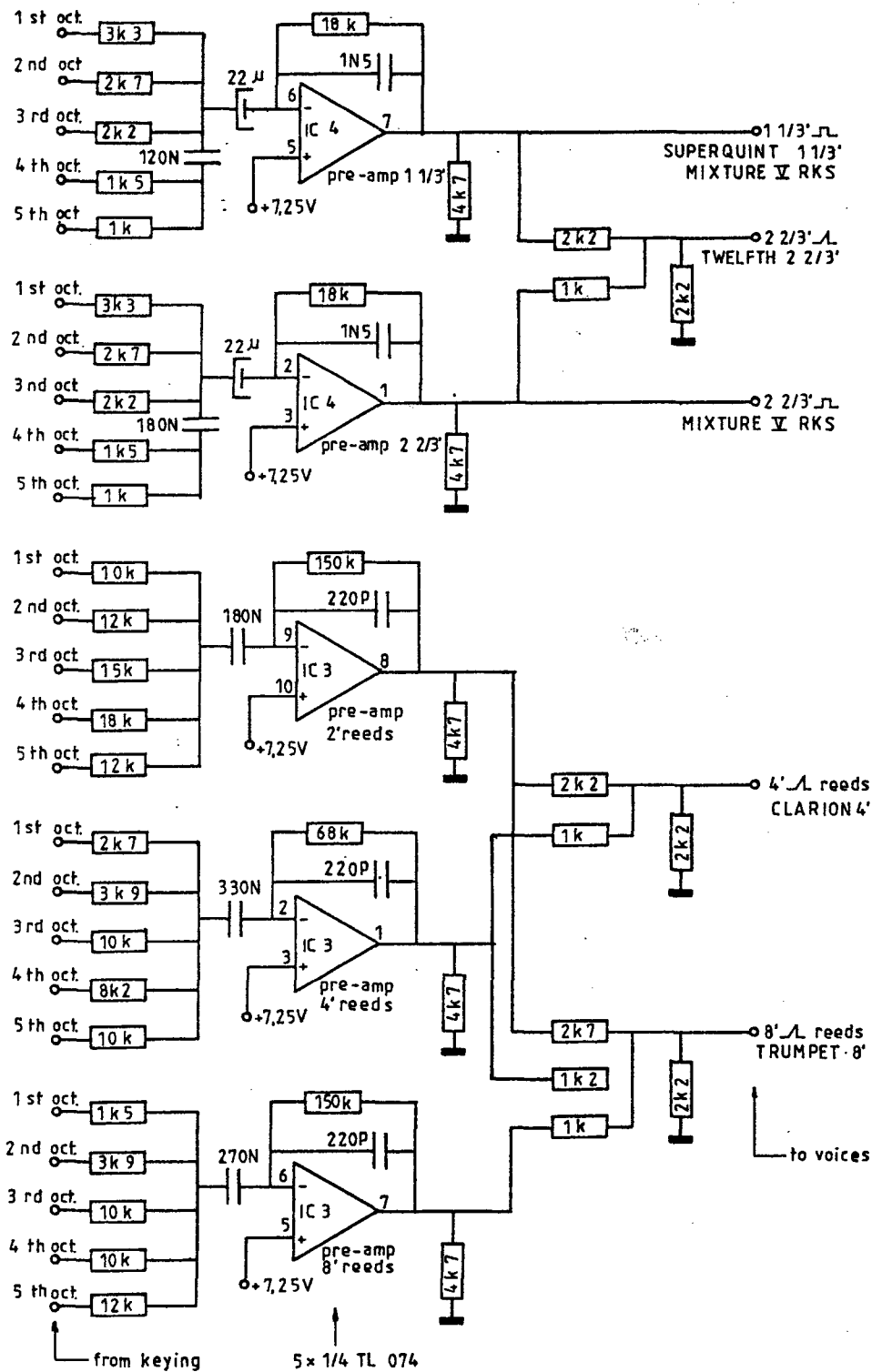
GENERATOR; KEYING & PRE-AMPS PEDAL				
Drawn	Date	Modified	Date	#
Verschoor	05-06-85			
DESIGN				
J. Versteeg				
copyright:	JOHANNUS		morsestraat 28	
ELECTRONIUM B.V.	ORGELBOUW b.v.		6716 AH EDE HOLLAND	
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to pre-amp's

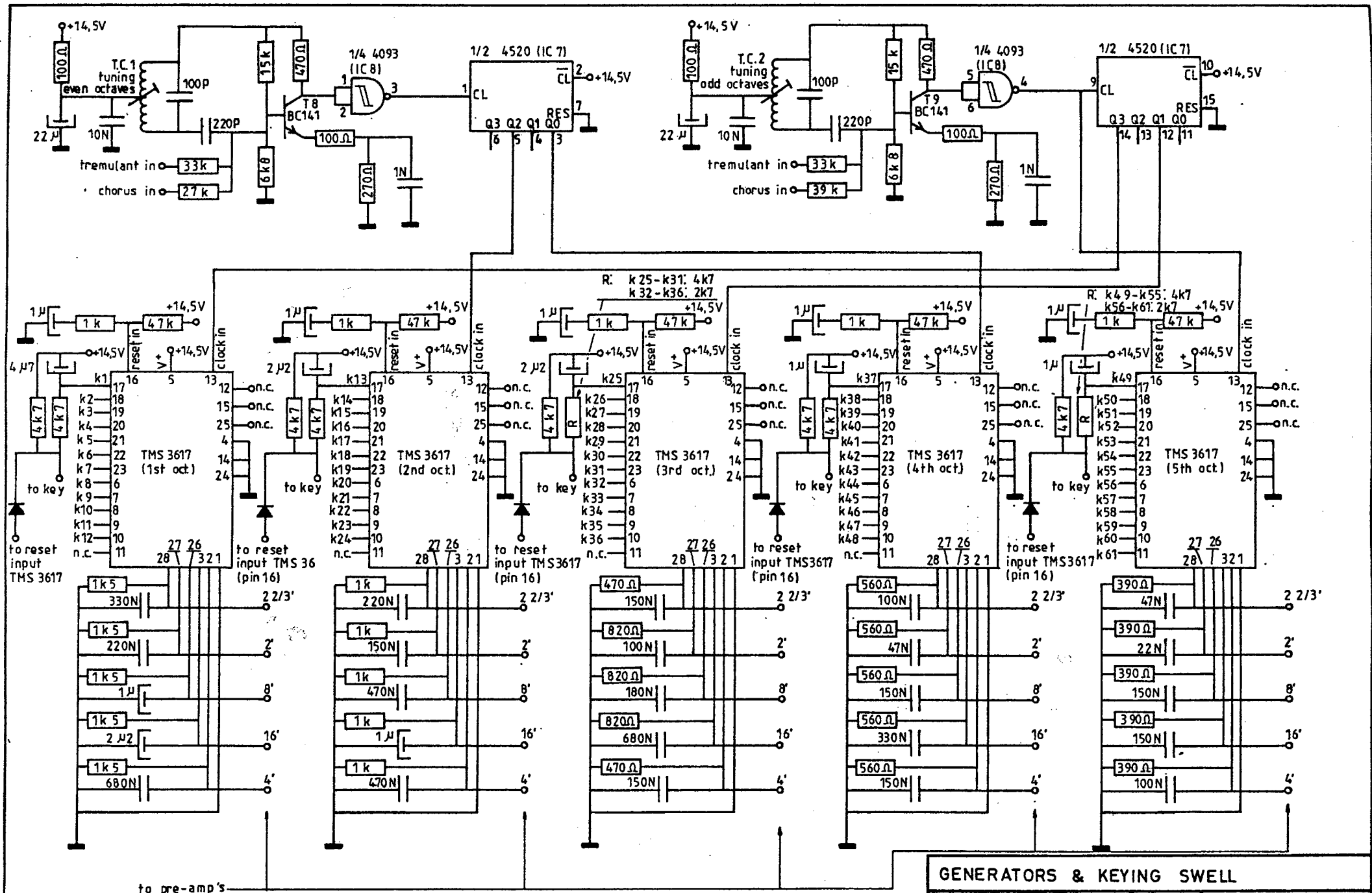
GENERATORS & KEYING GREAT

Drawn	Date	Modified	Date	JOHANNUS ORGAN OPUS 220
Verschuur	04-06-85			
DESIGN				
J.Versteegt				
copyright	JOHANNUS	morsestraat 28	page:	
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		Tel. 08380-37403		



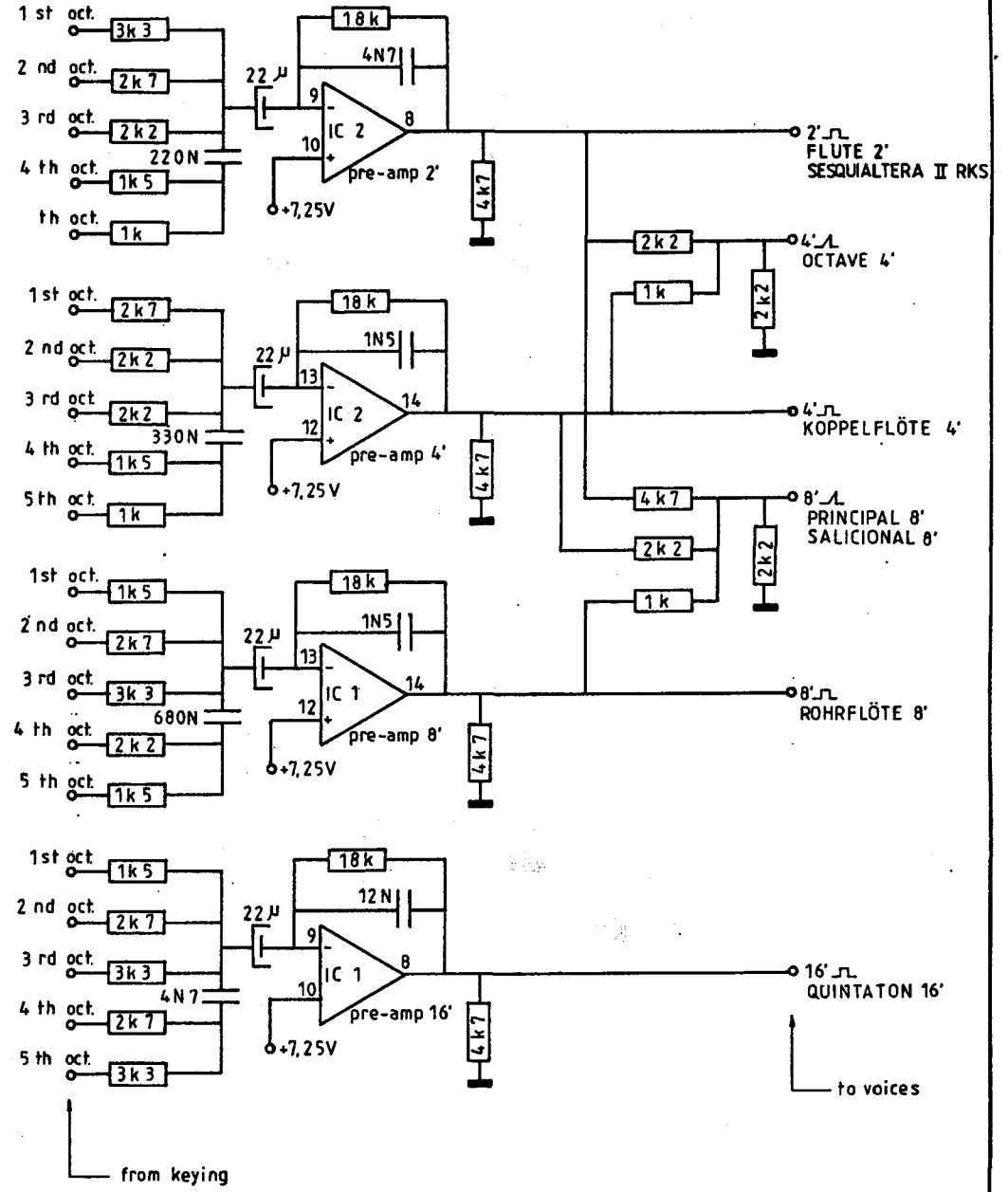
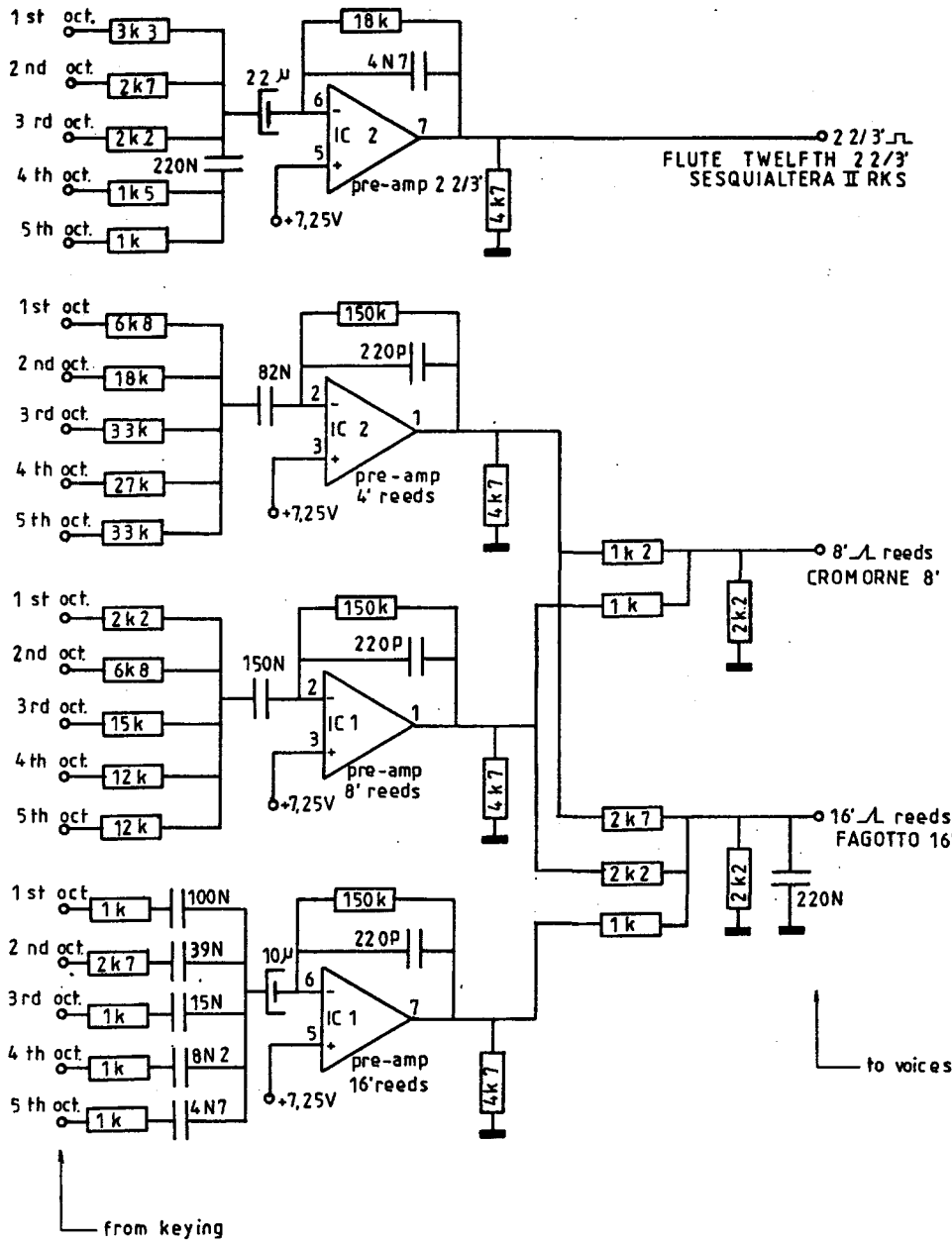
PRE AMP'S GREAT

Drawn	Date	Modified	Date	JOHANNUS ORGAN OPUS 220
Verschoor	06-06-85			
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J.Versteegt				
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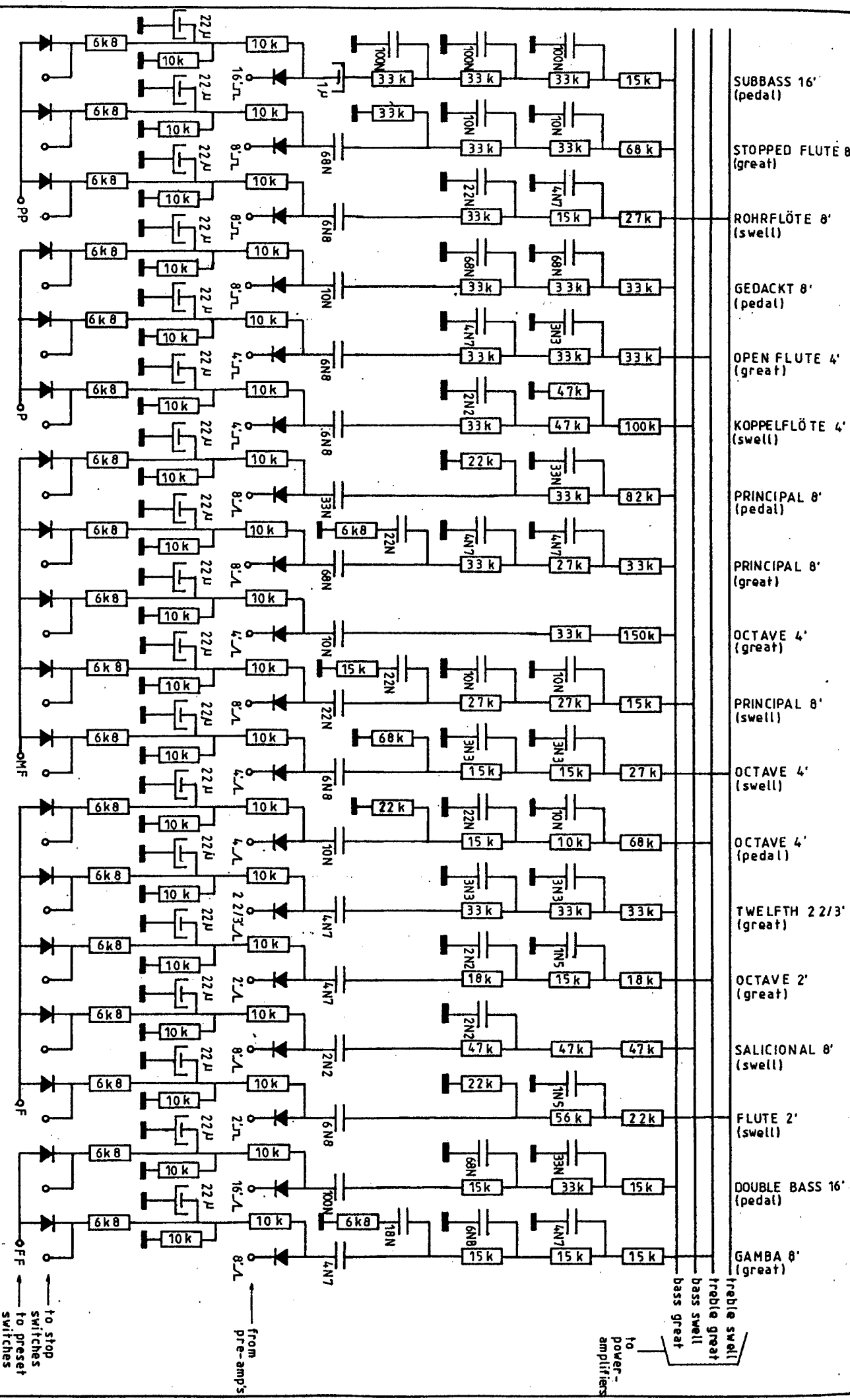


GENERATORS & KEYING SWELL

Drawn	Date	Modified	Date	JOHANNUS ORGAN OPUS 220
Verschoor	05-06-85			
DESIGN J. Versteegt				
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PRE-AMP'S SWELL				JOHANNUS ORGAN OPUS 220
Drawn	Date	Modified	Date g	
Verschoor	06-06-85			
DESIGN				
J. Versteegt				
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		Tel. 08380-37403		



all diodes S01

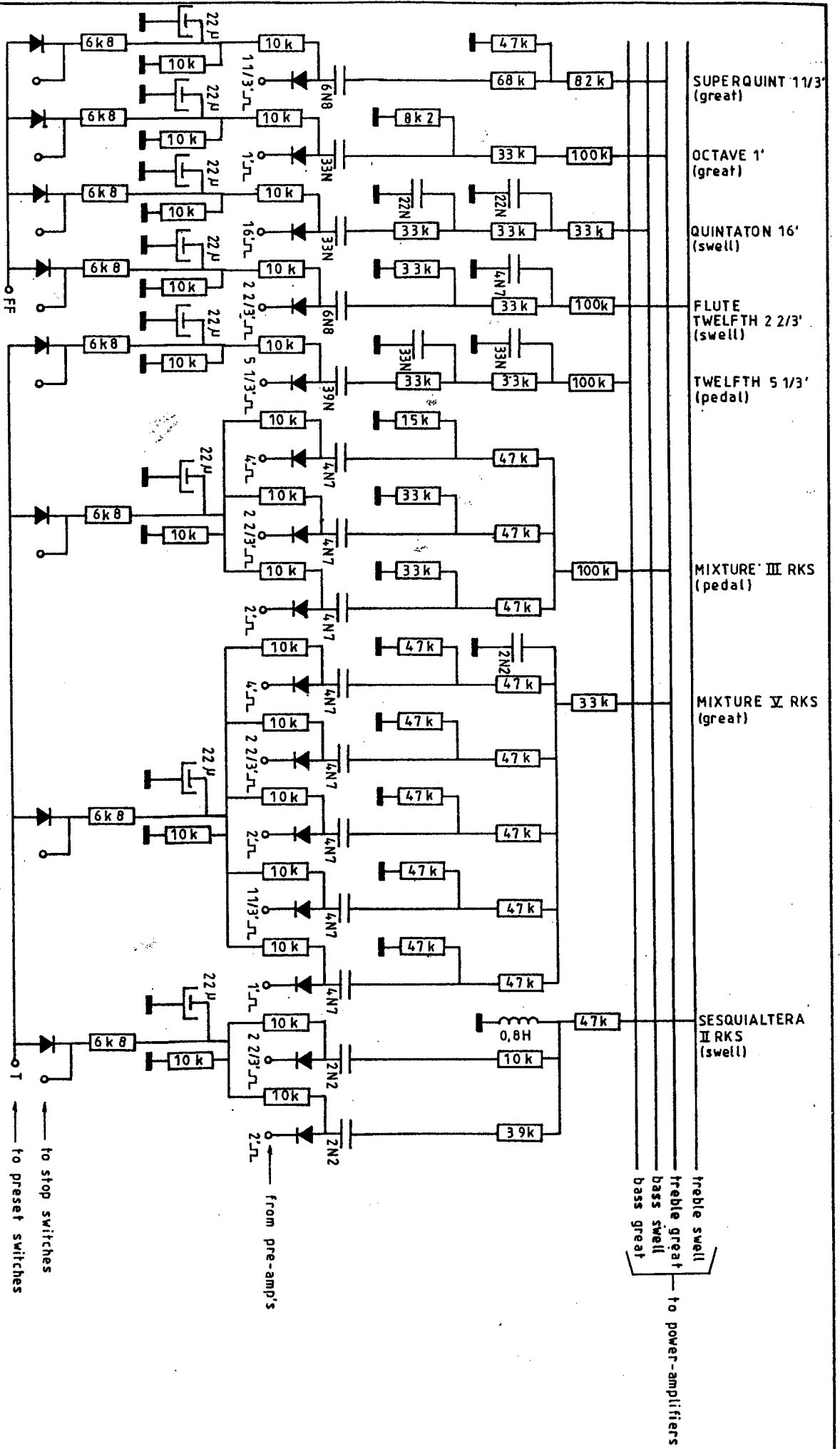
VOICES PART I

Drawn	Date	Modified	Date
Verschoor	07-06-85		
DESIGN			
J. Versteegh			
JOHANNUS ORGAN OPUS 220			
JOHANNUS ORGELBOUW b.v.			
Mogestraat 28 6716 AH EDE HOLLAND Tel. 08380-37403			
copyright: ELECTRONIUM B.V.			page: 10

to stop switches
to preset switches

from pre-amps

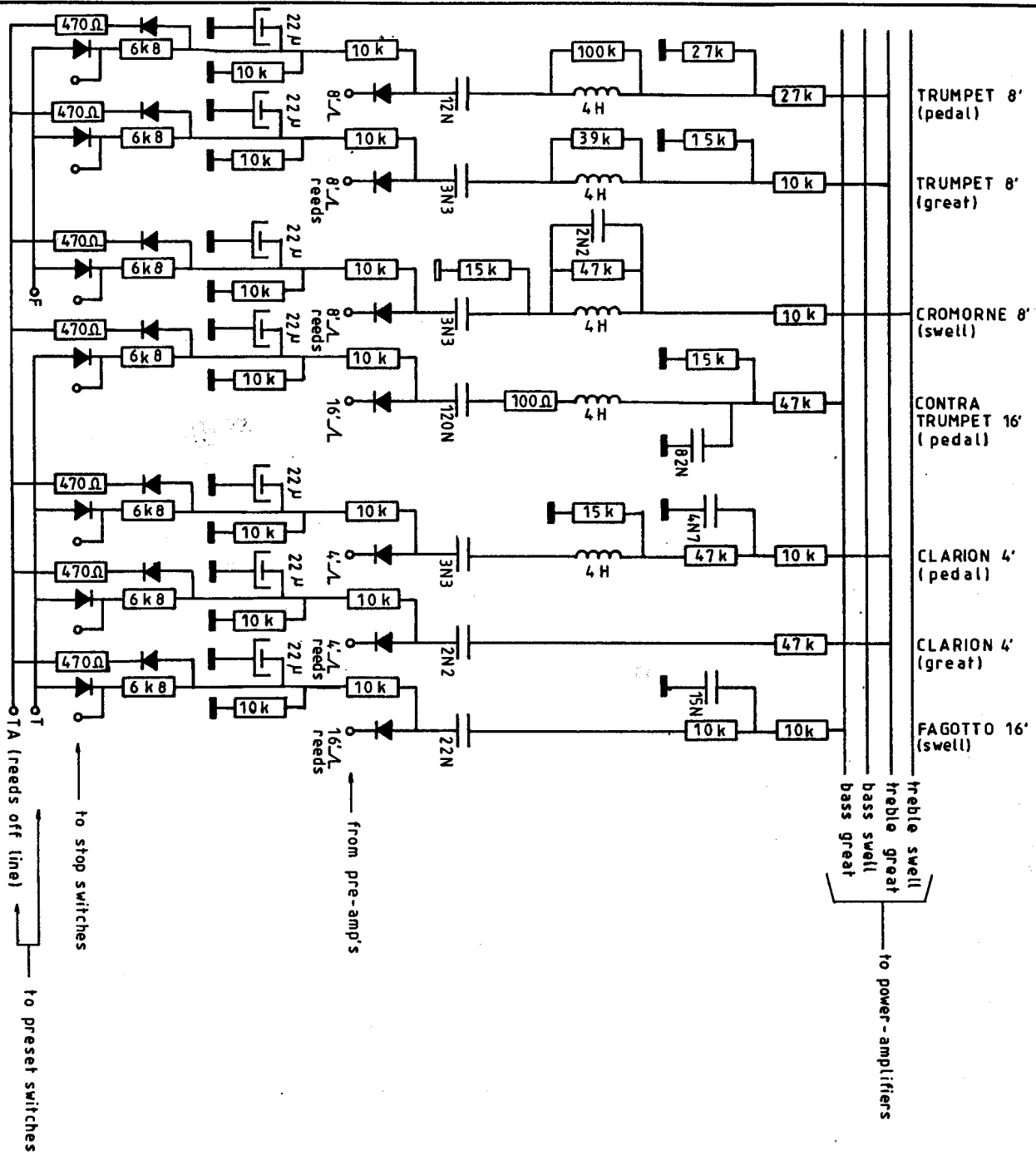
to power-amplifiers
freble swell
freble great
bass swell
bass great



all diodes SO 1

VOICES PART II

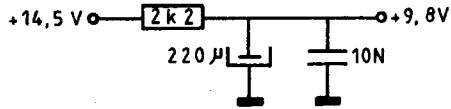
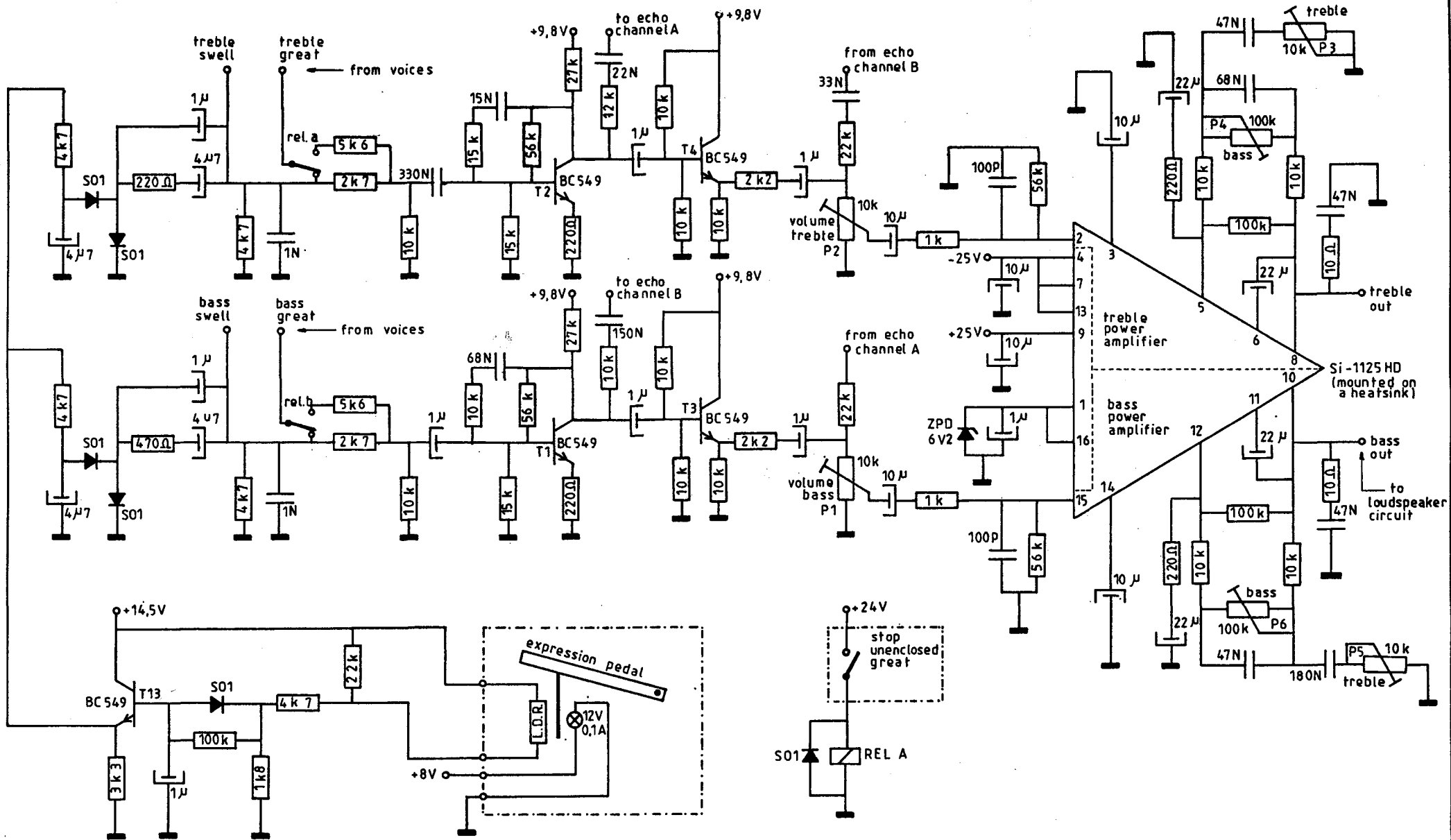
Drawn	Date	Modified	Date
Verschoorff 11-06-85			
DESIGN			
J. Versteeg			
JOHANNUS ORGAN OPUS 220			
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mossstraat 28 6716 AH EDE HOLLAND Tel. 06980-57403			
			page: 11



all diodes SO 1

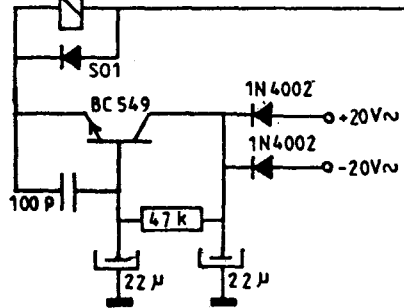
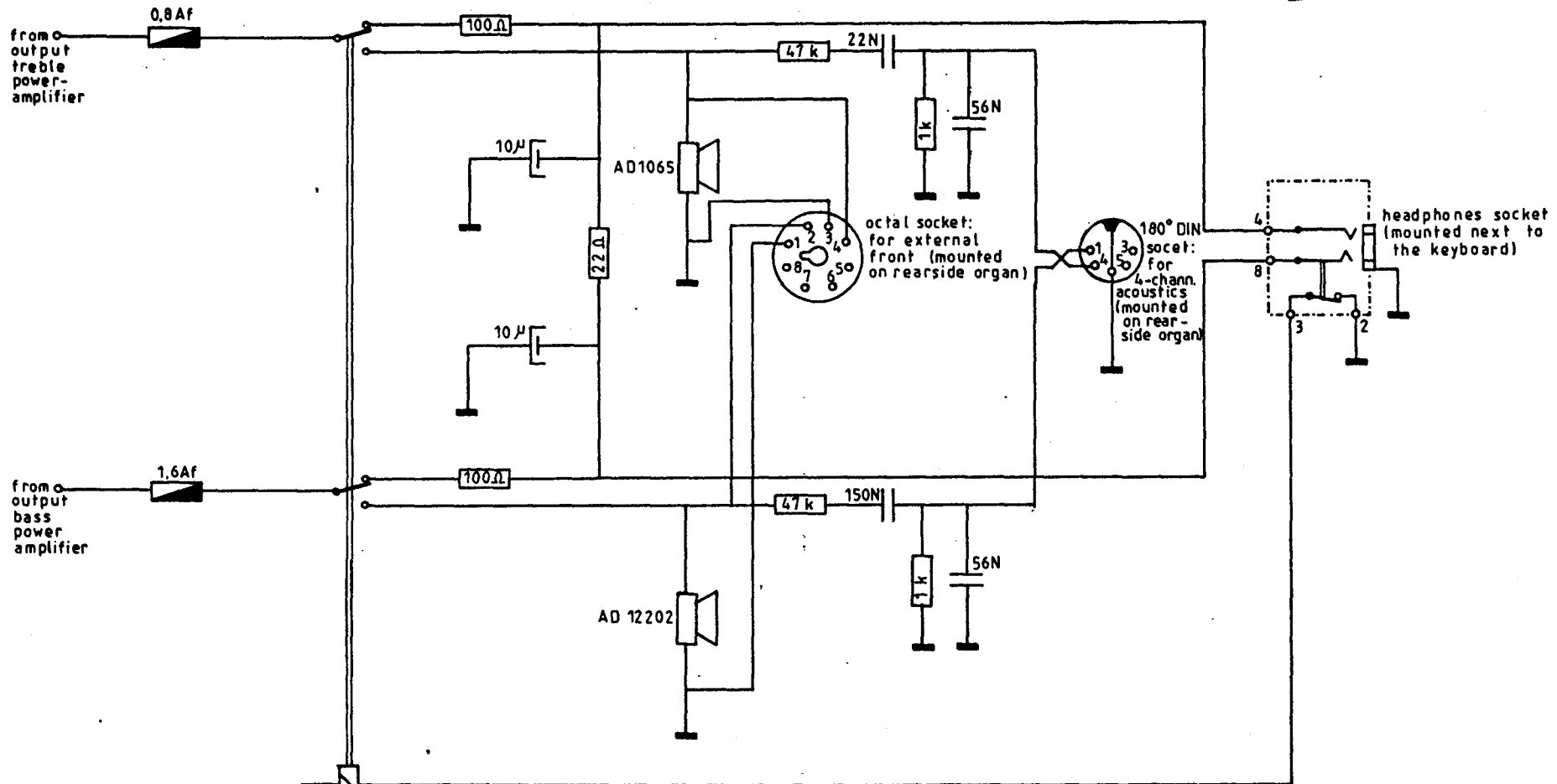
VOICES PART III

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DESIGN				Mooisstraat 28 HOLLAND
J. Versteegt				
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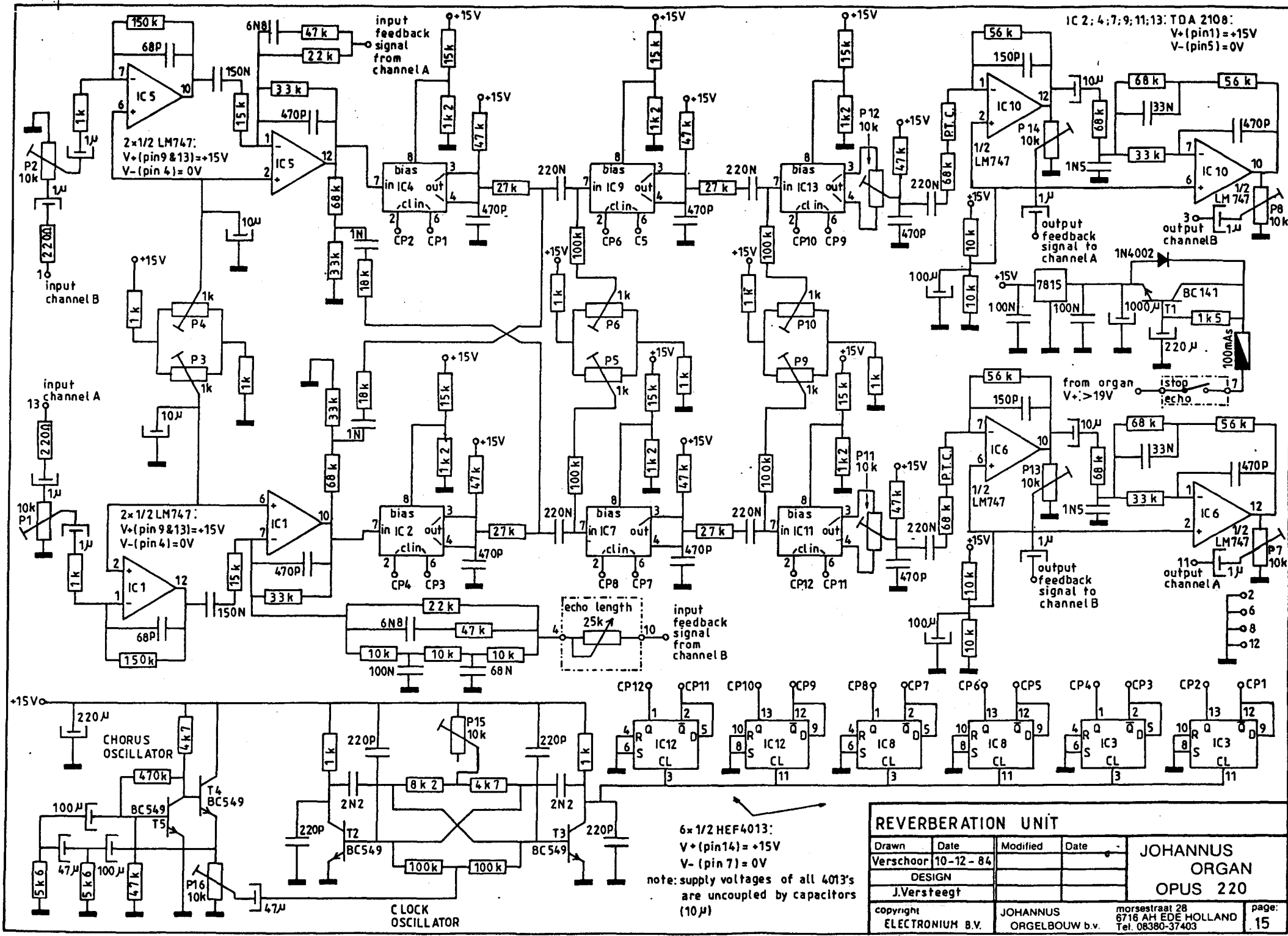


POWER AMPLIFIERS

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Verschuur	12-06-85			
DESIGN				
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				page: 13



LOUDSPEAKER-/HEADPHONES-/SWITCH ON-			
CIRCUIT & INTERFACE 4-CH. ACOUSTICS			
Drawn	Date	Modified	Date
Verschoor	13-06-85		
DESIGN			
J. Versteegt			
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			page: 14



IC 2; 4; 7; 9; 11; 13: TDA 2108:
 V+(pin1)=+15V
 V-(pin5)=0V

2x1/2 LM747:
 V+(pin9&13)=+15V
 V-(pin4)=0V

2x1/2 LM747:
 V+(pin9&13)=+15V
 V-(pin4)=0V

6x1/2 HEF4013:
 V+(pin14)=+15V
 V-(pin7)=0V

note: supply voltages of all 4013's
 are uncoupled by capacitors
 (10µ)

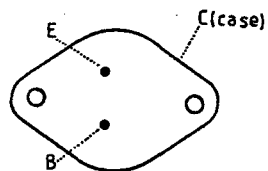
REVERBERATION UNIT

Drawn	Date	Modified	Date
Verschuur	10-12-84		
DESIGN			
J.Versteegt			
copyright		JOHANNUS	
ELECTRONIUM B.V.		ORGELBOUW b.v.	

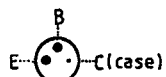
**JOHANNUS
 ORGAN
 OPUS 220**

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page:
 15



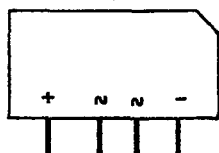
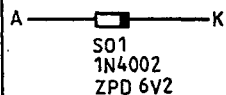
2N3055 (bottom view)



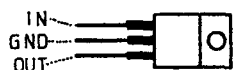
BC141 (bottom view)



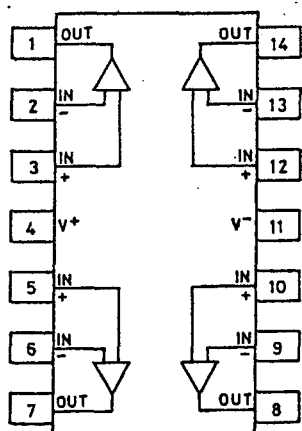
BC549 (bottom view)



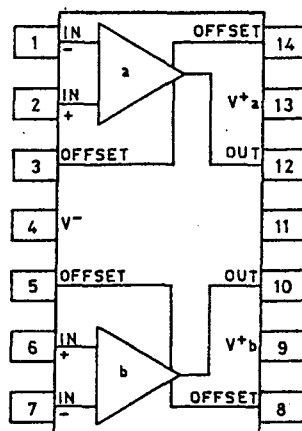
B80 C5000/3300



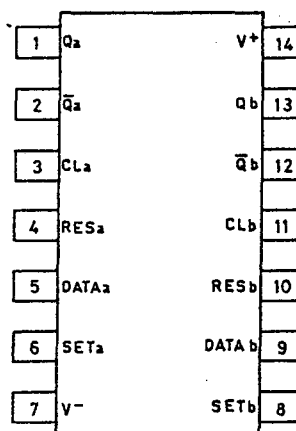
J A 7815



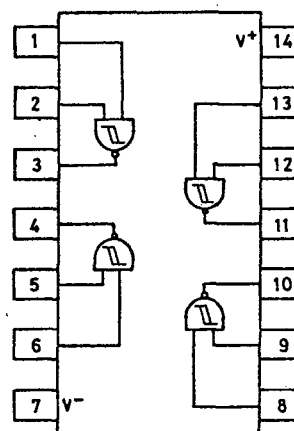
TL074: quad opamp
LM324: quad opamp



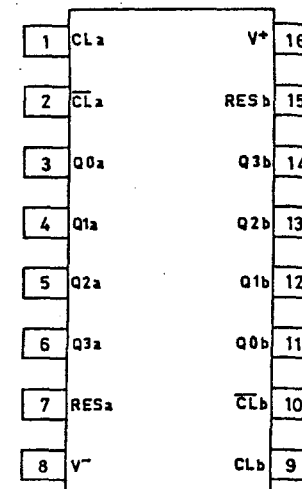
μA747: dual opamp



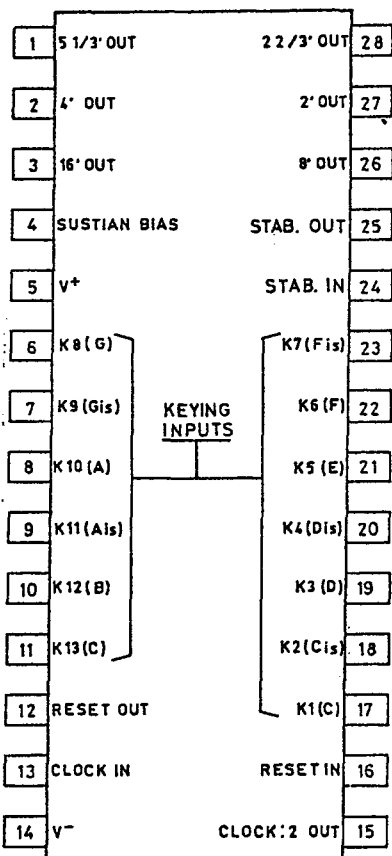
4013: dual D-flip-flop



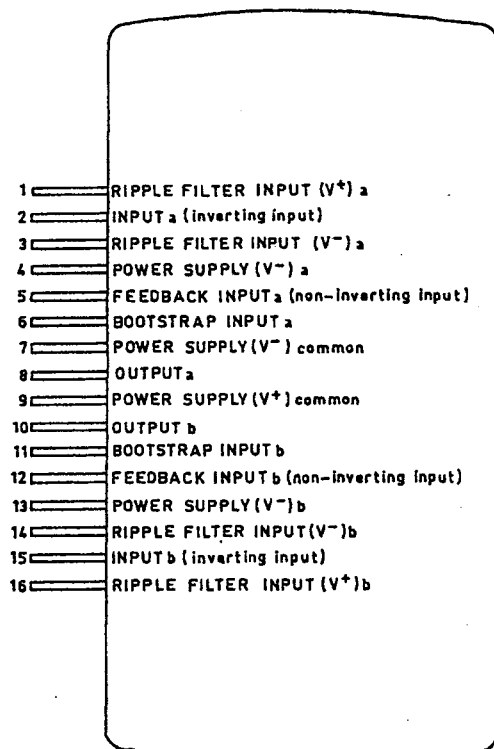
4093: quad Schmitt-trigger



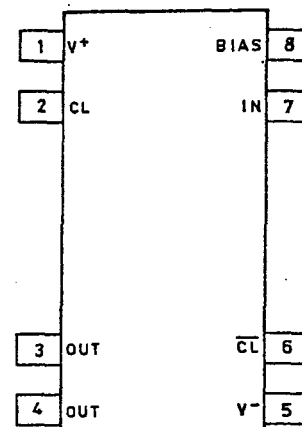
4520 dual binary counter



TMS3617: top octave synthesizer with dividers and keyings



Si-1125 HD: stereo hybrid audio power amplifier



TDA2108: delay line

GENERAL INFORMATION SEMI-CONDUCTORS

Drawn	Date	Modified	Date	JOHANNUS ORGAN OPUS 220
Verschoor	13-06-85			
DESIGN				
J. Versteegt				copyright: ELECTRONIUM B.V.
JOHANNUS ORGELBOUW b.v.				
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