SERVICE-UNTERLAGE

EMPFÄNGER - TYPREIHE

EKD 500

EKD 511	TYP 1340.42 A1
EKD 512	TYP 1340.42 A2
EKD 514	TYP 1340.42 A4
EKD 515	TYP 1340.42 A5

BAND 2

Hierzu gehört:
SERVICE-UNTERLAGE 1340.042-91700 SU Band 1

Änderungen in Konstruktion und Ausführung, die der technischen Verbesserung und Weiterentwicklung unserer Erzeugnisse dienen, behalten wir uns vor.

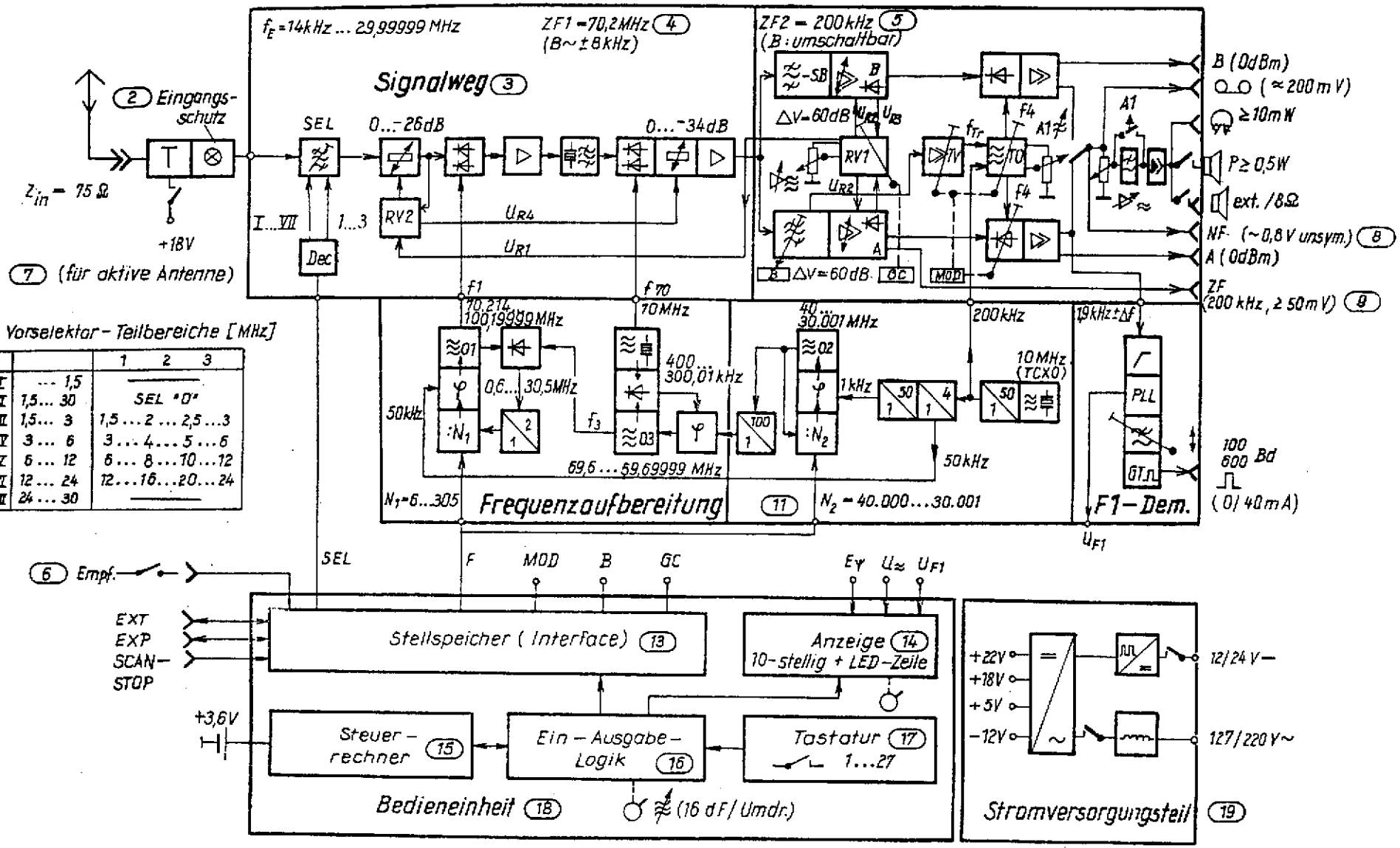
Bestellnummer : 1340.042-91700 SU Band 2
Ausgabe 2/1987

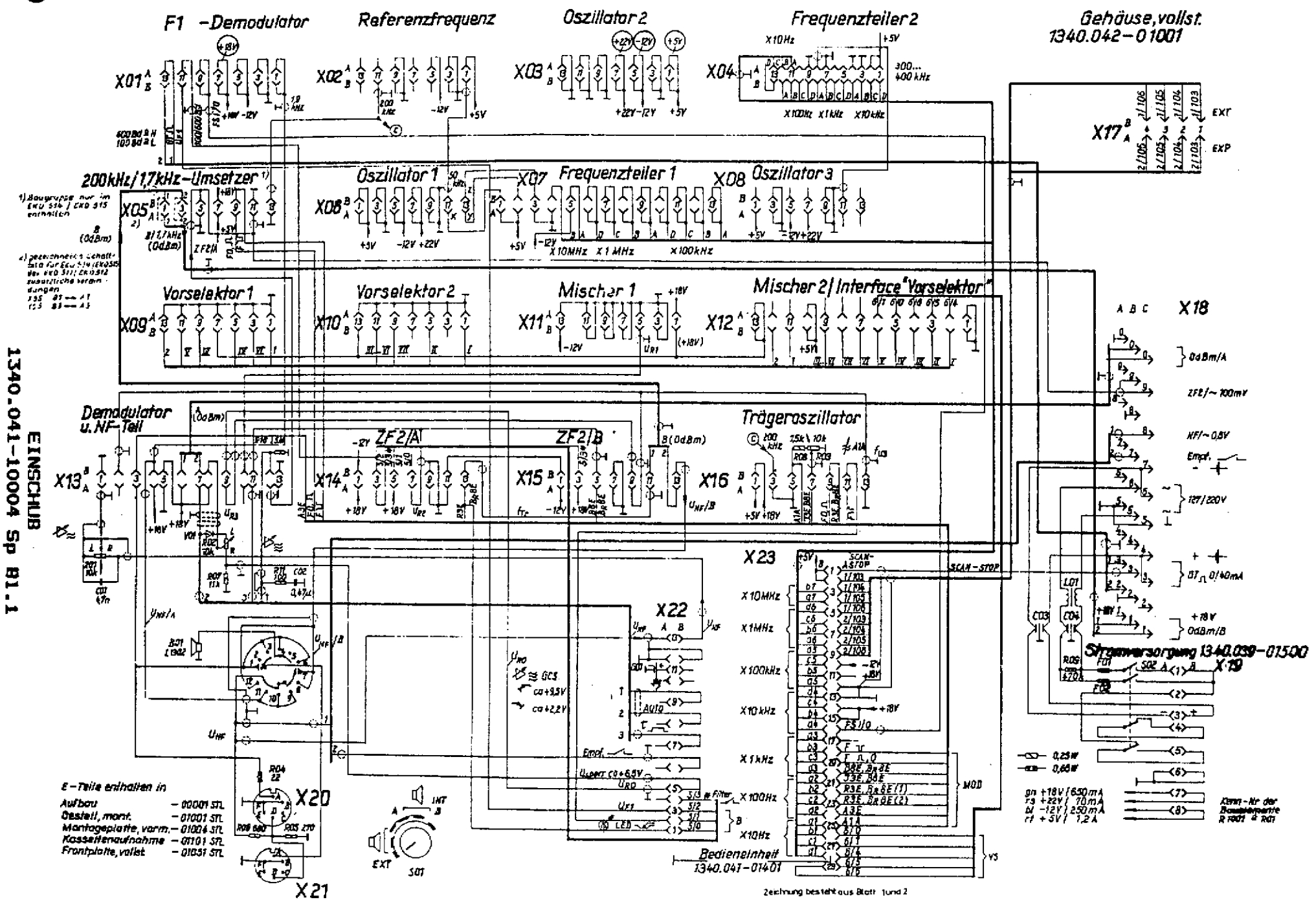
665 BkG 011/00762/88

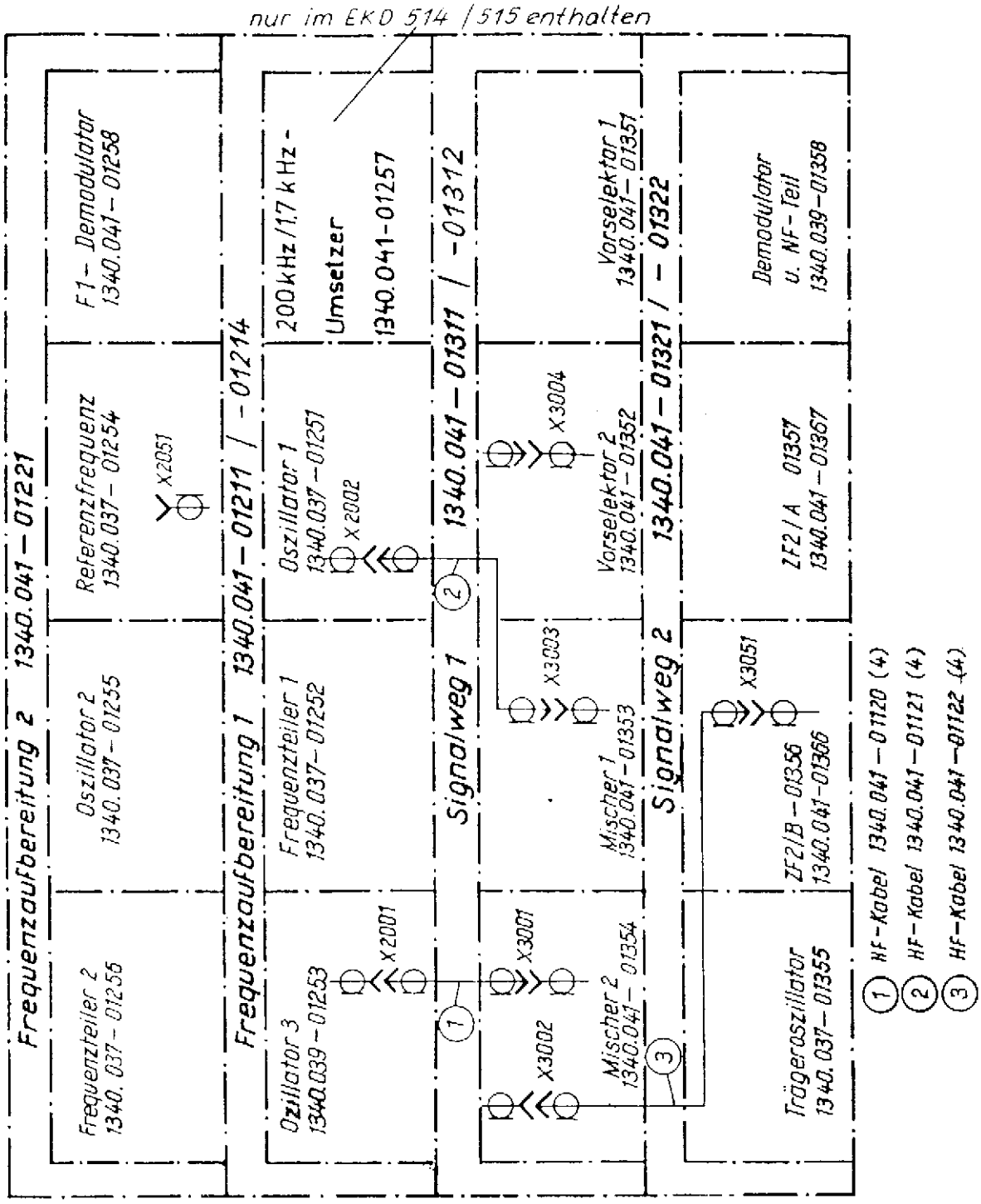
VEB FUNKWERK KÖPENICK
BETRIEB DES VEB KOMBINAT NACHRICHTENELEKTRONIK

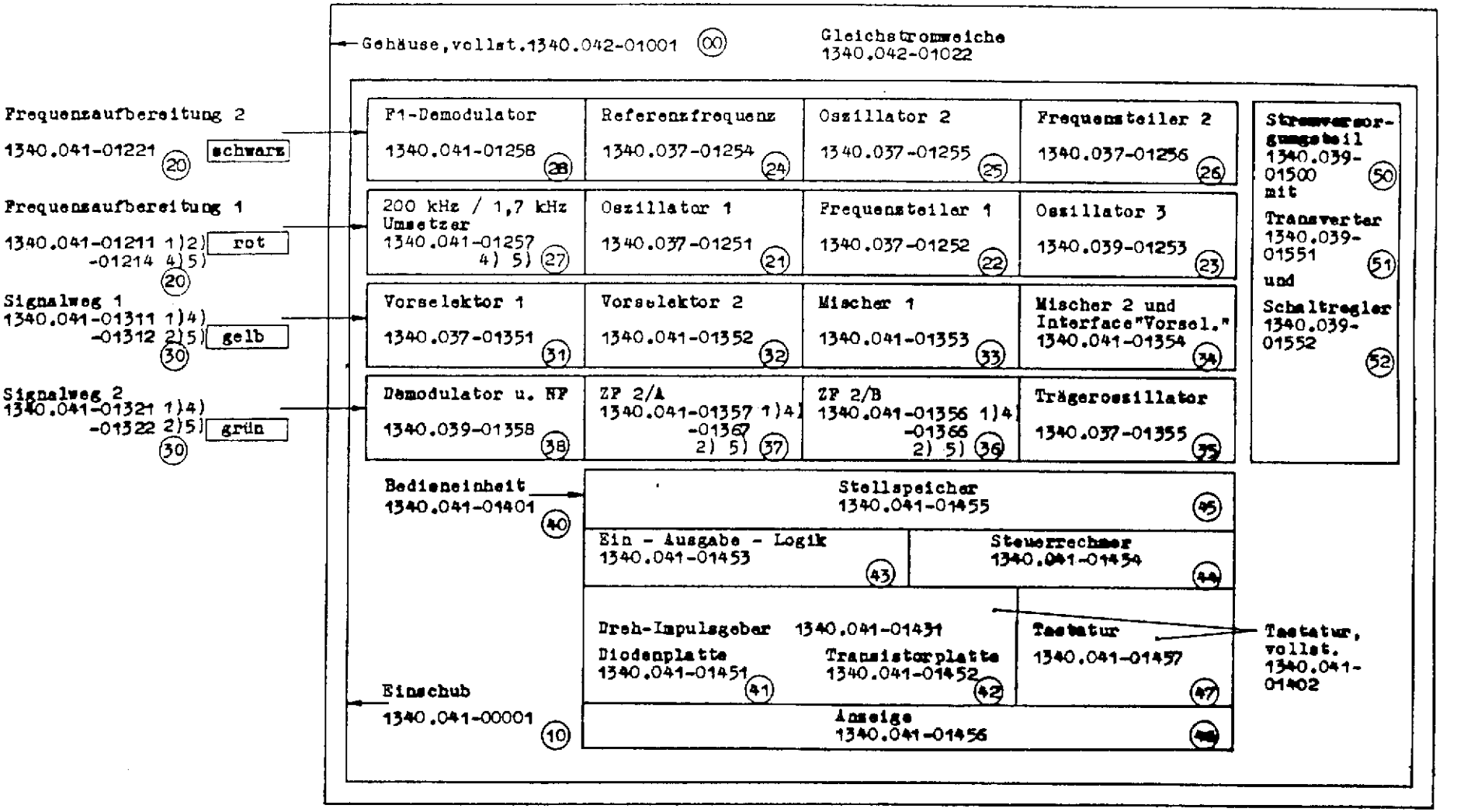
DDR · 1170 Berlin, Wendenschloßstr. 142-174

INHALTSVERZEICHNIS


f_E = 14kHz ... 29,99999 MHz
ZF1 = 70,2MHz (4)
(B ~ ± 8kHz)
ZF2 = 200kHz (5)
(B: umschaltbar)
Signalweg (3)
(2) Eingangs-schutz
Z_{in} = 75 Ω
+18V
(7) (für aktive Antenne)
SEL
0...-26dB
0...-34dB
I...VIII
1...3
Dec
RV2
U_{R4}
U_{R1}
RV1
U_{R2}
U_{R3}
ΔV = 60dB
ΔV = 60dB
GC
MOD
f1
70,214 ... 100,19999MHz
f 70
70MHz
0,6...30,5MHz
50kHz
400 ... 300,01kHz
40 ... 30,001MHz
200kHz
19kHz ± Δf
10MHz (TCXO)
1kHz
50kHz
69,6 ... 69,69999 MHz
N_1 = 6...305
Frequenzaufbereitung (11)
N_2 = 40.000...30.001
F1-Dem.
U_{F1}
B (0dBm)
(≈ 200mV)
≥ 10mW
P ≥ 0,5W
ext. / 8Ω
NF (~0,8V unsym.) (8)
A (0dBm)
ZF (200 kHz, ≥ 50mV) (9)
100 / 600 Bd
(0/40mA)
(10) Vorselektor-Teilbereiche [MHz]
I ... 1,5
II 1,5 ... 30
III 1,5 ... 3
IV 3 ... 6
V 6 ... 12
VI 12 ... 24
VII 24 ... 30
1 2 3
SEL "0"
1,5 ... 2 ... 2,5 ... 3
3 ... 4 ... 5 ... 6
6 ... 8 ... 10 ... 12
12 ... 16 ... 20 ... 24
(6) Empf.
SEL
F
MOD
B
GC
E_Y
$U_{\approx}$
U_{F1}
EXT
EXP
SCAN-
STOP
Stellspeicher (Interface) (13)
Anzeige (14)
10-stellig + LED-Zeile
+3,6V
Steuer-rechner (15)
Ein-Ausgabe-Logik (16)
Tastatur (17)
1...27
Bedieneinheit (18)
(16 dF/Umdr.)
+22V
+18V
+5V
-12V
12/24V-
127/220V~
Stromversorgungsteil (19)


F1 -Demodulator
Referenzfrequenz
Oszillator 2
Frequenzteiler 2
Gehäuse, vollst.
1340.042-01001
200kHz/1,7kHz-Umsetzer
Oszillator 1
Frequenzteiler 1
Oszillator 3
Vorselektor 1
Vorselektor 2
Mischer 1
Mischer 2/Interface "Vorselektor"
Demodulator u. NF-Teil
ZF2/A
ZF2/B
Trägeroszillator
Bedieneinheit 1340.041-01401
Stromversorgung 1340.039-01500
EINSCHUB 1340.041-10004 Sp 81.1
-6-


nur im EKD 514 / 515 enthalten
Frequenzaufbereitung 2 1340.041 – 01221
Frequenzteiler 2
1340.037 – 01256
Oszillator 2
1340.037 – 01255
Referenzfrequenz
1340.037 – 01254
X2051
F1 – Demodulator
1340.041 – 01258
Frequenzaufbereitung 1 1340.041 – 01211 / – 01214
Oszillator 3
1340.039 – 01253
X2001
Frequenzteiler 1
1340.037 – 01252
X2002
Oszillator 1
1340.037 – 01251
200 kHz / 17 kHz -
Umsetzer
1340.041-01257
Signalweg 1 1340.041 – 01311 / – 01312
X3001
X3002
Mischer 2
1340.041 – 01354
X3003
Mischer 1
1340.041 – 01353
X3004
Vorselektor 2
1340.041 – 01352
Vorselektor 1
1340.041 – 01351
Signalweg 2 1340.041 – 01321 / – 01322
Trägeroszillator
1340.037 – 01355
X3051
ZF2/B – 01356
1340.041-01366
ZF2/A 01357
1340.041 – 01367
Demodulator
u. NF-Teil
1340.039 – 01358
1 HF-Kabel 1340.041 – 01120 (4)
2 HF-Kabel 1340.041 – 01121 (4)
3 HF-Kabel 1340.041 – 01122 (4)

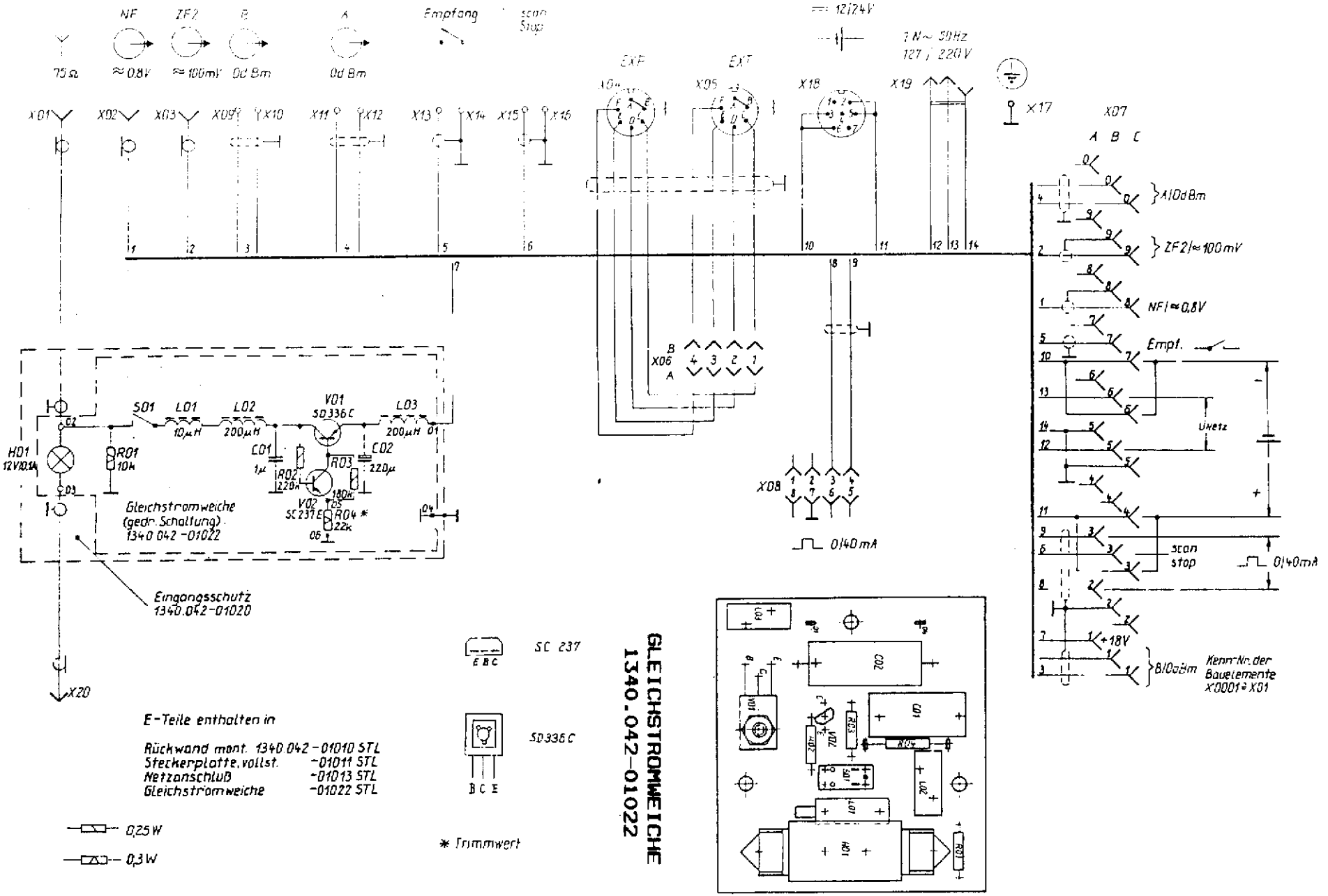


1) EKD 511 : 1340.042-10001

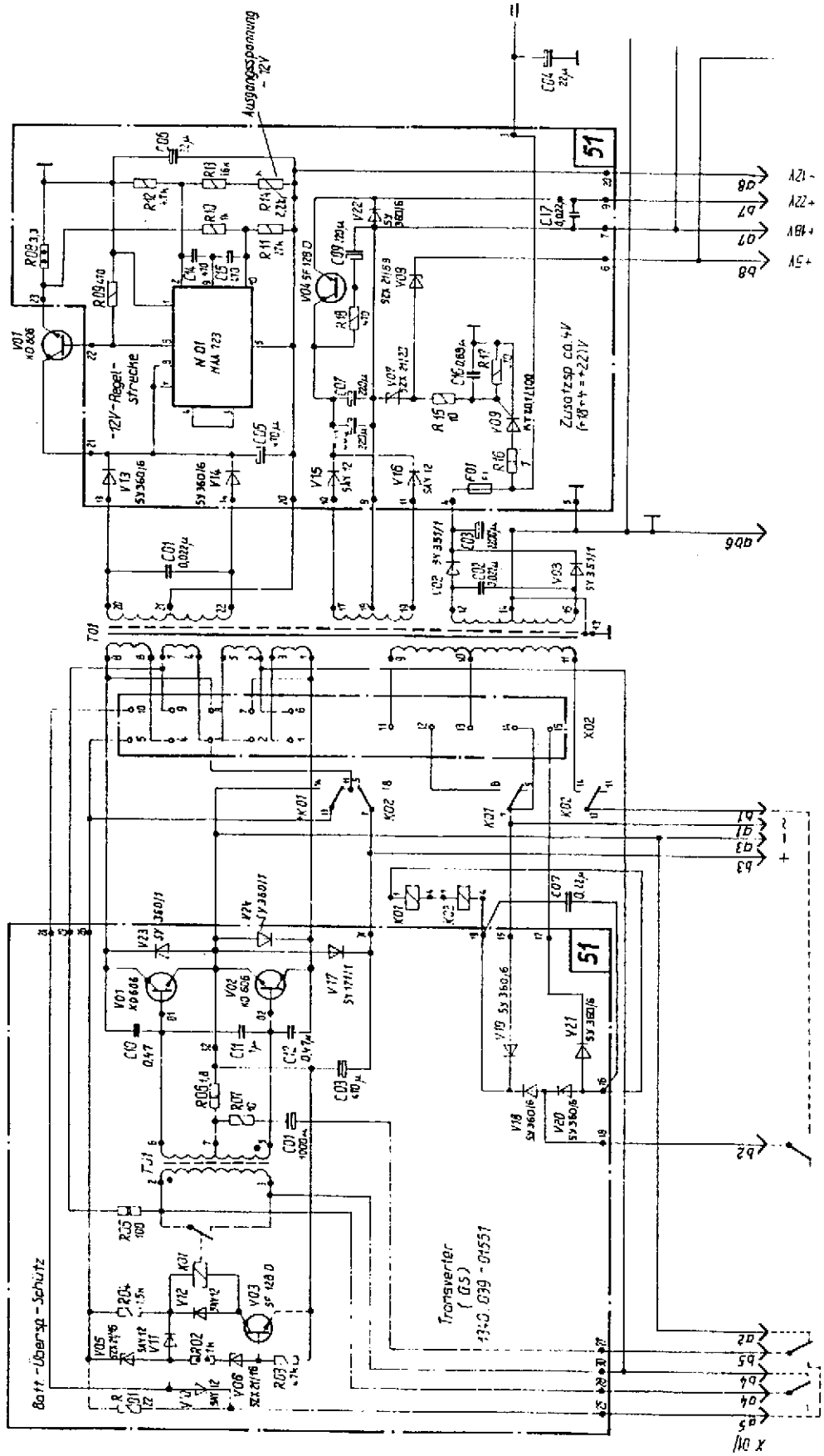
2) EKD 512 : 1340.042-10002

4) EKD 514 : 1340.042-10004

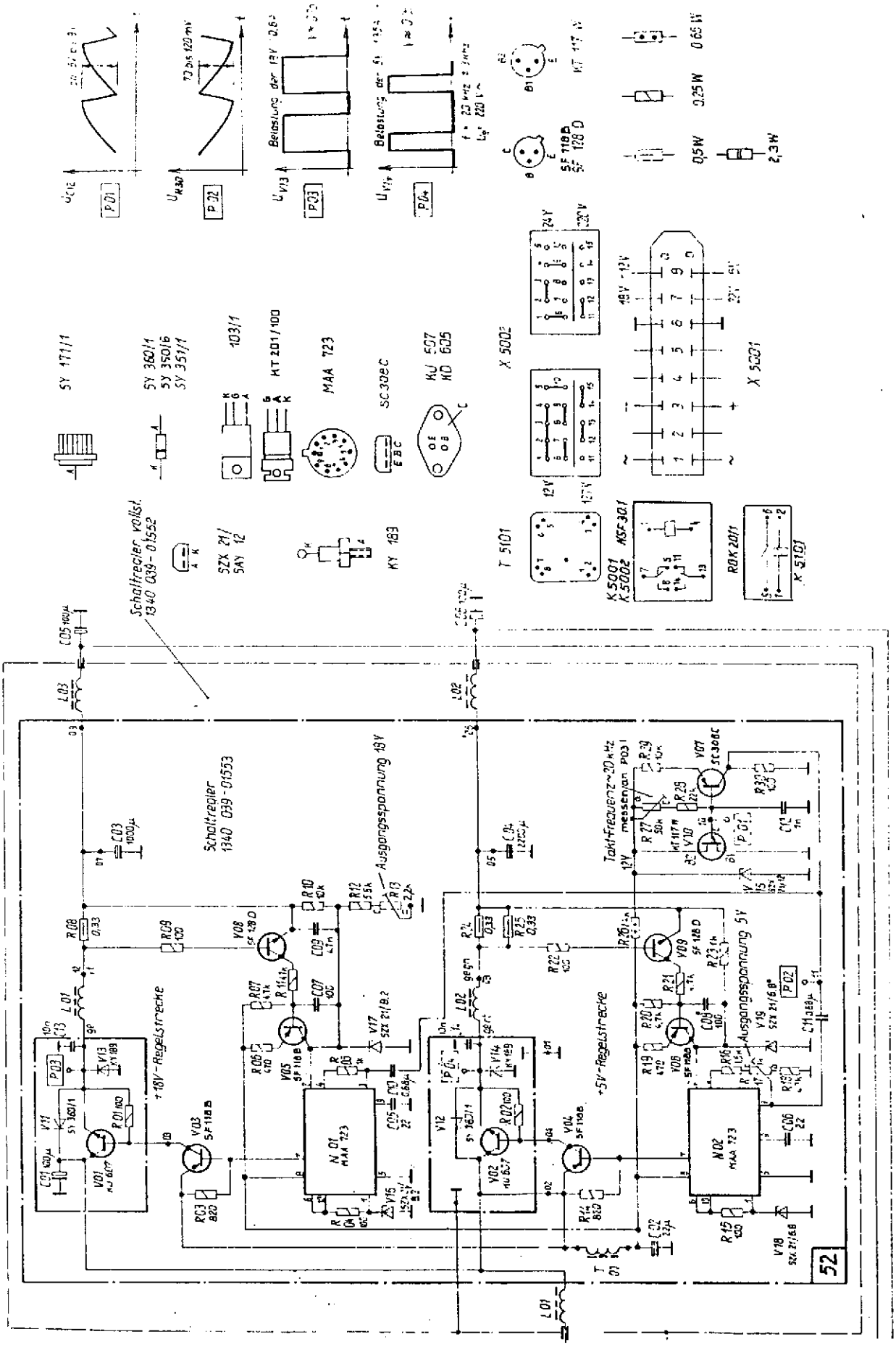
5) EKD 515 : 1340.042-10005



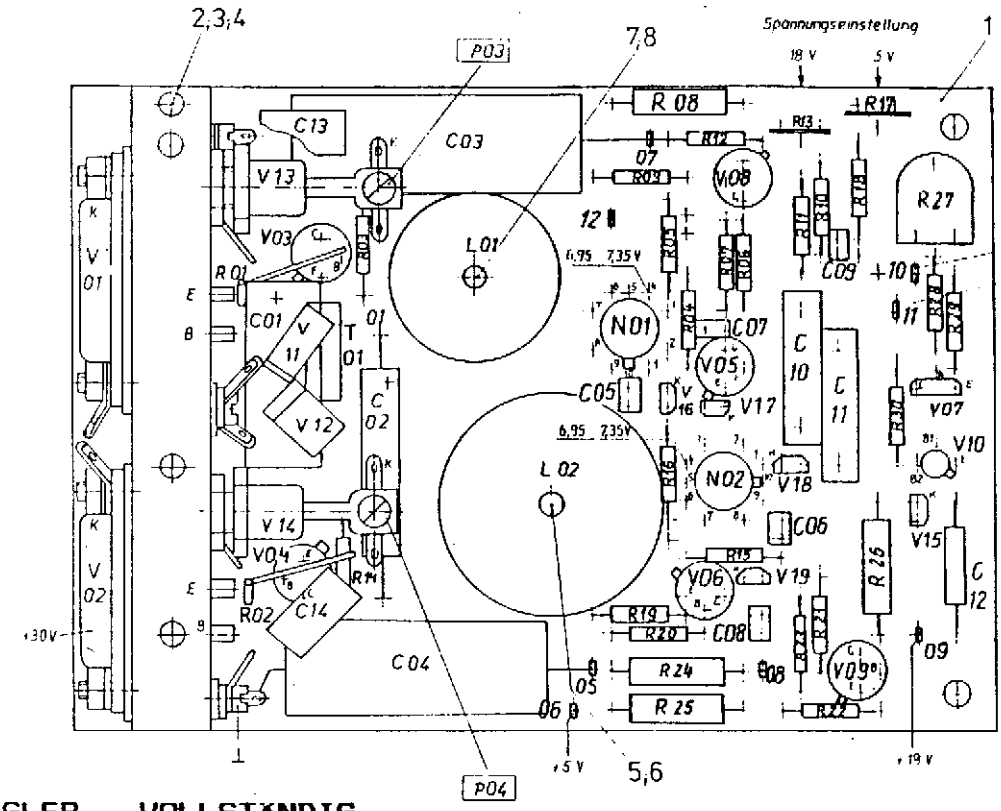
GLEICHSTROMWEICHE 1340.042-01022



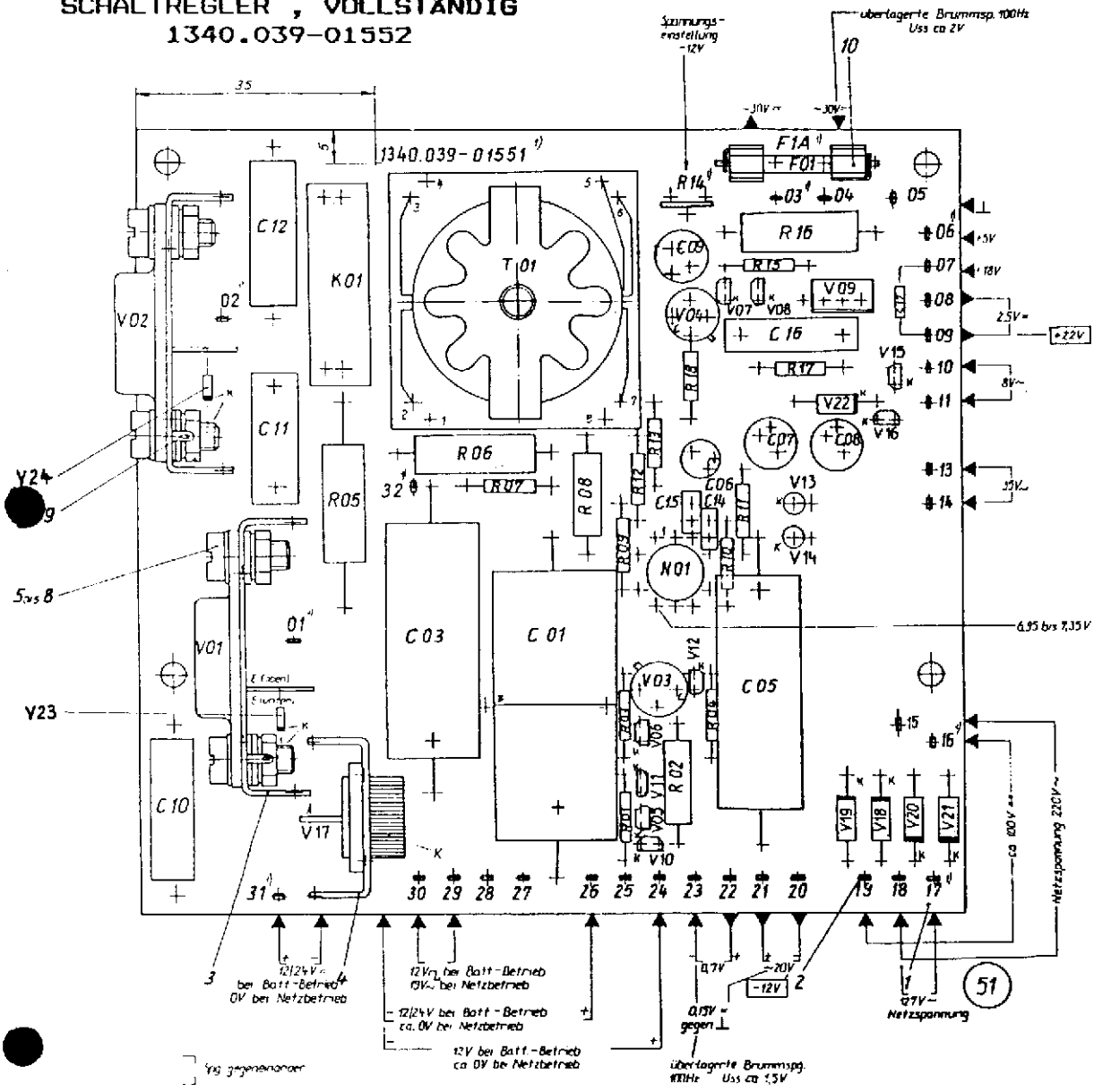
STROMVERSORGUNGSTEIL
1340.039.01500 Sp



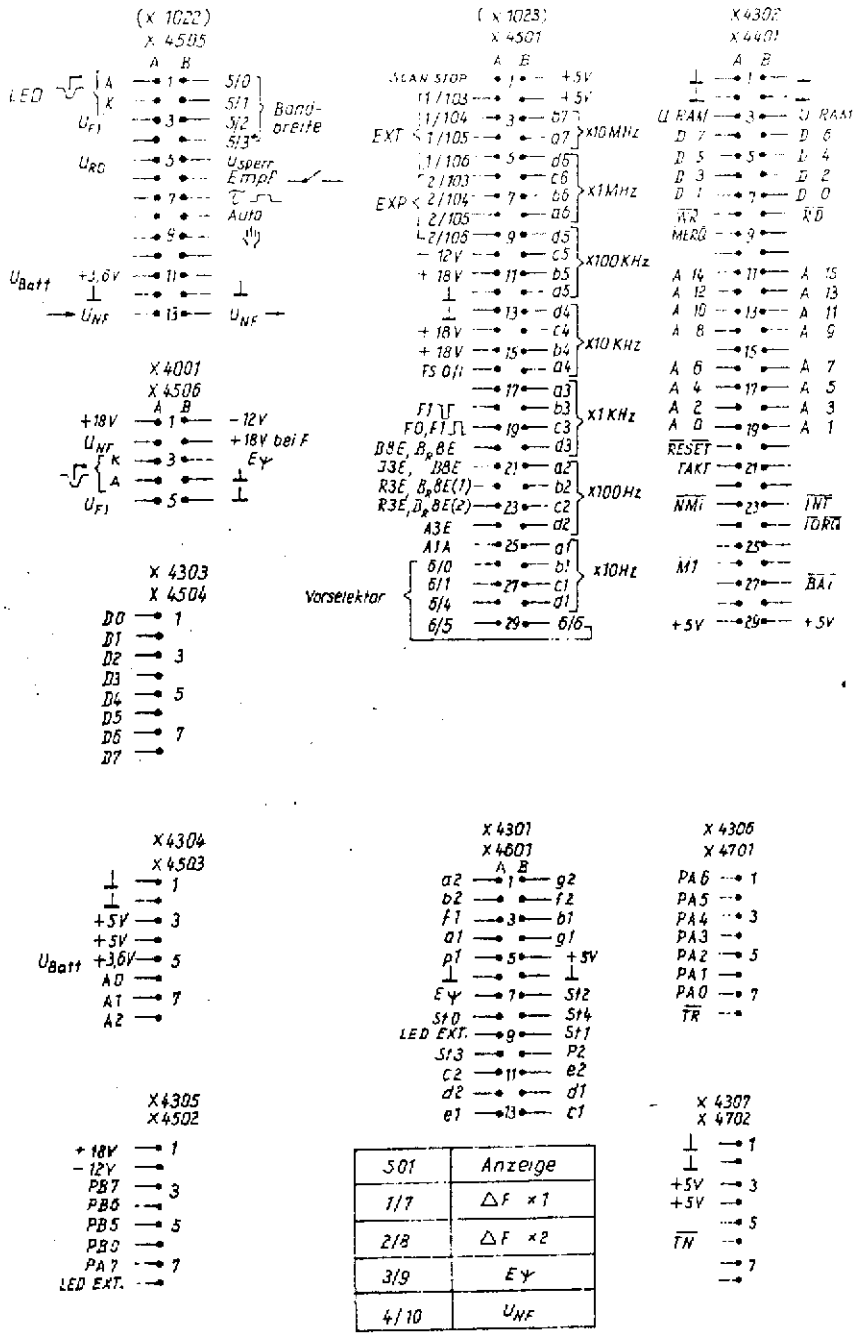
STROMVERSORGUNGSTEIL
1340.039.01500 Sp



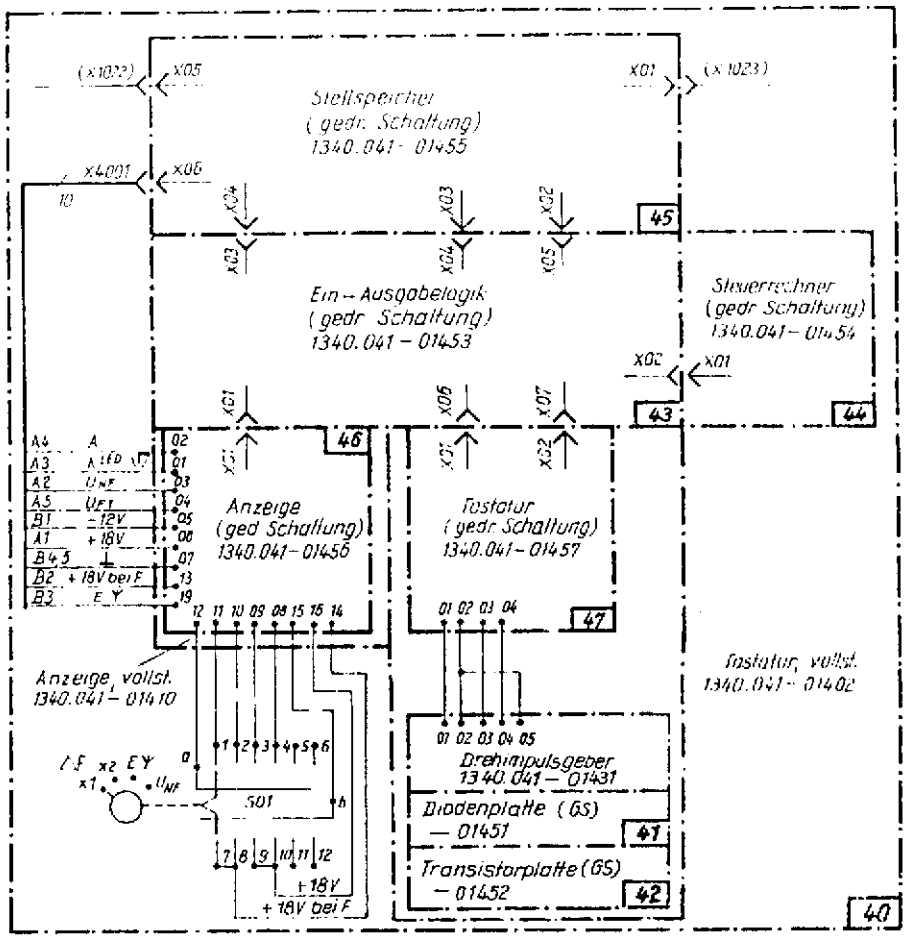
SCHALTREGLER , VOLLSTÄNDIG
1340.039-01552

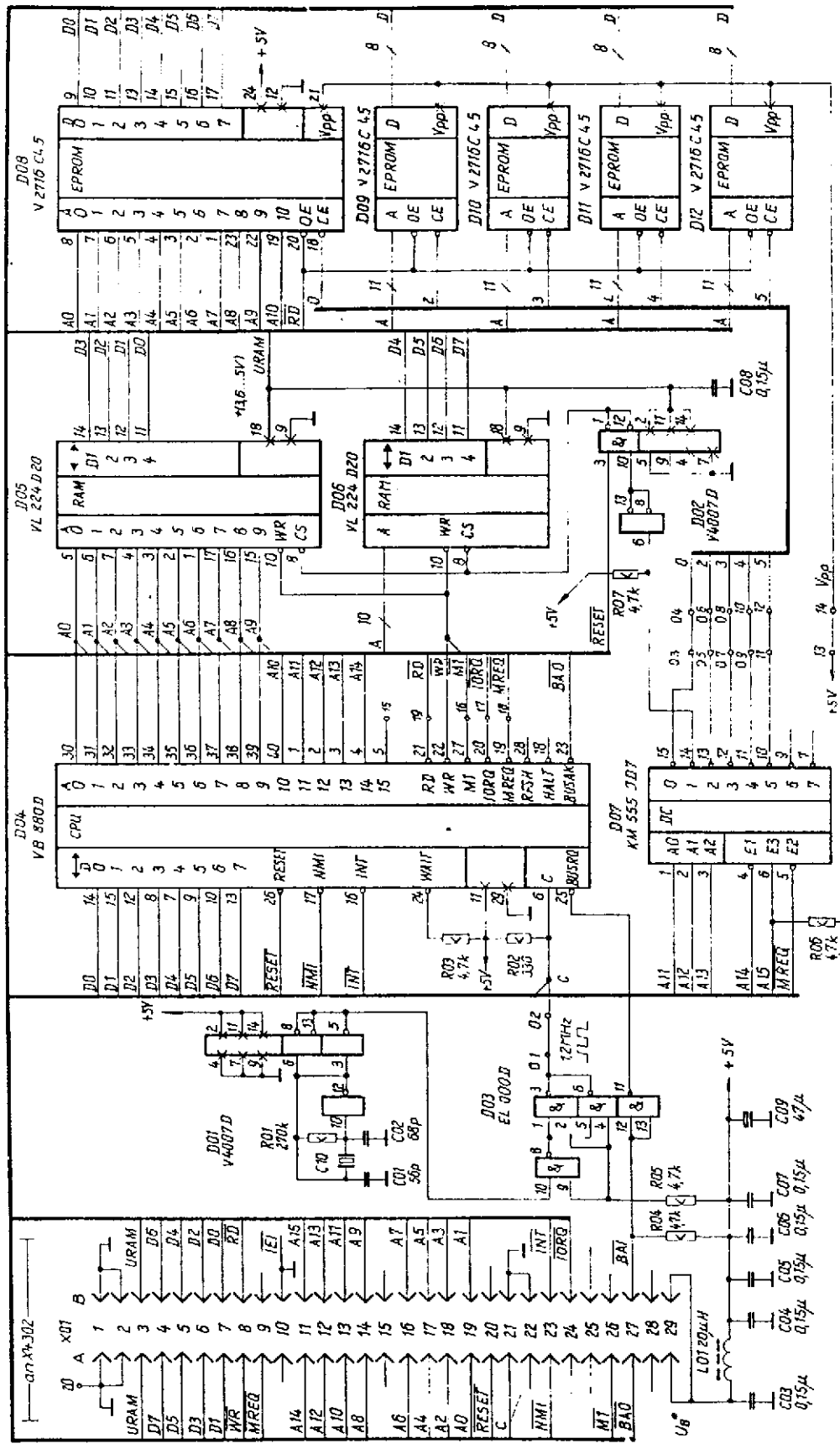


TRANSVERTER
1340.039-01551

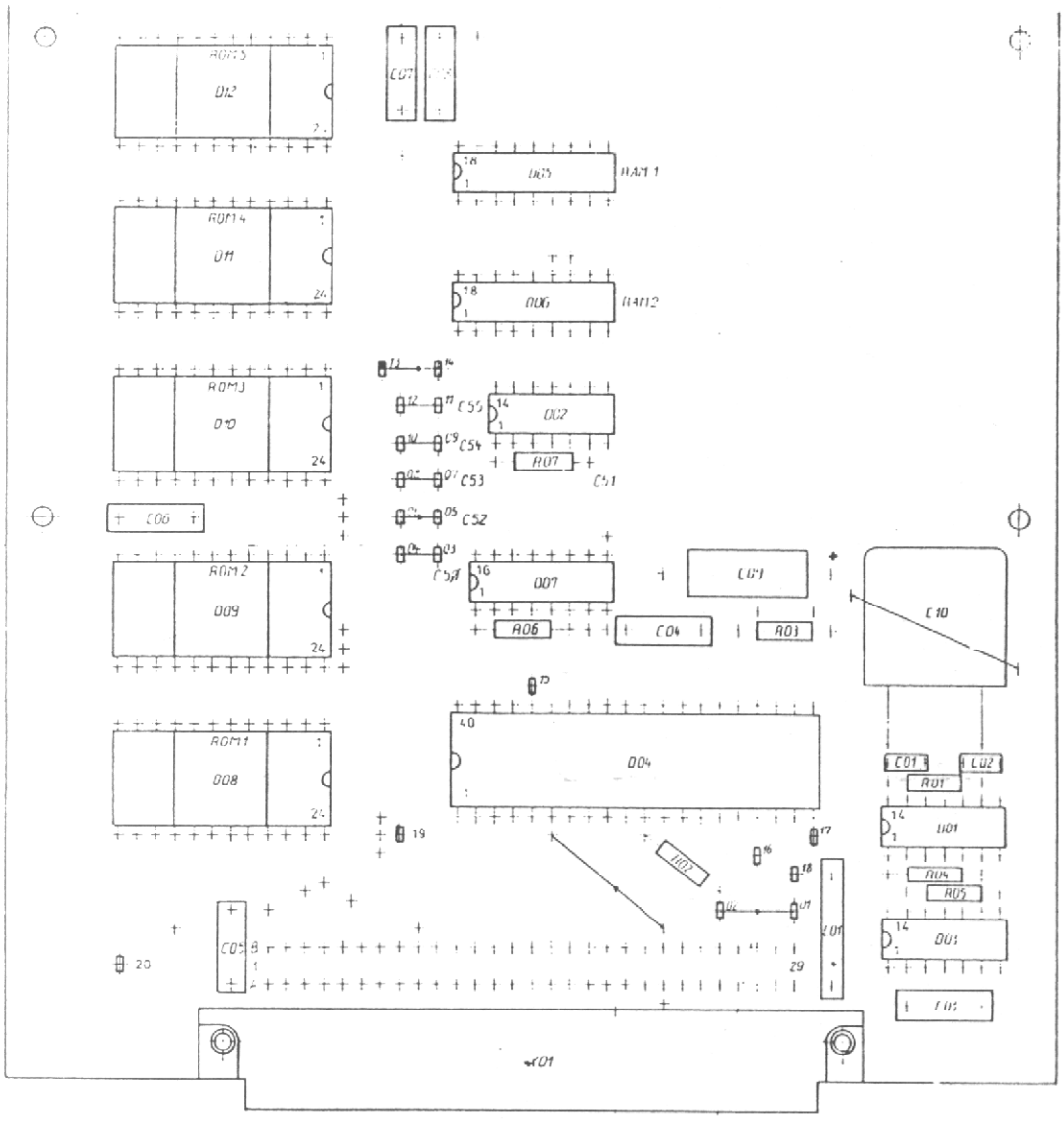


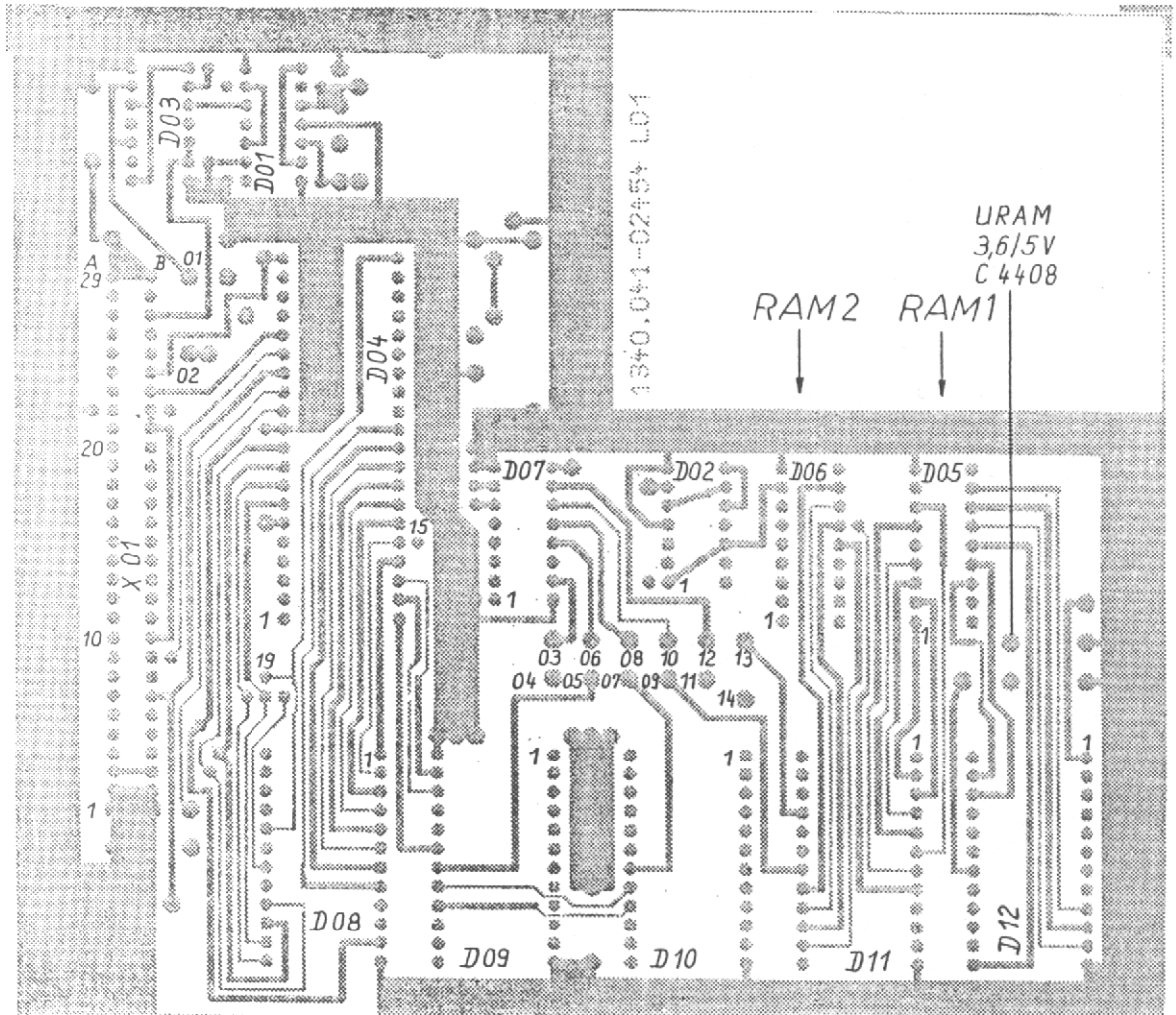
S01	Anzeige
1/7	ΔF ×1
2/8	ΔF ×2
3/9	EΨ
4/10	U_{NF}



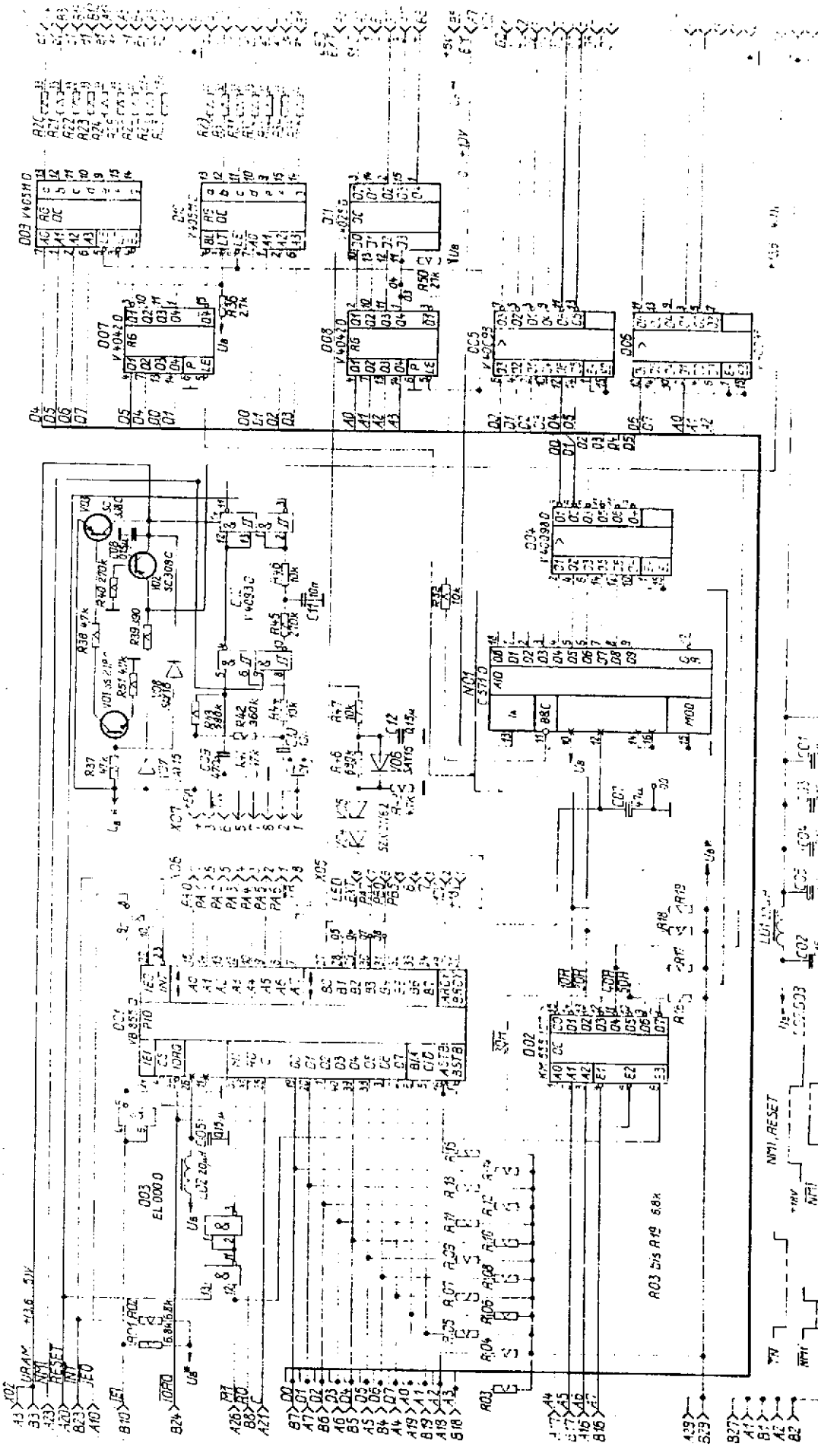


STEUERRECHNER
1340.041-01454 Sp

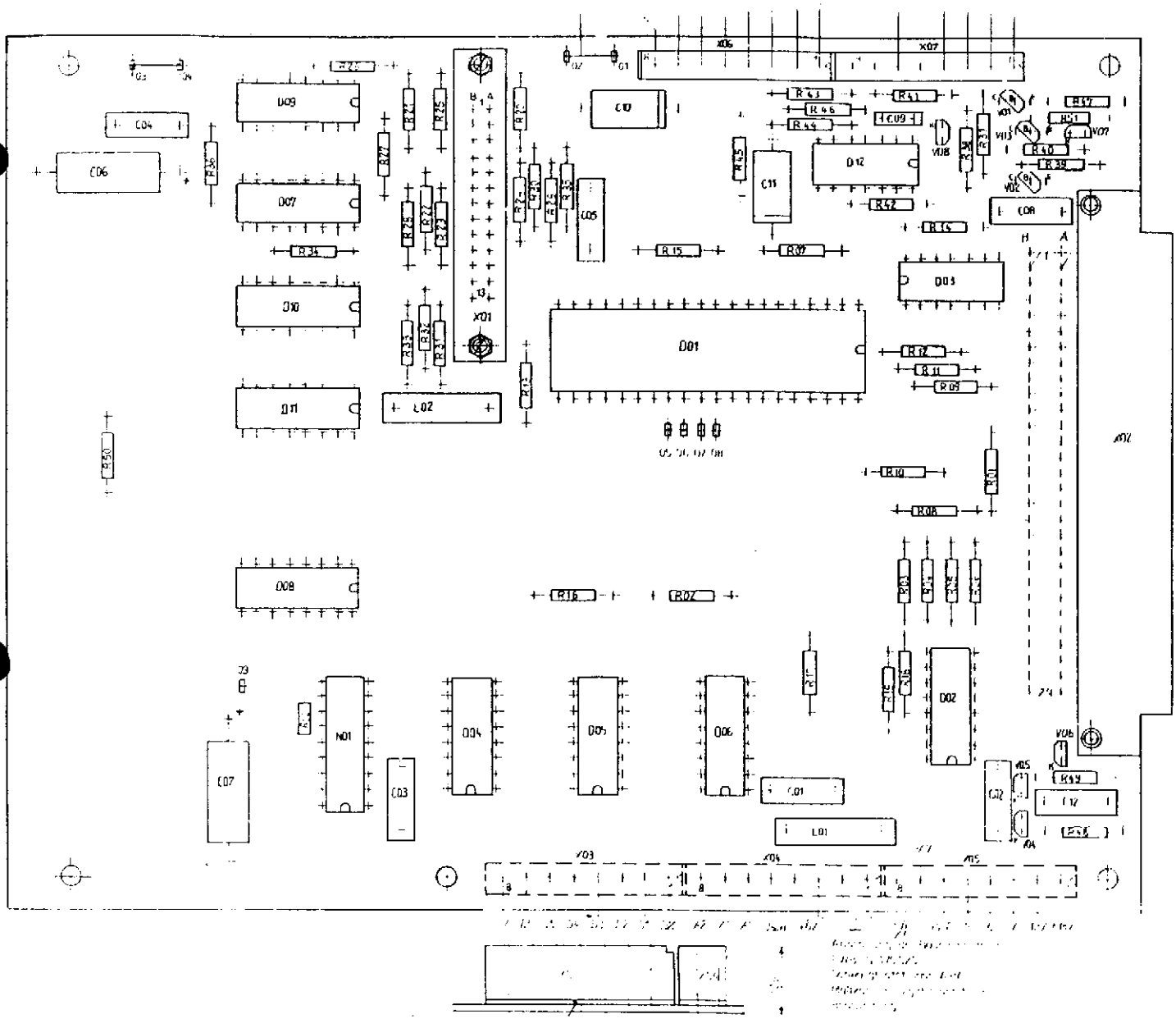


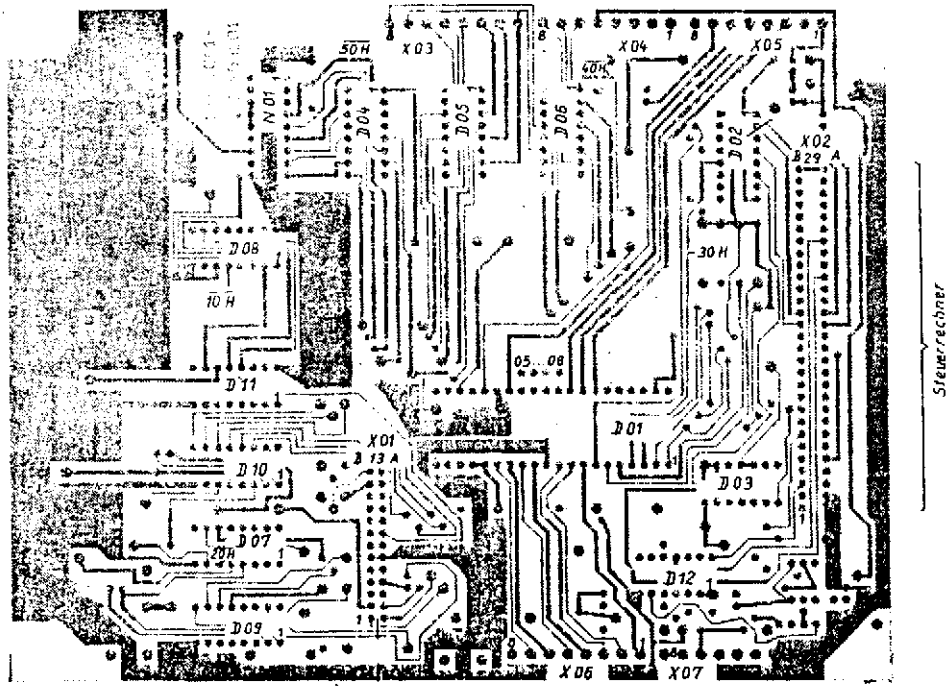


STEUERRECHNER
1340.041-01454

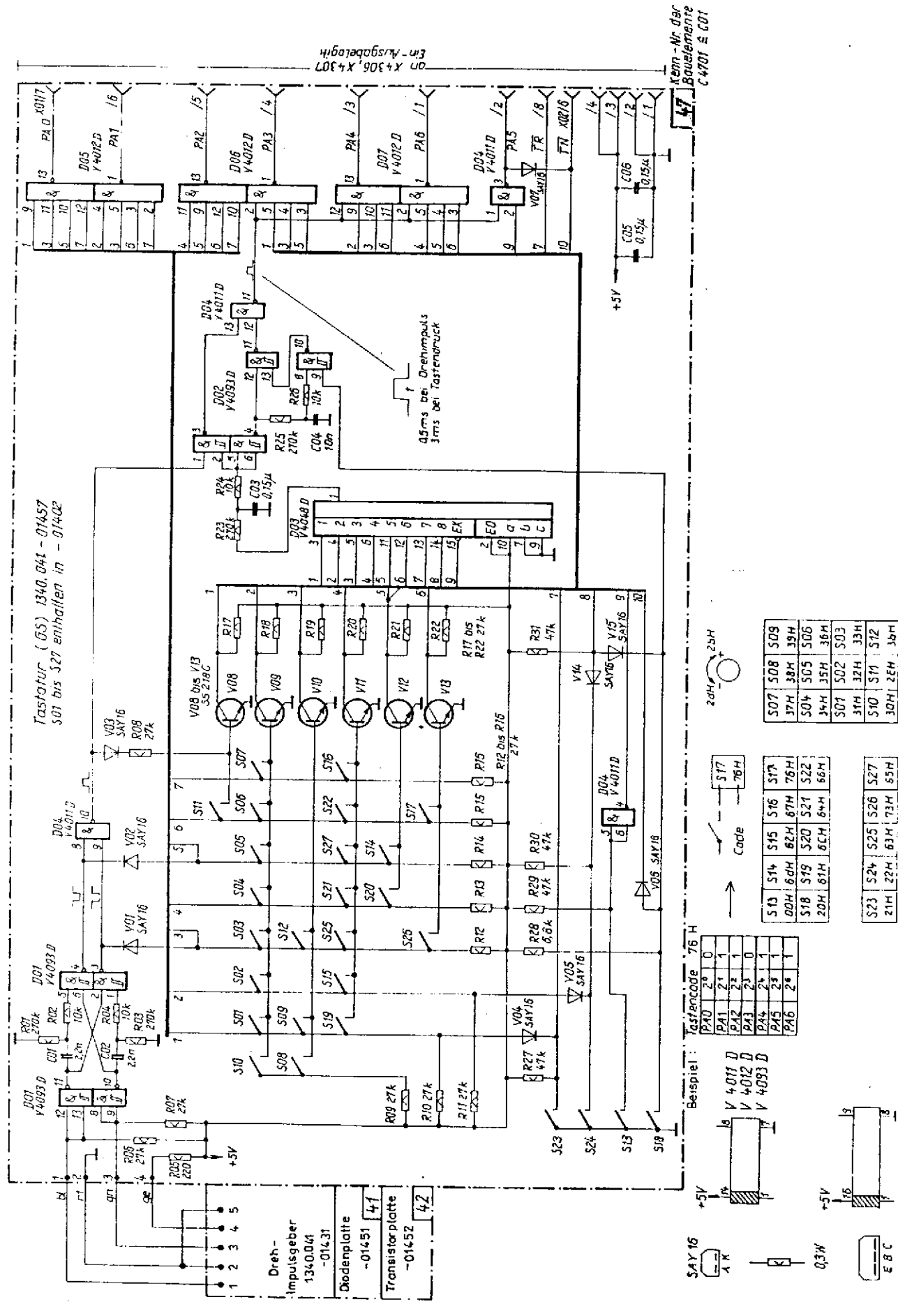


EIN - AUSGABELOGIK
1340.041-01453 Sp

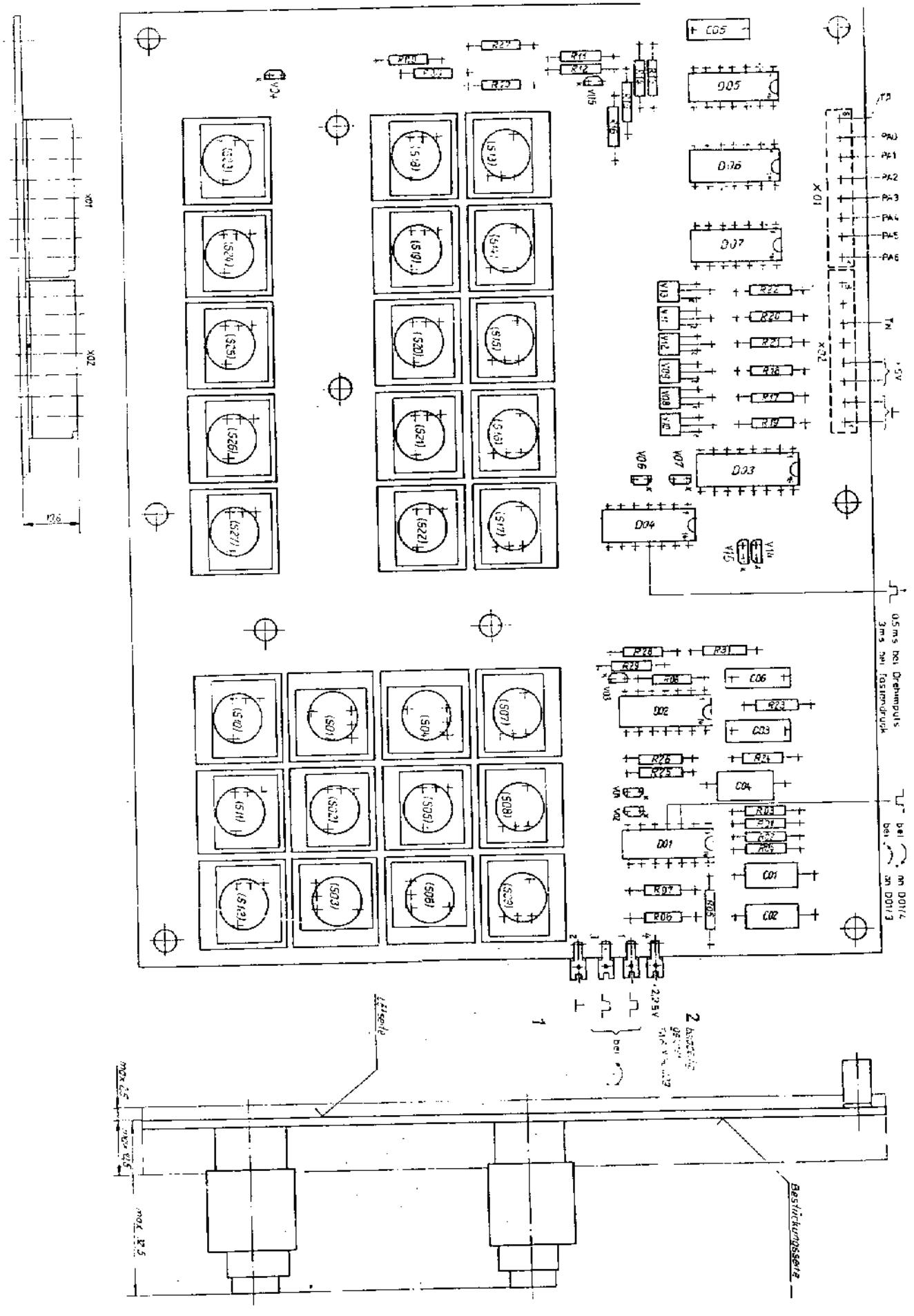




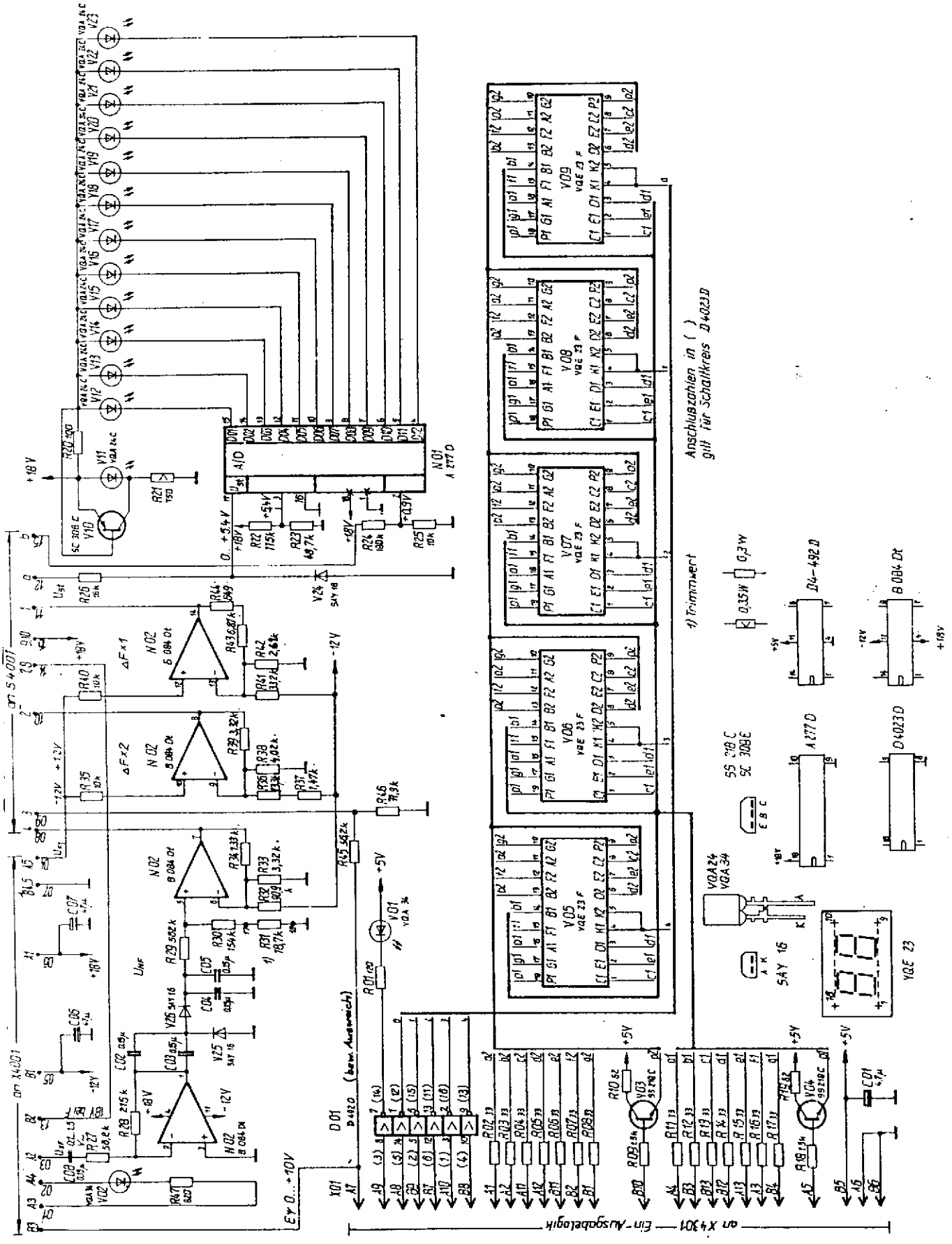
EIN - AUSGABELOGIK
1340.041-01453



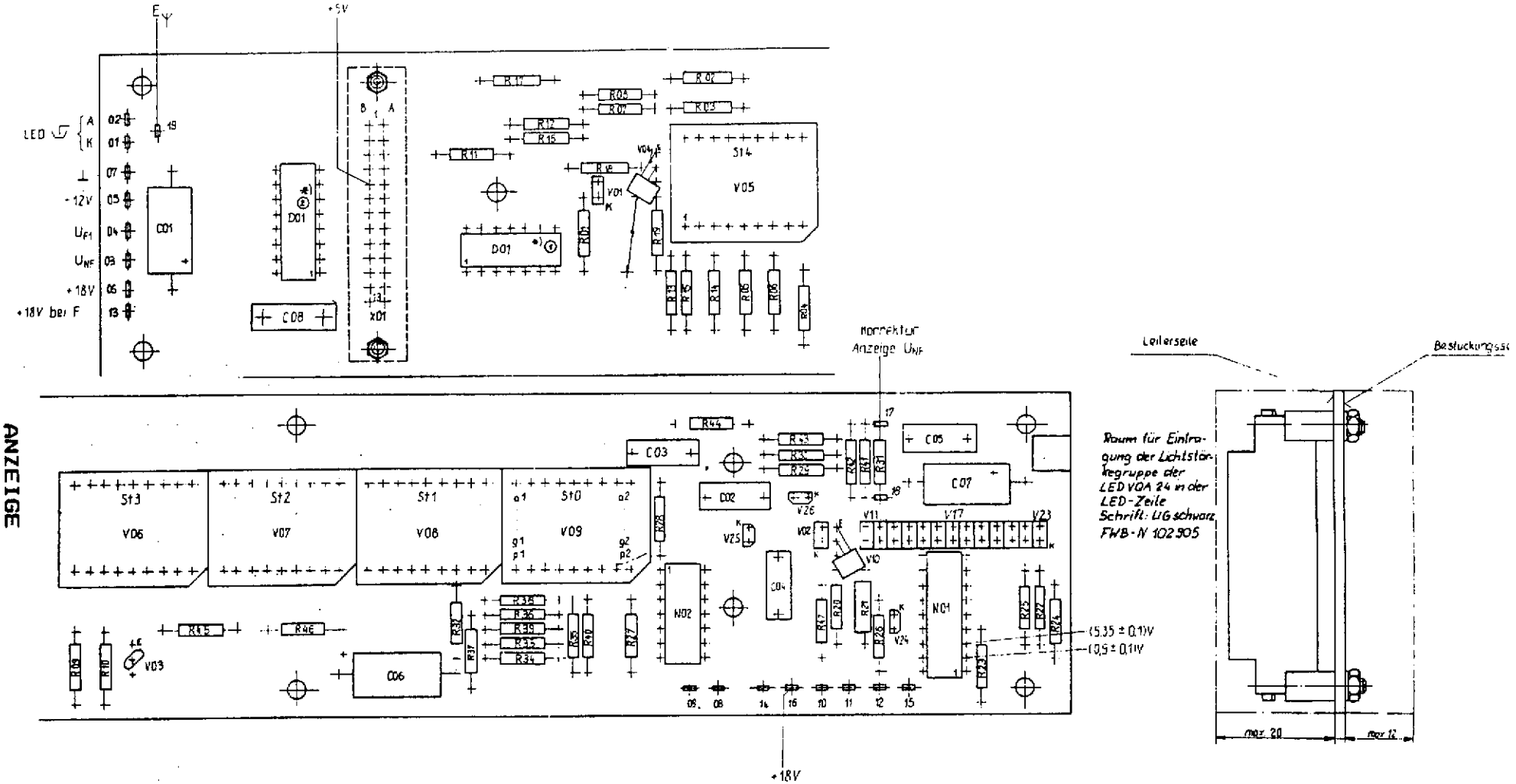
TASTATUR , VOLLSTÄNDIG
1340.041-01402 Sp



TASTATUR , VOLLSTÄNDIG
1340.041-01402



ANZEIGE
1340.041-01456 Sp



Anordnung der Bauelemente nach FWB-N 170.025 siehe Sl

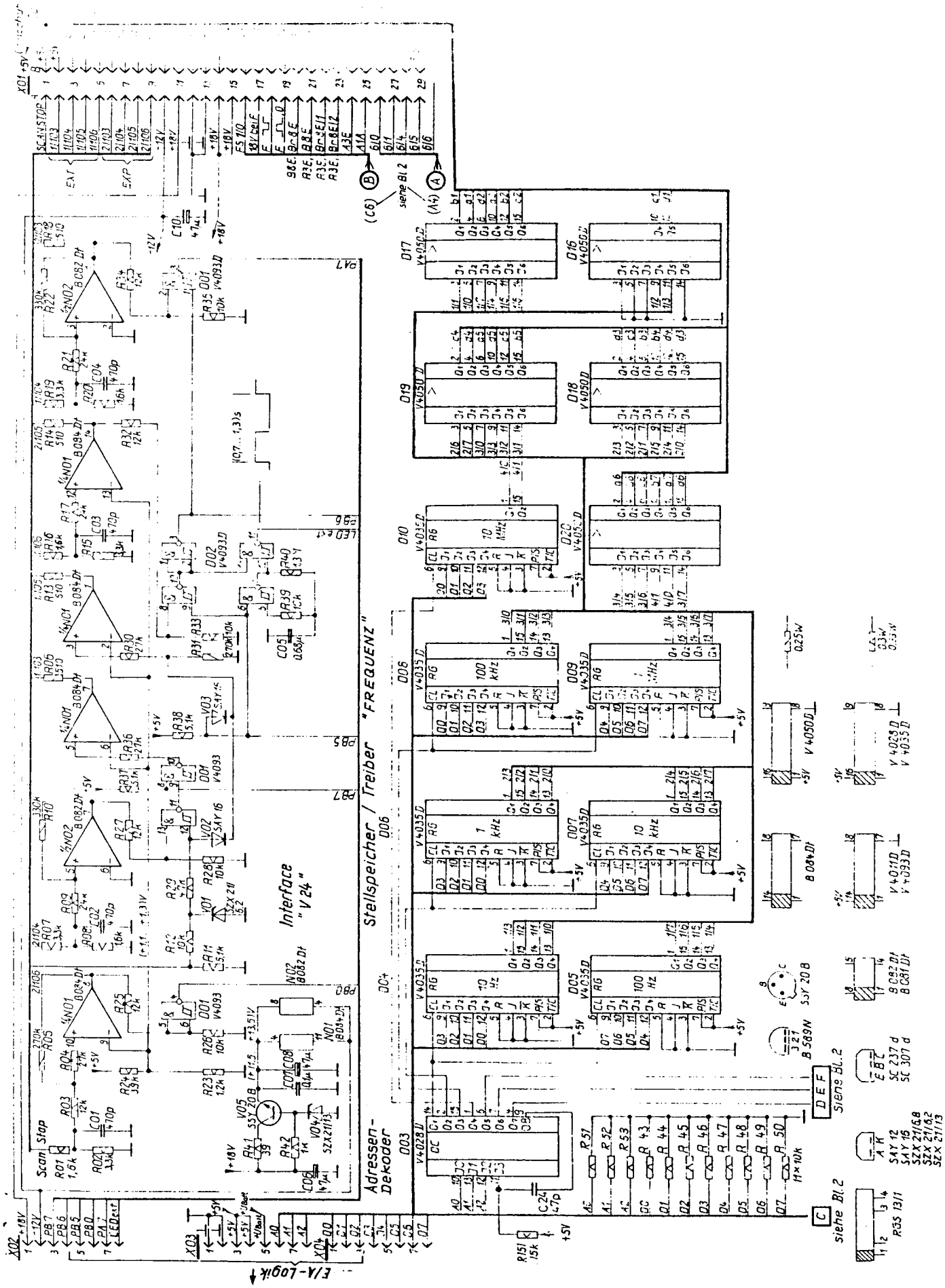
Sl wie gelabtet nach APA

Maßzahl in ( ) gilt nicht für die Bearbeitung

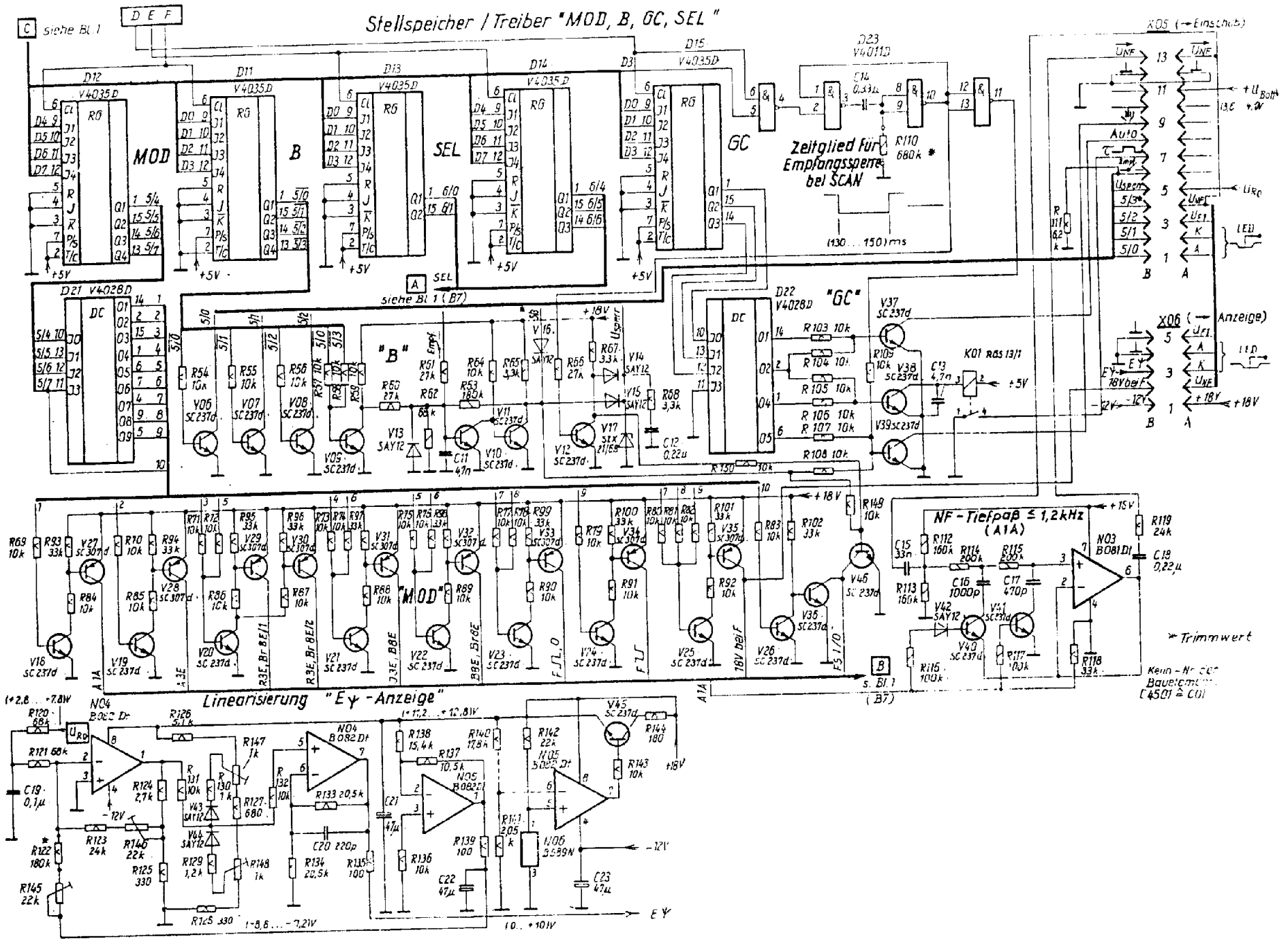
*) Wahlweise Bestückung

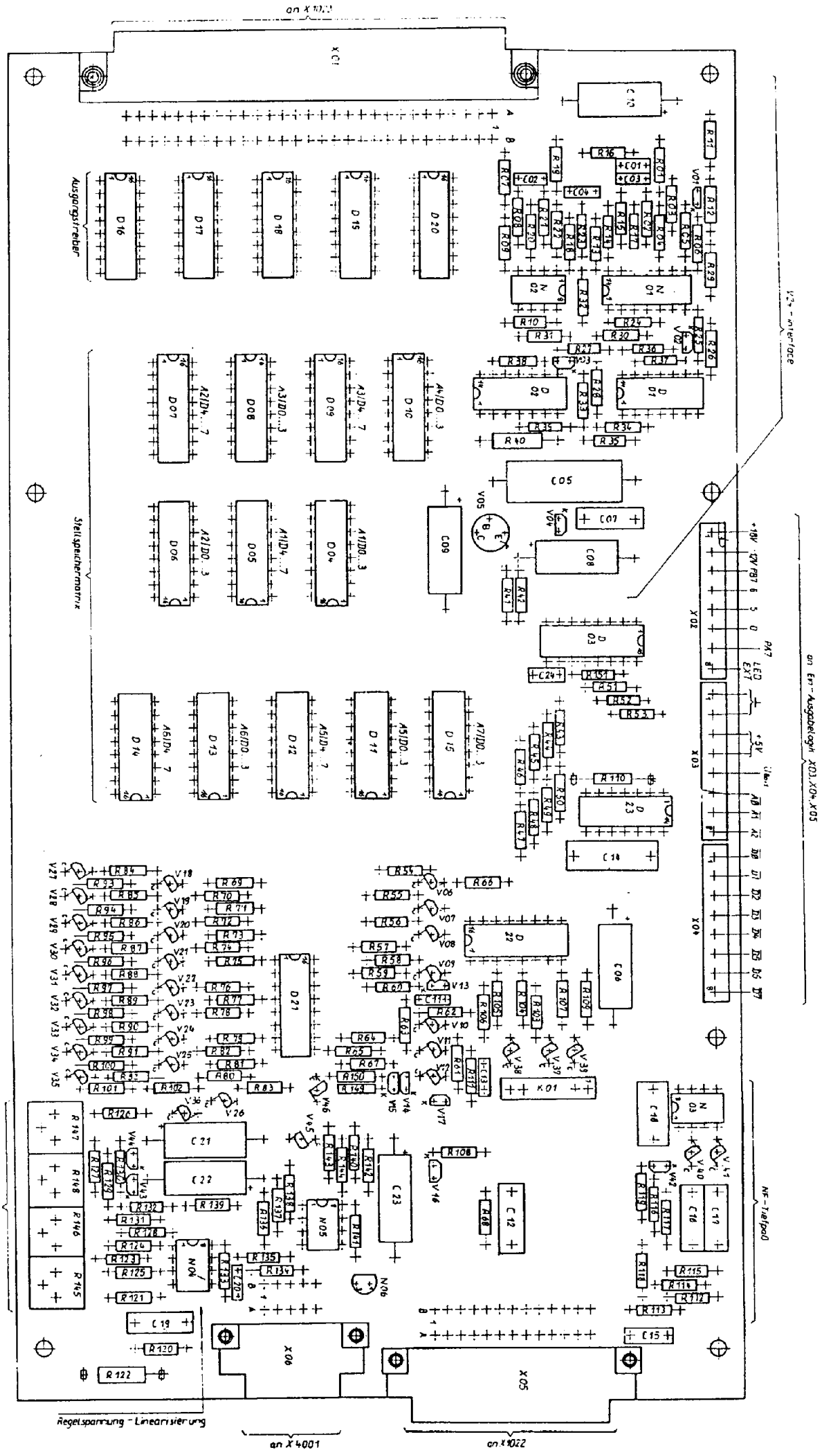
① Bei Einsatz von D492

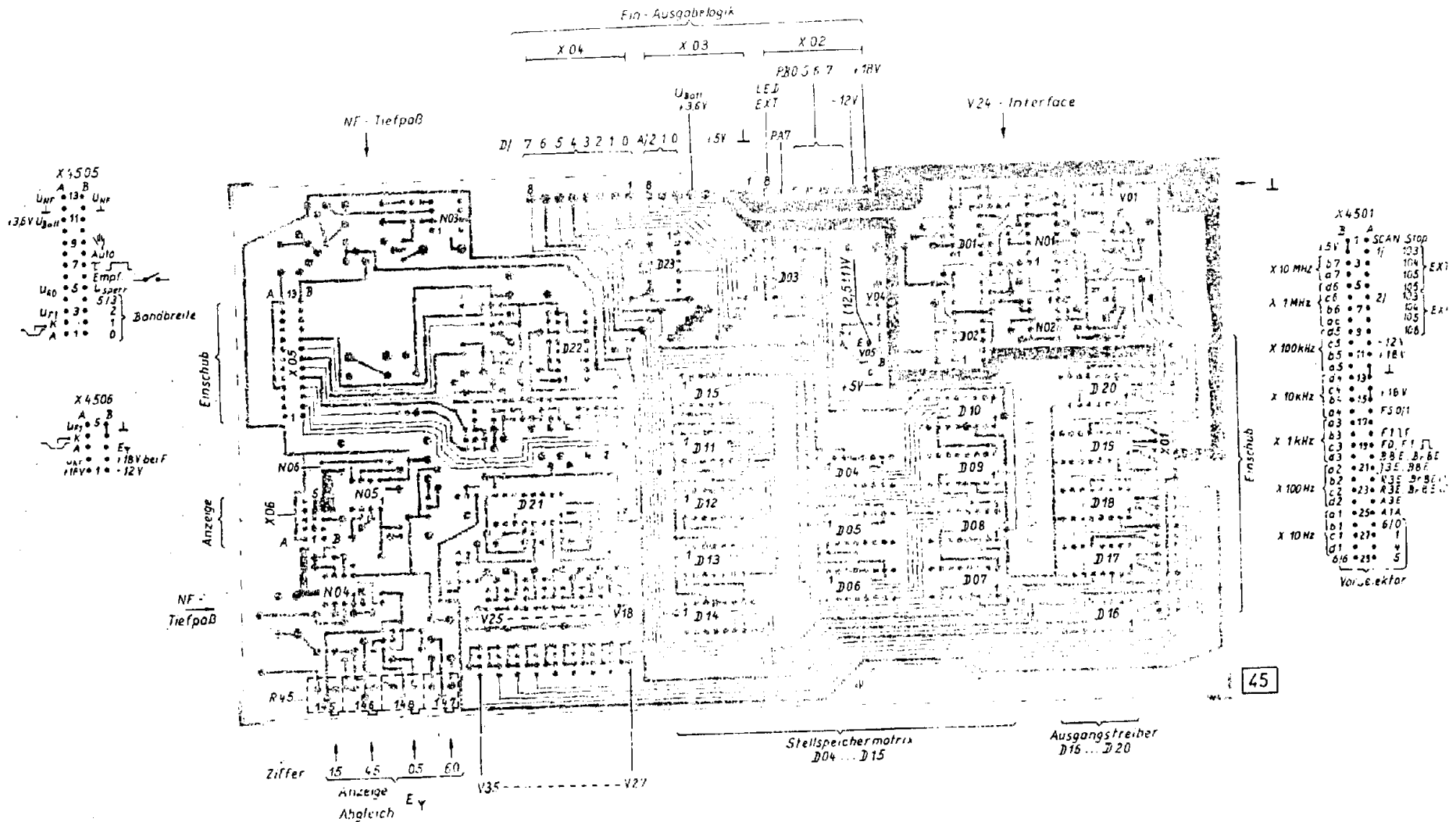
② Bei Einsatz der Ausweich BE

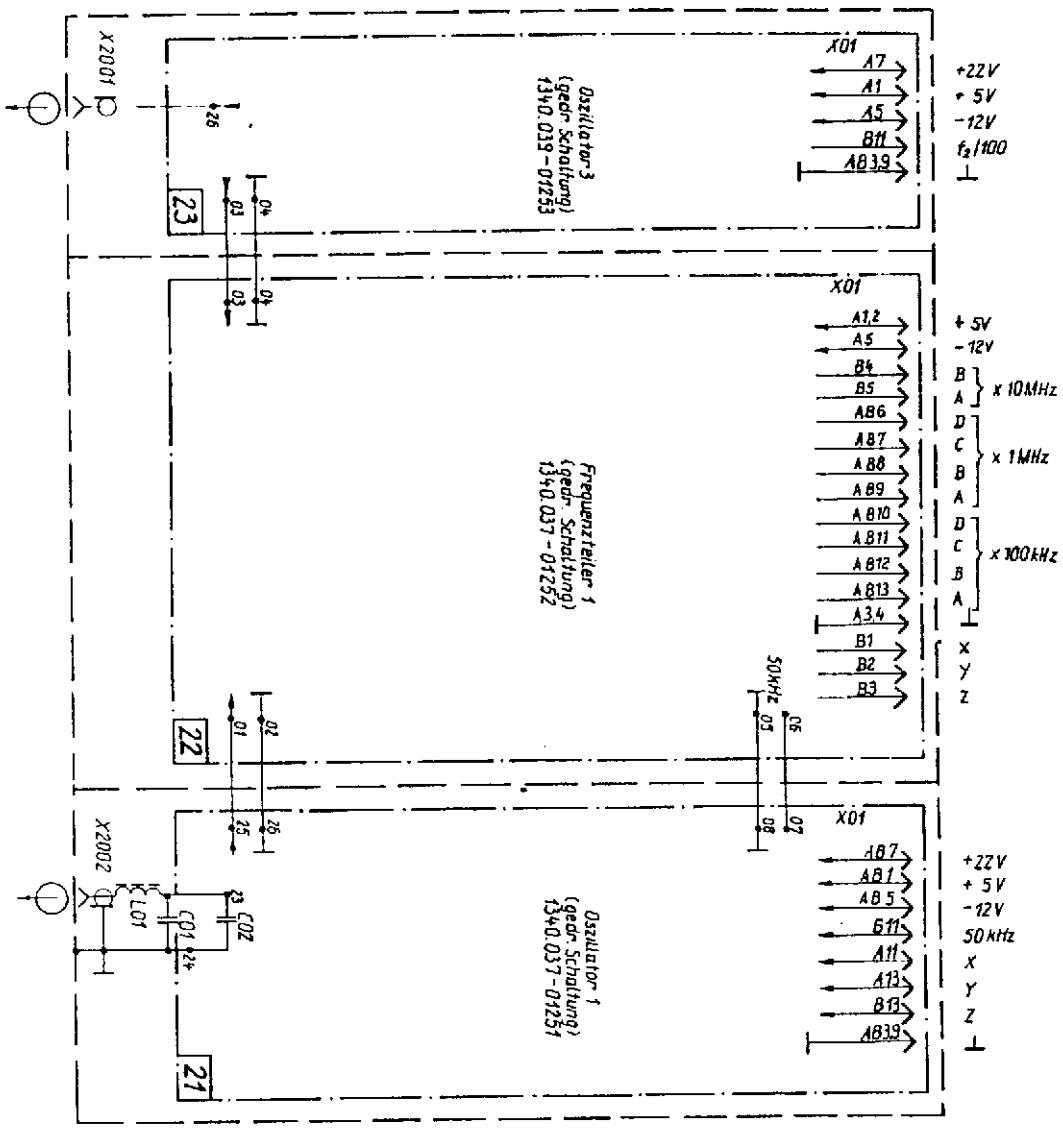


STELLSPEICHER
1340.041-01455 Sp Bl.1

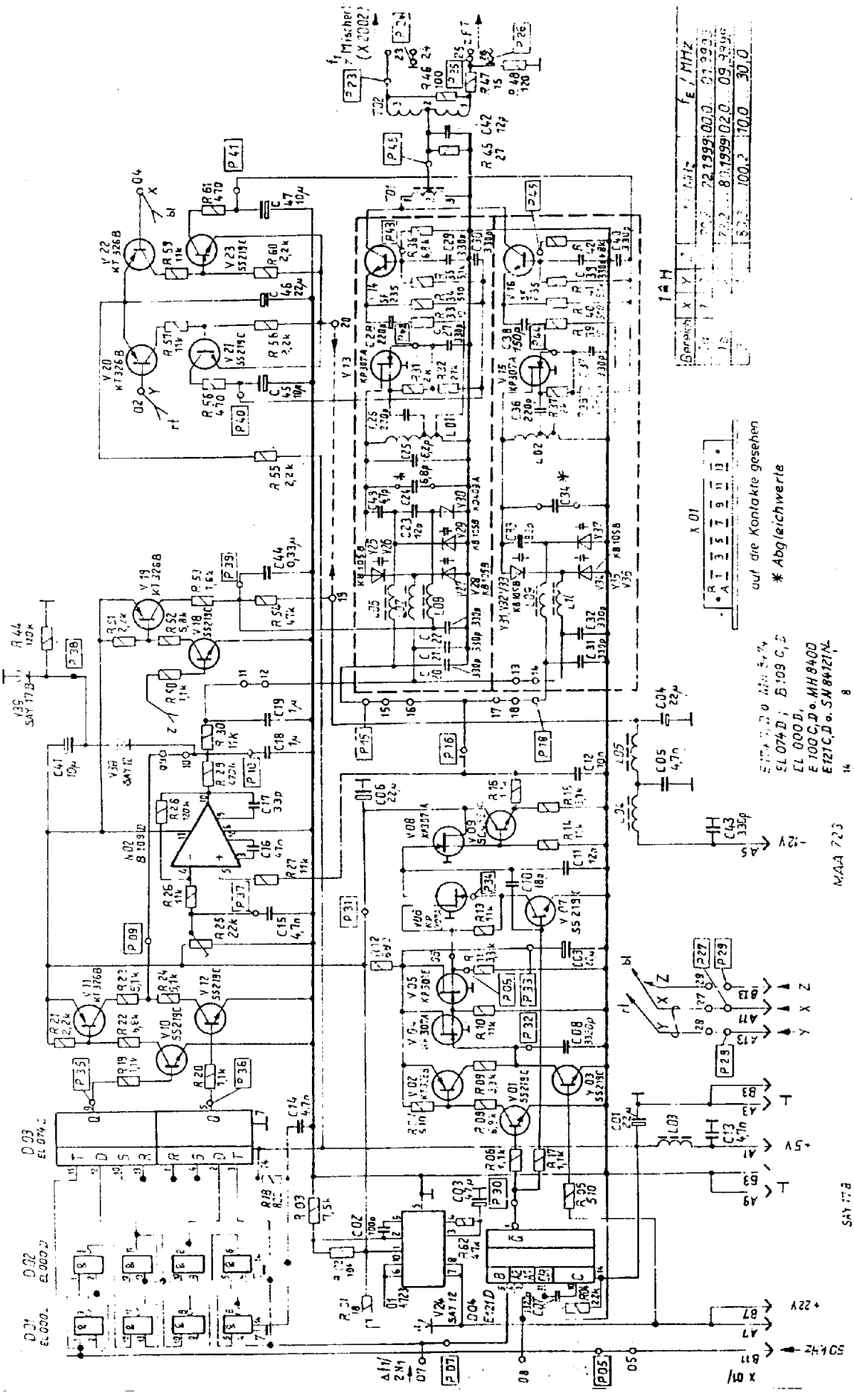

Stellspeicher / Treiber "MOD, B, GC, SEL"
MOD
B
SEL
GC
Zeitglied für Empfangsspeicher bei SCAN
(130 ... 150) ms
"B"
"MOD"
"GC"
NF - Tiefpaß ≤ 1,2kHz (A1A)
Linearisierung "Ey - Anzeige"
Ey
Trimmwert


an X1003
X01
Ausgangstreiber
Stellspeichermatrix
V24 - Interface
an Ein-Ausgabelogik X03,X04,X05
X02
X03
X04
X05
X06
Abgleich Anzeige Ein
Regelspannung - Linearisierung
an X4001
an X1022
NF-Teilpot

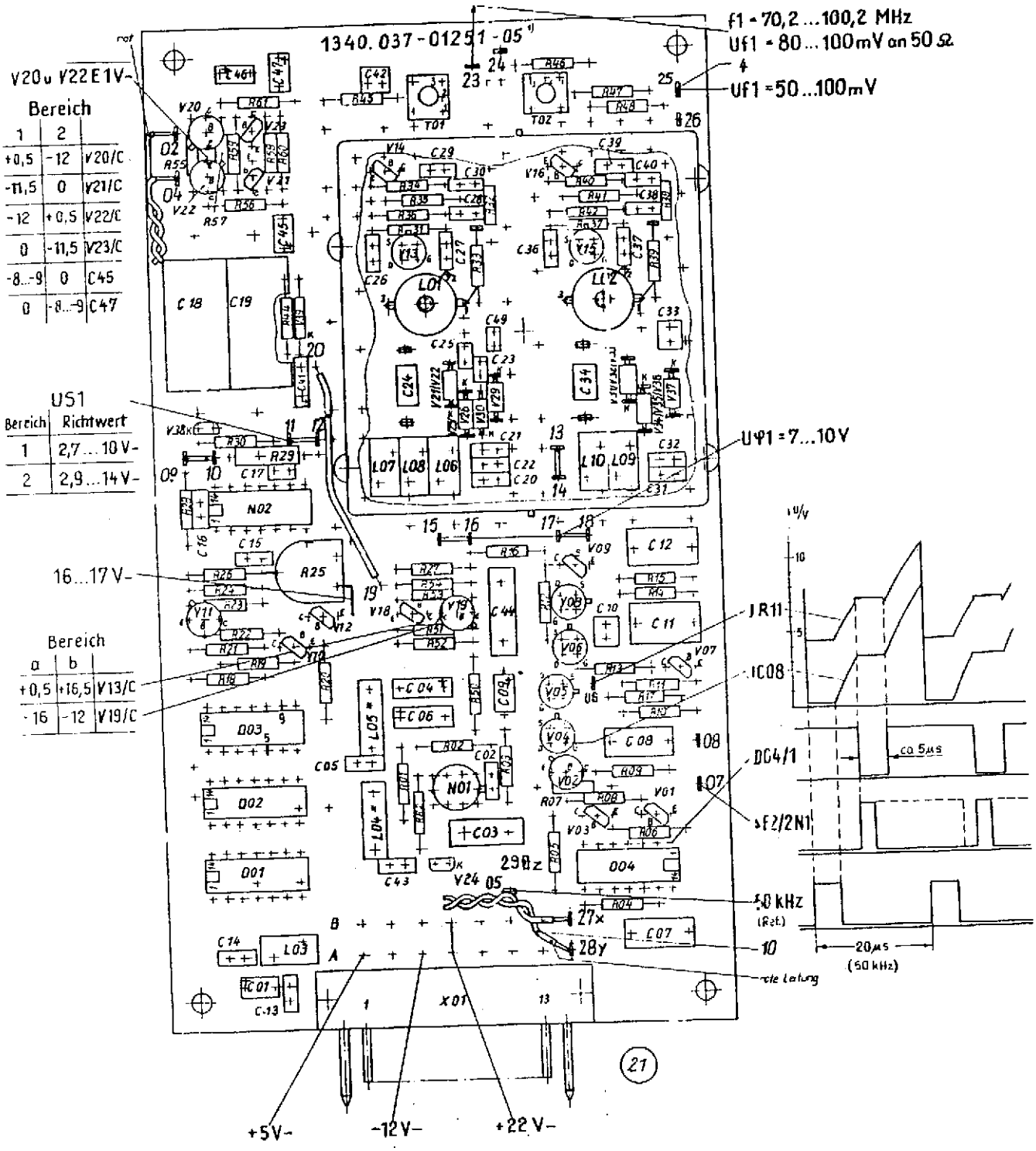

Ein-Ausgabelogik
X 04
X 03
X 02
NF - Tiefpaß
V24 - Interface
X4505
X4506
X4501
Bandbreite
Einschub
Anzeige
NF - Tiefpaß
Stellspeichermatrix
D04 ... D15
Ausgangstreiber
D16 ... D20
Ziffer
Anzeige Abgleich
Vorselektor
SCAN STOP
45



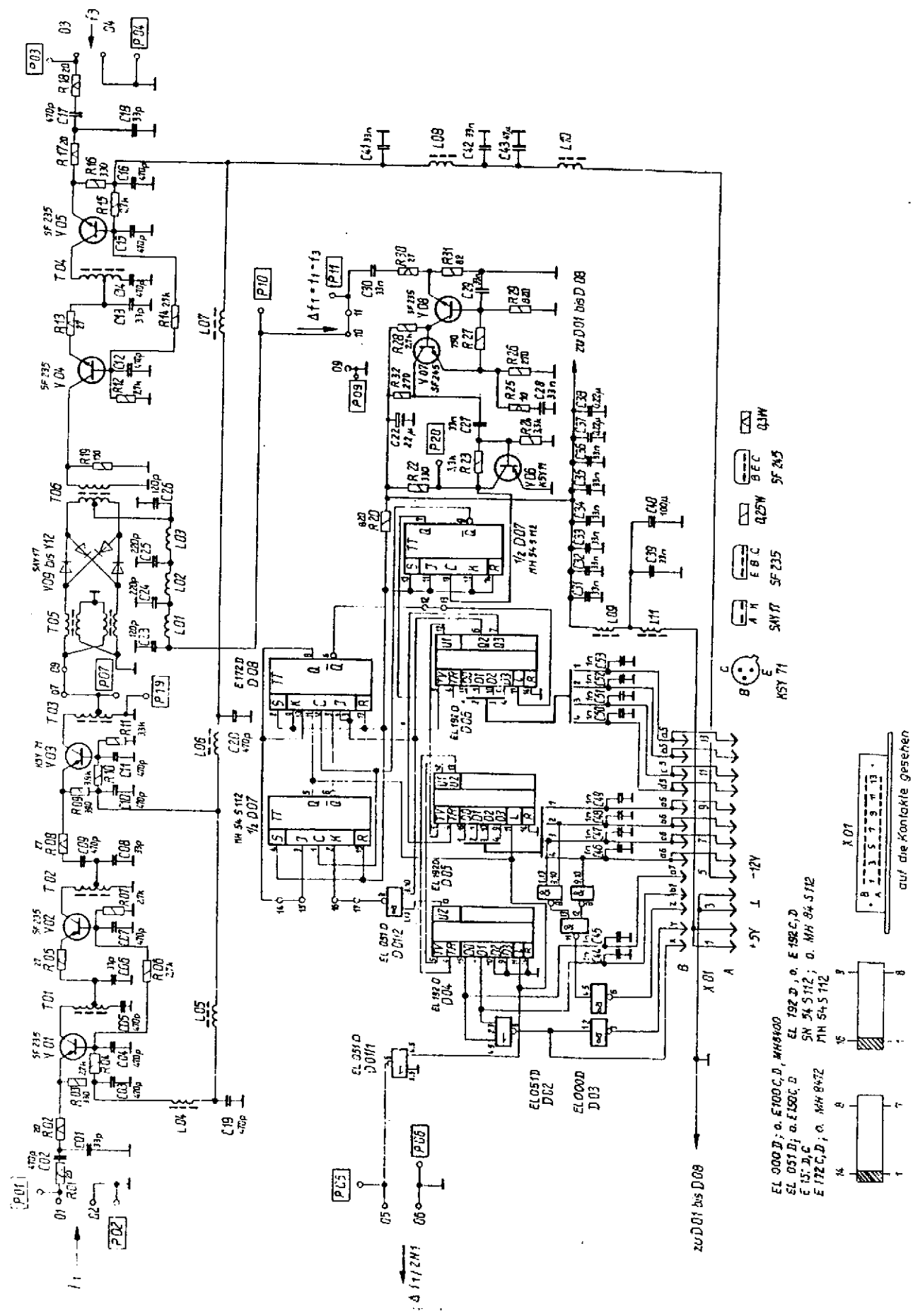
FREQUENZAUFBEREITUNG 1
1340.041-01211 Sp



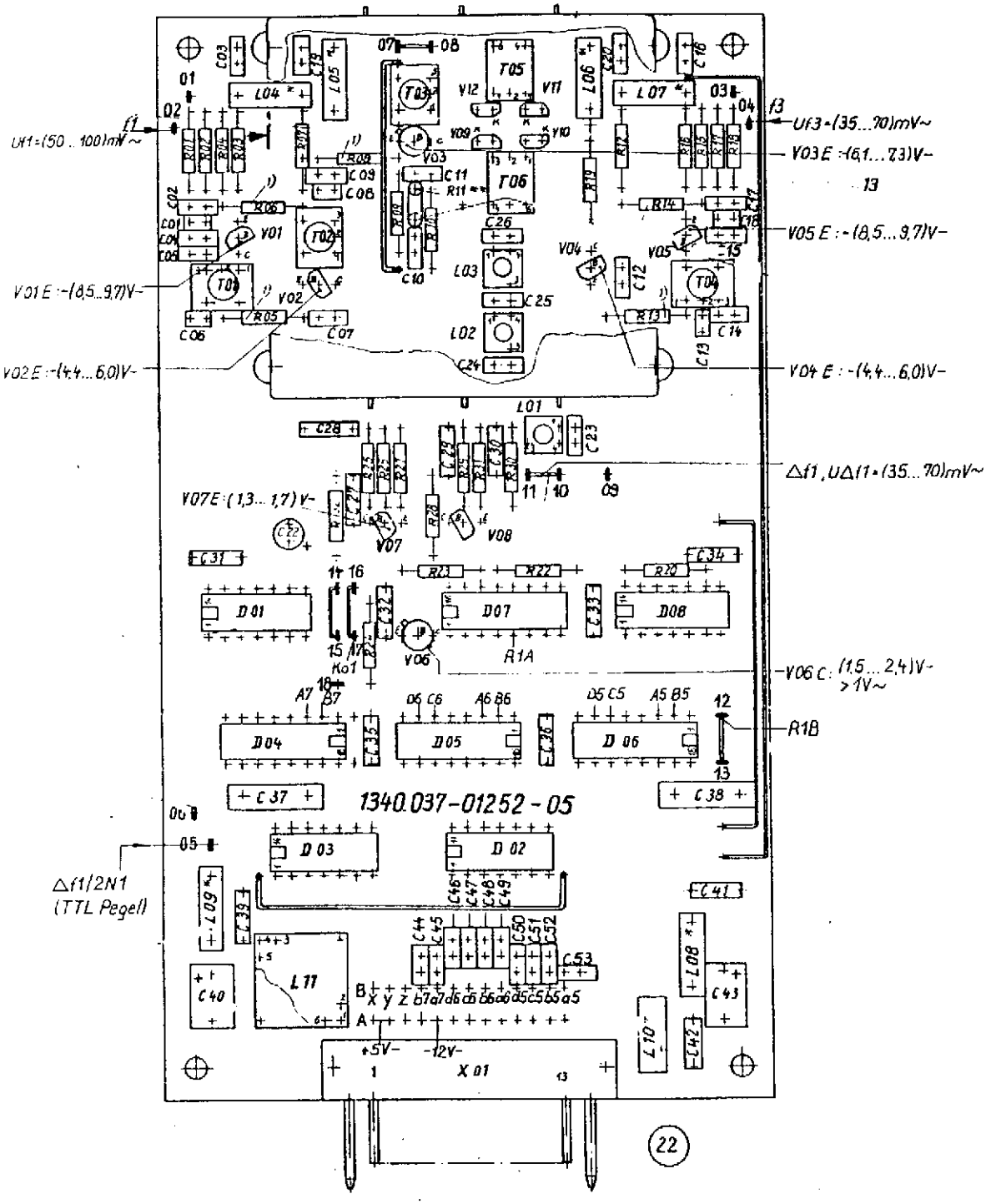
OSZILLATOR 1
1340.037-01251 Sp



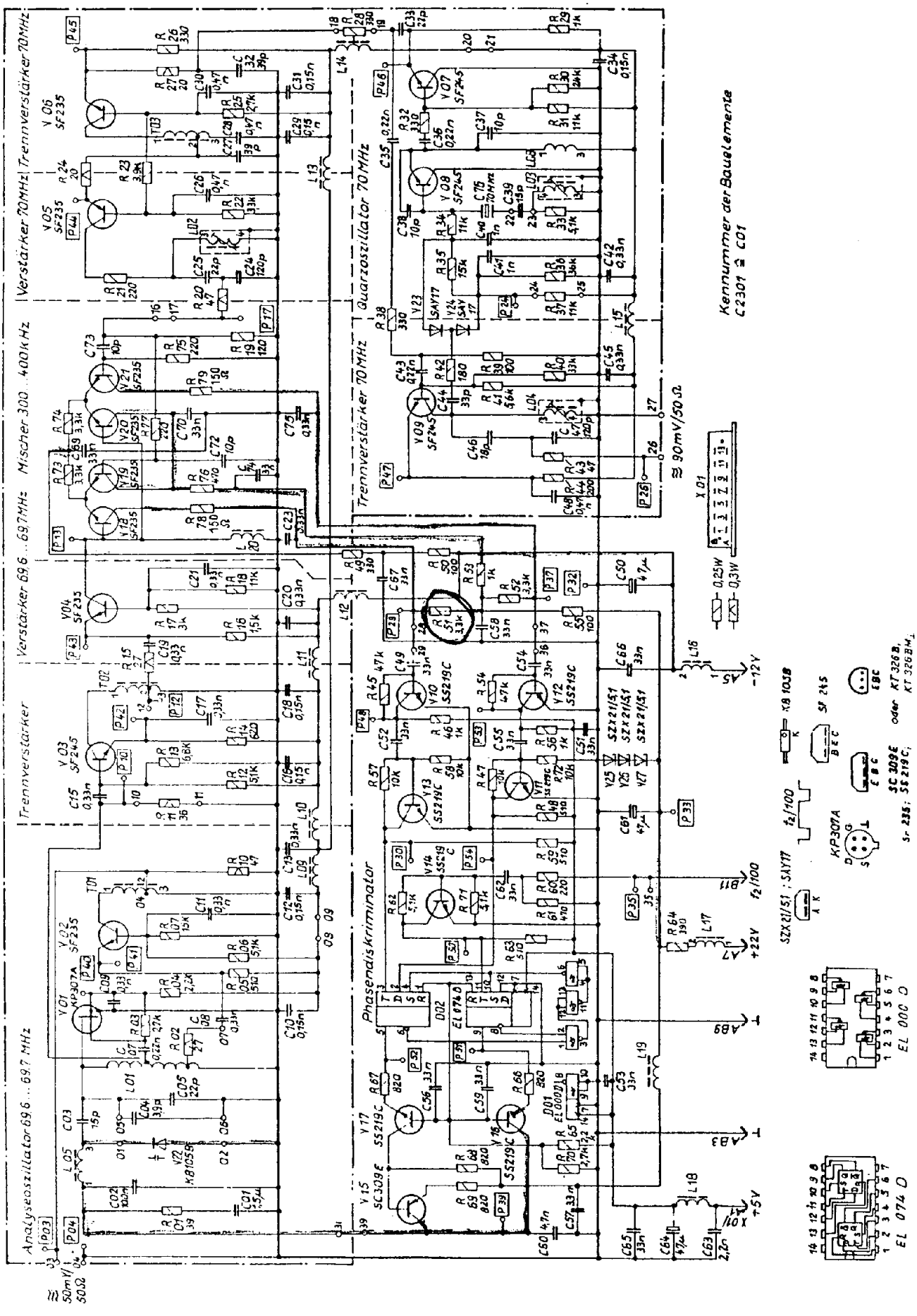
OSZILLATOR 1
1340.037-01251



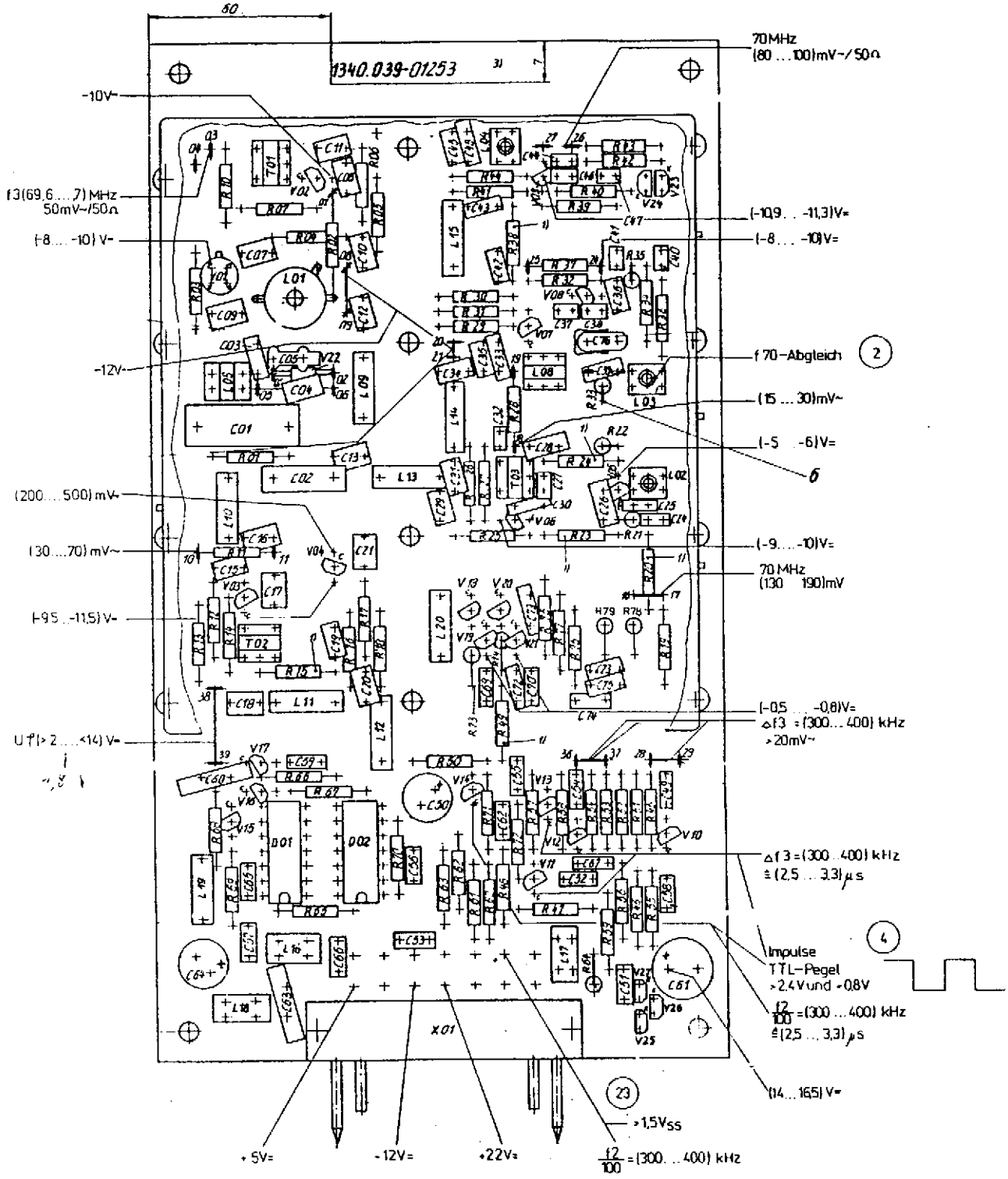
FREQUENZTEILER 1
1340.037-01252 Sp



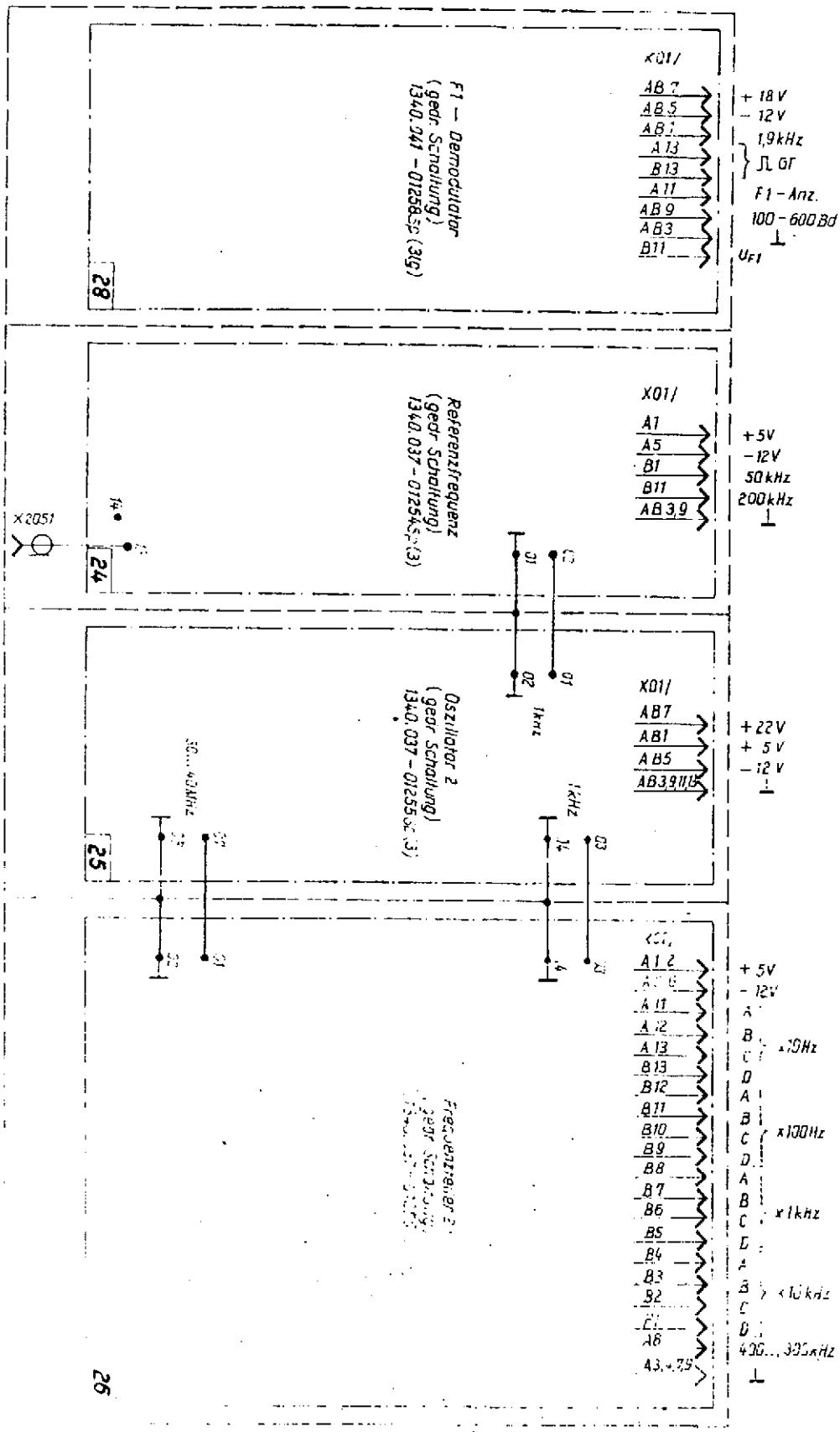
FREQUENZTEILER 1
1340.037-01252



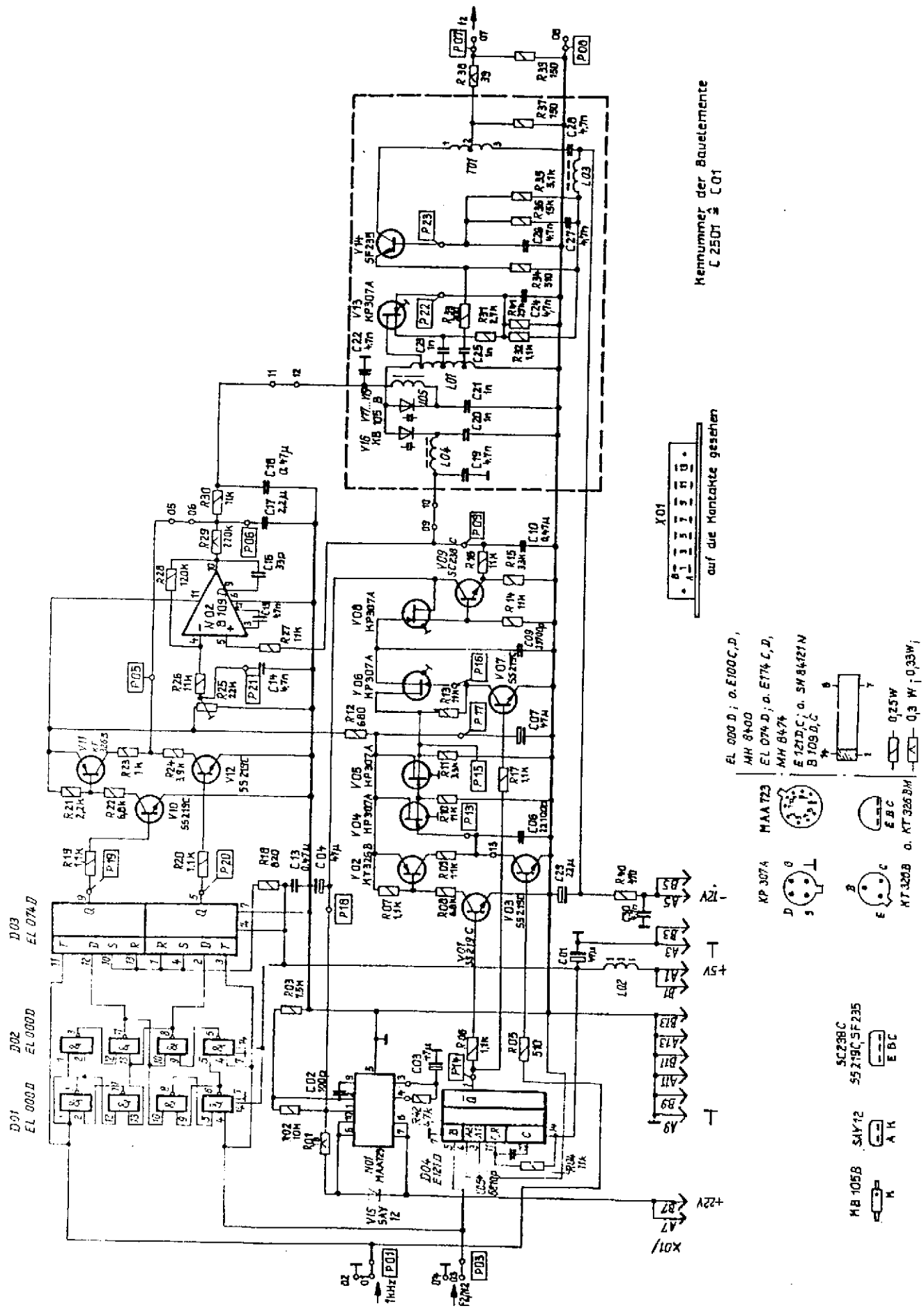
OSZILLATOR 3
1340.039-01253 Sp



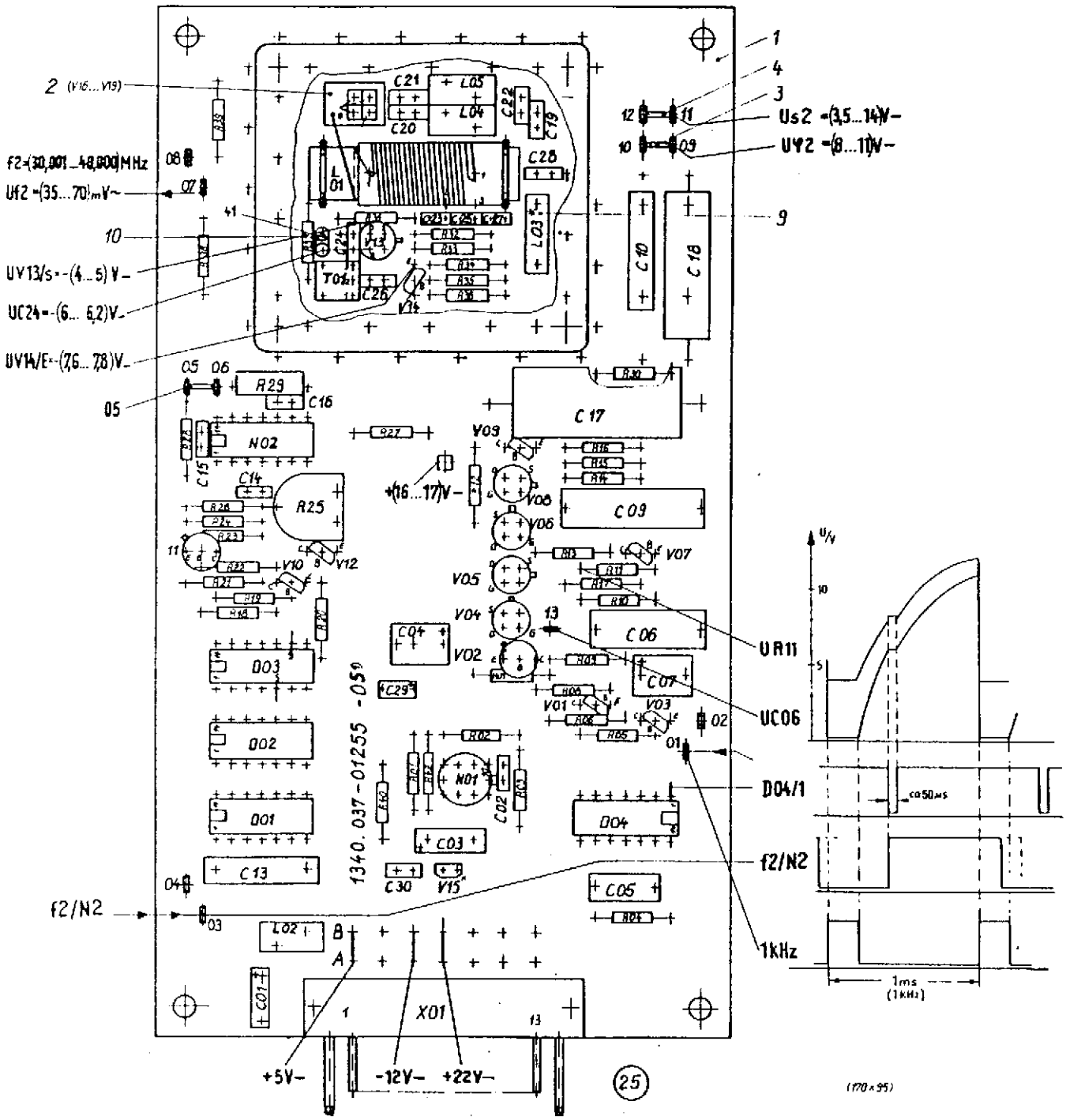
OSZILLATOR 3
1340.039-01253



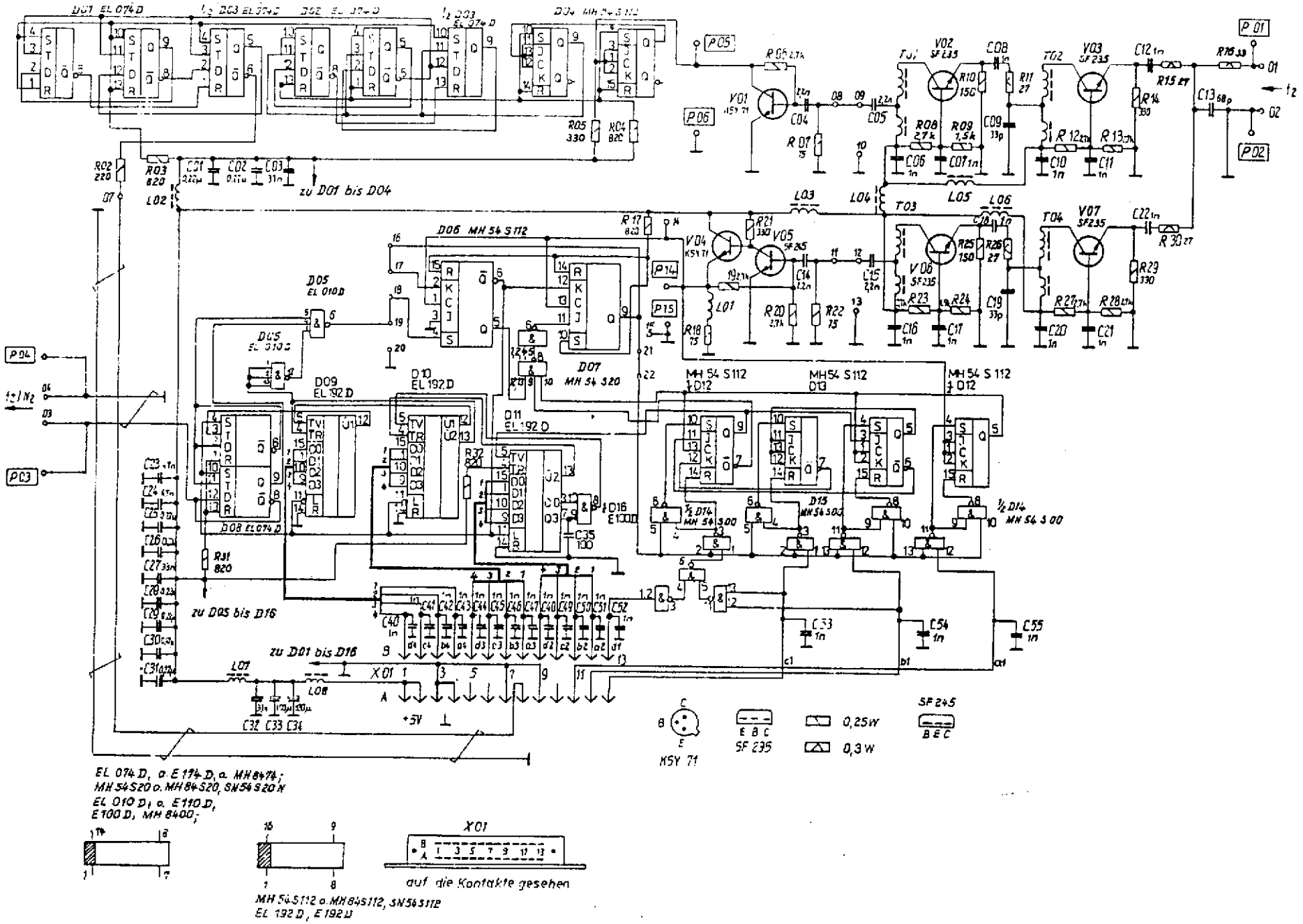
FREQUENZAUFBEREITUNG 2 und F1-DEMODULATOR
1340.041-01221 Sp

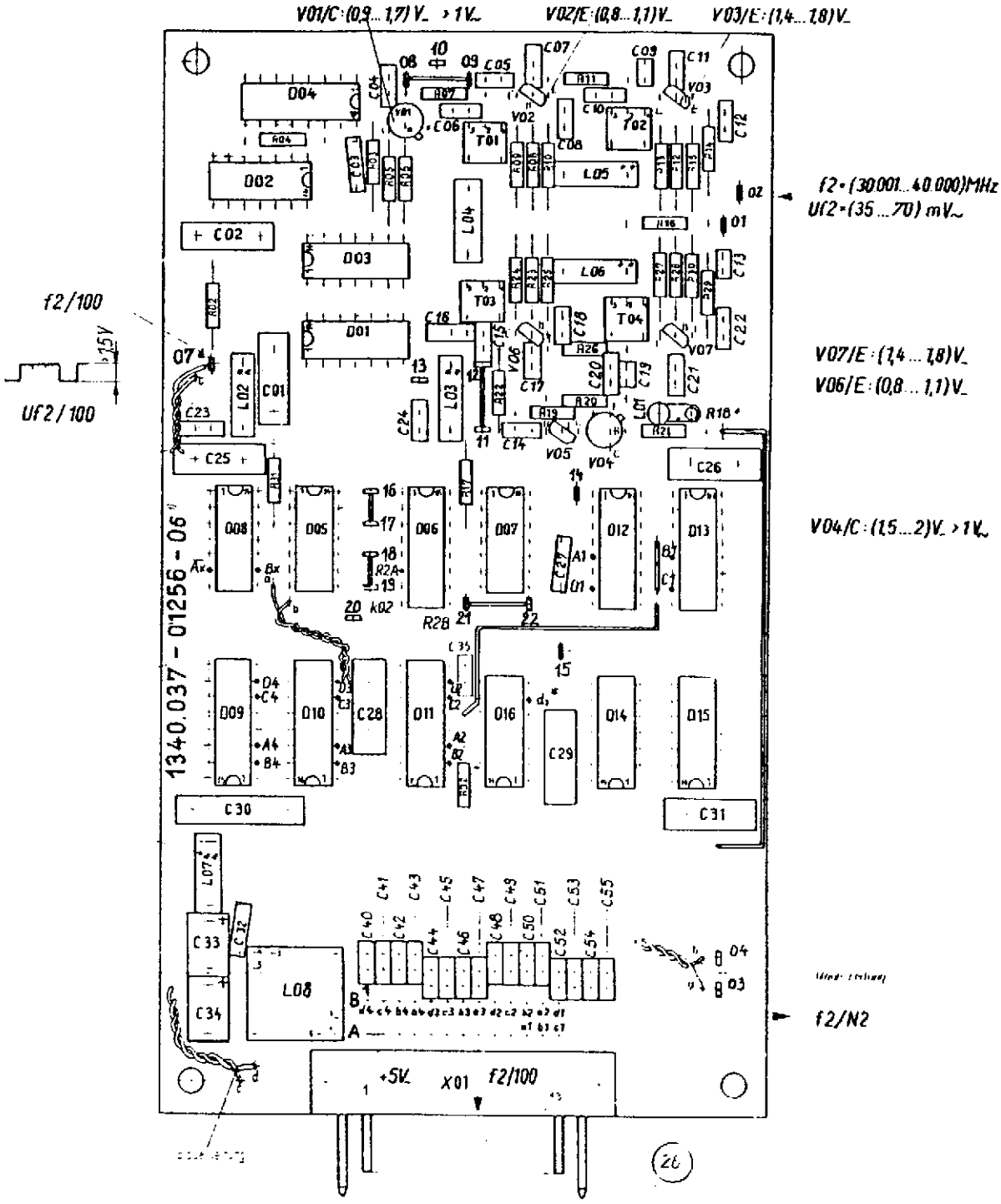


OSZILLATOR 2
1340.037-01255 Sp

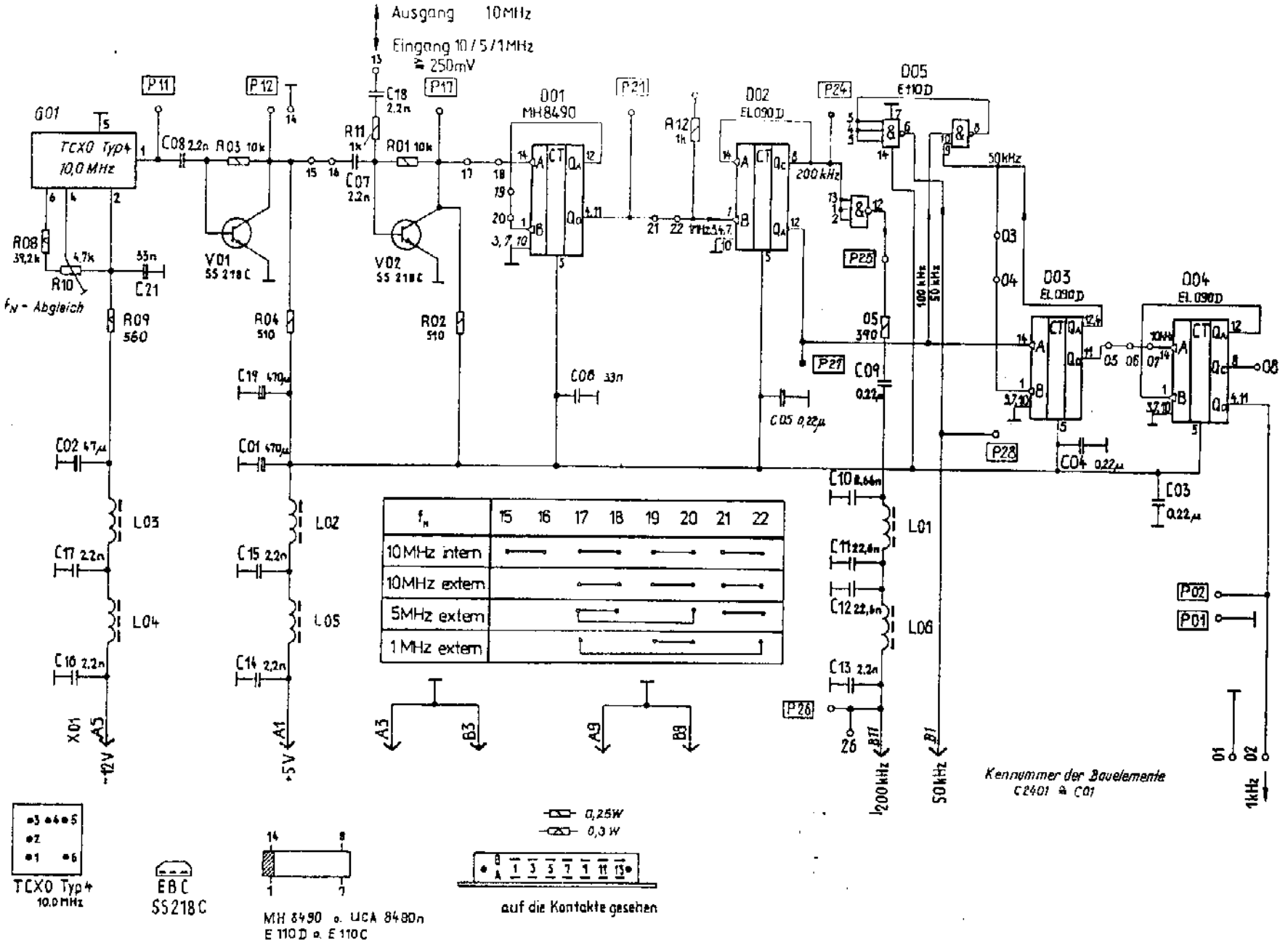


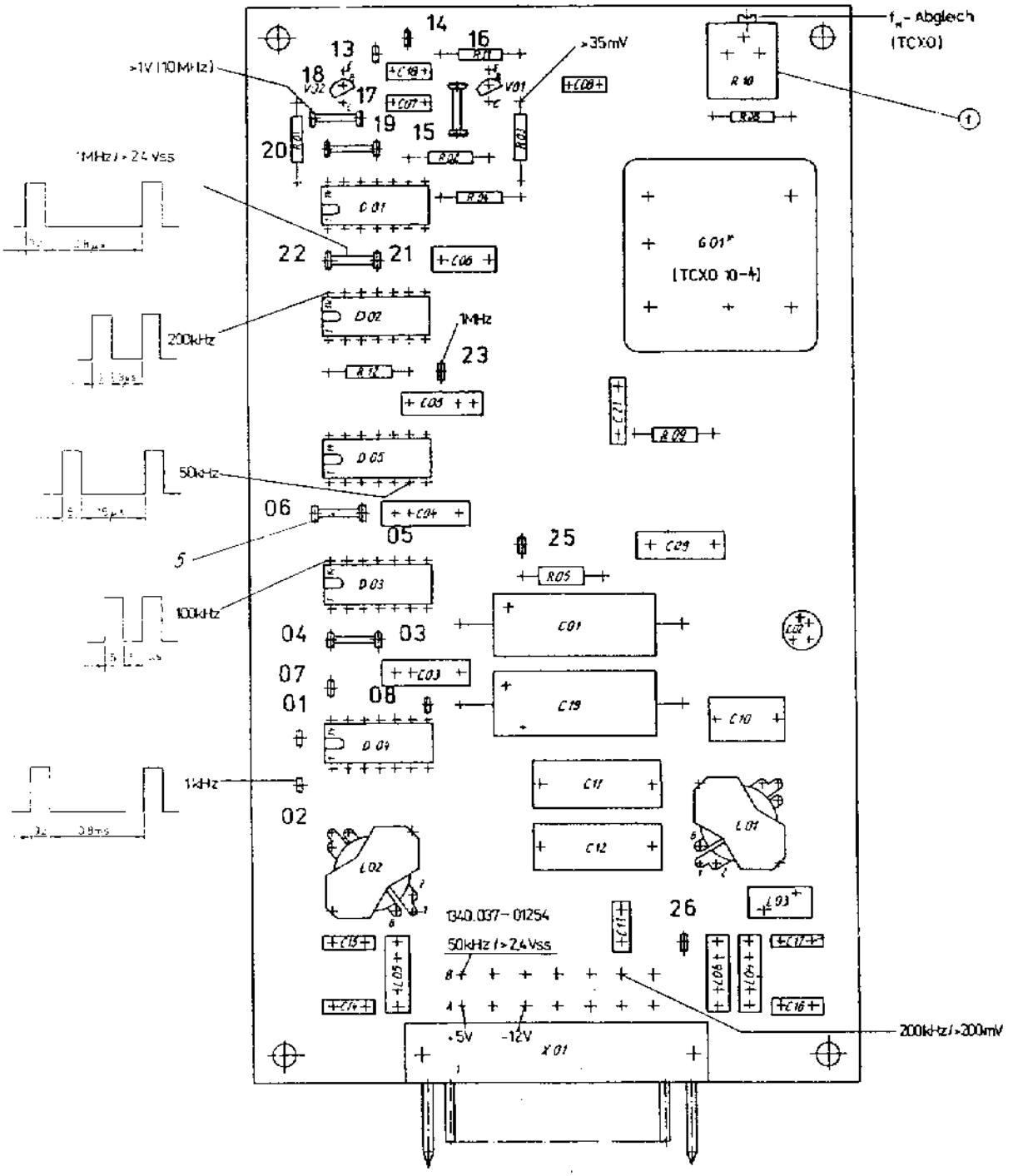
OSZILLATOR 2
1340.037-01255


zu D01 bis D04
zu D05 bis D16
zu D01 bis D16
auf die Kontakte gesehen
EL 074 D, o. E 174 D, o. MH 8474;
MH 54 S 20 o. MH 84 S 20, SN 56 S 20 N
EL 010 D1 o. E 110 D,
E 100 D, MH 8400;
MH 54 S 112 o. MH 84 S 112, SN 56 S 112
EL 192 D, E 192 D
KSY 71
SF 235
SF 245
0,25 W
0,3 W



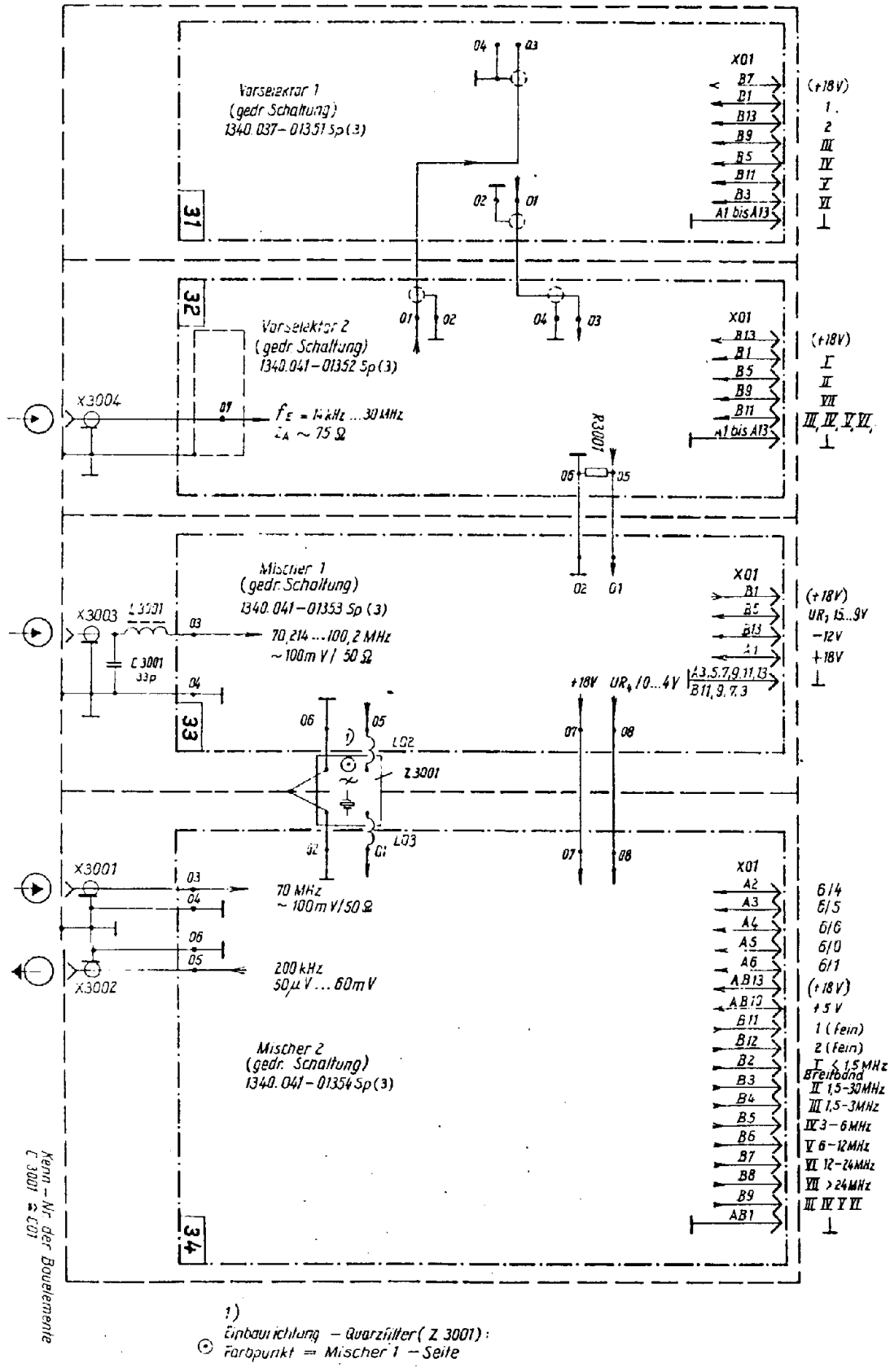
FREQUENZTEILER 2
1340.037-01256


Ausgang 10MHz
Eingang 10/5/1MHz
≙ 250mV
G01
TCXO Typ4
10,0 MHz
D01
MH8490
D02
EL090D
D03
EL090D
D04
EL090D
D05
E110D
fN - Abgleich
VD1
SS 218C
VD2
SS 218C
200kHz
100kHz
50kHz
10kHz
1kHz
fN
15 16 17 18 19 20 21 22
10MHz intern
10MHz extern
5MHz extern
1MHz extern
Kennummer der Bauelemente
C2401 ≙ C01
TCXO Typ4
10,0 MHz
EBC
SS218C
Ansicht von unten
MH 8490 o. UCA 8480n
E 110D o. E 110C
EL 090D
0,25W
0,3W
auf die Kontakte gesehen



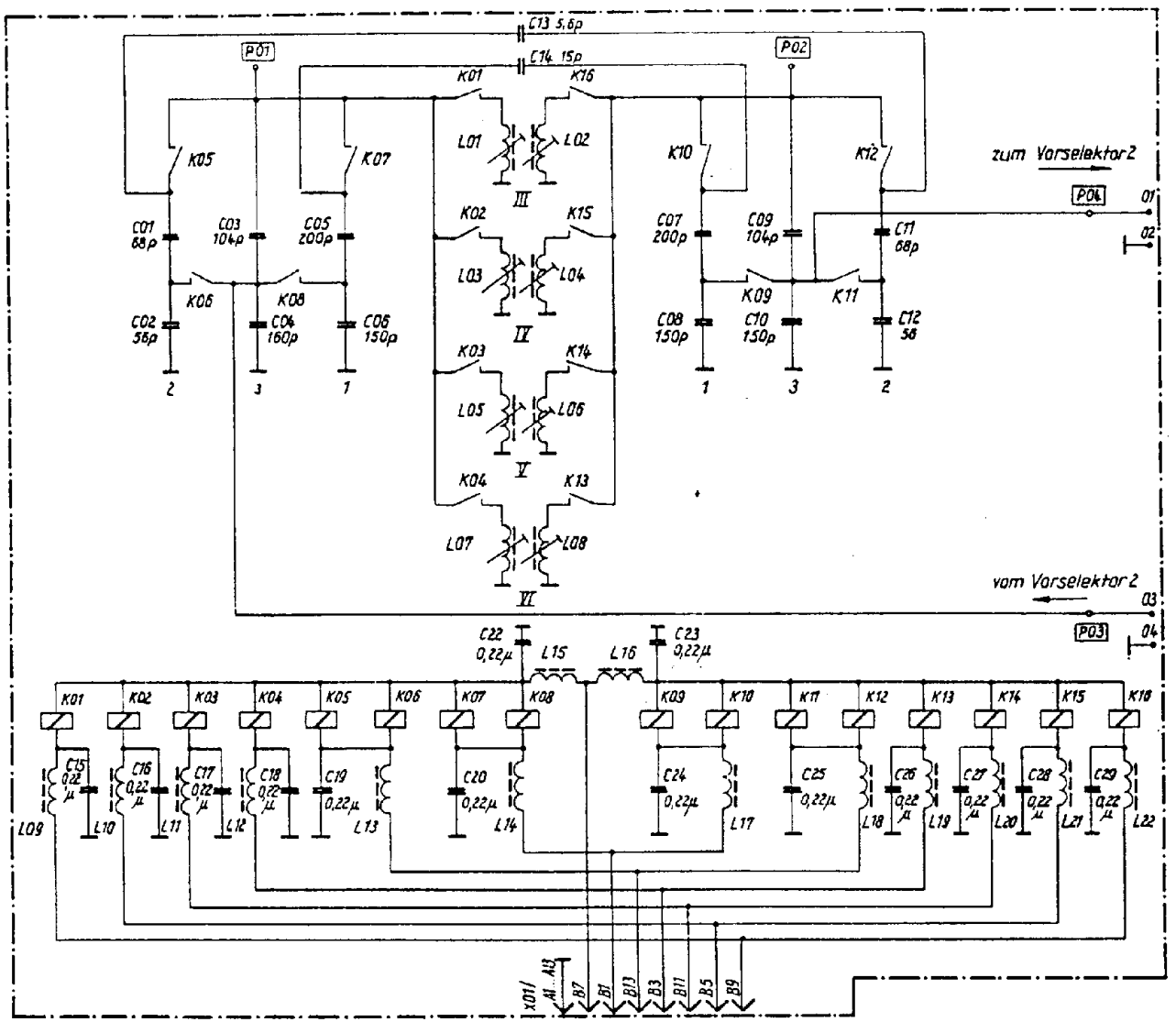
REFERENZFREQUENZ
1340.037-01254

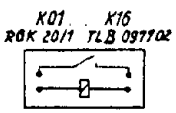
Gilt auch für Signalweg 1
1340.041-01312



1)
Einbaurichtung – Quarzfilter (Z 3001):
⊙ Farbpunkt = Mischer 1 – Seite

SIGNALWEG 1
1340.041-01311 Sp

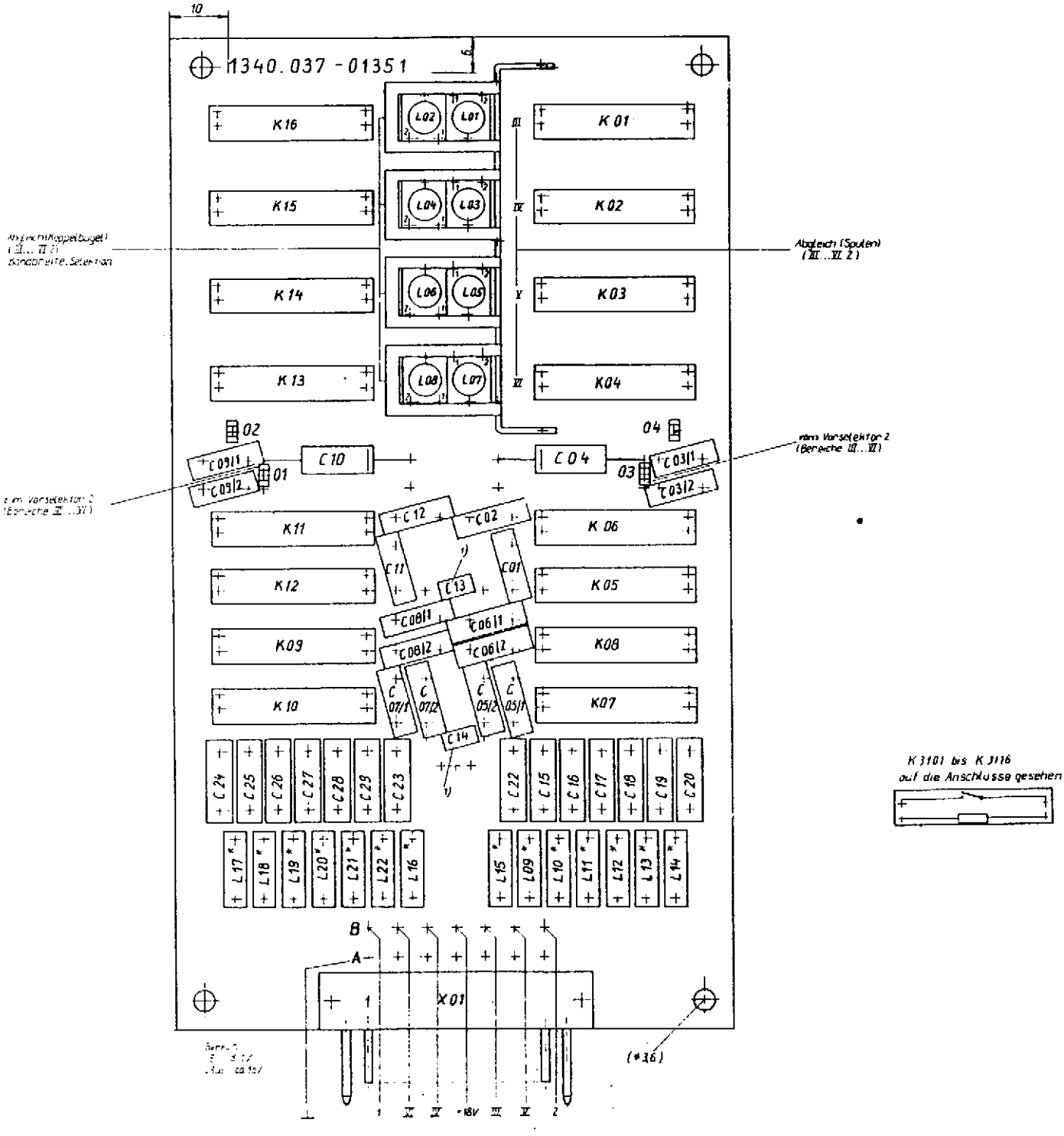




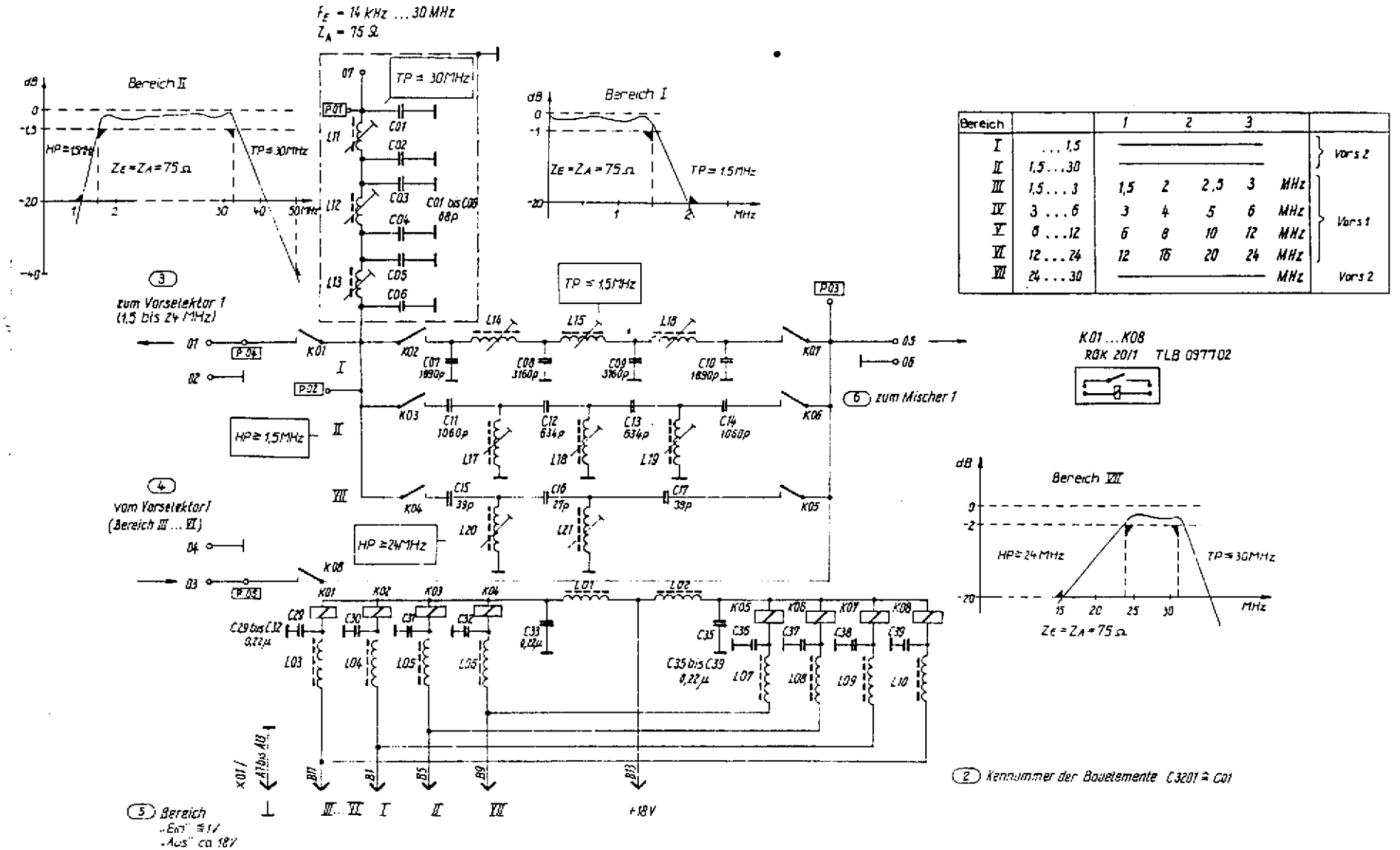
auf die Anschlußseite gesehen

		1	2 *)	3	
III	1,5 ... 3	1,5 ... 2	... 2,5 ...	3	MHz
IV	3 ... 6	3 ... 4	... 5 ...	6	MHz
V	6 ... 12	6 ... 8	... 10 ...	12	MHz
VI	12 ... 24	12 ... 16	... 20 ...	24	MHz

*) Abgleichstellung



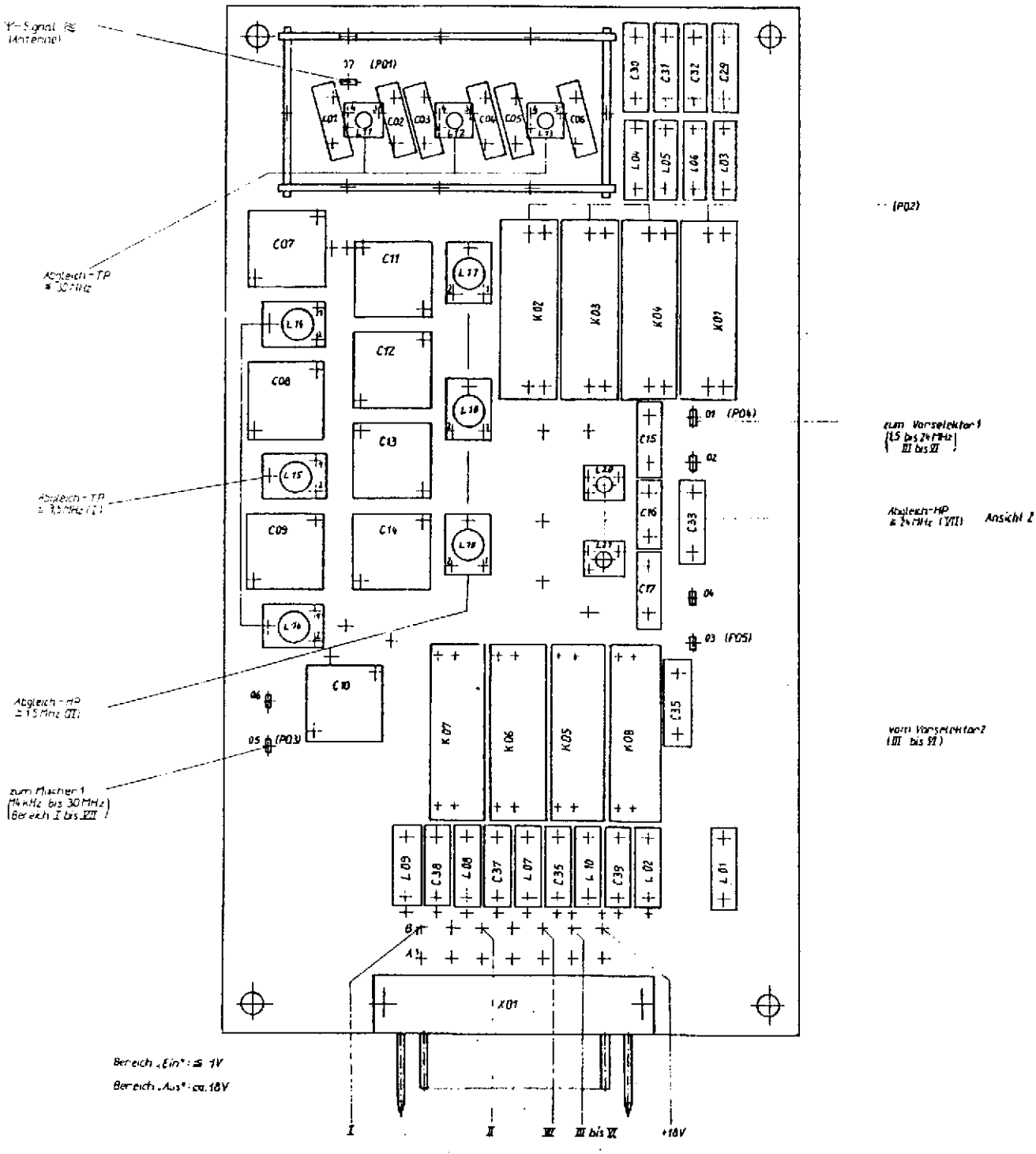
VORSELEKTOR 1
1340.037-01351



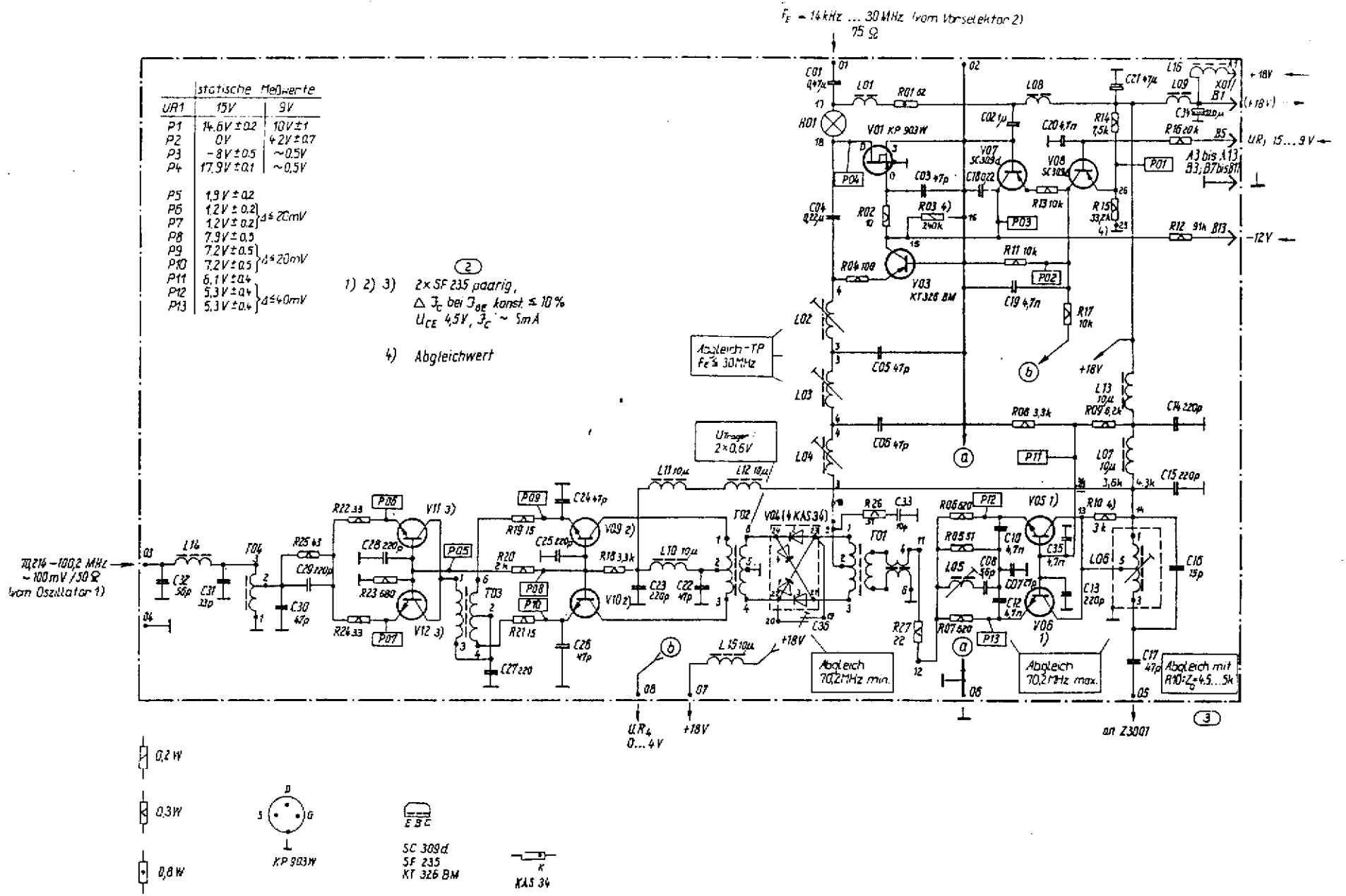
Bereich		1	2	3		
I	... 1,5					Vors 2
II	1,5 ... 30					
III	1,5 ... 3	1,5	2	2,5	3	MHz
IV	3 ... 6	3	4	5	6	MHz
V	6 ... 12	6	8	10	12	MHz
VI	12 ... 24	12	16	20	24	MHz
VII	24 ... 30					MHz

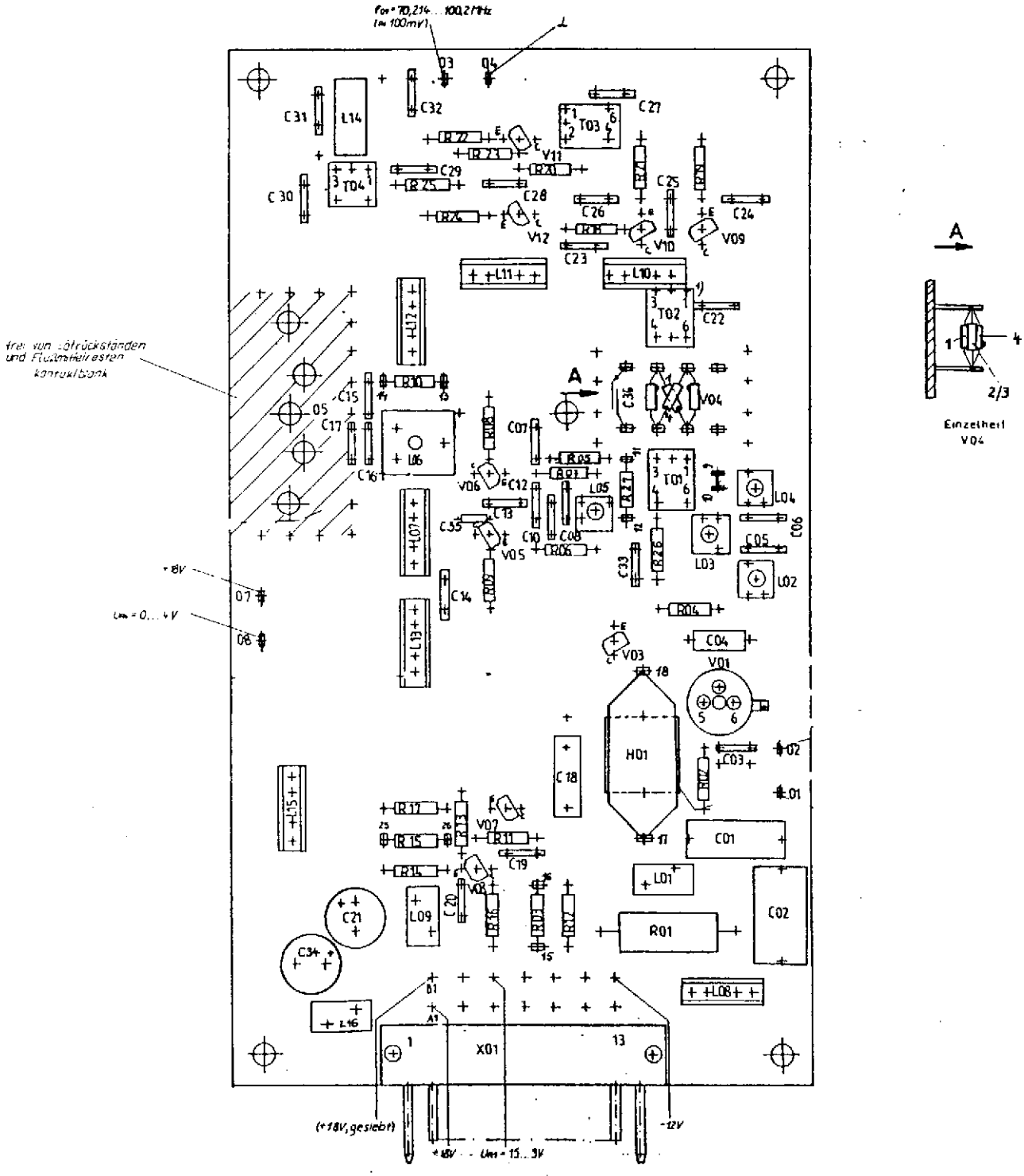
Vors 1

Vors 2

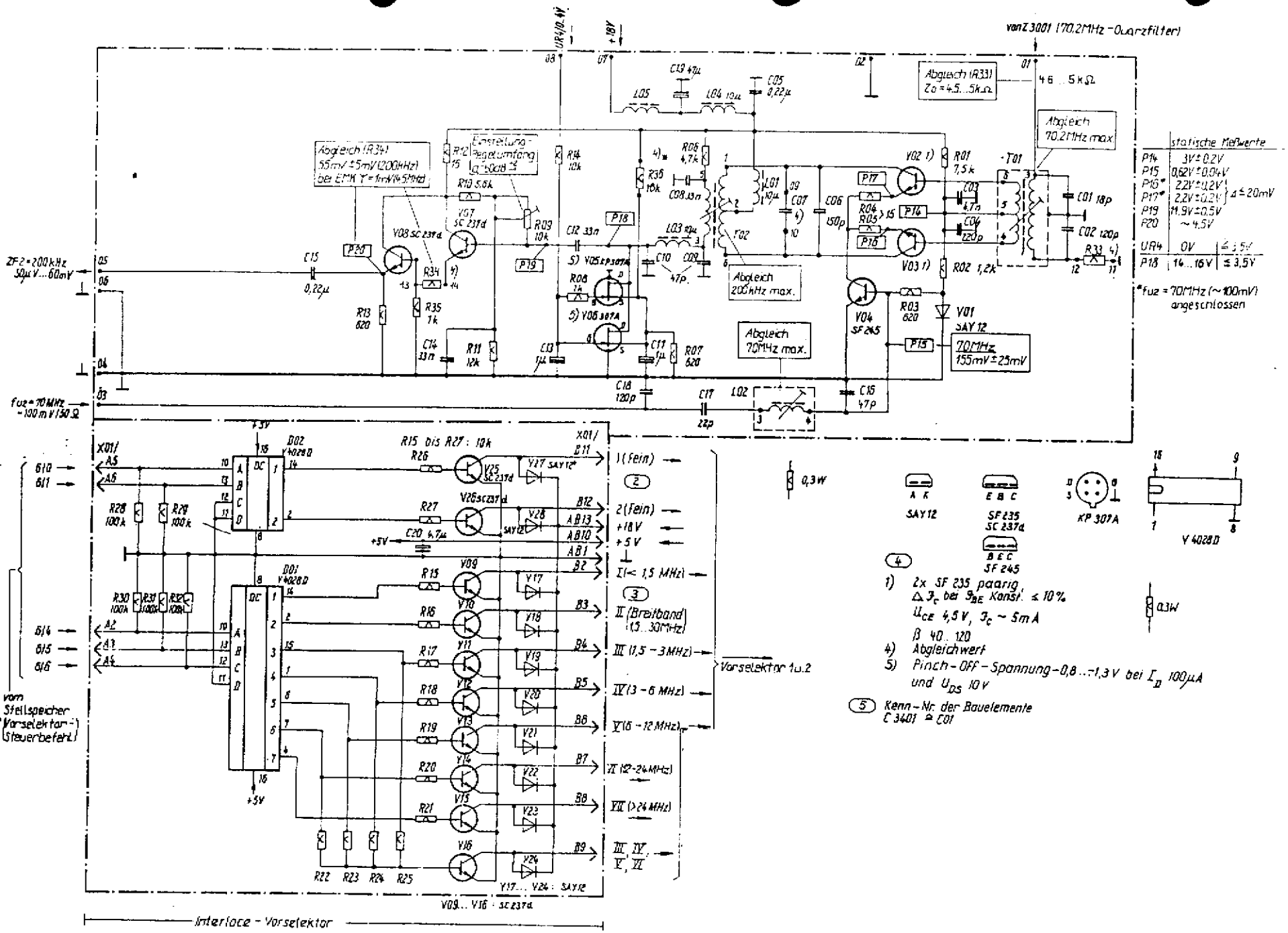


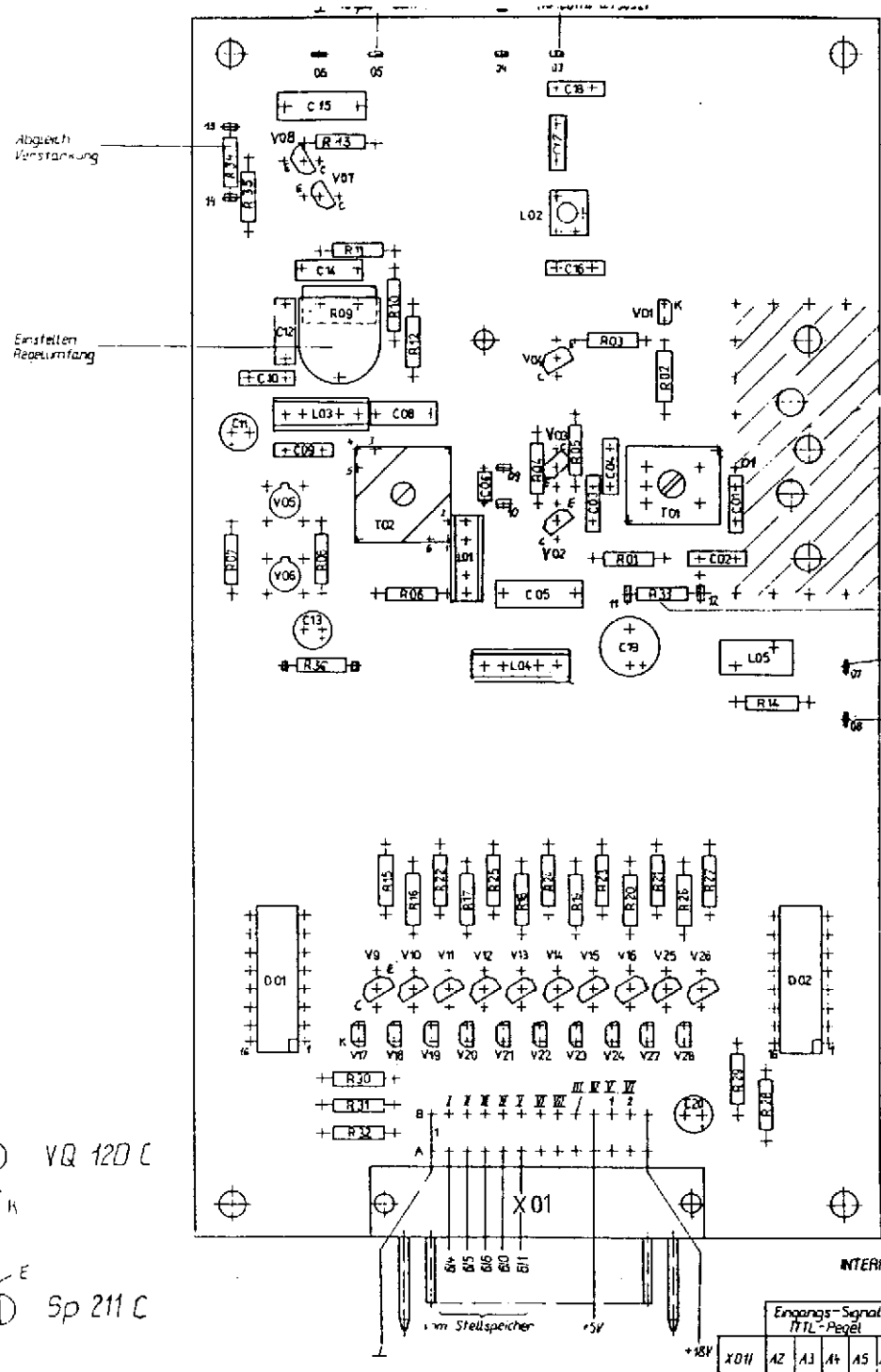
VORSELEKTOR 2
1340.041-01352


F_E = 14 kHz ... 30 MHz (vom Vorselektor 2)
75 Ω
statische Meßwerte
UR1 | 15V | 9V
P1 | 14,6V ± 0,2 | 10V ± 1
P2 | 0V | 4,2V ± 0,7
P3 | −8V ± 0,5 | ~0,5V
P4 | 17,9V ± 0,1 | ~0,5V
P5 | 1,9V ± 0,2
P6 | 1,2V ± 0,2 | Δ ≤ 20mV
P7 | 1,2V ± 0,2
P8 | 7,9V ± 0,5
P9 | 7,2V ± 0,5 | Δ ≤ 20mV
P10 | 7,2V ± 0,5
P11 | 6,1V ± 0,4
P12 | 5,3V ± 0,4 | Δ ≤ 40mV
P13 | 5,3V ± 0,4
1) 2) 3) 2× SF 235 paarig, Δ J_C bei J_{ee} konst. ≤ 10 %, U_{CE} 4,5V, J_C ~ 5mA
4) Abgleichwert
Abgleich-TP F_E ≥ 30MHz
Übertrager 2×0,6V
70,214 – 100,2 MHz ~ 100mV / 50Ω (vom Oszillator 1)
+18V
+12V
UR1 15 ... 9V
UR4 0 ... 4V
an Z3001
Abgleich 70,2MHz min.
Abgleich 70,2MHz max.
Abgleich mit R10=Z_0=4,5...5k
0,2 W
0,3W
0,8 W
KP 903W
SC 309d
SF 235
KT 326 BM
KA5 34



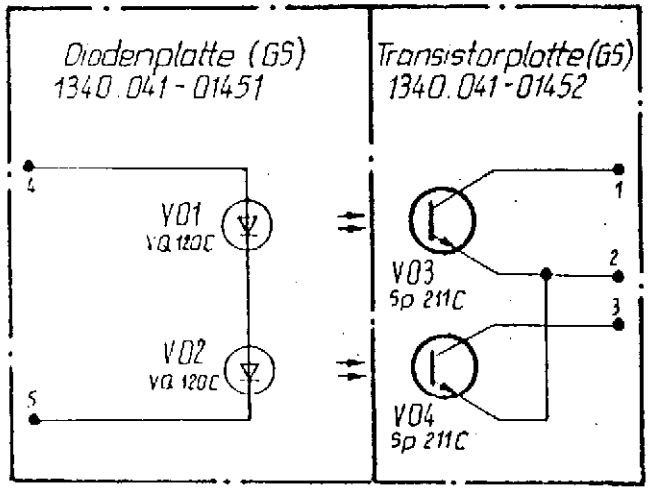
MISCHER 1
1340.041-01353


vom Z 3001 (70,2MHz - Quarzfilter)
Abgleich (R33) Za = 4,5...5kΩ
4,6 ... 5 kΩ
Abgleich 70,2MHz max.
Einstellung - Regelumfang
Abgleich (R34) 55mV ± 5mV (200MHz) bei EMK Y = 1mV/4,5MHz
ZF 2 = 200 kHz 50µV ... 60mV
Abgleich 200kHz max.
Abgleich 70MHz max.
70MHz 155mV ± 25mV
fuz = 70MHz ~ 100mV / 50Ω
+18V
+5V
Vorselektor 1 u. 2
vom Stellspeicher (Vorselektor - Steuerbefehl)
Interface - Vorselektor
V09 ... V16 : SC 237a
V17 ... V24 : SAY 12
0,3W
SAY 12
SF 235 SC 237a
KP 307A
SF 245
Y 4028 D
1) 2x SF 235 paarig, Δ Ic bei UBE Konst. ≤ 10%
UCE 4,5V, Ic ~ 5mA
β 40 ... 120
4) Abgleichwert
5) Pinch-OFF-Spannung -0,8 ... -1,3V bei ID 100µA und UDS 10V
(5) Kenn-Nr. der Bauelemente
C 3401 ≙ C01
statische Meßwerte
P14 3V ± 0,2V
P15 0,62V ± 0,04V
P16* 2,2V ± 0,2V
P17* 2,2V ± 0,2V
Δ ± 20mV
P19 11,9V ± 0,5V
P20 ~ 4,5V
UR4 0V ≤ 3,5V
P18 14 ... 16V ≤ 3,5V
*fuz = 70MHz (~100mV) angeschlossen
I (fein)
2 (fein)
II (Breitband) (15 ... 30MHz)
III (1,5 - 3MHz)
IV (3 - 6 MHz)
V (6 - 12 MHz)
VI (12 - 24 MHz)
VII (> 24 MHz)
III, IV, V, VI



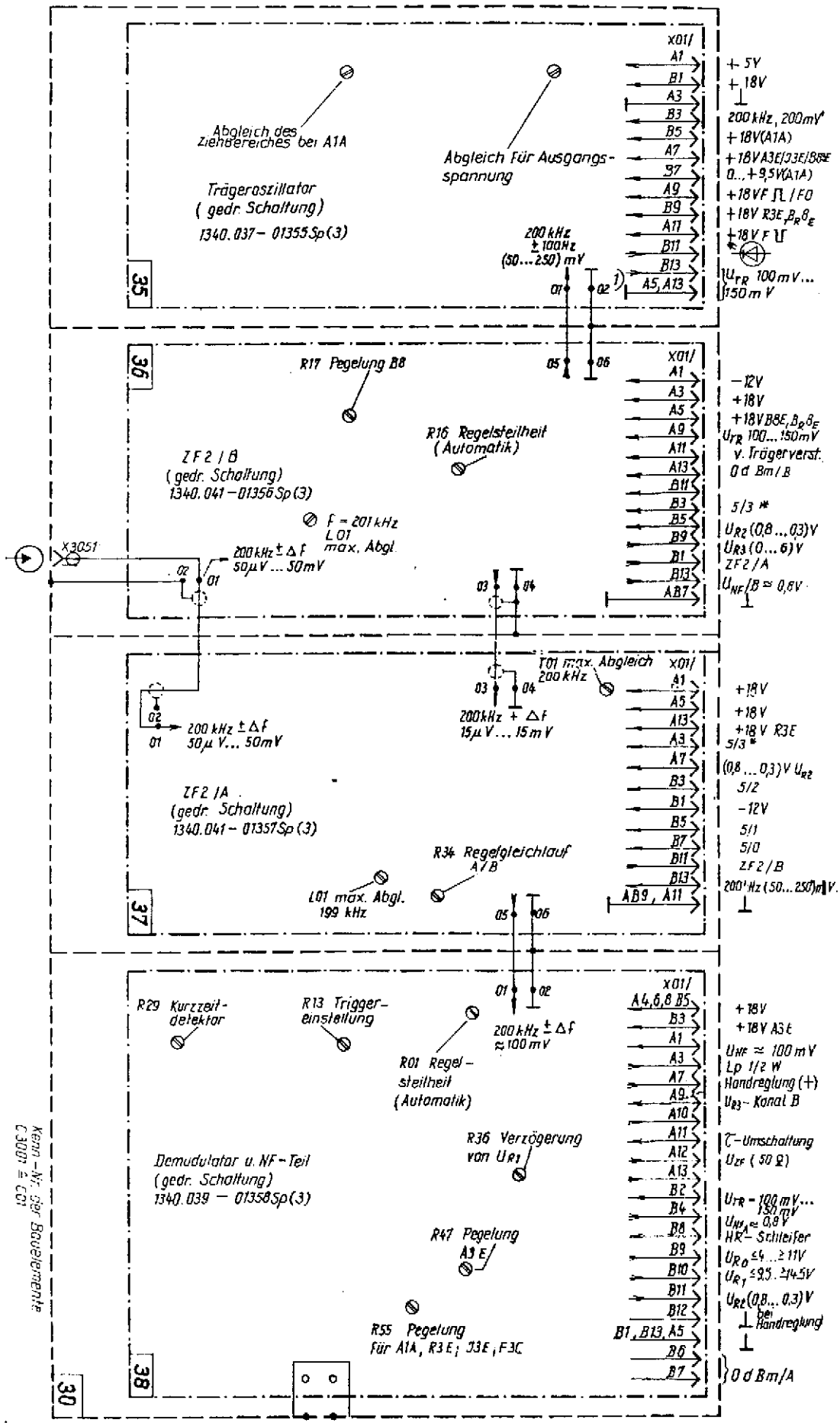
INTERFACE „VORSELEKTORSTEUERUNG"

	XO1/	Eingangs-Signal TTL-Pegel A2	A3	A4	A5	A6	Ausgangs-Signal (< 1/18V) B2	B3	B4	B5	B6	B7	B8	B9	B11	B12	Bereich (MHz)
grob	I	0	0	1	–	–	<1	18	18	18	18	18	18	18	–	–	<1,5
	II	0	1	0	–	–	18	<1	18	18	18	18	18	18	–	–	1,5 ... <3
	III	0	1	1	–	–	18	18	<1	18	18	18	18	<1	–	–	1,5 ... <3
	IV	1	0	0	–	–	18	18	18	<1	18	18	18	<1	–	–	3 ... <6
	V	1	0	1	–	–	18	18	18	18	<1	18	18	<1	–	–	6 ... <12
	VI	1	1	0	–	–	18	18	18	18	18	<1	18	<1	–	–	12 ... <24
	VII	1	1	1	–	–	18	18	18	18	18	18	<1	18	–	–	≥ 24
fein	1	–	–	–	1	0	–	–	–	–	–	–	–	–	<1	18	IV 1 1,5 < V 1 3 ... < VI 1 6 < VII 1 12 <
	2	–	–	–	0	1	–	–	–	–	–	–	–	–	18	<1	III 2 2 < IV 2 4 < V 2 8 < VI 2 16 <
	3	–	–	–	1	1	–	–	–	–	–	–	–	–	18	18	III 3 2,5 < IV 3 5 < V 3 10 < VI 3 20 <

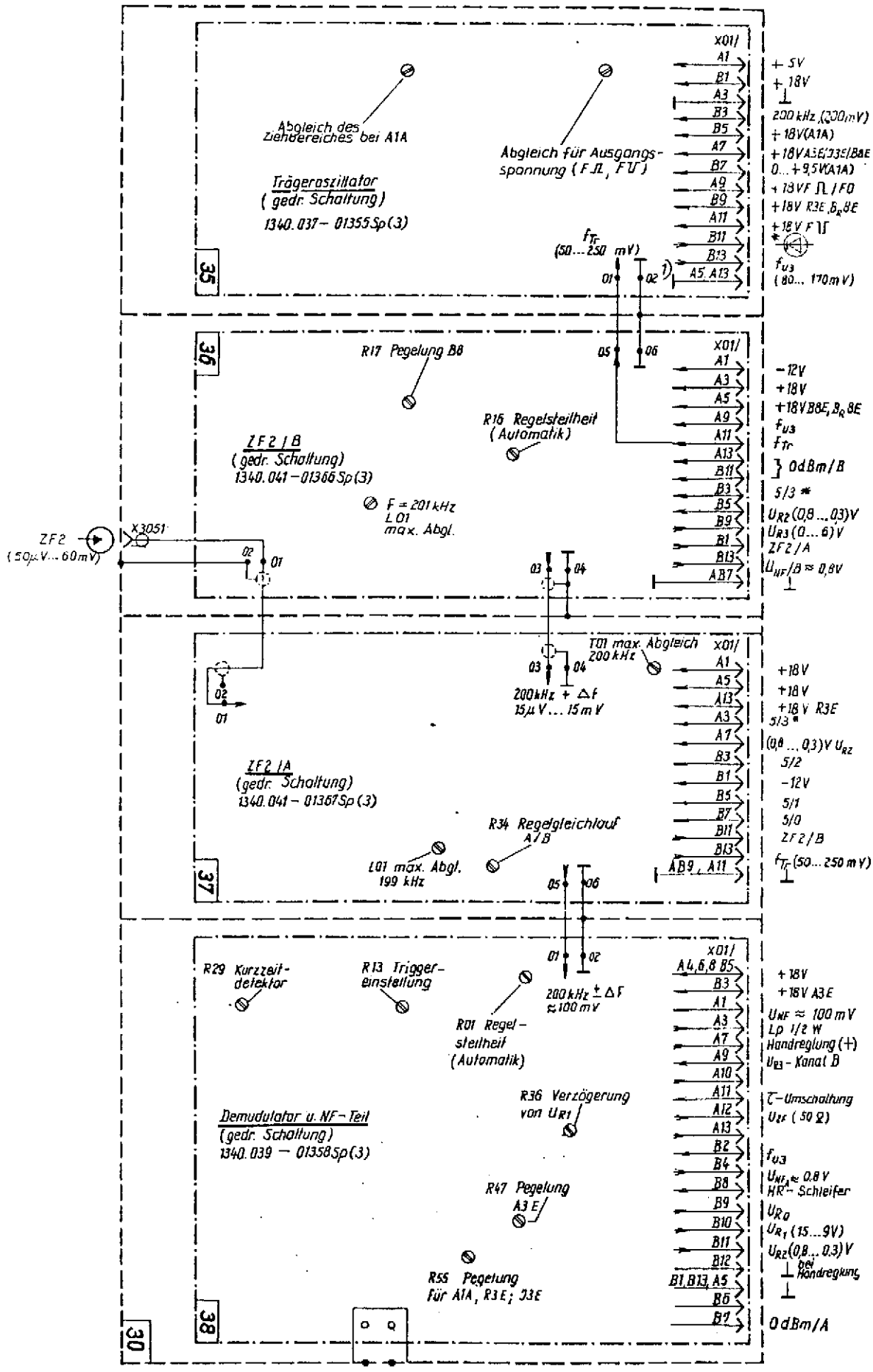


DREHIMPULSGEBER
1340.041-01431 Sp

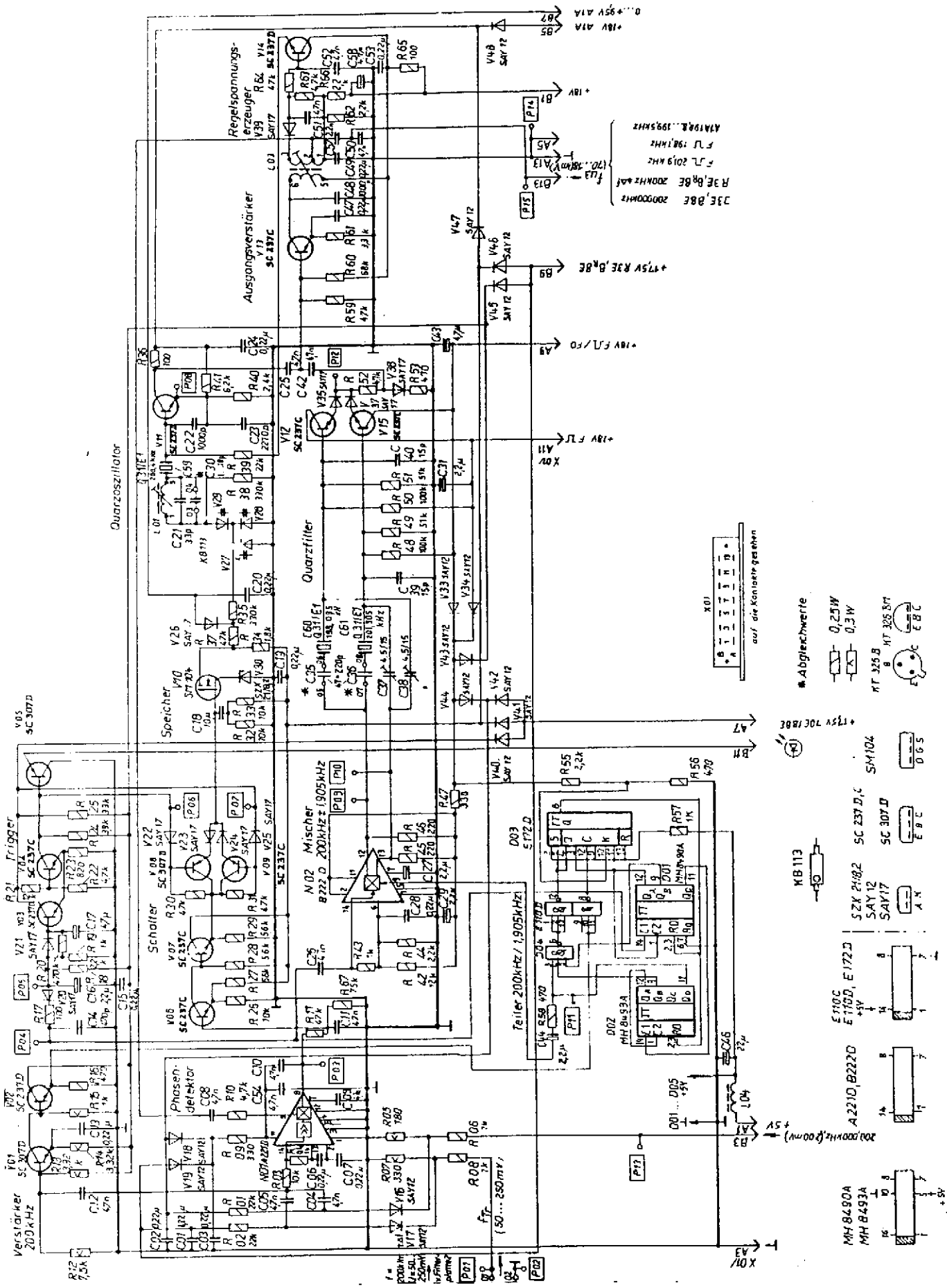
MISCHER 2
1340.041-01354



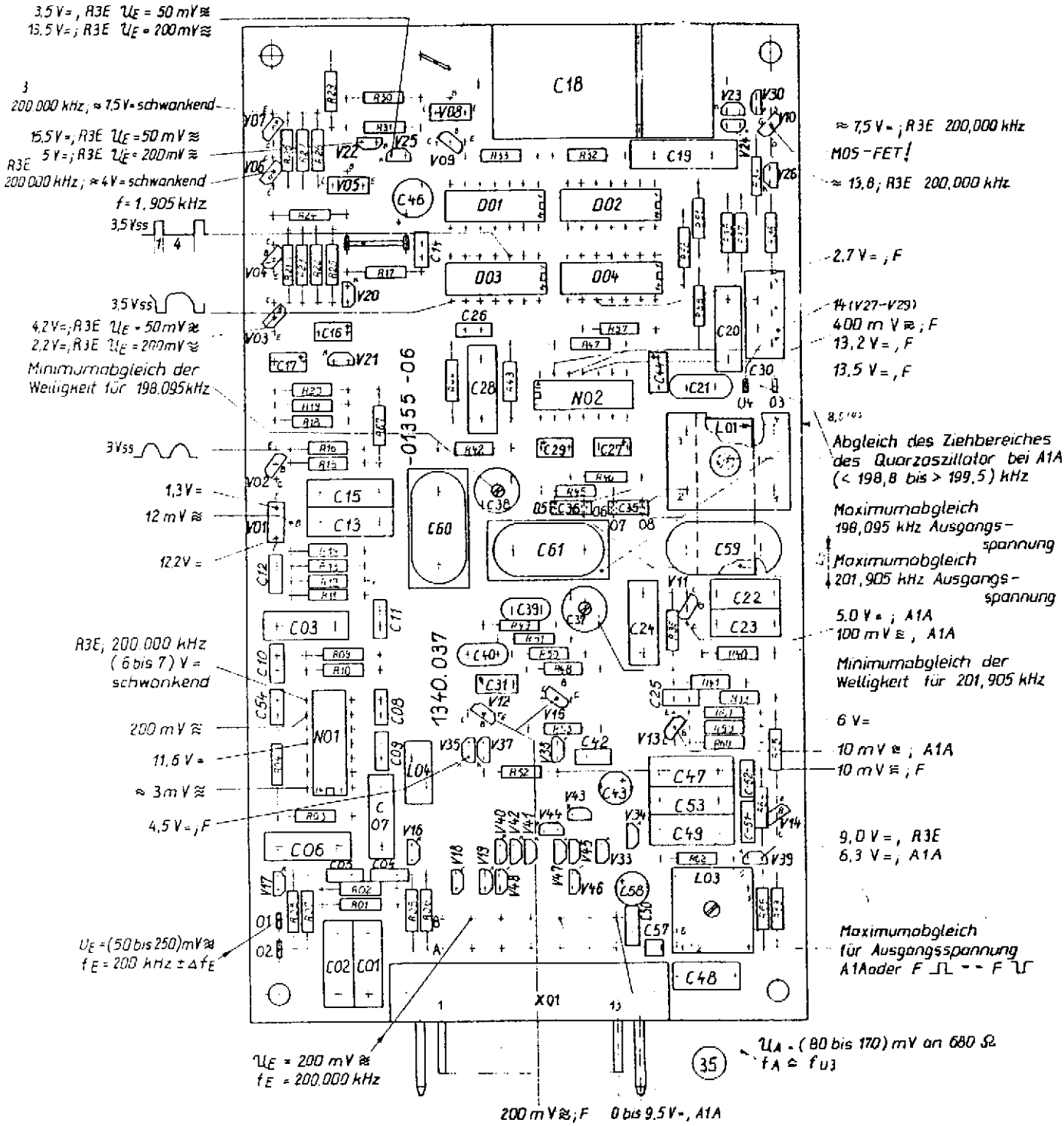
SIGNALWEG 2
1340.041-01321 Sp



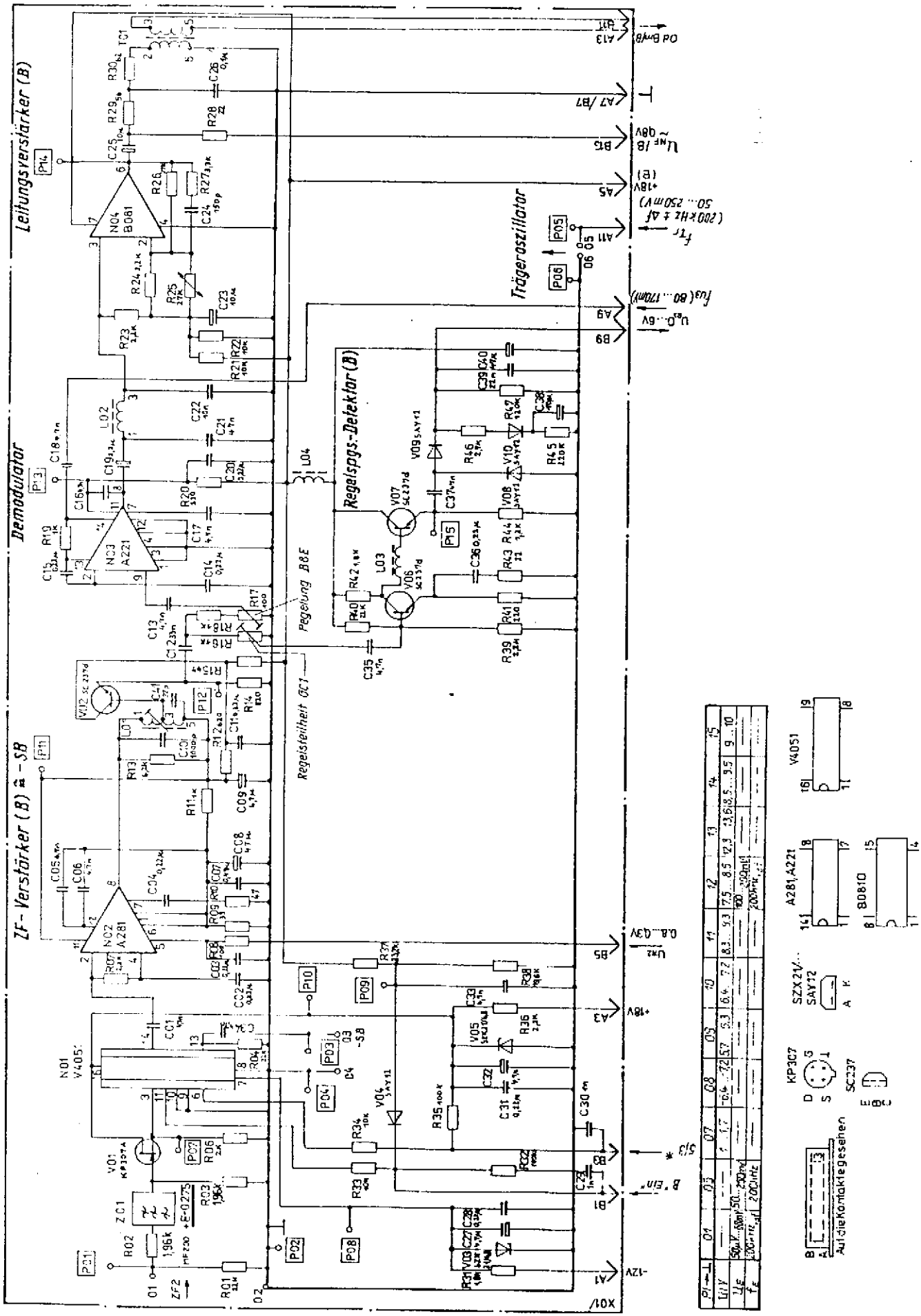
SIGNALWEG 2
1340.041-01322 Sp



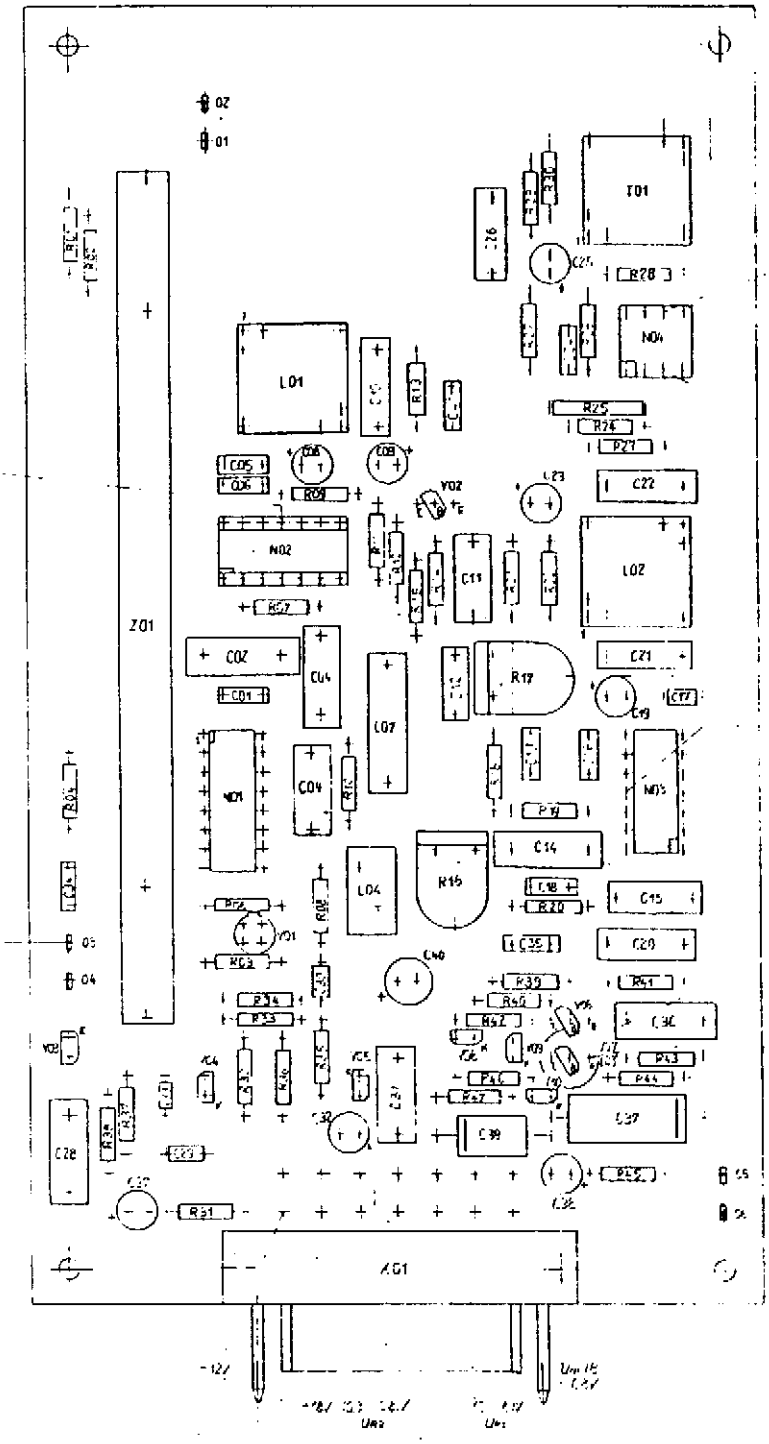
TRÄGEROSZILLATOR
1340.037-01355 Sp



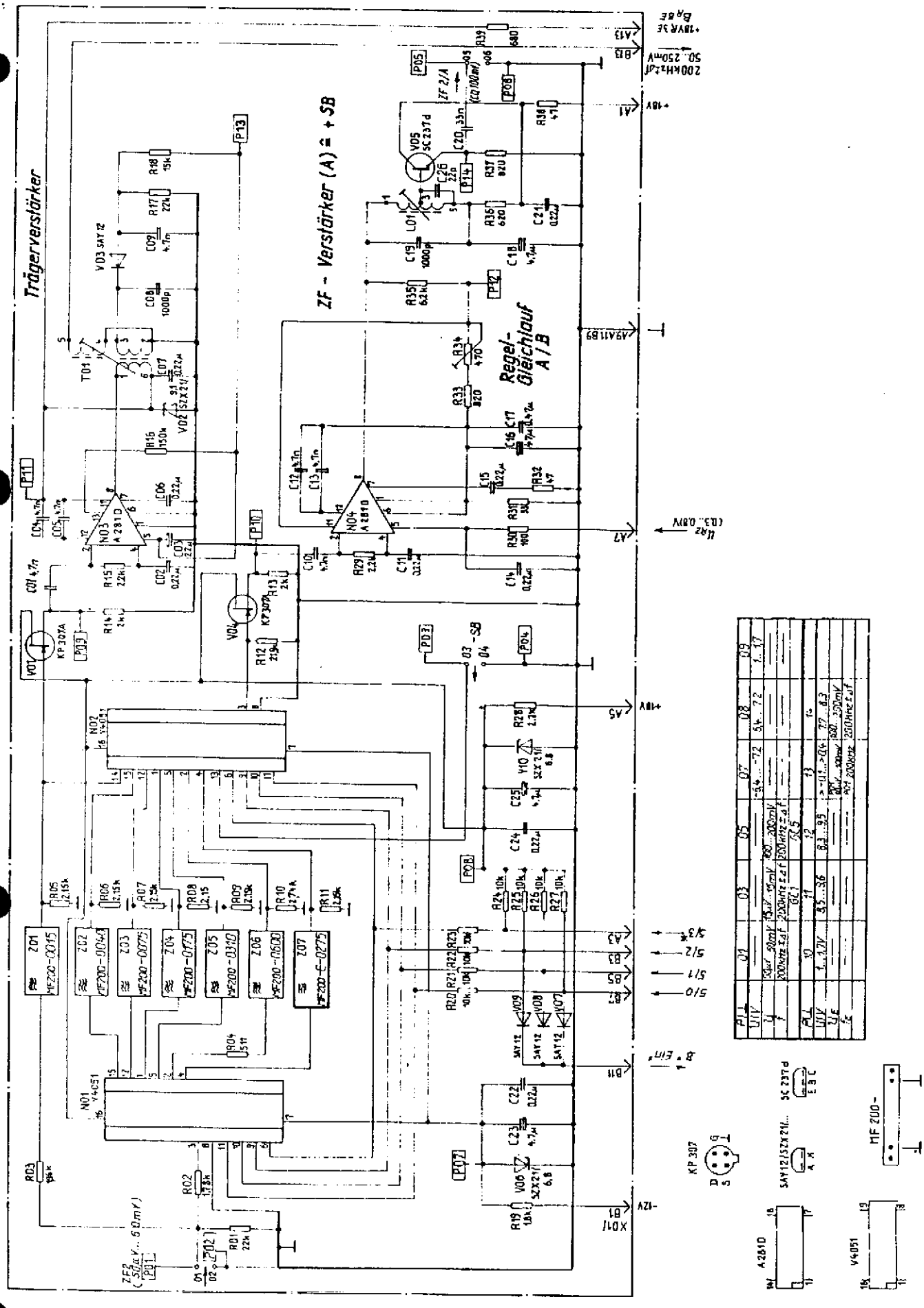
TRÄGEROSZILLATOR
1340.037-01355



ZF 2 / B
1340.041-01356 Sp

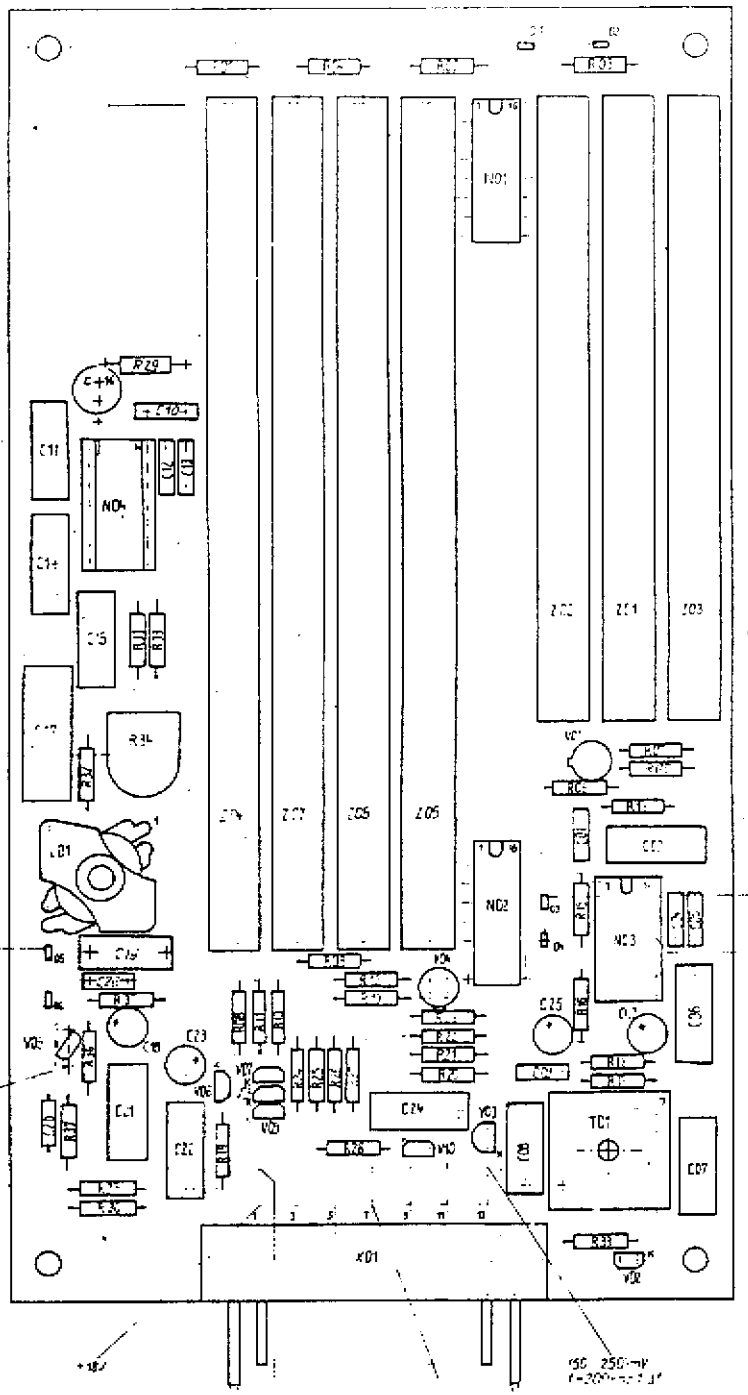


ZF 2 / B
1340.041-01356 / 01366

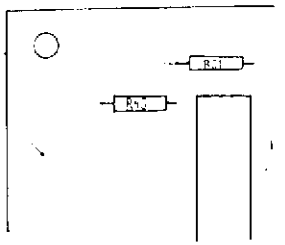


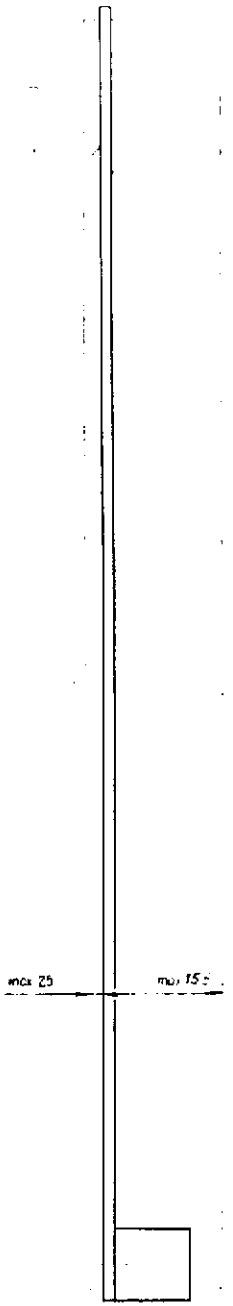
ZF 2 / A
1340.041-01357 Sp

- 01357

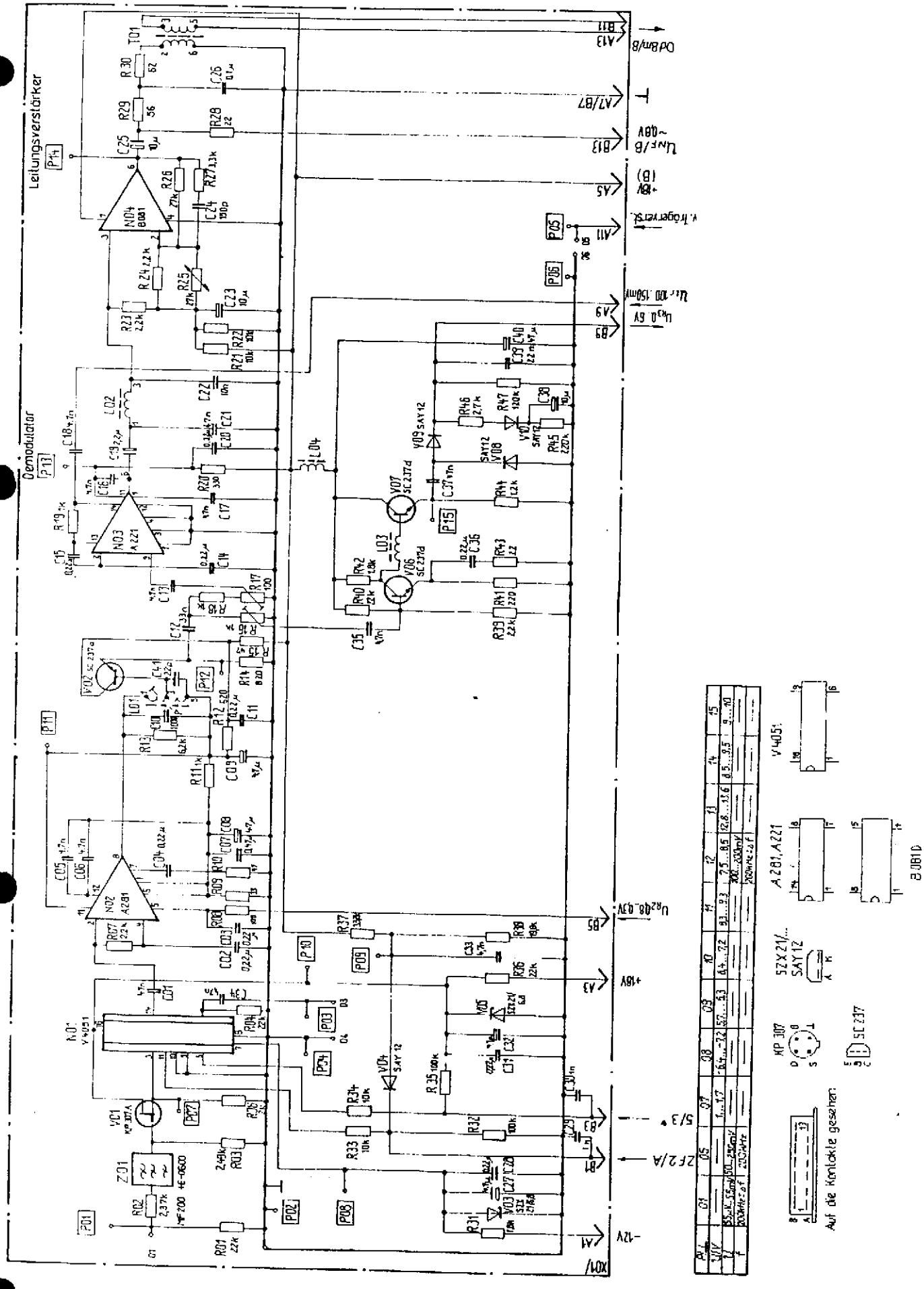


- 01367

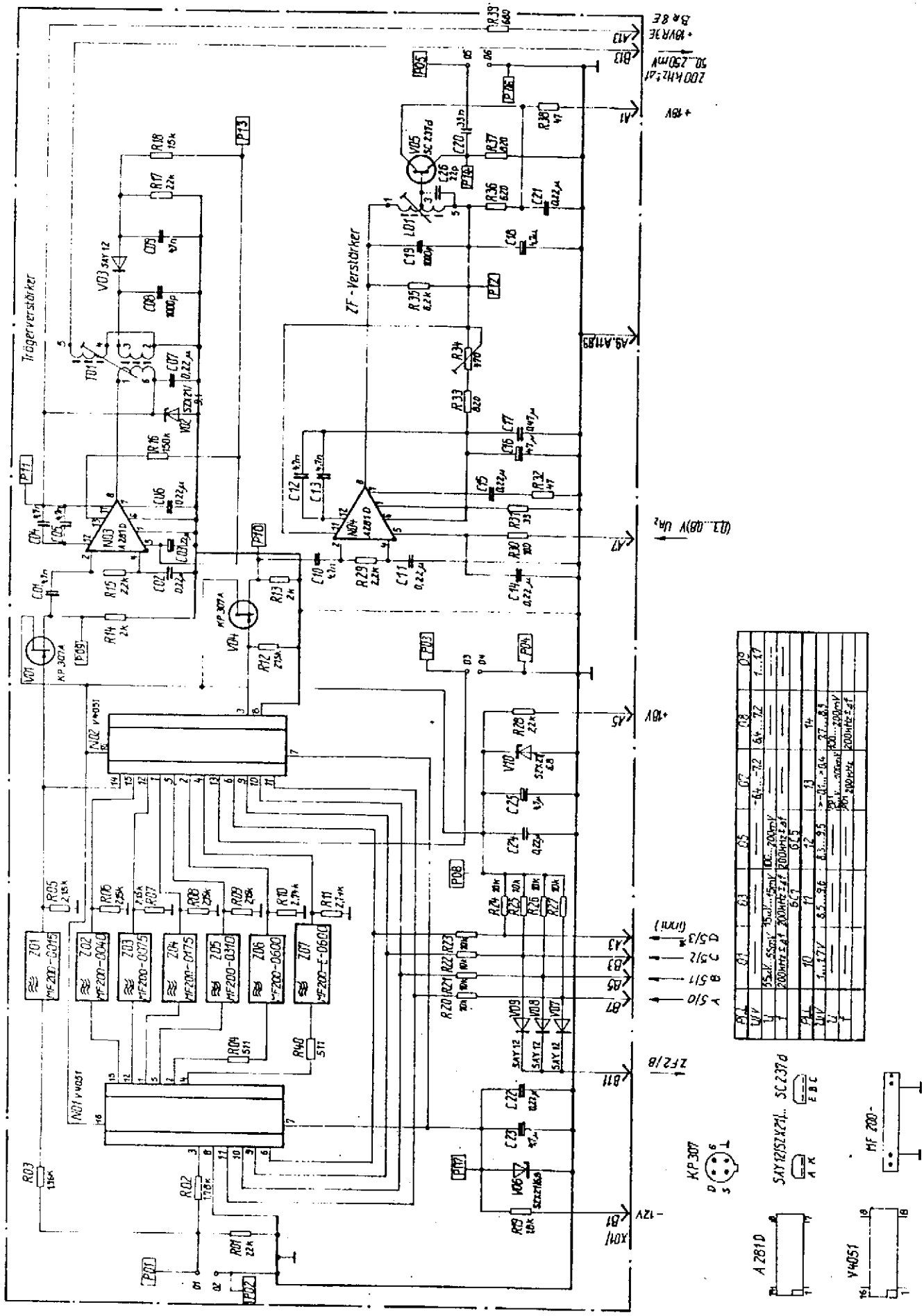




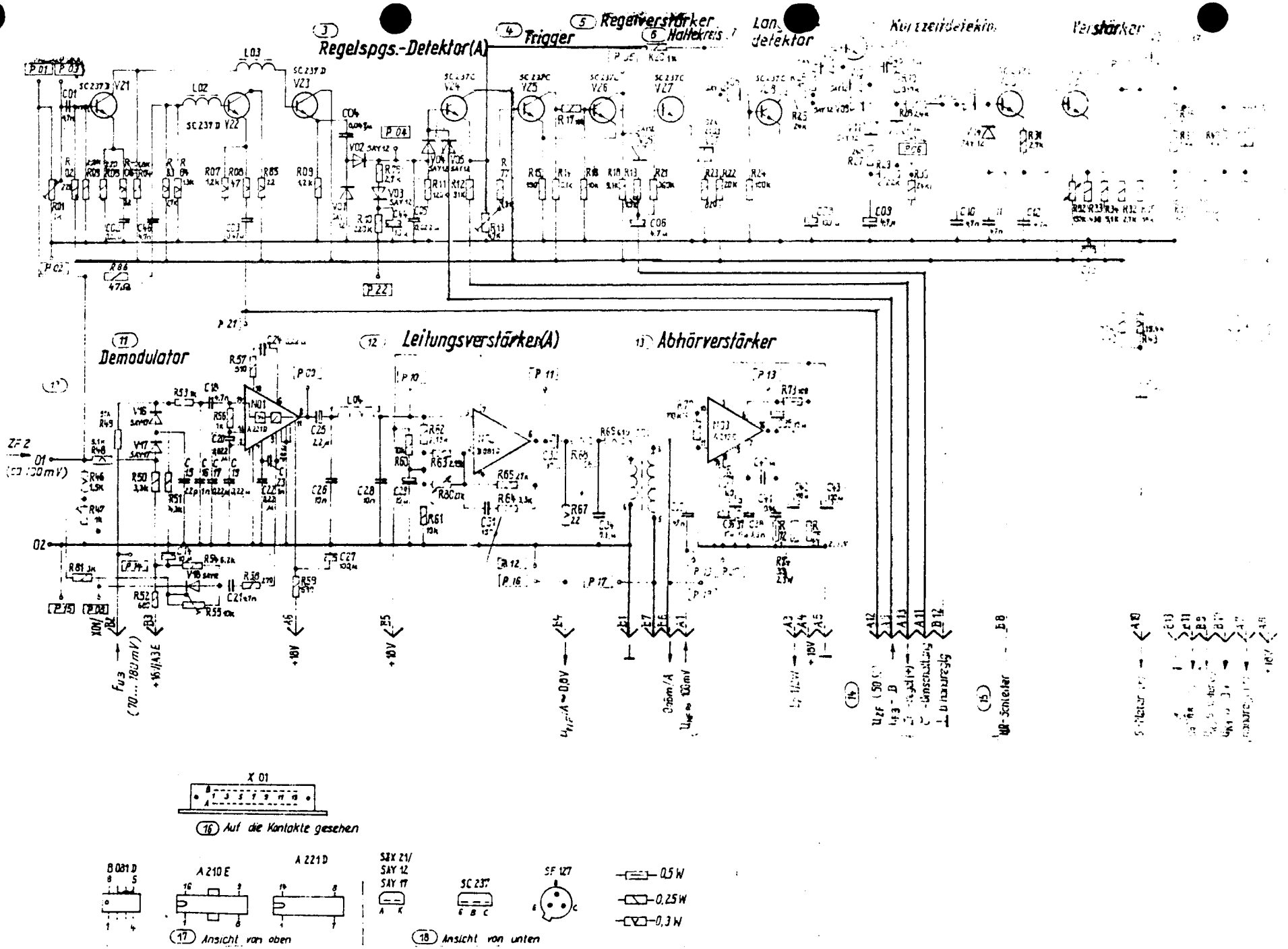
gilt auch für
1340.041-01367

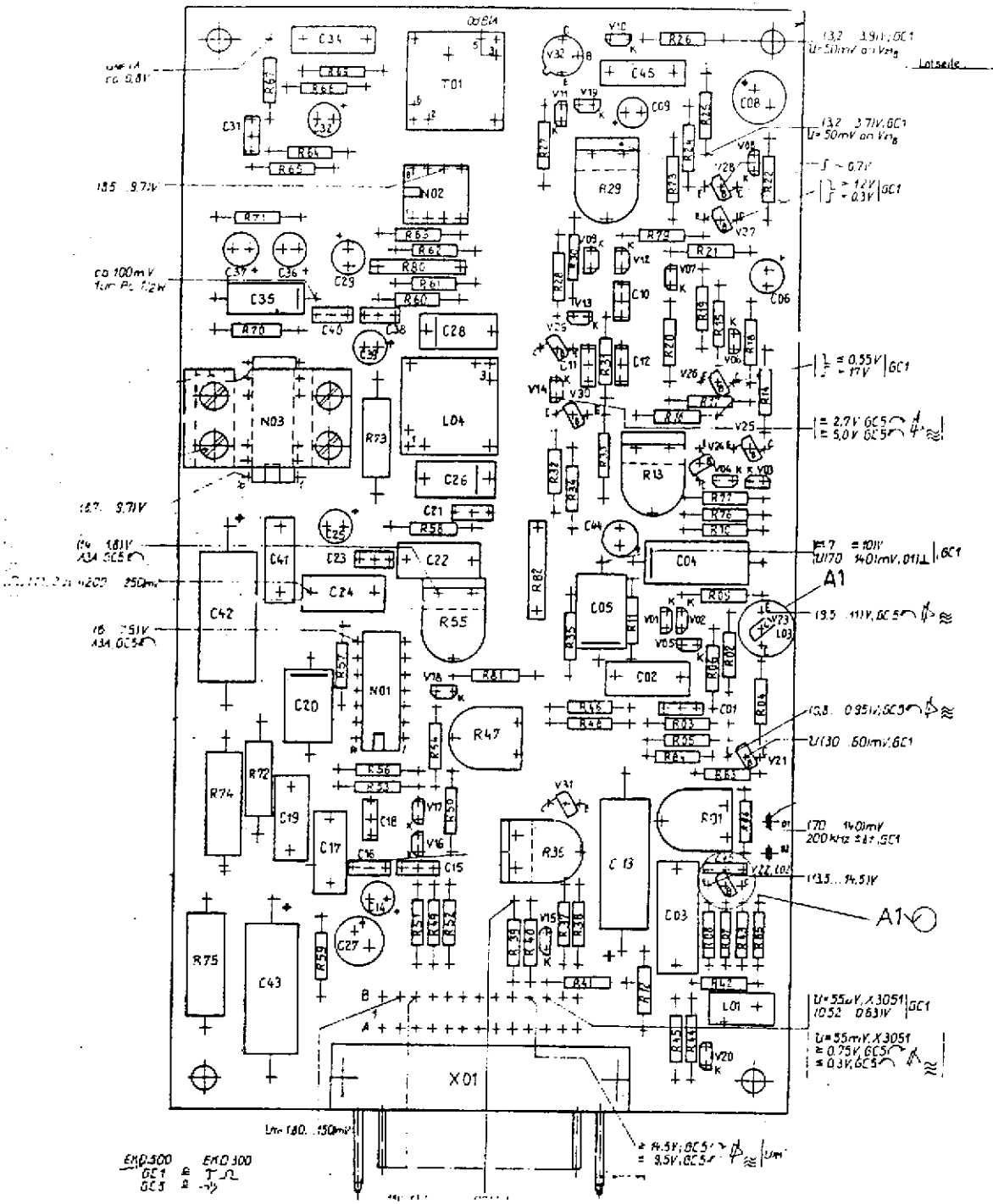


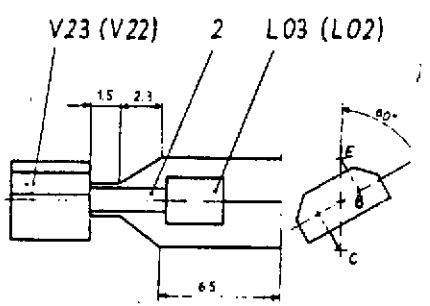
ZF 2 / B
1340.041-01366 Sp

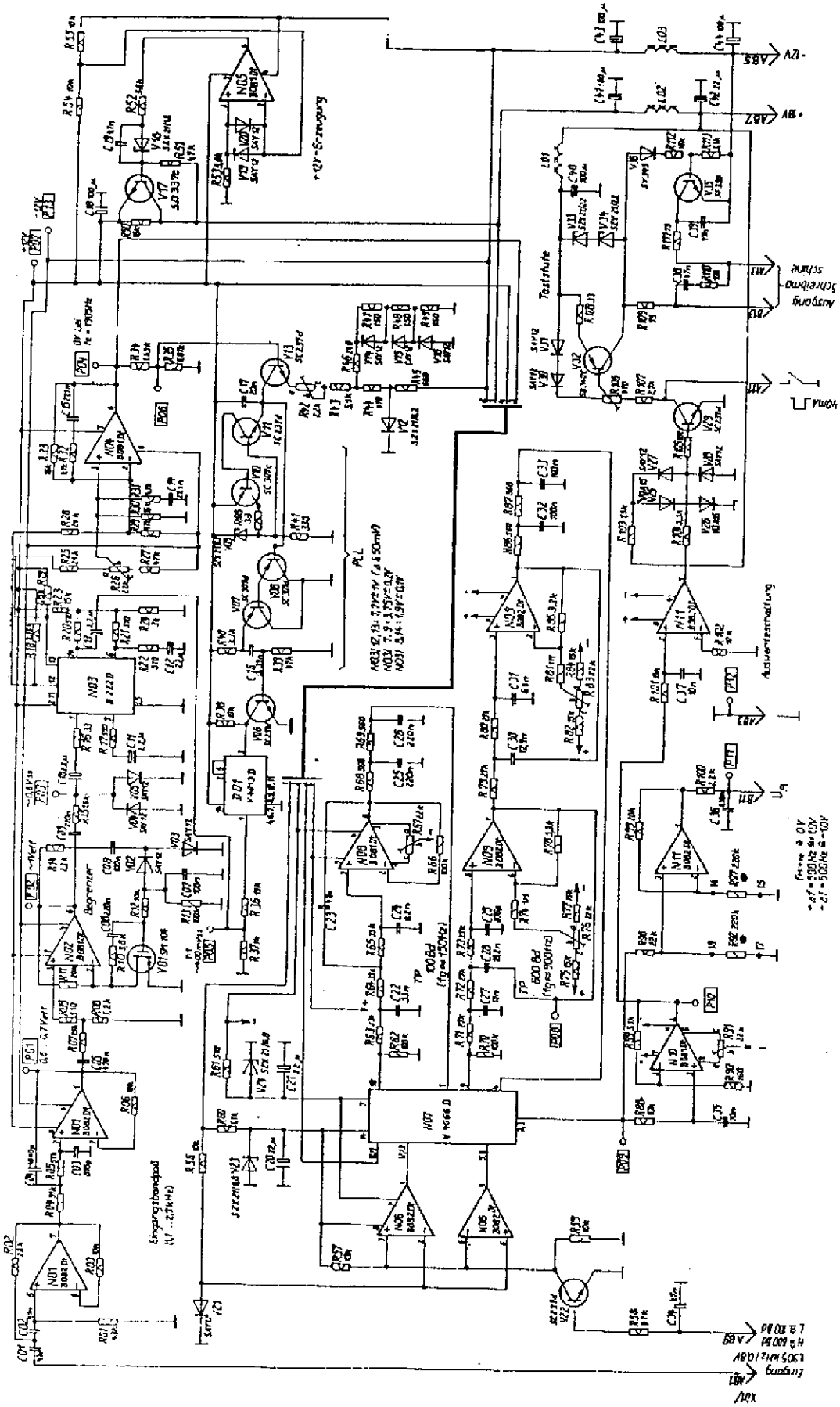


ZF 2 / A
1340.041-01367 Sp

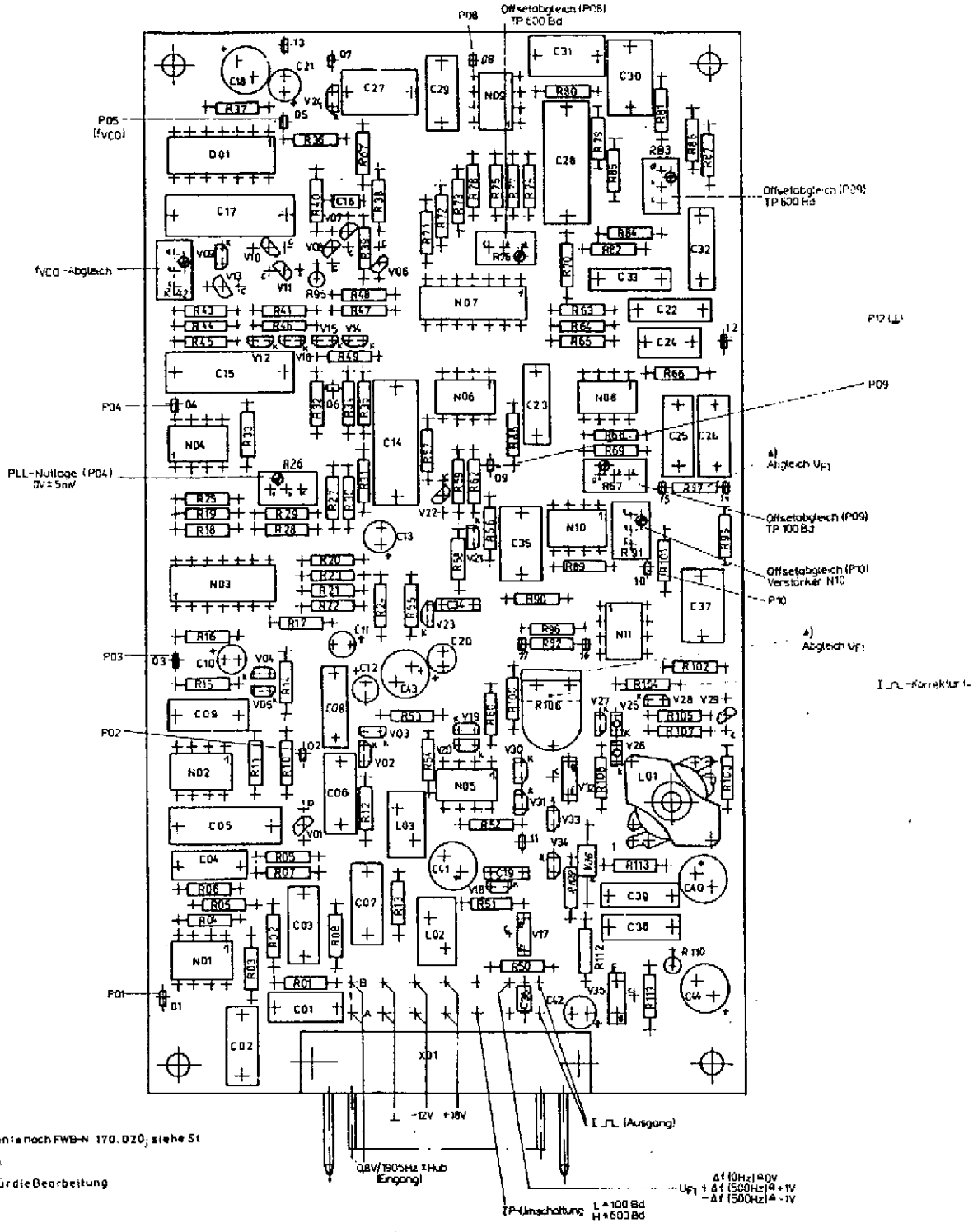

3 Regelspgs.-Detektor(A)
4 Trigger
5 Regelverstärker
6 Haltekreis
Kurzzeitdetektor
Verstärker
11 Demodulator
12 Leitungsverstärker(A)
13 Abhörverstärker
14
15
16 Auf die Kontakte gesehen
17 Ansicht von oben
18 Ansicht von unten
B 081 D
A 210 E
A 221 D
SEX 21/
SAY 12
SAY 17
SC 237
SF 127
0,5 W
0,25 W
0,3 W


T01
N02
N03
L04
X01
A1
Lotseite
Bestückungsseite
max 14
max 2,5
(95 x 170)


A1
M5:1
V23 (V22)
2
L03 (L02)
1,5
2,3
6,5
90°



F1-DEMODULATOR
1340.041-01258 Sp

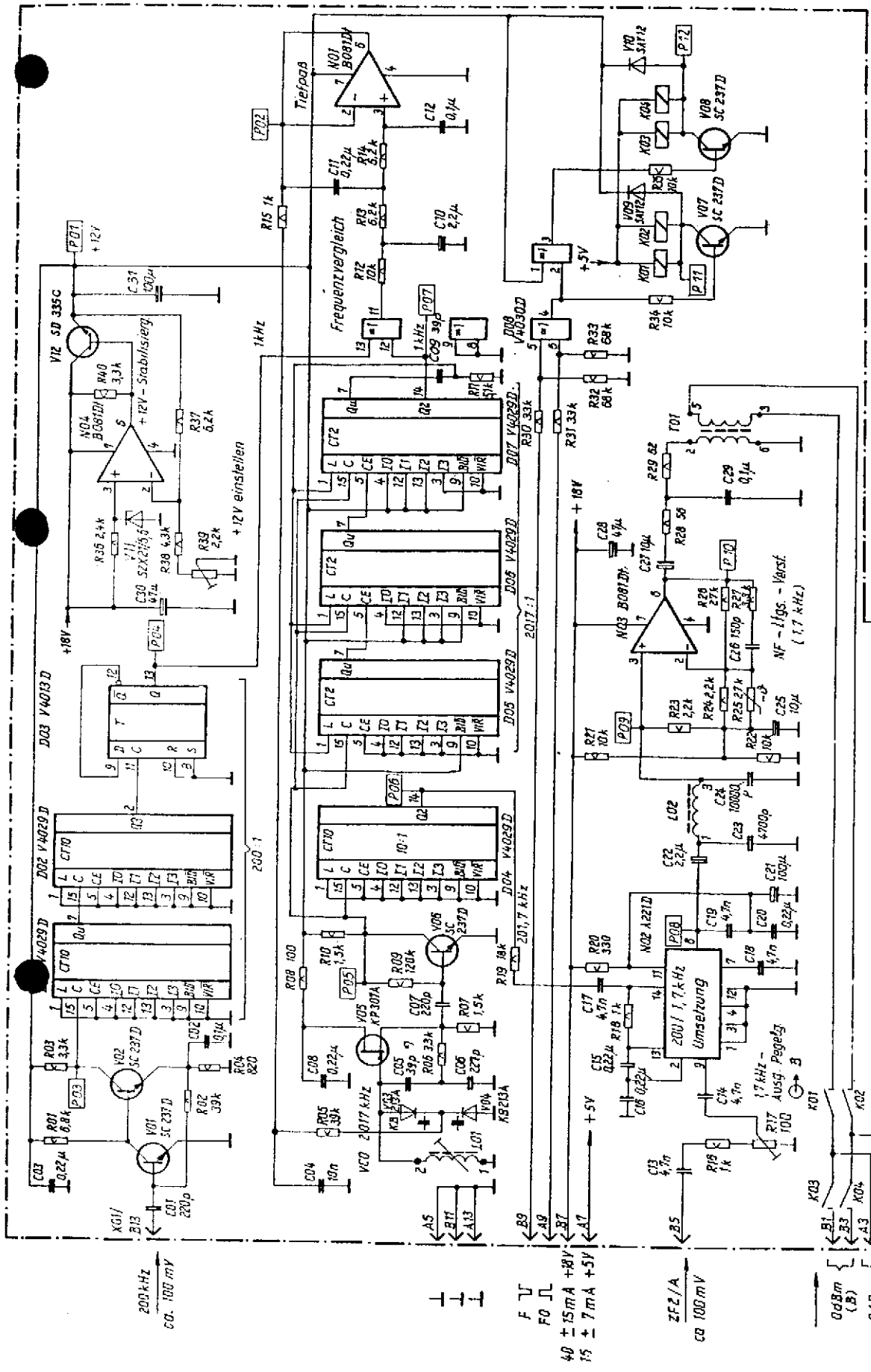


Anordnung der Bauelemente nach FWB-N 170.020, siehe St

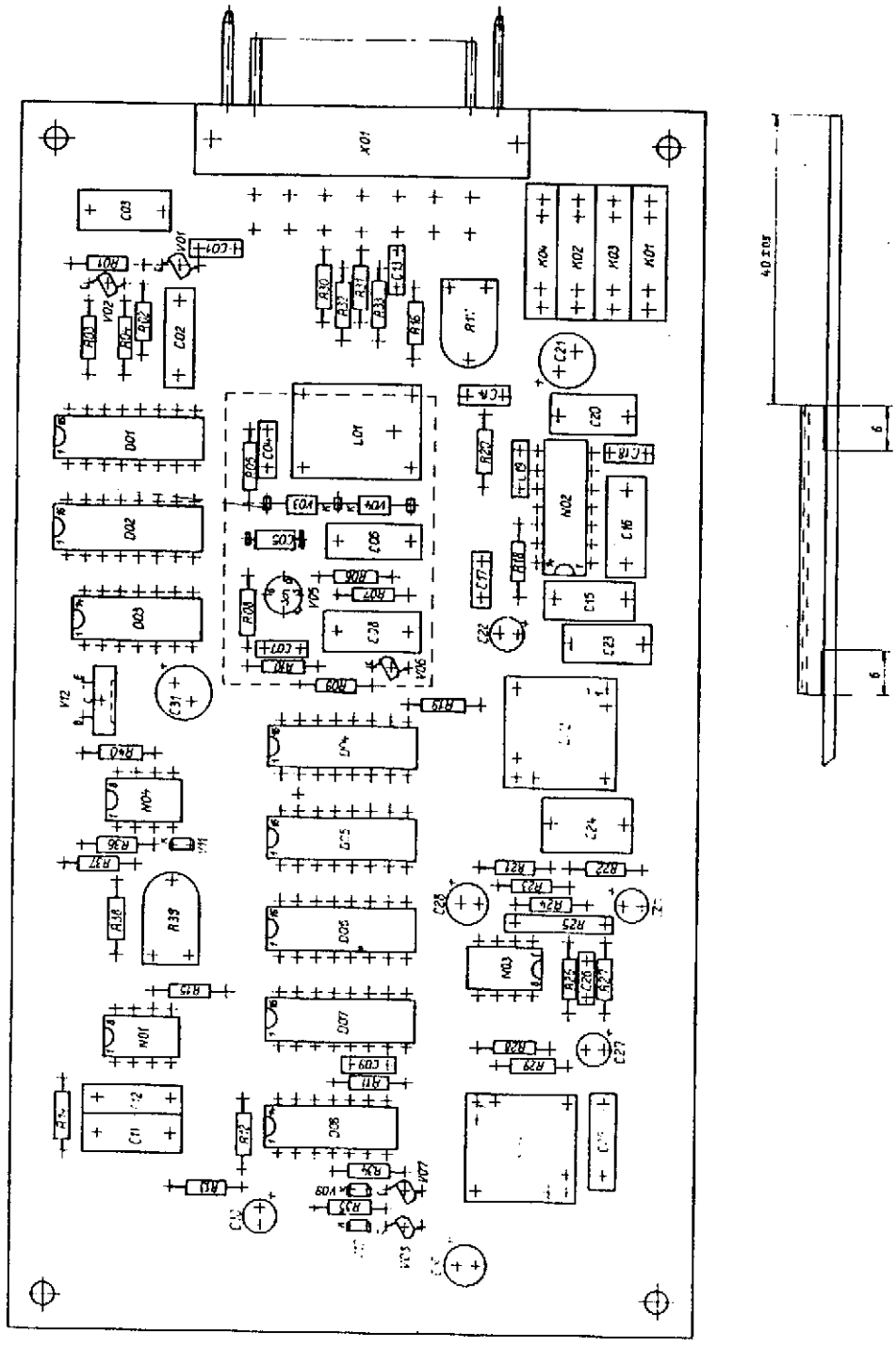
Schwallgelötet nach APA

Maßzahl (mit) gilt nicht für die Bearbeitung

F1-DEMODULATOR
1340.041-01258



200 kHz / 1.7 kHz – UMSETZER
1340.041-01257 Sp



200 kHz / 1.7 kHz - UMSETZER
1340.041-01257