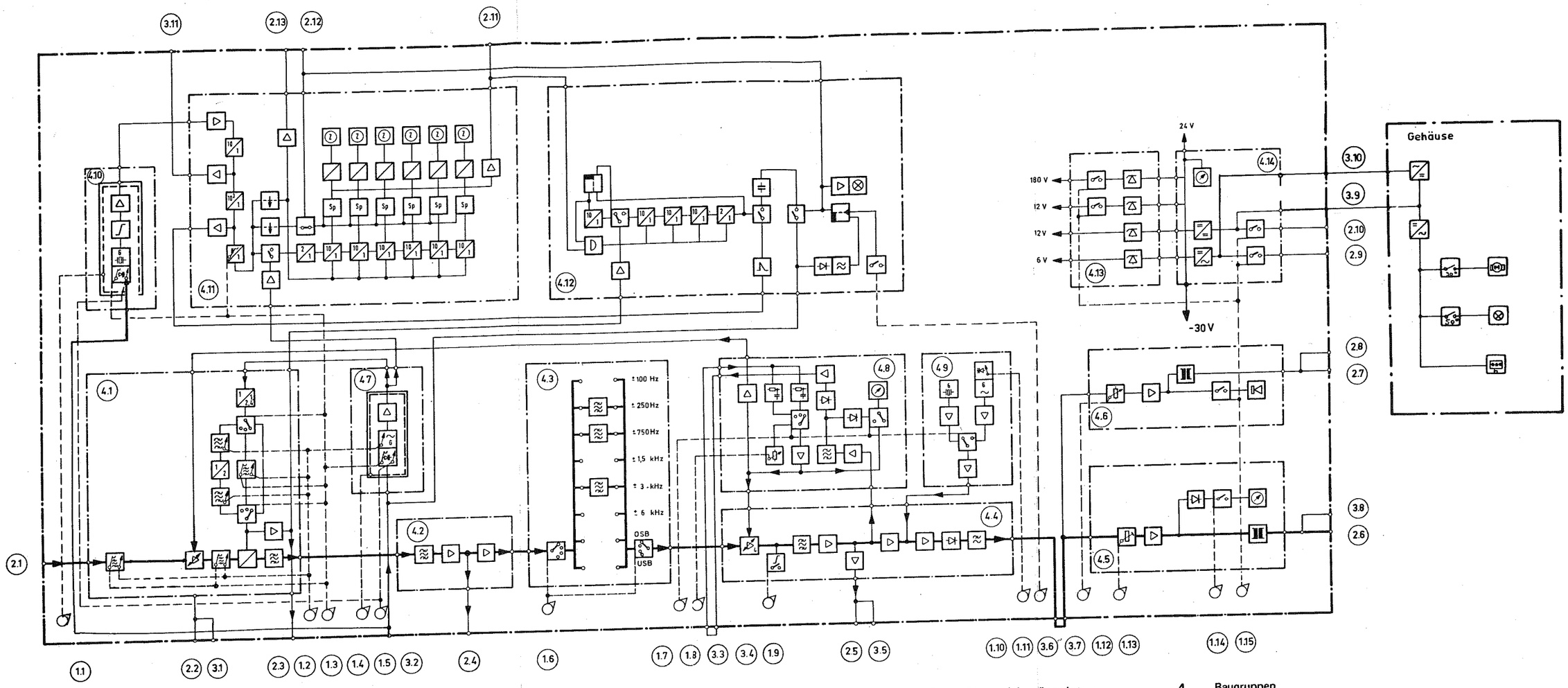


1. Bedienelemente
1.1 Thermostat 1
1.2 Abstimmung
1.3 Bereich
1.4 Thermostat 2
1.5 Abstimmung - Fein
1.6 Bandbreite
1.7 Betriebsart
1.8 HF-Regelung
1.9 Störbegrenzer
1.10 A1-Überlagerer
1.11 Frequenz-Rastung
1.12 NF-Regelung
1.13 Leitungspegel
1.14 Leitungspegel - Anzeige
1.15 Schalter Ein/Aus

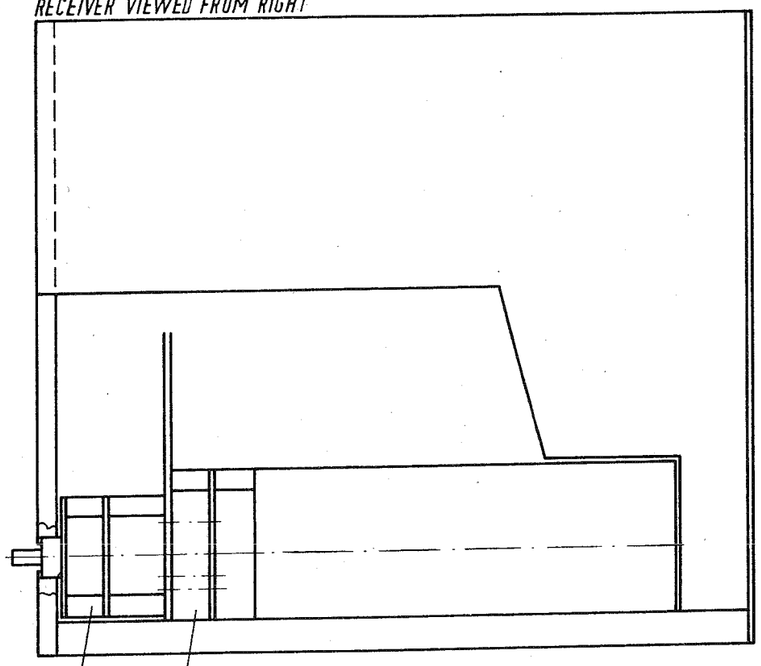
2. Ein- und Ausgänge extern
2.1 Antenne
2.2 Break in
2.3 Oszillator
2.4 ZF-Breit
2.5 ZF-Schmal
2.6 Leitungsausgang 600 Ω
2.7 Kopfhörer
2.8 Kopfhörer
2.9 Netz 110/220 V~
2.10 Batterie 24 V-
2.11 Binärausgang } Frequenz-
2.12 Übernahmesperrung } anzeige
2.13 Taktimpuls

3. Ein- und Ausgänge intern
3.1 Break in
3.2 Oszillator - Nachstimmung
3.3 Regelspannungs-Eingang
3.4 Regelspannungs-Ausgang
3.5 ZF-Schmal
3.6 Demodulator - Ausgang
3.7 NF-Verstärker - Eingang
3.8 Leitungsausgang 600 Ω
3.9 Batterie-Ausgang 24 V
3.10 Netz-Ausgang 110/220 V~
3.11 100-kHz-Normalfrequenz

4. Baugruppen
4.1 HF-Teil
4.2 ZF-Stufe
4.3 Selektion
4.4 ZF-Verstärker
4.5 Leitungsverstärker
4.6 Abhörverstärker
4.7 Variometer-Oszillator
4.8 Regelverstärker
4.9 A1- und A3J-Oszillator
4.10 Frequenznormal
4.11 Frequenzanzeiger
4.12 Frequenzregelung
4.13 Stabilisierung
4.14 Netzteil

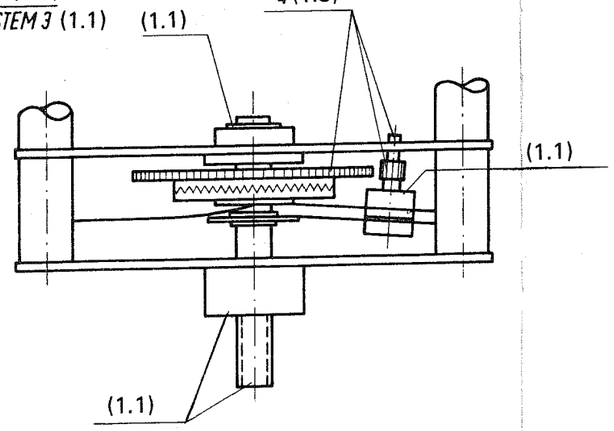
Übersichtsschaltplan
Anlage 1

EMPFÄNGER VON RECHTS
RECEIVER VIEWED FROM RIGHT

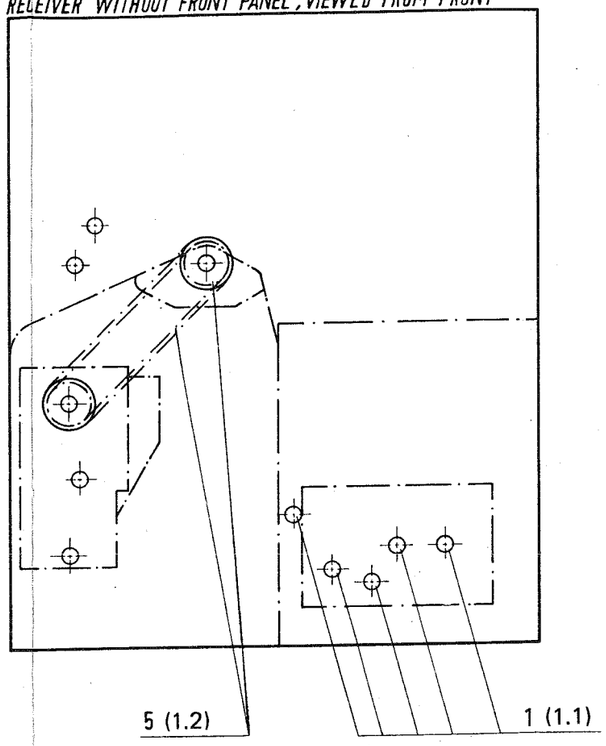


ABSTIMMGETRIEBE 3 (1.1)
TUNING DRIVE SYSTEM 3 (1.1)

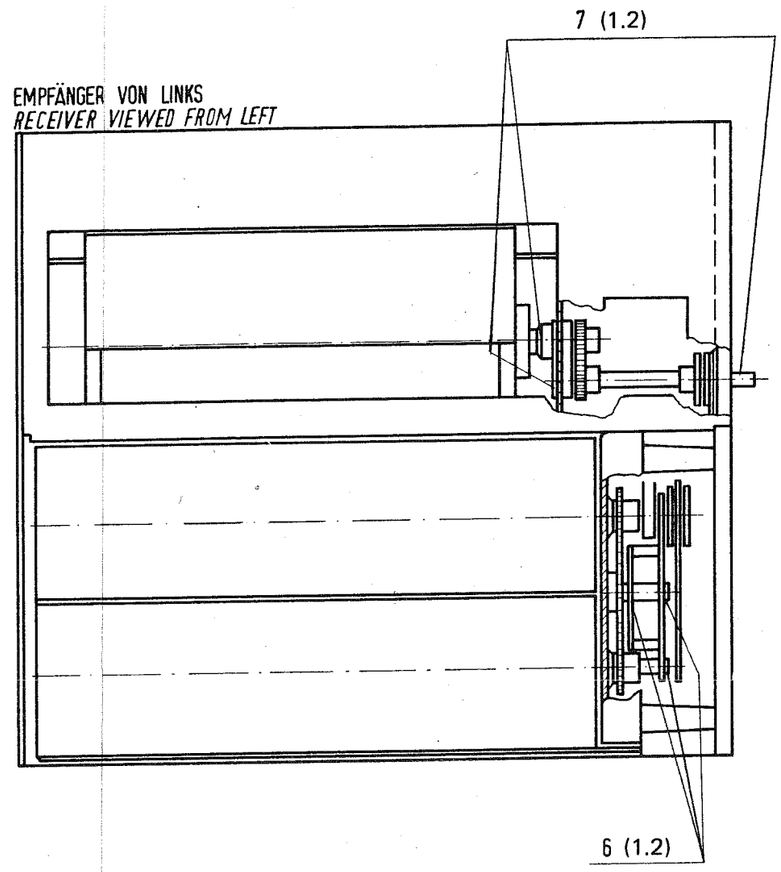
KLAPPGETRIEBE 2
COARSE/FINE TUNING DRIVE 2



EMPFÄNGER VON VORN OHNE FRONTPLATTE
RECEIVER WITHOUT FRONT PANEL, VIEWED FROM FRONT



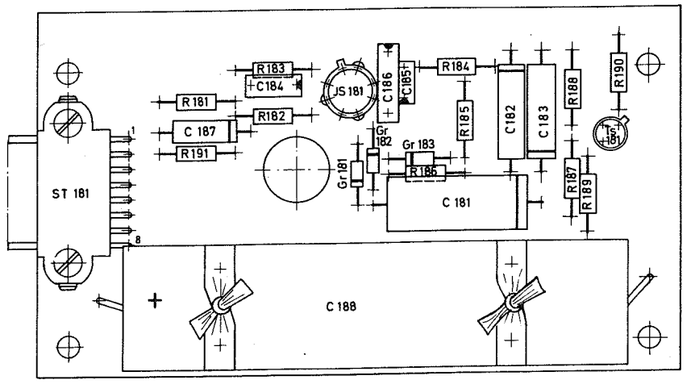
EMPFÄNGER VON LINKS
RECEIVER VIEWED FROM LEFT



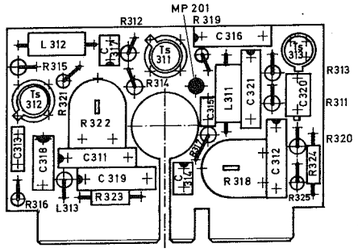
( ) = Schmierstoffe, siehe 3.1.1
( ) = Lubricants, see 3.1.1

EP/V 1647a

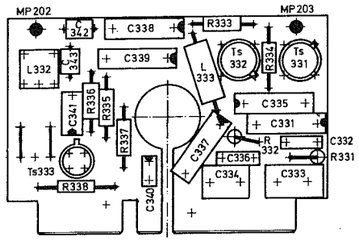
Schmierplan
Lubricating Plan
Anlage 2/*Annex 2*



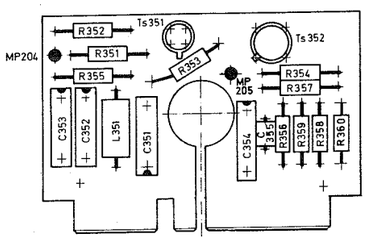
Siebschaltung
Smoothing Circuit



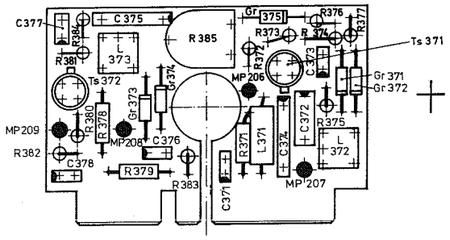
HF-Verstärker
RF Amplifier



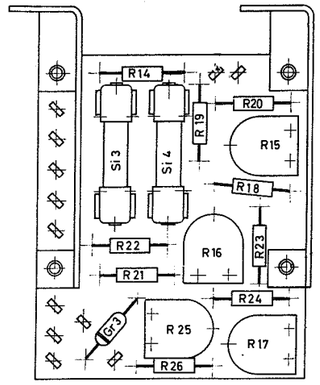
Mischstufe
Mixer Stage



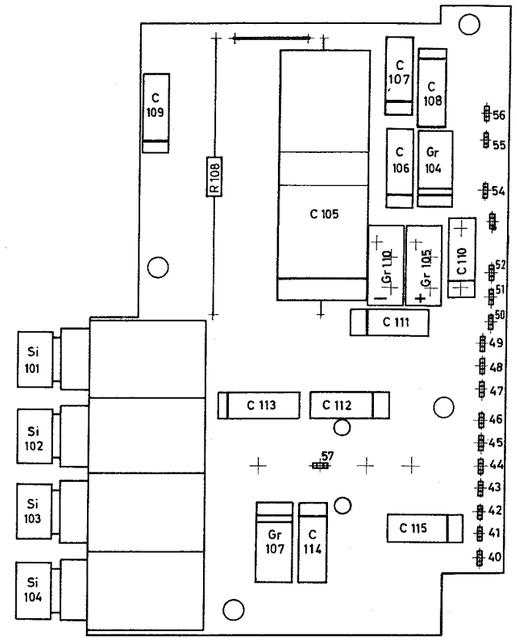
Trennstufe
Buffer Stage



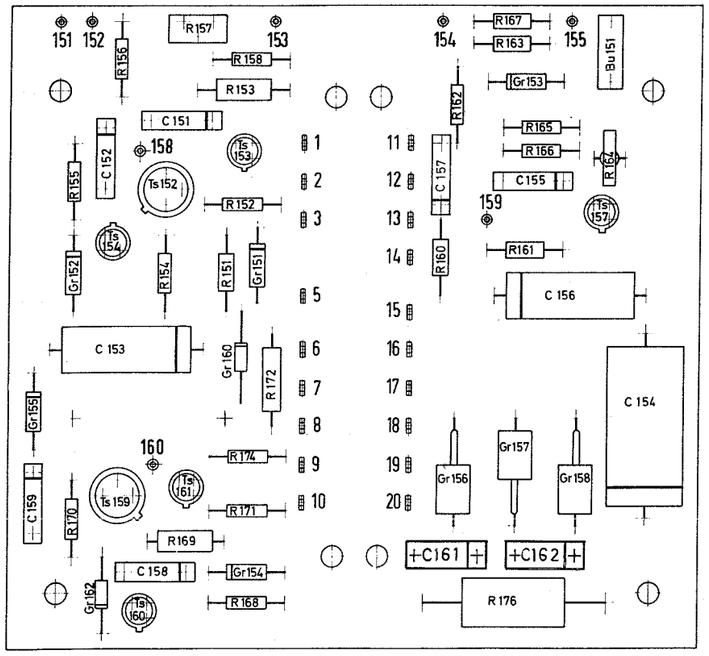
Vervielfacherstufe
Multiplier Stage



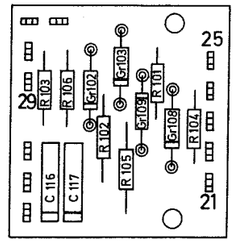
Vorspannungsteiler
Bias Divider



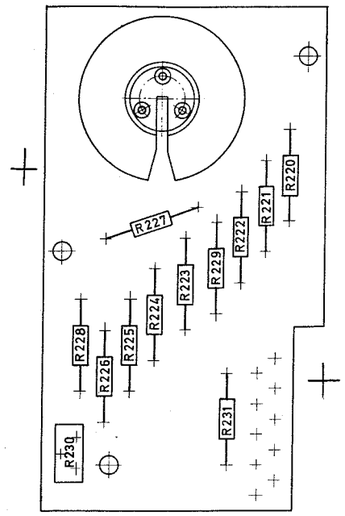
Gleichrichter
Rectifier



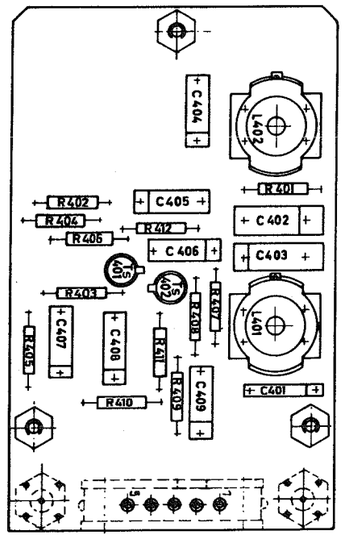
Stabilisierung
Stabilization



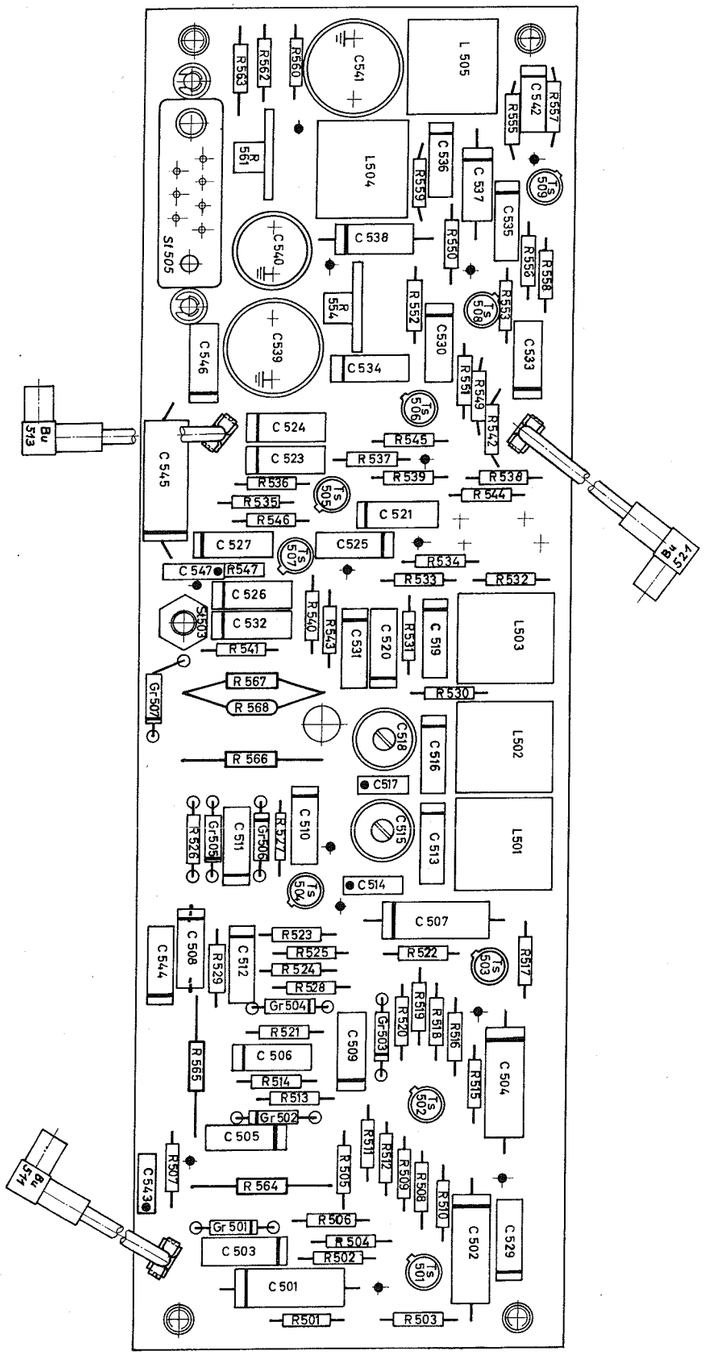
Wandler
Converter



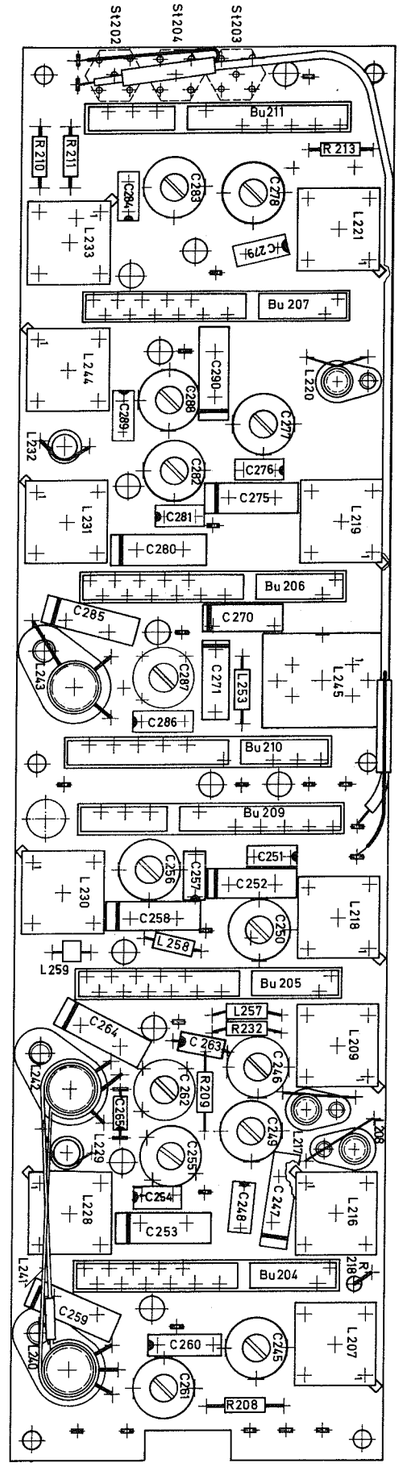
Schalter
Switch



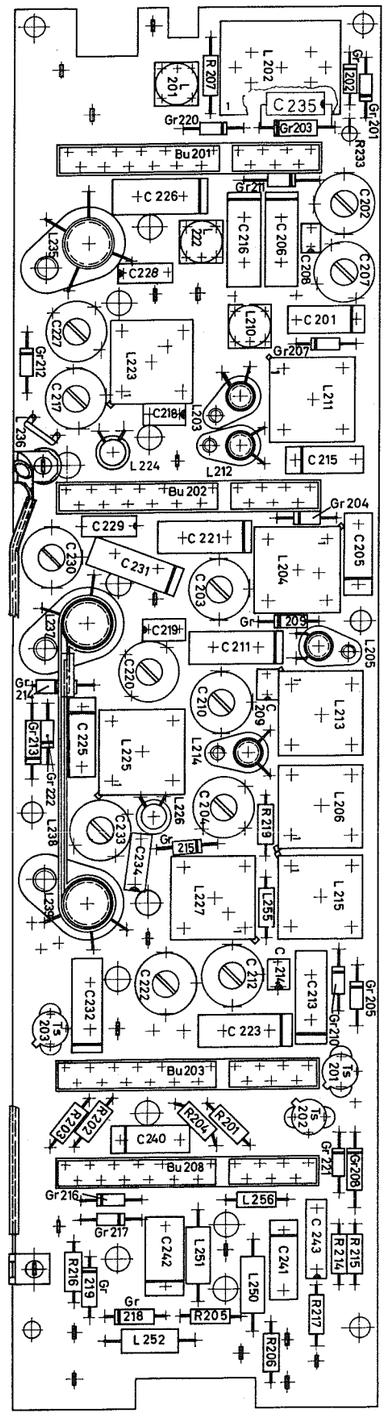
ZF-Stufe
IF Stage



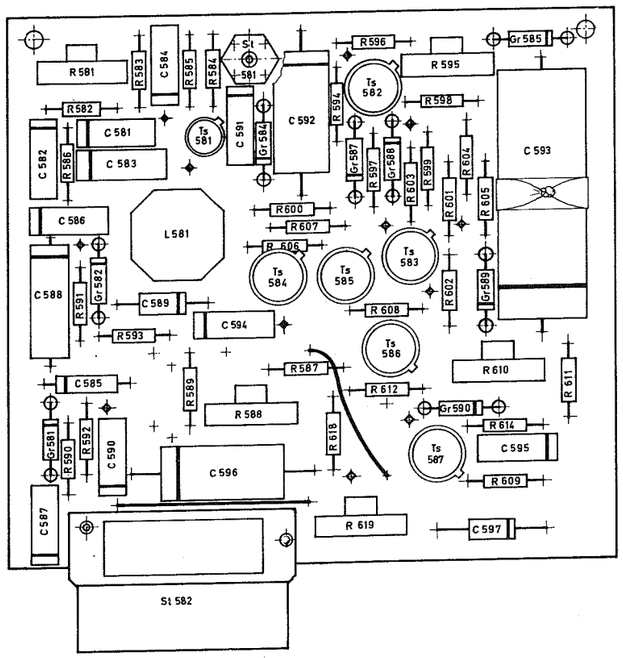
ZF-Verstärker
IF Amplifier



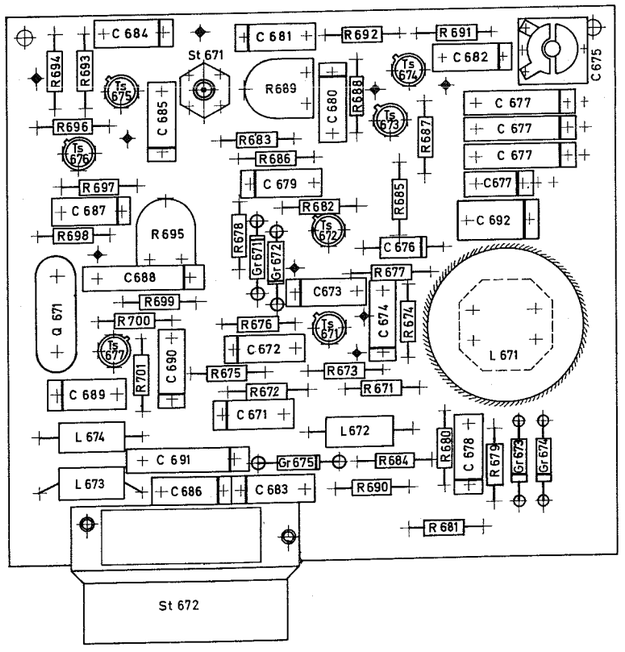
HF-Leiterplatte 2
RF Circuit Board 2



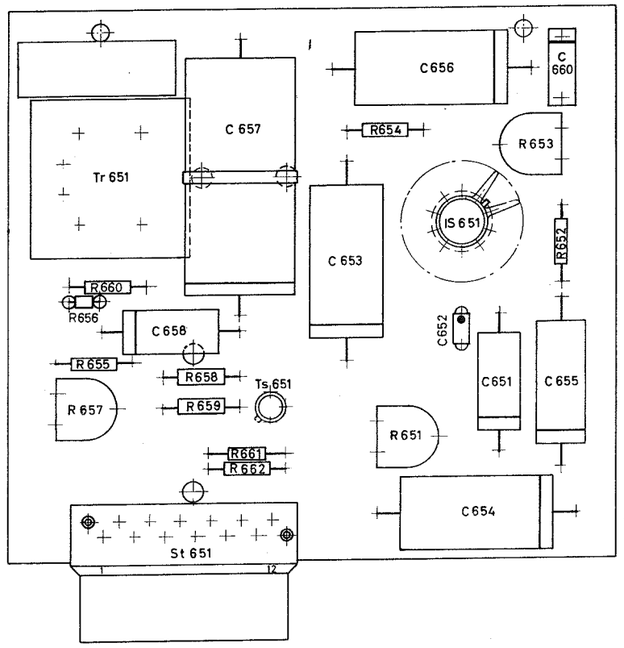
HF-Leiterplatte 1
RF Circuit Board 1



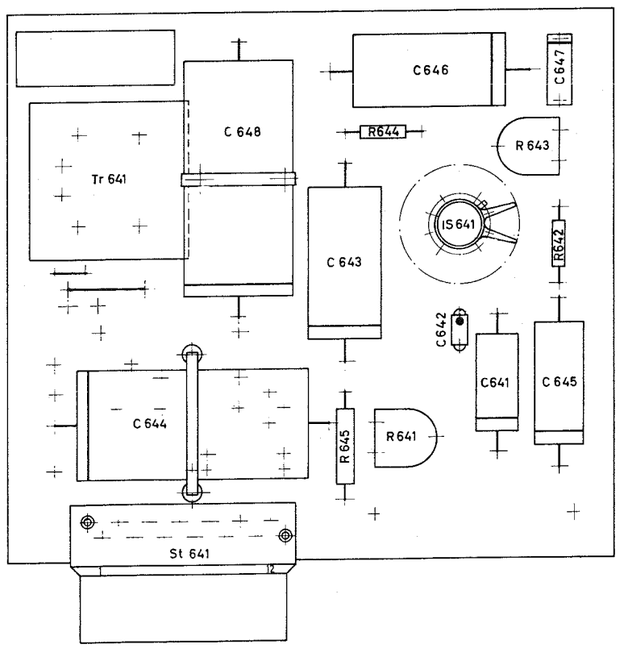
Regelverstärker
AGC Amplifier



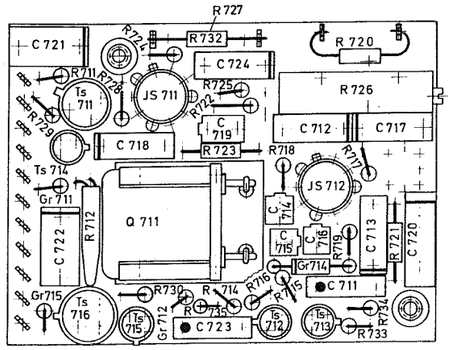
A1- und A3J-Oszillator
BFO and SSB Oscillator



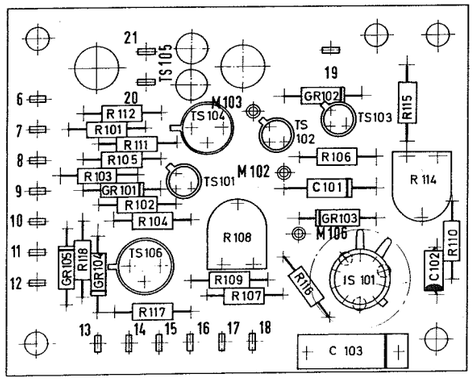
NF-Leitungsverstärker (600 Ω)
AF Line Amplifier (600 Ω)



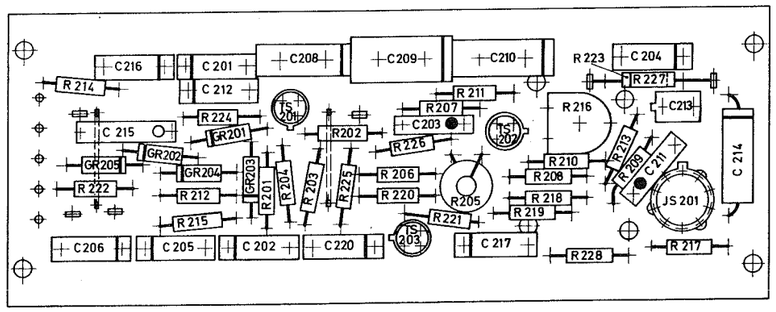
NF-Abhör-Verstärker
AF Amplifier



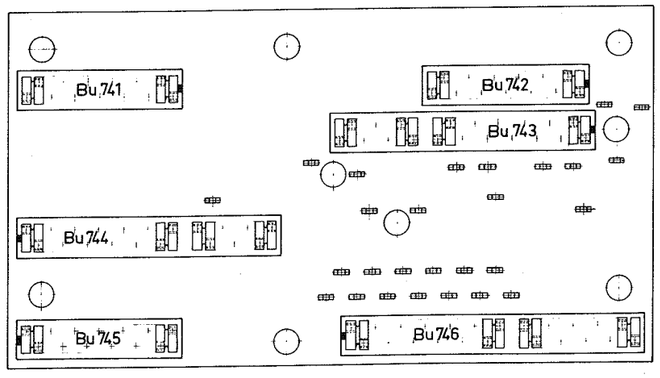
Frequenznormal
Reference Frequency Generator



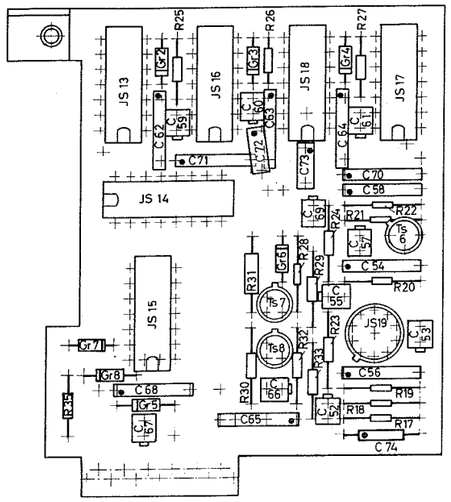
Thermostat 2
Thermostat 2



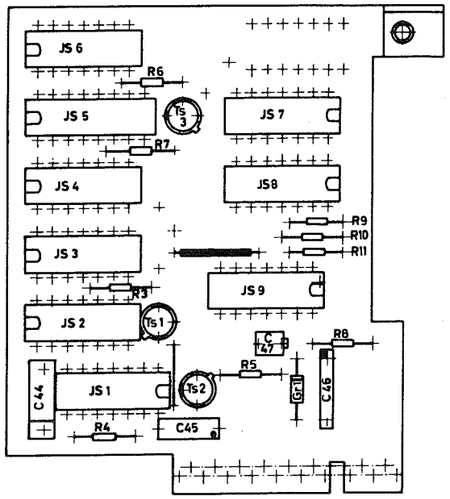
Oszillator
Oscillator



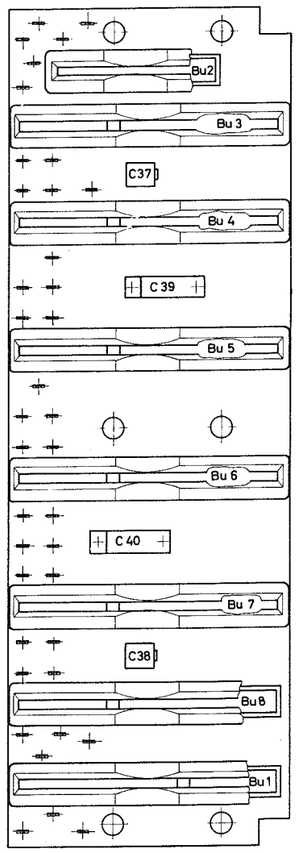
Grundplatte Frequenzregelung
Base Plate of Frequency Control



Tor-Baugruppe
Gate Plate

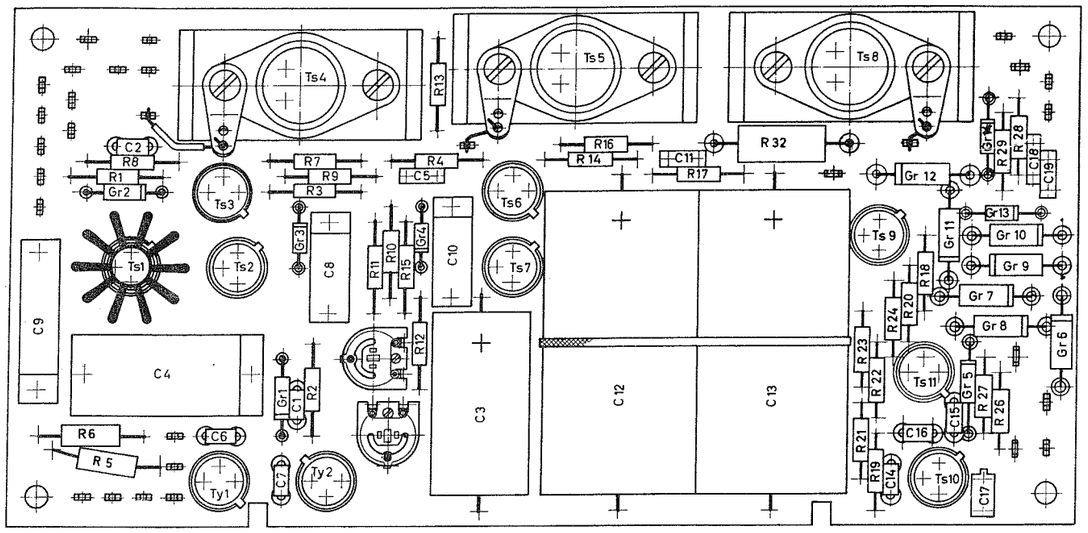


Torzeit-Baugruppe
Gating Time Plate

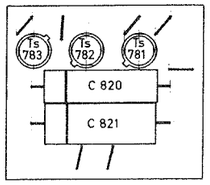


Grundplatte Frequenzanzeiger
Base Plate of Frequency Meter

Zähldekade ZD 1
Counter Decade ZD 1

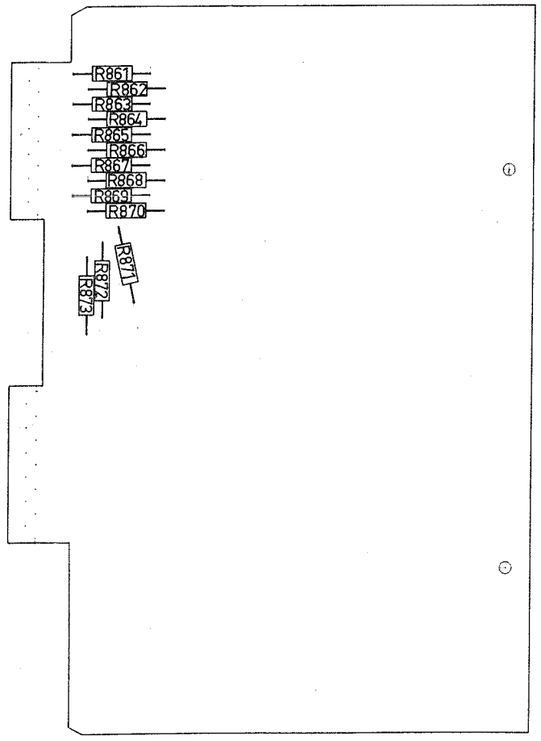


Lüfterbaustein
Ventilation Circuit Board



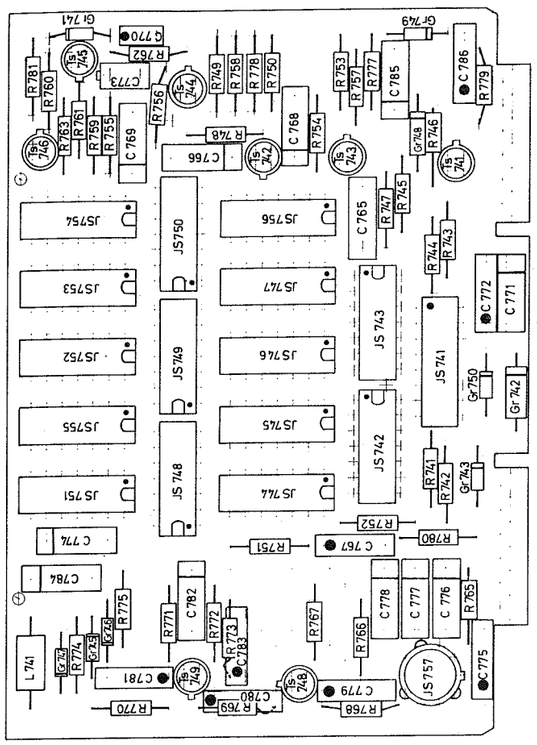
Leiterplatte
Circuit Board

Schaltstufe
Switching Stage

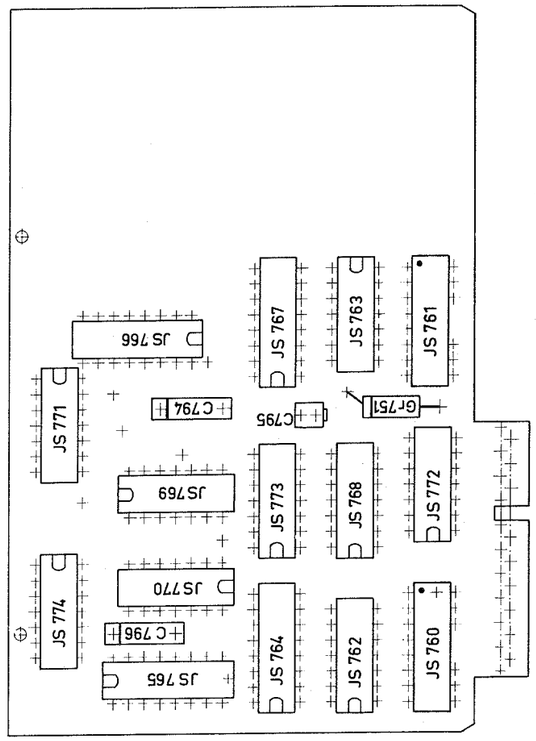


Brückenkarte
Bridging Board

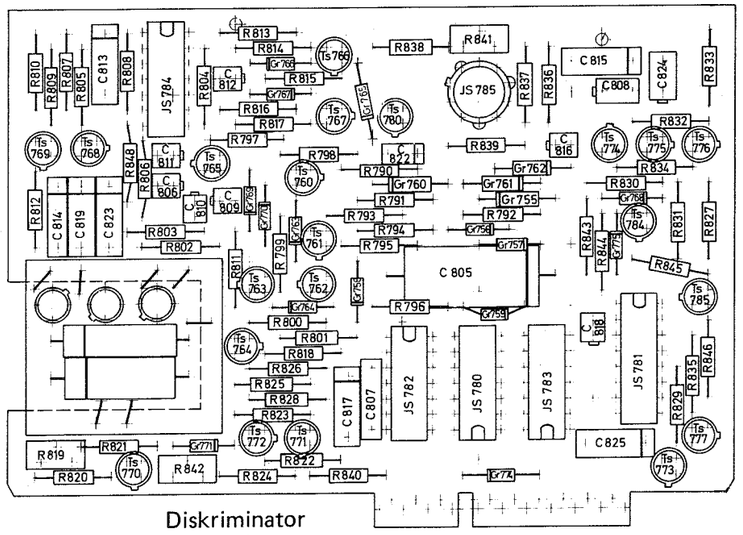
Bestückungspläne E 863
Components Side of Printed Circuit Boards
Anlage 3/*Annex 3*
Blatt 10/*Sheet 10*



Teiler I
Divider I



Teiler II
Divider II



Diskriminator
Discriminator

Bestückungspläne E 863
Components Side of Printed Circuit Boards
Anlage 3/*Annex 3*
Blatt 9/*Sheet 9*

C712 0,22µ
R717 1k
R715 39k
R716 3,9k
Ts712 BC 107 B
C711 0,01µ
Ts713 BC107 B
C723 0,01µ
R734 15k
R733 2,2k
R714 1,8k
Gr712 1N4151
Ts711 BFY 56A
R711 10k
Gr711 1N4148
R712 2,5k
C721 0,47µ
+12,6 V
L711
Anzeige
St711 / 5
R735 2,2k
12
1MHz
St712
IS712 CA 3012
R718 220
C714 1µ
C715 1µ
C716 1µ
C713 0,1µ
C720 82pF
R719 1k
R720
C717 0,1µ
R721 270
R726 1k
R732
R727 6,2k
IS711 MC1460G
C724 0,1µ
R724 5,6k
R728 10
L712
Q711 1MHz
Gr714 BA 163
R722 22k
C718 0,1µ
C719 10µ
R725 3,3k
Ts714 BFX 65
R729 68k
+6,3 V
C-Diode
R723 22k
+24 V
R731
L713
S712
R730 12k
Ts715 BC107B
Ts716 2N1613
Gr715 BZY85 C33
C722 0,47µ
0 V
L714
S711

CA 3012
MC 1460G

BFY 56A
BC 107 B
BFX 65
2N 1613

Stromlaufplan Frequenznormal
Circuit Diagram of Reference Frequency Generator
Anlage 4/*Annex 4*

52.1266.710.00 STR (b)

ST 1 → (BU 6) Eichen, Feinabstimmung, Frequenznachstimmung von Zusatzgeräten.

ST 4 → (BU 36)

Kurzschluß bei E 724 KW/2,
von Frequenzregelung bei E 863 KW/2.

ST 3 → (BU 9)

ST 2 → (BU 217)

Oszillator Ausgang

12,6 V

25 mA

9,5 V

24 V

Temperaturanzeige

+1,5...1,8V
+1,1...1,4V

+ 20...25°C max. 1A
+ 55°C ca 0,25...0,35A

1) Heizwicklung des Thermostaten

2) Kond.-Kombination, Temp.-Koeff. wird vom PR bestimmt (s. 000-00PV)

3) Wert wird vom PR bestimmt

	TS 201	TS 202	TS 203	
U_{Basis}	1,25V- / 0 mV~	1,8V- / 100mV~	4,4V- / 300mV~	± 10 % / ± 20 %
$U_{Kollekt}$	4,6V- / 420mV~	5,8V- / 300mV~	9,5V- / 0mV~	± 10 % / ± 20 %

12 △ Meßpunkt

B / E C — 2N 708, 2N 3440, BCY 59, BFW 44

C am Gehäuse; E, B — 2N 3441

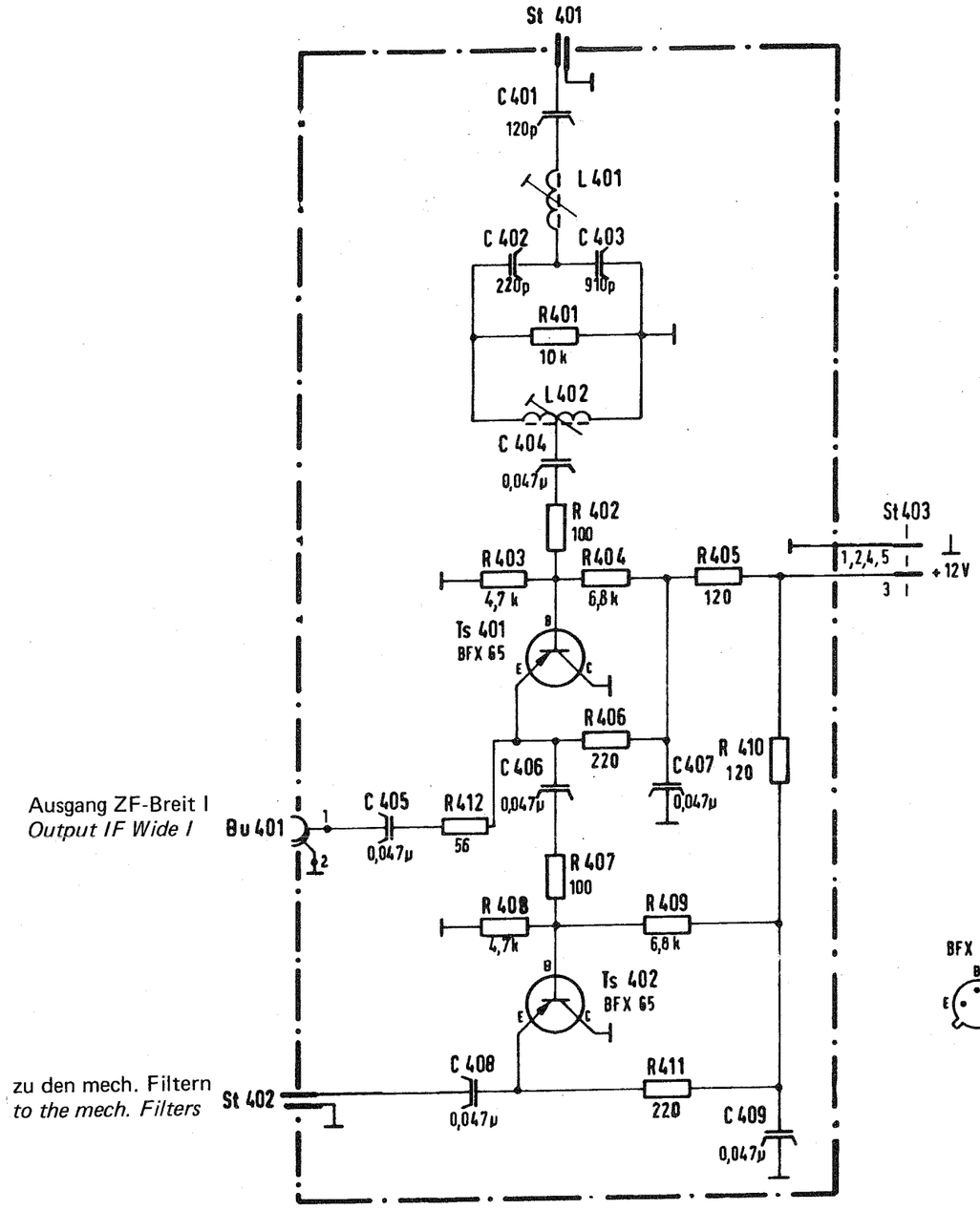
1 / 10 — MC 1460 G, L 123 T 1

Stromlaufplan Variometer-Oszillator
Circuit Diagram of Variometer Oscillator
Anlage 5/*Annex 5*

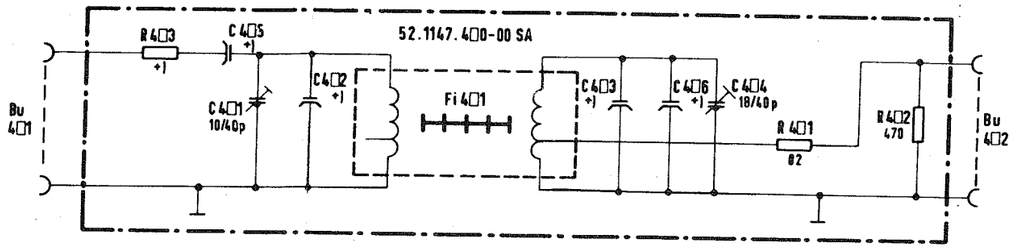
Oszillator
52.1328.200 - 00

Thermostat
52.1328.100 - 00

52.1328.000.00 STR (02)



BFX 65



SA.-Listen-Nr. *List of Components No.*	Bu4□1	Bu4□2	C4□1	pF	C4□2	pF	C4□3	pF	C4□4	pF	C4□5	pF	C4□6	pF	Fi4□1	R4□1	Ω	R4□2	Ω	R4□3	Ω
52.1147.420-00 SA	421	422	421	10/40	422	+)	423	+)	424	10/40	425	+)	426	+)	421	421	82	422	470	423	+)
52.1147.430-00 SA	431	432	431	10/40	432	+)	433	+)	434	10/40	435	+)	436	+)	431	431	82	432	470	433	+)
52.1147.440-00 SA	441	442	441	10/40	442	+)	443	+)	444	10/40	445	+)	446	+)	441	441	82	442	470	443	+)
52.1147.450-00 SA	451	452	451	10/40	452	+)	453	+)	454	10/40	455	+)	456	+)	451	451	82	452	470	453	+)
52.1147.460-00 SA	461	462	461	10/40	462	+)	463	+)	464	10/40	465	+)	466	+)	461	461	82	462	470	463	+)
52.1147.470-00 SA	471	472	471	10/40	472	+)	473	+)	474	10/40	475	+)	476	+)	471	471	82	472	470	473	+)
52.1147.480-00 SA	481	482	481	10/40	482	+)	483	+)	484	10/40	485	+)	486	+)	481	481	82	482	470	483	+)
52.1147.490-00 SA	491	492	491	10/40	492	+)	493	+)	494	10/40	495	+)	496	+)	491	491	82	492	470	493	+)

+) = nach Bedarf
= *according to requirements*

Stromlaufplan ZF-Stufe
Circuit Diagram of IF Stage
Anlage 6/*Annex 6*

52.1260.400.00 STR (a)

52.1147.$\frac{420}{490}$.00 STR (b)

Stromlaufplan Filterstreifen 1 bis 8
Circuit Diagram of Filter Strips 1 to 8
Anlage 7/*Annex 7*

A	5,21V
B	5,06V

A	2,18V
B	2,21V

A	0,94V
B	0,83V

A	6,5V
B	8,15V

A	6,5V
B	8,15V

A	6,2V
B	7,88V

A	3,7V
B	4,45V

A	9,75V
B	6,1V

585 586 587 588 589 590 591 592

R594 27 k
Gr 587 AAZ15
R597 2,2k
Gr 584 AAZ 15
Ts 582 BSY 44
Gr 588 BZY85/C5V6
R595 5k
R596 2,2k
Gr 585 BAY 67
R598 220
R599 2,7k
R600 4,7k
R601 3,9 k
Ts 583 BSY 44
R602 6,8 k
R603 220
R604 1 k
R605 390 k
C593 250 µ
Gr 589 BAY 67
C594 0,1 µ
Ts 584 BSY 44
Ts 585 BSY 44
Ts 586 2N 1132
R606 100 k
R607 10 k
R608 390
R609 270
R610 1k
Gr 590 AAZ 15
R611 680
C595 0,1µ
R612 2,2k
R614 56k
R618 560
C596 25µ
R619 500
C597 4,7µ
Ts 587 BSY 44

C591 0,1µ
C592 25µ
C590 0,047µ

A	0,64V
B	0,5 V

584

St 582/ 12 [Bu12]

/1 Masse

/11 /4 Bu29

/2

/8

/9 → ZF-Regelspg.

/10 /3 +12,6V HF-Regelspg.

+12,6V

BETRIEBSART

HAND
A2/A3
A3J
A1

A1
A3J
AUTOM.

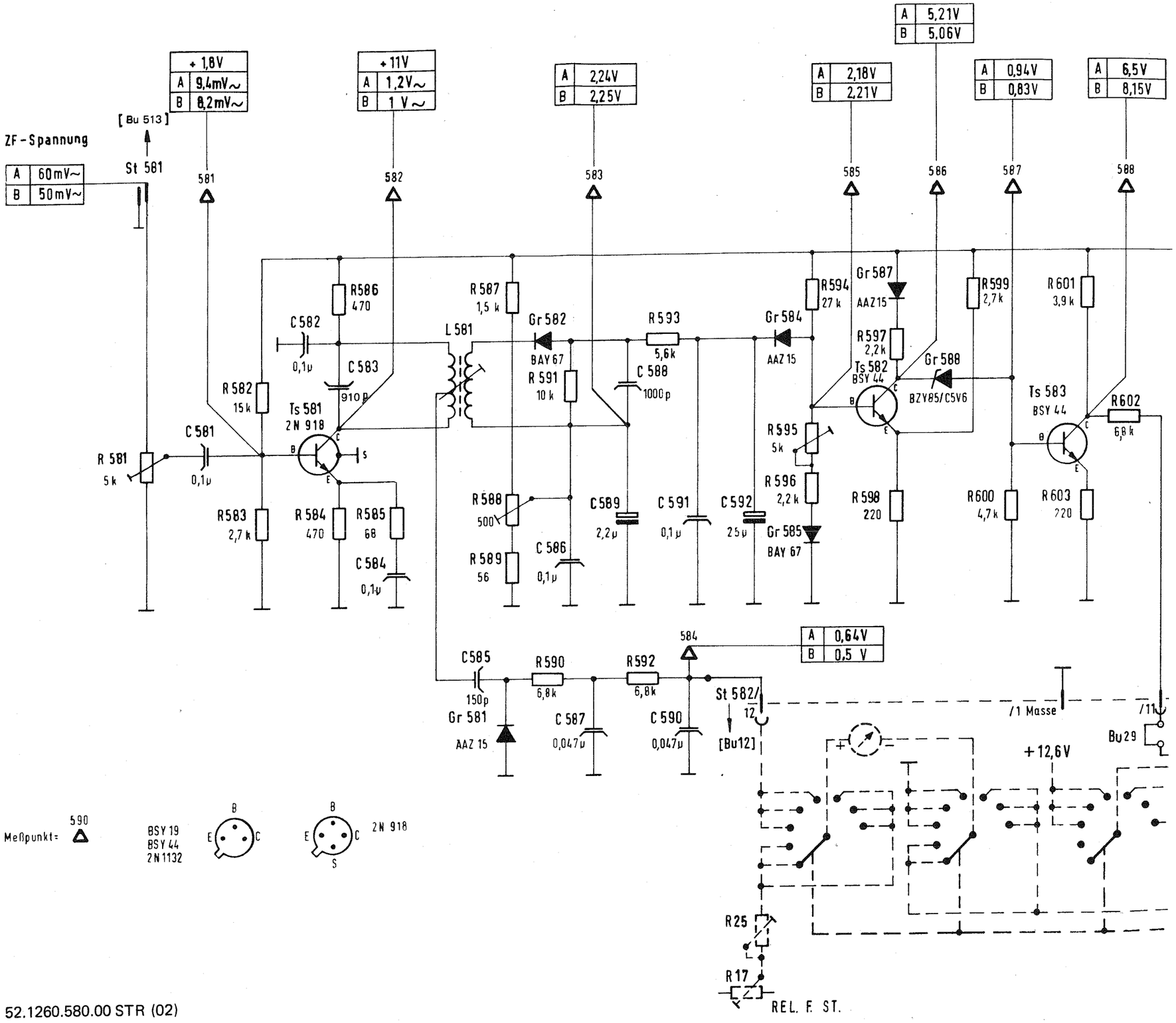
AUTOM
A2/A3
A2/A3
F1/F6

R25
R17
REL. F. ST.

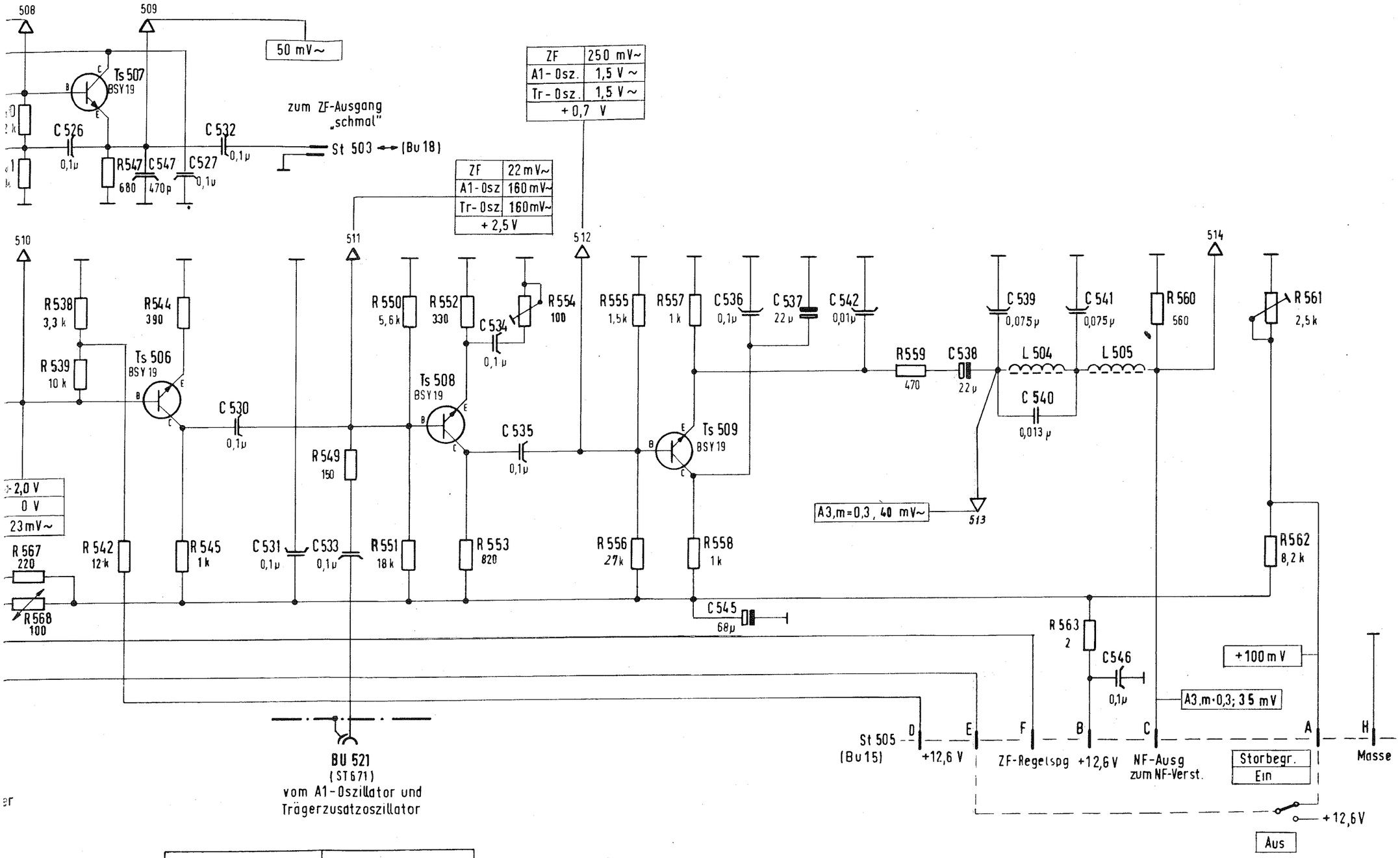
HF-Regelung

Stromlaufplan Regelverstärker
Circuit Diagram of AGC-Amplifier
Anlage 8/*Annex 8*

TELEFUNKEN

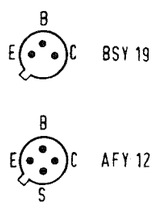


52.1260.580.00 STR (02)



Maximale Verstärkung Vmax.	Zwisch. Meßpunkt	
10 — 15	501	502
5 — 10	502	503
5 — 10	503	504
10 — 15	504	505

△ = Meßpunkt



Stromlaufplan ZF-Verstärker
Circuit Diagram of IF Amplifier
Anlage 9/*Annex 9*

55 mV~
+3,5 V

508

509

R 546
390

Ts 507
BSY 19

R 540
8,2 k

R 543
12 k

R 541
8,2 k

C 526
0,1µ

R 547
680

C 547
470p

C 527
0,1µ

C 525
0,1µ

510

R 538
3,3 k

R 539
10 k

R 544
390

Ts 506
BSY 19

C 523
0,1µ

R 537
6,8 k

+2,0 V
0 V
23 mV~

C 524
0,1µ

R 567
220

R 568
100

R 542
12 k

R 545
1 k

R 526
100 k

Gr 505
AAZ 15

Gr 506

C 511
0,1µ

R 566
1 k

+ 6,6 V

R 527
100 k

50 mV~

504

505

66 mV~
+4,0 V

507

R 517
2,2 k

C 509
0,1µ

R 522
30 k

C 507
0,01µ

R 520
47

Gr 503
AAZ 15

Ts 504
AFY12

C 510
0,1µ

C 512
0,1µ

L 501

C 513
1000 p

C 514
18 p

C 515
3/10 p

L 502

R 530
180 k

C 516
1000 p

C 517
11 p

C 518
2/6 p

L 503

R 531
27 k

C 519
1000 p

C 520
0,1µ

R 532
10 k

R 533
10 k

C 521
0,1µ

R 535
1,8 k

Ts 505
BSY 19

R 528
120

Gr 504
AAZ 15

R 523
6,8 k

R 524
1,2 k

R 521
1,5 k

R 525
3,3 k

R 529
3,9 k

R 534
15 k

R 536
270

C 508
22µ

C 544
0,1µ

506

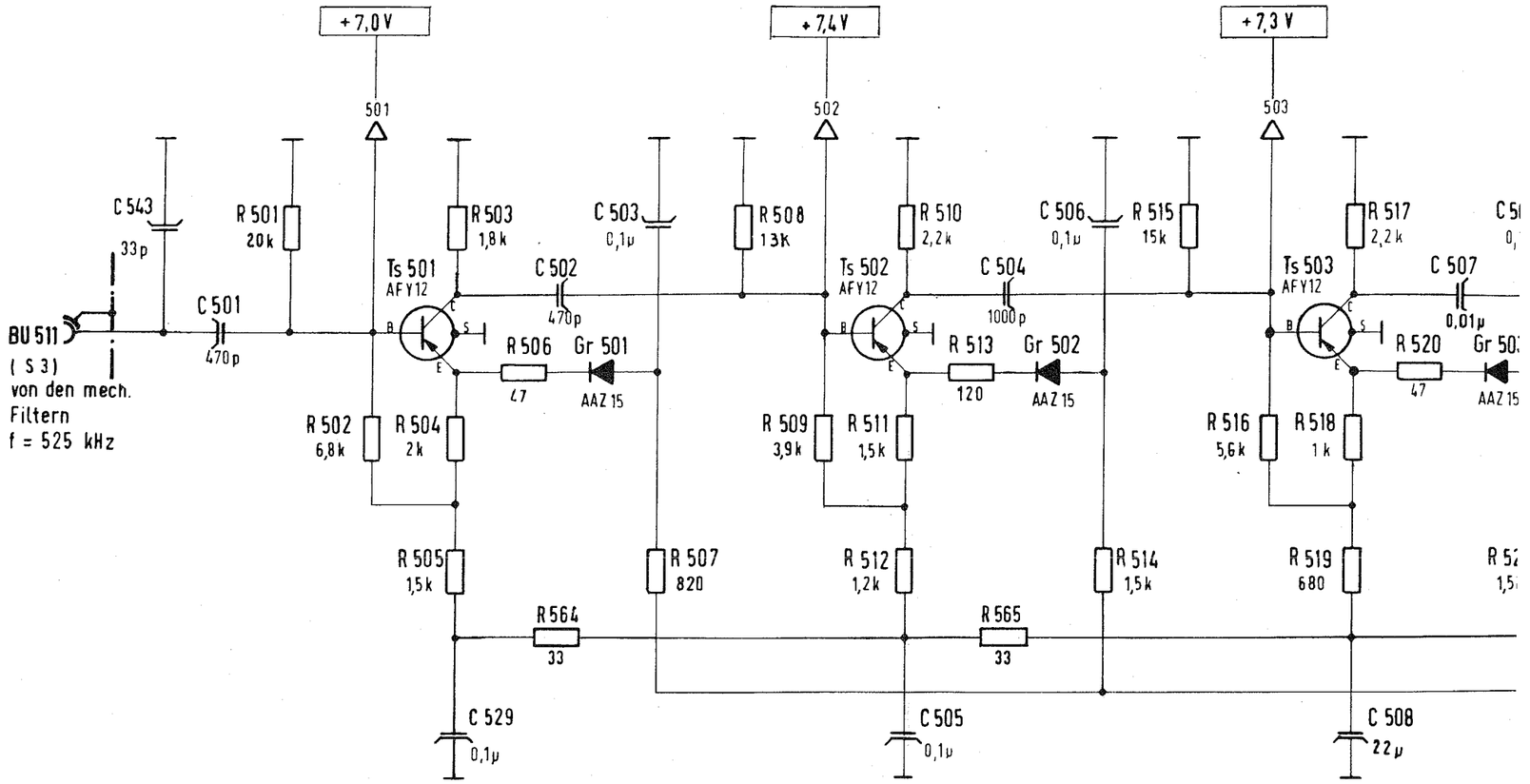
Gr 507
BZY 85/8

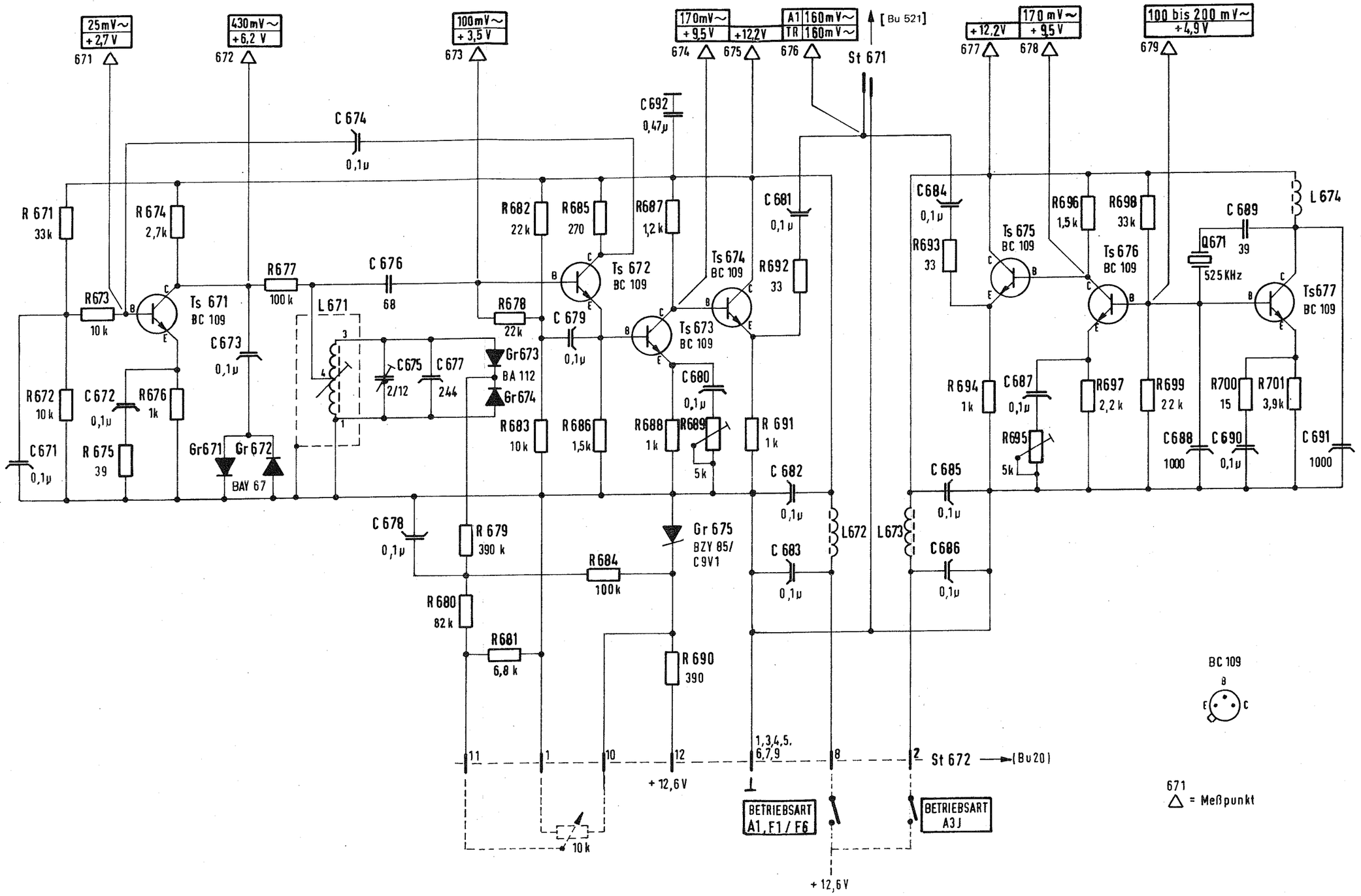
HF-Regler linker Anschlag 6,6 V bis 7 V
HF-Regler rechter Anschlag 8,3 V bis 8,5 V

BU 513
(ST 581)
zum Regelverstärker

55 mV~

| M
Verstär |
| --- |
| 10 |
| 5 |
| 5 |
| 10 |


+7,0 V
+7,4 V
+7,3 V
501
502
503
C 543
33p
BU 511
(S 3)
von den mech.
Filtern
f = 525 kHz
C 501
470p
R 501
20k
Ts 501
AFY12
R 503
1,8k
C 502
470p
R 506
47
Gr 501
AAZ 15
C 503
0,1µ
R 502
6,8k
R 504
2k
R 505
1,5k
R 564
33
C 529
0,1µ
R 508
13k
Ts 502
AFY12
R 510
2,2k
C 504
1000p
R 513
120
Gr 502
AAZ 15
C 506
0,1µ
R 509
3,9k
R 511
1,5k
R 507
820
R 512
1,2k
R 565
33
C 505
0,1µ
R 515
15k
Ts 503
AFY12
R 517
2,2k
C 507
0,01µ
R 520
47
Gr 50
AAZ 15
R 516
5,6k
R 518
1k
R 514
1,5k
R 519
680
C 508
22µ

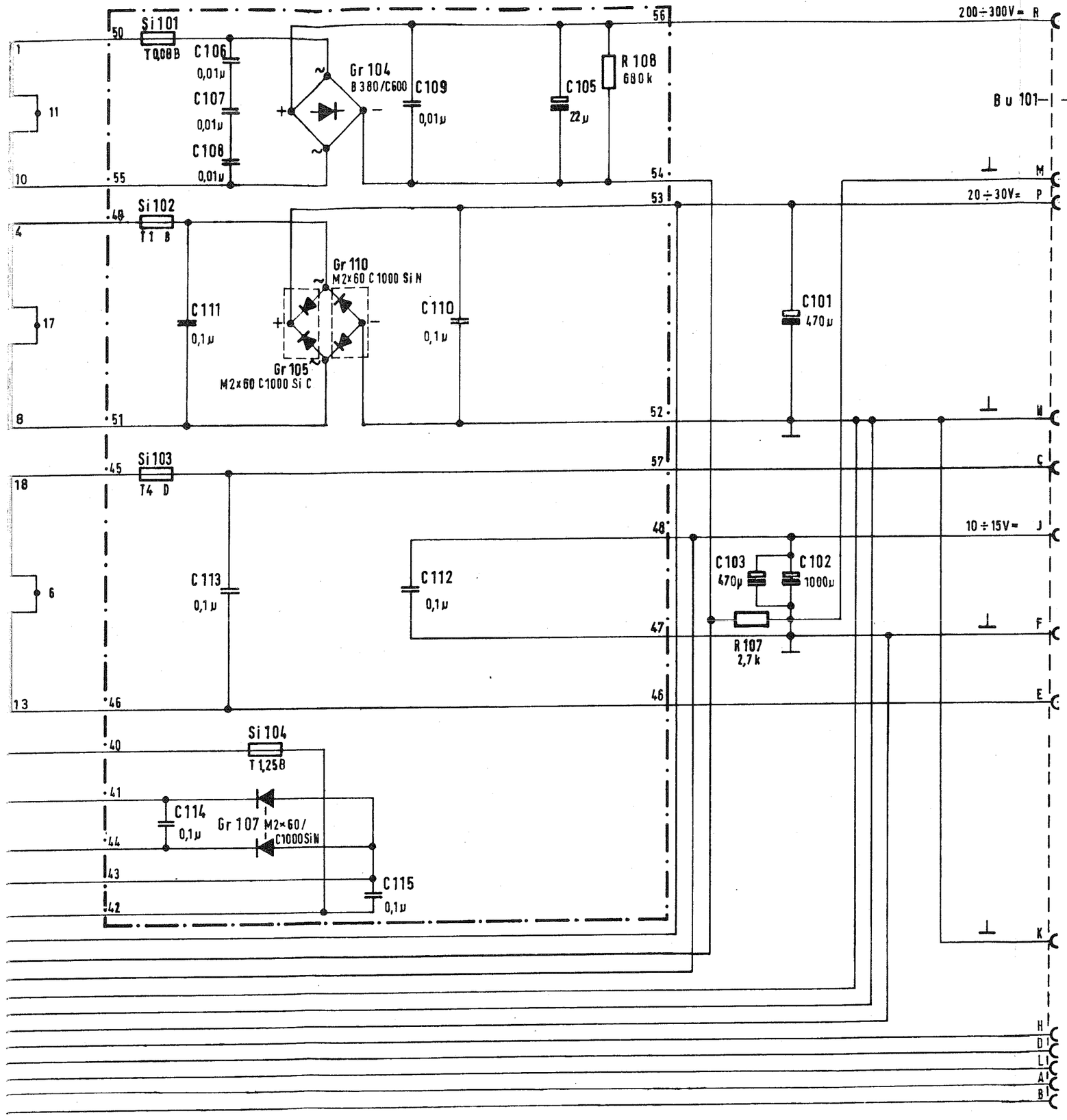


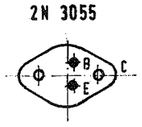
Stromlaufplan A1- und A3J-Oszillator

Circuit Diagram of BFO and A3J Carrier Oscillator (SSB Oscillator)

Anlage 10/*Annex 10*

52.1260.670.00 STR (03)





Stromlaufplan Netzteil
Circuit Diagram of Mains Power Supply Section
Anlage 12/*Annex 12*

(Bu 24) → St 101

R ~

P ~

X,

S

J + Batterie

M - Batterie

E +Thermostat

T

W

C

K NF

N 12,6 V allgem.

F 6 V

H + 9 V NF

D + 6 V

L +12,6 V allgem.

A

B +180 V

Hetz
Batterie

S 101

V

VI

S102

220V
110V

I

II

III

IV

Tr101

Wandler, vollst.
.115-00

R 101
5,6 k

R104
5,6 k

R105
6,8 k

R106
2,7 k

R102
6,8 k

R103
2,7 k

C 116
0,01 µ

C 117
0,01 µ

Gr103
BZY85/
C9 V1

Gr109
BZY85
/ C 27

Gr108
BZY85/
C27

Gr102
BZY85/
C9 V1

Ts 103
2N 1893

Ts 101
2N 3055

Ts 102
2N 3055

Ts 104
2N 1893

Gr 101
1N 2493C

Ts 3
E C B

+6V

Si101
T Q08B

C106
0,01µ

C107
0,01µ

C108
0,01µ

Si102
T1 B

C 111
0,1 µ

Gr
M2×60 C1000

Si103
T4 D

C 113
0,1 µ

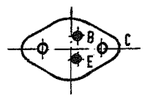
Si 104
T 1,25B

C 114
0,1 µ

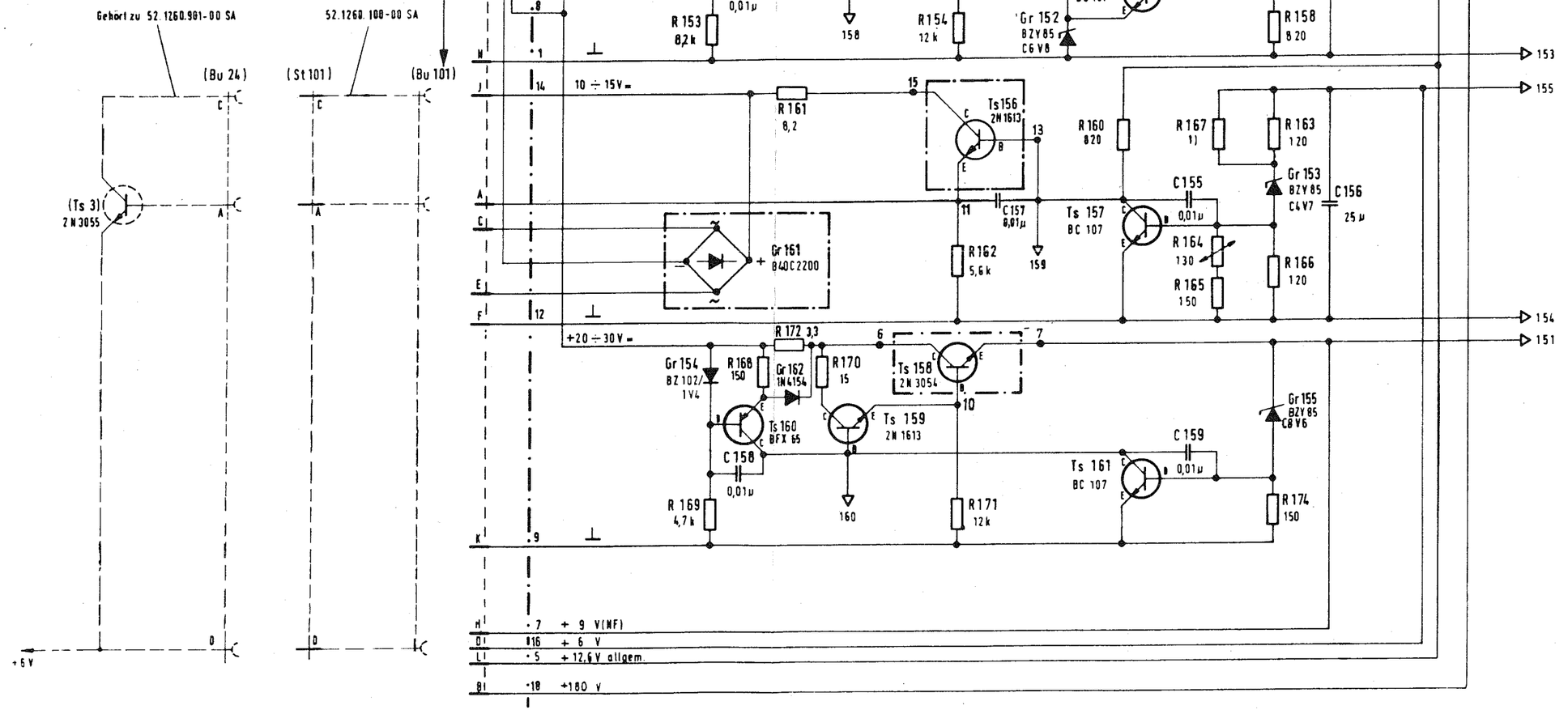
Gr 107 M2×
C1

2N 1613
2N 3439
BC 107
BFX 65

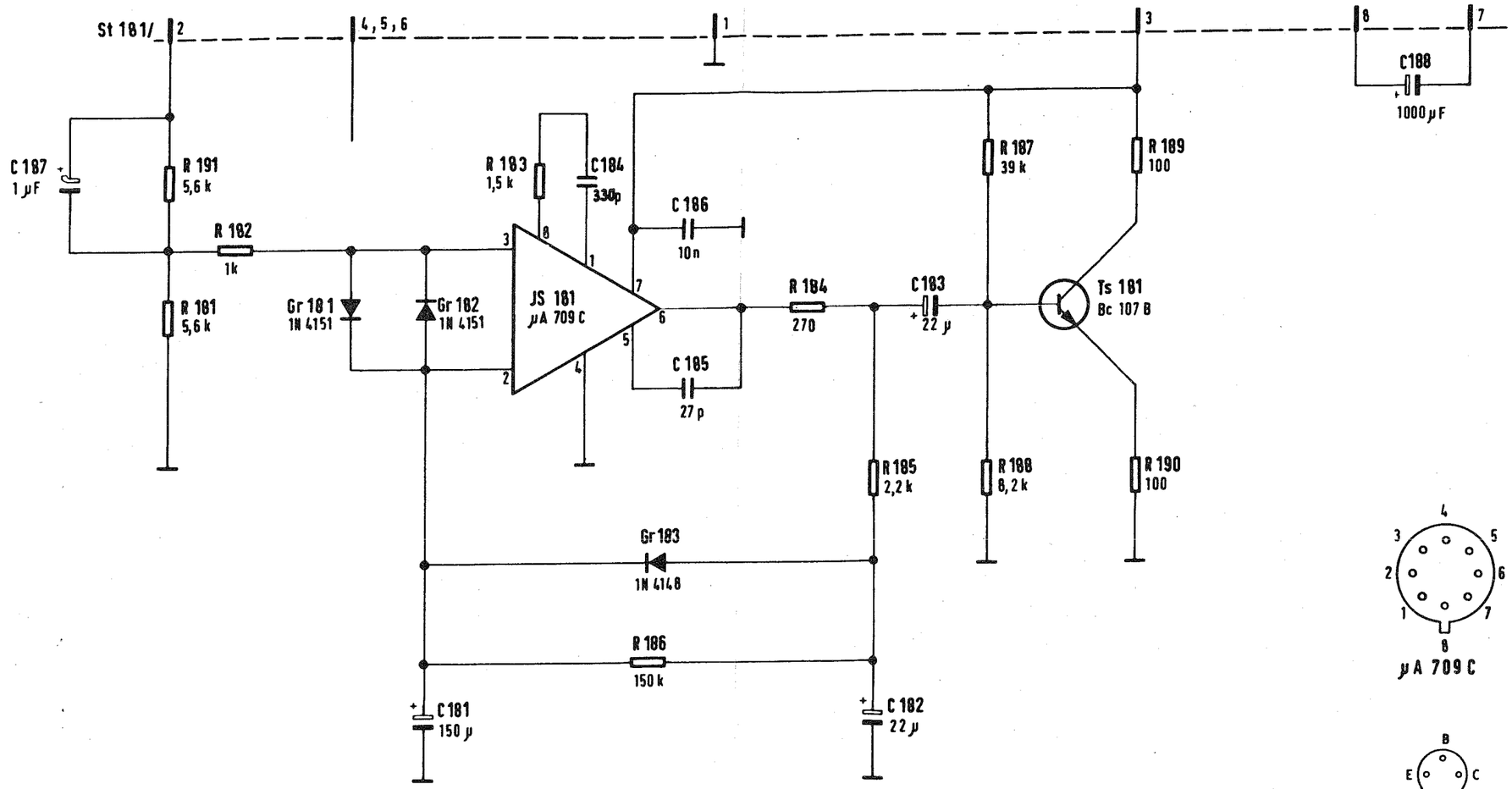
2N 3054



1) siehe Schaltteilliste 4.6.3
see List of Components 4.6.3



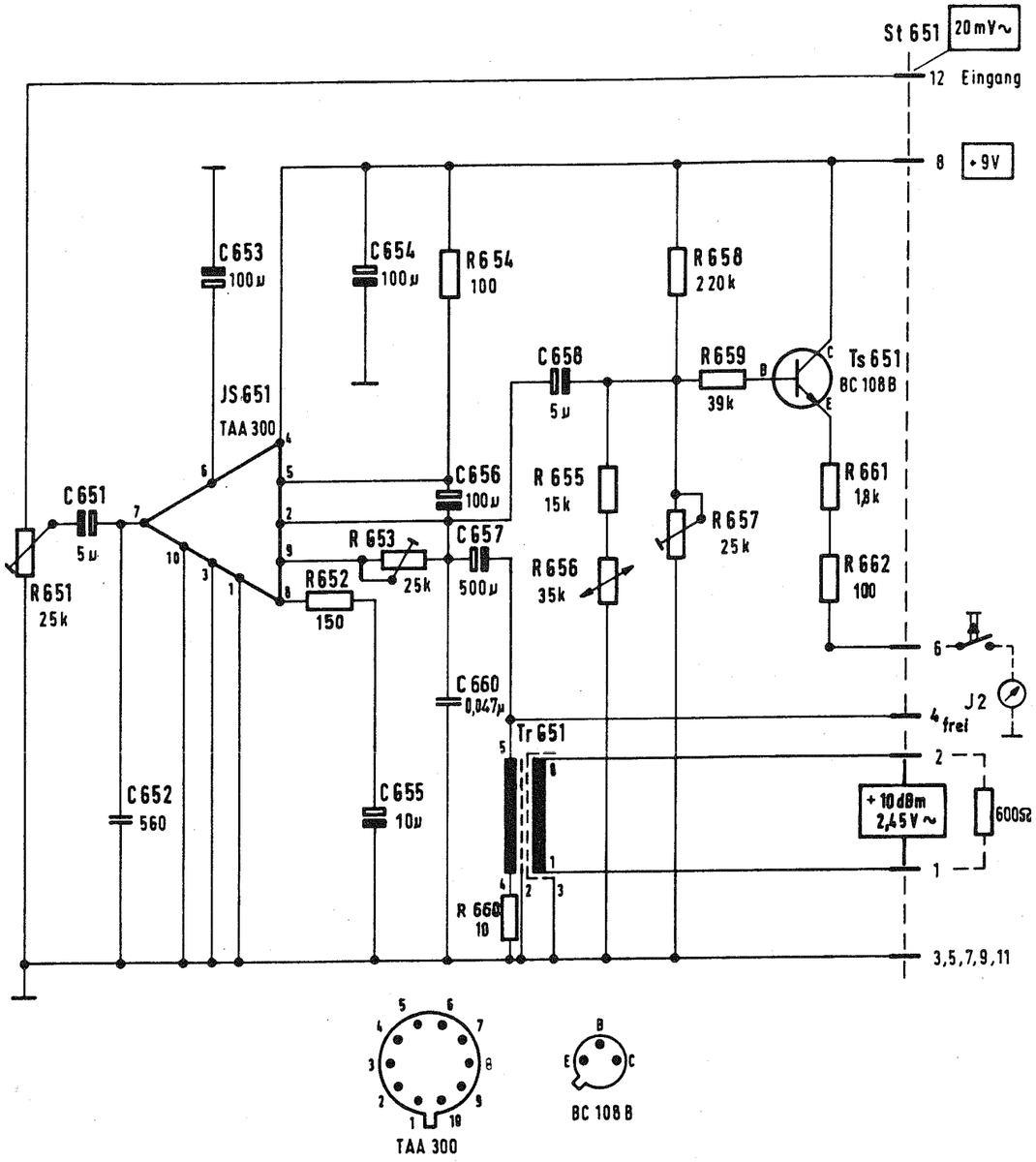
Stromlaufplan Stabilisierung
Circuit Diagram of Stabilizer
Anlage 13/*Annex 13*



Bc 107 B

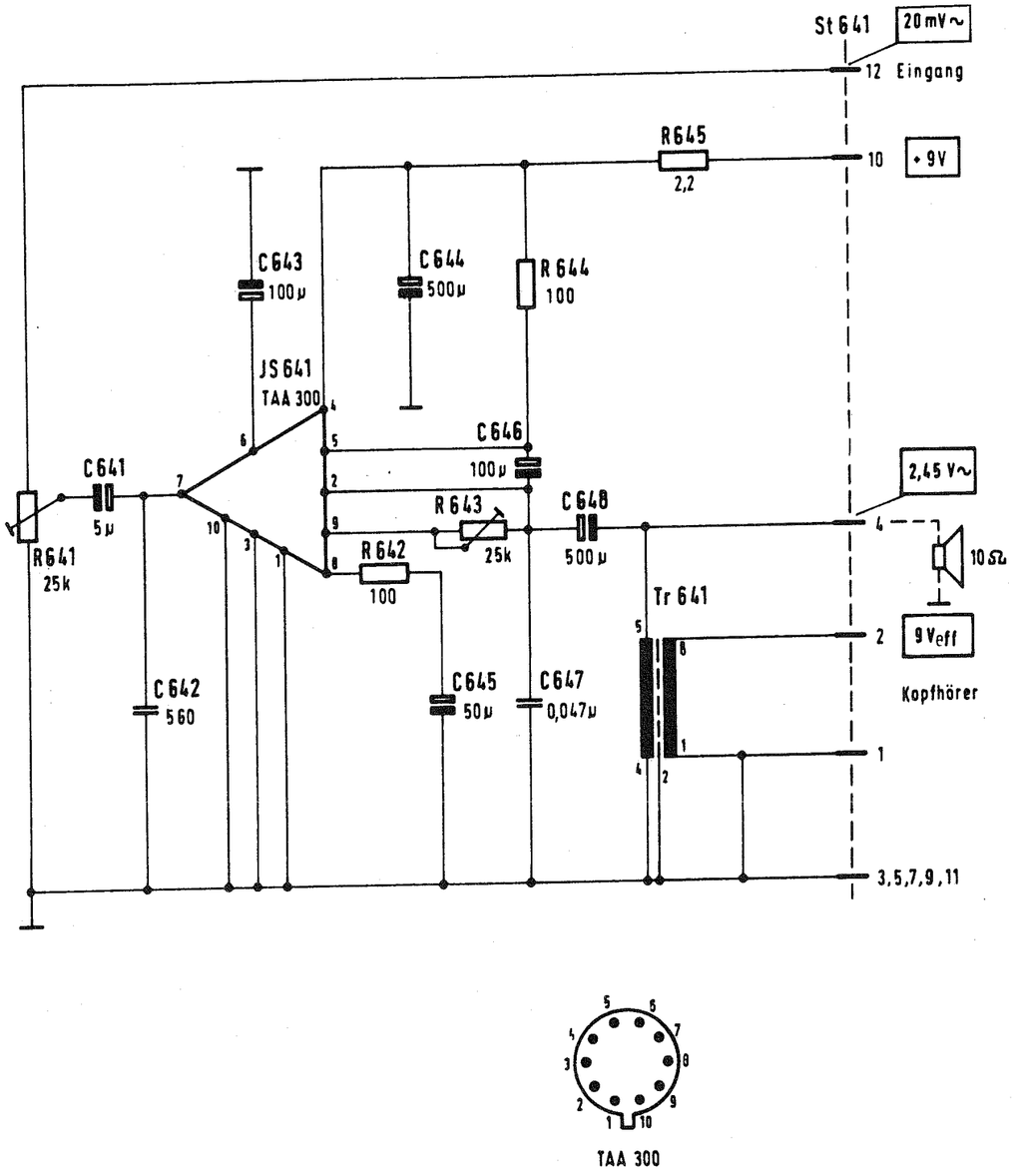
52.1260.180.00 STR (a1)

Stromlaufplan Siebschaltung
Circuit Diagram of Smoothing Circuit
Anlage 14/ *Annex 14*



Stromlaufplan NF-Leitungsverstärker
Circuit Diagram of AF Line Amplifier
Anlage 15/*Annex 15*

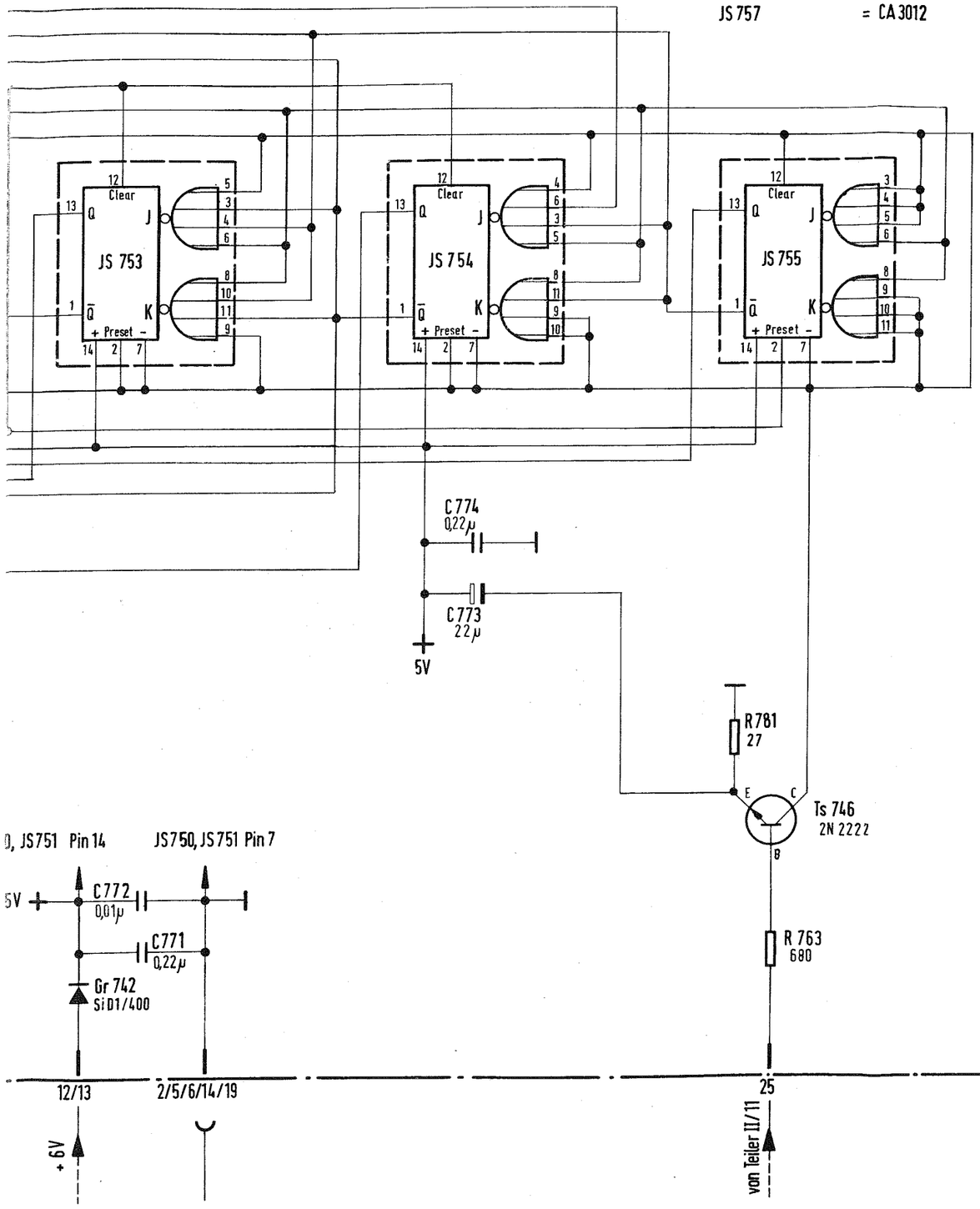
52.1266.650.00 STR (b)

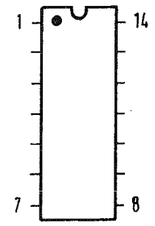


Stromlaufplan NF-Abhörverstärker
Circuit Diagram of AF Monitor Amplifier
Anlage 11/*Annex 11*

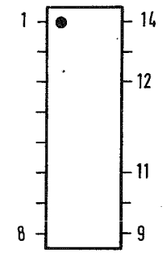
52.1266.640.00 STR (a)

JS 741 = BSW 17
JS 742, JS 743, JS 756 = MC 1210 L
JS 744 – JS 749 } = MC 1213 L
JS 752 – JS 755 }
JS 750 = MC 1207 L
JS 751 = MC 1204 L
JS 757 = CA 3012

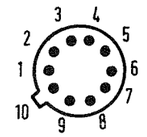




MC 1204 L
MC 1207 L
MC 1210 L
MC 1213 L

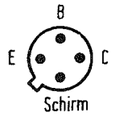


BSW 17



CA 3012

2N 2222
BFX 65

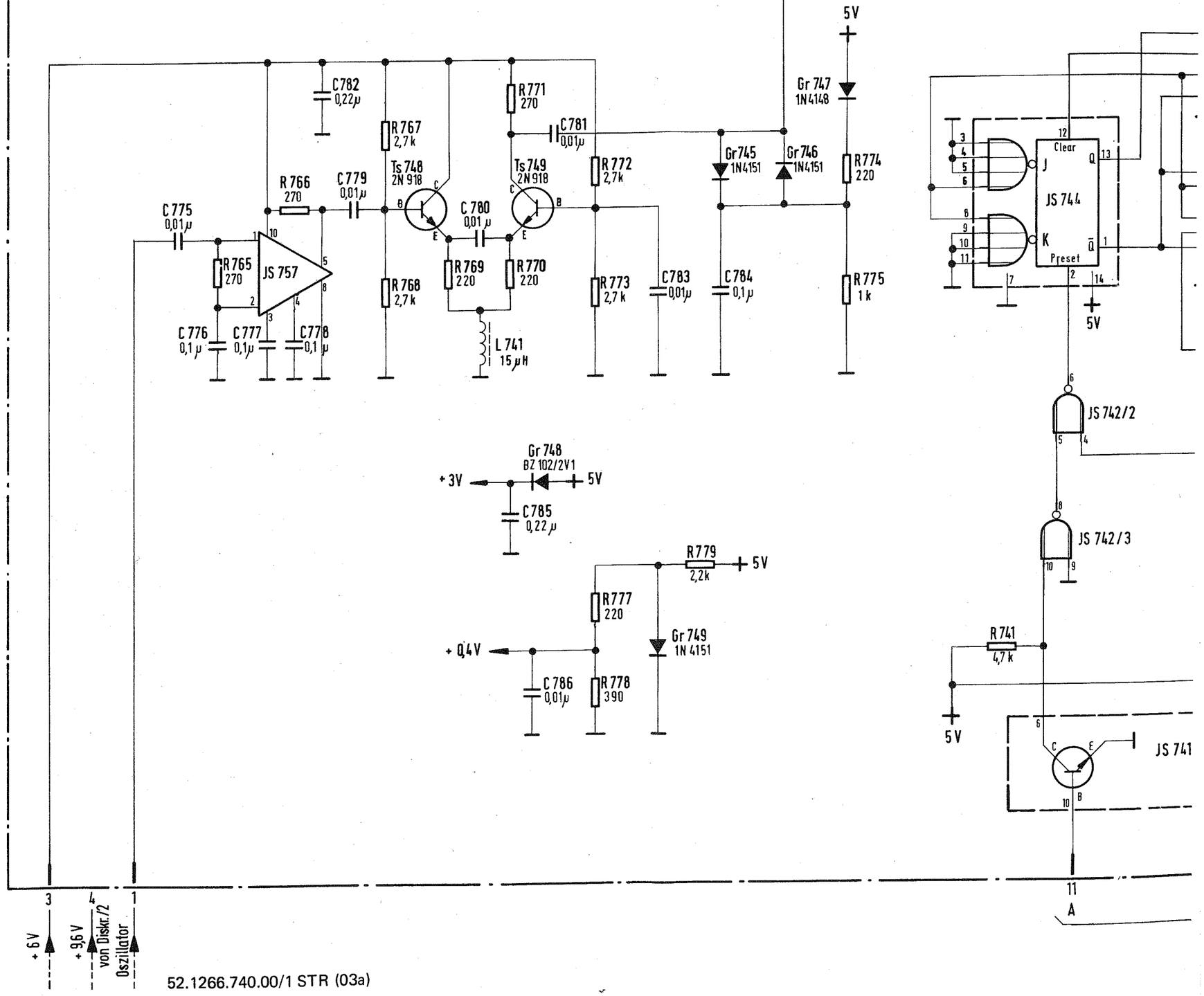


2N 918

Stromlaufplan Frequenzregelung
Teilerkarte I
Circuit Diagram of Frequency Control
Frequency Divider Circuit Board I
Anlage 16/*Annex 16*

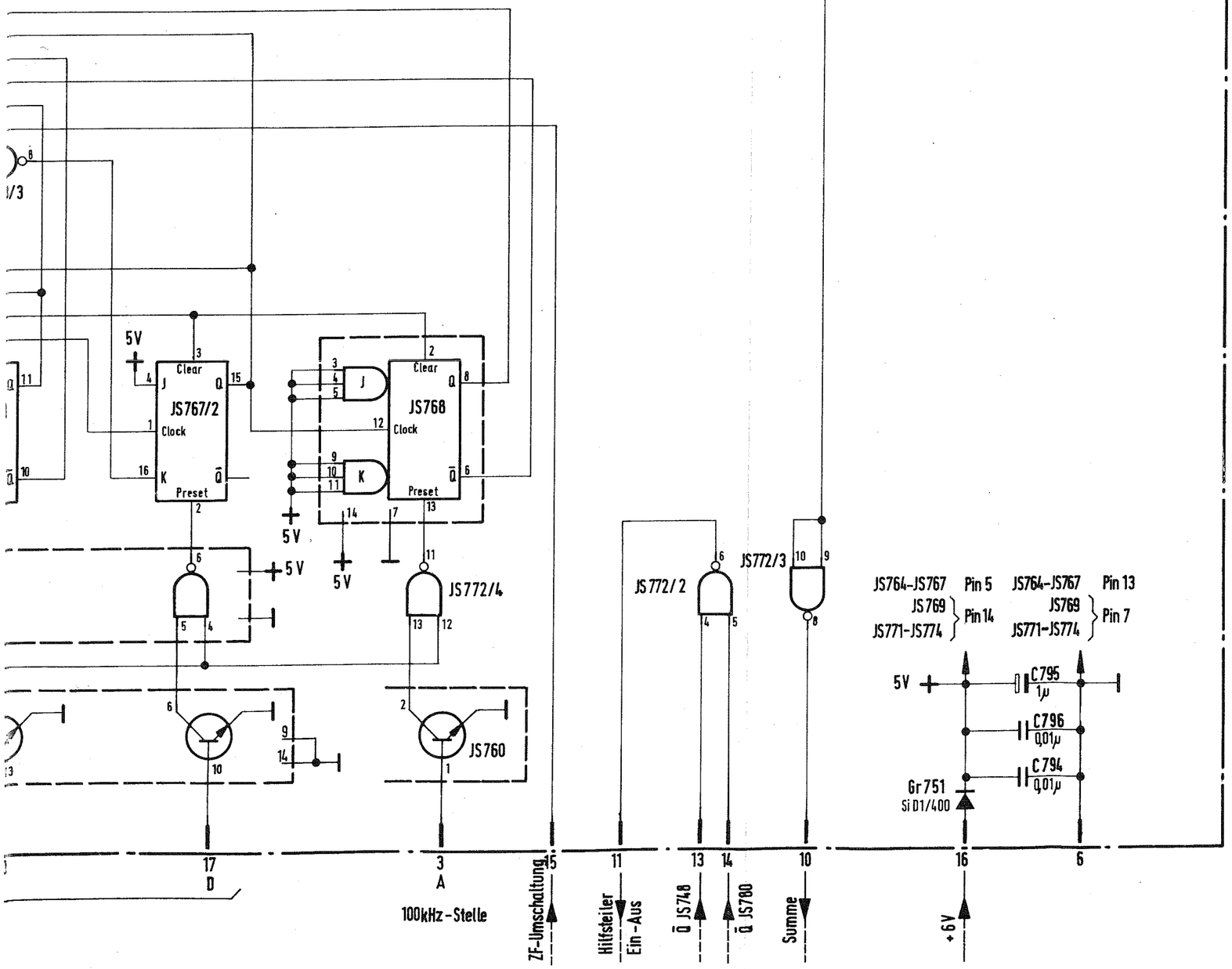
JS 744
JS 745
JS 746
JS 747
JS 749
JS 748
JS 752
JS 751/1
JS 751/2
JS 750/1
JS 750/3
JS 750/2
JS 756/3
JS 756/2
JS 742/2
JS 742/1
JS 743/2
JS 743/1
JS 742/3
JS 742/4
JS 743/3
JS 743/4
JS 741
Clear
Preset
5V
R742 4,7k
R743 4,7k
R744 4,7k
C765 0,068µ
C766 0,068µ
C767 0,01µ
C768 0,15µ
C769 0,068µ
R747 470
R749 2,7k
R752 15k
R751 27k
R753 2,7k
R755 2,7k
R759 560
Gr 741 1N4148
0,4V
R745 180
R748 180
Gr 743 1N4151
Gr 750 1N4151
R754 180
R756 180
R761 560
R760 5,6k
Ts 741 2N918
Ts 742 2N918
Ts 743 2N918
Ts 744 2N918
Ts 745 2N918
R780 100
R746 470
R750 470
R757 470
R758 470
R762 10k
C770 27
3V
JS750, JS751
11 A
10 B
16 C
15 D
100 Hz-Stelle
18 zu Teiler II/7
22 Preset
9 von Diskr. /12
20 zu Teiler II/13
zu Diskr. /14
24 Clear
26 Summe
12 +6V

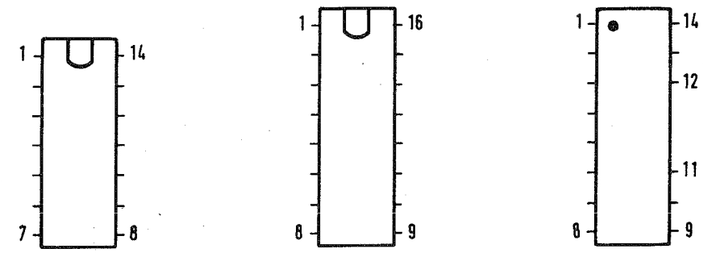
52.1266.740-00 SA
Teilerkarte I



52.1266.740.00/1 STR (03a)

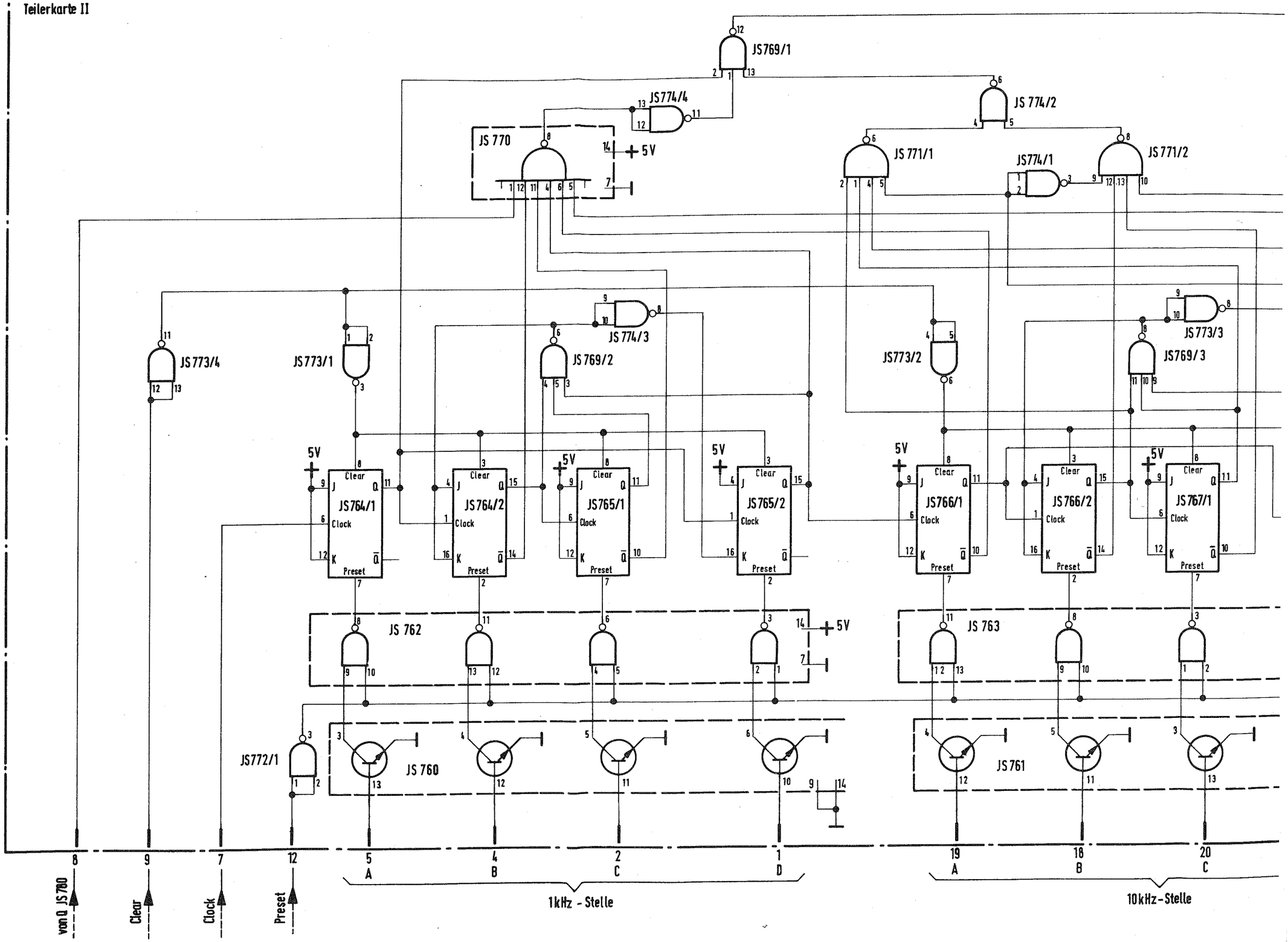
JS 760, JS761 = BSW 17
JS762, JS763 } = SN8400 N
JS772–JS774 }
JS764–JS767 = SN 8476 N
JS 768 = SN8472N
JS 769 = SN 8410N
JS 770 = SN 8430N
JS 771 = SN 8420N





Stromlaufplan Frequenzregelung
Teilerkarte II
Circuit Diagram of Frequency Control
Frequency Divider Circuit Board II
Anlage 17/*Annex 17*

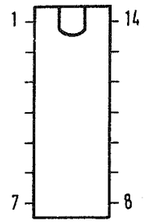
52.1266.740-00 SA
Teilerkarte II



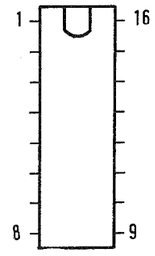
52.1266.740.00/2 STR (b1

JS780 = SN8472N
JS781 = SN8476N
JS782–JS784 = SN8400N

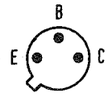
JS 783/2
JS783/4
JS 783/3
Gr768 1N4148
Gr775 1N4148
C808 15µ
R830 18k
R831 470k
R843 1,8k
R832 100k
R833 10k
R834 10k
Ts774 BC108B
Ts775 2N708
Ts776 2N708
5V
9,6V
R844 27k
R845 27k
R846 27k
Ts784 2N708
Ts785 2N708
R835 22k
Ts777 2N708
JS781/2
JS781/1
Clear
Clock
Preset
JS783/1
Ts772 BC108B
R828 27k
R829 1,8k
Ts773 2N708
R827 10k
JS781 Pin13
JS782–JS784 Pin7
/18
19
20
4
6
3
10
8
7
5
12
13
Regelsp.
zur Schaltstufe
Lampe
Taste
Übernahme-sperrung
zu Preset JS748



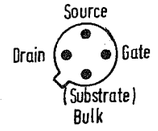
SN 8400 N



SN 8476 N



2N 708



3N 128

SN 8400 N
SN 8472 N

SN 8476 N

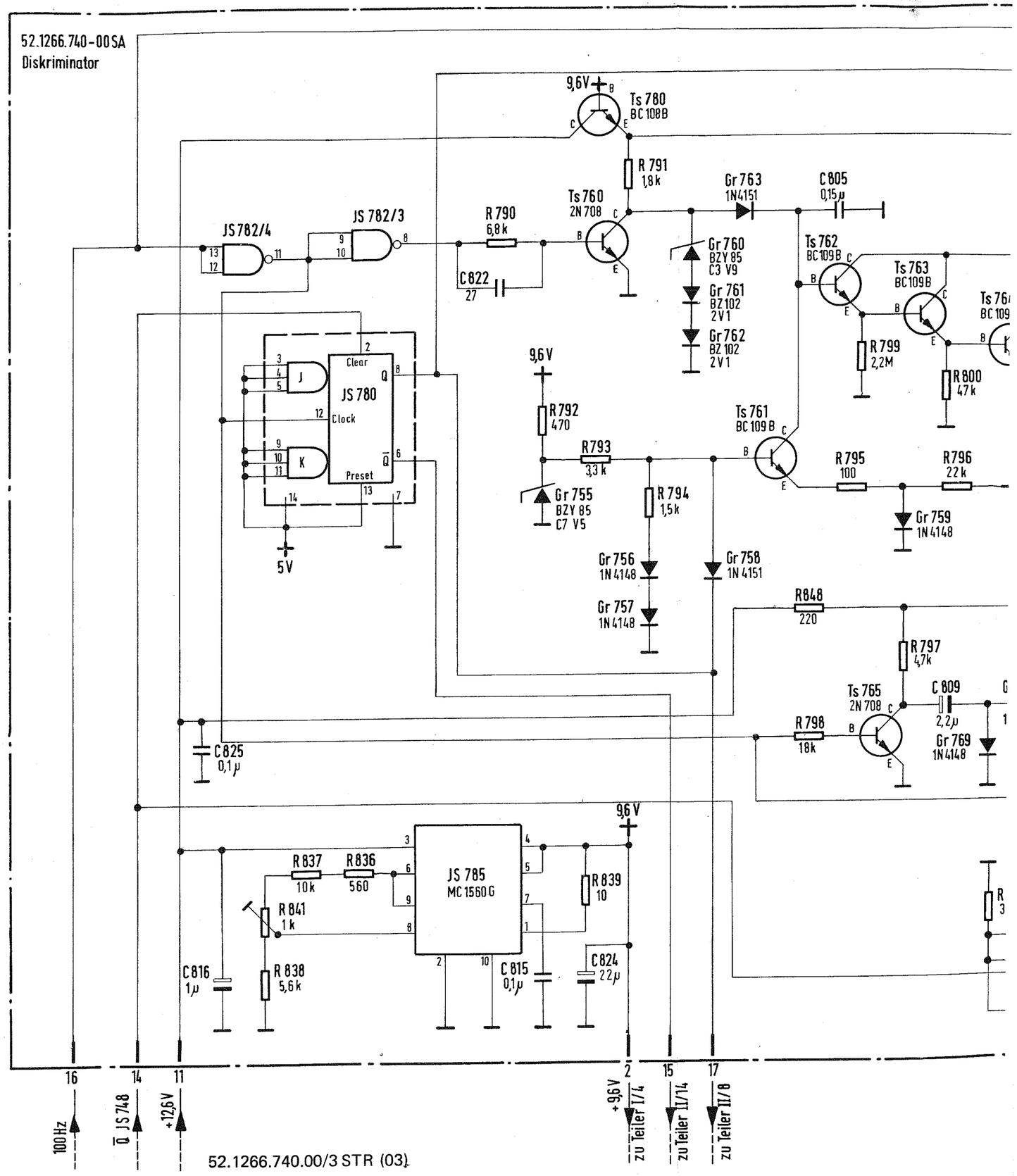
2N 708
BFX 65
BC 108 B
BC 109 B

3N 128
3N 138

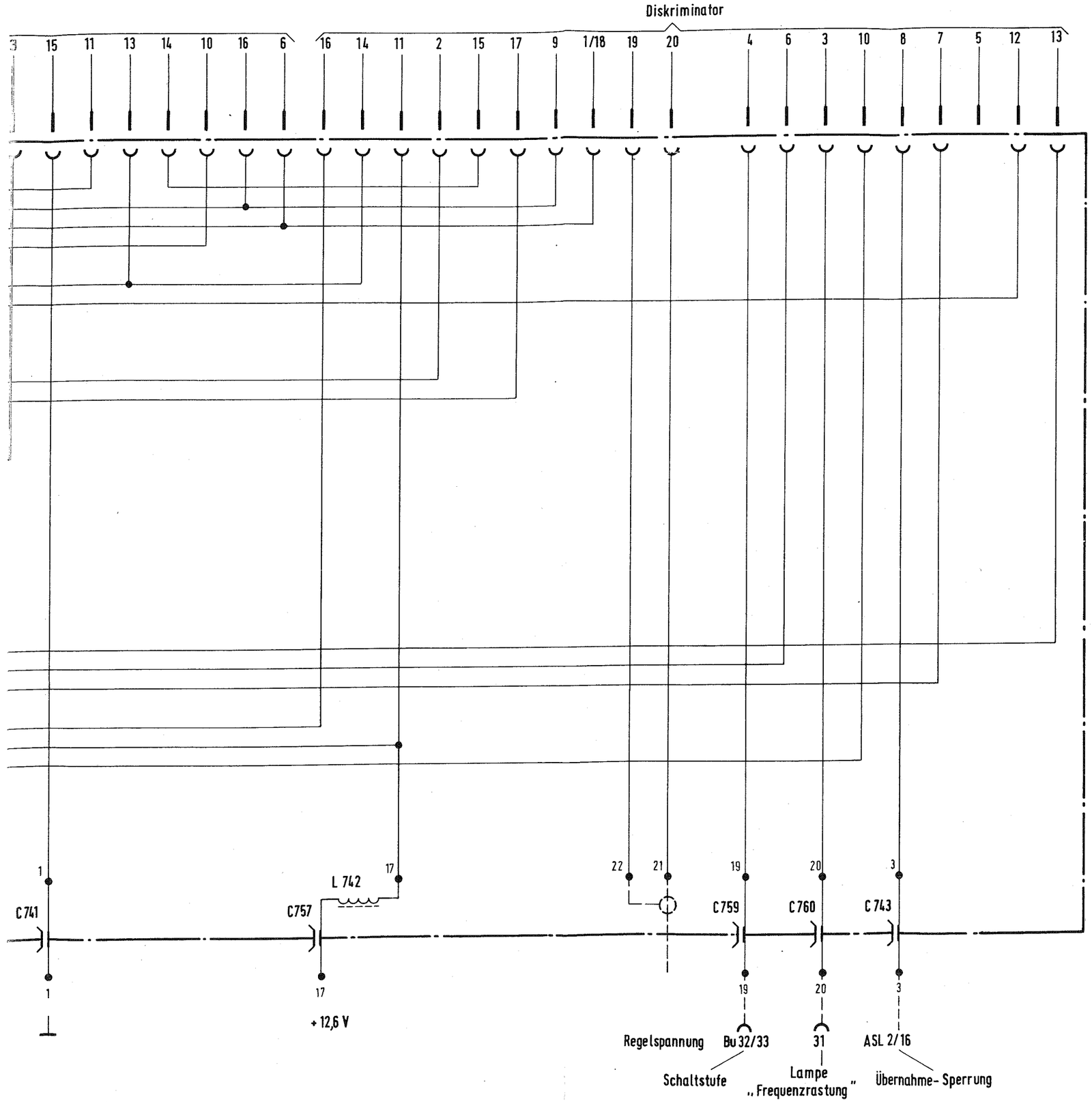
Stromlaufplan Frequenzregelung
Diskriminator
Circuit Diagram of Frequency Control Discriminator
Anlage 18/*Annex 18*

9,6V
Ts 780 BC 108B
R 791 1,8k
Ts 760 2N 708
Gr 763 1N4151
C 805 0,15µ
Gr 760 BZY 85 C3 V9
Gr 761 BZ 102 2V1
Gr 762 BZ 102 2V1
Ts 762 BC 109B
Ts 763 BC 109B
Ts 764 BC 109B
R 799 2,2M
R 800 47k
R 801 1k
R 792 470
Ts 761 BC 109B
R 793 3,3k
R 795 100
R 796 22k
9,6V
Gr 755 BZY 85 C7 V5
R 794 1,5k
Gr 759 1N4148
Gr 756 1N4148
Gr 758 1N4151
Gr 757 1N4148
R 848 220
R 797 4,7k
R 798 18k
Ts 765 2N 708
C 809 2,2µ
Gr 769 1N4148
Gr 770 1N4148
R 802 100k
R 803 680k
C 810 2,2µ
C 811 2,2µ
R 806 390k
C 819 0,022µ
C 814 0,01µ
C 823 0,1µ
R 813 22k
R 814 6,8k
R 815 8,2k
5V
Gr 764 1N4148
Ts 766 2N 708
Gr 766 1N 4148
Gr 767 1N4148
Gr 765 1N4148
C 806 2,2µ
R 816 3,9k
Ts 781 3N 138
Ts 782 3N 138
Ts 783 3N 128
C 820 0,1 u
C 821 0,022µ
R 811 1M
R 812 1M
R 821 10k
R 819 2,5k
R 820 3,3k
Gr 771 1N4148
5V
R 817 2,2k
Ts 767 2N 708
JS 782/1
C 807 220
JS 782/2
R 818 390
Ts 770 BC 109B
Ts 771 BFX 65
9,6V
R 826 27k
R 822 2,7k
R 823 8,2k
R 825 27k
R 824 1,2k
R 842 5k
R 840 390
JS 783/2
JS 783/4
JS 783/3
Gr 768 1N4148
R 830 18k
R 831 470k
C 808 15µ
R 843 1,8k
Gr 775 1N4148
Ts 774 BC 108 B
R 832 100k
Ts 775 2N708
R 833 10k
R 844 27k
5V
Ts 784 2N 708
R 845 27k
5V
Ts 785 2N708
R 846 27k
Ts 772 BC108B
R 828 27k
R 829 1,8k
Clea
JS 7
Pres
R 807 2,2k
Ts 768 2N 708
R 804 390
R 805 10k
JS784/4
JS784/3
JS784/1
JS784/2
C 813 0,068µ
C 812 1µ
R 808 390
R 809 10k
Ts 769 2N708
R 810 5,6k
9,6 V
R 839 10
C 824 22µ
5V
C 817 0,22µ
JS781 Pin 5
JS782–JS784 Pin 14
C 818 2,2µ
JS781 Pin13
JS782–JS784 Pin 7
Gr 774 1N4151
2
15
17
9
1/ 18
19
20
4
+9,6 V zu Teiler I/4
zu Teiler II/14
zu Teiler II/8
+ 6V
Regelsp.
zur Schaltstufe

52.1266.740-00SA
Diskriminator



52.1266.740.00/3 STR (03)



Stromlaufplan Frequenzregelung
Grundplatte
Circuit Diagram of Frequency Control Base Plate
Anlage 19/*Annex 19*

Teilerkarte I

25 26 27 28 29 30 31/32 33 34 35/36 3 4 1 11 10 16 15 18 22 9 20 24 26 12/13 2 5 6 14 19 7 25

Teilerkarte II

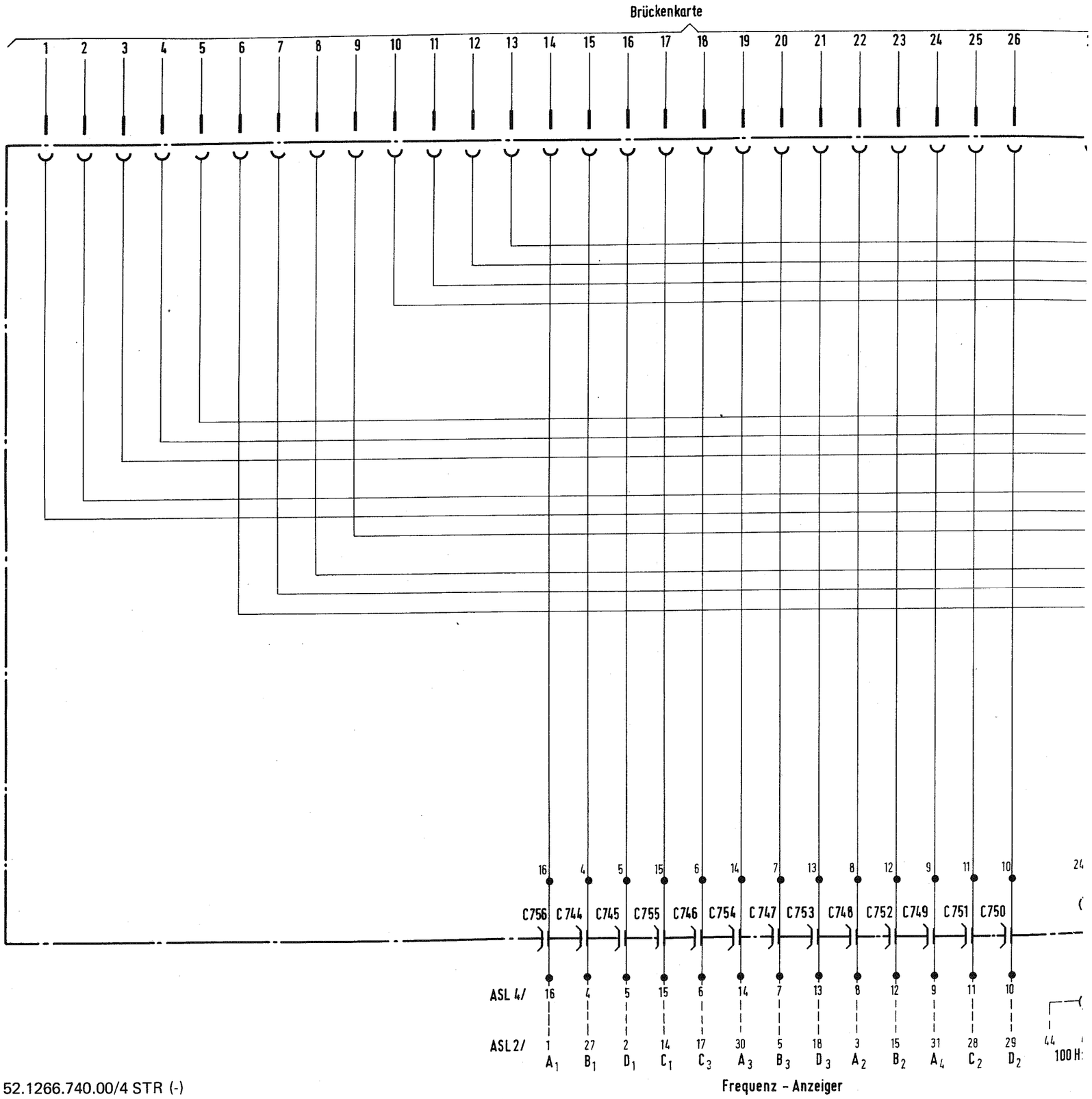
8 9 7 12 5 4 2 1 19 18 20 17 3 15 11 13 14

C750 C742 C758 C741

1 10 24 23 2 18 25 26 27 1

11 10 2 18 27 1

28 C_2 29 D_2 44 43 100 Hz Bu 32/30 Taste „Frequenzrastung" Bu 35 Oszillator



Frequenz - Anzeiger

ST1/ 1a 1b 2a 2b 3a 3b 4a 4b 5a 5b 6a 6b 7a 7b 8a 8b 9a 9b 10a 10b 11a 11b 12a 12b 13a 13b

ST2

C22 5000

C23 5000

C24 5000

C25 5000

RS1

SI1 T 0,4 B

SI2 T 0,125 B

TR1

TR2

C26 5000

R1 560

GR2 BZY85 C5V1

C2 0,01µ

R3 3,9k

TS1 2N2905A

R4 5,6k

R7 2,2k

R8 220

TS3 2N1711

TS4 2N3054

C9 0,47µ

TS5 2N3054

R9 220

R13 220

TS6 2N1711

R16 2,2k

R17 5,6k

R18 220

TS8 2N3054

R20 22

R23 1k

TS9 2N2905A

Meßpunkt 101

R32 5,6

GR6 1N4384

GR9 1N4384

GR11 1N 4384

GR13 1N4148

GR14 1N4148

GR7 1N4384

GR8 1N4384

R21 4,7k

R24 10k

R22 5,6k

TS10 2N1711

TS11 2N1711

R25 3,3k

R26 4,7k

C17 2,2µ

R27 2,2k

GR5 BZY85/C2V7

C14 0,01µ

R19 5,6k

C15 0,01µ

C16 0,01µ

GR12 1N4384

GR10 1N4384

R28 56

R29 56

C18 0,1µ

C19 0,1µ

R2 56

R31 10k

R30 10k

R10 2,2k

R11 24k

R12 24k

R15 2,2k

C10 0,47µ

GR4 1N4148

GR3 1N4148

C8 0,47µ

TS2 2N1711

TS7 2N1711

C11 0,1µ

C12 1000µ

C13 1000µ

C1 0,01µ

C3 470µ

0,1µ C5

GR1 BZY85 C5V1

TY2 40530

TY1 40530

C7 0,01µ

C6 0,01µ

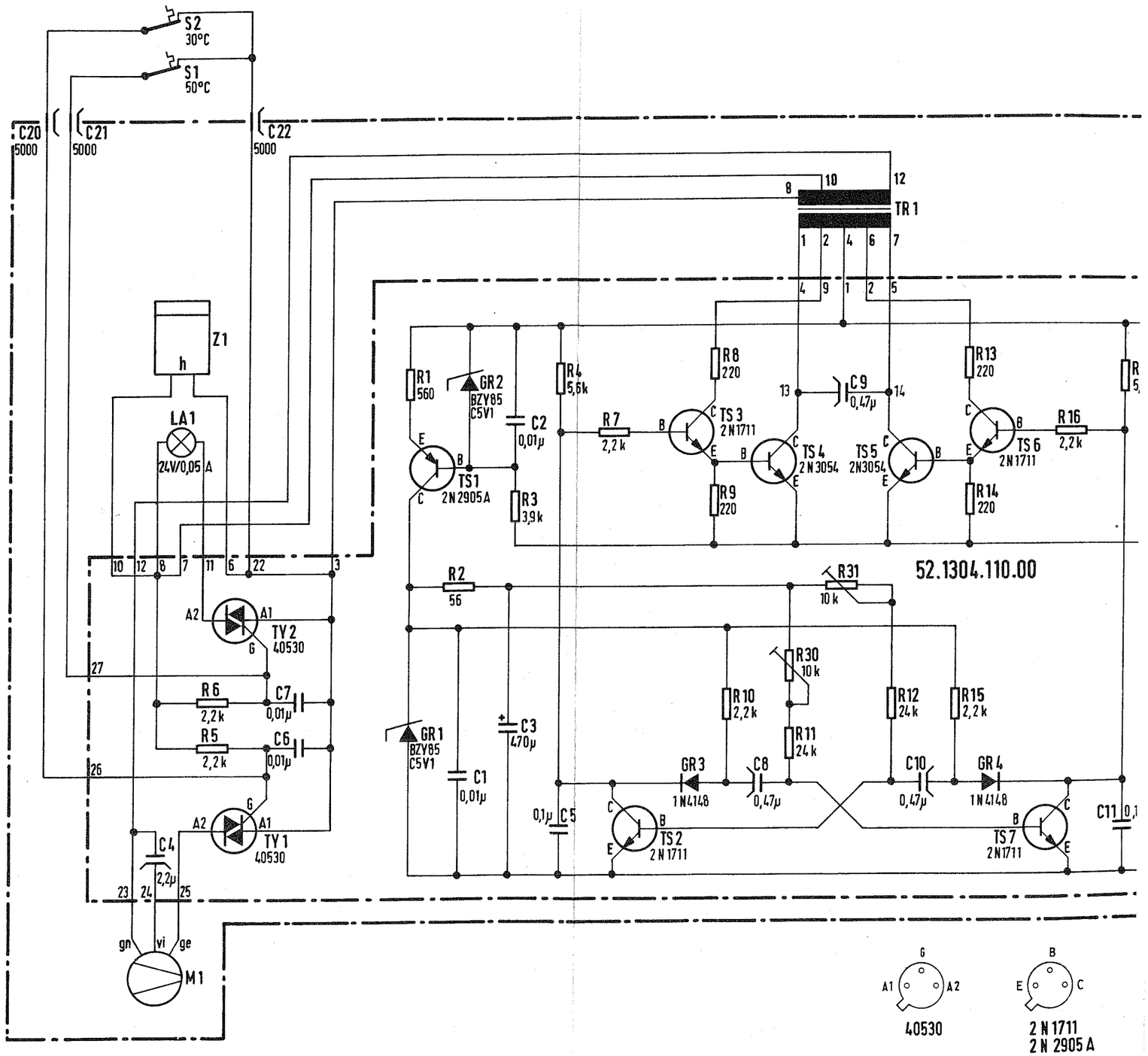
52.1304.110.00

40530

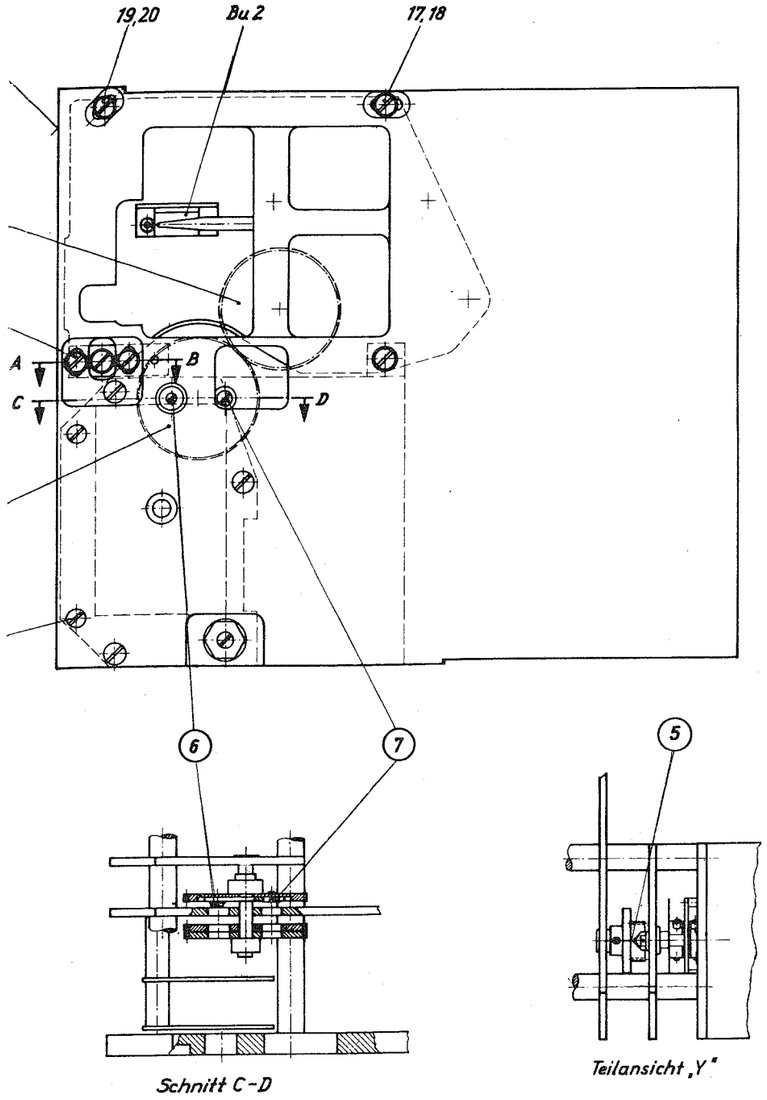
2 N 1711
2 N 2905 A

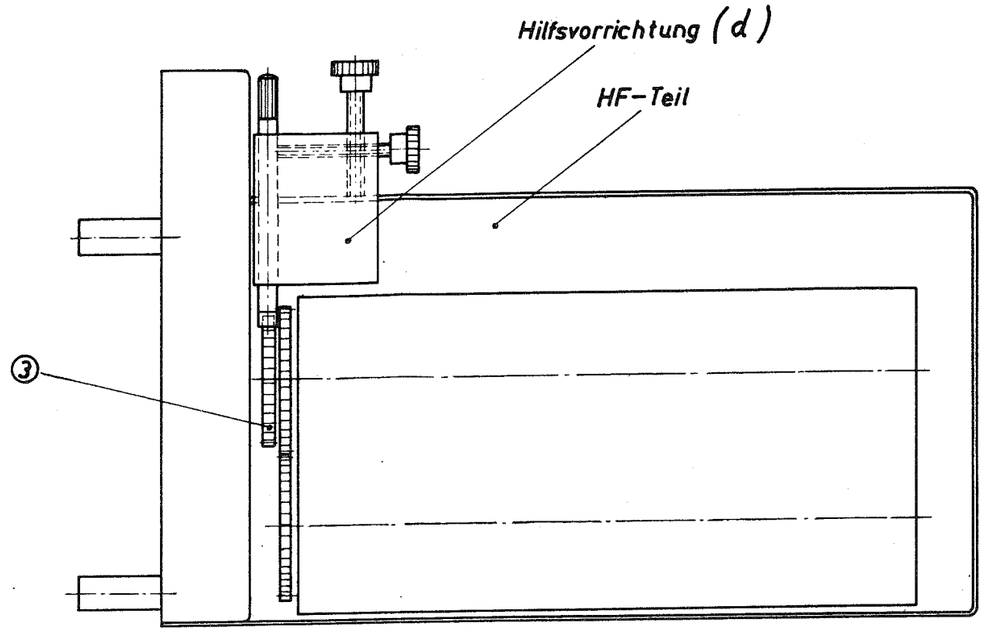
2 N 3054

Stromlaufplan Lüftereinsatz
Circuit Diagram of Ventilation Unit
Anlage 21/*Annex 21*

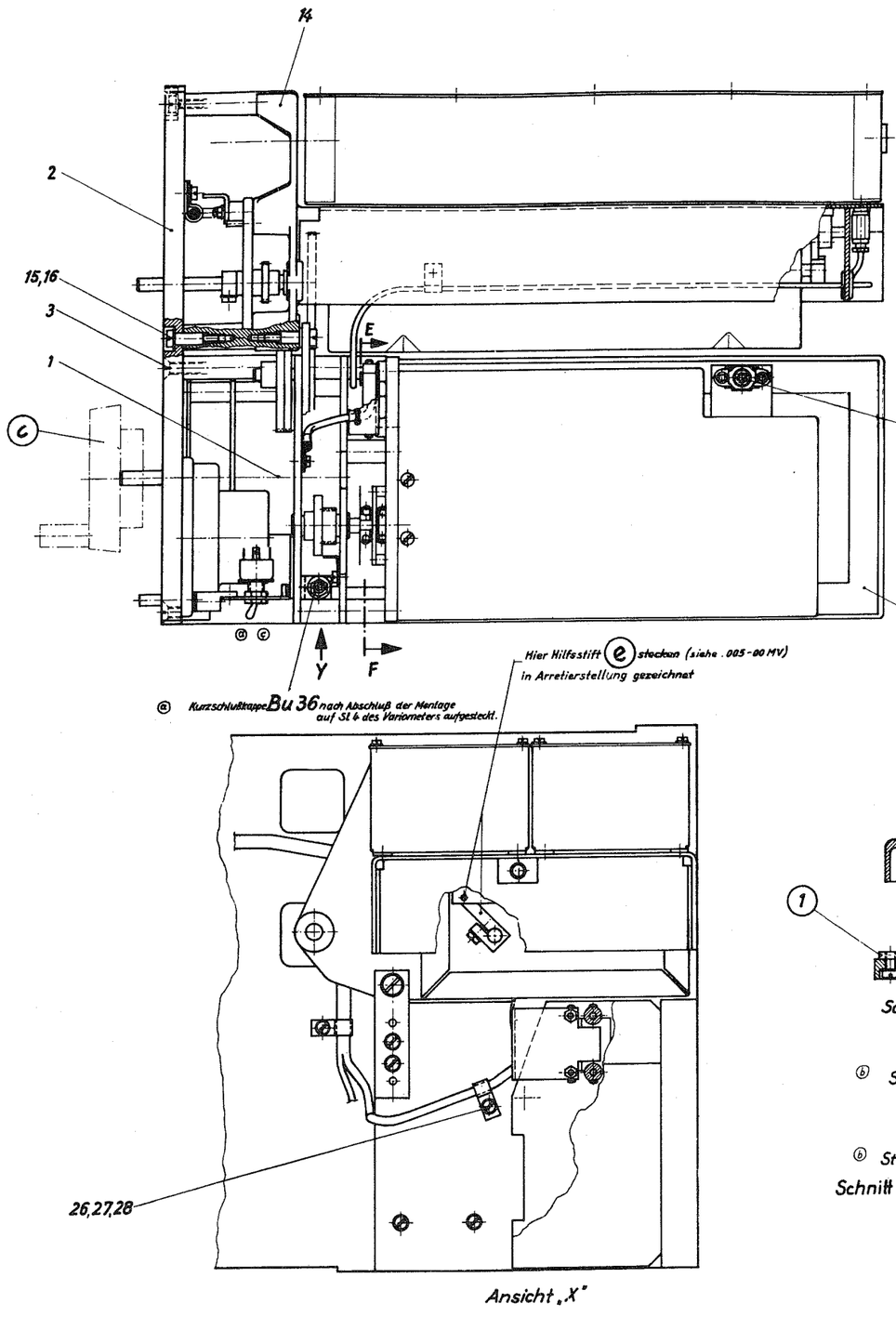


52.1304.100.00 STR (01)

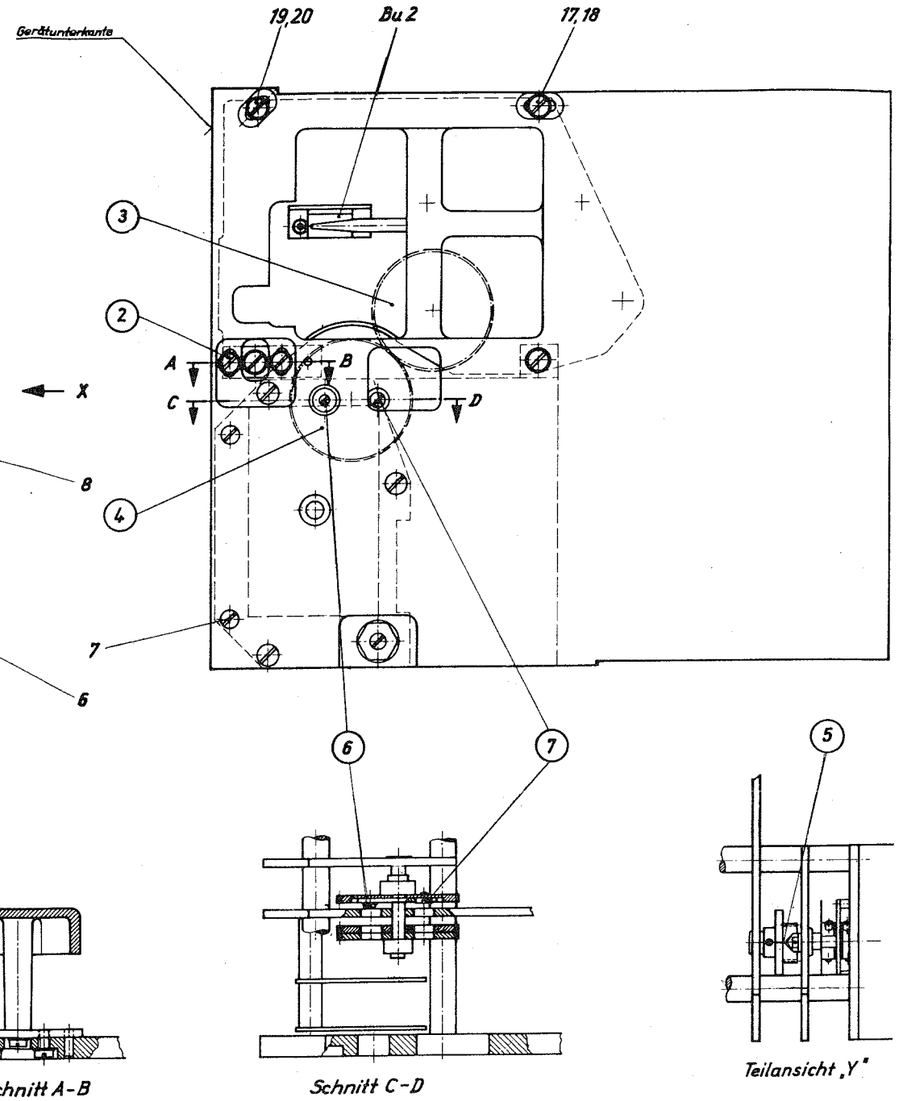




Frontrahmen mit HF-Teil und Antrieb
Front Frame with RF Section and Drive
Anlage 22/*Annex 22*



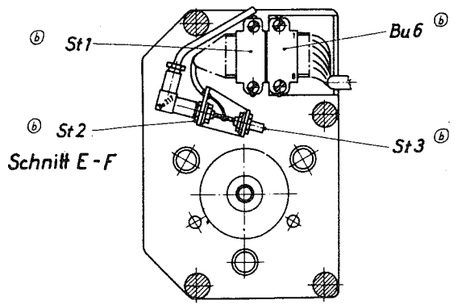
Ansicht „X"



Schnitt A-B

Schnitt C-D

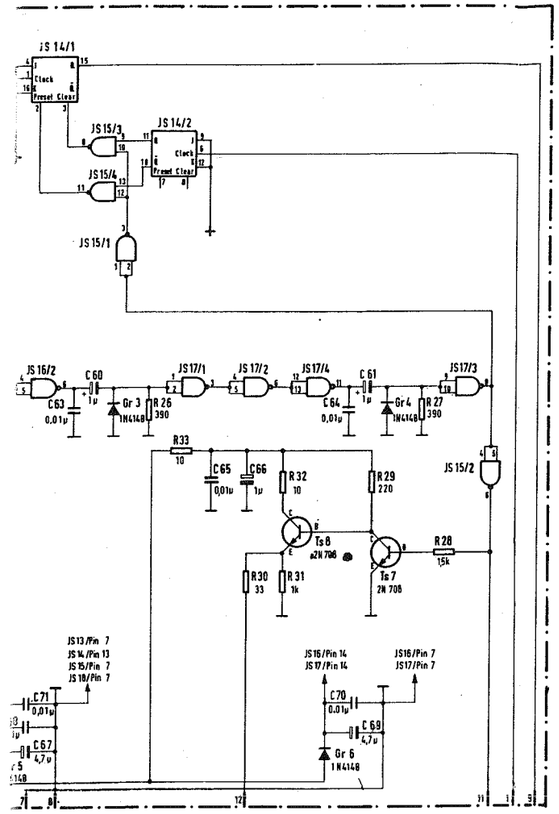
Teilansicht „Y"

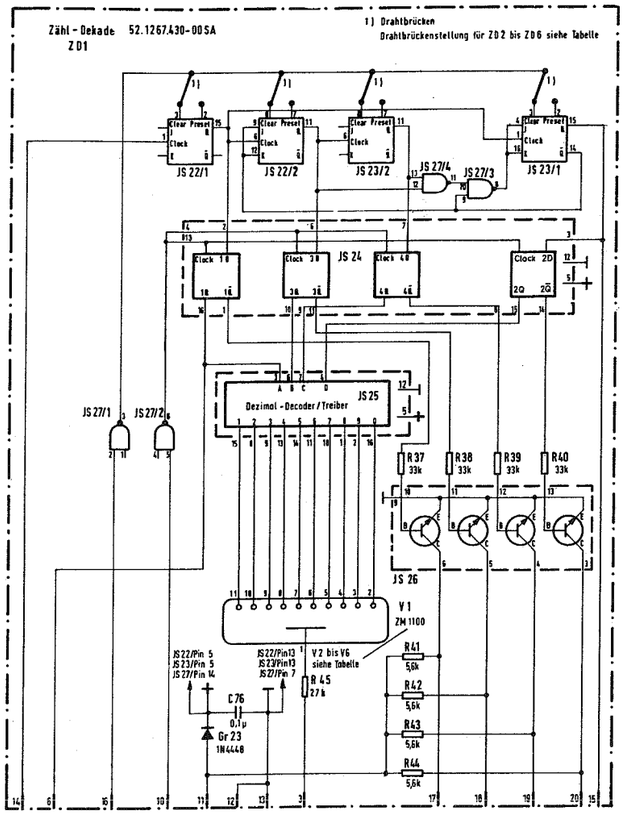


Schnitt E-F

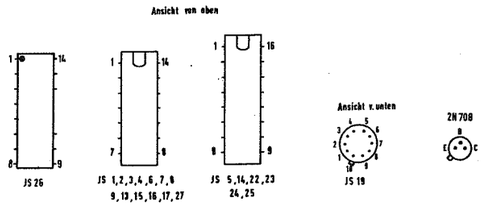
○ = siehe Einbauvorschrift

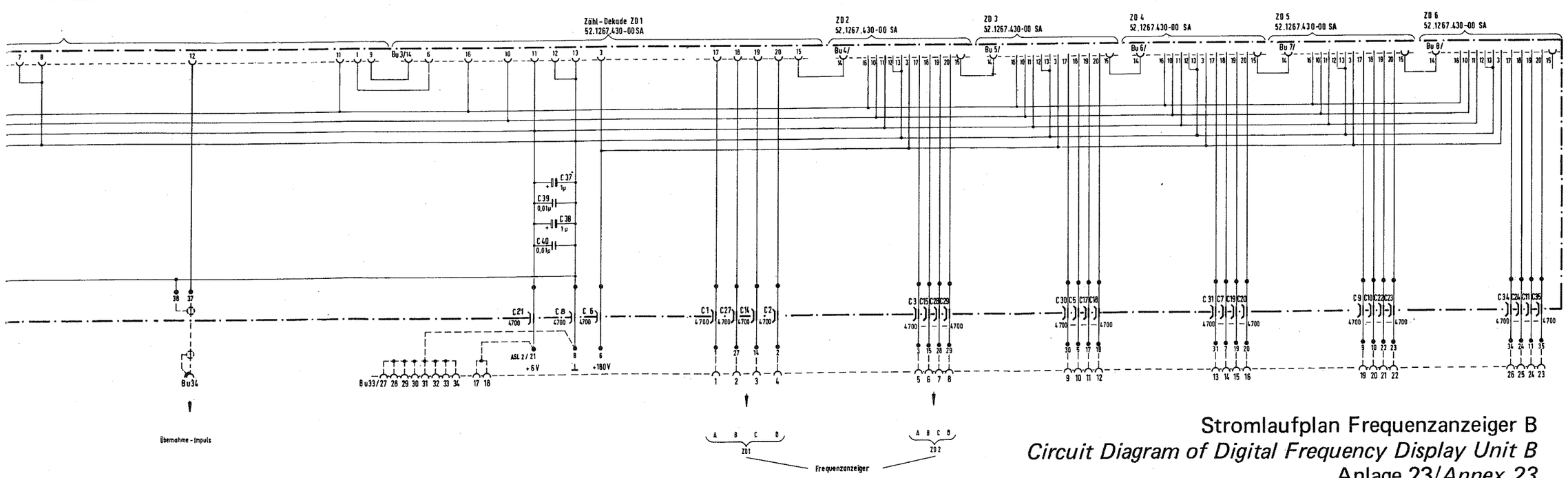
52.1313.005.00 (-)





Zähl-Dekade	Brückenstellung	Anzeige-Röhre
ZD2		V2
ZD3		V3
ZD4		V4
ZD5		V5
ZD6		V6





Stromlaufplan Frequenzanzeiger B
Circuit Diagram of Digital Frequency Display Unit B
Anlage 23/*Annex 23*

Torzeit
52.1267.300-00SA

JS 1
JS 2
JS 3
JS 4
JS 5/1
JS 5/2
JS 6/1
JS 6/3
JS 7
JS 8
JS 9
C 44 0,1µ
R 4 4,7k
Ts 2 2N 708
R 5 2,2k
C 45 390
R 3 10k
Ts 1 2N 709
R 6 4,7k
Ts 3 2N 708
R 7 2,2k
R 8 10k
R 9 10k
R 10 10k
R 11 10k
JS5/Pin 5
JS6/Pin 14
C 47 1µ
C 46 0,01µ
Gr 1 1N4151
JS5/Pin 13
JS6/Pin 7

Tor 52.1267.300-00SA

JS 13/4
JS 13/3
JS 13/2
JS 13/1
JS 14/1
JS 15/3
JS 14/2
JS 15/4
JS 15/1
C 55 1µ
C 56 0,01µ
C 57 1µ
C 58 0,01µ
R 23 39
R 24 39
R 20 1,2k
R 21 15k
R 22 1k
R 18 5,6k
C 52 1µ
R 19 27k
C 54 0,01µ
JS 19 CA 3011
Ts 6 2N708
R 34 5,1k
R 17 2,7k
C 53 1µ
R 16 3,3k
JS 16/4
JS 16/3
JS 16/1
JS 16/2
JS 17/1
JS 17/2
JS 17/4
JS 17/3
C 59 1µ
C 62 0,01µ
Gr 2 1N4148
R 25 390
C 72 1500
C 60 1µ
C 63 0,01µ
Gr 3 1N4148
R 26 390
C 61 1µ
C 64 0,01µ
Gr 4 1N4148
R 27 390
JS 18
C 73 1500
R 33 10
C 65 0,01µ
C 66 1µ
R 32 10
R 29 220
JS 15/2
Ts 8 a2N 708
Ts 7 2N 708
R 28 1,5k
R 30 33
R 31 1k
Gr 7 1N 4148
Gr 8 1N4148
R 35 100
JS13/Pin 14
JS14/Pin 5
JS15/Pin 14
JS16/Pin 14
JS13/Pin 7
JS14/Pin 13
JS15/Pin 7
JS16/Pin 7
C 71 0,01µ
C 68 0,01µ
C 67 4,7µ
Gr 5 1N4148
JS16/Pin 14
JS17/Pin 14
JS16/Pin 7
JS17/Pin 7
C 70 0,01µ
C 69 4,7µ
Gr 6 1N4148

Zähl
Z

Torzeit
52.1267.300-00 SA

Tor
52.1267.300-00 SA

Bu 1/ 4 1 2 5 14 15 16 17 11 9 10 12 Bu 2/ 2 13 3 5 6 7 8 12 11 1 9 Bu 3/14 6

46 45 48 47 44 43 C 26 4700 C 36 4700 C 25 4700 C 13 4700 42 41 C 16 4700 38 37

ASL 2 / 26 Bu 32/ 33 36 34 25 35 13 36

Bu 30 (St 712) Frequenznormal
Bu 29/ 4a 4b 100 kHz - Ausg.
100 Hz - Ausg
Bu 9 (St 3) Varioheter
ASL2/16 Bu 33/35 Übernahme - Impuls-Sperrung
Bu 34 Übernahme - Impuls
Bu 33/27 28 29 30 31

Bereichsschalter S 209

52.1267.300.00 STR (02a)

S 201 bis S 207 u. S 209 sind mechanisch gekoppelt.
gezeichnete Stellung: Bereich 1.

Vervielfacher
52.1313.370.00

S206 S207 BU206 BU207 R213 1k C308 C309 C290 1200

C354 0,01µ C355 2,2 C358 8,2k C360 8,2k R357 100k R354 3,9k R359 100 TS352 40673 205

BU206/5 BU206/6 C275 L219 1200 C276 C277 22 10/40 L220 C278 C279 22 10/40 L221

BU206/3 BU206/4 C280 L231 1200 C281 C282 27 10/40 L232 C283 C284 27p 10/40 L233

BU206/1 BU206/2 C285 910 L243 C286 C287 47 10/40

BU207/5 BU207/6 BU207/3 BU207/4 BU207/2 C288 C289 27 10/40 L244

C300 4700

206 R372 1,2k C371 1500 R371 3,9k TS371 2N918 R373 12k R374 15k 207 C373 1500 GR371 L372 R385 2,5k GR375 1N4151 1N4151 GR372 C372 1500 R375 390 R376 3,9k R377 1k

L371 C374 0,01µ C375 0,01µ R378 18k GR373 1N4151 L373 R380 5,6k R379 1k GR374 TS372 2N918 209 208 C376 1500 C377 1500 C378 1500 R383 270 R384 100 R381 1k R382 6,8k

ST203 BU216 BU217 vom Variometer

BU211 11 3,5,14

202 △ = Meßpunkt

2N 918 BFX 65 BCY 59 X 40673

Stromlaufplan HF-Teil
Circuit Diagram of RF Section
Anlage 24/*Annex 24*

TELEFUNKEN

zur ZF-Breitbandstufe (ST 401)

BU 218

C 306 C 307

S 204 S 205

BU 204 BU 205

Mischstufe
52.1313.330.00

TS 331
40673

TS 332
40673

TS 333
2N918

TS 351
2N918

TS 352
40673

Osz. Trennstufe
52.1313.350.00

C 311 0,01µ
C 312 0,01µ
L 311
L 312
L 313
R 313 8,2k
R 314 15k
R 315 10k
R 316 100
C 313 0,1µ
C 317 1500
C 318 33
C 319 0,01µ
R 320 5,6k
R 321 33k
R 322 2,5k
R 323 100
C 320 15µ
C 321 0,01µ
BU 208
4,5,6,7,8,15,16,17
13,14
1,2,3

BU 204/9 BU 204/10 BU 205/10 BU 205/9
L 207 L 209 L 257
R 208 27k C 245 10/40
C 246 10/40 R 209 27k
R 232 2,2k
R 218 560
L 208

BU 204/5 BU 204/6 BU 205/6 BU 205/5
C 247 2400
C 252 2400
L 216 L 218 L 258
C 248 C 249 27 10/40
C 250 10/40 C 251 27
L 217

BU 204/3 BU 204/4 BU 205/4 BU 205/3
C 253 1500
C 258 1500
L 228 L 230 L 259
C 254 C 255 27 10/40
C 256 10/40 C 257 27
L 229

BU 204/1 BU 204/2 BU 205/2 BU 205/1
C 265 12p
C 259 1000
C 264 1000
L 240 L 242
C 260 C 261 56 10/40
C 262 10/40 C 263 33
L 241

L 332
C 343 5,6
C 342 5,6
R 331 120
C 331 0,01µ
C 332 0,1µ
C 333 330
C 334 330
R 332 120
C 335 0,01µ
C 336 0,1µ
202

L 333
C 337 0,01µ
C 338 0,01µ
R 333 5,6k
R 335 560
R 337 5,6k
C 339 0,01µ
C 340 1500
R 334 8,2k
C 341 3300
R 336 1,k
R 338 6,8k
203

3,5,16,18
BU 209

L 245
C 270 0,1µ
L 253
C 271 0,1µ
205
C 351 0,01µ
L 351
C 352 0,01µ
R 352 100
R 353 100
R 357 100k
R 3 3,9
204
C 353 0,01µ
R 351 10
R 355 470
R 356 680
R 358 8,2k
R 360 8,2k
3,4,5,14,15,16
BU 210

L 250
C 242 0,47µ
L 251
L 252
C 296 4700
C 297 4700
C 301 0,22µ
L 254
R 210 560
R 211 56

HF-Leiterplatte 2 52.1313.265.00

ST 202
ST 204

D sw
F ge +12,6V abgesch.
A wssw +12,6V

Frequenz-Regelung
Osz. Ausgang

Antenne (ST1)

BU 219

C303 C304 C305

S 201 S 202 S 203

BU 201 BU 202 BU 203

R233 82

C201 0,1µ

GR201 1N4151

L201 L202 C202 10/40

GR202 1N4151

GR203 BZY85/C33

GR220 1N4151

C235 0,01µ

C203 10/40

GR204 1N4151

L204 C204 10/40

L205 L206

GR205 1N4151

R219 8,2k L255

C205 0,1µ

TS201 BFX65

R201 10k

R207 560

L203

R214 100k

R215 100k

R216 100k

R204 1k

GR216 GR217 1N4151

C314 1500

TS 311 40673

R311 12k R312 390 R317 33k

C317 1500

R318 2,5k R319 150 C316 0,01µ

TS 313 BCY 59X

R324 2,2k R325 5,6k C320 15µ

HF-Verstärker
52.1313.310.00

GR207 1N4151

L210 L211 C206 2400 C207 C208 10/40 10

GR208 BZY85/C33

GR221 1N4151

C209 C211 2400 C210 10/40 10

GR209 1N4151

L213 C212 C213 2400 C214 10/40 10

GR210 1N4151

L215

L212 L214

C215 0,1µ

TS 202 BFX 65

R202 10k

GR212 1N4151

C216 1500

L222 L223 C217 C218 10/40 27

GR211 1N4151

GR213 BZY85/C33

GR222 1N4151

C219 C221 1500 C220 10/40 27

GR214 1N4151

L225 C222 C223 1500 10/40

GR215 1N4151

L227

L224 L226

C225 0,1µ

TS 203 BFX 65

R203 10k

C240 0,1µ

C243 0,01µ

R205 1,2k GR218 GR219 AAZ 15

C241 0,1µ

R206 12k

R217 1k

C226 1000 L235 C227 C228 10/40 47

C231 1000 C229 56 C230 10/40 L237

C232 1000 C233 C234 10/40 22 L239

L236 L238

L256

C298 4700

C295 4700

BU 208

HF-Leiterplatte 1 52.1313.228.00

R223 150 R224 82 R225 39 R226 18

R228 6,8k

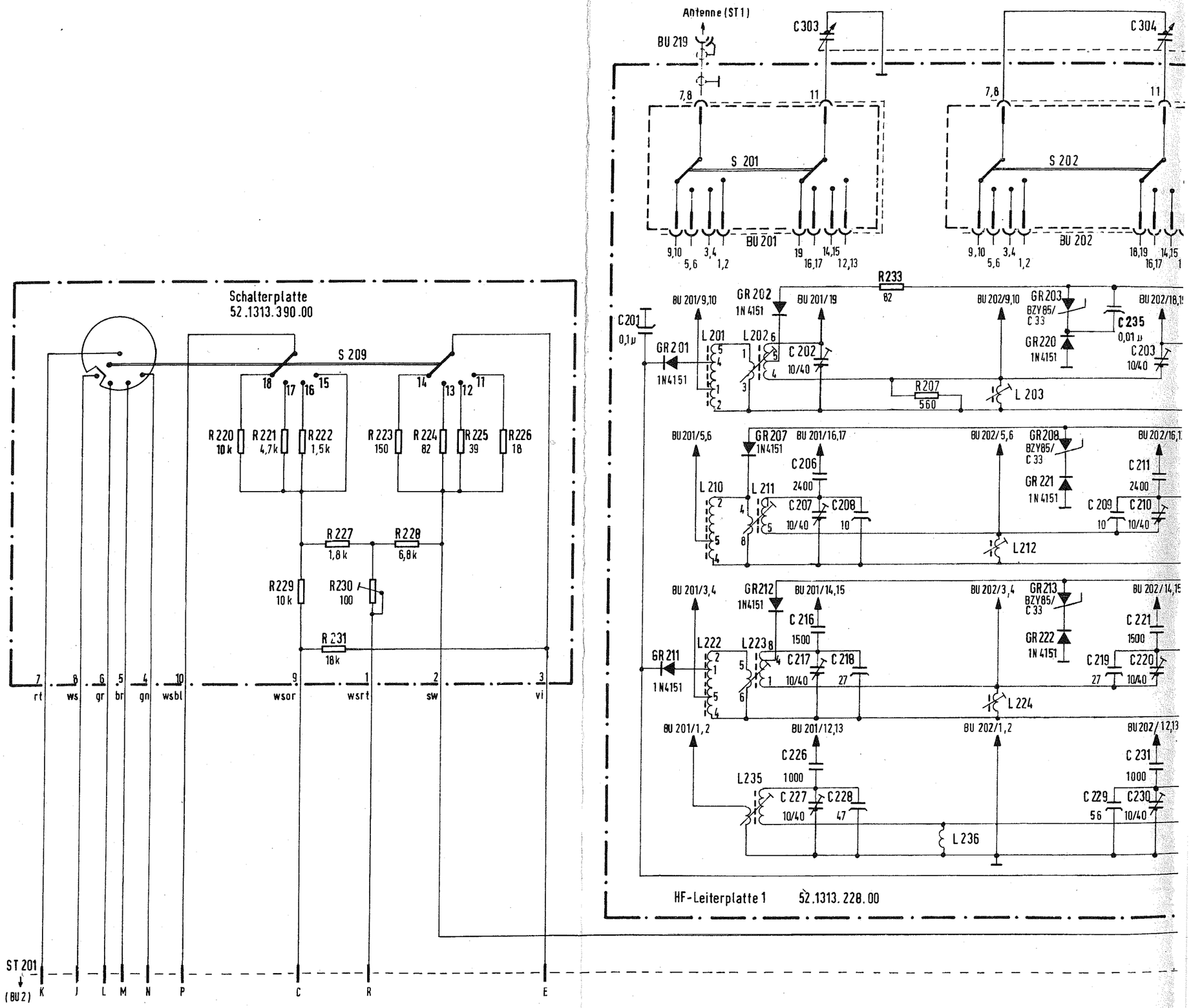
14 13 12 11

1 rt 2 sw 3 vi

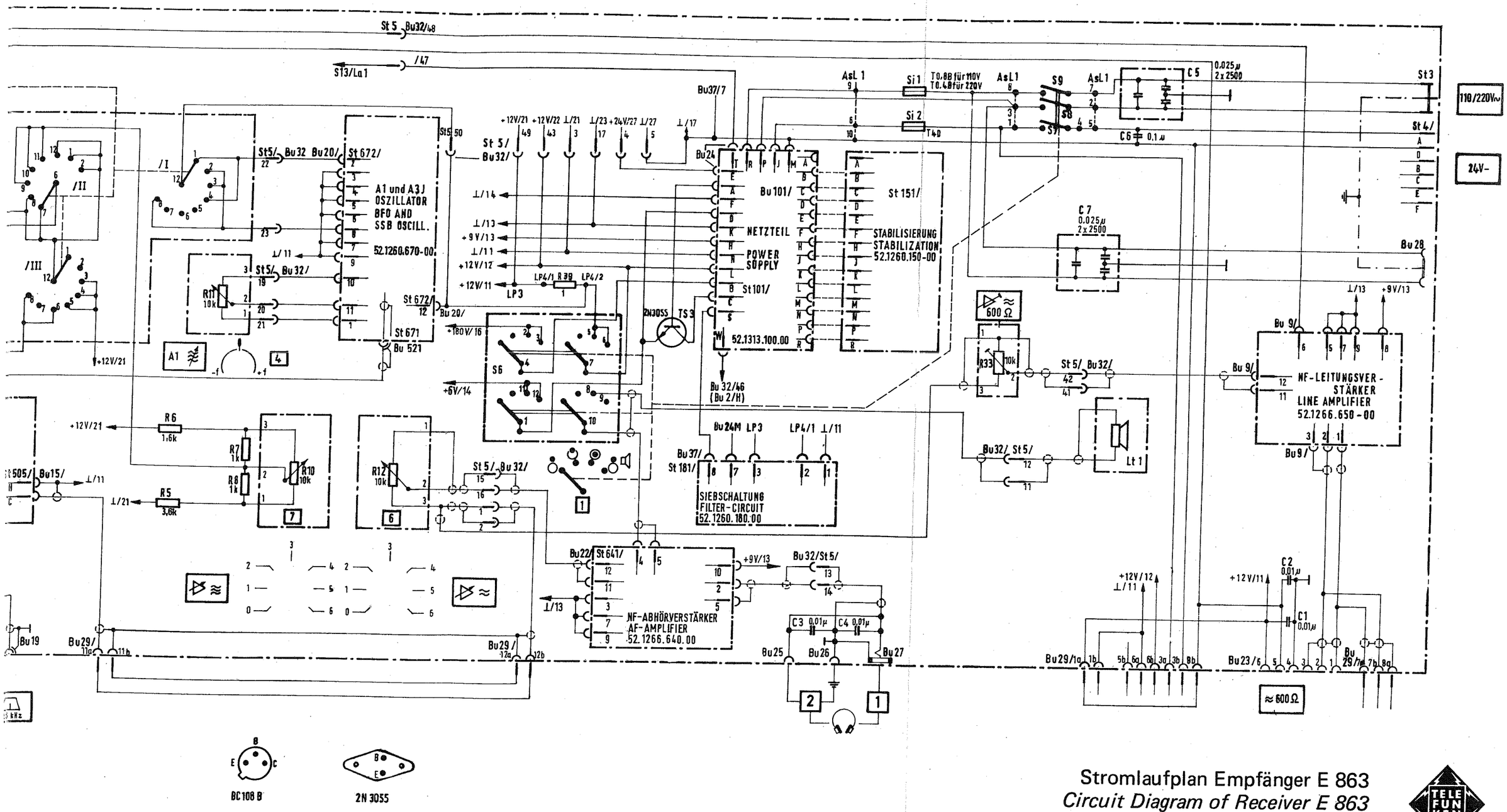
R E

or H - 30 V

bl B Regelspannung



52.1313.200.00 STR (03)



Stromlaufplan Empfänger E 863
Circuit Diagram of Receiver E 863
Anlage 25/*Annex 25*

S4

52.1147.490-00 Bu 492 ±0.1 kHz
.420-00 Bu 422 ± 0.25 kHz
.430-00 Bu 432 ± 0,75 kHz
.440-00 Bu 442 ± 1,5 kHz
.450-00 Bu 452 ± 3 kHz
.460-00 Bu 462 ± 6 kHz
.480-00 Bu 482 −3 kHz
.470-00 Bu 472 +3 kHz
S 3
Bu 511

AsL 3/
R 18 15 k
R15 2,5k
R 19 10 k
R 20 1,5 k
R 21 3,3k
R16 2,5k
R 22 10 k
R 23 1,5k
+24 V/27
R 14 3.3k
J1
⊥/27
R24 3.3k
⊥/21
Si3 TO.48
Si4 T1B
R17 1k
R 25 25k
Gr 3 BAY 67
R 26 1,5k
+12V/21
AsL 3/

THERMOSTAT
S10
S11
S12
J 2
REL.F.ST.
600 Ω
⊥/23

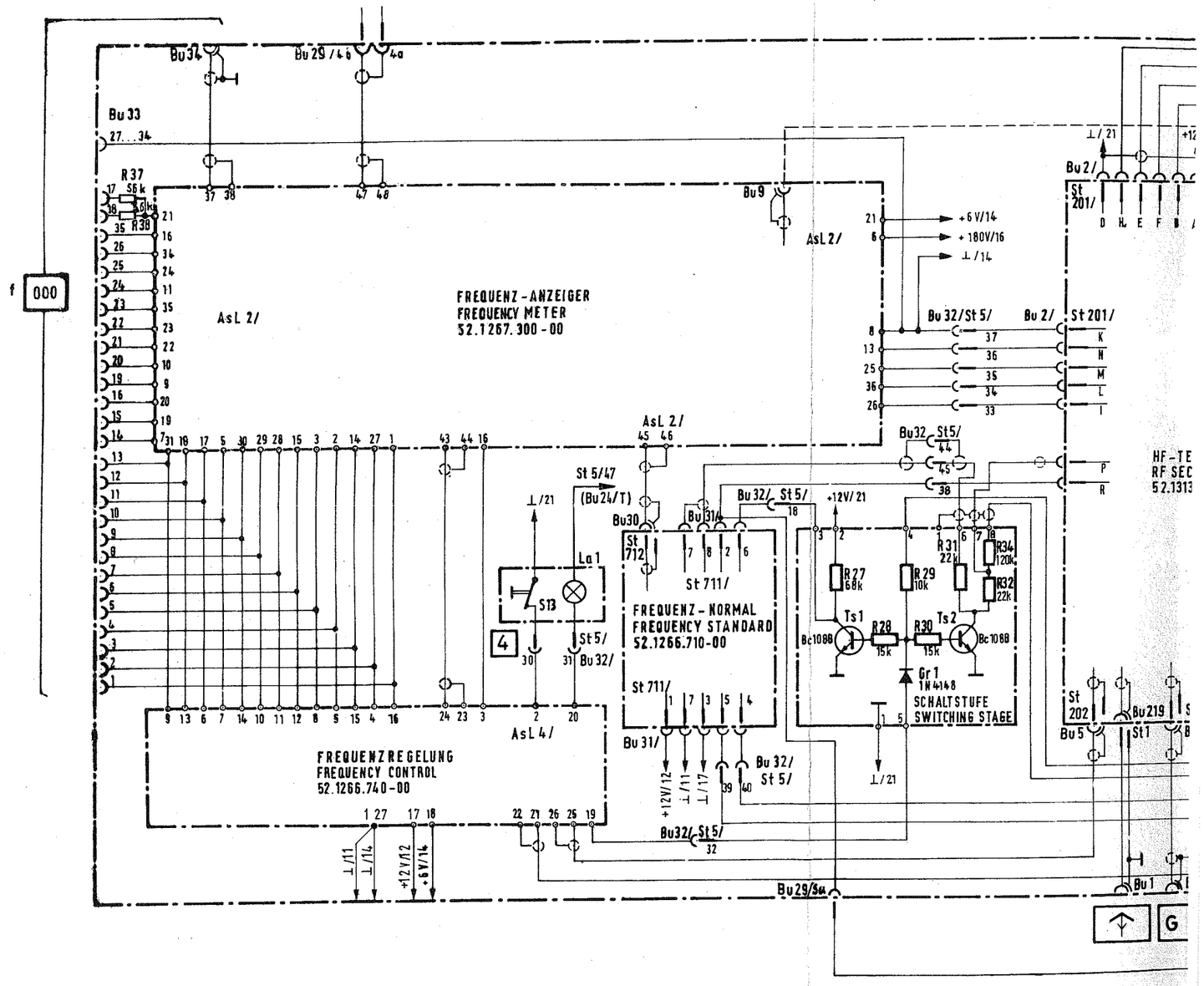
A3J
A1
A2/A3
F1/F6
/IV
/V

REGELVERSTÄRKER
AGC AMPLIFIER
52.1260.580-00
St582/
Bu12/
+12V/11
St5/ Bu32/ 29
⊥/11
St582/19
St581
Bu 513
St5/ Bu32/ 27
⊥/21
+12V/11
Bu15/
St505/
F B D

ZF-VERSTÄRKER
JF AMPLIFIER
52.1260.500-00

/II
/III
Bu32/ St5/ 25
St5/ 26
+12V/2
St505/ Bu15/
H C
⊥/
St505/A E
Bu15/
St503
Bu 18
Bu32/ St5/ 9 10
+12V/21
S5
Bu29/9b 9a 10b 10a
Bu29/ 13a 13b
Bu 19
Bu29/ 11a
525 kHz

Bu 24/W
St 5/ Bu 32/
46
6
28
Bu 9
AsL 2/
21
6
+6 V/14
+ 180V/16
⊥/14
⊥/21
+12V/21
Bu 2/
St 201/
D H E F B A C
St 3
VARIOMETER-OSZILLATOR
VARIOMETER-OSCILLATOR
52.1328.000-00
St1/ Bu 6/
⊥/27
+12V/22
⊥/21
S1
THERMOSTAT EIN
THERMOSTAT ON
EICHEN
CALIBRATING
R4 10k
R1 10k
Bu 217
St 2
St4
Bu 36
Bu 32/St 5/
Bu 2/
St 201/
8 37 K
13 36 H
25 35 M
36 34 L
26 33 I
AsL 2/
45 46
Bu32 St5/ 44 45 38
P
R
HF-TEIL
RF SECTION
52.1313.200-00
+12V/11 ⊥/11
Bu7/
St 403/ 1 2 5 3 4
ZF-STUFE
IF STAGE
52.1260.400-00
ABSTIMMUNG-FEIN
TUNING FINE
R3 39k
S14
10k R2
+12V/22
Bu 491 52.1147.490-00 Bu 492 ±0,1kHz
Bu 421 .420-00 Bu 422 ± 0,25 kHz
Bu 431 .430-00 Bu 432 ± 0,75kHz
Bu 441 .440-00 Bu 442 ±1,5 kHz
Bu 451 .450-00 Bu 452 ± 3kHz
Bu 461 .460-00 Bu 462 ± 6 kHz
Bu 481 .480-00 Bu 482 -3 kHz
Bu 471 .470-00 Bu 472 +3 kHz
S2
S3
Bu10
Bu 511
Bu30
Bu 31/
St 712
St 711/
FREQUENZ-NORMAL
FREQUENCY STANDARD
52.1266.710-00
Bu 32/ St 5/ 18
+12V/21
R27 68k
R29 10k
R31 22k
R34 120k
R32 22k
Ts1 Bc108B
R28 15k
R30 15k
Ts2 Bc108B
Gr1 1N4148
SCHALTSTUFE
SWITCHING STAGE
⊥/21
St 202
Bu 219
St 204
Bu 5
St1
Bu 3
Bu 218
St 401
St 402
Bu 8
Bu 401
St5/ Bu32/ 7 8
Bu 1
Bu 4
Bu 29/2a
2b
Bu 29/5a
+12V/12
⊥/11
⊥/17
39
40
Bu 32/ St 5/
Bu32/ St5/ 32
G
525kHz


f
000
Bu 34
Bu 29 / 46
4a
Bu 33
27...34
R 37
56k
10k
R 38
AsL 2/
FREQUENZ - ANZEIGER
FREQUENCY METER
52.1267.300 - 00
Bu 9
+6 V/14
+ 180V/16
⊥/14
⊥/21
Bu 2/
St 201/
Bu 32/St 5/
Bu 2/
St 201/
AsL 2/
Bu32 St5/
St 5/47
(Bu24/T)
⊥/21
Bu30
Bu31
Bu 32/ St 5/
+12V/21
St 712
St 711/
FREQUENZ - NORMAL
FREQUENCY STANDARD
52.1266.710-00
R 27
68k
R 29
10k
R 31
22k
R34
120k
R32
22k
Ts1
Bc108B
R28
15k
R30
15k
Ts2
Bc108B
Gr 1
1N4148
SCHALTSTUFE
SWITCHING STAGE
La 1
S13
St 5/
Bu 32/
St 711/
AsL 4/
FREQUENZREGELUNG
FREQUENCY CONTROL
52.1266.740-00
Bu 31/
Bu 32/
St 5/
+12V/12
⊥/11
⊥/17
⊥/21
Bu32/ St5/
⊥/11
⊥/14
+12V/12
+6V/14
St
202
Bu219
Bu 5
St1
Bu 1
Bu 29/3a
HF-TE
RF SEC
52.1313
G