

# **BEDIENUNGSANLEITUNG**



**DIPL.-ING. HEINZ-GÜNTHER NEUWIRTH**

**MESSGERÄTE DER HOCHFREQUENZTECHNIK**

**3005 HEMMINGEN 1 / HANNOVER**

Gutenbergstraße 11 · Fernruf (05 11) 422091 · Telex 9-22068



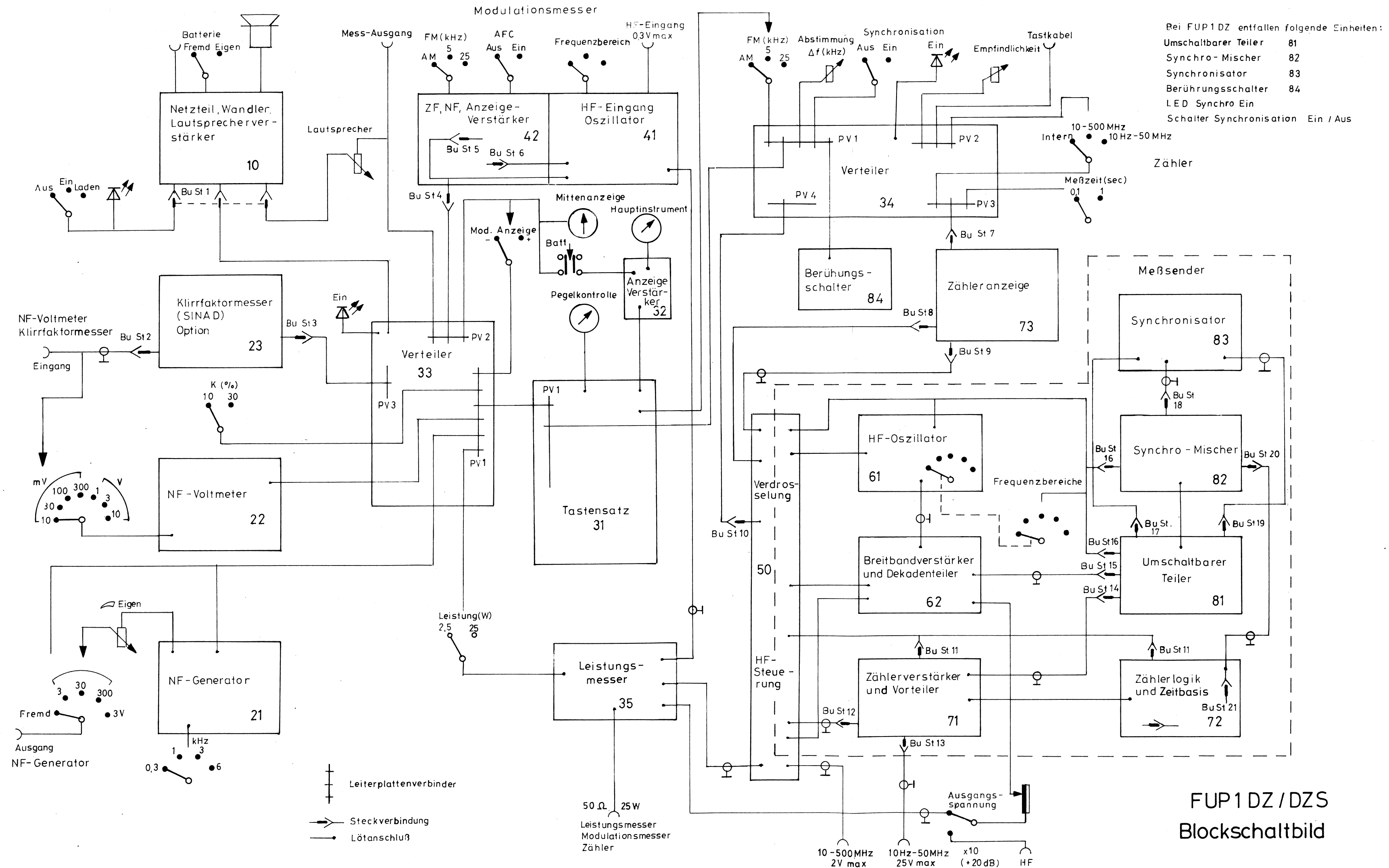


FUNKMESSGERÄT

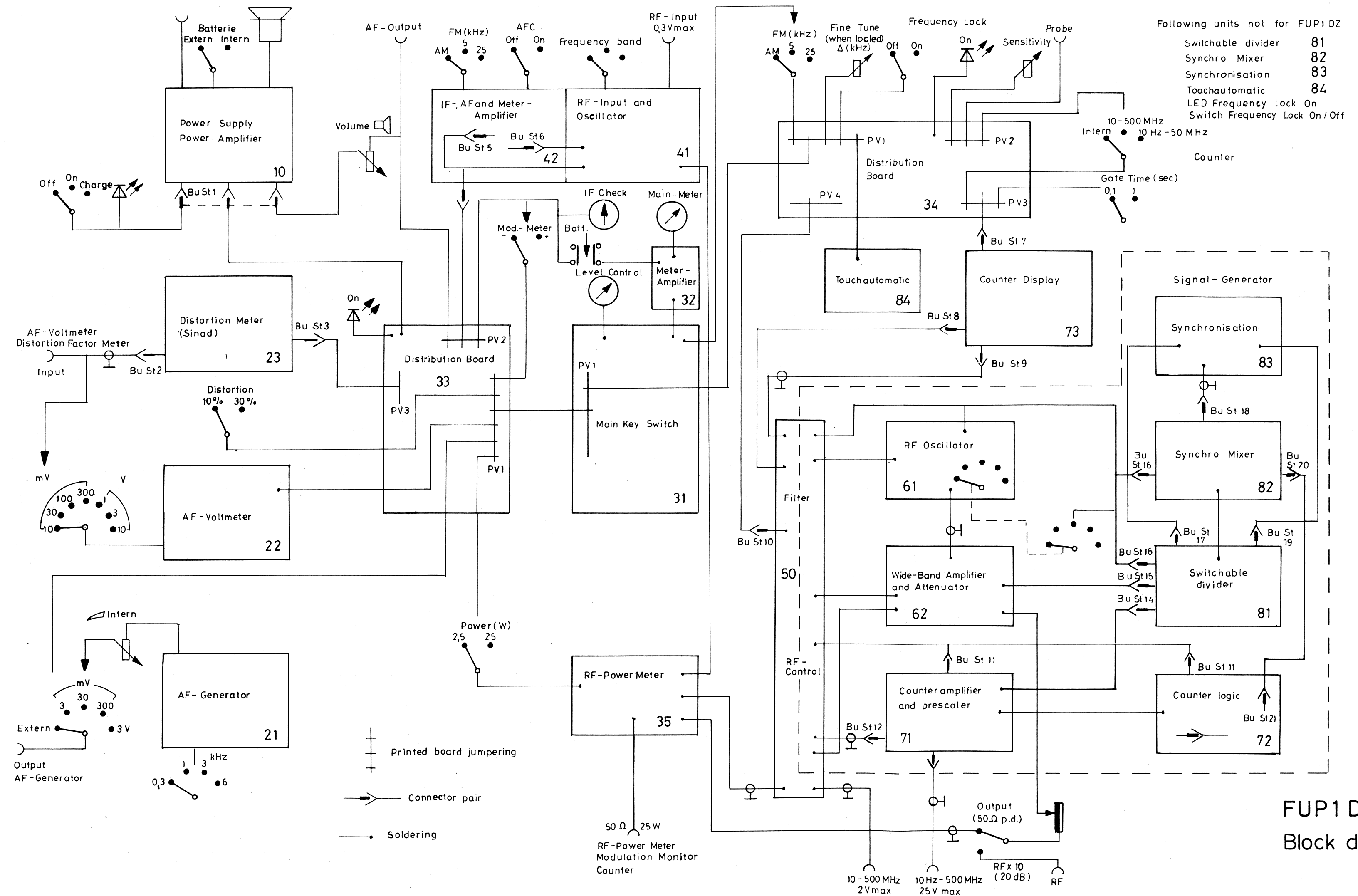
FUP 1DZ

FUP 1DZ S

SCHALTBILDER

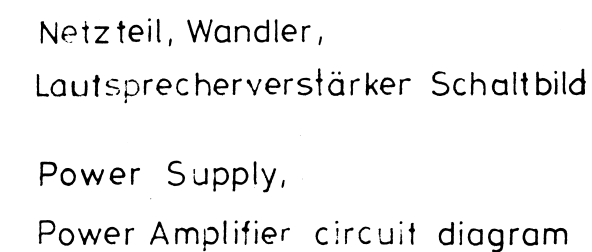


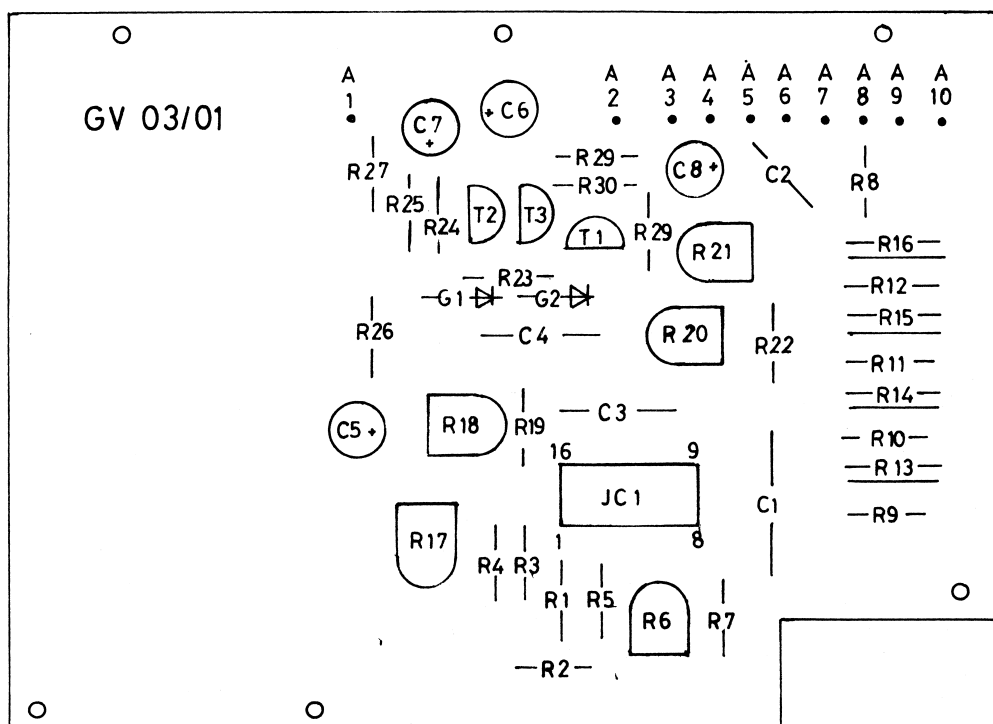
# Modulation Monitor



FUP1 DZ / DZS  
Block diagram







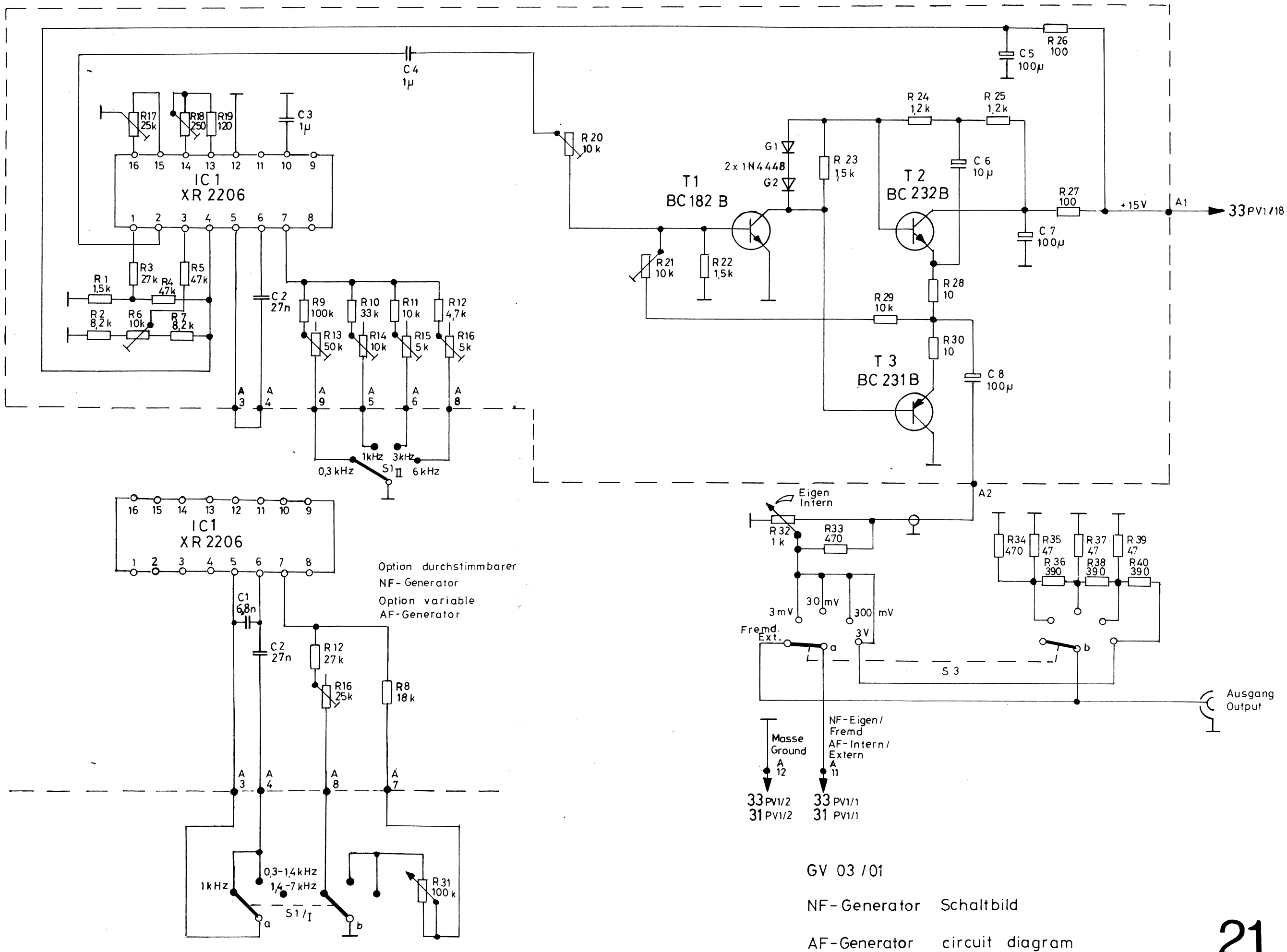
Einstellung			Adjustment	
R 6	Klirrfaktor	minimum	Distortion	minimum
R 16	Klirrfaktor	minimum	Distortion	minimum
R 17	Klirrfaktor	minimum	Distortion	minimum
R 20	Aussteuerpegel	Endstufe	Dynamic level	Output Amplifier
R 21	Symmetrie	Endstufe	Symmetry	Output Amplifier
R 13	Frequenz	0,3 kHz	Frequency	0,3 kHz
R 14	Frequenz	1 kHz	Frequency	1 kHz
R 15	Frequenz	3 kHz	Frequency	3 kHz
R 16	Frequenz	6 kHz (1kHz Option)	Frequency	6 kHz (1kHz Option)

GV 03/01

NF-Generator Bestückungsplan

AF-Generator component layout

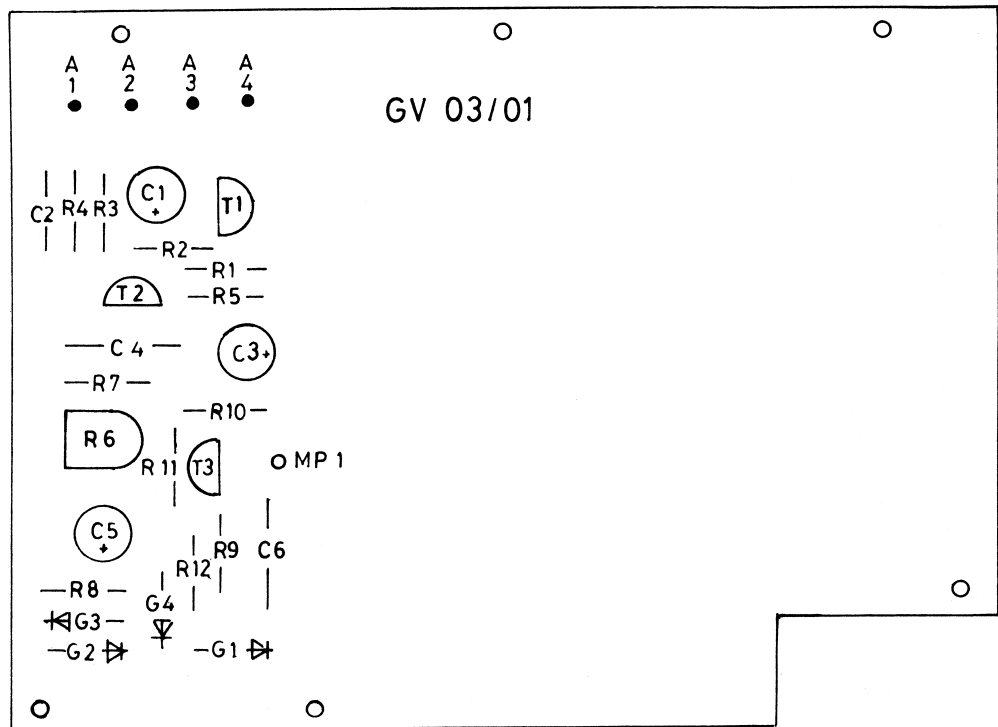




GV 03 / 01

NF-Generator Schaltbild

AF-Generator circuit diagram



#### Einstellung

R 6    Eingang    NF-Voltmeter    10 m V<sub>eff</sub>    1 kHz    MP 1    6 V<sub>SS</sub>

#### Adjustment

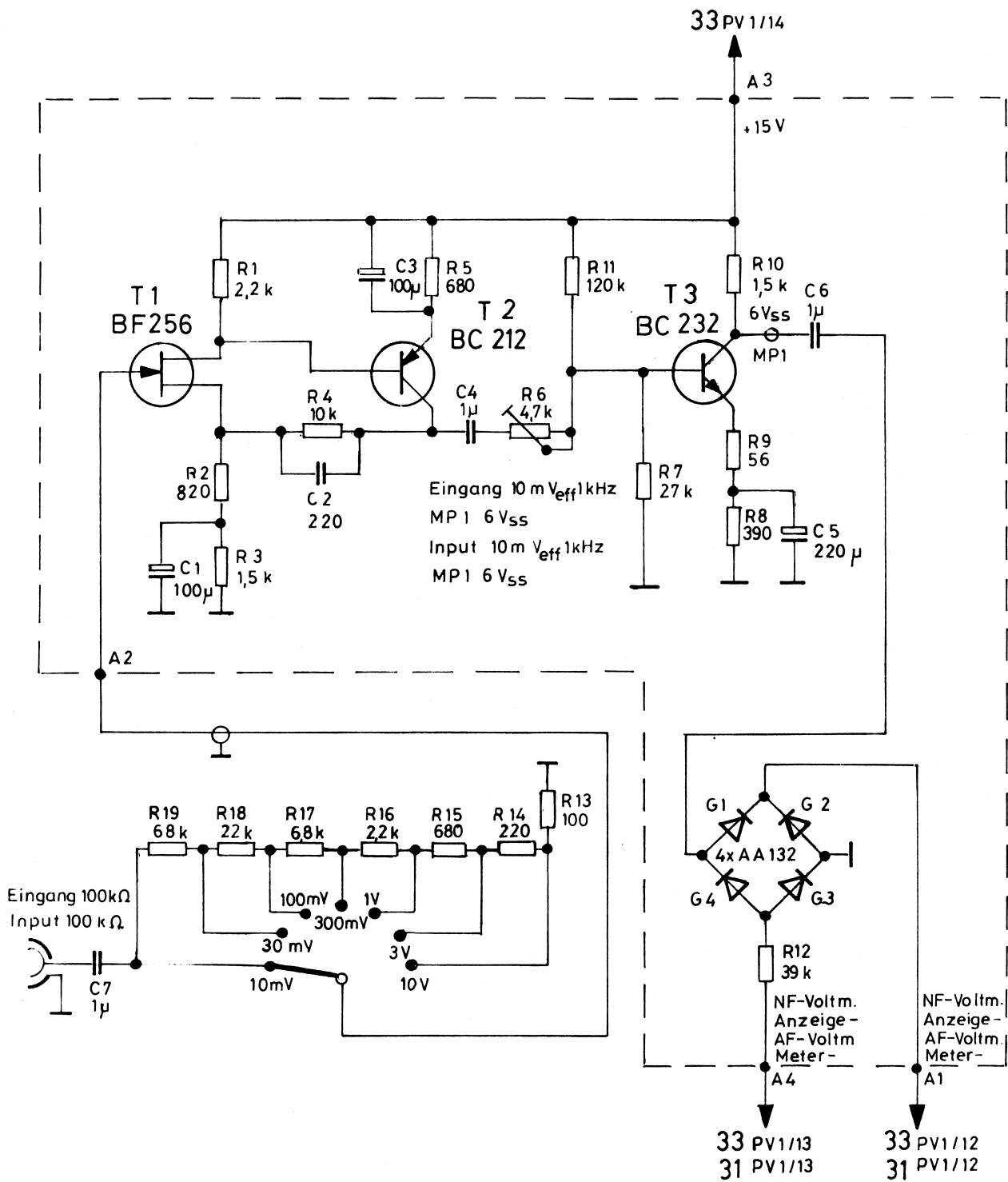
R 6    Input    AF-Voltmeter    10 m V<sub>eff</sub>    1 kHz    MP 1    6 V<sub>SS</sub>

GV 03/01

NF-Voltmeter    Bestückungsplan

AF-Voltmeter    component    layout





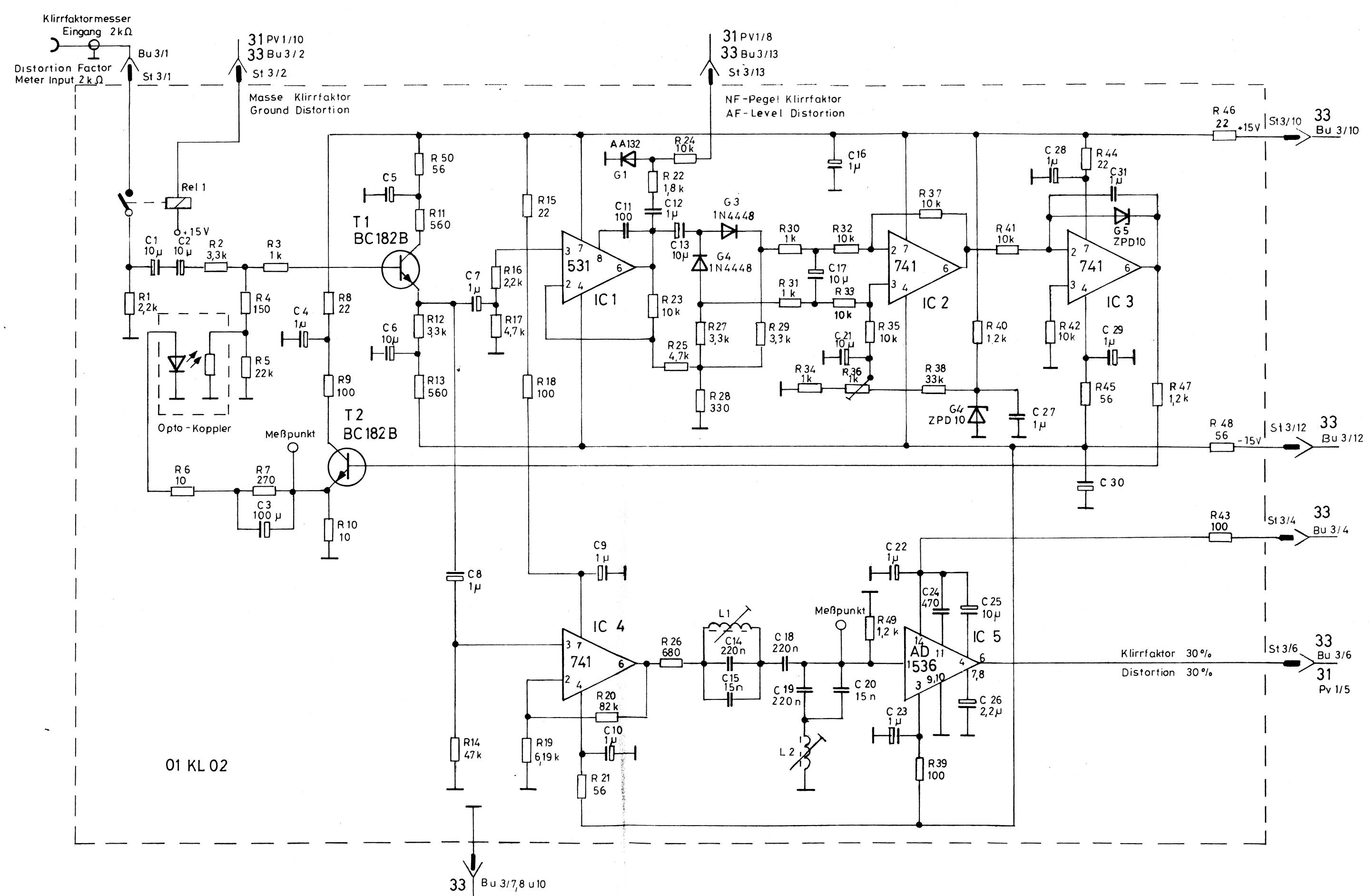
GV 03/01

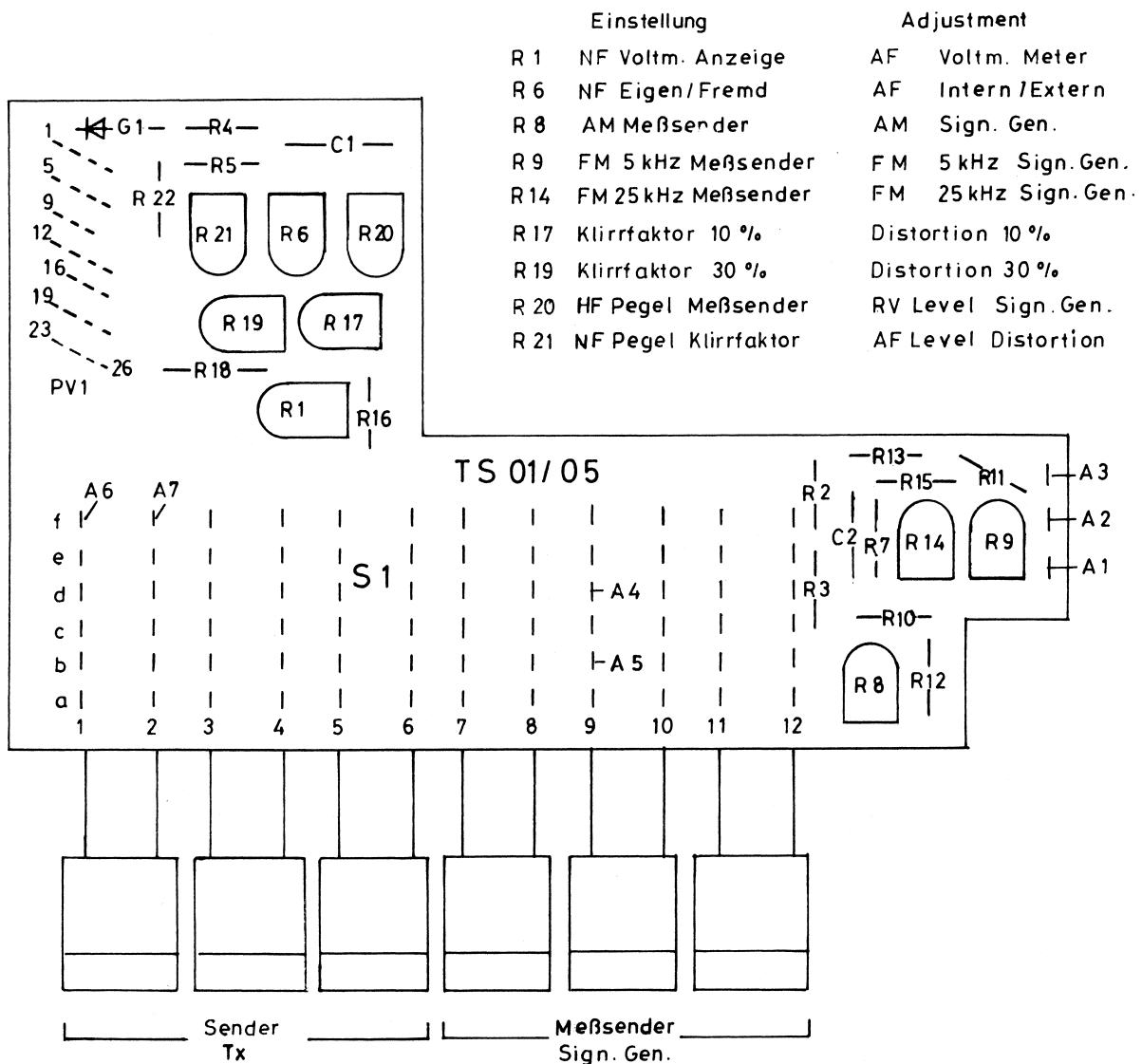
NF- Voltmeter Schaltbild

AF- Voltmeter circuit diagram









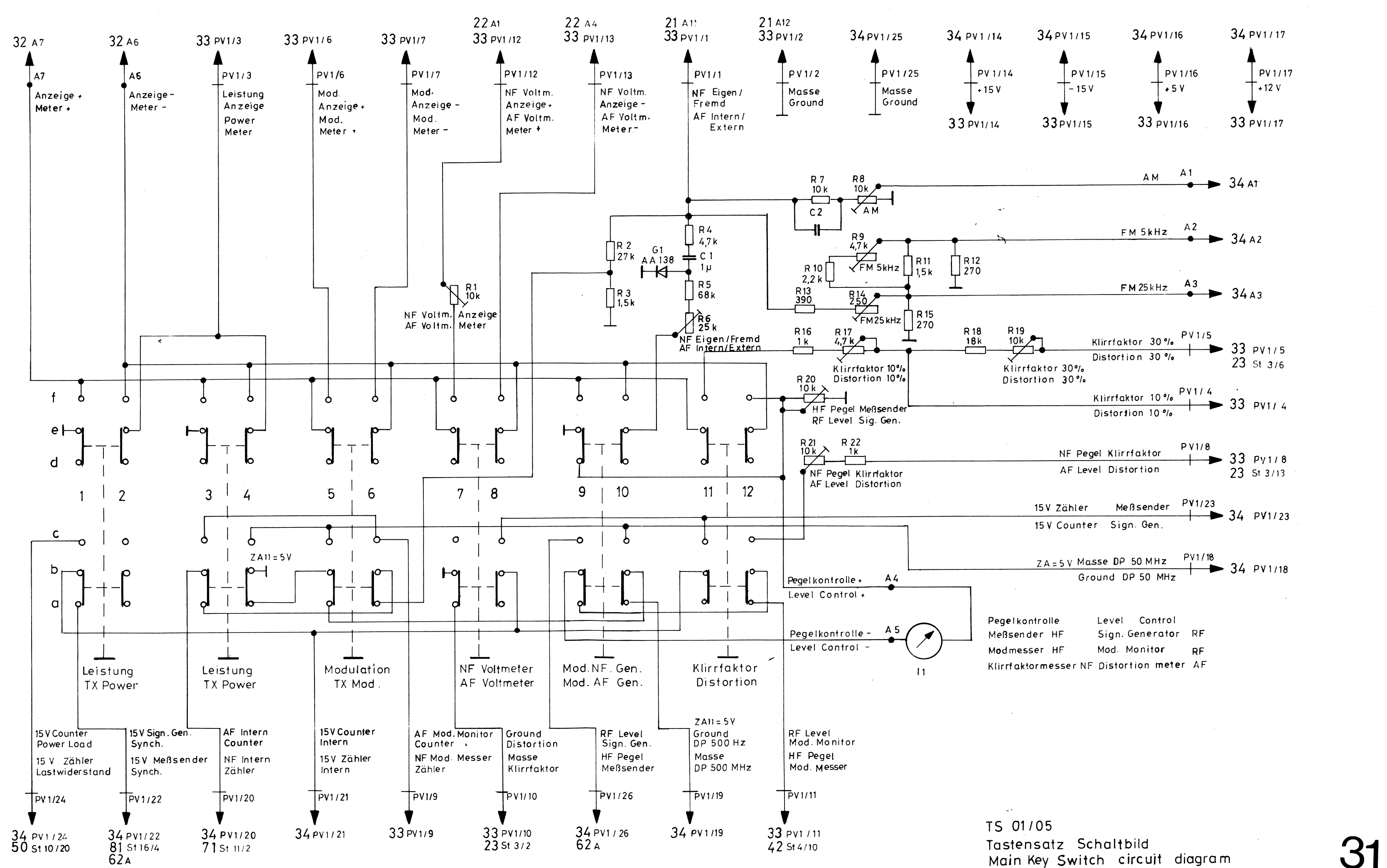
Leistung	Leistung	Mod.	NF Voltmeter	Mod. NF Gen.	Klirrfaktor	Anzeige Hauptinstrument
Tx Power	Tx Power	Tx Mod.	AF Voltmeter	Mod. AF Gen.	Distortion	General Meter
HF Pegel Mod. Messer			HF Pegel Meßsender	NF Pegel Klirrfaktor	Anzeige Pegelkontrolle	
RF Level Mod. Meter			RF Level Sign. Gen.	AF Level Distortion	Meter Level Control	
<div><div></div><div></div><div></div><div></div><div></div><div></div></div>						
Sender Tx			Meßsender Sign. Gen.			
Sender	Mod.	Mod.	Träger	Mod./NF Gen.	Träger	Frequenzanzeige durch Zähler
Carrier	Mod.	Mod.	Carrier	Mod/AF Outp.	Carrier	Counter Indicates Frequency Off

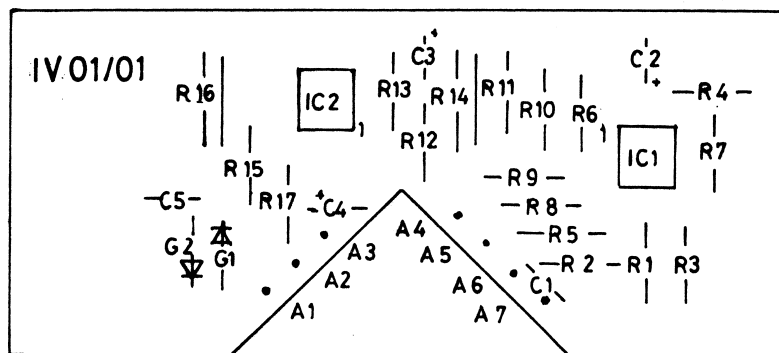
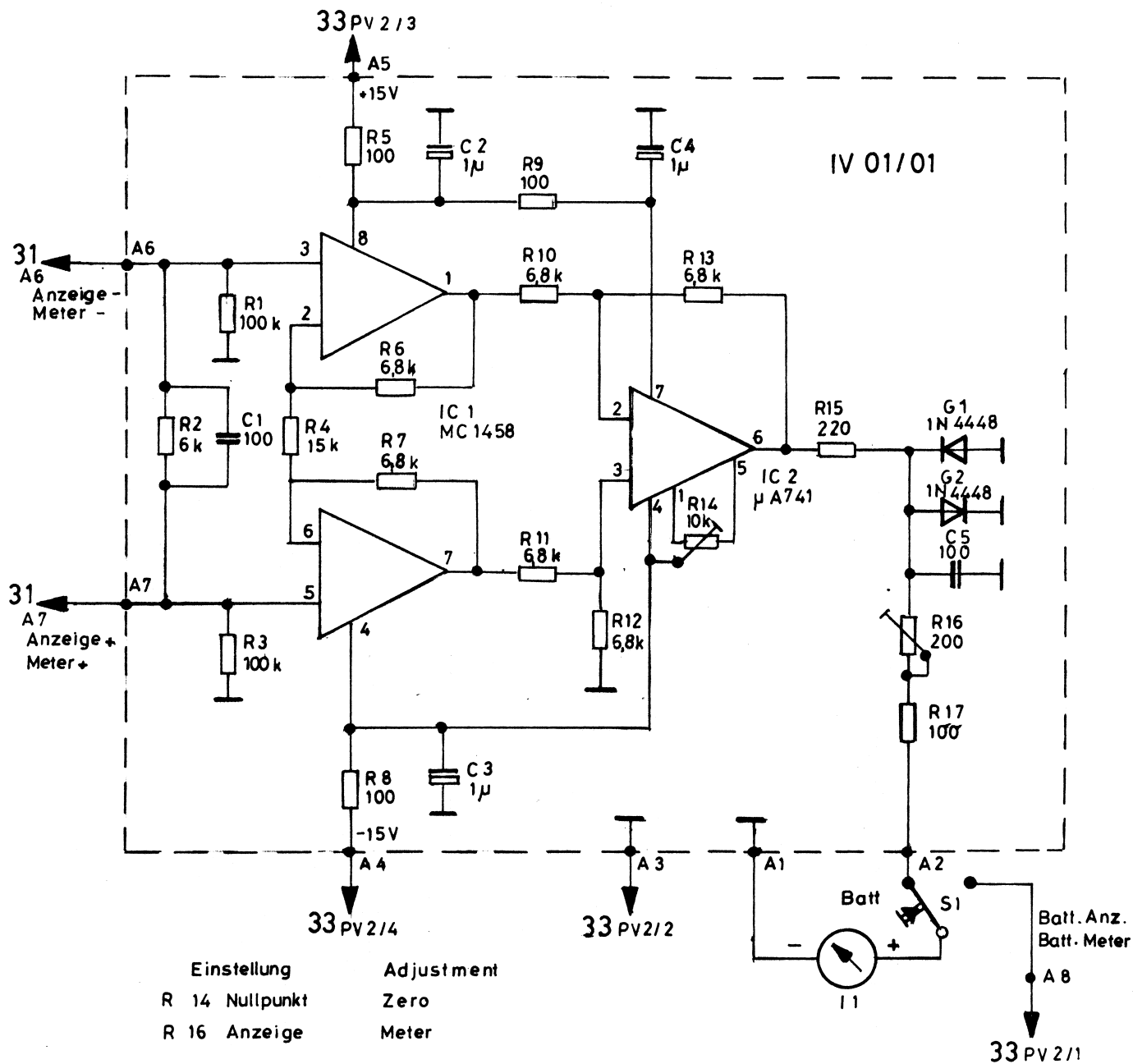
TS 01/05

Tastensatz Bestückungsplan

Main Key Switch component Layout



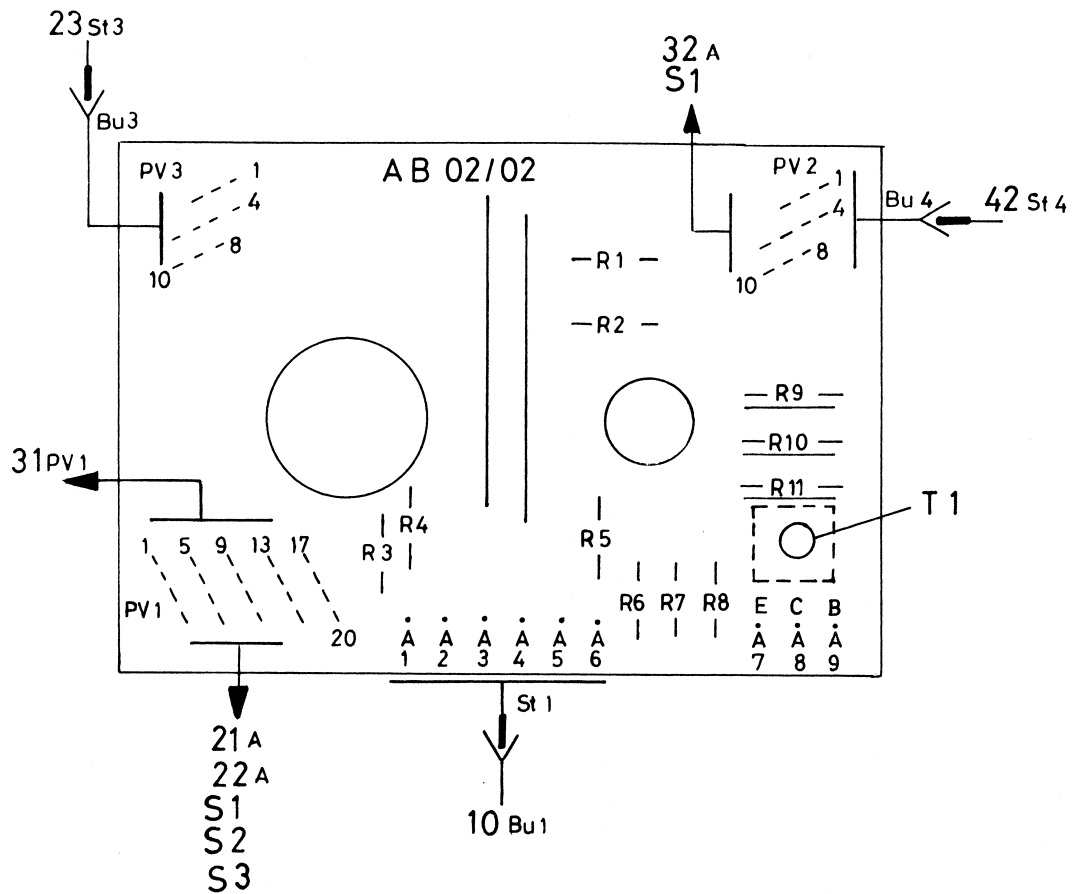




IV01/01

Anzeige-Verstärker Schaltbild und Bestückungsplan

Meter-Amplifier circuit diagram and component layout



Einstellung		Adjustment	
R 9	2,5 W Leistung	2,5 W	Power
R 10	25 W Leistung	25 W	Power
R 11	Batt. Anzeige	Batt. Meter	

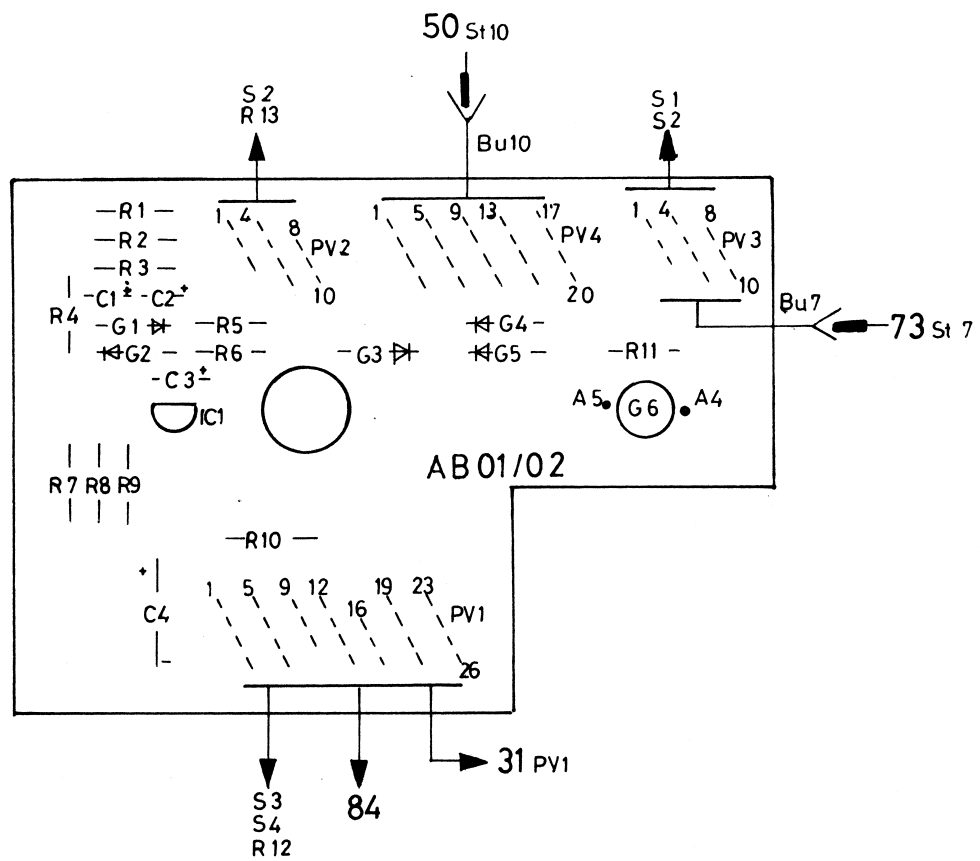
AB 02/02

Verteilerplatine Bestückungsplan

Distribution Board component layout





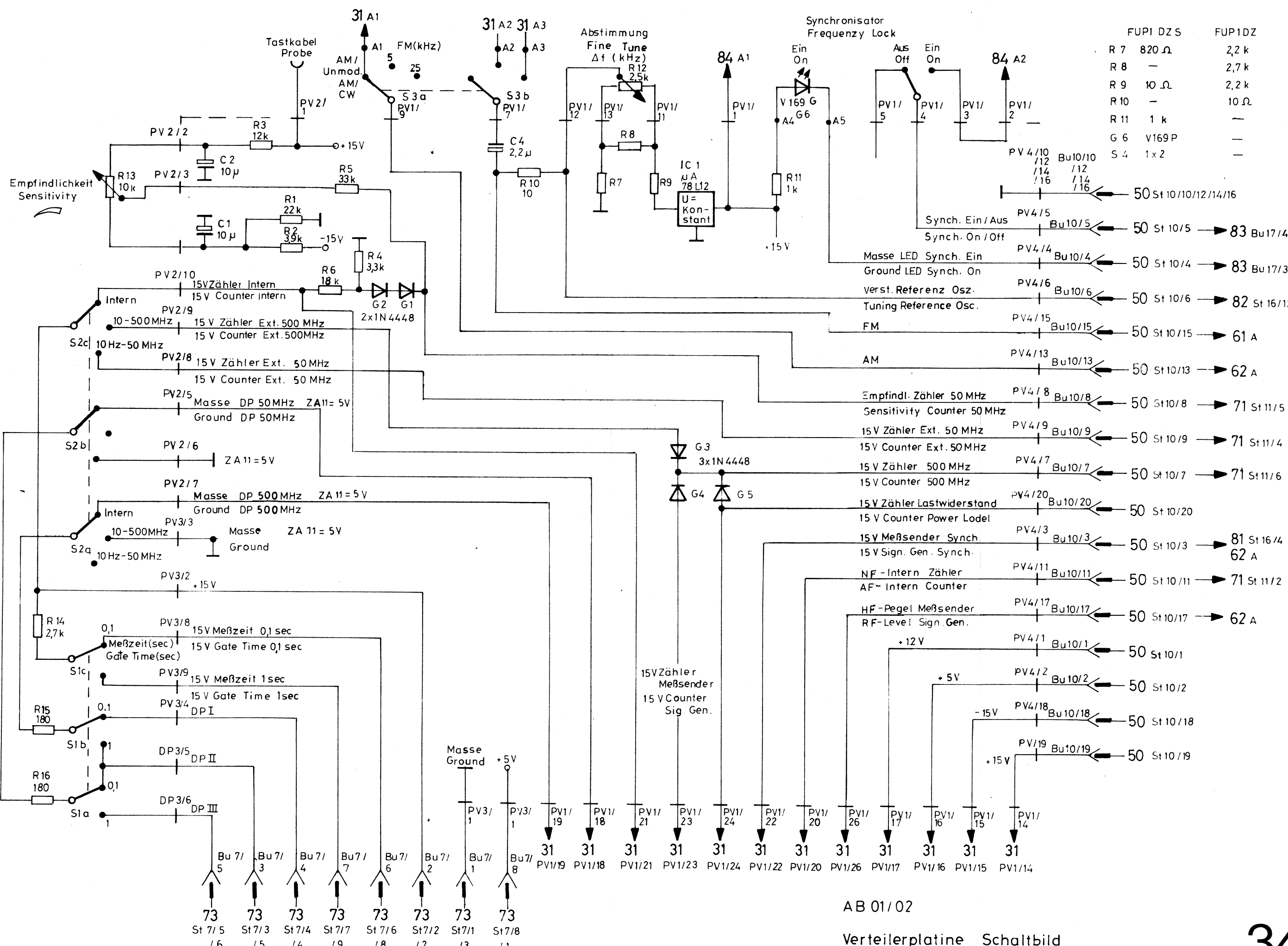


FUP 1 DZS	FUP1 DZ
R 7 820 $\Omega$	2,2 k
R 8 —	2,7 k
R 9 10 $\Omega$	2,2 k
R 10 —	10 $\Omega$
R 11 1 k	—
G 6 V 169 P	—
S 4 1 x 2	—

AB 01/02

Verteilerplatine Bestückungsplan

Distribution Board component layout



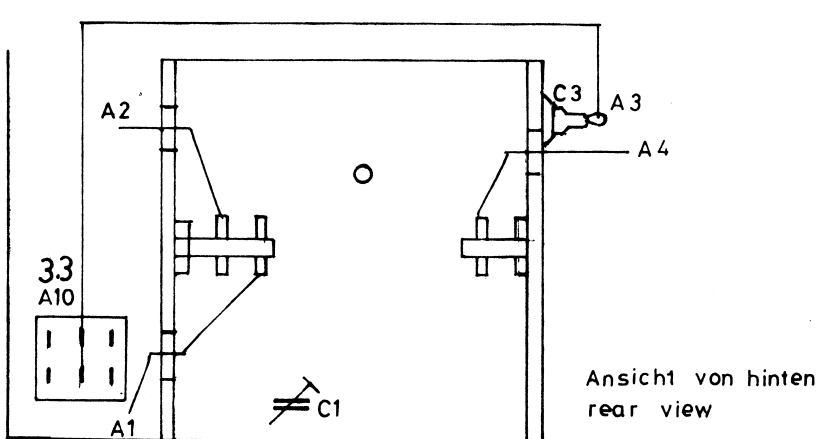
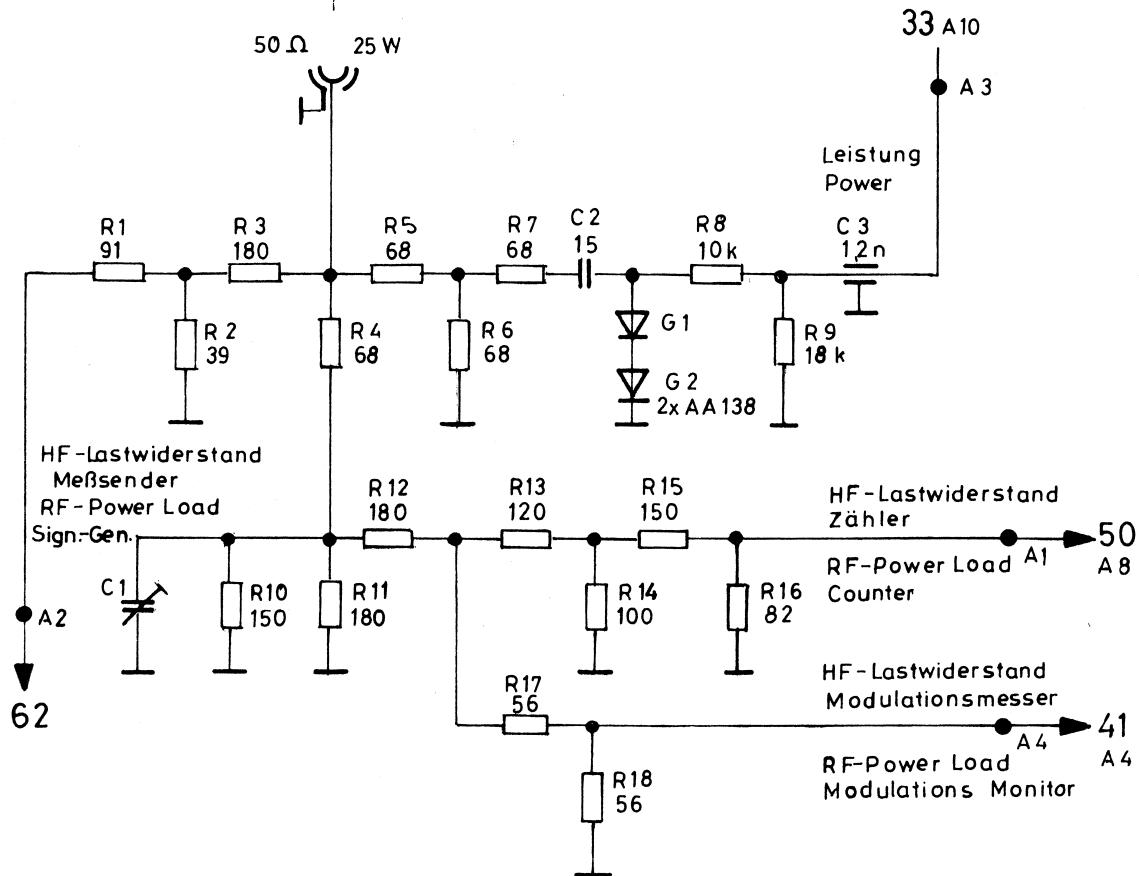
AB 01/02

Verteilerplatine Schaltbild

Distribution Board circuit diagram

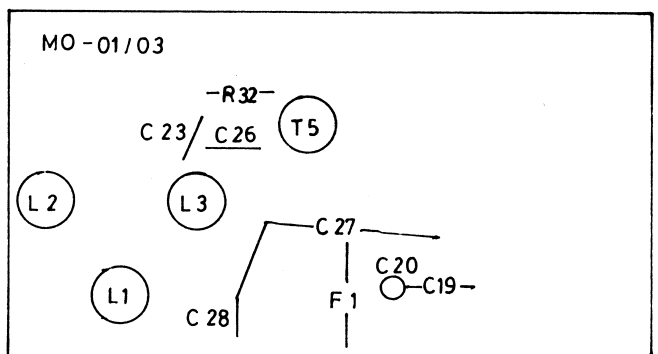
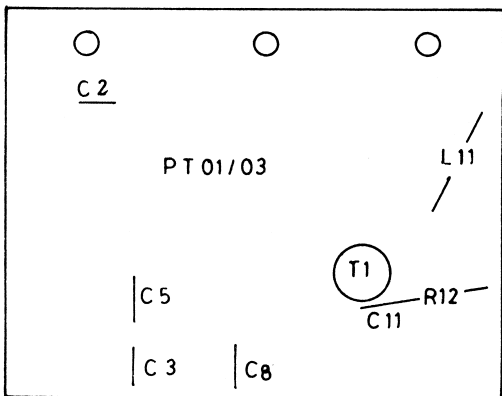
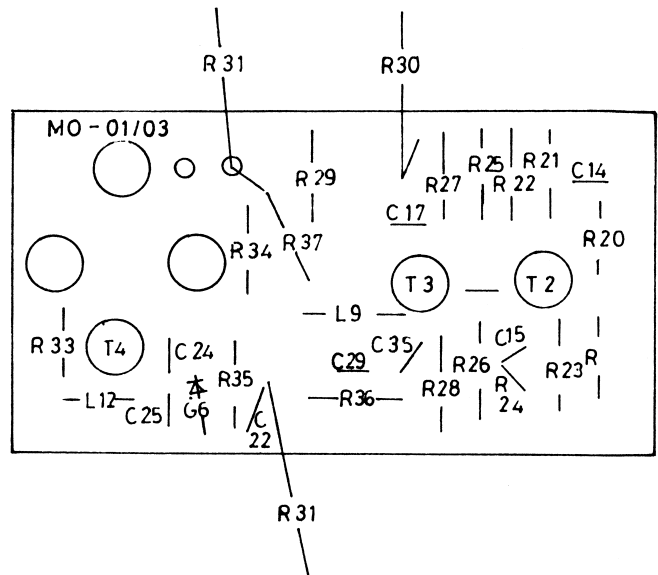
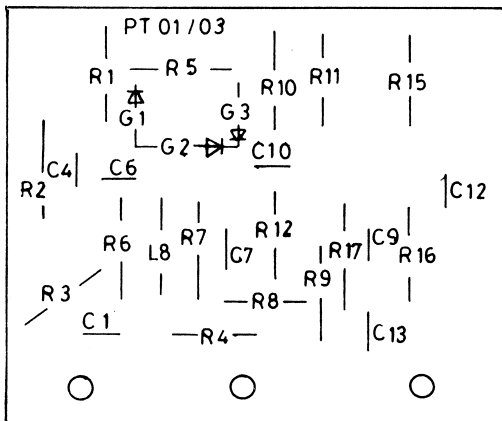
LEISTUNGSMESSE  
Modulationsmesser  
Zähler

RF- POWER METER  
Modulation Monitor  
Counter



Leistungsmesser Schaltbild und Anschlußplan

RF-Power Meter circuit diagram and connecting layout

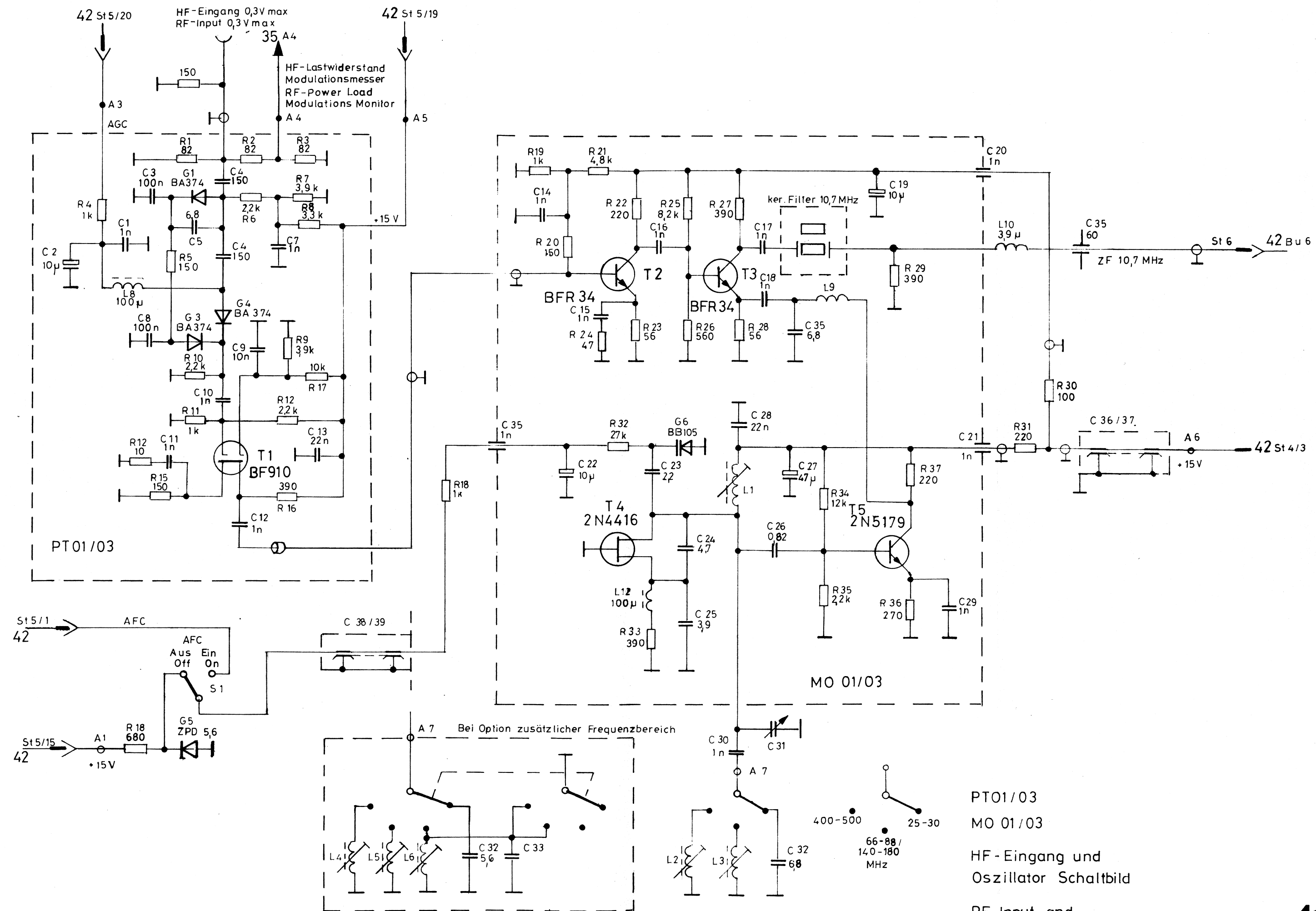


PT 01/03

MO - 01/03

HF-Eingang und Oszillator Bestückungsplan

RF-Input and Oscillator component layout



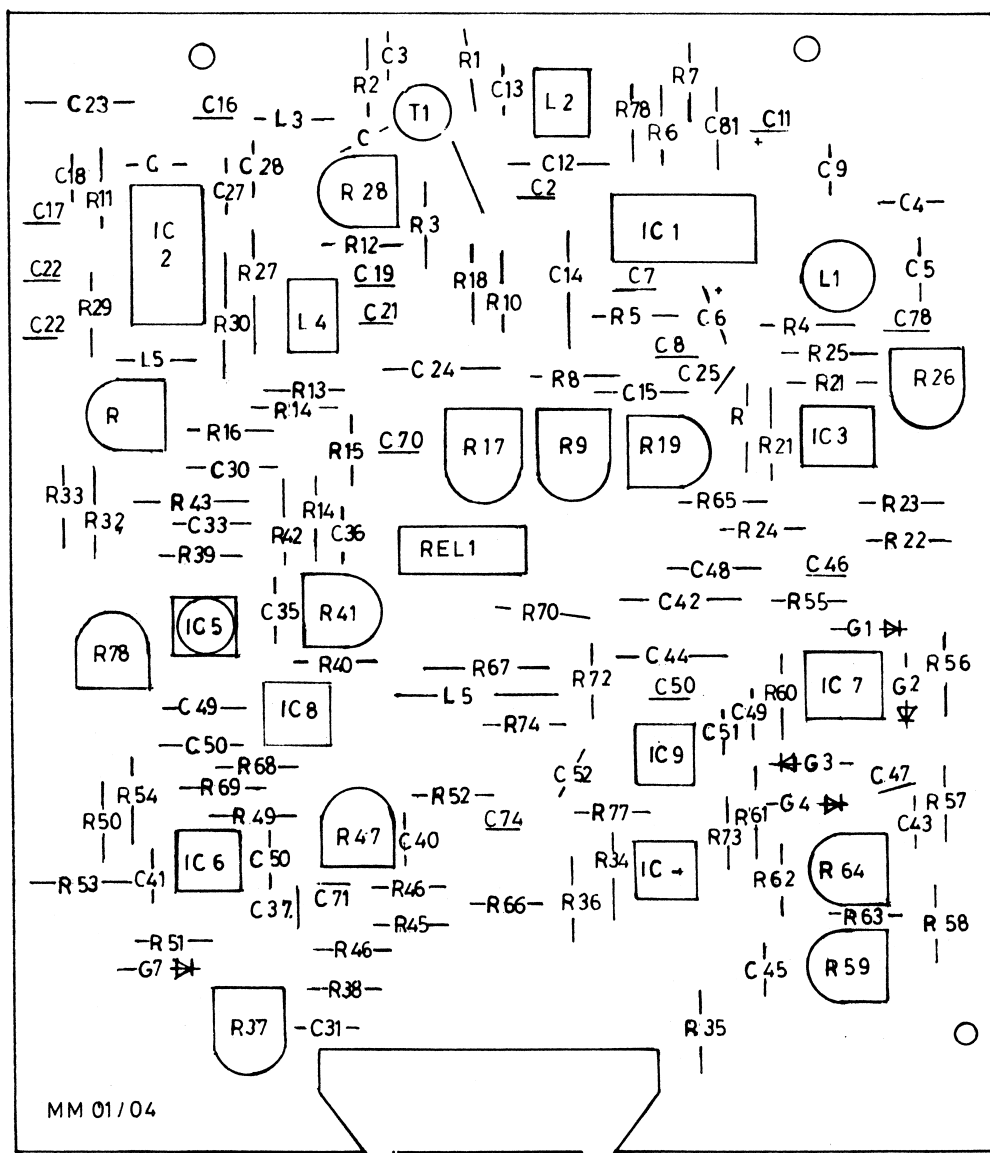
PT01/03

MO 01/03

HF-Eingang und  
Oszillator Schaltbild

RF-Input and  
Oscillator circuit diagram



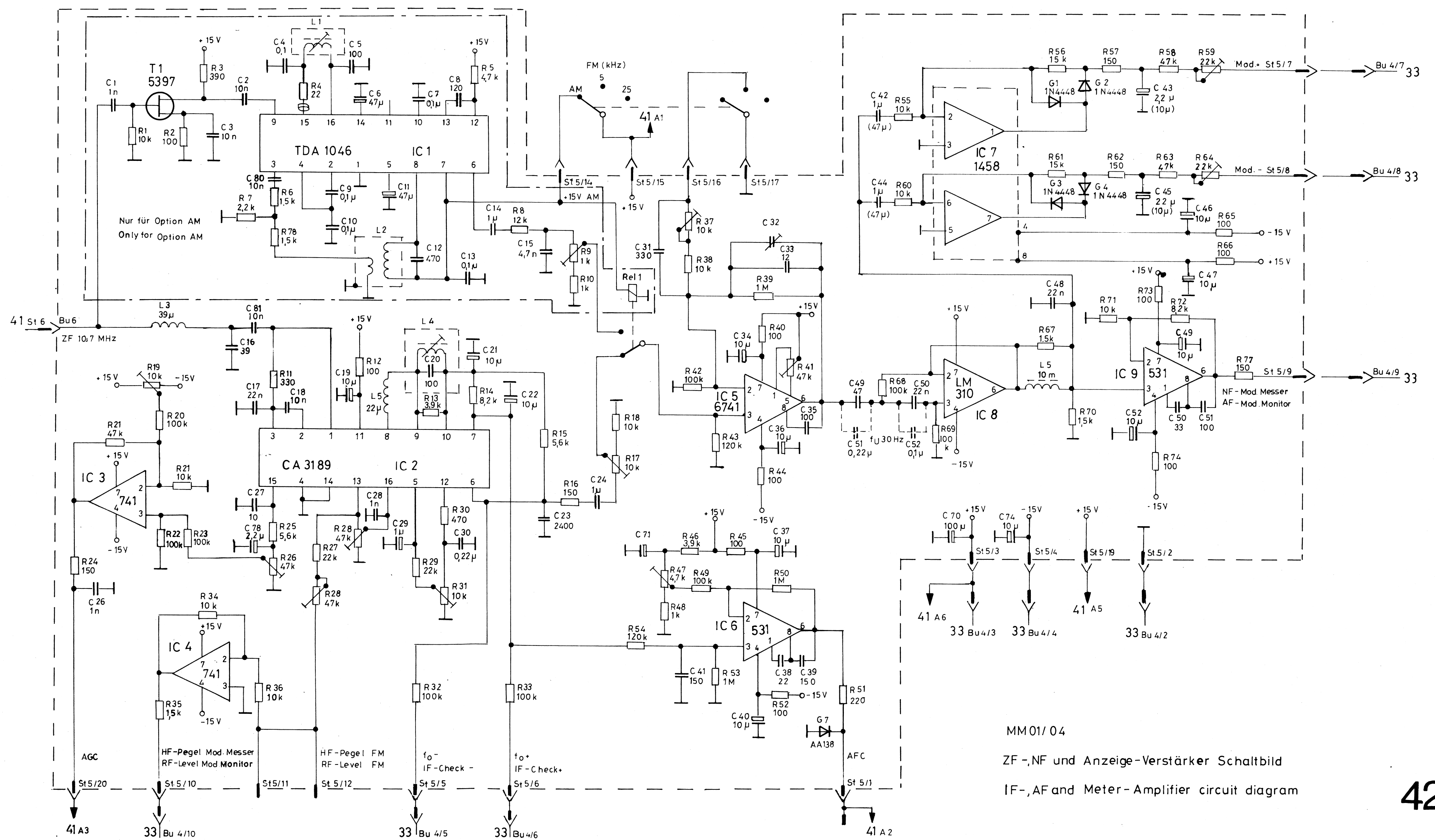


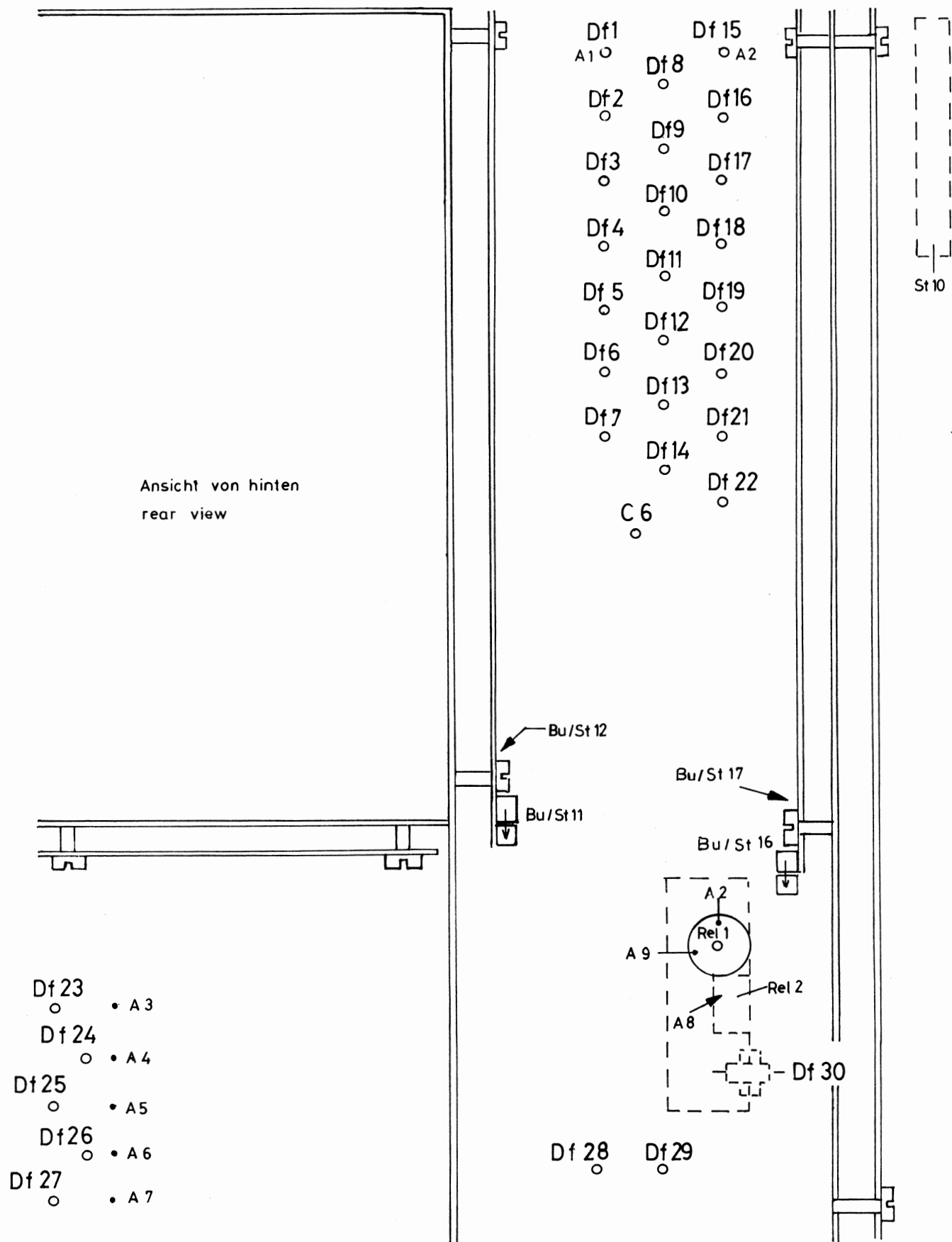
Einstellung	Adjustment
L 1 } ca. 13,7 MHz (AM)	{ ca. 13,7 MHz (AM)
L 2 maximum ZF 3 MHz	maximum IF 3 MHz
L 4 10,7 MHz FM-Demodulator	10,7 MHz FM-Detector
R 9 Eingangspegel AM IC 5	Input Level AM IC 5
R 17 Eingangspegel FM IC 5	Input Level FM IC 5
R 19 AGC 1 } Bereich +3V bis +9V	AGC 1 } Range +3V to +9V
R 26 AGC 2 }	AGC 2 }
R 28 AGC Verzögerungseinsatz	AGC delayed set start
R 31 Rauschsperr e	Muting
R 37 5 kHz FM Bereich	5 kHz FM Range
R 41 Offset IC 5	Offset IC 5
R 47 AFC ca. + 6V	AFC ca. + 6V
R 59 Anzeige FM/AM +	Meter FM/AM +
R 64 Anzeige FM/AM -	Meter FM/AM -

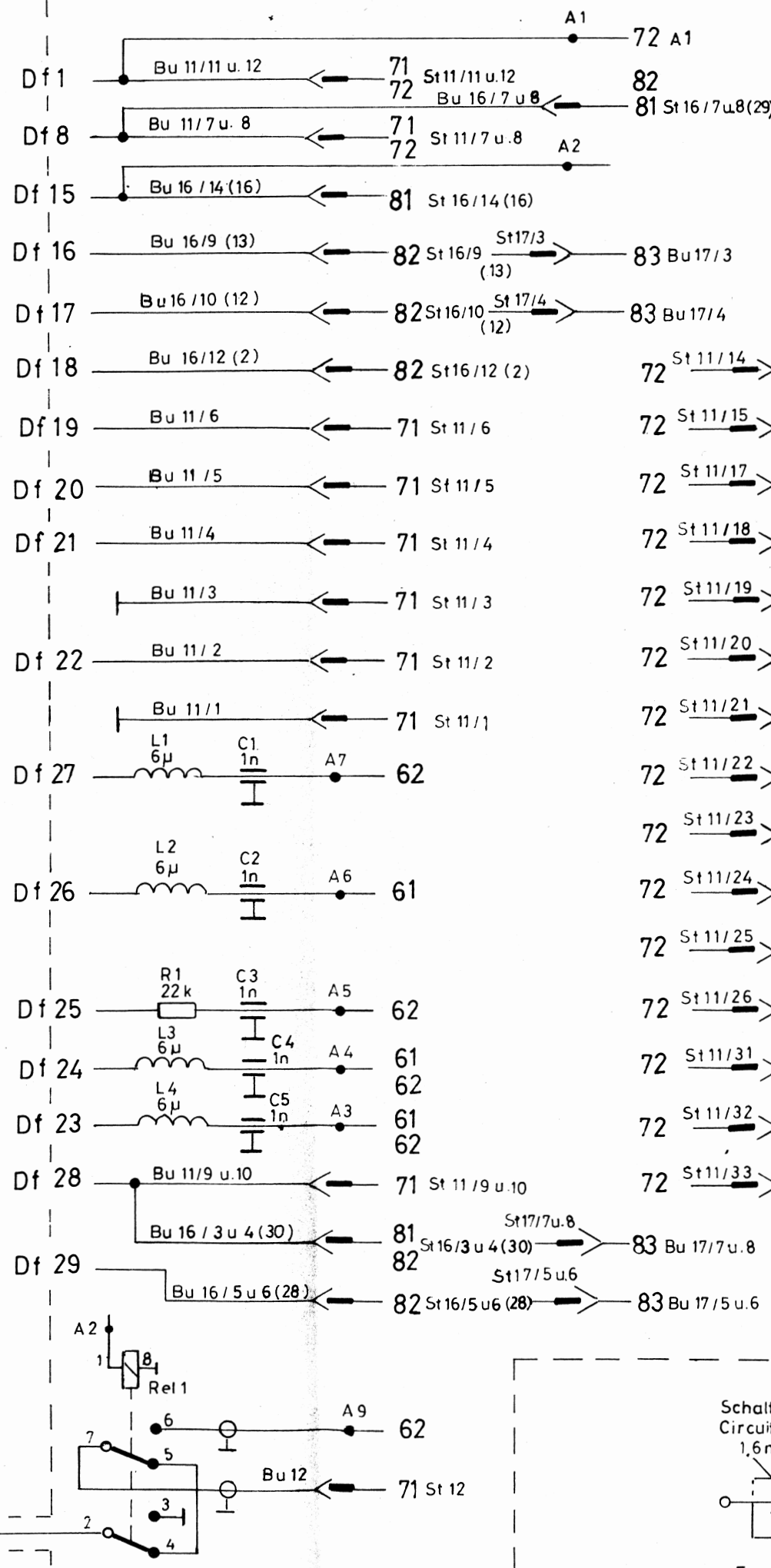
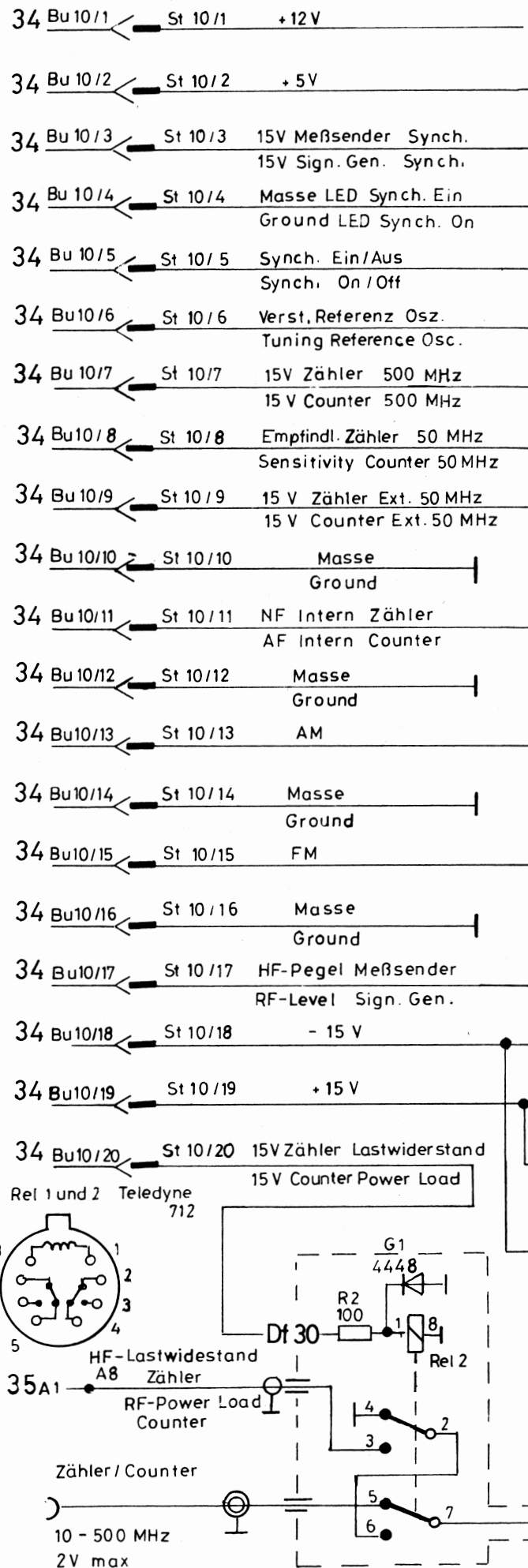
MM 01/04

42

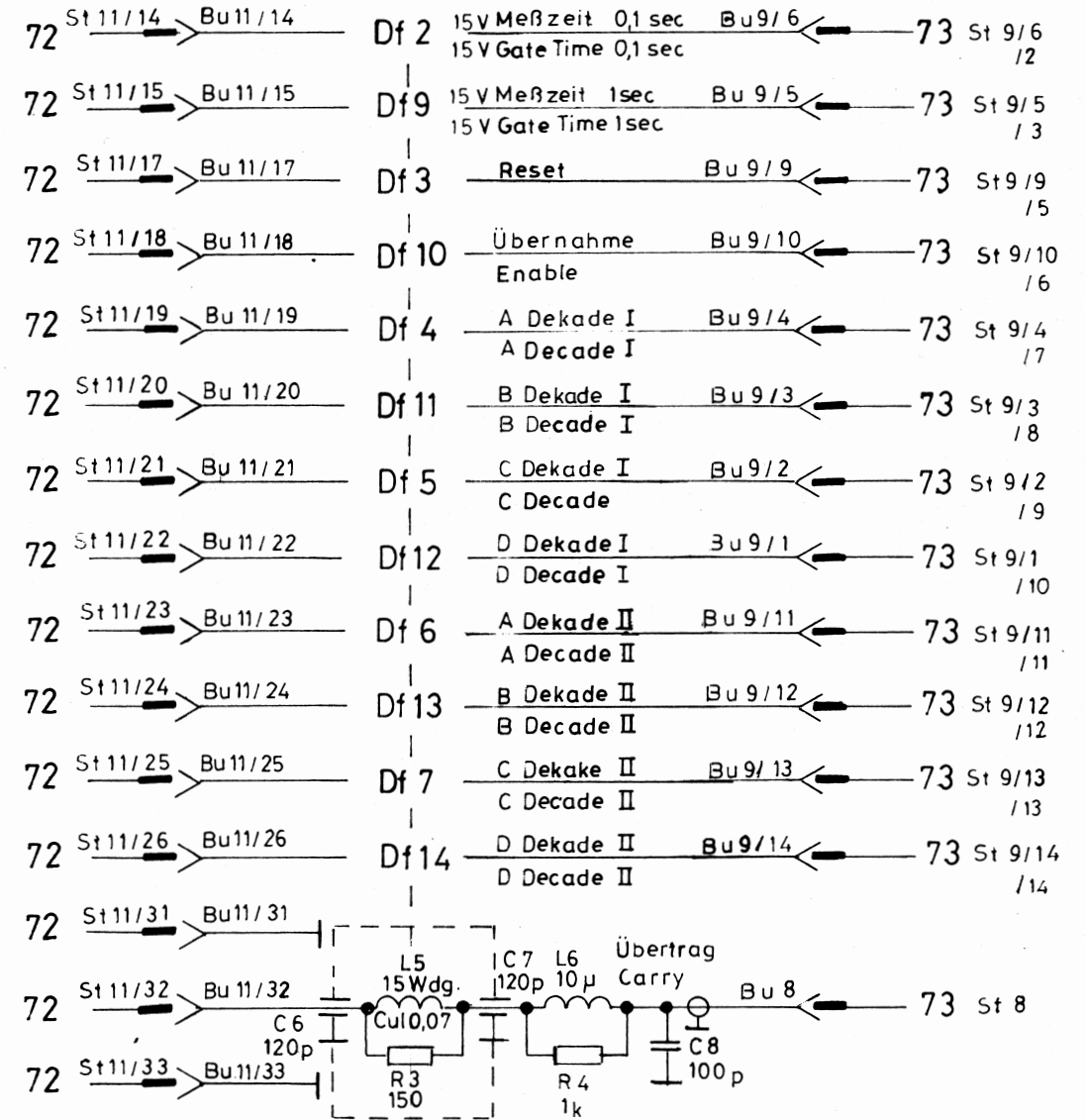
ZF-,NF und Anzeige-Verstärker Bestückungsplan  
IF-,AF and Meter-Amplifier compoment layout



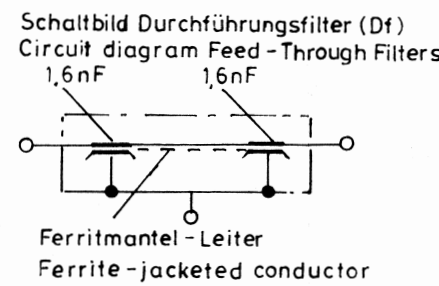


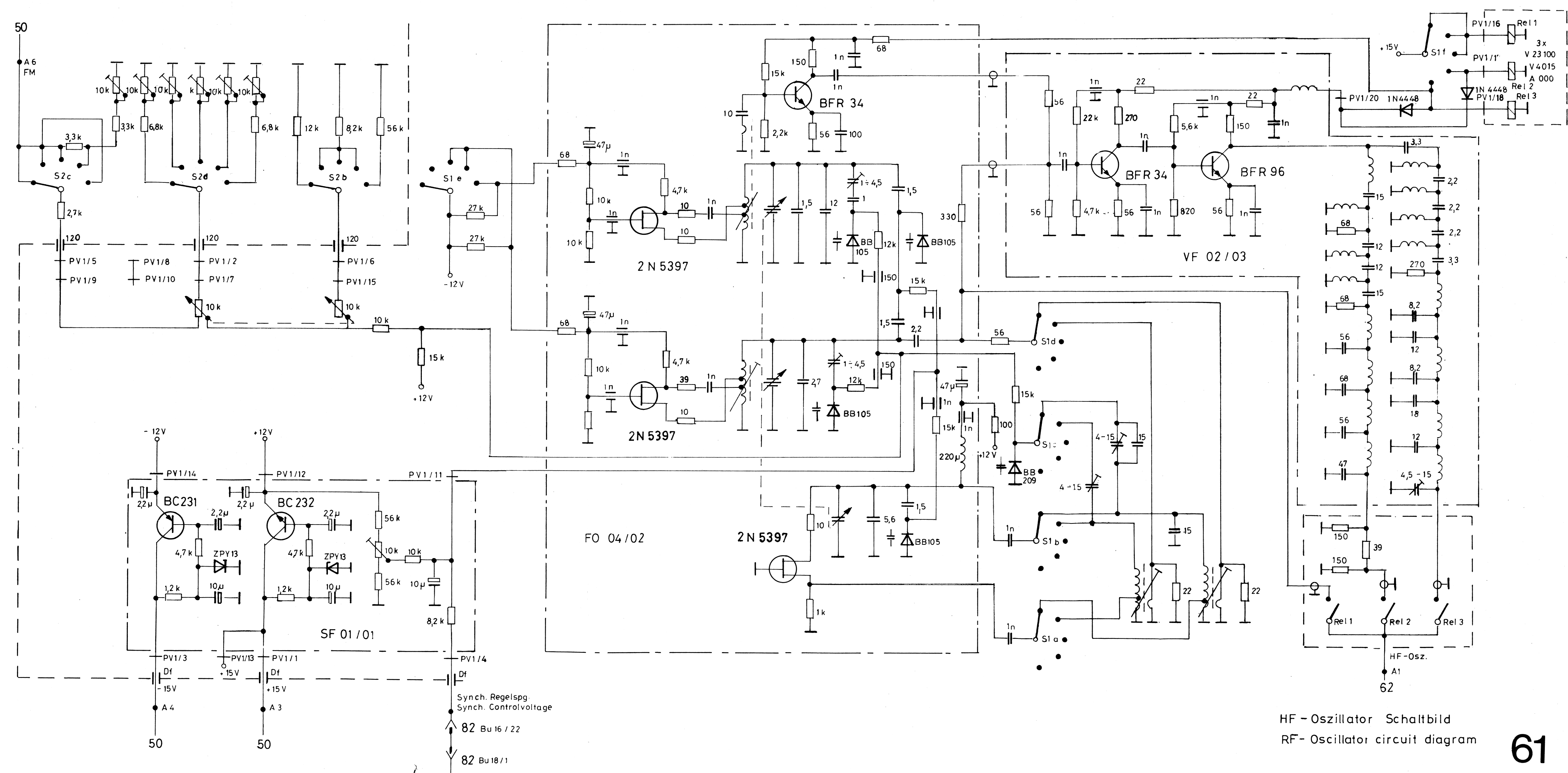


Bei FUP 1 DZ entfallen  
folgende Durchführungsfilter:  
Df 16, Df 17 und Df 18



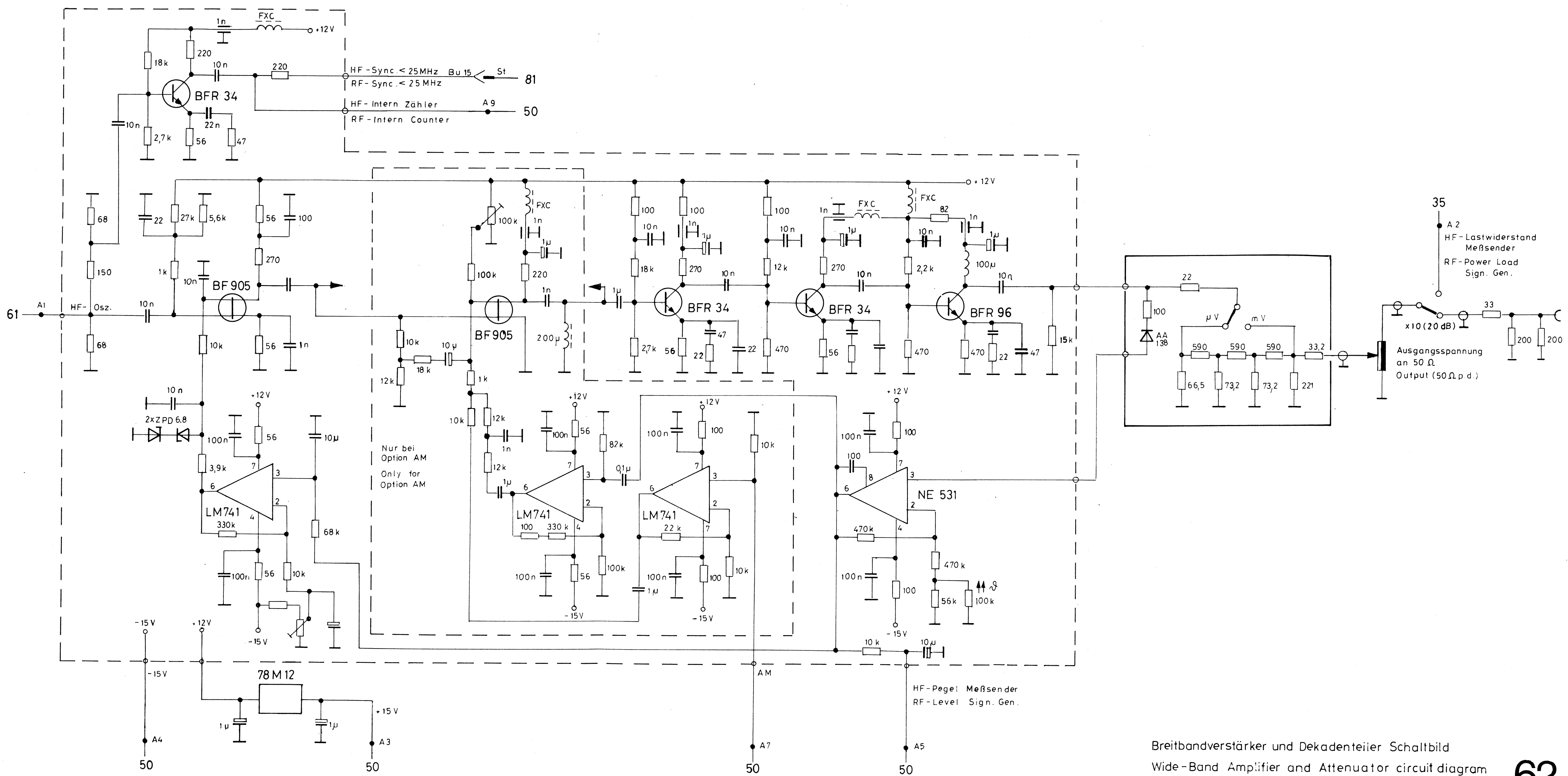
Verdrosselung und HF-Steuerung Schaltbild  
Filter and RF-Control circuit diagram



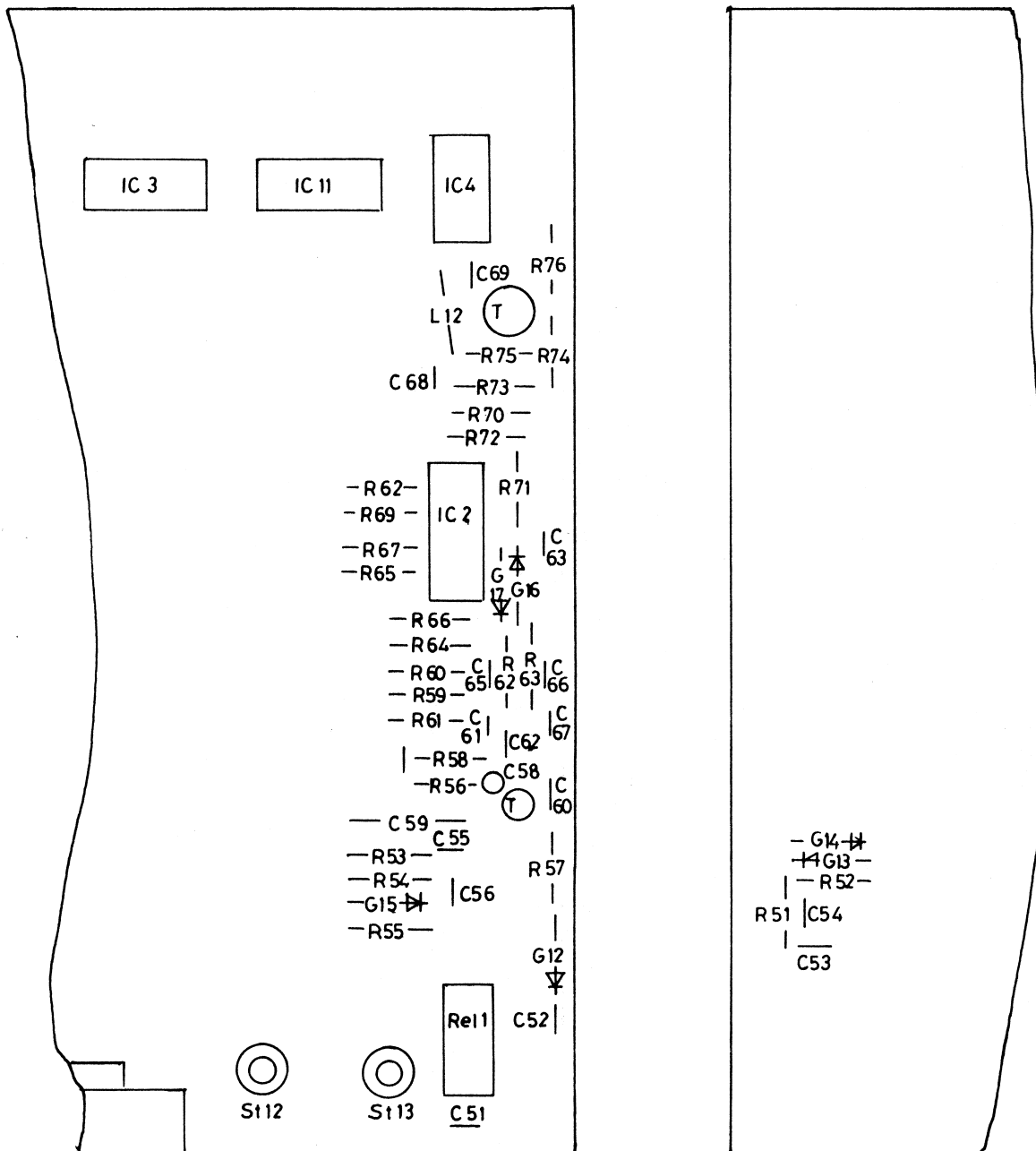


HF - Oszillator Schaltbild  
RF- Oscillator circuit diagram



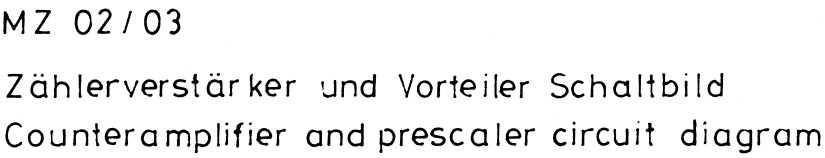


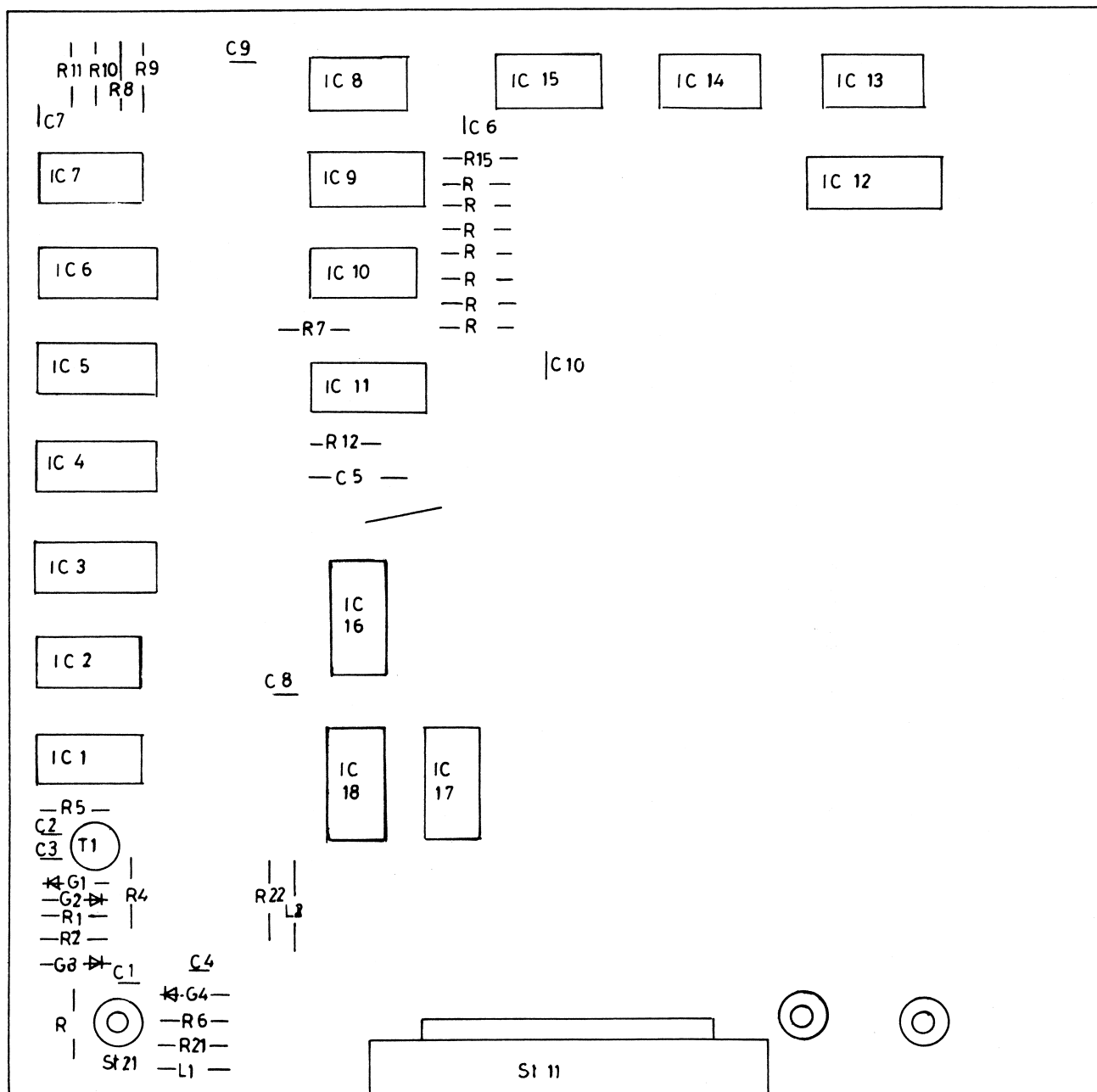
Breitbandverstärker und Dekadenteiler Schaltbild  
 Wide-Band Amplifier and Attenuator circuit diagram



MZ 02/03

Zählerverstärker und Vorteiler Bestückungsplan  
Counteramplifier and prescaler component layout

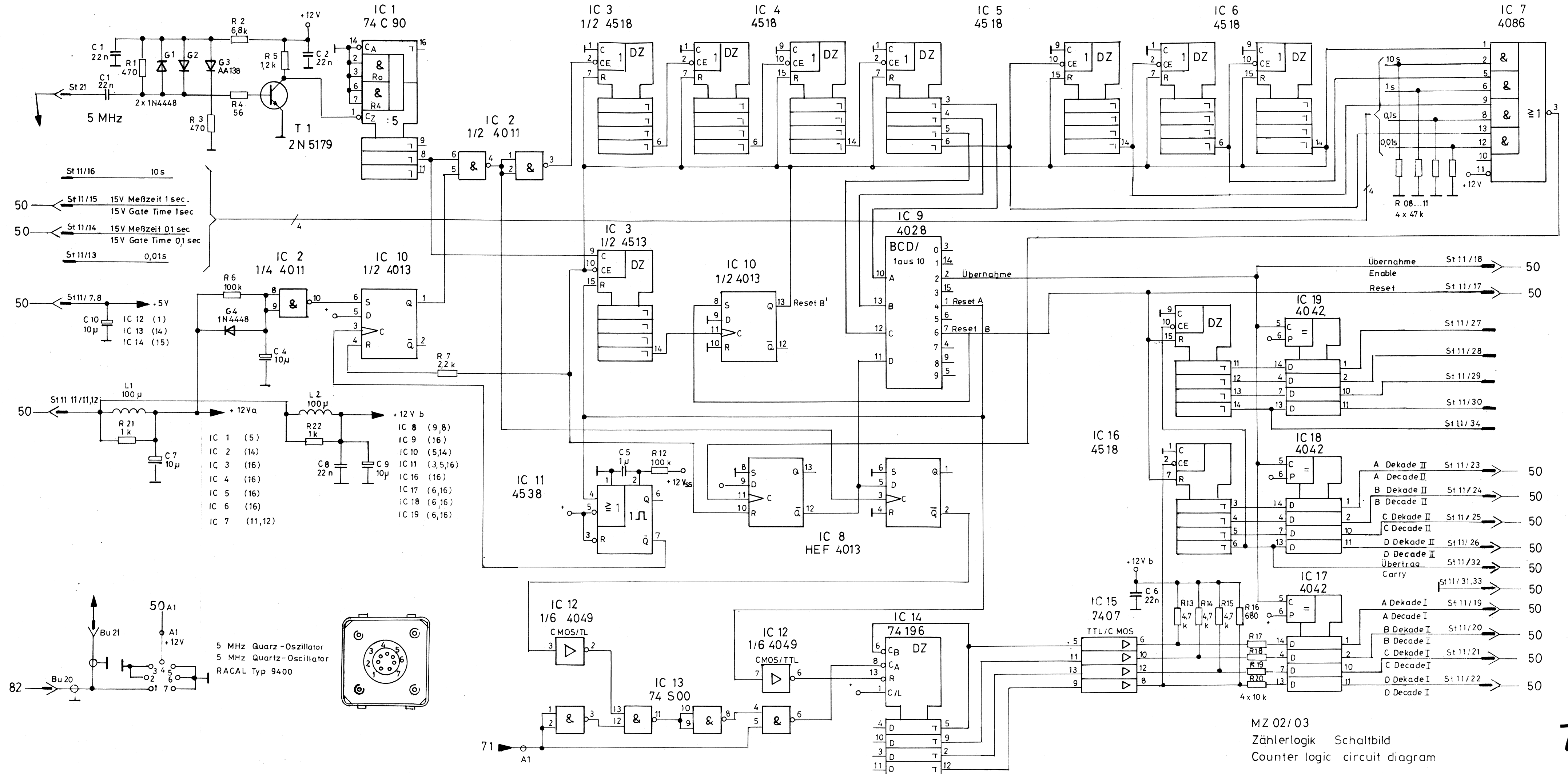


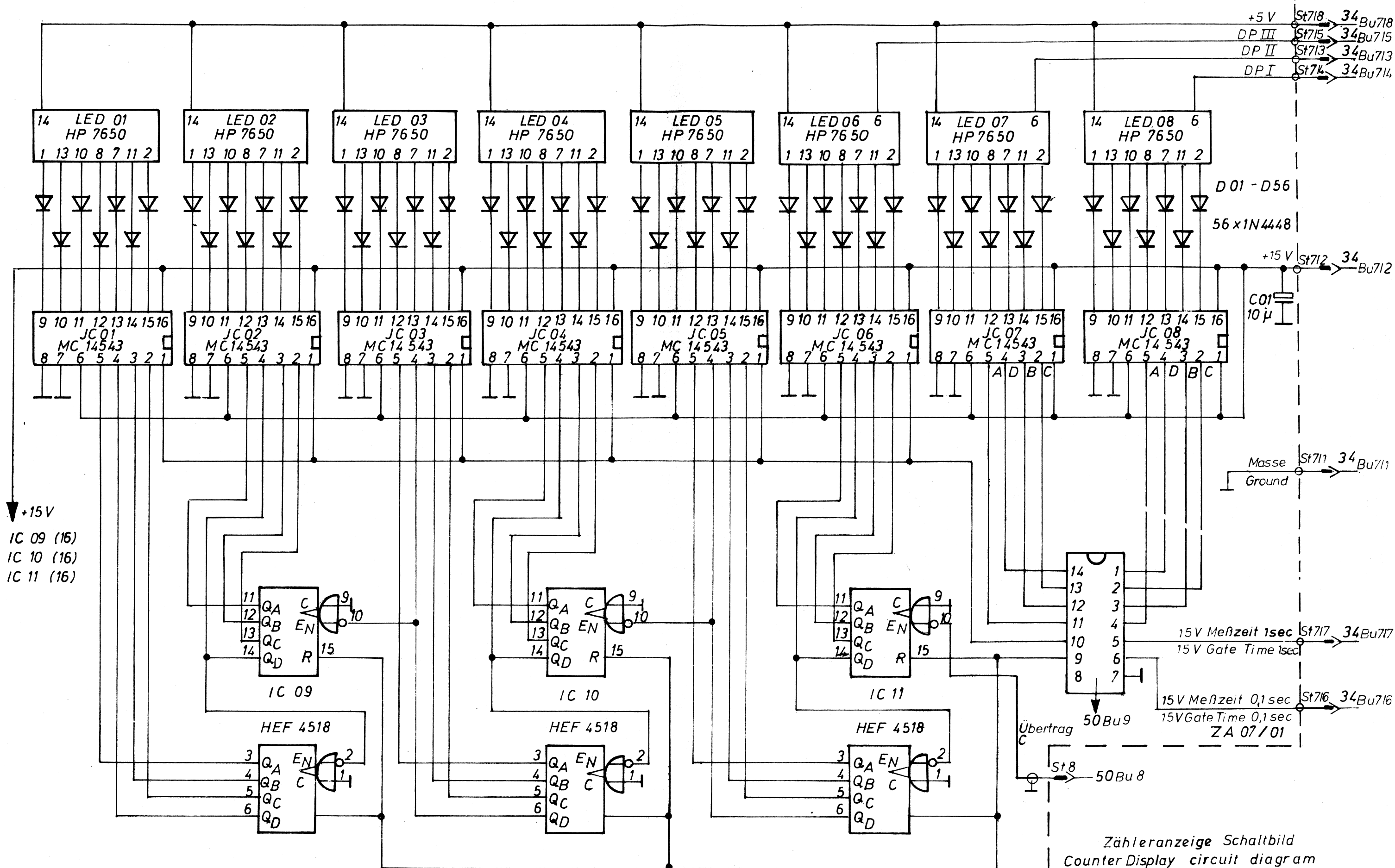


MZ 02/03

Zählerlogik Bestückungsplan

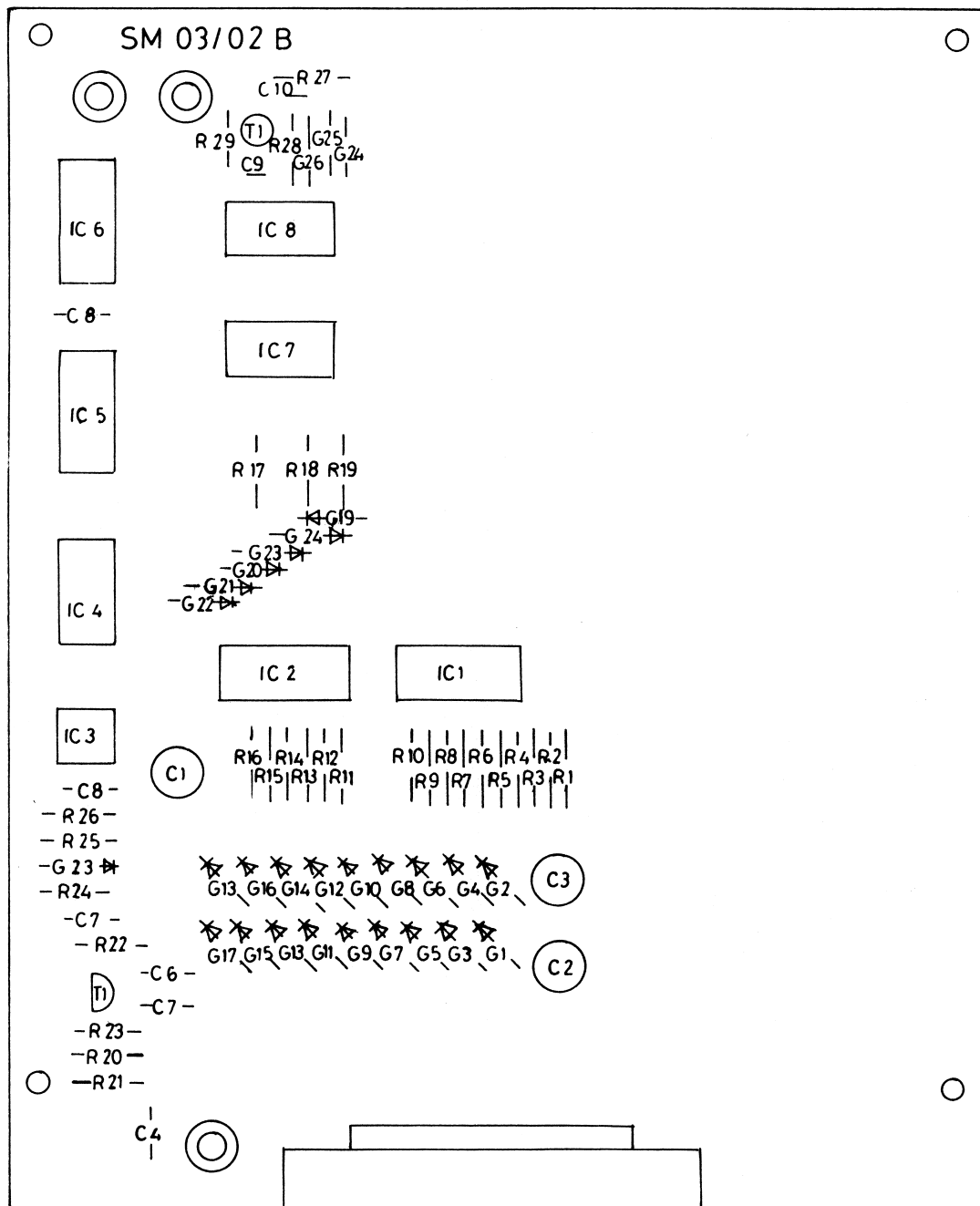
Counter logic component layout



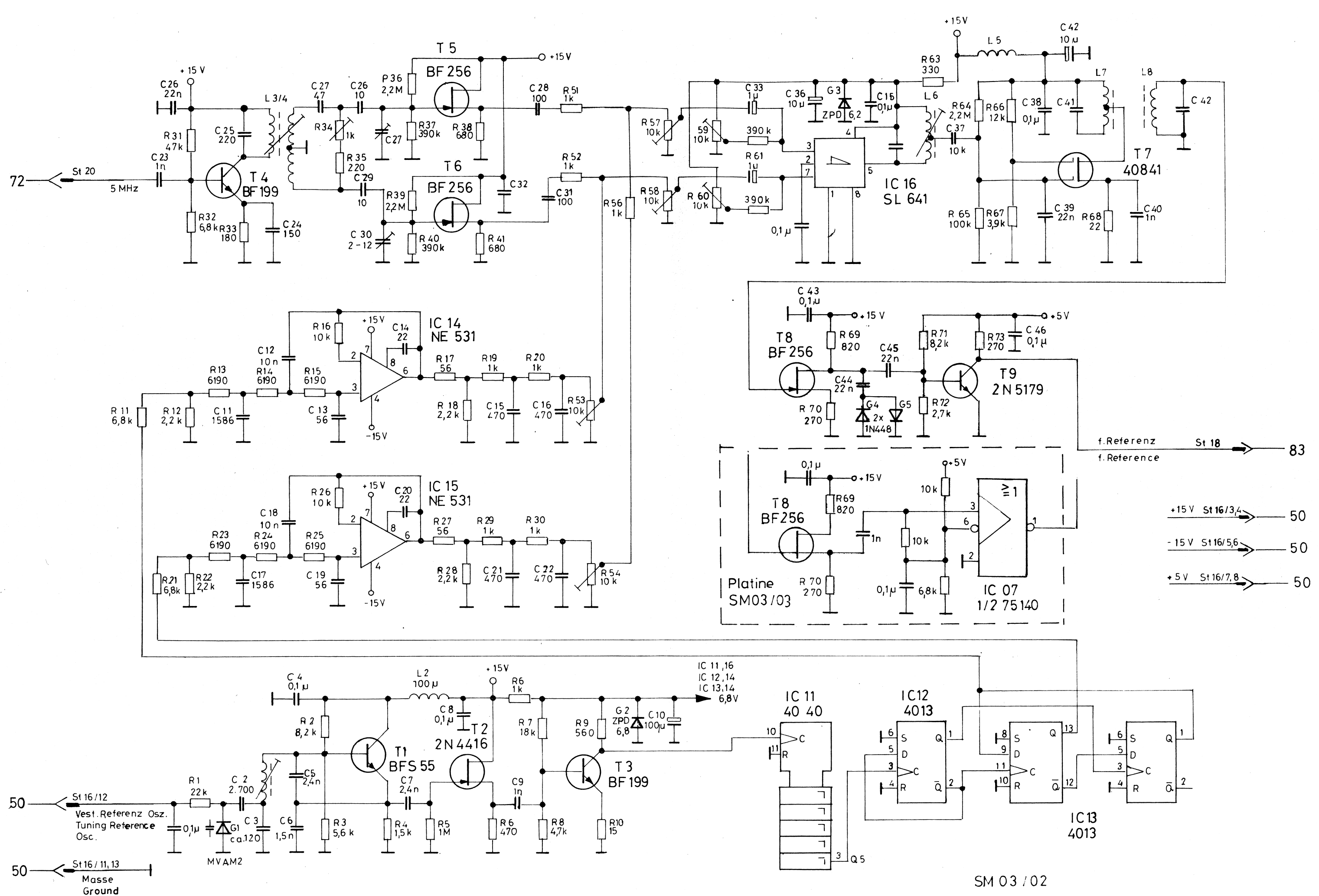


Zähleranzeige Schaltbild  
Counter Display circuit diagram





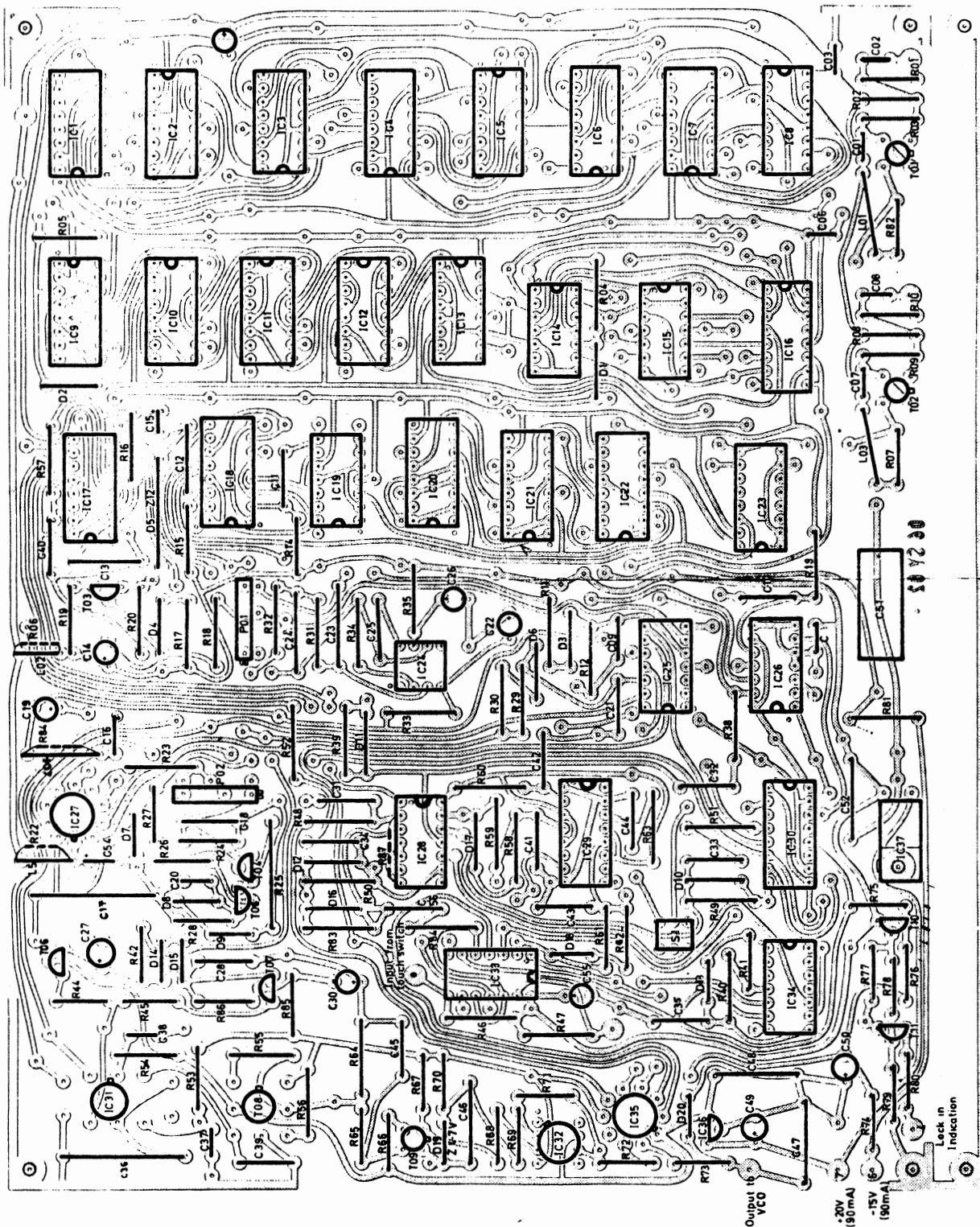




SM 03 / 02

Synchro Mischer Schaltbild

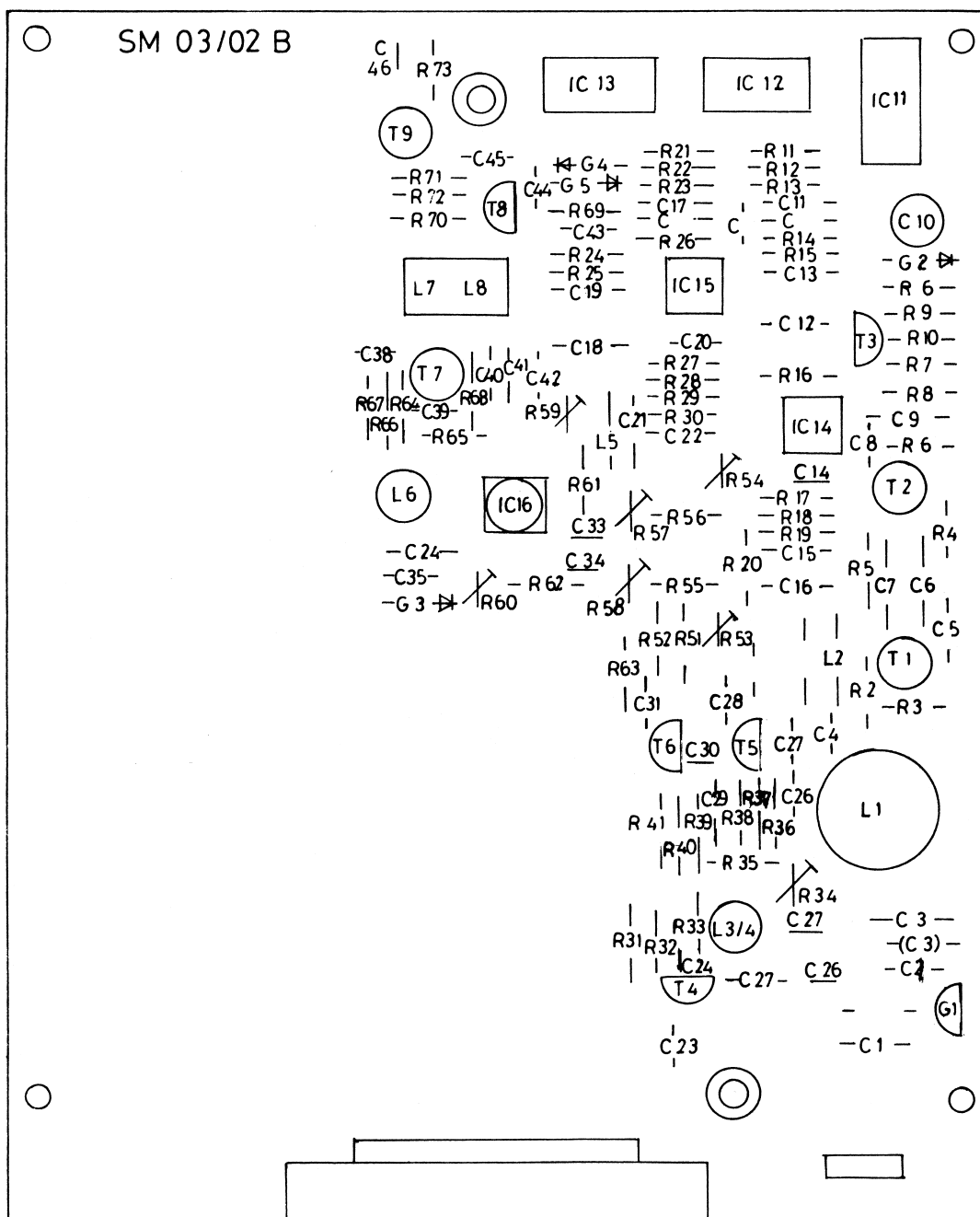
Synchro Mixer circuit diagram

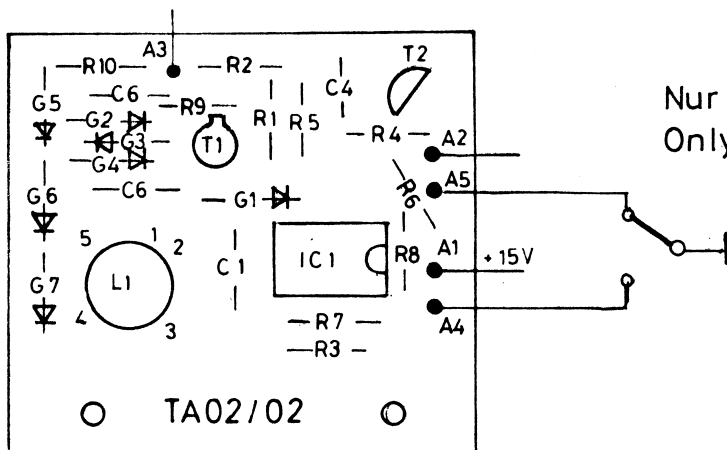
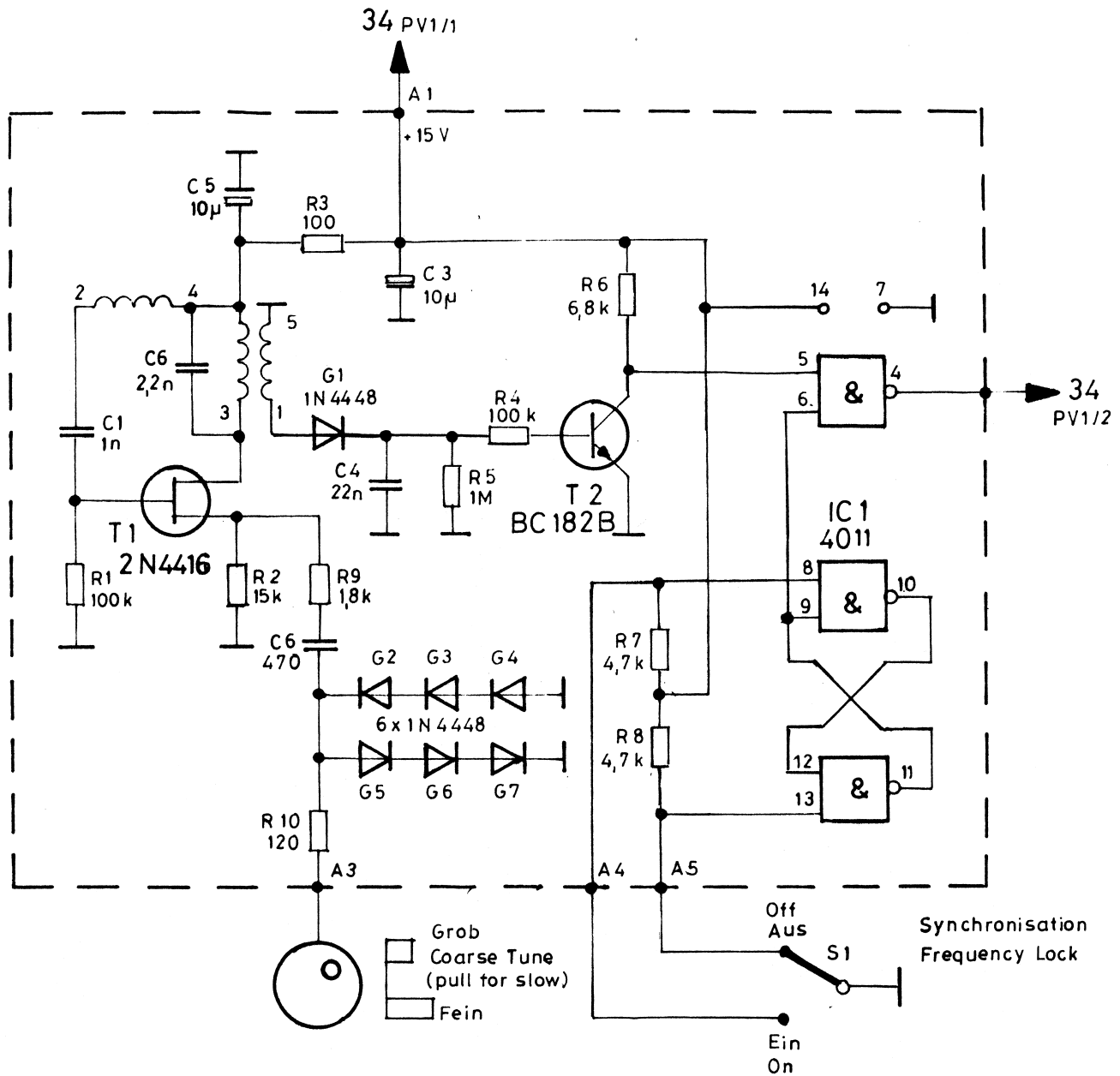


06 SY02

Synchronisator Bestückungsplan

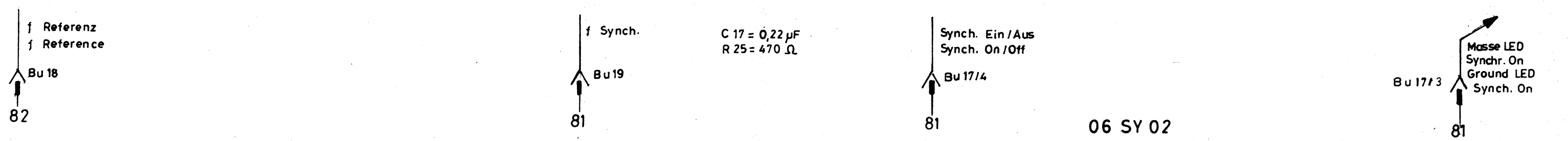
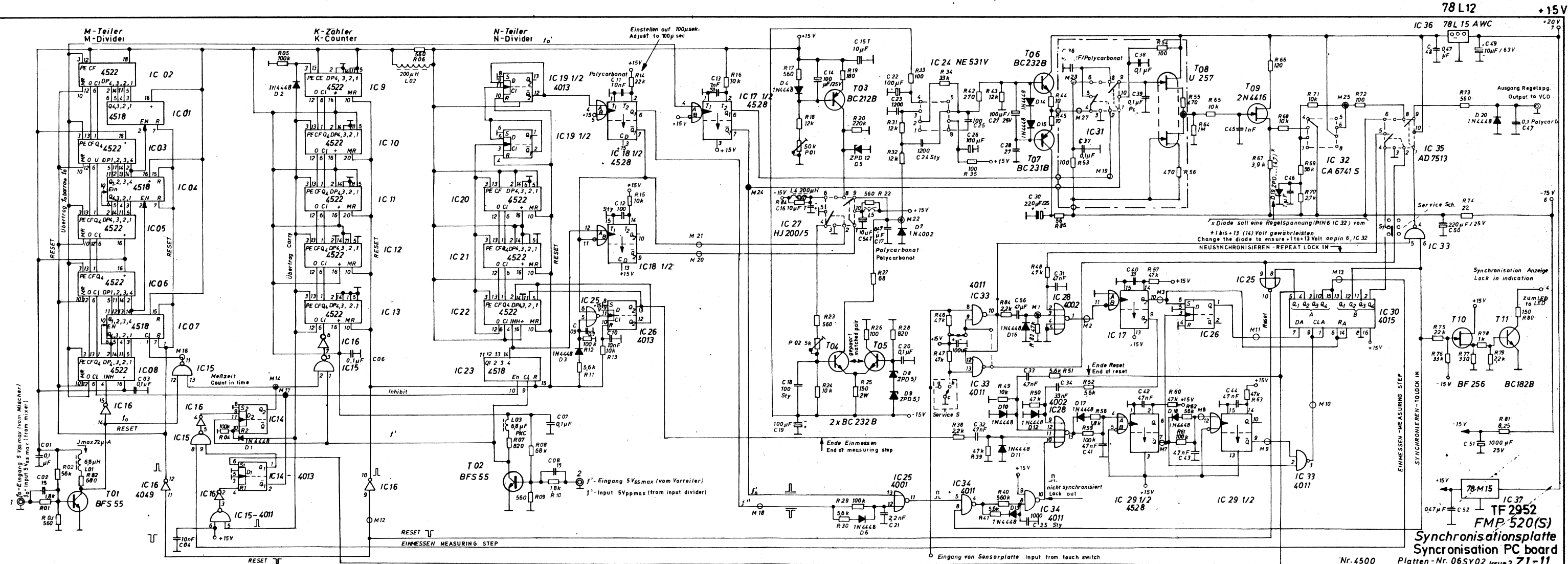
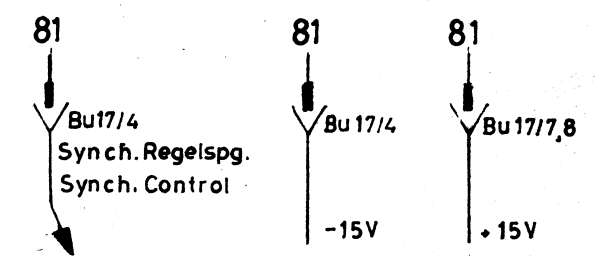
83 Synchronisation component layout





TA 02/02

Berührungsschalter Schaltbild und Bestückungsplan  
Touchautomatic circuit diagram and component layout



06 SY 02  
Synchronisator Schaltbild  
Synchronisation circuit diagram