Brüel & Kjær

Electronic Voltmeter

Type 2426

valid from serial no. 567962

037-0151

Service

Electronic Voltmeter

Type 2426

valid from serial no. 567962

037-0151

Trouble Shooting

If any faults should occur please check the instrument according to the procedure outlined below.

When a fault has been traced and corrected the voltages and adjustments influenced by the correction must be rechecked. The complete instrument should then be tested to make sure that the basic functions are operative.

The tolerances in these notes are intended as a guide for adjustments. Before correcting any apparent deviation, make sure that the measuring instruments have tolerances small enough not to affect the measurements.

Modifications

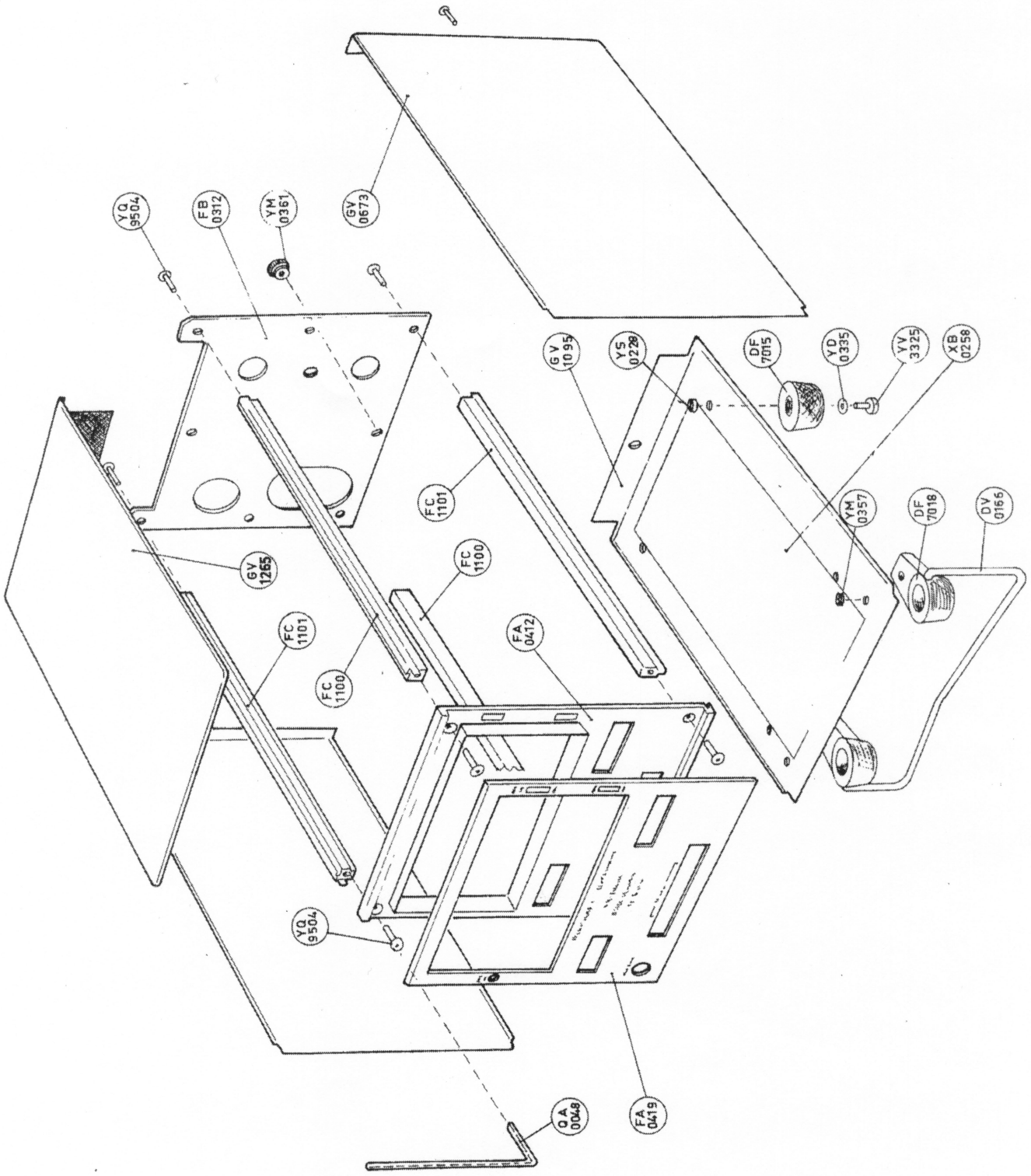
Due to the constant technical progress the instrument will be modified from time to time in order to provide continously improved performance.

For this reason there may be small differencies between the instrument and the Service Instruction.

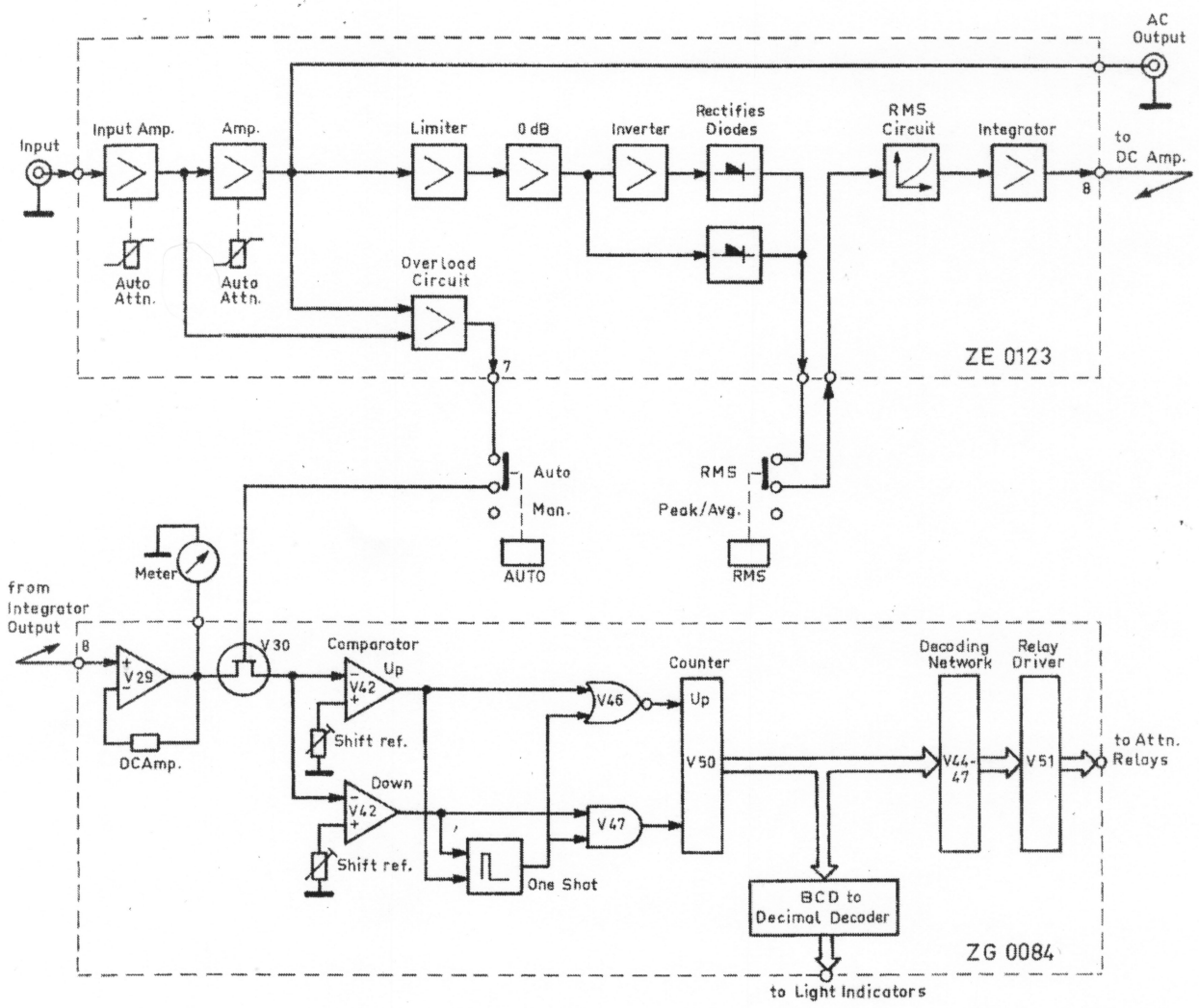
However, the local Representative Service is in possession of all information regarding the modifications that have been made.

Spare Parts

Please state type and serial number of the instrument when ordering spare parts.


YQ 9504
FB 0312
YM 0361
GV 0673
GV 1095
YS 0228
DF 7015
YD 0335
YV 3325
XB 0258
FC 1101
YM 0357
DF 7018
DV 0166
GV 1265
FC 1100
FC 1101
FA 0412
FC 1100
YQ 9504
QA 0048
FA 0419

Simplified diagram

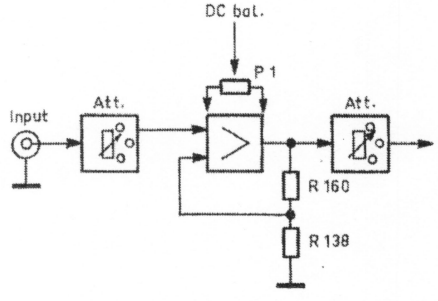


The input to the 2426 is via the BNC socket on the front panel to the measuring amplifier. The amplifier section consists of a 17 dB amplifier, a 23 dB amplifier, a 20 dB amplifier, a 0 dB amplifier and an inverter.

Furthermore the measuring amplifier consist of an Overload circuit for the automatic ranging circuit and a limiter for the RMS circuit.

From the measuring amplifier the signal is fed to the automatic ranging circuit which consists of two comparators, a counter, a decoder for the light indicators in the meter, a decoder for the relay driver and a realy driver.

Measuring Amplifier

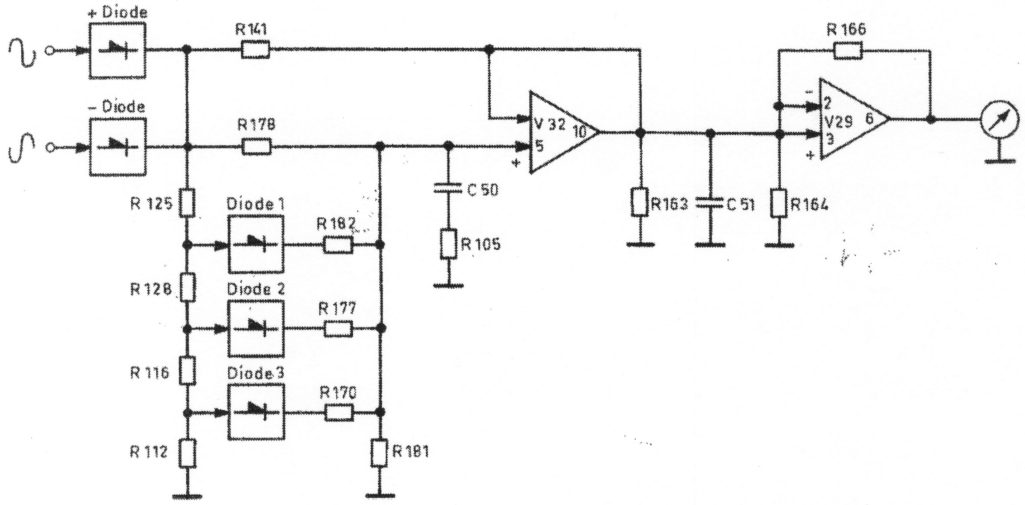


The 17 dB Input Amplifier

The first amplifier in the instrument is the 17 dB amplifier which consists of a FET differential input stage V25, a differential stage V21 and V22 and an output stage V1 and V20. The amplification is determined by the ratio between the two feedback resistors R160 and 138.

From the 17 dB amplifier the signal is fed to a 23 dB amplifier and a 20 dB amplifier which are conventional integrated operational amplifiers.

RMS circuit



From the 20 dB amplifier the signal is fed to a 0 dB amplifier and an inverter. The output from the 0 dB amplifier is in phase with the input signal, and the output from the inverter is 180° out of phase with the input signal. These signals are applied separately to two rectifier diodes: The + and —diodes.

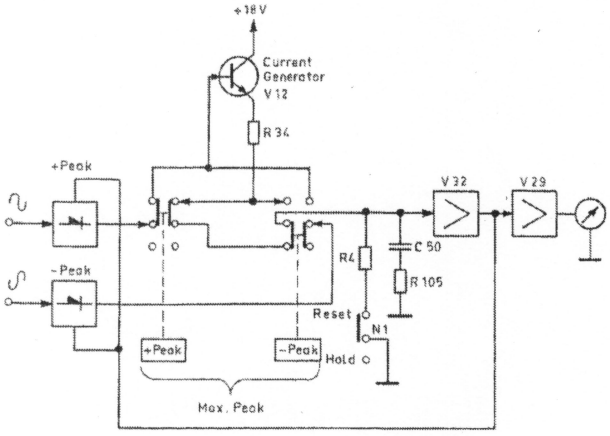
When the signal level at either of the rectifier inputs exceeds the level of the averaging capacitor C51, the diodes + and — will conduct. If the instantaneous signal level is increased further, the rectifier current will increase liniarily to charge the averaging capacitor via the resistor R178 and also increase the voltage levels at the junctions of the chain of the resistors R125-128-116-112.

The chain of resistors determins the instantaneous level at which the diodes 1-2 and 3 will start conducting.

As the diodes start conducting R178 will be parallel thus providing a larger charging current for C51.

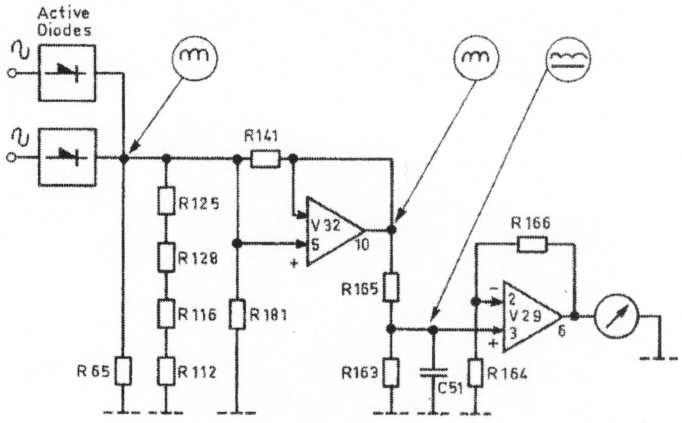
The magnitude of R 182, 177 and 170 have been selected to form a parabola which provides the characteristic required by the squaring circuit.

+ and —Peak circuit



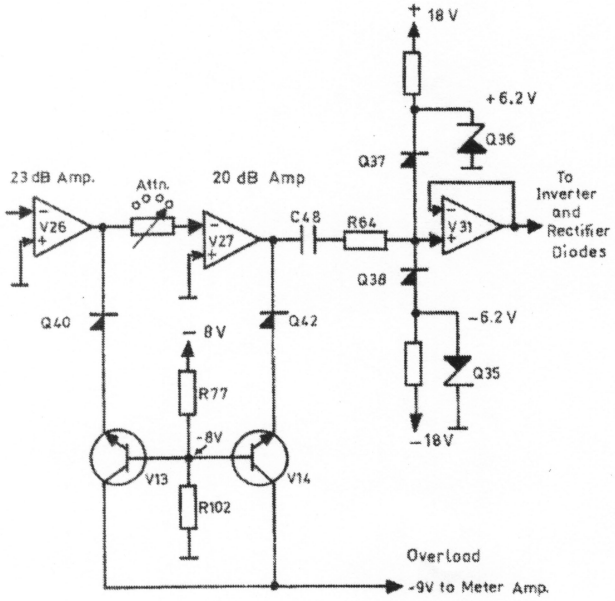
If the instrument is positioned in + or —Peak the signal from the rectifying diodes is fed to a current generator V12, through the switches + and —Peak. When the switch "Reset/Hold" is switch to "Hold" the meter deflection indicates the max. peak value of the input signal, depending on which mode the instrument is positioned in. If the switches + and —Peak are depressed at the same time, the meter deflection indicates the max. value of the signal whether it be + or —Peak.

Average circuit



When the instrument is in Average mode the signal from the rectifier diodes is fed to both the + and —Peak switches. The average value of the rectified signal is then the output from V32. If the input frequency is low, the meter deflection will follow the frequency of the input signal and because of that the output from V32 is fed to an integrating capacitor C51.

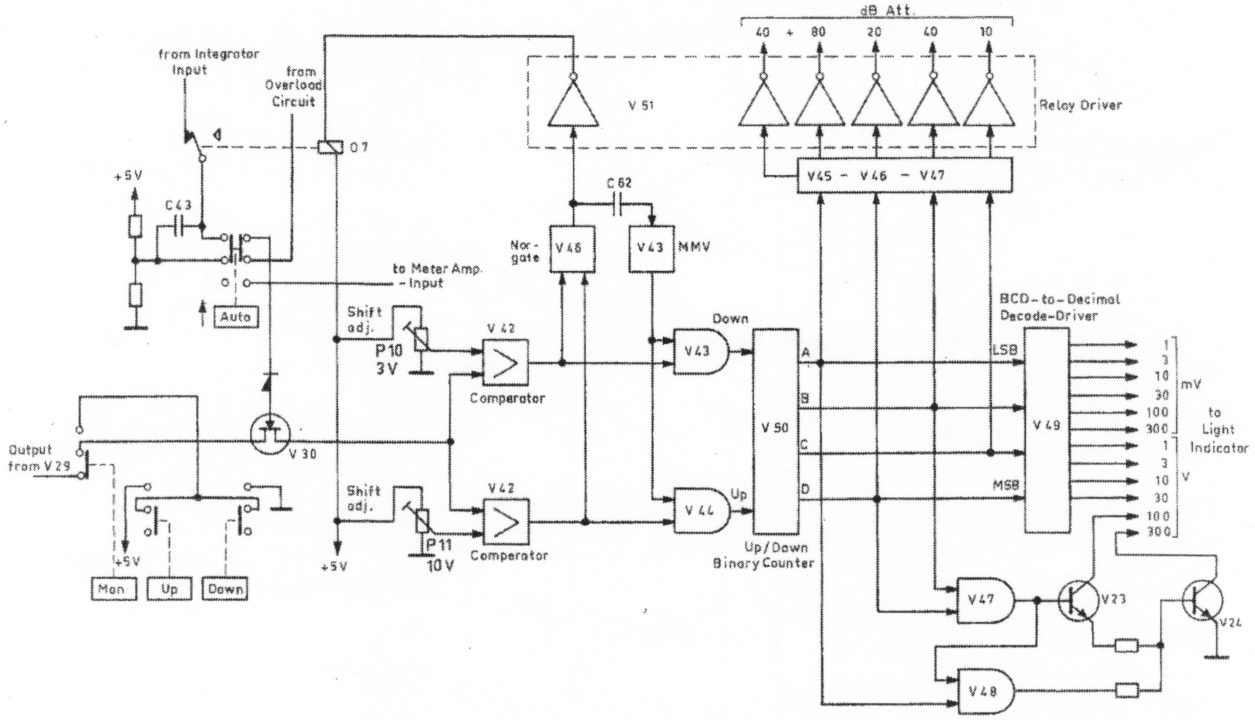
Overload and limiter circuit



The overload circuit consists of Q40, V13 and Q42, V14. If the output from the 23 dB amplifier or the 20 dB amplifier exceeds approx. 9 V the transistors V13 or V14 will switch on and —9 V will cause the meter amplifier to produce full scale deflection on the meter.

The limiter circuit consists of Q36, 37 and Q35, 38. The limiter ensures that the input signal voltage of the 0 dB amplifier will not exceed approx. 14 pp.

Autoranging circuit

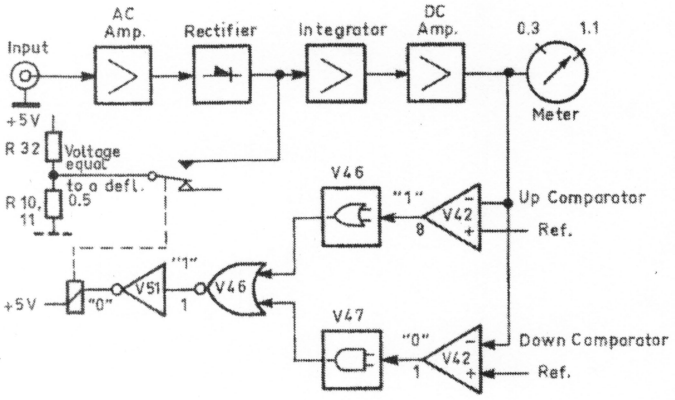


The autoranging circuit consists among other things of two comparators V42, one part for the up-counting and the second part for the down counting. The output from the up-counting comparator goes from a logical "1" to a logical "0" when the input signal of the comparator pin 6 is higher than approx. 1V.

The output from the down counting comparator goes from a logical "0" to a logical "1" when the input signal on the comparator pin 13 is lower than approx. 0,3 V.

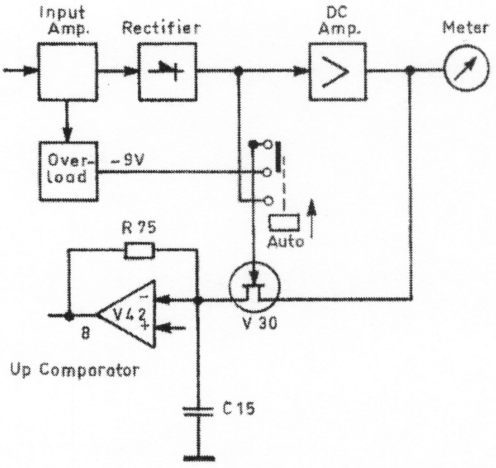
If the instrument is positioned in the 300 mV range and the input signal is higher than a meter deflection of 1,1 the up-counting comparator will change the output from "1" to "0" which means that the output of the NOR gate V46 will change from "0" to "1" and the output from V46 pin 1 will change from "1" to "0" which means that the MMV V43 pin 11 will change the output from "0" to "1". The output from V43 pin 8 will then change from "1" to "0" and the up/down counter V50 will count one step up.

Autoranging



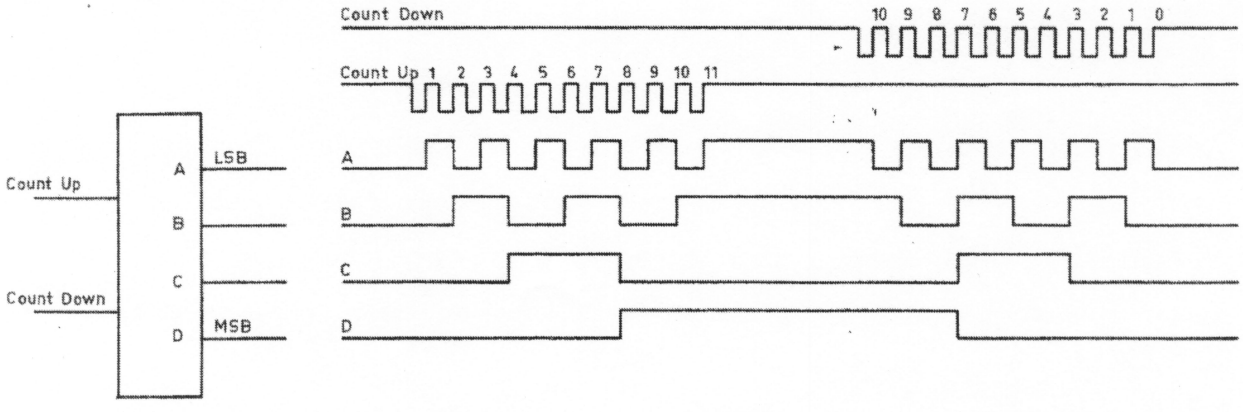
When the instrument is positioned in "Auto" and the meter deflection is between 0,3 V and 1,1 V. The output condition of the comparator pin 8 is then a logical "1" and on pin 1 a logical "0". The output of V46 pin 1 will consequently be a logical "1". A logical "1" on the input of V51 pin 1 will cause a logical "0" on the output. This "0" will activate the relay O7 and the connection between integrator input and "Auto" switch will be interrupted. If the meter deflection exceeds 1,1 V the output of V42 pin 8 will change from a logical "1" to a logical "0". This will cause the output of V46 pin 1 to change from a logical "1" to a "0" and the output of V51 pin 2 will be a logical "1". This means that the relay O7 will switch back and the connection between the integrator input and the "Auto" switch is reestablished. The voltage from the resistor junction of R32 and R10 or R11 will cause a meter deflection to approx. 0,5 V which means that the output from V42 pin 8 will change from "0" to "1" and the relay will disconnect the connection to the integrator input. This procedure will repeat itself until the meter deflection is between 0,3 V and 1,1 V.

Overloading in Auto mode



If overloading is present when the instrument is positioned in "Auto" mode, the —9 V output from the overload circuit will switch the FET transistor V30 off, which means that the up-counting comparator will work as an AMV. This means that the counter will count up until the amplifier section is not overloaded anymore. The output from the overload circuit will then disappear, and the FET transistor V30 will switch back to "on". The output from the meter amplifier is then applied to the comparator input again

4-Bit Up/Down Binary Counter Type SN 74193



		0	1	2	3	4	5	6	7	8	9	10	11
LSB	A	0	1	0	1	0	1	0	1	0	1	0	1
	B	0	0	1	1	0	0	1	1	0	0	1	1
	C	0	0	0	0	1	1	1	1	0	0	0	0
MSB	D	0	0	0	0	0	0	0	0	1	1	1	1

The four outputs of an Up/Down Binary Counter Type SN 74193N are called A, B,, C and D. These four outputs can be "0" or "1" and A means 1, B means 2, C means 4, D means 8, it can be seen that these four bits can represent a decimal number from 0 to 15, where 15 corresponds to "1" on all output terminals. However SN74193N is coupled in such a way that the highest expression is 1101, equal to the decimal digit 11.

Measuring Amplifier

Note: Before any adjustments, check the power supply: ± 18 V

a. DC balance

AUTO RANGING: "Man."
RANGE: "100 V"
MODE SELECTOR: "RMS"
SLOW/FAST: "Fast"

Short circuit the input to ground.

Measure the DC voltage on V27 pin 6: 0 V ± 25 mV
If necessary adjust P12 DC bal.

RANGE to "1 mV"

Measure the DC voltage on V27 pin 6: 0 V ± 0,5 V
If necessary adjust P1 DC bal.

b. Frequency Response.

RANGE to "100 mV"
MODE SELECTOR to "+ Peak"

Input signal: 500 kHz. Adjust the input voltage for a 0 dB deflection on the meter.

MODE SELECTOR to "—Peak"

Adjust, by means of C104, to the same deflection for both positions of + and —Peak.

MODE SELECTOR to "RMS"

Adjust the input voltage to 0 dB meterdeflection at 500 Hz.

Change the frequency to 500 kHz and adjust to 0 dB ± 0,5 dV meterdeflection by means of C 103.

RANGE to "300 mV"

Adjust the input voltage to 0 dB meterdeflection at 500 kHz

RANGE to "1 V"

Adjust to 0 dB ± 0,2 dB meterdeflection by means of C 101.

c. Input Impedance.

Adjustment is only necessary if the instrument is used with an input probe. C102 is factory adjusted to give the same input impedance for both "mV" and "V" ranges.

Rectifier Circuit

a. DC balance

MODE SELECTOR: "Avg."

Short circuit C51 to ground.

Measure the DC voltage on "DC output": 0 V ± 1 mV
If necessary adjust P8 DC bal.

Short circuit TP6 to ground.

Measure the DC voltage on "DC output": 0 V ± 1 mV.
If necessary adjust P7 DC bal.

b. Peak Adjustment.

AUTO/MAN.: "Man."
RANGE: "30 mV"
MODE SELECTOR: "+ Peak".
HOLD/RESET: "Reset"

Input signal: Exactly 31,6 mV, frequency approx. 1 kHz.

Note: Max. Distortion on the input signal: 0,1%.

Check the dc voltage on "DC Output": 1414 mV ± 20 mV.

Change the input signal to 3,16 mV and check again the voltage: 141,1 mV ± 3 mV.
If necessary adjust P2

MODE SELECTOR to "—Peak"

Check the dc voltage on "DC Output": 141,1 mV ± 3 mV.
If necessary adjust P3

c. RMS Adjustment

It should be noticed that the instrument evers without input signal will give a deflection of approx. 1,5% of FSD. due to leak current in RMS diodes and linearity compention.

RANGE TO "300 V"
MODE SELECTOR to "RMS"
SLOW/FAST to "Fast"

Disconnect the input signal

Turn P4 fully clockwise and P5 and P6 fully counter clockwise.

Measure the dc voltage on "DC Output": Approx 5 mV.

Turn P4 counterclockwise until the pointer just start moving.

Adjust P5 and P6 as above.

d. Linearity

RANGE to "30 mV"

Adjust the input voltage to 31,6 mV deflection (correspond to 1000 mV on "DC Output").
Decrease the input voltage 20 dB, meterdeflection: —20 dB (correspond to 100 mV on "DC Output").
If necessary adjust P7.

Repeat item d since P7 have influence on FSD.

Measure the dc voltage on "DC Output": approx. 15 mV.

d. Sensitivity.

RANGE to "100 mV"

Input signal: Exactly 100 mV, frequency approx. 1 kHz

Meter deflection: 100 mV
If necessary adjust P9 meter sens.

e. Hum-Noise

Note: The instrument should be mounted with side — top — and bottom plates.

RANGE to "1 mV"

Short circuit input to ground

Meter deflection max. 35 μV

Automatic Ranging

AUTO/MAN.: "Auto"

Adjust P 10 to 0,293 V DC measured on the potentiometer arm

Adjust P11 to 1,042 V DC measured on the potentiometer arm

Input signal: 1 V, 1 kHz

Increase the input signal to full scale deflection, the instrument should then change to 3 V range.

Decrease the input signal to under 1 V and check that the instrument changes to 1 V range.

Cabinet parts can be found on page 0-2 where details are described.

Parts which are positioned on the bottom circuit board will be found on this page.

Parts on the top circuit board and parts which are not mounted on any of the two boards will be found on the rear of this page.

Components for bottom board ZE 0123:

C 3-5	Electrolytic		10 µF/ 25 V	CE 0416
C 10	-		50 µF/ 25 V	CE 8965
C 11	-		22 µF/ 40 V	CE 0428
C 13	Tantalum		1,5 µF/ 35 V	CF 0008
C 17	-		6,8 µF/ 35 V	CF 0009
C 18	Ceramic		33 pF/400 V	CK 1330
C 20	-		2,2 pF/400 V	CK 0220
C 21	-		5,6 pF/400 V	CK 0560
C 22	-		3,9 pF/400 V	CK 0390
C 23	-		22 pF/400 V	CK 1220
C 24	-		120 pF/400 V	CK 2121
C 25	-		47 pF/400 V	CK 1471
C 26-34	-		120 pF/400 V	CK 2121
C 40-42	-		150 pF/400 V	CK 2151
C 45	Polyester		2 µF/100 V	CS 0028
C 46	-		68 nF/400 V	CS 0111
C 48	Polycarbonate		1 µF/100 V	CS 0384
C 51	-		0,1 µF/100 V	CS 0334
C 53	Tantalum		6,8 µF/ 35 V	CF 0009
C 54	Polyester		22 nF/250 V	CS 0400
C 55	Ceramic		100 pF/100 V	CK 1133
C 56,57	Polystyrene		1,2 nF/ 63 V	CT 1149
C 60,61	-		2,4 nF/ 63 V	CT 1129
C 101	Trimmer		7-35 pF/250 V	CV 0046
C 103,104	-		3-8 pF/250 V	CV 0027
C 105	-		2,5-6 pF/250 V	CV 0049
L 1,2	Filter Choke		30 µH	LJ 0008
O 2	RMS/Peak/Avg.Switch			OJ 0041
O 4-6	Relay			OC 0058
O 8,9	-			OC 0058

P 1	Trimmer	Cermet	lin.	4,7 kΩ	PG 2470
P 2-6	-	-	-	1 kΩ	PG 2101
P 7	-	-	-	1 kΩ	PG 2108
P 12	-	-	-	22 kΩ	PG 3220

Q 1,2	Si.	PAD 5	45 V/ 50 mA	QV 0239
Q 7-16	-	BAX16	150 V/300 mA	QV 0217
Q 32	Zener	ZPD 12	11,4-12,6 V/25 mA	QV 1117
Q 35,36	-	ZF6,2	5,9-6,5 V/ 5 mA	QV 1333
Q 37,38	Si.	PAD 5	45 V/ 50 mA	QV 0239
Q 39,40,42	-	BAX13	50 V/150 mA	QV 0223

R 1	Carbon	1/8 W	10%	2,2 MΩ	RA 0015
R 2,3	-	-	-	10 MΩ	RA 0025
R 6	-	1/4 W	5%	4,7 MΩ	RB 6470
R 12,13	-	-	-	100 Ω	RB 2100
R 14-17	-	-	-	120 Ω	RB 2120
R 18	-	-	-	100 Ω	RB 2100
R 20-29	-	-	-	220 Ω	RB 2220
R 31	-	-	-	470 Ω	RB 2470
R 34	-	-	-	820 Ω	RB 2820
R 38,39	-	-	-	1 kΩ	RB 3100
R 45-47	-	-	-	1,2 kΩ	RB 3120
R 51-60	-	-	-	1,5 kΩ	RB 3150
R 63,64	Carbon	1/4 W	5%	2,2 kΩ	RB 3220
R 65	-	-	-	2,7 kΩ	RB 3270
R 67,68	-	-	-	4,7 kΩ	RB 3470
R 69	-	-	-	12 kΩ	RB 4120
R 73,74	-	-	-	8,2 kΩ	RB 3820
R 76	-	-	-	15 kΩ	RB 4150
R 77	-	-	-	10 kΩ	RB 4100
R 78,79	-	-	-	15 kΩ	RB 4150
R 81	-	-	-	27 kΩ	RB 4270
R 84-94	-	-	-	100 kΩ	RB 5100
R 97	-	-	-	220 kΩ	RB 5220
R 99,100	-	-	-	1 MΩ	RB 6100
R 101	-	-	-	22 kΩ	RB 4220
R 102	-	-	-	12 kΩ	RB 4120
R 103	-	-	-	22 kΩ	RB 4220
R 104	Metal	-	1%	4,99 Ω	RF 0499
R 108	-	-	-	30,1 Ω	RF 1301
R 109	-	-	-	54,9 Ω	RF 1549
R 110	-	-	-	100 Ω	RF 2100
R 112	-	-	-	422 Ω	RF 2422
R 114	-	-	-	698 Ω	RF 2698
R 115	-	-	-	453 Ω	RF 2453
R 116	-	-	-	464 Ω	RF 2464
R 118-123	-	-	-	499 Ω	RF 2499
R 124	-	-	-	590 Ω	RF 2590
R 125	-	-	-	619 Ω	RF 2619
R 127	-	-	-	698 Ω	RF 2698
R 128	-	-	-	732 Ω	RF 2732
R 131,132	-	-	-	1,82 kΩ	RF 3182
R 136	-	-	-	1,58 kΩ	RF 3158
R 138	-	-	-	3,24 kΩ	RF 3324
R 141	-	-	-	2,55 kΩ	RF 3255
R 144	-	-	-	4,99 kΩ	RF 3499
R 151	-	-	-	9,31 kΩ	RF 3931
R 152	-	-	-	13,3 kΩ	RF 4133
R 153	-	-	-	9,53 kΩ	RF 3953
R 155	-	-	-	10,0 kΩ	RF 4100
R 158	-	-	-	14,7 kΩ	RF 4147
R 160	-	-	-	20,0 kΩ	RF 4200
R 161,162	-	-	-	30,1 kΩ	RF 4301
R 163	-	-	-	31,6 kΩ	RF 4316
R 165	-	-	-	35,7 kΩ	RF 4357
R 170	-	-	-	39,2 kΩ	RF 4392
R 173	-	-	-	49,9 kΩ	RF 4499
R 174,175	-	-	-	68,1 kΩ	RF 4681
R 177	-	-	-	221 kΩ	RF 5221
R 178	-	-	-	1 MΩ	RF 6010
R 179	-	-	-	990 kΩ	RF 6016
R 181	Carbon	1/3 W	1%	560 kΩ	
R 182	-	-	-	768 kΩ	
R 183	-	1/4 W	-	18 kΩ	RB 4180
R 184	-	-	-	1 kΩ	RB 3100
R 185-187	-	-	-	12 kΩ	RB 4120
R 188	-	-	-	390 kΩ	RB 5390

V 1-12	Silicon	NPN	BC107	VB 0032
V 13,14	-	-	BCW82B	VB 0578
V 15-19	-	PNP	2N3702	VB 0038
V 20,21	-	-	BC177	VB 0071
V 22	-	NPN	2 N 2453	VB 0551
⑤ V 25	FET	N	U 232	VB 1002
V 26	Op.Ampl.		LM301AN	VE 0044
V 27,28	-		-	VE 0017
⑨ V 31,32	Voltage Follower		LM310D	VE 0023
V 33-35	Dual Differential Ampl.		CA3051	VE 0032

Printed Circuit Board	XC 1006

Components for top board ZG 0084:

C 1	Electrolytic	1000 µF/ 16 V	CE 0309
C 2	-	100 µF/ 16 V	CE 0310
C 7,8	-	470 µF/ 40 V	CE 0417
C 9	-	4 µF/250 V	CE 2034
C 14	Tantalum	1,5 µF/ 35 V	CF 0008
C 15	-	0,47 µF/ 35 V	CF 0027
C 16	-	2,2 µF/ 35 V	CF 0022
C 19	-	47 µF/ 6,3 V	CF 0023
C 35-38	Ceramic	120 pF/400 V	CK 2121
C 44,47	-	470 pF/400 V	CK 2470
C 49	Polycarbonate	6,8 µF/100 V	CS 0385
C 50	-	0,68 µF/100 V	CS 0388
C 62	Polystyrene	3,3 nF. 63 V	CT 1544
C 66	Ceramic	47 nF/ 12 V	CK 4471
C 67	Polycarbonate	47 nF/250 V	CS 0401

N 4	BCD Data Switch		NN 0037
O 7	Relay		OC 0058
P 8	Trimmer	Cermet lin. 22 kΩ	PG 3221
P 9	-	- - 470 Ω	PG 1504
P 10,11	-	- - 1 kΩ	PG 2108

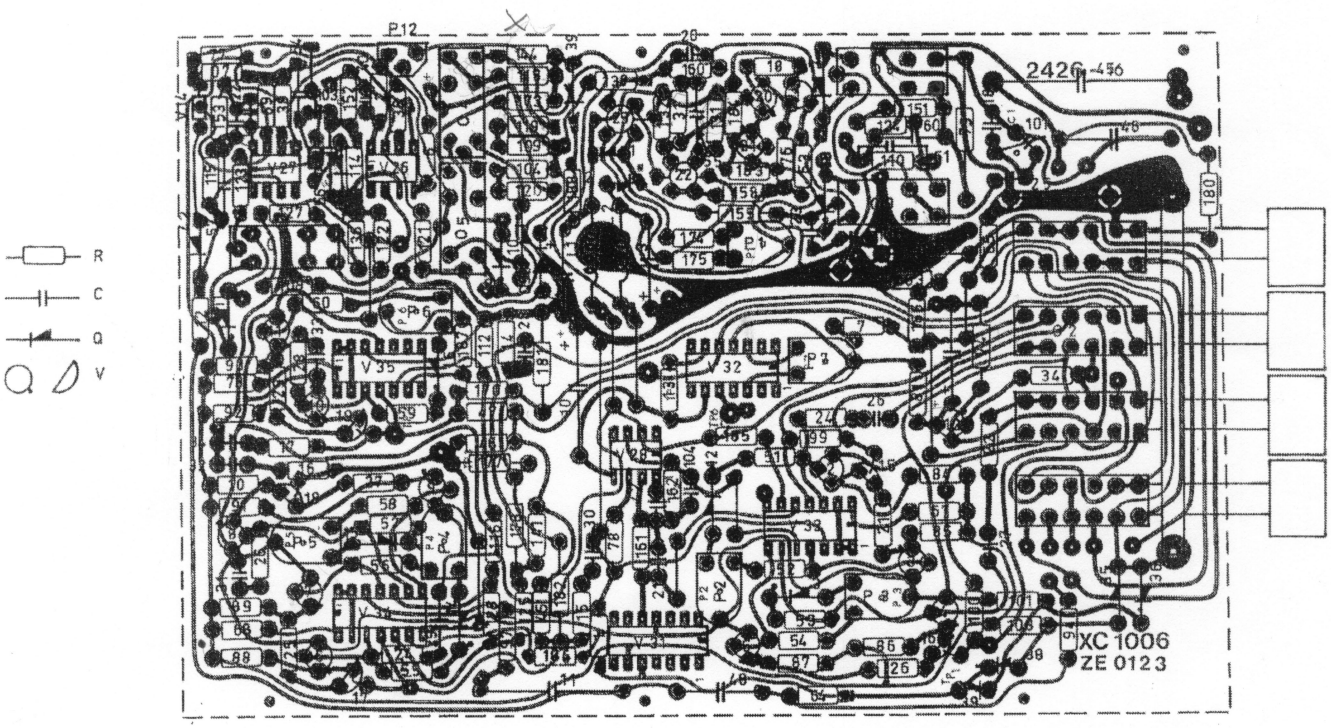
Q 3-5	Si.	1N4004	400 V/ 1 A	QV 0237
Q 17-28	-	BAX16	150 V/300 mA	QV 0217
Q 30	Zener	ZPD5,6	5,3-5,9 V/ 70 mA	QV 1105
Q 31	-	MZ716	11-13 V/ 10 mA	QV 1117
Q 41	Si.	BAX13	50 V/150 mA	QV 0223

R 3	Carbon	1/8 W	10%	10 MΩ	RA 0025
R 7	-	1/4 W	5%	4,7 MΩ	RB 6470
R 10	-	-	-	18 Ω	RB 1180
R 11	-	-	-	39 Ω	RB 1390
R 32	-	-	-	470 Ω	RB 2470
R 35	-	-	-	820 Ω	RB 2820
R 40-43	-	-	-	1 kΩ	RB 3100
R 48	-	-	-	1,2 kΩ	RB 3120
R 70-72	-	-	-	5,6 kΩ	RB 3560
R 75	-	-	-	47 kΩ	RB 4470
R 80	-	-	-	22 kΩ	RB 4220
R 82	-	-	-	27 kΩ	RB 4270
R 83	-	-	-	47 kΩ	RB 4470
R 95,96	-	-	-	100 kΩ	RB 5100
R 98	-	-	-	220 kΩ	RB 5220
R 106,107	Metal	-	-	15,0 Ω	RF 1150
R 126	-	-	-	698 Ω	RF 2698
R 133	-	-	-	1 kΩ	RF 3100
R 135	-	-	-	1,13 kΩ	RF 3113
R 139	-	-	-	2,21 kΩ	RF 3221
R 142,143	-	-	-	3,01 kΩ	RF 3301
R 145	-	-	-	5,62 kΩ	RF 3562
R 146	-	-	-	5,11 kΩ	RF 3511
R 148,149	-	-	-	7,15 kΩ	RF 3715
R 156,157	-	-	-	10,2 kΩ	RF 4102
R 164	-	-	-	31,6 kΩ	RF 4316
R 166-168	-	-	-	35,7 kΩ	RF 4357
R 176	NTC			15 kΩ	RN 0009

V 23,24	Silicon NPN	BF 337 VB 0545
V 29	Op. Amp.	LM 301 AN VE 0017
V 30	FET N-channel	NF 510 VB 1021
V 39	Voltage Regulator	LM 309 K VE 0022
V 40,41	- -	LM 723 CH VE 0039
V 42	Dual Differential Comp.	SN 72720 N VE 0042
V 43,44	4 x 2 Input NAND-Gate	SN 7400 N VD 0002
V 45,46	4 x 2 Input NOR-Gate	SN 7402 N VD 0003
V 47,48	4 × 2 Input Positive AND-Gate	SN 7408 N VD 0029
V 49	BCD to Decimal Decoder	SN 74141 N VD 0033
V 50	4-bit binary Up/Down Counter	SN 74193 VD 0038
V 51	Hex Inverter	SN 7416 N VD 0051
	Printed Circuit Board	XC 1005

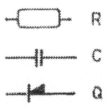
Miscellaneous:

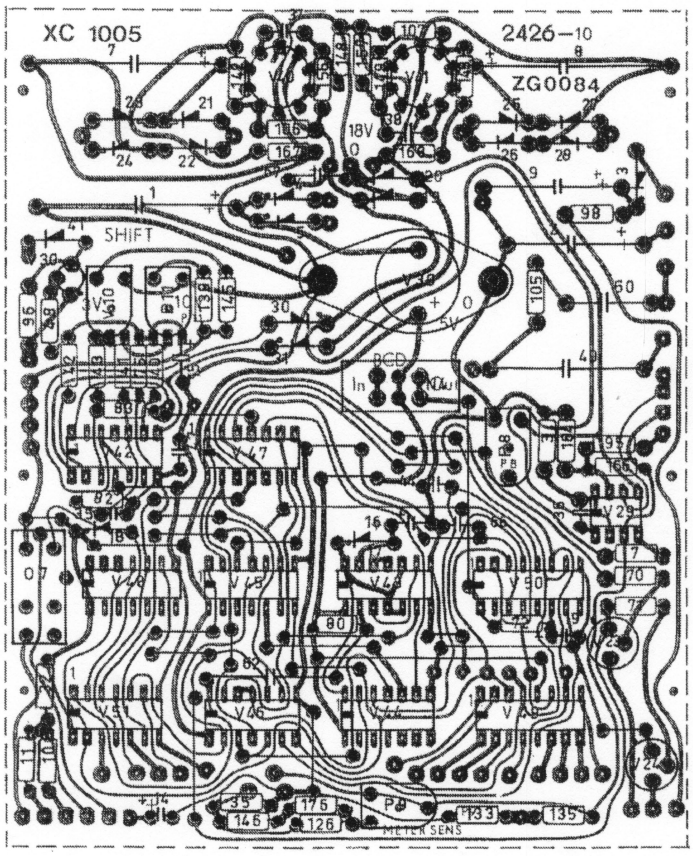
C 12	Tantalum			33 µF/ 10 V	CF 0034
C 43-65	Ceramic			2,7 nF/ 30 V	CK 3270
N 1	Peak-Hold/Reset switch				NN 0031
N 2	Slow-Fast switch				NN 0035
N 3	Power ON-OFF switch				NN 0036
O 1	Auto/Man. switch				OJ 0039
O 3	Down, Up switch				OJ 0040
R 4	Carbon	1/8 W	10%	3,9 MΩ	RA 0039
R 33	-	1/4 W	5%	560 Ω	RB 2560
R 49	-	-	-	1,2 kΩ	RB 3120
R 66	-	-	-	2,7 kΩ	RB 3270
R 105	Metal	-	1%	4,99 Ω	RF 0499
T 1	Mains Transformer				TN 0075
V 55	Fuse			0,1A for 220V	VF 0026
				0,2A for 110V	VF 0012
V 56,57	Scale Lamps			6,3 V	VS 1273
	Power cord				AN 0010
	Moving Coil Instrument				IM 0049
	BNC socket				JJ 0130
	DIN socket				JJ 0709
	Socket for scale lamps				JO 0034
	Finger screw for do.				YM 0361
	Mains Voltage Selector				JS 0001
	Banana socket				JT 6204
	Mains Voltage Connector				OA 0037



Viewed from the printed circuit side

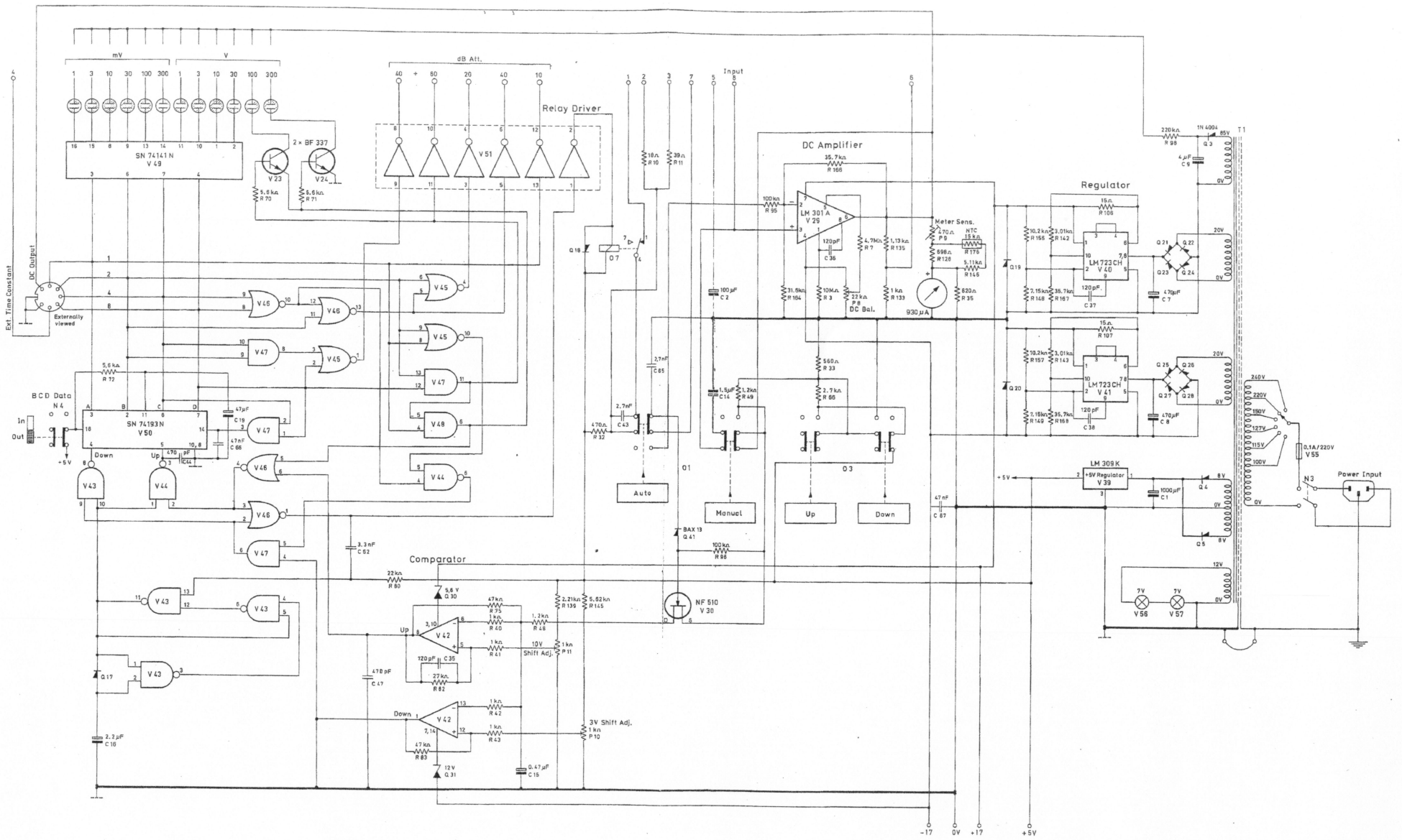
ZE 0123





Viewed from the printed circuit side

ZG 0084



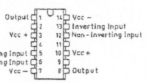
SN 74141 N – V 49

SN 74193 N – V 50

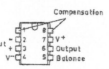
SN 7400 N – V 43, 44
SN 7402 N – V 45, 46
SN 7408 N – V 47, 48
SN 7416 N – V 51

Top view

SN 72720 N – V 42



LM 301 AN



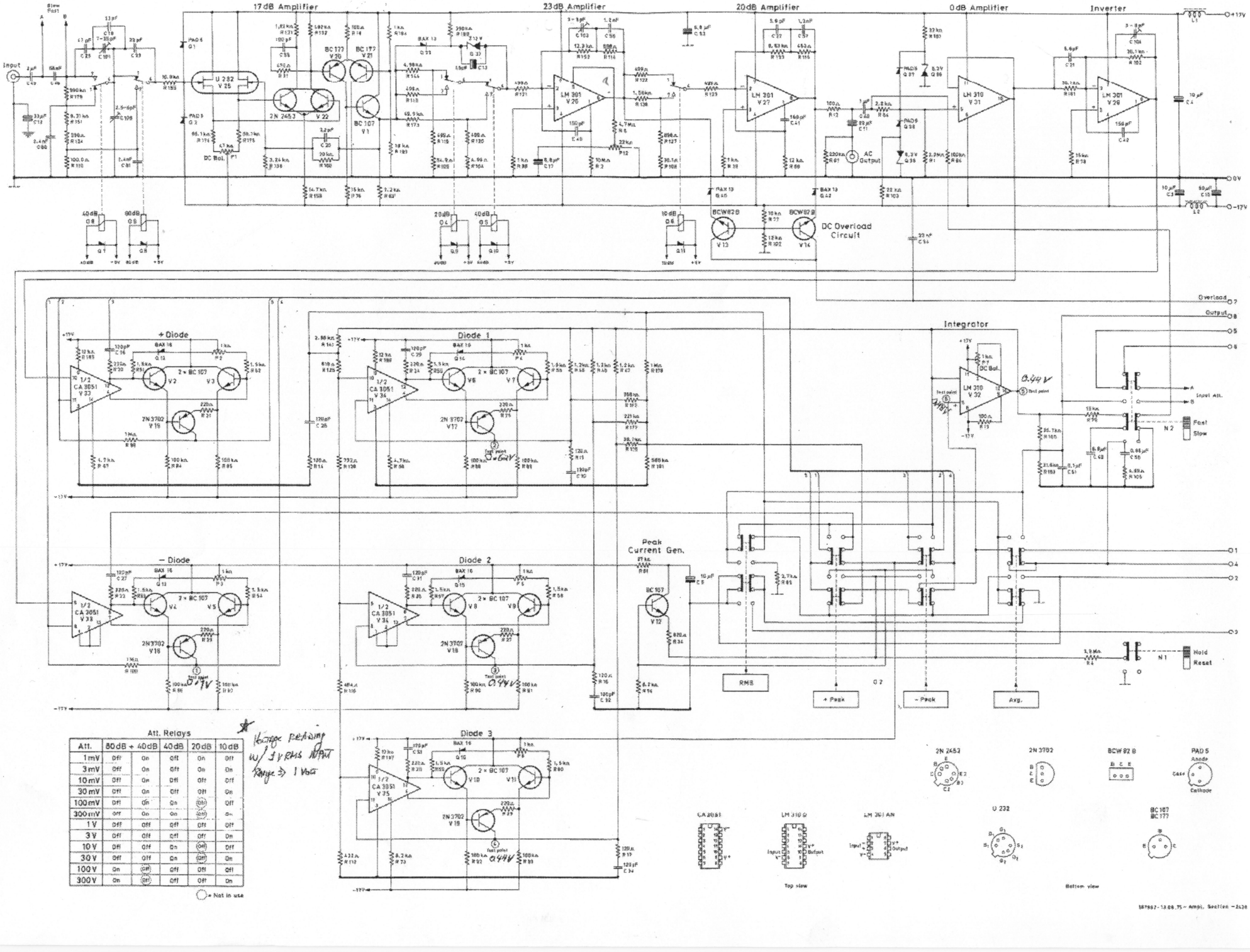
NF 510

BF 337

LM 309 K

LM 723 CH

Bottom view


17dB Amplifier
23dB Amplifier
20dB Amplifier
0dB Amplifier
Inverter
Input
Slow
Fast
DC Bal.
AC Output
DC Overload Circuit
+ Diode
Diode 1
Integrator
− Diode
Diode 2
Peak Current Gen.
Diode 3
RMS
+ Peak
− Peak
Avg.
Overload
Output
Input Att.
Fast
Slow
Hold
Reset
Att. Relays
Voltage reading w/ 3 V RMS input Range ⇒ 1 Volt
Not in use
Top view
Bottom view
187967 - 13.06.75 - Ampl. Section - 2438