GENERAL SPECIFICATION

Supply voltage	:	22-32V DC
Current consumption	:	approx. 130mA at 24V supply
Temperature range	:	0 to +45°C ambient temperature

INPUT

Frequency range, 0.5dB point	:	20Hz to 16kHz
High frequency roll-off	:	at 25kHz greater than 7dB at 40kHz greater than 20dB
Input impedance	:	20kOhm ±10%, balanced, floating
Input voltage for 0dB reading	:	1.55V rms sine (+6dBu)
Input overload level	:	8.6V rms sine (+21dBu)
Dynamic measuring range	:	55dB

MEASURING ERRORS

		at +5 to -10dB	below -10dB
1kHz steady signal, 25°C	:	±0.5dB	±1dB
Within full frequency range, 25°C	:	+0.5/-1dB	+0.5/-2dB
Within full temperature range, 1kHz	:	±1dB	±2dB
Polarity shift of unsymmetrical wave	:	±0.5dB	±1dB
10% change of supply voltage	:	±0.2dB	±0.2dB
Tracking between channels	:	better than ±0.5dB	

INTEGRATION & FALL-BACK TIME

Integration time Conforming to DIN 45406 and IEC 268-10 Integration time is measured with 5kHz tonebursts	:	10msec. for -1dB ±0.5dB 5msec. for -2dB ±1dB 3msec. for -4dB ±1dB 0.4msec. for -15dB ±2dB
Fall-back time, with linear scale Fall-back time with scale according to DIN 45406. Conforms with IRT-ELA KE/Mr 4.5.70	:	1.5sec. for 0 to -20dB

PEAK STORE

Accuracy of peak storing ("Memory") in upper end of scale, above -30dB reading	:	±1 neonsegment or ±0.25dB
in lower end of scale, below -30dB reading	:	+2/-1 neonsegment or ±1dB (whatever is greatest)

EXTERNAL FUNCTIONS (available when making connections externally)

Additional gain, scales according to DIN 45406	:	+20dB ±0.5dB +40dB ±1dB for "Nordic" scales
"Display peak"	:	Displays peak storing
"Reset"	:	Clears the memory
"Fast" gives an integration time	:	100usec. for -1dB reading
Overload LED's	:	Light Emitting Diodes placed above the bar graphs
Brightness control Scale select	:	Optional scale lines

GENERAL DATA

Standard scales	:	DIN +5 to -50dB Nordic +9 to -36dB "BBC" 1 to 7 (4 = 0.775V)

All types are available for horisontal or vertical mounting

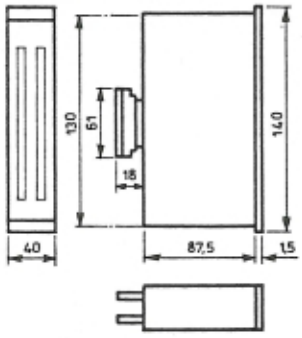
Number of single elements in the bar graph	:	200 in each channel
Overload and scale lines indication	:	4 times increase of light intensity
Connector	:	2 pcs. 10 pole edge connector

MECHANICAL DATA

The instrument is housed in a cabinet

Height	:	130mm
Weidth	:	40mm
Depth	:	87.5mm
Weight	:	0.4kg
Total scale length	:	100mm

Mechanical outline:



Rettelser

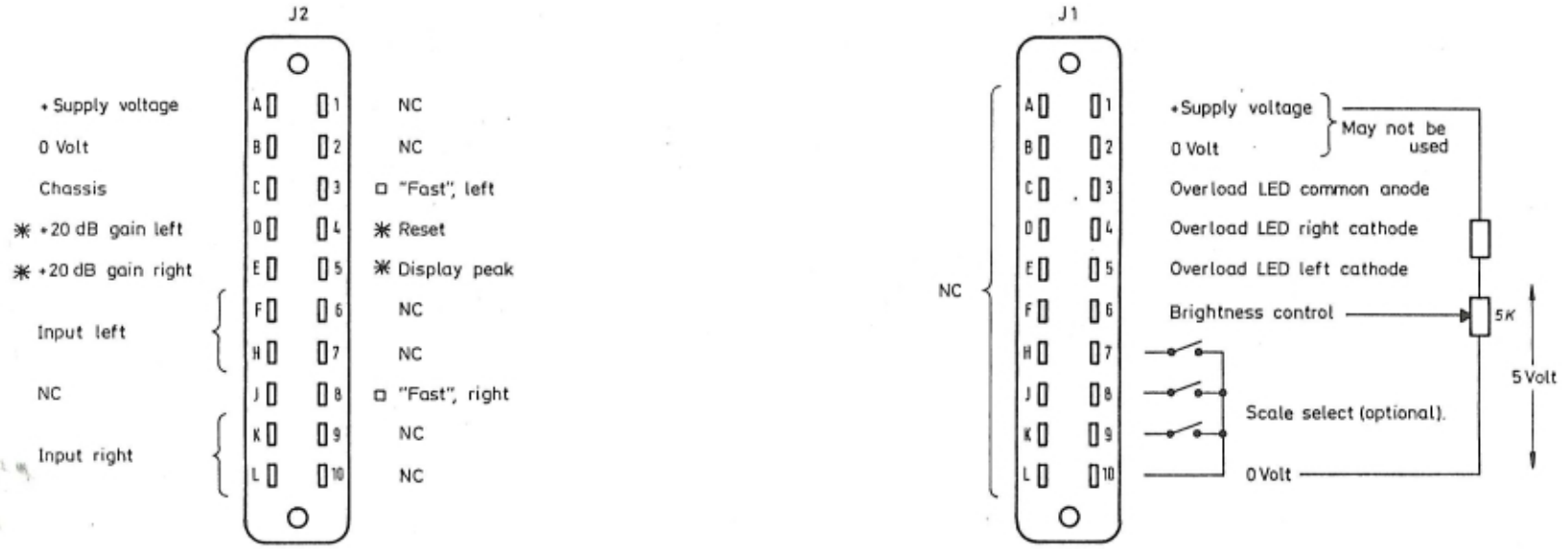
Rettelser _____

NTP ELEKTRONIK A/S

PEAK PROGRAMME METER 277-200
CONNECTIONS, REAR OF INSTRUMENT.

277-2002-A-3

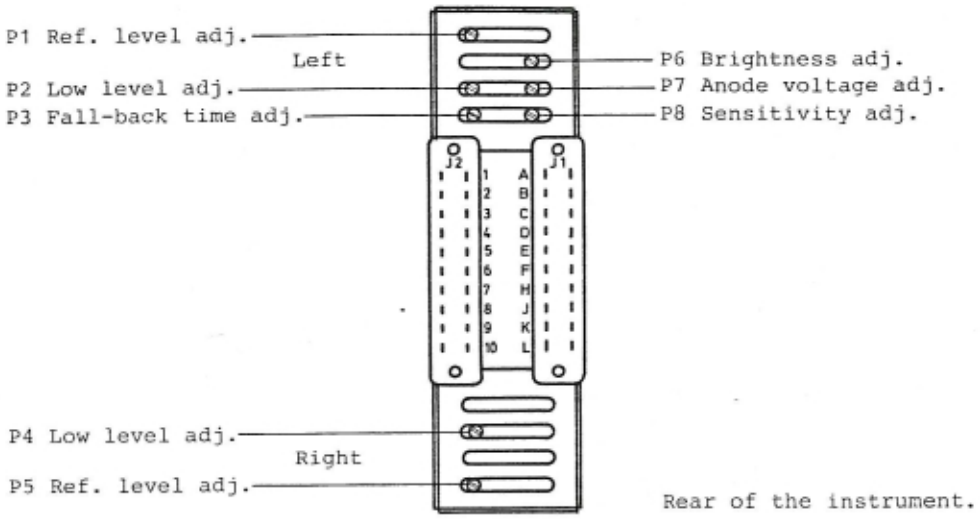
The two 20-pole connectors seen from the rearside (solderside).



✳ The function is established when the pin is connected to 0 Volt.

□ The function is established when the pin is connected to + Supply voltage.

Since the instrument is adjusted correctly on delivery, adjustment only has to be carried out in case of faulty mode of operation i.e. when a component has failed and has been replaced.



Rear of the instrument.

TEST SET-UP.

1. Connect +24V DC to pin A on J2 (0 Volt to pin B on J2).
2. Feed a signal e.g. 5 kHz sinusoidal to the input terminals for both channels i.e. pin F and H as left input and pin K and L as right input. Adjust the amplitude of the signal for max. reading on the display. (top of the scales).

P6 I MAX - JUST. P7 TIL 150mA
OG JUSTER P6 TIL 155mA

ANODE VOLTAGE ADJUST.

1. Adjust P6 for max. brightness (max. CW).
2. Turn P7 slowly CCW, as far as possible without getting a flickering display.
3. Measure the current consumption.
4. Adjust P7 to obtain an increase in the current consumption of approx. 15 mA.

BRIGHTNESS ADJUSTMENT.

1. Turn P6 max. CCW (min. brightness) and then slowly CW in order to obtain a uniform glow in all segments.
2. Measure the current consumption.
3. Adjust P6 to obtain an increase in the current consumption of approx. 40 mA (or to desired brightness).

VOLTMETER SENSITIVITY ADJUSTMENT.

1. Remove the instrument from the cabinet by following the drawing 277-2020-A-3, "Disassembling".
   CAUTION! Become aware of that when the supply voltage is applied high voltage (250V DC) is on the circuits.
2. Connect a voltmeter to the wiper (center pin) on P8. The voltage should be 3V. If not, adjust P8.

LOW LEVEL & REF. LEVEL ADJUSTMENT.

1. Assembl the instrument and connect a signal of -40dB to the input terminals (F and H as left input, K and L as right input on J2).
2. Adjust P2 for left channel and P4 for right channel to obtain correct reading ("-40" on DIN-scale).
3. Change the signal to ref. level and adjust P1 for left channel and P5 for right channel to obtain correct reading ("0" on DIN-scale).
4. Repeat the adjustments 1 - 3.

FALL-BACK TIME ADJUSTMENT.

1. Connect a burst generator e.g. NTP type 507-100 to the input terminals (F and H is left input, K and L is right input).
2. Adjust P3 to obtain recommended fall-back time. (1.5 sec. from "0" to "-20" on DIN-scale).

LOW LEVEL & REP. LEVEL ADJUSTMENT.

1. Assembl the instrument and connect a signal of -40dB to the input terminals (F and H as left input, K and L as right input on J2).
2. Adjust P2 for left channel and P4 for right channel to obtain correct reading ("-40" on DIN-scale).
3. Change the signal to ref. level and adjust P1 for left channel and P5 for right channel to obtain correct reading ("0" on DIN-scale).
4. Repeat the adjustments 1 - 3.

FALL-BACK TIME ADJUSTMENT.

1. Connect a burst generator e.g. NTP type 507-100 to the input terminals (F and H is left input, K and L is right input).
2. Adjust P3 to obtain recommended fall-back time. (1.5 sec. from "0" to "-20" on DIN-scale).

LOW LEVEL & REF. LEVEL ADJUSTMENT.

1. Assembl the instrument and connect a signal of -40dB to the input terminals (F and H as left input, K and L as right input on J2).
2. Adjust P2 for left channel and P4 for right channel to obtain correct reading ("-40" on DIN-scale).
3. Change the signal to ref. level and adjust P1 for left channel and P5 for right channel to obtain correct reading ("0" on DIN-scale).
4. Repeat the adjustments 1 - 3.

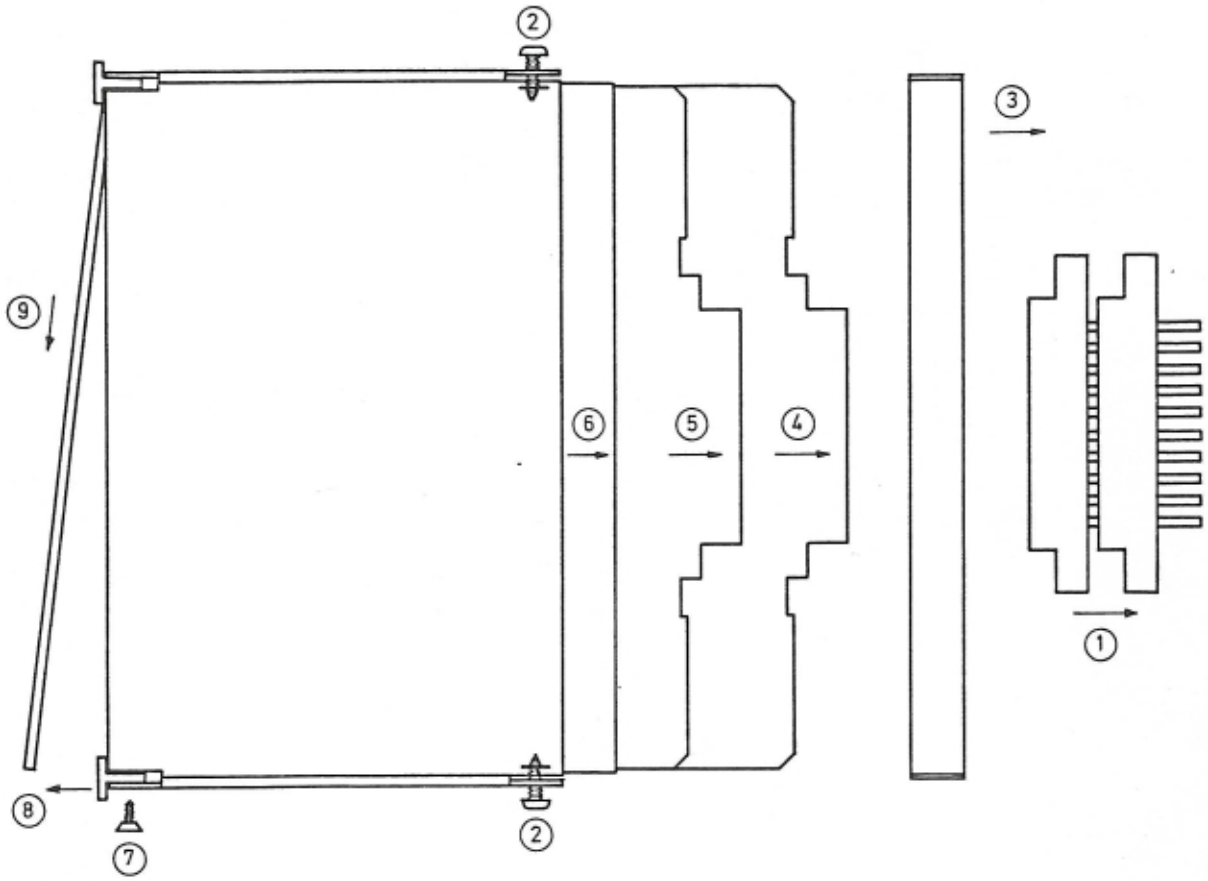
FALL-BACK TIME ADJUSTMENT.

1. Connect a burst generator e.g. NTP type 507-100 to the input terminals (F and H is left input, K and L is right input).
2. Adjust P3 to obtain recommended fall-back time. (1.5 sec. from "0" to "-20" on DIN-scale).

NTP ELEKTRONIK A/S

PEAK PROGRAMME METER 277-200
DISASSEMBLING

277-2020-A-3



DISASSEMBLING THE PPM 277-200.

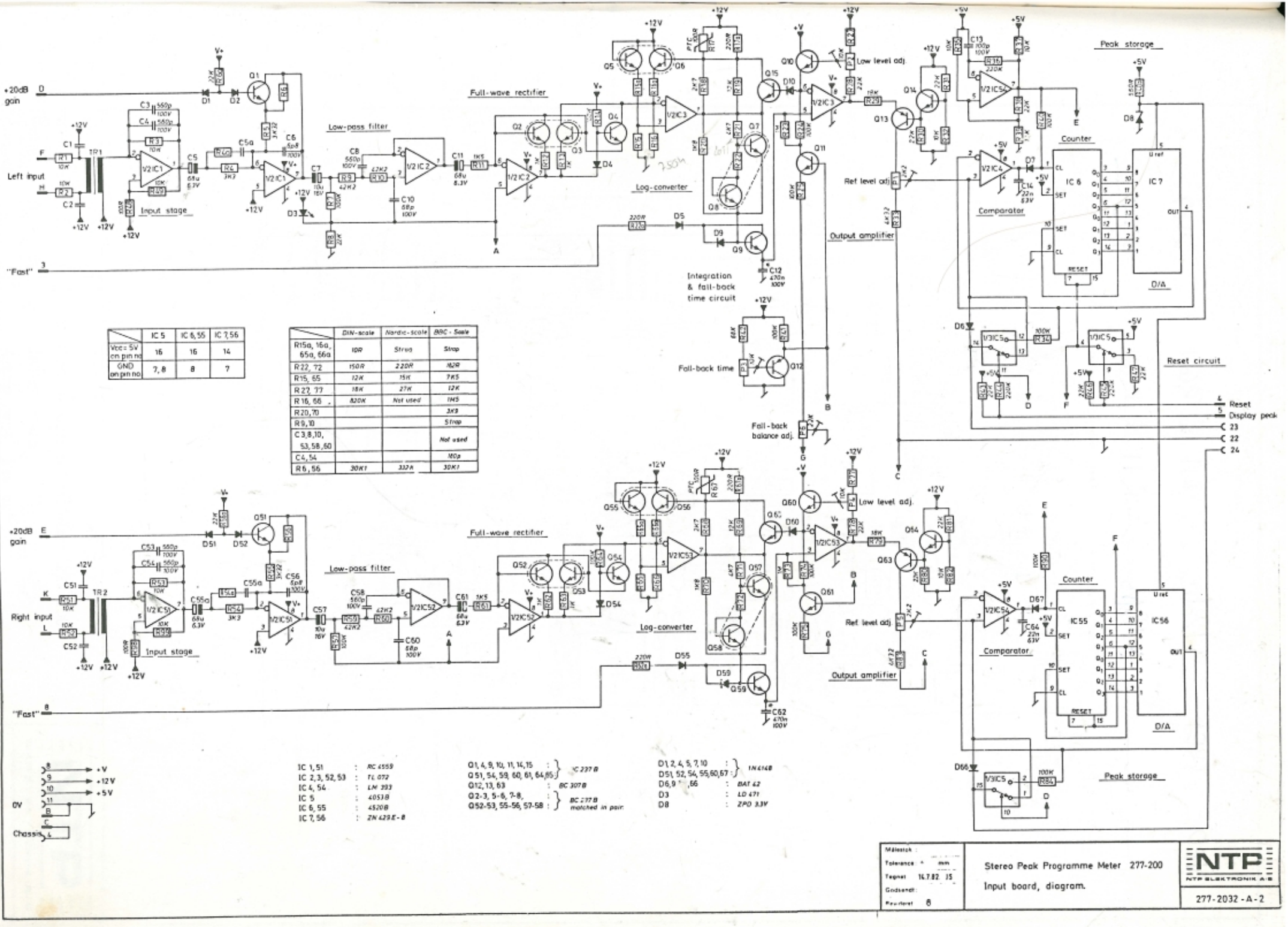
1. Remove the two 20-pole connectors (1)
2. Loosen the two screws (2)
3. Remove the rearplate (3)
4. Remove the two screws (2) and the lockplates
5. Pull out the two PCB's (4) and (5)
6. Pull out the third PCB (Motherboard) (6)

   Or pull out all three PCB's together.

If the frontplate must be replaced:

1. Remove the two screws (7)
2. Pull out the front panel (8)
3. Remove the frontplate (9)

Rettelser



	IC 5	IC 6, 55	IC 7, 56
Vcc = 5V on pin no	16	16	14
GND on pin no.	7, 8	8	7

	DIN-scale	Nordic-scale	BBC - Scale
R15a, 16a, 65a, 66a	10R	Strap	Strap
R22, 72	150R	220R	162R
R15, 65	12K	15K	7K5
R22, 77	18K	27K	12K
R16, 66	820R	Not used	1M5
R20, 70			3K3
R9, 10			Strap
C3,8,10, 53,58,60			Not used
C4, 54			100p
R6, 56	30K1	33?A	30K1

IC 1, 51 : RC 4559
IC 2, 3, 52, 53 : TL 072
IC 4, 54 : LM 393
IC 5 : 4053B
IC 6, 55 : 4520B
IC 7, 56 : ZN 429 E-8

Q1, 4, 9, 10, 11, 14, 15 : } BC 237 B
Q 51, 54, 59, 60, 61, 64, 65 : }
Q12, 13, 63 : BC 307 B
Q2-3, 5-6, 7-8, : } BC 237 B matched in pair
Q52-53, 55-56, 57-58 : }

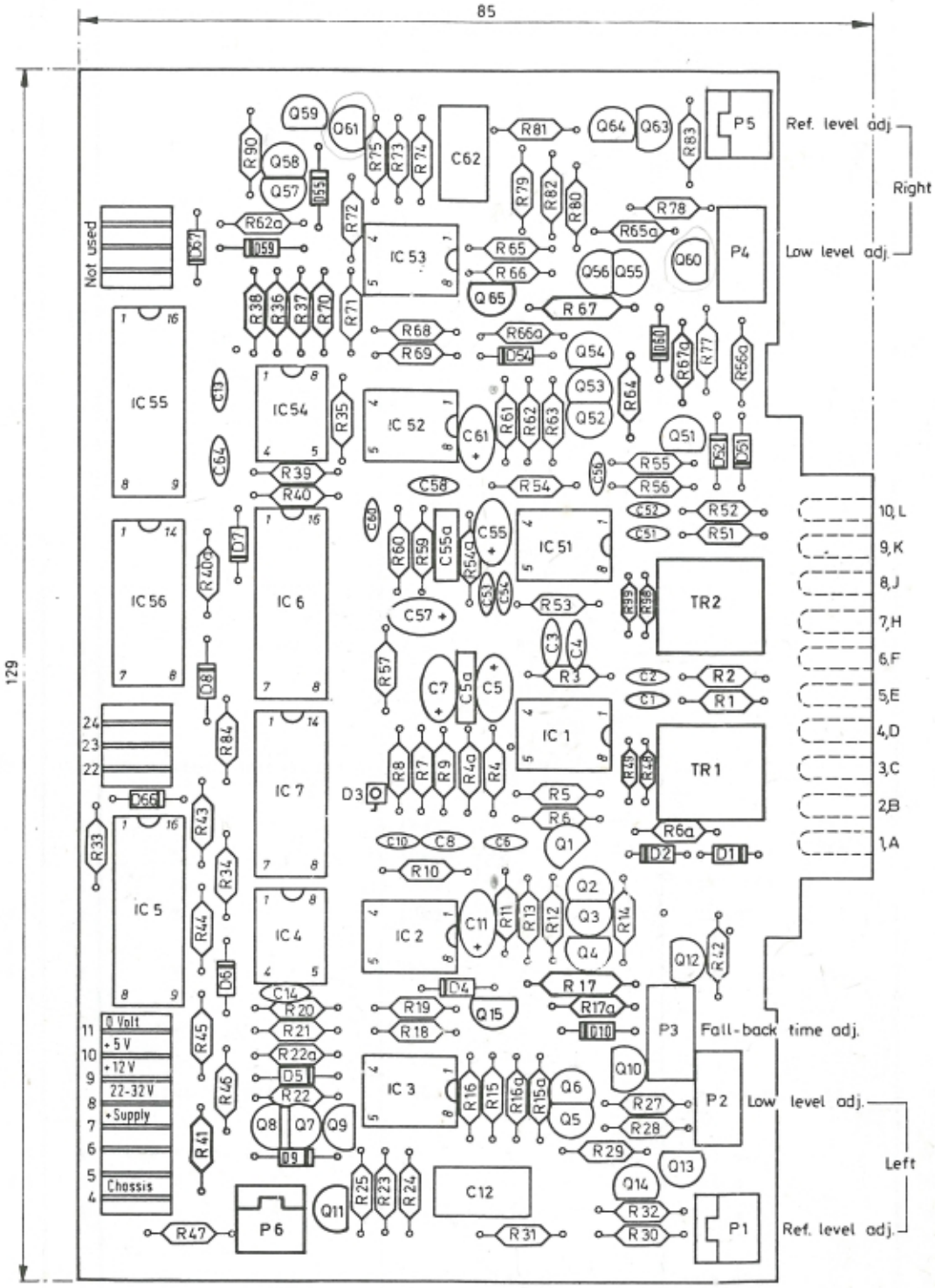
D1, 2, 4, 5, 7, 10 : } 1N4148
D51, 52, 54, 55, 60, 67 : }
D6, 9, 66 : BAT 42
D3 : LD 471
D8 : ZPD 3.3V

Målestok	
Tolerance ±	mm
Tegnet	16.7.82 JS
Godkendt	
Revideret	B

Stereo Peak Programme Meter 277-200
Input board, diagram.

NTP ELEKTRONIK A/S

277-2032 - A-2

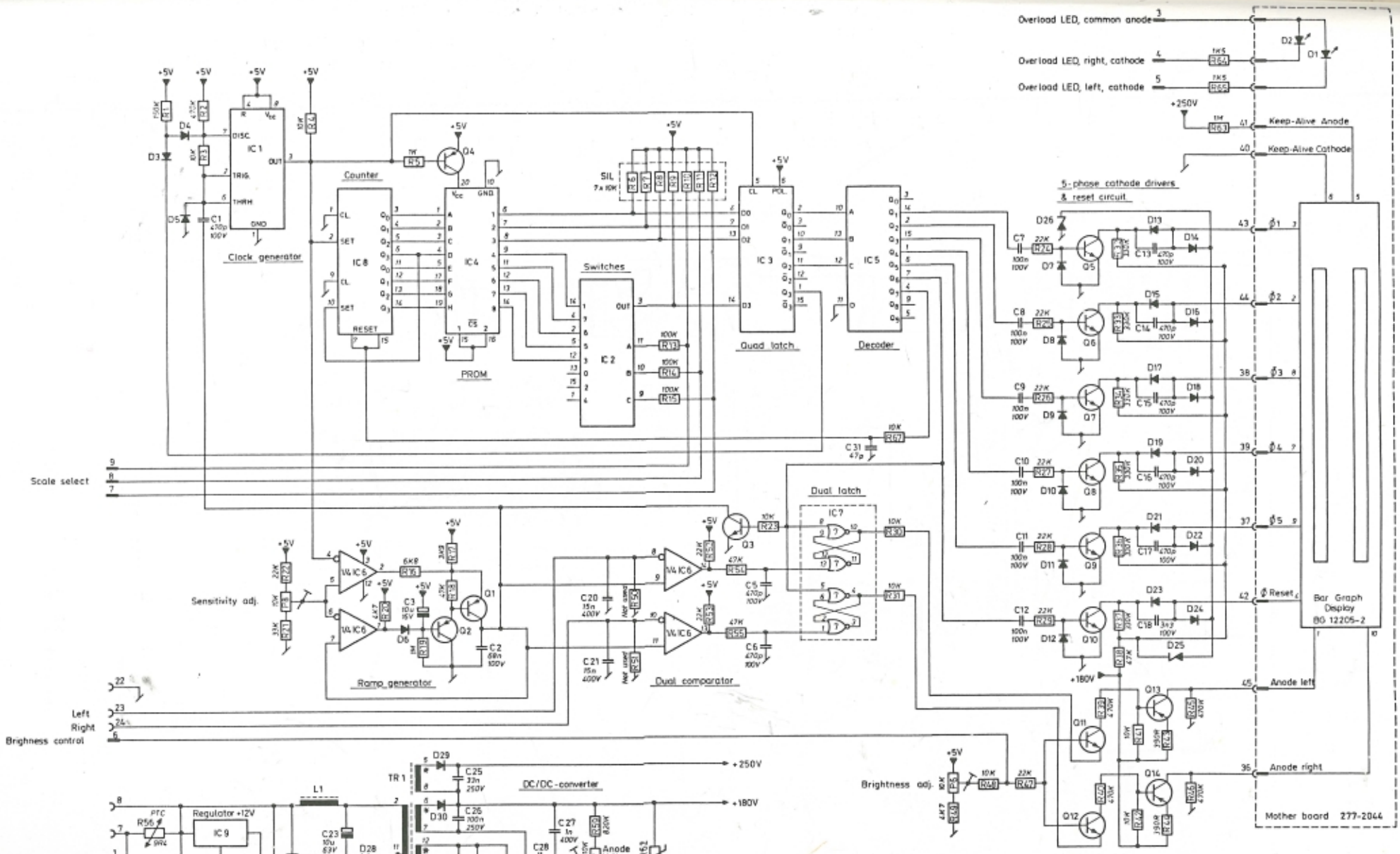


Målestok	2 : 1
Konstruktør	B.J.
Tegnet	21.3.84. LS.
Godkendt	BS.
Revideret	5.

Peak Programme Meter 277-200
Input board
Component Lay-out.

NTP
NTP ELEKTRONIK A/S

277 - 2043 - A - 3



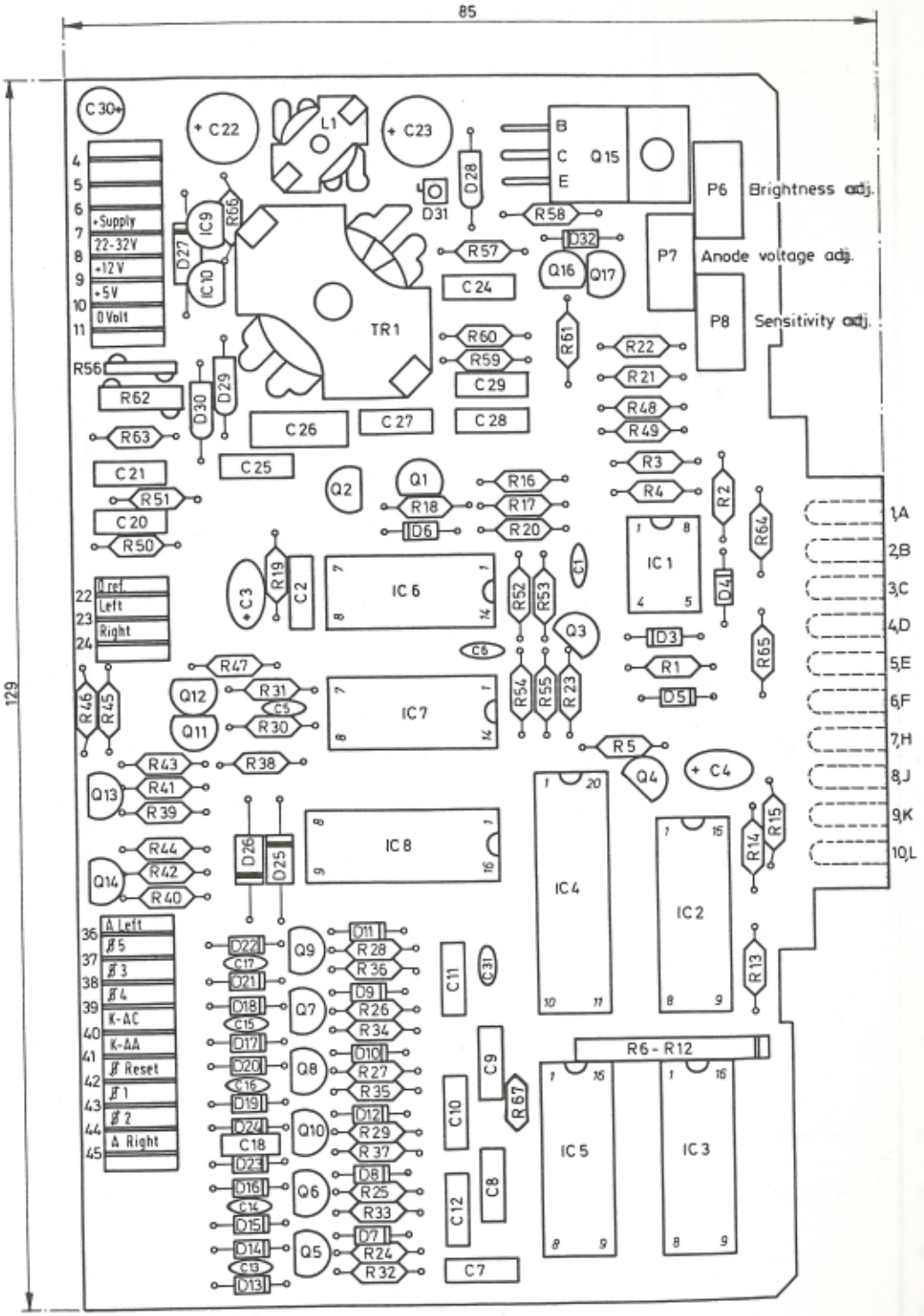
	IC 2	IC 3	IC 5	IC 7	IC 8
Vcc = 5V on pin no	16	16	16	14	16
GND on pin no	6,7,8	8	8	7	8

IC 1 : 7555
IC 2 : 4051B
IC 3 : 4042B
IC 4 : 74S471
IC 5 : 4028B
IC 6 : 339
IC 7 : 4001B
IC 8 : 4520B
IC 9 : 78L12
IC 10 : 78L05

Q 1,2,4,17 : BC 307B
Q 3,16 : BC 237B
Q 5-12 : MPSA 43
Q 13,14 : MPSA 93
Q 15 : BU 407

D 1, 2, D 3, 4, 6-12, 32 : MV 57124
D 3, 4, 6-12, 32 : 1N4148
D 27 : 1N4002
D 13-24 : BAV 21
D 28-30 : BY 206
D 25, 26 : BZX 87-C6V8
D 31 : LO 471

Målestok :		Stereo Peak Programme Meter 277-200 Driver board, diagram.	NTP ELEKTRONIK A/S
Tolerance: ± mm			
Tegnet 12.7.82 JS			277 - 2030 - A-2
Godkendt:			
Revideret 5			



Målestok	: 2:1
Konstruktør	: B.J.
Tegnet	: 4.2.82. JS.
Godkendt	:
Revideret	: 3

Peak Programme Meter 277-200
Driver board
Component Lay-out.

NTP
NTP ELEKTRONIK A/S

277 - 2041 - A - 3