Calibration of multimeter type DMI3

Multimeter circuit

1. Connect 190.0 mV DC to the voltage input and adjust with "DC ADJ" until the display reads 190.0 mV.
2. Connect 190.0 mV AC to the voltage input and adjust with "AC ADJ" until the display reads 190.0 mV.
3. Connect 192.0 mV DC to the voltage input and adjust with "LIGHT BAND ADJ MM" until the last LED in the light band starts to light up.
4. Check the ranges in both DC and AC.
5. Connect 4.0 A DC to the 10 A input and adjust the shunt "R59 and R62" until the display reads 4.00 A. Check the 10 A range at 1.90 A DC and AC.
6. Connect 1.90 A DC to the 2 A input and adjust the shunt "R47" until the display reads 1.900 A. Check the ranges.
7. Check the resistance ranges.

Thermometer circuit

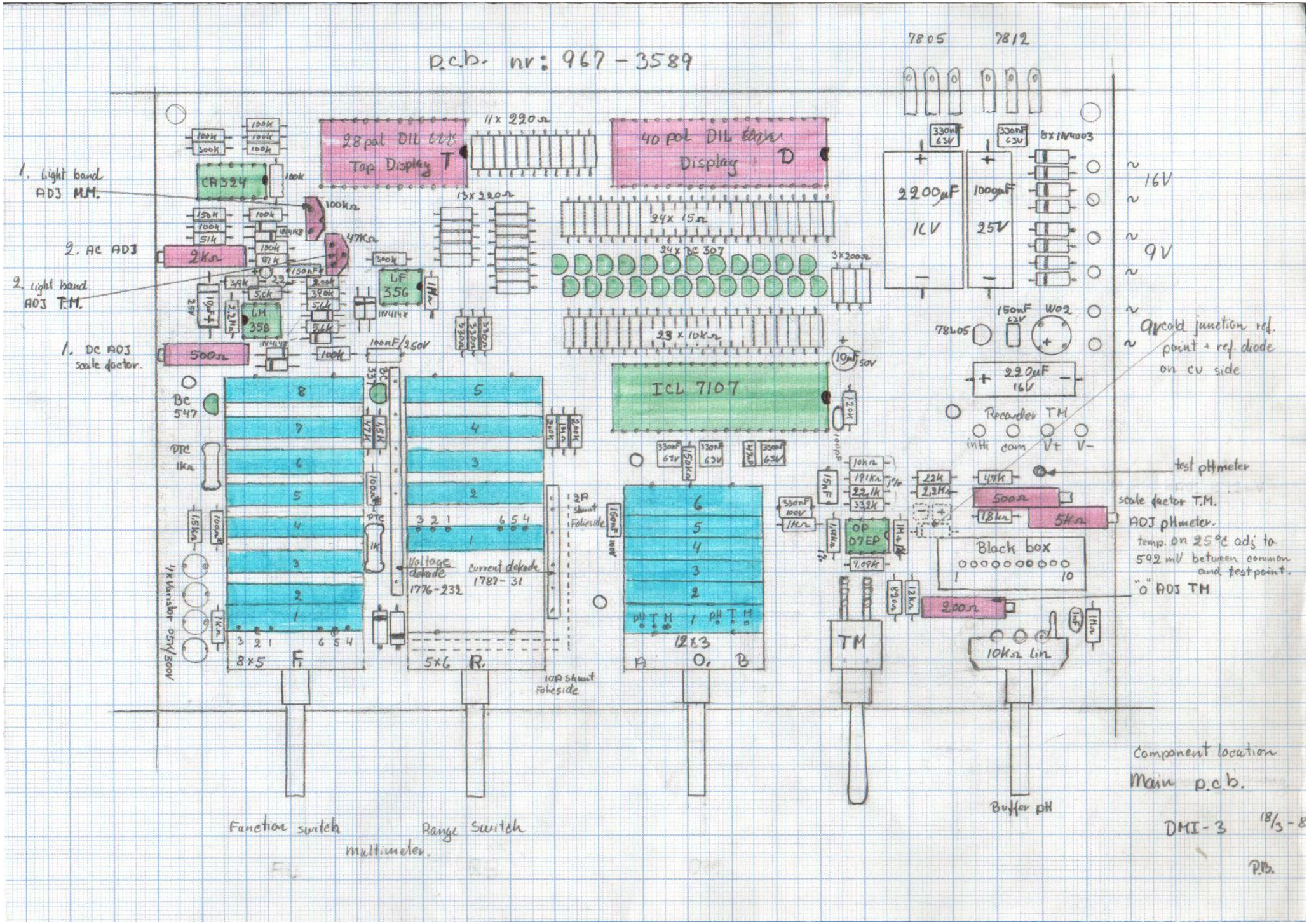
1. Connect 0.0 degree reference to the thermal input and adjust with "ADJ 0 TM" until the display reads 0.0.
2. Connect 100.0 degree reference to the thermal input and adjust with "ADJ SCALE FACTOR TM" until the display reads 100.0.
3. Repeat steps 1 and 2 until both readings are correct.
4. Connect 192.0 degree reference to the thermal input and adjust with "LIGHT BAND ADJ TM" until the last LED in the light band starts to light up.

pH-meter circuit

1. Short circuit the pH input anf set the TEMP potentiometer to 25 degrees.
2. Measure the voltage between GND on the pH BNC plug and "TEST pH METER" and adjust with "ADJ pH METER" until the voltage is 592 mV.
3. Adjust the BUFFER potentiometer until the display reads 7.00 pH.
4. Turn the TEMP potentiometer anticlockwise and clockwise and check that the reading does not change more than 0.01 pH. Set the TEMP potentiometer to 25 degrees again.
5. Connect 414 mV DC to the pH input and check that the display reads 0.00 pH +-0.2 pH. To test this correctly the DC source must have an output impedance of at least 650 MOhm.

All texts in "" refers to texts on the placement drawing.

8/8-2003
R.O.


p.c.b. nr: 967-3589
1. Light band ADJ M.M.
2. AC ADJ
2. Light band ADJ T.M.
1. DC ADJ scale factor.
28 pol DIL Top Display T
40 pol DIL Display D
11x 220Ω
13x 220Ω
24x 15Ω
24x BC 307
3x 200Ω
23 x 10KΩ
ICL 7107
CA324
LF 356
LM 358
500Ω
2KΩ
100KΩ
47KΩ
100nF/250V
10µF 50V
BC 547
PTC 1kΩ
8x5 F
5x6 R
12x3 B
Voltage dekade 1776-232
current dekade 1787-31
3A Shunt Foheside
10A shunt Foheside
1/2 Varistor 05SK/300V
Function switch
Range Switch
multimeter.
7805
7812
2200µF 16V
1000µF 25V
8x IN4003
~16V
~9V
150nF 63V W02
78L05
220µF 16V
cold junction ref. point + ref diode on cu side
Recorder TM
inHi com V+ V-
test pHmeter
scale factor T.M.
ADJ pHmeter.
temp. on 25°C adj to 592 mV between common and testpoint.
"0" ADJ TM
Black box
OP 07EP
TM
10KΩ lin
Buffer pH
component location
Main p.c.b.
DMI-3
18/3-8
P.B.