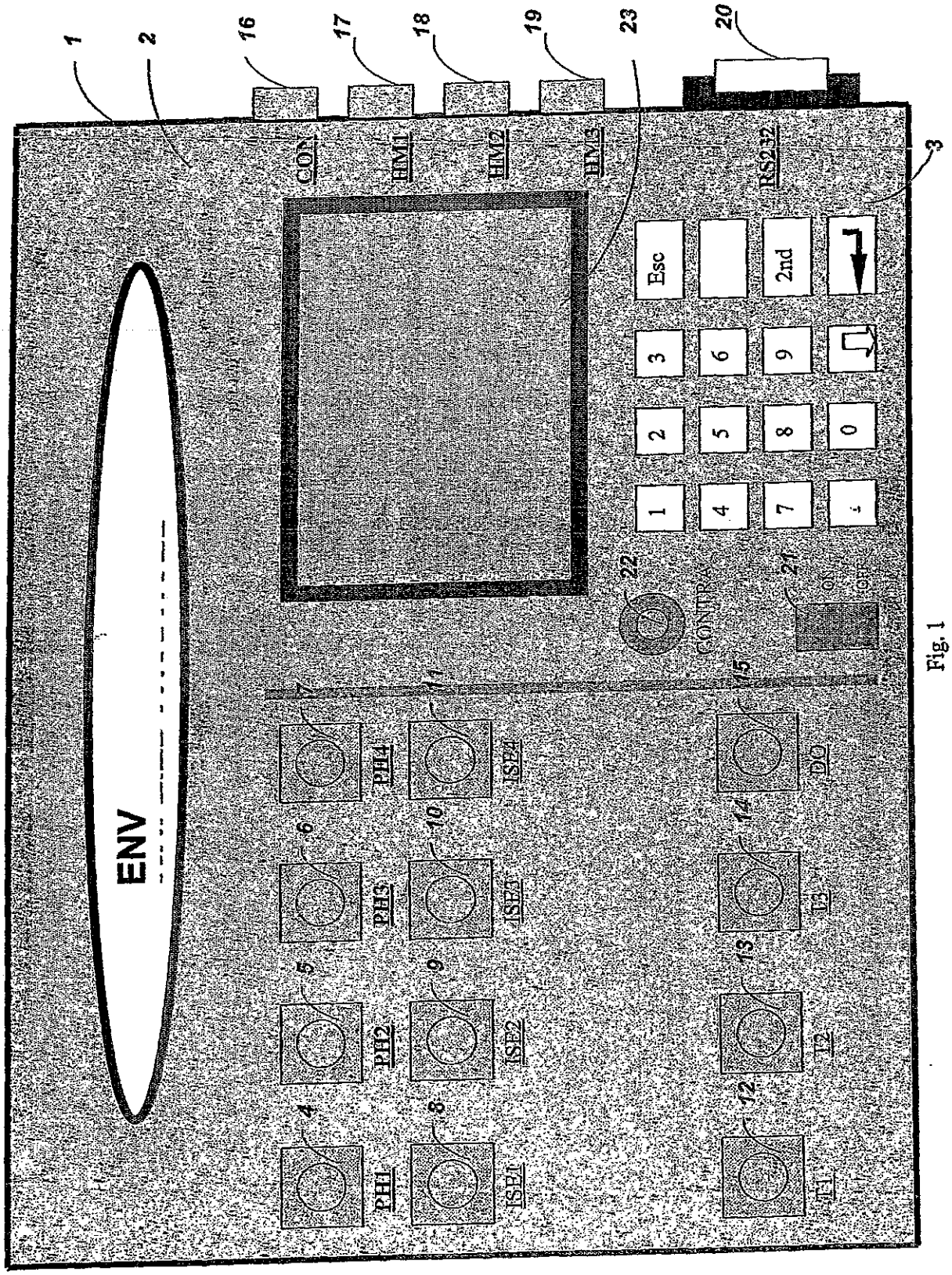


Fig. 1

INTERNATIONAL SEARCH REPORT

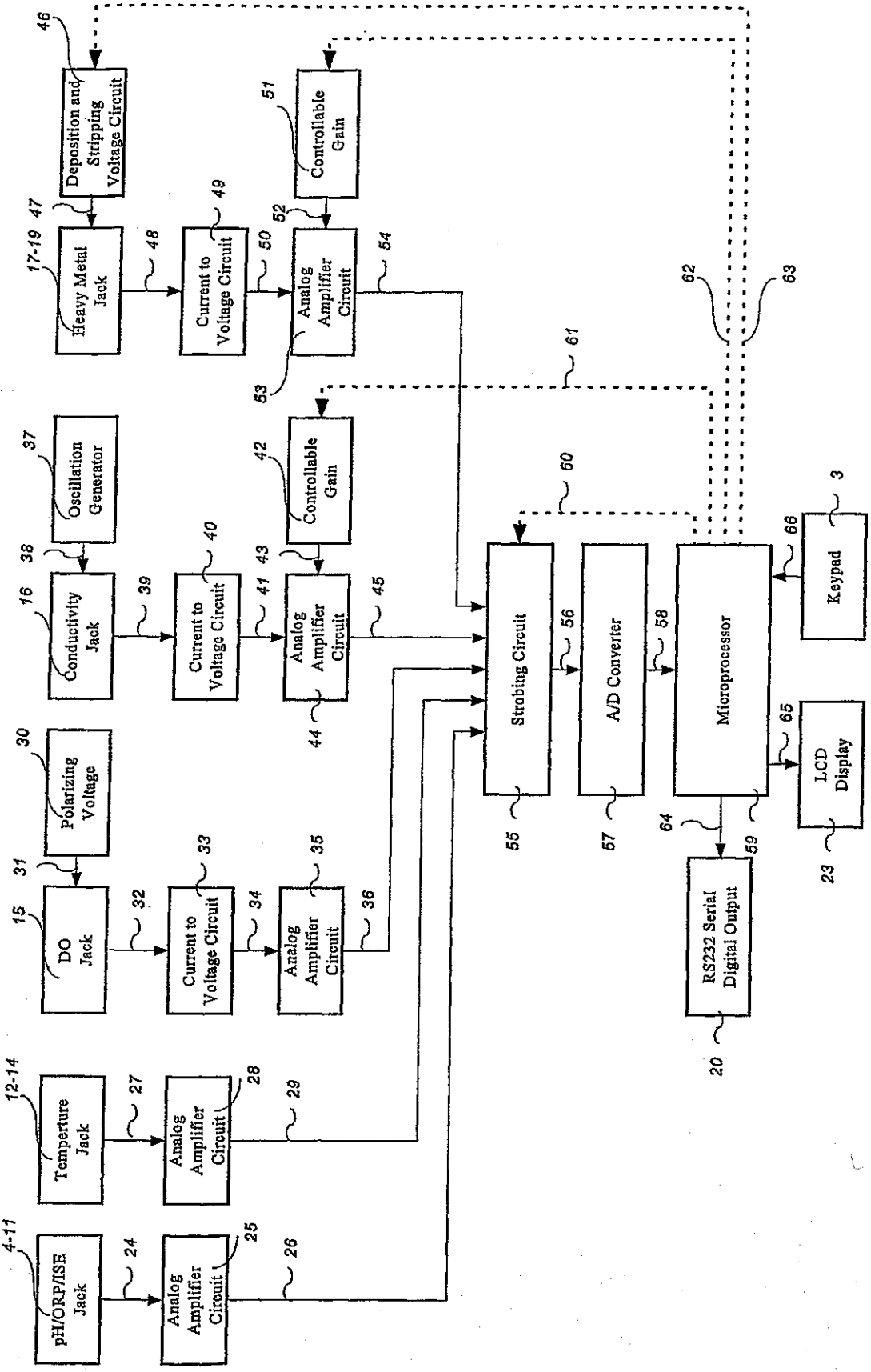

Deposition and Stripping Voltage Circuit
Controllable Gain
Heavy Metal Jack
Current to Voltage Circuit
Analog Amplifier Circuit
Oscillation Generator
Controllable Gain
Conductivity Jack
Current to Voltage Circuit
Analog Amplifier Circuit
Polarizing Voltage
DO Jack
Current to Voltage Circuit
Analog Amplifier Circuit
Temperture Jack
Analog Amplifier Circuit
pH/ORP/ISE Jack
Analog Amplifier Circuit
Strobing Circuit
A/D Converter
Microprocessor
Keypad
LCD Display
RS232 Serial Digital Output

Fig. 2

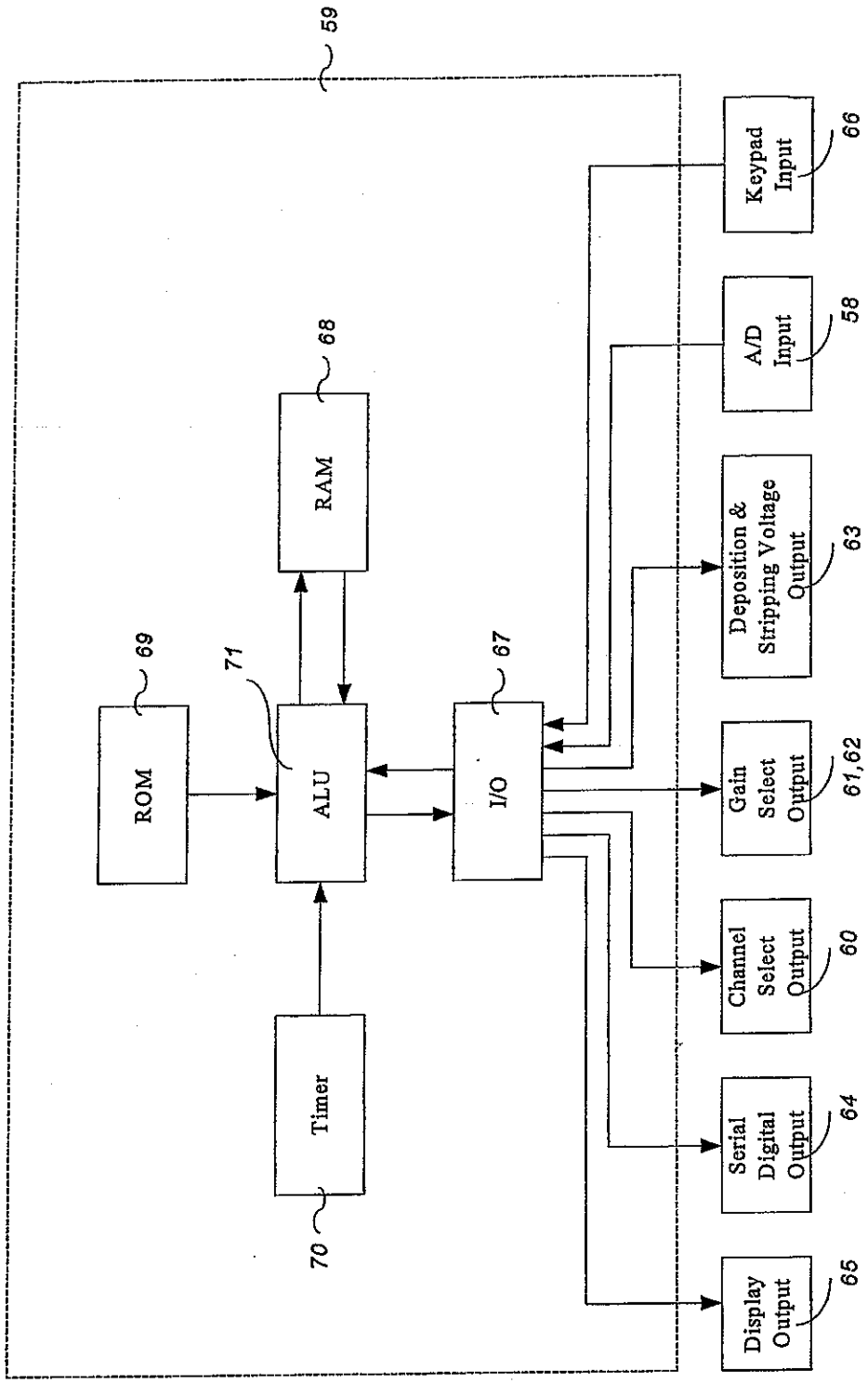

59
Keypad Input
66
A/D Input
58
Deposition & Stripping Voltage Output
63
Gain Select Output
61,62
Channel Select Output
60
Serial Digital Output
64
Display Output
65
RAM
68
ROM
69
ALU
71
I/O
67
Timer
70

Fig. 3

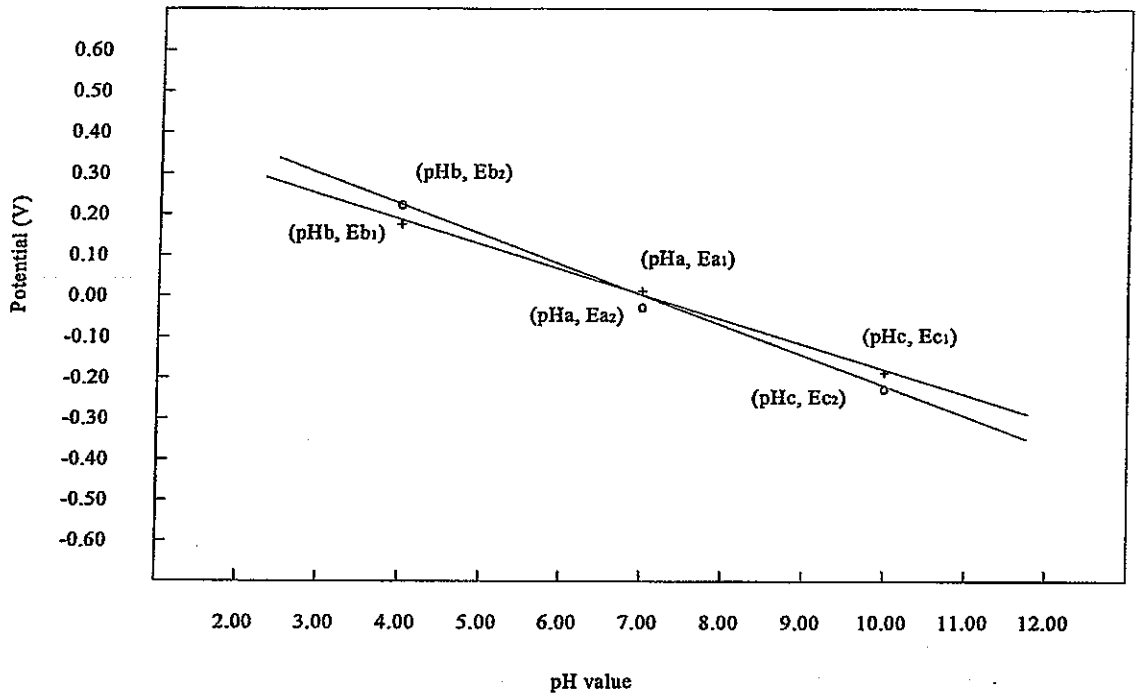

0.60
0.50
0.40
0.30
0.20
0.10
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
-0.60
Potential (V)
(pHb, Eb2)
(pHb, Eb1)
(pHa, Ea1)
(pHa, Ea2)
(pHc, Ec1)
(pHc, Ec2)
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
11.00
12.00
pH value

Fig. 4

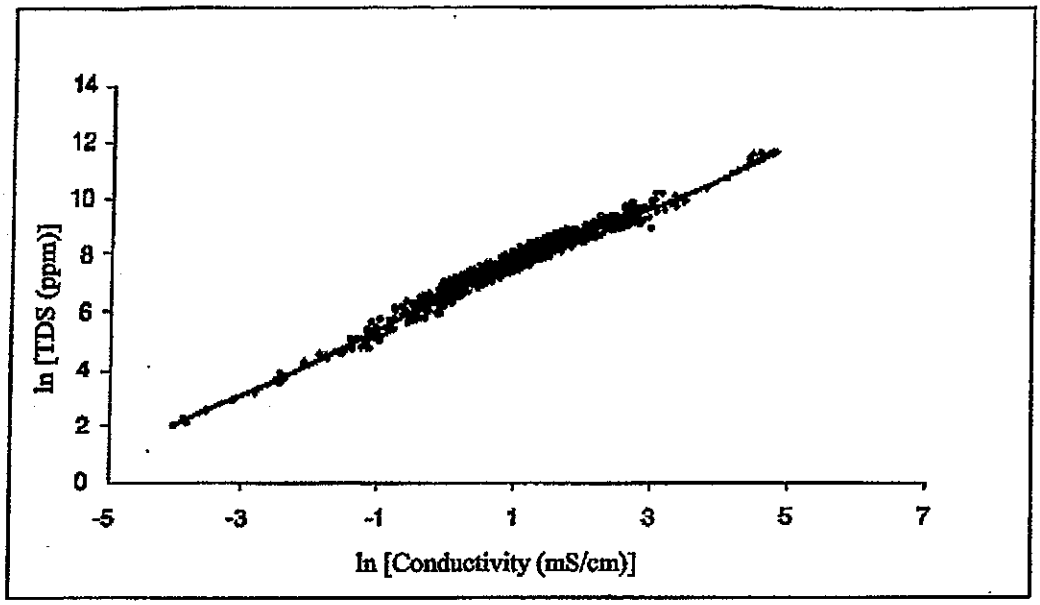

14
12
10
8
6
4
2
0
ln [TDS (ppm)]
-5
-3
-1
1
3
5
7
ln [Conductivity (mS/cm)]

Fig. 5-1

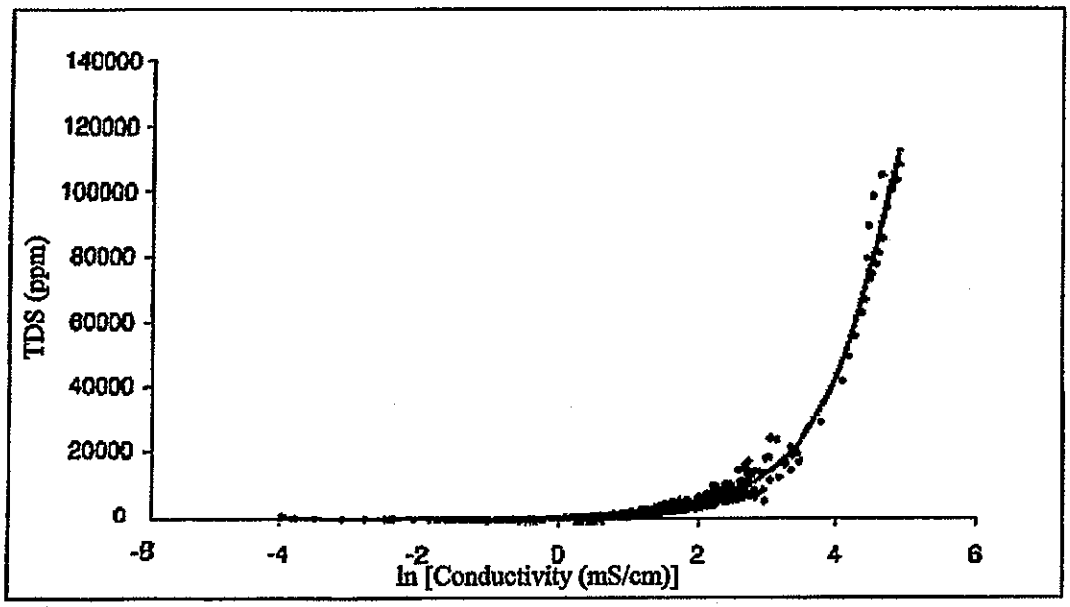

140000
120000
100000
80000
60000
40000
20000
0
TDS (ppm)
-8
-4
-2
0
2
4
6
ln [Conductivity (mS/cm)]

Fig. 5-2

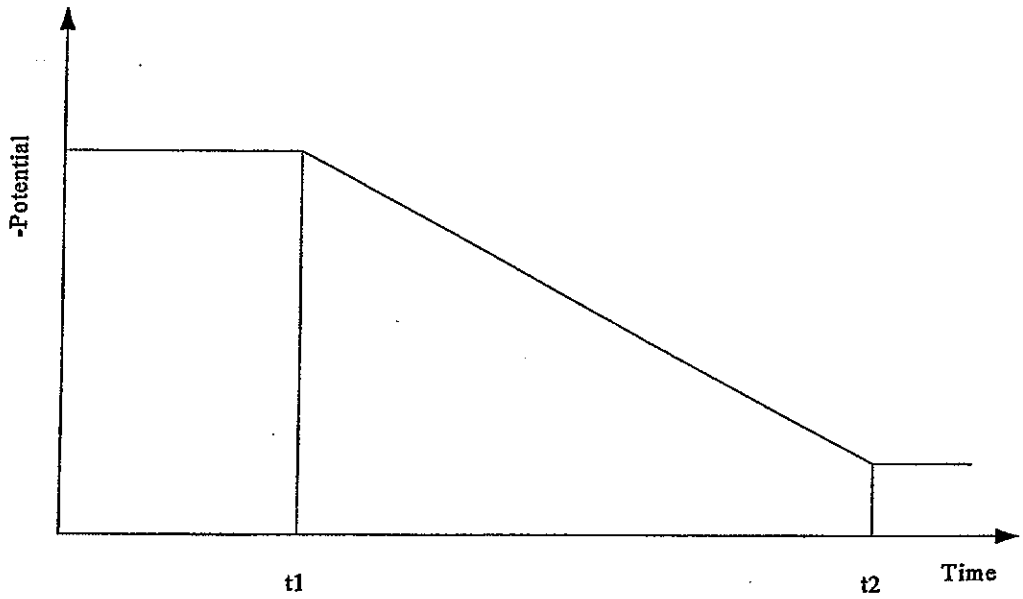


Fig. 6

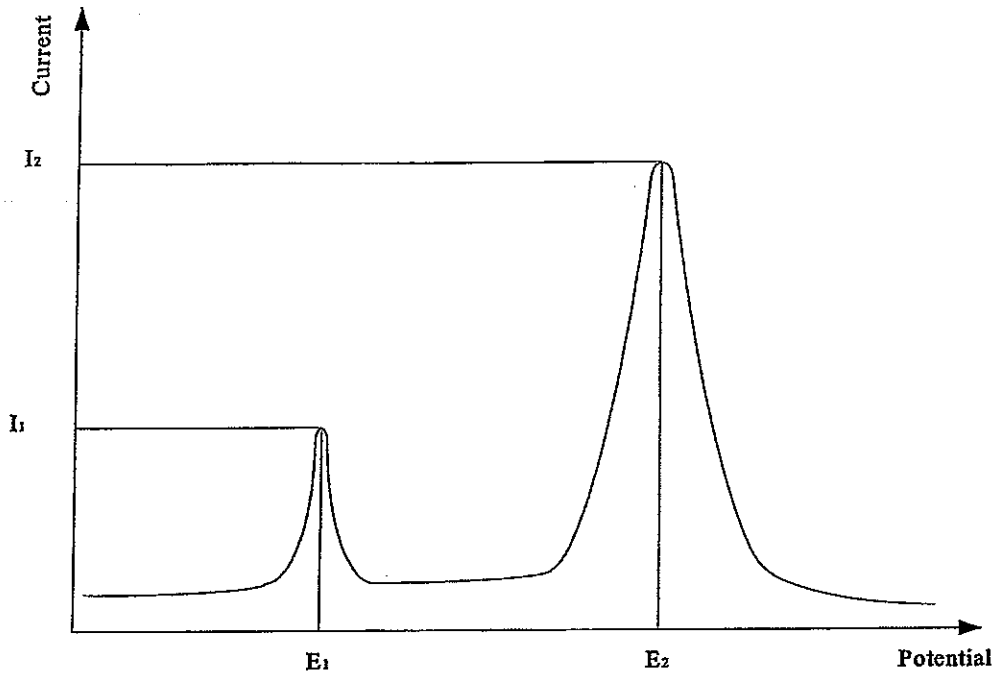


Fig. 7

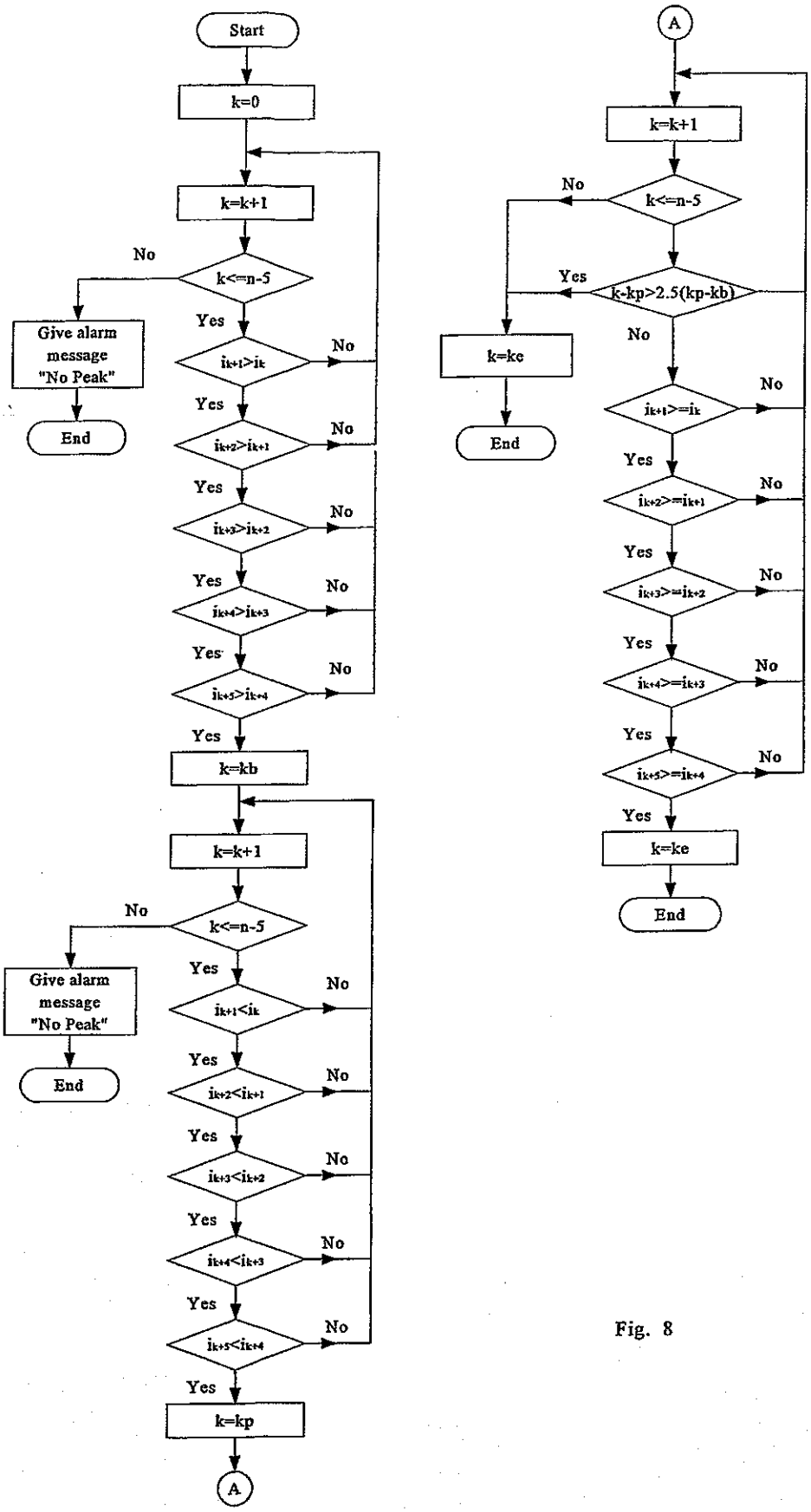

Start
k=0
k=k+1
k<=n-5
No
Yes
Give alarm message "No Peak"
End
ik+1>ik
ik+2>ik+1
ik+3>ik+2
ik+4>ik+3
ik+5>ik+4
k=kb
k=k+1
k<=n-5
Give alarm message "No Peak"
End
ik+1<ik
ik+2<ik+1
ik+3<ik+2
ik+4<ik+3
ik+5<ik+4
k=kp
A
A
k=k+1
k<=n-5
k-kp>2.5(kp-kb)
k=ke
End
ik+1>=ik
ik+2>=ik+1
ik+3>=ik+2
ik+4>=ik+3
ik+5>=ik+4
k=ke
End

Fig. 8