GEOLOGICAL, GEOPHYSICAL, GEOTECHNICAL SERVICES AND INSTRUMENTS

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# MULTI-CHANNEL DIGITAL RESISTIVITY METER

# McOHM Profiler-4


## <Abstract>

The McOHM Profiler-4 is specially designed to apply for the environmental studies to monitor the spread of soil contamination by waste oil or to detect the leakage at garbage disposal areas, which are recently highlighted as social problems, with efficiency. The system is incorporated with the electrode switching function for 32 electrodes, the 4 channel-receiver circuit with high resolution 24 bits Sigma-Delta A/D converter, the power supply circuit to inject 400V max. (800V peak-to-peak) /120mA and the PC based controller supported by the latest technology. Furthermore, monitoring and displaying of both the current waveform and the potential waveform is effective to control the quality of data.


## <Features>

- Any electrode array (pole-pole, pole-dipole, dipole-dipole, etc.) for the measurement is available.
- 4-channel simultaneous measurement can shorten the data acquisition time at site.
- The system is expandable up to 288 electrodes with external scanners.
- Full-automatic measurement with the control program, automatic timed measurement by the internal clock and the remote control via RS-232C are equipped.
- Plotting function of decay curve for pole-pole array is effective to control the quality of data at site.
- The measured data can be stored either in large capacity of internal hard disk, ZIP or floppy diskette.
- Cost effective and downsized system with light in weight.

## <Specifications>

### McOHM Profiler-4 (Model-2140)

- **Transmitter**
  - Maximum output current : 2, 20, 60 and 120mA (constant current)
  - Maximum output voltage : 400V (800V peak-to-peak)
  - Cycle : 1, 2, 4 and 8 seconds
- **Receiver**
  - Number of channels: 4 channels (independent)
  - Input impedance : 10MΩ
  - A/D resolution : 24 bits
  - Voltage sensitivity : 0.5 μV
  - Electrode array : any array
  - Measurement mode: automatic, timed and manual measurement
  - SP compensation : automatic compensation by D/A converter
- **Scanner**
  - Internal scanner : 32 electrodes
  - External scanner : Max. 256 electrodes every 64 channels, total 288 electrodes
- **System control**
  - CPU : Card PC, AT compatible 586
  - Storage media : HDD, ZIP and FDD
  - Interface : RS-232C
  - Display : 10.4”, color LCD, VGA compatible
  - Display parameters : injected current, 4ch potential waveform, measured values, decay curve (pole-pole array only)
  - Power requirement : 10.5V to 14V DC
  - Power consumption : 1.5A (standby), 8A (max)
  - Dimensions : 330 x 270 x 250 mm

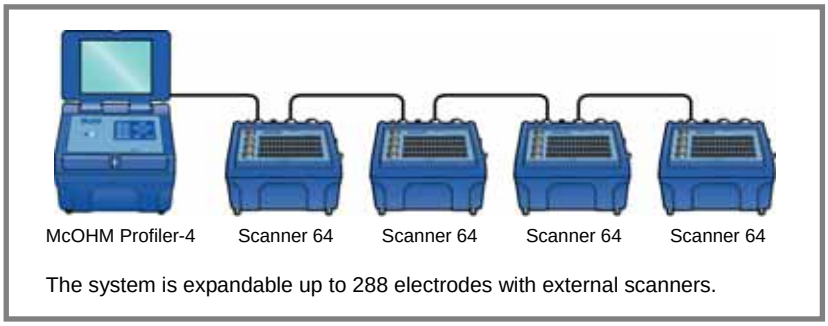
### Scanner 64 (for expansion)

Number of electrodes : 64 electrodes
Communication interface : RS-485
Power requirement : 10.5V – 14VDC
Power consumption : 1A (standby), 2A (max)
Dimensions : 330 x 270 x 220 mm

## <Applications>

1) Long term monitoring of leakage at garbage disposal areas
2) Investigation of soil contamination by waste oil
3) Judgment of effectiveness of grouting
4) Research and studies of liquefaction
5) Investigations for dams and tunnels
6) Landslide monitoring
7) Ground water exploration

## <System diagram>




The system is expandable up to 288 electrodes with external scanners.

Please note specifications are subject to change without notice for the improvement.

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