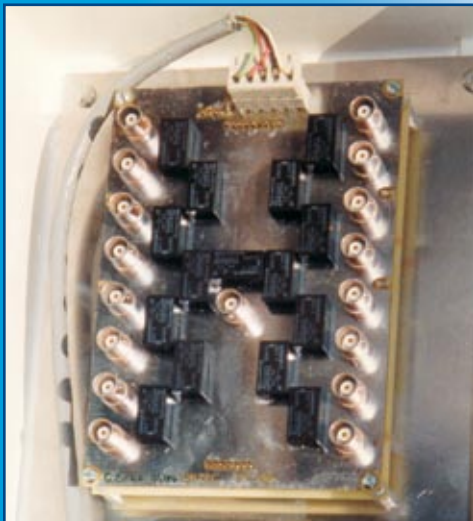


TDR Soil Moisture System - VADOSE



Necessary equipment includes a cable tester, soil moisture probes and a computer to record the wave forms, analyze them, and save the soil moisture results.



Multiplexer with 16 sensor connections that are cascadeable.

A PRODUCT OF
AGRICULTURAL RESEARCH™

Time Domain Reflectometry (TDR) is an ideal, proven method of soil moisture measurement based on the change in soil dielectric constant with changes in soil moisture. Necessary equipment includes a cable tester, soil moisture probes and a computer to record the wave forms, analyze them, and save the soil moisture results. Optional equipment includes a multiplexer for numerous automated readings and extension cables.

TR-100 Probe

The three conductor semi-coaxial wave guide design does not require an impedance matching balun, yet provides a clear signal. The conductors are precision cut for reproducible length among all probes. The handle is rigid epoxy and acrylic, waterproof and suitable for burial or direct insertion into the soil. Custom wave guide and cable lengths are available.

- 3 conductor, semi-coaxial wave guide
- 316 stainless steel conductors, 1/8" diameter
- Typical 20 cm length, 3 m cable length
- Custom probe lengths available (10 - 50 cm)
- 5 cm Mini-probe for low volume soil monitoring, TR100-5
- Real-time measurements
- Rods pointed for better insertion
- Weatherproof
- Rugged for field study
- Cable length made to customer request up to 20 m.

TR-200 Multiplexer

Each multiplexer may be set by jumper to 1 of 16 addresses. Up to 16 multiplexers may be controlled individually from the PC by control cable, TR-2200. The TACQ software, TR-500, sets up the various multiplexer's cable lengths individually for automatic, hands-off logging and analysis of up to 256 probes with the Tek1502C cable tester.

- **High performance, impedance matched, cost effective**
- **16 TDR probes per multiplexer**
- **Total capacity per system is 256 probes**
- **Rain-tight fiberglass resin case available: NEMA 4X, CSA, UL Approved, and Lightweight - TR-201**
- **Dimensions: 11.5 x 16 x 4.6 cm**
- **Operating voltage - 12 VDC**



VADOSE TDR Software and Accessories

Notebook Computer TR-400

- Minimum 700 MHz PIII notebook computer plus software for control of multiplexers and cable tester
- Minimum 10 GB hard disk storing capacity, approximately 40,000 readings
- Parallel port allows control of multiplexers, and serial port communicates with Tektronix 1502C cable tester

TACQ Software TR-500W

The most unique and well developed TDR acquisition and analysis algorithms available. USDA developed and tested software in cooperation with Dynamax to provide the most powerful and flexible tool for research and commercial application. TACQ commands the cable tester to power-up, warm-up, and then turn off after collection of a full data set.

- TACQ software controls cable testers Tektronix 1502C settings, data acquisition
- Controls TR-200 multiplexer addressing and sequences the sensor signals from TR-200 or CSI's SDMX50
- Real-time analysis of soil moisture
- Optional bulk electrical conductivity readings
- Unattended reduction of wave forms to travel times and water content
- Saves original waveforms, settings and all analysis to hard drive. No other TDR system has this TACQ capability.
- Can read previously collected wave forms from files on disk for reanalysis
- IBM - PC compatible software equipped with graphical interface for interactive reduction of TDR signals to water contents

Tektronix 1502C Cable Tester

- Discontinued by Tektronix, available as refurbished units. New dedicated TDR pulse generator models are in development.
- Controlled by TACQ, TR-500 software
- Serial interface allows computer control and unattended data logging
- Generates analog wave forms from all multiplexed sensors
- Power control option cycles power for solar power application. Optional model TR-304



Ordering Information

TR-1502C/R Tektronix 1502C/Modified cable tester plus serial interface module. Refurbished w/ 1 yr warranty

TR304 External power control, 30 W solar Panel, AC power inverter to supply 1502C power as needed

TR-100 Soil Moisture Probes, 3 wire, 20 cm wave guide, BNC Connector - 3 m cable. TR100-5 is five cm

TR-200 Coaxial multiplexer, 16 inputs, 1 output

TR-201 Rain-tight case for multiplexer with 2 - 2" (50 mm) PVC outlets

TR-250 5-wire control cable (multiplexer to multiplexer)

TR-1058 Extension cables, RG58/U, 75 Ohm with BNC connectors. For mux. to mux. to cable tester

TR-400 Sub-notebook computer plus software for control of multiplexers and cable tester

TR-500 TACQ data acquisition software site support

TR-2000 Modem type cable for computer to 1502C

FL-EXT Modem cable - 50 meters

TR-2200 Control and power supply cable set for computer 25-pin parallel port to multiplexer and power control module

Dynamax Inc

10808 Fallstone Rd #350
Houston, TX 77099 USA

Tel: 281-564-5100 Fax: 281-564-5200

admin@dynamax.com

www.dynamax.com

