Test & Measurement

- sales
- rentals
- calibration
- repair
- disposal

Complimentary Reference Material

This PDF has been made available as a complimentary service for you to assist in evaluating this model for your testing requirements.

TMG offers a wide range of test equipment solutions, from renting short to long term, buying refurbished and purchasing new. Financing options, such as Financial Rental, and Leasing are also available on application.

TMG will assist if you are unsure whether this model will suit your requirements.

Call TMG if you need to organise repair and/or calibrate your unit.

If you click on the "Click-to-Call" logo below, you can all us for FREE!

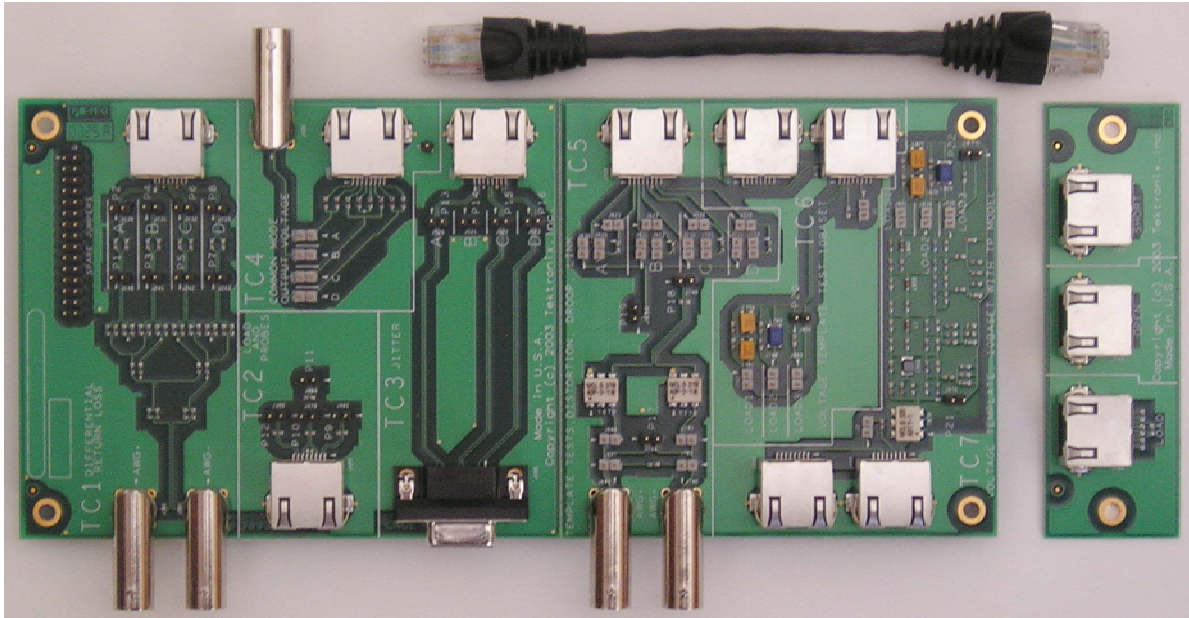**TMG Corporate Website**   **TMG Products Website**

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Solution Centre

Product Lifecycle Management System

NATA   CERTIFIED MANAGEMENT SYSTEM   AIDN

TF-GBE
Gigabit Ethernet Compliance Test fixture

TF-GBE main circuit board, companion Return Loss Calibration PCB & RJ45 interconnect cable

Salient Features

- Supports 1000/100/10BaseT technologies

- Facilitates performing a wide spectrum of compliance tests

- Separate Return Loss Calibration circuit board reduces time to test

- Test Channel for 1000BaseT Jitter tests ensures testing per the Standard

- Cross-connect circuits simplify connection to traffic generators and link partners

- On-board test points for accurate removal of disturbing signals ensure that dependable results are obtained

- Twisted-Pair-Model and Loads (per IEEE802.3) enable complete transmitter testing of 10BaseT Physical Layer

- Tektronix-designed test fixture for use with Tektronix DPO7000 and DPO/DSA70000 oscilloscopes and TDSET3 Ethernet Compliance Test software

Product Hallmarks

Comprehensive Test Range

The full spectrum of 10BaseT, 100BaseTX and 1000BaseT technologies is addressed by the TF-GBE. The range of tests supported includes Template, Amplitude, Jitter, Common Mode Output, Return Loss, as well as other core transmitter tests. Twisted pair models and loads are available, facilitating an expansive range of 10BaseT tests.

Reliable Results

The TF-GBE has been Tektronix designed to meet the extremely tight margins mandated by the Standards. Onboard test points are provided for 1000BaseT template tests for accurate removal of the disturbing signal and any inaccuracies in the acquisition path. The unique JigMatch capability of the TDSET software makes use of these specially provided test points to deliver dependable results. Open, Short and Load circuits are provided for reliable return loss testing.

Extreme Efficiency

The TF-GBE test fixture was designed with shrinking test times and reducing expensive workarounds in mind. The Sub-D connector to RJ45 interface circuit makes connecting link partners simple while maintaining signal integrity. Cross-connect circuits enable quick and easy connections to traffic generators or link partners, and eliminate the need for clumsy cable assemblies.

TF-GBE Specifications

- **1000BaseT Tests Supported**

    - ✓ Templates – all pairs

    - ✓ Peak Voltage – all pairs

    - ✓ Level Accuracies – all pairs

    - ✓ Jitter - Test Channel; SubD connector to RJ45 interface

    - ✓ Distortion – all pairs

    - ✓ Common Mode Output Voltage – all pairs

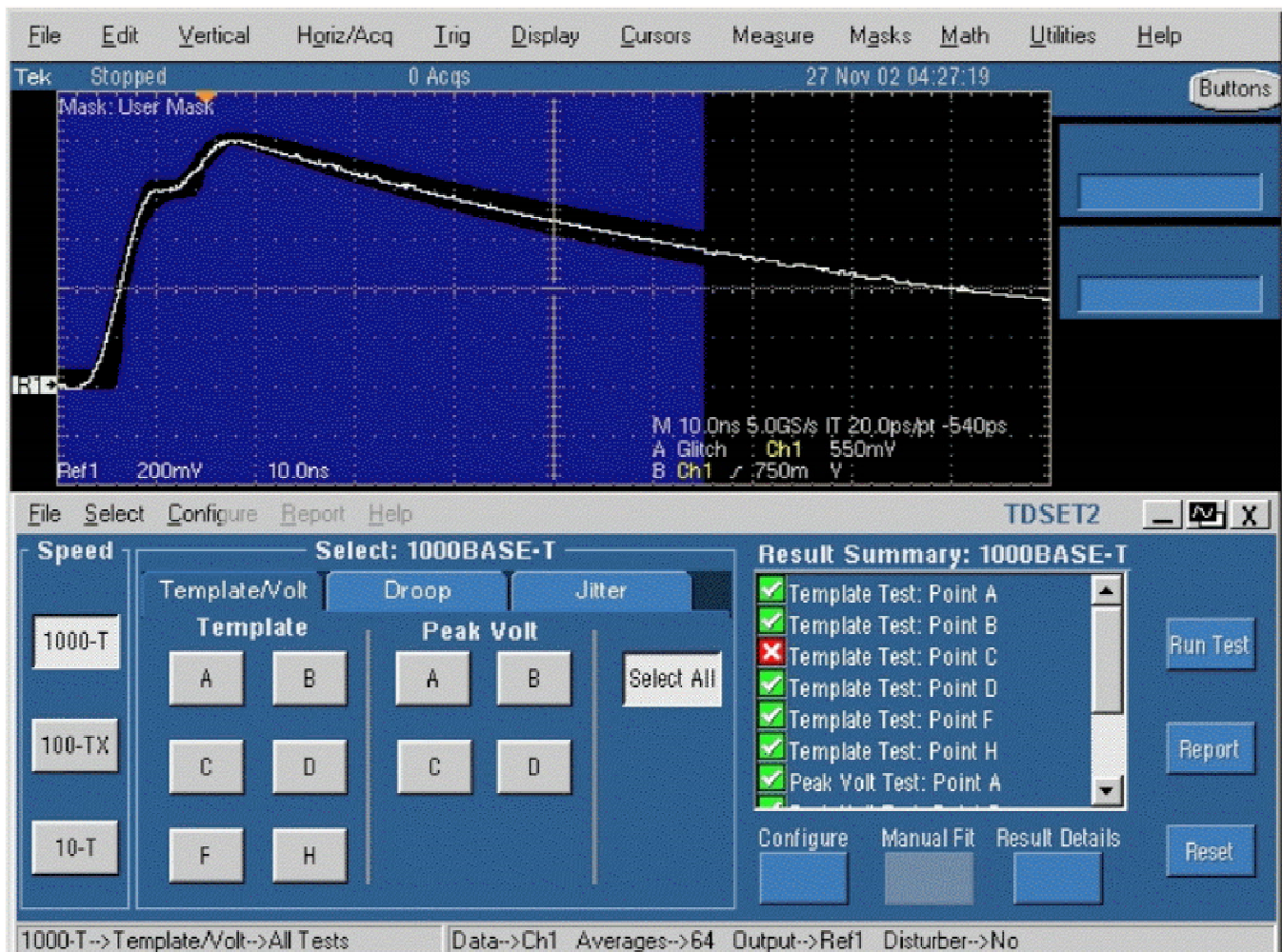   - ✓ Return Loss – all pairs; Calibration Circuits included

- **100BaseTX Tests Supported**

    - ✓ Template

    - ✓ Amplitude Domain – Output Voltage, Amplitude Symmetry, Overshoot

    - ✓ Time Domain – Rise Time, Fall Time, Rise/Fall Symmetry

    - ✓ Jitter Domain – Total Jitter, Duty Cycle Distortion

    - ✓ Common Mode Output Voltage

    - ✓ Return Loss – TX, RX; Calibration Circuits included

- **10BaseT Tests Supported**

  ✓ Link Pulse Template – with and without TPM; Loads 1, 2 and 100 Ohms

  ✓ TP_IDL Template – with and without TPM; Loads 1, 2 and 100 Ohms

  ✓ Mau Template – with TPM (Twisted Pair Model)

  ✓ Output Voltage Amplitude

  ✓ Harmonic of Ones or Zeros

  ✓ Jitter

  ✓ Common Mode Output Voltage

  ✓ Return Loss – TX, RX; Calibration Circuits included

Tektronix TDSET3 Ethernet Compliance Test Software

Screen shot of TDSET3 display following 1000BaseT Voltage Template test

Tektronix TDSET3 Software General Capabilities

• Wide range of tests for 1000/100/10BaseT enables complete validation to Standards

• Ingenious "Select All" feature ensures faster testing with improved reliability

• Automatic Pass/Fail notification delivers quick results

• Auto-fit process minimizes time for testing

• "Locate and Flash Hits" pinpoints mask hits in results display for efficient debug

• Automated jitter measurements eliminate human intervention for faster and more reliable measurements

• Sophisticated "one-button" report generator saves significant time by archiving test results

TF-GBE Test Fixture Ordering Summary

• TF-GBE-BTP – 1000/100/10BaseT Basic Test Package (includes PCB set and TF-GBE-SIC) (main PCB overall dimensions 6.85" x 5.2" (17,4 cm x 13,2 cm); Return Loss Calibration PCB dimensions 4" x 1.25" (10,2 cm x 3,2 cm))

• TF-GBE-ATP – 1000/100/10BaseT Advanced Test Package (includes TF-GBE-BTP and TF-GBE-JTC)

• TF-GBE-JTC – 103-meter 1000BaseT Jitter Test Channel cable (shipping weight 10 lbs (4,5 kg); dimensions 12" diameter x 5.75" height (30,5 cm x 14,6 cm))

• TF-GBE-SIC – short (4-inch (0,1-meter)) RJ45 interconnect cable

• The TF-GBE is a companion accessory for use with Tektronix DPO7000 and DPO/DSA70000 oscilloscopes and probes, and the TDSET3 Ethernet Compliance Software application. Proof of TDSET3 software purchase is required prior to TF-GBE order acceptance and delivery. For information on Tektronix TDSET3 Ethernet Compliance Software visit http://www.tek.com/site/ps/0,,61-16429-INTRO_EN,00.html

• Product pricing and availability provided upon request

Contact Crescent Heart Software

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• Crescent Heart Software, a Tektronix® Embedded Systems Tools Partner and a member of the Tektronix® Logic Analyzer Third Party Developer team, is head-quartered in Portland, Oregon USA

• Information presented herein is subject to change without notice (datasheet Revision G, May 2007)