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Comm Tool 1000

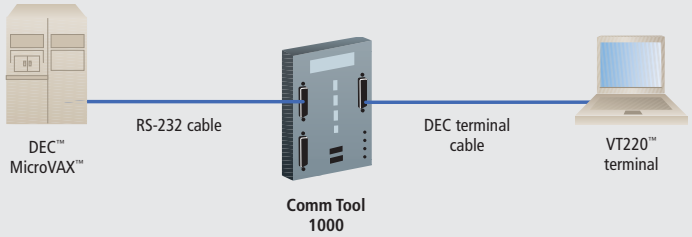
The complete, hand-held tester for RS-232 is many different test sets in one, for sync or async equipment.

FEATURES

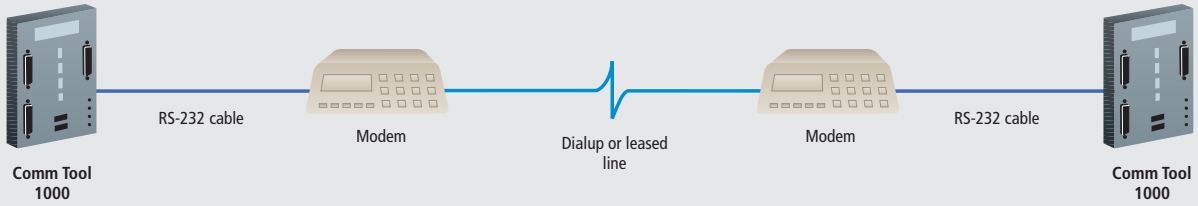
- Functions as a data monitor, displaying captured data on its LCD screen.
- Acts as a data trap (isolating portions of your data), a device exerciser, or a pulse-level voltmeter.
- Performs BERT/BLERT testing and all RS-232 breakout box functions.
- Sends and captures parallel data.
- Simulates other devices so that you don't have to attach them.

Use the Comm Tool 1000 to troubleshoot a variety of applications.

Host to Terminal



Modem to Modem



OVERVIEW

The compact, easy-to-carry Comm Tool 1000 can replace several other devices. It performs many different tests on your synchronous or asynchronous equipment. Use it to watch your data, test all affected serial or parallel interface signals, and find the problem fast.

With this unit, you don't have to guess what your data is doing, because you can see it in transit. The Comm Tool 1000 can perform data monitoring by capturing data and displaying it across its LCD screen.

You can narrow down the search field for an error condition by trapping data with the Comm Tool 1000 (isolating only those parts of the data that you want to see). The Comm Tool 1000 performs dual-line data trapping (that is, it looks for data in both directions).

Quickly analyze a mux or modem's performance. BERT and BLERT (bit- and block-error-rate tests) compare a data pattern received from a device to the device's normal data pattern.

Check printers' and peripherals' performance. The Comm Tool 1000 acts as a device exerciser: Send a data stream to a device and then analyze the device's output.

Resolve RS-232 or parallel cabling problems fast. When you use it as a breakout box, the Comm Tool 1000 can isolate faulty pins. When you use it as a cable tester, it can isolate breaks in continuity.

Test setup is easy with the Comm Tool 1000's smart menus to guide you. And you can permanently store the test setups and messages you use most in nonvolatile memory.

Versatile without being cumbersome, the Comm Tool 1000 comes in an attractive carrying case that has ample space for the unit's power supply, manual, and other accessories.

Using the Comm Tool 1000, you can detect numerous problems with your equipment. For example, suppose that some terminals stopped working with the host after you installed multiplexors. BERT and BLERT tests with the Comm Tool 1000 show no problems with the muxes, but when you break out RS-232 signals, you discover that some new mux-to-terminal cables are bad.

Or, maybe the printer on the third floor is "acting really weird." When you exercise it with the Comm Tool 1000, you don't see anything unusual. But by monitoring and trapping data, you discover that form feeds and other control codes are coming from somewhere. A few more tests reveal that a spooler is improperly configured.

TECH SPECS

Protocol — Asynchronous, basic synchronous, and SDLC
Code Sets — ASCII (7- or 8-bit), EBCDIC (8-bit), Baudot (5-bit), IPARS (6-bit), and Transcode (6-bit); translates to hex (5-, 6-, 7-, or 8-bit)
Data Format — 5, 6, 7, or 8 data bits; even, odd, mark, or space parity (mark or space not supported with 8 data bits); and 1, 1.5, or 2 stop bits; user-selectable
Flow Control — Hardware (leads user-selectable), software (X-ON/X-OFF, ACK/NAK, or user-defined), both, or none (user-selectable)
Speed — Async: 50 bps to 19.2 kbps;
Async serial: 50 bps to 38.4 kbps (user-selectable);
Bias-distortion test: 110 bps to 38.4 kbps (user-selectable);
Sync serial: 300 bps to 64 kbps or external clock (user-selectable);
Sync BERT: 300 bps to 56 kbps or external clock (user-selectable);
Parallel: Up to 15,000 cps transmit and receive
Maximum Distance — 50 ft. (15.2 m) to any attached RS-232 device, or 20 ft. (6.1 m) to any attached parallel device, using standard cables
Internal Memory — 2560 bytes of NVRAM divided into 16 variable-length buffers for storing user (test) messages; 4096 bytes of RAM for data trapping (separable into two 2048-byte buffers for dual-line trapping); additional NVRAM for storing test-setup configurations and test results
Diagnostics — Full self-test including ROM, RAM, interface, keypad, display, alarm, and voltmeter tests
Leads Supported — DB25: All; Centronics: 1 through 13 and 19 through 33 (STROBE; DATA 1 through DATA 8; ACK; BUSY; PAPER END; SELECT OUT; ground returns for the STROBE, DATA, ACK, BUSY, and PRIME leads; PRIME; FAULT; and GROUND respectively)
MTBF — 78,000 hours
User Controls — (9) Function keys; (1) ON/OFF rocker switch; (1) TRAP DISPLAY/ PRINT pushbutton; and (3) 8-position DIP switches and (1) 5-position DIP switch for connecting/ disconnecting leads
Enclosure — Molded ABS plastic
Interface — EIA RS-232 (DTE and DCE), Centronics parallel, Dataproducts parallel
Connectors —
Top-mounted: (2) DB25 female, (1) configured as DTE, (1) configured as DCE; (1) 36-pin Centronics female; (54) D-series male pins: (1) for each of the (25) broken-out leads on each of the the Comm Tool 1000's (2) DB25 connectors; (3) for forcing voltage; and (1) for pulse trap;
Side-mounted: (1) Barrel connector for AC adapter
Indicators — (100) LEDs: (1) red and (1) green for each line of the interface; (1) 2-row x 16-character LCD screen
Temperature Tolerance — Operating: 32 to 122°F (0 to 50°C);
Storage: -4 to +158°F (-20 to +70°C)
Humidity Tolerance — Up to 95%, noncondensing
Power — 9 VDC from either (3) alkaline 9-volt batteries (included) or desktop power supply (also included; 115-VAC/60-Hz or 230-VAC/50-Hz input, user-selectable)
Size — 3.4"H x 10.9"W x 6"D (8.6 x 27.7 x 15.2 cm)
Weight — 2.6 lb. (1.2 kg) including batteries

WHAT'S INCLUDED

- The Comm Tool 1000.
- Three alkaline 9-volt batteries.
- An AC adapter (power supply) with an input cord suitable for North American use.
- A 36-inch (91.4-cm), 25-conductor ribbon cable with a DB25 male connector on one end and DB25 male and female connectors on the other end.
- A 36-inch (91.4-cm), 36-conductor ribbon cable with a 36-pin Centronics male connector on one end and 36-pin Centronics male and female connectors on the other end.
- A test probe.
- Five individual and two multipoint jumper wires.
- A user's manual.
- A carrying case.

YOU MIGHT ALSO NEED

- Replacement batteries.
- RS-232 cable, to connect most devices (including the serial ports of IBM PC/XT™ compatible PCs) to the Comm Tool 1000.
- IBM AT serial modem cable, to connect your IBM AT compatible PC's serial port to the Comm Tool 1000.
- PC parallel-printer cable, to connect a PC's parallel port to the Comm Tool 1000.
- Centronics compatible cable, to connect the Comm Tool 1000 to a parallel printer.
- AC and data-line surge protectors.
- A country-specific input cord or adapter for the power supply, to operate the Comm Tool 1000 outside of North America.

Item	Code
Comm Tool 1000	**DT450A**

Technically Speaking

Here are just a few tests that you can perform with the Comm Tool 1000:

- Do complex sync polled devices' testing without having to attach them to a PC, mini, or mainframe host. The Comm Tool 1000 can simulate such hosts' presence.
- You can use the Comm Tool 1000 to identify voltage-level problems in your marginal RS-232 devices. The unit functions as a pulse-level voltmeter, identifying the voltage at which your device operates. (RS-232 devices usually operate at voltages ranging from +3 to +12 volts.)
- Other tests you can perform with the Comm Tool 1000 include:
  a) Verifying whether devices are DTE or DCE;
  b) Finding out an unidentified data stream's data format and data rate;
  c) Testing the serial and parallel channels' character-per-second throughput and how closely the measured throughput approaches the ideal;
  d) Measuring the mark/ space bias distortion induced by transmission channels;
  e) Timing events (measuring the delay between signal transitions).
- The Comm Tool 1000 supports a variety of communication protocols, including asynchronous, "basic" synchronous, and SDLC (Synchronous Data Link Control), an IBM host-to-terminal scheme. It also supports the Centronics parallel interface and (with the proper adapter cables) the Dataproducts® parallel interface as well.
- Besides those shown in the illustrations above, applications that the unit would function well in include:
  a) Monitoring SNA traffic to and from an IBM 3274 or similar computer;
  b) Polling/multidrop modem testing;
  c) Verifying the RS-232 output and control leads on an attached RS-232 device.