

COMTEST 100DLX



THE COMTEST 100DLX TESTS BOTH DB9 AND DB25 INTERFACES, HIGHER SPEEDS AND LOWER VOLTAGES. IT COMBINES THE ADVANTAGES OF A LINE AND BATTERY POWERED RS232 BREAKOUT BOX.

Easily carried around, the Comtest 100DLX is a time and trouble-saving tool for engineers, computer salesmen and those who install, repair and use RS-232 communication equipment. It was constructed by field service engineers and famous for its convenience in use and reliability. It can convert between DB9 and DB25 interfaces, necessary for those working with portable computers.

TECHNICAL INFORMATION:

- Two unassigned monitors/pulse traps, working up to 2.5 Mb.
- Signal Strength test function on one of the unassigned monitors.
- Breaks and redirects all 25 lines, 50 monitors (100 LEDs).
- Two +/- voltage sources, two 3 Kohm terminators.
- Cable and Ground Potential Difference test.
- Current Loop test (4,10,20 and 60 mA).
- Runs over 25 hours on one 9-volt battery.
- Two dual gender ribbon cables, four DB9/25 adapters.
- Comes complete with jumper cables, user's manual and box for carrying

The Comtest 100DLX (De LuXe) comes with features not found on any other RS232 BOB, apart from the basic breakout / line monitor part which works as a common 100 LED line powered BOB (no batteries needed), the active circuitry allows for testing what is not visible by the naked eye.

While many active circuits in competitors products manage speeds up to 150Kb (analog circuitry) the Comtest 100DLX works up to 2.5Mb. While others have a DVM (Digital Volt Meter) in the product, the Comtest 100DLX has an effective 5 level signal strength detection; the high-speed pulse traps increase the functionality of the results measured by the two unassigned monitors.

The in-line design makes the product easy to read out. The ultra bright monitors (using less than 1 mA at typical 6.6V signal strength) show well even with the lower voltages used in newer RS232 standards. The DB9/25 adapters allow the 100DLX to be used in all possible DB9/25 configurations.

The Ground Potential Difference test is especially important in systems where different grounds (wall outlets) are used, the 100DLX is able to monitor / trap differences as low as 0.3 volt. The Current Loop circuitry allows test of modems of current loop type (often used in RS232 environment). Two +/- 9 volt sources and two 3 Kohm terminations are provided.

Size of the main unit: 150 x 105 x 20 mm

Weight: 295 grams

Full technical information is provided on panels in case and on the back.

Ground Potential Difference: G.P.D. develops when systems are wrongly grounded or use different grounds. Using different wall outlets or UPS's this test is recommended. Read chapter "Topic 8, Table 1" in the user manual for more information.

To test G.P.D. open all dual in line switches. LED on #7 lights if G.P.D. is over 2 volt. For an accurate test connect the 500mV input of the upper unassigned monitor to the test socket #7. The pulse trap traps short duration pulses.

Signal Strength Monitor: This product is built to comply with the norms for RS232V. 25, the "line" monitors test signal level according to the specifications. A normal signal level is > 5 volt, low signal levels are due to extremely long cables, more than one receiver (or term.) installed, bad connectors, bad line driver, "hot" lines, etc...

RS232 Cable test: Open all 25 dual in line switches. Connect one of the source voltages to the "Cable QND" test socket. A green LED on position #7 lights if D.C. connection is present. A red LED on #7 lights when this connection is missing. Run the jumper cables through positions 1-4 and 6-25 to find out the connections, run through 1-4 and 6-25 on the other side as well. Jumper on this other connector can be made without being connected through the cable.

Current Loop test: This current loop circuitry allows to test Short Haul Modems often used to increase the distances of RS232 communication. It tests 470/20 or 80mA bit rate capacity (max. current 80mA).

CCITT	EIA	PIN	DESCRIPTION	DTE-DCE
10N	AA	1	FRAME GROUND	↔
10C	AB	7	SIGNAL GROUND	↔
10B	BA	2	TRANSMITTED DATA	↔
10M	BP	3	RECEIVED DATA	↔
10G	CA	4	REQUEST TO SEND	↔
10E	CB	6	CLEAR TO SEND	↔
10F	CC	8	DATA SET READY	↔
10B.1	CD	20	CONNECT DATA SET ID LINE	↔
10B.2	CE	20	DATA TERMINAL READY	↔
10P	CF	8	DATA CARRIER DETECT	↔
111	CH	20	DATA RATE SELECT	↔
113	EA	24	TRANSMITTER CLOCK	↔
114	EB	18	TRANSMITTER CLOCK	↔
115	ED	17	RECEIVER CLOCK	↔
116	EE	14	TRANSMITTED DATA CH 2	↔
11P	EB	18	RECEIVED DATA CH 2	↔
12C	SCA	19	REQUEST TO SEND CH 2	↔
121	SCB	13	CLEAR TO SEND CH 2	↔
122	SCF	12	DATA CARRIER DETECT CH 2	↔
126	GE	23	CALLING INDICATOR	↔
14C	...	21	REMOTE LOOPBACK	↔
144	...	18	LOCAL LOOPBACK	↔
143	...	25	TEST INDICATOR	↔
...	...	9	POSITIVE TEST VOLTAGE	↔
...	...	10	NEGATIVE TEST VOLTAGE	↔

Panel in the case

Power:
25 hours by one single 9 volt alkaline battery. Power LED is off or blinking when the battery is more than 90% empty.

In line monitors:
The "in line monitors" are line powered and use less than 1mA/monitor with a typical 6.6 volt signal level. They show signal strength. They light weakly at 3 volt level, and powerfully at normal signal power. Use the unassigned monitors to test signal strength if level is doubtful.

Unassigned Monitor:
The unassigned monitors are battery powered and switch at defined signal level. The unassigned circuitry works at speeds up to 2.5Mb. The impedance of the unassigned monitors is 7K.ohm/volt (20K.ohm for 0.5 volt input selection).

Pulse Trap:
The pulse trap works in conjunction with the unassigned monitors, keeping the same threshold. It catches pulses as short as 30ns. The pulse trap is reset by the reset push button.

Source voltage:
Plus/minus 7-9 volt, depending on battery power. Each output is individually current protected by a serial resistor of 330 Ohm.

Termination:
Two terminations of 5K.ohm (to signal ground) are at hand.

DB 25/9 pole adapters:
Four adapters are supplied in the package, they can be used directly on the main unit or on the end of the dual gender ribbon cables. The DB 9P table to the left on the breakout panel explains the 9 to 25 pole conversion.

Notes:
Switch #7 should be closed in normal use. DO NOT SWITCH the unit ON for example interface check. SWITCH ON only for cable test or to use the source voltage and unassigned monitors.

100DLX Back Panel

The Comtest 100DLX comes complete with two dual gender cables, 4 DB25/9 adapters, jumper cables, 9 volt battery, user's manual and case for carrying.

For further information, please contact :