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## TBOS Tester™ D-Connector Cable Set

### *Overview* .....

One of the benefits TBOS Tester™ strives to deliver is completeness, that is, a package that provides everything needed (other than the computer itself) to test and monitor TBOS serial telemetry systems. Although this objective is met in most cases, the lack of a standard for the 4-wire serial telemetry physical interface presents a challenge. The TBOS Tester™ converter employs a four position screw-terminal block rather than a connector for this reason. A degree of convenience is sacrificed to preserve for the user as much flexibility as possible in adapting to the requirements of any particular situation.

The 4-wire cable historically furnished with TBOS Tester™ is designed for use with network elements that employ a wire-wrap pin physical interface. Although adequate for a majority of applications, the increasing use of D-connectors by equipment manufacturers to provide a serial telemetry interface has complicated matters. The TBOS signals are far less accessible, and pin assignments vary between manufacturers (and even between equipment models from the same manufacturer).

Gathering the components necessary to use TBOS Tester™ effectively in these cases is potentially a time-consuming task. To address this situation TSA has developed a D-connector cable set for use with TBOS Tester™. It enables the user to interface with equipment using DB9 or DB25 connectors regardless of gender, to perform monitor mode or active tests, and to adapt to differing pin assignments.

### *D-connector cable set elements* .....

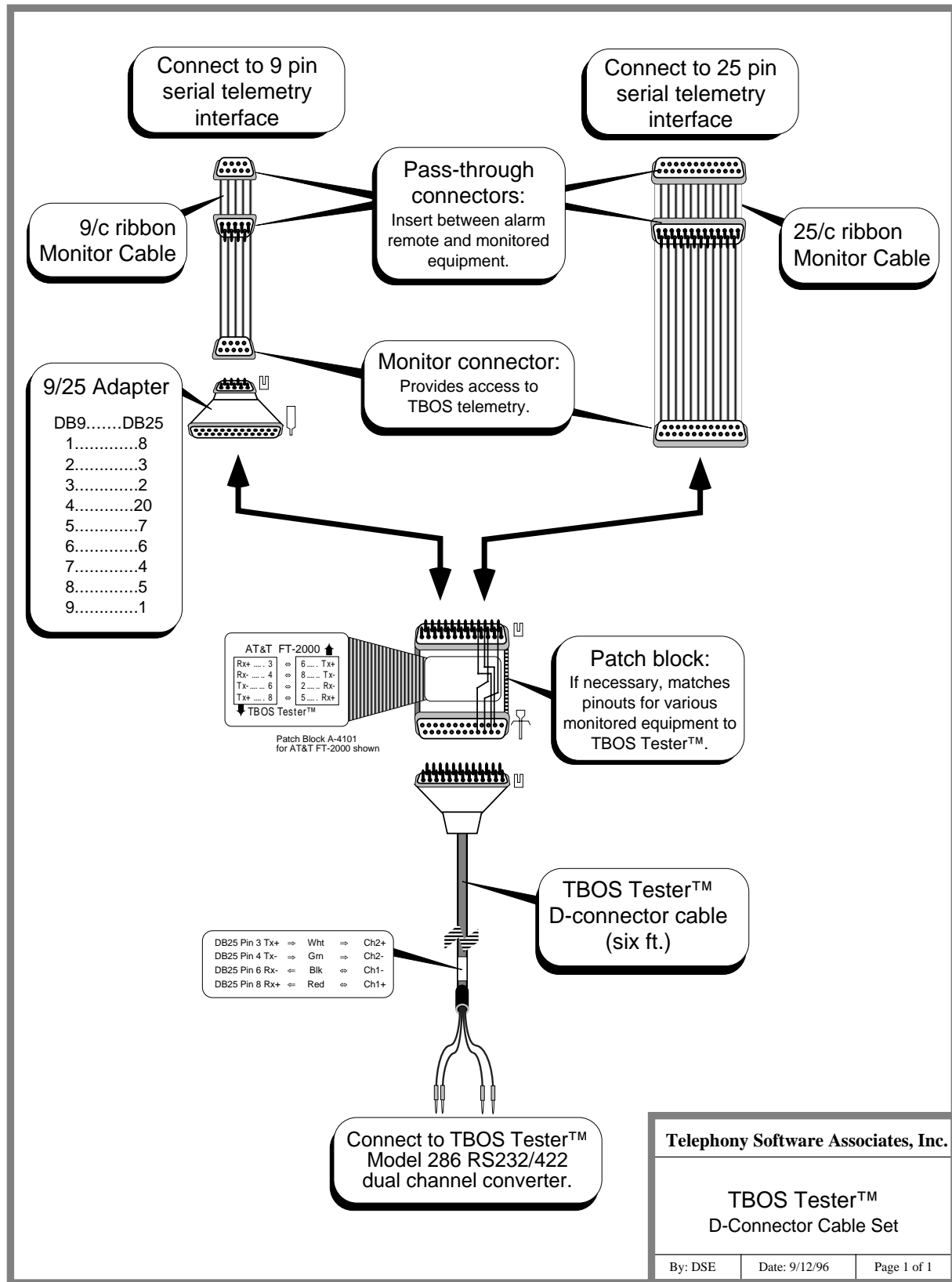
As shown in the accompanying figure, the cable set consists of a variety of components, including:

- one 9-pin ribbon monitor cable;
- one 25-pin ribbon monitor cable;
- one 9-25 pin adapter;
- one D-connector cable;
- one user configurable patch block;
- (optional) one or more pre-configured patch blocks;
- (optional) one 15-pin ribbon monitor cable;

### *Monitor cable* .....

Select the 9-pin or 25-pin monitor cable based on the type of D-connector the NE under test employs for its serial telemetry interface. For monitor mode tests, break the existing connection between the monitored equipment and the alarm remote and insert the monitor cable in line, using the pair of pass-through connectors closely spaced at one end of the monitor cable. The remaining connector on the monitor cable provides access to the TBOS telemetry.

For active tests (Display, Command and Respond Modes) only one of the pass-through connectors is used. If the NE under test uses a DB25F connector the monitor cable can be dispensed with, as the D-connector cable or patch block (discussed later) can be plugged directly into the NE.



**9/25 Adapter** .....

When the 9-pin monitor cable is employed a 9-to-25 pin adapter is needed to interface with the TBOS Tester™ D-connector cable or patch block (discussed next), which are 25 pin devices. Place the 9-to-25 pin adapter on the monitor connector (the free end) of the 9-pin monitor cable.

**D-connector cable** .....

This is a four-conductor cable with discrete pins on one end for connection to the TBOS Tester™ converter, and a DB25M connector on the other. Standard pin assignments have been adopted for TBOS Tester™ that are appropriate for a number of popular NEs. If the equipment under test uses the pin assignments indicated in Table One, connect the D-connector cable to the TBOS Tester™ converter following the color code shown.

**Table One:  
TBOS Tester™ D-connector pin, color code and signal assignments**

TBOS Tester™ Converter Connection	Cable Lead Color	DB25 Pin Number	DB9 Pin Number	NE TBOS Signal
Ch1+ (Tx+)	Red	8	1	Rx+
Ch1- (Tx-)	Blk	6	6	Rx-
Ch2- (Rx-)	Grn	4	7	Tx-
Ch2+ (Rx+)	Wht	3	2	Tx+

**Patch blocks** .....

Because there is no standard for the TBOS physical interface the pins used and their signals will differ among manufacturers and models of equipment. To compensate for this condition a patch block can be used in line between the TBOS Tester™ monitor cable and D-connector cable. This is a simple four-wire cross-connect adapter that remaps the telemetry leads for a particular make and model of monitored equipment to the standard arrangement adopted for TBOS Tester™.

A DB25 break-out box would provide a universal solution but requires manual configuration. A more reliable solution is to build a set of patch blocks that adapt each piece of equipment the user will be testing. This removes the guesswork from setting up the cable connections (once the appropriate cabling has been determined the first time). TSA is developing an ever-growing selection of preconfigured patch blocks and will provide the appropriate ones on request.

**Table Two: Preconfigured patch blocks**

Network Element	Patch Block
AT&T FT-2000	A4101
Nortel OC12/OC48 Port 1	A4102
Nortel OC12 Port 2/OC48 Port 3	A4103
Nortel OC48 Port 2	A4104
Nortel OC48 Port 4	A4105
Nortel DFMS 70-25	A4106
AI switch	A4107
AI Switch- monitored NE	A4108

**User configurable patch block (A-4100)** .....

In addition, each D-connector cable set includes one user configurable patch block. This is a standard RS-232 test box (also available from Radio Shack, etc.) easily adapted to a particular pin arrangement by soldering four jumper wires to an internal pc board. The label contains space for the pin assignments and NE type to be noted.

**Help** .....

If you need a different patch block, have questions, comments or suggestions about the TBOS Tester™ D-connector set or any other aspect of TBOS Tester™ operation please contact Telephony Software Associates, Inc. on (919) 553-TBOS (553-8267). Our fax is 919-553-9095, and e-mail can be sent to tsa@aol.com.

**Table Three: D-Connector Pin Cross-reference**

DB25	DB15	DB9	DB25	DB15	DB9
1	1	9	14	9	x
2	2	3	15	10	x
<b>3</b>	<b>3</b>	<b>2</b>	16	11	x
<b>4</b>	<b>4</b>	<b>7</b>	17	12	x
5	5	8	18	13	x
<b>6</b>	<b>6</b>	<b>6</b>	19	14	x
7	7	5	20	15	4
<b>8</b>	<b>8</b>	<b>1</b>	21	x	x
9	x	x	22	x	x
10	x	x	23	x	x
11	x	x	24	x	x
12	x	x	25	x	x
13	x	x			