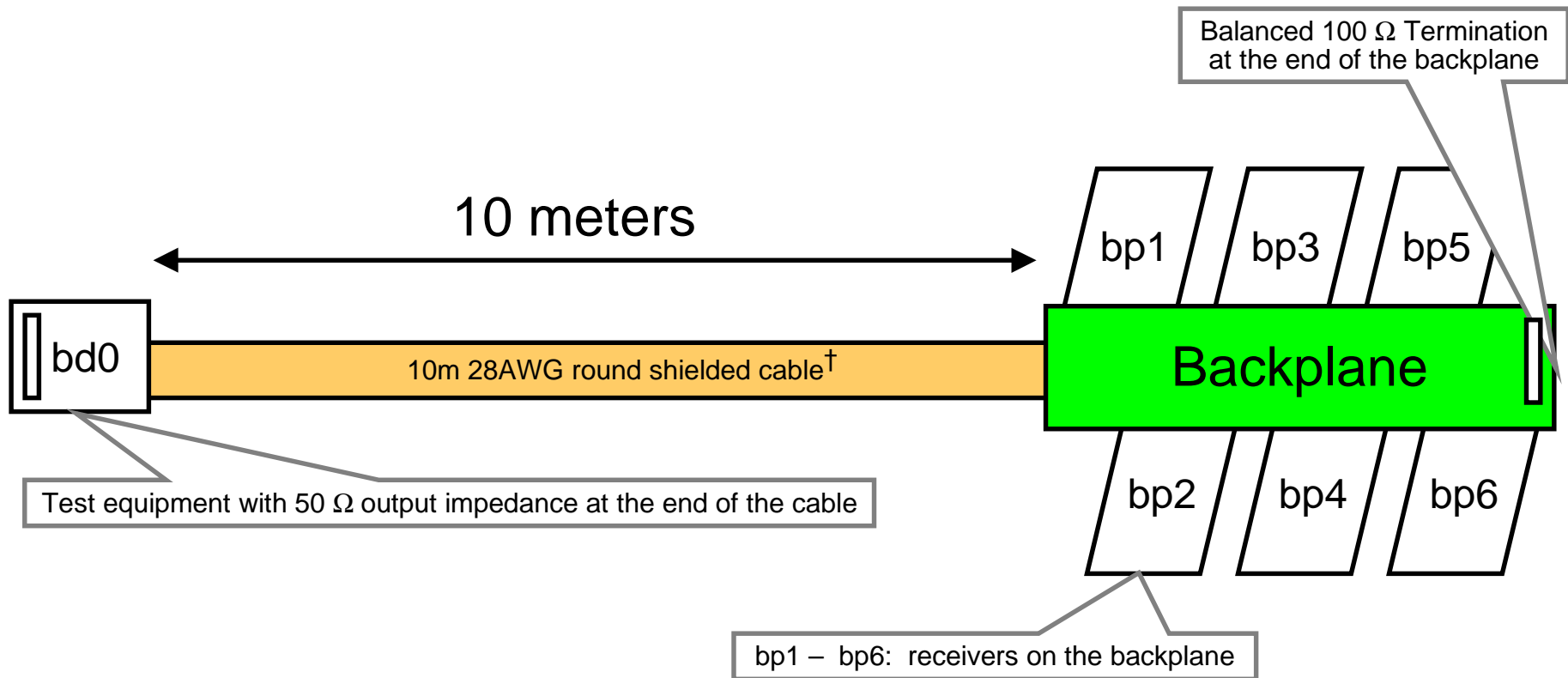**Quantum™**

Quantum Ultra320 SCSI Test Configurations

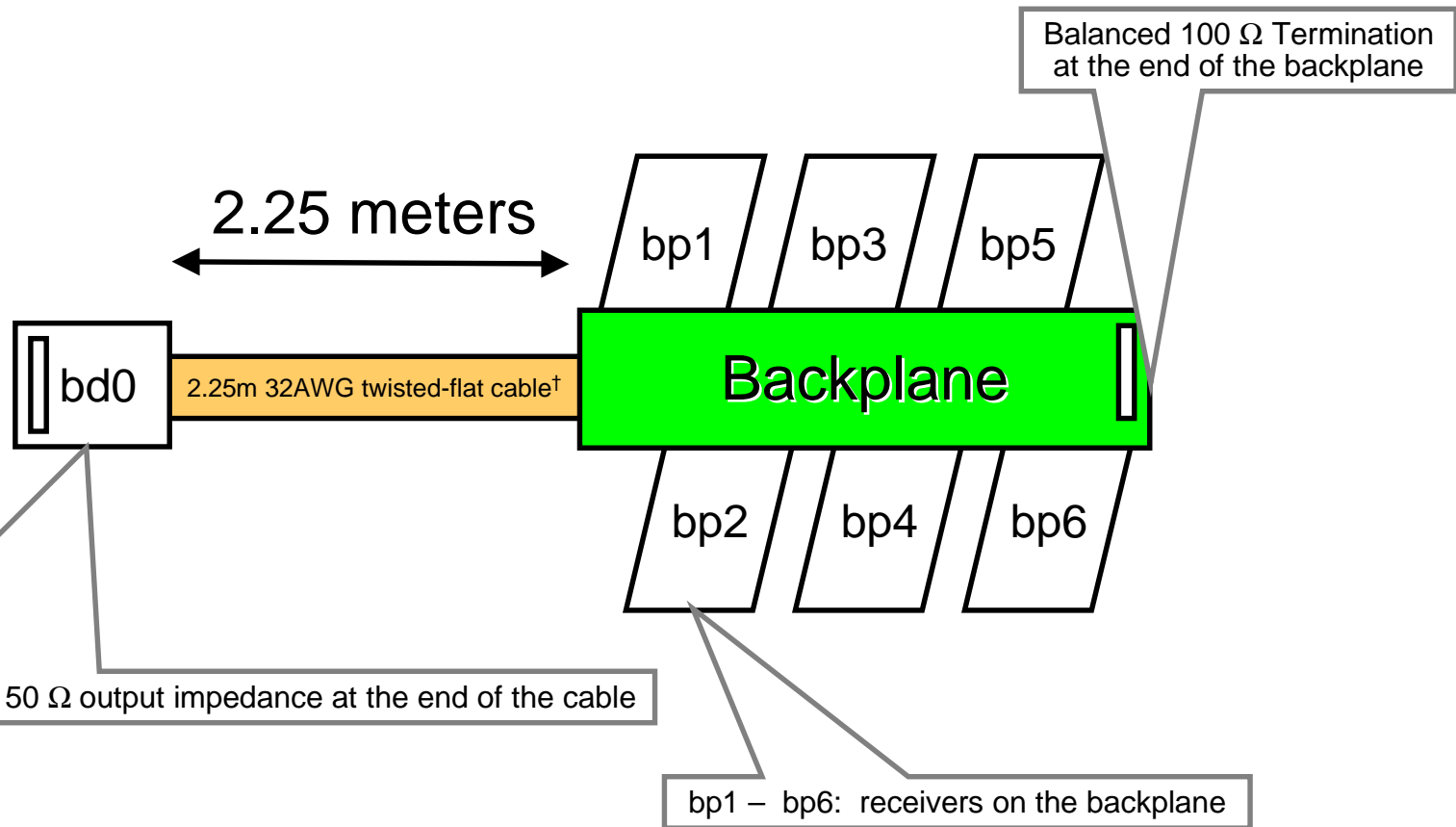Mark Evans

Quantum Corporation

24 April 2000

- The following slides are a compilation of the pictorial representations and the schematic for the configurations used by Quantum to test solutions for Ultra320 as presented in several T10 documents.

- These are provided so that others may duplicate the testing performed by Quantum to validate Quantum's testing and to insure correlation of other test data presented to T10.

- The system components used for this testing were selected because they were available or made available by their manufacturers or their representatives and are considered to be representative of commonly available parallel SCSI components. The selection of these components is not meant to imply an endorsement of those components by Quantum.

- Additional information about the test set-ups for these configurations may be found in T10/00-214r0.doc.

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- 10 meter cable assembly using Madison 28AWG round shielded cable†, plus a fully populated 6-slot backplane

Balanced 100 Ω Termination at the end of the backplane

10 meters

bp1   bp3   bp5

bd0   10m 28AWG round shielded cable†   Backplane

bp2   bp4   bp6

Test equipment with 50 Ω output impedance at the end of the cable
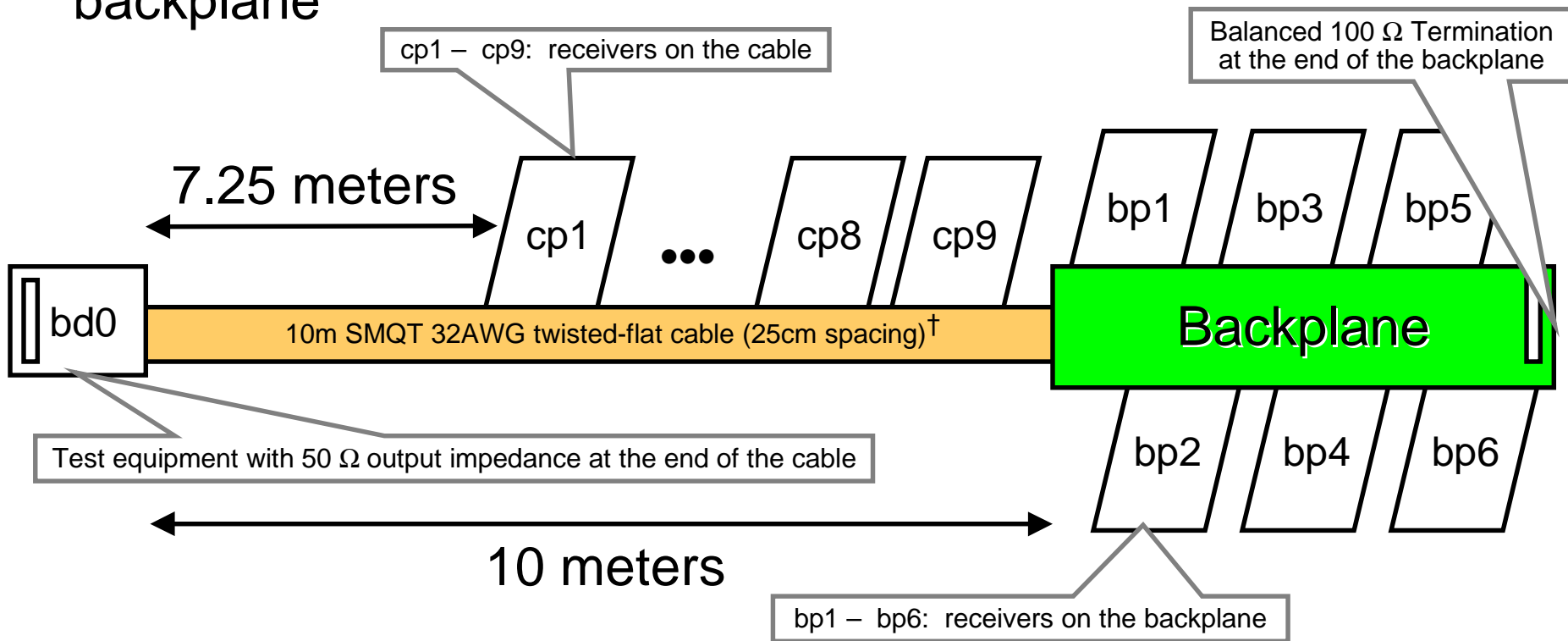
bp1 – bp6: receivers on the backplane

†Supplied by Amphenol Interconnect

- 2.25 meter cable assembly using Hitachi 32AWG twisted-flat cable[†], plus a fully populated 6-slot backplane

Balanced 100 Ω Termination at the end of the backplane

2.25 meters

bp1 bp3 bp5

bd0

2.25m 32AWG twisted-flat cable[†]

Backplane

bp2 bp4 bp6

Test equipment with 50 Ω output impedance at the end of the cable

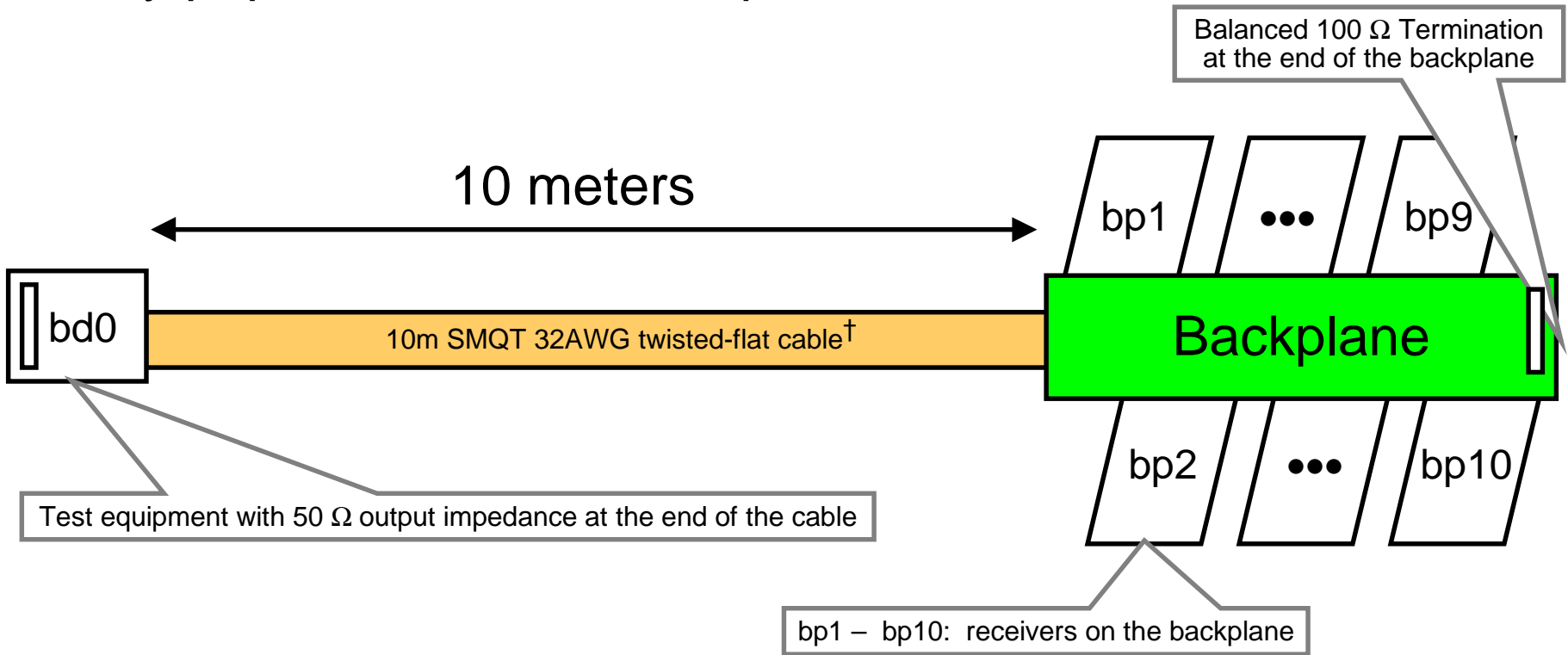bp1 – bp6: receivers on the backplane

[†]Supplied by Hitachi & Circuit Assembly

Quantum™

- 10 meter cable assembly using Hitachi 32AWG twisted-flat ribbon cable† with 9 loads at 25 cm spacing beginning at 7.25 meters from the driver, plus a fully populated 6-slot backplane

cp1 – cp9: receivers on the cable

Balanced 100 Ω Termination at the end of the backplane

7.25 meters

cp1 ••• cp8 cp9 bp1 bp3 bp5

bd0

10m SMQT 32AWG twisted-flat cable (25cm spacing)†

Backplane

Test equipment with 50 Ω output impedance at the end of the cable

bp2 bp4 bp6

10 meters

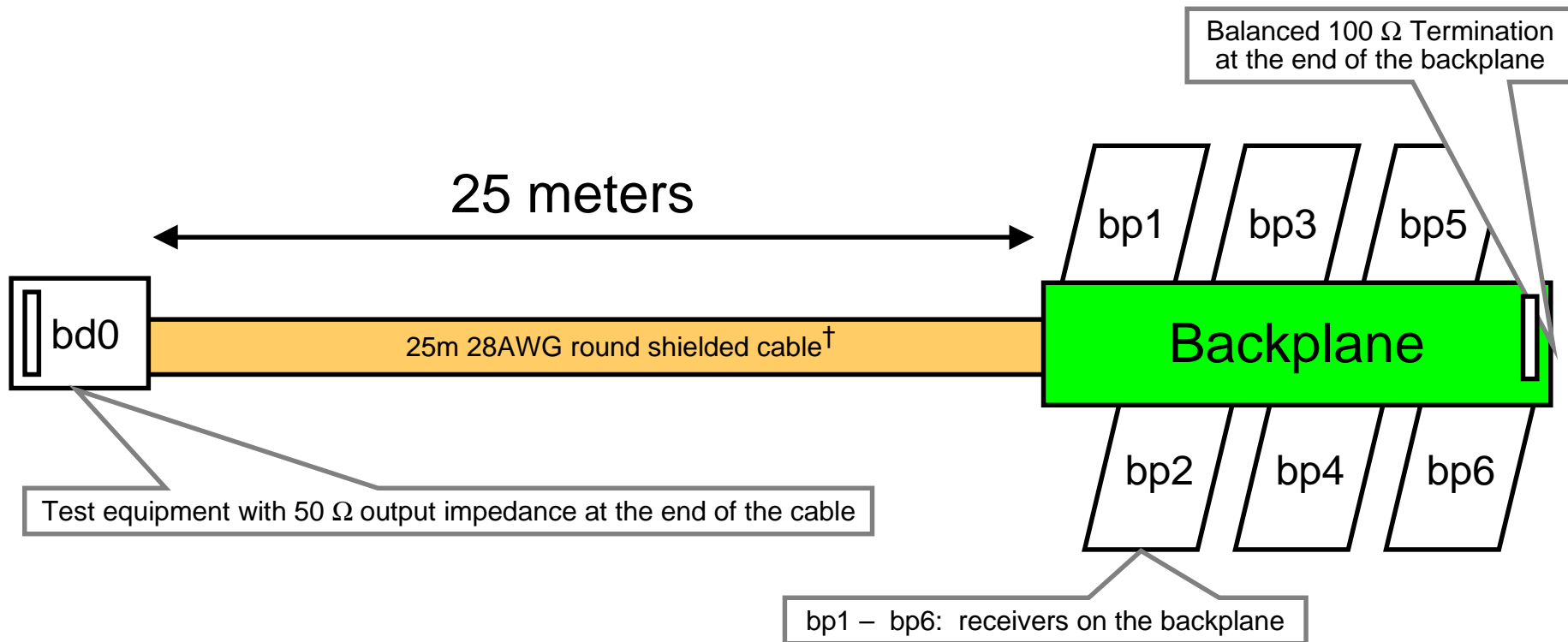bp1 – bp6: receivers on the backplane

†Supplied by Hitachi & Circuit Assembly

Quantum™

- 10 meter cable assembly using Hitachi 32AWG twisted-flat ribbon cable[†] with 9 connectors (no receivers installed) with 25 cm spacing beginning 7.25 meters from the driver, plus a fully populated 10-slot backplane

Balanced 100 Ω Termination at the end of the backplane

10 meters

bp1   •••   bp9

bd0

10m SMQT 32AWG twisted-flat cable[†]

Backplane

bp2   •••   bp10

Test equipment with 50 Ω output impedance at the end of the cable
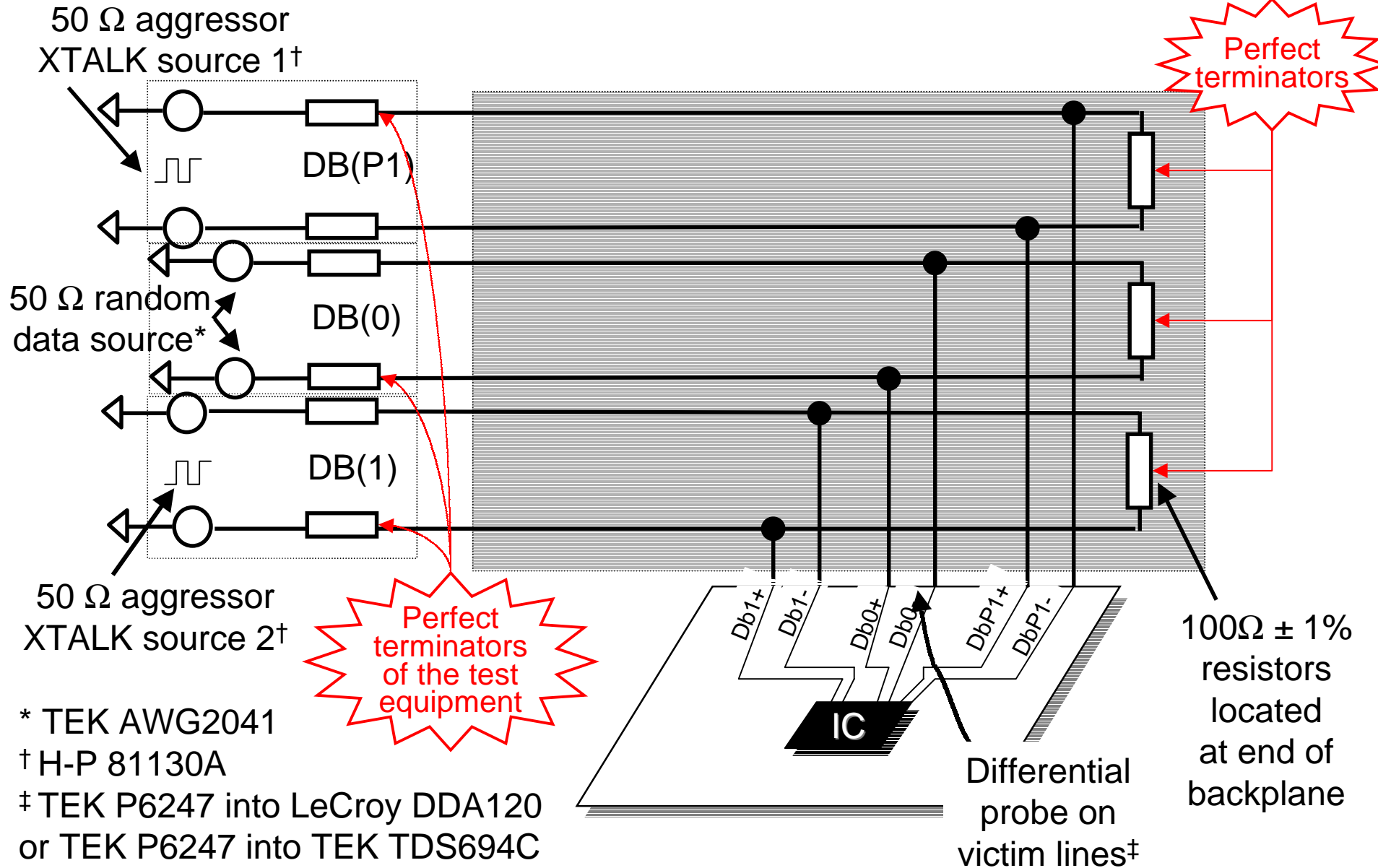
bp1 – bp10: receivers on the backplane

[†]Supplied by Amphenol Interconnect

- This configuration was used for testing at both Ultra320 and Ultra640 data transfer rates
- 25 meter cable assembly using Madison 28AWG round shielded cable†, plus a fully populated 6-slot backplane

Balanced 100 Ω Termination at the end of the backplane

25 meters

bp1   bp3   bp5

bd0

25m 28AWG round shielded cable†

Backplane

bp2   bp4   bp6

Test equipment with 50 Ω output impedance at the end of the cable

bp1 – bp6: receivers on the backplane

†Supplied by Amphenol Interconnect

50 Ω aggressor XTALK source 1†

Perfect terminators

DB(P1)

50 Ω random data source*

DB(0)

DB(1)

50 Ω aggressor XTALK source 2†

Perfect terminators of the test equipment

Db1+ Db1- Db0+ Db0- DbP1+ DbP1-

IC

Differential probe on victim lines‡

100Ω ± 1% resistors located at end of backplane

* TEK AWG2041
† H-P 81130A
‡ TEK P6247 into LeCroy DDA120
or TEK P6247 into TEK TDS694C