

Backpanel Test System

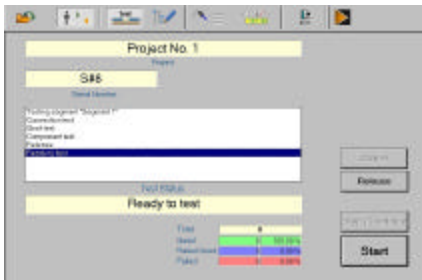
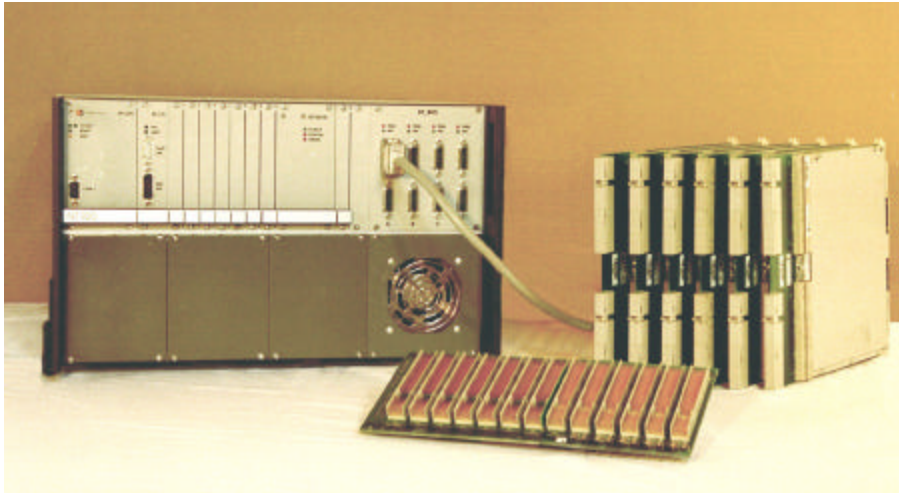
NT 910, NT 920

Innovative Test Technology

With advanced features and a modular system design, the NT 910 and NT 920 test systems are ideally suited for high technology testing applications. Reasonably priced, they provide the best solution for the testing of assembled backpanels.

Integrated in the compact housing are the intelligent test unit and drivers for up to 128 Direct Test modules.

A separate PC drives the test box via an Ethernet interface. A front-end PC provides the user interface and is responsible for test program editing, data handling and data storage.



Direct Test

We define **Direct Test** as the testing of backpanels without wired adapters, through the use of daisy-chained test electronics. To contact the unit under test, Direct Test modules are plugged directly into it. Time consuming and expensive wired adapters are therefore things of the past.

Direct Test modules contain driver hardware and test point electronics in extremely high-density packaging. This means that very dense and high pin-count connectors on all slots of a backpanel can be contacted simultaneously.

The carrier boards for the driver and test electronics can be designed to suit various rack sizes and can therefore vary in height,

depth and connector type. This allows the testing of rack-mounted backpanels, using the original slots of a rack, without any changes to the unit under test.

Levers and handles are used to manually connect and disconnect the test modules.

Powerful measurement electronics for continuity, insulation and component test guarantee reliable test results and accurate error messages.

Highly Flexible Test

A daisy chain cable connects the test modules to each other. The test point interface connectors to the unit under test are mounted on a carrier board or on a transfer board. These boards are exchangeable wear parts that also provide for fast and simple setup changes.

The availability of different test module designs and concepts, configurable as a mix in one system, provides customized solutions for many different applications.

Setup changes, retooling and test system upgrades are easy to handle and quickly accomplished.

Additional standard test electronics can be added in separate test point units.

Programmable Parameters

The insulation test voltage and its resistance threshold are programmable just as the continuity threshold. This results in optimum adjustment to test specifications. The component test for mounted components is standard in the system. Resistors, diodes, zener diodes, LEDs and capacitors can all be tested.

Test Data

The NT Control software, running in the Windows® environment, allows test program generation either by self-learning or by use of the integrated Test Program Editor.

Optional software is available to convert CAD data into test programs.

NT Control User Interface

Running under Windows® 9x/NT, NT Control guarantees user-friendly and efficient operation of the test system.

Extensive fault display, as well as statistical data management, provides new capabilities and optimum performance in testing procedures.

Technical Data NT 910, NT 920

1. Testbox

Test points

Up to 128,000 test points

- Direct Test Modules
- Additional standard test electronics (Interface 64-pol. DIN41612, female connectors) in separate test point units

Low voltage test

- Test voltage: NT 910 0.20 VDC - 40 VDC
NT 920 0.25 VDC - 250 VDC
- Test current: max. 10 mA DC
- Threshold for continuity test: 1 Ω - 1 k Ω , \pm 2 %, min. 1 Ω
- Threshold for short circuit test: NT 910 20 k Ω - 10 M Ω , \pm 2 %
10 M Ω - 100 M Ω , \pm 25 %
NT 920 20 k Ω - 10 M Ω , \pm 2 %
10 M Ω - 100 M Ω , \pm 10 %

Component test

- Resistors: 1 Ω - 10 M Ω , \pm 2 %, min. 1 Ω
10 M Ω - 100 M Ω , \pm 10 %
- Capacitors: 500 pF - 20 mF, \pm 5 %, min. 100 pF
- Diodes: forward voltage: < 1.0 V
reverse voltage: NT 910 max. 40 V
NT 920 max. 250 V
- Zener diodes: forward voltage: < 3.0 V
zener voltage: NT 910 max. 35 V
NT 920 max. 200 V
 \pm 10 %
- LEDs: forward voltage: < 4.0 V
reverse voltage: NT 910 max. 40 V
NT 920 max. 250 V

Environmental conditions

- Temperature range: Operation: + 10 °C to + 40 °C
Storage: + 10 °C to + 60 °C
- Rel. humidity: Operation: 30 % - 70 %, non-condensing

Power supply

100 - 240 VAC, 50 Hz - 60 Hz, auto-ranging

Dimensions

485 x 280 x 485 mm (W x H x D)

Direct Test Modules

- Several types for connection to high pin count board connectors without the need for adapter cables
- Expandable from 256 up to 1000 test points, customized variations
- One cable connects the test box to the DT modules
- Maximum test voltage 250 VDC
- Data communication via CAN network
- Upgradeable to automated insertion/withdrawal
- Adaption of the test point interface to the connectors of the unit under test by customized carrier and/or transfer board

2. NT Control and PC System

Operating environment

- Front-end PC System with NT Control software
- Clearly laid out user interface
- Extensive graphic fault display

Programming

- Self learn from known-good sample
- Manual programming under NT Control
- CAD download (option)
- Backwards compatible to existing test programs in ATX format

Special features

- Clear test procedures
- Programmable test procedures for special requirements
- Segmentation of test runs into individual steps for switch position tests or different parameters
- Storage of test results for statistical purposes and for repair station handling
- Test point naming in several variations
- Test point identification via test probe
- Self diagnostics for measurement and test electronics

Printing

- Detailed printouts of test results on all Windows® supported printers
- Label printing

Recommended PC System

- Pentium 166 or higher
- 32 MB RAM
- CD-ROM drive
- Monitor 15", optional touch screen
- Keyboard, mouse (for programming mode)
- 2 serial interfaces
- Windows® 9x/NT
- Ethernet interface (10BaseT)

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Quality Management System
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