BiLT System

- ✔ *2 chassis sizes: 19” or half 19”*
- ✔ *from 250W to 1000W output power*
- ✔ *Ethernet, USB ports*
- ✔ *Broad range of application modules available*
- ✔ *Free PC control software & NI Labview™ drivers*
- ✔ *Advanced PC software for Burn-In & Life-Test*

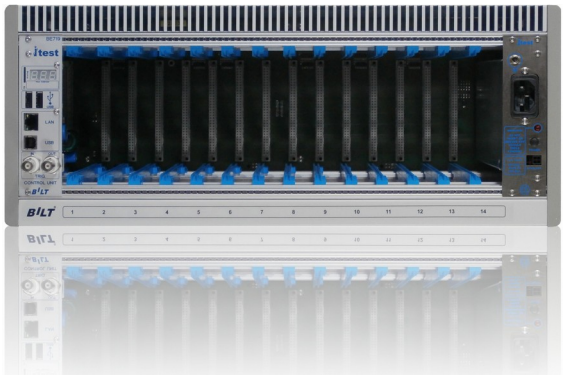
Chassis models

3 modular chassis models are available. They are all self-ventilated, fully shielded to the earth (including module's front panels) and share a common interface control board. The cooling air flow needs both front and rear clearance and complies with stacking. Slots unused by the customer are covered by blanking plates.

BiLT (13 or 14 slots)

- 19 inch wide, 4U high, 365mm deep rackable chassis
- Reference BN210 (500W, 14 slots) or BN220 (1000W, 13 slots)
- MTBF > 300k hours
- Fixing and handling with front rack brackets + handles

Rear side:



Front side:

Micro BiLT (5 slots)

- Half 19 inch wide, 4U high, 250mm deep
- Reference BN203
- 250W output power
- MTBF > 300k hours
- Convenient for desktop use: modules on the front side
- Handles (brackets in option)

Front side:

Many application modules available: power supplies, RF sources, voltmeters, connector testing and so on...

BiLT System specifications

Power

• Input rating: 85-264Vac 47/65Hz
• Line connector: C14 inlet (IEC 60320)
• Supplementary earth connector: 4mm banana socket (BiLT only)
• Output power for each chassis model:

Reference	Slots for modules	Output power	Enhanced Replacement for
BN210	14	500W	BN110, BN100-73
BN220	13	1000W	BN120, BN100-74
BN203	5	250W	BN103

Control Board

• All chassis models come with a common control board, performing real time local control of the modules and offering the following VISA-compatible interface:
  - Ethernet 10/100Mbit/s, full duplex
  - USB 2.0 (Type B)
  - 2 x USB 2.0 host (Type A)
• Standard SCPI protocol or Modbus-TCP
• NI Labview™ drivers
• Control library for EPICS and TANGO
• Compatible with Python
• Internal LUA interpreter
• Ability to control external USB devices
• BNC input/output for triggering functions
• On-board Real Time Clock (RTC)
• On-board memory (µSD card)
• Display showing the IP address

BiLT Operating System

BiLT is a modular system which can be populated with many various modules.

It allows the operator to use virtual groups of modules:
• Unlimited possibility of splitting both the inserted modules and their channels (if any) according to the number of independent virtual groups required for the application
• Each defined virtual group will act as a fully independent multi-channel instrument, regardless of the events occurring within the other ones.

A virtual group offers many features:
• Synchronized start/stop of the modules inside the virtual group using independent start and stop delays
• User programmable threshold monitoring on any parameter of any source allows automatics safe stops
• Parameter memorization and plotting (voltage, current, temperature, frequency…) thanks to the onboard memory
• History log containing each dated event (start, faults...)
• Cycling
• Software and hardware triggering features

Triggering functions

• Hardware trigger: BNC input on the control board front panel enables:
  - ON/OFF control of modules or virtual groups of modules
  - Simultaneous setting update of compatible modules
• Software trigger: same function as hardware trigger

Hardware Control and Status LEDs

• ON/OFF switch to power the chassis (state is resumed in case of power outage)
• 2 configurable push-buttons (BiLT only)
• Interlock input, normally closed to enable module start
• Internal safety breaker: automatic powering off in case of internal fault (short-circuit, overheating, overload)
• 5 status LEDs: Chassis Power, Output, Alarm, Error, Talk, Listen

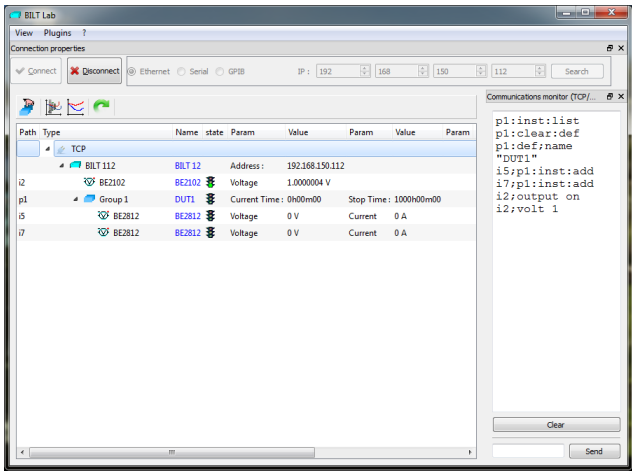
Control Software

Operation is autonomous at a BiLT chassis level, as the PC is only a command and display interface. Any PC malfunction has no consequence with the operation of the chassis, including memorization functions.

BiLT Lab

Bilt Lab is a free Windows PC software that provides a graphical interface to manage one or several BILT chassis. Bilt Lab is a turnkey solution for starting and monitoring Bilt chassis and modules.

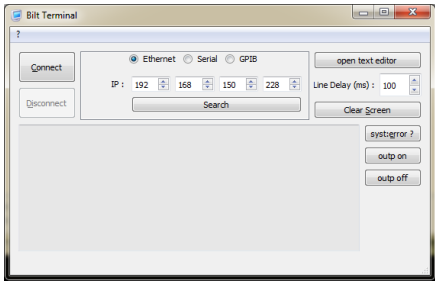
Key features:
• Fast and easy connection via Ethernet or USB
• Real time view of the entire BILT configuration in a single display, including modules, virtual groups, measurements and memories
• Fast and intuitive BILT structure management
• Standardized control windows to drive modules and virtual groups
• Integrated communication monitor and terminal
• Customizable and persistent interface arrangement



BiLT System specifications

BiLT Terminal

A terminal under Windows that provides an easy way to communicate with a BILT chassis using SCPI commands. Bilt Terminal is a helpful tool for maintenance:
• Allows to open, edit, save and send complete text files.
• Editable push buttons to send frequently used commands



Easystress II

EasyStress II is a PC software able to control one or a network of BiLT chassis, for instance for the purpose of performing electronic component testing (e.g. Burn-In / Life-Test). From defining stress conditions up to results presentation, EasyStress II provides the operator with tools for successfully accomplishing each step of the test.

Key features:
• Defining and managing several devices under test (DUT) using several sources and measurement modules
• Defining stress conditions, maximum levels allowed, measurement and memorization procedure
• Proceeding test with both real time control and monitoring memorization
• Proceeding both setup and monitoring backup

Plug-ins:
• IT Report: to define and generate printable and exportable reports from test results.
• Connector testing

NI Labview™

A free Labview library is provided on demand for the customer to build its own test application (NI Labview™ not provided).

Dimensions

Excluding handles and brackets (Width, Height, Depth)
BN210, BN220: 447mm x 175mm x 365mm
BN203: 220mm x 175mm x 248mm

Quality, regulations & environment

• The BiLT System and all modules are compliant to the applicable European directive and hold the CE mark.
• Products are designed and manufactured in France.
• ISO/CEI 17025 compliant calibration for any DC source or measurement module, calibration certificate provided.
• Serial number based life cycle management
• All products are 100% tested (test reports on demand)
• iTest only uses RoHS compliant components and does not use substances banned by the COSHH regulation.
• iTest complies with the relevant national regulations related to the safety and health of its employees against hazardous substances.
• The protection degree of the Bilt system is IP20 according to CEI 60529.

Warranty

Any BiLT product comes with a two-year parts and labour warranty, when returned to our workshops. A phone support service is also available for the same period.

At the end of the initial two-year warranty period, warranty extension can be subscribed.

Broad range of *BiLT* System modules available

Most modules features special circuitry that guarantee a high level of safety and reliability: no transient during module's start and stop sequences or chassis powering or mains connection ; safe stop in case of power outage, over voltage protection, short-circuit protection etc...

- Power DC source modules (up to 240W, voltage up to 1200V, current up to 15A)
- Ultra low noise DC sources (down to 1µV resolution)
- Magnet power supplies
- Specialized sources for high inductive or capacitive loads
- Multichannel DC source and/or measurement
- Connector testing
- Thermoelectric module (TEM or TEC) controller
- and so on...

Visit our website http://www.bilt-system.com/ for our full product catalog

Application examples

Component Industry, Expertise Laboratories	Research Laboratories	Particle accelerators/detectors
• Burn-In / Life-Test / Reliability test of electronic components (transistors, resistors, capacitors…) • RF stress test, DC or pulsed • Connector Testing (vibration or “slow motion”)	• Physics laboratory instruments • Polarization of nanoscale, mesoscopic, graphene, quantum devices, superconducting coils • battery replacement for ultra-low noise application	• Magnet power supply (slow correctors or Fast Orbit Feedback) • HV Power supply for Micromegas or other particle detectors

Visit our website www.bilt-system.com for application description

Example of two stacked customized BiLT chassis, developed for a particle accelerator

Example of a BE103 5-slot Micro BILT chassis populated with 4 BE2101 and one BE2102 modules

Documentation			
BN200 Brochure	Rev 1.0	27 May 2020	module's data sheet / specifications and main features
http://www.bilt-system.com/			bilt user manual and any other Bilt modules specification

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