

Generic Functional Bench

Automatic functional tests in Production or after-sales service



The Generic Functional Bench (BFG) allows different test modes to be carried out on several types of products with a minimum of adaptation. It authorizes the running of a set of scenarios that will sanction the compliance and performance of the equipment under test. Its "step by step" mode allows rapid fault diagnosis during the PRODUCTION or after-sales service phases of the equipment under test. A self-test and an automatic calibration facilitate its periodic maintenance.

BENEFITS

- > Productivity and time savings (tests outside the time slot)
- > Consistent test quality
- > Improved traceability and archiving (towards zero paper)
- > Management of complete test configurations
- > MCO gains on the bench
- > Mutualization of developments.



PRINCIPLE

The Generic Functional Bench (BFG) is structured around the following subsets :

- Several basic COTS boards (or modules) which allows the primary functions to be performed (ETOR, STOR, analog, time, LNS, etc.)
- Several formatting cards ensuring external compatibility
- A « relay » part for signal multiplexing
- Limited wired cabling

The generic part of the BFG is associated with a specific part consisting of a patching module. It makes it possible to group the signals necessary for validation to a connector adapted to that of the equipment under test.

SELF-TEST/CALIBRATION

An integrated self-test allows rapid diagnosis of 100% of generic functions.

The automatic calibration function guarantees performance over time.

APPLICATION DOMAIN

The generic test bench is used internally at ARCYS for the validation (or troubleshooting) of its products in order to certify compliance with their technical requirement specification (STB) or their definition file (DD).

The target products are numerous (PN, Ferro, NC, etc.); Cards, calculators, analog or digital modules requiring the control and management of numerous resources.



The software sequencing is carried out using recognized products such as LabVIEW and TestStand from National Instruments.



TECHNICAL SPECIFICATIONS

Designation	Quantity	Levels	Accuracy (% of PE)
Current Analog Input	8	0-25mA	0.5% (125µA)
Current Analog Output	8	0-20mA	0.5% (100µA)
Analog Input Voltage 0-33V	96	0-33V	0.5% (165mV)
Analog Output Voltage 0-40V (20mA)	96	0-40V	0.5% (200mV)
Analog Input Voltage +/-15V	24	+/-15V	0.05% (7.5mV)
Analog Output Voltage +/-15V	28	+/-15V	0.3% (45mV)
Counter/Timer/Digital I-O	8	0-5V	Cf. PXI-6608
Serial link RS232	1+2	EAI RS232	Cf. PXI-8430/4
Serial link RS422/RS485	3	EAI RS422	Cf. PXI-8431/4
Dry Contact (Normally Open)	116	50V/0.5A	—
Function generator (sinus, square, triangle)	1	+/-10V (50Ω)	Cf. PXI-5402
Oscilloscope input	2	+/-20V	Cf. PXI-5414
Configurable Digital Input/Output	13	0-5V	—
Calibrator/Multimeter	1	+/-200V ou 3/-3A	+/-0.02%
Programmable Power Supply	2	0-36V (6A)	0.01% + 20mV
Open Collector Isolated Output	16	0-40V/0.5A	—
Isolated discrete input	8	0-40V	—
Ethernet link	1	10/100/1000BASE-TX	—

THE SOFTWARE : NI LABVIEW AND NI TESTSTAND

NI LabVIEW for controlling measuring instruments and COTS boards.

NI TestStand for automatic test sequencing and report generation.

 NI TestStand

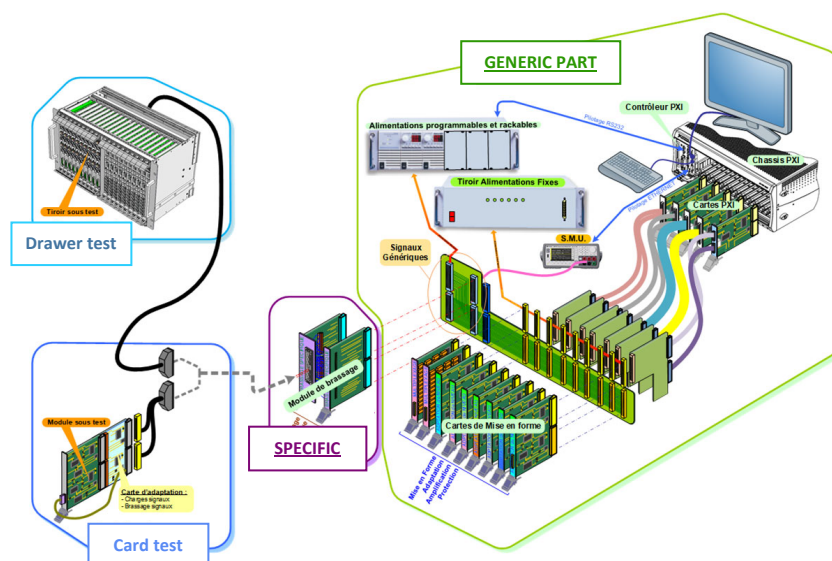


AUTOMATIC EDITIONS OF REPORTS (PDF, XLS OR XML) FROM :

- Functional validation equipment under test
- Calibration
- Self test

OTHER :

- Oven control
- Network Archiving
- Obsolescence tracking
- Automatic configuration check
- Operator access management



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