AC/DC Test

HILEVEL TECHNOLOGY, INC.

Versatile, Flexible AC/DC Test System

Everyone wants to reduce the cost of test. ***HILEVEL*** has gone a step beyond, by defining the *future* of test with the Griffin III Hybrid system. We call it “Hybrid” simply because it combines the most versatile offerings of features in a single system, at the lowest cost. For devices requiring DC and Continuity test capability only, G3H is a very flexible cost-effective Production Test solution. This approach provides a DC test system with the capability to add logic resources (AC/SCAN) as well as analog resources for Mixed Signal. The ***HILEVEL*** Griffin III Hybrid embraces low cost while supporting SCAN, giving you the ability to toggle every node in your chip. Contact ***HILEVEL*** today, and start getting serious “mileage” from your tester.

GRIFFIN III HYBRID

HILEVEL TECHNOLOGY, INC.

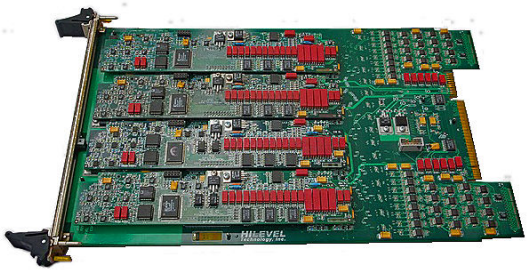
DC Test

Price and Performance

The flexibility of a ***HILEVEL*** system brings new price/performance efficiency to the Tester-in-a-Head tradition, a concept created and introduced by ***HILEVEL*** in 1987. This tester is a superior cost-effective solution for Mass Production applications. ***HILEVEL***'s own proprietary tester ASICs provide the power and versatility so crucial in a Production Test system.

Multi-Site

Each DC PEB card provides DC test for 128 pins. The ***HILEVEL*** G3H chassis has slots for 8 DC boards (Up to 32 sites of 32 DC pins each) and four slots for standard PEB pin electronics boards for full AC, DC or SCAN testing (32 pins each). This standard configuration of the ***HILEVEL*** Griffin III Hybrid DC system can support up to 1,024 DC pins plus 128 AC/DC channels, but other configurations are available. Software assigns the desired number of sites among these boards; all pins in one site, or divide the pins into two sites, four sites, etc. The G3H system can provide up to 40 power supplies for Multi-site testing.



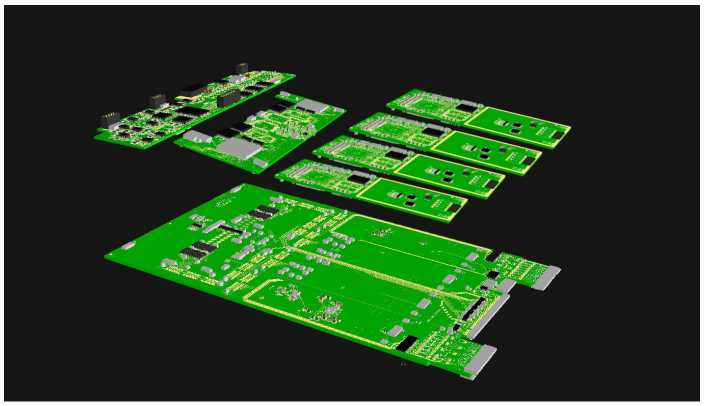
Symphony III

Rich in GUI functions for engineering, and all the capabilities that make a mass production tester fast, HILEVEL's new Symphony III software provides the tools for efficient test development.

MX2

Analog Resources for Mixed-Signal Testing

HiLevel's Mixed Signal resource is more flexible than ever with the MX2. The modular design allows you to configure the MX2 with the analog resources that best fit your application. Choose from 16-bit or 24-bit AWGs, and 16-bit and 24-bit digitizers.



Direct Docking

The Compact G3H and low-cost manipulator make a great team for direct docking. Used with our precision J750-compatible pogo tower, HiLevel's Griffin III Hybrid can easily adapt to your direct docking test needs.

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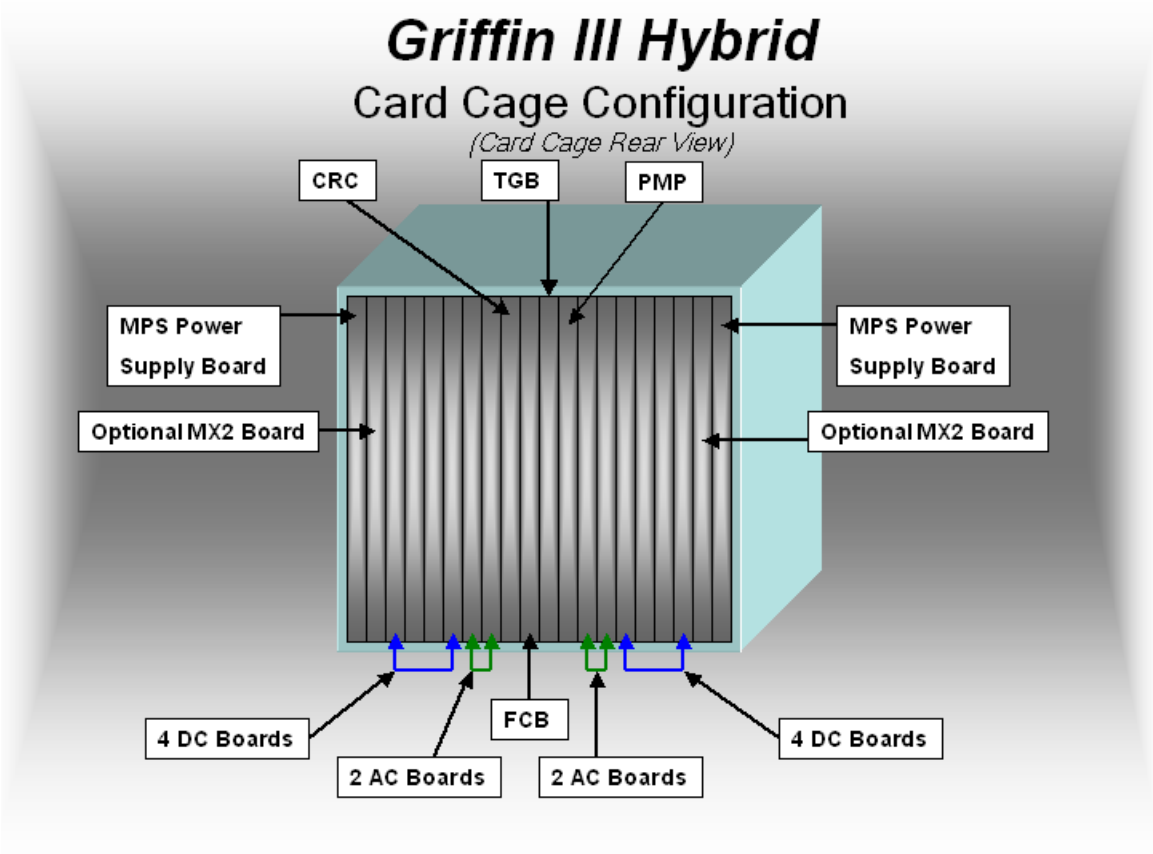
Specifications

MAINFRAME **Maximum DC Pins (8 slots)** Up to 1,024 DC pins in increments of 128 pins (128 pins per slot). Maximum sites: 32 **Maximum AC Pins (4 slots)** Up to 128 AC pins in increments of 32 pins (32 pins per slot). Maximum AC sites: 4 *Other configurations are available.*	**OTHER SLOTS** **Optional Power Supplies (2 slots)** Accommodates one or two MPS optional DUT Power Supply boards. **MX2 Mixed Signal Option (2 slots)** Install one or two configurable MX2 boards for Analog resources. **FCB Fast Clock Board Option (1 slot)** **System Basic Boards (3 slots)**



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Specifications

DC PIN RESOURCES DC Drive Range: 0-5V Resolution: 20mV Current: Sink/Source ±10mA	All measurements referenced to DUT ground.

DC PARAMETRIC MEASUREMENTS

One DCPMU per 32 pins (4 per DC card)

Force Voltage Range: -8V to +8V
Resolution: 1mV

Voltage Measurement Range: -8V to +8V
Accuracy: 0.2% ± 2mV

Force Current Range: -150 mA to +150 mA
Resolution & Accuracy: Range Dependent

Current Measurement Range: ± 150 mA
Resolution & Accuracy: Range Dependent

Current Ranges	Resolution	Accuracy
± 200 nA	10 pA	± 0.4% of Value + 40 pA
± 2 µA	100 pA	± 0.3% of Value + 400 pA
± 20 µA	1 nA	± 0.2% of Value + 4 nA
± 200 µA	10 nA	± 0.2% of Value + 40 nA
± 2 mA	100 nA	± 0.2% of Value + 400 nA
± 20 mA	1 µA	± 0.3% of Value + 4 µA
± 150 mA	10 µA	± 0.4% of Value + 40 µA

FCB: HIGH-SPEED CLOCKS Eight fast clocks per FCB board with complementary outputs, up to 500MHz with programmable fractional ratio to the test rate (from 1:1 up to 8:1, in 0.5 steps). One FCB per system maximum.	**WORKSTATION AND SOFTWARE** OS: Windows 7 Automation: ACT (Automation C Tools), TexTest for ASCII test control, or HILEVEL AutoTest (GUI) Controller: PC workstation, Windows 7, and HILEVEL Symphony III software Interface: USB 2

GRIFFIN III HYBRID

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Specifications

TEST RATE (AC pins)
Max Data & Compare Rate: 200 MHz
Max Cycle Rate: 100 MHz, all modes
(Two compares per cycle;
two level transitions per cycle)
Resolution: 125 KHz/1 MHz
Accuracy: 0.1% of programmed value
Minimum test rate: 125 KHz

AC TIMING
Timing Generators: 32, Globally Assigned
Time Sets on the fly: 16 programmable timing/format sets on the fly (switched dynamically during test) 128 timing sets total
Range: Entire clock cycle + 10ns
Resolution: 50ps
EPA (Edge Placement Accuracy):
Standard Calibration: ±1.5ns
Precision Calibration: ±500ps

PROGRAMMABLE PATTERN GENERATOR
Program Commands: Jump, Conditional Jump, Call, Conditional Call (four levels of Nesting), Return, Conditional Return, Loop (Repeat), Page (16 bit pages), Set Counter Value, Decrement Counter, Clear Fail Status, Trace mask On / Off, Pattern Match function.

DATA FORMATS
NRZ Non-return to zero
R0 Return to zero
R1 Return to one
RI Return to inhibit
RC Return to compliment
(Surround by compliment)

AC PIN ELECTRONICS (32 channels per slice)

Logic Pins: DRIVERS
All pins Input or Output or Bi-directional
Min/Max Channels: 32/512
Increments of: 32
Pin To Pin Skew: +/- 500ps
VIH: (VIL + 100 mV) to +6.5V
VIL: -1.5V to (VIH – 100mV)
Resolution: 5mV
Rails: 1 pair per pin
Accuracy: +/- 10mV
Sink/Source Current: 50mA/50mA
Slew Rate: 1.5V/ns
Capacitance: (Lumped + Continuous) <50pF

Logic Pins: RECEIVERS/COMPARATORS
Range: -1.5V to +6.5
Resolution: 5mV
Rails: 1 per pin/per threshold
Accuracy: +/- 15mV

PE Memory:
Vector Depth: 64M per pin
Acquisition Depth: 64M in Sequential mode
16M in Programmed mode
Scan (Optional):
Scan depth: Up to 8Gbit
Up to 128 scan chains
Full scan capture capability up to 64M

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Specifications

Mixed Signal Option

The G3H system provides two slots for optional MX2 analog resource boards. The MX2 consist of a master board that accommodates up to four submodules. These submodules can be mixed or matched in any combination on the MX2 master board. The submodules currently available are described below.

16-Bit Fast AWG Resolution: 16-bit Update rate: 80MSPS Pattern depth: 1M Output ranges: 0.75V, 1.5V, 2V, 3V, 4V,6V,8V,12V Output offset voltage: -3V to +3V Output filters: none, 10MHz, 25MHz DNL ≤ ±0.5 LSB @ +25º C INL ≤ ±1.0 LSB @ +25º C THD ≤ –95 dB @ fOUT = 1 MHz SFDR ≥ 78 dBc @ fOUT = 20 MHz	**24-Bit Precision AWG** Resolution: 24-bit Update rate: 196kSPS Pattern depth: 1M Output ranges: 0.75V, 1.5V, 2V, 3V,4V,6V,8V,12V Output offset voltage: -3V to +3V Output filters: none, 1.5kHz, 22kHz, 100kHz SNR/DNR ≥ 120 dB THD + N ≤ –110 dB

16-Bit Digitizer Resolution: 16-bit Update rate: 80MSPS Pattern depth: 1M Input ranges: 0.75V, 1.5V, 2V, 3V, 4V,6V,8V,12V DC offset voltage: -3V to +3V Input filters: none, 1MHz, 10MHz, 25MHz Input impedance: 1MOhm, or 600 Ohm DNL ≤ ±0.5 LSB @ +25º C INL ≤ ±3.0 LSB @ +25º C S/N ≥ 77 dB @ fOUT= 10MHz SINAD ≥ 75 dB @ fOUT = 10 MHz SFDR ≥ 80 dBc @ fOUT = 10 Mhz	**24-Bit Digitizer** Resolution: 24-bit Update rate: 2.5MSPS Pattern depth: 1M Input ranges: 0.75V, 1.5V, 2V, 3V,4V,6V,8V,12V DC offset voltage: -3V to +3V Input filters: none, programmable from 19.2kHz up to 1.35MHz, 16- steps Input impedance: 1MOhm, or 600 Ohm DNL – guaranteed monotonic to 24 bits INL ≤ 0.00076 %FS S/N ≥ 112 dB THD ≤ -105 dB SFDR ≥ 120 dBc

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Specifications

MAIN DUT POWER SUPPLIES

PS1
Range: 0 to 8V, 0 to 2A
Resolution: 5mV, 10mA
Accuracy: +/-15mV
PS2 & PS3
Range: +/-16V, 0 to 1A
Resolution: 5mV, 10mA
Accuracy: +/-15mV
PS4
Range: 0 to 3.7V, 0 to 4A
Resolution: 5mV, 10mA
Accuracy: +/-10mV

Current Measurement Resolution
Range dependent.
Best resolution is 1 nA.

Optional Multiple DUT Supply Boards
Four slots dedicated to accommodate up to four DUT supply boards in any combination:
MPS1
One 0-3.7V/4A, One 0-8V/2A, Two ±16V/1A
MPS2
Four 0-3.7V/4A
All with Alternating Voltage Source (AVS)

Multi-Site Supplies
One Supply per each 32 Pins (site)
Voltage Range: 0-8V
Resolution: 5mV
Accuracy: 15mV
Current Range: 0-1A
Resolution: 10mA
Accuracy: see table below

DUT SUPPLY MEASUREMENT RANGES
One Measurement Unit per system
Voltage Measurement Range: -16V to +16V, Resolution: 5mV, Accuracy: 0.2% ± 2mV

Current Ranges	Resolution	Accuracy
± 200 nA	10 pA	± 0.5% of Value + 100 pA
± 2 µA	100 pA	± 0.4% of Value + 500 pA
± 20 µA	1 nA	± 0.2% of Value + 4 nA
± 200 µA	10 nA	± 0.2% of Value + 40 nA
± 2 mA	100 nA	± 0.2% of Value + 400 nA
± 20 mA	1 µA	± 0.4% of Value + 4 µA
± 200 mA	10 µA	± 0.4% of Value + 40 µA
± 2 A	100 µA	± 0.5% of Value + 400 µA
± 5 A	250 µA	± 0.5% of Value + 1 mA

OTHER FEATURES

Real time Failure Counter
Shows number of fails while running

Display Capture Fails Only
Acquisition Memory Compression

High-speed Acquisition Search:
Search 64M of capture in <3 sec.

Full "Next Cycle" Operation
Data Valid for the full next cycle

ENVIRONMENTAL

Power
220VAC single phase, Max 20A

Max Weight
85kg approx. (16 cards installed)
Manipulator Adapter Option: 10kg

Dimensions (Test head only)
H508mm x W438mm x D438mm

Cooling
9 fans

Temperature
60 to 80 °F (16 to 27°C)

CE
2006/95/EC
2004/108/EC

AC/DC Test

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