CONITEC DATASYSTEMS

GALEP-5
Mobile Device Programmer
with 48 universal pin drivers and USB port

The new GALEP-5 is the first pocket sized, self-powered universal device programmer. Due to its size and power supply independence, a GALEP-5 is the ideal solution for development and service. Its high speed allows using it as a production programmer. And with its JTAG debugging capabilities it can also be used for microcontroller development. A real universal talent - for the lowest price per device in the industry!

- **Unique Features:**
- **USB Powered**
- **Pocket Size**
- **JTAG Debugger**
- **Pin driver ICs**
- **64 MB Data RAM**
- **Script Controlled**
- **Open Source Firmware**
- **Windows and Linux**
- **57000 Devices**
- **~1 Cent per Device!**

SUPPORTED DEVICES ↴

>GALEP-5 is a universal programmer for devices of the following types: EPROM, EEPROM, FLASH memory, serial EEPROM, NV-RAM, LPC, FPGA, PLD, EPLD, GAL, PALCE, PIC, Microcontroller (MCU). More than **57,000** devices algorithms are currently supported . Additionally, GALEP's **JTAG player** can program SVF/JAM data into all existing and future devices that have a JTAG port.

## ULTRA-COMPACT, USB-POWERED DESIGN ↴

>The GALEP-5 device programmer fits into your jacket pocket and weighs less than 200g, compared to 3..4 lbs of bulky competitor products. It is completely powered through the USB bus and does normally not require any additional power supply. Only when the programmable device consumes more than 500 mA, which is the case for few old NMOS devices and some microcontrollers, the included power adapter or batteries (6xAAA) can be used.

EXTREMELY FAST PROGRAMMING ↴

>GALEP-5 is uncompromisingly **designed for speed**. An internal 200 MIPS ARM-9 processor handles the data transfer; an 50,000 gates FPGA (user-programmable logic) controls the pin drivers and accelerates programming algorithms by setting up device-dependent state machines and UARTs. The **hardware acceleration** makes GALEP-5 one of the fastest device programmers on the market today. For instance, a MB91F467 Fujitsu Microcontroller (8 Mb) needs only 19 seconds for a serial program/verify cycle. A 256 Mb NOR Flash (28F256P30) is programmed and verified in 170 seconds. The internal 64 MByte RAM serves as data storage and allows to transfer data only once for programming multiple devices.

48 HIGH-SPEED PIN DRIVERS ↴

>A custom-designed universal **pin driver IC** guarantees optimal signal quality at the output pins, and allows the small size and low power consumption of all GALEP chip programmers. Each of the 48 pins can generate the following signals:
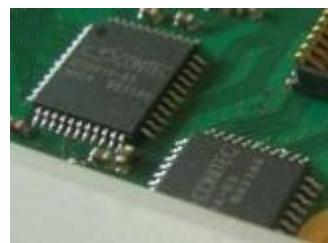
  *Logical high between 1.2V .. 5.0V
  *Logical input, threshold 0.5V … 5.0V
  *Three programming voltages between 1.3V .. 25.0V
  *Three switchable resistors for pullup and pulldown
  *Adjustable clock rate
  *Ground

> The switching regulators for the programming voltages are controlled by D/A converters in 100 mV steps. Further D/A converters are used to control the logic levels and the input threshold. For maximum protection of the programmable device, all voltages are permanently monitored by an independent circuit.

IN SYSTEM PROGRAMMING ↑

> The signals for In-System Programming (**ISP**) can be taken from a separately available ISP adapter or directly from the 48-pin ZIF socket. The help system provides information about the wiring of the target system for all supported components.

SOFTWARE ↑

> The software runs under Windows 95, 98, ME, NT4, 2000, XP, Vista, Windows 7, and Linux. Besides basic functions such as erase, read, program and compare, split and shuffle, it features easy-to-use configuration options for any special functions required by the selected device. The software supports all common file formats, such as binary, Hex, JEDEC, and JTAG. Mass production is supported by providing statistics functions and serial number generation.

> **JTAG Support**: Delete, program and verify components with JTAG interface (joint test action group, IEEE Std. 1149.1). The following formats are supported: SVF-Script in XSVF(Xilinx) format; JAM byte code player (ALTERA).

> **Batch mode**: Run GALEP-5 from the command line, or implement GALEP commands in your own production software. The programmer can be completely controlled by a set of powerful batch commands.

> **Updates**: The software is permanently improved for supporting new components. Free updates are available on our website in regular intervals.

JTAG DEBUGGER ↑

> With GALEP-5 you can debug all Microcontrollers with JTAG interface that are supported by the **OpenOCD** (**O**n **C**hip **D**ebugger) software - ARM7, ARM9, XScale, and Cortex-M3 MCUs. The chip to debug is simply put into GALEP's programming socket or connected with GALEP through a cable or ISP adapter. Additionally you can easily define test algorithms for in circuit testing of complete circuit boards (**Boundary Scan**) for small series production. This way your GALEP-5 becomes a complete development, test and production system!

SECURITY ↑

> Prior to each function, GALEP checks the power consumption, correct positioning, and the contacts of all pins of the selected component. This effectively prevents any accidental damage to the component or the programmer.

SOCKET ADAPTERS ↑

> GALEP-5 programs components in DIL sockets up to 48 Pins between 300 … 600 MIL (ca. 7,5 … 16 mm) wide without additional adapters. Universal socket adapters are available for all components with up to 48 pins. Only one adapter per socket is required; few adapters = small system costs!

> Adapters for components with more than 48 pins are also available. Because the pin number of the programming device is smaller than the pin number of the components, such adapters are specialized. If you have to program components with a high pin number frequently, a **GALEP-5D** (with up to 240 pin drivers) might be the more effective solution.

> All GALEP-4 adapters can be used with GALEP-5. Adapters for the following sockets are available: SOIC, SOP, TSOP, SSOP, TSSOP, PLCC, QFP, TQFP, MLF.

TECHNICAL SPECIFICATIONS ↑

> Pocket format: ca. 80 x 115 x 33 mm (+7mm socket)
> Weight: ca. 185 g
> 48-pin ZIF socket with 48 universal pin drivers
> Programs low-voltage components down to 1.3V
> USB 2.0 high-speed port
> AC adapter plus battery compartment for high-power devices
> 200 MIPS ARM-9 RISC processor, 64 MB RAM, 8 MB Flash
> FPGA (50K gates, 64Kb RAM)
> 3 linear voltage regulators for internal power supply
> 4 switching regulators for programming voltages
> 2 linear voltage regulators for logic levels and input threshold
> 2 Microcontrollers for internal voltage monitoring
> 8-channel D/A converter, 16-channel A/D converter
> Embedded Linux 2.6 inside

KIT CONTAINS ↰

> GALEP-5 device
> USB cable
> AC adapter
> CD with manual and software

SYSTEM REQUIREMENTS ↰

> Windows 32 Bit OS, 98SE / ME / NT4 / 2000 / XP / Vista
> USB 1.0 or USB 2.0 port

DISTRIBUTOR

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