BeeProg2

Extremely fast universal **USB**/LPT interfaced programmer.
If you're looking for lower price universal programmer, please take a look at BeeProg+ programmer.

Short description:

- **58108** supported devices from **262** manufacturers by 2.75 version of SW (21. Dec. 2010)
- **extremely fast programming**, one of the fastest programmers in this category. Programs 64-Mbit NOR Flash memory less than 9 seconds and **1Gbit NAND Flash less than 70 sec.**
- 48-pins powerful pindrivers, no adapter required for any DIL devices
- ISP connector for **in-circuit programming**
- dual connection to PC: USB (up to 480 Mbit/s) or parallel (printer) port
- **USB** USB 2.0 (high speed, full speed) and 1.1 compatible interface
- alternatively high-speed **IEEE 1284** (ECP/EPP) printer-port (LPT) interface
- comfortable and easy to use control program, work with all versions of MS Windows from Windows 98 to Window 7 64-bit
- unique quick reaction to customer's needs - software update can be ready within a day from request by OnDemand software
- Multiprogramming possible by attaching more programmers to one PC
- approved by CE laboratory to meet CE requirements
- made in Slovakia
- **warranty - 3 years**

Optional accessories:

- **Programming Adapters** (Socket Converters)
- Accessories: Calibration test POD, Vacuum pen, LPT port cable, ...

Features

GENERAL

- BeeProg2 programmer is practically identical with the BeeProg+ programmer, difference is "only" much higher programming speed (20-70%) of high-capacity memories, due to more powerful FPGA core inside.
- BeeProg2 is next member of USB/LPT-compatible, MS Windows (from Windows 98 to Window 7 64-bit) based ELNEC **universal programmers**, built to meet the strong demand of the small manufacturing and developers community for the fast and reliable universal programmer.
- BeeProg2 programmer is based on the BeeProg+ programmer, difference is only more powerful programming core inside.
- Supports **all kinds** of types and silicon technologies of today and tomorrow **programmable devices** without family-specific module. You have freedom to choose the optimal device for your design. Using built-in in-circuit serial programming (**ISP**) connector, the programmer is able to program ISP capable chips in circuit.
- BeeProg2 isn't only a programmer, but also a **tester** of TTL/CMOS logic ICs and memories. Furthermore, it allows generation of user-definable **test pattern sequences**.
- Provides very competitive price coupled with excellent hardware design for reliable programming. Probably **best "value for money"** programmer in this class.
- **Extremely fast programming** due to high-speed FPGA driven hardware and execution of time-critical routines inside of the programmer. Tests show, is faster than competitors in this category (status: 10/2009), for many chips much faster than most competitors. As a result, when used in production this one-socket-programmer waits for an operator, and not the other way round.
- BeeProg2 interfaces with the IBM PC compatible or higher, portable or desktop personal computers through **USB** (2.0/1.1) port or any **standard parallel (printer) port**. Programmer can utilize power of both USB high-speed port and IEEE1284 (ECP/EPP) high-speed parallel port. Support of both USB/LPT port connection gives you the choice to connect the BeeProg2 programmer to any PC, from latest notebook to older desktop without USB port.

HARDWARE

- **FPGA based** totally reconfigurable 48 **powerful TTL pindrivers** provide H/L/pull_up/pull_down and read capability for each pin of socket. Advanced pindrivers incorporate **high-quality high-speed** circuitry to deliver signals without overshoot or ground bounce for all supported devices. Improved pin drivers drivers operate down to 1.8V so you'll be ready to program the full range of today's advanced low-voltage devices.
- The programmer performs device **insertion test** (wrong or backward position) and **contact check** (poor contact pin-to-socket) before it programs each device. These capabilities, supported by **overcurrent protection** and **signature-byte check** help prevent chip damage due to operator error.
- The selftest capability allow to run diagnostic part of software to thoroughly check the health of the programmer.
- Built-in **protection circuits** eliminate damage of programmer and/or programmed device due to environment or operator failure. All the inputs of the BeeProg2 programmer, including the ZIF socket, connection to PC and power supply input, are **protected against ESD** up to 15kV.
- BeeProg2 programmer performs programming **verification** at the **marginal level** of supply voltage, which, obviously, improves programming yield, and guarantees long data retention.
- Various **programming adapters** are available to handle device in PLCC, JLCC, SOIC, SDIP, SOP, PSOP, SSOP, TSOP, TSOPII, TSSOP, QFP, PQFP, TQFP, VQFP, QFN (MLF), SON, BGA, EBGA, FBGA, VFBGA, UBGA, FTBGA, LAP, CSP, SCSP, LQFP, MQFP, HVQFN, QLP, QIP and other packages.

SOFTWARE

- Programmer is driven by an **easy-to-use** control program with pull-down menu, hot keys and on-line help. Selecting of device is performed by its class, by manufacturer or simply by typing a fragment of vendor name and/or part number.
- **Standard** device-related commands (read, blank check, program, verify, erase) are boosted by some **test functions** (insertion test, signature-byte check), and some **special functions** (autoincrement, production mode - start immediately after insertion of chip into socket).
- All known data formats are supported. Automatic file format detection and conversion during loading of file.
- The rich-featured **auto-increment function** enables one to assign individual serial numbers to each programmed device - or simply increments a serial number, or the function enables one to read serial numbers or any programmed device identification signatures from a file.
- The software also provide a many information about programmed device. As a special, the **drawing of all available packages** are provided. The software provide also **explanation of chip labelling** (the meaning of prefixes and suffixes at the chips) for each supported chip.
- The software provide a full information for ISP implementation: Description of ISP connector pins for currently selected chip, recommended target design around in-circuit programmed chip and other necessary information.
- The **remote control** feature allows to be PG4UW software flow controlled by other application – either using .BAT file commands or using DLL file. DLL file, examples (C/PAS/VBASIC/.NET) and manual are part of standard software delivery.
- **Jam files** of JEDEC standard JESD-71 are interpreted by **Jam Player**. Jam files are generated by design software which is provided by manufacturer of respective programmable device. Chips are programmed in-ZIF or through ISP connector (IEEE 1149.1 Joint Test Action Group (JTAG) interface).
- **VME files** are interpreted by VME Player. VME file is a compressed binary variation of SVF file and contains high-level IEEE 1149.1 bus operations. SVF files are interpreted by SVF Player. SVF file (Serial Vector Format) contains high-level IEEE 1149.1 bus operations. SVF files are generated by design software which is provided by manufacturer of respective programmable device. Chips are programmed in-ZIF or through ISP connector (IEEE 1149.1 Joint Test Action Group (JTAG) interface). VME files are generated by design software which is provided by manufacturer of respective programmable device. Chips are programmed in-ZIF or through ISP connector (IEEE 1149.1 Joint Test Action Group (JTAG) interface).
- Multiple devices are possible to program and test via JTAG chain: JTAG chain (ISP-Jam), JTAG chain (ISP-VME), JTAG chain (ISP-SVF) or JTAG chain (ISP-STP).
- Attaching of more BeeProg2 programmers to the same PC (through USB port) is achieved a **powerful multiprogramming system**, which **support as many chips, as are supported by BeeProg2 programmer** and without obvious decreasing of **programming speed**. It is important to know, there is a concurrent multiprogramming - each programmer works independently and each programmer can program different chip, if necessary.

CARE FOR THE CUSTOMERS

- **New Device Request (AlgOR Service)**
  - It is important to remember, that a support of most of the new devices requires **only a software update**, because the BeeProg2 is truly a universal programmer. With our prompt service you can have new device added to the list of supported devices within hours! See AlgOR (Algorithm On Request) service and OnDemand software for details.
  - This service is almost in all cases free. Please note that we can ask customer to share the cost if development cost is too high.

- **Free life-time software updates**
  - Most current version of Elnec programmers software with support of newly added devices is available for free here.

- **Free Technical support**
  - Elnec provide customers technical support (WebForm/e-mail based) available usually within few hours, at the latest next working day.

- **Keep-Current service**

- Keep-Current service means, that ELNEC ships the latest version of programmer software and updated user documentation (Keep-Current package) to customer . The Keep-Current service is your hassle-free guarantee that you achieving the highest quality programming on ELNEC programmers, at minimal cost.

- **Prompt delivery**
  - Combination of extensive stock, flexible manufacturing and shipping of Elnec products by world class carriers (like DHL) warrants customers very fast and secure delivery of ordered Elnec products. Products ordered before 10 a.m. (CET) will be dispatched the same working day (if products are in stock and the payment is done by Online payment (CardPay, PayPal).

- **Warranty**
  - Advanced design of the **BeeProg2** universal programmer, including protective circuits, original brand components, careful manufacturing and burning-in allow us to provide a **three-year warranty** on parts and workmanship of the programmer (limited 25 000-cycle warranty on ZIF sockets).
  - Elnec provides **free shipping of programmer repaired under warranty back to customer world wide**. Warranty is valid from the date of purchase.
  - Preferential handling of repair requests ensures registration of the product that should be done within 60 days from the date of purchase here.

Specification

HARDWARE

Base unit, DACs

- USB 2.0 high-speed compatible port, up to 480 Mbit/s transfer rate
- FPGA based IEEE 1284 slave printer port, up to 1MB/s transfer rate
- on-board intelligence: powerful microprocessor and FPGA based state machine
- three D/A converters for VCCP, VPP1, and VPP2, controllable rise and fall time
- VCCP range 0..8V/1A
- VPP1, VPP2 range 0..26V/1A
- autocalibration
- selftest capability
- protection against surge and ESD on power supply input, parallel port connection
- banana jack for ESD wrist straps connection
- banana jack for connection to ground

ZIF socket, pindriver

- 48-pin DIL ZIF (Zero Insertion Force) socket accepts both 300/600 mil devices up to 48-pin
- pindrivers: 48 universal
- VCCP/VPP1/VPP2 can be connected to each pin
- perfect ground for each pin
- FPGA based TTL driver provides H, L, CLK, pull-up, pull-down on all pindriver pins
- analog pindriver output level selectable from 1.8 V up to 26V
- current limitation, overcurrent shutdown, power failure shutdown
- ESD protection on each pin of socket (IEC1000-4-2: 15kV air, 8kV contact)
- continuity test: each pin is tested before every programming operation

ISP connector

- 20-pin male type with missinsertion lock
- 6 TTL pindrivers, provides H, L, CLK, pull-up, pull-down; level H selectable from 1.8V up to 5V to handle all (low-voltage including) devices.
- 1x VCCP voltage (range 2V..7V/100mA), can be applied to two pins
- programmed chip voltage (VCCP) with both source/sink capability and voltage sense
- 1x VPP voltage (range 2V..25V/50mA), can be applied to six pins
- target system supply voltage (range 2V..6V/250mA)
- ESD protection on each pin of ISP connector (IEC1000-4-2: 15kV air, 8kV contact)
- two output signals, which indicate state of work result = LED OK and LED Error (active level: min 1.8V)
- input signal, switch YES! equivalent (active level: max 0.8V)

DEVICE SUPPORT

Programmer, in ZIF socket

- EPROM: NMOS/CMOS, 2708*, 27xxx and 27Cxxx series, with 8/16 bit data width, full support for LV series
- EEPROM: NMOS/CMOS, 28xxx, 28Cxxx, 27EExxx series, with 8/16 bit data width
- Flash EPROM: 28Fxxx, 29Cxxx, 29Fxxx, 29BVxxx, 29LVxxx, 29Wxxx, 49Fxxx series, Samsung's K8Fxxxx, K8Cxxxx, K8Sxxxx, K8Pxxxx series, from 256Kbit to 1Gbit, with 8/16 bit data width, full support for LV series
- NAND FLASH: Samsung K9xxx, Hynix HY27xxx, Toshiba TC58xxx, Micron MT29Fxxx, Spansion S30Mxxx, Numonyx (ex STM) NANDxxx

- LBA-NAND: Toshiba THGVNxxx
- mDOC H3: SanDisk (ex M-Systems) SDED5xxx, SDED7xxx, MD2533xxx, MD2534xxx, Hynix HY23xxx
- Multi-chip devices: NAND+RAM, NOR+RAM, NOR+NOR+RAM, NAND+NOR+RAM
- FRAM: Ramtron
- MRAM: Everspin MRxxxxx8x
- NV RAM: Dallas DSxxx, SGS/Inmos MKxxx, SIMTEK STKxxx, XICOR 2xxx, ZMD U63x series
- PROM: AMD, Harris, National, Philips/Signetics, Tesla, TI
- Serial E(E)PROM: Serial E(E)PROM: 11LCxxx, 24Cxxx, 24Fxxx, 25Cxxx, 59Cxxx, 85xxx, 93Cxxx, NVM3060, MDAxxx series, full support for LV series, AT88SCxxx
- Serial Flash: standard SPI (25Pxxx, 25Fxxx, 25Lxxx, 25Bxxx, 25Txxx,25Sxxx, 25Vxxx, 25Uxxx, 25Wxxx, 45PExx), high performance Dual I/O SPI (25Dxxx, 25PXxxx), high performance Quad SPI (25Qxxx, 26Vxxx), DataFlash (AT45Dxxx, AT26Dxxx)
- Configuration (EE)PROM: XCFxxx, XC17xxxx, XC18Vxxx, EPCxxx, EPCSxxx, AT17xxx, AT18Fxxx, 37LVxx
- 1-Wire E(E)PROM: DS1xxx, DS2xxx
- PLD Altera: MAX 3000A, MAX 7000A, MAX 7000B, MAX 7000S, MAX7000AE, MAX II/G/Z
- PLD Lattice: ispGAL22V10x, ispLSI1xxx, ispLSI1xxxEA, ispLSI2xxx, ispLSI2xxxA, ispLSI2xxxE, ispLSI2xxxV, ispLSI2xxxVE, ispLSI2xxxVL, LC4xxxB/C/V/ZC/ZE, M4-xx/xx, M4A3-xx/xx, M4A5-xx/xx, M4LV-xx/xx, ispCLOCK, Power Manager/II, ProcessorPM
- PLD: Xilinx: XC9500, XC9500XL, XC9500XV, CoolRunner XPLA3, CoolRunner-II
- other PLD: SPLD/CPLD series: AMI, Atmel, AMD-Vantis, Gould, Cypress, ICT, Lattice, NS, Philips, STM, VLSI, TI
- FPGA: Actel: ProASIC3, IGLOO, Fusion
- FPGA: Lattice: MachXO, LatticeXP, ispXPGA
- FPGA: Xilinx: Spartan-3AN
- Clocks: TI(TMS), Cypress
- Special chips: Atmel Tire Pressure Monitoring ATA6285N, ATA6286N, PWM controllers: Zilker Labs, Analog Devices, Gamma buffers: TI, Maxim ...
- Microcontrollers 48 series: 87x41, 87x42, 87x48, 87x49, 87x50 series
- Microcontrollers 51 series: 87xx, 87Cxxx, 87LVxx, 89Cxxx, 89Sxxx, 89Fxxx, 89LVxxx, 89LSxxx, 89LPxxx, 89Exxx, 89Lxxx, all manufacturers, Philips LPC series
- Microcontrollers Intel 196 series: 87C196 KB/KC/KD/KT/KR/...
- Microcontrollers Atmel ARM. ARM7: AT91SAM7Sxx, AT91SAM7Lxx, AT91SAM7Xxx, AT91SAM7XCxx, AT91SAM7SExx series; ARM9: AT91SAM9xxx series; ARM Cortex-M3: AT91SAM3Uxxx series
- Microcontrollers Atmel AVR 8bit/16bit: AT90Sxxxx, AT90pwm, AT90can, AT90usb, ATtiny, ATmega, ATxmega series
- Microcontrollers Atmel AVR32: AT32UC3xxxx
- Microcontrollers Chipcon (TI): CC11xx, CC24xx, CC25xx series
- Microcontrollers Coreriver: Atom 1.0, MiDAS1.0, 1.1, 2.0, 2.1, 2.2, 3.0 series
- Microcontrollers Cypress: CY7Cxxxxx, CY8Cxxxxx
- Microcontrollers ELAN: EM78Pxxx
- Microcontrollers Infineon(Siemens): XC800, C500, XC166, C166 series
- Microcontrollers MDT 1xxx and 2xxx series
- Microcontrollers Microchip PICmicro: PIC10xxx, PIC12xxx, PIC16xxx, PIC17Cxxx, PIC18xxx, PIC24xxx, dsPIC, PIC32xxx series
- Microcontrollers Motorola/Freescale: HC05, HC08, HC11, HC12, HCS08, RS08, S12, S12X, MC56F, MCF51, MCF52 series
- Microcontrollers Myson MTV2xx, 3xx, 4xx, 5xx, CS89xx series
- Microcontrollers National: COP8xxx series
- Microcontrollers NEC: uPD70Fxxx, uPD78Fxxx series
- Microcontrollers Novatek: NT68xxx series
- Microcontrollers Nuvoton (Winbond): N79xxx, W77xxx, W78xxx, W79xxx, W83xxx series
- Microcontrollers NXP ARM Cortex-M3: LPC13xx, LPC17xx series
- Microcontrollers Philips (NXP) UOC series: UOCIII, UOC-TOP, UOC-Fighter series
- Microcontrollers Philips (NXP) ARM7: LPC2xxx, PCD807xx, SAF7780xxx series
- Microcontrollers Scenix (Ubicom): SXxxx series
- Microcontrollers Renesas: R8C/Tiny series
- Microcontrollers SGS-Thomson: ST6xx, ST7xx, ST10xx, STR7xx series
- Microcontrollers SyncMOS: SM59xxx, SM73xxx, SM79xxx, SM89xxx series
- Microcontrollers & Programmable System Memory STMicroelectronics: uPSD, PSD series
- Microcontrollers STM: ST6xx, ST7xx, ST10xx, STR7xx, STR9xx, STM32Fxx, STM8A/S/L series
- Microcontrollers Silicon Laboratories(Cygnal): C8051 series
- Microcontrollers Texas Instruments: MSP430, MSC12xx series, TMS320F series
- Microcontrollers Texas Instruments (ex Luminary Micro): LM3Sxxx, LM3Sxxxx series
- Microcontrollers ZILOG: Z86/Z89xxx and Z8Fxxxx, Z8FMCxxxxx, Z16Fxxxx, ZGP323xxxxxx, ZLF645xxxxxxx, ZLP12840xxxxx, ZLP323xxxxxxx series
- Microcontrollers other: EM Microelectronic, Fujitsu, Goal Semiconductor, Hitachi, Holtek, Novatek, Macronix, Princeton, Winbond, Samsung, Toshiba, Mitsubishi, Realtek, M-Square, ASP, Coreriver, Gencore, EXODUS Microelectronic, Megawin, Syntek, Topro, TinyARM, VersaChips, SunplusIT, Nordic, M-Square, QIXIN, Signetic, Tekmos, Weltrend, Amic, Cyrod Technologies, Ember, Ramtron, Nordic Semiconductor, Samsung ...

Programmer, through ISP connector

- Serial E(E)PROM: IIC series, MW series, SPI series, KEELOQ series, PLD configuration memories, UNI/O series
- 1-Wire E(E)PROM: DS1xxx, DS2xxx
- Serial Flash: standard SPI (25xxx), DataFlash (AT45Dxxx, AT26Dxxx)
- Microcontrollers Atmel: AT89Sxxx, AT90pwm, AT90can, AT90usb, AT90Sxxxx, ATtiny, ATmega, ATxmega,

AT89LSxxx, AT89LPxxx
- Microcontrollers Atmel AVR32: AT32UC3xxxx
- Microcontrollers Chipcon (TI): CC11xx, CC24xx, CC25xx series
- Microcontrollers Cypress: CY8C2xxxx
- Microcontrollers Elan: EM78Pxxx, EM6xxx series
- Microcontrollers EM Microelectronic: 4 and 8 bit series
- Microcontrollers Microchip PICmicro: PIC10xxx, PIC12xxx, PIC16xxx, PIC17xxx, PIC18xxx, PIC24xxx, dsPIC, PIC32xxx series
- Microcontrollers Mitsubishi: M16C
- Microcontrollers Motorola/Freescale: HC08 (both 5-wire, All-wire), HC11, HC12, HCS08, S12, S12X, MC56F, MCF52 series
- Microcontrollers Nordic Semiconductor: nRF24xxx
- Microcontrollers NEC: uPD7xxx series
- Microcontrollers Philips (NXP): LPC1xxx, LPC2xxx, LPCxx series, 89xxx series
- Microcontrollers Renesas: R8C/Tiny series
- Microcontrollers Realtek, M-Square
- Microcontrollers Scenix (Ubicom): SXxxx series
- Microcontrollers STM: ST7xxx, STR7xx, STR9xx, STM32Fxx, STM8A/S/L series
- Microcontrollers Silicon Laboratories(Cygnal): C8051 series
- Microcontrollers & Programmable System Memory STMicroelectronics: uPSD, PSD series
- Microcontrollers TI: MSP430 (both JTAG and BSL series), MSC12xxx series
- Microcontrollers ZILOG: Z8Fxxxx, Z8FMCxxxxx, Z16Fxxxx series, ZLF645x0xx
- Various PLD (also by Jam/VME/SVF/STAPL/... Player/JTAG support):
  Altera: MAX 3000A, MAX 7000A, MAX 7000B, MAX 7000S, MAX 9000, MAX II/G/Z
  Xilinx: XC9500, XC9500XL, XC9500XV, CoolRunner XPLA3, CoolRunner-II
- PLD Lattice: ispGAL22xV10x, ispLSI1xxxEA, ispLSI2xxxE, ispLSI2xxxV, ispLSI2xxxVE, ispLSI2xxxVL, M4-xx/xx, M4LV-xx/xx, M4A3-xx/xx, M4A5-xx/xx, LC4xxxB/C/V/ZC/ZE, ispCLOCK, Power Manager/II, ProcessorPM
- FPGA: Actel: ProASIC3, IGLOO, Fusion
- FPGA: Lattice: MachXO, LatticeXP, ispXPGA

Notes:

- *devices marked * are obsolete, can be programmed with PLD-1 additional module or 2708 additional module*
- *for all supported devices see PRELIMINARY DEVICE LIST*

I.C. Tester

- TTL type: 54,74 S/LS/ALS/H/HC/HCT series
- CMOS type: 4000, 4500 series
- Static RAM: 6116 .. 624000
- User definable test pattern generation

Package support

- support all devices in DIP with default socket
- package support includes DIP, SDIP, PLCC, JLCC, SOIC, SOP, PSOP, SSOP, TSOP, TSOPII, TSSOP, QFP, PQFP, TQFP, VQFP, QFN (MLF), SON, BGA, EBGA, FBGA, VFBGA, UBGA, FTBGA, LAP, CSP, SCSP, LQFP, MQFP, HVQFN, QLP, QIP etc.
- support devices in non-DIP packages up to 48 pins with universal adapters
- programmer is compatible with third-party adapters for non-DIP support

Programming speed

Notes:

- It is important to say, we always use random numbers data pattern for programming speed testing. Some our competitors use "sparse" data pattern, where only few non-blank data are programmed or there are used data with only few 0 bits (FE, EF, etc.). This cheating approach can "decrease" programming time considerable. If you plan to compare, ask always which pattern they use.
- The programming speed depends on PC speed only slightly.
- If the programmer attached to PC through LPT port, the programming might take longer.

Device	Size [bits]	Operation	Time
Am29DL640G (parallel NOR Flash)	400080hx16 (64 Mega)	programming and verify	24 sec.
K8P6415UQB (parallel NOR Flash)	400100hx16 bit (64 Mega)	programming and verify	13 sec.
K9F1G08U0M (parallel NAND Flash)	8400000Hx8 (1 Giga)	programming and verify	122.7 sec.
QB25F640S33 (serial Flash)	800200hx8 (64 Mega)	programming and verify	30.7 sec.
AT89C51RD2 (microcontroller)	10000Hx8	programming and verify	14.4 sec.
PIC32MX360F512L (microcontroller)	80000hx8	programming and verify	16.2 sec.
Conditions: *PC Pentium 4, 2.4 GHz, 512 MB RAM, USB 2.0 HS, Windows XP.*			

SOFTWARE

- **Algorithms:** only manufacturer approved or certified algorithms are used. Custom algorithms are available at additional cost.

- **Algorithm updates:** software updates are available regulary, approx. every 4 weeks, free of charge.
OnDemand version of software is available for highly needed chips support and/or bugs fixes. Available nearly daily.

- **Main features:** revision history, session logging, on-line help, device and algorithm information.

Device operations

- **standard:**
  - intelligent device selection by device type, manufacturer or typed fragment of part name
  - automatic ID-based selection of EPROM/Flash EPROM
  - blank check, read, verify
  - program
  - erase
  - configuration and security bit program
  - illegal bit test
  - checksum
  - interpret the Jam Standard Test and Programming Language (STAPL), JEDEC standard JESD-71
  - interpret the VME files compressed binary variation of SVF files
  - interpret the SVF files (Serial Vector Format)
  - interpret the Actel STAPL Player files
- **security**
  - insertion test, reverse insertion check
  - contact check
  - ID byte check
- **special**
  - production mode (automatic start immediately after device insertion)
  - multi-project mode
  - lot of serialization modes (more type of incremental modes, from-file mode, custom generator mode)
  - statistic
  - count-down mode

Buffer operations

- view/edit, find/replace
- fill/copy, move, byte swap, word/dword split
- checksum (byte, word)
- print

File load/save

- no download time because programmer is PC controlled
- automatic file type identification/recognition
  Supported file formats
  - unformatted (raw) binary
  - HEX: Intel, Intel EXT, Motorola S-record, MOS, Exormax, Tektronix, ASCII-SPACE-HEX,, ASCII HEX
  - Altera POF, JEDEC (ver. 3.0.A), eg. from ABEL, CUPL, PALASM, TANGO PLD, OrCAD PLD, PLD Designer ISDATA, etc.
  - JAM (JEDEC STAPL Format), JBC (Jam STAPL Byte Code), STAPL (STAPL File) JEDEC standard JESD-71
  - VME (ispVME file VME2.0/VME3.0)
  - SVF (Serial Vector Format revision E)
  - STP (Actel STAPL file)

GENERAL

PC system requirements

- <u>Common, software related requirements</u>
- Programmer hardware related requirements:
  - either one USB port, 2.0 compatible
  - or one (parallel) printer port with nothing attached, the IEEE 1284 compatible printer port (ECP/EPP) on PCI bus recommended

Operation

- operating voltage 100-240V AC rated, 90-264 VAC max., 47-63 HZ
- power consumption max. 20W active, about 2W sleep
- dimensions 195x140x55 mm (7.7x5.5x2.2 inch)

- weight 0.9kg (1.98 lb)
- operating temperature 5°C ÷ 40°C (41°F ÷ 104°F)
- operating humidity 20%..80%, non condensing

Package includes

- BeeProg2 programmer
- power cord
- connection cable PC-programmer, USB port
- ISP cable
- diagnostic POD for selftest of the programmer
- diagnostic POD for ISP connector - for selftest of the ISP connector
- anti-dust cover for ZIF socket
- user manual (both on CD and printed form)
- software
- calibration test report
- transport case (cardboard box)

Additional services

- Keep Current - ELNEC sends to user the latest version of programmer software and updated user documentation (Keep-Current package)
- AlgOR (Algorithms On Request) - add new supported devices on customer request

Programmer price also includes

- free technical support (WebForm/e-mail based)
- free life-time software update via Internet

The information in this document are subject to change without notice.