

# BPM 1710 | 2710-2



## The 1710 Engineering Programmer

### Flash and Universal Support

The 1710 manual universal device programmer is manufactured for design engineering to low volume production. It has the versatility to program flash memory, microcontrollers, E/EPROMs, FPGAs, PLDs, antifuse, and more, with any manual or automated socket module. The 1710 is the de facto manual programmer for **aerospace/defense programming**. FX4™ socket modules are designed specifically for the 7th Generation series of programmers and have the capability of programming four devices simultaneously, enabling users to achieve greater productivity.

- Supports over 45,000 devices with voltage down to 1.5V (Vdd) including EPROM, E/EPROM, Flash EPROM, Microcontrollers, PLD, CPLD, antifuse FPGAs
- 1710 includes lifetime access to the latest BPWin software
- Uses USB 2.0 communication
- With on-board memory capable of concurrent production programming
- FX4™ socket modules include 3 separate LEDs per socket and allow the 1710 to program 4 devices simultaneously
- Compatible with both automated and manual socket modules
- Patented solution to guard against passing blank parts— available only from BPM Microsystems
- Supports all device packages, including, but not limited to, DIP, SDIP, PLCC, TSOP, SSOP, PCMCIA, QFN, MLF, LAP, SOIC, LCC, QFP, PQFP, PGA, SIMM, CSP, BGA, μBGA, TQFP and TSSOP
- Ideal for design engineering and low-volume production
- Serialization support using standard, FX, FX2, and FX4 socket modules
- Jobmaster™ files can be shared with all other 7th Gen Programmers

## The 2710-2 Production Programmer

7th Gen Manual Programmer with Two Sites



The 2710 Manual Concurrent Programming System® is designed for today's microcontrollers with their long programming times. Used in combination with FX4™ socket modules, the 2710 is one of the lowest cost-per-device solutions for memory and microcontroller devices. This programmer also has the versatility to program FPGAs, PLDs, and many more device types. BPM Microsystems' concurrent programmers use fault-tolerant architecture, which means multiple programming sites operate independently within a single job session. As a result, throughput, yields, and uptime are optimized to allow a single operator to produce higher yield of programmed devices.



4910 APS



3928 APS



3901 APS



2900L Programmer



2710 Programmer



2900 Programmer



1710 Programmer

## Complete Ecosystem

BPM Microsystems has ownership of all designs, manufacturing, and support for all programming sites, robotics, vision systems, and software, so we can provide unmatched support and responsiveness

- Reduce your time to market by doing New Product Introduction/First Article through Automated Production with the same hardware, algorithms, and software
- 2900, 2900L (9th Gen), 1710 & 2710 (7th Gen) for Manual Production; 3901, 3928, & 4910 for Automated Production— only BPM can deliver!

# 1710 | 2710-2 | 7th Gen Manual Programmers Specifications

## 2710-2 Manual Programmer

**2-Site Model** 240-pins drivers total, universal ground transistors 48 fully universal drivers with vcc, vpp, digital and clock 96 high speed digital and clock pins

**Operating Voltage:** 100-240 VAC

**Frequency:** 50-60 Hz

**Current Rating:** 8-4 A (Fuse 250V 6A SB)

**Dimensions:** 21.55" (547mm) x 8.65" (220mm) x 4.68" (119mm)

**Weight:** 12.2 lbs. (5.5 kg)

### Hardware

**Architecture:** Concurrent Programming System

**Sites:** 2 per chassis; multiple chassis may be linked

**Calibration:** Annual; may be verified on site with optional socket module

**Diagnostics:** Pin continuity test, ROM, CPU, pin drivers, power supply, communications, cables, calibration, timing, ADC, DAC, interconnects

**Memory:** 512MB per site

**User Interface:** Pass, Fail, Active, Start LEDs and Start switch on each site; PC display shows systems status at a glance; auto-start mode automatically begins programming when a device is inserted

**PC System Requirements:** Windows 10, Windows 7

### PIN Drivers

**Quantity:** 240-pins standard

**Analog Slew rate:** 0.3 to 25V/μs

**Vpp Range:** 0-25V

**Ipp Range:** 0-70mA continuous, 250mA peak

**Vcc Range:** 0-12V

**Icc Range:** 0-1A

**Very low voltage:** To 1.5V (Vdd)

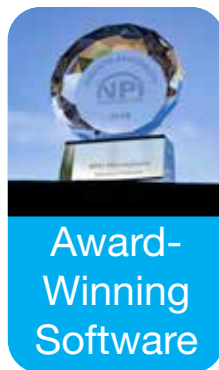
**Rise Time:** 4ns

**Overshoot:** None

**Clocks:** Continuously variable 1 MHz to 30 MHz

**Protection:** Overcurrent shutdown, power failure shutdown

**Independence:** Pin drivers and waveform generators are fully independent and concurrent on each site



## 1710 Engineering Programmer

**Operating Voltage:** 100-240 VAC

**Frequency:** 50-60 Hz

**Current Rating:** 4-2 A (Fuse 250V 6A SB)

**Dimensions:** 11.75" (298mm) x 8.65" (220mm) x 4.68" (119mm)

**Weight:** 7.22 lbs. (3.28 kg)

**Software Contract:** Lifetime access to BPWin

### Hardware

**Architecture:** Concurrent Programming System

**Sites:** 1 per chassis; multiple chassis may be linked

**Calibration:** Annual; may be verified on site with optional socket module

**Diagnostics:** Pin continuity test, ROM, CPU, pin drivers, power supply, communications, cables, calibration, timing, ADC, DAC, interconnects

**PC System Requirements:** Windows 10, Windows 7

### PIN Drivers

**Quantity:** 240-pins standard

**Analog Slew rate:** 0.3 to 25V/μs

**VPP Range:** 0-25V

**IPP Range:** 0-70mA continuous, 250mA peak

**VCC Range:** 0-12V

**ICC Range:** 0-1A

**Very low voltage:** To 1.5V (Vdd)

**Rise Time:** 4ns

**Overshoot:** None

**Clocks:** Continuously variable 1 MHz to 30 MHz

**Protection:** Overcurrent shutdown, power failure shutdown

**Independence:** Pin drivers and waveform generators are fully independent and concurrent on each site

### Software (2710/1710)

**Required:** BPWin

**Windows Version:** Windows 10, Windows 7 64bit

**File Type:** Including, but not limited to, binary, Intel, JEDEC, Motorola, POF, RAM, straight hex, Tekhex, Extended Tekhex, ASCII hex, Formatted Binary (.DIO), AFM, OMF, LOF

**Device Commands:** Blank, checksum, compare, options, program, test, verify

**Features:** Data editor, revision history, session logging, on-line help, device and algorithm information



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