

<http://algocraft.com.cn>

Company Presentation



SOLUTIONS FOR THE PROGRAMMING INDUSTRY

The Company

- Core business is to design, develop and market a wide range of professional systems dedicated to the manufacturing and testing of electronic boards.
- Highly skilled team of engineers with over 10 years of individual design experience in the Industrial Programming field.
- On-the-field knowledge of technical and marketing issues.

Mission

To become a reference point in the Industrial Programming field, by providing customers with the high-quality products and services they need to meet the highest production standards while reducing costs and speeding up time-to-market.

Vision

We believe in the advantages that In-System Programming technology can bring to today's and tomorrow's production requirements.



Company Philosophy

Quality.

We are committed to provide our customers with high quality products and services.

Integrity.

We think that integrity and professionalism are at the base of every relationship with our customers, partners and sales representative.

Customer Satisfaction.

We don't just design and sell products—we take care of our customers, we listen to their needs and provide them with top-class support.

Company Strengths

- Our strength lies in our unique combination of staff, products and services.
- Our engineers are on top of the latest developments in the embedded and programming market.
- We continuously invest in innovation and new solutions. Working in close cooperation with our partners, we act on signals from the market to come up with product alterations or new tools.

Location

Algocraft headquarters are located
in Pordenone, Italy



Technology Pole of Pordenone

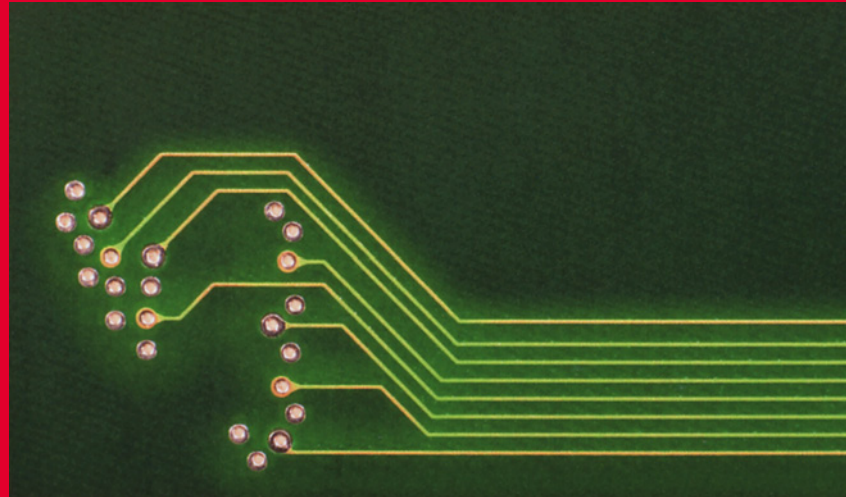
We are partners with the Science and Technology Park of Pordenone, in the frame of a cooperation program with the AREA Science Park Consortium.

www.polotecnologico.pn.it



Applications

- Research & Development
- Test engineering
- Production
- Field support



The WriteNow! Technology

- WriteNow! is Algocraft's proprietary technology at the heart of the WriteNow! Series of Industrial Programmers
- Ultra-fast, universal In-System Programming
- Programs up to 8 devices simultaneously
- Designed for programming fixtures



Customers & Partners

- Semiconductor Manufacturers
- Contract Manufacturers (EMS & OEM)
- ATE System Integrators
- ATE Producers
- We at Algocraft strongly believe that it's important to develop fruitful relationships, both human and professional, with our customers and partners

Distributors

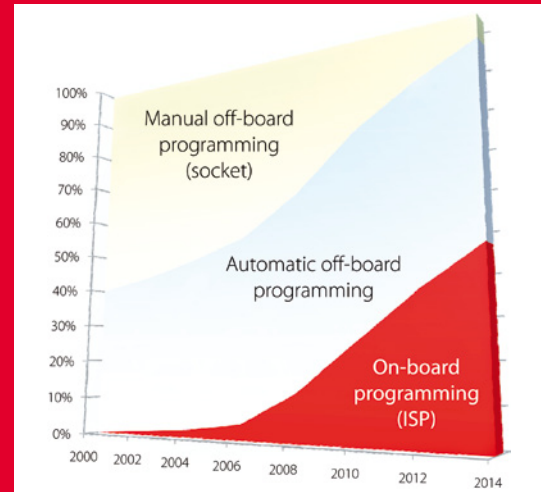
- Algocraft's international distributor network is made of selected partners who are industry professionals, with both technical and marketing knowledge
- The distributor network is aimed to provide the best local customer service possible

Silicon Support

- Altera
- Atmel
- Cypress
- Ember
- Eon
- Freescale
- Fujitsu
- Holtek
- Infineon
- ISSI
- Microchip
- MXIC
- Numonyx
- NXP
- ON
- Ramtron
- Renesas
- Rohm
- Samsung
- Sanyo
- SII
- Spansion
- SST
- STMicroelectronics
- Texas Instruments
- Toshiba
- Winbond
- Zensys
- New manufacturers and devices are constantly added

The Market of Device Programming

- In-System Programming (ISP) will rapidly grow in the next years
- The automotive industry is a leading ISP adopter
- Algocraft aims to become a key player in this market



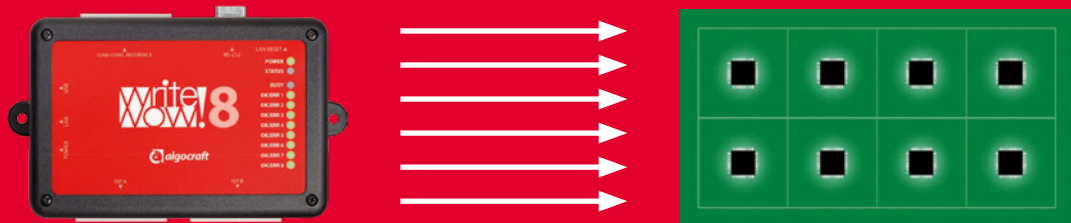
Market Needs

- The global electronics manufacturing market requires high volumes and low-production costs
- Programming time is a key factor
- The WriteNow! technology has been designed to achieve highspeed programming, without sacrificing high quality and flexibility



True Parallelism

- Frequently, PCBs are grouped into PCB panels
- To program all of the devices in a panel, a traditional approach consists on using either multiple programming tools (with added costs and complexity) or a demultiplexing solution (with slow overall programming time)
- WriteNow! programs up to 8 devices at once, drastically reducing programming times, costs, and system complexity

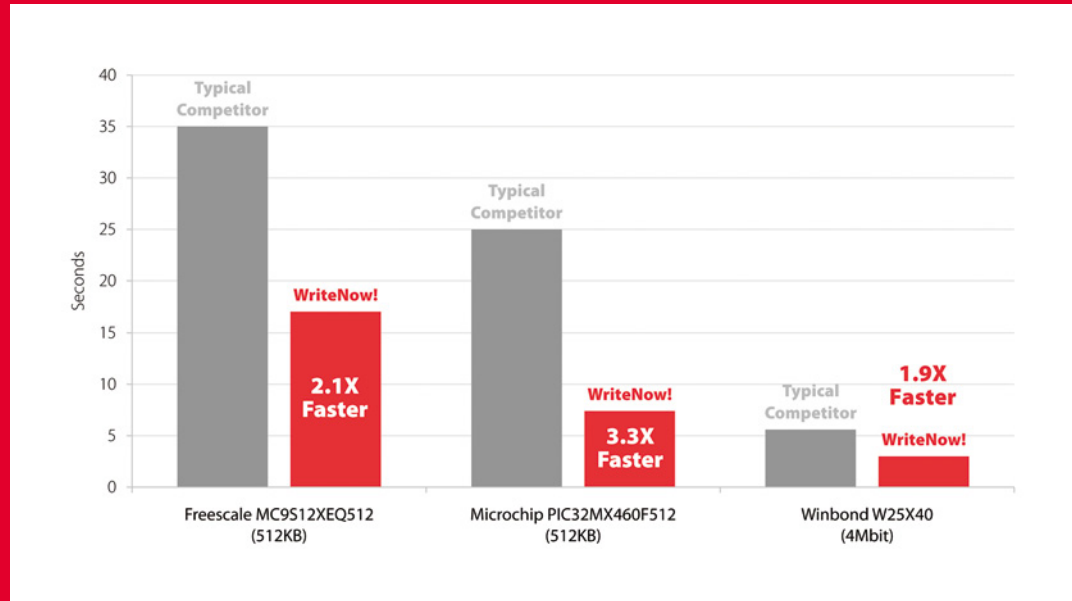


High-Speed Programming

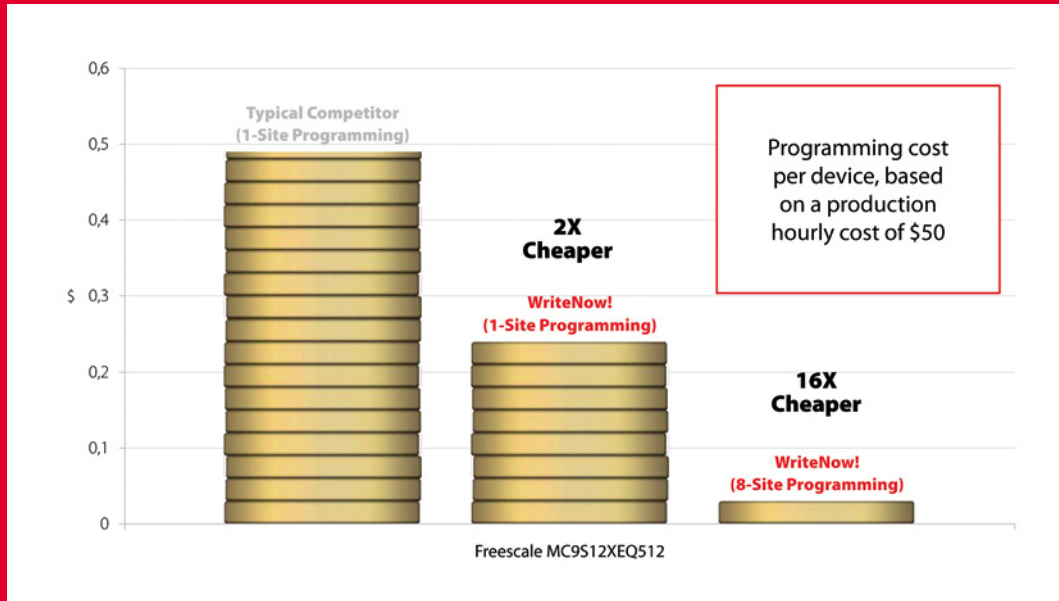
- It's a common need, nowadays, to program microcontrollers with over 1MB of Flash or serial memories with over 64MB
- The faster the programming, the lower the production costs
- WriteNow! performance allows the theoretical programming speed of any given device to be reached



Programming Times Comparison



Programming Costs Comparison



Universal Device Support

A single programming tool supporting various devices and manufacturers means:

- Only one system to learn
- Less spare parts
- Only one company to interface with
- Save on engineering time and cost
- More time to dedicate to the quality of the programming/testing flow



Worldwide Remote Connection

- Manufacturing companies often need to synchronize local data with distant production facilities
- WriteNow! allows production data to be sent over the Internet from a local R&D laboratory directly to any other WriteNow! instrument in the world
- Likewise, distant WriteNow! instruments can be remotely controlled from a local PC



Data Repository

Via LAN interface, WriteNow! programmers (clients) can read data (files) from one server. The programmers can be also controlled from a secondary interface port (RS232, I/O, LAN, etc)

- Reduce problems arising from data proliferation
- Data synchronization
- Data encryption

Variable Data Programming

WriteNow! easily allows the custom programming of each single device with variable data, such as:

- Serial numbers
- Product vendor ID
- Batch number
- Barcode data
- And any other variable data

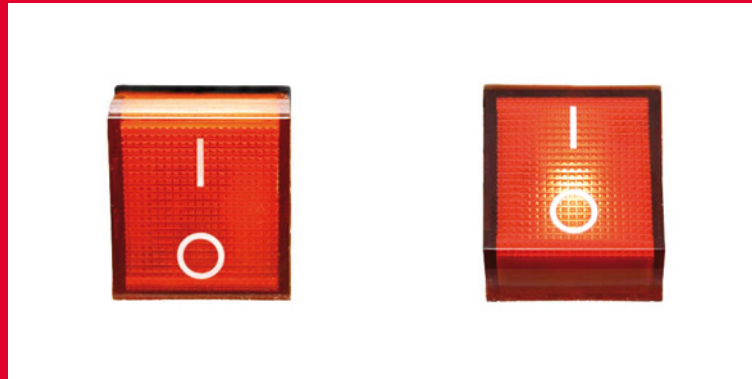


Standalone Control

- Binary codes, board parameters, programming flow (and above all, programming intelligence) reside inside WriteNow!
- WriteNow! works either permanently connected to a PC, or in standalone mode
- When in standalone, a simple “start” command string can be sent by an ATE or PC to initiate the programming flow
- After the programming flow is started, the ATE or PC can switch to other tasks (e.g. starting the test of other boards) - no external resources are needed to carry out the programming flow
- In the simplest connection scenario, an ATE can control WriteNow! via Low-level I/O lines (START, BUSY, ERR/OK)

Relay Barrier

- Built-in relay barrier allows ISP lines to be disconnected from the target system, thus allowing other operations (i.e., functional tests) to be performed by other equipment
- Relay trigger signal allows synchronization with an external relay barrier or demultiplexer module



Demultiplexer Module

- A wide range of WriteNow! demultiplexer modules are available in order to satisfy any customer need
- Handle up to 32 boards
- Relay for each demultiplexer channel (GND included)

Model	Nmb. Boards (in parallel)	Nmb. Boards (in demultiplexing)
WN-PRG02A	2	8
WN-PRG04A	4	16
WN-PRG08A	8	32

External Modules

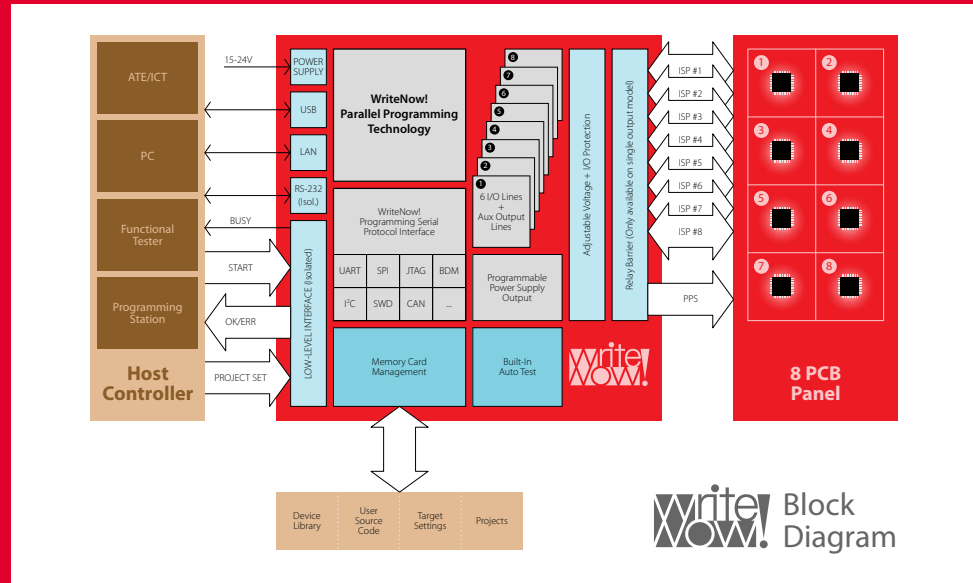
WriteNow! Programmer with relay barrier module (8 site in parallel)



WriteNow! Programmer with demultiplexer module (32 channels with relay barrier)



Block Diagram

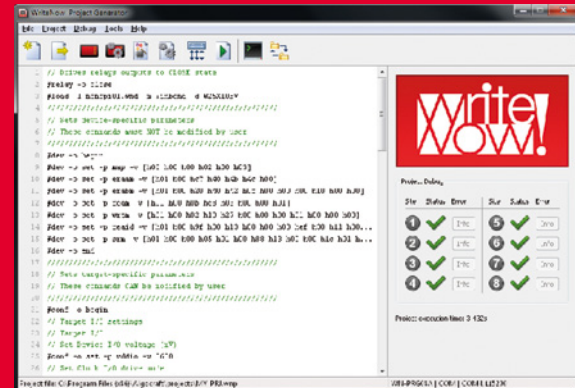


Model		WN-PRG01A	WN-PRG02A	WN-PRG04A	WN-PRG08A
Programming Sites		1	2	4	8
Power Supply		15-24V			
Device Type Support		Microcontrollers, Serial Memories	Microcontrollers, Serial Memories	Microcontrollers, Serial Memories	Microcontrollers, Serial/Parallel Memories
Protocols		UART, SPI, JTAG, I ² C, BDM, SWIM, SWD, etc.			
Relays Barrier		Yes	No	No	No
Demultiplexer Module		No	Yes	Yes	Yes
ISP Lines	Adj. Voltage Range	1.6-5.5V			
	Adj. Voltage Resolution	100mV			
	Bidirectional Lines	6	12	24	48
	Prog. Clock Out Lines	1	2	4	8
Prog. Power Supply (PPS)	Range	1.5-13V			
	Resolution	100mV			
	Channels	1	2	4	8
Host Interface	RS-232 (Isolated)	Yes			
	LAN	Yes, 100Mbit/s			
	USB	Not yet available			
	Low-Level Interface (Isolated)	START, START_ENA, OK/ERR, BUSY, PRJ_SEL[0..5]	START[1..2], START_ENA[1..2], OK/ERR[1..2], BUSY, PRJ_SEL[0..5]	START[1..4], START_ENA[1..4], OK/ERR[1..4], BUSY, PRJ_SEL[0..5]	START[1..8], START_ENA[1..8], OK/ERR[1..8], BUSY, PRJ_SEL[0..5]

Software: Project Generator

Easily create and debug a programming project in a few guided steps:

- Device selection
- Source file creation
- Board parameter settings
- Programming flow options
- Upload and run the Project



Version Backup/Restore

- Instrument firmware and programming data can be backed up and restored on any instrument, at any time
- Instrument can be restored to a previous version to produce the same programming results

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