Universal Programmers



# SPRINT Dual Package

CERTIFIED
ORIGINAL VENDOR ALGORITHMENS
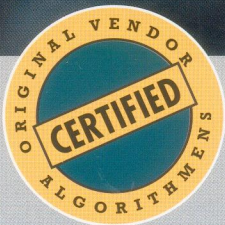
- ◇ **High Device Support as Standard**
- ◇ **Comfortable Handling**
- ◇ **Universal and Flexible System**
- ◇ **Configurable for Low Volume Production**
- ◇ **84 Pindrivers as Standard/Unlimited Expansion**
- ◇ **Full Testvector Support**

**SMS**

Without using adapters the Dual Package ensures maximum support for standard DIL and PLCC devices.

The Dual Package stands for a comfortable handling as a change of the TOPs is not necessary.

For future demands the DUAL Package is upgradeable to a full function gang programmer.

## Standard Features:

- Manual
- DOS programming software
- Power supply with cable set
- 12 months warranty

## Optional Features:

- Windows programming software
- Software Maintenance Plan SMP
- Various TOPs

## Technical Specifications:

- 48 Pin DIL Socket
- 84 pin Universal PLCC Socket
- Universal pin drivers
- Exact digital and analog voltages
- Internal Crystal Supply

## Programmable devices:

- Memory: PROMs, EPROMs, EEPROMs, FLASHs
- Logic: FPGAs, PLDs, PALs, IFLs, FPALs
- Microcontroller and sequencer
- Programmable crystals
- Antifuse FPGAs

## System Requirements:

IBM compatible 386DX PC or higher with at least 5 MB free hard disk space

## Operational Requirements:

Operation voltages:
100 - 250 VAC
Power Consumption: 25 W
Weight: 2,1 kg
Size: 21 x 18 x 9 cm
Safety standards: UL CSA GS

# SMS
**Wangen/Germany**

# Sprint

TOP40DIP

STATUS

SPRINT

SMS SPRINT

SMS

DUAL

# Professional Programmers
# for Universal Needs

## SMS
### Service means satisfaction.

# Professional Solution for
# Universal Needs

At SMS we understand that the needs of each of our customers are different. We also understand that in order to provide a professional solution for each individual need, our products must be very flexible. Our commitment to professional solutions has produced a design philosophy that makes the Sprint Family a world class leader in Universal Programmers.

The pin drivers must be universal.

The heart of every programmer is the pin driver technology. You cannot build a truly universal programmer unless the pin driver design is flexible enough to provide any signal required to any pin of the device being programmed. Before building the first programmer, SMS began investing in full custom ASIC technology to create the most compact, full function, universal pin driver found in any device programmer on the market.

Every pin must be connected to a universal pin driver.

At the rapid pace that this industry moves, the only way to insure that the programmer will be able to support both today's as well as tomorrow's devices to connect every pin of the device to a universal pin driver. Sprint programmers provide you with the broadest capability by connecting all socket pins to a universal pin driver, not less expensive TTL devices which are sometimes found in other programmers.

Lead lengths between the test socket, pin drivers and relays must be minimized.

The best way to reduce yield loss when programming and testing today's high speed CMOS technology devices is to place the output of each pin driver, Vcc and Gnd relay as close to the device as possible. Sprint's full custom ASIC pin drivers have allowed the entire circuitry to be minimized in such a way as to reduce all critical trace lengths. Noise and ground bounce problems that

plague many other programmers have been virtually eliminated in Sprint's compact design.

Take advantage of the computing power that you already own.
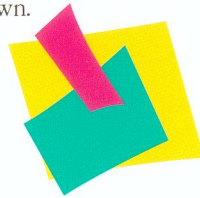
As a peripheral to the PC, Sprint utilizes the CPU, RAM and disk drives which you already own. A key advantage to this approach is that you have the freedom to choose the level of computing performance that you desire and easily adapt the programmer to your existing work environment. This strategy allows you to have the most cost effective computing power for your programmer today and the flexibility to upgrade it tomorrow should you desire to do so.

Easily adapt to various package types.

The revolution in packaging technology demands a flexible design. With the production of Sprint Expert, SMS introduced a modular TOP technology that provides for quick and reliable change over when a different device package is being used. We have even maintained this same flexibility in our Multisyte family of gang programmers.

Regular updates that are easy to implement

Regular updates are required to keep a programmer current with the latest programming algorithms. Since most device manufacturers make numerous changes to their algorithms, a programmer must be frequently updated, or yields can decline or worse yet, the quality of the programmed part can be reduced. Since Sprint updates are available on disk and do not need additional hardware changes, you may easily install your new update by merely inserting a disk in your computer and type A:\INSTALLH. New updates are distributed three times a year on disk. In addition, the latest software is always available on our BBS.
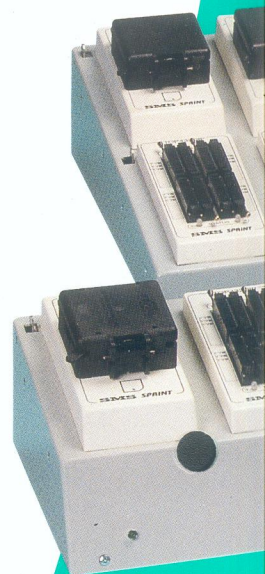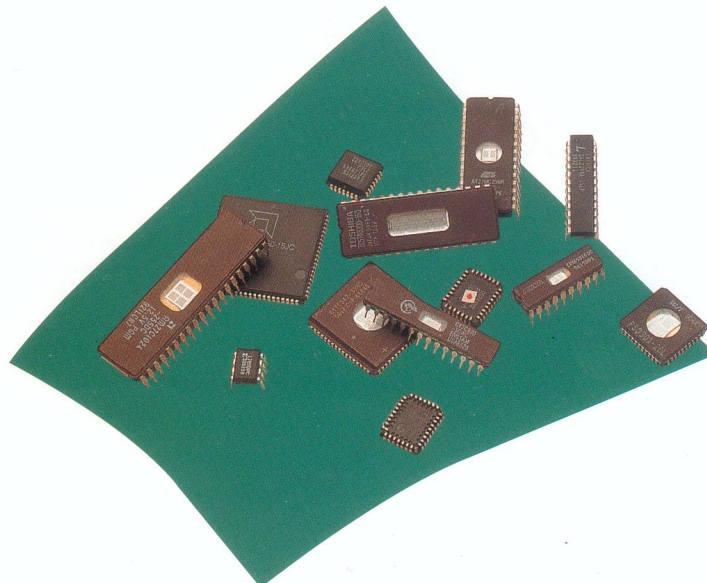
# Engineering Solutions.

Engineer's specific needs are different than those of manufacturing. While both segments demand cost effective solutions, each segment has its own unique requirements. Engineers need maximum flexibility and broad device support. Sprint offers outstanding device support, ease of use, flexible package type support, speedy operation and small size. In addition, Sprint offers a broad range of price performance packages. Engineers who deal with a limited number of devices and package types will appreciate our Sprint PLUS48 programmer.

Engineers who must be able to support the broadest possible range of devices will find our Sprint Optima and Expert products to be ideal programmers for their needs.

# Manufacturing Solutions.

Designed for manufacturing

The requirements for the manufacturing segment differ from those of the engeneering segment in critical areas. The operator must be able to perform the required functions quickly, with the highest degree of quality and with the least amount of training possible. Therefore the programmer must be intelligent enough to anticipate and prevent human error yet simple enough for the lowest possible skill level to operate. The batch file mode built into every Sprint programmer is a powerful supervisory tool that allows operations to be defined and controlled by the supervisor yet implemented by the operator. Repetitive tasks can be easily set up in batch files and then effortlessly implemented by the operator without errors common in most manual operations.

Universal device programmers

While gang programmers capable of handling small memory devices have been on the market for some time, they are frequently not optimized to handle today's larger memory devices. Their internal RAM designs require too long to up or down load. These older gang programmers are also not capable of gang programming most of today's programmable logic devices nor many of the more complex micro controllers. Sprint's Multisyte family provides fast and efficient programming for all of today's programmable technologies. Programmable logic devices can even be programmed, complete with test vector support. Now devices that take tens of seconds to several minutes can be easily programmed in parallel during the same time that it takes to do only one device since each programming site contains a totally isolated set of electronics.

Direct dock to a device handler

Sprint's small size and interchangeable TOP technology enables highly efficient direct docking to automated device handlers. Sprint's TOP1PLC/PI technology provides unparalleled performance for PLCC devices when connected to a device handler. Over one million cycles can be expected from the socket technology employed in this revolutionary TOP. Test vectors can even be run on devices up to 84 pins because of the universal pin drivers used connected to every socket pin.
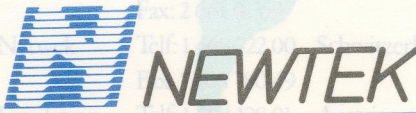
## Field Service Solutions.

The Sprint Optima was designed with the field service and applications personnel in mind. This compact and rugged programmer can be easily fitted into a standard brief case complete with a notebook computer and battery pak. Now universal programming support is available anywhere the field personnel have to go.

## Approved Algorithms.

SMS programmers use only certified manufacturer's approved algorithms. We believe that the people who design and manufacture the devices are the experts in how they should be programmed. Therefore we do not take short cuts in order to try to increase programming speed while risking unknown long term effects. You can rest assured that when you use Sprint programmers, the wave forms supplied to your devices are those that are specified by the manufacturer.

## Worldwide Service and Support

Comprehensive support is provided by our worldwide sales and service network. With distributors and representatives in every major country throughout the world, support is never more than a simple call away.
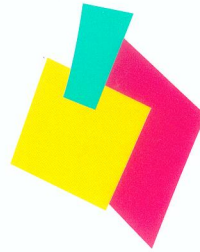
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