SMART1 version 1.20

- Alternative programming procedure
- Improved clock reliability
- New programming tools

Alternative programming procedure

SMART1s are programmed by downloading software code from the SMART1 Programmer software on a PC.
To start this process, the SMART1 is powered up in what is called the "Bootstrap Mode".
This is accomplished by pressing the SMART1's programming button while applying power to the unit.

Due to the value of the SMART1's internal oscillator crystal, the serial communications speed during bootstrap mode is fixed to 7200 baud.
By directly addressing the PC's UART chip responsible for serial ports COM1 and COM2, the SMART1 Programmer software automatically sets the PC's communications speed to match that of the SMART1.
This technique works with all variations of Windows as of now (3.11, 95, 98, NT, ME, 2000, XP), and on most PCs, but relies on "true" RS232 serial ports configured as either COM1 or COM2.
However, due to the specific interaction between operating system and communications hardware, some newer portable PCs are incapable of communications at 7200 baud entirely.

SMART1 version 1.20 offers an alternative to programming in bootstrap mode.
Once a SMART1 was originally programmed with operation system version 1.20 (using bootstrap mode), it may be re-programmed from any PC using all available COM ports, even via "USB to RS232" adapters.

When powered up with the down arrow key held down, SMART1s running version 1.20 will display the screen shown here.
Subsequently, pressing key 1 will download the new program, bypassing the bootstrap section.
After downloading completes, the new program will start immediately.

```
SMART1   version 1.20

Download  new  program
Start-->1 Cancel-->0
```

Improved clock reliability

In the past a few SMART1s lost their clock settings and their clock "froze up". SMART1s running version 1.20 are much less likely to experience problems of that kind.

New programming tools

The SMART1 Programmer software version 1.20 introduces a set of tools intended to help the programmer find individual instructions faster when trouble shooting or changing programs. With the new tools the SMART1 Programmer software will find and highlight all instructions as specified by type and content or variable name.