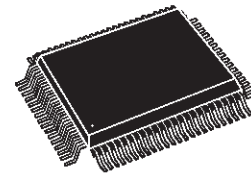


**ROMLESS HCMOS MCU WITH  
ON-SCREEN-DISPLAY AND TELETEXT DATA SLICER****BRIEF DATA**

- Register File based 8/16 bit Core Architecture with RUN, WFI, SLOW and HALT modes
- 0°C to +70°C Operating Temperature Range available
- Up to 24 MHz Operation @ 5V±10%
- Minimum instruction cycle time: 375ns at 16MHz internal clock
- 4 Mbytes address space
- 256 Bytes RAM of Register file (accumulators or index registers)
- 1024 Bytes of on-chip static RAM
- 8K Bytes of TDSRAM (Teletext and Display RAM)
- 80-lead QFP package
- 23 fully programmable I/O pins
- Serial Peripheral Interface
- Flexible Clock controller for OSD, Data Slicer and Core clocks running from one single low frequency external crystal.
- Enhanced Display Controller with 26 rows of 40/80 characters
  - Serial and Parallel attributes
  - 10x10 dot Matrix, 512 ROM characters, definable by user
  - 4/3 and 16/9 supported
  - Rounding, fringe, double width, double height, scrolling, cursor, full background colour, semi-transparent mode and reduced intensity colour supported
  - 50/60 Hz. or 100/120 Hz. operation.
- Teletext unit, including Data slicer, Acquisition Unit and up to 8 Kbytes TDSRAM for Data Storage
- VPS and Wide Screen Signalling slicer
- Integrated Sync Extractor and Sync Controller
- 14-bit Voltage Synthesis for tuning reference voltage
- Up to 8 External Interrupts plus 1 non-maskable interrupt

**QFP80**

- 8 x 8-bit programmable PWM outputs with 5V open-drain or push-pull capability
- 16-bit Watchdog timer with 8-bit prescaler
- 16-bit standard timer with 8-bit prescaler usable as a Watchdog timer
- 4-channel Analog-to-Digital converter; 6-bit guaranteed
- Rich instruction set and 14-Addressing modes
- Versatile Development Tools, including Assembler, Linker, C-compiler, Archiver, Source Level Debugger and Hardware Emulators with Real-Time Operating System available from third parties

## 1 DESCRIPTION OF THE ST92R195

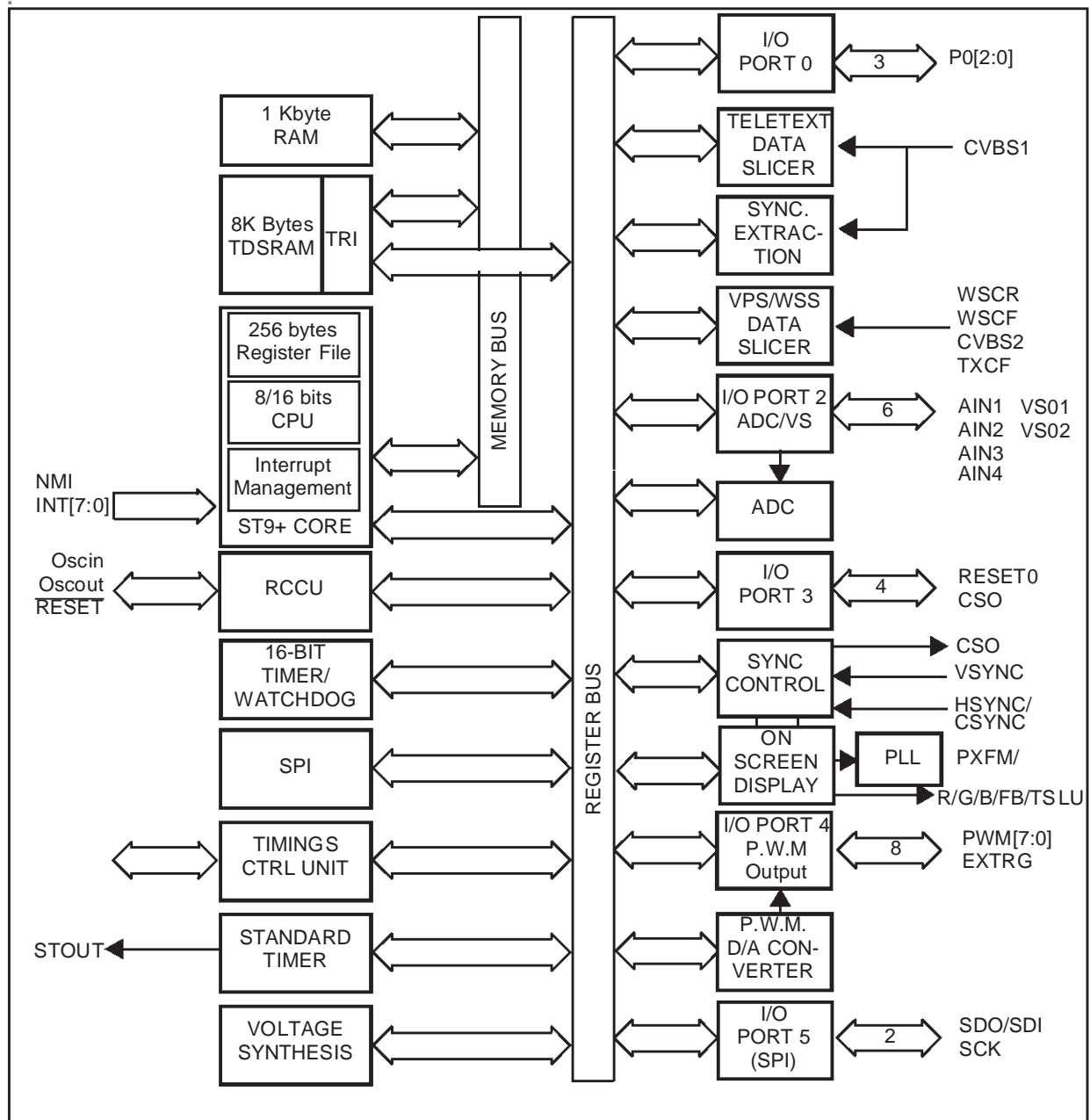
The ST92R195 is a member of the ST9+ family of microcontrollers, completely developed and produced by SGS-THOMSON Microelectronics using a proprietary n-well HCMOS process.

The nucleus of the ST92R195 is the advanced Core which includes the Central Processing Unit (CPU), the ALU, the Register File and the interrupt controller. The Core has independent memory and register buses to add to the efficiency of the code.

A set of on-chip peripherals form a complete system for TV set and VCR applications:

- Voltage Synthesis
- VPS/WSS Slicer
- Teletext Slicer
- Teletext Display RAM
- OSD

**Figure 1. ST92R195 Block Diagram**



**Notes:**

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