



## x86 MICROPROCESSORS

Type	Socket compatibility custom	Architecture	Max Frequency (MHz)	Performance (P-rating)	Package custom	Int/ext Clock ratio custom	Supply Voltage (Volt)
ST486DC ASIC core		486DX	133				3.3
ST486DX2-66GS	486DX / DX2	486DX	66		PGA 168	2	5
ST486DX2-80GS	486DX / DX2	486DX	80		PGA 168	2	5
ST486DX4V75HS	486DX4 / 5x86	486DX	75		PGA 168	2 or 3	3.45
ST486DX4V10HS	486DX4 / 5x86	486DX	100		PGA 168	2 or 3	3.45
ST486DX4V12HS	486DX4 / 5x86	486DX	120		PGA 168	2 or 3	3.45
ST5X86V10HS	486DX4 / 5x86	6X86	100		PGA 168	2 or 3	3.45
ST6X86P90+HS	Pentium ®	6X86	80	P90+	PGA 296	2 or 3	3.45
ST6X86P120+HS	Pentium ®	6X86	100	P120+	PGA 296	2 or 3	3.45
ST6X86P133+HS	Pentium ®	6X86	110	P133+	PGA 296	2 or 3	3.45
ST6X86P150+HS	Pentium ®	6X86	120	P150+	PGA 296	2 or 3	3.45
ST6X86P166+HS	Pentium ®	6X86	133	P166+	PGA 296	2 or 3	3.45
ST6X86P200+HS	Pentium ®	6X86	150	P200+	PGA 296	2 or 3	3.45

## 9400 FAMILY - 4 BIT MCU

Type	Description	Package
ETC 9410/11/13 *	CMOS, 0.5K ROM, 32 RAM, 15-19 I/O Lines	PDIP20/24, PSO20/24
ETC 9420/21/22 *	CMOS, 1K ROM, 64 RAM, 15-23 I/O Lines	PDIP20/24/28, PSO20/24/28
ETL 9410/11/13 *	NMOS, Low Power, 0.5 K ROM, 15-19 I/O Lines	PDIP20/24, PSO20/24
ETL 9420/21/22 *	NMOS, Low Power, 15K ROM, 15-23 I/O Lines	PDIP20/24/28, PSO20/24/28

\* only for maintenance



## EF6801/04/05 FAMILIES - HMOS, 8 BIT MCU

Type	Description	Package
EF68HC04J3 EF68HC04P3 EF6805U3/R3	2K ROM, 12 I/O Lines, 8 Bit Timer 2K ROM, 20 I/O Lines, 8 Bit Timer 3.7K ROM, 32 I/O Lines, 8 Bit Timer	PDIP20, PSO20 PDIP28, PSO28, PLCC28 PDIP40, PLCC44

## 68000 FAMILY - NMOS, 8 BIT MPU

Type	Description	Package
EF68A09	High Performance MPU, 1.5 MHz	PDIP40
EF68A09E	68A09 With External Clock, 1.5 MHz	PDIP40
EF68B09	High Performance MPU, 2 MHz	PDIP40
EF68B09E	68B09 With External Clock, 2 MHz	PDIP40
EF6809	High Performance MPU, 1 MHz	PDIP40
EF6809E	6809 With External Clock, 1 MHz	PDIP40
EF68A21	Peripheral Interface Adapter, 1.5 MHz	PDIP40
EF68A40	Programmable Timer, 1.5 MHz	PDIP28
EF68A50	Asynchronous Communication Interface Adapter, 1.5 MHz	PDIP24
EF68A54	Advanced Data Link Controller, 1.5 MHz	PDIP28
EF68B21	Peripheral Interface Adapter, 2 MHz	PDIP40
EF68B40	Programmable Timer, 2 MHz	PDIP28
EF68B50	Asynchronous Communication Interface Adapter, 2 MHz	PDIP24
EF68B54	Advanced Data Link Controller, 2 MHz	PDIP28
EF6821	Peripheral Interface Adapter, 1 MHz	PDIP40
EF6840	Programmable Timer, 1 MHz	PDIP28
EF6850	Asynchronous Communication Interface Adapter, 1 MHz	PDIP24
EF6854	Advanced Data Link Controller, 1 MHz	PDIP28

## 68000 FAMILY - 16 BIT MPU

Type	Description	Package
TS68230	HMOS, Parallel Interface, Timer, 8 and 10 MHz	PDIP48, PLCC52
MK68564	NMOS, Serial I/O, 4 and 5 MHz	PDIP48, PLCC52
MK68901	NMOS, Multifunction peripheral, 4 and 5 MHz	PDIP48, PLCC52
TS68HC901	HCMOS, Multifunction peripheral, 4, 5 and 8 MHz	PDIP48, PLCC52



## ST62 FAMILY- CMOS, 8 BIT MCU

This popular family of CMOS single chip microcontrollers is specially tailored to application specific environments. Thanks to its advanced technology this 8 bit MCU family is well suited for analog and digital processing with economy and performance.

All ST6 devices are based on a building block approach. A common core is surrounded by a combination of dedicated on-chip peripherals, e.g.: A/D Converters, Timers, Watchdog, LCD drivers, Operational amplifiers, PLL, D/A Converters, LED drivers, IR pre-processors, OSD Generators, etc. **The ST62 series are designed for general purpose, industrial control, consumer and automotive applications.** Different RAM sizes and ROM from 1K to 8K are available, together with EPROM, OTP, FAST ROM versions. Devices with data EEPROM on-chip are also available. The instruction set is designed for byte-efficient program storage and includes bit manipulation and conditional jump instructions.

## ST62 SERIES (General Purpose)

Device	Program Memory Type				Program Memory	RAM x 8	EEPROM x 8	A/D Inputs	WD Timer	Timers	Serial Interface	I/Os (High Current)	Package	Additional Features			
	ROM	EPROM	OTP	FAST ROM <sup>3)</sup>													
ST6200C <sup>1)</sup>	•	ST6201	•	•	1K	64	-	4x8-Bit	Yes	1x8-Bit	-	9 (3)	DIP16/SO16	Direct LED or Triac driving via high current I/Os. C version has Low Voltage Detection (LVD), Oscillator Safeguard (OSC), RC Oscillator			
ST6201C <sup>1)</sup>	•	•	•	•	2K	64	-	4x8-Bit	Yes	1x8-Bit	-	9 (3)	DIP16/SO16				
ST6203C <sup>1)</sup>	•	ST6201	•	•	1K	64	-	-	Yes	1x8-Bit	-	9 (3)	DIP16/SO16				
ST6208C <sup>1)</sup>	•	ST6220	•	•	1K	64	-	-	Yes	1x8-Bit	-	12 (4)	DIP20/SO20				
ST6209C <sup>1)</sup>	•	ST6220	•	•	1K	64	-	4x8-Bit	Yes	1x8-Bit	-	12 (4)	DIP20/SO20				
ST6210C <sup>1)</sup>	•	ST6220	•	•	2K	64	-	8x8-Bit	Yes	1x8-Bit	-	12 (4)	DIP20/SO20				
ST6215C <sup>1)</sup>	•	ST6225	•	•	2K	64	-	16x8-Bit	Yes	1x8-Bit	-	20 (4)	DIP28/SO28				
ST6218C <sup>2)</sup>	•	•	•	•	6K	192	-	7x8-Bit	Yes	1x8-Bit 1x8-Bit AR	UART	12 (8)	DIP20/SO20				
ST6220C <sup>1)</sup>	•	•	•	•	4K	64	-	8x8-Bit	Yes	1x8-Bit	-	12 (4)	DIP20/SO20				
ST6225C <sup>1)</sup>	•	•	•	•	4K	64	-	16x8-Bit	Yes	1x8-Bit	-	20 (4)	DIP28/SO28				
ST6228C <sup>2)</sup>	•	•	•	•	6K	192	-	12x8-Bit	Yes	1x8-Bit 1x8-Bit AR	SPI UART	20 (8)	DIP28/SO28				
ST6230B	•	•	•	•	8K	192	128	16x8-Bit	Yes	1x8-Bit 1x16-Bit AR	SPI UART	20 (4)	DIP28/SO28			Direct LED or Triac driving via high current I/Os Autoreload Timer, CAPCOM	
ST6232B	•	•	•	•	8K	192	128	21x8-Bit	Yes	1x8-Bit 1x16-Bit AR	SPI UART	30 (9)	SDIP42				
ST6240B	•	•	•	•	8K	216	128	12x8-Bit	Yes	2x8-Bit	SPI	24 (4)	QFP80	45x4 LCD Segment	Direct LED or Triac driving via high current I/Os		
ST6242B	•	•	•	•	8K	216	128	6x8-Bit	Yes	2x8-Bit	SPI	18 (4)	QFP64	40x4 LCD Segment			
ST6246B	•	•	•	•	4K	140	128	8x8-Bit	Yes	2x8-Bit	SPI	20 (4)	SDIP56	27x4 LCD Segment			
ST6252B	•	ST6262	•	•	2K	128	-	4x8-Bit	Yes	1x8-Bit 1x8-Bit AR	-	9 (5)	DIP16/SO16	Direct LED or Triac driving via high current I/Osm Auto-Reload Timer for PWM possibilities, CAPCOM			
ST6253B	•	ST6260	•	•	2K	128	-	7x8-Bit	Yes	1x8-Bit 1x8-Bit AR	SPI	13 (6)	DIP20/SO20				
ST6255B	•	ST6265	•	•	4K	128	-	13x8-Bit	Yes	1x8-Bit 1x8-Bit AR	SPI	21 (8)	DIP28/SO28				
ST6260B	•	•	•	•	4K	128	128	7x8-Bit	Yes	1x8-Bit 1x8-Bit AR	SPI	13 (6)	DIP20/SO20				
ST6262B	•	•	•	•	2K	128	64	4x8-Bit	Yes	1x8-Bit 1x8-Bit AR	-	9 (5)	DIP16/SO16				
ST6263B	•	ST6260	•	•	2K	128	64	7x8-Bit	Yes	1x8-Bit 1x8-Bit AR	SPI	13 (6)	DIP20/SO20				
ST6265B	•	•	•	•	4K	128	128	13x8-Bit	Yes	1x8-Bit 1x8-Bit AR	SPI	21 (8)	DIP28/SO28				
ST6280B	•	•	•	•	8K	320	128	12x8-Bit	Yes	1x8-Bit 1x8-Bit AR	SPI UART	22 (10)	QFP100			48x16 LCD Dot Matrix	Direct LED or Triac Driver
ST6285B	•	•	•	•	8K	288	128	8x8-Bit	Yes	1x8-Bit 1x8-Bit AR	SPI UART	12 (4)	QFP80	40x16 LCD Dot Matrix			

Note: 1) the device exists in low voltage version 2) under development 3) Fast Advanced Service Technique ROM

ROM and OTP (except 624X and 628X) available in both automotive and industrial temperature range

OTP = ST62TXX EPROM = ST62EXFASTROM = ST62Pxx



## ST62 FAMILY- CMOS, 8 BIT MCU (Cont'd)

## ST62 FAMILY DEVELOPMENT TOOLS

## Hardware Development Tools

Device	EPROM Programmer			Emulator		Starter Kit		
	Single Eprom	Complete Gang	Gang Adaptor	Complete	Dedication Board			
ST6200C	ST62E2XC-EPB/110 ST62E2XC-EPB/220	ST62E0X-GP/DIP	ST62E0X-GPA/DIP	ST626X-EMU2	ST626X-DBE	ST622XC-KIT /110 /220 /UK		
ST6201C		ST62E0X-GP/SO	ST62E0X-GPA/SO					
ST6203C								
ST6208C		ST62E10-GP/DIP	ST62E10-GPA/DIP					
ST6209C		ST62E10-GP/SO	ST62E10-GPA/SO					
ST6210C								
ST6215C		ST62E15-GP/DIP ST62E15-GP/SO	ST62E15-GPA/DIP ST62E15-GPA/SO					
ST6218C		-	-				ST623X-EMU2	ST623X-DBE
ST6220C		ST62E10-GP/DIP ST62E10-GP/SO	ST62E10-GPA/DIP ST62E10-GPA/SO				ST626X-EMU2	ST626X-DBE
ST6225C		ST62E15-GP/DIP ST62E15-GP/SO	ST62E15-GPA/DIP ST62E15-GPA/SO					
ST6228C		-	-					
ST6230B		ST62E3X-EPB/110 ST62E3X-EPB/220	ST62E30-GP/DIP28 ST62E30-GP/SO28				ST62E30-GPA/DIP28 ST62E30-GPA/SO8	ST623X-EMU2
ST6232B	ST62E32-GP/DIP42		ST62E32-GPA/DIP42					
ST6240B	ST62E4XB-EPB/110 ST62E4XB-EPB/220	ST62E40-GP/QFP	ST62E40-GPA/QFP	ST6240B-EMU2	ST624XB-DBE	ST624XB-KIT		
ST6242B		ST62E42-GP/QFP	ST62E42-GPA/QFP	ST6242B-EMU2				
ST6246B		-	-	ST624XB-EMU2				
ST6252B		-	-					
ST6253B	ST62E6XB-EPB/110 ST62E6XB-EPB/220	ST62E60-GP/DIP ST62E60-GP/SO	ST62E60-GPA/DIP ST62E60-GPA/SO	ST626X-EMU2	ST626X-DBE	ST626XB-KIT /110 /220 /UK		
ST6255B		ST62E65-GP/DIP ST62E65-GP/SO	ST62E65-GPA/DIP ST62E65-GPA/SO					
ST6260B		ST62E60-GP/DIP ST62E60-GP/SO	ST62E60-GPA/DIP ST62E60-GPA/SO					
ST6262B		-	-					
ST6263B		ST62E60-GP/DIP ST62E60-GP/SO	ST62E60-GPA/DIP ST62E60-GPA/SO					
ST6265B		ST62E65-GP/DIP ST62E65-GP/SO	ST62E65-GPA/DIP ST62E65-GPA/SO					
ST6280B	ST62E8X-EPB/110 ST62E8X-EPB/220	ST62E80-GP/QFP	ST62E80-GPA/QFP	ST6280-EMU2	ST628X-DBE	-		
ST6285B		ST62E85-GP/QFP	ST62E85-GPA/QFP	ST6285-EMU2				

## Software Development Tools

Device	Salestype	Description
ST62	ST6-REALIZER/PC	Graphical Schematic based Development
	ST6-FUZZY/PC	Fuzzy Logic Compiler
	ST6-SWC/PC	C Compiler, Macro-assembler, Linker & Simulator



## ST63 MICROCONTROLLER FAMILY - CMOS, 8 BIT MCU

This family of CMOS single chip microcontrollers is specially tailored to application specific environment. Thanks to its advanced technology this 8 bit MCU family is well suited for analog and digital processing with economy and performance.

All ST6 devices are based on a building block approach. A common core is surrounded by a combination of dedicated on-chip peripherals, e.g.: A/D Converters, Timers, Watchdog, LCD drivers, Operational amplifiers, PLL, D/A, LED driver, IR pre-processors, OSD Generators, Voltage Synthesis etc. **The ST63 series is especially designed for TV, SVR (Satellite Video Receiver) and Monitor applications.** Different ROM/RAM sizes, from 8K to 20K ROM are available together with EPROM and OTP versions. Devices with data EEPROM on-chip are also available. The instruction set is designed for byte-efficient program storage and includes bit manipulation and conditional jump instructions.

## ST63 SERIES

Device	Program Memory Type				Program Memory	RAM x 8	EEPROM x 8	D/A Outputs	WD Timer	Timers	PWM	I/Os	Package
	ROM	EPROM	OTP	FAST ROM <sup>1)</sup>									
<i>ST631XX Family for TV and Satellite Video Receiver</i>													
ST63155	•				8K	256	-	4x6-Bit	Yes	2x8-Bit	4	18	DIP40
ST63156	•	•	•		8K	256	128	4x6-Bit	Yes	2x8-Bit	4	18	DIP40
<i>ST636/7/8X Family for TV and Satellite Video Receiver</i>													
ST6365	•				8K	256	384	4x6-Bit	Yes	2x8-Bit	4	22	SDIP42
ST6375	•				14K	256	384	4x6-Bit	Yes	2x8-Bit	4	22	SDIP42
ST6385	•	•	•		20K	256	384	4x6-Bit	Yes	2x8-Bit	4	22	SDIP42
ST6367	•				8K	256	384	6x6-Bit	Yes	2x8-Bit	6	20	SDIP42
ST6377	•				14K	256	384	6x6-Bit	Yes	2x8-Bit	6	20	SDIP42
ST6387	•	•	•		20K	256	384	6x6-Bit	Yes	2x8-Bit	6	20	SDIP42
ST6368	•				8K	256	384	6x6-Bit	Yes	2x8-Bit	6	20	SDIP42
ST6378	•		•		16K	256	384	6x6-Bit	Yes	2x8-Bit	6	20	SDIP42
ST6380	•				8K	256	384	6x6-Bit	Yes	2x8-Bit	6	20	SDIP42
ST6381	•				8K	256	384	4x6-Bit	Yes	2x8-Bit	4	22	SDIP42
ST6382	•				16K	256	384	6x6-Bit	Yes	2x8-Bit	6	20	SDIP42
ST6383	•				16K	256	384	4x6-Bit	Yes	2x8-Bit	4	22	SDIP42
ST6388	•		•		20K	256	384	6x6-Bit	Yes	2x8-Bit	6	20	SDIP42
ST6389	•		•		20K	256	384	4x6-Bit	Yes	2x8-Bit	4	22	SDIP42
<i>ST63 Family for Monitor</i>													
ST6369	•	•	•		8K	256	384	6x6-Bit + 1x14 Bit	Yes	2x8-Bit	7	23	DIP40
ST6371	•	•	•		12K/16K	256	384+128 (DDC)	9x7 Bit + 1x14 Bit	Yes	2x8-Bit	10	20	SDIP42
ST6373	•	•	•		16K	192	384+128 (DDC)	9x7 Bit + 1x14 Bit	Yes	3x8-Bit	10	22	SDIP42

Note: 1) Fast Advanced Service Technique ROM

OTP = ST63TXX EPROM = ST63EXX FASTROM = ST63Pxx



## ST63 MICRCONTROLLER FAMILY - CMOS, 8 BIT MCU

## ST63 FAMILY DEVELOPMENT TOOLS

## Hardware Development Tools

Device	Package	EPROM	EEPROM	GANG Programmer	EPROM Programmer	Starter Kit	Emulator
ST63E69/T69	DIP40	8K	384	ST63E69-GP/DIP	ST63E1XX-EPB (MB062)	-	ST638X-EMU
ST63E71/T71	SDIP42	16K	512	ST63E71-GP/DIP42	ST63E70-EPB (MB106)	-	ST6373-EMU2
ST63E73/T73	SDIP42	16K	512		-	-	-
ST63E77/T77	DIP40	8K	384	ST63E87-GP/DIP	ST63E1XX-EPB (MB062)	-	ST638X-EMU2
ST63E78/T78	DIP40	8K	384			-	
ST63E85/T85	SDIP42	20K	384			-	
ST63E87/T87	SDIP42	20K	384			-	
ST63156	DIP40	-	-	-	-	-	ST631XX-EMU



## ST72 FAMILY - CMOS, 8 BIT MCU

The ST7 family provides leading system price/performance, a shorter development cycle and outstanding quality, plus an exceptional range of solutions. Industrial, automotive (CAN), computer peripherals (USB) and consumer (I<sup>2</sup>C) applications can all benefit from an industry-standard 8 bit architecture that has been optimized to take advantage of high level language programming. The ST7's powerful on-chip peripherals, enhanced core, extensive library of peripherals, numerous device and package options allow the user to select the device that best matches the needs of the application.

## ST72 SERIES (General Purpose, Automotive & USB)

Device	Program Memory Type				Program Memory	RAM x 8	EEPROM x 8	A/D Inputs	WD Timer	Timers	Serial Interface	I/Os (High Current)	Package	Additional Features
	ROM	EPROM	OTP	FAST ROM <sup>1)</sup>										
BASIC	ST72101G1	•	•	•	4K	256	-	-	Yes	1	SPI	22(4)	SDIP32/SO28	
	ST72101G2	•	•	•	8K	256	-	-	Yes	1	SPI	22(4)	SDIP32/SO28	
	ST72121J2	•	•	•	8K	384	-	-	Yes	2	SPI SCI	32(4)	SDIP42/TQFP44	
	ST72121J4	•	•	•	16K	512	-	-	Yes	2	SPI SCI	32(4)	SDIP42/TQFP44	
ADC	ST72213G1	•	•	•	4K	256	-	6	Yes	1	SPI	22(4)	SDIP32/SO28	
	ST72212G2	•	•	•	8K	256	-	6	Yes	2	SPI	22(4)	SDIP32/SO28	
	ST72311J2	•	•	•	8K	384	-	6	Yes	2	SPI SCI	32(4)	SDIP42/TQFP44	
	ST72311J4	•	•	•	16K	512	-	6	Yes	2	SPI SCI	32(4)	SDIP42/TQFP44	
	ST72311N2	•	•	•	8K	384	-	8	Yes	2	SPI SCI	44(4)	SDIP56/TQFP64	
	ST72311N4	•	•	•	16K	512	-	8	Yes	2	SPI SCI	44(4)	SDIP56/TQFP64	
ADC+EEPROM	ST72311N6*	•	•	•	32K	1024	-	8	Yes	2	SPI SCI	44(4)	SDIP56/TQFP64	
	ST72331J2	•	•	•	8K	384	256	6	Yes	2	SPI SCI	32(4)	SDIP42/TQFP44	
	ST72331J4	•	•	•	16K	512	256	6	Yes	2	SPI SCI	32(4)	SDIP42/TQFP44	
	ST72331N2	•	•	•	8K	384	256	8	Yes	2	SPI SCI	44(4)	SDIP56/TQFP64	
	ST72331N4	•	•	•	16K	512	256	8	Yes	2	SPI SCI	44(4)	SDIP56/TQFP64	
ADC+PWM	ST7231N6*	•	•	•	32K	1024	256	8	Yes	2	SPI SCI	44(4)	SDIP56/TQFP64	
	ST72272K2	•	•	•	8K	384	-	4	Yes	1	-	24(4)	SDIP32/PSO34	DAC with PWM outputs + high voltage outputs
	ST72272K4	•	•	•	16K	512	-	4	Yes	1	-	24(4)	SDIP32/PSO34	
	ST72372J4	•	•	•	16K	512	-	4	Yes	1	I2C	30(6)	SDIP42/TQFP44	
ST72371N4	•	•	•	16K	512	-	8	Yes	1	I2C SCI		SDIP56/TQFP64		
I2C	ST72251G1	•	•	•	4K	256	-	6	Yes	2	I2C+SPI	22(8)	SDIP32/SO28	
	ST72251G2	•	•	•	8K	256	-	6	Yes	2	I2C+SPI	22(8)	SDIP32/SO28	
CAN	ST72512N2*	•	•	•	8K <sup>2)</sup>	384	-	8	Yes	1	SPI	44(4)	SDIP56/TQFP64	CAN peripheral
	ST72511R4	•	•	•	16K <sup>2)</sup>	512	-	8	Yes	2	SPI SCI	44(4)	TQFP64	
	ST72511R6	•	•	•	32K <sup>2)</sup>	1024	-	8	Yes	2	SPI SCI	44(4)	TQFP64	
	ST72532N2*	•	•	•	8K <sup>2)</sup>	384	256	8	Yes	1	SPI	44(4)	SDIP56/TQFP64	
	ST72531R4	•	•	•	16K <sup>2)</sup>	512	256	8	Yes	2	SPI SCI	44(4)	TQFP64	
USB	ST72531R6	•	•	•	32K <sup>2)</sup>	1024	256	8	Yes	2	SPI SCI	44(4)	TQFP64	
	ST72671N4	•	•	•	16K	512	-	8	Yes	1	I2C SCI	34(8)	SDIP56/TQFP64	USB peripheral + DAC with PWM outputs
ST72671N6	•	•	•	32K	1024	-	8	Yes	1	I2C SCI	34(8)	SDIP56/TQFP64		

\* Not yet available. Contact sales office for data and availability.

Note: 1) Fast Advanced Service Technique ROM 2) Other versions up to 60K program memory to be introduced soon

OTP = ST72TX EPROM = ST72EXX FASTROM = ST72Pxx



## ST72 FAMILY - CMOS, 8 BIT MCU (Cont'd)

## ST72 SERIES (Application-Specific)

Devices	Program Memory Type			Program Memory	RAM x 8	EEPROM x 8	Package	I/O Ports	Other Features
	ROM	EPROM	OTP						
<i>ST727X Family for Monitor</i>									
ST7272	•	•	•	24K	384	896	SDIP56	27	ADC, PWM, SPI, WAKE UP FUNCTIO, FULL DDC FUNCTION, SYNC. PROCESSOR
ST72751	•	•	•	32-48-60K	1K-1.5K-2K	-	SDIP56	32	ADC, TIMER, PWM, SCI, I <sup>2</sup> C BUS, FULL DDC FUNCTION, SYNC. PROCESSOR, INFRA RED
ST72752	•	•	•	16-24-32K	512-768-1K	-	SDIP42	23	ADC, TIMER, PWM, I <sup>2</sup> C BUS, FULL DDC FUNCTION, SYNC. PROCESSOR
ST72753	•	•	•	16-24-32K	512-768-1K	-	SO34	18	
ST7277	•	•	•	16-24-32-48-60K	512-780-1K-1.5K-2K	-	QFP64/SDIP56	32	ADC, TIMER, SCI, I2C BUS, USB, SYNC. PROCESSOR, INFRA RED, FULL DDC FUNCTION, PWM
<i>ST7285 Family for RDS Radio<sup>1)</sup></i>									
ST7285C	•	•	•	48K	3K	-	QFP80	62	RDS DECODER, SPI, SCI, I <sup>2</sup> C BUS, ADC
<i>ST7291 Family for Remote Control</i>									
ST7291	•	•	•	16-24-32K	256/384	-	DIP28/SO28	19/20	WAKE-UP FUNCTION, LOW VOLTAGE STANDBY MODES, WD, POWER SAVING
<i>ST7294 Family for Telephone Set</i>									
ST7294	•			6K	224	256	DIP28/SO28	22	WAKE-UP FUNCTION, POWER SAVING, STANDBY MODES, WD

Note: 1) ST725X, ST723X, ST90135, ST90158 microcontrollers can also be used with external RDS hardware.





## ST72 FAMILY - CMOS, 8-BIT MCU (Cont'd)

## ST72 FAMILY DEVELOPMENT TOOLS

Device	Package	EPROM	EEPROM	Starter Kit	Emulator	EPROM Programmer	GANG Programmer
ST72251	SDIP32/ SO28	8K	-	-	ST7225-EMU2	ST72251-EPB/220 ST72251-EPB/110	-
ST72E50/T50	QFP64	60K	512	-	ST7250-EMU2	ST72E50-EPB (MB197)	-
ST72E77/T77	SO34/ QFP64	32K/60K	-	-	ST7277-EMU2	ST72E77-EPBJ (MB187B)	-
ST72E77/T77	SDIP42/ SDIP56	32K/60K	-	-	ST7277-EMU2	ST72E77-EPBJ (MB187B)	ST72E77-GP/DIP42 ST72E77-GP/DIP56
ST72E85/T85	QFP80	48K	-	-	ST7285-EMU	ST72E85-EPB (MB120B)	ST72E85-GP/QFP80
ST72E91L6/T91L6	SO28/ DIP28	32K	-	-	ST7291L6-EMU	ST72E91-EPB (MB110)	ST72E91-GP/SO28
ST72E94/T94	DIP28/SO28	8K	256	-	ST7294-EMU	ST72E94-EPB (MB089)	ST72E94-GP/DIP28 ST72E94-GP/SO28



## ST9 FAMILY - HIGH PERFORMANCE - HCMOS 8/16-BIT MCU

Designed to meet market needs for cost-effective, high performance MCUs, the ST9's family bridges the gap with the worlds of 8 and 16-bit microcontrollers and covers a large range of requirements in the high-end 8-bit and low-end 16-bit applications. With an ST9 microcontroller you have the 16-bit performance (sophisticated data manipulation, real time event handling) and the 8-bit advantages (price, noise, power consumption...).

With the ST9 family, SGS-THOMSON offers significant performance and flexibility advantages over traditional 8-bit microcontrollers: it is the unequalled solution for more performance. It provides innovative answers to yours embedded control requirements with competitive MCU solutions for today and tomorrow.

### ST9 SERIES (General Purpose)

Device	Program Memory Type			Program Memory	RAM x 8 +REG	EEPROM x8	A/D Inputs	WD Timer	Timers	Serial Interface	I/O Ports	Package	Additional Features
	ROM	EPROM	OTP										
<i>ST90XX Family</i>													
ST9027	•	•	•	16K	256+224	None	None	Yes	1x16 Bit	SPI + SCI	32	DIP40	DIP40
ST9028	•	•	•	16K	256+224	None	None	Yes	1x16 Bit	SPI + SCI	32	LCC44	
ST9036	•		•	16K	256+224	None	8x8 Bit	Yes	2x16 Bit	SPI + SCI	56	LCC68	
ST9040	•	•	•	16K	256+224	512	8x8 Bit	Yes	2x16 Bit	SPI + SCI	56	LCC68/ QFP80	
ST90R40				None	256+224	512	8x8 Bit	Yes	2x16 Bit	SPI + SCI	56	LCC68	
ST90R50	•	•	•	None	224	None	8x8 Bit	Yes	3x16 Bit	SPI + 2xSCI	68	QFP80/ LCC84	16Mbit Address
ST90R52	•	•	•	None	224	None	8x5 Bit	Yes	3x16-Bit	SPI + 2xSCI	70	QFP80	
<i>ST901XX Family</i>													
ST90135	•			16/24/32K	512 to 1K	-	8x8 Bit	Yes	3x16-Bit	SPI + SCI	67	QFP80	
ST90158	•	•	•	48/64K	1.5 to 2K	-	8x8 Bit	Yes	4x16-Bit	SPI + 2xSCI	67	QFP80	

OTP = ST90TXX EPROM = ST90EXX FASTROM = ST90PXX

### ST9 FAMILY DEVELOPMENT TOOLS

Devices	Emulator		EPROM Programmer		Starter Kit	Software Tools
	Complete	Dedication Board	Single EPROM	Gang		
ST904X	ST904X-EMU	ST904X-DBE	ST90E4X-EPB/220 ST90E4X-EPB/110	ST90E4X-GP/LCC68	ST9040-KIT/220 ST9040-KIT/110 ST9040-KIT/UK	ST9-SWC/PC
ST905X	ST90R50-EMU/LCC ST90R50-EMU/QFP ST90R52-EMU/QFP	None	None	None	None	
ST90158 ST90135	ST90158-EMU1/QFP	None	ST90E158-EPB/220 ST90E158-EPB/110	ST90E158-GP/QFP	None	ST9P-SWC/PC



## ST92 FAMILY FOR TV/MONITORS AND USB - HCMOS 8/16-BIT MCU

With ST92, SGS-THOMSON MICROELECTRONICS supports TV and USB applications development with a complete range of integrated solutions that meet global market requirements from Low to High-End Chassis...

Built in functions, also suitable for Monitors, Keyboards, Satellite Receiver and VCR applications include On Screen Display, Data Slicer, Voltage Synthesis, and Infra Red Signal handling.

The large memory space allows the inclusion of software for Close Caption, Teletext, and Scart/Peritel socket market management.

A standard video chassis developed by SGS-THOMSON supports evaluation and demonstration, and can form the basis of an original design with vastly reduced time to market.

### ST92 SERIES (Application - Specific)

Device	Program Memory Type			Program Memory	RAM x 8 +REG	Package	Timers	I/Os (High Current)	A/D Inputs	D/A Outputs	Additional Features
	ROM	EPROM	OTP								
<i>ST9216X* Family for USB HUB and high speed USB applications</i>											
ST92161	•	•	•	6K	256	SO34/SDIP42	WD	11	-	-	USB HUB with 4 down streams, 1 embedded USB function, I <sup>2</sup> C
ST92162	•	•	•	8K	256	SDIP56/QFP64	WD	37(5)	-	-	USB HUB for keyboard with 3 down streams, 2 embedded USB functions
ST92163	•	•	•	16K	2K	SDIP56/QFP64	WD + MFT	43(4)	4x8 Bit	-	USB with 8 embedded functions, I <sup>2</sup> C, SCI, parallel port
ST92164	•	•	•	8K	512	SDIP56/QFP64	WD	31(4)	-	-	USB HUB with 4 down streams and 4 embedded functions, I <sup>2</sup> C, SCI
<i>ST929X Family for TV</i>											
ST9291	•	•	•	16/24/32/48K	384/640 + 224	SDIP42/56	1x16 Bit + WD + SLT	32/42	3x6 Bit	8x8 Bit + 1x14 Bit	
ST9293	•	•	•	32/48/63K	640/768 + 224	SDIP42	1x16 Bit + WD + SLT	31	4x6 Bit	None	
ST9294	•	•	•	16/24/32/48K	384/640 + 224	SDIP42/56	1x16 Bit + WD + SLT	31/42	3x6 Bit	8x8 Bit	

\* available in Q3 98

OTP = ST92TXX EPROM = ST92EXX

### ST92 FAMILY DEVELOPMENT TOOLS

Device	Starter Kit	Emulator	EPROM Programmer	GANG Programmer	Other
ST9291	None	ST9291-EMU ST9291-DBE	ST92E9X-EPB/110 ST92E9X-EPB/220	ST92E94-GP/DIP42 ST92E94-GP/DIP56	'C' Compiler ST9-SWC/PC
ST9293	None	ST9293-EMU ST9293-DBE		ST92E93-GP/DIP42	
ST9294	None	ST9294-EMU ST9294-DBE		ST92E94-GP/DIP42	
ST9296	None	ST9296-EMU	None		
ST92195AX/BX	None	ST92195-EMU2	None	None	
ST92R195A9/B9	None	ST92R195-EMU1	None	None	



## ST10 FAMILY HIGH PERFORMANCE CMOS 16-BIT MCU

The ST10 family of 16-bit microcontrollers covers the evolution into high performance applications in computer, telecom industrial and automotive markets. Driven by the non-volatile FLASH memory technology developed by SGS-Thomson the new ST10 family offers a 16-bit core, FLASH/ROM and RAM capabilities and advanced peripheral functions.

This high-end microcontroller includes independent intelligent Peripherals, designed such that CPU dependance is efficiently reduced and the flexibility is increased.

## ST10 SERIES

Devices	Program Memory	RAM x 8	Package	Timers	Serial Interface	I/O Ports	A/D Inputs	Other Features
ST10F163BT1	128k flash	1k	100-TQFP	5 x 16-bit	USART + SSP	77	-	PEC
ST10R163BT1	-	1k	100-TQFP	5 x 16-bit	USART + SSP	77	-	PEC
ST10R165BT1	-	2k	100-TQFP	5 x 16-bit	USART + SSC	77	-	PEC
ST10R165BQ1	-	2k	100-TQFP	5 x 16-bit	USART + SSC	77	-	PEC
ST10R167-Q3	-	4k	144-PQFP	5 x 16-bit	USART + SSC	111	16 x 10-bit	CAPCOM, PWM, PEC
ST10F167-Q6	128k flash	4k	144-PQFP	5 x 16-bit	USART + SSC	111	16 x 10-bit	CAPCOM, PWM, PEC
ST10CT167-Q3	32k ROM	4k	144-PQFP	5 x 16-bit	USART + SSC	111	16 x 10-bit	CAPCOM, PWM, PEC
ST10R272LT1	-	1k	100-TQFP	5 x 16-bit	USART + SSP	77	-	PWM, MAC, PEC, 3.3v

## ST10 FAMILY DEVELOPMENT TOOLS

ST10 Emulator user manual - Emulator for ST10 family of devices.



## ST20 FAMILY

Part Number	Description	Speed (MHz)	SRAM (Bytes)	Serial Links	Package
ST20GP1X33S	Application Specific 32 bit GPS Microprocessor	16/33	4k	1	100 PQFP
ST20TP1X40S	Programmable Transport IC for DSS (Digital Satellite Systems) Applications	40	8k	1	PQFP208
ST20TP2X50S	Programmable Transport IC for DVB (Digital Video Broadcast) Applications	50	8k	1	PQFP208

## COMPILERS &amp; TOOLSETS

Part Number	Target Processor	Description	Language	Host Computer
ST20-SWC++/SUN ST20-SWC++/PC	ST20/TXXX	C++ Pre-processor for ST20 and Txxx Toolset	C ++	SUN 4 PC 386+
ST20-SWC/SUN ST20-SWC/PC	ST20	ST20 Toolset Including Debugger	ANSI C	SUN 4 PC 386+

## SYSTEMS PRODUCTS

Part Number	Description
IMSB300-1	Ethernet to transputer gateway. Full TCP/IP implementation.

## INTERFACES

Part Number	Description
ST20-PPI	PC Parallel Port to OS-Link Interface
ST20-JPI	PC Parallel Port to JTAG Interface

1. Each Board exists in /220 (Europe), /110 (U.S.), /UK (U.K.) voltages and plugs