

NEC
NEC Electronics Inc.

**Intelligent
Peripheral Devices (IPD)
Selection Guide**

T-90-60

Communications Controllers

Device, μPD	Name	Description	Data Rate	# Package	Pins
7201A	Multiprotocol Serial Communications Controller	Dual full-duplex serial channels; four DMA channels; programmable interrupt vectors; asynchronous COP and BOP support; NMOS	1 Mb/s	DIP Ceramic DIP	40 40
72001	CMOS, Advanced Multiprotocol Serial Communications Controller	Functional superset of 8530; 8086/V30 interface; two full-duplex serial channels; two digital phase-locked loops; two baud-rate generators per channel; loopback test mode; short frame and mark idle detection	2.2 Mb/s	DIP Miniflat PLCC	40 52 52
72002	CMOS, Advanced Multiprotocol Serial Communications Controller	Low-cost, single-channel version of 72001; software compatible; direct interface to 8237 DMA. Not included in 1989-1990 IPD Data Book; refer to 72002 data sheet.	2.2 Mb/s	DIP Miniflat PLCC	40 44 44
72101	CMOS, HDLC Controller	Single full-duplex serial channel; on-chip DMA Controller. Not included in 1989-1990 IPD Data Book; refer to 72101 data sheet	4 Mb/s	DIP PLCC	64 68

Graphics Controllers

Device, μPD	Name	Description	Drawing Rate	# Package	Pins
7220A	High-Performance Graphics Display Controller	General-purpose, high-integration controller; hardwired support for lines, arc/circles, rectangles, and graphics characters; 1024x1024 pixel display with four planes	500 ns/dot	Ceramic DIP	40
72020	Graphics Display Controller	CMOS 7220A with 2M video memory; dual-port RAM control; write-masking on any bit; enhanced external synch	500 ns/dot	DIP Miniflat	40 52
72022	Intelligent Display Processor	Display and image processing for text and sprites; three display modes; four-way horizontal split-screen display; CMOS	500 ns/dot	PLCC Miniflat	68 80
72120	Advanced Graphics Display Controller	High-speed graphics operations including paint, area fill, slant, arbitrary angle rotate, up to 16x enlargement and reduction; dual-port RAM control; CMOS	500 ns/dot	PLCC Miniflat	84 94
72123	Advanced Graphics Display Controller II	Enhanced 72120; expanded command set; improved painting performance; laser printer interface controls; CMOS	400 ns/dot	PLCC Miniflat	84 94

Advanced Compression/Expansion Engine

Device, μPD	Name	Description	# Package	Pins
72185	Advanced Compression/Expansion Engine	High-speed CCITT Group 3/4 bit-map image compression/expansion (A4 test chart, 400 PPI x 400 LPI in under 1 second); 32K-pixel line length; 32-megabyte image memory; on-chip DMA and refresh timing generator; CMOS	SDIP PLCC	64 68

* Plastic unless ceramic (or cerdip) is specified.

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IPD**Floppy-Disk Controllers**

Device, μPD	Name	Description	Transfer Rate	# Package	Pins
765A/B	Floppy-Disk Controller	Industry-standard controller supporting IBM 3740 and IBM System 34 double-density format; enhanced 765B supports multitasking applications	500 kb/s	DIP	40
71065/66	Floppy-Disk Interface	Compatible with 765-family controllers and others; supports multiple data rates from 125 to 500 kb/s	500 kb/s	SOP SDIP	28 30
72065/65B	CMOS Floppy-Disk Controller	100% 765A/B microcode compatible; compatible with 808x microprocessor families	1 Mb/s	DIP PLCC Miniflat	40 44 52
72067	Floppy-Disk Controller	CMOS; 765A/B microcode compatible; clock generation/switching circuitry; selectable write precompensation; digital phase-locked loop	500 kb/s	DIP Miniflat PLCC	48 52 52
72068	Floppy-Disk Controller	All features of the 72067 plus IBM-PC, PC/XT, PC/AT, or PS/2 style registers; 24-ma high-current drivers	500 kb/s	Miniflat PLCC	80 84
72069	Floppy-Disk Controller	All features of the 72067/68 with substitution of high-performance analog phase-locked loop for digital PLL	1 Mb/s	PLCC Miniflat	84 100

Hard-Disk Controllers

Device, μPD	Name	Description	Read/Write Clock	# Package	Pins
7261A/B	Hard-Disk Controller	Supports eight drives in SMD mode, four drives in ST506 mode; error correction and detection	23 MHz	Ceramic DIP	40
7262	Enhanced Small-Disk Interface (ESDI) Controller	Serial-mode ESDI compatible; controls up to seven drives; supports up to 80 heads; hard and soft-sector interfacing	18 MHz	Ceramic DIP	40
72061	CMOS Hard-Disk Controller	Supports SMD/SMD-E and ST506/412 type drives	24 MHz	DIP Miniflat PLCC	40 52 52
72111	Small Computer System Interface (SCSI) Controller	Selectable 8/16 data bus width; 16 high-level commands for reduced CPU load; single-command automatic execution; 4-Mb sync/async; CMOS	16 MHz	SDIP Miniflat PLCC	64 74 68