

T-49-05

PDSP Prototyping Kits

Plessey Semiconductors offer a one-stop route for solving high performance DSP Problems with a range of DSP kits. Plessey's Technical Support Group have created a range of five DSP kits. These contain all the PDSP devices needed to perform an extensive range of DSP Algorithms.

As complete units the PDSP Boxes contain all the devices, sockets, data sheets and application notes to build your own DSP system.

Additionally, all DSP Boxes contain the PDSP Demonstrator software, an IBM-PC compatible development system with device models that accurately replicate the functions of the real devices.

PDSP BOX 1

50ns FFT Butterfly Box & 20MHz Complex Arithmetic

- PDSP16112A BO AC x 1
- PDSP16318A BO LC x 2
- Plus Sockets
- 20MHz Complex Multiplier/Accumulator
- 50ns FFT Radix 2 DIT Butterfly
- 20MHz Complex Correlation/Convolution

PDSP BOX 2

40MHz Address Generation: 8 Through 64 Bit

- PDSP1601A BO LC x 1
- PDSP1601 BO LC x 1
- PDSP1640A BO LC x 2
- PDSP1640 BO LC x 2
- Plus Sockets
- 20MHz FFT Address Generation (In Place)
- 40MHz FFT Address Generation (Not In Place)
- 40MHz DMA Address Generation
- 40MHz FILTER Address Generation
- 40MHz Digital Waveform Synthesis
- 20MHz Variable Accuracy Barrel Shifting

PDSP BOX 3

Full Accuracy Complex Datapath FFTs & Complex MACs

- PDSP16116 BO AC x 1
- PDSP16318 BO LC x 2
- PDSP1601 BO LC x 2
- Plus Sockets
- 10MHz 16 x 16 Complex Multiply/32 Bit Accumulation
- 100ns Fully Automatic Block Floating Point Butterfly
- 10MHz FFT Address Generation (In Place)
- 10MHz Complex Correlation/Convolution

PDSP BOX 4

Pythagoras Box Coordinate Conversion & CMAC

- PDSP16330 BO LC x 1
- PDSP16112 BO AC x 1
- PDSP16318 BO LC x 1
- Plus Sockets
- 10MHz Cartesian to Polar Conversion
- 10MHz Complex Multiplier/Accumulator

PDSP BOX 5

FFT Support Box Power/Phase & Address Generation

- PDSP16330 BO LC x 1
- PDSP1601 BO LC x 1
- PDSP1640 BO LC x 2
- Plus Sockets
- 10MHz FFT Power/Phase Calculation
- 10MHz FFT Address Generation (In Place)
- 20MHz FFT Address Generation (Not In Place)
- 10MHz FFT Output Normalisation

Data Converters for Digital Signal Processing

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Somewhere in your system you are almost certain to need to convert between the analog and digital domains.

Plessey has a whole range of data conversion ICs with performance from hundreds of Megahertz down to microsecond cycle times.

Typically video processing, whether for robotics, radar or any other imaging system, would use fast front end ADCs such as our eight bit SP94308 video system ADC or the simple but faster SP973T8. Still 8 bits, but with the possibility of oversampling for even greater accuracy is the 110MHz SP97508.

Perhaps you need to drive a graphics display at the back-end of your system or maybe you want to synthesise an analog waveform. Either way check our range of fast DACs which go up to 450MHz and include parts with graphics features.

Finally for servo control and mechanical measurement at lower speeds Plessey has a range of microprocessor compatible ADCs and DACs and a shaft encoder interface. Complete technical data for these products is contained in our Data Converters IC Handbook.

ANALOG TO DIGITAL CONVERTERS

Type	Function	Guaranteed Minimum Clock Rate	Process
SP97508	8-bit flash ADC	110MHz	Bipolar
SP9730E8	8-bit flash ADC, ECL outputs	30MHz	Bipolar
SP9730T8	8-bit flash ADC, TTL/CMOS outputs	30MHz	Bipolar
SP94308	8-bit video system ADC	20MHz	Bipolar

DIGITAL TO ANALOG CONVERTERS

Type	Function	Guaranteed Minimum Clock Rate	DAC Max Rise Time (10% - 90%)	Process
SP98608	8-bit multiplying DAC	450MHz	800ps	Bipolar
MV95308	8-bit video DAC	30MHz	6ns	CMOS
MV95408	8-bit video DAC	50MHz	5.5ns	CMOS
SP97618	8-bit graphics DAC	200MHz	1.1ns	Bipolar

AUTOMATION

Type	Function	Frequency	Supply Voltage	Process
MV6101	Dual quadrature counter for shaft encoding applications	10MHz	5V	CMOS