DADiSP / ProPac

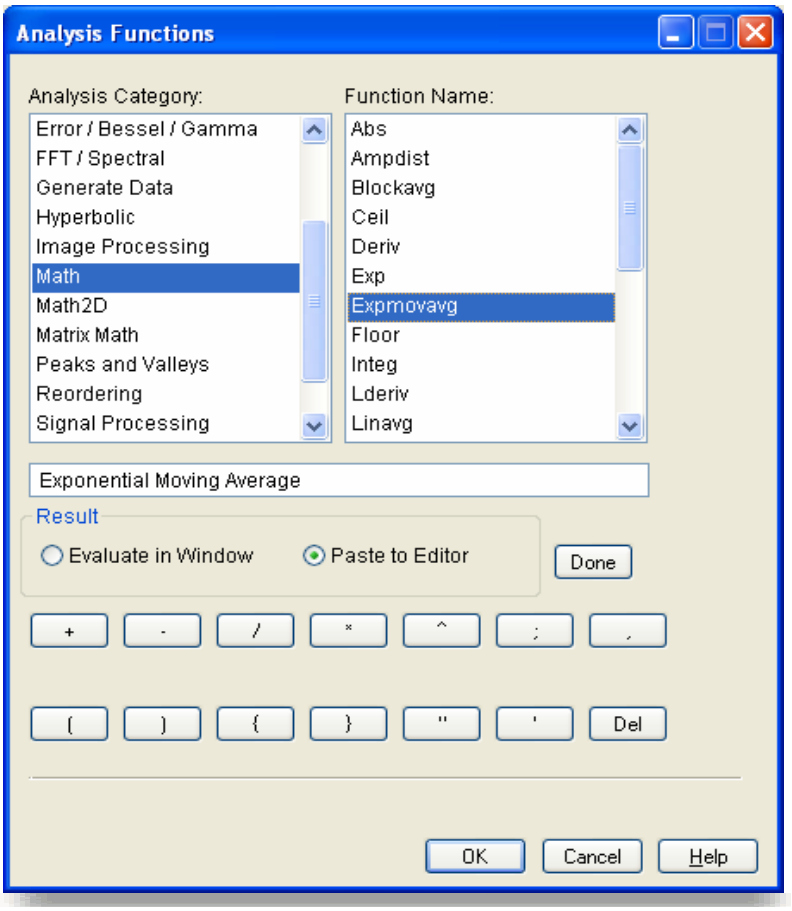
ProPac Math Acceleration Module

DADiSP/ProPac combines the VectorXL module with the FFTXL and MatrixXL modules to provide a single, optimized numeric processing engine. Together, all three modules deliver accelerated vector math, FFT and matrix computations by using the Math Kernel Library from Intel. Speed improvements of 20% up to a factor of 50x are common.

The MKL Library provides highly optimized math and numeric analysis functions tuned specifically to Intel processors to provide outstanding performance.

KEY FEATURES

- Simple Deployment – just Install and Run
- 20% to 5000% speed improvements
- Optimized performance on Intel Processors
- Multi-threaded Execution for even Faster Execution on Multi-Core Systems
- Speeds up virtually any Numeric Analysis

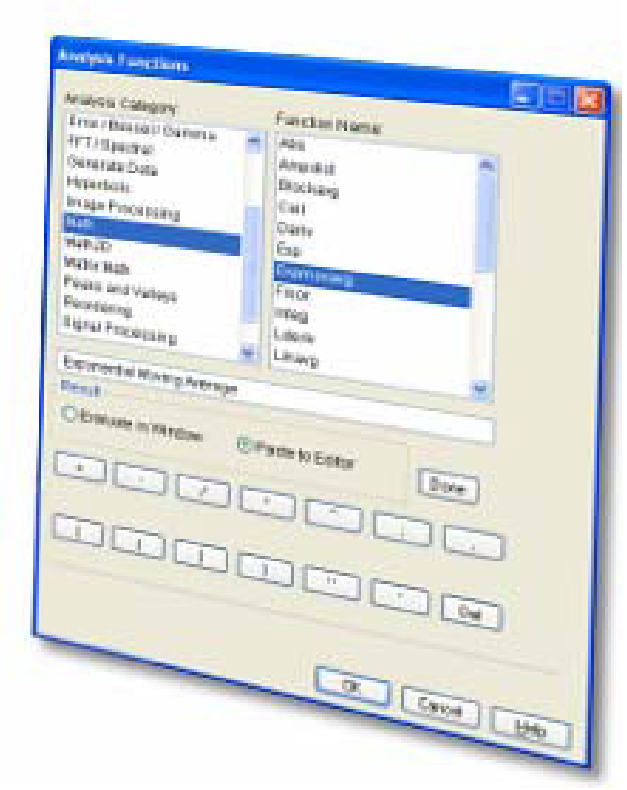


ProPac Math Acceleration Module

Looking for an easy way to speed up your data analysis routines?

DADiSP/ProPac combines the VectorXL module with the FFTXL and MatrixXL modules to provide a single, highly optimized numeric processing engine to accelerate almost any numeric processing routine.

- DADiSP/VectorXL accelerates common vector math computations by using the Intel® Math Kernel Library (Intel® MKL). Speed improvements by 20% to 60% are common. The MKL Library provides highly optimized vector routines based on the VML Vector Math Library. The algorithms are specifically tuned to Intel processors to provide enhanced performance.



- The DADiSP/FFTXL plug-in module automatically accelerates FFT computations and FFT based analysis routines. Also based on MKL, FFTXL takes advantage of the latest instruction sets, parallelism and algorithms to yield a highly optimized FFT function. Performance gains of 2x to 10x over the standard built-in FFT function are realized to benefit new and existing FFT analysis applications.

- The DADiSP/MatrixXL Module builds upon LAPACK, Linear Algebra PACKage provided by Intel® MKL to accelerate core matrix computations. LAPACK is an industry standard software library that provides a number of matrix routines including functions to solve linear equations, least squares systems, eigenvalue and singular value decomposition problems. By exploiting the processor tuned performance of Intel® MKL LAPACK, MatrixXL delivers speed increases of 3x to 50x over the standard built-in matrix functions.

Simple and Cost Effective

As a single, combined module, DADiSP/ProPac offers nearly a 50% cost savings over purchasing each module separately. And ProPac is completely automatic, simply install the module and vector math, FFT and matrix computations immediately run faster

- no settings to change, no code to rewrite.

Individual Modules		DADiSP/ProPac
VectorXL:	$495.00	✓
FFTXL:	$495.00	✓
MatrixXL:	$495.00	✓
Total Price:	$1485.00	$745.00

Requirements

DADiSP/ProPac requires DADiSP 6.5 B05 or higher. Contact us for information about updating your current version of DADiSP.

ProPac Acceleration Module

ProPac automatically accelerates many math computations and operations. In addition, custom or built-in routines that make use of these enhanced calculations experience significant speed improvements.

VECTOR OPERATIONS AND FUNCTIONS

+	Vector Add
-	Vector Subtract
*	Vector Multiply
/	Vector Divide
^	Vector Power
acos	Inverse Cosine
acosh	Inverse Hyperbolic Cosine
asin	Inverse Sine
asinh	Inverse Hyperbolic Sine
atan	Inverse Tangent
atanh	Inverse Hyperbolic Tangent
cos	Cosine
cosh	Hyperbolic Cosine
sin	Sine
sinh	Hyperbolic Sine
tan	Tangent
tanh	Hyperbolic Tangent
abs	Absolute Value
ceil	Ceiling
exp	Exponential
floor	Floor
log	Natural Log
log10	Log Base 10
sqrt	Square Root

FFT BASED FUNCTIONS

cceps	Complex cepstrum
dct	Discrete cosine transform
dct2	2D Discrete cosine transform
decilp	Bandlimited decimation
facorr	Auto-correlation function
facov	Auto-covariance function
fcirconv	Fast circular convolution
fconv	Fast convolution
fdeconv	Fast deconvolution
fft	Fast Fourier Transform
fft2	2D Fast Fourier Transform
finteg	Frequency domain integration
firsamp	Frequency sampling filter design
fpadfilt	Filtering with end padding
fxcorr	Cross-correlation function
fxcov	Cross-covariance function
fzinterp	Interpolation by FFT zero insertion
grpdelay	Group delay
hilb	Hilbert transform
idct	Inverse discrete cosine transform
idct2	2D Inverse discrete cosine transform
ifft	Inverse Fast Fourier Transform
ifft2	2D Inverse Fast Fourier Transform
invpsd	PSD to time series
nfft	Zero pad or time aliased FFT
npsd	Zero pad or time aliased PSD
nspectrum	Zero pad or time aliased spectrum
powspec	Power spectrum
psd	Power spectral density
specgram	Joint time-frequency spectum
sfreq	S transform evaluation
spectrum	Normalized FFT magnitude
rceps	Real cepstrum

zfreq	Z transform evaluation

MATRIX OPERATIONS AND FUNCTIONS

*^	Matrix Multiply
^^	Matrix Power
\^	Matrix Solve
balance	Eigenvalues with Balancing
chol	Cholesky Decomposition
crossprod	Matrix Cross-product, a' *^ b
det	Matrix Determinant
eig	Eigenvalues and Eigenvectors
funm	General Matrix Function
hess	Hessenberg Matrix Form
inv	Matrix Inverse
linfit	General Least Squares Curve Fitting
lu	LU Decomposition
polyfit	Polynomial Curve Fitting
qr	QR Decomposition
schur	Schur Decomposition
svd	Singular Value Decomposition