

PACKAGE ID - 000172MNF000 SIG

KWIC TITLE - Signal Processing, Analysis, & Display

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LIMITATION CODE -UNL **AUDIENCE CODE** - UNL

COMPLETION DATE - 02/01/1986 **PUBLICATION DATE** - 01/22/1992

DESCRIPTION - SIG is a general-purpose signal processing, analysis, and display program. Its main purpose is to perform manipulations on time- and frequency-domain signals. However, it has been designed to ultimately accommodate other representations for data such as multiplexed signals and complex matrices. Two user interfaces are provided in SIG - a menu mode for the unfamiliar user and a command mode for more experienced users. In both modes errors are detected as early as possible and are indicated by friendly, meaningful messages. An on-line HELP package is also included. A variety of operations can be performed on time- and frequency-domain signals including operations on the samples of a signal, operations on the entire signal, and operations on two or more signals. Signal processing operations that can be performed are digital filtering (median, Bessel, Butterworth, and Chebychev), ensemble average, resample, auto and cross spectral density, transfer function and impulse response, trend removal, convolution, Fourier transform and inverse window functions (Hamming, Kaiser-Bessel), simulation (ramp, sine, pulsetrain, random), and read/write signals. User definable signal processing algorithms are also featured. SIG has many options including multiple commands per line, command files with arguments, commenting lines, defining commands, and automatic execution for each item in a repeat sequence. Graphical operations on signals and spectra include: x-y plots of time signals; real, imaginary, magnitude, and phase plots of spectra; scaling of spectra for continuous or discrete domain; cursor zoom; families of curves; and multiple viewports.

PACKAGE CONTENTS - Media Directory; Software Abstract; UCID-19912;
UCID-19912-REV.1;

SOURCE CODE INCLUDED? - Yes

MEDIA QUANTITY - 1 CD Rom

COMPUTER - MAINFRAMES

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OPERATING SYSTEMS - VMS 4.1

PROGRAMMING LANGUAGES - FORTRAN 77

SOURCE CODE AVAILABLE (Y/N) - Y

RELATED SOFTWARE - SIG was written in the Structured Fortran (SF) preprocessor language which produces either standard FORTRAN66 or FORTRAN77. Both the SF and FORTRAN77 sources are provided. The SF preprocessor is a proprietary product; it is not included. Graphics is accomplished with the LLNL-developed DIGLIB graphics software; this software is included.

OTHER PROG/OPER SYS INFO - HELP files, MENU files, sample problems, machine-readable documentation, and control information are included. SIG can be used on SUN workstations with SUN Windows or X-Windows (Release 10).

HARDWARE REQS - Graphics devices compatible with SIG include the DEC VT100 terminal with Retrographics, DEC VT125 and 240; Tektronix 4105, 4010, 4012, 4014, 4025, and 4027 (color) terminals; the RAMTEK 9600; the Versatec and LXY11 printer/plotters; QMS Lasergrafix printer; the HP2623 and HP2648; the Vectrix VX128 and VX384; and the IBM PC with PC-Plot Tektronix terminal emulator.

REFERENCES - Darrel Lager and Stephen Azevedo, SIG, A General-Purpose Signal Processing Program, UCID-19912, Rev. 1, May 9, 1985; Darrel Lager and Stephen Azevedo, SIG A General-Purpose Signal Processing Program USER'S MANUAL (TSX Version - LSI-11/23, PRO 350), UCID-19912, July 1985; SIG Installation Procedure - MASSCOMP, Lawrence Livermore National Laboratory memorandum, received February 1986; SIG Installation Procedure - TOPS- 20, Lawrence Livermore National Laboratory memorandum, received February 1986; SIG Installation Procedure - PRO350/TSX, Lawrence Livermore National Laboratory memorandum, received February 1986; LSI-11 Initial SIG Installation Procedure, Lawrence Livermore National Laboratory memorandum, received June 1986; SIG A General-Purpose Signal Processing, Analysis, and Display Program, Lawrence Livermore National Laboratory brochure, received October 1985; SIG, NESC No. 9787.VX11D, SIG VAX VMS Version Tape Description and Installation Information, National Energy Software Center Note 90-124, August 29, 1990; SIG, NESC No. 9787.MPL2B, SIG Sun Microsystems SUN and DEC VAX UNIX Version Tape Description and Installation Information, National Energy Software Center Note 90-125, August 29, 1990; SIG, NESC No. 9787.5500, SIG MASSCOMP MC5500 Version Tape Directory, National Energy Software Center Note 86-67, July 7, 1986; SIG, NESC No. 9787.PRO, SIG DEC PRO350/TSX Version Flexible Disk Cartridge Descriptions and Directories, National Energy Software Center Note 86-68, July 7, 1986; SIG, NESC No. 9787.LS11, SIG DEC LSI11 Version Flexible Disk Cartridge Descriptions and Directories, National Energy Software Center Note

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REFERENCES - (CONT) 86-69, July 7, 1986.

ABSTRACT STATUS - Abstract first distributed January 1985. DEC VAX11 VMS version submitted August 1984, replaced by Edition B October 1985, replaced by Edition C April 1986, replaced by Edition D August 1990. SUN, DEC VAX11 UNIX version submitted February 1986, replaced by Edition B August 1990. MASSCOMP MC5500 version submitted February 1986. | DEC20 version submitted February 1986. DEC PRO350 version submitted February 1986. DEC LSI11/ 23 version submitted February 1986, revised June 1986.

SUBJECT CLASS CODE - T

KEYWORDS -

COMPUTER PROGRAM DOCUMENTATION
S CODES
SIGNAL CONDITIONING

EDB SUBJECT CATEGORIES -

990200 420200

SPONSOR - DOE/DP

PACKAGE TYPE - AS - IS