UPDATE TO

DECUS PDP-8, FOCAL8, BASIC8, PDP-12 CATALOG

VOLUME II

First Edition – December 1973

Updated – July 1974

Updated – December 1974

Updated – May 1975

May 1975

PAYMENT

All DECUS service charges are to help defray the cost of reproduction, handling and postage. All orders must be accompanied by cash, DECUS Coupons or Purchase Order. Please make checks payable to DECUS.

Because of the difficulties encountered by many installations in obtaining Purchase Orders for small amounts, DECUS Coupons may be ordered for any amount and used as subsequent payment for DECUS orders. Coupons are available in $1.00 and $5.00 denominations. They may be ordered as DECUS NO. 0051.

Payment for DECUS Coupons must be made in advance. Purchase Orders for coupons must be paid before coupons may be redeemed for DECUS material.

All charges are in U. S. Dollars. A $2.00 invoicing charge is added to all orders which are not prepaid.

All charges are subject to change without notice.

European Users - Payment may be made in your currency to: Martha Ries, Digital Equipment Co., Int'l-Europe, Case Postale 340, 1211 Geneva 26, Switzerland. Please refer to currency exchange charts available from that office.

Australian Users and New Zealand Users - Payment may be made in your currency to DECUS Australia, P. O. Box 491, Crows Nest, NSW, 2065 Australia. Please refer to currency exchange charts available from that office.

WRITE-UPS

With certain exceptions single copies of associated write-ups are automatically included at no charge with programs ordered and with all library tapes.

Most write-ups may also be requested without tapes. Reasonable requests (usually 15 or fewer write-ups) will be filled without charge. When more than 15 individual write-ups are requested, a service charge of fifteen cents (15¢) per write-up will apply. EXCEPTIONS: Write-ups for which an individual service charge is indicated.

Requests for multiple copies of the same write-up will be charged at a rate of $1.00 per copy (first copy free), or at the service charge indicated.

Complete sets of current write-ups for each library are available. Service Charges are:

PDP-8	$120.00
BASIC8	15.00
FOCAL8	50.00
PDP-12	25.00
PDP-11	45.00
RSTS11	40.00
PDP-6/10 & 10 (combined)	35.00
PDP-9 & 15 (combined)	25.00

TAPES

In some cases it is possible to pack programs on DECtape. Such cases will be considered on an individual basis. Please contact the appropriate DECUS Library Controller for specific information.

Programs customarily distributed on paper tape will not be packed on DECtape.

RSTS-11 programs are on disk and can be transferred to any distribution media (paper tape, DECtape, magtape or disk). Service charges will vary according to the media involved. Contact the PDP-11 controller for complete information.

All User Supplied DECtapes must be new and formatted. DECUS cannot/ will not copy programs to unformatted tapes.

When it is indicated that certain programs occupy the same tape, only one service charge will apply for any combination of programs on that tape. (Library Tapes excluded.)

When requesting magtapes, the user should specify whether 7 track or 9 track tapes are needed.

There are four Library LINCtapes of PDP-12 programs. Contents of tapes and applicable Service Charges are:

TAPE	DECUS NO's.	USER TAPE	DECUS TAPE
1	12-1,2,4	$15.00	$25.00
2	12-5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18, 20	35.00	45.00
3	12-22, 23, 25, 30, 31, 32, 33 35, 36, 37, 41, 42, 43, 44	35.00	45.00
4	12-45, 46, 47, 51, 54, 55, 56, 57	25.00	35.00

Three Library Magtapes of DECsystem-10 programs are available from DECUS. The tapes are Failsafe, 7 or 9 track, 800 or 556 BPI. If not specified, tapes will be copied 9 track at 800 BPI. Write-ups are supplied, at no charge, for each Library Tape issued.

Tape #1a includes all currently announced 6/10 programs, plus all programs from 10-1 through 10-99 which have been announced as currently available, with the exception of 10-14, 10-34a and 10-86b.

Tape #2a includes all programs from 10-103 through 10-200 which have been announced as currently available, with the exception of 10-176, 10-179a and 10-199.

Tape #3 includes all programs from 10-201 through 10-231 which have been announced as currently available, with the exception of 10-210, 10-213, 10-215, 10-223, 10-224 and 10-227.

Service charges quoted are for each library tape, NOT for any combination of tapes. Requests for 9 track, 800 BPI require one 2400' Magtape for either Tape #1a or #2a. 7 or 9 track 556 BPI or 7 track 800 BPI may in some cases require an additional 600' Magtape.

Service charges for library tapes are:

	Library Tape #1a or #2a (2400' magtape)	Library Tape #3 (1200' magtape)
DECUS supplied tape	$125.00	$50.00
User supplied tape(s)	$100.00	$30.00
DECUS supplied 600' tape	$ 15.00	

Users who received previous versions of either tape #1 or tape #2 (a) may request the updated tapes by indicating date of the original purchase order, invoice or letter of credit (specify which) and in whose name the original order was issued.

Service charges for updating library tapes are:

DECUS supplied tape	$50.00
User supplied tape(s)	$25.00
DECUS supplied 600' tape	$15.00

Library Tapes previously ordered will not be automatically updated.

Programs not included on Library Tapes may be obtained as shown in catalog.

May 1975

I. PROGRAMMING LANGUAGE, MONITOR, PROGRAMMING SYSTEM

DECUS NO.	TITLE
8-604	'GET' Command for Disk/DECtape Monitor System
8-608	FUTIL – OS/8 File Utility
8-618	Two OS/8 Device Handlers for the 57A Magnetic Tape Control
8-628	LISP 1.5 Interpreter for PDP-8 with OS/8 (PS/8)
8-632	RWDF32
8-633	MAC8, 8K MACRO ASSEMBLER
8-635	PAL12D
8-641	OS/8 FORMAT
8-644	MINMON – TD8E DECtape Minimonitor
8-646	DECsystem-8
8-653	MTAPER – 8K Magtape Monitor (TRØ5-A Interface) and 8K FORTRAN I/O
8-655	Patches to CINET-BASIC (DECUS NO. 8-159)
8-658	Extended Double Precision Interpretive Package
8-662	UNDEFSYBLIST – Undefined Symbol List
8-668	RAW – A Reverse Assembler of Windsor
8-676	MOVE DELETE
8-682	SCPSYS (Scope System)
8-691	ACCK Timeshare Accounting System
8-694	Teletype Line Printer Emulator Handler for OS/8
8-699	MPS External Event Common Routines
8-702	COGO-8
8-706	BITSET
8-708	EMLP: Emory Linear Programming Package
8-719	OS/8 Software for a TC58 Magtape Controls
3-721	LISP-8K
8-726	An OS/8 Handler for the Varian Statos 21 Line Printer
8-734	Microprocessor Language Assembler for OS/8
8-735	DSP8; Diagnostic Support Package for the PDP-8
8-747	STAGE2 MACRO Processor
8-749	UFAXØ8 – A LAB-8 (AXØ8) Set of User-Defined Functions for OS/8 BASIC
8-751	FORTRAN IV for OS/8 FORTRAN II Users
8-752	MIG8E2 – Monitor of Interruptions Which Are Generated by the PDP-8/E Peripherals
8-757	OS/8 Utility Package
8-760	FASTAD – User Oriented Data Collection on One A/DC Channel

II. TEXT EDITING, TEXT MANIPULATION

DECUS NO.	TITLE
8-601	OASIS
8-606b	PIP11
8-611a	SLED – Source and Listing Editor
8-623	PAGER
8-627	TEXPAK – Program to Convert a Line of Text to Packed Octal Format
8-640	OS/8 EDIT PLUS
8-651	SOLMT (Sort Overlay Listings Using Magnetic Tape
8-681	CASE – Carleton Symbolic Editor
8-682	SCPSYS (Scope System)
8-731	MEMO IV
8-756	ASCON – ASCII File Converter
8-764	LIST

III. DEBUGGING, DISASSEMBLY, SIMULATION, TRACE, DUMP

DECUS NO.	TITLE
8-601	OASIS
8-608	FUTIL – OS/8 File Utility
8-609	OCOMP – Octal Compare and Dump
8-624	DUMP and LOAD, TSS/8
8-636	BEST – Binary to Symbolic Traductor
8-639	OS/8 DISASM
8-697	DDTSS8, DECtape Dump for Time Shared System-8 (TSS/8 EDUsystem 50)
8-720	LSTDMP: Binary Tape Dump/Lister
8-727	Disassembler
8-733A	PDP-8/E RJE System (IBM 2780 Emulator)
8-736	Paper Tape Reader-Printer
8-738	The Business Management Laboratory
8-755	OCTYPE – Octal Memory Dump
8-763	KL8TST – KL8/E, KL8/J Diagnostic
8-765	DUMPOS – Dumps OS/8 ASCII Files

IV. BINARY LOADING, BINARY PUNCHING

DECUS NO.	TITLE
8-601	OASIS
8-605	ADUMP8
8-672	XCBL and XBIN Loader
8-683	BNLOAD, TSS/8 Binary Loader
8-684	Injection Patcher - IJPA
8-701	TEXT: Readable Punch Handler for OS/8
8-730	CORVU: A Display and Teletype Input-Output Program
8-761	WDATA - Subroutine to Write Absolute Binary Data on SYS-Device
8-762	TTYIO - I/O Routines for Teletype or Similar Terminal

VI. NUMBERICAL FUNCTION, NUMERICAL INPUT/OUTPUT

DECUS NO.	TITLE
8-607	CALCU1
8-615	EAE Multiplication for 8K FORTRAN
8-621	Gray Code Conversion Package
8-625	Floating Integer Function for use with 8K FORTRAN
8-631	MINT - Multiple Precision Integer Arithmetic Subroutine
8-658	Extended Double Precision Interpretive Package
8-678	Routine to Expand and Modify the DEC Floating-Point Package
8-685	DPSQRT - Double Precision Square Root for PDP-8
8-691	ACCK Timeshare Accounting System
8-696	DECTYP, One-Word Signed Decimal Print
8-716	Exponential Functions
8-717	F4EAE - EAE Overlay for FRTS
8-732	BAVIRF - A Virtual File UDEF for OS/8 BASIC
8-737A	Four Word Floating Point Package for MPS
8-737B	Four Word Floating Point Functions for MPS
8-737C	Rudimentary Calculator for MPS Four Word Floating Point Routines

V. DUPLICATION, VERIFICATION

8-600b	EXPIP (Extensions PIP)
8-606b	PIP11
8-663	REPROD/ Read, Punch and Verify Product
8-722	Mini-Copy

VII. UTILITY

8-600b	EXPIP (Extensions PIP)
8-602A&B	The PDP-8 Cookbook, Volume 1 & 2
8-606b	PIP11
8-608	FUTIL - OS/8 File Utility
8-609	OCOMP - Octal Compare and Dump
8-618	Two OS/8 Device Handlers for the 57A Magnetic Tape Control
8-619	FORTRAN-Callable Scope Subroutines for the KV8/VTØ1 Graphic System
8-627	TEXPAK - Program to Convert a Line of Text to Packed Octal Format
8-634	MOVE
8-649	QPIP - OS/8 Directory Editing Program
8-657B	DSKFIL, A File Structured Disk Writing Routine and Helpers
8-657C	TR, Binary to ASCII Translator
8-663	REPROD/ Read, Punch and Verify Product
8-667	LABLDP - A TSS/8 Tape Labeling Program
8-671	Restoring Symbolprint
8-675	INDUMP - Input Dump
8-677	STAR PIP
8-684	Injection Patcher - IJPA
8-689	UFDSPY - A TSS/8 Line-Printer UFD Dump Program
8-691	ACCK Timeshare Accounting System
8-697	DDTSS8, DECtape Dump for Time Shared System-8 (TSS/8 - EDUsystem 50)
8-698	TEKLIB

DECUS NO.	TITLE
8-701	TEXT: Readable Punch Handler for OS/8
8-714	PDPLST: PDP-8 - IBM 360/370 Cross Listing Program
8-719	OS/8 Software for a TC58 Magtape Control
8-722	Mini-Copy
8-728	MEND
8-730	CORVU: A Display and Teletype Input-Output Program
8-736	Paper Tape Reader-Printer
8-739	COPY.PA
8-742	CLOCK - A Real-Time Clock/Calendar Routine
8-743	FILFIX - TSS/8 File Structure Repairing and Restructuring Program
8-753	OS/8 System Output Handlers
8-754	NUMBER and REDATE - OS/8 File Utility Programs
8-757	OS/8 Utility Package
8-760	FASTAD - User Oriented Data Collection on One A/DC Channel
8-761	WDATA - Subroutine to Write Absolute Binary Data on SYS-Device
8-762	TTYIO - I/O Routines for Teletype or Similar Terminal
8-764	LIST

May 1975

XI. SCIENTIFIC APPLICATION, ENGINEERING APPLICATION

DECUS NO.	TITLE
8-603	PATPST: Patch for DEC-LAB-8/E Post-Stimulus-Time-Histogram Program
8-617	V. A. PKS.-1 and V.A. PKS.-2, Real Time G. C. Data Integrator and G. C. Data Manipulator
8-620	The PHA-8 Data Acquisition System
8-620A	SINGS - Single Parameter, Single Precision, 1024 Channel, PHA Data Acquisition
8-620B	SINGDP - Single Parameter, Double Precision, 1024 Channel, PHA Data Acquisition and Display
8-620C	PK8L - 1024 Channel Off-Line Peak Location and Listing
8-620D	SING8K - Single Parameter, Precision and One-Half, 4096 Channel, PHA Data Acquisition and Display
8-620E	PK8K - 4096 Channel Off-Line Peak Location and Listing
8-626	Automated Electrooculography
8-630	Pulmonary Function Laboratory Programs
8-638	GEOMAS
8-642	AUTOCO - Autocorrelation for Poor People (Without EAE)
8-648	LOGMIN - Logic Minimization Program
8-650	AMIPED - Automated Medical Interview With Pediatric Data Files
8-657A	INPUT - A Neurophysiological Data Collecting Program
8-664	FREQHS - A Subroutine to Generate a Frequency Histogram from Stored Interval Measurements
8-665	INTVAL - A Subroutine to Measure Inter-Event Intervals
8-666	NORDER - A Subroutine to Generate nth Order Histograms from Inter-Event Intervals
8-669	BIOLSD - Antibiotic Assay Using Latin Square Design
8-680	WLSHTR - A Fast Walsh Transform Subroutine for Real Valued Functions
8-692	OLEVX and OLEVAX, 4-Channel Averager and Analysis System
8-712	IRSPEC: Calculation "On Line" of Far Infrared Spectra by Fourier Transform
8-718	NSD - Nominal Standard Dose
8-725	The Pipe Stress Problem on a PDP-8/F
8-740	Theorem Prover for the Propositional Calculus
8-760	FASTAD - User Oriented Data Collection on One A/DC Channel

XII HARDWARE CONTROL

DECUS NO.	TITLE
8-614	Clock Calibration
8-618	Two OS/8 Device Handlers for the 57A Magnetic Tape Control
8-622	KV8/I - VTØ1 Device Handler
8-645	Interfacing the PDP-8 to the Printec-100 Line Printer
8-694	Teletype Line Printer Emulator Handler for OS/8
8-719	OS/8 Software for a TC58 Magtape Control
8-739	COPY.PA
8-758	Super Hardware Bootstrap Code for the TC08/TC01 on a MI8E

XIII. GAME DEMONSTRATION

8-643	LIFE
8-647	FULMIX - Complete Permutation Program
8-686	Bowling League Results, Standings and Averages
8-687	GOLF
8-688	FOOTBALL
8-700	JET AMBUSH
8-729	DS340 Demo Package
8-738	The Business Management Laboratory
8-750	Paper Tape Display

XIV. PLOTTING

DECUS NO.	TITLE
8-629	Graphing Subroutines for 8K FORTRAN Programs
8-670	Basic Plotting Package for OS/8 FORTRAN IV
8-713	FORTRAN Plotting Subroutines
8-715	F4 GRAPHICS
8-738	The Business Management Laboratory

XVII. MISCELLANEOUS

DECUS NO.	TITLE
8-602A&B	The PDP-8 Cookbook, Volume 1 & 2
8-616	Octal Character Equivalent
8-654	Cabrillo Test Grader
8-656	SELFDRILL - The Sloan Selfdrill Program
8-679	MAPPER
8-686	Bowling League Results, Standings and Averages
8-693	A Programmed Learning Course in Boolean Algebra
8-701	TEXT: Readable Punch Handler for OS/8
8-735	DSP8; Diagnostic Support Package for the PDP-8
8-766	SIMBA - A PDP-8/E Oscilloscope Symbol Generator

XV. DESK CALCULATOR, BUSINESS APPLICATION

8-607	CALCU1
8-610	INVENT-8
8-703	AMORT: Incremental Amortization Schedule
8-709	FINCA: A Computer Program for Financial Statement Analysis
8-724	Computer Catalog System
8-729	DS340 Demo Package
8-738	The Business Management Laboratory

XVI. MAINTENANCE

8-608	FUTIL - OS/8 File Utility
8-614	Clock Calibration
8-624	DUMP and LOAD, TSS/8
8-744	TSTCDR - TSS/8 Card Reader Diagnostic

May 1975

DECUS NO.	TITLE	DECUS NO.	TITLE
8-600b	EXPIP (Extensions PIP)	8-724	Computer Catalog System
8-606b	PIP11	8-726	An OS/8 Handler for the Varian Statos 21 Line Printer
8-607	CALCU1		
8-608	FUTIL – OS/8 File Utility	8-731	MEMO IV
8-609	OCOMP – Octal Compare and Dump	8-732	BAVIRF – A Virtual File UDEF for OS/8 BASIC
8-610	INVENT-8		
8-618	Two OS/8 Device Handlers for the 57A Magnetic Tape Control	8-734	Microprocessor Language Assembler for OS/8
		8-735	DSP8; Diagnostic Support Package for the PDP-8
8-622	KV8/I – VTØ1 Device Handler		
8-628	LISP 1.5 Interpreter for PDP-8 with OS/8 (PS/8)	8-738	The Business Management Laboratory
		8-739	COPY.PA
8-631	MINT – Multiple Precision Integer Arithmetic Subroutine	8-741	SD8SY and SD8X – Two Handlers for the TD8E Simple DECtape
8-632	RWDF32	8-745	LEP – Linear, Exponential and Power Function Curve Fit
8-633	MAC8, 8K MACRO ASSEMBLER		
8-634	MOVE	8-746	Device Handler for Tektronix 611 Storage Scope
8-635	PAL12D		
8-638	GEOMAS	8-747	STAGE2 MACRO Processor
8-639	OS/8 DISASM	8-748	SMØ4 – OS/8 to Disk-Monitor ASCII File Converter
8-640	OS/8 EDIT PLUS		
8-641	OS/8 FORMAT	8-753	OS/8 System Output Handlers
8-643	LIFE	8-754	NUMBER and REDATE – OS/8 File Utility Programs
8-646	DECsystem-8		
8-649	QPIP – OS/8 Directory Editing Program	8-756	ASCON – ASCII File Converter
8-650	AMIPED – Automated Medical Interview With Pediatric Data Files	8-757	OS/8 Utility Package
		8-758	Super Hardware Bootstrap Code for the TC08/TC01 on a MI8E
8-659	VT05		
8-660	STAT	8-759	USLIBA – FORTRAN II Subroutines for Binary Data Transfer
8-661	LESQ, General Non-Linear Least Squares		
8-670	Basic Plotting Package for OS/8 FORTRAN IV	8-761	WDATA – Subroutine to Write Absolute Binary Data on SYS-Device
8-677	STAR PIP	8-764	LIST
8-690	RANDU	8-765	DUMPOS – Dumps OS/8 ASCII Files
8-692	OLEVX and OLEVAX, 4-Channel Averager and Analysis System		
8-694	Teletype Line Printer Emulator Handler for OS/8		
8-698	TEKLIB, A Series of OS/8 FORTRAN II Callable Subroutines for the Tektronix 4010		
8-701	TEXT: Readable Punch Handler for OS/8		
8-703	AMORT: Incremental Amortization Schedule		
8-704	ANOV1: Analysis of Variance, Unequal N		
8-705	ARNORM: Area Under Normal Curve	FOCAL8-301	U/W FOCAL
8-706	BITSET	FOCAL8-310	Overlay for KV8I – OMSI FOCAL 1971
8-707	CRSTAB: Cross Tabulation Program		
8-708	EMLP: Emory Linear Programming Package		
8-709	FINCA: A Computer Program for Financial Statement Analysis		
8-710	MULTS: Multiple Regression Program		
8-711	Microprocessor Cross Reference Program for OS/8		
8-713	FORTRAN Plotting Subroutines		
8-715	F4 GRAPHICS		
8-717	F4 EAE – EAE Overlay for FRTS		
8-718	NSD – Nominal Standard Dose		
8-719	OS/8 Software for a TC58 Magtape Control		

May 1975

DECUS NO.	WRITE-UP	PAPER TAPE		LISTING	DECTAPE		LINCTAPE		MAGTAPE		OTHER INFORMATION
		BIN	ASCII		U/S	D/S	U/S	D/S	U/S	D/S	
8-600b	$ NC	$	$	$	$ 8.	$20.	$	$	$	$	1 DTA (src)
8-601	NC	2.									
8-602A	1.*		12.	NC							*NC with tapes
8-602B	1.*		12.	NC							*NC with tapes
8-603	NC	2.	8.	NC							
8-604	NC	2.	2.								
8-605	NC	2.	2.	NC							
8-606b	NC		12.	NC							
8-607	NC	2.	2.	NC	8.	20.					Paper Tape OR 1 DTA
8-608	NC				8.	20.					Tape includes 8-608, 8-609
8-609	NC				8.	20.					& FOCAL8-269
8-610	NC				8.	20.					1 DTA (obj,src)
8-611a	NC	2.	2.	NC							
8-612	NC	2.	8.	10.							
8-613	NC	2.	2.	NC							
8-614	NC	2.	8.	NC							
8-615	NC	2.	2.	NC							
8-616	NC	2.	2.	NC							
8-617	1.*	8.	12.	10.							*NC with tapes
8-618	NC		8.	NC							
8-619	NC		8.	NC							
8-620	NC			*Note							*Listings as quoted below
8-620A	NC	2.	8.	10.							
8-620B	NC	2.	8.	10.							
8-620C	NC	2.	8.	10.							
8-620D	NC	2.	8.	10.							
8-620E	NC	2.	8.	10.							
8-621	NC		2.								
8-622	NC		8.	NC							
8-623	NC	2.	2.	NC							
8-624	NC	2.	12.								
8-625	NC		2.	NC							
8-626	NC	2.	2.	NC							
8-627	NC	2.		NC							
8-628	NC			10.	8.	20.					1 DTA (obj,src)
8-629a	NC	2.	2.	NC							
8-630	2.*										

N/C – No Charge   U/S – User Supplied Tape (Certified)   D/S – DECUS Supplied Tape

DECUS SERVICE CHARGES

DECUS NO.	WRITE-UP	PAPER TAPE BIN	PAPER TAPE ASCII	LISTING	DECTAPE U/S	DECTAPE D/S	LINCTAPE U/S	LINCTAPE D/S	MAGTAPE U/S	MAGTAPE D/S	OTHER INFORMATION
8-630A	$2.*	$2.	$	$	$	$	$	$	$	$	*NC with tapes
8-630B	Same	8.									
8-630C		2.			8.	20.					1 DTA (obj,src)
8-630D	Write-				8.	20.					1 DTA (obj,src)
8-630E	up				8.	20.					1 DTA (obj,src)
8-631	NC				8.	20.					Same DTA (1) (obj,src)
8-632	NC				8.	20.					
8-633	NC				8.	20.					
8-634	NC				8.	20.					
8-635	NC				8.	20.					
8-636	NC	2.									
8-637	NC		2.	NC							
8-638	NC		2.	NC							
8-639	NC	2.		10.							
8-640	NC	2.		10.							
8-641	NC		2.	NC							
8-642	NC	2.		NC							
8-643	NC		2.	NC							
8-644	NC	2.	2.	NC							
8-645	NC	2.		NC							
8-646	NC				8.	20.	8.	18.			1 DTA OR 1 LTA
8-647	NC	2.									
8-648	NC	2.									
8-649	NC		8.								
8-650	NC		8.	NC							
8-651	NC			10.	8.	20.					1 DTA (obj,src, listing)
8-652	1.*	8.		NC							Test tapes included *NC with tapes
8-653	NC	8.									
8-654	NC	2.		NC							
8-655	NC	2.		NC							
8-656	NC	2.	16.	20.							
8-657A	NC	2.	12.	10.							
8-657B	NC	2.	8.	5.							
8-657.C	NC	2.	8.	5.							
8-658	NC	2.	8.	NC							
8-659	NC			NC	8.	20.					1 DTA with 8-600b (src)
8-660	NC				8.	20.					1 DTA (src, doc, test data)

N/C – No Charge   U/S – User Supplied Tape (Certified)   D/S – DECUS Supplied Tape

For information not contained on this sheet see General Information
8 A – 2 (Vol. II)

DEC 7-(369)-1112A-R1074   May 1975

DECUS SERVICE CHARGES

DECUS NO.	WRITE-UP	PAPER TAPE BIN	PAPER TAPE ASCII	LISTING	DECTAPE U/S	DECTAPE D/S	LINCTAPE U/S	LINCTAPE D/S	MAGTAPE U/S	MAGTAPE D/S	OTHER INFORMATION
8-661	$ NC	$	$	$	$ 8.	$ 20.	$	$	$	$	1 DTA (src,doc)
8-662	NC	2.	2.	NC							
8-663	NC	2.	2.	NC							
8-664	NC		2.	NC							
8-665	NC		2.	NC							
8-666	NC		2.	NC							
8-667	NC	2.	2.	NC							
8-668	NC	2.	8.	10.							
8-669	NC	8.	8.	10.							
8-670	NC	8.	8.	NC	8.	20.					1 DTA
8-671	NC			NC							
8-672	NC	2.	2.	NC							
8-673	NC	2.		NC							
8-674	NC	2.	2.	NC							
8-675	NC	2.	2.	NC							
8-676	NC	2.	2.	NC							
8-677	NC				8.	20.					1 DTA with 8-497
8-678	NC		8.	NC							
8-679	NC		2.	NC							
8-680	NC		2.								
8-681	NC	2.	12.	10.							
8-682	NC				8.	20.					1 DTA (obj,src)
8-683	NC	2.	2.	NC							
8-684	NC	2.	8.								
8-685	NC		2.	NC							
8-686	NC		8.								
8-687	NC		8.								
8-688	NC		8.								
8-689	NC		2.	NC							
8-690	NC	2.	2.	NC							
8-691	NC										DTA available from author
8-692	NC				8.	20.					1 DTA (obj,src)
8-693	NC		8.								
8-694	NC		2.	NC							
8-695	NC	2.	8.	NC							
8-696	NC		2.	NC							
8-697	NC	2.	2.	NC							

N/C - No Charge   U/S - User Supplied Tape (Certified)   D/S - DECUS Supplied Tape

| DECUS NO. | WRITE-UP | PAPER TAPE | | LISTING | DECTAPE | | LINCTAPE | | MAGTAPE | | OTHER INFORMATION |
		BIN	ASCII		U/S	D/S	U/S	D/S	U/S	D/S	
8-698	$ NC	$ 2.	$ 2.	$ NC	$	$	$ 8.	$ 18.	$	$	1 LTA for OS/12 users
8-699	NC		2.	NC							
8-700	NC	2.		NC							
8-701	NC	2.	2.	NC							
8-702	2.*			20.	32.	80.					4 DTA *NC with tapes
8-703	NC			NC	8.	20.					Same DTA (1) contains 8-703-710
8-704	NC			NC	8.	20.					
8-705	NC			NC	8.	20.					
8-706	NC			NC	8.	20.					
8-707	NC			NC	8.	20.					
8-708	NC			NC	8.	20.					
8-709	NC			NC	8.	20.					
8-710	NC			NC	8.	20.					
8-711	NC	2.									
8-712	NC	2.									Write-up is in French
8-713	NC				8.	20.					1 DTA (obj,src)
8-714	NC			NC							Card Deck – $20
8-715	NC			NC	8.	20.	8.	18.			1 DTA, 1 LTA
8-716	NC	2.	8.	NC							
8-717	NC	2.	2.	NC							
8-718	NC			NC	8.	20.					1 DTA
8-719	NC	2.	8.	10.	8.	20.					1 DTA
8-720	NC	2.	2.	NC							
8-721	NC	2.									
8-722	NC			NC							
8-723	NC		2.	NC							
8-724	NC		8.	NC							
8-725	NC	2.		10.							
8-726	NC	2.	2.	NC							
8-727	NC	2.		NC							
8-728	NC	2.		NC							
8-729	1.										Tapes available from Bus. Products

N/C – No Charge   U/S – User Supplied Tape (Certified)   D/S – DECUS Supplied Tape

DECUS NO.	WRITE-UP	PAPER TAPE BIN	PAPER TAPE ASCII	LISTING	DECTAPE U/S	DECTAPE D/S	LINCTAPE U/S	LINCTAPE D/S	MAGTAPE U/S	MAGTAPE D/S	OTHER INFORMATION
8-730	$NC	$2.	$8.	$NC	$	$	$	$	$	$	
8-731	NC				8.	20.					1 DTA (obj,src)
8-732	NC		2.	NC							
8-733A	NC	8.		10.	8.	20.					1 DTA (src)
8-733B	$5.										
8-734	NC	2.									
8-735	NC	2.	2.	10.	8.	20.					1 DTA (obj,src,doc)
8-736	NC	2.	8.	NC							
8-737A	NC	2.									
8-737B	NC	2.									
8-737C	NC	2.		NC							
8-738	NC				16.	40.					2 DTA
8-739	NC	2.	2.								
8-740	NC		2.								
8-741	NC			NC	8.	20.					1 DTA (obj,src)
8-742	NC	2.	2.	NC							
8-743	NC	2.		10.							
8-744	NC	2.		NC							
8-745	NC			NC	8.	20					1 DTA
8-746	NC		2.								
8-747	2.*	8.	12.	25.							*NC with tapes
8-748	NC		2.	NC							
8-749	NC		8.	10.							
8-750	NC	2.		NC							
8-751	NC										
8-752	NC				8.	20.					1DTA (obj,src)
8-753	NC	2.		5.	8.	20.					Same DTA (1) (obj,src,doc)
8-754	NC	2.		5.	8.	20					
8-755	NC	2.		NC							
8-756	NC	2.					8.	18.			1LTA (obj,src, write-up,listing,SV)
8-757	NC				8.	20					1 DTA (obj,src)
8-758	NC	2.	2.	NC							
8-759	NC	2.	8.	NC							
8-760	10.	2.	12.	NC							
8-761	NC	2.	8.	NC							
8-762	NC	2.	8.	NC							
8-763	NC		2.	NC							

N/C - No Charge   U/S - User Supplied Tape (Certified)   D/S - DECUS Supplied Tape

For information not contained on this sheet see General Information

DEC 7-(369)-1112A-R1074   May 1975

DECUS NO.	WRITE-UP	PAPER TAPE		LISTING	DECTAPE		LINCTAPE		MAGTAPE		OTHER INFORMATION
		BIN	ASCII		U/S	D/S	U/S	D/S	U/S	D/S	
8-764	$ NC	$2.	$ 8.	$ NC	$	$	$	$	$	$	
8-765	NC	2.	2.	NC							
8-766	NC	2.	2.	NC							

N/C - No Charge   U/S - User Supplied Tape (Certified)   D/S - DECUS Supplied Tape

DECUS NO. 8-737A

Four Word Floating Point Package for MPS

Robert H. Tedford, Digital Equipment Corporation,
Marlboro, Massachusetts

This package is a 4-word floating point system for MPS,
Digital Equipment's Microprocessor based on the Intel 8008
chip.

The basic operations included in this package are GET, PUT,
ADD, SUBTRACT, MULTIPLY, DIVIDE, NORMALIZE,
INPUT, OUTPUT, NEGATE and FIX. Extended functions
are described in the companion package (DECUS 8-737B).

Minimum Hardware:	MPS
Other Programs Needed:	User program
Restrictions:	Block 23 must be RAM
Source Language:	PAL-8

DECUS NO. 8-737B

Four Word Floating Point Functions for MPS

Robert H. Tedford, Digital Equipment Corporation,
Marlboro, Massachusetts

This function package was written for use with the Four Word
Floating Point for MPS (DECUS 8-737A) and includes sub-
routines to evaluate square, square root, sine, cosine, arc-
tangent, natural logarithm and experimental functions.

Minimum Hardware:	MPS
Other Programs Needed:	DECUS NO. 8-737A
Source Language:	PAL-8

DECUS NO. 8-737C

Rudiementary Calculator for MPS Four Word Floating Point
Routines

Robert H. Tedford, Digital Equipment Corporation,
Marlboro, Massachusetts

This is a minimum space program to perform calculations with
the precision of the Four Word Floating Point Package for
MPS (DECUS 8-737A) and to use the Four Word Floating
Point Function Package (DECUS 8-737B). Operations are
performed in the sequence in which they are entered. Up to
seven user-defined operation routines may be called.

Minimum Hardware:	4K MPS, ASR33
Other Programs Needed:	DECUS 8-737A and DECUS 8-737B
Storage Requirement:	1K
Source Language:	PAL-8

DECUS NO. 8-738

The Business Management Laboratory

R. L. Jensen, Emory University, Atlanta, Georgia

The Business Management Laboratory is a medium to large
scale management game intended for use in schools or
management training programs. It permits 3-8 teams (firms)
to compete in a consumer durables market, while they make
decisions in the areas of marketing, finance, production and
accounting control. The degree of complexity can be con-
trolled, so that the game has been used in introduction to
business courses as well as graduate policy courses.

The program is provided in FORTRAN IV source form only.
The complete DECtape includes the simulation program (as
several subroutines), test and set-up data, several auxiliary
programs, and compiling/implementation instructions.

Minimum Hardware:	OS/8 or DECsystem-8
Other Programs Needed:	Information concerning avail- ability of participants' and administrators' manuals are included with the write-up
Storage Requirement:	16K
Source Language:	FORTRAN IV

DECUS NO. 8-739

COPY.PA

Glen L. Brydon
Submitted by: John W. Cowan, Glen Ridge High School,
Glen Ridge, New Jersey

This OS/8 device handler allows OS/8 users with one TD8E
DECtape drive as their system device to easily move files
from one tape to another using OS/8 system programs such as
PIP. COPY provides the single-DECtape user some of the
power of multiple-DECtape systems, at the expense of some
time and effort changing tapes. It insures the integrity of
transfers through an error recovery system which allows
retries to be ordered if the handler was unable to read a
damaged tape.

Minimum Hardware:	PDP-8/M, TU56H with TD8E
Other Programs Needed:	OS/8 monitor
Storage Requirement:	1 page handler
Restrictions:	Limited error recovery
Source Language:	PAL-8

DECUS NO. 8-740

Theorem Prover for the Propositional Calculus

Dr. A. K. Head, C.S.I.R.O. Division of Tribophysics,
University of Melbourne, Parkville, Australia

This is a complete LISP program with examples which runs
under PDP LISP (DECUS 8-102a). It considers proposed
theorems in the propositional calculus and decides if they
are true or false. It is based on the Wang algorithm and

offers a choice of trace print out of steps involved in proving or disproving a theorem.

Minimum Hardware:	4K PDP-8 & Teletype
Other Programs Needed:	DECUS 8-102a
Source Language:	LISP

DECUS NO. 8-741

SD8SY and SD8X - Two Handlers for the TD8E Simple DECtape

W. van der Mark, Swiss Federal Institute of Technology, Zurich, Switzerland

This package consists of two handlers to be inserted via BUILD.SV into the OS/8 V3 operating system. They are a replacement for the resident and non-resident TD8E DEC handlers. Both handlers will run with the interrupt switched on and will permit a data acquisition rate of 50 CPS.

Minimum Hardware:	PDP-8/E, M, F, A with TD8E simple DECtape (12K if no disk)
Other Programs Needed:	OS/8 V3 operating system (Can be modified for older BUILD.SV versions
Storage Requirement:	Both handlers are two-page
Restrictions:	MQ register is used
Source Language:	PAL-8, V9B

DECUS NO. 8-742

CLOCK - A Real-Time Clock/Calendar Routine

P. K. Hastings and L. R. Tilley, Catalytic, Inc., Charlotte, North Carolina

A clock/calendar routine for keeping track of time in PDP-8 computers. This routine keeps up with minute, hour, day, month and a year. It was designed to be used with a real-time clock.

Minimum Hardware:	PDP-8 with Real-Time Clock
Other Programs Needed:	Interrupt Service Routine
Source Language:	PAL III

DECUS NO. 8-743

FILFIX - TSS/8 File Structure Repairing and Restructuring Program

Richard Wilson, Digital Equipment Corporation, Maynard, Massachusetts

FILFIX is a stand-alone utility program which analizes, repairs and restructures the files of any standard TSS/8 configuration. FILFIX enables a TSS/8 system to be rebuilt without losing the previous contents of the library on the system disk, and is also capable of correcting certain types of errors in the directory.

Minimum Hardware:	PDP-8, 8/I, 8/E
Other Programs Needed:	TSS/8 Operating System
Storage Requirement:	12K
Source Language:	PAL-8

DECUS NO. 8-744

TSTCDR - TSS/8 Card Reader Diagnostic

Richard Wilson, Digital Equipment Corporation, Maynard, Massachusetts

This is a TSS/8 card reader diagnostic which is designed to run under TSS/8, version 8.24. The diagnostic makes use of standard alpha and binary test decks, either 40 or 80 column.

Minimum Hardware:	PDP-8, 8/I or 8/E with card reader
Other Programs Needed:	TSS/8
Storage Requirement:	12K
Source Language:	PAL-8

DECUS NO. 8-745

LEP - Linear, Exponential and Power Function Curve Fit

Pei nan Tsung, Ph.D., The Buffalo General Hospital, Buffalo, New York

Curve fitting for straight line, exponential curve fit, power function fit and e-exponential curve fit. The sample size of ordered pairs (x_i, y_i) is 30. All the calculations are based upon the method of least squares.

Minimum Hardware:	8K OS/8 System
Source Language:	FORTRAN II

DECUS NO. 8-746

Device Handler for Tektronix 611 Storage Scope

Shlomo Z. Ron, New York City Health and Hospitals Corp., New York, New York

KV is a four page read and write non-file structured device handler under the OS/8 operating system. Since only 2 pages are allowed for an OS/8 device handler, the other two pages have to be in core in any 2 consecutive pages which are not destroyed by the program that uses this device handler.

Minimum Hardware:	PDP-8/E, KV8E and storage scope
Other Programs Needed:	OS/8
Storage Requirement:	2 pages besides the device handler
Restrictions:	Can be used if program does not destroy 2 consecutive pages in any memory field
Source Language:	PAL-8

DECUS NO. 8-747

STAGE2 MACRO Processor

Jonathan Gross, SSRFC, University of Minnesota,
Minneapolis, Minnesota and W. M. Waite, EE, University
of Colorado, Boulder, Colorado

STAGE2 is a general purpose macro processor designed by
W. M. Waite, and may be used as a front end to other
languages such as SABR, FORTRAN and BASIC. Device
independent I/O, and access to several files allows for
flexible processing and multiple passes within the macro pro-
cessor. Macro calls are recognized by a pattern matching
scheme that allows for flexible syntax in macro definition.
The special characters controlling the macro processor may be
easily defined so that they do not interfere with the host
language. Handles upper and lower case, and control char-
acters. STAGE2 is itself written in a language (FLUB) that
is translated by STAGE2 into PAL-8.

Minimum Hardware:	Will run only on PDP-8/E, F or M with EAE
Other Programs Needed:	OS/8 Operating System
Storage Requirement:	12K to 32K
Restrictions:	All macros must be defined at beginning of source code
Source Language:	PAL-8, STAGE2 (FLUB)

DECUS NO. 8-748

SMØ4 - OS/8 to Disk-Monitor ASCII File Converter

Gerald A. Sabin, 6022 Sage Drive, Orlando, Florida

SMØ4 will be found useful by regular users of DEC's Disk
Monitor. It is a utility program that will convert an ASCII
file on an OS/8 DECtape reel into an ASCII file on Disk-
Monitor DECtape. User needs to know the absolute block
numbers of his input OS/8 ASCII file. SMØ4 will output,
via Disk-Monitor, into a file named by the user.

SMØ4 is written in FORTRAN-D and uses a number of FOR-
TRAN tricks that have appeared in DECUSCOPE over the
last few years to accomplish the required machine language
subroutines.

Minimum Hardware:	4K PDP-8, 2 DECtape transports, TTY
Other Programs Needed:	Disk-Monitor System
Source Language:	FORTRAN-D

DECUS NO. 8-749

UFAXØ8 - A LAB-8 (AXØ8) Set of User-Defined-Functions
for OS/8 BASIC

Stanley R. Vivian, University of Manitoba Faculty of
Medicine, Winnipeg, Manitoba, Canada

The standard LAB-8/E user-defined-functions distributed with
OS/8 BASIC, V3, have been modified to function on the
original LAB-8 (PDP-8 with AX08 laboratory peripheral).
The general philosophy of these modifications has been to
make them in such a way that programs that run on the
LAB-8/E will also run on the LAB-8 (AX08) without changes.
The functions, their argument structures and execution logic
are essentially the same as in the LAB-8/E version as docu-
mented in the OS/8 Handbook - DEC-S8-OSHBA-A-D.

Major differences are: 1) CLK - prints setting of RC clock;
2) SAM - will not sample digital registers; 3) DRI - reads
contingency bits; 4) DRO - sets or clears digital outputs.

Minimum Hardware:	OS/8 Configuration with AXØ8 Laboratory Peripheral (options XR, XC, XM)
Other Programs Needed:	OS/8 BASIC V3 (or V1)
Storage Requirement:	3400-4577
Source Language:	PAL-8

DECUS NO. 8-750

Paper Tape Display

Thomas Ford
Submitted by: Jeffrey A. Merrow, White Mountains
Regional High School, Whitefield, New Hampshire

This program, designed for display purposes, was originally
produced by Thomas J. Ford using FOCAL 5/69 and will type
each tape punch as six characters long, and four high, except
for the sprocket holes, which are four characters long as well
as high.

Minimum Hardware:	4K PDP-8, ASR33
Storage Requirement:	2ØØ-363

DECUS NO. 8-751

FORTRAN IV for OS/8 FORTRAN II Users

John Cowan, Glen Ridge High School, Glen Ridge,
New Jersey

FORTRAN IV for OS/8 FORTRAN II Users is a manual of
implementations and subroutines simulating most of the fea-
tures of standard and OS/8 FORTRAN IV, with the exception
of double-precision routines. These routines will not work
under the paper tape FORTRAN. INVENT-8 (DECUS8-610)
and DPARITH (DECUS 8-597.12) are assumed: that is, they
are not used, but features they provide have not been
duplicated.

Minimum Hardware:	8K OS/8 System
Other Programs Needed:	OS/8 FORTRAN II
Restrictions:	Not source compatible with OS/8 FORTRAN IV; Double precision not implemented; Complex num- bers not yet implemented
Source Language:	FORTRAN II, SABR

MIG8E2 - Monitor of Interruptions Which are Generated by the PDP-8/E Peripherals

Alain Beysen, SNECMA, Centre de Etudes de Villaroche, Moissy Cramayel, France

This general purpose program will handle the priority scheduling of different I/O devices, with a minimum of disturbing time. It provides: hardware and software interrupts, 12 levels of priority plus background plus interrupt off, saving all active registers (including arithmetic and memory extensions) plus one memory, loading in 3 pages of core plus 16 memories page $\emptyset$ in field $\emptyset$, queuing low levels of priority, masking interrupts if wanted, high speed servicing -- and no bugs -- hopefully.

Minimum Hardware:	4K PDP-8/E with interrupt facilities
Miscellaneous:	Documentation and listing comments are in French
Source Language:	PAL III or PAL-8

OS/8 System Output Handlers

G. Chase, Portsmouth Abbey School, Portsmouth, Rhode Island

This package contains three two-page handlers and a program which accepts one input file and types it simultaneously on devices 04 (console) and 41 (commonly the first extra TTY or DECwriter). Two of the handlers were written for a console teletype or DECwriter; the third for the LS8E Centronix matrix printer.

Minimum Hardware:	8K OS/8 Configuration
Other Programs Needed:	OS/8
Source Language:	PAL-8

NUMBER and REDATE - OS/8 File Utility Programs

G. Chase, Portsmouth Abbey School, Portsmouth, Rhode Island

These programs help to facilitate the handling of certain OS/8 files that are in some way peculiar, e. g. in having no file date or a bad file date, or in containing illegal characters in name or extension.

Minimum Hardware:	PDP-8/E or later
Other Programs Needed:	OS/8
Storage Requirement:	8K
Restrictions:	NUMBER of use mainly to OS/8 V3 and later
Source Language:	PAL-8

OCTYPE - Octal Memory Dump

Jeffrey A. Merrow, White Mountains Regional High School, Whitefield, New Hampshire

OCTYPE's purpose is to output specified blocks of memory as: The current location, followed by: data located there. Input is from the teletype keyboard or low speed reader. The program will halt after each block is printed, but can be recovered by pressing CONT.

| Minimum Hardware: | 4K PDP-8, ASR33 |
| Source Language: | PAL III |

ASCON - ASCII File Converter

Steven Zimmerman, Boston V. A. Hospital, Department of Nuclear Medicine, Boston, Massachusetts

This program takes a standard 64 character ASCII file of the type produced by EDIT and translates it into a 96 character ASCII file. It is primarily intended for taking text which is all upper case and translating it into standard upper and lower case, usually for eventual output to a line printer.

ASCON is particularly powerful in combination with MEMO IV (DECUS 8-731).

Minimum Hardware:	PDP-8, PDP-12
Other Programs Needed:	OS/8
Storage Requirement:	8K
Miscellaneous:	LINCtape offered contains binary, ASCII, Save, listing and write-up files
Source Language:	PAL-8

OS/8 Utility Package

A. Windram
Submitted by: L. C. Chapas, The Grasslands Research Institute, Hurley, Maidenhead, Berkshire, England

This package consists of the following programs:

CORMAP - will produce a map for binary files showing where they load in memory. It is an alternative to OS/8 BITMAP, and offers more concise output and additional facilities. Both absolute and relocatable binary files can be mapped.

FORMAT - allows program tapes to be prepared off-line, and then converted to a standard on-line format. Strings of spaces are replaced by tab characters in a more intelligent way than EDIT, and some reformatting is done.

FIXCD - one-time program to fix several known bugs in Command Decoder (PS/8 and OS/8 V1 and V2 only).

XDIREC - selectively lists files by file-names or extensions. Options allow listing of up to 8 additional information words, listing of core-control blocks for core-image files, and listing of FORTRAN II library directories.

FHANDL - allows file-handling in normal or special mode of Command Decoder, using block-, word-, or character-oriented transfer, with the ability to handle several input and output files simultaneously.

F2SUB - the first 5 modules will run on any PDP-8 processor. The 6th requires a PDP-8/E, and the 7th a PDP-8/E with EAE.

1. MOVE - Allows moving or zeroing of real or integer arrays be means of a single subroutine call instead of a DO loop. Needs 1 page.

2. MKRSET - Gives direct-access handling for Stream 4 input. Needs 1 page.

3. ICARD - A routine for reading cards in binary. Needs 1 page.

4. UTIL - This is the OS/8 V1 UTILITY module, with an in-core encode/decode facility added. Binary only. Needs 4 pages.

5. FFFINP - Free-format input package for numeric and character input, and character comparison, using any stream. Needs 5 pages.

6. RWIOH - This is the OS/8 V1 READ/WRITE/IOH module, modified to output even-parity characters. Binary only.

7. LOGIC - Provides 9 logic functions (AND, OR, NOT, SIDE-ADD, SHIFT-LEFT, SHIFT-RIGHT, SET BIT, CLEAR BIT, TEST BIT). Needs 1 page.

Minimum Hardware:	8K PDP-8
Other Programs Needed:	OS/8 PS/8
Source Language:	PAL-8; SABR for F2SUB

DECUS NO. 8-758

Super Hardware Bootstrap Code for the TC08/TC01 on a MI8E

Ricky Schrieber/Charles Lasner (P?S), Forest Hills, New York

Due to the hardware implementation of the MI8E bootstrap loader, it is necessary for the option to ground PWR NOT OK to cause a power clear sequence. On the RK05's this causes the heads to retract in case of a real failure, so to cover up for this and to leave a message logged on the console TTY a hack was made to have it type INITIALIZING then wait for the drive and do a standard OS/8 RK8E bootstrap.

Well, here is one for the TC08/TC01 that will rewind unit 0, print the message INITIALIZING and then proceed to bootstrap to what looks like a standard TC01 bootstrap.

Minimum Hardware:	PDP-8/E/F/M; TC08/TC01; MI8E
Restrictions:	Might fail MI8E diagnostic due to self-modification
Source Language:	PAL

DECUS NO. 8-759

USLIBA - FORTRAN II Subroutines for Binary Data Transfer

Albrecht Lommel, Institute of Aerodynamics ETH, Swiss Federal Institute of Technology, Zurich, Switzerland

USLIBA contains five SABR-written subroutines which are useful on evaluating absolute integer binary data in FORTRAN II.

DATAM prints the OS/8 date, ADFAC helps users with an A/DC to evaluate their conversion factor: A/DC integer value to real voltage, DCHAN stores integer data from DF 2 into the "COMMON" area in DF1, ADCOM combines ADFAC and DCHAN, storing the real voltages of integer A/DC values from DF 2 into the COMMON area in DF 1, RDATA finally reads integer data from the OS/8 SYS device from a file into core. These data files can be created by means of another program also available from DECUS: "WDATA" - DECUS 8-761.

Minimum Hardware:	OS/8 Configuration
Other Programs Needed:	Recommended: WDATA - DECUS 8-761
Storage Requirement:	The 5 routines each need from 1 to 3 pages
Source Language:	SABR

DECUS NO. 8-760

FASTAD - User Oriented Data Collection on One A/DC Channel

Albrecht Lommel, Institute of Aerodynamics ETH, Swiss Federal Institute of Technology, Zurich, Switzerland

FASTAD is a program for user-oriented data collection on one A/DC channel with one big buffer. Up to 4K core can be filled with A/DC samples.

FEATURES:

Start of measurement by TTY, Schmitt triggers (of DK8-EP), or external Clock input A/DC at maximum speed (ca 40.7 [KHZ]), Clock determines the sampling frequency with a maximum error of ± one [HZ].

A/DC with the Clock controlling the sampling frequency from a ca 34 [KHZ] to arbitrary slow rates.

A time delay after trigger start and before A/DC start can be chosen

May 1975

DECUS NO. 8-760 (Continued)

In a thorough dialogue-and test-part the user can select his choice of the offered possibilities, test and calibrate the input signals, triggers, etc. After the measurement has been finished the user can have a test output of selected buffer points on the terminal (user determines selection) and repeat his special choice of measurement without a new run through the long dialogue-and test-part.

By means of WDATA (DECUS8-761) the OS/8 user can store his data on files on the SYS-device and by means of USLIBA (DECUS 8-759) he can evaluate these data in FORTRAN II programs very comfortably.

The buffer and A/DC program parts can be changed easily: the Write-up contains the necessary help for other users to fit this program to their needs.

Requirements:	PDP-8/E with at least 8K core, 12K better; a Real Time Clock 'DK8-EP'; An A/D converter 'AD∅1-AP' or other A/DC types with multiplexer; OS/8 config-uration are not necessary but an advantage
Software:	DEC's Floating Point Package (EAE or NON EAE) (DEC-8E-NEAEA-A-PB) or (-∅8-NFPPA-A-PB); TTYIO(DECUS 8-762); For OS/8 users: WDATA(DECUS 8-761) and USLIBA (DECUS8-759) strongly recommended
Source Language:	PAL-8

DECUS NO. 8-761

WDATA - Subroutine to Write Absolute Binary Data on SYS-Device

Albrecht Lommel, Institute of Aerodynamics ETH, Swiss Federal Institute of Technology, Zurich, Switzerland

WDATA is a subroutine for writing absolute binary data on the OS/8 SYS-device.

Format: sequential blocks of $400_8 = 256_{10}$ data each.

By means of 'USR' the user opens his data-file and then WDATA writes the buffer contents to the sys-device (start address, field, and length of buffer programmable). For subsequent calls to WDATA no new data-filename is neces-sary; WDATA keeps track of the block-numbers. Further-more, it examines if the buffer length corresponds to an even number of pages, if the sys-space available is sufficient for the next buffer output (if not, a correction will be done of the amount of output together with a correction message), and it asks after a successful buffer-output if you want to transfer any more data. If your output has been ended it will print out the complete filename (with the extension ".EX") and its total block length.

Evaluations of these data having been stored on sys by WDATA can be made in FORTRAN II by means of the program USLIBA (DECUS 8-759).

Minimum Hardware:	OS/8 Configuration, at least one terminal and one mass storage device
Other Programs Needed:	USLIBA (DECUS 8-759)
Storage Requirement:	3 pages
Restrictions:	Minimum transfer unit: 2 pages = one OS/8 block of data; Data buffer should not occupy the USR area in core
Source Language:	PAL-8

DECUS NO. 8-762

TTYIO - I/O Routines for Teletype or Similar Terminal

Albrecht Lommel, Institute of Aerodynamics ETH, Swiss Federal Institute of Technology, Zurich, Switzerland

This package contains programs necessary for a good com-munication with the terminal. TYPX prints messages, six bit ASCII.

KREAD reads messages from keyboard, GETBUF prints them out (both use a buffer for the eight bit ASCII characters) as a mere message or forms an octal number of sequential char-acters. DBCONV converts ASCII-coded decimals to binary numbers, DECPRT prints up to 4 digit decimal numbers of a binary number in AC.

HEAR is a special form of KREAD for a fix text buffer, GETKBD is the corresponding GETBUF for a fix buffer.

The routines require 2 pages of core and can be used field independent via some special routines listed in the comment. They all use the same exit (1 loc. in page ∅). KREAD, TYPS, DBCONV and DECPRT are adaptations from DEC's Commonly Used Utility Routines.

Minimum Hardware:	PDP-8/E, KL8E Interface (TTY, LA30 or LA36 interface)
Source Language:	PAL III

DECUS NO. 8-763

KL8TST - KL8/E, KL8/J Diagnostic

David A. Bennett, Computer Science Research Laboratory, The Technological Institute, Evanston, Illinois

KL8TST verifies the correct operation of a KL8/E or a KL8/J asynchronous serial device controller. In an environment where a particular board must quickly be isolated as the possible source of some unknown difficulty, or in general when a vote of confidence is needed on a KL8/E or /J irre-spective of the peripheral which it controls, this program will give a fast go no/go response.

Should the program discover a fault, it attempts to report its nature in meaningful English language phrases. It will perform independent tests of 1) interrupt capability, 2) punch complete flag operation, 3) keyboard ready flag operation, and 4) data integrity.

Storage Requirement:	words 0-663 any field
Source Language:	PAL-D, PAL-8

May 1975

LIST

P, C. Diegenbach, Zoological Laboratory, University of Amsterdam, Amsterdam, The Netherlands

This program gives a listing of an OS/8 file on the Tektronix 4010 terminal with optional hardcopies on the 4020 hardcopy device or on the teletype of DECwriter. Paging after a form feed is switch selectable too. Default extension for the file is .DA. It uses the PS8IN subroutine (DECUS 8-472) (PS8IN is included with the source).

Minimum Hardware: OS/8 Configuration, Tektronix 4010 Display Terminal

Source Language: PAL-8

DECUS NO. 8-765

DUMPOS - Dumps OS/8 ASCII Files

Melvyn George Fishel, Free University Brussels, Brussels, Belgium

Program DUMPOS is a very useful dump program in case of system or directory crashes with OS/8 DECtapes. DUMPOS will dump any OS/8 ASCII file on the ASR33, even if the system area or the directory has been destroyed. Block number of file to be dumped is entered manually via the switch register.

Minimum Hardware: PDP-8/E, ASR33, TD8E DECtape
Other Programs Needed: OS/8 Operating System
Storage Requirement: 06600-07577
Source Language: PAL-8, PAL III

DECUS NO. 8-766

SIMBA - A PDP-8/E Oscilloscope Symbol Generator

Melvyn George Fishel, Free University Brussels, Brussels, Belgium

SIMBA is a fast, two-page oscilloscope character generator. A 6X4 dot matrix is used to generate the symbols. The subroutine takes care of full-line, full-page and end-of-file conditions. Tab characters are automatically expanded.

Minimum Hardware: PDP-8/E, EAE, VC8E, Oscilloscope

Storage Requirement: 2 pages (400_8 words)

Source Language: PAL-8, PAL III

I. PROGRAMMING LANGUAGE, MONITOR, PROGRAMMING SYSTEM

DECUS NO.	TITLE
FOCAL8-301	U/W FOCAL
FOCAL8-313	EAE Patches to FOCAL

II. TEXT EDITING, TEXT MANIPULATION

FOCAL8-311   SIXPAC

III. DEBUGGING, DISASSEMBLY, SIMULATION, TRACE, DUMP

IV. BINARY LOADING, BINARY PUNCHING

V. DUPLICATION, VERIFICATION

DECUS NO.	TITLE

VI. NUMERICAL FUNCTION, NUMERICAL INPUT/OUTPUT

FOCAL8-309	DBCONV, Decimal-Binary Converter
FOCAL8-313	EAE Patches to FOCAL

VII. UTILITY

FOCAL8-312   CVFCPTG (Centronics Vertical Format Control Paper Tape Generator

VIII. DISPLAY

FOCAL8-310   Overlay for KV8I - OMSI FOCAL 1971

IX. DATA MANAGEMENT, SYMBOL MANIPULATION, SORTING

May 1975

X. PROBABILITY, STATISTICS, CURVE FITTING

XI. SCIENTIFIC APPLICATION, ENGINEERING APPLICATION

XII. HARDWARE CONTROL

XIII. GAME, DEMONSTRATION

XIV PLOTTING

XV. DESK CALCULATOR, BUSINESS APPLICATION

XVI. MAINTENANCE

XVII. MISCELLANEOUS

May 1975

DECUS NO.	WRITE-UP	PAPER TAPE		LISTING	DECTAPE		LINCTAPE		MAGTAPE		OTHER INFORMATION
		BIN	ASCII		U/S	D/S	U/S	D/S	U/S	D/S	
	$	$	$	$	$	$	$	$	$	$	
FOCAL8-300	NC		2.	NC							
FOCAL8-301	NC	16.	40.	25.	8.	20.	8.	18.			1 DTA, 1 LTA
FOCAL8-302	NC	2.	2.	NC							Both tapes needed to run program
FOCAL8-303	NC		2.	NC							
FOCAL8-304	NC		2.	NC							
FOCAL8-305	NC		2.	NC							
FOCAL8-306	NC		2.	NC							
FOCAL8-307	NC		8.								
FOCAL8-308	NC		2.	NC							
FOCAL8-309	NC			NC							
FOCAL8-310	NC		8.	NC							
FOCAL8-311	NC	2.	2.	NC							
FOCAL8-312	NC		2.	NC							
FOCAL8-313	NC	2.	8.	NC							
FOCAL8-314	NC		2.	NC							
FOCAL8-315	NC		2.	NC							
FOCAL8-316	NC		2.	NC							

N/C - No Charge   U/S - User Supplied Tape (Certified)   D/S - DECUS Supplied Tape

DECUS NO. FOCAL8-312

CVFCPTG (Centronics Vertical Format Control Paper Tape Generator)

W. E. Hamilton, 212F Red Oak Drive East, Sunnyvale, California

This is a FOCAL coded utility program which will produce vertical format control (carriage control) tapes for a Centronics printer.

Minimum Hardware:	4K PDP-8/I, ASR33
Restrictions:	Cannot be run with extended functions
Source Language:	FOCAL '69

DECUS NO. FOCAL8-313

EAE Patches to FOCAL

G. Chase, Portsmouth Abbey School, Portsmouth, Rhode Island

These are Mode "B" Extended Arithmetic Element patches to two versions of the FOCAL language, namely to DEC's FOCAL-8, the revision of FOCAL, 1969, and to DECUS' FOCAL 5/69 ("Taft" FOCAL).

Mode "B " of the EAE is available only on PDP-8/E and later models. The PDP-12 and the PDP-8/I EAE run in mode "A" only. It is likely that some parts of the patches might be recodable into mode "A".

The patch to DEC's FOCAL-8 does things to the addition routines as well as to the floating multiply and divide routines. The other patch restricts itself to floating multiply and divide only. On a sample program calculating a lot of arc sines, the FOCAL-8 patch caused the program to run in about 40% less time than was required with unpatched FOCAL-8; the TAFT patch saved about 30% as compared with unpatched FOCAL 5/69.

It should be remembered that both languages are interpretive and use interpretive calls to their floating point packages. A substantial fraction of the run time of a program is determined simply by the language structure.

Source Language:	PAL-8

DECUS NO. FOCAL8-314

Y-Value Calculations

G. Brent Dalrymple, U. S. Geological Survey, Menlo Park, California

This program calculates values of Y using any of eight different equations given the coefficients of the equation selected and values of X. A ninth option allows the user to enter any equation of his or her choice. The equations available are: (1) $y = a + bx$, (2) $y = a + b/x$, (3) $\ln y = a + bx$, (4) $\ln y = a + b\ln x$, (5) $y = ab^x$, (6) $y = ax^b$, (7) $y = a + be^x$, and (8) $y = a + bx + ce^{dx}$.

Minimum Hardware:	8K PDP-8, keyboard terminal
Other Programs Needed:	FOCAL-8
Source Language:	FOCAL-8

DECUS NO. FOCAL8-315

YORK2 - Two Error Linear Regression with Correlated Errors

G. Brent Dalrymple, U. S. Geological Survey, Menlo Park, California

YORK2 is a linear regression program that allows for errors in both X and Y and also for positive and negative correlation of the X and Y errors. The program accepts errors for each value of X and Y. If the errors are uncorrelated, the correlation coefficient ($-1 < R < 1$) may be set to zero. Output consists of the slope, the intercept, the coordinates of the centroid and six statistical parameters. The program uses the "least squares cubic" method of D. York, University of Toronto (York, 1969). It requires 8K of core.

Minimum Hardware:	8K PDP-8, keyboard terminal
Other Programs Needed:	8K FOCAL-8
Source Language:	FOCAL-8

DECUS NO. FOCAL8-316

BANCPO - Bank Portfolio Simulation

Dr. John A. Tribble, Newberry College, Newberry, South Carolina

This routine simulates the decision making process of the commercial banker, a risk-filled and uncertain world where there is interdependency of bankers' decisions. General data is entered describing a banking market with five competitors. Each of the five competing banks enters a level of government securities, an initial net worth, and interest rates paid on savings accounts, paid on certificates of deposits, and charged on loans. The program calculates assets and liabilities for each bank adjusting assets to meet required reserves. The output consists of a balance sheet for the last day of the decision period and an income statement for the period.

Minimum Hardware:	4K PDP-8
Other Programs Needed:	FOCAL, 1969 & INIT
Restrictions:	Extended functions removed from FOCAL
Source Language:	FOCAL

I. MATHEMATICS

DECUS NO.	TITLE
BASIC8-1	Mathematics – Set 1
BASIC8-2	Mathematics – Set 2
BASIC8-3	Mathematics – Set 3
BASIC8-26	LIB17 – Package of Mathematical Routines
BASIC8-28	Mathematics – Set 4
BASIC8-30	LIB12 – Mathematical and Graphing Routines
BASIC8-31	Mathematics – Set 5
BASIC8-32	Mathematics – Set 6
BASIC8-44	Mathematics – Set 7
BASIC8-63	MAMII and MAMID
BASIC8-65	Butler Area School District Computer Mathematics Series
BASIC8-71	CALC

III. PHYSICS

DECUS NO.	TITLE
BASIC8-6	Physics – Set 1
BASIC8-7	Physics – Set 2
BASIC8-36	LODICE

II. PLOTTING

BASIC8-4	Plotting – Set 1
BASIC8-5	Plotting – Set 2
BASIC8-30	LIB12 – Mathematical and Graphing Routines
BASIC8-35	XYPLOT; 3DGRAPH; PLOT-1

IV. CHEMISTRY

BASIC8-8	Chemistry – Set 1
BASIC8-9	Chemistry – Set 2
BASIC8-40	Tutorial Exercises in Chemistry

May 1975

V. BIOLOGY

DECUS NO.	TITLE
BASIC8-10	Biology – Set 1

VII. BUSINESS AND SOCIAL STUDIES

DECUS NO.	TITLE
BASIC8-12	Business and Social Studies – Set 1
BASIC8-15	Business and Social Studies – Set 2
BASIC8-37	Business and Social Studies – Set 3

VI. EARTH SCIENCE

BASIC8-11	Earth Science – Set 1
BASIC8-48	STF and STM, Stellar Formation and Stellar Model
BASIC8-49	GASSER
BASIC8-59	STORM3
BASIC8-72	Great Circle Course and Distance

VIII. ADMINISTRATIVE

BASIC8-13	Administrative – Set 1
BASIC8-27	Multiple Choice Quiz
BASIC8-70	PISTOL – Practically Instantaneous Scheduling Typed On-Line

May 1975

IX. COMPUTER SCIENCE AND PROGRAMMING

DECUS NO.	TITLE
BASIC8-14	Computer Workshop
BASIC8-23	SIMCOM
BASIC8-24	TRAN
BASIC8-25	LABEL
BASIC8-38	USAGE
BASIC8-39	LILAC: Laband's Ingeneous Little Automatic Computer
BASIC8-41	OMSI30 BASIC
BASIC8-42	RECOVE – Basic Recovery From Crash
BASIC8-43	NEOPAL, PAL-D Simulator
BASIC8-45	LIB9: Extended Precision Routines for BASIC
BASIC8-47a	FILE: Text Data File Program for TSS/8 BASIC-4
BASIC8-50	CSHHS BASIC-73
BASIC8-51	DISEDU – Loading EDUsystem-2$\emptyset$ on the 4K Disk Monitor System
BASIC8-56	Laboratory and Display Instructions for OS/8 BASIC
BASIC8-57	NEEDIT – Symbolic Editor Program for NEOPAL
BASIC8-58	RESEQUENCE
BASIC8-66	CLILAC – LILAC Conversion
BASIC8-67	TSSTLK – BASIC Language Communications Package for the TSS/8
BASIC8-68	BASIC Storage
BASIC8-71	CALC

X. GAMES & DEMONSTRATIONS

BASIC8-16	Games – Set 1
BASIC8-17	KRIEGSPIEL
BASIC8-18	POKER
BASIC8-20	Games – Set 2
BASIC8-21	The Monopoly Game
BASIC8-22	BASEBALL
BASIC8-29	GAMES – SET 3
BASIC8-46	HORSE – TSS/8 Horse Racing Program
BASIC8-52	APPLE, POSTER, SIGNS
BASIC8-53	ACEDUC, TICTACTOE, CHECK6C, ONEARM
BASIC8-54	NLYSIS, POSTER2, CLNDR5, PIDART
BASIC8-55	101 OS/8 BASIC Computer Games
BASIC8-60	WRDSEK, WRDGES, LIFE, LIFES1, TICTAC
BASIC8-61	Bowling League Tabulator
BASIC8-62	NANCY.BA
BASIC8-64	NAMES
BASIC8-69	CHESS

XI. MISCELLANEOUS

DECUS NO.	TITLE
BASIC8-19	Miscellaneous – Set 1
BASIC8-33	Seq; Same; Stat1
BASIC8-34	Football Scouting Report Systems

May 1975

BASIC8-56
Laboratory and Display Instructions for OS/8 BASIC
Source: Ronald Jones, Ph.D.

This program is a set of user-defined functions for OS/8 BASIC. It is combined with the LAB/8E functions (DEC-8E-ALOSA-A-LA) to build the file BASIC.UF; a run-time overlay for OS/8 BASIC. These functions control DEC analog and Digital input and output devices and the VC8E display-control. They permit real-time data sampling, with background display, and control of both the X and Y coordinates for CRT plotting.

Language: PAL-8
Object, source, documentation and listing files on one DECtape: $8.00 User Supplied, $20.00 DECUS Supplied.
Hard copy listing: $10.00

BASIC8-57
NEEDIT, Symbolic Editor Program for NEOPAL
Source: Christopher Kryzan

NEEDIT was designed to provide an on-line editing feature for NEOPAL. Through the use of this program, one can construct a program in NEOPAL assembly language and correct errors in programming and in typing which may be encountered. When a program is completed, the finished program will be executed by chaining to NEOPAL (BASIC8-43).

Mass storage is required.

Paper Tape: $2.00

BASIC8-58
RESEQUENCE (A revision of DECUS8-402)
Original Source: Howard Wolfington
Revised by: Timothy M. Sigmon

This is a revision of DECUS 8-402 which resequences line numbers and references within a BASIC program on TSS/8. It has been revised to handle the following TSS/8 extended BASIC options: 'OPEN-ELSE,' 'ON-GOTO,' 'PUT,' and 'GET' statements and the backslash option.

Language: PAL-D

BASIC8-59
STORM3
Source: Bradford A. Morse

This is a program written in BASIC on Edusystem-20, to simulate formations of clouds, rain storms, and the breakup of the clouds after the rain. It requires only that you can type it into the computer (PDP-8/E), and type the word "RUN ". It will take it from there. The program works entirely with random numbers and simulates buildups and breakdowns of clouds by printing progress reports by the hour until the storm is over. After the storm a complete description of the storm's actions are printed out.

BASIC8-60
WORDSEK, WRDGES, LIFE, LIFES1, TICTAC
Source: Christopher Kryzan, Gordon Speer

1. WRDSEK, given the words to be used, will construct a 15 by 15 word search puzzle. The computer will use the number of words you specify, place them in the puzzle at random locations and in random directions, and then print out a word list, solution, and the puzzle.

2. WRDGES will play 'guess the word' with the user. The user will be able to determine the word size (up to 50 characters) and the time in which he has to look at the word. The computer will then generate the word, let the user look at it for the given amount of time, then totally eradicate the word, and ask him what it was.

3. LIFE is a computerized demonstration of Conway's Game of Life as found in Scientific American. This program illustrates the mathematical patterns which result as the organisms on the grid grow and die. Random or determined starting positions of organisms may be used, and the program terminates itself when it has reached an equilibrium.

4. LIFES1 is another version of Conway's 'LIFE.' It works with teletype output.

The population occupies a grid up to 35 wide by 60 long. Excess height is automatically trimmed to save paper. Changes in the population are counted and the run stops automatically when the population reaches a stable pattern.

5. TICTAC will play the game of tic tac toe against the user, trying to pick the move which is most advantageous to the computer. If the operator makes the first move, the computer will play defensively. If the computer makes the first move, it will play offensively. The board is printed out after the computer's move.

Paper Tapes: $2.00 per routine

BASIC8-61
Bowling League Tabulator
Source: Philip Bujalski

This program automates the tabulation of a bowling league for any amount of teams with any amount of bowlers on the teams. For each bowler, total pinfall, total games, average, high game, low game and high triple are calculated.

Paper Tape: $2.00

May 1975

BASIC8-62
NANCY.BA
Source: Peter W. Dowrick

> This program, written in OS/8 BASIC, simulates the playing of tic tac toe, with randomization of differing strategies and blunders, at four different levels of probability.
>
> Paper Tape: $2.00

BASIC8-63
MAMII and MAMID
Source: F. G. McIntosh

> "MAMII" – input version, "MAMID" – data version. The programs provide the functions of addition, multiplication and inversion using either 'input' statements of 'read' and 'data' statements. Both programs allow retention of solutions so that 'chain-type' calculations may be performed. Real matrices only.
>
> Paper Tape: $2.00

BASIC8-64
NAMES
Source: Malcolm Slaney

> This is a simple program to punch out names and other messages on tape. Messages of any size that can be handled by the LINPUT command will be punched. It is also possible to specify whether the letter or the background should be punched. All alpha-numeric characters can be punched, and new characters, such as Christmas trees, are easy to add.
>
> Paper Tape: $2.00

BASIC8-65
Butler Area School District Computer Mathematics Series
Source: Keith Henry, John Koehring, Albert Stewart

> A series of mathematics programs for individual testing on math problems at various levels. Provisions are made for alternative questions for "retakes" at each level. Complementary programs allow for printout of sets of problems on spirit ditto masters and for the teacher to get an answer sheet for the ditto handout. An achievement ideograph program gives explicit student achievement records.
>
> Language: TSS/8 BASIC
> Documentation: $1.00
> DTA $8.00 User Supplied, $20.00 DECUS Supplied

BASIC8-66
CLILAC, LILAC Conversion
Source: Brett Fleisch

> This version of LILAC (BASIC8-39) retains all the original commands, but is modified for EDU-25 BASIC. The number of lines has been reduced due to the occasional usage of the SHIFT/L command. Its highest line number is less than 2046. Also, two additional useful commands have been added.
>
> Minimum Hardware: 8K PDP-8/E, TTY
> Language: EDU-25 BASIC
> Paper Tape: $2.00

BASIC8-67
TSSTLK – BASIC Language Communications Package for the TSS/8
Source: Reed Christiansen

> TSSTLK utilizes a data file, TSSTKF, to transmit and receive messages to and from other terminals.

BASIC8-68
BASIC Storage
Source: Sandra A. Howell

> BASIC Storage is a program written in the 8K BASIC language to accept an integer from the teletype and convert it to its 27 bit floating point equivalent. The integer is restricted to numbers between $E \pm 38$ and can be input as integers, decimal integers, or integers expressed in E format. The output is the octal of words 1, 2, and 3 respectively, in the floating point accumulator.
>
> Language: 8K BASIC

BASIC8-69
CHESS
Source: Andy Kent

> Allows two people to play a game of chess using a computer as a board and a move recorder. The computer does not check for illegal moves. When the game is over, the computer prints the final position and every move for both white and black that was made.
>
> Minimum Hardware: PDP-8/M and TTY
> Other Programs Needed: EDU-25
> Storage Requirement: 12K
> Language: BASIC
> Paper Tape: $2.00

BASIC8-70
PISTOL - Practically Instantaneous Scheduling Typed On-
Line
Source: Andrew R. Bradbury

PISTOL is a BASIC source program devised to
rapidly produce student schedules for various uses.
It was originally designed to schedule student
usage of a computer terminal, but may be used for
many other scheduling problems.

Minimum Hardware: TSS/8, Disk storage (Could be
                  modified to use DECtape)
Other Programs Needed: BASIC with data file
                       capabilities
Language: BASIC
Paper Tape $2.00

BASIC8-71
CALC
Source: Jesse Heines

CALC allows you to input any valid BASIC numeri-
cal expression and prints out the value of that
expression on a CLASSIC or OS/8 system.

This program uses one BASIC language program to
write another, CHAINs to a newly written program,
and then CHAINs back to the original one.

Paper Tape: $2.00

BASIC8-72
Great Circle Course and Distance
Source: G. Brent Dalrymple

This program computes the great circle distance,
the initial course angle, and the initial great
circle course from the latitude and longitude of
the points of departure and destination.

Minimum Hardware: 8K PDP-8, DECtape, key-
                  board terminal
Other Programs Needed: OS/8
Language: OS/8 BASIC (Version 3.0)
Paper Tape: $2.00

I. PROGRAMMING LANGUAGE, MONITOR, PROGRAMMING SYSTEM

DECUS NO.	TITLE
12-10	FOCAL Library (LINCtape FOCAL for the PDP-12
12-40	PDP-8 Disk Monitor - LAP6-DIAL Interface
12-45	FOCALP-FOCALPE
12-48	PS/8 FORTRAN Library Routines
12-54	QUIP - Quick Assembler for the PDP-12
12-61	Generating Random Numbers with FOCAL
12-67	PPG FOCAL
12-77	PAL12A Assembler
12-80	FOCAL - RT
12-101	OS/8 SKED
12-108	FPPNEW - Replacing the DIAL-MS-Assembler by an Improved Version of the FPP Assembler
12-109A,B,C	QNANSWER, QANDATTY, SUPRSHUF
12-110	DIAL-MS for 1600 Blocks
12-120a	DUAL
12-124	FR, FDIS and FADC for PDP-12 Input/Output
12-129	OS/12X Scope Monitor Operating System
12-132	LISP 1.5 Interpreter for PDP-8 with OS/8, OS/12
12-134	RWDF32
12-135	MAC8, 8K MACRO ASSEMBLER
12-137	PAL12D
12-138	ISEL
12-153a	DUAL32, DUAL-28K Assembler
12-154a	CREF32
12-164	DIAL.EXT
12-167	FOCAL Patches
12-176	FOCAL-12 Overlay to Access the DF32 Disk
12-178	NUFOCAL, Modified FOCAL-12
12-180	CARDDIAL - Input to the DIAL Editor Via Cards
12-186	COBRA Assembler for the PDP-12
12-188	4K DISK/LINCTAPE MONITOR
12-189	DECtape Reader Handler for PDP-12

II. TEXT EDITING, TEXT MANIPULATION

DECUS NO.	TITLE
12-6	ANDIP - Analog Digital Interchange Program
12-39	QUANAT 1
12-50	EDIT-12
12-66	ADDINDX (LAP6-DIAL-MS Index
12-82	LAP6-DIAL to PS/8 Source File Converter
12-96A&B	SCOPE and CNGMWA
12-163	AD74 - High Speed Analog to Digital Conversion Program

III. DEBUGGING, DISASSEMBLY, SIMULATION, TRACE, DUMP

12-11	ODTAPE (Octal Debugger for PDP-12 LINCtape)
12-21	Modified MAGSPY
12-30	TDUMP
12-76	TAPELOOK; CORELOOK; SEARCH
12-91	OCTPUNCH
12-124	FR, FDIS and FADC for PDP-12 Input/Output
12-142	FOCALSD
12-154a	CREF32
12-162	COREDIT

May 1975

IV. BINARY LOADING, BINARY PUNCHING

DECUS NO.	TITLE
12-17a	DIALRFØ8
12-20	FORMATXT
12-152	LOAD31K, A Loader for DIAL-MS and 32K of Core

V. DUPLICATION, VERIFICATION

12-18	"FAILSAFE"
12-32	COMPAR12
12-149	XPIP8: PDP-12 DECtape PIP
12-150	XPIP1Ø: PDP-10 DECtape to LINCtape Converter

VI. NUMERICAL FUNCTION, NUMERICAL INPUT/OUTPUT

DECUS NO.	TITLE
12-7	DBLFLT - Double Float Mathematical Routines
12-14	MUL-2REG
12-25	Three Subroutines for QANDA - FRACUS, SCRMBL, QANDA-C
12-34	STAP-12
12-41	BLOOPD - Blood Pressure Display Program
12-64	Walsh Transform Subroutines, PWALSH and LWALSH
12-67	PPG FOCAL
12-68	A PDP-8 Floating Point Software Package Simulator Using a FPP-12 Floating Point Processor
12-88	OCTALFPP
12-89	BUTFLTR
12-90	REPRSNT
12-109A,B,C	QNANSWER, QANDATTY, SUPRSHUF
12-116	FPP-12/FOCAL-12 Reduction of Auto Analyzer Data for Pharmaceuticals
12-133	MINT - Multiple Precision Integer Arithmetic Subroutine
12-183	DECIO - FOCAL-12 Whole Word Digital I/O Overlay

May 1975

May 1975

IX. DATA MANAGEMENT, SYMBOL MANIPULATION, SORTING

DECUS NO.	TITLE
12-12	8TO12 File Converter
12-34	STAP-12
12-46	STRINGS
12-47	PIP16ØØ
12-80	FOCAL - RT
12-105	DATAFILE and DFUPDATE
12-109A,B,C	QNANSWER, QANDATTY, SUPRSHUF
12-111a	ADFILE
12-112	IDXRDD
12-113	IDXWT
12-132	LISP 1.5 Interpreter for PDP-8 with OS/8 (PS/8), OS/12
12-139	BURST Analysis Package
12-144	ANECDOTE - Advanced NeuroElectric Computer Data Operational Tape (Export)
12-149	XPIP8: PDP-12 DECtape PIP
12-150	XPIP1Ø: PDP-10 DECtape to LINCtape Converter
12-176	FOCAL-12 Overlay to Access the DF32 Disk

X. PROBABILITY, STATISTICS, CURVE FITTING

12-34	STAP-12
12-38A	Histogram and One-Factor Analysis of Variance
12-38B	Histogram and Two-Factor Analysis of Variance
12-74	*REGRES - Multiple Linear Regression
12-83	$ANOVARM - ONE WAY ANALYSIS OF VARIANCE FOR REPEATED MEASURES DESIGN
12-99	A Set of Spectral Programs
12-109A,B,C	QNANSWER, QANDATTY, SUPRSHUF
12-118	Average Transient Advanced Programs
12-119	Neurone Spike Train Analysis Programs
12-141	$CORREL - Intercorrelation Program for 50 Variables
12-144	ANECDOTE - Advanced NeuroElectric Computer Data Operational Tape (Export)
12-146	$CORR. (FOCAL Version)
12-147	*BLIPFUN - Computation of Bandlimited Periodic Functions and their Hilbert Transforms from Samples
12-148	STATIS12, A Statistical Package for the PDP-12
12-169	HISTPLOT: A Versatile Program for Cross Correlation of Point Process Data on a PDP-12
12-170	INPUT, STAT, DIST: A Statistical Analysis Package for the PDP-8 or PDP-12
12-179	The Mann-Whitney U Test

XI. SCIENTIFIC APPLICATION, ENGINEERING APPLICATION

12-1	EEG Data Collection (BNI Series)
12-4	IRDA
12-15	HISTO12
12-22	PLOTFFT
12-23	CFFT
12-34	STAP-12
12-35	Bioelectric Signal Sorter (JULIA)
12-41	BLOOPD - Blood Pressure Display Program
12-43	PLOT3D
12-44	AVERDT
12-53	Liquid Scintillation Counting: Conversion of CPM to DPM in Double-label Experiments
12-55	FFAESIM
12-62	RUFUS
12-63	OLFFT1 and FETCHFFT
12-65	PISH - Poststimulus Time and Interspike-Interval Histogram
12-69	An On-Line FOCAL-12 Program for Auto-Analyzers
12-72	Four-Point Smoothing with FPP-12
12-73	8-Point Quadratic Smooth with FPP-12
12-80	FOCAL - RT
12-89	BUTFLTR
12-94	DATAN
12-97	An Off-Line FOCAL-12 Program for Auto Analyzers by TWX
12-98	HERALD - Analog-Digital Average and Standard Error Program
12-101	OS/8 SKED
12-104	CORDATFP
12-107	AVUPTO8
12-109A,B,C	QNANSWER, QANDATTY, SUPRSHUF
12-116	FPP-12/FOCAL-12 Reduction of Auto Analyzer Data for Pharmaceuticals
12-118	Average Transient Advanced Programs
12-119	Neurone Spike Train Analysis Programs
12-121	Arrhythmia Detection and Categorization
12-125	Waveford Analysis
12-126	WAVEFORM: Evoked Potential Analysis
12-128	GEP: A Generalized Experimental Package
12-139	BURST Analysis Package
12-140	NAEP - Nerve Action and Evoked Potentials
12-144	ANECDOTE - Advanced NeuroElectric Computer Data Operational Tape (Export)
12-147	*BLIPFUN - Computation of Bandlimited Periodic Functions and their Hilbert Transforms from Samples
12-151	"PSYCHO," A PDP-12 Programming System for Control of Titration Schedules, Behavioral Data Acquisition and Summary in Animal Psychophysics
12-163	AD74 - High Speed Analog to Digital Conversion Program
12-165	NAP SYS: Program to Analyze Neuronal Spike Data
12-168	Spectral Analysis System
12-182	KLK - A Simple Clock Overlay for PDP-12 FOCAL
12-184	PPSH - Neuronal Autocorrelation and Crosscorrelation Analysis Programs
12-185	Horoscope Casting Routines - Astrodynamical Subroutines

May 1975

XII. HARDWARE CONTROL

DECUS NO.	TITLE
12-29	LINC-10
12-75	FORTRAN Subroutines for the PDP-12
12-114	FOCAL-PL
12-166	OS/8-VC12 Display Device Handler for the PDP-12
12-176	FOCAL-12 Overlay to Access the DF32 Disk
12-187	OS/8 Device Handlers for PDP-12 Core

XIII. GAME, DEMONSTRATION

12-21	Modified MAGSPY
12-36	Hangman for PDP-12
12-60	SUMER (French)
12-71	Snoopy Display Program
12-85	APOLLO 12
12-86	ORGAN-AA and ORGAN+B
12-103	$HAPPY
12-156	MUSIC12
12-159	PLAYBOY
12-161	BIGCHARS
12-177	Tennis
12-185	Horoscope Casting Routines – Astrodynamical Subroutines

XIV. PLOTTING

12-42	CALCO12
12-59	FOCPLOT
12-70	COMPLT
12-78	PUBPLOT
12-84	AVERAGER
12-106	$PLOT
12-107	AVUPTO8, AVUPTO8S
12-114	FOCAL-PL
12-157	PLOTVS, Device Independent Graphics
12-175	PLOTZER

XV. DESK CALCULATOR, BUSINESS APPLICATION

DECUS NO.	TITLE

XVI MAINTENANCE

12-16	MODCLK

XVII. MISCELLANEOUS

12-5	SERCHPRO
12-40	PDP-8 Disk Monitor – LAP6-DIAL Interface
12-49	Cold Start DR32 Disk Formatter for PS/8 on a PDP-12
12-52	Student Test Analysis
12-102	A Manual for the PDP-12 Operator
12-171	Three Patches to the Clinical LAB-12 System
12-174	CLOCK: Digital Clock with Westminster Chimes
12-185	Horoscope Casting Routines – Astrodynamical Subroutines

May 1975

May 1975

DECUS NO.	WRITE-UP	PAPER TAPE		LISTING	DECTAPE		LINCTAPE		MAGTAPE		OTHER INFORMATION
		BIN	ASCII		U/S	D/S	U/S	D/S	U/S	D/S	
12-1	$ NC	$	$	$	$	$	$ 8.	$ 18.	$	$	1 LTA
12-2	1.*						8.	18.			1 LTA *NC with Tape
12-4	NC						8.	18.			1 LTA
12-5	NC			NC			8.	18.			1 LTA
12-6	NC			10.			8.	18.			1 LTA
12-7	NC						8.	18.			Same LTA (1)
12-8	NC						8.	18.			
12-9	NC			10.			8.	18.			1 LTA
12-10	NC			NC			8.	18.			1 LTA
12-11	NC			NC			8.	18.			1 LTA; also contains 12-15
12-12	NC						8.	18.			1 LTA
12-13	NC			NC			8.	18.			1 LTA (obj)
12-14	NC			NC			8.	18.			1 LTA
12-15	NC			NC			8.	18.			1 LTA; also contains 12-11
12-16	NC	2.	2.	NC							
12-17	NC			NC			8.	18.			
12-18	NC	2.	2.	NC							
12-20	NC	2.	2.								
12-21	NC	2.									
12-22	NC			10.			8.	18.			Same LTA (1)
12-23	NC			10.			8.	18.			
12-24	NC			NC			8.	18.			1 LTA
12-25	NC						8.	18.			1 LTA
12-29			8.								
12-30	NC			10.			8.	18.			1 LTA (bin, LAP6)
12-31	NC			20.			8.	18.			1 LTA (bin, LAP6)
12-32	NC			10.			8.	18.			1 LTA (bin, DIAL)
12-33	NC			5.			8.	18.			1 LTA (bin, LAP6, DIAL)
12-34	1.$						32.	72			4 LTA *NC with tapes
12-35	NC						8.	18.			1 LTA
12-36	NC						8.	18.			Same LTA (1)
12-37	NC						8.	18.			
12-38A	NC			NC			8.	18.			Same LTA (1)
12-38B	NC			NC			8.	18.			
12-39	NC						8.	18.			1 LTA
12-40	NC						8.	18.			1 LTA
12-41	NC	2.	8.								

N/C – No Charge   U/S – User Supplied Tape (Certified)   D/S – DECUS Supplied Tape

For information not contained on this sheet see General Information   DEC 7-(369)-1112A-R1074   May 1975

DECUS NO.	WRITE-UP	PAPER TAPE BIN	PAPER TAPE ASCII	LISTING	DECTAPE U/S	DECTAPE D/S	LINCTAPE U/S	LINCTAPE D/S	MAGTAPE U/S	MAGTAPE D/S	OTHER INFORMATION
12-42	$ NC	$	$	$ 5.	$	$	$ 8.	$ 18.	$	$	1 LTA (obj)
12-43	NC						8.	18.			Same LTA (1) (obj,src)
12-44	NC						8.	18.			
12-45	NC						8.	18.			1 LTA (obj,src)
12-46	NC						8.	18.			Same LTA (1) ; also contains
12-47	NC						8.	18.			12-110,120a,145,152,153,154,155
12-48	NC			10.			8.	18.			1 LTA
12-49	NC			NC			8.	18.			1 LTA
12-50							8.	18.			1 LTA
12-51	NC			10.			8.	18.			1 LTA
12-52	NC		2.								
12-53	NC		2.								
12-54	NC			10.			8.	18.			1 LTA
12-55	NC	2.	2.	NC							
12-56	NC			5.			8.	18.			Same LTA (1)
12-57	NC			5.			8.	18.			
12-58	NC			NC							
12-59	NC			NC			8.	18.			1 LTA
12-60	NC			NC			8.	18.			1 LTA
12-61	NC			NC							
12-62	1.*						8.	18.			1 LTA *NC with tape
12-63	NC						8.	18.			1 LTA
12-64	NC		2.	NC							
12-65	NC						8.	18.			1 LTA
12-66	NC						8.	18.			1 LTA
12-67	NC			NC			8.	18.			1 LTA
12-68	NC			10.			8.	18.			1 LTA
12-69	NC			NC			8.	18.			1 LTA
12-70	NC				8.	20.	8.	18.			1 LTA; 1 DTA for PDP-8 users
12-71	NC	2.									
12-72	NC			NC			8.	18.			1 LTA
12-73	NC			5.			8.	18.			1 LTA
12-74	NC			NC							
12-75	NC	2.	2.	NC							
12-76	NC						8.	18.			1 LTA
12-77	NC			10.			8.	18.			1 LTA
12-78	NC			10.			8.	18.			1 LTA

N/C – No Charge   U/S – User Supplied Tape (Certified)   D/S – DECUS Supplied Tape

For information not contained on this sheet see General Information   DEC 7-(369)-1112A-R1074   May 1975

DECUS NO.	WRITE-UP	PAPER TAPE BIN	PAPER TAPE ASCII	LISTING	DECTAPE U/S	DECTAPE D/S	LINCTAPE U/S	LINCTAPE D/S	MAGTAPE U/S	MAGTAPE D/S	OTHER INFORMATION
12-79	$ NC	$ 2.	$ 2.	$ NC	$	$	$	$	$	$	
12-80	1.*						8.	18.			1 LTA *NC with tape
12-81	NC						8.	18.			Same LTA (1) (obj,src)
12-82	NC						8.	18.			
12-83	NC		2.	NC							
12-84	NC						8.	18.			1 LTA
12-85	NC		2.	NC							
12-86	NC	2.	2.	NC							
12-87	NC						8.	18.			1 LTA
12-88	NC		2.	NC							
12-89	NC		2.								
12-90	NC		2.								
12-91	NC		2.								
12-92	NC		2.	NC							
12-93	NC	2.		NC							
12-94	NC										
12-95	NC						8.	18.			1 LTA
12-96A&B	NC						8.	18.			1 LTA
12-97	NC			NC							
12-98	NC			10.			8.	18.			1 LTA (obj,src)
12-99	NC						8.	18.			1 LTA (obj,src)
12-101	NC						8.	18.			1 LTA (obj,src)
12-102	NC										
12-103	NC		2.	NC							
12-104	NC						8.	18.			1 LTA (obj,src)
12-105	NC						8.	18.			1 LTA (Sys src) contains 12-118,119
12-106	NC						8.	18.			1 LTA (obj,src)
12-107	NC						8.	18.			1 LTA (obj,src)
12-108	NC	2.	12.								
12-109A,B,C	NC			NC			8.	18.			1 LTA
12-110	NC						8.	18.			1 LTA (obj) contains 12-46,47, 120a,145,152,153,154,155
12-111a	NC						8.	18.			Same LTA (1) (obj,src)
12-112	NC			NC			8.	18.			
12-113	NC			NC			8.	18.			
12-114	NC						8.	18.			1 LTA (obj,src)
12-115	NC						8.	18.			1 LTA (obj,src)

N/C - No Charge   U/S - User Supplied Tape (Certified)   D/S - DECUS Supplied Tape

DECUS NO.	WRITE-UP	PAPER TAPE		LISTING	DECTAPE		LINCTAPE		MAGTAPE		OTHER INFORMATION
		BIN	ASCII		U/S	D/S	U/S	D/S	U/S	D/S	
12-116	$ NC	$	$	$ 10.	$	$	$ 8.	$ 18.	$	$	1 LTA (obj,src)
12-117	NC			NC			8.	18.			1 LTA (obj,src)
12-118	NC						8.	18.			Same LTA (1) (obj,src); also
12-119	NC										contains files for 12-105
12-120a	NC			20.			8.	18.			1 LTA(obj,src); also contains 12-46,
											12-47,110,145,152,153,154,155
12-121	NC			10.			8.	18.			1 LTA (obj,src)
12-122	NC			NC			8.	18.			1 LTA
12-123a	NC	2.	2.	NC							
12-124	NC		2.	NC							
12-125	NC			NC			8.	18.			1 LTA (obj,src)
12-126	NC			10.			8.	18.			1 LTA (obj,src)
12-128	NC		8.								
12-129	NC						8.	18.			1 LTA (obj,src)
12-130	NC			NC			8.	18.			1 LTA (src)
12-131	NC						8.	18.			1 LTA (obj,src) (See 8-599)
12-132	NC						8.	18.			1 LTA (obj,src) (See 8-628)
12-133	NC						8.	18.			Same LTA (1); (obj,src)
12-134	NC						8.	18.			See also 8-631 thru 8-635
12-135	NC						8.	18.			
12-136	NC						8.	18.			
12-137	NC						8.	18.			
12-138	NC						8.	18.			
12-139	NC						8.	18.			1 LTA (obj,src)
12-140	NC						8.	18.			1 LTA (obj,src)
12-141	NC		2.	NC			8.	18.			1 LTA (obj) ; Order ASCII or LTA
12-142	NC			NC							
12-143	NC						8.	18.			1 LTA (obj,src)
12-144	NC						8.	18.			1 LTA (obj,src)
12-145a	NC			10.			8.	18.			1 LTA ;also contains 12-46,47,
											110,120a,152,153,154,155
12-146	NC		2.	NC							
12-147	NC		2.	NC							
12-148	NC			10.			8.	18.			1 LTA (obj)
12-149	NC	8.									
12-150	NC	2.									Src available from author
12-151	NC			20.			8.	18.			1 LTA (obj,src)

N/C - No Charge   U/S - User Supplied Tape (Certified)   D/S - DECUS Supplied Tape

DECUS NO.	WRITE-UP	PAPER TAPE		LISTING	DECTAPE		LINCTAPE		MAGTAPE		OTHER INFORMATION
		BIN	ASCII		U/S	D/S	U/S	D/S	U/S	D/S	
12-152	$ NC	$	$	$ NC	$	$	$ 8.	$ 18.	$	$	Same LTA (1) (obj,src); contains
12-153a	NC						8.	18.			12-46,47,110,120a,145 also
12-154a							8.	18.			
12-155							8.	18.			
12-156	NC			NC			8.	18.			1 LTA (obj,src)
12-157	NC			NC	8.	20.	8.	18.			1 LTA OS/12; 1 DTA OS/8
12-158	NC			NC			8.	18.			1 LTA (obj,src)
12-159	NC			NC			8.	18.			1 LTA (obj,src)
12-160	NC			NC			8.	18.			1 LTA (obj,src)
12-161	NC			NC			8.	18.			1 LTA (obj,src)
12-162	NC			NC			8.	18.			1 LTA (obj,src)
12-163	NC			NC			8.	18.			1 LTA (obj,src)
12-164	NC			25.00			8.	18.			1 LTA (obj,src)
12-165	1.*			25.00			16.	36.			2 LTA (obj,src) *NC with tapes
12-166	NC		2.	NC							
12-167	NC			NC							
12-168	NC						8.	18.			1 LTA (obj,src)
12-169	NC						8.	18.			1 LTA (obj,src)
12-170	NC						8.	18.			
12-171	NC			NC			8.	18.			1 LTA (src,doc)
12-172	NC						8.	18.			1 LTA (obj,src)
12-173	NC			NC			8.	18.			1 LTA (obj,src)
12-174	NC						8.	18.			1 LTA (obj,src)
12-175	NC			NC			8.	18.			1 LTA (src)
12-176	NC		2.	NC							
12-177	NC		2.	NC							
12-178	NC		2.	NC							
12-179	NC		2.	NC							
12-180	On tape						8.	18.			1 LTA (src,bin,write-up)
12-181	NC			NC			8.	18.			
12-182	NC			NC			8.	18.			Same LTA (1) (obj,src)
12-183	NC			NC			8.	18			
12-184	NC						8.	18.			1 LTA (src)
12-185	NC			NC			8.	18.			Same LTA (1) (obj,src)
12-186	NC						8.	18.			
12-187	NC						8.	18.			1 LTA (src,doc,routines)
12-188	NC						8.	18.			1 LTA (obj,src,doc)

N/C - No Charge   U/S - User Supplied Tape (Certified)   D/S - DECUS Supplied Tape

DECUS NO.	WRITE-UP	PAPER TAPE		LISTING	DECTAPE		LINCTAPE		MAGTAPE		OTHER INFORMATION
		BIN	ASCII		U/S	D/S	U/S	D/S	U/S	D/S	
12-189	$ NC	$	$2.	$ NC	$	$	$	$	$	$	
12-190	NC			10.			8.	18.			1 LTA (bin,src,listing,functions)

N/C – No Charge   U/S – User Supplied Tape (Certified)   D/S – DECUS Supplied Tape

CARDDIAL - Input to the DIAL Editor Via Cards

James C. Good, Jamesville-DeWitt Central Schools, DeWitt, New York

CARDDIAL is a program which makes card input acceptable to the DIAL editor.

Minimum Hardware:	PDP-12, Card Reader, LINCtape
Other Programs Needed:	PAL-12A Assembler
Storage Requirement:	0000 - 00777
Restrictions:	Same as for the DIAL Editor
Source Language:	PAL-12A

DECUS NO. 12-181

ATSXL - Text Display and Timing Routine for FOCAL-RT

David Hale, Psychology Department, The Queen's University of Belfast, Belfast, Northern Ireland

ATSXL is an overlay to FOCAL-RT (DECUS 12—80) which allows a 'frame' of text to be presented on the display and the subjects response, response time and keydown time to be recorded. Up to 511 frames of up to 510 characters each may be randomly presented allowing adaptive techniques to be employed. Once the stored frame has been found display presentation is immediate. Up to 12 bits of response information can be recorded and timing is to an accuracy of 10 milliseconds. Responses are input on the external sense lines.

Minimum Hardware:	8K PDP-12 with dual LINCtapes, VR14 display, KW12A real-time clock and sense lines
Other Programs Needed:	FOCAL-RT (DECUS 12— 80) (On tape offered)
Source Language:	DIAL

DECUS NO. 12-182

KLK - A Simple Clock Overlay for PDP-12 FOCAL

David Hale, Psychology Department, The Queen's University of Belfast, Belfast, Northern Ireland

A simple overlay of great use in elapsed time measurement which takes advantage of the ability of the KW12A clock to be stopped by an external event on any of the three clock trigger input channels. The routine assumes control of the clock and sets it counting from zero. An external event stops the clock and records which of the three possible events was present. The clock time and event code can then be read into the user's program at his leisure.

Minimum Hardware:	8K PDP-12, dual LINCtapes, KW12A, VR14
Other Programs Needed:	FOCAL-RT (DECUS 12-80) (On tape offered)
Source Language:	DIAL

DECUS NO. 12-183

DECIO - FOCAL-12 Whole Word Digital I/O Overlay

David Hale, Psychology Department, The Queen's University of Belfast, Belfast, Northern Ireland

An alternative to the practice of accessing external sense lines and relays at the individual bit level, it treats the sense lines as a 12 bit integer and the relays as a 6 bit integer. The status of the 12 bits can then be read as a decimal number between 0 and 4095 and the relays controlled by outputting a decimal number between 0 and 63. Any combination of bits may then be controlled by these integers. An input pattern can be decoded to give individual bits and an output pattern set up using the decimal equivalents of the bit pattern.

Minimum Hardware:	8K PDP-12, dual LINCtapes, KW12A, VR14
Source Language:	DIAL

DECUS NO. 12-184

PPSH - Neuronal Autocorrelation and Crosscorrelation Analysis Programs (Pre-Post Stimulus Histogram)

Ramesh R. Parekh, M.S.I.E. and Hardress J. Waller, Ph.D., Medical College of Ohio at Toledo, Toledo, Ohio

PPSH (Pre/Post Stimulus Histogram) is a group of programs that, together, compute the autocorrelation and crosscorrelation functions for two concurrent sequences of events (e.g., two simultaneously recorded neuron spike trains or one spike train and one stimulus series). PPSHDATA compiles the intervals in real time as a single mixed and labeled, double precision list of indefinite length. Intervals are numbered sequentially and stored, along with relevant identifying data, on a Linc Tape train file.

PPSH1 reads a selected interval list and generates either a first order interval distribution or an n order correlation (expectation density) function. The histogram is displayed and may be plotted along with a calibrated scale. Total event counts and histogram areas are typed out as octal numbers.

HISTDUMP temporarily saves the histogram in a reserved four block section of Linc Tape on unit 0 for subsequent printout by TAPEDUMP (DECUS 12-2).

Minimum Hardware:	PDP-12 with 8K core, VR-12 display and dual Linctape; KW12A real time clock; KE-12 Extended Arithmetic Element; ASR33 Teletype or equivalent; Incremental plotter (optional)
Source Language:	LAP6-DIAL

DECUS NO. 12-185

Horoscope Casting Routines - Astrodynamical Subroutines

David L. Hindman, University of Texas Phonetics Laboratory
and ARBEC, Inc., Austin, Texas

A collection of FORTRAN II subroutines which perform the
astrodynamical, calendrical, and geographic computations
made in the process of casting horoscopes. Primary com-
ponents are: an ephemeris routine, a calendrical routine,
and a routine to perform house setups.

The routines are not warranted and are to be used for fun only.

Other Programs Needed:	FORTRAN Compiler
Storage Requirement:	16K
Restrictions:	Will not cast horoscopes for latitudes greater than 66 degrees North or South
Source Language:	FORTRAN II

DECUS NO. 12-186

COBRA Assembler for the PDP-12

David L. Hindman, University of Texas Phonetics Laboratory
and ARBEC, Inc., Austin, Texas

COBRA is a macro assembler for PDP-12s having at least 16K
of core and the EAE. COBRA runs under PS/8 and produces
binary output compatible with ASBLDR. The user may main-
tain system macro text in a file called SYSLIB and may also
keep other text libraries. Other COBRA facilities are:
qualified symbols, text parameterization, LMODE/PMODE
assembly, and a DIAL simulation mode. A library of PS/8
linkage macros is included.

COBRA is configured for a system with a Centronics line
printer, but is largely compatible with teletype output
systems.

Minimum Hardware:	EAE and disk recommended
Restrictions:	Known defect in symbol table routine (symbol type not tested properly). Source text does not include form feed codes
Source Language:	COBRA

DECUS NO. 12-187

OS/8 Device Handlers for PDP-12 Core

James E. Randall, Indiana University, Bloomington,
Indiana

These system and non-system device handlers are designed
for a PDP-12 with Linctape as the mass storage device and
with 32K of core. The handlers can reduce tape shuffling by
keeping directories, systems area, or files in upper core.

The handlers, their listings, and initialization and restora-
tion routines are supplied on a Linctape which can be
started from the console bootstrap. Full documentation is
obtained in the file HOW.DC on the tape. The tape is OS/8
Version 3 and will not support earlier versions.

Storage Requirement:	32K
Source Language:	PAL-8

DECUS NO. 12-188

4K DISK/LINCTAPE MONITOR

Mark J. Hyde, 209 Ardsley Drive, DeWitt, New York

The 4K Linctape monitor is the disk/DECtape monitor with
patches to allow it to use TC12 Linctape. The documenta-
tion contains many patches which are also of use to PDP-8
users of the disk/DECtape.

Minimum Hardware:	PDP-12, TTY, any disk or Linctape
Storage Requirement:	4K
Source Language:	PAL-D

DECUS NO. 12-189

DECtape Reader Handler for PDP-12

Gotz Romahn, Heinrich Hertz Institut, Berlin, Germany

This handler allows direct reading of DECtapes via the TC12F
option. All OS/8 - V3 programs may be used.

Minimum Hardware:	PDP-12 with TC12F option and EAE
Other Programs Needed:	OS/8 BUILD
Restrictions:	Possibly will not run on a very slow PDP-12 and a very fast tape drive
Source Language:	PAL-8

DECUS NO. 12-190

PDP-12 Functions for OS/8 BASIC

Edward M. Schmidt, Laboratory of Neural Control, National
Institute of Neurological Diseases and Stroke, National
Institutes of Health, Bethesda, Maryland

This program contains 16 functions for the operation of OS/8
BASIC on a PDP-12. The functions include the clock,
analog to digital conversion, sense lines, sense switches,
relays, scope, digital input and output, and bit manipula-
tion. The program constitutes the user function overlay pro-
vided for in OS/8 BASIC called BASIC.UF.

Minimum Hardware:	PDP-12, KW12 clock, Digital input and output registers (optional)
Other Programs Needed:	OS/8 BASIC
Storage Requirement:	5 octal pages
Source Language:	PAL-8

DECUS

DIGITAL EQUIPMENT COMPUTER USERS SOCIETY
MAYNARD, MASSACHUSETTS 01754

ADDRESS CORRECTION REQUESTED

DD25613
NORMAN SHORE
UNIVERSAL RECORD DISTRIBUTOR
919 N. BROAD ST.
PHILADELPHIA   PA
19123