

- D-NIX EXTENSION PACKAGE ■ D-CC CROSS ENVIRONMENT  
 ■ D-NIX POSIX EXTENSION PACKAGE

The D-NIX EXTENSION PACKAGE is running under the UNIX System V.2 compatible D-NIX system on the complete range of DS90 computers from Diab Data. The package includes basic and advanced utilities, communication and development programs as well as a documenter's workbench which is a set of utilities dedicated to sophisticated text processing.

The D-CC CROSS ENVIRONMENT enables program development for 68010 computers to be performed in a 68020 or 68030 environment.

The D-NIX POSIX EXTENSION PACKAGE provides the user with a program development environment, based on D-NIX version 5.2, that is closely conforming to the POSIX 1003.1 standard, as published in the IEEE standard 1003.1 - 1988.

### D-NIX EXTENSION PACKAGE

#### Shell command interpreter

Two command language interpreters, the standard Bourne shell and the Berkeley C shell are provided in the system.

#### Compilers and debuggers

The software package provides C (*dcc*) language compiler, an assembler (*as*), and powerful symbolic debuggers (*adb* and *sdb*). The generated object code is in COFF format, which allows for object compatibility among families of microprocessors.

#### Program development facilities

Powerful utilities such as *lint*, *prof*, and *make*, help reduce actual programming time. The *lint* utility identifies parts of a program that deviate from standard programming techniques. *prof* profiles an application to show where a program is least efficient, and *make* automates compilation when developing a modular software system. When modifying a program, *make* reduces both programmer's effort as well as the processing load on a system by examining the overall source and automatically rebuilding and relinking only those parts that are affected by the modification. The advantages of *make* are even greater in large-scale software projects where numerous programmers are involved in its development. The standard directories *libc* and *libm* are provided. The package also includes over 100 useful utilities making software development much easier.

#### Source Code Control System

SCCS is an effective tool for managing the coding and maintenance of software development projects. It enforces revision check by archiving, version numbering and time stamping all software and documentation changes. Any version of the software or documentation can be automatically retrieved.

#### Editors

The software package includes both interactive screen (*D-MACS*, *vi*) and line-oriented (*ed*, *ex*) editors as well as a variety of batch-oriented tools (*grep*, *sed*, *sort*...) for sophisticated text manipulation.

#### Documenter's workbench

Provides a variety of sophisticated text processing tools that transform text created by the editors into formatted output suitable for printing or photo typesetting.

#### System activity reporter

This tool provides automatic measurement and reporting of system-wide activities to aid in fine-tuning the system.

#### Accounting utilities

This set of tools optionally monitors, reports and allocates fees for prime and non-prime time system resource usage.

#### Remote UNIX communication

Commands such as *cu* (included in the basic package) and *uucp* allows D-NIX users to log onto or/and transfer files to other systems running UNIX software. Connection can be made either through RS-232C or over an Ethernet network.

#### Installation requirements

Standard DS90 system with the latest version of D-NIX BASIC PACKAGE (delivered with all DS90 systems).

#### Ordering information

D-NIX EXTENSION PACKAGE 079-8711-XX

### D-CC CROSS ENVIRONMENT

D-CC is an addition to the D-NIX Extension Package for use in the DS90-20 and DS90-21 computers. With the D-CC, programs for 68010 computers (DS90-1X) can be developed in a 68020 or 68030 computer (DS90-2X/3X).

#### Installation requirements

DS90 system including D-NIX BASIC PACKAGE and the D-NIX EXTENSION PACKAGE 079-8711-XX.

#### Ordering information

D-CC CROSS ENVIRONMENT 072-8524-XX



## D-NIX POSIX EXTENSION PACKAGE

The D-NIX POSIX Extension Package consists of a set of /usr/include files and libraries containing the extensions that are required to meet the the POSIX 1003.1 standard as closely as possible as published in the IEEE standard 1003.1 - 1988.

### Installation requirements

D-NIX POSIX EXTENSION PACKAGE assumes that the D-NIX EXTENSION PACKAGE 079-8711-XX has been installed.

### Ordering information

D-NIX POSIX  
EXTENSION  
PACKAGE 072-8713-XX

Note:  
XX is machine dependent

## Commands

The following pages cover a list of the programs included in the D-NIX basic package and the D-NIX Extension Package, where programs included in the D-NIX Extension Package are set in bold. The package also includes different types of libraries containing all system call files, etc.

Please note that these packages are steadily growing and that the number of programs and files can vary between different releases of the software.

\* denotes programs/commands added by Diab Data

**300, 300s** handles special functions of Dasi 300/300s terminals  
**4014** paginator for Tektronix 4014 terminal  
**450** handles special functions of Dasi 450 terminal  
**accept** rejects, allows/prevents LP request  
**acctcms** provides a command summary from accounting records kept on process execution  
**acctcomm** searches and prints process accounting  
**acctcon1** accounting for connect time  
**acctcon2** accounting for connect time  
**acctdisk** reads and converts accounting records  
**acctdusg** computes disk resource consumption  
**acctmerg** merges and adds total accounting file  
**accton** turns process accounting off  
**acctprc1** process accounting  
**acctprc2** process accounting  
**acctwtmp** overview of accounting  
**adb** general purpose debugger  
**admin** creates and administrates SCCS files  
**ar** archive and library maintainer  
**arcv** converts archive files  
**arithmetic** provides drills in number facts  
**as** assembler  
**asa** interprets ASA carriage control characters  
**at** executes commands at a later time  
**awk** pattern scanning and processing language  
**back** a game  
**banner** creates printer banner  
**basename** strips filename affixes  
**batch** executes command at a later time  
**bc** interactive processor providing arbitrary-precision arithmetic  
**bdiff** processing of files too large for *diff*  
**bfs** big file scanner acts like *ed*  
**bj** a game  
**bootpar\*** sets boot parameters  
**bs** compiler/interpreter for

modest size programs  
**cal** prints a calender  
**calendar** reminder service  
**cancel** sends/cancels request to an LP  
**cat** concatenates and prints files  
**cb** c-program beautifier  
**cc** c compiler  
**cd** changes working directory  
**cdc** changes delta commentary of an SCCS file  
**cflow** generates C flow graph  
**chargefee** charges a fee for an account to its associated login name  
**checkeq** verifies mathematical text formatted by *eqn* and *nqn* for *nroff* and *troff*  
**chroot** changes the root directory for a command  
**chmod** changes mode  
**chgrp\*** changes group  
**chown** changes owner or group  
**ckpacct** periodically checks size of the accounting file  
**cmp** compares two files  
**col** filters reverse line-feeds  
**comb** combines SCCS deltas  
**comm** selects or rejects lines common to two sorted files  
**copy\*** groups of files copy  
**cpio** file archives in and out copy  
**cp** file copy, link or remove  
**cpp** UNIX c preprocessor  
**cpset** installs object files in binary directories  
**craps** a game  
**cron** clock daemon  
**crontab** user *crontab* file  
**crypt** encrypts/decrypts according to key  
**csh** the c-shell  
**csplit** splits the context of a file  
**ctrace** C program debugger  
**cu** calls another system  
**cut** cuts out selected fields of each line of a file  
**cxref** generates C program cross reference  
**date** prints and sets date  
**dc** desk calculator  
**dd** converts and copies file  
**delta** makes a delta to an SCCS file  
**dmacs** screen editor  
**deroff** removes *nroff/troff*, *tbl* and *eqn* constructs  
**devnm** identifies the special file associated with the mounted file system  
**df** reports number of free disk block  
**diff** differential file comparator  
**diff3** compares 3 versions of a file, noting differences  
**diffmk** compares two versions of a file and creates a third that includes commands for *nroff/troff*  
**dircmp** compares two directories  
**dirname\*** print path name  
**disable** disables spool/printer  
**diskusg** generates disk accounting data by user ID

<b>dodisk</b>	invoked by <i>cron</i> to perform disk accounting	login	sign on to system	<b>prctmp</b>	prints the session record file created by <i>accton</i>
<b>du</b>	summarizes disk usage	logname	gets login name	<b>prdaily</b>	accounting utility
<b>dump</b>	dumps selected parts of an object file	<b>lorder</b>	finds ordering relation for an object library	powerfail	system initialization shell
echo	echoes arguments	lp	sends&cancels request to an LP printer	print*	prints files with formatting
<b>ed</b>	text editor	lpadmin	configures the LP spooling system	<b>prof</b>	displays profile data
<b>edit</b>	text editor	lpd	printer spooler	<b>prs</b>	prints an SCCS file
<b>egrep</b>	searches files for full regular expressions as given	lpr	line printer spooler	<b>prtacct</b>	used to format and prints any accounting file
enable	enables/disables LP printers	lpsched	starts/stops LP request scheduler	ps	reports process status
<b>env</b>	modifies current environment according to arguments	lpstat	prints LP status	<b>psych</b>	a game
<b>eqn</b>	formats mathematical text for <i>troff</i>	ls	lists contents of directory	<b>ptx</b>	generates a permuted index
errdaemon	error-logging daemon	<b>m4</b>	macro processor intended as a front-end for C	<b>pwck</b>	scans password file and checks for inconsistencies
<b>ex</b>	text editor	mail	sends or reads mail	pwd	prints working directory name
expr	evaluates arguments as an expression	<b>mailx</b>	interactive message processing system	<b>quiz</b>	a game
<b>factor</b>	factors a number	<b>make</b>	maintains update and regenerates groups of programs	rc	system initialization
false*	provides truth values	<b>makekey</b>	generates encryption key	red	text editor
fgrep	searches a file for a fixed string	<b>man</b>	prints user's manual	<b>regcmp</b>	compiles a regular expression and saves it in a file
<b>file</b>	determines file type	<b>maze</b>	a game	reject	allows/prevents LP requests
find	finds files	memtest	memory test	rm	removes files or directories
<b>fish</b>	a game	mesg	permits or denies message via write	rmail	restricted mail
format	formats disks and diskettes	mkcfig	configurates a system	<b>rmdel</b>	removes a delta from an SCCS file
<b>fortune</b>	a game	mkdir	makes a directory	rmdir*	removes directory
fsck	file check and repair	mkfs	constructs a file system	rmuser*	removes user
fscl	extended file check	mknod	builds special file	rsh	standard/restricted shell
<b>fwtmp</b>	converts binary records of the type found in <i>wtmp</i>	mkuser	makes a user	<b>runacct</b>	mainshell procedure to run daily accounting
<b>get</b>	gets a version of an SCCS file	<b>mm</b>	types out document using <i>nroff</i> and <i>mm</i> text formatting macro package	<b>sa1</b>	system activity report
getopt	breaks up a command line options for easy parsing by shell	<b>mnt</b>	typesets documents via <i>troff</i>	<b>sa2</b>	system activity report package
getty	sets terminal parameters	mntchk	extended mount	<b>sact</b>	prints current SCCS file editing activity
<b>greek</b>	a filter that reinterprets the extended characters set for a terminal	<b>monacct</b>	invoked once each month or each accounting period	<b>sadc</b>	system activity report package
grep	searches a file for a regular expression	<b>moos</b>	a game	<b>sar</b>	system activity reporter
<b>grpck</b>	system maintenance command	mount	mounts and dismounts file system	<b>scdsdiff</b>	compares two versions of an SCCS file
<b>hangman</b>	a game	mv	moves or changes file name	<b>sdb</b>	symbolic debugger
<b>help</b>	finds information to explain the use of commands	mvmv	moves a directory	<b>sdiff</b>	uses output of <i>diff</i> to produce a side-by-side listing of two files indicating lines that are different
<b>hyphen</b>	finds hyphenated words	<b>neqn</b>	formats mathematical text for <i>nroff</i>	<b>sed</b>	stream editor
<b>id</b>	print user and group IDs and names	<b>newform</b>	changes the format of a text file	setbclock*	sets battery clock
init	processes control initialization	newgrp	log in to a new group	setmnt	establishes mount table
<b>install</b>	installs a file	<b>news</b>	prints news items	setspeed*	sets speed of printer port
ipcrm	removes: message queue, semaphore set or shared memory id	nice	runs a command with low scheduling priority	sh	the shell
ipcs	reports inter-process communication status	<b>nl</b>	a filter numbering lines of a file on left side	<b>shutacct</b>	turns process accounting off
<b>join</b>	joins files according to a given relation	<b>nm</b>	prints the name list of each object	shutdown	terminates all processing
kermit	file transfer protocol	<b>nroff</b>	formats text for printing on typewriter like devices and printers	siv*	full screen editor
kill	terminates a process	od	octal dump	<b>size</b>	prints decimal number of bytes in object form
l	content of a directory	<b>pack</b>	stores specified files in a compressed form	sleep	suspend execution for an interval
labelit	puts/displays volume label	<b>paste</b>	merges some lines of several files or subsequent lines of one file	<b>sno</b>	SNOBOL interpreter
<b>lastlogin</b>	accounting utility	<b>passwd</b>	changes login password	sort	sort program
<b>ld</b>	link editor	<b>pcat</b>	expands packed files and writes to standard output	<b>spell</b>	checks words in a file
<b>lex</b>	generates programs to be used in lexical analysis	<b>pg</b>	files perusal filter for soft-copy terminals	<b>spellin</b>	adds new words to spelling dictionary
line	read one line	pr	prints files	<b>spline</b>	accepts number pairs to interpolate a smooth curve
<b>link</b>	executes link system call			<b>split</b>	splits a file
<b>lint</b>	a C program checker for likely bugs			<b>startup</b>	shell procedure for <i>acctsh</i>
				<b>strip</b>	removes symbols table
				stty	sets the option for a terminal
				su	become super-user or another user

<b>sum</b>	calculates and prints a 16 bit checksum	<b>ttt</b>	a game	<b>uusub</b>	monitor <i>uucp</i> network
<b>sync</b>	updates the super block	<b>tty</b>	gets the name of the terminal	<b>uuto</b>	public system-to-system file copy
<b>tabs</b>	sets tabs on terminal	<b>turnacct</b>	turns accounting on	<b>uux</b>	<i>uucp</i> system command execution
<b>tail</b>	prints the tail end of a file	<b>umask</b>	sets the file-creation mask	<b>val</b>	validates SCCS file
<b>tar</b>	tape file achiver	<b>umount*</b>	unmounts a file system	<b>vc</b>	version control
<b>tbl</b>	a preprocessor formatting tables for <i>nroff</i> or <i>troff</i>	<b>uname</b>	prints name of current system	<b>vi</b>	screen text editor
<b>tee</b>	passes output of one program to input of another	<b>unget</b>	undo a previous <i>get</i> of SCCS file	<b>wait</b>	awaits completion of process
<b>telinit</b>	processes control initialization	<b>uniq</b>	reports repeated lines in a file	<b>wall</b>	writes to all users
<b>test</b>	tests a file	<b>units</b>	conversion program	<b>wc</b>	word count
<b>tic</b>	terminfo compiler	<b>unlink</b>	links and unlinks system files	<b>what</b>	locates file of any type
<b>time</b>	times the execution of a command	<b>unpack</b>	compresses and expands files	<b>who</b>	who is on the system
<b>touch</b>	updates the modifications of a file	<b>uuclean</b>	<i>uucp</i> spool directory clean-up	<b>whodo</b>	who is doing what
<b>tput</b>	query terminfo database	<b>uucp</b>	communication between UNIX systems	<b>write</b>	writes to another user
<b>tr</b>	translates characters	<b>uulog</b>	<i>uucp</i> log	<b>wtmpfix</b>	manipulates connect accounting
<b>treater</b>	enters a trouble report	<b>uuname</b>	<i>uucp</i> name	<b>wump</b>	a game
<b>troff</b>	formats text for photo typesetter	<b>uupick</b>	<i>uucp</i> public	<b>xargs</b>	constructs argument list
<b>true</b>	provides truth values	<b>uustat</b>	status of <i>uucp</i> communication	<b>yacc</b>	yet another compiler-compiler
<b>tsort</b>	topological sort				