

SYSTEM V/68 Release 3

Programmer's Reference Manual

(AA) MOTOROLA

MU43814PR/D2

**SYSTEM V/68 RELEASE 3
PROGRAMMER'S REFERENCE MANUAL**

Part Number MU43814PR/D2

Version 2

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DOCUMENT SUPPLEMENT

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The attached pages constitute the first revision to the *SYSTEM V/68 Release 3 Programmer's Reference Manual* (Part Number MU43814PR/D2). This supplement is required to support the SYSTEM V/68 assembler (*as*) and the SYSTEM/V68 C compiler on the MC68030 microprocessor. It is also required for the Board Software Extension packages (BS82, BS83) on SYSTEM V/68 Release 3, Version 4. Additionally, corrections are included for *dial* and *dfile*.

Please replace and add pages according to the following table:

Replace old	With new	Add new
ar(1) 3/as(1) 1 as(1) 2/blank cc(1) 4/5 gcc(1) 1/2 sysfs(2) 2/sysm68k(2) 1 sysm68k(2) 2-4/blank dial(3c) 1/2 dfile(4) 5/dir(4) 1	ar(1) 3/as(1) 1 as(1) 2/3 cc(1) 4/5 gcc(1) 1/2 sysfs(2) 2/sysm68k(2) 1 sysm68k(2) 2-4/5 dial(3c) 1/2 dfile(4) 5/6	sysm68k(2) 6/7 dir(4) 1/dirent(4) 1

- A vertical bar in the outside margin of a revised page indicates a text change or addition.
- A double asterisk (**) in the same position indicates a text deletion.

PREFACE

The *Programmer's Reference Manual* (Part Number MU43814PR/D2) describes the commands, function calls, file formats and miscellaneous facilities of interest primarily to programmers on the Motorola VME-based computer.

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1. INTRODUCTION	1-1
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1. Commands

intro(1)	introduction to programming commands
admin(1)	create and administer SCCS files
ar(1)	archive and library maintainer for portable archives
as(1)	common assembler
cb(1)	C program beautifier
cc(1)	C compiler
cdc(1)	change the delta commentary of an SCCS delta
cflow(1)	generate C flowgraph
comb(1)	combine SCCS deltas
cpp(1)	the C language preprocessor
cprs(1)	compress a common object file
create(1)	create master release media utility, R3.1
ctrace(1)	C program debugger
cxref(1)	generate C program cross-reference
delta(1)	make a delta (change) to an SCCS file
dis(1)	object code disassembler
dump(1)	dump selected parts of an object file
gcc(1)	C-68000 compiler
gencc(1M)	create a front-end to the cc command
get(1)	get a version of an SCCS file
infocmp(1M)	compare or print out terminfo descriptions
install(1M)	install commands
ld(1)	link editor for common object files
lex(1)	generate programs for simple lexical tasks
lint(1)	a C program checker
list(1)	produce C source listing from a common object file
lorder(1)	find ordering relation for an object library
m4(1)	macro processor
make(1)	maintain, update, and regenerate groups of programs
mcs(1)	manipulate the object file comment section
mkmenus(1)	extracts menus from labels stored in command shell scripts
nm(1)	print name list of common object file
prof(1)	display profile data
prs(1)	print an SCCS file

regcmp(1)	regular expression compile
rmdel(1)	remove a delta from an SCCS file
sact(1)	print current SCCS file editing activity
sccsdiff(1)	compare two versions of an SCCS file
sdb(1)	symbolic debugger
size(1)	print section sizes in bytes of common object files
strip(1)	strip symbol and line number information from a common object file
tic(1M)	terminfo compiler
tsort(1)	topological sort
unget(1)	undo a previous get of an SCCS file
val(1)	validate SCCS file
vc(1)	version control
what(1)	identify SCCS files
yacc(1)	yet another compiler-compiler

2. System Calls

intro(2)	introduction to system calls and error numbers
access(2)	determine accessibility of a file
acct(2)	enable or disable process accounting
advfs(2)	advertise a directory for remote access
alarm(2)	set a process alarm clock
brk(2)	change data segment space allocation
chdir(2)	change working directory
chmod(2)	change mode of file
chown(2)	change owner and group of a file
chroot(2)	change root directory
close(2)	close a file descriptor
creat(2)	create a new file or rewrite an existing one
dup(2)	duplicate an open file descriptor
exec(2)	execute a file
exit(2)	terminate process
fcntl(2)	file control
fork(2)	create a new process
getdents(2)	read directory entries and put in a file
getmsg(2)	get next message off a stream
getpid(2)	get process, process group, and parent process IDs
getuid(2)	get real user, effective user, real group, and effective group IDs
iocctl(2)	control device
kill(2)	send a signal to a process or a group of processes
link(2)	link to a file
lseek(2)	move read/write file pointer
mkdir(2)	make a directory
mknod(2)	make a directory, or a special or ordinary file

mount(2)	mount a file system
msgctl(2)	message control operations
msgget(2)	get message queue
msgop(2)	message operations
nice(2)	change priority of a process
open(2)	open for reading or writing
pause(2)	suspend process until signal
pipe(2)	create an interprocess channel
plock(2)	lock process, text, or data in memory
poll(2)	STREAMS input/output multiplexing
profil(2)	execution time profile
ptrace(2)	process trace
putmsg(2)	send a message on a stream
read(2)	read from file
rfstart(2)	start the Remote File Sharing environment
rfstop(2)	stop the Remote File Sharing environment
rmdir(2)	remove a directory
rmount(2)	mount a remote directory
rumount(2)	unmount a remote directory
semctl(2)	semaphore control operations
semget(2)	get set of semaphores
semop(2)	semaphore operations
setpggrp(2)	set process group ID
setuid(2)	set user and group IDs
shmctl(2)	shared memory control operations
shmget(2)	get shared memory segment identifier
shmop(2)	shared memory operations
signal(2)	specify what to do upon receipt of a signal
sigset(2)	signal management
stat(2)	get file status
statf(2)	get file status
statfs(2)	get file system information
stime(2)	set time
sync(2)	update super block
sysfs(2)	get file system type information
sysm68k(2)	machine specific functions
time(2)	get time
times(2)	get process and child process times
uadmin(2)	administrative control
ulimit(2)	get and set user limits
umask(2)	set and get file creation mask
umount(2)	unmount a file system
unadv(2)	unadvertise a directory

uname(2)	get name of current SYSTEM V/68 system
unlink(2)	remove directory entry
ustat(2)	get file system statistics
utime(2)	set file access and modification times
wait(2)	wait for child process to stop or terminate
write(2)	write on a file

3. Subroutines

intro(3)	introduction to functions and libraries
a64l(3C)	convert between long integer and base-64 ASCII string
abort(3C)	generate an IOT fault
abs(3C)	return integer absolute value
access881(3C)	provide access to floating point chip
bsearch(3C)	binary search a sorted table
clock(3C)	report CPU time used
conv(3C)	translate characters
crypt(3C)	generate hashing encryption
ctermid(3S)	generate file name for terminal
ctime(3C)	convert date and time to string
ctype(3C)	classify characters
cuserid(3S)	get character login name of the user
dial(3C)	establish an out-going terminal line connection
drand48(3C)	generate uniformly distributed pseudo-random numbers
dup2(3C)	duplicate an open file descriptor
ecvt(3C)	convert floating-point number to string
end(3C)	last locations in program
fclose(3S)	close or flush a stream
ferror(3S)	stream status inquiries
fopen(3S)	open a stream
fread(3S)	binary input/output
frexp(3C)	manipulate parts of floating-point numbers
fseek(3S)	reposition a file pointer in a stream
ftw(3C)	walk a file tree
getc(3S)	get character or word from a stream
getcwd(3C)	get path-name of current working directory
getenv(3C)	return value for environment name
getgrent(3C)	get group file entry
getlogin(3C)	get login name
getopt(3C)	get option letter from argument vector
getpass(3C)	read a password
getpw(3C)	get name from UID
getpwent(3C)	get password file entry
gets(3S)	get a string from a stream

getut(3C)	access utmp file entry
hsearch(3C)	manage hash search tables
l3tol(3C)	convert between 3-byte integers and long integers
lockf(3C)	record locking on files
lsearch(3C)	linear search and update
malloc(3C)	main memory allocator
memory(3C)	memory operations
mktemp(3C)	make a unique file name
monitor(3C)	prepare execution profile
nlist(3C)	get entries from name list
perror(3C)	system error messages
popen(3S)	initiate pipe to/from a process
printf(3S)	print formatted output
putc(3S)	put character or word on a stream
putenv(3C)	change or add value to environment
putpwent(3C)	write password file entry
puts(3S)	put a string on a stream
qsort(3C)	quicker sort
rand(3C)	simple random-number generator
scanf(3S)	convert formatted input
setbuf(3S)	assign buffering to a stream
setjmp(3C)	non-local goto
sleep(3C)	suspend execution for interval
ssignal(3C)	software signals
stdio(3S)	standard buffered input/output package
stdipc(3C)	standard interprocess communication package
string(3C)	string operations
strtod(3C)	convert string to double-precision number
strtol(3C)	convert string to integer
swab(3C)	swap bytes
system(3S)	issue a shell command
tmpfile(3S)	create a temporary file
tmpnam(3S)	create a name for a temporary file
tsearch(3C)	manage binary search trees
ttynname(3C)	find name of a terminal
ttyslot(3C)	find the slot in the utmp file of the current user
ungetc(3S)	push character back into input stream
vprintf(3S)	print formatted output of a varargs argument list
bessel(3M)	Bessel functions
erf(3M)	error function and complementary error function
exp(3M)	exponential, logarithm, power, square root functions
floor(3M)	floor, ceiling, remainder, absolute value functions
gamma(3M)	log gamma function

c

hypot(3M) Euclidean distance function
math881(3M) floating point math functions
matherr(3M) error-handling function
sinh(3M) hyperbolic functions
trig(3M) trigonometric functions
t_accept(3N) accept a connect request
t_alloc(3N) allocate a library structure
t_bind(3N) bind an address to a transport endpoint
t_close(3N) close a transport endpoint
t_connect(3N) establish a connection with another transport user
t_error(3N) produce error message
t_free(3N) free a library structure
t_getinfo(3N) get protocol-specific service information
t_getstate(3N) get the current state
t_listen(3N) listen for a connect request
t_look(3N) look at the current event on a transport endpoint
t_open(3N) establish a transport endpoint
t_optmgmt(3N) manage options for a transport endpoint
t_rcv(3N) receive data or expedited data sent over a connection
t_rcvconnect(3N) receive the confirmation from a connect request
t_rcvdis(3N) retrieve information from disconnect
t_rcvrel(3N) acknowledge receipt of an orderly release indication
t_rcvudata(3N) receive a data unit
t_rcvuderr(3N) receive a unit data error indication
t_snd(3N) send data or expedited data over a connection
t_snndis(3N) send user-initiated disconnect request
t_sndrel(3N) initiate an orderly release
t_sndudata(3N) send a data unit
t_sync(3N) synchronize transport library
t_unbind(3N) disable a transport endpoint
assert(3X) verify program assertion
crypt(3X) password and file encryption functions
curses(3X) terminal screen handling and optimization package
directory(3X) directory operations
getnum(3X) calculate an integer value from a string
getperms(3X) read the *permissions* file
ldahread(3X) read the archive header of a member of an archive file
ldclose(3X) close a common object file
ldfhread(3X) read the file header of a common object file
ldgetline(3X) retrieve symbol name for common object file symbol table entry
ldlread(3X) manipulate line number entries of a common object file function
ldlseek(3X) seek to line number entries of a section of a common object file
ldohseek(3X) seek to the optional file header of a common object file

ldopen(3X) open a common object file for reading
 ldrseek(3X) seek to relocation entries of a section of a common object file
 ldshread(3X) read an indexed/named section header of a common object file
 ldsseek(3X) seek to an indexed/named section of a common object file
 ldtbindex(3X) compute the index of a symbol table entry of a common object file
 ldtbread(3X) read an indexed symbol table entry of a common object file
 ldtbseek(3X) seek to the symbol table of a common object file
 logname(3X) return login name of user
 malloc(3X) fast main memory allocator
 regcmp(3X) compile and execute regular expression
 sputl(3X) access long integer data in a machine-independent fashion

4. File Formats

intro(4) introduction to file formats
 a.out(4) common assembler and link editor output
 acct(4) per-process accounting file format
 ar(4) common archive file format
 checklist(4) list of file systems processed by fsck and ncheck
 core(4) format of core image file
 cpio(4) format of cpio archive
 dfile(4) device information file
 dir(4) format of directories
 dirent(4) file system independent directory entry
 errfile(4) error-log file format
 filehdr(4) file header for common object files
 fs(4) format of system volume
 fspec(4) format specification in text files
 fstab(4) file-system-table
 gettydefs(4) speed and terminal settings used by getty
 group(4) group file
 host(4) system host name
 hosts(4) host name data base
 hosts.equiv(4) names of hosts with "equivalent" users
 inittab(4) script for the init process
 inode(4) format of an i-node
 issue(4) issue identification file
 ldfcn(4) common object file access routines
 limits(4) file header for implementation-specific constants
 linenum(4) line number entries in a common object file
 master(4) master configuration database
 mnttab(4) mounted file system table
 passwd(4) password file
 perms(4) permissions file used by the value-added disk access utilities

profile(4)	setting up an environment at login time
protocols(4)	protocol name data base
reloc(4)	relocation information for a common object file
rfmaster(4)	Remote File Sharing name server master file
rhosts(4)	user-specified file of equivalent hosts and users
sccsfile(4)	format of SCCS file
scnhdr(4)	section header for a common object file
scr_dump(4)	format of curses screen image file
services(4)	service name data base
syms(4)	common object file symbol table format
term(4)	format of compiled term file
terminfo(4)	terminal capability data base
timezone(4)	set default system time zone
unistd(4)	file header for symbolic constants
utmp(4)	utmp and wtmp entry formats

5. Miscellaneous Facilities

intro(5)	introduction to miscellany
ascii(5)	map of ASCII character set
environ(5)	user environment
fcntl(5)	file control options
math(5)	math functions and constants
prof(5)	profile within a function
regexp(5)	regular expression compile and match routines
stat(5)	data returned by stat system call
term(5)	conventional names for terminals
types(5)	primitive system data types
values(5)	machine-dependent values
varargs(5)	handle variable argument list