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Disclaimer

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–00A	Preliminary release of manual	7/91

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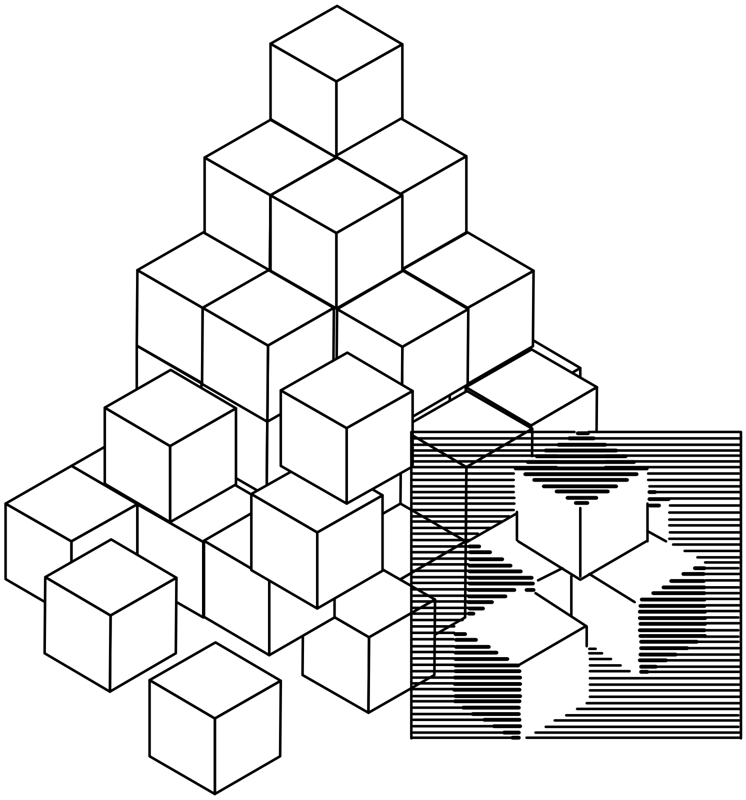
Programmer's Guide



Appendix A: Quick-reference of Commands

Invoking the C Compiler: iwcc

```
iwcc [option] ... filename ...
```

iwcc Options

-#	List each phase of compilation being executed and the command options used to invoke the phase.
-##	Same as -#, but also prints the full path used to load each phase of the compilation.
-###	Same as -##, but do not execute any phases of the compilation.
-c	Suppress the link edit phase of the compilation and produce an object file for each source file.
-C	Prevent the C preprocessor from removing comments.
-D*name* [=def]	Defines *name* for the preprocessor as if by a #define directive.
-E	Run only the preprocessor on the named C programs and send the result to standard output.
-fasmwiden	Convert floating-point operands to double-precision operands for asm insert function parameters and function return types.
-fnoasmwiden	Suppress the conversion of floating-point operands to double-precision operands for asm insert function parameters and function return types.
-fnowiden	Suppress the automatic conversion of floating-point operands to double-precision operands within expressions, and suppress the conversion of floating-point parameters to functions and function return types.
-fsingle	Suppress the automatic conversion of floating-point operands to double-precision operands within expressions.
-g	Generate information needed for use of sdb.
-G*c*	Retain intermediate files from pass *c* for debugging.
-I*pathname*	Add *pathname* to the list of directories in which to search for #include files with relative pathnames (not beginning with /).
-K	Invoke PCO to generate an intra-file inlined intermediate file.
-l*x*	This option is an abbreviation for the library name lib*x*.a, where *x* is a string.
-L*dir*	Add *dir* to the list of directories containing object library routines.
-M	Merge the C and generated iWarp assembler files into a file suffixed .m.

-MM	Same as -M, but includes the text of #include files in the listing file.
-N*letter*	*letter* can be C, L, or S. C suppresses the automatic use of a default link control file. L suppresses automatic linking with libc.a (and libg.a if -g is used). S suppresses the automatic linking with iwcrt0.o (or iwmcrt0.o if -p is used).
-o *filename*	Specifies *filename* as the name of the object file, overriding the default name a.out.
-O	Invoke all available optimizers.
-p	Produce code that counts the number of times each routine is called.
-P	Run only the preprocessor on the specified C programs and leave results in the corresponding files suffixed .i.
-Q*options*	Invoke optimizations as defined by *options* , where *options* can be: G invoke global optimizations (PCO) C compaction of basic block for Compute and Access instruction S software pipelining
-S	Compile the specified C programs and leave the assembler-language output in corresponding files suffixed .s.
-u*name*	Causes the linker to enter *name* as an undefined symbol in the symbol table.
-U*name*	Remove any initial definition of *name* , where *name* is a reserved symbol predefined by the preprocessor.
-V	Display the version of the C compiler and all invoked passes, and perform compilation as specified.
-VV	Display the version of the C compiler and all possible passes, but do not perform compilation.
-Wc, *arg1* [, *arg2* ...]	Hand off any specified arguments to pass *c*, where *c* is one of the following: p preprocessor 0 compiler first pass q PCO pass 1 compiler second pass 2 PCI a assembler l link editor m listing merger
-x	Preserve only global (non-.globl) symbols in the output symbol table. Enter only external symbols.
-Yc, dir	Get pass *c* from directory *dir* , where *c* is one of the following: p preprocessor

0	compiler first pass
q	PCO pass
1	compiler second pass
2	PCI
a	assembler
l	link editor
m	listing merger
C	link.ctl
S	startup code
L	default library directory

Invoking the Assembler: iwas

`iwas [`*option*`] ...` *`filename`*

Assembler Options

-#	Print the active command line options.
-##	Print the active command line options and a message listing permitted command line options.
-dl	Remove the line number entries from the symbol table of the object file.
-L	Create a listing file with the extension .l.
-m	Use the m4 preprocessor on the source file.
-o *filename*	Specifies *filename* as the name of the object file, overriding the default name.
-O	List intermediate file information for debugging.
-rom	Prohibit data from straddling a 64-byte boundary.
-unlink	Remove the source file on completion of assembly.
-V	Write the version number of the assembler.
-VV	Write the version number of the assembler on standard error output and suppress assembling the source file.
-W	Suppress warning messages.
-XA	Enable the use of the alternate register names r0-r127 (general purpose registers) and cs000-cs3ff.
-XD	Dump the internal tables of machine-specific names.
-XN	Suppress printing of the date on listings.

Invoking the Linker: iwld

`iwld [`*option*`] ...` *`filename`* `...`

Linker Options

-e *entry*	Define *entry* as the entry point of the program.
-l*x*	This option is an abbreviation for the library name lib*x*.a, where *x* is a string.

-L*dir* Add *dir* to the list of directories containing object library routines.

-m Produce a simple load map, listing the names of the files which will be loaded plus their start addresses, input sections, output sections, and lengths.

-o *filename* Specifies *filename* as the name of the object file, overriding the default name a.out.

-r Prevent final definitions from being given to common symbols, and suppress undefined symbol diagnostics.

-s Removes the symbol table and relocation information to save space.

-u *name* Enter *name* as an undefined symbol.

-x Preserve only global symbols in the output symbol table.

Invoking the Disassembler: iwdiswas

```
diwas [option] ... filename
```

Disassembler Options

-# Print version information and executes disassembly.

-## Print version information, but does not execute disassembly.

-b Produce byte mode addresses. This is the default.

-B Suppress printing of byte mode addresses.

-c Decode the given disassembly range as instructions rather than data.

-d Dump the symbol table for debugging.

-D Produce listing style output using obsolete double word addresses.

-f Treat the input file as if the object file being disassembled had been assembled with the .flags psuedo-operation.

-H *path* Define *path* as the path to the directory where the disassembler creates its symbol and hash table.

-i Force the specified disassembly range to be initialized data rather than separate data and text sections.

-l Invoke listing mode, producing hexadecimal location and object code output. This is the default.

-L *path* Define *path* as the path to the standard symbol mnemonics (registers, condition codes).

-n Create a new hash table for symbols.

-o *filename* Specify *filename* as the name of the disassembly output file, overriding the default name.

-q Suppress listing mode, causing the output to look like assembly language source code.

-r Disable symbolization of addresses.

-R *start:end* Define a range between address *start* and address *end* for disassembly.

-s	Enable symbolization of addresses. The disassembler uses what symbol table information is available to try to replace numeric addresses by labels in instructions. This is the default.
-t	Print elapsed user and system times for the phases of disassembly.
-u	Reuse the symbol hash table constructed at the last invocation of the disassembler.
-w	Produce listing style output using obsolete word addresses.
-W	Specify that the labels stored in the symbol table are given as word addresses.
-XA	Handle unknown condition codes and control space registers by using generic names.
-XD	Compile the standard symbol names from the text output produced by the assembler into a fast binary format.

Invoking the Profiler: iwprof

`iwprof [`*option*`] ... `*filename*

Profiler Options

-a	Sort by increasing symbol address.
-c	Sort by decreasing number of calls.
-h	Suppress the heading normally printed on the report.
-m *mdata*	Use the file *mdata* instead of mon0.out as the input profile file.
-n	Sort lexically by symbol name.
-o	Print each symbol address (in octal) along with the symbol.
-s	Print a summary of the monitoring parameters and statistics on the standard error output.
-t	Sort by decreasing percentage of total time.
-V	Print iwprof version information on the standard error output.
-x	Print each symbol address (in hexadecimal) along with the symbol name.
-z	Include all symbols in the profile range, even if associated with zero number of calls and zero time.

Invoking the Archiver: iwar

`iwar `*key*` [`*posname*`] [`*option*`] ... `*afile*` [`*filename*`] ...`

Archiver Keys

d	Delete the named files from the archive file.
m	Move the named files either to the end of the archive, or the position specified by a positioning argument and posname as in the case of the r key.
p	Print the named files.

q Append the named files to the end of the archive file without searching the archive for duplicate names.

r Replace the named files in the archive.

t Print a table of contents of the archive file.

x Extract the named files.

Archiver Options

-a Place new files after *posname* .

-b Place new files before *posname* .

-c Create an archive.

-i Identical to the b option.

-l Place temporary files in the current working directory rather than in the default temporary directory, TMPDIR.

-s Force the regeneration of the archive symbol table even if the archiver is not invoked with a command that will modify the archive contents.

-u Replace those files that have changed since they were put in the archive.

-v Use verbose mode.

Invoking the Symbol Table Lister: iwnm

```
iwnm [option] ... filename ...
```

Symbol Table Lister Options

-e Print only external and static symbols.

-f Print redundant symbols (.text, .data, .lib, and .bss) normally suppressed.

-h Do not display the output header data.

-n Sort external symbols by name before they are printed.

-o Print the value and size of a symbol in octal instead of decimal.

-p Produce easily parsable, terse output.

-r Prepend the name of the object file or archive to each output line.

-T Truncate every name which would otherwise overflow its column and place an asterisk as the last character in the display name to mark it as truncated.

-u Print only undefined symbols.

-v Sort external symbols by value before they are printed.

-V Print the version of the iwnm command executing on the standard error output.

-x Print the value and size of a symbol in hexadecimal instead of decimal.

Invoking the Dumper: iwdump

```
iwdump [option] ... filename ...
```

Dumper Options

-a	Dump the archive header of each member of each archive file specified.
-c	Dump the string table.
-f	Dump the header file.
-g	Dump the global symbols in the symbol table of an archive.
-h	Dump section headers.
-l	Dump line number information.
-L	Interpret and print the contents of the .lib sections.
-o	Dump each optional header.
-r	Dump relocation information.
-s	Dump sections contents.
-t	Dump symbol table entries.
-z *name*	Dump line number entries for the named function.

Dumper Option Modifiers

-d *number*	Dump the section number, number, or the range of sections starting at number and ending the number specified by +d.
+d *number*	Dump sections in the range either beginning with first section or beginning with section specified by -d.
-n *name*	Dump information pertaining only to the named entity. This modifier can be used with -h, -s, -r, -l, -t
-p	Suppress printing of the headers.
-t *index*	Dump only the indexed symbol table entry. The -t used in conjunction with +t, specifies a range of symbol table entries.
+t *index*	Dump the symbol table entries in the range ending with the indexed entry. The range begins at the first symbol table entry or at the entry specified by the -t modifier.
-u	Underline the name of the file for emphasis
-v	Dump information in symbolic representation rather than numeric. This modifier can be used with all the above options except -s and -o options of iwdump.
-z *name, number*	Dump line number entry or range of line numbers at *number* for the function *name* .
-+z *number*	Dump line numbers starting at either function *name* or *number* specified by -z, up to *number* specified by +z.

Invoking the Sizer: iwsize

iwsize [*option*] ... *filename ...*

Sizer Options

-f	Print the size of every loaded section, followed by the section name in parentheses.

-n Include NOLOAD sections in the size.

-o Print numbers in octal.

-V Supply version information on the iwsize command.

-x Print numbers in hexadecimal.

Invoking the Monitor: iwmon

`iwmon [sibnum]`

Monitor commands

?	Lists all available commands offered by *iwmon.*
boot *filename*	Loads the monitor on each cell in the array.
ex *cellid wordaddr count*	Examine cell memory. Displays *count* number of words of memory on cell *cellid* from memory location at word address *wordaddr* .
exr *cellid wordaddr count*	Examine general-purpose registers. Displays *count* general purpose registers on cell *cellid* starting at the register with a word address of *wordaddr* .
exc *cellid wordaddr count*	Examine control space register. Displays *count* control space registers on cell *cellid* starting at the register with a word address of *wordaddr.*
dep *cellid wordaddr count data*	Deposit into cell memory. Deposits *data* on cell *cellid* in *count* memory locations starting at word address *wordaddr* .
depr *cellid wordaddr count data*	Deposit into general purpose registers. Deposits *data* on cell *cellid* in *count* general purpose registers starting at the register with a word address of *wordaddr* .
depc *cellid wordaddr count data*	Deposit into control space register. Deposits *data* on cell *cellid* in *count* control space registers starting at the register with a word address of *wordaddr* .
load *cellid filename*	Load a program into cell memory. Loads the COFF file *filename* on cell *cellid* at the location determined by the COFF information in the file.
run *cellid wordaddr*	Run a program. Starts execution of a program on cell *cellid.* The execution starts at word address *wordaddr* .
sbp *cellid wordaddr bp*	Set a breakpoint. Sets a breakpoint at word address *wordaddr* on cell *cellid.* *bp* is the breakpoint number which can later be used to unset the breakpoint.
ubp *cellid bp*	Unset a breakpoint. Unsets breakpoint *bp* on cell *cellid.*

adr	Toggle the address mode for output (word or byte).
exit	Exit the iWarp monitor.
quit	Same as exit.

Appendix B: PathLib Routines

This appendix contains copies of the manual pages describing the PathLib communication routines. The manual pages include the following:

- connections
- express
- marks
- messages
- plerror
- plinit
- spool
- streamgates

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