

Q U I C K   R E F E R E N C E

# CONVEX CXpa Quick Reference

Order No. DSW-252

Third Edition  
March 1993



CONVEX

CONVEX COMPUTER CORPORATION

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## Compiler options for CXpa

When compiling your program for profiling with CXpa, use one of the following options:

<b>Option</b>	<b>Meaning</b>
-pa	Enables profiling of routines, loops, and parallel regions
-pab	Enables profiling of basic blocks only
-par	Enables profiling of routines only

To produce the following reports, use the listed compiler options:

<b>Report</b>	<b>Compiler options</b>
Basic Block Report	-pab
Loop Report	-O1 -pa
Parallel Region Report	-O3 -pa
Routine Report	-pa or -par

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# Invoking CXpa

Use the following command to invoke CXpa:

```
cxpa [[-path <dir>] ...] [-x <cmdfile>] [-nx] [[-f <executable>] [-pdf <filename>] [-nw] [-ne] [-ncg] [<X-Toolkit-options>]
```

Parameter	Meaning
<b>-path</b> <dir>	Append the directory specified to the end of CXpa's search path. The space between the options and the directory name is optional.
<b>-x</b> <cmdfile>	Execute the CXpa commands in the specified file.
<b>-nx</b>	Do not execute CXpa commands from .cxpainit, the CXpa start-up command file.
<b>-f</b> <executable>	Specify fixed scheduling for the program you are profiling to reserve all processors for its use.
<executable>	Specify the name of the executable you wish to profile. The default is a.out.
<b>-pdf</b> <pdf>	Invoke CXpa with the specified performance data file.
<b>-nw</b>	Invoke CXpa in CRT mode. Do not bring up the CXwindows version.
<b>-ne</b>	Add the Monitored Routines Not Called table to CXpa's Routine Report.
<b>-ncg</b>	Do not include the Dynamic Call Graph in CXpa's performance reports.
<X-Toolkit-options>	Specify X Toolkit options.

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## Editing the CXpa command line

CXpa has two ways to enter commands:

- CRT mode is the traditional command line interface, invoked with the `-nw` option.
- The Command Window is part of the X interface and has a command entry field.

Each type of command entry has an associated set of key sequences that you can use to edit CXpa command entries.

### CRT mode key sequences

This section lists the key sequences that you can use in CRT mode.

<b>Function</b>	<b>Key sequence</b>
beginning of line	<b>CTRL-a</b>
end-of-line	<b>CTRL-e</b>
forward-character	<b>CTRL-f</b>
backward-character	<b>CTRL-b</b>
forward-word	<b>ESC-f</b>
backward-word	<b>ESC-b</b>
delete-character	<b>CTRL-d</b>
backward-kill-character	<b>DEL</b>
backward-kill-character	<b>CTRL-h</b>
erase-line	<b>CTRL-g</b>
kill-line	<b>CTRL-k</b>
kill-word	<b>ESC-d</b>
backward-kill-word	<b>ESC-DEL</b>
backward-kill-word	<b>ESC-h</b>
transpose-character	<b>CTRL-t</b>
transpose-words	<b>ESC-t</b>
capitalize-word	<b>ESC-c</b>
upcase-word	<b>ESC-u</b>
previous-command	<b>ESC-p</b>
next-command	<b>ESC-s</b>
help-keys	<b>ESC-B</b>
redraw-screen	<b>CTRL-l</b>

## Command Window key sequences

This section lists the key sequences that you can use in the Command Window.

<b>Function</b>	<b>Key sequence</b>
beginning of line	CTRL-a
end-of-line	CTRL-e
forward-character	CTRL-f
backward-character	CTRL-b
delete-character	CTRL-d
backward-kill-character	DEL
backward-kill-character	CTRL-h
delete-to-right	CTRL-k
delete-to-left	CTRL-u
previous-command	CTRL-p
next-command	CTRL-n

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## Performance report information

CXpa reports the following loop optimizations:

<b>Optimization</b>	<b>Meaning</b>
D	Distributed
Ds	Dynamic selection
Hs	Hoisted
I	Interchanged
P	Parallel
PS	Parallel strip-mined
P/V	Parallel vectorized
pV	Partially vectorized
S	Scalar
SM	Strip-mined vector
UL	Uninstrumentable
V	Fully vectorized

CXpa reports the following profiling status information in the PS column of the performance reports:

<b>Status</b>	<b>Meaning</b>
e	Indicates that the program exited at this point.
m	Indicates that this monitor point detected invalid time management due to incorrect instrumentation in your program or a library routine.
p	Indicates that the program was paused at this point and that the timing information is incomplete.
t	Indicates that the program terminated at this point.
u	Indicates that this loop was too small to gather timing data.



## **analyze pregion**

Display a performance report for profiled parallel regions.

```
analyze pregion [<routine-list>] <i/o_redirection>]
```

## **analyze routine**

Display performance reports for profiled routines.

```
analyze routine [<i/o_redirection>]
```

---

## **C**

### **continue**

Continue profiling a paused program.

```
continue
```

### **cxpa**

Invoke the CONVEX performance analyzer.

```
cxpa [[-path <dir>] . . .] [-x <cmdfile>] [-nx] [[-f] <executable>] [-pdf <filename>] [-nw] [-ne] [-ncg] [<X-Toolkit-options>]
```

---

## **D**

### **deselect**

Disable every monitor point at a line, in a routine, or in your program.

```
deselect {all | <routine-list> |  
at <line-number-list>}
```

### **deselect block**

Deselect basic block monitor points in your program.

```
deselect block {all | in <routine-list> |  
at <line-number-list>}
```

### **deselect loop**

Disable loop monitor points in your program.

```
disable loop {all | in <routine-list> |  
at <line-number-list>}
```

## deselect pregon

Disable parallel region monitor points in your program.

```
deselect pregon {all | in <routine-list> |  
at <line-number-list>}
```

## deselect routine

Disable routine monitor points in your program.

```
deselect routine {all | <routine-list>}
```

---

## H

### help

Display help information.

```
help [<string>]
```

---

## I

### info cypa

Display information about your CXpa session.

```
info cypa
```

### info path

Display CXpa's search path.

```
info path
```

---

## L

### list

List lines of text from a source file.

```
list [<routine> | [[<filename>] [:] {<first-line>  
[<last-line>] | <routine>}]]
```

### list monitors

List monitor points in a source file.

```
list monitors [<routine> | [[<filename>] [:]  
{<first-line> [<last-line>] | <routine>}]]
```

---

## M

### monitor

Enable every monitor point at a line, in a routine, or in your program.

```
monitor {all | <routine-list> | at <line-number-list>}
```

### monitor block

Enable basic block monitor points in your program.

```
monitor block {all | in <routine-list> |  
at <line-number-list>}
```

### monitor loop

Enable loop monitor points in your program.

```
monitor loop {all | in <routine-list> |  
at <line-number-list>}
```

### monitor pregon

Enable parallel region monitor points in your program.

```
monitor pregon {all | in <routine-list> |  
at <line-number-list>}
```

### monitor routine

Enable routine monitor points in your program.

```
monitor routine {all | <routine-list>}
```

---

## P

### path

Set CXpa's search path for source files.

```
path <directory-list>
```

### pause

Pause profiling of a running program.

```
pause
```

---

## Q

### **quit**

Exit CXpa.

```
quit
```

---

## R

### **rerun**

Run and profile your program again using the same argument list.

```
rerun [<argument> . . .] [<i/o_redirection>]
```

### **run**

Run and profile your program with the specified arguments.

```
run [<argument> . . .] [<i/o_redirection>]
```

---

## S

### **set pdf**

Select the name of the performance data file (PDF).

```
set pdf <filename>
```

### **source**

Execute a CXpa command file.

```
source <filename>
```

### **stop**

Stop profiling a paused program.

```
stop
```











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