

---

# **CONVEX Fortran V9.1 Release Notice (C Series)**

---



Document No. 720-001830-020  
January 1995

CONVEX Press  
Richardson, Texas  
United States of America

---

## **CONVEX Fortran V9.1 Release Notice (C Series)**

Document No. 720-001830-020

Copyright © 1995 CONVEX Computer Corporation  
All rights reserved.

This document is copyrighted. However, this document may, in whole or part, be copied, duplicated, reproduced, translated, electronically stored, or reduced to machine readable form. Written consent from CONVEX Computer Corporation is not required.

Although the material contained herein has been carefully reviewed, CONVEX Computer Corporation does not warrant it to be free of errors or omissions. CONVEX reserves the right to make corrections, updates, revisions or changes to the information contained herein. CONVEX does not warrant the material described herein to be free of patent infringement.

UNLESS PROVIDED OTHERWISE IN WRITING WITH CONVEX COMPUTER CORPORATION (CONVEX), THE PROGRAM DESCRIBED HEREIN IS PROVIDED AS IS WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. SOME STATES DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES. THE ABOVE EXCLUSION MAY NOT BE APPLICABLE TO ALL PURCHASERS BECAUSE WARRANTY RIGHTS CAN VARY FROM STATE TO STATE. IN NO EVENT WILL CONVEX BE LIABLE TO ANYONE FOR SPECIAL, COLLATERAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING ANY LOST PROFITS OR LOST SAVINGS, ARISING OUT OF THE USE OR INABILITY TO USE THIS PROGRAM. CONVEX WILL NOT BE LIABLE EVEN IF IT HAS BEEN NOTIFIED OF THE POSSIBILITY OF SUCH DAMAGE BY THE PURCHASER OR ANY THIRD PARTY.

CONVEX and the CONVEX logo ("C") are registered trademarks of CONVEX Computer Corporation.

SPP-UX is a trademark of CONVEX Computer Corporation.

UNIX is a registered trademark of UNIX Systems Laboratories, Inc., a wholly owned subsidiary of Novell, Inc.

---

# CONVEX Fortran V9.1

## Release Notice (C Series)

---

### Introduction

This document describes the C Series release of CONVEX Fortran V9.1.

If installed as the default software, Fortran V9.1 is installed in the `/usr/convex` directory. When not installed as the default software, Fortran V9.1 is installed in a directory specified by the user during the installation.

Whenever you encounter a new problem with this product, please report it to the CONVEX Technical Assistance Center (TAC). Reporting procedures are described in the *Fortran User's Guide*.

---

### How to run CONVEX Fortran

If installed as the default software, Fortran V9.1 is installed in the `/usr/convex` directory, which is the default location for `fc`. Likewise, the default location where the accompanying man pages are installed is the `/usr/convex/man` directory.

If Fortran V9.1 is not installed as the default software, the user specifies a directory path that is used for the installation. The installation process creates two directories at this user-specified location: one named `man1`, into which Fortran's section 1 man pages are installed, and another named `man3`, where the section 3 man pages are installed. For instance, if you specify `/usr/fortran/fc9.1` as the location for installation, then Fortran 9.1 is installed in the `/usr/fortran/fc9.1` directory and the man pages are installed in the `/usr/fortran/fc9.1/man1` and `/usr/fortran/fc9.1/man3` directories.

In order to access the compiler you should ensure that your `PATH` environment variable includes the path where the compiler components have been installed. The `MANPATH` environment variable similarly should include the path where the man pages have been installed. You may need to add these paths to these environment variables, especially if Fortran V9.1 was not installed as the default software.

---

### New features

The behavior of the `fc` command when no `-B` compiler option is specified has changed. The old behavior was to run compiler components in the `/usr/convex` directory. The new behavior is to run compiler components from the same directory that `fc` is in.

If installed as the default software, the installation process for this release puts all necessary components in the directory `/usr/convex`, which is the default location.

If you do not install Fortran V9.1 as the default software (for example, to a directory named `/usr/fortran/fc9.1`), you can invoke the compiler by adding the path of the new location to your `PATH` environment variable.

The new target machine option `-tm c4` causes the compiler to generate code using the full CONVEX C4 instruction set and register set. This option is used by default when the compiler runs on a C4 processor. The resulting program cannot be run

on previous C Series processors. Other target machine options `-tm c1`, `-tm c2`, `-tm c34`, `-tm c38` are still valid and cause the compiler to generate code that will run on the specified processor or any later one, including C4.

The default mode is equivalent to using `-f90` with CONVEX Fortran V8.0. The new option `-nof90` disables Fortran 90 extensions. The supported Fortran 90 subset has been extended, as described in the "Language enhancements" section.

The CONVEX Fortran compilers for the C Series and SPP Series (Exemplar) architectures are largely source compatible but not completely so. Differences between these compilers are detailed in the *Fortran User's Guide* and the *Fortran Language Reference*.

---

## Restrictions specific to this release

If you use the CXdb or CXpa products with this compiler on a C4 Series system, version 3.0.0.5 of CXdb and CXpa are required because of the new instruction set. If you wish to use version 2.0 of CXdb and CXpa on a C4, you must use the compiler option `-tm c38` (or any target machine option other than `-tm c4`).

---

## Language enhancements

The Fortran 90 `AUTOMATIC` and `ALLOCATABLE` statements are supported. In addition, the following Fortran 90 array language constructs are supported:

- array sections, triplet notation
- vector valued subscripts
- array sections as arguments
- more Fortran 90 array intrinsics
- array-valued functions
- array constructors

The following compiler options have been added since version 8.0 of the CONVEX Fortran compiler:

<code>-align cseries</code>	<code>-align spp</code>
<code>-ansi77</code>	<code>-ansi90</code>
<code>-noautopar</code>	<code>-noautovec</code>
<code>-nocfc</code>	<code>-nof90</code>
<code>-nopm</code>	<code>-nore</code>
<code>-novfc</code>	<code>-palib</code>
<code>-W</code>	<code>-mrl</code>

The `DO_PRIVATE` directive is being replaced with the functionally equivalent `LOOP_PRIVATE` directive, which now is available in both C Series and SPP Series Fortran. The `DO_PRIVATE` directive will remain available on C Series machines for compatibility purposes.