

```

=====CONVERT
PROGRAM CONVERT
=====
VERSION 75-1 (APRIL 1975) CONVERT
VERSION 78-1 (JANUARY 1978) CONVERT
VERSION 80-1 (AUGUST 1980) IBM VERSION CONVERT
VERSION 80-2 (DECEMBER 1980) CONVERT
VERSION 82-1 (JANUARY 1982) CONVERT
VERSION 83-1 (JANUARY 1983) CONVERT
VERSION 86-1 (JANUARY 1986) *NEW PROGRAM CONVERT
*FORTRAN-77/H VERSION CONVERT
*MULTIPLE INPUT OPTIONS CONVERT
VERSION 88-1 (AUGUST 1988) *OPTION...INTERNALLY DEFINE ALL I/O CONVERT
FILE NAMES (SEE, SUBROUTINE FILEIO CONVERT
FOR DETAILS). CONVERT
*IMPROVED BASED ON USER COMMENTS. CONVERT
*ADDED NAMES OPTION TO TURN ON/OFF CONVERT
STANDARD FILE NAMES. CONVERT
*ADDED REWIND OPTION TO TURN ON/OFF CONVERT
REWIND AT START OF PROGRAMS. CONVERT
*DELETED HARWELL AND JAERI OPTIONS CONVERT
(PREVIOUSLY ONLY REQUIRED FOR GRAPHIC CONVERT
INTERFACE. NO LONGER REQUIRED). CONVERT
VERSION 89-1 (JANUARY 1989) *PSYCHOANALYZED BY PROGRAM FREUD TO CONVERT
INSURE PROGRAM WILL NOT DO ANYTHING CONVERT
CRAZY. CONVERT
*IMPROVED BASED ON USER COMMENTS. CONVERT
*ADDED LIVERMORE CIVIC COMPILER CONVERT
CONVENTIONS. CONVERT
*UPDATED TO USE NEW PROGRAM CONVERT CONVERT
KEYWORDS. CONVERT
*ADDED ENDFILE OPTION TO OPTIONALLY CONVERT
ALLOW END OF FILE TO BE WRITTEN CONVERT
VERSION 91-1 (JUNE 1991) *ADDED FORTRAN SAVE OPTION CONVERT
VERSION 92-1 (JANUARY 1992) *ADDED ACTION OPTION - TO CONTROL CONVERT
INTERACTIVE INPUT TO CODES CONVERT
*ADDED BLANK DELIMITED KEYWORD INPUT CONVERT
(REPLACES EARLIER FIXED FIELD INPUT) CONVERT
*WARNING...THE INPUT PARAMETER FORMAT CONVERT
HAS BEEN GENERALIZED - FOR DETAILS CONVERT
SEE BELOW. CONVERT
VERSION 94-1 (JANUARY 1994) *VARIABLE PROGRAM FILENAMES CONVERT
TO ALLOW ACCESS TO FILE STRUCTURES CONVERT
(WARNING - INPUT PARAMETER FORMAT CONVERT
HAS BEEN CHANGED) CONVERT
*CLOSE ALL FILES BEFORE TERMINATING CONVERT
(SEE, SUBROUTINE ENDIT) CONVERT
*ADDED KEYWORD CLOSE. CONVERT
VERSION 96-1 (JANUARY 1996) *COMPLETE RE-WRITE CONVERT
*IMPROVED COMPUTER INDEPENDENCE CONVERT
*ALL DOUBLE PRECISION CONVERT
*ON SCREEN OUTPUT CONVERT
VERSION 99-1 (MARCH 1999) *GENERAL IMPROVEMENTS BASED ON CONVERT
USER FEEDBACK CONVERT
VERS. 2000-1 (FEBRUARY 2000) *GENERAL IMPROVEMENTS BASED ON CONVERT
USER FEEDBACK CONVERT
VERS. 2002-1 (MAY 2002) *OPTIONAL INPUT PARAMETERS CONVERT
VERS. 2004-1 (MARCH 2004) *GENERAL UPDATE CONVERT
VERS. 2007-1 (JAN. 2007) *GENERAL UPDATE CONVERT
VERS. 2007-2 (DEC. 2007) *72 CHARACTER FILE NAMES. CONVERT
VERS. 2010-1 (Apr. 2010) *General update based on user feedback CONVERT
VERS. 2012-1 (Aug. 2012) *Added CODENAME CONVERT
*32 and 64 bit Compatible CONVERT
*Added ERROR stop CONVERT
VERS. 2015-1 (Jan. 2015) *Replaced ALL 3 way IF Statements CONVERT
VERS. 2017-1 (May 2017) *Updated based on user feedback. CONVERT
VERS. 2018-1 (Jan. 2018) *Added on-line output for ALL ENDERROR CONVERT
VERS. 2020-1 (Feb. 2020) *Identical to 2018-1. CONVERT
VERS. 2021-1 (jAN. 2021) *Updated for FORTRAN 2018 CONVERT
CONVERT

```

OWNED, MAINTAINED AND DISTRIBUTED BY

THE NUCLEAR DATA SECTION
INTERNATIONAL ATOMIC ENERGY AGENCY
P.O. BOX 100
A-1400, VIENNA, AUSTRIA
EUROPE
ORIGINALY WRITTEN BY

Dermott E. Cullen
PRESENT CONTACT INFORMATION

Dermott E. Cullen
1466 Hudson Way
Livermore, CA 94550
U.S.A.
Telephone 925-443-1911
E. Mail RedCullen1@Comcast.net
Website RedCullen1.net/HOMEPAGE.NOW
AUTHORS MESSAGE

THE COMMENTS BELOW SHOULD BE CONSIDERED THE LATEST DOCUMENTATION
FOR THIS PROGRAM INCLUDING ALL RECENT IMPROVEMENTS. PLEASE READ
ALL OF THESE COMMENTS BEFORE IMPLEMENTATION, PARTICULARLY THE
COMMENTS CONCERNING COMPUTER DEPENDENT CODING.
AT THE PRESENT TIME WE ARE ATTEMPTING TO DEVELOP A SET OF COMPUTER
INDEPENDENT PROGRAMS THAT CAN EASILY BE IMPLEMENTED ON ANY ONE
OF A WIDE VARIETY OF COMPUTERS. IN ORDER TO ASSIST IN THIS PROJECT
IT WOULD BE APPRECIATED IF YOU WOULD NOTIFY THE AUTHOR OF ANY
COMPILER DIAGNOSTICS, OPERATING PROBLEMS OR SUGGESTIONS ON HOW TO
IMPROVE THIS PROGRAM. IN PARTICULAR IF YOUR FORTRAN COMPILER, OR
COMPUTER HAS A SET OF REQUIREMENTS THAT ARE DIFFERENT FROM THOSE
OF CDC, CRAY OR IBM PLEASE NOTIFY THE AUTHOR AND THIS PROGRAM WILL
BE MODIFIED TO CONSIDER YOUR COMPUTER SEPERATELY. HOWEVER, IN
ORDER TO PREVENT A PROLIFERATION OF CODING IT IS IMPERATIVE THAT
YOU IDENTIFY EXACTLY HOW YOUR FORTRAN COMPILER OR COMPUTER DIFFERS
FROM THOSE ALREADY CONSIDERED BY THIS PROGRAM. HOPEFULLY, IN THIS
WAY FUTURE VERSIONS OF THIS PROGRAM WILL BE COMPLETELY COMPATIBLE
FOR USE ON YOUR COMPUTER.
PURPOSE

THIS PROGRAM IS DESIGNED TO AUTOMATICALLY CONVERT FORTRAN PROGRAMS
FOR USE ON ANY ONE OF A VARIETY OF,
(1) COMPUTERS
(2) COMPILERS
(3) PRECISIONS (SINGLE OR DOUBLE PRECISION)
(4) INSTALLATIONS
(5) STANDARD OR NON-STANDARD FILE NAMES
FORTRAN CODING CONVENTIONS

THIS PROGRAM MAY BE USED TO CONVERT ANY PROGRAM WHICH USES THE
FOLLOWING CONVENTIONS.
ALL FORTRAN STATEMENTS THAT DEPEND ON ANY COMBINATION OF COMPUTER,
COMPILER, PRECISION AND/OR INSTALLATION AND STANDARD FILE NAMES
SHOULD BE PRECEDED AND FOLLOWED BY A COMMENT LINE THAT CONTAINS,
C***** DOUBLE ***** ACTIVATE DOUBLE PRECISION (DEFAULT)
C***** SINGLE ***** ACTIVATE SINGLE PRECISION
C***** CHARACTER *** TREAT CHARACTER ARRAYS AS CHARACTERS (DEFAULT)
C***** INTEGER ***** TREAT CHARACTER ARRAYS AS INTEGERS
C***** STOP ***** ACTIVATE STOP TO TERMINATE PROGRAM
C***** EXIT ***** ACTIVATE EXIT TO TERMINATE PROGRAM
C***** PROGRAM ***** ACTIVATE PROGRAM LINE AND CONTINUATIONS
C***** NAMES ***** ACTIVATE STANDARD FILENAMES

C***** REWIND ***** ACTIVATE REWIND FILES AT START OF PROGRAM CONVERT
 C***** ENDFILE ***** ACTIVATE ENDFILE AT END OF PROGRAM CONVERT
 C***** CIVIC ***** ACTIVATE LIVERMORE CIVIC COMPILER CONVENTIONS CONVERT
 C***** NOID ***** REMOVE LINE ID IN COLUMNS 73-80 (73-80=BLANK) CONVERT
 C***** SAVE ***** SAVE VARIABLES BETWEEN SUBROUTINE CALLS CONVERT
 C***** ACTION ***** ACTIVATE INTERACTIVE INPUT TO CODES CONVERT
 C***** CLOSE ***** ACTIVATE CLOSE ALL FILES BEFORE TERMINATING CONVERT

IF THE USER DOES NOT SELECT,
 (1) DOUBLE OR SINGLE - THE PROGRAM WILL ACTIVATE DOUBLE CONVERT
 (2) CHARACTER OR INTEGER - THE PROGRAM WILL ACTIVATE CHARACTER CONVERT
 (3) STOP OR EXIT - THE PROGRAM WILL ACTIVATE STOP CONVERT

IF THE USER SELECTS,
 (1) DOUBLE AND SINGLE - THE PROGRAM WILL ACTIVATE DOUBLE CONVERT
 (2) CHARACTER AND INTEGER - THE PROGRAM WILL ACTIVATE CHARACTER CONVERT
 (3) STOP AND EXIT - THE PROGRAM WILL ACTIVATE STOP CONVERT

IF THE USER DOES NOT SELECT PROGRAM, NAMES, REWIND, ENDFILE,
 CIVIC, NOID, SAVE OR ACTION THESE OPTIONS WILL BE TURNED OFF. CONVERT

WHERE CODING IS COMPUTER OR COMPILER DEPENDENT CODING WILL BE CONVERT
 PRESENT FOR ALL POSSIBLE OPTIONS. THIS PROGRAM WILL ALLOW THE CONVERT
 THE USER TO CONVERT PROGRAMS FOR USE WITH ANY COMBINATION OF CONVERT
 OPTIONS. FOR EXAMPLES OF HOW THIS CONVENTION IS USED SEE THE CONVERT
 LISTING OF THIS PROGRAM AND THE COMMENTS BELOW ON COMPUTER CONVERT
 DEPENDENT CODING. CONVERT

INPUT LINES

LINE	COLS.	DESCRIPTION	
1	1-72	BLANK DELIMITED KEYWORDS	CONVERT
2	1-60	ENDE/B INPUT DATA FILENAME (STANDARD OPTION = ENDFB.IN)	CONVERT
3	1-60	ENDE/B OUTPUT DATA FILENAME (STANDARD OPTION = ENDFB.OUT)	CONVERT

*THE FIRST INPUT LINE IS 72 CHARACTERS. CONVERT
 *KEYWORDS MAY BE LOCATED ANYWHERE WITHIN THESE 72 CHARACTERS CONVERT
 *THERE MAY BE ANY NUMBER OF KEYWORDS INPUT CONVERT
 *EACH KEYWORD MUST BE BLANK DELIMITED, E.G., DOUBLE CHARACTER CONVERT
 IS LEGAL INPUT - DOUBLE CHARACTER IS NOT LEGAL INPUT. CONVERT
 *THERE MUST BE ONE OR MORE BLANKS BETWEEN KEYWORDS CONVERT

*NOTE, THIS NEW INPUT PARAMETER FORMAT (VERSION 92-1) IS COMPLETELY CONVERT
 COMPATIBLE WITH THE OLDER FIXED FIELD FORMAT. SO THAT IF YOU HAVE CONVERT
 INPUT THAT YOU HAVE USED IN THE PAST YOU CAN CONTINUE TO USE IT. CONVERT

LEGAL KEYWORDS INCLUDE, CONVERT

DOUBLE	ACTIVATE DOUBLE PRECISION (DEFAULT)	CONVERT
SINGLE	ACTIVATE SINGLE PRECISION	CONVERT
CHARACTER	TREAT CHARACTER ARRAYS AS CHARACTERS (DEFAULT)	CONVERT
INTEGER	TREAT CHARACTER ARRAYS AS INTEGERS	CONVERT
PROGRAM	ACTIVATE PROGRAM LINE AND CONTINUATIONS	CONVERT
NAMES	ACTIVATE STANDARD FILENAMES	CONVERT
REWIND	ACTIVATE REWIND FILES AT START OF PROGRAM	CONVERT
ENDFILE	ACTIVATE ENDFILE AT END OF PROGRAM	CONVERT
CIVIC	ACTIVATE LIVERMORE CIVIC COMPILER CONVENTIONS	CONVERT
NOID	REMOVE LINE ID IN COLUMNS 73-80 (73-80=BLANK)	CONVERT
SAVE	SAVE VARIABLES BETWEEN SUBROUTINE CALLS	CONVERT
ACTION	ACTIVATE INTERACTIVE INPUT FOR CODES	CONVERT
CLOSE	ACTIVATE CLOSE ALL FILES BEFORE TERMINATING	CONVERT

EXAMPLE INPUT NO. 1

TO USE A PROGRAM IN SINGLE PRECISION, USE THE STANDARD FILE NAMES, CONVERT
 REWIND ALL UNITS AT THE START OF THE PROGRAM AND TREAT CHARACTER CONVERT
 ARRAYS AS CHARACTER (FORTRAN-77 CONVENTION). CONVERT

READ \PREPRO93\RECENT\RECENT.OLD AND	CONVERT
WRITE \PREPRO93\RECENT\RECENT.NEW	CONVERT
THE FOLLOWING 3 INPUT LINES ARE REQUIRED,	CONVERT
SINGLE NAMES REWIND CHARACTER	CONVERT
\PREPRO93\RECENT\RECENT.OLD	CONVERT
\PREPRO93\RECENT\RECENT.NEW	CONVERT
NOTE, SINCE CHARACTER IS THE STANDARD OPTION THE KEYWORD CHARACTER	CONVERT
NEED NOT APPEAR ON THE ABOVE INPUT LINE.	CONVERT
EXAMPLE INPUT NO. 2	CONVERT
-----	CONVERT
TO USE A PROGRAM IN DOUBLE PRECISION AND TREAT ALL CHARACTER	CONVERT
ARRAYS AS INTEGER (FORTRAN-H CONVENTION).	CONVERT
USE THE STANDARD FILENAMES TO READ = CONVERT.IN AND WRITE =	CONVERT
CONVERT.OUT (THIS CAN BE DONE BY LEAVING THE SECOND AND THIRD	CONVERT
INPUT LINES BLANK).	CONVERT
THE FOLLOWING 3 INPUT LINES ARE REQUIRED,	CONVERT
DOUBLE INTEGER	CONVERT
(NOTE, THIS IS A BLANK LINE)	CONVERT
(NOTE, THIS IS A BLANK LINE)	CONVERT
NOTE, SINCE DOUBLE IS THE STANDARD OPTION THE KEYWORD DOUBLE	CONVERT
NEED NOT APPEAR ON THE ABOVE INPUT LINE.	CONVERT
EXAMPLE INPUT NO. 3	CONVERT
-----	CONVERT
TO ACTIVATE THE PROGRAM LINE, USE DOUBLE PRECISION AND TREAT ALL	CONVERT
CHARACTER ARRAYS AS CHARACTER.	CONVERT
READ \PREPRO93\RECENT\RECENT.OLD AND	CONVERT
WRITE THE STANDARD FILENAME = CONVERT.OUT (LEAVE THE THIRD INPUT	CONVERT
LINE BLANK).	CONVERT
THE FOLLOWING 3 INPUT LINES ARE REQUIRED,	CONVERT
PROGRAM	CONVERT
\PREPRO93\RECENT\RECENT.OLD	CONVERT
(NOTE, THIS IS A BLANK LINE)	CONVERT
NOTE, SINCE DOUBLE, CHARACTER AND EXIT ARE THE STANDARD OPTIONS	CONVERT
THEY NEED NOT APPEAR ON THE ABOVE INPUT LINE AND IN THIS EXAMPLE	CONVERT
HAVE BEEN OMITTED.	CONVERT
WARNING	CONVERT
-----	CONVERT
(1) THE PROGRAM WILL ALWAYS ACTIVATE DOUBLE OR SINGLE, CHARACTER	CONVERT
OR INTEGER (AS DESCRIBED ABOVE).	CONVERT
(2) CODING IN THE PROGRAM FOR ANY KEYWORDS THAT ARE NOT ACTIVATED	CONVERT
WILL BE CONVERTED TO COMMENT LINES AND AS SUCH WILL EFFECTIVELY	CONVERT
DISAPPEAR FROM THE PROGRAM. THEREFORE IF THE KEYWORDS PROGRAM,	CONVERT
NAMES, REWIND, ENDFILE, CIVIC OR NOID ARE NOT INPUT BY THE USER	CONVERT
THESE OPTIONS WILL BE TURNED OFF AND ANY CODING USING THESE	CONVERT
KEYWORDS WILL EFFECTIVELY DISAPPEAR FROM THE PROGRAM.	CONVERT
(3) THE SERIES OF CODES THAT ARE DESIGNED TO BE AUTOMATICALLY	CONVERT
TRANSLATED BY THIS PROGRAM REQUIRE THAT ALL CALCULATIONS BE	CONVERT
PERFORMED IN DOUBLE PRECISION ON SHORT WORD LENGTH COMPUTERS	CONVERT
(E.G., IBM COMPUTERS). THIS PROGRAM WILL ALLOW YOU TO SPECIFY	CONVERT
EITHER DOUBLE OR SINGLE PRECISION. HOWEVER, IF YOU SPECIFY	CONVERT
SINGLE PRECISION THIS PROGRAM WILL PRINT A WARNING MESSAGE THAT	CONVERT
THE CONVERTED PROGRAM SHOULD ONLY BE USED ON LONG WORD LENGTH	CONVERT
COMPUTERS (E.G., CDC COMPUTERS).	CONVERT

