

=====	Merger
PROGRAM MERGER	Merger
=====	Merger
VERSION 80-1 (JANUARY 1980)	Merger
VERSION 80-2 (DECEMBER 1980)	Merger
VERSION 82-1 (JANUARY 1982)	Merger
VERSION 83-1 (JANUARY 1983)*NEW, MORE COMPATIBLE I/O UNIT NUMBERS.	Merger
VERSION 85-1 (AUGUST 1985) *FORTRAN-77/H VERSION	Merger
VERSION 86-1 (JANUARY 1986)*ENDF/B-VI FORMATS	Merger
VERSION 88-1 (JULY 1988) *OPTION...INTERNALLY DEFINE ALL I/O	Merger
FILE NAMES (SEE, SUBROUTINES FILIO1	Merger
AND FILIO2 FOR DETAILS).	Merger
*IMPROVED BASED ON USER COMMENTS.	Merger
VERSION 89-1 (JANUARY 1989)*PSYCHOANALYZED BY PROGRAM FREUD TO	Merger
INSURE PROGRAM WILL NOT DO ANYTHING	Merger
CRAZY.	Merger
*UPDATED TO USE NEW PROGRAM CONVERT	Merger
KEYWORDS.	Merger
*ADDED LIVERMORE CIVIC COMPILER	Merger
CONVENTIONS.	Merger
VERSION 92-1 (JANUARY 1992)*UPDATED BASED ON USER COMMENTS	Merger
*ADDED FORTRAN SAVE OPTION	Merger
VERSION 92-2 (JULY 1992) *ALLOW UP TO 99 ENDF/B DATA FILES.	Merger
(TO ALLOW MANAGEMENT OF THE ENTIRE	Merger
ENDF/B SYSTEM).	Merger
VERSION 94-1 (JANUARY 1994)*VARIABLE ENDF/B DATA FILENAMES	Merger
TO ALLOW ACCESS TO FILE STRUCTURES	Merger
(WARNING - INPUT PARAMETER FORMAT	Merger
HAS BEEN CHANGED)	Merger
*ONLY SPECIFY FILENAMES - NO UNIT	Merger
NUMBERS ON INPUT (WARNING - INPUT	Merger
PARAMETERS FORMAT HAS BEEN CHANGED)	Merger
*CLOSE ALL FILES BEFORE TERMINATING	Merger
(SEE, SUBROUTINE ENDIT)	Merger
*REQUEST LOG DELETED	Merger
VERSION 96-1 (JANUARY 1996) *COMPLETE RE-WRITE	Merger
*IMPROVED COMPUTER INDEPENDENCE	Merger
*ALL DOUBLE PRECISION	Merger
*ON SCREEN OUTPUT	Merger
*UNIFORM TREATMENT OF ENDF/B I/O	Merger
*IMPROVED OUTPUT PRECISION	Merger
VERSION 99-1 (MARCH 1999) *GENERAL IMPROVEMENTS BASED ON	Merger
USER FEEDBACK	Merger
VERS. 2000-1 (FEBRUARY 2000)*GENERAL IMPROVEMENTS BASED ON	Merger
USER FEEDBACK	Merger
VERS. 2002-1 (MAY 2002) *OPTIONAL INPUT PARAMETERS	Merger
VERS. 2004-1 (MARCH 2004) *ADDED INCLUDE TO DEFINE COMMON	Merger
*ADDED TEND LINE IF NO DATA RETRIEVED	Merger
VERS. 2007-1 (JAN. 2007) *CHECKED AGAINST ALL ENDF/B-VII.	Merger
VERS. 2007-2 (JUNE 2007) *UP, TO 1,000 ENDF/B FILES.	Merger
*72 CHARACTER FILE NAMES.	Merger
VERS. 2010-1 (Apr. 2010) *General update based on user feedback	Merger
VERS. 2012-1 (Aug. 2012) *Added CODENAME	Merger
*32 and 64 bit Compatible	Merger
*Added ERROR stop	Merger
VERS. 2015-1 (Jan. 2015) *Replaced ALL 3 way IF Statements.	Merger
VERS. 2017-1 (May 2017) *Updated based on user feedback.	Merger
VERS. 2018-1 (Jan. 2018) *Added on-line output for ALL ENDERROR	Merger
VERS. 2019-1 (June 2019) *Identical to 2018-1	Merger
	Merger
OWNED, MAINTAINED AND DISTRIBUTED BY	Merger
-----	Merger
THE NUCLEAR DATA SECTION	Merger
INTERNATIONAL ATOMIC ENERGY AGENCY	Merger
P.O. BOX 100	Merger
A-1400, VIENNA, AUSTRIA	Merger
EUROPE	Merger
	Merger
ORIGINALLY WRITTEN BY	Merger
-----	Merger

IN ORDER TO SIMPLIFY THE INPUT OF SELECTION REQUESTS THE FOLLOWING
CONVENTIONS HAVE BEEN INTRODUCED IN ORDER TO DEFINE THE UPPER
LIMITS OF REQUESTS IF THEY ARE NOT DEFINED BY INPUT (I.E., IF THEY
ARE ZERO).

- (1) MAT OR ZA - IF THE UPPER LIMIT IS ZERO IT IS SET EQUAL TO THE
 LOWER LIMIT.
(2) MF OR MT - IF THE UPPER LIMIT IS ZERO IT IS SET EQUAL TO THE
 MAXIMUM POSSIBLE VALUE, 99 OR 999 RESPECTIVELY.

WITH THESE CONVENTIONS AN ENTIRE EVALUATION MAY BE SELECTED BY
MERELY SPECIFYING THE LOWER LIMIT OF MAT OR ZA. THE UPPER MAT OR
ZA LIMIT WILL BE SET EQUAL TO THE LOWER LIMIT, THE LOWER LIMITS OF
MF/MT WILL BE 0/0 AND THE UPPER LIMITS OF MF/MT WILL BE SET TO
99/999. THIS WILL CAUSE ALL SECTIONS OF A SINGLE EVALUATION TO BE
SELECTED.

SATISFYING SELECTION CRITERIA

IN ORDER FOR A SECTION TO MEET THE SELECTION CRITERIA SPECIFIED
BY ONE OF THE RETRIEVAL REQUESTS, EACH OF THE THREE FIELDS (
MAT/MF/MT OR ZA/MF/MT) MUST INDIVIDUALLY SATISFY THE CORRESPONDING
LIMITS OF THE REQUEST. IT IS NOT SUFFICIENT THAT THE MAT OF A
SECTION LIE BETWEEN THE MINIMUM AND MAXIMUM MATS OF A REQUEST. THE
MF AND MT WILL ALSO BE INDIVIDUALLY COMPARED TO THE MF AND MT
LIMITS OF THE REQUEST. FOR EXAMPLE, A SECTION WITH MAT/MF/MT=
2500/3/2 DOES NOT SATISFY A REQUEST THAT SPECIFIES A REQUEST USING
THE RANGE 2000/3/1 THROUGH 3000/3/1. THIS REQUEST SPECIFIES ALL
MATERIALS WITH MAT BETWEEN 2000 AND 3000, BUT ONLY THOSE SECTIONS
WITH MF/MT=3/1. SIMILARLY A REQUEST FOR 2000/3/1 THROUGH 3000/99/
999 WILL NOT SELECT ANY SECTIONS WITH MF=1 OR 2, SINCE THE
REQUEST SPECIFIES ALL MATERIALS WITH MAT BETWEEN 2000 AND 3000,
BUT ONLY THOSE SECTIONS WITH MF= 3, OR MORE.

DUPLICATE SECTIONS

IF TWO OR MORE SECTIONS WITH THE SAME MAT/MF/MT ARE FOUND EITHER
ON THE SAME OR DIFFERENT TAPES, THE SECTION FROM THE TAPE DEFINED
EARLIEST IN THE INPUT CARDS WILL BE COPIED TO THE FINAL TAPE AND
ALL OTHER SECTIONS WITH THE SAME MAT/MF/MT WILL BE SKIPPED. THE
OUTPUT REPORT WILL INDICATE WHICH SECTIONS WERE COPIED FROM WHICH
TAPES, AS WELL AS WHICH SECTIONS ARE DUPLICATE AND WERE SKIPPED.

REACTION INDEX

THIS PROGRAM DOES NOT UPDATE THE REACTION INDEX IN MF=1, MT=451.
FOR EACH MATERIAL THE PROGRAM WILL FOLLOW THE CONVENTIONS
DEFINED ABOVE AND ONLY COPY ONE SECTION MF=1, MT=451 AND SKIP
ALL OTHERS (IF MORE THAN ONE). THIS CONVENTION HAS BEEN ADOPTED
BECAUSE MOST USERS DO NOT REQUIRE A CORRECT REACTION INDEX FOR
THERE APPLICATIONS AND IT WAS NOT CONSIDERED WORTHWHILE TO INCLUDE
THE OVERHEAD OF CONSTRUCTING A CORRECT REACTION INDEX IN THIS
PROGRAM. HOWEVER, IF YOU REQUIRE A REACTION INDEX FOR YOUR
APPLICATION AFTER RUNNING THIS PROGRAM YOU MAY USE PROGRAM
DICTIN TO CREATE ONE.

RETRIEVAL STATISTICS

THERE WILL ALWAYS BE AN OUTPUT REPORT LISTING INDICATING WHICH
SECTIONS WERE SELECTED, WHICH DUPLICATE SECTIONS WERE SKIPPED,
WHICH TAPE THE SECTION WAS ON, WHICH REQUEST (MAT/MF/MT OR
ZA/MF/MT RANGE) CAUSED THE SECTION TO BE SELECTED AND HOW MANY
CARDS WERE IN THE SECTION. IN ADDITION THE USER MAY OPTIONALLY
OBTAIN A FILE CONTAINING THE SAME INFORMATION. THIS FILE MAY BE
COMBINED WITH OTHER SIMILAR FILES OUTPUT BY THIS PROGRAM IN ORDER
TO ACCUMULATE RETRIEVAL STATISTICS OVER A PERIOD OF TIME. IF
SPECIFIED THIS FILE WILL CONTAIN THE FOLLOWING INFORMATION IN
617 FORMAT.

- (1) ZA

(2) MAT				Merger
(3) MF				Merger
(4) MT				Merger
(5) NUMBER OF CARDS IN SECTION				Merger
(6) REQUEST NUMBER THAT CAUSED SECTION TO BE SELECTED				Merger
INPUT FILES				Merger
-----				Merger
UNIT	DESCRIPTION			Merger
-----				Merger
2	INPUT CARDS (BCD - 80 CHARACTERS/RECORD)			Merger
VARY FROM 1 TO 99 ENDF/B DATA FILES (BCD - 80 CHARACTERS/RECORD)				Merger
OUTPUT FILES				Merger
-----				Merger
UNIT	DESCRIPTION			Merger
-----				Merger
3	OUTPUT REPORT LISTING (BCD - 120 CHARACTERS/RECORD)			Merger
10	MERGED ENDF/B DATA (BCD - 80 CHARACTERS/RECORD)			Merger
OPTIONAL STANDARD FILE NAMES (SEE SUBROUTINES FILIO1 AND FILIO2)				Merger
-----				Merger
UNIT	FILE NAME	DESCRIPTION		Merger
-----				Merger
2	MERGER.INP	INPUT PARAMETERS		Merger
3	MERGER.LST	OUTPUT LISTING		Merger
11	ENDFB.OUT	RETRIEVED ENDF/B DATA		Merger
12	ENDFB.IN1	ENDF/B DATA TO READ...FILENAMES WILL BE DEFINED		Merger
13	ENDFB.IN2	IN THE ORDER ENDFB.IN1, ENDFB.IN2,...ENDFB.I99		Merger
14	ENDFB.IN3	CORRESPONDING TO THE FIRST, SECOND,...99-TH		Merger
15	ENDFB.IN4	ENDF/B DATA FILE TO READ.		Merger
16	ENDFB.IN5			Merger
17	ENDFB.IN6			Merger
18	ENDFB.IN7			Merger
	.			Merger
	.			Merger
110	ENDFB.I99			Merger
INPUT CARDS				Merger
-----				Merger
CARD	COLUMNS	FORMAT	DESCRIPTION	Merger
-----				Merger
1	1-72	A72	FILENAME FOR MERGED OUTPUT. (LEAVE BLANK FOR STANDARD = ENDFB.OUT)	Merger
2	1-66	16A4,A2	MERGED FILE LABEL IF BLANK - LABEL FROM FIRST FILE READ WILL BE OUTPUT	Merger
	67-70	I4	MERGED FILE ENDF/B NUMBER IF ZERO - NUMBER OF FIRST FILE READ WILL BE OUTPUT.	Merger
	71-72	I2	RETRIEVAL CRITERIA = 0 - MAT/MF/MT RANGES = 1 - ZA/MF/MT RANGES	Merger
3-N	1-72	A72	FILENAME FOR FILE TO RETRIEVE DATA FROM (LEAVE BLANK FOR STANDARD..ENDFB.IN1,ETC.) TERMINATE LIST OF FILES WITH A LINE THAT SAYS END OR end	Merger
VARY	1- 6	I6	LOWER PRIMARY LIMIT (MAT OR ZA)	Merger
	7- 8	I2	LOWER MF LIMIT	Merger
	9-11	I3	LOWER MT LIMIT	Merger
	12-17	I6	UPPER PRIMARY LIMIT (MAT OR ZA)	Merger
	18-19	I2	UPPER MF LIMIT	Merger
	20-22	I3	UPPER MT LIMIT	Merger
			RANGES OF MAT/MF/MT OR ZA/MF/MT TO BE RETRIEVED ARE SPECIFIED BY DEFINING ONE RANGE (LOWER AND UPPER LIMITS) PER CARD. THE USER MAY SPECIFY 0 TO 100 RANGES AND THE LIST OF REQUEST RANGES IS TERMINATED BY A BLANK CARD. IF THE FIRST CARD IS BLANK (0 REQUESTS) ALL DATA WILL BE RETRIEVED. IF THE UPPER	Merger

PRIMARY CRITERIA (MAT OR ZA) IS LESS THAN
THE LOWER PRIMARY CRITERIA, THE UPPER
PRIMARY CRITERIA WILL BE SET EQUAL TO
THE LOWER PRIMARY CRITERIA. IF THE UPPER
MF OR MT LIMIT IS ZERO, OR BLANK, IT
WILL BE SET TO THE MAXIMUM POSSIBLE
VALUE, I.E. MF=99 OR MT=999 (SEE
EXAMPLE INPUT) .

EXAMPLE INPUT NO. 1

MERGE ENDF/B DATA ONTO UNIT 10 FROM UNITS 11, 12, 13 AND 14.
RETRIEVE DATA BY MAT NUMBER. RETRIEVE MATS 1103, 1106, ALL MATS
BETWEEN 1204 AND 1215, MF=1, 3, 4 AND 5 OF MAT 1219 AND MF=3,
MT=1 OF MAT 1304. USE STANDARD FILENAMES.

THE FOLLOWING 13 INPUT CARDS ARE REQUIRED.

ENDFB.OUT

EXAMPLE FILE LABEL FOR MERGER

ENDFB.IN1

ENDFB.IN2

ENDFB.IN3

ENDFB.IN4

END

1103		4317	(UPPER LIMIT SET TO 1103/99/999)
1106		4317	(UPPER LIMIT SET TO 1106/99/999)
1204	1215	4317	(UPPER LIMIT SET TO 1215/99/999)
1219 1	1219 1	4317	(UPPER LIMIT SET TO 1219/ 1/999)
1219 3	1219 5	4317	(UPPER LIMIT SET TO 1219/ 5/999)
1304 3 1	1304 3 1	4317	(UPPER LIMIT COMPLETELY DEFINED)
			(BLANK CARD TERMINATES REQUESTS)

EXAMPLE INPUT NO. 2

THE SAME AS EXAMPLE 1, EXCEPT SPECIFY FILENAMES

\ENDFB6\MERGED.LIB

EXAMPLE FILE LABEL FOR MERGER

ENDFB6.PART1

ENDFB6.PART2

ENDFB6.PART3

ENDFB6.PART4

END

1103		4317	(UPPER LIMIT SET TO 1103/99/999)
1106		4317	(UPPER LIMIT SET TO 1106/99/999)
1204	1215	4317	(UPPER LIMIT SET TO 1215/99/999)
1219 1	1219 1	4317	(UPPER LIMIT SET TO 1219/ 1/999)
1219 3	1219 5	4317	(UPPER LIMIT SET TO 1219/ 5/999)
1304 3 1	1304 3 1	4317	(UPPER LIMIT COMPLETELY DEFINED)
			(BLANK CARD TERMINATES REQUESTS)

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