```
====================================================================== Complot
                                                                       Complot
     PROGRAM COMPLOT                                                   Complot
     ===============                                                   Complot
     VERSION 83-1 (FEBRUARY, 1983)                                     Complot
     VERSION 83-2 (MAY, 1983)                                          Complot
     VERSION 83-3 (DECEMBER, 1983) *MAJOR MODIFICATION.                Complot
                                   *ADDED SELECTION OF PLOTS BY MAT OR  Complot
                                    ZA/MT/ENERGY RANGE (EV).           Complot
                                   *ADDED VARIABLE AXIS UNITS (PROGRAM  Complot
                                    CONTROLLED..X=MILLI-EV, EV, KEV,   Complot
                                    MEV...Y=MILLI-BARNS, BARNS).       Complot
     VERSION 84-1 (APRIL, 1984)    *ADDED SELECTION BY REACTION/ENERGY  Complot
                                    RANGE.                             Complot
                                   *ADDED IDENTIFY DATA POINTS OPTION   Complot
                                    (SMALL BOX DRAWN AROUND EACH CROSS  Complot
                                     SECTION AND RATIO POINT).         Complot
                                   *IMPROVED NON-IBM GRAPHICS INTERFACE Complot
                                    (ALL CHARACTER POSITIONING NOW      Complot
                                     BASED ON CHARACTER, NOT RASTER,   Complot
                                     SIZE).                            Complot
     VERSION 85-1 (APRIL, 1985)    *SPECIAL I/O ROUTINES TO GUARANTEE   Complot
                                    ACCURACY OF ENERGY.                Complot
                                   *DOUBLE PRECISION TREATMENT OF       Complot
                                    ENERGY (REQUIRED FOR NARROW        Complot
                                    RESONANCES).                       Complot
                                   *ADDED (ZA,MT) EQUIVALENCE OPTION.   Complot
                                   *ADDED SMALL PLOT OPTION.            Complot
     VERSION 85-2 (AUGUST, 1985)   *FORTRAN-77/H VERSION               Complot
     VERSION 86-1 (JANUARY, 1986)  *ENERGY DEPENDENT SCATTERING RADIUS  Complot
     VERSION 86-2 (DECEMBER, 1986) *DOUBLE PRECISION PLOT SCALING       Complot
                                    (REQUIRED FOR NARROW ENERGY RANGES) Complot
     VERSION 88-1 (JULY 1988)      *MAJOR REVISION TO MAKE CODE EASILY  Complot
                                    INTERFACEABLE TO ALMOST ANY PLOTTER Complot
                                   *WARNING..INPUT PARAMETERS FROM BEEN Complot
                                    CHANGED (SEE, DESCRIPTION BELOW)   Complot
                                   *COMPUTER INDEPENDENT SOFTWARE       Complot
                                    CHARACTERS.                        Complot
                                   *COLOR PLOTS.                        Complot
                                   *MT NUMBER DEFINITIONS FROM DATA     Complot
                                    FILE READ BY PROGRAM               Complot
                                   *FORTRAN-77 REQUIRED (FORTRAN-H NO   Complot
                                    SUPPORTED BY THIS PROGRAM).        Complot
                                   *OPTION...INTERNALLY DEFINE ALL I/O  Complot
                                    FILE NAMES (SEE, SUBROUTINE FILEIO Complot
                                    FOR DETAILS).                      Complot
                                   *IMPROVED BASED ON USER COMMENTS.    Complot
     VERSION 88-2 (OCTOBER 1988)   *IMPROVED BASED ON USER COMMENTS.    Complot
                                   *ADDED LIVERMORE CIVIC COMPILER      Complot
                                    CONVENTIONS.                       Complot
                                   *UPDATED TO USE NEW PROGRAM CONVERT  Complot
                                    KEYWORDS.                          Complot
     VERSION 89-1 (JANUARY 1989)   *PSYCHOANALYZED BY PROGRAM FREUD TO  Complot
                                    INSURE PROGRAM WILL NOT DO ANYTHING Complot
                                    CRAZY.                             Complot
                                   *FORTRAN-77/FORTRAN-H COMPATIBLE     Complot
                                   *SPECIAL ENDF/B MATERIAL DEFINITIONS Complot
                                    (ZA.LT.1000) FROM DATA FILE READ   Complot
                                    BY PROGRAM.                        Complot
     VERSION 89-2 (MARCH 1989)     *ADDED ENDF/B-V AND VI MT            Complot
                                    DEFINITIONS. PROGRAM WILL DETERMINE Complot
                                    ENDF/B FORMAT BASED ON MF=1,       Complot
                                    MT=451 AND USE AS PPROPRIATE MT    Complot
                                    DEFINITIONS. IF NO MF=1, MT=451    Complot
                                    PROGRAM WILL USE ENDF/B-VI         Complot
                                    MT DEFINITIONS.                    Complot
     VERSION 90-1 (AUGUST 1990)    *A NEW PROGRAM                       Complot
                                   *ADDED INTERACTIVE MOUSE INPUT       Complot
                                   *ADDED 3 CHARACTER FONTS             Complot
                                   *ADDED PHOTON DATA, MF=23 AND 27     Complot
                                   *ADDED FORTRAN SAVE OPTION.          Complot
```

```
                              *ADDED MAXIMUM RATIO RANGE WHEN      Complot
                               PLOTTING RATIOS.                    Complot
                              *ADDED GRID TYPES                    Complot
                              *ADDED VARIABLE LINE THICKNESS       Complot
                              *WARNING...INPUT PARAMETER FORMAT    Complot
                               HAS BEEN CHANGED...SEE DESCRIPTION  Complot
                               BELOW.                              Complot
VERSION 92-1 (JANUARY 1992)   *ADDED INCIDENT CHARGED PARTICLES    Complot
                               (IDENTIFIED IN PLOT TITLES)         Complot
                              *ADDED COMPLETELY COMPATIBLE I/O     Complot
                               FOR READING FLOATING POINT NUMBERS. Complot
VERSION 92-2 (MAY 1992)       *CORRECTED DESCRIPTION OF INPUT      Complot
                               PARAMETERS AND EXAMPLE PROBLEMS.    Complot
                              *ADDED VARIABLE CHARACTER SIZE INPUT Complot
VERSION 93-1 (MARCH 1993)     *UPDATE FOR ON SCREEN GRAPHIC        Complot
                               OUTPUT USING THE LAHEY COMPILER     Complot
                              *ADDED NU-BAR (TOTAL, DELAYED,       Complot
                               PROMPT).                            Complot
VERSION 94-1 (JANUARY 1994)   *VARIABLE ENDF/B DATA FILENAMES      Complot
                               TO ALLOW ACCESS TO FILE STRUCTURES  Complot
                               (WARNING - INPUT PARAMETER FORMAT   Complot
                               HAS BEEN CHANGED)                   Complot
                              *CLOSE ALL FILES BEFORE TERMINATING  Complot
                               (SEE, SUBROUTINE ENDIT)             Complot
VERSION 95-1 (MARCH 1995)     *CORRECTED CROSS SECTION             Complot
                               MULTIPLIER FOR EQUIVALENCES         Complot
                              *CORRECTED RATIO SCALING, FOR        Complot
                               MAXIMUM RATIO LESS THAN 1.0         Complot
VERSION 96-1 (JANUARY 1996)   *COMPLETE RE-WRITE                   Complot
                              *IMPROVED COMPUTER INDEPENDENCE      Complot
                              *ALL DOUBLE PRECISION                Complot
                              *UNIFORM TREATMENT OF ENDF/B I/O     Complot
                              *IMPROVED OUTPUT PRECISION           Complot
                              *DEFINED SCRATCH FILE NAMES          Complot
                              *INCREASED PAGE SIZE FROM 24000      Complot
                               TO 48000 POINTS                     Complot
VERSION 97-1 (APRIL 1997)     *INCREASED PAGE SIZE FROM 48000      Complot
                               TO 480000 POINTS                    Complot
VERSION 99-1 (MARCH 1999)   *CORRECTED CHARACTER TO FLOATING       Complot
                             POINT READ FOR MORE DIGITS            Complot
                            *UPDATED TEST FOR ENDF/B FORMAT        Complot
                             VERSION BASED ON RECENT FORMAT CHANGE Complot
                            *GENERAL IMPROVEMENTS BASED ON         Complot
                             USER FEEDBACK                         Complot
VERS. 2000-1 (FEBRUARY 2000)*GENERAL IMPROVEMENTS BASED ON         Complot
                             USER FEEDBACK                         Complot
VERS. 2002-1 (MAY 2002)     *INPUT PARAMETERS OPTIONAL             Complot
                            *CONTROL MINIMUM RATIO RANGE BY INPUT  Complot
                            *OPTIONAL BLACK OR WHITE BACKGROUND    Complot
VERS. 2004-1 (SEPT. 2004)   *ADDED INCLUDE FOR COMMON               Complot
                            *INCREASED PAGE SIZE FROM 480000       Complot
                             TO 600000 POINTS                      Complot
                            *ADDED NEW REICH-MOORE TO FILE2 TO     Complot
                             ALLOW IDENTIFICATION OF RESOLVED AND  Complot
                             ANY FOLLOWING UNRESOLVED RESONANCE    Complot
                             REGIONS.                              Complot
VERS. 2007-1 (JAN.  2007)   *CHECKED AGAINST ALL ENDF/B-VII.       Complot
                            *INCREASED MAXLOAD TO 600,000 FROM     Complot
                             12,000                                Complot
VERS. 2009-1 (JAN.  2009)   *IGNORED DIFFERENCES NEAR RESONANCE    Complot
                             REGION BOUNDARIES (RESOLVED AND       Complot
                             UNRESOLVED).                          Complot
VERS. 2010-1 (July  2010)   *Allow comparison plot even if there   Complot
                             is no difference (just see data).     Complot
                            *ONLY plot linearly interpoolable data Complot
                            *Include threshold energy points to    Complot
                             show cross sections, but NOT ratios   Complot
                             near threshold.                       Complot
VERS. 2011-1 (Jan.  2011)   *Increased MT.DAT from 200 to 1,000    Complot
                             entries, to accommodate new MTs.      Complot
VERS. 2012-1 (Aug.  2012)   *Increased incident particle list to   Complot
```

```
                          include photon (ZA = 0).              Complot
                         *Added CODENAME                        Complot
                         *32 and 64 bit Compatible              Complot
                         *Added ERROR stop                      Complot
VERS. 2013-1 (Nov. 2013) *ONLY use min/max ratios to decide     Complot
                          whether or not to plot - non-positive Complot
                          cross sections are no longer used.    Complot
                         *Limited per-cent differences to fit   Complot
                          output format = -9999 to +9999 %.     Complot
                         *OUT9 replaced NORMX                   Complot
VERS. 2015-1 (Jan. 2015) *Added MF=10 Radionuclide Production   Complot
                          which requires longer plot titles.    Complot
                         *Restricted character size multiplier  Complot
                          to 0.5 to 1.5 to accommodate longer   Complot
                          plot titles.                          Complot
                         *Replaced ALL 3 way if statements.     Complot
VERS. 2015-2 (Mar. 2015) *Corrected tables for X and Y axis     Complot
                          labels = see change search for 2015-2 Complot
VERS. 2015-3 (Oct. 2015) *Allow multiple LRF=7 regions plus     Complot
                          unreslved region - earlier assumed    Complot
                          LRF=7 never used unrsesolved.         Complot
VERS. 2017-1 (May  2017) *For MF=2 use MT=151 to define         Complot
                          Unresolved Resonance Region (URR).    Complot
                          Ignore NJOY MT=152 and 153.           Complot
                         *All floating input parameters changed Complot
                          to character input + IN9 conversion.  Complot
                         *Added MF=4 Legendre Coefficient       Complot
                          Comparison: f1 through f6             Complot
Vers. 2018-1 (Jan. 2018) *Doubled in core storage to 1,200,000. Complot
                         *Replaced Q MeV by MT= at top of plots Complot
                          (Q value in ENDF is now only defined  Complot
                           in MF=3, making it difficult for all Complot
                           other MF now treated by this code)   Complot
                         *Initial Linear X scaling for MF=1     Complot
                          (nu-bar) and MF=4 (Legendre) =        Complot
                          this can be turned OFF by ZOOM        Complot
                         + Unless energy range is requested =   Complot
                          allows MF=1 and 4 default Linear X    Complot
                          scaling to be turned off by input     Complot
                          parameters, i.e., by COMHARD          Complot
                         *Zoom lower energy limit restricted    Complot
                          1.0d-5 eV - to lower zoom of linear   Complot
                          energy plots (otherwise cannot find   Complot
                          actual lower limit on plot).          Complot
                         *Added NRO = energy dependent scatter  Complot
                          radius to reading FILE2 parameters    Complot
                          to define unresolved energy range.    Complot
                         *Corrected energy dependent scatter    Complot
                          for all resonance types (see, above   Complot
                          remarks).                             Complot
                                                                Complot
2015-2 Acknowledgment                                           Complot
=====================                                           Complot
I thank Chuck Whitmer (TerraPower,WA) for reporting the errors  Complot
that led to the 2015-2 Improvements in this code.               Complot
                                                                Complot
I thank Jean-Christophe Sublet (UKAEA) for contributing MAC     Complot
executables and Bojan Zefran (IJS, Slovenia) for contributing   Complot
LINUX (32 or 63 bit) executables. And most of all I must thank  Complot
Andrej Trkov (NDS, IAEA) for overseeing the entire PREPRO project Complot
at IAEA, Vienna. This was a truly International team who worked Complot
together to produce PREPRO 2015-2.                              Complot
                                                                Complot
OWNED, MAINTAINED AND DISTRIBUTED BY                            Complot
-----------------------------------                             Complot
THE NUCLEAR DATA SECTION                                        Complot
INTERNATIONAL ATOMIC ENERGY AGENCY                              Complot
P.O. BOX 100                                                    Complot
A-1400, VIENNA, AUSTRIA                                         Complot
EUROPE                                                          Complot
                                                                Complot
```

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ORIGINALLY WRITTEN BY                                                  Complot
-------------------------------------                                  Complot
Dermott E. Cullen                                                      Complot
                                                                       Complot
PRESENT CONTACT INFORMATION                                            Complot
---------------------------                                            Complot
Dermott E. Cullen                                                      Complot
1466 Hudson Way                                                        Complot
Livermore, CA 94550                                                    Complot
U.S.A.                                                                 Complot
Telephone  925-443-1911                                                Complot
E. Mail    RedCullen1@Comcast.net                                      Complot
Website    RedCullen1.net/HOMEPAGE.NEW                                 Complot
                                                                       Complot
AUTHORS MESSAGE                                                        Complot
---------------                                                        Complot
THE COMMENTS BELOW SHOULD BE CONSIDERED THE LATEST DOCUMENTATION       Complot
ALL RECENT IMPROVEMENTS. PLEASE READ ALL OF THESE COMMENTS BEFORE,     Complot
PARTICULARLY THE COMMENTS CONCERNING MACHINE DEPENDENT CODING.         Complot
                                                                       Complot
AT THE PRESENT TIME WE ARE ATTEMPTING TO DEVELOP A SET OF COMPUTER     Complot
INDEPENDENT PROGRAMS THAT CAN EASILY BE IMPLEMENTED ON ANY ONE         Complot
OF A WIDE VARIETY OF COMPUTERS. IN ORDER TO ASSIST IN THIS PROJECT     Complot
IT WOULD BE APPECIATED IF YOU WOULD NOTIFY THE AUTHOR OF ANY           Complot
COMPILER DIAGNOSTICS, OPERATING PROBLEMS OR SUGGESTIONS ON HOW TO      Complot
IMPROVE THIS PROGRAM. HOPEFULLY, IN THIS WAY FUTURE VERSIONS OF        Complot
THIS PROGRAM WILL BE COMPLETELY COMPATIBLE FOR USE ON YOUR             Complot
COMPUTER.                                                              Complot
                                                                       Complot
PURPOSE                                                                Complot
-------                                                                Complot
COMPARE ENDF/B FORMATTED DATA FROM TWO SEPARATE INPUT TAPES.           Complot
REACTIONS ARE CONSIDERED TO BE COMPARABLE IF THEY HAVE THE SAME        Complot
(ZA,MF,MT). RESULTS ARE PRESENTED IN GRAPHICAL FORM.                   Complot
                                                                       Complot
IN THE FOLLOWING FOR SIMPLICITY THE ENDF/B TERMINOLOGY--ENDF/B         Complot
TAPE--WILL BE USED. IN FACT THE ACTUAL MEDIUM MAY BE TAPE, CARDS,      Complot
DISK OR ANY OTHER MEDIUM.                                              Complot
                                                                       Complot
ON WHAT COMPUTERS WILL THE PROGRAM RUN                                 Complot
---------------------------------------------------------------------- Complot
THE PROGRAM HAS BEEN IMPLEMENTED ON A VARIETY OF COMPUTERS FROM        Complot
CRAY AND IBM MAINFRAME TO SUN WORKSTATIONS TO AN IBM-AT PC. THE        Complot
PROGRAM IS SMALL ENOUGH TO RUN ON VIRTUALLY ANY COMPUTER.              Complot
                                                                       Complot
THE PROGRAM USES A SIMPLE CALCOMP LIKE GRAPHICS INTERFACE              Complot
(DESCRIBED BELOW) AND ALLOWS THE USER SPECIFY THE PHYSICAL SIZE        Complot
OF THE PLOTTER BEING USED, BY INPUT PARAMETERS. USING THESE            Complot
CONVENTIONS THIS PROGRAM CAN BE EASILY INTERFACED TO VIRTUALLY         Complot
ANY PLOTTER.                                                           Complot
                                                                       Complot
FOR SPECIAL CONSIDERATIONS SEE THE SECTIONS BELOW ON,                  Complot
(1) COMPUTER DEPENDENT CODING                                          Complot
(2) PLOTTER/GRAPHICS TERMINAL INTERFACE                                Complot
                                                                       Complot
GRAPHICS INTERFACE                                                     Complot
---------------------------------------------------------------------- Complot
THIS PROGRAM USES A SIMPLE CALCOMP LIKE GRAPHICS INTERFACE WHICH       Complot
REQUIRES ONLY 3 SUBROUTINES...PLOTS, PLOT AND PEN (DESCRIBED IN        Complot
DETAIL BELOW). ALL CHARACTERS AND SYMBOLS ARE DRAWN USING TABLES       Complot
OF PEN STROKES (SUPPLIED WITH THIS PROGRAM). USING THIS METHOD         Complot
THE PROGRAM SHOULD BE SIMPLE TO INTERFACE TO VIRTUALLY ANY PLOTTER     Complot
OR GRAPHICS TERMINAL AND THE APPEARANCE AND LAYOUT OF THE PLOTS        Complot
SHOULD BE INDEPENDENT OF WHICH PLOTTER IS USED.                        Complot
                                                                       Complot
2015 PLOTTER DIMENSIONS                                                Complot
====================================================================== Complot
PLOTTER DIMENSIONS ARE IN INCHES - NOT CM, MM, OR CUBITS.              Complot
THIS IS DONE FOR HISTORICAL REASONS AND HOPEFULLY THIS WILL            Complot
NOT INCONVENIENCE ANYONE - IN PRACTICE I HAVE USED EXACTLY THE         Complot
SAME DIMENSION = X = 0 to 12.5 and Y = 0 to 10 FOR DECADES             Complot
```

```
TO PRODUCE BOTH ON-SCREEN AND HARDCOPY POSTSCRIPT PLOTS.           Complot
                                                                   Complot
I STRONGLY SUGGEST THAT YOU NOT CHANGE THESE DIMENSIONS UNLESS     Complot
YOU MUST = BASED ON THE PLOT SIZE YOU OBTAIN WHEN YOU FIRST RUN    Complot
THIS CODE.                                                         Complot
                                                                   Complot
PROGRAM IDENTIFICATION                                             Complot
----------------------                                             Complot
AS DISTRIBUTED THE FIRST FRAME OF PLOTTED OUTPUT WILL DOCUMENT     Complot
THE PROGRAM NAME, VERSION AND INSTALLATION. THIS INFORMATION IS    Complot
STORED AS DATA IN THE ARRAY VERSES NEAR THE BEGINNING OF           Complot
SUBROUTINE FRAME1. IF YOU WISH TO CUSTOMIZE THE OUTPUT TO IDENTIFY Complot
YOUR INSTALLATION CHANGE THE LAST TWO LINES OF THE ARRAY (VERSES). Complot
                                                                   Complot
ENDF/B FORMAT                                                      Complot
-------------                                                      Complot
THIS PROGRAM ONLY USES THE ENDF/B BCD OR CARD IMAGE FORMAT (AS     Complot
OPPOSED TO THE BINARY FORMAT) AND CAN HANDLE DATA IN ANY VERSION   Complot
OF THE ENDF/B FORMAT (I.E., ENDF/B-I, II,III, IV, V OR VI FORMAT). Complot
                                                                   Complot
BOTH SETS OF EVALUATED DATA MUST BE IN THE ENDF/B FORMAT. ONLY     Complot
SECTIONS OF FILE 2 (RESONANCE PARAMETERS) AND FILES 3, 23 AND 27   Complot
(TABULATED DATA) WILL BE READ AND ALL OTHER SECTIONS WILL BE       Complot
SKIPPED. IN FILE 2 THE ONLY IMPORTANT INFORMATION IS THE ENERGY    Complot
LIMITS OF THE RESOLVED AND UNRESOLVED RESONANCE REGION WHICH IS    Complot
LOCATED IN THE SAME FIELDS IN ALL VERSIONS OF THE ENDF/B FORMAT.   Complot
SIMILARLY THE FORMAT OF FILES 3, 23 AND 27 IS THE SAME IN ALL      Complot
VERSIONS OF ENDF/B. THEREFORE THIS PROGRAM CAN BE USED WITH DATA   Complot
IN ANY ENDF/B FORMAT (I.E. ENDF/B-I, II, III, IV, V OR VI).        Complot
                                                                   Complot
CROSS SECTION INTERPOLATION                                        Complot
---------------------------                                        Complot
CROSS SECTIONS MUST BE IN EITHER HISTOGRAM (I.E., INTERPOLATION    Complot
LAW 1) OR LINEARLY INTERPOLABLE (I.E. INTERPOLATION LAW 2) FORM.   Complot
IF THEY ARE NOT A WARNING MESSAGE WILL BE PRINTED AND EXECUTION    Complot
WILL BE TERMINATED. SEE INSTRUCTIONS BELOW ON HOW TO CONVERT       Complot
DATA TO HISTOGRAM OR LINEARLY INTERPOLABLE FORM.                   Complot
                                                                   Complot
REACTION INDEX                                                     Complot
--------------                                                     Complot
THIS PROGRAM DOES NOT USE THE REACTION INDEX WHICH IS GIVEN IN     Complot
SECTION MF=1, MT=451 OF EACH EVALUATION.                           Complot
                                                                   Complot
SECTION SIZE                                                       Complot
------------                                                       Complot
SINCE THIS PROGRAM USES A LOGICAL PAGING SYSTEM THERE IS NO LIMIT  Complot
TO THE NUMBER OF POINTS IN ANY SECTION, E.G., THE TOTAL CROSS      Complot
SECTION MAY BE REPRESENTED BY 200,000 DATA POINTS.                 Complot
                                                                   Complot
DATA SELECTION                                                     Complot
--------------                                                     Complot
THE USER MAY SPECIFYING THE DATA TO BE COMPARED BY INPUTTING UP    Complot
TO 100 MAT/MT/ENERGY OR ZA/MT/ENERGY RANGES. IF THE UPPER LIMIT    Complot
OF THE MAT OR ZA RANGE IS LESS THAN THE LOWER LIMIT IT WILL BE SET Complot
EQUAL TO THE LOWER LIMIT (I.E. THIS INDICATE ONLY COMPARE ONE      Complot
MAT OR ZA). IF THE UPPER LIMIT IS STILL ZERO IT WILL BE SET TO     Complot
9999 (NO LIMIT). IF THE UPPER MF OR MT LIMIT IS ZERO IT WILL BE    Complot
SET TO 99 OR 999, RESPECTIVELY (NO LIMIT). IF THE UPPER ENERGY     Complot
LIMIT IS ZERO IT WILL BE SET TO A LARGE NUMBER (NO LIMIT).         Complot
                                                                   Complot
THE LIST OF RANGES MUST BE TERMINATED BY A BLANK LINE (I.E. ZERO   Complot
LOWER AND UPPER MAT/MF/MT OR ZA/MF/MT LIMITS).                     Complot
                                                                   Complot
IF THE FIRST RANGE LINE IS BLANK THIS LINE WILL TERMINATE THE      Complot
LIST OF REQUESTS (I.E. A SECOND BLANK LINE NEED NOT BE INPUT)      Complot
AND ALL PHYSICALLY COMPARABLE DATA WILL BE PLOTTED.                Complot
                                                                   Complot
WHICH REACTIONS WILL BE PLOTTED                                    Complot
-------------------------------                                    Complot
THOSE REACTIONS WITH THE SAME (ZA, MF, MT) WILL BE COMPARED, BUT   Complot
ONLY THOSE DATA WHICH DIFFER BY A USER SPECIFIED ALLOWABLE         Complot
```

DIFFERENCE WILL BE PLOTTED. IN ORDER TO FORCE ALL COMPARABLE REACTIONS TO BE PLOTTED THE USER NEED ONLY SPECIFY AN ALLOWABLE DIFFERENCE OF ZERO.

EQUIVALENT REACTIONS

IN ORDER TO COMPARE REACTIONS WHICH HAVE DIFFERENT ZA, MF OR MT THE USER IS ALLOWED TO SPECIFY AN EQUIVALENCE LIST OF UP TO 100 (ZA,MF,MT) COMBINATIONS ON THE MASTER FILE WHICH ARE TO BE EQUATED TO DIFFERENT (ZA,MF,MT) ON THE SECOND FILE. THIS OPTION MAY BE USED TO COMPARE SIMILAR REACTIONS FROM DIFFERENT MATERIALS (E.G. IRON AND NICKEL INELASTIC SCATTERING) OR DIFFERENT REACTIONS FROM THE SAME OR DIFFERENT MATERIALS (E.G. U-235 CAPTURE AND FISSION - IN WHICH CASE THE RATIO WILL BE THE CAPTURE TO FISSION RATIO) OR THE SAME REACTION IN DIFFERENT VERSIONS OF THE ENDF/B FORMAT WHICH MAY BE ASSIGNED DIFFERENT MT NUMBERS, E.G., THE PHOTOELECTRIC CROSS SECTION IS MT=602 IN ENDF/B-V AND EARLIER VERSIONS OF ENDF/B, BUT IS MT=522 IN ENDF/B-VI.

IN THESE EQUIVALENCE LISTS A ZERO FIELD IMPLIES ALL. FOR EXAMPLE, TO EQUATE MT=522 FROM ONE FILE TO MT=602 ON THE OTHER, FOR ALL MATERIALS, ONE NEED ONLY SPECIFY ZA=0, MF=23, MT=522 EQUIVALENT TO ZA=0, MF=23 AND MT=602.

PLOT FORMATS

THE TWO CROSS SECTIONS ARE CONSIDERED TO BE A STANDARD (THE FIRST CROSS SECTION) AND A CROSS SECTION TO BE COMPARED TO THE STANDARD (THE SECOND CROSS SECTION). THE OUTPUT FROM THIS PROGRAM IS A SERIES OF PLOTS. EACH PLOT WILL CONTAIN THE STANDARD CROSS SECTION AND IN ADDITION THE USER MAY SPECIFY THAT EACH PLOT ALSO CONTAIN THE SECOND CROSS SECTION AND/OR THE RATIO OF THE SECOND CROSS SECTION TO THE FIRST CROSS SECTION.

THE USER MAY SELECT ONE OF THE FOLLOWING FIVE PLOT FORMATS (THE NUMBER PRECEDING THE OPTION IS THE VALUE OF THE PLOT MODE SELECTOR THAT THE USER SHOULD SPECIFY AS INPUT ON THE FIRST LINE).

(0) THE STANDARD CROSS SECTION (I.E. FIRST EVALUATION) AND THE RATIO OF THE SECOND EVALUATION TO THE FIRST EVALUATION. THE DATA WILL BE PRESENETED AS TWO SUB-PLOTS PER PLOT WITH THE STANDARD CROSS SECTION IN THE UPPER HALF OF THE PLOT AND THE RATIO IN THE LOWER HALF OF THE PLOT.

(1) THE STANDARD CROSS SECTION (I.E. FIRST EVALUATION) AND THE SECOND EVALUATION. THE DATA WILL BE PRESENTED AS TWO SUB-PLOTS PER PLOT WITH THE STANDARD CROSS SECTION ON THE UPPER HALF OF THE PLOT AND THE SECOND CROSS SECTION IN THE LOWER HALF OF THE PLOT.

(2) THE STANDARD CROSS SECTION (I.E. FIRST EVALUATION) AND THE SECOND EVALUATION. THE DATA WILL BE PRESENTED AS ONE PLOT CONTAINING BOTH THE STANDARD AND SECOND CROSS SECTION. THE STANDARD CROSS SECTION WILL BE PRESENTED AS A SOLID LINE AND THE SECOND CROSS SECTION WILL BE PRESENTED AS A DASHED LINE.

(3) THE STANDARD CROSS SECTION, SECOND CROSS SECTION AND RATIO OF THE SECOND CROSS SECTION TO THE FIRST CROSS SECTION. THE DATA WILL BE PRESENTED AS THREE SUB-PLOTS PER PLOT WITH THE STANDARD CROSS SECTION IN THE UPPER THIRD OF THE PLOT, THE SECOND CROSS SECTION IN THE MIDDLE THIRD AND THE RATIO OF THE TWO IN THE LOWER THIRD OF THE PLOT (RECOMMENDED OPTION).

(4) THE STANDARD CROSS SECTION, SECOND CROSS SECTION AND RATIO OF THE SECOND CROSS SECTION TO THE FIRST CROSS SECTION. THE DATA WILL BE PRESENTED AS TWO SUB-PLOTS PER PLOT WITH THE STANDARD AND SECOND CROSS SECTION ON THE SAME SUB-PLOT IN THE UPPER TWO THIRDS OF THE PLOT AND THE RATIO OF THE TWO IN THE LOWER THIRD OF THE PLOT. THE STANDARD CROSS SECTION WILL BE PRESENTED AS A SOLID LINE AND THE SECOND CROSS SECTION WILL BE PRESENTED AS A DASHED LINE.

Complot

ADDITIONAL PLOT FEATURES

IN ADDITION TO THE CROSS SECTIONS AND/OR RATIO THE FOLLOWING INFORMATIONS WILL BE INCLUDED ON EACH PLOT.

(1) AN IDENTIFICATION FOR EACH SET OF CROSS SECTIONS (UP TO 30 CHARACTERS FOR EACH SET).

(2) THE MAXIMUM NEGATIVE AND POSITIVE PER-CENT DIFFERENCE BETWEEN THE TWO CROSS SECTIONS.

(3) ARROWS INDICATING THE ENERGY AT WHICH THE MAXIMUM DIFFERENCES (MINIMUM AND MAXIMUM RATIO) OCCUR.

(4) THE ENERGY LIMITS OF THE RESOLVED AND UNRESOLVED RESONANCE REGION (IF THEY FALL WITHIN THE ENERGY LIMITS OF THE PLOT).

RATIO DATA

IF RATIO OUTPUT IS REQUESTED THE RATIO WILL BE DEFINED AT EACH ENERGY THAT APPEARS IN EITHER EVALUATION. BETWEEN THESE ENERGIES THE RATIO WILL BE PLOTTED ASSUMING LINEAR DEPENDENCE BETWEEN TABULATED VALUES. FOR HISTOGRAM OR LINEARLY INTERPOLABLE CROSS SECTIONS THIS REPRESENTATION WILL POINT OUT ALL EXTREMA OF THE RATIO, BUT NOT NECESSARILY THE ENERGY DEPENDENCE BETWEEN TABULATED VALUES.

IF THE EVALUATED DATA IS NOT IN EITHER HISTOGRAM OR LINRARLY INTERPOLABLE FORM THE RATIO MAY NOT EVEN FIND ALL EXTREMA. FOR EXAMPLE, IF ONE EVALUATION IS LINEARLY INTERPOLABLE AND THE OTHER NON-LINEAR, BUT BOTH AGREE AT ALL TABULATED ENERGIES THE RATIO WILL APPEAR TO BE EQUAL TO UNITY AT ALL ENERGIES, BUT IN FACT THE CROSS SECTION BETWEEN TABULATED ENERGIES MAY BE QUITE DIFFERENT USING LINEAR VS. NON-LINEAR INTERPOLATION. FOR THIS REASON ONLY LINEARLY INTERPOLABLE OR HISTOGRAM DATA IS ALLOWED AS INPUT TO THIS PROGRAM.

LINEAR INTERPOLABLE

ALL CROSS SECTIONS MAY BE CONVERTED TO LINEARLY INTERPOLABLE FORM BE USING PROGRAM LINEAR (UCRL-50400, VOL. 17, PART A).

HISTOGRAM

ALL LINEARLY INTERPOLABLE CROSS SECTION MAY BE CONVERTED TO HISTOGRAM (I.E. MULTIGROUP) FORM BY USING PROGRAM GROUPIE (UCRL-50400, VOL. 17, PART D).

INPUT UNITS

UNIT	DESCRIPTION
2	INPUT LINE
9	MT DEFINITIONS.
10	FIRST ENDF/B FORMATTED EVALUATION (STANDARD).
11	SECOND ENDF/B FORMATTED EVALUATION.
17	SOFTWARE CHARACTERS.
18	SOFTWARE SYMBOLS AND LINE TYPES

OUTPUT UNITS

UNIT	DESCRIPTION
3	NORMAL OUTPUT REPORT.
16	PLOTTER UNIT

SCRATCH UNITS

UNIT	DESCRIPTION

```
 12   SCRATCH UNIT FOR FIRST EVALUATION                                Complot
 13   SCRATCH UNIT FOR SECOND EVALUATION                               Complot
 14   SCRATCH UNIT FOR RATIO (ONLY USED IF RATIOS REQUESTED).          Complot
                                                                       Complot
OPTIONAL STANDARD FILE NAMES (SEE SUBROUTINE FILIO1 AND FILIO2)        Complot
---------------------------------------------------------------        Complot
UNIT  FILE NAME                                                        Complot
----  ----------                                                       Complot
  2   COMPLOT.INP                                                      Complot
  3   COMPLOT.LST                                                      Complot
  9   MT.DAT                                                           Complot
 10   ENDFB.IN1    (OR AS READ FROM INPUT)                             Complot
 11   ENDFB.IN2    (OR AS READ FROM INPUT)                             Complot
12-14 (SCRATCH)                                                        Complot
 15   PLOT.CHR                                                         Complot
 16   (PLOTTER UNIT...USUALLY A DUMMY)                                 Complot
                                                                       Complot
INPUT PARAMETERS                                                       Complot
---------------------------------------------------------------------- Complot
LINE  COLUMNS  FORMAT  DESCRIPTION                                     Complot
----  -------  ------  -----------                                     Complot
  1     1-11    E11.4  LOWER X LIMIT OF PLOTTER                       Complot
       12-22    E11.4  UPPER X LIMIT OF PLOTTER                       Complot
       23-33    E11.4  LOWER Y LIMIT OF PLOTTER                       Complot
       34-44    E11.4  UPPER Y LIMIT OF PLOTTER                       Complot
       45-55     I11   NUMBER OF PLOTS PER FRAME IN X DIRECTION       Complot
       56-66     I11   NUMBER OF PLOTS PER FRAME IN Y DIRECTION       Complot
       67-70     F4.1  CHARACTER SIZE MULTIPLIER                      Complot
                       = 0 TO 1    - NORMAL CHARACTER SIZE            Complot
                       = OTHERWISE - CHARACTERS SCALED BY THIS        Complot
                                     FACTOR                           Complot
                                                                      Complot
                       PLOT ORIENTATION IS BASED ON THE UPPER X       Complot
                       LIMIT                                          Complot
                       = .GT.0 - X HORIZONTAL/Y VERTICAL              Complot
                       = .LT.0 - Y HORIZONTAL/X VERTICAL              Complot
                       AFTER TESTING THE UPPER X LIMIT WILL BE        Complot
                       SET TO ITS ABSOLUTE VALUE.                     Complot
  2     1-72     A72   FILENAME FOR FIRST ENDF/B DATA FILE            Complot
                       (LEAVE BLANK FOR ENDFB.IN1)                    Complot
  3     1-72     A72   FILENAME FOR SECOND ENDF/B DATA FILE           Complot
                       (LEAVE BLANK FOR ENDFB.IN2)                    Complot
  4     1-11     I11   RETRIEVAL MODE (0=MAT, 1=ZA)                   Complot
       12-22     I11   GRID (SPEED) OPTION.                           Complot
                       = 0 - TICK MARKS ON BORDER                     Complot
                       = 1 - SOLID AT COARSE INTERVALS                Complot
                       = 2 - DASHED AT COARSE INTERVALS               Complot
                       = 3 - SOLID AT COARSE AND FINE INTERVALS       Complot
                       = 4 - DASHED AT COARSE AND FINE INTERVALS      Complot
                       = 5 - SOLID COARSE/DASHED FINE INTERVALS       Complot
       23-33     I11   SHOULD BORDER BE PLOTTED AROUND EACH PLOT      Complot
                       = 0 - NO                                       Complot
                       = 1 - YES                                      Complot
       34-44     I11   LINE THICKNESS                                 Complot
                       = 0 TO  5 - LINES AND CHARACTERS               Complot
                       =-1 TO -5 - ONLY LINES                         Complot
       45-55     I11   OUTPUT MODE                                    Complot
                       =-1 - ONLY COMPARISON LISTING. NO PLOTS.       Complot
                       = 0 - CROSS SECTION OVER RATIO.                Complot
                       = 1 - CROSS SECTION OVER CROSS SECTION.        Complot
                       = 2 - TWO CROSS SECTIONS ON SAME PLOT.         Complot
                       = 3 - CROSS SECTION OVER CROSS SECTION OVER    Complot
                             RATIO.                                   Complot
                       = 4 - TWO CROSS SECTIONS ON SAME PLOT OVER     Complot
                             RATIO.                                   Complot
       56-66     I11   STARTING PLOT NUMBER                           Complot
                       = 0     - DO NOT NUMBER PLOTS                  Complot
                       = .GT.0 - NUMBER PLOTS IN LOWER LEFT HAND      Complot
                                 CORNER STARTING WITH INPUT NUMBER    Complot
       67-70     I41   BACKGROUND COLOR                               Complot
                       = 0         = BLACK                            Complot
```

```
                         = OTHERWISE = WHITE                       Complot
   5     1-11    E11.4   ALLOWABLE FRACTIONAL DIFFERENCE. USED WHEN  Complot
                         PLOTTING RATIOS. ANY REACTION WHERE THE   Complot
                         TWO EVALUATIONS DIFFER BY MORE THAN THE   Complot
                         ALLOWABLE DIFFERENCE WILL BE PLOTTED. IF  Complot
                         ZERO IS INPUT THE STANDARD ALLOWABLE      Complot
                         DIFFERENCE OF 0.001 (0.1 PER-CENT) WILL BE  Complot
                         USED.                                     Complot
        12-22    E11.4   MAXIMUM ALLOWABLE RATIO. IF RATIOS ARE    Complot
                         PLOTTED THEY WILL BE IN THE RANGE RATMAX  Complot
                         TO 1/RATMAX. IF 0.0 IS INPUT THERE WILL   Complot
                         BE NO LIMIT ON THE RANGE OF THE RATIOS.   Complot
                         THIS OPTION MAY BE USED TO IGNORE LARGE   Complot
                         DIFFERENCES OVER VERY NARROW ENERGY RANGES  Complot
                         (WHICH MAY BE UNIMPORTANT) AND ALLOW ONE  Complot
                         TO SEE IMPORTANT, BUT SMALLER DIFFERENCES,  Complot
                         OVER EXTENDED ENERGY RANGES.              Complot
   6     1-40     40A1   IDENTIFICATION FOR UPPER EVALUATIONS      Complot
   7     1-40     40A1   IDENTIFICATION FOR LOWER EVALUATIONS      Complot
                         (IDENTIFICATIONS SHOULD BE LEFT ADJUSTED  Complot
                         TO START IN COLUMN 1).                    Complot
 8-N     1- 6      I6    LOWER MAT OR ZA LIMIT (SEE SELECTION MODE,  Complot
                         INPUT LINE 1, COLUMNS 1-11).              Complot
         7- 8      I2    LOWER MF LIMIT                            Complot
         9-11      I3    LOWER MT LIMIT                            Complot
        12-22    E11.4   LOWER ENERGY LIMIT                        Complot
        23-28      I6    UPPER MAT OR ZA LIMIT (SEE SELECTION MODE,  Complot
                         INPUT LINE 1, COLUMNS 1-11).              Complot
        29-30      I2    UPPER MF LIMIT                            Complot
        31-33      I3    UPPER MT LIMIT                            Complot
        34-44    E11.4   UPPER ENERGY LIMIT                        Complot
        45-55     I11    IDENTIFY EVALUATED DATA POINTS OPTION.    Complot
                         = 0 - DO NOT IDENTIFY DATA POINTS.        Complot
                         = 1 - IDENTIFY DATA POINTS (BY DRAWING A  Complot
                               SMALL BOX AROUND EACH POINT).       Complot
        56-66     I11    INTERACTIVE INPUT FLAG                    Complot
                         = 0 - NO INTERACTIVE INPUT ALLOWED        Complot
                         = 1 - INTERACTIVE INPUT ALLOWED           Complot
                        *SETTING THIS OPTION =1 WILL TURN ON THE   Complot
                         MOUSE AFTER EACH PLOT AND ALLOW YOU TO    Complot
                         INTERACTIVELY SPECIFY PLOT LIMITS.        Complot
                        *IF YOU DO NOT WISH TO INTERACT WITH A PLOT  Complot
                         OR IF YOU HAVE NO INTERACTIVE CAPABILITY  Complot
                         THIS OPTION SHOULD BE SET = 0.            Complot
                                                                   Complot
                        *WARNING...DATA POINTS IDENTIFIED OPTION IS  Complot
                         NOT RECOMMENDED FOR PLOTS CONTAINING MANY  Complot
                         (I.E. THOUSANDS) OF DATA POINTS SINCE IT  Complot
                         WILL MERELY INCREASE THE RUNNING TIME OF  Complot
                         THE PROGRAM AND STILL NOT ALLOW ONE TO    Complot
                         ACCURATELY SEE DATA POINTS.               Complot
                                                                   Complot
                        *UP TO 100 MAT OR ZA RANGES ARE ALLOWED.   Complot
                         THE LIST IS TERMINATED BY A BLANK LINE.   Complot
                         IF THE UPPER LIMIT IS LESS THAN THE LOWER  Complot
                         LIMIT IT WILL BE SET EQUAL TO THE LOWER   Complot
                         LIMIT. IF THE FIRST RANGE LINE IS BLANK   Complot
                         ALL DATA WILL BE RETRIEVED. IF THE UPPER  Complot
                         MT LIMIT IS ZERO IT WILL BE SET EQUAL TO  Complot
                         999 (NO LIMIT). IF THE UPPER ENERGY LIMIT  Complot
                         IS ZERO IT WILL BE INTREPRETED TO MEAN NO  Complot
                         LIMIT. IF THE FIRST RANGE LINE SPECIFIES  Complot
                         ZERO LOWER AND UPPER MAT OR ZA RANGE IT   Complot
                         WILL TERMINATE THE LIST BE RANGE LINES    Complot
                         (A SECOND BLANK LINE NEED NOT BE INPUT)   Complot
                         AND THE ENTIRE RANGE OF MATS WILL BE      Complot
                         COMPARED FOR THE SPECIFIED MT AND ENERGY  Complot
                         RANGES.                                   Complot
                                                                   Complot
N+1-M                    EQUIVALENCES                              Complot
         1- 6      I6    MASTER ZA.                                Complot
```

```
 7- 8      I2   MASTER MF.                                          Complot
 9-11      I3   MASTER MT.                                          Complot
12-17      I6   EQUIVALENT ZA FROM SECOND FILE.                     Complot
18-19      I2   EQUIVALENT MF FROM SECOND FILE.                     Complot
20-22      I3   EQUIVALENT MT FROM SECOND FILE.                     Complot
23-33    E11.4  MULTIPLICATION FACTOR. ANY EQUATED ZA,MF,           Complot
                MT DATA WILL BE MULTIPLIED BY THIS FACTOR.          Complot
               *THIS OPTION MAY BE USED TO RE-NORMALIZE             Complot
                THE SECOND CROSS SECTION OR IF COMPARING            Complot
                ONE CONSTITUENT OF A MIXTURE TO THE MIXED           Complot
                CROSS SECTION THIS MAY BE USED TO CONVERT           Complot
                THE SECOND CROSS SECTION TO BARNS PER MIXED         Complot
                ATOM BY USING A MULTIPLICATION FACTOR WHICH         Complot
                IS EQUAL TO THE NUMBER OF ATOMS OF THE ONE          Complot
                CONSTITUENT PER ATOM OF THE MIXTURE.                Complot
                = 0.0 - ON INPUT WILL BE INTERPRETED AS 1.0         Complot
                (WITH THIS CONVENTION THE USER NEED ONLY            Complot
                INPUT MULTIPLICATION FACTORS IF THEY ARE            Complot
                NOT 1.0).                                           Complot
               *UP TO 100 MAT OR ZA EQUIVALENCES ARE                Complot
                ALLOWED.                                            Complot
               *THE LIST IS TERMINATED BY A BLANK LINE.             Complot
               *A ZERO INPUT FIELD IMPLIES ALL. TO EQUATE           Complot
                A GIVEN MT NUMBER TO ANOTHER MT NUMBER YOU          Complot
                NEED MERELY SPECIFY ZA=0 ON INPUT.                  Complot
               *NOTE, IN ALL CASES THE TITLE AT TOP OF PLOT         Complot
                WILL ONLY INDENTIFY MASTER (ZA,MF,MT). THE          Complot
                USER INPUT TITLES MUST BE USED TO IDENTIFY          Complot
                THE SECOND REACTION (SEE, EXAMPLE INPUT 4           Complot
                BELOW).                                             Complot
                                                                    Complot
EXAMPLE DEFINITION OF PLOTTER                                       Complot
----------------------------                                        Complot
2015 - WARNING - THE FOLLOWING DESCRIPTION IS OUT-OF-DATE.          Complot
TODAY THE DIMENSIONS OF THE PLOTTER ARE IN INCHES.                  Complot
                                                                    Complot
THE FIRST INPUT LINE DEFINES THE DIMENSIONS OF THE PLOTTER BEING    Complot
USED IN ANY UNITS (INCHES, CENTIMETERS, MILLIMETERS, ANYTHING)      Complot
WHICH APPLY TO THE PLOTTER. IN ADDITION THE FIRST LINE DEFINES      Complot
HOW MANY PLOTS SHOULD APPEAR ON EACH FRAME. THE PLOTTING AREA       Complot
DEFINED ON THE FIRST INPUT LINE MAY BE SUBDIVIDED INTO ANY NUMBER   Complot
OF PLOTS IN THE X AND Y DIRECTION. FOR EXAMPLE, TO PRODUCE A        Complot
SERIES OF FRAMES EACH CONTAINING 3 PLOTS IN THE X DIRECTION AND     Complot
2 PLOTS IN THE Y DIRECTION (6 PLOTS PER FRAME) COLUMN 45-55 OF      Complot
THE FIRST INPUT LINE SHOULD BE 3 AND COLUMNS 56-66 SHOULD BE 2.     Complot
                                                                    Complot
IF THE LOCAL PLOTTER USES DIMENSIONS OF INCHES IN ORDER TO OBTAIN   Complot
10 X 10 INCH FRAMES WITH 3 X 2 PLOTS PER FRAME THE FIRST INPUT      Complot
LINE SHOULD BE,                                                     Complot
                                                                    Complot
  0.0       10.0      0.0     10.0              3          2        Complot
                                                                    Complot
IF THE LOCAL PLOTTER USES DIMENSION OF MILLIMETERS THE SAME         Complot
PHYSICAL SIZE PLOT MAY BE OBTAINED IF THE FIRST INPUT LINE IS,      Complot
                                                                    Complot
  0.0      254.0      0.0    254.0              3          2        Complot
                                                                    Complot
FOR SIMPLICITY THE FOLLOWING EXAMPLE INPUTS WILL NOT DISCUSS THE    Complot
PHYSICAL DIMENSIONS OF THE PLOTTER AND THE FIRST INPUT LINE WILL    Complot
IN ALL CASES INDICATE 10 X 10 INCH PLOTS WITH ONLY 1 PLOT PER       Complot
FRAME.                                                              Complot
                                                                    Complot
IN THE FOLLOWING EXAMPLES IN ALL CASES THESE OPTIONS WILL BE USED,  Complot
1) DASHED GRID       - COLUMNS 12-22 OF SECOND INPUT LINE =  1      Complot
2) NO BORDER         - COLUMNS 23-33 OF SECOND INPUT LINE =  0      Complot
3) LINE THICKNESS    - COLUMNS 34-44 OF SECOND INPUT LINE = -2      Complot
4) OUTPUT MODE       - COLUMNS 45-55 OF SECOND INPUT LINE =  3      Complot
5) FIRST PLOT NUMBER - COLUMNS 56-66 OF SECOND INPUT LINE =  1      Complot
                                                                    Complot
EXAMPLE INPUT 1                                                     Complot
---------------                                                     Complot
```

```
   RETRIEVE MATS 1023, 1056 AND 1065 THROUGH 1072, MT = 1 AND 2       Complot
   (TOTAL AND ELASTIC) FROM THE FIRST INPUT FILE AND COMPARE TO       Complot
   ANY SECTION FROM THE SECOND FILE THAT HAS THE SAME ZA/MF/MT. ONLY  Complot
   COMPARE DATA OVER THE ENERGY RANGE 0.1 EV TO 1 KEV. IDENTIFY       Complot
   THE TWO SETS OF DATA AS ENDF/B-V AND ENDF/B-IV, RESPECTIVELY.      Complot
   ONLY PLOT THOSE REACTIONS WHICH DIFFER AT ONE OR MORE ENERGIES     Complot
   BY MORE THAN 1 PER-CENT (NOTE, 1 PER-CENT = 0.01 AS INPUT          Complot
   FRACTION). NO EQUIVALENT REACTIONS ARE SPECIFIED. FILERNAMES       Complot
   ARE STANDARD (THSE CAN EITHER BE EXPLICITLY INCLUDED, OR SIMPLY    Complot
   LEFT BLANK).                                                       Complot
                                                                      Complot
   THE FOLLOWING 12 INPUT LINES ARE REQUIRED.                         Complot
                                                                      Complot
      0.0       10.0      0.0     10.0              3          2      Complot
 ENDFB.IN1                                                            Complot
 ENDFB.IN2                                                            Complot
        0          1        0       -2              3          1      Complot
     0.01        0.0                                                  Complot
 ENDF/B-V DATA (STANDARD)                                             Complot
 ENDF/B-IV DATA                                                       Complot
 1023 3  1 0.1            3  2 1000.0               0                Complot
 1056 3  1 0.1            3  2 1000.0               0                Complot
 1065 3  1 0.1       1072 3  2 1000.0               0                Complot
                                    (TERMINATES REQUEST LIST)         Complot
                                    (TERMINATES EQUIVALENCE LIST)     Complot
                                                                      Complot
   EXAMPLE INPUT 2                                                    Complot
   ---------------                                                    Complot
   TO USE ALL OF THE SAME OPTIONS AS SPECIFIED IN EXAMPLE INPUT 1,    Complot
   EXCEPT TO RETRIEVE U-235, U-238 AND PU-239 THROUGH PU-242 THE      Complot
   FOLLOWING 12 INPUT LINES ARE REQUIRED.                             Complot
                                                                      Complot
      0.0       10.0      0.0     10.0              3          2      Complot
 ENDFB.IN1                                                            Complot
 ENDFB.IN2                                                            Complot
        1          1        0       -2              3          1      Complot
     0.01        0.0                                                  Complot
 ENDF/B-V DATA (STANDARD)                                             Complot
 ENDF/B-IV DATA                                                       Complot
92235 3  1 0.1            3  2 1000.0               0                Complot
92238 3  1 0.1            3  2 1000.0               0                Complot
94239 3  1 0.1      94242 3  2 1000.0               0                Complot
                                    (TERMINATES REQUEST LIST)         Complot
                                    (TERMINATES EQUIVALENCE LIST)     Complot
   EXAMPLE INPUT 3                                                    Complot
   ---------------                                                    Complot
   TO USE ALL OF THE SAME OPTIONS AS SPECIFIED IN EXAMPLE INPUT 1,    Complot
   EXCEPT TO RETRIEVE AND COMPARE ALL MATS THE FOLLOWING 10 INPUT     Complot
   LINES ARE REQUIRED.                                                Complot
                                                                      Complot
      0.0       10.0      0.0     10.0              3          2      Complot
 ENDFB.IN1                                                            Complot
 ENDFB.IN2                                                            Complot
       0          1        0       -2              3          1      Complot
    0.01        0.0                                                   Complot
ENDF/B-V DATA (STANDARD)                                              Complot
ENDF/B-IV DATA                                                        Complot
   1 1  1 0.0       999999999 0.0                0                   Complot
                                    (TERMINATES REQUEST LIST)         Complot
                                    (TERMINATES EQUIVALENCE LIST)     Complot
                                     NOTE, ZERO LOWER AND UPPER       Complot
                                     MAT LIMITS INDICATES NO LIMIT.   Complot
                                                                      Complot
   EXAMPLE INPUT 4                                                    Complot
   ---------------                                                    Complot
   RETRIEVE U-235 AND EQUATE THE FISSION CROSS SECTION (MT=18) ON     Complot
   THE MASTER FILE TO CAPTURE (MT=102) ON THE SECOND FILE. PLOT       Complot
   THE CAPTURE, FISSION AND CAPTURE TO FISSION RATIO OVER THE ENERGY  Complot
   RANGE 0.0253 EV TO 1 KEV. THE FOLLOWING 11 INPUT LINES ARE         Complot
   REQUIRED.                                                          Complot
                                                                      Complot
```

```
      0.0       10.0      0.0     10.0              3          2      Complot
 ENDFB.IN1                                                            Complot
 ENDFB.IN2                                                            Complot
        1          1        0       -2              3          1      Complot
     0.01        0.0                                                  Complot
 FISSION                                                              Complot
 CAPTURE                                                              Complot
92235 3 18 0.0253   92235 3 18 1000.0                0                Complot
                                    (TERMINATES REQUEST LIST)         Complot
92235 3 18 92235 3102               (MULTIPLICATION OF 1.0 INFERRED)  Complot
                                    (TERMINATES EQUIVALENCE LIST)     Complot
                                                                      Complot
    EXAMPLE INPUT 5                                                   Complot
    ---------------                                                   Complot
    IN DIFFERENT VERSIONS OF THE ENDF/B FORMAT DIFFERENT MT NUMBERS    Complot
    ARE ASSIGNED TO THE SAME REACTION. FOR EXAMPLE, IN ENDF/B-V AND    Complot
    EARLIER VERSIONS OF ENDF/B THE PHOTOELECTRIC CROSS SECTION IS      Complot
    MT=602, WHILE IN ENDF/B-VI IT IS MT=522. IN ORDER TO COMPARE       Complot
    ASSUMING THAT THE MASTER IS ENDF/B-VI AND THE OTHER ENDF/B FILE    Complot
    IS ENDF/B-V (OR EARLIER) YOU MAY EQUATE MT=522 TO 602.             Complot
                                                                       Complot
    WHEN COMPARING PHOTOELECTRIC CROSS SECTIONS WE EXPECT THERE TO BE  Complot
    LARGE DIFFERENCES NEAR EDGES, SINCE IT IS UNLIKELY THAT TWO        Complot
    INDEPENDENT EVALUATIONS USE EXACTLY THE SAME EDGE ENERGIES. FROM   Complot
    A PRACTICAL VIEWPOINT THESE DIFFERENCES ARE NOT IMPORTANT IF THEY  Complot
    ONLY OCCUR OVER NARROW ENERGY RANGES NEAR ENERGIES. HOWEVER THESE  Complot
    LARGE DIFFERENCES MAY MAKE IT DIFFICULT TO SEE DIFFERENCES OVER    Complot
    OTHER ENERGY RANGES, WHICH MAY BE IMPORTANT. IN ORDER TO BE ABLE   Complot
    TO SEE IMPORTANT DIFFERENCES IN THE FOLLOWING COMPARISON WE WILL   Complot
    CONSTRAIN THE PLOTTED RATIO TO THE RANGE ABOUT 0.9 TO 1.1 IN       Complot
    ORDER TO BE ABLE TO SEE DIFFERENCES OF UP TO 10 PER-CENT. WE WILL  Complot
    DO THIS BY SPECIFYING A MAXIMUM RATIO OF 1.1, WHICH WILL IN TURN   Complot
    DEFINE A MINIMUM RATIO OF 1/1.1, OR ABOUT 0.9.                     Complot
                                                                       Complot
    IN ORDER TO COMPARE THE PHOTOELECTRIC CROSS SECTION FOR ALL        Complot
    MATERIALS THE FOLLOWING 11 INPUT LINES ARE REQUIRED.               Complot
                                                                       Complot
      0.0       10.0      0.0     10.0              3          2      Complot
 ENDFB.IN1                                                            Complot
 ENDFB.IN2                                                            Complot
        0          1        0       -2              3          1      Complot
     0.01        1.1                                                  Complot
ENDF/B-VI                                                             Complot
ENDF/B-V                                                              Complot
   023522           999923522                      0                 Complot
                                    (TERMINATES REQUEST LIST)         Complot
   023522     023602                (MULTIPLICATION OF 1.0 INFERRED)  Complot
                                    (TERMINATES EQUIVALENCE LIST)     Complot
                                                                      Complot
    EXAMPLE INPUT 6                                                   Complot
    ---------------                                                   Complot
    THE SAME EXAMPLE AS ABOVE, EXCEPT THAT DIFFERENT FILENAMES WILL    Complot
    BE USED TO READ THE DATA FROM A FILE TREE STRUCTURE. THE FOLLOWING Complot
    11 INPUT LINES ARE REQUIRED.                                      Complot
                                                                      Complot
      0.0       10.0      0.0     10.0              3          2      Complot
 /Evaluated/ENDFB6/PHOTON.IN                                          Complot
 /Evaluated/ENDFB5/PHOTON.IN                                          Complot
        0          1        0       -2              3          1      Complot
     0.01        1.1                                                  Complot
ENDF/B-VI                                                             Complot
ENDF/B-V                                                              Complot
   023522           999923522                      0                 Complot
                                    (TERMINATES REQUEST LIST)         Complot
   023522     023602                (MULTIPLICATION OF 1.0 INFERRED)  Complot
                                    (TERMINATES EQUIVALENCE LIST)     Complot
                                                                      Complot
    EXAMPLE INPUT 7                                                   Complot
    ---------------                                                   Complot
    THE OUTPUT FOR ALL OF THE ABOVE EXAMPLES ARE ORIENTED WITH X       Complot
    HORIZONTAL AND Y VERTICAL. TO CHANGE THE ORIENTATION OF THE PLOTS  Complot
```

```
    YOU NEED MERELY SPECIFY A NEGATIVE UPPER X LIMIT OF THE SIZE OF    Complot
    THE PLOTS ON THE FIRST INPUT LINE.                                 Complot
                                                                       Complot
    THE FOLLOWING EXAMPLE IS EXACTLY THE SAME AS THE ABOVE EXAMPLE,    Complot
    EXCEPT THAT THE ORIENTATION OF THE PLOTS HAS BEEN CHANGED. THE     Complot
    FOLLOWING 11 INPUT LINES ARE REQUIRED.                             Complot
                                                                       Complot
      0.0      -10.0      0.0     10.0              3          2       Complot
 /Evaluated/ENDFB6/PHOTON.IN                                           Complot
 /Evaluated/ENDFB5/PHOTON.IN                                           Complot
        0          1        0       -2              3          1       Complot
     0.01        1.1                                                   Complot
ENDF/B-VI                                                              Complot
ENDF/B-V                                                               Complot
   023522           999923522                       0                  Complot
                                  (TERMINATES REQUEST LIST)            Complot
   023522     023602              (MULTIPLICATION OF 1.0 INFERRED)     Complot
                                  (TERMINATES EQUIVALENCE LIST)        Complot
                                                                       Complot
===== PLOTTER/GRAPHICS TERMINAL INTERFACE ============================ Complot
                                                                       Complot
     NON-INTERACTIVE                                                   Complot
     ----------------------------------------------------------------- Complot
     THIS PROGRAM USES A SIMPLE CALCOMP LIKE INTERFACE INVOLVING       Complot
     ONLY 5 SUBROUTINES,                                               Complot
                                                                       Complot
     STARPLOT     - INITIALIZE PLOTTER                                 Complot
     NEXTPLOT     - CLEAR SCREEN FOR NEXT PLOT                         Complot
     ENDPLOTS     - TERMINATE PLOTTING                                 Complot
                                                                       Complot
     PLOT(X,Y,IPEN)        - DRAW OR MOVE FROM LAST LOCATION TO (X,Y),  Complot
                             END OF CURRENT PLOT OR END OF PLOTTING.   Complot
           IPEN =   2 - DRAW                                           Complot
                =   3 - MOVE                                           Complot
                                                                       Complot
     PEN(IPEN)             - SELECT COLOR.                             Complot
         IPEN- COLOR = 1 TO N (N = ANY POSITIVE INTEGER)               Complot
                                                                       Complot
     BOXCOLOR(X,Y,IFILL,IBORDER) - FILL A RECTANGLE WITH COLOR         Complot
             X,Y               = DEFINE THE CORNERS OF THE BOX         Complot
                 IFILL         = COLOR TO FILL BOX WITH                Complot
                       IBORDER = COLOR OF BORDER OF BOX                Complot
                                                                       Complot
     INTERACTIVE                                                       Complot
     ----------------------------------------------------------------- Complot
     THIS PROGRAM INCLUDES AN INTERACTIVE INTERFACE FOR USE WITH A     Complot
     MOUSE. THE INTERFACE INVOLVES 2 SUBROUTINE,                       Complot
                                                                       Complot
     INTERACT(MYACTION)             - WHETHER OR NOT INTERACTION       Complot
             MYACTION               = 0 - NO (RETURNED BY INTERACT)    Complot
                                    = 1 - YES (RETURNED BY INTERACT)   Complot
                                                                       Complot
     MOUSEY(IWAY,XI,YI,IWAY1,IWAY2) - READ POSITION OF MOUSE           Complot
                           IWAY     = 0 - NO INPUT                     Complot
                                    = 1 - LEFT BUTTON                  Complot
                                    = 2 - MIDDLE BUTTON                Complot
                                    = 3 - RIGHT BUTTON                 Complot
                                    = 4 - KEYBOARD INPUT               Complot
                           XI       = X POSITION IN LOCAL UNITS        Complot
                           YI       = Y POSITION IN LOCAL UNITS        Complot
                           IWAY1    = MINIMUM ALLOWABLE IWAY           Complot
                           IWAY2    = MAXIMUM ALLOWABLE IWAY           Complot
                                                                       Complot
    AS USED BY THIS PROGRAM IWAY1   = 1                                Complot
                           IWAY2    = 4                                Complot
    KEYBOARD INPUT (IWAY=4) MEANS NO ZOOMED PLOT REQUESTED.            Complot
    MOUSE INPUT (IWAY=1 TO 3) MEANS A ZOOMED PLOT IS REQUESTED.        Complot
    MOUSEY WILL BE CALLED ONCE TO SEE IF A ZOOMED PLOT IS REQUESTED.   Complot
    IF IT IS XI WILL BE USED TO DEFINE ONE X (E.G., ENERGY) LIMIT OF   Complot
    THE ZOOMED PLOT. MOUSEY WILL THEN BE CALLED A SECOND TIME TO       Complot
    DEFINE A SECOND XI TO DEFINE THE OTHER X LIMIT OF THE ZOOMED       Complot
```

```
PLOT.                                                                  Complot
                                                                       Complot
IF YOU DO NOT WANT INTERACTION YOU SHOULD INCLUDE THE FOLLOWING        Complot
SUBROUTINES IN YOUR GRAPHIC INTERFACE,                                 Complot
                                                                       Complot
SUBROUTINE INTERACT(MYACTION)                                          Complot
MYACTION=0                                                             Complot
RETURN                                                                 Complot
END                                                                    Complot
SUBROUTINE MOUSEY(IWAY,XI,YI,IWAY1,IWAY2)                              Complot
IWAY=4                                                                 Complot
XI=0.0                                                                 Complot
YI=0.0                                                                 Complot
RETURN                                                                 Complot
END                                                                    Complot
                                                                       Complot
ALTERNATIVE INTERACTIVE                                                Complot
---------------------------------------------------------------------- Complot
IF YOU DO NOT HAVE A MOUSE BUT WOULD STILL LIKE TO INTERACTIVE         Complot
INPUT YOU CAN REPLACE SUBROUTINE ACTION IN THIS PROGRAM.               Complot
                                                                       Complot
AS DISTRIBUTED SUBROUTINE ACTION USES A MOUSE TO DEFINE LOWER          Complot
AND UPPER ENERGY (OR X) LIMITS WHICH ARE USED TO PRODUCE THE           Complot
NEXT PLOT. A CALL TO ACTION IS OF THE FORM,                            Complot
                                                                       Complot
CALL ACTION(KACTV,XACT1,XACT2)                                         Complot
                                                                       Complot
            KACTV   = 0 - NO INTERACTIVE INPUT                         Complot
                    = 1 - INTERACTIVE INPUT                            Complot
            XACT1   = LOWER ENERGY LIMIT                               Complot
            XACT2   = UPPER ENERGY LIMIT                               Complot
                                                                       Complot
IF THERE IS NO INTERACTIVE INPUT THE PROGRAM WILL PROCEED TO THE       Complot
NEXT PLOT REQUESTED BY NON-INTERACTIVE INPUT.                          Complot
                                                                       Complot
IF THERE IS INTERACTIVE INPUT THE PROGRAM WILL USE XACT1 AND           Complot
XACT2 TO DEFINE THE ENERGY LIMITS OF THE NEXT PLOT USING THE           Complot
SAME DATA AS APPEARED ON THE LAST PLOT. AS WITH NON-INTERACTIVE        Complot
INPUT, IF YOU SELECT AN ENERGY RANGE WHERE THE MAXIMUM DIFFERENCE      Complot
IS LESS THAN THAT SPECIFIED BY INPUT NO PLOT WILL BE PRODUCED          Complot
AND THE CODE WILL PROCEED TO THE NEXT PLOT REQUESTED BY                Complot
NON-INTERACTIVE INPUT.                                                 Complot
                                                                       Complot
YOU CAN REPLACE SUBROUTINE ACTION FOLLOWING THE ABOVE CONVENTIONS      Complot
TO ALLOW INTERACTION VIA DIRECT READ OF X LIMITS, LIGHTPEN OR          Complot
WHATEVER FACILITIES YOU HAVE AVAILABLE.                                Complot
                                                                       Complot
INTERFACING                                                            Complot
---------------------------------------------------------------------- Complot
IN ORDER TO INTERFACE THIS PROGRAM FOR USE ON ANY PLOTTER WHICH        Complot
DOES NOT USE THE ABOVE CONVENTIONS IT IS MERELY NECESSARY FOR THE      Complot
THE USER TO WRITE 5 SUBROUTINES DESCRIBED ABOVE AND TO THEN CALL       Complot
THE LOCAL EQUIVALENT ROUTINES.                                         Complot
                                                                       Complot
COLOR PLOTS                                                            Complot
---------------------------------------------------------------------- Complot
TO SELECT PLOTTING COLORS SUBROUTINE PEN (DESCRIBED ABOVE) IS USED     Complot
TO SELECT ONE OF THE AVAILABLE COLORS. WHEN RUNNING ON A MAINFRAME     Complot
USING AN IBM GRAPHICS TERMINAL OR ON AN IBM-PC USING A HEWLETT-        Complot
PACKARD PLOTTER THE GRAPHICS INTERFACE (DESCRIBED ABOVE) WILL          Complot
PRODUCE COLOR PLOTS.                                                   Complot
                                                                       Complot
BLACK AND WHITE PLOTS                                                  Complot
---------------------------------------------------------------------- Complot
WHEN PRODUCING BLACK AND WHITE HARDCOPY ON A MAINFRAME THE USER        Complot
SHOULD ADD A DUMMY SUBROUTINE PEN TO THE END OF THE PROGRAM TO         Complot
IGNORE ATTEMPTS TO CHANGE COLOR. ADD THE FOLLOWING SUBROUTINE,         Complot
                                                                       Complot
SUBROUTINE PEN(IPEN)                                                   Complot
RETURN                                                                 Complot
END                                                                    Complot
```

```
                                                                    Complot
CHARACTER SET                                                       Complot
------------------------------------------------------------------- Complot
THIS PROGRAM USES COMPUTER AND PLOTTER DEVICE INDEPENDENT SOFTWARE Complot
CHARACTERS. THIS PROGRAM COMES WITH A FILE THAT DEFINES THE PEN    Complot
STROKES REQUIRED TO DRAW ALL CHARACTERS ON AN IBM KEYBOARD (UPPER  Complot
AND LOWER CASE CHARACTERS, NUMBERS, ETC.) PLUS AN ALTERNATE SET OF Complot
ALL UPPER AND LOWER CASE GREEK CHARACTERS AND ADDITIONAL SPECIAL   Complot
SYMBOLS.                                                           Complot
                                                                   Complot
THE SOFTWARE CHARACTER TABLE CONTAINS X AND Y AND PEN POSITIONS TO Complot
DRAW EACH CHARACTER. IF YOU WISH TO DRAW ANY ADDITIONAL CHARACTERS Complot
OR TO MODIFY THE FONT OF THE EXISTING CHARACTERS YOU NEED ONLY     Complot
MODIFY THIS TABLE.                                                 Complot
                                                                   Complot
CONTROL CHARACTERS                                                 Complot
------------------------------------------------------------------- Complot
IN THE SOFTWARE CHARACTER TABLE ALL CHARACTERS TO BE PLOTTED WILL  Complot
HAVE PEN POSITION = 2 (DRAW) OR = 3 (MOVE). IN ADDITION THE TABLE  Complot
CURRENTLY CONTAINS 4 CONTROL CHARACTERS,                           Complot
                                                                   Complot
PEN POSITION = 0                                                   Complot
----------------                                                   Complot
SHIFT THE NEXT PRINTED CHARACTER BY X AND Y. 3 CONTROL CHARACTERS  Complot
ARE PRESENTLY INCLUDED IN THE SOFTWARE CHARACTER TABLE TO ALLOW    Complot
SHIFTING.                                                          Complot
                                                                   Complot
{   = SHIFT UP (FOR SUPERSCRIPTS.............X= 0.0, Y= 0.5)       Complot
}   = SHIFT DOWN (FOR SUBSCRIPTS.............X= 0.0, Y=-0.5)       Complot
\   = SHIFT LEFT 1 CHARACTER (FOR BACKSPACE...X=-1.0, Y= 0.0)      Complot
                                                                   Complot
PEN POSITION =-1                                                   Complot
----------------                                                   Complot
SELECT THE NEXT PRINTED CHARACTER FROM THE ALTERNATE CHARACTER     Complot
SET. AT PRESENT THIS CONTROL CHARACTER IS,                         Complot
                                                                   Complot
]   = SWITCH TO ALTERNATE CHARACTER SET                            Complot
                                                                   Complot
THESE 4 CONTROL CHARACTERS ARE ONLY DEFINED BY THE VALUE OF THE    Complot
PEN POSITION IN THE SOFTWARE CHARACTER TABLE (I.E., THEY ARE NOT   Complot
HARD WIRED INTO THIS PROGRAM). AS SUCH BY MODIFYING THE SOFTWARE   Complot
CHARACTER TABLE THE USER HAS THE OPTION OF DEFINING ANY CONTROL    Complot
CHARACTERS TO MEET SPECIFIC NEEDS.                                 Complot
                                                                   Complot
THESE CHARACTERS MAY BE USED IN CHARACTER STRINGS TO PRODUCE       Complot
SPECIAL EFFECTS. FOR EXAMPLE, TO PLOT SUBSCRIPT 5, B, SUPERSCRIPT  Complot
10 USE THE STRING,                                                 Complot
                                                                   Complot
}5B{1{0                                                            Complot
                                                                   Complot
TO PLOT B, SUBSCRIPT 5 AND SUPERSCRIPT 10 WITH THE 5 DIRECTLY      Complot
BELOW THE 1 OF THE 10 WE CAN USE THE BACKSPACE CHARACTER TO        Complot
POSITION THE 1 DIRECTLY ABOVE THE 5 USING THE STRING,              Complot
                                                                   Complot
B}5\{1{0                                                           Complot
                                                                   Complot
TO PLOT UPPER CASE GREEK GAMMA FOLLOWED BY THE WORD TOTAL (I.E.,   Complot
RESONANCE TOTAL WIDTH) USE THE STRING.                             Complot
                                                                   Complot
]G TOTAL                                                           Complot
                                                                   Complot
NOTE, WHEN THESE CONTROL CHARACTERS ARE USED THEY ONLY EFFECT THE  Complot
NEXT 1 PRINTED CHARACTER (SEE, ABOVE EXAMPLE OF PLOTTING SUPER-    Complot
SCRIPT 10 WHERE THE SHIFT UP CONTROL CHARACTER WAS USED BEFORE THE Complot
1 AND THEN AGAIN BEFORE THE 0 AND THE BACKSPACE AND SHIFT UP       Complot
CONTROL CHARACTERS WERE USED IN COMBINATION).                      Complot
                                                                   Complot
IF THESE 4 CONTROL CHARACTERS ARE NOT AVAILABLE ON YOUR COMPUTER   Complot
YOU CAN MODIFY THE SOFTWARE CHARACTER TABLE TO USE ANY OTHER 4     Complot
CHARACTERS THAT YOU DO NOT NORMALLY USE IN CHARACTER STRINGS (FOR  Complot
DETAILS SEE THE SOFTWARE CHARACTER TABLE).                         Complot
```

```
                                                                      Complot
     STANDARD/ALTERNATE CHARACTER SETS                                Complot
     ---------------------------------------------------------------- Complot
     THE SOFTWARE CHARACTER TABLE CONTAINS 2 SETS OF CHARACTERS WHICH  Complot
     ARE A STANDARD SET (ALL CHARACTERS ON AN IBM KEYBOARD) AND AN     Complot
     ALTERNATE SET (UPPER AND LOWER CASE GREEK CHARACTERS AND SPECIAL  Complot
     CHARACTERS). TO DRAW A CHARACTER FROM THE ALTERNATE CHARACTER SET Complot
     PUT A RIGHT BRACKET CHARACTER (]) BEFORE A CHARACTER (SEE THE     Complot
     ABOVE EXAMPLE AND THE SOFTWARE CHARACTER TABLE FOR DETAILS). THIS Complot
     CONTROL CHARACTER WILL ONLY EFFECT THE NEXT 1 PLOTTED CHARACTER.  Complot
                                                                      Complot
     SUB AND SUPER SCRIPTS                                            Complot
     ---------------------------------------------------------------- Complot
     TO DRAW SUBSCRIPT PRECEED A CHARACTER BY }. TO DRAW SUPERSCRIPT   Complot
     PRECEED A CHARACTER BY { (SEE THE ABOVE EXAMPLE AND THE SOFTWARE  Complot
     CHARACTER TABLE FOR DETAILS). THESE CONTROL CHARACTER WILL ONLY   Complot
     EFFECT THE NEXT 1 PLOTTED CHARACTER.                             Complot
                                                                      Complot
     BACKSPACING                                                      Complot
     ---------------------------------------------------------------- Complot
     TO BACKSPACE ONE CHARACTER PRECEED A CHARACTER BY \ (SEE, THE     Complot
     ABOVE EXAMPLE AND THE SOFTWARE CHARACTER TABLE FOR DETAILS). THIS Complot
     CONTROL CHARACTER WILL PERFORM A TRUE BACKSPACE AND WILL EFFECT   Complot
     ALL FOLLOWING CHARACTERS IN THE SAME CHARACTER STRING.            Complot
                                                                      Complot
     PLOT DIMENSIONS                                                  Complot
     ---------------                                                  Complot
     ARE DEFINED BY USER INPUT. INTERNALLY THE PROGRAM WILL CREATE A   Complot
     PLOT IN APPROXIMATELY A4 OR 8-1/2 BY 11 INCH FORMAT. DURING       Complot
     OUTPUT THE PLOT IS TRANSFORMED TO THE UNITS (INCHES, CENTIMETERS, Complot
     MILLIMETERS, WHATEVER) OF THE PLOTTER BEING USED AND OUTPUT.      Complot
                                                                      Complot
===== PLOTTER/GRAPHICS TERMINAL INTERFACE ============================ Complot
====================================================================== Complot
```