FLAGSTAFF ENGINEERING

MICROSOFT WORD

WORD PROCESSING CONVERSION PROGRAMS

DOCUMENTATION MANUAL

CONTENTS

   Copy PC-DOS revisable form text file to
   Microsoft WORD document file.

   Copy Microsoft WORD document file to
   PC-DOS revisable form text file.

   Copy PC-DOS ASCII text file to PC-DOS
   revisable form text file.

   Copy PC-DOS revisable form text file to
   PC-DOS ASCII text file.

   Translate ASCII, EBCDIC, or hex values
   or character strings in a file to new
   values or character strings.

INTRODUCTION

The Word Connection from Flagstaff
Engineering consists of separate document
conversion program packages for use with
The Flagstaff Engineering Diskette
Connection 8" diskette drive system for
the IBM PC/XT/AT. Word Connection 8"
conversion packages allow the user to
exchange document files between the IBM
PC/XT/AT and other word processing systems
that use 8" diskettes. Word Connection
DOS conversion packages allow the user to
exchange document files between different
word processing programs used on the IBM
PC/XT/AT.

Word Connection programs are designed to
transfer documents from 8" diskette
systems to PC-DOS Revisable Form Text
files (RF files) on an IBM PC/XT/AT
operating under IBM DOS versions 2.X OR
3.x.

Revisable Form Text files are created
using the rules of an IBM standard called
Document Content Architecture.

The RF format provides a standard method
of specifying tabs, margins, control
codes, etc.

By using the RF file standard, Word
Connection programs are capable of
exchanging documents between different
word processing systems without losing
important document information.

RF files are supported by many word
processing products available for the IBM
PC, such as IBM's DisplayWrite 2/3,
Microsoft's WORD, Wordstar 2000, and
Multimate.

An example of a transfer application would
be:

1. Creation of a document file on an 8"
diskette based word processing system.

2. Transformation of the 8" diskette
document to a PC-DOS revisable form text
file with Word Connection conversion
programs.

3. Transformation of the revisable form
text file into a DisplayWrite 2/3 text
file by using the DisplayWrite 2/3
document functions.

4. Editing and printing the file with
DisplayWrite 2/3 and then transforming the
DisplayWrite 2/3 edited text file into a
revisable form text file.

5. Transforming the revisable form text
file into an ASCII file using the Word
Connection program, RFTOASC.

6. Downloading the ASCII file into a
laptop computer attached to the IBM PC.

Systems supported by Word Connection
packages include IBM Displaywriter, IBM
OS/6, WANG OIS, DEC WPS, XEROX-860, CPT
8000, and other systems.

PROGRAM NAMING CONVENTIONS

Word Connection program names use specific
abbreviations to indicate function and
system type.

System abbreviations are:

CPT   CPT 8000 8" systems.
DSF   IBM 8100 DOSF 8" systems.
DWS   IBM Displaywriter 8" systems.
LAN   Lanier hard sector 5 1/4" systems.
LNX   Linolex 8" systems.
MIC   Micom hard sector 8" systems.
MMT   Multimate PC-DOS documents.
MSW   Microsoft WORD PC-DOS documents.
NBI   NBI 8" systems.
OS6   IBM Office System/6 8" systems.
WNG   WANG OIS hard sector 8" systems.
WPE   IBM 5520 8" systems.
WPS   DEC WPS 8" systems.
WST   Wordstar 3.3 PC-DOS documents.
XRX   XEROX-860 8" systems.

Function abbreviations are:

XXXFMT   Format a diskette with specific
          file exchange parameters.

XXX8TO5   Transfer files from an 8 inch
          diskette to a PC-DOS volume.

XXX5TO8   Transfer files from a DOS volume
          to an 8 inch diskette.

XXXTOYYY Transfer files from system
          format XXX to system format YYY.

SYSTEM REQUIREMENTS

The Word Connection requires the following
minimum system configuration:

1.   IBM PC, PC/XT, or PC/AT
     computer.

2.   Flagstaff Engineering "DISKETTE
     CONNECTION" 8" diskette drive system
     when using Word Connection 8"
     diskette conversion packages. 8"
     hard sector systems require a Model D
     or Model S diskette controller card
     with the hard sector option
     installed.

3.   Flagstaff Engineering "DISKETTE
     CONNECTION" I/O device driver. (See
     the System Installation Guide and
     Diagnostic and Utility Manual
     provided with your systems for more
     information.)

PROGRAM OPERATION

Word Connection programs may be copied to
and executed from any PC-DOS diskette or
hard disk volume desired.

To load Word Connection programs, use the
standard PC-DOS load command syntax:

   A:PROGRAM NAME

When Word Connection programs are loaded,
a program message is displayed that
contains the copyright date. New program
versions are released periodically, and
this date is used to keep track of program
updates.

In the program operation sections of the
manual, keyboard entries are indicated by
bracketed characters.

> [ENTER] equals the enter key.
> [Y] equals the Y key.

Word Connection programs may be aborted by
pressing [CTRL] [C]. Occasionally, the
Control-C sequence may not successfully
terminate the program. If this occurs,
press [CTRL] [BREAK] to end the program.
Exiting programs through the use of [CTRL]
[C] and [CTRL] [BREAK] is not recommended,
and should be used with discretion.

Program prompts require key entries
followed by the [ENTER] key. If the
[ENTER] key is pressed without typing a
character, the program will default to the
first option displayed by the prompt.

Program prompts for key entries are issued
by the programs in the forms:

> (DEFAULT/RANGE OF ENTRIES) and
> (DEFAULT/OPTION1,OPTION2,OPTION3)

At the prompt, "ENTER DRIVE NUMBER
(1/2-4)?", pressing the [ENTER] key will
select the default entry of [1].

Optional values may be entered by pressing
[2], [3], or [4] followed by [ENTER].

Many Word Connection programs prompt for
an optional translation table file name.
The default is always an internal table
built into the program.

An external translation table consists of
a 256 byte lookup table where the value of
a given character in the source file is
used to point to a position in the table.
The value stored in the specific position
in the table will be used as the
translated character in the output files.

An example would be an ASCII hex value of
'20H' (ASCII space). If a table was
created to translate ASCII to a target
character set, the value found at position
'20H' in the table would be written to the
output file each time the program found an
ASCII space character in the input file.

DOCUMENTATION FORMAT

Word Connection program descriptions are
are presented in the following format in
the program description section of the
manual:

   1. Program Name.
   2. Use.
   3. Miscellaneous Notes.
   4. Description.
   5. Operation.
   6. Defaults.
   7. Destructive/Nondestructive
   8. Sample Program Run

CONVERSION TIPS

When using DisplayWrite 2/3, the document
utilities menu provides an internal
function to create DisplayWrite 2/3 text
files from any revisable form text file.
The text file will probably need to be
re-paginated with DisplayWrite 2/3.

Revisable form text files may be converted
to Microsoft Word, Wordstar 2000, and
Multimate text files by using the DCA
conversion programs available from the
manufacturers of these products.

The Word Connection programs, ASCTORF and
RFTOASC, transform ASCII files to
revisable form text files, and revisable
form text files to ASCII files. These two
programs provide a bridge between
revisable form text files, and any other
application program that can access an
ASCII file such as Volkswriter. A
Wordstar Non-document file is an ASCII
text file.

RFTOMSW

USE:

Transform IBM revisable form text document
files to a Microsoft WORD document file.

DESCRIPTION:

RFTOMSW is designed to convert a IBM
PC-DOS revisable form text document file
to an Microsoft WORD document file. The
rules for transforming the revisable form
text file to WORD document file use an IBM
standard called Document Content
Architecture.

The program will accept DOS paths and
volumes with file name entries.

OPERATION:

Load RFTOMSW. On completion of program
load, a program description message will
be displayed.

The program will prompt the user to enter
the revisable form text input file.

The program may be exited at this prompt
by pressing [ENTER] without typing a file
name. To continue the program enter the
DOS volume and file name using standard
DOS syntax:

Volume ID:File name.Extension

If a volume is not specified, the program
will access the input file from the
default volume (the volume that RFTOMSW
was loaded from).

The program will prompt the user to enter
the name of the output file.

Enter the desired output file name, or
press [ENTER] to use the input file name
with an extension of 'DOC'. If a volume
is not specified, the program will write
the revisable form text file to the
default DOS volume (the volume that
RFTOMSW was loaded from).

The program will convert the revisable
form text input file to a WORD document
file.

If the input file is not found, the
program will display 'INPUT FILE NOT
FOUND', and then re-prompt the user to
enter an input file name, otherwise the
program will display a conversion complete
message.

The program will prompt the user to copy
more documents.

Enter a [Y] to convert more documents, or
enter an [N] or press [ENTER] to end the
program.

DEFAULTS:

Input File: [ENTER] = End program.
Output File: [ENTER] = Input file name
               with extension of '.DOC'.
Copy More
Documents: [ENTER] = End program.

```
SAMPLE RUN:

A>  [RFTOMSW] [ENTER]

COPY IBM REVISABLE FORMAT TEXT FILE TO
MICROSOFT WORD DOCUMENT.
COPYRIGHT FLAGSTAFF ENGINEERING XX/XX/XX

ENTER INPUT RFT FILE NAME:
[TEST.RF] [ENTER]

ENTER OUTPUT WORD FILE NAME:  [ENTER]
PAGE XXXX.X.X
TEST.RF FILE CONVERSION COMPLETE.

COPY MORE DOCUMENTS? [Y] [ENTER]
ENTER INPUT RFT FILE NAME: [XYZ.RFT]
[ENTER]

ENTER OUTPUT WORD FILE NAME:  [ENTER]
PAGE XXXX.X.X
XYZ.RFT FILE CONVERSION COMPLETE.

COPY MORE DOCUMENTS? [ENTER]
A>
```

MSWTORF

USE:

Convert an Microsoft WORD document to an
IBM revisable form text document.

DESCRIPTION:

The MSWTORF program is designed to convert
a Microsoft WORD document to a PC-DOS
revisable form text file. The rules for
transforming the WORD document use an IBM
standard called Document Content
Architecture.

The program will accept DOS paths and
volumes at file name prompts.

OPERATION:

Load MSWTORF. On completion of program
load, a program description message will
be displayed.

The program will prompt the user to enter
the WORD input file.

The program may be exited at this prompt
by pressing [ENTER] without typing a file
name. To continue the program enter the
DOS volume and file name using standard
DOS syntax:

Volume ID:File name.Extension

If a volume is not specified, the program
will access the input file from the
default volume (the volume that MSWTORF
was loaded from).

The program will prompt the user to enter
the name of the output file.

Enter the desired output file name, or
press [ENTER] to use the input file name
with an extension of .RFT as the output
file name. If a volume is not specified,
the program will write the revisable form
text file to the default DOS volume (the
volume that MSWTORF was loaded from).

The program will convert the WORD input
file to a revisable form text output file.
If the input file is not found, the
program will display 'INPUT FILE NOT
FOUND', and then re-prompt the user to
enter an input file name, otherwise the
program will display a conversion complete
message.

The program will prompt the user to copy
more documents.

Enter a [Y] to continue to convert
documents, or enter an [N] or press
[ENTER] to exit the program.

DEFAULTS:

Input File: [ENTER] = End program.
Output File: [ENTER] = Input file name
               with extension of RFT.
Copy More
Documents: [ENTER] = End program.

SAMPLE RUN:

A> [MSWTORF] [ENTER]

CONVERT MICROSOFT WORD DOCUMENTS TO
IBM REVISABLE FORMAT TEXT FILES
COPYRIGHT FLAGSTAFF ENGINEERING XX/XX/XX

```
ENTER INPUT WORD FILE NAME:
[TEST.DOC] [ENTER]

ENTER OUTPUT RFT FILE NAME: [ENTER]
PAGE XXXX.X.X
TEST.DOC FILE CONVERSION COMPLETE

COPY MORE DOCUMENTS? [Y] [ENTER]

ENTER INPUT WORD FILE NAME:
[XYZ.DOC] [ENTER]

ENTER OUTPUT RFT FILE NAME: [ENTER]
PAGE XXXX.X.X
XYZ.DOC FILE CONVERSION COMPLETE

COPY MORE DOCUMENTS?: [ENTER]
A>
```

ASCTORF

USE:

Convert an ASCII text document to an IBM
revisable form text document.

DESCRIPTION:

The ASCTORF program is designed to convert
an ASCII text document to a revisable form
text file. The rules for transforming the
ASCII document use an IBM standard called
Document Content Architecture.

The program supports optional translate
tables. Since the ASCII text characters
are translated to EBCDIC in the revisable
form text file, the user can provide a
unique 256 byte translate table. If no
file is specified the program will default
to an internal translate table.

The program will accept DOS path and
wildcard characters for file name prompts.

Since most ASCII documents use spaces in
place of indents and tabs, the program
will analyze the document to generate tab
settings. The program will use a soft
carriage return for all line endings
accept when the next character is another
carriage return. This feature permits the
RF document to be paginated with new
margin and tab settings. The program will
accept an ASCII end of page character '0C'
as a page break.

OPERATION:

Load ASCTORF. On completion of program
load, a program description message will
be displayed. The program will then
prompt the user to enter the file name of
the translation table to use.

Enter the file name of a user required
translation table, or press [ENTER] to
select the internal program translation
table.

The program will prompt the user to enter
the ASCII input file.

The program may be exited at this prompt
by pressing [ENTER] without typing a file
name. To continue the program enter the
DOS volume and file name using standard
DOS syntax:

Volume ID:File name.Extension

If a volume is not specified, the program
will access the input file from the
default volume (the volume that ASCTORF
was loaded from).

The program will prompt the user to enter
the name of the output file.

Enter the desired output file name, or
press [ENTER] to use the input file name
with an extension of .RF as the output
file name. If a volume is not specified,
the program will write the revisable form
text file to the default DOS volume (the
volume that ASCTORF was loaded from).

The program will convert the ASCII input
file to a revisable form text output file.
If the input file is not found, the
program will display 'INPUT FILE NOT
FOUND', and then re-prompt the user to
enter an input file name, otherwise the
program will display a conversion complete
message.

The program will prompt the user to enter
an input file name to convert.

Enter a volume and file name, or press
[ENTER] to exit the program.

DEFAULTS:

Translation
Table: [ENTER] = Internal table.
Input File: [ENTER] = End program.
Output File: [ENTER] = Input file name
                with extension of RF.

SAMPLE RUN:

A>   [ASCTORF] [ENTER]

CONVERT ASCII DOCUMENTS TO
IBM REVISABLE FORMAT TEXT
COPYRIGHT FLAGSTAFF ENGINEERING XX/XX/XX

ENTER FILE NAME OF TABLE: [ENTER]

ENTER INPUT ASCII FILE: [TEST.ASC] [ENTER]

ENTER OUTPUT FILE PATH/NAME: [ENTER]

CONVERTING TEST.ASC
CONVERSION COMPLETE FOR TEST.RF

ENTER INPUT ASCII FILE: [ENTER]
A>

USE:

Transform IBM revisable form text document
files to an ASCII DOCUMENT file.

DESCRIPTION:

RFTOASC is designed to convert a IBM
PC-DOS revisable form text document file
to an ASCII text file. The rules for
transforming the revisable form text file
to an ASCII text file use an IBM standard
called Document Content Architecture.

The program supports optional translation
tables for unique user applications.
Since the EBCDIC text characters in the
revisable form text file are translated to
ASCII, the user can provide a unique
256 byte translate table. If no
translation file is specified the program
will default to an internal translation
table.

The program will accept DOS paths and
wildcard characters for file names.

Since most ASCII documents use spaces in
place of indents and tabs, the program
will replace these characters with the
appropriate number of space characters.
Also, the program will insert a carrier
return and line feed for all line endings.
ASCII end of page '0C' characters are also
inserted at the end of each page. No
escape code sequences are generated.

OPERATION:

Load RFTOASC. On completion of program
load, a program description message will
be displayed. The program will then
prompt the user to enter the file name of
the translation table to use.

Enter the file name of a user required
translation table, or press [ENTER] to
select the internal program translation
table.

The program will prompt the user to enter
the revisable form text input file.

The program may be exited at this prompt
by pressing [ENTER] without typing a file
name. To continue the program enter the
DOS volume and file name using standard
DOS syntax:

Volume ID:File name.Extension

If a volume is not specified, the program
will access the input file from the
default volume (the volume that RFTOASC
was loaded from).

The program will prompt the user to enter
the name of the output file.

Enter the desired output file name, or
press [ENTER] to use the input file name
with an extension of 'ASC'. If a volume
is not specified, the program will write
the revisable form text file to the
default DOS volume (the volume that
RFTOASC was loaded from).

The program will convert the RF input file
to an ASCII text output file.

If the input file is not found, the
program will display 'INPUT FILE NOT
FOUND', and then re-prompt the user to
enter an input file name, otherwise the
program will display a conversion complete
message.

The program will prompt the user to enter
an input file name to convert.

Enter a volume and file name, or press
[ENTER] to exit the program.

DEFAULTS:

Translation
Table: [ENTER] = Internal table.
Input File: [ENTER] = End program.
Output File: [ENTER] = Input file name
              with extension of blanks.

SAMPLE RUN:

A> [RFTOASC] [ENTER]

COPY IBM REVISABLE-FORMAT
TEXT TO AN ASCII FILE
COPYRIGHT FLAGSTAFF ENGINEERING XX/XX/XX

ENTER FILE NAME OF TABLE: [ENTER]

ENTER INPUT REVISABLE-FORM TEXT
FILE: [TEST.RF] [ENTER]

ENTER OUTPUT FILE NAME: [ENTER]

CONVERTING TEST.RF
CONVERSION COMPLETE FOR TEST.RF

ENTER INPUT REVISABLE-FORM TEXT
FILE: [ENTER]
A>

FILETRAN

USE:

Translation, replacement, or deletion of
character values or character strings in a
PC-DOS file.

DESCRIPTION:

FILETRAN was designed to copy and
translate a PC-DOS input file to a new
output file. The copy operation allows
replacing any data string of one or more
bytes with another data string of zero or
more bytes. ASCII, EBCDIC, or Hexadecimal
values may be translated by the program.

The program requires external translation
tables to define the translations to be
performed when the program is run.

The translation table file is a text file
which may be edited with EDLIN, WordStar
(non-document mode), or any other text
editor which generates pure ASCII text.
ALL single or multiple byte conversions
which are to occur must be specified in
this file.

Standard ASCII to EBCDIC (file name
ATOE.TTB) and EBCDIC to ASCII (file name
ETOA.TTB) tables are provided which
contain standard code conversion
specifications. Any values not specified
for conversion will be copied without any
change into the output file.

The user must supply a valid translation
table file name at the program prompt, or
the program will be aborted.

Translation table conversion statements:

A translation table consists of sequential
conversion statements, with one statement
per line. Each conversion statement has a
'from' and a 'to' field. When the program
is run, the input data is scanned for a
match with the 'from' data. If a match is
found, the data is replaced with the 'to'
data. Each conversion statement line is
limited to a length of 200 characters.

The 'from' and 'to' specifications must be
one of the following:

a.   ASCII character string.
     A'......'

The quote (') mark delimits the beginning
and end of the string, but any character
may be used as a delimiter. The delimiter
is always the first character after the
'A'. The beginning and ending delimiter
must be the same character and must not
occur within the string itself. There
must be no spaces between the 'A' and the
delimiter.

b.   EBCDIC character string.
     E'......'

The quote (') mark delimits the beginning
and end of the string. Any character may
be used as a delimiter. The delimiter is
always the first character after the 'E'.
Beginning and ending delimiters must be
the same character and must not occur
within the string itself. There must be
no spaces between the 'E' and the
delimiter.

c. Hex byte string.
    X'xx xx xx ...' or X'xxxx....'

The quote (') mark delimits the beginning
and end of the string, but any character
may be used as a delimiter. The beginning
and ending delimiter must be the same
character and must not occur within the
string itself. Two hex digits must be
supplied for each byte. There must be no
spaces between the 'X' and the delimiter.
The character following the 'X' is taken
as the delimiter.

The 'from' specification must begin in the
first position of the line and be followed
by one or more blanks before the 'to'
specification. The 'to' specification is
not required and if not supplied is taken
as null. All 'from' data strings that
occur in the table that are not followed
by a 'to' specification will be deleted.

An example translation table would be:

A'.PA' X'0C'   ;Convert ASCII string '.PA'
               ; to HEX value 0C
X'0D' X'0D0A' ;Convert Hex value 0D to
               ; hex string 0D 0A
E'123' E''   ;Delete EBCDIC string '123'

When scanning the input data, the program
compares the input data for a match with
the 'from' fields in the order in which
they are supplied. If a long string
begins with the same characters as a
shorter string, the long string must be
specified first, otherwise the short
string will be found first and the long
string will never be found.

FLTRN.3

The exception to this is that all
one-to-one conversions are processed after
any string conversions regardless of the
order in which they are specified. All
single character to single character
conversions may safely be specified before
any string conversions are specified in
the file.

Input File Names:

The program will accept DOS paths and
wildcard characters for input file names.
Wildcards are not excepted as file name
extensions.

Output File Names:

The program will accept DOS paths and
wildcard characters for input file names.
Wildcards are not excepted as file name
extensions.

The default output file name is the input
file name with an extension of 'TRN'.

If a complete output file name is entered,
the file name is only valid if the input
file name was not entered with a wildcard.

A DOS volume (and path) name only may be
entered at the output file name prompt.
The entry must end with a back slash (\)
or a colon (:) to direct the output files
to the specified location. The output
names will be the same as the input file
names with and extension of 'TRN'.
   Example: C:\XYZ\

A file name extension may be entered at
the output file name prompt. This is
valid only if the input is a wildcard
name. This will force the output file
names to have the specified file name
extension.
  Example: *.ABC

A volume (and path) name and a file name
extension may be entered at the output
file name prompt. This is valid only if
the input file name uses a wildcard. This
will direct the output files to the
specified location and force them to have
a specific file name extension.
  Example: C:\XYZ*.ABC

OPERATION:

Load FILETRAN. On completion of program
load, a program description message will
be displayed. The program will then
prompt the user to enter the file name of
the translation table to use.

Enter the file name of a specific
translation table. If a valid table file
name is not entered on the first
occurrence of this prompt, the program
will abort.

The program will prompt the user to enter
the input file name.

The program may be exited at this prompt
by pressing [ENTER] without typing a file
name. To continue the program enter the
DOS volume and file name using standard
DOS syntax:

Volume ID:File name.Extension

If a volume is not specified, the program
will access the input file from the
default volume (the volume that FILETRAN
was loaded from).

The program will prompt the user to enter
the name of the output file.

Enter the desired output file name, or
press [ENTER] to use the input file name
with an extension of 'TRN'. If a volume
is not specified, the program will write
the translated output file to the default
DOS volume (the volume that FILETRAN was
loaded from).

The program will translate and copy the
input file to the output file and then
prompt the user to enter another input
file name to convert.

Enter a volume and file name, or press
[ENTER] to exit the program.

DEFAULTS:

Translation
Table: [ENTER] = Abort program.
Input File: [ENTER] = End program.
Output File: [ENTER] = Input file name
                with extension of '.TRN'.

SAMPLE RUN:

A> [FILETRAN] [ENTER]

FILE TRANSLATION PROGRAM
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ENTER DOS TRANSLATE TABLE FILE NAME
(DEFAULT= NO TRANSLATION)?
[ATOE.TTB] [ENTER]

```
ENTER DOS INPUT FILE NAME FILE:
[TEST.ASC] [ENTER]

ENTER DOS OUTPUT FILE NAME:  [ENTER]

TRANSLATION OF TEST.ASC TO TEST.TRN
IN PROGRESS...
TRANSLATION COMPLETE
XXXX CHAR IN INPUT FILE
XXXX CHAR IN OUTPUT FILE

ENTER DOS INPUT FILE NAME (PRESS ENTER IF
NONE)? [ENTER]

A>
```