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# KemeTech ConversionSuite

CVTSTMF - Convert Stream File (Excel, Dbase) To  
Database File

Programmer's Reference Manual

Version 2.6

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This edition applies to the Convert Stream File category of products version 2.6, and to all subsequent releases and modifications until otherwise indicated in new editions.

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# CHAPTER 1 - Introduction

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## General Description

The Convert Stream File commands, Convert Dbase to Database File (CVTDBDBF) and Convert Excel to Database File (CVTXLSDBF) convert Dbase and Excel files stored in the IFS to AS/400 database files and generates data description specifications in a specified source file member.

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## What's New

The following additions & modifications have been added to version 2.6.

- v **SHEET UPLOAD** Supports the ability to upload individual sheets to individual members and multiple sheets to multiple members. The Sheet parameter has been expanded to support 256 sheets.
- v **TEXT** The TEXT parameter now accepts keywords representing the To-File, To-Library, To-Member, StreamFile, IFS-Path, Current-Date, Current-Time and Excel sheet name values.
- v **TOMBR** The To-Member parameter has been expanded to support 256 members.
- v **Members** Added ability to add new members to new files.
- v **Range Names** Fixed error when retrieving Excel Range names.
- v **Dual Format** Processes Excel files saved in dual format.
- v **Code Page 870** Supports code page 870(Romanian, Serbian, Slovakian, Slovenian)
- v **Numeric Label Cells** Processes numeric data stored in label cells.
- v **String Formula Numerics** Processes numeric data stored in String Formula cells
- v **Packed Fields** Creates packed fields for 1 or 2 byte numeric fields.
- v **Default Timestamp** Creates default timestamp(0001-01-01-000.00.00.000000) for empty timestamp designated fields.
- v **COLINFO** Number of COLINFO elements overrides ENDCOL parameter.
- v **Rounding Error** Fixed rounding error for negative values.
- v **XF Support** Expanded XF support to 1024 elements.
- v **Status/Error Messages**  
Added the following status/error messages:  
###,### records transferred from ### members  
Error during file creation, check DDS  
Duplicate field name

---

## Benefits

- v **Time Saver** - Eliminates intermediate translation steps by transferring directly from the **native** PC file format to an AS/400 database file. Handles Excel & Dbase date and time data formats.
- v **Cost Saver** - Eliminates need for PC software and hardware to perform data conversions and transfers.
- v **Automatic & Self Documenting** - Automatically creates the AS/400 DB2 file and generates complete documented data description specifications (DDS).
- v **Easy To Implement** - Easy to use command interface makes integration into your existing environment a simple task. Greatly simplifies conversions TO the AS/400
- v **No User Intervention Necessary** - Simply save and retrieve spreadsheets from the IFS.
- v **AS/400 Control** - Execute conversions in a batch or interactive environment under AS/400 control. No user intervention required.

## Chapter 1 - Introduction

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### Installing The CVTSTMF Product

Follow these instructions to install CVTSTMF on your system.

#### FTP UPLOAD INSTRUCTIONS

1. Click the "Communication" menu on your AS/400-iSeries PC session, select "Configure" and record your system name. e.g. system.appn.sna.ibm.com

2. On your PC use PKZIP to unzip the CVTSTMF.ZIP file to extract the CVTSTMF.SVF file

3. Click Start on the Windows bar and select the "Run" option. Enter "FTP system.appn.sna.ibm.com" and click "OK".

4. Once your FTP server is active you will see the FTP input screen. Perform the following:

Enter your user name

Enter your password

Enter the command **binary**

Enter the command **quote rcmd crtsavf qgpl/cvtlib**

Enter the command **send (pc drive):\productu.svf qgpl/cvtlib**

Enter the command **quit**

5. Return to your AS/400-iSeries session and enter the following command:

```
RSTLIB SAVLIB(CVTLIB) DEV(*SAVF) SAVF(QGPL/CVTLIB)
```

#### IFS UPLOAD INSTRUCTIONS

1. On the AS/400-iSeries command line enter the following:

```
CRTFLR FLR(CSUITE) AUT(*ALL)
```

2. On your PC use PKZIP to unzip the CVTSTMF.ZIP file to extract the CVTSTMF.SVF file.

3. Using File Manager, copy the CVTSTMF.SVF file to the CSUITE folder on the AS/400-iSeries drive.

4. Return to your AS/400-iSeries session and enter the following commands:

```
CRTPF FILE(QGPL/SAVF) RCDLEN(528) SIZE(*NOMAX)
```

```
CPYFRMSTMF FROMSTMF(' /QDLS/CSUITE/CVTSTMF.SVF')
```

## Chapter 1 - Introduction

```
TOMBR( '/QSYS.LIB/QGPL.LIB/SAVF.FILE/SAVF.MBR' ) MBROPT(*REPLACE) CVTDTA(*NONE)  
ENDLINFMT(*FIXED) TABEXPN(*NO)
```

```
SNDNETF FILE(QGPL/SAVF) TOUSRID((QUSER QUSER))
```

```
CRTSAVF FILE(QGPL/CVTLIB) AUT(*ALL)
```

```
RCVNETF FROMFILE(SAVF) TOFILE(CVTLIB) USER(QUSER)
```

```
RSTLIB SAVLIB(CVTLIB) DEV(*SAVF) SAVF(QGPL/CVTLIB)
```

---

### Activating The CVTSTMF Product

To activate the CVTSTMF product enter the following on the AS/400-iSeries command line prompt:

```
CHGDTAARA DTAARA(CVTLIB/CVTSTMF) VALUE('ACCESS CODE')
```

Where ACCESS CODE is the twenty(20) digit access code that was supplied by our staff.

---

### Loading The Converted File

The resulting files are ready to be accessed by your AS/400 application programs without further processing.

---

### Limitations

- v Character data is limited to the first 512 bytes.
- v Numeric data is limited to 30 digits, 15 decimal places.
- v AS/400 DB2 files must be created by the CVTDBDBF or CVTXLSDBF commands. Previously existing user created AS/400 DB2 files cannot be the target of the CVTDBDBF or CVTXLSDBF commands.
- v Currently supports Excel versions 95, 97 and 2000. No support is provided for previous versions of Excel.
- v Currently supports Dbase version III through IV.
- v The Dbase MEMO data type is currently not supported.
- v Double byte character set data is not supported.
- v F (Floating point), H (Hexadecimal), J (DBCS-Only), E (DBCS-Either), O (DBCS-Open), G (DBCS-graphic), 1 (Binary Large Object BLOB), 2 (Character Large Object CLOB), 3 (Graphic Data Large Object DBCLOB) and 4 (Datalink) data types are not currently supported.

---

### Record Format Name

The record format name for the resulting AS/400 database file will consist of the letter "R" followed by the TOFILE file name.

# Chapter 1 - Introduction

---

## Field Names

### Dbase to AS/400

AS/400 field names are generated from Dbase field names in accordance with the following rules.

1. Field names are limited to 10 characters.
2. The following characters are valid for the 1st character in an AS/400 field name.  
A-Z, #, \$, @  
Invalid 1st characters will be converted to the "@" character.
3. The following characters are valid for the remaining characters in an AS/400 field name.  
A-Z, #, \$, @, 0-9 and the "\_" character.  
Invalid characters will be converted to the "@" character.

### Excel to AS/400

CVTXMLSDBF can use column names embedded in the spreadsheet as AS/400 field names or the operator can specify the field names in the COLINFO parameter.

AS/400 field names must follow the following rules.

1. Field names are limited to 10 characters.
2. The following characters are valid for the 1st character in an AS/400 field name.  
A-Z, #, \$, @  
Invalid 1st characters will be converted to the "@" character.
3. The following characters are valid for the remaining characters in an AS/400 field name.  
A-Z, #, \$, @, 0-9 and the "\_" character.  
Invalid characters will be converted to the "@" character.

---

## PC File to AS/400 Database Conversion

The following sections describe the Dbase and Excel data types and how they are converted to AS/400 data types.

### Dbase

The following table lists the supported Dbase data type to AS/400 data type conversions.

<b>Dbase Data Types</b>	<b>AS/400 Data Types</b>
Character	Alphanumeric
Date	Numeric (See Note 1 and 2)
Floating Point	Numeric (See Note 1)
Numeric	Numeric (See Note 1)
Logical	Alphabetic (Y, N, T, F)
Memo	Not supported



## Chapter 1 - Introduction

### PC File to AS/400 Database Conversion (Cont'd)

- 1- Data format is either \*PACKED or \*SIGNED depending on the Number Format (NUMFMT) parameter.
- 2 - Date format is dependent on the Date Format (DATEFMT) parameter.

### Excel

The following table lists the supported Excel data type to AS/400 data type conversions.

<b>Excel Data Types</b>	<b>AS/400 Data Types</b>
Label	Alphanumeric
Date	Numeric (See Note 1 and 2)
Formula	Alphanumeric or Numeric (See Note 1 and 3)
Numeric	Numeric (See Note 1)
Time	Numeric (See Note 1 and 4)

- 1 - Data format is either \*PACKED or \*SIGNED depending on the Number Format (NUMFMT) parameter.
- 2 - Date format is dependent on the Date Format (DATEFMT) parameter.
- 3 - Only the alphanumeric or numeric value of the formula is converted. The formula text is not converted. The determination of the AS/440 field data type for Excel formulas will be determined by the first row of the selected data.
- 4 - Time format is dependent on the Time Format (TIMEFMT) parameter.

# CHAPTER 2 - How To Use The Convert Dbase to Database File (CVTDBDBF) Command

```
Job: B, I   Pgm: B, I   REXX: B, I   Exec
CVTDBDBF  ----STMF(--object--)----TOFILE-----*LIBL-----+--(file-name)-----+----->
          |  *CURLIB-----|
          |  +- library-name/--|          +- TOMBR( -+ *FIRST-----+ )--+
          |                    |          +- member-name--+
>-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+----->
|  |--MBROPT(-+ *ADD-----+ )--+ |  |--CRTFILE(-+ *YES--+ )--+ |  |--SRCFILE(-+ *CURLIB-----+ +-- QDDSSRC-----+ )--+ |
|  +- *REPLACE--+ |          +- *NO--+ |          +- library-name/+ +-- source-file-name+
>-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+----->
|  |--DDSOPT(-+ *ADD-----+ )--+ |  |--NBRFMT(-+ *SIGNED--+ )--+ |  |--DATEFMT(-+ *DATE-----+ |  |--TIMEFMT(-+ *TIME--+ |
|  +- *NONE-----+ |          +- *PACKED+ |          +- *DMY-----+ )--+ |          +- *HM-----+ )--+ |
|  +- *REPLACE--+ |          +- *ISO-----+ |          +- *EUR-----+ |          +- *HMS--+ |
|          |          +- *JDE-----+ |          +- *JUL-----+ |          +- *LONGJUL-----+ |
|          |          +- *MDY-----+ |          +- *TIMESTAMP+ |          +- *USA-----+ |
|          |          +- *YMD-----+ |          |          |          |          |
>-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+----->
|  |--TEXT(-text-)--+ |
>-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+----->
```

## General Description

The Convert Dbase To Database File (CVTDBDBF) command converts Dbase files stored in the IFS into AS/400 database files and generates data description specifications in a specified source file member.

## Usage

### Stream File (STMF) 128,A

Specify the path name of the Dbase file. To select a Dbase file named 'Test.dbf' in a folder named 'folder1', specify '/qlds/folder1/test.dbf'.

### To File (TOFILE) 20,A

Specifies the qualified name of the AS/400 file that will receive the converted records. This is a required parameter.

Possible values are:

#### **to-file**

Specify the name of the file that receives the converted records.

The to-file name can be qualified by one of the following library values:

#### **\*LIBL**

All libraries in the job's library list are searched until the first match is found.

#### **\*CURLIB**

The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

## Chapter 2 - How To Use The Convert Dbase To Database File (CVTDBDBF)

### To File (TOFILE) 20,A(Cont'd)

#### **library-name**

Specify the name of the library to be searched.

### To Member(TOMBR) 10,A

Specifies the database file member name of the to-file member that receives the converted records.

Possible values are:

#### **\*FIRST**

The first member of the specified file is used.

#### **member-name**

Specify the name of the physical to-file member that receives the converted records.

### Member Option (MBROPT) 8,A

Specifies whether the converted records replace or are added to the existing records.

Possible values are:

#### **\*ADD**

The system adds the new records to the end of the existing records.

#### **\*REPLACE**

The system clears the existing member and adds the new records.

### Create File (CRTFILE) 4,A

Specifies whether a physical file is created to receive the converted records if the specified to-file does not exist.

Possible values are:

#### **\*YES**

If the to-file does not exist, a physical file is created with the name specified on the To File prompt (TOFILE parameter). The following conditions must all be true for the convert operation to create a to-file:

- { The library name must be specified on the To File prompt (TOFILE parameter). The default value, \*LIBL, is not allowed.
- { The user running this command must be authorized to add the file to the to-file library, and must have operational authority to the Create Physical File (CRTPF) command.
- { A qualified DDS source filename must be specified on the Source File prompt (SRCFILE parameter).

#### **\*NO**

The to-file must exist when this command is started. A physical file is not created to receive the converted records

## Chapter 2 - How To Use The Convert Dbase To Database File (CVTDBDBF)

### Source File (SRCFILE) 20,A

Specifies the name of the source file that will receive the data description specifications (DDS) source generated by the command.

Possible values are:

#### **QDDSSRC**

The DDS source file named QDDSSRC will receive the data description specifications used to create the physical file.

#### **qualified-source-file-name**

Specify the name of the source file that will receive the source descriptions used to create the physical file.

### DDS Option (DDSOPT) 8,A

Specifies whether the data description specifications (DDS) source will replace the existing DDS source member or if the member will be added to the source-file.

Possible values are:

#### **\*ADD**

The system adds a member to the source-file.

#### **\*NONE**

No action takes place.

#### **\*REPLACE**

The system clears the existing source-file member and adds the DDS records to the source-file member.

### Number Format (NBRFMT) 7,A

Specifies the data format numeric values will be stored in.

Possible values are:

#### **\*PACKED**

All numeric data will be stored in packed data format.

#### **\*SIGNED**

All numeric data will be stored in signed data format.

### Date Format (DATEFMT) 10,A

Specifies the date format Dbase date fields will be stored in.

Possible values are:

#### **\*DATE**

All Dbase date fields will be converted to the date data type(L).

#### **\*CYMD**

All Dbase date fields will be converted to a numeric field in CYYMMDD format.

## Chapter 2 - How To Use The Convert Dbase To Database File (CVTDBDBF)

### Date Format (DATEFMT) 10,A(Cont'd)

**\*DMY**

All Dbase date fields will be converted to a numeric field in DDMMYY format.

**\*EUR**

All Dbase date fields will be converted to a numeric field in DDMMYYYY format.

**\*ISO**

All Dbase date fields will be converted to a numeric field in YYYYMMDD format.

**\*JDE**

All Dbase date fields will be converted to a numeric field in CYYDDD format.

**\*JUL**

All Dbase date fields will be converted to a numeric field in YYDDD format.

**\*LONGJUL**

All Dbase date fields will be converted to a numeric field in YYYYDDD format.

**\*MDY**

All Dbase date fields will be converted to a numeric field in MMDDYY format.

**\*TIMESTAMP**

All Dbase date fields will be converted to timestamp data type(Z).

**\*USA**

All Dbase date fields will be converted to a numeric field in MMDDYYYY format.

**\*YMD**

All Dbase date fields will be converted to a numeric field in YYMMDD format.

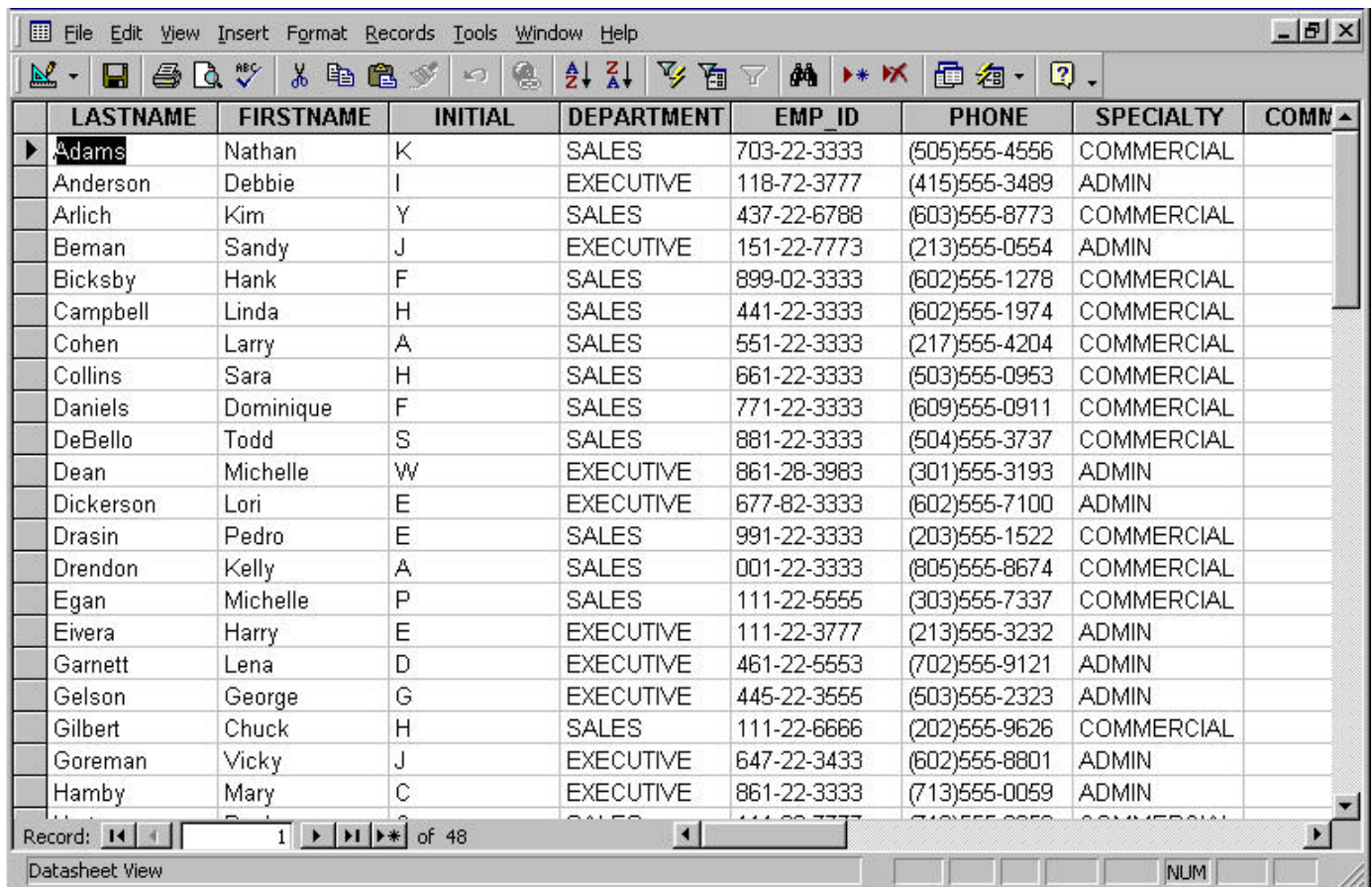
### Text(TEXT) 50,A

Specifies the text that briefly describes the AS/400 database file.

# CHAPTER 3 - CVTDBDBF Examples

## CVTDBDBF Example

The following example uses the CVTDBDBF command to extract employee information from a Dbase file named "EMPLOYEE.DBF" (Figure 3-1) and place the data in an AS/400 DB2 file named EMPLOYEE in library QGPL. Full data description specifications are generated and placed in QGPL/QDDSSRC.



The screenshot shows a database viewer window with a menu bar (File, Edit, View, Insert, Format, Records, Tools, Window, Help) and a toolbar. The main area displays a table with the following columns: LASTNAME, FIRSTNAME, INITIAL, DEPARTMENT, EMP\_ID, PHONE, SPECIALTY, and COMM. The data is sorted by LASTNAME. The first row is highlighted. The status bar at the bottom indicates 'Record: 1 of 48' and 'Datasheet View'.

▶	LASTNAME	FIRSTNAME	INITIAL	DEPARTMENT	EMP_ID	PHONE	SPECIALTY	COMM
▶	Adams	Nathan	K	SALES	703-22-3333	(505)555-4556	COMMERCIAL	
	Anderson	Debbie	I	EXECUTIVE	118-72-3777	(415)555-3489	ADMIN	
	Arlich	Kim	Y	SALES	437-22-6788	(603)555-8773	COMMERCIAL	
	Beman	Sandy	J	EXECUTIVE	151-22-7773	(213)555-0554	ADMIN	
	Bicksby	Hank	F	SALES	899-02-3333	(602)555-1278	COMMERCIAL	
	Campbell	Linda	H	SALES	441-22-3333	(602)555-1974	COMMERCIAL	
	Cohen	Larry	A	SALES	551-22-3333	(217)555-4204	COMMERCIAL	
	Collins	Sara	H	SALES	661-22-3333	(503)555-0953	COMMERCIAL	
	Daniels	Dominique	F	SALES	771-22-3333	(609)555-0911	COMMERCIAL	
	DeBello	Todd	S	SALES	881-22-3333	(504)555-3737	COMMERCIAL	
	Dean	Michelle	W	EXECUTIVE	861-28-3983	(301)555-3193	ADMIN	
	Dickerson	Lori	E	EXECUTIVE	677-82-3333	(602)555-7100	ADMIN	
	Drasin	Pedro	E	SALES	991-22-3333	(203)555-1522	COMMERCIAL	
	Drendon	Kelly	A	SALES	001-22-3333	(805)555-8674	COMMERCIAL	
	Egan	Michelle	P	SALES	111-22-5555	(303)555-7337	COMMERCIAL	
	Eivera	Harry	E	EXECUTIVE	111-22-3777	(213)555-3232	ADMIN	
	Garnett	Lena	D	EXECUTIVE	461-22-5553	(702)555-9121	ADMIN	
	Gelson	George	G	EXECUTIVE	445-22-3555	(503)555-2323	ADMIN	
	Gilbert	Chuck	H	SALES	111-22-6666	(202)555-9626	COMMERCIAL	
	Goreman	Vicky	J	EXECUTIVE	647-22-3433	(602)555-8801	ADMIN	
	Hamby	Mary	C	EXECUTIVE	861-22-3333	(713)555-0059	ADMIN	

Figure 3-1

## Chapter 3 - CVTDBDBF Examples

The complete command is shown below..

```
Convert Dbase to Database File (CVTDBDBF)
Type choices, press Enter.
Stream File . . . . . STMF          > /qdlS/employee.dbf
To file . . . . . TOFILE          > EMPLOYEE
Library . . . . .                > QGPL
To Member . . . . . TOMBR         *FIRST
Replace or add records . . . . . MBROPT *NONE
Create file . . . . . CRTFILE     > *YES
DDS Source file . . . . . SRCFILE  > QDDSSRC
Library . . . . .                > QGPL
Replace or add DDS member . . . . . DDSOPT > *ADD
Number data format . . . . . NBRFMT *PACKED
Date format . . . . . DATEFMT     *USA
AS/400 file text . . . . . TEXT    > 'PC Employee Dbase file'
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
```

Figure 3-2

```
CVTDBDBF STMF('/qdlS/employee.dbf') TOFILE(QGPL/EMPLOYEE) MBROPT(*ADD) CRTFILE(*YES)
SRCFILE(QGPL/QDDSSRC)DDSOPT(*ADD)
```

## Chapter 3 - CVTDBDBF Examples

The resulting AS/400 physical file is shown below:

```

5763SS1 V3R2M0 960517          S10135FA          02/04/01  22:53:59
Display Device . . . . . : DSP01
User . . . . . : QSECOFR
                    Display Physical File Member
File . . . . . : EMPLOYEE      Library . . . . . : QGPL
Member . . . . . : EMPLOYEE    Record . . . . . : 1
Control . . . . . W1          Column . . . . . : 1
Find . . . . .
*...+....1....+....2....+....3....+....4....+....5....+....6....+....7....+...
Adams      Nathan    KSALES      703-22-3333(505)555-4556COMMERCIAL
Anderson   Debbie    IEXECUTIVE  118-72-3777(415)555-3489ADMIN
Arlich     Kim       YSALES      437-22-6788(603)555-8773COMMERCIAL
Beman     Sandy    JEXECUTIVE  151-22-7773(213)555-0554ADMIN
Bicksby   Hank     FSALES      899-02-3333(602)555-1278COMMERCIAL
Campbell  Linda    HSALES      441-22-3333(602)555-1974COMMERCIAL
Cohen     Larry    ASALES      551-22-3333(217)555-4204COMMERCIAL
Collins   Sara     HSALES      661-22-3333(503)555-0953COMMERCIAL
Daniels   Dominique FSALES      771-22-3333(609)555-0911COMMERCIAL
DeBello   Todd     SSALES      881-22-3333(504)555-3737COMMERCIAL
Dean      Michelle WEXECUTIVE  861-28-3983(301)555-3193ADMIN
Dickerson  Lori     EEXECUTIVE  677-82-3333(602)555-7100ADMIN
Drasin    Pedro    ESALES      991-22-3333(203)555-1522COMMERCIAL
Drendon   Kelly    ASALES      001-22-3333(805)555-8674COMMERCIAL
Egan     Michelle PSALES      111-22-5555(303)555-7337COMMERCIAL
                                                More...

F3=Exit  F12=Cancel  F19=Left  F20=Right  F24=More keys

```

Figure 3-3

The resulting DDS is shown below

```

A*****
A*
A* Source: /qdl/employee.dbf
A* Date: 02/04/01
A* Time: 01:21
A*
A*****
A R REMLOYEE
A LASTNAME 15A
A FIRSTNAME 10A
A INITIAL 1A
A DEPARTMENT 15A
A EMP_ID 11A
A PHONE 13A
A SPECIALTY 11A
A COMMENTS 40A
A AWARDS 15A
A DATE_HIRED 8P 0
A DEGREE 3A
A EXEMPT 1A
A FULL_TIME 1A
A LABORGRADE 1S 0
A RATE 4P 1
A SALARY 9P 0
A TITLE 15A
A YRS_EXPER 4P 1
A ADDRESS1 20A
A ADDRESS2 20A
A CITY 14A
A STATE 2A
A ZIP 10A
A @DBASELOCK 16A

```

Figure 3-4



## Chapter 3 - CVTDBDBF Examples

---

### Add Records

To add records to an existing file perform the following:

1. Change the CRTFILE parameter to its default of \*NO
2. Remove the library name from the SRCFILE parameter
3. Remove the DDSOPT so that it defaults to \*NONE, to indicate that no actions are to be done to the existing DDS.
4. Change the MBROPT parameter to \*ADD.

The following example shows how to append additional records to the example Employee file from the EMPLOYEE.DBF file.

```
CVTDBDBF STMF('/qdlS/employee.dbf') +  
         TOFILE(QGPL/EMPLOYEE) +  
         MBROPT(*ADD)
```

---

### Replace Records

To replace records in an existing file perform the following:

1. Change the MBROPT parameter to \*REPLACE
2. Change the CRTFILE parameter to its default of \*NO
3. Remove the library name from the SRCFILE parameter
4. Remove the DDSOPT so that it defaults to \*NONE, to indicate that no actions are to be done to the existing DDS.

The following example shows how to replace the existing records in the example Employee file with new records from the EMPLOYEE.DBF file.

```
CVTDBDBF STMF('/qdlS/employee.dbf') +  
         TOFILE(QGPL/EMPLOYEE) +  
         MBROPT(*REPLACE)
```

# CHAPTER 4 - How To Use The Convert Excel to Database File (CVTXLSDBF) Command

```
Job: B, I  Pgm: B, I  REXX: B, I  Exec

CVTXLSDBF  ---STMF(--object--)---TOFILE---+---*LIBL-----+---(file-name)---+----->
          |--- *CURLIB-----|          +---TOMBR(+---*FIRST-----+---)---+
          +-+ library-name/--|          +-+ *SHEET-----+
          +---member-name---+

>----->
+---MBROPT(+---*ADD-----+---)---+ +---CRTFILE(+---*YES---+---)---+ +---SRCFILE(+---*CURLIB-----+---+---QDSSRC-----+---)---+
+---*REPLACE--          +---*NO---+          +-+ library-name/+  +-+ source-file-name+

>----->
+---DDSOPT(+---*ADD-----+---)---+ +---RANGE(-Excel-range-name-)---+ +---SHEET(+---*ALL-----+---)---+ +---FLDROW(+---*NO---+---)---+
+---*NONE-----+          +-+ *FIRST-----+          +-+ *LAST-----+          +-+ *YES+
+---*REPLACE--          +-+ *LAST-----+          +-+ *###-----+
          +-+ Excel-sheet-name+

>----->
+---STRROW(1-65536)---+ +---STRCOL(A-IV)---+ +---ENDROW(1-65536)---+ +---ENDCOL(A-IV)---+

>----->
+---COLINFO(-field-decimal-positions/field-length/data-type/field-name)---+ +---*PACKED+ |
+---NBRFMT(+---*SIGNED---)---+

>----->
+---*DATE-----+ | | | | +---*TIME---+ | | | |
+---DMY-----+ | | | | +---*HM---+ | | | | +---TEXT(-text-)---+
+---*EUR-----+ | | | | +---*HMS---+ | | | |
+---*ISO-----+ | | | |
+---*JDE-----+ | | | |
+---*JUL-----+ | | | |
+---*LONGJUL---+ | | | |
+---*MDY-----+ | | | |
+---*TIMESTAMP+ | | | |
+---*USA-----+ | | | |
+---*YMD-----+ | | | |
```

## General Description

The Convert Excel To Database File (CVTXLSDBF) command converts Excel files stored in the IFS into AS/400 database files and generates data description specifications in a specified source file member.

## Usage

### Stream File (STMF) 128,A

Specify the path name of the Excel file. To select an Excel file named 'Test.xls' in a folder named 'folder1', specify '/qdl/folder1/test.xls'.

### To File (TOFILE) 20,A

Specifies the qualified name of the AS/400 file that will receive the converted records. This is a required parameter.

Possible values are:

#### **to-file**

Specify the name of the file that receives the converted records.

The to-file name can be qualified by one of the following library values:

## Chapter 4 - How To Use The Convert Excel To Database File (CVTXMLSDBF)

### To File (TOFILE) 20,A(Cont'd)

#### **\*LIBL**

All libraries in the job's library list are searched until the first match is found.

#### **\*CURLIB**

The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

#### **library-name**

Specify the name of the library to be searched.

### To Member(TOMBR) 10,A

Specifies the database file member name of the to-file member that receives the converted records. A maximum of 256 member names can be specified.

Possible values are:

#### **\*FIRST**

The first member of the specified file is used.

#### **\*SHEET**

A member with the same name as the corresponding Excel sheet will receive the converted records.

#### **member-name**

Specify the name of the physical to-file member that receives the converted records.

### Member Option (MBROPT) 8,A

Specifies whether the converted records replace or are added to the existing records.

Possible values are:

#### **\*ADD**

The system adds the new records to the end of the existing records.

#### **\*REPLACE**

The system clears the existing member and adds the new records.

### Create File (CRTFILE) 4,A

Specifies whether a physical file is created to receive the converted records if the specified to-file does not exist.

Possible values are:

#### **\*YES**

If the to-file does not exist, a physical file is created with the name specified on the To File prompt (TOFILE parameter). The following conditions must all be true for the convert operation to create a to-file:

- ◆ The library name must be specified on the To File prompt (TOFILE parameter). The default value, \*LIBL, is not allowed.

## Chapter 4 - How To Use The Convert Excel To Database File (CVTXMLSDBF)

- ◆ The user running this command must be authorized to add the file to the to-file library, and must have operational authority to the Create Physical File (CRTPF) command.

### **Create File (CRTFILE) 4,A**(Cont'd)

- A qualified DDS source filename must be specified on the Source File prompt (SRCFILE parameter).

#### **\*NO**

The to-file must exist when this command is started. A physical file is not created to receive the converted records

### **Source File (SRCFILE) 20,A**

Specifies the name of the source file that will receive the data description specifications (DDS) source generated by the command.

Possible values are:

#### **QDDSSRC**

The DDS source file named QDDSSRC will receive the data description specifications used to create the physical file.

#### **qualified-source-file-name**

Specify the name of the source file that will receive the source descriptions used to create the physical file.

### **DDS Option (DDSOPT) 8,A**

Specifies whether the data description specifications (DDS) source will replace the existing DDS source member or if the member will be added to the source-file.

Possible values are:

#### **\*ADD**

The system adds a member to the source-file.

#### **\*NONE**

No action takes place.

#### **\*REPLACE**

The system clears the existing source-file member and adds the DDS records to the source file member.

### **Field Names In First Row (FLDROW) 4,A**

Specifies whether field names are stored in the first row of the data to be converted. Note, first row in this context means the first row of the data, not row 1 of the spreadsheet.

Possible values are:

#### **\*YES**

The first row contains field names.

#### **\*NO**

The first row does not contain field names.

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### **Starting Row(STRROW) 5,0**

Specifies the starting row of the spreadsheet. Enter a value between 1 and 65536. This parameter cannot be specified with the RANGE parameter.

### **Starting Column(STRCOL) 2,A**

Specifies the starting column of the spreadsheet. Enter a column designation between A - Z, BA - BZ, ... IA- IV. This parameter cannot be specified with the RANGE parameter.

### **Ending Row(ENDROW) 5,0**

Specifies the ending row of the spreadsheet. Enter a value between 1 and 65536. This parameter cannot be specified with the RANGE parameter.

### **Ending Column(ENDCOL) 2,A**

Specifies the ending column of the spreadsheet. Enter a column designation between A - Z, BA - BZ, ... IA- IV. This parameter cannot be specified with the RANGE parameter.

### **Range(RANGE) 32,A**

Specifies the Excel range name. Data will only be selected from cells specified by this range name. Cannot be specified with the Starting Row/Column or Ending Row/Column parameters.

### **Sheet(SHEET) 32,A**

Specifies the Excel Sheet name. This parameter can be used in combination with either the RANGE parameter or the Starting Row/Column Ending Row/Column parameters. A maximum of 256 sheet names can be specified.

Possible values are:

#### **\*All**

All sheets in the Excel file will be converted.

#### **\*First**

Only the first sheet of the Excel file will be converted.

#### **\*Last**

Only the last sheet of the Excel file will be converted.

#### **\*###**

Only the sheet whose sequence is specified by this parameter will be converted. For example, entering \*3 will convert the third sheet.

#### **Name**

Only the sheet name specified will be converted.

### **Column Information (COLINFO)**

Used to specify the AS/400 field name, data type, field length and decimal positions for each column of the Excel spreadsheet. Up to 256 columns may be defined. A DDS member will be created based on the entries specified by this parameter.

#### **field-name 10,A**

Specify the desired field name or leave blank to use the column heading in the spreadsheet. \*YES must be specified for the FLDRROW parameter.

#### **data-type 1,A**

Specify the data type for the column.

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### Column Information (COLINFO)(Cont'd)

Possible values are:

**A**

The data in the column is alphabetic.

**N**

The data in the column is numeric.

**D**

The data in the column is a date.

**T**

The data in the column is a time.

**field-length \*INTEGER 2**

Specify a field length from 1 to 256 characters. Field lengths are ignored for Date and Time data types if \*DATE, \*TIMESTAMP is specified for the DATEFMT parameter or \*TIME is specified for the TIMEFMT parameter.

**field-decimal-positions \*INTEGER 2**

Specify the field decimal positions from 0 to 30.

### Number Format (NBRFMT) 7,A

Specifies the data format numeric values will be stored in.

Possible values are:

**\*PACKED**

All numeric data will be stored in packed data format.

**\*SIGNED**

All numeric data will be stored in signed data format.

### Date Format (DATEFMT) 10,A

Specifies the date format Excel date cells will be converted to.

Possible values are:

**\*DATE**

All Excel date cells will be converted to the date data type(L).

**\*CYMD**

All Excel date cells will be converted to a numeric field in CYYMMDD format.

**\*DMY**

All Excel date cells will be converted to a numeric field in DDMMYY format.

**\*EUR**

All Excel date cells will be converted to a numeric field in DDMMYYYY format.

**\*ISO**

All Excel date cells will be converted to a numeric field in YYYYMMDD format.

## Chapter 4 - How To Use The Convert Excel To Database File (CVTXMLSDBF)

### Date Format (DATEFMT) 10,A(Cont'd)

**\*JDE**

All Excel date cells will be converted to a numeric field in CYYDDD format.

**\*JUL**

All Excel date cells will be converted to a numeric field in YYDDD format.

**\*LONGJUL**

All Excel date cells will be converted to a numeric field in YYYYDDD format.

**\*MDY**

All Excel date cells will be converted to a numeric field in MMDDYY format.

**\*TIMESTAMP**

All Excel date cells will be converted to AS/400 timestamp data type(Z) format  
YYYY-MM-DD-HH:MM:SS:SSSSSS

**\*USA**

All Excel date cells will be converted to a numeric field in MMDDYYYYY format.

**\*YMD**

All Excel date cells will be converted to a numeric field in YYMMDD format.

### Time Format (TIMEFMT) 5,A

Specifies the time format Excel time cells will be converted to.

Possible values are:

**\*TIME**

All Excel time cells will be converted to AS/400 time data type(T).

**\*HM**

All Excel time cells will be converted to a numeric field in HHMM format.

**\*HMS**

All Excel time cells will be converted to a numeric field in HHMMSS format.

### Text(TEXT) 50,A

Specifies the text that briefly describes the AS/400 database file. The following special values can be used:

**Date** - For the current date specify, \*DMY, \*MDY, \*EUR, \*ISO, \*JIS, \*JUL, \*YMD or \*USA

**Time** - For the current time specify \*HM or \*HMS

**\*EDIT**

**\*FILE** - The TOFILE file name is inserted.

**\*LIB** - The TOFILE library name is inserted.

**\*MBR** - The TOMBR member name is inserted.

**\*PATH** - The IFS path name is inserted.

**\*SHEET** - The Excel sheet name is inserted.

**\*STMF** - The streamfile name is inserted.

**\*TAB** - Eight spaces will be inserted.

## Chapter 4 - How To Use The Convert Excel To Database File (CVTXMLSDBF)



## Chapter 4 - How To Use The Convert Excel To Database File (CVTXMLSDBF)

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### Custom Formatting

Excel permits the spreadsheet user to create custom formats. The following table lists how CVTXMLSDBF interprets Excel custom formatting:

Excel Format Command or Character(s)	CVTXMLSDBF Interpretation	
	Data Type	Decimal Places
General	Character or Numeric (dependent on cell value)	0 if data type is character, else dependent on column formatting
@	Character	0
D, D, H, h, M, m, S, s, Y, y	Date or Time format. If the letters D, d, Y or y are encountered the data type will be Date, else Time	0
0, #, ?	Numeric	Dependent on column formatting

---

### Formula Calculation

The CVTXMLSDBF command will not recalculate a formula, it only returns the value that is presently stored in the formula. Certain types of Excel cells do not store the resulting value, namely, Array and Shared formulas, hence, CVTXMLSDBF will not return values for cells that contain these cell types.

---

### Formula Errors

When Excel encounters an error in a formula it displays one of several possible Boolean values. For a character formatted field CVTXMLSDBF will return the Boolean Value, for a numeric field it will return 0.

Boolean Value	Description
#NULL!	Occurs when a formula specifies an intersection of two areas that do not intersect.
#DIV/0!	Occurs when a formula divides by 0.
#VALUE!	Occurs when the wrong type of argument or operand is used, or if the formula auto correct feature cannot correct the formula.
#REF!	Occurs when a cell reference is not valid.
#NAME?	Occurs when Excel does not recognize text in a formula.
#NUM!	Occurs when Excel expects a numeric value.
#N/A	Occurs when a value is not available to a function or formula.

# CHAPTER 5 - CVTXMLSDBF Examples

## CVTXMLSDBF Example

The following example uses the CVTXMLSDBF command to extract first quarter expenses from an Excel spreadsheet named "EXPENSE.XLS"(Figure 5-1) and places the data in an AS/400 DB2 file named EXPENSE in library QGPL. Full data description specifications are generated and placed in QGPL/QDDSSRC.

The screenshot shows a Microsoft Excel spreadsheet titled "expense.xls". The spreadsheet contains a table of expenses with the following data:

	A	B	C	D	E	F	G	H	I
1	Account	Description	JAN	FEB	MAR	QTR1 TTL	APR	MAY	JUN
2	97110	Rent	6,172	6,172	6,172	18,516	6,172	6,172	6,172
3	97250	Travel & Entertainment	2,625	2,625	2,625	7,875	2,625	2,625	2,625
4	97254	Meeting Expense	150	150	150	450	150	150	150
5	97115	Telephone	1,250	1,250	1,250	3,750	1,250	1,250	1,250
6	97131	Supplies	1,200	1,200	1,200	3,600	1,200	1,200	1,200
7	97215	Lic/Dues/Subscriptions	250	250	250	750	250	250	250
8	97135	Outside/Temp Services			750	750		750	
9	97137	Postage	250	250	250	750	250	250	250
10	97133	Express Mail	200	200	200	600	200	200	200
11	99000	Repairs/Service	250	250	250	750	250	250	250
12	96310	Depreciation	880	880	880	2,640	880	880	880
13	99115	Prof/Legal Fees				0			
14	98560	Moving				0			
15	97199	Miscellaneous	200	200	200	600	200	200	200
16	23100	Furniture		2,000		2,000		2,000	

Figure 5-1

## Chapter 5 - CVTXLSDBF Examples

The complete command is shown below:

```

5763SS1 V3R2M0 960517          S10135FA          04/19/01 12:31:40
  Display Device . . . . . : DSP04S1
  User . . . . . : QSECOFR
          Convert Excel to Database File (CVTXLSDBF)
Type choices, press Enter.
Stream File . . . . . > '/qdlS/expense.xls'
To file . . . . . > EXPENSE      Name
  Library . . . . . > QGPL       Name, *LIBL, *CURLIB
To Member . . . . . > *FIRST    *FIRST, Name
Replace or add records . . . . . > *ADD      *NONE, *ADD, *REPLACE
Create file . . . . . > *YES     *NO, *YES
DDS Source file . . . . . > QDDSSRC  Name
  Library . . . . . > QGPL       Name, *CURLIB
Replace or add DDS member . . . . . > *ADD    *NONE, *ADD, *REPLACE
Starting Row . . . . . > 0        1-65536
Starting Column . . . . . >      A-IV
Ending Row . . . . . > 0        1-65536
Ending Column . . . . . >      A-IV
Range Name . . . . . > QTR1
Column Information . . . . .      Name
  Data Type . . . . . > N        A,D,N,T
  Field Length . . . . . > 8     1-256
  Decimal Places . . . . . > 0    0-30

          > A
          > 22
          >

          > N
          > 7
          > 0

          > N
          > 7
          > 0

          > N
          > 7
          > 0

*ALL,*FIRST,*LAST,*###,NAME . . . *ALL
Number data format . . . . . > *SIGNED  *PACKED, *SIGNED
Date format . . . . . > *USA      *MDY, *DMY, *EUR...
Time format . . . . . > *HMS     *HMS, *HM
Data errors . . . . . > *LOG     *LOG, *END
AS/400 file text . . . . .

                                          Bottom

                                          More...
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

Figure 5-2

```

CVTXLSDBF STMF('/qdlS/expense.xls') TOFILE(QGPL/Expense) (*ADD) FLDROW(*YES)
COLINFO(0/8/N/*N 0/22/A/*N 0/7/N/*N 0/7/N/*N 0/7/N/*N) MBROPT CRTFILE(*YES)
SRCFILE(QGPL/QDDSSRC) DDSOPT(*ADD) RANGE(QTR1) NBRFMT(*SIGNED)

```

## Chapter 5 - CVTXLSDBF Examples

The resulting AS/400 physical file is shown below:

```
5763SS1 V3R2M0 960517          S10135FA          04/19/01 12:31:04
  Display Device . . . . . : DSP04S1
  User . . . . . : QSECOFR
                                Display Physical File Member
File . . . . . : EXPENSE          Library . . . . . : QGPL
Member . . . . . : EXPENSE          Record . . . . . : 1
Control . . . . . : 1              Column . . . . . : 1
Find . . . . .
*...+...1...+...2...+...3...+...4...+...5...
00097110Rent                    000617200061720006172
00097250Travel & Entertainment000262500026250002625
00097254Meeting Expense        000015000001500000150
00097115Telephone              000125000012500001250
00097131Supplies               000120000012000001200
00097215Lic/Dues/Subscriptions000025000002500000250
00097135Outside/Temp Services 000000000000000000750
00097137Postage                000025000002500000250
00097133Express Mail           000020000002000000200
00099000Repairs/Service        000025000002500000250
00096310Depreciation           000088000008800000880
00099115Prof/Legal Fees        000000000000000000000
00098560Moving                 000000000000000000000
00097199Miscellaneous          000020000002000000200
```

Figure 5-3

The resulting DDS is shown below

```
A*****
A*
A* Source: /qdlr/expense.xls
A* Date: 04/14/01
A* Time: 12:12
A*
A*****
A          R REXPENSE
A          ACCOUNT          8S 0
A          DESCRIPTIO      22A
A          JAN              7S 0
A          FEB              7S 0
A          MAR              7S 0
```

Figure 5-4

## Chapter 5 - CVTXLSDBF Examples

---

### Add Records

To add records to an existing file perform the following:

1. Change the CRTFILE parameter to its default of \*NO
2. Remove the library name from the SRCFILE parameter
3. Remove the DDSOPT so that it defaults to \*NONE, to indicate that no actions are to be done to the existing DDS.
4. Change the MBROPT parameter to \*ADD.

The following example shows how to append additional records to the example Expense file from the Expense.xls file.

```
CVTDBDBF STMF('/qdlS/expense.xls') +  
  TOFILE(QGPL/EXPENSE) +  
  MBROPT(*ADD) +  
  RANGE(QTR1)
```

---

### Replace Records

To replace records in an existing file perform the following:

1. Change the MBROPT parameter to \*REPLACE
2. Change the CRTFILE parameter to its default of \*NO
3. Remove the library name from the SRCFILE parameter
4. Remove the DDSOPT so that it defaults to \*NONE, to indicate that no actions are to be done to the existing DDS.

The following example shows how to replace the existing records in the example Expense file with new records from the Expense.xls.DBF file.

```
CVTDBDBF STMF('/qdlS/expense.xls') +  
  TOFILE(QGPL/EXPENSE) +  
  MBROPT(*REPLACE) +  
  RANGE(QTR1)
```