

README.ASE - March 17, 1993

\*\*\*\*\*  
**AutoCAD Release 12 for Windows "RDead Me" for  
AutoCAD SQL Extension (ASE)**  
\*\*\*\*\*

This document contains last minute information that could not be included in the shipping manuals.

=====  
Contents  
=====

- 1.0 - Initializing Database Drivers
- 2.0 - ASE User Commands
- 3.0 - Driver-Specific Information
  - 3.1 - dBASE III PLUS
  - 3.2 - dBASE IV
  - 3.3 - Paradox
- 4.0 - AutoCAD SQL Interface
- 5.0 - Manual Corrections and Additions

=====  
-----  
**1.0 - Initializing Database Drivers**  
-----

Database drivers (DBMS) will not initialize properly if the working directory of the AutoCAD icon has changed. By default, the working directory of your AutoCAD icon is the ACADWIN directory. If you change the working directory of your AutoCAD icon in Program Manager, you will need to add the ACADWIN directory to your support path.

- a) Click on File/Preferences...
- b) Click on Environment.
- c) Add the AutoCAD directory to the Support path.

Example: c:\acadwin;c:\acadwin\support;c:\acadwin\fonts;c:\acadwin\sample

- d) Select OK in the Environment dialogue box.
- e) Select Save to ACAD.INI and then OK in the Preferences dialogue box.

-----  
**2.0 - ASE User Commands**  
-----

- ASE Menu

The ASE User Commands are located under the File pull-down menu and

the Root screen menu of ACAD.MNU. It is intended that the ASE User Commands be accessed from these menus. If ASEINIT is invoked from the command prompt, it doesn't update the pull-down menu. In this case you will have to select Initialize from the ASE pull-down or screen menu to access the ASE commands from these menus. A notification message, "ASE already Initialized" will be displayed.

If ASETERM or (xunload "ASE") is invoked from the command prompt, it doesn't update the pull-down menu so the menu is not reset to allow ASE to be initialized. In this case, you must (xload "ASE") and initialize through ASEINIT from the command line, if you want to access ASE again during the current drawing session.

#### - Initializing a Drawing with ASE

ASEINIT modifies the drawing. If you do not want any ASE information to be stored in the drawing, you may issue the ASEERASEALL command.

#### - Dialogue Boxes

Double clicking on a column in the ASESETROW list box chooses that current row.

Double clicking on a column in the ASEVIEWROW list box dismisses the dialogue box.

ASESQLED has a maximum SQL statement length of 255 characters in dialogue boxes. The maximum SQL statement length on the command line is 132 characters. In a SQL text file the maximum character length for one line is 256 characters. A SQL statement may be up to 1024 characters in length. As stated in the manual, the '&' at the end of the line in a SQL text file is the line continuation character. When displaying the results of a query to the text screen, fields of over 80 characters in size are truncated to 80 characters.

#### - Key Column Values

Approximate numeric values must be used with caution as key columns (ASESETTABLE). In certain databases, approximate numbers can lose their precision in the database table. As a result, a row might not be found by the real key value from ASE.

For example:

If a very big number is entered in dBASE IV, the precision can be lost in the database table. The ASE control database stores the exact key value as a double precision number. When ASE is looking for a row in a table it calls the driver with the exact key value, which in general is not equal to the value stored in the database.

The number 123456789012345.00 stored in a FLOAT field in dBASE IV will lose precision in database format. The SQL statement `SELECT * FROM tab1 WHERE fltflld = 123456789012345.00` returns the wrong result.

- SQL Table and Field Name Restrictions

In general, existing databases, tables, and columns that you already have will work with ASE, except those which contain SQL key words or delimiter tokens. The SQL key words and delimiter tokens are listed in chapter 5, page 150 of the AutoCAD SQL Extension Manual.

---

### 3.0 - Driver-Specific Information

---

#### - DBMS Setup

Specific database setup provided by the database vendor is not supplied in the ASE documentation. You must carefully read and install the database software according to the database vendor's instructions. All rules and procedures of the database vendor apply unless exceptions are specifically stated in the AutoCAD SQL Extension Manual Appendix A, or in this README document.

#### - Network Support and Locking

Network support is provided for the supplied drivers through table locking. The table will be locked for any updatable cursor. The table will not be locked for any non-updatable cursor. One way to make a cursor non-updatable is to use the ORDER BY clause in the SELECT statement.

### 3.1 - dBASE III PLUS

#### - Network Configuration and Table Locking

SHARE must be loaded before entering Windows for Table Locking to work.

On a PC-NFS network, SHARE must be loaded, and the network drive you are connecting to must be set to MUST SHARE, to activate ASE's table-locking mechanism in a network configuration. Use NFSCONF.EXE to configure the network drive to MUST SHARE or see your PC-NFS documentation for more information.

#### - Index Notes

To support indexes the dBASE III PLUS driver creates a system table SYSIDX3.DBF in the database directory. The schema is:

TBNAME CHAR(10) - table name  
IDXNAME CHAR(10) - index name

Index name length <= 8  
Table name length <= 8

This table will be created in the database directory after the first correct CREATE INDEX statement, or the user may create this

table in dBASE if existing indexes are to be added and used. The driver will only use indexes that are identified in this table.

This table is changed by the driver when the following statements are run:

#### CREATE INDEX

An error occurs if the same index name is found in SYSIDX3.

#### DROP INDEX

An error occurs if more than one record is found with the same index name in SYSIDX3.

#### DROP TABLE

All records in SYSIDX3 with the specified table name are deleted.

#### CREATE TABLE

All records in SYSIDX3 with the specified table name are deleted.

All SQL statements are allowed on SYSIDX3, except CREATE INDEX <indname> ON SYSIDX3.

If an open cursor on SYSIDX3 exists, statements that modify SYSIDX3 will not work.

Descending Indexes are not supported at this time.

#### - Error Codes

The dBASE III PLUS driver generates extended error codes (xerr). These are included below for your information:

#### Extended Error Codes for dBASE III PLUS

```
-----  
| 3 | Database not found  
| | Database environment variable was not set.  
| |  
-----
```

```
-----  
| 4 | Directory <name> doesn't exist  
| | Directory specified in database environment variable  
| | doesn't exist.  
| |  
-----
```

```
-----  
| 5 | Table <name> is locked  
| | Table is already in use.  
| |  
-----
```

```
-----  
| 7 | Table name <name> is too long  
-----
```

- | | Table name length exceeds 8 characters.  
| |
- 
- | 8 | Index name <name> is too long  
| | Index name length exceeds 8 characters.  
| |
- 
- | 9 | Duplicated index name in <sysidx3> table  
| |
- 
- | 10 | Can't create descending index  
| | dBASE3 doesn't support descending indexes.  
| |
- 
- | 11 | Column name <name> is too long  
| | Column name length exceeds 10 characters.  
| |
- 
- | 12 | Column <name> precision is too big  
| | Invalid field length was specified.  
| | Length of character column in dBASE3 must be less  
| | than 255.  
| | Precision of numeric column must be less than 19.  
| |
- 
- | 13 | Record length must be less than 4000  
| | Total length of data in dBASE3 row must be less  
| | than 4000.  
| |
- 
- | 14 | Table <sysidx3> is locked  
| | System table SYSIDX3 is already in use.  
| |
- 
- | 15 | Incorrect scale in column <name>  
| | Invalid scale was specified for numeric field.  
| | Numeric scale must be less than or equal to the  
| | column precision.  
| |
- 
- | 16 | Column <name> not found  
| | Index expression has column name that is not found  
| | in the table.  
| |
- 
- | 17 | Table already opened  
| | Attempt to 'CREATE TABLE', 'DROP TABLE',  
| | 'CREATE INDEX', 'DROP INDEX', but table is already  
| | in use.

| |

---

|18| System table <sysidx3> is write protected  
| |       Attempt to write to the write protected system table  
| |       SYSIDX3.  
| |

---

|19| Too many columns  
| |       Total number of columns in table must be less than 256.  
| |

---

|20| Table name already exists in system catalog  
| |       Table name already stored in SYSIDX3 table  
| |       (usually CREATE TABLE).  
| |

---

|21| Index name already exists in system catalog  
| |       Index name is already stored in system table SYSIDX3  
| |       (usually CREATE INDEX).  
| |

---

|22| Index name doesn't exist in system catalog  
| |       SQL command 'DROP INDEX' called and specified  
| |       index name isn't found in the SYSIDX3 table.  
| |

---

|23| Index doesn't exist  
| |       Internal error.  
| |

---

|24| Disk full  
| |

---

|25| Too many open files  
| |

---

|26| Table <name> is write protected  
| |       Specified table is set to read-only mode.  
| |

---

|27| Table <name> already exists in database directory  
| |       SQL command 'CREATE TABLE' called and file with  
| |       specified name exists in database directory.  
| |

---

|28| Table <name> doesn't exist in database directory  
| |       Specified table doesn't exist in the  
| |       database directory.  
| |

---

|29| Index <name> already exists in database directory  
| | SQL command 'CREATE INDEX' called and specified  
| | index file <name>.ndx already exists in the  
| | database directory.  
| |

---

|30| Index <name> doesn't exist in database directory  
| | Specified index doesn't exist in the database  
| | directory.  
| |

---

|31| Index <name> is write protected  
| | If table is read-only and index file is not read-only.  
| |

---

|32| Index key length is too long  
| | Index key length can't be more than 100 characters.  
| |

---

|33| Column type <type> can't be used in index  
| | Logical and Memo fields can't be used in index.  
| |

---

|34| Access denied. Directory <name>  
| | Operating system error in access to directory.  
| |

---

|35| Index expression is too long  
| | May be too many columns in  
| | the index key and columns names are long.  
| | Expression length can't be more than 220 characters.  
| |

---

|36| Non-inspected structure of system table <sysidx3>  
| | System table SYSIDX3 has the wrong structure.  
| |

---

|37| Can't create temporary file <name>  
| |

---

|38| Read error from file <name>  
| |

---

|39| Write error to file <name>  
| |

---

|40| Seek error in file <name>  
| |



---

|41| Access denied. File <name>

| |

---

|42| File <name> is locked

| |

---

|80| Table <name> is corrupted

| |

---

|83| Internal error in table <name>

| | Internal error in driver.

| |

---

|84| Table <name> is encrypted

| |

---

|85| Data can't be stored in table <name>

| | Data can't be stored in database  
| | (constraint violation).

| |

---

|110| Data is not unique in index <name>

| | Data is not unique in unique index.

| | This happens when SQL commands 'CREATE INDEX',  
| | 'UPDATE', or 'INSERT' are called.

| |

---

|118| Data doesn't satisfy index expression

| | For example, index expression is '1/n' and n = 0.0.

| |

---

|120| Index <name> is corrupted

| |

---

|121| Index <name> doesn't correspond to table

| | Index was created for another table or the  
| | table structure was changed separately from index file.

| |

---

|122| Index <name> doesn't exist

| | SQL commands 'DROP INDEX' or 'DROP TABLE' called and  
| | index file doesn't exist in the database directory.

| |

---

|123| Cannot insert NULL value in unique index <name>

| | This happens when SQL commands 'INSERT' or 'UPDATE'  
| | are called.

| |

### 3.2 - dBASE IV

#### - Network Configuration and Table Locking

On a PC-NFS network SHARE must be loaded, and the network drive you are connecting to must be set to MUST SHARE, to activate ASE's table locking mechanism in a network configuration. Use NFSCONF.EXE to configure the network drive to MUST SHARE or see your PC-NFS documentation for more information.

SHARE must be loaded before entering Windows for Table Locking to work.

#### - Error Codes

The dBASE IV driver generates extended error codes (xerr). These are included below for your information:

#### Extended Error Codes for dBASE IV

-----  
|3 | Database name not found in <sysdbs> system table  
| |

-----  
|4 | Directory <name> doesn't exist  
| | Directory for specified database doesn't exist.  
| |

-----  
|5 | Table <name> is locked  
| | Table is already in used.  
| |

-----  
|7 | Table name <name> is too long  
| | Table name length exceeds 8 characters.  
| |

-----  
|8 | Index name <name> is too long  
| | Index name length exceeds 10 characters.  
| |

-----  
|11 | Column name <name> is too long  
| | Column name length exceeds 10 characters.  
| |

-----  
|12 | Column <name> precision is too big  
| | Invalid field length was specified.  
| | Length of character column in DBASE4 must be less  
| | than 255.  
| | Precision of numeric column must be less than 19.

- 
- |13 | Record length must be less than 4000  
| | Total length of data in DBASE4 row must be less  
| | than 4000.  
| |
- 
- |15 | Incorrect scale in column <name>  
| | Invalid scale was specified for numeric field.  
| | Numeric scale must be less or equal than column  
| | precision.  
| |
- 
- |16 | Column <name> not found  
| | Index expression has column name that is not found  
| | in the table.  
| |
- 
- |17 | Table already opened  
| | Attempt to 'CREATE TABLE', 'DROP TABLE',  
| | 'CREATE INDEX', 'DROP INDEX', but table is already  
| | in use.  
| |
- 
- |18 | System table <name> is write protected  
| | Attempt to write to the write protected system table.  
| |
- 
- |19 | Too many columns  
| | Total number of columns in table must be less than 256.  
| |
- 
- |20 | Table name already exists in system catalog  
| | Table name is already stored in system table SYSTABLES  
| | (usually CREATE TABLE).  
| |
- 
- |21 | Index name already exists in system catalog  
| | Index name is already stored in system table SYSINDEXES  
| | (usually CREATE INDEX).  
| |
- 
- |22 | Index name doesn't exist in system catalog  
| | Index name not found in system table SYSINDEXES  
| | (usually DROP INDEX).  
| |
- 
- |23 | Index doesn't exist in index file  
| | Internal error.

24	Disk full There is no space on the disk.
25	Too many open files
26	Table <name> is write protected Table on disk is set to read-only mode.
27	Table <name> already exists in database directory Table name was not found in system catalog, but file (<name>.dbf) was found in database directory on the disk.
28	Table <name> doesn't exist in database directory Table name was found in system catalog, but file (<name>.dbf) was not found in database directory on disk.
29	Index <name> already exists Specified index already exists in the index file.
30	Index <name> doesn't exist Specified index doesn't exist in the index file.
31	Index file <name> is write protected Table is read-only, but index file is not read-only.
32	Index key is too long Length of index key can't be more than 100 characters.
33	Column type <type> can't be used in index Logical and Memo fields can't be used in index.
34	Access denied. Directory <name> OS error. Directory is inaccessible.

- |35 | Too many indexes  
| | One table can't have more than 47 associated indexes.  
| |
- 
- |36 | Table name doesn't exist in the system catalog.  
| |
- 
- |37 | Database name is too long  
| | Database name must be less than 9 characters.  
| |
- 
- |38 | Permission rights error  
| | User doesn't have permission to change  
| | system tables.  
| |
- 
- |39 | Index expression is too long  
| | Index expression written in internal database  
| | format is too long. Expression length can't be  
| | more 220 characters.  
| |
- 
- |40 | Can't use ASC and DESC together in the index  
| | Index columns must be only ASC or only DESC.  
| |
- 
- |41 | Can't create temporary file <name>  
| |
- 
- |42 | Read error from file <name>  
| |
- 
- |43 | Write error to file <name>  
| |
- 
- |44 | Seek error in file <name>  
| |
- 
- |45 | Access denied. File <name>  
| |
- 
- |46 | File <name> is locked  
| |
- 
- |75 | Table <name> is locked  
| | Table file is locked.  
| |
- 
- |80 | Table <name> is corrupted

81	Table <name> is not dBASE4 table
83	Internal error in table <name> Internal error in driver.
84	Table <name> is encrypted
85	Data can't be stored in table <name> Data can't be stored in database (constraint violation).
110	Data is not unique in index <name> Can't create unique index if candidate data is non-unique. Can't insert data if unique constraint is not satisfied. ( 'CREATE INDEX', 'UPDATE', 'INSERT' )
120	Index file <name> is corrupted
121	Index <name> doesn't correspond to table Index for another table or table structure was changed without changing index file.
122	Cannot insert NULL value in unique index <name> Nulls can't be used in unique index.

### 3.3 - Paradox

ASE is only compatible with Paradox 3.5 files. If you are using Paradox version 4.0 (or Paradox for Windows), it is very important that the files be saved in "Paradox 3.5 compatible mode."

---

### 4.0 - AutoCAD SQL Interface

---

#### - ASI\_SOVR

ASI\_SOVR is an indicator value that is set when an overflow condition occurs in the value of an output buffer. It would be set in the indp variable of an output buffer in a cursor command, such as asi\_fet().

Value ranges for MSC6, MSC7, Borland libraries are:

ASI_HINT	-32766	32766
ASI_HSHORT	-32766	32766
ASI_HLONG	-2147483646	2147483646

Value ranges for Watcom library are:

ASI_HINT	-2147483646	2147483646
ASI_HSHORT	-32766	32766
ASI_HLONG	-2147483646	2147483646

#### - EOS character

Cursor operations put an EOS character on the end of a truncated string into an output buffer.

#### - Locked Tables

If an ASI program abnormally terminates or doesn't close all of its handles, the table might remain locked. On WINDOWS, exiting AutoCAD will unlock the tables.

#### - Programming Tips

It is the responsibility of the programmer to declare and allocate asi\_handle variables for asi\_initdrv(), asi\_lon() and asi\_ohdl(). These handles must also be closed. Handles left open will keep tables locked. See the note below on "asi\_chdl" in the section

on Manual Corrections and Additions.

---

## 5.0 - Manual Corrections and Additions

---

### Chapter 2

- The last paragraph on page 37. ASESETRROW should read ASESETROW.

### Chapter 3

- ASEDELLINK, ASEEDITLINK, ASEEXPORT

Valid responses to the prompts provided on pages 53, 54 and 63 should read:

A (All)  
D (DBMS)  
B (dataBase)  
T (Table)  
R (Row)

### Chapter 5

- "asi\_cfgdrv", page 103. The fourth sentence of the first paragraph should read:

Even though this is not the goal of the interface...

- "asi\_chdl", page 105. In the example at the top of the page, all handles should be closed when an operation is complete or an error occurs. A call to asi\_chdl() should be added under the two asi\_errmsg() statements in the "if" statements of asi\_com() and asi\_exe(). The example should read:

```
if (asi_com(&handle, stm) == ASI_BAD {
    ads_printf("SQL statement: %s\n", stm);
    ads_printf("Error: %s in column %d.\n",
        asi_errmsg(&handle), asi_synerrpos(&handle));
    asi_chdl(&handle);
    return FALSE;
}
if (asi_exe(&handle) == ASI_BAD {
    ads_printf("%s\n", asi_errmsg(&handle));
    asi_chdl(&handle);
    return FALSE;
}
```



.

.

- "asi\_cvl", page 105. The function arguments should read:

```
int asi_cvl (handle, colnum, value, len, type)
```

- "asi\_sob", page 114, 115. The example settings of output buffers should read:

```
asi_sob
```

for all examples (instead of ase\_sob).