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Fujitsu Siemens Computers GmbH

DRIVE/WINDOWS (BS2000)

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Version 2.1B40

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1 General

This Release Notice is a summary of the major functions, dependencies and operating information with respect to the delivery unit

*5 DRIVE/WINDOWS (BS2000 *) V2.1B40

*5 The release level is that of June 2000.

DRIVE/WINDOWS V2.1 is the follow-up version of DRIVE/WINDOWS-DB V1.1.

*5 DRIVE is a 4th-generation programming language (4GL) for creating and using commercial OLTP applications in accordance with the guidelines of Open System Direction (OSD), the client/server concept used by Fujitsu Siemens Computers.

For SESAM and UDS users, DRIVE/WINDOWS, beside SQL, offers a number of new programming functions which allow you to develop applications more quickly and more simply. DRIVE procedures written with DRIVE V5.1 can still run in DRIVE/WINDOWS V2.1 as old-style programs.

*4

*5 DRIVE is Y2K-compatible as of version 2.1B30.

*4

*5 The SESAM/SQL user can work with both SESAM/SQL V1 and SESAM/SQL V2/V3 (extended SQL2 language elements). The add-on product ISOSQL for SQL2 extensions is no longer supported.

Programs for editing DMS files can now also be implemented in new style, and LEASY files still in old style.

This Release Notice is also supplied as a file in uppercase/lowercase.

If subsequent changes are made, this file will be updated. Changes will be marked with (*).

This file can be printed out by means of:

/PRINT SYSFGM.DRIVE.021.E,SPACE=E

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*5 *) BS2000 is a registered trademark of Fujitsu Siemens Computers GmbH

1.1 Ordering

*5 This software can be ordered from your local Fujitsu Siemens
*5 Computers distributor.
This product is subject to the general terms and
conditions for the purchase, use and maintenance of
software products.

1.2 Delivery

DRIVE/WINDOWS V2.1 files are supplied via SOLIS

*5 The description of the modules for Y2K support in old style
*5 and a description how to connect to the Web can be found
*5 in the appendix to the DRIVE supplement.

The SOLIS2 delivery letter lists the valid file and
volume attributes.

*1 The delivery contains the following files:

*1
*1 SYSLNK.DRIVE.021 DRIVE module library
*1
*1 SIPLIB.DRIVE.021 Library of special elements,
*1 containing
*1 - assembler sources with old-style
*1 DRIVE messages
*1 - FHS format for DRIVE message line
*1 and user profile for preparing
*1 for use
*1 - macro (ALLEX) and source (EXTAB)
*1 for defining user exits
*1
*1 SYSFGM.DRIVE.021.D Release Notice (German)
*1
*1 SYSFGM.DRIVE.021.E Release Notice (English)
*1
*1 SYSMSV.DRIVE.021 Message file
*1
*1 SSCM object files for the new-style DRIVE variant:
*1
*1 SYSSSC.DRIVE.021.CL34.XS Memory class 3/4-XS
*1 SYSSSC.DRIVE.021.CL34.NXS Memory class 3/4-NXS
*1
*1 DSSM declarations for the old-style DRIVE variant:
*1
*1 SYSSSD.DRIVE.021.CL4.NXS Memory class 3/4-NXS
*1 SYSSSD.DRIVE.021.CL4.XS Memory class 3/4-XS
*1 SYSSSD.DRIVE.021.CL5 Memory class 5
*1
*1 SYSLIB.DRIVE.021 Library with the main module
*1 for report programs and printer
*1 profiles

*1
*1 SYSMES.DRIVE.021 Message file
*1 (MSGMAKER processing)
*1
*1 SYSPRC.DRIVE.021 Library with
*1 - the installation procedure
*1 - the examples for KDCFILE
*1 generation
*1 - the optional Reps
*4 - procedures for creating
*5 SSCM object files
*5 - general procedures for starting DRIVE
*5 - installation procedure for
*5 merging into current UTM
*5 applications
*1
*1 SYSENT.DRIVE.021.DRICACHE ENTER procedure to start DRICACHE
*1
*1 SYSENT.DRIVE.021.DRILOG ENTER procedure to start DRILOG
*1
*1 SYSPRG.DRIVE.021.DRICACHE RICACHE utility
*1
*1 SYSPRG.DRIVE.021.DRILOG DRILOG utility
*1
*1 SYSPRG.DRIVE.021.DRILOGP DRILOGP utility
*1
*1 SYSPRG.DRIVE.021.DRIENDE DRIENDE utility

1.3 Documentation

*5 The following manuals are applicable for DRIVE/WINDOWS V2.1:
 *5 The manuals are not included in the DRIVE delivery package
 *5 and must be ordered separately.

Title	Order number
DRIVE/WINDOWS V2.1 (BS2000) Programming System	U5068-J-Z125-3 U5068-J-Z125-3-7600 (English)
DRIVE/WINDOWS V2.1 (BS2000) Language Reference Manual	U5095-J-Z125-3 U5095-J-Z125-3-7600 (English)
DRIVE/WINDOWS V2.1 (BS2000) System Directory	U5642-J-Z125-3 U5642-J-Z125-3-7600 (English)
DRIVE/WINDOWS V1.1 (BS2000, SINIX) DRIVE-SQL Statements for SESAM/SQL V1	U20069-J-Z145-2 U20069-J-Z145-2-7600 (English)
DRIVE/WINDOWS V2.1 (BS2000, SINIX) DRIVE-SQL Statements for SESAM/SQL V2	U20069-J-Z145-3 U20069-J-Z145-3-7600 (English)
DRIVE/WINDOWS V1.1 (BS2000, SINIX) DRIVE-SQL Statements for UDS	U20073-J-Z145-2 U20073-J-Z145-2-7600 (English)
DRIVE V2.2 Supplement	U41135-J-Z125-1 U41135-J-Z125-1-76 (English)

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2 Technical information

2.1 Resource requirements

2.1.1 Memory requirements of a UTM application

The minimum virtual address space required for new-style applications is:

- *1 SQL1: 9.2 MB; 3.5 MB can be loaded as shareable
- *1 SQL2: 11.4 MB; 3.5 MB can be loaded as shareable

The minimum virtual address space required for mixed mode (old style and new style):

- *1 SQL1: 11.1 MB; 4.6 MB can be loaded as shareable
- *1 SQL2: 13.2 MB; 4.6 MB can be loaded as shareable

Shared preloading of further components, such as LMS or CRTE, enables the user address space requirements to be reduced even further.

2.1.2 Memory requirements of a TIAM application

The minimum virtual address space required for new-style applications is:

- *1 SQL1/SQL2: 8.2 MB; 3.5 MB can be loaded as shareable

The minimum virtual address space required for mixed mode (old style and new style):

- *1 SQL1/SQL2: 9.9 MB; 4.6 MB can be loaded as shareable

Shared preloading of further components, such as LMS or CRTE, enables the user address space requirements to be reduced even further.

2.2 Software configuration

The following software requirements apply to the use of DRIVE/WINDOWS (BS2000) V2.1:

*5	Operating system	BS2000 V10.0 (no shared loading)
*5		as of BS2000/OSD V1
		to BS2000/OSD V4
*4	Runtime system	as of CRTE V2.0A
*5		CRTE V2.1 when using
		UTM V4.0 or V5.0
*5	DC interface	UTM V4.0 or UTM V5.0
*5	Format handling system	as of FHS V8.2
*5	Editor	as of EDT V16.6
*2	Data access system	as of LMS V3.0
		(see also LMS Release Notice)
*4		UDS/SQL V1.2, optional
*4		as of SESAM/SQL V1.1A80,
		optional
		as of SESAM/SQL V2.1A, optional
		LEASY V5.2 only old style,
		optional
Optional use:		
	Compiler	DRIVE/WINDOWS Compiler V2.1 XX

2.3 Product installation

Standard installation takes place via SOLIS.

*5 It is, however, recommended that you install the product
*5 with the IMON installation monitor. Beginning with OSD-
*5 SVP V2.0 or BS2000/OSD V3.0 (with IMON V2.2), the
*5 installation must be done with IMON. In addition to the
*5 notes in this Release Notice, pay attention to
*5 the installation information in the delivery letter as
*5 well as to the information in the product manual.

Parts of DRIVE can be loaded in shared mode. SYSSC
declaration files for the applications class 4 XS/NXS
and SYSSSD declaration files for class 4 XS/NXS and
class 5 for old-style mode are supplied. The standard
usage is class 4 XS mode.

*4 The message SCM4153 Incompatible SSC-OBJ file
*4 SYSSSC.DRIVE.021.xxx when creating the subsystem entry
*4 for the DRIVE21 subsystem means that the SSCM version
*4 on the target system and the SSCM version with which the
*4 SSC-OBJ file was created are not compatible.
*4 For this reason, as of DRIVE V2.1B30, the creation
*4 procedures are supplied in addition to the SSC-OBJ files.
*4 The creation procedures DRIPRC.SYSSSC.CL34.NXS and XS
*4 are located in the SYSPRC.DRIVE.021 library.

2.4 Product use

*1 Before DRIVE/WINDOWS V2.1 is used, you have to start LLMs
*1 for pure old-style mode start phases (as before). This is
*1 done using the installation procedure DRIPRC.INSTALL.DRIVE
*1 from the library SYSPRC.DRIVE.021. The installation
*1 procedure supplied with the compiler (see Compiler for
*1 description) is to be used for installing with the DRIVE
*1 compiler.

*1 The name of the start LLM must either be DRISES or begin
*1 with the string DRIVE for operation with SESAM-SQL V1.

*2 Starting DRIVE/WINDOWS:

*2 DRIVE is started with the following call:

```
*2          /START-PROG FROM-FILE=*MODULE -  
*4          / (LIBRARY=<user-id>.<library with startllm>,-  
*2          / ELEM=<startelement>,<prog-mode>,-  
*2          / RUN-MODE=ADVANCED -  
*2          / (ALTERNATE-LIBRARIES=YES, -  
*2          / UNRESOLVED-EXTRNS=DELAY, -  
*2          / LOAD-INFORMATION=REFERENCES))
```

*2 Meaning:

```
*2          <startelement> the DRIVE start LLM  
*2          <prog-mode> = ANY for XS operation  
*2          <prog-mode> = 24 for NXS operation
```

*2 The missing ALTERNATE-LIBRARIES=YES,

*2 UNRESOLVED-EXTRNS=DELAY and LOAD-INFORMATION=REFERENCES
*2 and LINK assignments to BLSLIBxx lead to crashes because
*2 open entries are not satisfied.

*5 For applications with UDS V2.2, you must specify NAME-
*5 COLLISION=STD during the start. For all other applications
*5 NAME-COLLISION=ABORT.

*1 BINDER is used to link the DRIVE start elements and BLS
*1 is used to load and start them.
*1 With this form of linking, external cross references can
*1 be left open and are then satisfied at startup.
*2 The following libraries must be assigned with LINK=BLSLIBxx:
*2 - LMS, FHS and SYSTEM library
*2 (if the BLSLIBxx assignments are omitted, the load process
*2 aborts with the DRIVE message "no DRI0055 BLSLIB
*4 assignment for LMS/FHS/DCCOBRTS")
*2 - CRTE library
*2 (if the BLSLIBxx assignment is missing, the load process
*2 aborts with the message "BLS0340 UNRESOLVED EXTRN on
*2 IC@MAIN, IC@SINI, ITOSRQE, \$STDOUT", followed by a crash
*4 at address '00000005')

*2 It must be ensured that no older software versions with
*2 libraries assigned with BLSLIBxx are loaded as shared.
*2 If, for example, LMS V2.0 is loaded as shared, loading a
*2 TIAM phase leads to the message
*2 "DRI0022 'LMS' message: 0(0:0)".
*2 You get the same reaction if there is an old LMS library
*2 under \$TSOS, even if this version is not loaded as shared.
*4

*4 You should avoid storing more than one start LLM in the
*4 same library since at startup BLS tries to resolve open
*4 external references from this library.
*4 The start LLM should not be located in the DRIVE module
*4 library SYSLNK.DRIVE.021 either.
*4

*4 As of SESAM/SQL 2.2 SESAM start parameters may no longer
*4 be included in the start procedure for the UTM application.
*4 These should be specified in the SESAM configuration file,
*4 otherwise the application start is aborted.

*1 Conflicts when installing, loading and starting DRIVE
*1 (BS2000) in different modes (TIAM and UTM operation):
*1 -----
*1 Starting an application (i.e. the start LLM) in the wrong
*1 mode (PROG-MODE=24 and STARTLLM=XS or viceversa), can result
*1 in widely varying, non-interceptable errors (from an error
*1 message to a crash). The errors only occur with SESAM SQL1
*1 or if DRILLM21 is loaded as shared.
*2

*2 If a C module has the same name as an entry within it and
*2 this entry is called by DRIVE via CALL MODULE, the internal
*2 DRIVE search strategy causes DRIVE to restart and when it
*2 tries to load the DRIVE main module, a message is output
*2 that this is a duplicate and the load is aborted.
*2
*2
*2
*2

```
*2      Faulty DB system installation:
*2      - install SESAMV1, start UDS: --> BLS message
*2          SESDCAMV not found
*2      - install SESAMV2, start UDS: --> BLS message SECMOD1
*2          not found and message DRI0536
*2      - install UDS, start SESAMV1/V2: --> message UDS0242
*2      - install SESAMV1, start SESAMV2: --> RAISE 876 in
*2          Idrsasn1_eval_order
*2      - install SESAMV2, start SESAMV1: --> BLS message
*2          SECMOD1 not found and message DRI0536
*2
*2      Open IC@..22A, $$IO..22, $STDOUT entries when starting
*2      DRIVE indicate an incorrect CRTE version (< V2.0).
*4      CRTE version 2.1 must be used (for UTM applications as
*4      of UTM V4.0) if the open Extrn IC@ASSP is displayed at
*4      startup.
*2
*2      If FHS is loaded as shared, only the connection is satisfied
*2      via the BLSLIBxx link assignment and all other modules,
*2      which are linked via BIND, are satisfied via the part of FHS
*2      that is loaded as shared. If the connection part of FHS and
*2      the part loaded as shared are different versions, this leads
*2      to problems (e.g. open entries).
*2
*2      If a UTM application is started which contains object
*2      operation for both old and new-style and the runtime system
*2      for the old-style compiler (SYSLNK.DRIVE-COMP-LZS.021.OLD
*2      with the link name DRTOML) is not assigned, an IW5C occurs
*2      and the message "no memory available for the runtime stack".
*2
*4      As of UTM 4.0 a RESOLVE ,&CRTE (CRTE as of V2.1) is
*4      necessary when linking DRIVE old-style load modules. In
*4      this case you should use the installation procedure
*4      DRIPRC.INSTALL.DRIVE.UTM40 in the SYSPRC.DRIVE.021 library.
*1
*1      DRIVE variants loaded as non-shared with SESAM/SQL V1
*1      -----
*1      A DRIVE start LLM with either XS or NXS capability is
*1      created dependent on the different SESAM connection modules.
*1
*1      STARTLLM = XS and PROGMODE = 24 :
*1      TIAM operation: each SESAM statement returns the error
*1          message DRI9830 (DBH either not yet or no
*1          longer available)
*1      UTM operation: crash while reading the first SESAM start
*1          parameter with K071 internal error in SESAM
*1          database connection: operation = STPA,
*1          error = KU0C, DB trace info=40404040
*1
*1      STARTLLM = NXS and PROGMODE = ANY :
*1      TIAM operation: crash at address IDRMAIN + X'24' with EC=48
*1          (because of PROGMODE=ANY, CRTE is loaded at
*1          the top; the first byte of the call address
```

```
*1          is deleted when the first C function is
*1          called)
*1      UTM operation: crash before reading the UTM start
*1          parameters in module KDCR100, code=KDCDI07
```

```
*1      DRIVE-LLM DRILLM21 loaded as shared
*1      with SESAM/SQL V1, SESAM/SQL V2 or UDS database system
*1      -----
*1      DRILLM21 code part in CLASS34 - NXS loaded as shared and
*1      Startllm = XS and PROGMODE = ANY      :
*1      DRILLM21 code part is loaded below 16 MB
*1      DRILLM21 data part is loaded above 16 MB
*1          -> crash after loading DRILLM21.
*1
*1      DRILLM21 code part in CLASS34 - XS loaded as shared and
*1      Startllm = NXS and PROGMODE = 24      :
*1      DRILLM21 code part is loaded above 16 MB
*1      DRILLM21 data part is loaded below 16 MB
*1          -> crash after loading DRILLM21.
```

2.4.1 Installation of the MIP file

Installation of the MIP file takes place automatically via SOLIS.

2.4.2 Installation of UTM components

For generation of the UTM components, the user is supplied with control statement files for the KDCEF program (in the library SYSPRC.DRIVE.021).

```
*1      These files contain only DRIVE-specific information and
*1      must first be modified/updated by the user as follows:
```

- <DRIVE-LIBRARY> and <SESAM-LIBRARY>
must be supplied with user-specific values.
- the DTP-specific parameters specified in angle brackets
must be converted if distributed transaction processing
is used.

```
*1      User-specific values (e.g. USER) and the KDCDEF parameters
*1      ROOT, FORMSYS, OPTION GEN=ALL, MAX APPLINAME=,
*1      MAX APPLIMODE= and MAX KDCFILE must be specified separately.
```

The function key assignments must be checked.

The values specified for MAX correspond to the minimum requirements for DRIVE.

If necessary, the UTM generation procedure has to be modified (e.g. FHSLIB, ALTLIB2 assignment for library with the KDCB macro).

Once the control statement files have been assigned by means of OPTION DATA, the program KDCDEF generates the source of the connection program (KDCROOT) and the KDCFILE.

The corresponding phases are produced by running the

installation procedure named in section 2.4.

*5 If DRIVE is to be integrated into existing UTM applications,
*5 the DRIVE-specific instructions from the general installation
*5 procedure DRIPRC.INSTALL.RAHMEN.SESAM for SESAM version or
*5 DRIPRC.INSTALL.RAHMEN.MIX for mixed operation version must be
*5 integrated into the user-specific binding procedure to produce
*5 the user-specific loading module.

2.5 Obsolete functions and those to be discontinued

TOM-REF connection

ISOSQL support (functionality is now covered by
SESAM/SQL V2 access).

*1 The NXS variants of DRIVE are supported for the last time
*1 in version 2.1.

The HELP statement has been replaced by the online lexicons
DRIVE, SESAM and UDS, which are supplied on disk for
Windows-PC. Further information on this can be found
in the README file.

2.6 Incompatibilities

*5 Intermediary codes new style objects generated with the DRIVE
*5 compiler must be regenerated.

*5 There is a new DML_State:
*5 'SQL CONV WARNING' for the SQLSTATE=01004, that up to V2.1B30
*5 was mapped to 'OK'. Explicit WHENEVER handling, if required,
*5 must be expanded by the new SESAM-SQL2 warning event.
*5 (Refer to Section 6.5.3 in the DRIVE V2.2 supplement).

The following information on compatibility refers to
DRIVE/WINDOWS-DB V1.1

- Link names

*2 The link names are unchanged; file names have been
*2 changed from .011 to .021. Different system libraries are
assigned via BLSLIBnn link names (see section 2.4).

- Shared loading of new-style DRIVE is handled by SYSSSC
declarations instead of by SYSSSD. As a result, new-style
DRIVE can no longer be loaded as shareable under
BS2000 V10.

*2 - Start procedure: as of this version, DRIVE is called by
calling the corresponding start LLM from the start
library. (see start call, section 2.4)

- With DO/CALL it is always the DRIVE object with the most
recent date that is executed.

- SQL2: changes compared with SQL1 produce the following
incompatibilities:

- The SHOW function is no longer supported. Information on
metadata can be fetched from system tables by means of
an SQL query.

- In SQL2, static SQL objects cannot be referenced
dynamically.

- Dynamic temporary views must be deleted with DROP before
the DRIVE program is terminated. Otherwise DRIVE message
DRI0488 appears when switching to dialog mode, and the

program is aborted with message DRI0488 in a follow-up DO procedure.

- CALL for the DRIVE program source (without intermediate code) with static SQL2 statements is only possible in a transaction-free status.
 - TIME arithmetic: time differences with a negative result were formerly subtracted from 24 hours; now they are shown as a negative time (e.g. - 3 hours instead of 21 hours).
 - Standard representation of null values: the old form X'00' means end-of-string in the programming language C used with DRIVE. For this reason, the default value for null (both numeric and alphanumeric) is now set to '@'. As before, this value can be changed via PARAMETER DYNAMIC NULL.
 - Implicit creation of a DRIVE library is not performed; DRIVE outputs an error message.
- *1 - The semantics of the IS NUMERIC predicate was changed for
*1 DRIVE/WINDOWS V1.1: the predicate returns the value TRUE if
*1 the NUMERIC function can be applied to the CHAR expression
*1 without errors.
*1
*1 A numeric CHAR expression is made up of:
*1
*1 [blanks] [sign] [blanks]
1 decimal string/exponential expression [blank or '']
*1
*1 decimal string: digits 0-9, one decimal point/comma
*1 exponential expression: mantissa (digits 0-9), E/e, [+/-]
*1 exponent (digits 0-9)
*1
*1 A blank or an asterisk after numeric digits has the same
*1 effect as a field termination character, i.e. all subsequent
*1 characters are ignored.

2.7 Restrictions

- NXS mode: as the new version requires more main memory than DRIVE/WINDOWS-DB V1.1, DRIVE NXS mode may have problems with memory bottlenecks. If possible, it is advisable to install XS mode with DRIVE. In the past, the loading of XS and NXS components was found to lead to unintentional conflicts that resulted in errors within customer applications.
- Support of the FHS-DE functions is not yet guaranteed with this version.
- UDS: the privacy concept has been changed with UDS-SQL V1.2. To ensure compatibility with DRIVE/WINDOWS-DB V1.1,

the correction procedure SYSPRC.UDS.012.PRIVACY delivered with UDS must be executed.

- UTM application: it is advisable to run UTM applications only with an asynchronous task. Otherwise file conflicts may arise with user-specific outputs (LIST statement) or DRIVE-specific processing (central list file).
- With SESAM/SQL V2, the use of temporary views is supported only for DRIVE (for reasons of compatibility). When creating new programs, it is advisable not to work with temporary views, using the standard SQL cursor technique instead.
- The help system supplied on disk does not yet contain the SQL2 help. This will be available from your local distributor as of March 1996.
- *1 - Contrary to the description, the result of a CHAR
*1 function is of type VARCHAR (see list of DRIVE
*1 statements, chapter 5, DRIVE metavariables, charprim).
*1
- *1 - The system variables &PHYS_REC_LENGTH and
*1 &DRIVE_REC_LENGTH described in the list of DRIVE
*1 statements on page 183 (READ FILE) are not available
*1 in this version.
*3
- *3 - FILE access: If processing errors are to be de-
*3 tected during file processing, WHENEVER &ERROR
*3 IN ('FILE ERROR') must be used for this purpose.
*3 Here, the error message key of the file management
*3 system is not output in the DRIVE system variable
*3 &SUB_CODE, in contrast to the description given in
*3 the manual DRIVE/WINDOWS V2.1 (BS2000), Programming

- *3 Language "Language Description", Section 14.7
- *3 Error handling.

2.8 Procedure in the event of errors

The following documents are required for diagnosis in the event of errors.

- In the case of suspected conversion errors or of performance problems, the trace variants described in the manual should be used. Special trace specifications may be necessary in individual cases. These will be supplied by the relevant Support Center as the need arises.
- When internal errors are detected, DRIVE outputs Raise messages; in old-style mode there are consistency checks and a dump. Certain Raises and consistency checks indicate user errors. These are described in the manual, accompanied by explanations and suggested response measures.
Dumps which were not occasioned by user errors are necessary for purposes of diagnosis and should be forwarded to the appropriate Support Center.
- In the case of DRIVE dumps produced under the UTM transaction monitor, both the UTM short dump and the user dump are required. The USER dump is required in SODUMP format.
- User dumps are required as primary dump files (PAM format), so that they can be used by diagnostics tools.
- The task log and start procedure are required for errors occurring when starting DRIVE. If the start LLM is created with its own link procedure, this installation procedure and the link list are also required.

3 Software extensions

- SQL2: the language extension/standardisation of SESAM/SQL2 is available via DRIVE language resources for both DML and DLL.
- Access to SAM and ISAM files: open, close, read, write, position.
- New data types time(3) and timestamp(3), with the specification of milliseconds (fractions).
- New string functions
 - LOWER: Conversion to lowercase letters.
 - UPPER: Conversion to uppercase letters.
 - TRANSLATE: Replacement of characters.
 - LENGTH: Occupied length of CHAR variables.
- Output of the LIST function to PLAM elements
- Improved old-style integration by means of CALL calls with return codes and parameter transfer, also in DRIVE/LEASY and DRIVE/DMS programs.

```

*1      - As of DRIVE/WINDOWS V2.1B, there is a compatible DRIVE
*1      compiler as a supplementary product. This improves the
*1      performance of DRIVE applications in TIAM and UTM
*1      operation.
*3
*3      - Notes on the year 2000:
*3      * DRIVE newstyle is equipped for the year 2000.
*3      * DRIVE oldstyle:
*3      + To replace the DRIVE system variable &DATE,
*3      use the SF2DATE program to fetch the
*3      current date in the YYYYMMDD.
*3      Call:
*3      CALL SF2DATE USING &par1=&par1
*3      &par1: CHAR variable of length 8
*3      + Use the SF2GDAT4 program to replace the $GDATE
*3      function.
*3      Call:
*3      CALL SF2GDAT4 USING &par1=&par1,&par2,&par3
*3      &par1: return date DD.MM.YYYY
*3      &par2: date YYMMDD
*3      &par3: century interval (numeric)
*3      + Use the SF2IDAT4 program to replace the $IDATE
*3      function.
*3      Call:
*3      CALL SF2IDAT4 USING &par1=&par1,&par2,&par3
*3      &par1: return date DD.MM.YYYYYY
*3      &par2: date DD.MM.YY
*3      &par3: century interval (numeric)
*3      These 3 modules are supplied in the
*3      SIPLIB.DRIVE.021 library. The system admin-
*3      istrator must incorporate them into the
*3      library assigned with LINK=USEROML.
*3      If you require further details, please contact
*3      your Support Center.
*4
*4      - The memory required during operation has been
*4      optimized for UTM object operation.
*4
*4      - DRIVE is EURO-capable as of V2.1B30, provided that
*4      BCAM as of V14 is used.
*5
*5      - SQL2: See DRIVE-V2.2 supplement, section 6.1, 6.2.1,
*5      - for expansions to SESAM/SQL2 with reference to data con-
*5      versions for SQL statements and responses to errors.
*5
*5      - For additional restrictions, see DRIVE V2.2 supplement,
*5      sections 6.4 and 6.5

```



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