



VOLUME FOUR, NUMBER THREE

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Bulletin Board Service (BBS)

Our Bulletin Board Service (BBS) is up and running. Please dial in and see what we have. The phone number is 615/320-5462.

Using this BBS, you can obtain the most current release notes, back issues of this Bulletin, patches, example programs, and more. You can also leave messages for the technical support staff, the sales department; really anyone here at S&H. However, the BBS is NOT a valid means to submit purchase orders.

Due to good response to our BBS, we have extended the BBS to 24 hours. If the system is not available for any reason, the phone will not answer. Otherwise, the phone will answer within three rings.

We are continuing to upgrade this service. Since last month, the software products compatibility list has been added to the bulletin board.

A hint for those collecting information: If you are calling to get handler patches or long documents and are using VTCOM to capture the information, we recommend that you do not use VT100 mode, as this mode sends VT100 escape sequences to clear the screen and position the cursor. Also, in non-VT100 mode, the output will not pause at the end of a screen, but continue until the current menu is re-entered. This way, large documents (such as release notes and the compability list) can be received with little user interaction, eliminating the necessity of removing control sequences from the received file.

If you have suggestions for the improvement of our BBS, please leave a message for the Technical Support department. We have had some good suggestions on the expansion of our BBS. Please keep those suggestions coming.

TSX-Plus v6.01 Released December 5, 1985

A change has been made to the way the control-character causes a TT-CL cross connection to be broken. If you wish to break the connection without dropping DTR, you may type control-A X.

It is now possible to disable the print window function, and cause a control-B to be passed through to the running program rather than being intercepted by the system.

A /NOWARN qualifier may now be used with the DISMOUNT command to prevent display of the warning message "Device is still mounted by other users".

The TSX-Plus DW handler is compatible with RT-11 through version 5.02.

A job (or installed command file) with SYSPRV privilege can now perform operations which were previously only legal within start-up command files, such as the ACCESS command.

Device and/or file names may now be specified in TSGEN for the file used to store user-defined commands (UCL) and the IND temp file.

A change has been made to the shared-file record locking system so that if the same shared file is opened more than once by the same program, and .SAVSTATUS and .REOPEN operations are performed on the channels opened to the shared file, the channel number is used to associate the correct record locking information with the channel when it is reopened.

An error message will be printed if you attempt to SQUEEZE or INITIALIZE a device containing TSX-Plus system files.

Corrected Problems

- The SHOW TERMINALS command will now display the current user name if the line was generated without a NAME macro and the line is currently logged on.
- The SET TT n START command now prints an error message if the line is connected to a CL unit.
- The \$NOSUB flag (specified within a line definition block in TSGEN) did not work as documented.
- A job would hang if a .READW EMT was executed from within a completion routine, and generalized data caching was enabled for the device from which the data was being read, and the data being read was not currently in the cache.

- The SET LD EMPTY command failed to dismount a logical disk if the logical disk was unavailable at the time that the command was executed.
- Syntax checking for the INSTALL command has been made more rigorous and the REMOVE keyword may be used as well as the DELETE keyword to deinstall a program or command file.
- A security problem related to system passwords has been corrected.
- During logon, if a start-up command file was not found, the

- job could be left in a logged on state with all privileges enabled.
- The function to transmit a break signal through the communications port or one of the quad serial line units on Professional series computer did not work correctly.
- The .SYNCH system service did not support job numbers greater than 31.

New editions of the TSX-Plus manuals are available. A complete set of release notes is available on our BBS.

COBOL-Plus v6.0 Released December 5, 1985

There are two versions of the COBOL-Plus v6.0 compiler—a small-memory version which is designed to operate in small to medium memory space (as little as 36 Kb), and a version of the compiler with a different overlay structure requiring about 4 Kb more space for the compiler but which compiles up to 1.8 times as fast.

There is a new option switch "/F" for the compiler. If specified, data items whose usage type is declared computational, are instead assigned display usage.

COBOL-Plus version 6.0 features a major enhancement to support of indexed organization (ISAM) files. With version 6.0 it is possible to enable automatic file size extension for ISAM files.

The structural modifications for the new ISAM are due primarily to the requirements of the automatic file extension function. File extension is accomplished in essentially the same way that the ISAM utility uses the /E, for /EXTEND, switch.

The escape sequences transmitted by VT200 terminals for function keys F6-F20, HELP, DO, FIND, etc. are now correctly processed by the ACCEPT statement.

The ACCEPT id FROM TIME statement now returns with the maximum accuracy possible with your system clock.

Because of changes to the internal structure of ISAM files, existing programs will need to be recompiled in order to use ISAM files of the new structure.

The ISAM run-time error messages have been improved.

The ISAM utility was updated to fully support the new structure. The /U switch will cause an existing file with the old structure to be updated (converted), in place, to the version 6.0 structure. Be sure to backup your files first!

The format of some of ISAM's displays has been improved. Some items are displayed in octal, some in decimal, and some in both, depending on context.

The ISAM utility now queries "Delete; Are you sure (Y/N):" when you use the /D option to delete an ISAM file set.

Corrected Problems

- A problem was corrected which could incorrectly cause the run-time error message: ?CBRTS-F-OVM-Insufficient memory space available for program execution.
- A problem was corrected which could cause a READ NEXT statement following a START "file" KEY GREATER THAN "key" statement to find the record whose key matched "key" rather than the following record.
- A problem was corrected which could cause too many decimal places to be retained in the computation of a numeric expression which contained numeric literals.
- A problem was corrected which sometimes prevented the compiler from producing an error message when a group data item was used in an arithmetic statement such as ADD, SUBTRACT, MULTIPLY which requires elementary numeric items.
- A problem was corrected which caused an EXIT PROGRAM statement to fail when the program contained no CALL statements, and was linked for extended memory (XM) execution.
- A problem was corrected which occasionally caused the compiler to spuriously produce the information message "?CBL-I-SDT Significant digits truncated".
- The COBOL-Plus run-time system now checks for attempts to write records to ISAM files with null bytes in the keys. If this happens, a run-time error occurs with the following error message: "ISAM key contains null (binary zero) byte." Previously it was possible to write a record with a null key but the ISAM program would report a "Key sequence error" when the file was verified. The ISAM program has also been changed to report any occurrences of null bytes within keys when a file is verified.
N.B. RealWorld accounting programs use a record with a null byte key as a control record. COBOL-Plus v6.1 supports null keys.
- A problem was corrected which could cause the COBOL-Plus run-time system to stop doing record locking for an ISAM file if the same file was opened two or more times concurrently within the same program.
- It has never been legal to specify a null as an octal constant (#000) but it used to produce a non-obvious error message. There is now a specific error message to diagnose the use of a null octal constant.

A new edition of the COBOL-Plus manual is available. A complete set of release notes is available on our BBS.

COBOL-Plus v6.1 Released January 28, 1986

With COBOL-Plus v6.1, nulls are again allowed within indexed file keys and the ISAM utility program has been changed so as to correctly verify files with nulls in the keys.

A complete set of release notes is available on our BBS.

RTSORT v2.0 Released December 5, 1985

A new switch, /GETCXT, has been added to RTSORT v2.0 when used in conjunction with TSX-Plus v6.0. The effect of the /GETCXT switch is to cause RTSORT to temporarily acquire the file context of the job that sent the sort command message. Among the job attributes acquired are: ASSIGNments, ACCESSes, and MOUNTed logical disks.

example, the following switch would insert the file number as a 2 digit field starting in column 86 of the record: "/FILE:86.2".

A new edition of the RTSORT manual is available. A complete set of release notes is available on our BBS.

A new switch /FILE[:col[.len]], has been provided which allows the inclusion of the file identifier in the output records. For

Problems opening "LP:" in DBL

Beginning with TSX-Plus version 6.00, DBL version 2.2 programs which attempt to open a printer through the LS or LP handlers will fail with an error 17 (bad file specification). This occurs when an open statement refers to a device without a file name. For example: OPEN(6,O,'LP:'). The same error will occur under RT-11 beginning with version 5.02, because the 5.02 LS and LP device handlers, which are supplied with TSX-Plus version 6.00, are treated as pseudo file-structured devices.

In order to prevent potentially serious corruption to device directories, DBL does not permit opening output devices which use normal or special directory structures unless a file name is also used. Opening such a device without a file name is commonly known as a "non-file-structured lookup". When opening an output channel without a file name, DBL tests the device status word for the following three conditions:

Bit mask	Name	Meaning
100000	FILST\$	Uses normal RT-11 directories
40000	RONLY\$	Read-only device
10000	SPECL\$	Special file-structured device
150000		Bit mask sum

If any of these bits are set in the device status word, the OPEN statement will fail with error 17. Note that the SPECL\$ bit is set in the device status word for both the LS (032041) and LP (032003) handlers.

There are currently four solutions available to rectify this condition.

1. Rewrite all programs to include a file name (e.g. 'LP:A').

2. Modify the DBL run-time to permit opening pseudo file-structured devices without a file name. See warning in next paragraph. Either patch the run-time system as described below or use patch 44 from DISC and rebuild the run-time system. (By permission of DISC, patch 44 is available on our BBS.)
3. Use an LS or LP handler which does not support END-PAGE. Either use an older handler which is not pseudo file-structured, or patch the current handler to clear the SPECL\$ bit.
4. If your printer is attached through a serial line, use the CL handler instead of LS. This is not possible for parallel printers.

If you elect to modify the DBL run-time system, you must be aware that it will become possible to perform a non-file-structured lookup on special directory structured devices. This is no problem for LS and LP which do not have any real file-structure. However, mag tapes use the same bit to indicate their special directory structure and it may be possible to corrupt one or more files on a mag tape if this bit is cleared and the tape unit is opened without a file name (a poor programming habit for tape files). The customer assumes full responsibility for the possible corruption of tapes by using this mechanism.

You can patch the DBL run-time system, TDBL.RTS or DBLSHR.RTS, by locating the instruction which tests the appropriate bits in the device status word. Use the RT-11 SIPP utility to search for the bit mask word (150000), verify that it follows the correct instruction (032711 [BIT #150000,@R1]), and change it to ignore the SPECL\$ bit (010000). Remember that if you patch the shared run-time, the change will not take effect until TSX-Plus is restarted. To patch the non-shared run-time:

```
.R SIPP
*TDBL.RTS
Base? ;S
Search for? 150000
Start?
End?
Found at 030534
Base? 0
Offset? 30532
```

Base	Offset	Old	New?
000000	030532	032711	
000000	030534	150000	140000
000000	030536	001410	^Y

* ^C

MS Tape Handlers for TSX-Plus versions 6.00 and 6.01

The MS handler shipped with TSX-Plus v6.00 is from RT-11 v5.02. As part of its installation code, it checks a bit (mask 100) in the RMON configuration word 2 (fixed offset 370) to determine the machine bus type. This bit is acquired by TSX-Plus from RT-11 during start-up. If you are using a version of RT-11 earlier than 5.02, then the bit is not set and the handler will not function correctly on QBUS systems. This was resolved in TSX-Plus v6.01 by using a different MS handler. To circumvent this problem in v6.00 you should set the bit under RT-11 before you start TSX-Plus. Alternatively, you can patch TSX.SAV to set the bit regardless of its value under RT-11; this patch is available from the S&H Bulletin Board.

When using the MS handler shipped with TSX-Plus v6.01, dated 05-Dec-85, it is possible to get a Fatal system error, Kernel mode trap within the MS handler, usually with an argument value of 121642. This will only happen during processing of an error condition on the tape unit, and so may occur very infrequently. To prevent this error, use the RT-11 SIPP utility to patch SY:MS.TSX as show below. The corrected handler will be installed the next time you restart TSX.

```
.R SIPP
*SY:MS.TSX
Base? 1000
Offset? 1634
```

Base	Offset	Old	New?
001000	001634	012775	12715
001000	001636	177777	
001000	001640	000000	240
001000	001642	000167	^Y

* ^C

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