```
+---------------------------------+--------------------------------------------------+
|         APPLICATION             |              REVISIONS                           |
|-----------------+---------------+---+--------------------------------------+---------|
|  NEXT ASSY      |  USED ON      |LTR|  DESCRIPTION                         |  DATE   |
|-----------------+---------------+---+--------------------------------------+---------|
|                 |    7506       |   |                                      |         |
|-----------------+---------------|   |                                      |         |
|                 |               |   |                                      |         |
|-----------------+---------------|   |                                      |         |
|                 |               |   |                                      |         |
|-----------------+---------------|   |                                      |         |
|                 |               |   |                                      |         |
|-----------------+---------------+   |                                      |         |
```

```
+---------------------+
|REV STATUS OF SHEETS |
|_____|_____
|REV  | | | | | | | | | | | | | | | | | | |
|_____|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_
|SHEET| | | | | | | | | | | | | | | | | | |
+-----+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+---
|
|RELEASE AND UPDATE INFORMATION, DNOS OPERATING SYSTEM,
|RELEASE 1.3.0-990
|
+---------------------+--------------------------------------
|  TEXAS INSTRUMENTS  |     drawing number
|     INCORPORATED    |                   2239980-9901
|  DATA SYSTEMS GROUP +---------+----------+--------------
|                     |         | REV. **  |SHEET 1 OF 22
+---------------------+---------+----------+--------------
```

NOTE

This document consists of the following sections:

1. Functional and Documentation Changes

2. Facts to be Reviewed

3. Undocumented Items

4. Known 1.3 Problems

5. Optional Patches

6. STRs Closed

The information in this document should be made available to all users of DNOS 1.3.

2239980-9901**

SECTION 1

Functional and Documentation Changes

This document describes the changes to DNOS that are relevant to the 1.3 release. Extensive modifications were made to the operating system that require the release of an entirely new software package. The instructions for this installation can be found in the installation manuals for the supplied software. This software requires installation as if a customer had received DNOS for the first time. In upgrading from a previous release (1.0/ 1.1/ 1.2), THE NEW 1.3 SYSTEM MUST BE THE STARTING POINT. A custom system should be generated using the 1.3 release and all necessary application files should be copied to the new system if the files are required on the system disk.

1.1   SYSTEM TABLE AREA (STA) and MEMORY

The following paragraphs indicate the change in size of DNOS 1.3 over 1.2. The first paragraph indicates the change in system table area available. And the second paragraph indicates the change in physical memory requirements.

1.1.1   STA IMPACT. The user has about 5000 bytes more STA available in 1.3 than in 1.2.

1.1.2   DNOS 1.3 MEMORY SIZE. DNOS 1.3 requires about 8000 bytes more physical memory.

1.2   DNOS MANUALS

The DNOS manuals are updated to include the new and revised utilities. This includes instructions on their use and the associated error messages. The Text Editor manual has not been changed.

1.3 NEW HARDWARE

The DNOS operating system release 1.3 supports the following new hardware:

1. WD900 disk

2. WD800A disk

3. MT3200 tape unit

1.4 NEW SYSTEM COMMAND INTERPRETER (SCI) COMMANDS

The following are new SCI commands:

1. Recover Volume Space (RVS)

1.4.1 Recover Volume Space(RVS).

The Recover Volume Space (RVS) utility allows the user to compress a volume; i.e., merge free disk space into larger blocks, recover unused disk space from the end of files, and merge file secondary allocations. Also, RVS releases space no longer used by files. Refer to the System Command Interpreter (SCI) Reference Manual for detailed instructions.

1.5 ENHANCED SCI COMMANDS

The following SCI commands are enhanced by addition of new prompts or new capabilities in the 1.3 release:

1. Execute System Generation Utility (XSGU)

2. Execute System Configuration Utility (XSCU) and sub-commands Modify Device Configuration (MDC) and Modify Scheduler/SWAP Parameters (MSP)

3. Backup Directory (BD)

4. Restore Directory (RD)

5. Copy Directory (CD)

6. Verify Backup (VB)

7. Verify Copy (VC)

8. Disk Copy/Verify (DCOPY)

9. Show Volume Status (SVS)

10. Scan Disk (SD)

11. Print File (PF)

12. Execute Performance Display (XPD)

13. Show Absolute Disk (SAD)

14. Modify Absolute Disk (MAD)

15. Show Relative to File (SRF)

16. Modify Relative to File (MRF)

1.5.1 Execute System Generation Utility (XSGU). A timeout value is now required for printers attached to a 931 or a 940 terminal.

1.5.2 Execute System Configuration Utility (XSCU). A timeout value is now required for printers attached to a 931 or a 940 terminal when using the Modify Device Configuration (MDC) subcommand.

The front panel bar graph display can be turned off or on using the MODIFY SCHEDULER/SWAP PARAMETERS procedure (MSP), FRONT DISPLAY ENABLED prompt. When off, the system runs 3% better and the program counter is displayed in its place.

The LOADER TIME DELAY (STUS) prompt in the MODIFY SCHEDULER/SWAP PARAMETERS procedure (MSP) now does double duty. It continues to control the loader time delay, but also acts as a throttle on the loader. The higher the value, the less often the loader runs, and the better the system throughput. For interactive environments, we suggest the default of 20; and for batch environments, 80.

The CACHED OVERLAY OPTION prompt in the MODIFY SCHEDULER/SWAP PARAMETERS procedure(MSP) allows overlays to be saved in memory.

If enabled, the first time an overlay is loaded takes 20% longer, but all other loads are 90% faster with no disk accesses.

1.5.3 Backup Directory (BD). Backup Directory has been enhanced for greater error recovery and more informative error messages.

1.5.4 Restore Directory (RD). Restore Directory has been enhanced for greater error recovery and more informative error messages.

1.5.5 Copy Directory (CD). Copy Directory has been enhanced for greater error recovery and more informative error messages.

1.5.6 Verify Backup (VB). Verify Backup has been enhanced for greater error recovery and more informative error messages.

1.5.7 Verify Copy (VC). Verify Copy has been enhanced for greater error recovery and more informative error messages.

1.5.8 Disk Copy (DCOPY). The surface analysis ability of DCOPY has been removed. If the disk requires surface analysis before a copy can be made, the user must use IDS, Tape Build, or Diskette Build. DCOPY now fully supports the WD900. Recommended use for DCOPY of a WD900 to tape is to backup without verify, then run verify as a separate step. The COPY and VERIFY option will require more time than two separate passes.

1.5.9 Show Volume Status (SVS). SVS displays more information about the disk. It now supports the ALL response to the Drive Name prompt. Refer to the System Command Interpreter (SCI) Reference Manual for detailed instructions.

1.5.10 Scan Disk (SD). SD has been enhanced for better error reporting. All known problems with the utility have been corrected. The autocorrect function has been greatly enhanced. Refer to the System Command Interpreter (SCI) Reference Manual for detailed instructions.

1.5.11 Print File (PF). A new option "Page eject before printing", has been added to Print File command. Since Release 1.2 always ejected a page before printing, the initial value on

this new prompt is "yes" for consistency.

1.5.12 Execute Performance Display (XPD). XPD is now capable of recording the number of disk accesses to an individual file, causing the bar chart to be displayed during time of execution since the bar chart data is required by the XPD processing. Refer to the System Command Interpreter (SCI) Reference Manual for detailed instructions.

1.5.13 Show Absolute Disk (SAD). An interactive capability has been added to this command. Refer to the System Command Interpreter (SCI) Reference Manual for detailed instructions.

1.5.14 Modify Absolute Disk (MAD). An interactive capability has been added to this command. Refer to the System Command Interpreter (SCI) Reference Manual for detailed instructions.

1.5.15 Show Relative to File (SRF). An interactive capability has been added to this command. Refer to the System Command Interpreter (SCI) Reference Manual for detailed instructions.

1.5.16 Modify Relative to File (MRF). An interactive capability has been added to this command. Refer to the System Command Interpreter (SCI) Reference Manual for detailed instructions.

1.6 MISCELLANEOUS ENHANCEMENTS

1. Cache user overlays

2. Print key capability

3. Performance Package

4. Auto crash dump feature

1.6.1 Cache user overlays.

In the DNOS 1.3 release the SVC >14, Load Overlay, processor has been modified to allow the optional memory caching of a program file overlays.

Heavily overlaid programs can spend a significant amount of time performing disk accesses to load and reload frequently used overlays. The overlay caching option can help reduce disk I/O and its resulting demands on the system. This is achieved by "caching" the overlay image in user memory before copying it into the requesting task address space. If a previously cached overlay is requested, a memory to memory copy is performed instead of the disk I/O previously required. Demands on memory may cause a previously cached overlay to be "flushed" from memory causing future requests to generate disk activity. Memory resident overlays will be flushed when a release luno is performed on the host program file.

The enhancements to the SVC >14 processor require no changes to user programs. The cached overlay option is by default disabled. It can be enabled or disabled for a running system through the MSP command (see the DNOS SCI Reference Manual). The cached overlay option can be permanently enabled for a system image through the use of the MSP command while using the System Configuration Utility (see the XSCU command in the DNOS SCI Reference Manual).

Use of the cached overlay option may require some special attention to the tuning of your DNOS 1.3 system. In particular, the caching of overlays puts additional demands on the Segment Manager Table Area (SMT). Should demands on this resource become critical the SMT should be increased through the use of the MSP command. It should be noted that the MSP prompt "CACHABLE PROGRAM SEGMENTS" is directly related to the number of overlays that will be cached in your system. You will want to increase this number if you desire more overlay segments to be cached. Tuning requirements are unique for each system. There are no heuristics that will apply to all systems; however, if the cached overlay option is enabled the number of cachable program segments should be 100 or more to improve performance.

1.6.2 Print Key Capability.

The Print Key task uses the keyboard bidding feature of DNOS and allows the user to print a VDT screen image to a specified spooler device. This is achieved on 911, 931, and 940 terminals by depressing <ATTENTION> key followed by <PRINT> key. (Print Key across network is not supported.) The printer must have a logical name "PKEY" assigned to it. This is accomplished by executing the SCI procedure "ALN" as follows:

    ALN LNAME=PKEY,RESOURCE=SPOOLER,LISTING=LP01,GLOBAL=YES

        where LP01 is assigned to receive the print out

Assigning of the logical name may be done as a part of the system initialization by text-editing the batch stream found in the file .S$ISBTCH. Follow the instructions provided within the batch stream.

The Print Key task has the capability to add formatted header information to the printout. The header includes the Station ID, the User ID, and Date and Time. To add the header option, the Command Definition Entry (CDE) for each VDT type must be altered by executing MCDT (Modify Command Definition Table) as shown in the example below. The system must be re-initialized for the modification to take effect. Refer to "Keyboard Bidding of Tasks" in the System Programmer's Guide for more information.

```
* BATCH STREAM TO MODIFY A CDT ENTRY TO ADD A HEADER OPTION
* SYNONYM ASSIGNMENT:
*       VOLBLD=<THE VOLUME NAME OF SYSTEM DISK>
*       SYSNAM=<THE NAME OF SYSTEM IMAGE>
*       $HDR = 1   (1 - HEADER, 0 - NO HEADER)
BATCH
*  Modify CDE for 911 terminal
MCDT VOLUME NAME = @VOLBLD,
     SYSTEM NAME = @SYSNAM,
     ADD OR DELETE = D,
     DEVICE TYPE/CDT NUMBER = 911,
     CHARACTER TO DELETE = >9A
EC
MCDT VOLUME NAME = @VOLBLD,
     SYSTEM NAME = @SYSNAM,
     ADD OR DELETE = A,
     DEVICE TYPE/CDT NUMBER = 911,
     FIVE WORD ENTRY = (>9A80,0,>FFA4,@$HDR,0),
     DEFAULT USER ID =
EC
*  Modify CDE for 931 terminal
MCDT VOLUME NAME = @VOLBLD,
     SYSTEM NAME = @SYSNAM,
     ADD OR DELETE = D,
     DEVICE TYPE/CDT NUMBER = 931,
     CHARACTER TO DELETE = >99
EC
MCDT VOLUME NAME = @VOLBLD,
     SYSTEM NAME = @SYSNAM,
     ADD OR DELETE = A,
     DEVICE TYPE/CDT NUMBER = 931,
     FIVE WORD ENTRY = (>9980,0,>FFA4,@$HDR,0),
     DEFAULT USER ID =
EC
*  Modify CDE for 940 terminal
MCDT VOLUME NAME = @VOLBLD,
```

```
        SYSTEM NAME = @SYSNAM,
        ADD OR DELETE = D,
        DEVICE TYPE/CDT NUMBER = 940,
        CHARACTER TO DELETE = >99
EC
MCDT VOLUME NAME = @VOLBLD,
        SYSTEM NAME = @SYSNAM,
        ADD OR DELETE = A,
        DEVICE TYPE/CDT NUMBER = 940,
        FIVE WORD ENTRY = (>9980,0,>FFA4,@$HDR,0),
        DEFAULT USER ID =
EC
EBATCH
```

1.6.3 Performance Package.

The DNOS Performance Package is included in DNOS 1.3. The package consists of two parts: DNOS PLUS and COBOL PLUS. DNOS PLUS is a set of microcode routines residing in writable control store (WCS). Performing some of the basic DNOS functions, these routines increase the speed of DNOS. COBOL PLUS consists of a set of microcode routines in WCS and a special runtime interpreter; its purpose is to increase the speed of CPU-bound COBOL programs. The Performance Package requires the Model 990/12 or Business System 800 computer. DNOS PLUS can run on a 990/10, 990/10A, Business System 300 or 600 computer. However; since these computers do not contain the WCS, installing DNOS PLUS on them does not improve the system performance. The DNOS Performance Package installation kit is in the directory:

        < volume name>.CBLINSDW

where:
        <volume name> is the name of the target disk in the
        primary build of DNOS 1.3.

DNOS 1.3 comes with DNOS PLUS installed. If COBOL 3.5 is to be installed, the COBOL PLUS portion of the Performance Package will be automatically used by following the procedures in the COBOL 3.5 installation documentation.

For those users of COBOL 3.3 or 3.4, consult the DNOS Performance Package Object Installation manual (part number 2272088-9701) included with DNOS 1.3. Follow the procedure for "ADD-ON FORMAT" in Section 2.4. Please note that Section 1.4 indicates that COBOL must be installed before installing the Performance Package.

1.6.4   Auto Crash Dump Feature.

The Auto Crash Dump feature has been activated in this release.
It is no longer necessary to press HALT and RUN on the front
panel to save the contents of memory when DNOS crashes.   The
fault light will be lit to indicate a system failure and the
crash code is displayed on the front panel.   Then the contents of
memory will be automatically dumped onto the crash file.   Perform
the IPL procedure and enter the Execute Crash Analysis Utility
(XANAL) command to execute the crash analyzer.   Refer to the DNOS
Systems Programmer's Guide: "Analyzing System Problems" for
detailed descriptions of the crash analyzer.

SECTION 2

Facts to be Reviewed

1. Online Diagnostics is no longer supported. The last release of Online Diagnostics has not been tested and may not work with the new release of DNOS.

2. INSTALLING COMMUNICATIONS PACKAGES ON DNOS 1.3: DNOS 1.3 requires the following releases of the communications packages:

   a. DN 3780/2780 Emulator Release 1.2

   b. DNOS 3270 ICS Release 1.2 or Release 1.1

   c. DNCS Release 1.3

CAUTION

Releases of the communications packages prior to the above releases will not function properly under DNOS 1.3.

3. USING 3270 AND 3780 COMMUNICATIONS PACKAGES: Before using the 3270 and 3780 communications packages on DNOS 1.3, make sure that the latest patches for these packages have been applied.

4. USING RTS COMMUNICATIONS PACKAGE: The current Release 1.1.0 of RTS will not work with DNOS 1.3. Attempts to use the old package may result in system crashes. A new version of RTS (Release 1.1.1) may be purchased through the Customer Support Line.

5. MT3200 DEVICE ERROR >45 IN SYSTEM LOG. In some cases device error >45 in the system log associated with MT3200 tape drives indicate normal operating conditions and can safely be ignored. These errors are of the form:

```
MTxx ERR=45 IID=xx L=xx A=xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
     STxx RID=xx S=01 B=xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
```

where S=01 indicates the operation was successful after one retry. This message is generated when the MT3200 controller resets its internal cache block size.

When the MT3200 controller is first powered on, it partitions its internal cache into blocks of a certain size. When a request is issued that exceeds this pre-set block size the tape drive automatically re-partitions the cache using the next larger block size, and an error is delivered to the mag tape DSR. The tape DSR will automatically (transparent to the user program) retry the operation until the controller has increased its internal block size large enough to satisfy the block size of the request. No error will be reported to the user program. The DSR does, however, log the error >45 message to the system log. This message will only occur when the first request exceeding the block size is issued, and will always be retried successfully.

The new internal block size will remain in force until a controller or system reset occurs, or until a request for a larger block is issued. In the latter case, the block size will again be increased, and another log message will be generated.

System log messages of this nature can occur in normal operation of such utilities as BD, CSM, and CC when a mag tape is involved. These messages are expected and can be ignored.

6. When DCOPY is used to make a copy of a disk to mag tape, and the MT3200 tape is used, some early versions of the hardware may cause a spurious error message "I/O ERROR. CODE = 43" to appear at the end of the copy and/or verify operation. The message is caused by firmware in the drive returning an offline message as a result of the unload command issued by DCOPY. The copy is complete and correct; the message should be ignored.

7. When some programs (BDD and DCOPY for example) use the MT3200 tape drive, the tape operation may appear to be very slow; the tape reel oscillates instead of smoothly feeding tape through the read/write station. This is caused by the inability of the program to operate the tape drive at its maximum speed. When writing to the tape, if the cache memory in the drive is emptied, the tape motion must stop. When there is data in the cache to be written to the tape, the drive must back the tape

up, and bring the tape back to full speed before
locating the inter-record-gap, and starting the write
operation for the next record to be written to tape.
This stopping and restarting the tape motion is much
slower for the MT3200 than for the MT979 or MT1600
drives. If the program is more I/O intensive, the
overall tape operation will appear much faster.

8. PROGRAMS DEVELOPED ON DX10:   Programs that have been
developed on a DX10 system must be relinked on a DNOS
system before they can be executed on a DNOS system.
If this is not done, the task terminates with the
following message:

   ERROR TASK ID >xx HAS BEEN LINKED TO DX10 S$ ROUTINES

Where xx is the installed ID of the task.

9. 931 INTERNATIONAL SUPPORT: United Kingdom support has
not been verified.

10. INTERNATIONAL COLLATING SEQUENCES: Users who are
specifying binary values for keys may have duplicate
values for sorting. The following values and country
codes map to >FF:

Swiss ----- >FB,>FC,>FD,>FE,>FF
French WP - >FD,>FE,>FF
Swedish --- >FE,>FF

11. EXECUTE PATCH SYNONYM PROCESSOR (XPS): When an error
is encountered, the XPS processor may not always set
$$CC to a non-zero value. Therefore, before executing
the Patch Generated System (PGS) command, check the
error file identified as:

volname.SSGU.sysname.ERRFIL, where:

volname   is the name of the volume on which the ERROR
           file is contained

sysname   is the name of the system being generated

The message "Different Synonyms for Same Overlay" is an
information message and should be ignored.

12. COBOL ACCEPT AND DISPLAY STATEMENTS: The BLINK and
BEEP clauses for the COBOL statements ACCEPT and
DISPLAY do not result in any action on a 940 EVT.

13. When a disk is booted for the first time, it is possible to get the error message: "SYSTEM IS NOT A VALID USER ID". As a part of the boot process, a batch stream is executed to create this user id. If this message is seen, delay a moment or two to allow this batch stream to complete, then try to log on again.

14. Modify Volume Information (MVI) to a disk not installed will generate the error message "DEVICE OR VOLUME NAME IN DSxx.S$MVI NOT VALID". The command attempts to update the file .S$MVI on the disk and can not since the disk is not installed. The requested change has been performed.

15. Pascal errors related to device "DUMY" may be ignored on the CDL procedure execution in .S$ISBTCH.

16. Some error messages are more than 80 characters in length and are written beyond the edge of the VDT screen. This condition is known to occur with messages in CD and other directory utility commands, BD, VC, RD, and VB. To view the rest of the message, the wide show features can be used (F3 and F4).

17. The XPD print key feature does not cause printing to occur until the "CMD" key is pressed. Each screen requested is printed at this time.

18. Since the additional prompt, "PAGE EJECT BEFORE PRINTING?:" has been added to Print File (PF), all spooler logical names must be recreated.

    Also, empty files are not deleted when "DELETE AFTER PRINTING" is specified. We have developed a patch that will delete empty files and insert a message in the log files that the file was empty. This patch is not on the 1.3 Release disk but will be available from Dial-A-Patch and will be included in the first patch release after 1.3 begins shipment.

19. If the message "ALL OTHER TERMINALS, TASKS, AND JOBS MUST BE TERMINATED" appears during one of the copy operations and the documented procedure does not correct the problem try the following:

    Go through the IPL procedure, as soon as a terminal will respond, logon and enter the XOI command. Then kill the job "S$SYSINIT". Now go to the procedure in the manual for the copy operation you are trying to use and proceed from there.

SECTION 3

UNDOCUMENTED ITEMS

3.1 GENERAL INFORMATION

This section describes items that were added to DNOS 1.3 or were
clarified after the DNOS manuals were prepared for printing.
They are not documented in the DNOS 1.3 reference manuals.
Therefore, this information should be made available to all DNOS
1.3 users.

   1. The front panel bar graph display can be turned off or
       on using the MODIFY SCHEDULER/SWAP PARAMETERS procedure
       (MSP), FRONT DISPLAY ENABLED prompt. When off, the
       system runs 3% better and the program counter is
       displayed in its place.

   2. The LOADER TIME DELAY (STUS) prompt in the MODIFY
       SCHEDULER/SWAP PARAMETERS procedure (MSP) now does
       double duty. It continues to control the loader time
       delay, but also acts as a throttle on the loader. The
       higher the value, the less often the loader runs, and
       the better the system throughput. For interactive
       environments, we suggest the defualt of 20; and for
       batch environments, 80.

   3. If you have written your own DSR, please note the
       following /12 problem: If you disable interrupts from
       your board, make sure you set the appropriate interrupt
       mask using the LIMI instruction. There is a window
       during which a board can raise an interrupt then lower
       it before the /12 can process it. When this occurs the
       /12 will miss-execute instructions. TI has identified
       this problem on the CI403, and the BCAIM boards. There
       are currently no plans to fix the /12 processor. The
       /12 processor is used in the Business System 800
       series.

SECTION 4

KNOWN 1.3 PROBLEMS

1. MACRO ASSEMBLER:

   The following problems exist in the Macro Assembler:

   a. The period (.) is not properly processed in macros unless it is used to qualify a macro variable.

   b. Unquoted character strings that appear on macro call lines may be listed as undefined symbols preceding the NO ERRORS message.

   c. Any use of RORG, AORG, CSEG, DSEG, or PSEG that results in the program counter having an odd value will cause the byte at the preceding even address to be set to zero. It is good programming practice to include an EVEN directive immediately before any of these.

   d. The assembly language programmer should not place an incomplete workspace at the end of the user segment. Under certain conditions, that may result in memory beyond the user area being illegally modified with no report of a mapping violation. This typically causes a >21 system crash or a system hang.

2. LINK EDITOR:

   The Link Editor has the following known problems:

   a. The use of the DUMMY command in one link masks the unresolved references that would be reported if the same link were being performed without the DUMMY command.

   b. The promotion strategy within the link editor has a problem. In some cases, a module that is referenced by two modules on different overlay paths will not be included in an overlay common to both paths. This problem can be circumvented by using specific INCLUDE statements to force the

module(s) into the proper overlay(s).

c. If a SEARCH command precedes an ALLOCATE command, the SEARCH command will not resolve references from the portion of phase 0 which precedes the ALLOCATE command.

3. LIST SOFTWARE CONFIGURATION:

If List Software Configuration (LSC) gets an error reading the history file, the procedure is aborted with no data displayed. The file .S$SYSTEM.S$HSTRY can be viewed with Show File (SF) or printed with Print File (PF). The file can be modified with the text editor to remove the offending data.

4. When running DNIO 2.0 under DNOS 1.3, List EI Statistics (LES), no longer displays correct elapsed time. Patch 3916 available through Dial-A-Patch corrects this problem.

5. An error is encountered when restoring on DNOS 1.2 a backup made on DNOS 1.3 that is blocked and contains aliases. This problem does not occur if the backup directory tape is not blocked. Patch 3918 for DNOS 1.2 is available through Dial-A-Patch to correct this problem in 1.2.

SECTION 5

OPTIONAL PATCHES

We regularly receive requests for special patches. These patches
are supplied here for your convenience. These patches will not
be source fixed.

```
*----------------------------------------------------------------------*
*=P3909  AMB/KCL  02/26/85  ***OPTIONAL***  DNOS 1.3.0  931 TSR  KERNEL
*
* PROBLEM:  Because the 940´s beep is loud and usually found to be
*           annoying, the 931/940 DSR does not enable the 940´s
*           beep option.  Some users want the beep turned back on
*           to aid in rapid data entry operations.
*
* SOLUTION: Enable the 940´s blink option in the initialization
*           sequence sent to the terminal at connect time.
*
* SIDE EFFECTS: None.
*
*----------------------------------------------------------------------*


*----------------------------------------------------------------------*
*=P3910  AMB/KCL  02/26/85  ***OPTIONAL***  DNOS 1.3.0 CSKCKS  UTILITY
*
* PROBLEM:  CSK inserts records into a KIF based on each record´s
*           actual length rather than the KIF´s default (created)
*           logical record length.  While this is perfectly legal
*           for KIF, it can cause COBOL programs to abort with
*           errors (97, D7) if they try to REWRITE records whose
*           ACTUAL length differs from the KIF´s default logical
*           record length
*
* SOLUTION: Enable the CSK logic to pad records shorter than the
*           defined logical record length with blanks out to the
*           KIF´s defined logical record length.
*
* SIDE EFFECTS: With this patch installed you cannot use CSK
*               to load a KIF with records of varying length.
*               This patch does not have a significant effect
*               on the amount of disk space used by a KIF since
*               KIF logical records are blank suppressed.
*
*----------------------------------------------------------------------*
```

```
*------------------------------------------------------------------*
*=P3911   AMB/KCL   02/26/85   ***OPTIONAL***   DNOS 1.3.0   931 TSR   KERNEL
*
* PROBLEM:    Certain kinds of files print slowly on printers attached
*             to 940s and Business System terminals because of the
*             931/940 DSR´s printer pacing algorithm.  In particular,
*             files created by COBOL and assigned to PRINT exhibit
*             this problem, especially on blank or near-blank lines
*             because of the carriage controls COBOL places on both
*             ends of the record.
*
* SOLUTION:   The time delay between records sent to a 940 attached
*             printer is based on both printer speed and line length.
*             Shorten the delay factor for 150-character/second
*             printers by increasing the divisor constant.
*
* SIDE EFFECTS:  If the printer´s buffer becomes full (because we
*             shorten the delay factor and thus send it records
*             faster), the associated 940 or Business System
*             terminal screen may appear to "freeze" momentarily
*             until the printer empties its buffer.
*
*------------------------------------------------------------------*


*------------------------------------------------------------------*
*=P3912   JAM/AMB   02/26/85   ***OPTIONAL***   DNOS 1.3.0 SCI990   UTILITY
*
* PROBLEM:   Show File does not display graphics characters.
*
* SOLUTION:  Don´t perform check against graphics display enabled.
*
* SIDE EFFECTS:  All ASCII characters with a defined graphics
*             symbol associated with them will be displayed by
*             SF, including CR/LF pairs found in listings.
*
*------------------------------------------------------------------*


*------------------------------------------------------------------*
*=P3913 AMB/JAM 02/26/85      ***OPTIONAL*** DNOS 1.3.0   LPDSR   KERNEL/UTIL
*
* PROBLEM:    The line printer DSR does not support 8-bit characters
*             on serial printers except for the 810´s optional Katakana
*             character set, used only in the Far East.  The new 8-bit
*             character fonts on 850 and 855 printers are not supported
*             by the LPDSR.
*
* SOLUTION:   Patch over the Katakana code in the LPDSR.  If the
*             printer is marked as CODE8=YES, send 8-bit no  parity
*             data to the appropriate interface (TTY/EIA or 9902-
*             type) instead of 7-bit even parity data.
```

```
*
* SIDE EFFECTS: The 810's optional Katakana character set is NOT
*               SUPPORTED if this patch is applied.  Also, this patch
*               WILL allow both 7- and 8-bit printers on the same
*               system.  However, a proc must be run against all
*               8-bit printers in the system in order to enable the
*               patch logic.  This proc, called SEBP (Set Eight Bit
*               Printer), is supplied as part of the patch.  Finally,
*               this patch ONLY applies to directly-connected serial
*               printers that use the line printer DSR (those attached
*               to a TTY/EIA card or a 9902-type interface).  It does
*               NOT apply to printers attached to 931/940 AUX-1 ports,
*               nor to printers directly attached to CI403 or CI404
*               interfaces.
*
*------------------------------------------------------------------*


*------------------------------------------------------------------*
*=P3914   AMB/JAM   02/26/85   ***OPTIONAL***   DNOS 1.3.0  LPDSR  KERNEL
*
* PROBLEM:   Data Products parallel line printers do not handle NULL
*            characters gracefully.
*
* SOLUTION:  Strip NULL characters (>00) out of the printer's data
*            stream.
*
* SIDE EFFECTS: This patch uses 14 bytes of LPDSR patch area starting
*               at offset >56 in the patch area.  It is possible that
*               future patches to the line printer DSR may conflict
*               with this patch.
*------------------------------------------------------------------*
```