# Central Support
# ON–LINE

Published for System Software Users

*Volume 2* *Number 3* *3rd Quarter 1989*


# LOGON:

## In This Issue

Several changes have influenced this issue. First, after nearly ten years of service to our customers, **Christine (Spampinato) Harding** bids farewell. One of her visions as Manager of Product Support was the creation of this technical newsletter. We hope *ON-LINE* will continue to convey the spirited enthusiasm that Chris has shown in serving our customers and Dealers/VARs.

The second change is a new column... A special treat for those of you who have asked for articles from the Engineering Development staff. Many of you will recognize the name (and style) of our first contributor to THINK TANK: **Henry Eggers,** Manager of Software Development.

Your response to our Readers' Survey in the last *ON-LINE* was a bit surprising. We only heard from 50 users. So, you have another chance to let us know how you feel by completing that questionnaire and returning it for consideration in the next issue.

And speaking of issues...

Please contact the Editor for missing back issues or for changes in your mailing information.

Please Note: Volume 1 (1988) had 3 issues and Volume 2 (1989) will have 4 issues.

- L.W. Abel

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## Goodbye

I have been with the support group at McDonnell Douglas for over nine years as an Operating System support analyst and eventually managing all the software, hardware and datacommunications support groups at corporate headquarters. It is with mixed emotions that I say goodbye to the McDonnell Douglas Computer Systems user base, as well as to our Dealers and VARs.

Through my job and travels, I have had the opportunity to meet many of you, and over time, establish genuine professional, and in some cases, personal relationships.

Although sometimes it has been in the throes of a technical crisis, I have enjoyed working with all of you, learning about your business requirements and helping you utilize your MDC equipment and software to achieve your business goals.

Since our product is service and support, and customers are the key to our business, McDonnell Douglas Field Service Company places enormous emphasis on customer satisfaction. For this reason, we have attempted to listen to your concerns, and respond with proactive resolutions whenever possible.

Thank you for the opportunity to grow with your business. I wish you all the best in the future.

- Christine Harding

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# STAR POWER

This column is intended to provide you with **information you can use immediately** to improve the utilization of your system or to avoid potential problems. Usually, the topics discussed are derived from customers' questions or problems which have been reported to Central Support during the past quarter.

For this issue, Linda Denney and Susie Siepel discuss how to correct potential problems with **Language Pointers** and **Execution Locks**. They also talk about how to make sure your system's **SET-WRITES** is enabled.

## Language Pointers and Tables

**Denationalization** provides the tools to enable the system to communicate in a number of languages. It has a table containing the different languages, and each of these languages has a number of message classes. These consist of messages associated with specific system functions; for example, the editor class produces editor messages such as 'NEW ITEM.' System messages other than those in the ERRMSG file are stored in this way.

If the language tables are not set up properly, the system will display various and inappropriate messages. To avoid this problem, ensure that the item LANG.PTRS in the MD of SYSPROG's account is set up as follows:

```
:CT MD LANG.PTRS

    LANG.PTRS
001 Q
002 LANG.PTRS
```

If the MD entry is *not* as shown here, make the necessary changes using the editor. After filing the item, do the following at TCL:

```
:LOAD-LANG BASE.LANG *
```

The system will then prompt for Language Number or Name. At the prompt, enter ENGLISH.

## Execution Locks

Should your system go down while executing a DATA/BASIC program that has set execution locks, a COLDSTART would normally reinitialize the 256 execution locks (0 - 255) available on the system. However, a "bug" has been identified wherein a COLDSTART does not accomplish this, thus leaving the locks set until the next AF-RESTORE is performed.

Although a patch has fixed this bug, it has not yet been field released. Until that time, an interim workaround is to add the statement 'CLEAR-BASIC-LOCKS' to the SYSTEM-SETUP proc after label 150:

```
150 C Option X or A
    C ----------
    HCLEAR-BASIC-LOCKS
    P
```

Note: Once the patch is applied to your system, you should remove these two statements from SYSTEM-SETUP.

## SET-WRITES

The user exit (U24D2) after label 100 in SYSTEM-SETUP checks to determine whether your system is a US or UK system. The result determines whether SET-WRITES will be set at 2048 (for a UK system) or *not* enabled (for a US system).

With SET-WRITES not enabled, memory will fill and write out buffers only when required. As a result, system efficiency generally degrades, causing a "stop/start" effect when a buffer needs to be written out to disc in order to make it available for a read.

In addition, data integrity will be compromised in the event the system goes down and memory cannot be flushed. In such an event, corruption of data and system tables is an almost guaranteed result.

Refer to the **System Performance** series in *ON-LINE* Volume 2, Issue 2 in order to determine the optimal SET-WRITES value for your system. To avoid the situation where SET-WRITES is not enabled, it is recommended that you either use the SET-WRITES verb after any bootload, or "hardcode" it into the SYSTEM-SETUP proc after label 260 as follows:

```
260 O
    C U24D2
    C IF %2 # 1 GO 280
    O Now setting the Forced
    Write frequency
    HSET-WRITES nnnn
    PH
```

By "commenting out" the user exit and branch, the SET-WRITES value will get set to the value you enter for nnnn.

- Linda Denney and Susie Seipel

# MARKETING

## REALISM SHELL Production Released

What REALITY has needed for a long time is a user environment covering every aspect of the Operating System (OS).

REALISM (REALITY Integrated System Management) gives us that and is available in two packages:

* REALISM SHELL
* REALISM DEVELOPER

The **REALISM SHELL** is the environment that provides the user interface. It is controlled by a security system and a host of user statistical reports. Access to the Operating System utilities is through a common set of easy-to-use screens that have on-line help and look-up facilities working within the security system. At any point within these screens, direct access is available to a number of office functions such as a diary, calculator and address book.

Each user on the system works within their own operating environment. These environments will automatically reflect the organizational structure of the business. This personal environment concept enables users to feel more responsible while using the computer. They can control their environment by assigning their own passwords, setting their key-

board time-outs, tailoring the on-line tutorials and structuring their access paths. This added level of responsibility motivates a user to get as much out of the system as possible.

Fully integrated with the REALISM SHELL, the **REALISM DEVELOPER** offers a set of application development tools that allow the program designer to develop security, office automation, etc.

Optional modules offered by McDonnell Douglas Computer Systems Company that are intended to compliment the existing, integrated office features resident in REALISM are WORDMATE, REALCALC and REALGRAPH.

The REALISM SHELL and DEVELOPER products are designed to run on the McDonnell Douglas Series 6000, Series 9000 and Series 18 computer systems.

The REALISM SHELL for OS levels 2.3/5.3/6.0 is available now. The OS 7.0 version is in beta with planned Production Release in October 1989. REALISM DEVELOPER for OS levels 2.3/5.3/6.0 and 7.0 is in beta with planned Production Release in October 1989. Anyone interested in becoming a beta site for the REALISM DEVELOPER should contact Laura Cappella on (714) 566-4158.

- Laura Cappella

## Series 6000's 1/2" Table Top Tape Drive

We are pleased to announce the availability of a table top tape drive for Series 6000 systems. This table top tape drive is in the 1600/3200 bpi format and is available for both the "Low Boy" or the "Tower" models.

This new offering now makes it possible to support two 1/2" tape drives on Series 6000 systems. Colors available for the tape drive enclosure are either beige or grey. Delivery can be expected in 60 days from receipt of your order. Please contact your Dealer/VAR for additional information.

- Keith Peterson

# ROS

## Current OS Releases And Patches

The following table contains the most current Operating System (OS) revisions and patch levels for each supported system. **McDonnell Douglas Field Service Company has recently assumed responsibility of installing all patch tapes for Dealers/VARs and customers.**

If you do not have the current patch tape installed for your particular Operating System, please contact your Field Engineer (FE) through Central Dispatch to schedule a time for installation.

| Series | Release | Patches (PP = Paper Patches) |
|---|---|---|
| 4700 | 4.3RevD | PP1-2 |
| 6000 | 2.3RevD | RevB Tape (Includes PP1-68) PP 69,70A,79,81A,82,84-89, 91-92, 103 |
| | 1.1RevD | RevB Tape |
| 9000 | 5.3RevD | RevC Tape(IncludesPP1-120) |
| | 1.3RevC | RevA Tape |
| 18 | 6.0RevF | RevA Tape(IncludesPP1-47) PP 48-52,57-59,66 |

**Please note**: Patch Tape Rev C for Series 9000 Release 5.3 is now available.

- Mike Bingman

## PERFORMANCE (PART 3)

This third article in our series about system performance presents valuable information about **Logon Workspace**. Will Edwards and Linda Denney explain what Logon Workspace is and how it functions. They provide suggestions that you can use to optimize your system's performance.

### Logon Workspace Table

While any process on a REALITY system is active, it uses virtual space on the system to hold all of the information it needs to do its work. This space is known as Logon Workspace and is divided into two discrete areas. The first area, known as the **primary workspace,** is comprised of 64 contiguous frames and is used to hold counters, pointers, and various other information relative to the data being manipulated. The second area, the size of which is determined by attribute eight of the account definition item, is called the **additional Logon Workspace** and is used to hold the actual data. This article will focus on the setting up and maintenance of the additional Logon Workspace.

For the last six years a feature of the REALITY Operating System has been the allocation of permanent Logon Workspace. Prior to this, when a process logged on, the system obtained space from the Overflow table and linked it together before it could be used by a process. When the process logged off, the space would then be returned to the Overflow table. **Permanent Logon Workspace** is now allocated and removed from the Overflow table by

the system after each AF-RESTORE or :FILES restore. When a process logs on and uses one of these blocks for the first time, the block is linked together. When the process logs off, the block remains linked so that the next time the block is used, the logon processor no longer has to obtain or link the space.

There are a number of advantages to this method of obtaining additional Logon Workspace. The first and most obvious is that the lengthy process of obtaining and linking space every time you logon has been almost removed. The second and perhaps less noticeable benefit is that after a RESTORE, a block of low disc space is set aside by the system. Low disc space is faster to access than high disc space. If this low disc space was not allocated immediately by SYSTEM-SETUP then it would be used as file space, for spool jobs, or one of the many other uses of system space. The additional Logon Workspace would then have to be obtained from the slower accessed high disc space.

As stated previously, this method of disc space allocation has been in place for the last six years without significant problems. However, on 2.3, 5.3, and 6.0 Operating System releases, a performance problem has been found and is the result of the amount of additional workspace assigned to accounts. These releases have allowed the additional workspace to increase from 127 to 256 frames per block of workspace. This allows slightly faster DATA/BASIC runtime and greatly increased flexibility for that account. As a result, many users and vendors have updated their account definition items but have not modified the SYSTEM-SETUP proc in the SYSPROG-PL file.

**SYSTEM-SETUP** is automatically run after a bootload and is the basic setup for the initialization of terminals, print queues, and workspace. The standard, unmodified version of SYSTEM-SETUP allocates workspace blocks of 127 for each of the configured ports on the system. **Unless SYSTEM-SETUP accurately reflects your system's requirements and usage, an inefficient usage and waste of disc space will result.**

The first area to consider is the total number of permanent workspace blocks you typically require. This would usually be the number of users you have logged on to the system at any one time. (Note: This would not be true if using PERFORM, since the PERFORM context uses additional workspace of its own.)

If you generally have 68 users logged on but there are 128 ports configured for the system, SYSTEM SETUP will allocate workspace for 128 processes. This results in 60 blocks of workspace being reserved in the workspace table that are not necessary and would otherwise be available to the system.

SYSTEM-SETUP utilizes a user exit (U315E) to retrieve the number of configured ports for your system. Therefore, if there is a large difference between the number of configured ports and the number of users logged on, as in the example above, it would be advisable to "comment out" the user exit in SYSTEM-SETUP and "hardcode" in the number of ports instead.

A second area to consider is the amount of additional workspace required by the accounts most often used. Workspace requirements will be satisfied for the account initially logged onto. Therefore, a "LOGTO" another account requiring a different number of workspace frames will retain its original block of workspace. Unless you know which accounts are most often accessed, it is helpful to do a LISTU at different times during a typical work day. This will indicate which accounts are being accessed. You can then determine the additional workspace requirements for those accounts by checking attribute eight of the account definition item (ED SYSTEM ACCOUNT.NAME) in SYSPROG.

Take as an example a system that has six users accessing an account requiring 127 frames, 15 users accessing an account requiring 256 frames, and six users accessing an account requiring 66 frames. Ideally then, the workspace table should contain six entries of 127, 15 entries of 256, and six entries of 66. This can be accomplished by customizing SYSTEM-SETUP. The following demonstrates how the SYSTEM-SETUP proc would be modified to incorporate both of the situations discussed above; i.e., a system with 68 active ports, requiring the number of workspace table entries just discussed. Please note that the original lines are 'C'ommented out.

```
100 C Options AF or UPG
    C ------------------
    OAllocating Permanent Logon
    Workspace
    C MV %1 ""
    C U315E
    C But first deallocate it..
    HWORKSPACE 256 (D,15)
    P
    HWORKSPACE 127 (D,6)
    P
    HWORKSPACE 66 (D,6)
    P
    C H%1
    C H)
    C P
    C MV %1 ""
    C U315E
    HWORKSPACE 256 (15)
    P
    HWORKSPACE 127 (6)
    P
    HWORKSPACE 66 (6)
    P
    C H )
    C H%1
    C H)
    C P
```

It is advisable when allocating workspace that you allocate a few more blocks of each size than you need. This will allow for periods of peak system usage and DATA/BASIC PERFORM statements.

- Will Edwards and Linda Denney

## Surge Protection Urged

In an effort to improve system reliability and decrease customer down time, the Central Support group tracks the failure rates of various system components. If a component has been found to have a higher than expected failure rate, our job is to determine the cause of these failures.

The majority of these failures have been caused by system hardware or environmental problems such as bad power. However, due to the improvements made in both system design and site preparation (such as power conditioning), we now find ourselves confronted with a new set of challenges.

Results of our failure reports in recent months indicate that the majority of system failures are due to terminal I/O controller failures. Many of the failures may have been due to electrical impulses caused by power fluctuations or lightning strikes in the local area passing to the controller from peripheral devices (e.g., printers, modems, etc.)

It really doesn't matter what caused the impulse, the result is the same--the system is damaged. However, the actual controller failure may not occur until later--hopefully not in the middle of an important project.

There are many ways to avoid impulses getting into the system from peripheral devices or telephone lines. However, most of the available methods are expensive.

**McDonnell Douglas Field Service Catalog Sales** supplies a simple and relatively inexpensive method of protecting your system's I/O controllers: **In-line surge protectors.** This small investment could save you hours of system down time and replacement parts costs, which are customer-billable in the case of a lightning strike or power related problems.

Please refer to the catalog for more specific information about the in-line surge protectors which meet most data or telephone line connection requirements.

If you do not have a current catalog, please call toll-free (800) 632-2667 and ask for one.

- Jim Kirk

# THINK TANK

It is with great pleasure that we introduce a new column in this issue. **THINK TANK** will be a forum for the Engineering Development staff to communicate directly with you.

This column's first article is authored by **Henry Eggers,** Manager of Software Development for McDonnell Douglas Computer Systems Company (MDCSC). Henry discusses the past, present and future of the Pick Spectrum Association (formerly Spectrum Manufacturers' Association) Technical Standards Committee. In his survey of the Committee's activities, Henry explores how closely McDonnell Douglas' software development has complied with the proposed Standards.

Future articles in this column will feature other members of Henry's staff. Your comments and suggestions for topics are valuable. Please let us know what you are interested in having Software Development discuss.

## McDonnell Douglas and SMA Standards

About four years ago, the Spectrum Manufacturer's Association (SMA) was founded as a cooperative venture among manufacturers who sell computers which have REALITY-like application environments. One of the actions of this organization was to constitute the **SMA Technical Standards Committee.** The intent and charter of the committee has been to standardize data and program interchange between various machines so applications can be written in "vanilla" languages.

The committee has met several times a year since September 1985, with representation from as many as 15 organizations. The purpose of the committee has been to formulate, agree upon and publish drafts of standards for various parts of the system. These drafts are then subject to public opinion for 18 months, at which point they become "the standard." Manufacturers then have 18 months to "comply" by implementing the standard.

As might have been expected, the initial meetings were typified by a vigorously competitive spirit and a certain insecurity on the part of the participants. The initial standards were based on the premise that feature characteristic syntactic elements already had to be working on a majority of machines and that the feature was not a "Trade Secret" of a company. Since it was most common, the standard reflected R83 implementation, and was of minimal substance.

Over time, the focus of the committee has shifted from the documentation of material old enough to be on all of the machines, to efforts to standardize "what all participants are going to have to do" before they all do it in different ways.

The focus of the Standard's document has been those elements which are used to define an application system and to transport the application's data from one system to another. This means that the focus has been on the application-definition languages rather than the user-visible parts of the system.

The initial document, *SMA:101*, is the *SMA/BASIC Language Specification,* and was published in April 1986. It listed the syntax of most common BASIC statements and functions, without defining what they might do.

The second document is *SMA:201 (Magnetic Media Interchange Specification,* March 1987), which discusses T-DUMP, T-LOAD, tape labels and the requirements for 1/2", 1/4" and floppy diskette tapes.

The standard notes that multi-volume transfers are not supported as standard. As a rule, 1/2" tape at 1600 BPI with a block size of 4000 bytes is most likely to be transportable.

Additional standards which have been published are:

*SMA:301* SMA/Dictionary and Data Structure Specificiation

*SMA:401* SMA/Retrieval Language Specification

*SMA:501* SMA/PROC Language Specification

*SMA:601* SMA/RUNOFF Language Specification

The Series 9000 (5.3), Series 6000 (2.3) and Series 18 (6.0) are very close to these specifications. The 7.0 Operating System release is even closer, since it matches the requirements of unpublished specifications in a number of areas.

The areas of noncompliance include things that we do better and are going to keep that way, i.e.: The use of "X" in PROC as an unconditional exit; and things which do not appear important enough to do, i.e.: Certain obscure features in RUNOFF; and things which are included in later releases such as multiple data sections in Release 7.0.

Further SMA Standards work continues on the definition of the result of the operations specified in the *SMA:101* document, as well as extending the operations specified therein, and toward achieving transfer data using account-saves according to the historical tape format. Research is being done on standardization of terminal functionality, with particular attention to the definition of consistent user environments over a range from "dumb" terminals to PCs, and on a standard SQL interface into the system file structure.

- Henry Eggers

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**Editor's Note**: Anyone interested in obtaining copies of the SMA Standards referenced in this article should contact IDBMA, Inc. at the address below. A life-time subscription, which includes all updates and revisions, is only $25.00. Payment can be made by check or credit card.

IDBMA, Inc.
10675 Treena St. Suite 103
San Diego, CA 92131
(619) 578-3152

# 14/100

## Installation Tip

When installing or removing anything from inside the PC, be sure to wear a **ground strap** to dissipate static charges. These static bands may be purchased at your local RADIO SHACK at a reasonable price. Always attach the strap to your wrist and clip the other end to a non-painted surface on the chasis of the PC.

### DOS/ROS Bridge

You can copy items from the Series 14/100 files to a PC-DOS file, and copy a PC-DOS file to an item in a Series 14/100 file by using the **EXPORT** and **IMPORT** verbs.

IMPORTing a DOS file to an item in the Series 14/100 file:

```
IMPORT dos path and file name <cr>
TO:(REALITY-file-name item-name
```

EXPORTing a ROS (REALITY Operating System) file item to a DOS FILE:

```
EXPORT REALITY-file-name item-
 name <cr>
TO:dos-path-and-file-name <cr>
```

The following examples demonstrate the use of the IMPORT and EXPORT verbs.

Example 1:

```
IMPORT C:\AUTOEXEC.BAT<cr>
TO:(MD AUTO
```

will copy the autoexec.bat file in the root directory of the c drive, to an item AUTO in the MD of the account.

Example 2:

```
EXPORT SYSPROG-PL FILE-SAVE <cr>
TO:C:\F-SPROC.TXT
```

will copy the FILE-SAVE proc from the SYSPROG-PL file to a TeXT file in the root directory of the c drive. The file will be named f-sproc.txt.

- Sam Craghead

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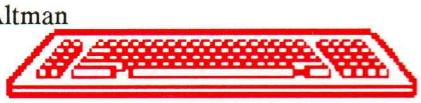
# APPS

## Current Application Overlays

The following matrix provides you with the release level of Application Overlays required by each supported Series and Operating System (OS). It is important that you know which Overlay you should obtain prior to a planned upgrade. For example, if you are upgrading a Series 9000 from 5.1 to 5.3 OS which uses REALCALC, then you will need to obtain the corresponding Overlay release (REALCALC 2.1C) before upgrading.

| Application Overlay | Series 4700 | Series 6000 | Series 9000 | Series 18 |
|---|---|---|---|---|
| A*L*L 1.1 | 4.3 | 1.1 | 1.3 | N/A |
| A*L*L 1.2 Paper Patches 1-46) | N/A | 2.3 | 5.3 | 6.0 |
| PCmicroREALITY 2.0B | N/A | 1.1 | N/A | N/A |
| PCmicroREALITY 2.1 | 4.3 | 2.3 | 1.3,5.3 | 6.0 |
| REALCALC 2.1C | 4.3 | 1.1,2.3 | 1.3,5.3 | 6.0 |
| REALGRAPH 1.0C | 4.3 | 1.1,2.3 | 1.3,5.3 | 6.0 |
| REALLINK 2.0 | 4.3 | 1.1,2.3 | 1.3,5.3 | 6.0 |
| REALISM 1.0 Rev. 7 | N/A | 2.3 | 5.3 | 6.0 |
| REALITY Integrated Office 2.3 | 4.3 | 1.1,2.3 | 1.3,5.3 | 6.0 |
| TRANSACTION LOGGING 1.2 | N/A | 2.3 | 5.3 | 6.0 |
| WORDLINK 1.4 | N/A | 1.1 | N/A | N/A |
| WORDLINK 1.4C | N/A | 2.3 | 1.3,5.3 | 6.0 |
| WORDMATE 2.1C (Overload Patch Tape Rev A) | 4.3 | 1.1,2.3 | 1.3,5.3 | 6.0 |

- Janet Altman



## Application Software and System Compatibility

The following software overlays are **both** operating system and system serial number targetted:

A*L*L 1.1
A*L*L 1.2
REALCALC 2.1 Rev. C
REALGRAPH 1.0 Rev. C
REALITY Integrated Office 2.3 Rev. A
WORDLINK 1.4
WORDLINK 1.4 Rev. C
WORDMATE 2.1 Rev. C PTRev. A

When upgrading your operating system, you must upgrade the application software for compatibility.

For Example:

The WORDMATE 2.1 Rev. C software, which was generated for a Series 6000 running a 2.2 operating system, will not function properly on an Series 6000 running a 2.3 operating system.

- Janet Altman

## No "INTELLIGENT WORKSTATION FUNCTIONS"

When the PC software for REALLINK is loaded, a DOS command is put into the CONFIG.SYS file in the root directory. The command looks like:

```
DEVICE = \pathname\RL.SYS
```

where pathname is the directory in which you have installed REALLINK. This command loads the REALLINK device driver into memory. This is done every time the PC is booted because that is when the CONFIG.SYS file is executed.

If the RL.SYS device driver is not loaded, your PC will only work as a terminal emulator--i.e., your PC will work like a PRISM-4 CRT connected to your host. You will not be able to use any of the DOS functionality that REALLINK provides. An error message will be displayed when you first boot up REALLINK to warn you that this situation has occurred. The highlighted error message "**INTELLIGENT WORKSTATION FUNCTIONS NOT AVAILABLE**" appears at the bottom of the proprietary screen. If you ignore this message and try to execute a DOS or REALLINK command you will receive an error saying "**RL.SYS WAS NOT LOADED AT PC BOOT TIME.**"

To rectify this problem, you should add the device driver command into the CONFIG.SYS file using EDLIN or some other type of file editor. For instance, if REALLINK was installed in a directory named REALLINK and this is where the device driver RL.SYS still resides, the device driver command should be:

```
DEVICE = \REALLINK\RL.SYS.
```

After this command is added into the CONFIG.SYS file, the PC must be rebooted to load the RL.SYS device driver. An indication that the RL.SYS device driver was loaded is when that command is executed during the boot sequence the message "REALLINK OPERATING SYSTEM - Version 2.0 (c) Copyright 1985,1986,1987 Fantour Computer Services" is displayed surrounded by a double lined box. If this is not displayed, check that the pathname in the device driver command is where the RL.SYS device driver actually resides. If the path is correct, then there is something else wrong. You should then contact Central Support for assistance.

- Bryan Glassick

## Help for New REALLINK Users

One of the main advantages REALLINK provides is the capability of transferring data between your McDonnell Douglas system and your PC. With REALLINK you can "**download**" REALITY records directly onto your PC in numerous formats.

For example, you can convert spooled print jobs generated by an application (like REALCALC) into the format that can be used by popular PC software like LOTUS. You can transfer all or only specific parts of selected records and files.

However, for the new computer user who is unfamiliar with using both REALLINK and MS-DOS, learning how to manage both environments can present several challenges. Most of these challenges are overcome by taking the time to read the software manuals and "playing around" with the applications.

This is especially true for those new to MS-DOS. Fortunately, help is available from several reference books found in most of the national bookstore chains (like Waldenbooks).

The following list of books has been suggested by Central Support analyst Sam Craghead. Most of these books will provide you with easy to understand material for mastering the basics in using MS-DOS and your PC effectively.

* Van Wolverton: *Running MS-DOS*
* Winn L. Rosch: *The Winn Rosch Hardware Bible*
* Jeff Walden: *File Formats for Popular PC Software*

The last book contains the DOS-file formats which you will probably need to know when "**uploading**" from your PC to your REALITY Host.

With these references, your creativity and competence in managing both the REALITY and MS-DOS environments with REALLINK should provide generous benefits for both you and your business.

• L.W. Abel

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## Electronic mail on REALISM

A new Electronic Mail facility has been added to REALISM. The facility has been designed to allow users to send mail to any REALISM user on their local system or on remote systems with McDonnell Douglas' File Transfer Utility (FTU) software. The Electronic Mail facility operates within the REALISM environment as supported on REALITY Operating System releases 2.3 and 5.3.

Mail is created using the REALISM full screen editor which provides the user with many features found in a word processor. These features include Cut & Paste, Delete Word, Delete Line, Insert, Search & Replace, just to name a few.

Mail directories may be built using a variety of selection criteria, some of which are personal names, department numbers, department names, location, etc. Once the directory is built, mail can be sent to all persons listed in the directory simply by selecting the directory name. Names can also be trimmed out of a directory at the time of sending without disturbing the contents of the directory itself.

A recipient-reply-request facility is supported. If a replay is requested, the recipient of the mail is notified that a reply is requested and is also given a reply-by date.

Mail may be redirected to another user. If a user is going to be away for a period of time, the user can redirect their mail to another user on the system.

Mail notification is provided by a flashing message on the user's screen when they have mail. The message will continue to flash until the mail is read.

Once mail is sent, it is stored in a sent-mail area until the sender deletes it. This allows old mail to be resent without retyping. It may also be edited before resending. The same is true of received mail. It is also stored until the recipient deletes it, and may be resent to another user.

The McDonnell Douglas Central Support Bulletin Board System (BBS) uses this mail facility. You will be able to view and use this feature when the BBS becomes available in your area.

• George Jorgensen

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# Series 7000

## Series 7000 Class Schedule

Since we've had several inquiries concerning Series 7000 classes, the following is a schedule for the remainder of 1989. If you are interested in more information or would like to enroll, please call the toll-free Central Support number (800) 678-3399 and ask to speak with either Helen James or Ann Connelly.

**Advanced Operations** - Sept 25th to Sept 29th

This class is a supplement to the beginning operations class. The material to be covered will be resource maintenance, cleaning up your disk and disaster recovery. The class is four and one-half days.

The cost is $850.

**Formatting and Keybasic** - Oct 16th to Oct 20th

This class will be two days of formatting and three days of keybasic. Bring your own format to be completed during the class.
The cost is $850.

**Basic Programming** - Nov 13th to Nov 17th

This class will teach the user the fundamentals of Basic programming as used on the Series 7000 system. It is four and one-half days.
The cost is $850.

All of these classes will be offered periodically, however a minimum of five students is necessary. Any special classes that you require can be given at your site. The cost for these will be $500 per day plus travel expenses for the instructor.

- Ann Connelly

## Tips on Disk Reorganization

If your system performance has degraded or you are having problems with corrupted files, it is probably time to reorganize your disk.

System performance can be greatly affected by a fragmented disk. If a disk is heavily used and the files are split up between many allocations units (AUs), disk seeks will increase and file access time will also increase.

Reorganizing a disk is most effectively done by restoring a clean disk dump. Clean disk dumps are created during the original system build. These dumps usually do not contain configurations, syspatches or overlays. Before you attempt to restore a clean disk dump, make sure that you have an SDUMP of your current system, a system save tape, a configuration tape, a syspatch tape and any overlay tapes (Textpro, A*L*L, etc.) you are currently using. **A clean disk dump erases everything on your disk** and, therefore, eliminates any corruption.

Another method of reorganizing a disk is to do a system save, a group delete (GDEL) of groups 1-239, and a system restore. This method is effective in that it reorganizes most of the disk; however, any fragmented files which were created in the SOV or SYSTEM groups will not be reorganized.

A third method is to do a system save and a restore with the "D" option. This can be ineffective in that the file only gets deleted as it needs to be restored. If the space made available by the delete is fragmented, the file will be restored fragmented unless other AUs in the same area have been made available since the file was originally created.

**Warning:** Always do a SDUMP of your system before attempting any type of reorganization. This will provide you with a current back-up of the system.

- Helen James

## Products Available

Series 7000 users can purchase add-ons to their systems. However, some products are in short supply. For more information, please call our toll-free Central Support number (800) 678 3399. Please tell the Customer Service Representative that you would like to speak with Helen James or Ann Connelly.

- Ann Connelly

# COMMS

## Current COMMS Releases

The Product Release matrix shown below details the current release of software for the various communications products.

Any software fixes which may be required will only be produced for the most current release.

If you plan to upgrade your McDonnell Douglas Computer system to the next hardware system or operating system release, please contact your Dealer/VAR to make sure you have the required communications software prior to the upgrade. If in doubt, have your Dealer/VAR contact the McDonnell Douglas Field Service Communications Support Group at (800) 678-3399.

| COMMS PRODUCT RELEASE | Series | Series 4700 | Series 6000 | Series 9000 | Series 14 |
|---|---|---|---|---|---|
| MCC 3.1 (Rev 4) | N/A | 1.1 | N/A | N/A | N/A |
| MCC (2.3) 3.1 (Rev 5) | N/A | 2.3 | N/A | N/A | N/A |
| MCC (6.0) 3.1 (Rev 3) | N/A | N/A | N/A | N/A | 6.0 |
| FTU 1.2 (Rev I) | 4.3 | 1.1,2.3 | 1.3,5.3 | 2.3 | 6.0 |
| FTU 1.3 (Rev G) | N/A | N/A | N/A | N/A | 7.0 |
| M3800 (2780) 1.3 (A) | 4.3 | N/A | 1.3,5.3 | N/A | N/A |
| M3800 (SNA) 5.3 (A) | 4.3 | 2.3 | 1.3,5.3 | N/A | N/A |
| 5750 (TCL COMMS) Rev 2 | N/A | N/A | 1.3,5.3 | N/A | N/A |
| 2602 BISYNC | 4.3 | N/A | N/A | N/A | N/A |

NOTES:

5750 Communications Software no longer resides on the Sysgen tapes. If you require this software, then have your dealer or analyst contact the McDonnell Douglas Field Service Communications Support Group.

2602 Bisync runs only on M4700 systems. The software is included on the Series 4700 4.3 Sysgen tape.

- Richard Yeh

## Modem Compatibility

There are dozens of confusing features on modems, but the prospective purchaser/user only needs to know one term to handle modems: **COMPATIBILITY!**

Compatibility implies standards for comparisons. There are three types of standards: BELL, CCITT and OTHER (or Proprietary).

**BELL** Systems modems were designed and became "standards" before the big "Breakup" when AT&T was the only telephone company around. They would allow only their own modems (built by Western Electric) to attach to their phone lines. "BELL 212 Compatible" is a typical compatibility reference.

**CCITT,** the Consultative Committee for International Telephone and Telegraph, has created standards for nearly every conceivable type of modem one might require. The Industry is definitely headed towards these International standards. A characteristic compatibility statement is "CCITT V.22 bis."

**Proprietary modems** are those that are neither created by the BELL System nor are they designated by a CCITT standard. These are usually new designs by a specific manufacturer to meet a new requirement. They become popular for a period of time until replaced by a BELL or CCITT recognized standard equivalent. "RACAL-VADIC 3400 Mode" is a typical compatibility reference.


• Steve Moore

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## SNA: System Network Architecture (Part 2)

Niki Jhaveri continues his discussion of understanding the basics of IBM's Systems Network Architecture (SNA). In our previous issue, Niki presented background material on "What is a Network." In this issue, he elaborates on IBM's SNA network design.

## SNA: IBM's Answer to Networking

SNA is IBM's comprehensive specification for distributed data processing networks. It defines the message formats used within a network, and it defines the rules governing the interactions among the network components. The architecture defines protocols, and standards to which different hardware and software products must conform. The term architecture often implies an overall scheme or plan which provides a goal toward which its implementers strive. Thus architectures evolve and change as new hardware, software, and techniques are developed.

Network architectures have been developed by standards organizations like the CCITT and ISO, by common carriers and teleprocessing administrations, and by computer manufacturers. SNA is the most widely used computer manufacturer's network architecture.

It is important to understand the difference between an architecture and its implementation. IBM has identified a set of principles that apply to distributed data processing products and networks in general and has embodied those principles in the design of SNA. However, SNA does not specify the complete design of each product in a network and it does not prescribe the network functions that each product must be capable of performing. These aspects of a product are the responsibility of its designers.

SNA does prescribe the manner in which a network function is to be performed if the designers of a product choose to include the associated SNA component in their product. This allows equivalent functions in different products to interact in a universally understood manner and eliminates unnecessary re-invention of the same function in different products.

Almost all major computer manufacturers offer products supporting SNA in varying capacity. A close examination of the product specification would reveal that their roles and functions are well defined and conformed to the SNA specification.

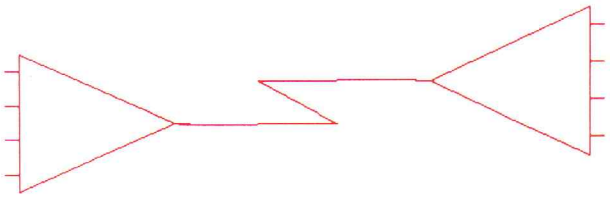
Prior to SNA, IBM had several hundred communication products, using three dozens teleprocessing access methods, with more than a dozen data link protocols alone. The basic idea behind SNA was to eliminate this chaos and to provide a coherent framework for loosely coupled distributed processing.

Given the desire of many of IBM's customers to maintain compatibility with all these (mutually incompatible) programs and protocols, the SNA architecture is more complicated in some places than it may have been had these constraints not been present. SNA also performs a large number of functions not found in other networks, which, although valuable for certain applications, tends to add to the overall complexity of the architecture.

A basic concept underlying all network architectures is the division of network functions into well-defined functional layers. The functions of SNA are broken into layers, with each layer providing a different group of services.

* * *

In Part 3 of the SNA series, Niki expands his focus by exploring more specific concepts, such as SNA's "functional layering." As always, your questions and comments on the subject are welcome. Please address your correspondence to Editor, *ONLINE*.



• Niki Jhaveri

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# FEEDBACK


**Mr. Robert Aull**
**Central Support Manager**

Dear Bob:

"On June 15th, **William Edwards** of your Dallas location provided me with a user mode to permit us to do "transparent reads" from DATA/BASIC. This enabled us to solve a problem with our Schenectady, NY location and meet the contract requirements there.

I must say it was exciting to learn that someone with such extensive operating system knowledge and talent was accessible to EAI. He solved a major problem for us in a short period of time.

William should be congratulated for a job well done."

Robert B. Timberlake
President
• **EAI Systems**

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**Steve Gill**
**Sustaining Support Manager**

"Since I had not used REALLINK before, it has been a special challenge. Many thanks to **Bryan Glassick** who helped me get it loaded. Then Bryan and **Sam Craghead** spent a good deal of time getting the PC printer working with REALLINK. **L.W. Abel** was extremely helpful in assisting me with transferring files from the Series 9000 to the PC as well as answering other questions. My heartfelt thanks to all of these people.

Others [from Central Support] have also helped when the system had GFEs and/or couldn't be booted.

All...have helped in a courteous and cheerful manner. They are to be commended since I know how difficult a job like that can be.

Keep up the good work. It's a pleasure working with you."

Carolyn M. Dunning
Systems Manager
• **Word & Brown**

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**Rich Heimann**
**Vice President Field Operations**

Dear Sir:

"...I would like very much to express my appreciation for the assistance of **Linda Denney.**

There had been quite a number of problems...and Linda is the one who took the time to sort the problems out and find the answers. Her time, effort, and courtesy were outstanding.

I would be severely remiss if I did not say that the help I have received from **Sam [Craghead], Grace [Varela],** and **Susan [Seipel]** has been exemplary.

I have worked for a number of clients in the Cincinnati area and have dealt with your local field service group repeatedly. I have never been let down. This group has always gone the extra mile and I have been very happy to share that news with other users. My particular thanks to **Tim Thompson** and **Mike Cook** who took me through the problems of a beginning system user, upgrade planning, and installations.

Again, thank you to those mentioned above and those that are nameless voices of assistance in the McDonnell Douglas network."

Mrs. Margie Leeseberg
Systems Administrator
• **Cincinnati Metropolitan Housing Authority**

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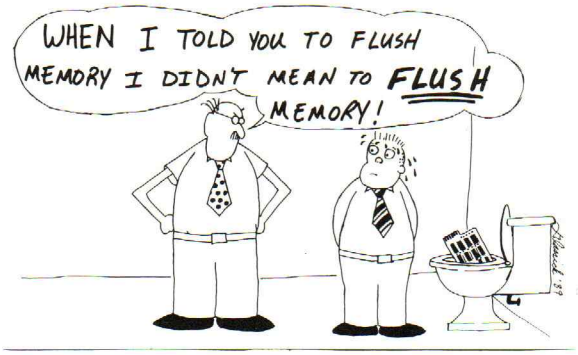
# IN QUEUE

We are still tabulating the responses to the *ON-INE* Readers' Survey published in the last issue. If you haven't had a chance to respond, please take a few moments to let us know what you think about *ON-LINE*.

In our next issue, we will have new installments in our series on system performance and SNA. There will be information on REALISM support, correctly setting up modems, and how to handle aborts and port hangs. And many more topics!

We appreciate your comments. Please let us know what you are thinking.

# GooFiEs






**Central Support**

**ON-LINE**

Published for System Software Users

Published quarterly by McDonnell Douglas Field Service Company Central Support Department for users of McDonnell Douglas computer systems.

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