

Central Support ON-LINE

Published for System Software Users

McDonnell Douglas Field Service Company

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WELCOME

HELLO, to all users of McDonnell Douglas Computer Systems Company equipment. It is a real pleasure to welcome you to McDonnell Douglas' new newsletter: *Central Support ON-LINE*.

With the startup of our Central Software Support group over one year ago, we realized that we required a good channel of written communication with you, our customers. In addition, many of you tell us that we have not kept you abreast of our latest technical offerings and product information.

For these reasons, we want to make it easier for you to work with your system. By recapping the most common problems occurring during the quarter, providing helpful hints and requesting your feedback, we have created this communications link.

It is also important for you to know about our latest releases of both hardware and software. A new operating system release may have just what you need to accomplish a specific task...New hardware might be what you need in order for your data processing systems to grow with your business...McDonnell Douglas Computer Systems Company is offering many new application utility packages and datacommunications equipment that could enhance your operations...etc.

Our newsletter is intended to satisfy these requirements. By calling into our Central Support group with a question or problem, you are talking to specialists whose knowledge is most current on these issues.

We will be publishing this newsletter quarterly and solicit comments from you regarding what you would like to see in it. We invite your feedback.

Again, welcome to our first issue of *Central Support ON-LINE*. We look forward to keeping you well informed!

Christine Spampinato
Product Support Manager

ROS

New Products Announced

McDonnell Douglas Computer Systems Company announced a host of new products at the **Spectrum '88** show in late March. This article is a brief summary of those announcements.

Model 14/100

The Model 14/100 product is a value-added enhancement to the IBM PC/AT (and some closely compatible machines). It is a coprocessor board which can be added to a PC/AT. The 2.3 operating system is then run on this board, providing an entry-level system which can support one to eight terminals. In addition, the PC/AT's console can function as a terminal, or DOS applications can be run at the same time that other users are using ROS (the Reality® Operating System) on the other terminal(s).

REALISM™

REALISM™ is Reality® Integrated System Management. It integrates menu driven access, directory assistance, online help, and security into the ROS environment. Profiles can be set up for individual users, defining what system resources they have access to. Resources include programs, verbs, files, even dictionary items in files.

A toolkit provides a prompted interface to English®, assisting in the development of English® sentences. Sentences can be stored for reuse, combined into paragraphs, and added to the user's menu structure.

Office automation facilities are included in REALISM™ as well. Diaries, electronic mail, front desk reception tools, and more are available from any REALISM™ input point.

REALISM™ is such a large, extensive system that it cannot be fully described here. Future articles will address specific areas of the product.

ROS-E™

The Reality® Operating System - Extended, ROS-E™ for short, is a tremendous expansion of the

functionality of ROS. Once again, there are so many features that only a few can be listed here:

- Systems running ROS-E™ can be networked together via the McDonnell Douglas Network Architecture. MDNA includes system local area networks. Users connected to a system on the network can remotely logon to any other system in the network. Applications can access data in files on other systems. Server processes can be set up to process transactions requested by other, possibly remote, processes.
- Programs can be written independent of the printers they will address. The spooler will manage the device-specific needs in a manner similar to terminal independence already available.
- Item size is unlimited.
- Files can have multiple data sections.
- TCL includes a command stack (sometimes called a dot processor).

Enhancements to Existing Products

In addition, the announcements included expanded capabilities for many existing products in the Series 6000 and 9200 lines. These include more memory, more disk storage, and even a table-top half-inch tape drive.

Rich Ahrens

PROC DOC

TRICKY OPERATIONS: Advanced Proc Procedures



Grouping More Than One Command On A Line :

Problem:

The PROC Programming Manual does not indicate how to execute more than one command on a line. This causes unnecessary branches (GO, GOSUB) in the code.

Solution:

The subvalue mark may be used as a command separator. This character is a hexadecimal 'FC' and is commonly referenced in DATA/BASIC™ as CHAR(252). It is entered from the keyboard as <CTRL> \ (hold down the CONTROL key and then press the backslash '\' key).

For example; the following PROC opens the customer file, prompts for and inputs a customer number, and reads it from the customer file...

```
PRE-OP
001 PQN
002 F-CLEAR 1
003 F-OPEN 1 CUSTOMER
004 X 'CUSTOMER' IS NOT A FILE NAME
005 10 T "ENTER CUSTOMER NUMBER", +
006 IBP:%1
007 IF %1 = "" RTN
008 IF %1 = (1NON) GO F
009 T B, "REPLY MUST BE NUMERIC"
010 GO 10
011 M
012 F-READ 1 %1
013 GO 20
014 GO 30
015 20 T B,%1, "NOT ON FILE"
016 GO 10
017 30 T "CUSTOMER IS ON FILE"
018 GO 10
```

It could have been written in the following way

```
POST-OP
001 PQN
002 F-C 1
003 F-O 1 CUSTOMER
004 T B,"'CUSTOMER' IS NOT A FILE NAME"\RTN
005 10 T "ENTER CUSTOMER NUMBER",+
006 IBP:%1
007 IF .# %1 RTN
008 IF %1 # (1NON) T B,"REPLY MUST BE NUMERIC"\G 10
009 F-R 1 %1
010 T B,%1," NOT ON FILE"\G 10
011 T "CUSTOMER IS ON FILE"
012 G 10
```

Note that the backslashes on lines 004, 008 and 010 are subvalue marks (<CTRL> \). Also, the abbreviated version of the commands (F-O versus F-OPEN, G 10 versus GO 10) was used in the second example to save typing!

When grouping commands in this way, the following precautions need to be observed...

- If a P, H, O, X, or F- (file I/O) command is used, it may not be followed by another instruction on the same line. For example, the following are both ILLEGAL...

```
MV #1 "TIME"\P\T "IS THE
TIME CORRECT"
```

```
OENTER ANSWER+\IP
```

- If a mark is to be used with <CTRL> \, it must be the first PROC command in the series. For example,

```
M\IBP:%1\IF # %1 X
```

is legal, but

```
IBP:%1\M\IF # %1 X
```

is not! This also applies when using statement labels (e.g., 10 IBP:%1).

- Any commands following an 'IF{N}' command on the same line will be executed only if the condition is true (see line 008 above).

- Any statements following a branch instruction on the same line will be ignored. For example,

```
T "ENTER DATA"\GOSUB 50\IP
```

the IP statement will NOT be executed.

- A 'C' (comment) command will not affect the statements following the one that is commented out on the same line (i.e. they will execute normally). For example,

```
IF %1 = "END" T C\C*** T
"DONE"\G 99
```

The 'G 99' WILL execute!



Sandy Herring



Star Power

At Central Support we believe in providing you with the best, most timely, and supportive information that will allow you to become a stellar performer with your system. We see you as an integral "star" in the McDonnell Douglas system solutions constellation. Together with your system and our support, you can illuminate your business environment with decisive and reliable computer resources. In short, we are here to help you shine!

During the past year you probably worked with us whenever you had a "software" problem with your system. Although that is our primary responsibility--supporting you when you encounter problems with your system--we realize that an equally important responsibility is to provide you with information which will enhance and promote your personal and business goals. *ON-LINE* is one way for us to provide you with this material.

However, for us to do this effectively, we would like to hear from you. Please tell us what you feel would help you in your day-to-day operations. Both positive and negative comments and suggestions are welcomed. Please send them to the Editor, *ON-LINE*.

Each month we will be presenting in the STAR POWER column a collection of helpful hints, software shortcuts, and topics of immediate interest to you. In this issue we discuss reporting aborts, Group Format Errors (GFEs), and the SHUTDOWN procedure prior to COLDSTARTing your system.

L.W. Abel

STAR POWER

Reporting Aborts, GFEs & SHUTDOWN

The topics for this issue's column concern the most frequently occurring situations reported to Central Support during the past year.

Calling Central Dispatch (CD)

When you call Central Dispatch with a software problem or question, please be sure you tell the Cus-

tomer Service Representative (CSR) that you believe your call is about a "software" problem.

There are several types of conditions which are indicative of a software problem, including the following:

- * Group Format Errors (GFEs)
- * System aborts (shows a "!" and abort message)
- * Hung system or ports
- * Spooler (printing) problems

During your call, please be sure to tell the CSR your name (especially your LAST name) and your telephone extension. This will help us to respond directly to you.

Reporting Aborts

An abort occurs whenever a process terminates prematurely or incorrectly. You may encounter an abort at any of the four following levels:

1. Application abort -- The programmer who wrote the application included logic to take care of a situation such as not being able to open a file.
2. Run Time DATA/BASIC™, PROC or ENGLISH® error -- These occur while running a process, such as:

[B29] CALLING PROGRAM MUST
BE CATALOGED

or

FORMAT ERROR IN PROC
STATEMENT

or

[701] INVALID FUNCTION
CORRELATIVE DEFINITION:

NOTE: The first error will result in trapping to the DATA/BASIC™ debugger. The second will result in termination of execution of the PROC. The last will simply cause the ENGLISH® sentence to fail.

3. Virtual OS abort -- These are the "classic" aborts most reported, such as FORWARD LINK ZERO, REFERENCING ILLEGAL FRAME, RETURN STACK FULL, ILLEGAL OPCODE, etc. with a "!" prompt.
4. MONITOR abort -- The entire system hangs. Port 0 will have the abort message and ">" prompt.

Whenever an abort occurs, you should contact Central Support. It is important for us to work

together in determining why your process aborted. In order to do this, we suggest that you leave the aborted process at the point of the abort. While you are calling us, you can start the trouble-shooting by ascertaining what the process was doing when it aborted. The easiest way to do this is to log on to another terminal and enter at TCL the command: WHERE nn <RETURN>, with nn = the port number that is aborted. For example, if port 20 had aborted, you would enter: WHERE 20 <RETURN>.

If you do not know which port is aborted, you can do a WHERE and look for the process whose first RTN STACK value is executing out of frame 21. For example, while running repetitive letters in WORDMATE, the operator got the following abort:

```
CROSSING FRAME LIMIT; REG=13
ABORT @ 99.14E
!
```

The operator did a WHERE and identified that Port 4 had aborted:

```
:WHERE
PORT PCBIFD PS RTN STACKS...
*000 000800 76FF 121.176 1275.151 1275.09A
D004 000902 7AFF 46.141 17.062
000900 21.03F 99.14E 101.046 99.01F 1129.06
```

The WHERE verb will display information about that port and what it was doing when it aborted. Please be sure you tell the CSR in Central Dispatch the abort message and address when you call. When we call, you should be ready to tell us the WHERE information.

Generally, we will either dial-in on a modem or ask you to type in some commands while the aborted process is in the Assembler Debugger. From this information we will be able to focus in on the specifics of what caused the process to abort. Usually at this point, we can provide you with instructions on resolving the abort.

Group Format Errors (GFEs)

Group Format Errors--commonly called "GFEs"--occur for a variety of reasons involving possible data or frame linkage corruption of item(s) in a file. Most GFEs are found by your review of the FILE-STATistics report produced at the end of your daily FILE-SAVE procedure. A non-zero entry in the last column on the report indicates that a file contains one or more GFEs.

Another way to discover GFEs is during processing when the message appears:

```
*GROUP FORMAT ERROR fid1 fid2
```

The user should record the Frame IDs (fid1 and fid2) displayed in the message and notify you immediately.

It is VERY important that you also notify us immediately if you find any GFEs. Preventing access to that file is equally important, because updating the affected file may cause further corruption, even to other files. It is also valuable for you to explain (in advance) to your system users that they should notify you, or your staff, about any aborts or GFEs they encounter. An ERROR CONDITION is not normal and should be reported!

We can reliably fix GFEs, but there are two things you can do to help us greatly in this undertaking. One is by having well allocated files which will minimize the damage when GFEs occur. The other is by doing an orderly SHUTDOWN (or emergency flush, if necessary) before COLDSTARTing or ABS LOADING your system.

To insure the fastest recovery from GFEs, it is recommended that you equip your system with a dial-in MODEM which can be available for our use in fixing GFEs and investigating aborts. There is probably nothing more time consuming for the both of us than

trying to fix GFEs over the phone!

Using SHUTDOWN

One way GFEs can occur is if you COLDSTART your system without flushing what is in memory (updated data) to what is still out on disc (non-updated data). The result is probable data corruption of the item(s) being processed when you COLDSTARTed. Although there are several ways to flush memory to disc, the most reliable for you to use is the SHUTDOWN Proc found in the SYSPROG account.

The SHUTDOWN Proc can only be accessed from Port 0. It is activated by typing in at TCL the command: SHUTDOWN. This utility will prompt you about notifying users to log off the system and will inhibit anybody from logging on. It also flushes memory and will prompt you about resuming. At that point you should consult your *Programmer's Reference Manual* for further instructions and examples.

However, it is important to know why you needed to coldstart in the first place. Did you have a port hung? Was the system hung? Has this been a continuing situation? In some cases, we can fix the problem WITHOUT booting the system at all. Also, perform-

ing an ABS LOAD or Fake-AF should only be done when advised by a Central Support analyst.

"But," you may ask, "what if my entire system is hung?" In that case, you should call Central Dispatch and report that you are placing a "DOWN SYSTEM - PRIORITY 1" call. Our procedures provide for an almost immediate response to problems of this severity. After determining the cause of the problem, we will advise you of the best way to recover. In some cases, we may suggest using a special memory-flushing technique called "Emergency Flush." This technique may be used when the SHUTDOWN Proc cannot be executed.

L.W. Abel

COMMS

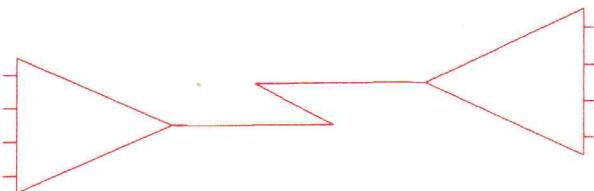
As our name indicates, we primarily provide high level support for McDonnell Douglas Computer Systems Company products. These include the following:

- Reality® Bisync
- 5750 Bisync Terminal
- 3810/3820 Bisync Batch/Interactive
- 3830/3840/3850 SNA Batch/Interactive
- Spirit MCC Bisync Batch
- M3355 Network Processor
- M3100 Series Multiplexors
- M3600 Series Modems
- M3400 Asynchronous switch and muxes
- X.25 Interfaces/Pads

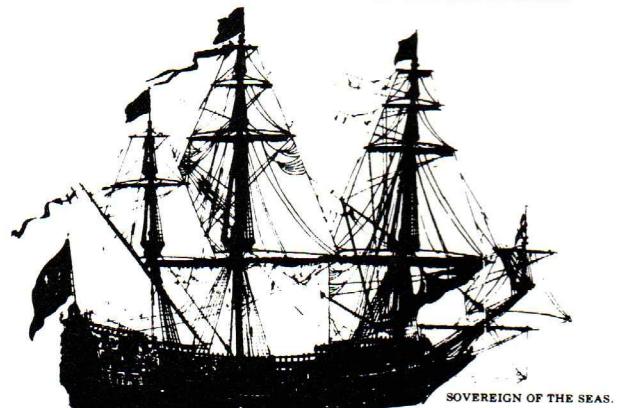
While providing total support for these products, we also provide Network configuration, Network Management and consulting services. We are in the process of packaging some of these services targeted for large networks.

We need your help to make this newsletter useful. Please tell us the type of information you would like to see here to make this meaningful for you.

Niki Jhaveri



SOVEREIGN®



McDonnell Douglas M7000 Product Services

It is a pleasure to introduce the M7000 Sustaining Support group. The group provides sustaining support of all software, hardware, data communication emulators and applications currently available on the product. The service provided is in place and available to all M7000 users throughout the U.S and Canada.

The M7000 (Sovereign®) is a distributed data processing, microprocessor computer system, designed and currently used to allow multi-user access to a variety of shared resources requiring mixed data and text processing. From traditional data entry to complex applications development the M7000, with its Local Area Network architecture, offers unprecedented flexibility, versatility and performance. The M7000 offers a wide range of IBM data communication emulation packages for batch and interactive applications in both Bisync and SNA environments.

Current Features Supported

Features currently available on the M7000 are Data Entry, Textpro™ Word Processing, A*L*L® (fourth generation language), Basic, Cobol and Data Communications (eg. SNA Batch/Interactive and Bisync HASP, 3780 and 2780 emulators).

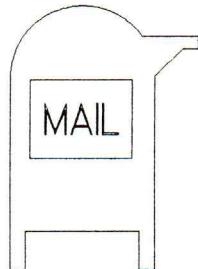
New Release Features For '88

The M7000 Sustaining group is currently in the process of Alpha testing the newest release of software and hardware for the M7000. The new release should be available sometime this summer for Beta testing. Some of the new features in this release include a faster Basic compiler, enhanced access security, auto logon, faster save/restore, file enquiry sentence builder, spooler enhancements, communications enhancements and networking to name just a few.

In this, our premier issue of *ON-LINE*, we would like to solicit from you the customer, just exactly what type of information you would like to see in the Sovereign section of this newsletter. We want this to be helpful and useful to you. Please send all comments and encouragements to the Editor, *ON-LINE*.

The Sovereign Group

FEEDBACK



McDonnell Douglas Field Service Company

Gentlemen:

I wish to personally thank you and your staff for the wonderful job being done by "Central Software Support."

Since this program was started, I have had occasion to speak with several of your analysts. Each was very courteous, eager to understand the problem I was reporting, and if the answer was not available immediately, called back with information on how to solve the problem. If the question was "a new one..." I was also told that they would get someone to follow up with the answer. This has happened in every instance.

This new service is a tremendous aid to me as a system manager because I get very timely response to immediate problems, from people who are informed enough to give a complete and honest answer.

Keep up the good work!

Jack Kenne
Data Processing Manager
• MOORE SUPPLY COMPANY

Mr. Rich Heimann, Vice President Field Operations

It gives us great pleasure to write this letter regarding the superior service rendered by your employees during a recent system failure.

The problem was a difficult one to diagnose but Mr. L.W. Abel of Software Support and Mr. Greg Varona and Mr. Clifford Bryant of Field Service all worked in concert and monitored the situation closely during the duration of the problem. Their collective efforts quickly resolved the problem which required an exceptional team effort.

The problem was a rather exotic one. The proprietary chip seems to have erased its serial number. When used in conjunction with RESULTS™ software these two serial numbers must match or program file erasures result.

We have been users for six years and have always rated the service and support as exceptional. This particular instance merits special recognition.

Greg Davis
MIS Manager
• SAMSEL SUPPLY COMPANY INC

Arnold Hoffman

Just a note to say thanks for the tour of the McDonnell Douglas Field Service Company headquarters. I appreciated the time taken by Chris Spampinato, Jennifer Shields, Ron Boop and you in showing me your operation. A significant factor in the success of ICS has been the implementation of our REALITY® computer along with the RESULTS™ software package and I really enjoyed meeting the people behind the product.

With growth of 93% in 1987 and estimated growth of 60% in 1988, we rely heavily on our computer system. It's nice to know that when a problem occurs, help is just a phone call away. Support is so critical in a business environment such as ours, and having met those who support McDonnell Douglas computers, it makes my job that much easier.

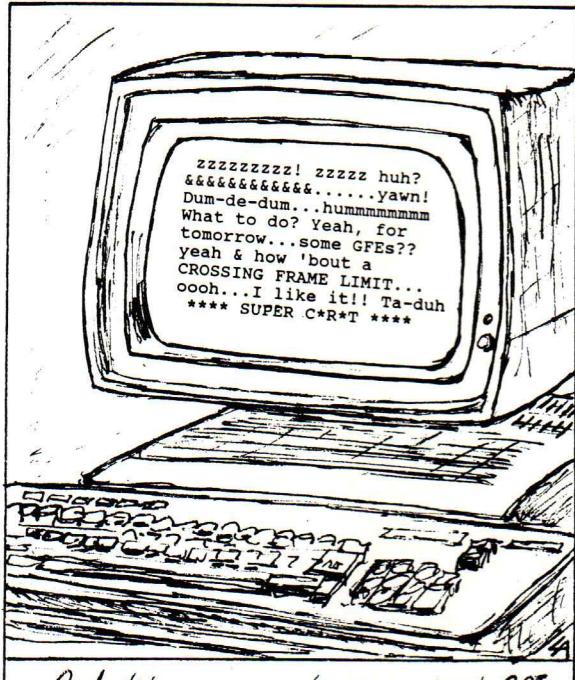
Mark Lovett
Operations Manager
• INDUSTRIAL COMPUTER SOURCE BOOK

IN QUEUE



In our future issues, some of the topics we will discuss include resizing your files, how to debug DATA/BASIC™ programs, trouble-shooting tips, and the latest information about operating system (OS) and application releases. Of course, we will have new installments in our PROC DOC, STAR POWER and FEEDBACK columns. Again, your comments and suggestions are welcome: WE WANT TO HEAR FROM YOU!

GooFiEs



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