

Software Release Note

Product: DAP Series – Sun host

srn090

Subject	Normal use of your DAP	
Summary	This note tells you how to prepare and boot your DAP ready for use.	
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1 Powering up the DAP

Make sure that the power cable is connected into the **AC INPUT** socket at the back of the DAP, and into a suitable power outlet – and that the **POWER** switch at the back of the DAP is on (1 pressed in). Also check that the SCSI cable between the DAP and the host Sun is connected at both ends.

These checks complete, you can now power up your DAP, by turning the key on the control panel from the **OFF** position to **RUN**. Various hardware self-tests are carried out as the unit is powered up. Full details of the facilities available from the control panel are in `srn024`. The DAP is ready for use when the final message is output on the control panel display:

```
DAP SELF TESTS
PASSED
```

Before any user programs can be run the program `dapboot` must be invoked; `dapboot` is described below.

2 `dapboot` options and use

The program `dapboot` must always be running whenever you want to submit programs to the DAP. To cater for this requirement you can either open a window on the host Sun in which to run `dapboot`, or run `dapboot` as a background task. Either way you do not need to be logged in as `root` to run `dapboot`.

`dapboot` is a program resident in the Sun and is responsible amongst other things for loading and unloading the run-time support software resident in the

DAP. It also monitors the state of the DAP continuously to report any serious errors detected as well as recording all usage of the DAP in a log file.

Different DAP configurations require different run-time support software. For example:

- Different DAP edge-sizes
- The presence of extra devices

will require different versions of the run-time support software to be loaded.

These requirements are met by having different boot directories in `/usr/lib/dap/` for each DAP configuration. Prior to release 3.3S, the directories contained all the kernel software for the particular configuration. This mechanism has been simplified in release 3.3S. Now one set of generic kernel software is held in `/usr/lib/dap`, and the different boot directories just contain a small text file (called `config.sys`) which describes extra devices for that configuration, and any HCU programs required.

In release 3.3S three boot directories are supplied:

- `SYSNONE` – for a DAP without a video board
- `SYSVFI` – for a DAP with a VO-8 or VO-24 video board
- `SYSDPPIO` – for a DAP 500 with the older-style DPPIO video board

`dapboot`
parameter

You give as a parameter to `dapboot` the name of the boot directory for your DAP configuration. Thus possible invocations of `dapboot` are:

- `dapboot SYSDPPIO`
- `dapboot SYSVFI`

`dapboot` default

You can omit the directory name parameter and invoke `dapboot` by using the command:

```
host# dapboot
```

When `dapboot` is invoked without an argument it uses `SYSDEF` to find the appropriate software for the DAP configuration you are using. `SYSDEF` is a symbolic link to one of the three standard sub-directories. It is created by the system when you install your RTE software.

When `dapboot` is invoked the following messages should appear on the host screen:

```
DAP confidence tests successfully completed
Message server successfully loaded
MCUCP successfully loaded
HCUCP successfully loaded
DAP booted
```

The DAP is then ready for you to use.

Further messages reporting the results of the device driver probes may appear before the `DAP booted` line.

3 Monitoring DAP errors and usage

As mentioned above `dapboot` permanently monitors the state of the DAP and is informed by the system about user programs that run in the DAP.

log files

`dapboot` records in a file called `/usr/adm/dapenglog` any errors or exceptions that are not the result of any user program you might have run. When `dapboot` is invoked, if the log file already exists then any information is appended to the existing file; if the log file does not exist it is created.

If you find that the file is becoming very big and filling your file store you are able to delete it, although it might be helpful to take a listing first. Writing to this log file is only done when `dapboot` is invoked or is closed down. It is normal for the system to write to the file messages giving details of the dates and times of power-up and power-down, along with details of the clock speed and PE banks selected. In addition the following messages are generally written when `dapboot` is invoked:

```
Task manager no such task 0D for deleting task 0x7
```

```
Task manager no such task 0D for deleting task 0x6
```

If you see any other messages more than once, there may be a fault – and you should get in touch with your AMT representative and let him have details.

`dapboot` records the details of DAP user programs in a file `/usr/adm/dapsyslog`. As with the error log file described above, `dapboot` appends to the file if it already exists, or creates it if it doesn't exist. The information recorded in it includes:

- Time and date information on when `dapboot` was invoked and halted
- An entry for each user program unloaded from the DAP giving:
 - The user name
 - The DAP program name
 - The time the system loaded the program
 - The time the system unloaded the program
 - The effective DAP milltime in milliseconds
 - The *priority* that was current when the program unloaded

In addition the system also makes entries in `dapsyslog` whenever the value of *timeslice* is changed. *Priority* and *timeslice* are defined in section 5.1 of this document.

4 Halting the DAP

Before you try to run any of the hardware tests or switch off the DAP you should halt `dapboot`. You halt `dapboot` from the host machine; how you halt it depends on how you started it running.

- If you opened a window to run `dapboot` in, simply enter
`<Ctrl-C>`
 (that is you hold the Control key down and press key C)
- If you started `dapboot` as a background job and are able to bring it back to the foreground you can kill it as above, alternatively you must be super-user to remove it. To remove it, type at the `host#` prompt:

```
host# ps -ax | grep dap
```

The process number of `dapboot` will be listed, along with any other DAP processes that are still running. These other processes should be removed first. Then type at the prompt:

```
host# kill dapbootn
```

where *dapbootn* is the process number you have just discovered. Type:

```
host# ps -ax
```

again, and `dapboot` should not now appear in the list of processes

- If you cannot get rid of the `dapboot` process in one of these normal ways you should run the program `dapreset` by typing at the prompt:

```
host# dapreset
```

which should then kill `dapboot`

5 Controlling DAP programs

Since up to 29 programs can be resident in the DAP at any one time, you may want some way of controlling the running of your processes remotely. For example, you might want to suspend all but one process temporarily in order to run a demonstration.

To satisfy such requirements, two files are supplied with this release. One file contains:

- A library of compiled low-level subroutines which pass process control messages to and from the DAP. You are able to link your own command line interpreter to this library, as a front-end tailored to your exact requirements

The other file contains:

- A fully compiled program which has a very simple example interpreter built onto the library, giving you a guide to what is required from an interpreter

5.1 Definition of terms

A DAP program is allocated a *DAP Process ID* when you try to load it.

The owner of a DAP process is that user whose user id was effective when `dapcon` was called in the associated host program.

The *slot time*, a measure of the maximum time for which a particular DAP program will be allowed to run without system interruption when it is the active process, is set by the product of the following factors:

- The current value of *timeslice*, the same for all DAP processes running in the machine at a given time. The larger the value, the greater the slot time for each process
- The process *priority*, the priority given to a particular process; the higher the value of *priority*, the higher the priority of the process. You can vary each process's priority and hence its slot time, and so allocate to different processes a different proportion of the DAP time available
- A factor dependent on the version of DAP software in use

5.2 Facilities available

The low-level library provides the system manager and users with routines to:

- Suspend a DAP process
- Restart a DAP process
- Print information about one particular DAP process, or about all DAP processes
- Kill a DAP process
- Set the priority of a DAP process
- Set the value of the system timeslice

The routines use a reserved channel to communicate with the DAP, so there is no danger of their being unable to gain access to the DAP, even when the DAP is being heavily used. You access these routines via a suitable interface that you can tailor to your own requirements; `dapqip` is a program which includes a simple example of an AMT-written interface, and is described in section 5.4 at the end of this note.

Any number of interface programs using these routines can be running at the same time, but an error will be reported if the `dapboot` process is not already running when a routine is called.

5.3 Specification of the new routines

The low-level routines provided for your use to control your multi-programming environment are held in the file `/usr/lib/dap/dapcontrol.o`

The specifications of the routines are:

- `void priority(procid, prior)`
`short procid, prior;`

The priority of process *procid* is set to *prior*, providing the current effective user (as defined by normal UNIX practice) is either the owner of *procid*, or is `root`

- `void timeslice (ts)`

`int ts;`

If `ts = 0`, then the current value of the timeslice is sent to your standard output channel; otherwise the timeslice is set to `ts`

- `void list (procid)`

`short procid;`

If `procid = 0`, then information on all DAP processes is sent to standard output, otherwise information on process `procid` is sent. The current value of the system timeslice is also sent.

The information is given under the following headings:

DAPID - the DAP process ID

HPID - the associated host process ID

Dev - the minor device number the process has open

Status - one of :

Idle

Queued

Loading

Sus'd (for suspended)

Running

Unloading

Unloaded

Pri'ty - the priority of the process

Milltime - the total DAP milltime used by the process, in milliseconds

S_state - if the process is suspended (or if it will be as soon as it is fully loaded), **S_state** will be some combination of:

R - returned to the host program

P - paused (or is in some diagnostic mode)

H - halted and dumping after a signal

S - suspended by root

s - suspended by owner

W - awaiting timeslice

a - opening a host file

l - seeking within a host file

t - establishing current position within a host file

d - transferring data to or from a host file

x - closing a host file

F - using the fast IO

V - using the VME

Only when nothing is set in this **S_state** field is a program actually executing

Username - the owner of the process

Dofname - the name of the DOF file (DAP program)

- `void dapkill(procid)`
 `short procid;`
 If the current effective user either is the owner of DAP process *procid*, or is `root`, then that process and its associated host program are killed
- `void suspend(procid)`
 `short procid;`
 If the current effective user either is the owner of DAP process *procid*, or is `root`, then that process will become suspended by the owner or by `root` respectively
- `void restart(procid)`
 `short procid;`
 If the current effective user either is the owner of DAP process *procid*, or is `root`, and that process is suspended by that user, then the suspension is lifted

5.4 Example interface

The executable file `/usr/lib/dap/dapoip` contains a simple example interface built onto the routines described above. Once invoked, it continually asks for commands by displaying its prompt:

`dapoip:`

The commands available are:

<code>l</code>	<code>[n]</code>	list the status of process <i>n</i> , or of all DAP processes if <i>n</i> is absent
<code>k</code>	<i>n</i>	kill process <i>n</i>
<code>q</code>		leave <code>dapoip</code>
<code>s</code>	<i>n</i>	suspend process <i>n</i>
<code>r</code>	<i>n</i>	resume process <i>n</i>
<code>p</code>	<i>n</i> <i>m</i>	set priority of process <i>n</i> to <i>m</i> . The command is only valid if it is issued by the owner of the DAP process <i>n</i> (who can set priority to a value within the range 1-5), or <code>root</code> (who can set priority within the range 1-10)
<code>t</code>	<code>[n]</code>	set system timeslice to <i>n</i> . If <i>n</i> is 0 or absent, show the current value of timeslice. <code>t</code> can only be changed by <code>root</code> , who can set it to a value in the range 1-255.
<code>h</code>		print this help text

If this simple interface is adequate for the needs at your site, you can create a link from `/usr/bin` to the interface by typing:

```
ln -s /usr/lib/dap/dapoip /usr/bin/dapoip
```

Once this link is established all users with `/usr/bin` on their search path will be able to use the interface by typing `dapoip`.



Software Release Note

Product: DAP series - Sun host srn119

Subject Building a Sun kernel including a DAP SCSI driver in release 4.0S

Summary A DAP is physically connected to its Sun host via a SCSI interface. A SCSI device driver for the DAP must be included in the Sun kernel. This note tells you how to build such a kernel in AMT release 4.0S. Sun operating systems 3.4, 3.5, 4.0.3, 4.1 and 4.1.1 are supported.

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1 Introduction

A DAP is physically connected to its Sun host via a SCSI interface. A SCSI device driver for the DAP must be included in the Sun kernel. This note tells you how to build such a kernel in AMT release 4.0S.

1.1 Supported systems for hosting a DAP

Sun operating systems 3.4, 3.5, 4.0.3, 4.1 and 4.1.1 are supported. However, some Sun kernel architectures are not supported at all releases. The following table lists the supported systems:

<u>Kernel architecture</u>	<u>Supported releases</u>
sun3	All
sun3x	From 4.0.3
sun4	From 4.0.3
sun4c	From 4.1

Note that Sparcstations (kernel architecture `sun4c`) are not supported in SunOS 4.0.3.

1.2 Changes in this release

There have been no major functional changes to the DAP device driver since AMT release 3.2S. So if you have built a kernel using that or a later release, you don't need to build a new one.

The procedure for building a kernel has been greatly simplified in AMT release 4.0S. If you have built a kernel before, you should read this note carefully to make sure that you understand the new system.

2 Physical connection

2.1 Controllers and targets

Before you can build a new kernel you must decide exactly how the DAP is to be connected to its Sun host. Possible ways include:

- Connecting to a currently unused SCSI controller

- Adding to an existing chain of SCSI peripherals
- Connecting to a new SCSI controller installed for the purpose

When adding the DAP to an existing chain, it is important to remember that the total length of SCSI cable on one controller must not exceed 6m. Also, each device on a SCSI bus must have a unique target ID and sometimes it is difficult to change these, so it may be easier to change the ID of the DAP instead. DAPs are normally shipped by AMT with a SCSI target ID of 3. This can be changed by adjusting the switch settings on the HCU board if the HCU prom revision level permits (see section 2.5).

2.2 SCSI bus termination

The DAP is not fitted with an internal SCSI terminator. This means it can be placed in the middle of a pre-existing chain of devices without difficulty. If it is to be placed at the end of a chain, then the free SCSI port on the DAP should be fitted with an external terminator, and the terminator removed from what was previously the last device in the chain. In general, newer Suns and Sun peripherals have removable external terminators, but there are exceptions (*e.g.* the internal disk system in a Sun 4/330). You must check your Sun hardware documentation to see if there is an internal terminator to be removed.

2.3 Supported Sun controllers

The following Sun SCSI controllers are supported:

<u>Controller</u>	<u>Location</u>
si0, si1	Available in VME card form (the SCSI-3 card) for use in nearly any Sun which has VME slots. Use of a second card as si1 is supported in SunOS 4.0.3 onwards. Also found as the on-board SCSI on older Sun 3s (<i>e.g.</i> 3/50).
sw0	The on-board SCSI on the Sun 4/110.
sm0	The on-board SCSI on newer Suns (<i>e.g.</i> 3/80, 4/330).
scsibus0, scsibus1	The on-board SCSI on Sparcstations. Use of a second bus as scsibus1 is supported in SunOS 4.1.1 onwards.

2.4 Other supported controllers

AMT also supports the use of a third-party SCSI controller in older Sun 3s and Sun4s with a VME cage. It is the Radstone Technology PME SCSI/1 (formerly known as 'the Plessey board').

2.5 HCU prom revision levels

The current HCU prom revision level is the **DAPOS** number displayed on the DAP's front panel as part of its power-up sequence. There is a minimum level for any particular choice of controller and target ID. These requirements are listed below:

<u>Configuration</u>	<u>Minimum prom level</u>
DAP not SCSI target 3	52.40/61.32
Co-processor DAP	52.50/62.50
si or sw controller	52.30/61.20
sm controller	52.40/61.32
scsibus controller (SunOS 4.1)	52.40/61.32
scsibus controller (SunOS 4.1.1)	52.60/62.60

3 Preparation

This section covers two things you should do before building the new kernel.

3.1 Choosing a kernel configuration file

When building the kernel you will be asked to specify the name of an existing kernel configuration file to use as the basis for the new kernel. The file you select should already exist in the standard directory for such files (SunOS always contains a number of files for various hardware configurations). In SunOS 3.4 or 3.5 this directory is `/usr/sys/conf`. In all later SunOS releases it is `/usr/sys/KARCH/conf` where *KARCH* is the kernel architecture of the Sun. If you are not sure what the kernel architecture of a particular Sun is, enter:

```
host# /bin/arch -k
```

If you already have a file which has been used to build a DAP kernel before, then you can use that. If you are choosing a new file, then you are advised *not* to select

GENERIC as the basis for the new kernel. Selecting another file which only lists the controllers and devices appropriate to your Sun will result in a smaller kernel which runs more efficiently. The file used to build the current kernel (if it is not **GENERIC**) is an ideal choice. However, it *must* already contain the line(s) describing the SCSI controller you are going to use. If it does not, then prepare a new version of the file which does, copying the SCSI line(s) from another configuration file.

For example, if you are going to use a VME card `si0` controller, your chosen file must contain the line:

```
controller      si0 at vme24d16 ?  csr 0x200000 priority 2 vector siintr 0x40
```

or if you are going to use `scsibus0` on a Sparcstation, your chosen file must contain the lines:

```
device-driver    esp
scsibus0 at esp
```

(Special note for users of 'the Plessey board': don't bother to check if the `pmes0` lines are present - you can select any file.)

Don't bother to delete any unwanted SCSI devices at this stage. You will be given a chance to do so later.

3.2 Creating a kernel build directory

When building the kernel, you must be logged in as `root` on the machine which is to host the DAP. You need to create an empty directory with about 2.5 Mbytes of free space, in which `root` has write permissions. You can recover this space afterwards. Therefore enter:

```
host# mkdir mydir
host# cd mydir
```

4 Building the kernel

You are ready to build the kernel if the following statements are true:

- You are logged in as `root` on the machine which is to host the DAP
- You have write permissions in the current directory, which is empty, and has about 2.5 Mbytes of free space

- You have chosen a SCSI controller to host the DAP
- You have chosen a kernel configuration file on which to base the new kernel. The file already exists in `/usr/sys/conf` (SunOS 3.4 or 3.5) or `/usr/sys/KARCH/conf` (all later releases)
- Your chosen SCSI controller is already listed in the file (doesn't matter for users of 'the Plessey board')

The kernel is built by invoking a shell script in `/usr/lib/dap/devdr`. There are 3 versions:

- If you are using 'the Plessey board', use `COMMANDSPME`
- If the host is a 4/390 or a 4/490, *and* you are running SunOS 4.0.3, use `COMMANDS90`
- In all other cases, use `COMMANDS`

So in most cases, enter:

```
host# /usr/lib/dap/devdr/COMMANDS
```

The script responds with a banner heading:

```
BUILDING A SUN KERNEL FOR THE AMT DAP
```

An introductory screen summarises the above checklist and then asks you to confirm that you wish to continue:

```
Do you wish to continue? [y | n]:
```

If you answer `y` the script will continue and you then see:

```
Creating kernel build directory structure.....
Editing 'conf.c' ...
Creating special device files...
```

At this point the script creates the 32 devices `/dev/dap0` to `/dev/dap31` with an appropriate major device number. If it finds that they already exist, or exist but with an incorrect major device number, suitable action is taken. Comments tell you what the script has done.

You then see:

```
Editing 'files'...
```

```
Enter the name of an existing kernel configuration file
on which to base the DAP kernel:
```

After entering a suitable name, you then see:

```
Enter the name for the new DAP kernel configuration file:
```

You can use the same name if you wish. The original file will not be affected.

The script then outputs:

```
Current SCSI configuration:
```

followed by a list of all the SCSI controllers and attached devices currently recorded in the new file.

If no entries yet exist for the DAP, you will be asked if you wish to delete one of the listed SCSI targets:

```
Do you wish to delete a target? [y | n]:
```

This gives you an opportunity to delete a target if it clashes with your planned DAP configuration. If you answer *y* the script will ask you to enter the name of the controller and the number of the target to delete. You should of course make sure that you do not delete a device that actually exists.

You are then invited to add entries for the DAP:

```
Do you wish to add DAP entries? [y | n]:
```

If you answer *y* the script will ask you to enter the name of the controller and the number of the target to use for the DAP. It will only accept input for a currently unused target. (If you answer *n* the script will give you an opportunity to abandon the work on the current file and select a new one instead.) The script then outputs a new list of the currently recorded SCSI controllers and attached devices. It remains in this loop until DAP entries are found.

When DAP entries are found, the script outputs additional comments containing the DAP configuration and suitable HCU prom levels (see section 2.5), and then asks you to confirm that it can now build the kernel:

```
OK to use this configuration? [y | n]:
```

(If you answer `n` you will enter the loop again.)

Assuming that you answer `y`, you will then see:

```
Running config ...
Doing a "make depend"

Building the kernel ...
```

Lots of lines from `make` and `cc` may be output. When the kernel is built, you will see:

```
The kernel is built
It is the file full-path-name-for-kernel

host#
```

Make a note of *full-path-name-for-kernel*. You will need it in a moment.

You should then install the kernel as described in the next section.

5 Installing the kernel

The next step is to save the current kernel and to replace it with the new one. There are two cases to consider.

If the host is a diskless client of a server, *and* you are running SunOS 3.4 or 3.5, you should halt the host and all other diskless clients of the same server by logging on to each in turn and typing:

```
client# /etc/halt
```

Then log on to the server as `root` and enter:

```
server# mv /pub.MC68020/vmunix /pub.MC68020/vmunix.old
server# cp full-path-name-for-kernel /pub.MC68020
```

Then you can reboot the host and the other diskless clients from the monitor:

```
> b vmunix
```


In all other cases, simply enter:

```
host# mv /vmunix /vmunix.old
host# cp full-path-name-for-kernel /
host# /etc/reboot
```

6 Tidying up

You can now remove the kernel build directory structure if you wish. If you do, it is a good idea to save your new kernel configuration file in the standard directory first. (Remember that the original file you based the kernel on has not been updated, even if you used the same name). You will probably have to do this on the server if the host is not a standalone machine.

If you are running SunOS 3.4 or 3.5, enter:

```
server# cd full-path-name-for-mydir
server# cp conf/new-kernel-name /usr/sys/conf
```

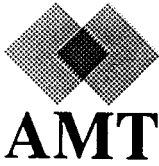
In all other cases, enter:

```
server# cd full-path-name-for-mydir
server# cp KARCH/conf/new-kernel-name /usr/sys/KARCH/conf
```

where *KARCH* is the kernel architecture of the host (not the server).

Now the directory hierarchy can be removed:

```
host# cd full-path-name-for-mydir
host# rm -rf *
host# cd ..
host# rmdir mydir
```



Software Release Note

Product: DAP series - Sun host srn131

Subject Installation of the AMT Transforms Library - release 1.0S

Summary This note tells you how to load release 1.0S of the AMT Transforms Library on to your SUN system and how to run its installation test

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1 Reference

DAP Series: Transforms Library Users Manual MAN033

2 Introduction

This first issue of the **AMT Transforms Library** contains a set of fast Fourier transform routines designed for use with the FORTRAN-PLUS enhanced language.

NOTE This release of the **AMT Transforms Library** requires Release 4.1 or later of **AMT Basic Software**.

3 Changes in release 1.0S

This release is the first release of this library.

4 Installation of release 1.0S

4.1 The Software

The software on the tape contains an installation script which controls the actual installation of the software. You can delete the script at the end of the installation. The script first asks you a series of questions to find out what hardware you have and how the installation is to be done. These questions and how you should answer them are covered in the next section.

To read the installation script from the tape you should go to the *master* SUN machine on the network where you want to install the DAP software. The terms *master* and *host* machine used in this release note are defined here:

- The *host* machine is the machine physically attached to the DAP
- The *master* machine is the SUN which 'owns' the file systems `/usr/bin` and `/usr/lib` used by the *host* machine

Depending on your site configuration, a machine might satisfy one or both of the above definitions. In particular, if you are installing on a standalone machine, it satisfies both.

Login to the *master* machine as `root`. If the master machine has a suitable local tape drive, insert the release tape in the tape drive, then type the following command at the *master#* prompt:

```
master# tar xvpf /dev/rxxx INSTOPT
```

where `/dev/rxxx` is the name of your local tape drive and `xxx` is likely to be either `st0` or `mt0`.

If you are installing the **AMT Transforms Library** on a network-based SUN, and for any reason you are unable to use the master machine's local tape drive then insert the tape in the drive of another machine on the network, and type the following commands at the `master#` prompt, substituting the name of the remote tape drive's machine for `tapesun`:

```
master# rsh tapesun /bin/mt -f /dev/rxxx rewind
master# rsh tapesun /bin/dd if=/dev/rxxx | /bin/tar xBpf - INSTOPT
```

where `/dev/rxxx` is the name of the local tape drive on machine `tapesun` and `xxx` is likely to be either `st0` or `mt0`.

Note that it does not matter which directory you are in when you execute these commands. Having read in the file you then need to invoke the shell script, by typing:

```
master# ./INSTOPT
```

The software will respond with:

```
INSTALLATION OF DAP Transforms LIBRARY
```

4.2 Decisions

This section goes through the questions that you are asked by **INSTOPT** and helps you to answer them.

The full list of questions that the script asks you is given below:

```
Enter tape location [local | remote]:
```

If your master machine has a local tape drive and you have already used it to read in **INSTOPT**, you should answer `local` here. If you had to use the tape drive in another SUN, you should choose `remote`, in which case you will be asked for the name of the remote host:

Enter host name of remote drive:

Whether you are using a local or a remote tape drive, the shell script then asks you to complete the name of the tape drive:

Enter device name (eg st0, mt0) : /dev/r

note that the first part of the name has already been supplied for you. You need only type the same three characters that you typed when you loaded the tape at the start of the installation procedure.

Please ensure the release tape is mounted and press return when ready

When this message appears, confirm that the tape is mounted and ready by pressing the RETURN key.

Some of the **Transforms Library** software depends on the size of DAP you have. This question allows you to specify what you want:

Do you wish to install the library for DAP500 or 600 or both ? [5 | 6 | 56]:

The next question asks what type of DAP you wish to install the library for:

Do you wish to install for coprocessor, non-coprocessor or both ? [c | n | b]:

The **Transforms** library contains a set of core routines, which are automatically installed, and two optional sets of routines which contain additional data-lengths; you are asked whether you want them:

You will automatically get the core library containing:-
Data-Lengths (*1,*2,*4 and *8)

There are 2 optional supplements:-

Do you want Additional Data-Lengths (*3)? [y | n]:

Do you want Additional Data-Lengths (*5,*6,*7)? [y | n]:

The next question asks whether your machine is standalone or a server:

```
Enter the master machine type [standalone | server]:
```

If you answer `server` to the question above, you will then be asked:

```
Do you wish to install the library for SUN3, SUN4 or both ? [3 | 4 |  
34]:
```

Once the system knows where to put the software, it will install it, displaying the message:

```
Installing library for architecture sunx
```

Depending on whether you are installing on one or two SUN architectures you will see this message once or twice. The installation takes several minutes for each SUN architecture.

The next screen message confirms that the software installation is complete:

```
The installation of the library is complete
```

You don't need the installation script any more, and you can delete it from filestore by typing at the `master#` prompt:

```
master# rm INSTOPT
```

5 Running the Installation test

The installation test ensures that the software has been installed correctly. It checks that all the necessary files are present and that library routines can be correctly linked into programs.

The installation test should be run from an empty directory for which you have write permission.

```
host# cd any-suitable-directory
host# /usr/lib/dap/installtests/TRLIB/INSTTEST
```

The script will then run and confirm or deny whether the software has been installed correctly.

As an example the following messages will be output from a successful installation of DAP500 only software:

```
Running the installation test for DAP 500
Mon Aug 12 10:20:57 BST 1991
```

```
Link successful for DAP510
```

```
Link successful for DAP510C
```

```
No DAP 600 library software found
```

6 Size of Transforms Library release 1.0S

For each SUN architecture and each type of DAP for which you are installing, the approximate size of the library is as follows;

Core library	(Data-Lengths (*1,*2,*4, *8 and logicals))	3	MBytes
Option 1	(Data-Lengths (*3))	1	MBytes
Option 2	(Data-Lengths (*5,*6,*7))	3	MBytes

Also, the installation procedure temporarily uses a further 7 MBytes of disk space.

7 Contents of tape for Transforms Library release 1.0S

```

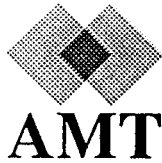
r-xr-xr-x 0/0 9170 Nov 8 10:15 INSTOPT

r--r--r-- 0/0 95 Nov 8 10:15 TOC

rwxr-xr-x 0/0 0 Nov 8 10:14 1991 sunany/
rwxr-xr-x 0/0 0 Nov 8 15:36 1991 sunany/dapany/
rwxr-xr-x 0/0 0 Nov 8 10:14 1991 sunany/dapany/installtests/
rwxr-xr-x 0/0 0 Nov 8 15:36 1991 sunany/dapany/installtests/TRLIB/
r-xr-xr-x 0/0 2880 Nov 8 15:36 1991 sunany/dapany/installtests/TRLIB/INSTTEST
r--r--r-- 0/0 436 Nov 8 15:36 1991 sunany/dapany/installtests/TRLIB/example.df
r--r--r-- 0/0 320 Nov 8 10:15 1991 sunany/dapany/tr_templates
r--r--r-- 0/0 155 Nov 8 15:36 1991 sunany/dapany/tr_msg_lib
rwxr-xr-x 0/0 0 Nov 8 12:42 1991 sunany/dap500/
r--r--r-- 0/0 953686 Nov 8 11:43 1991 sunany/dap500/trlib-o1-5.dl
r--r--r-- 0/02847721 Nov 8 11:45 1991 sunany/dap500/trlib-o2-5.dl
r--r--r-- 0/03110051 Nov 8 11:47 1991 sunany/dap500/trlib-o0-5.dl
r--r--r-- 0/0 819314 Nov 8 12:40 1991 sunany/dap500/trlib-o1-m5.dl
r--r--r-- 0/02562268 Nov 8 12:41 1991 sunany/dap500/trlib-o2-m5.dl
r--r--r-- 0/02525339 Nov 8 12:42 1991 sunany/dap500/trlib-o0-m5.dl
rwxr-xr-x 0/0 0 Nov 8 15:36 1991 sunany/dap600/
r--r--r-- 0/0 960023 Nov 8 13:50 1991 sunany/dap600/trlib-o1-6.dl
r--r--r-- 0/02866756 Nov 8 13:52 1991 sunany/dap600/trlib-o2-6.dl
r--r--r-- 0/03132543 Nov 8 13:54 1991 sunany/dap600/trlib-o0-6.dl
r--r--r-- 0/0 813621 Nov 8 15:32 1991 sunany/dap600/trlib-o1-m6.dl
r--r--r-- 0/02544993 Nov 8 15:34 1991 sunany/dap600/trlib-o2-m6.dl
r--r--r-- 0/02506962 Nov 8 15:36 1991 sunany/dap600/trlib-o0-m6.dl

```

Note ends



Software Release Note

Product: DAP series - Sun host srn138

Subject Installation of the AMT Image Processing Library -
release 3.0S

Summary This note tells you how to load release 3.0S of the AMT Image
Processing Library on to your SUN system and how to run
its installation test

Contents

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6	Size of Image Processing Library release 3.0S	7
7	Contents of tape for Image Processing Library release 3.0S	8

1 Reference

DAP Series: Image Processing Library Users Manual MAN014.04

2 Introduction

WARNING

If you already have a previous release of the AMT Image Processing library, note that the release you are about to install is NOT a simple upgrade, and it will over-write your existing library. For a detailed list of changes please refer to srn155: 'Image Processing Library - Release 3.0 Compatibility'.

If you wish to continue to compile programs using the routines defined in the previous release, you need to take special action to provide this compatibility. BEFORE installing release 3.0S , perform the following commands:

```
master# cd /usr/lib/dap
master# mv iplib5.dl oldiplib5.dl
master# mv iplib6.dl oldiplib6.dl
```

as appropriate to the types of DAP for which you installed the previous version of the library. In order to compile a program using the previous version of the library you should then use a command such as:

```
master# dapf myfile.df -l oldiplib
```

This release of the **AMT Image Processing Library** contains a set of image processing routines designed for use with the FORTRAN-PLUS language.

NOTE This release of the **AMT Image Processing Library** requires Release 4.1 or later of **AMT Basic Software**.

3 Changes in release 3.0S

This is a new implementation of the Image Processing Library exploiting the unconstrained features in the FORTRAN-PLUS enhanced language. A detailed list of changes is given in srn155: 'Image Processing Library - Release 3.0 Compatibility'.

4 Installation of release 3.0S

4.1 The Software

The software on the tape contains an installation script which controls the actual installation of the software. You can delete the script at the end of the installation. The script first asks you a series of questions to find out what hardware you have and how the installation is to be done. These questions and how you should answer them are covered in the next section.

To read the installation script from the tape you should go to the *master* SUN machine on the network where you want to install the DAP software. The terms *master* and *host* machine used in this release note are defined here:

- The *host* machine is the machine physically attached to the DAP
- The *master* machine is the SUN which 'owns' the file systems */usr/bin* and */usr/lib* used by the *host* machine

Depending on your site configuration, a machine might satisfy one or both of the above definitions. In particular, if you are installing on a standalone machine, it satisfies both.

Login to the *master* machine as *root*. If the master machine has a suitable local tape drive, insert the release tape in the tape drive, then type the following command at the *master#* prompt:

```
master# tar xvpf /dev/rxxx INSTOPT
```

where */dev/rxxx* is the name of your local tape drive and *xxx* is likely to be either *st0* or *mt0*.

If you are installing the **AMT Image Processing Library** on a network-based SUN, and for any reason you are unable to use the master machine's local tape drive then insert the tape in the drive of another machine on the network. and type the following commands at the *master#* prompt, substituting the name of the remote tape drive's machine for *tapesun*:

```
master# rsh tapesun /bin/mt -f /dev/rxxx rewind  
master# rsh tapesun /bin/dd if=/dev/rxxx | /bin/tar xBpf - INSTOPT
```

where */dev/rxxx* is the name of the local tape drive on machine *tapesun* and *xxx* is likely to be either *st0* or *mt0*.

Note that it does not matter which directory you are in when you execute these commands. Having read in the file you then need to invoke the shell script, by typing:

```
master# ./INSTOPT
```

The software will respond with:

```
INSTALLATION OF DAP Image Processing LIBRARY
```

4.2 Decisions

This section goes through the questions that you are asked by `INSTOPT` and helps you to answer them.

The full list of questions that the script asks you is given below:

```
Enter tape location [local | remote]:
```

If your master machine has a local tape drive and you have already used it to read in `INSTOPT`, you should answer `local` here. If you had to use the tape drive in another SUN, you should choose `remote`, in which case you will be asked for the name of the remote host:

```
Enter host name of remote drive:
```

Whether you are using a local or a remote tape drive, the shell script then asks you to complete the name of the tape drive:

```
Enter device name (eg st0, mt0) : /dev/r
```

note that the first part of the name has already been supplied for you. You need only type the same three characters that you typed when you loaded the tape at the start of the installation procedure.

```
Please ensure the release tape is mounted and press return when ready
```

When this message appears, confirm that the tape is mounted and ready by pressing the RETURN key.

Some of the **Image Processing Library** software depends on the size of DAP you have. This question allows you to specify what you want:

```
Do you wish to install the library for DAP500 or 600 or both ? [5 | 6 |
56 ]:
```

The next question asks what type of DAP you wish to install the library for:

```
Do you wish to install for coprocessor, non-coprocessor or both ? [c |
n | b ]:
```

The Image Processing library contains a set of core routines, which are automatically installed, and two optional sets of routines which contain additional data-lengths; you are asked whether you want them:

```
You will automatically get the core library containing:-
Data-Lengths (*1,*2,*4, *8 and Logicals)
```

```
There are 2 optional supplements:-
```

```
Do you want Additional Data-Lengths (*3)? [ y | n ]:
```

```
Do you want Additional Data-Lengths (*5,*6,*7)? [ y | n ]:
```

The next question asks whether your machine is standalone or a server: ~~---~~

```
Enter the master machine type [standalone | server]:
```

If you answer server to the question above, you will then be asked:

```
Do you wish to install the library for SUN3, SUN4 or both ? [3 | 4 |
34]:
```

Once the system knows where to put the software, it will install it, displaying the message:

```
Installing library for architecture sunx
```

Depending on whether you are installing on one or two SUN architectures you will see this message once or twice. The installation takes several minutes for each SUN architecture.

The next screen message confirms that the software installation is complete:

```
The installation of the library is complete
```

You don't need the installation script any more, and you can delete it from filestore by typing at the *master#* prompt:

```
master# rm INSTOPT
```

5 Running the Installation test

The installation test ensures that the software has been installed correctly. It checks that all the necessary files are present and that library routines can be correctly linked into programs.

The installation test should be run from an empty directory for which you have write permission.

```
host# cd any-suitable-directory  
host# /usr/lib/dap/installtests/IPLIB/INSTTEST
```

The script will then run and confirm or deny whether the software has been installed correctly.

As an example the following messages will be output from a successful installation of DAP500 only software:

Running the installation test for DAP 500
Mon Aug 12 10:20:57 BST 1991

Link successful for DAP510

Link successful for DAP510C

No DAP 600 library software found

6 Size of Image Processing Library release 3.0S

For each SUN architecture and each type of DAP for which you are installing, the approximate size of the library is as follows;

Core library	(Data-Lengths (*1,*2,*4, *8 and logicals))	2	MBytes
Option 1	(Data-Lengths (*3))	1	MBytes
Option 2	(Data-Lengths (*5,*6,*7))	2	MBytes

Also, the installation procedure temporarily uses a further 5 MBytes of disk space.

7 Contents of tape for Image Processing Library release 3.0S

```

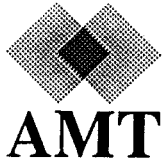
r-xr-xr-x 0/0 9176 Nov 14 16:11 INSTOPT

r--r--r-- 0/0 103 Nov 14 16:11 TOC

rwxr-xr-x 0/0 0 Nov 7 11:22 1991 sunany/
rwxr-xr-x 0/0 0 Nov 7 15:18 1991 sunany/dapany/
rwxr-xr-x 0/0 0 Nov 7 11:22 1991 sunany/dapany/installtests/
rwxr-xr-x 0/0 0 Nov 7 15:57 1991 sunany/dapany/installtests/IPLIB/
r-xr-xr-x 0/0 2923 Nov 7 15:18 1991 sunany/dapany/installtests/IPLIB/INSTTEST
r--r--r-- 0/0 250 Nov 7 15:57 1991 sunany/dapany/installtests/IPLIB/example.df
r--r--r-- 0/0 3351 Nov 7 11:23 1991 sunany/dapany/ip_msg_lib
r--r--r-- 0/0 923 Nov 7 15:18 1991 sunany/dapany/ip_templates
rwxr-xr-x 0/0 0 Nov 7 15:50 1991 sunany/dap500/
r--r--r-- 0/0 573108 Nov 7 12:14 1991 sunany/dap500/iplib-o1-5.dl
r--r--r-- 0/01719203 Nov 7 12:15 1991 sunany/dap500/iplib-o2-5.dl
r--r--r-- 0/01871779 Nov 7 12:16 1991 sunany/dap500/iplib-o0-5.dl
r--r--r-- 0/0 505121 Nov 7 12:59 1991 sunany/dap500/iplib-o1-m5.dl
r--r--r-- 0/01555772 Nov 7 13:00 1991 sunany/dap500/iplib-o2-m5.dl
r--r--r-- 0/01644587 Nov 7 13:01 1991 sunany/dap500/iplib-o0-m5.dl
rwxr-xr-x 0/0 0 Nov 7 15:50 1991 sunany/dap600/
r--r--r-- 0/0 580170 Nov 7 14:30 1991 sunany/dap600/iplib-o1-6.dl
r--r--r-- 0/01740467 Nov 7 14:31 1991 sunany/dap600/iplib-o2-6.dl
r--r--r-- 0/01893205 Nov 7 14:32 1991 sunany/dap600/iplib-o0-6.dl
r--r--r-- 0/0 504537 Nov 7 15:15 1991 sunany/dap600/iplib-o1-m6.dl
r--r--r-- 0/01554116 Nov 7 15:16 1991 sunany/dap600/iplib-o2-m6.dl
r--r--r-- 0/01642183 Nov 7 15:17 1991 sunany/dap600/iplib-o0-m6.dl

```

Note ends



Software Release Note

Product: DAP series - Sun host srn140

Subject Installation of SDS and RTE tape for release 4.1S

Summary This note tells you how to install release 4.1S of the AMT DAP basic software on your system. It covers installing the software supplied on both the SDS tape and the RTE tape.

Contents

1	Introduction	1
2	Size of software	2
3	Installation of the SDS or RTE tape for release 4.1S	2
3.1	The software	2
3.2	Decisions	4
4	Running the installation tests	6
4.1	SDS installation test	6
4.2	RTE installation test	7
5	Contents of SDS tape for release 4.1S	10
6	Contents of RTE tape for release 4.1S	15

1 Introduction

This note accompanies both the SDS and RTE software tapes supplied by AMT for release 4.1S of the DAP basic software. It describes how to load the tapes and how to run the installation tests. The SDS tape contains the software development system and the RTE tape the run-time environment software.

2 Size of software

This section aims to give you an idea of the host disk space needed to hold AMT DAP basic software. The table below lists the required disk space for each of the SDS and RTE tapes. In addition AMT provides various libraries and application codes. The relevant release notes detail their sizes and if you are installing any of them as well those sizes should be borne in mind when choosing a suitable disk partition to hold the software.

You need to hold a copy of each of the items of DAP software for each different Sun architecture on which you want to use the software.

Approximate host disk space required (in Mbytes) for software to run on:

<i>Product</i>	<i>DAP500</i>	<i>DAP600</i>	<i>DAP500 and 600</i>
SDS	7.0	7.2	10.4
RTE	4.1	4.0	5.7

3 Installation of the SDS or RTE tape for release 4.1S

3.1 The software

Both the SDS and the RTE tapes contain an installation script which controls the actual installation of the software. You can delete the script at the end of the installation. The script first asks you a series of questions to find out what hardware you have and how the installation is to be done. These questions and how you should answer them are covered here.

If you have installed DAP software before you might want to save your current software before reading the first of your 4.1S tapes. Either `/usr/lib/dap` will contain the software, or it will be a symbolic link to the directory that actually holds the software. So, if you want to keep a copy of the old software you should copy the contents of `/usr/lib/dap` to a safe place. You do this by a command of the form:

```
master# cp -pr /usr/lib/dap some-safe-place
```

Note that you must use copy (`cp`) and not move (`mv`) since not all the software is being replaced.

To read the installation script from either the SDS or RTE tape you should go to the *master* sun machine on the network where you want to install the DAP software. The terms *master* and *host* machines used in this document are defined here:

- The *host* machine is the Sun that is physically attached to the DAP
- The *master* machine is the Sun which 'owns' the file systems `/usr/bin` and `/usr/lib` used by the host machine.

Depending on your site configuration, one Sun may satisfy one or both of the above definitions. In particular, if you are installing on a standalone Sun, that Sun satisfies both definitions, and, if installing just the SDS tape you will only need to identify the *master* machine.

Login to the master machine as **root**, and, if the machine has a suitable local tape drive, insert your release tape in the tape drive and type the following command at the *master#* prompt:

```
master# tar xvpf /dev/rxxx INSTALLyyy
```

where `/dev/rxxx` is the name of your local tape drive and *xxx* is likely to be `st0`, and *yyy* is either **SDS** or **RTE** depending on whether you are installing the Software Development System or the Run Time Environment software.

If for any reason you are unable to use the master machine's local tape drive then insert the tape in the drive of another machine on the network, and type the following commands at the *master#* prompt, substituting the name of the remote tape drive's machine for *tapesun*:

```
master# rsh tapesun /bin/mt -f /dev/rxxx rew
master# rsh tapesun /bin/dd if=/dev/rxxx | /bin/tar xvpf - INSTALLyyy
```

where `/dev/rxxx` is the name of your local tape drive and *xxx* is likely to be `st0`, and *yyy* is either **SDS** or **RTE** depending on whether you are installing the Software Development System or the Run Time Environment software.

Note that it does not matter which directory you are in when you execute these commands. Having extracted the file, you now invoke the shell script by typing:

```
master# ./INSTALLyyy
```

The software will respond with:

```
INSTALLATION OF AMT DAP yyy SOFTWARE
```

where *yyy* stands for SDS or RTE as before.

3.2 Decisions

This section goes through the questions that you are asked by the shell script and helps you to answer them. The AMT-suggested directory for the standard software is `/usr/lib/dap` for the Sun architecture you are installing for. If such a directory exists in your master machine's filestore the software will be loaded into it.

If such a directory does not exist, you will be asked to choose a directory to hold the software. There is no requirement for DAP users or the software itself to write to this directory, so it can be in a read-only file system if you want, but obviously it needs to be in a file system that will be mounted by the relevant machine(s).

If the relevant `/usr/lib/dap` does not exist and you choose not to specify it to hold the standard software then `/usr/lib/dap` will be created, as a link to the directory you choose.

Most of the questions that the shell scripts ask are common to both the SDS and RTE installations.

Enter tape location [local | remote]:

If your master machine has a local tape drive and you have already used it to read the installation script, you should answer `local` here. If you had to use the tape drive on another Sun, you should choose `remote`, in which case you will be asked for the name of the remote host:

Enter host name of remote drive:

Whether you are using a local or a remote tape drive, the shell script then asks you to complete the name of the tape drive:

Enter device name (eg st0, mt0) : /dev/r

Note that the first part of the name has already been supplied for you. You just have to type the same 3 characters (probably `st0`) that you typed when you loaded the tape at the start of the installation procedure.

Please ensure the release tape is mounted and press return when ready

When this message appears, confirm that the tape is mounted and ready by pressing the RETURN key.

Do you wish to install *yyy* software for DAP500, DAP600 or both? [5 | 6 | 56]:

Some of the basic software is dependent on the size of DAP you have or want to simulate. This question allows you to specify what you want. *yyy* will be replaced

by SDS or RTE depending upon which tape you are reading.

Enter Sun Operating System level [3.4 | 3.5 | 4.0.3 | 4.1 | 4.1.1]:

It is important that you answer this correctly. The contents of `/etc/motd` or the output of `/etc/dmesg` may help if you are not sure.

Enter the master machine type [standalone | server]:

If you answered `server` to the above question you will then be asked:

Do you wish to install `yyy` software for `sun3`, `sun4` or both? [3 | 4 | 34]:

For each Sun architecture which you have selected, and for which `/usr/lib/dap` does not yet exist, you will be asked:

Do you wish to install `yyy` software for `sunx` in `/usr/lib/dap` ? [y | n]:

If you answer `n` then you will be asked:

Please give the full hierarchic name of the directory you wish to use:

and you should give the name of the directory you do want to use.

Installing `yyy` software for architecture `sunx`

Depending on whether you are installing on one or two Sun architectures you will see this message once or twice.

If you are installing RTE software you are then asked to select your default `dapboot` software:

Now select the default `dapboot` software from the following list:

- 1 DAP with no video board
- 2 DAP with VO-8 or VO-24 board
- 3 DAP 500 with DPIIO board

Please enter your choice [1 | 2 | 3]:

A screen message confirms that the software installation is complete. The form of this if installing the RTE software is:

The installation of the DAP RTE software is complete

You should now install the DAP device driver as described in the documentation.

Then perform the RTE installation test

If installing the SDS you will see:

The installation of the DAP SDS software is complete

Now perform the SDS installation test

Running the installation tests is covered in the next section of this document while details of how to install the device driver are given in [srn119](#).

4 Running the installation tests

4.1 SDS installation test

The installation test for the SDS software uses the Fortran-Plus and APAL language systems, the CIF library maintenance utility and the run-time options specifier to produce an executable program. The test program is designed to run on the simulator, and the results are checked against pre-computed values supplied with the software. The installation test is therefore designed to be a complete check on the functionality of the development software system.

You should run the installation test from a directory for which you have read and write permissions. This 'test directory' is called *any-suitable-directory* in the discussion that follows; files holding the test result will be written to *any-suitable-directory*.

The test suite will look for the DAP 500 simulator, if it finds that then also the DAP 500C simulator, then the DAP 600 simulator and if it finds that the DAP 600C simulator, and compiles and runs the test for each in turn. If any of them is not found then an appropriate message is output to the screen.

Both the shell script to run the test, and all the necessary source files, are contained in the directory `/usr/lib/dap/installtests/SDS`, and were loaded in when you installed the software.

You should still be logged in as `root` to carry out the installation test. At the `host#` prompt type the following commands:

```
host# cd any-suitable-directory
host# /usr/lib/dap/installtests/SDS/INSTTEST
```

where *any-suitable-directory* is any directory for which you have read and write permissions.

If no software for a particular DAP configuration can be found, a single message will be output:

```
No DAP zzzz software found
```

where *zzzz* is the DAP configuration that cannot be found.

Provided software for at least one DAP configuration is found, the messages that follow will be displayed on the Sun screen as the test proceeds.

```
Running the DAP SDS Installation Test for DAP zzzz time and date
Compiling the DAP source files ...
Linking the DAP program ...
Compiling the host program ...
Running the program using the DAP zzzz simulator .....
```

where *time and date* is the current time and date when the test is run, expressed in the normal form for your UNIX installation.

The test then checks the results against the 'correct' result held in a file

```
Checking the results
```

and if all is well will output the message:

```
Correct results were obtained with the DAP zzzz simulator
```

You know the whole series of tests is complete when the *host#* prompt reappears on your Sun screen. Assuming a 'Correct results were obtained with the DAP *zzzz* simulator' message was output for each simulator you installed, then all is well, and you can proceed.

4.2 RTE installation test

The installation test for the RTE software uses a supplied set of DAP and host programs. The set includes programs designed to test the simulator as well as the

hardware, and covers DAP 500 and DAP 600 (with and without coprocessors), as well as DAPs with and without video boards and monitors. The programs are all self-checking and are designed to be a complete check on the functionality of the installed system - both hardware and software.

You should run the installation test from a directory for which you have read and write permissions. This 'test directory' is called *any-suitable-directory* in the discussion that follows.

Both the shell script to run the test, and all the necessary source files, are contained in the directory `/usr/lib/dap/installtests/RTE`, and were loaded in when you installed the software. The shell script starts by asking you a series of questions to determine the configuration of the DAP you are testing.

You should still be logged in as `root` to carry out the installation test and your DAP should already be booted. At the `host#` prompt type the following commands:

```
host# cd any-suitable-directory
host# /usr/lib/dap/installtests/RTE/INSTTEST
```

where *any-suitable-directory* is any directory for which you have read and write permissions.

The shell script will first announce itself:

```
Running the DAP RTE Installation Test time and date
```

where *time and date* is the current time and date when the test is run, expressed in the normal form for your UNIX installation and then ask you the following questions:

```
Do you wish to test RTE software for DAP 500 or DAP 600 ? [5 | 6]:
```

```
Does your DAP have coprocessors ? [y | n]:
```

```
Does your DAP have a video board ? [y | n]:
```

If you answered `y` to the last question you will then see:

```
Running a graphics program for DAP x00
```

and if you answered `n` then you will see:

```
Running matrix multiply program for DAP x00
```

In either case `x` will be the answer you gave to the first question. If you answered `y`

to the second question you will then see:

Running program again using coprocessors

Finally checks will be made on the installation of the simulators for the 4 different DAP models. The message:

Performing checks on installation of DAP simulator...

announces that these are beginning and should be followed by 4 messages of the form:

DAP *yyyy* simulator correctly installed

where *yyyy* indicates the DAP model number.

5 Contents of SDS tape for release 4.1S

```

r-xr-xr-x 0/0 10174 Sep 10 15:49 1991 INSTALLSDS
rwxr-xr-x 0/0 0 Sep 9 15:09 1991 sun3.3.4/
rwxr-xr-x 0/0 0 Sep 10 15:44 1991 sun3.3.4/dapany/
r--r--r-- 0/0 29408 Sep 10 15:35 1991 sun3.3.4/dapany/interface.o
--x--x--x 0/0 155648 Sep 10 15:35 1991 sun3.3.4/dapany/dapasm
--x--x--x 0/0 720896 Sep 10 15:35 1991 sun3.3.4/dapany/dapfort
--x--x--x 0/0 507904 Sep 10 15:35 1991 sun3.3.4/dapany/dapfortold
--x--x--x 0/0 73728 Sep 10 15:35 1991 sun3.3.4/dapany/dapcon
--x--x--x 0/0 90112 Sep 10 15:35 1991 sun3.3.4/dapany/dapf
--x--x--x 0/0 73728 Sep 10 15:35 1991 sun3.3.4/dapany/dapdfpp
--x--x--x 0/0 49152 Sep 10 15:35 1991 sun3.3.4/dapany/daplib
--x--x--x 0/0 49152 Sep 10 15:35 1991 sun3.3.4/dapany/dapopt
--x--x--x 0/0 32768 Sep 10 15:35 1991 sun3.3.4/dapany/dapprof
--x--x--x 0/0 204800 Sep 10 15:35 1991 sun3.3.4/dapany/dapdb
--x--x--x 0/0 49152 Sep 10 15:35 1991 sun3.3.4/dapany/dapload_
--x--x--x 0/0 81920 Sep 10 15:35 1991 sun3.3.4/dapany/dapsimwork
--x--x--x 0/0 237568 Sep 10 15:35 1991 sun3.3.4/dapany/dapsupport_
--x--x--x 0/0 212992 Sep 10 15:35 1991 sun3.3.4/dapany/dapdbold
--x--x--x 0/0 49152 Sep 10 15:35 1991 sun3.3.4/dapany/dapload
--x--x--x 0/0 237568 Sep 10 15:35 1991 sun3.3.4/dapany/dapsupport
--x--x--x 0/0 40960 Sep 10 15:35 1991 sun3.3.4/dapany/daped
rwxrwxrwx 0/0 0 Sep 10 15:44 1991 sun3.3.4/dapany/dapa symbolic link to dapf
rwxrwxrwx 0/0 0 Sep 10 15:44 1991 sun3.3.4/dapany/dapapp symbolic link to dapdfpp
rwxrwxrwx 0/0 0 Sep 10 15:44 1991 sun3.3.4/dapany/dapfold symbolic link to dapf
rwxrwxrwx 0/0 0 Sep 10 15:44 1991 sun3.3.4/dapany/dapm symbolic link to dapf
rwxr-xr-x 0/0 0 Sep 9 15:09 1991 sun3.4.0.3/
rwxr-xr-x 0/0 0 Sep 10 15:44 1991 sun3.4.0.3/dapany/
r--r--r-- 0/0 29384 Sep 10 15:31 1991 sun3.4.0.3/dapany/interface.o
--x--x--x 0/0 147456 Sep 10 15:30 1991 sun3.4.0.3/dapany/dapasm
--x--x--x 0/0 778240 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapfort
--x--x--x 0/0 524288 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapfortold
--x--x--x 0/0 57344 Sep 10 15:30 1991 sun3.4.0.3/dapany/dapcon
--x--x--x 0/0 73728 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapf
--x--x--x 0/0 65536 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapdfpp
--x--x--x 0/0 32768 Sep 10 15:31 1991 sun3.4.0.3/dapany/daplib
--x--x--x 0/0 24576 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapopt
--x--x--x 0/0 24576 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapprof
--x--x--x 0/0 172032 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapdb
--x--x--x 0/0 40960 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapload_
--x--x--x 0/0 65536 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapsimwork
--x--x--x 0/0 204800 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapsupport_
--x--x--x 0/0 180224 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapdbold
--x--x--x 0/0 32768 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapload
--x--x--x 0/0 204800 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapsupport
--x--x--x 0/0 24576 Sep 10 15:31 1991 sun3.4.0.3/dapany/daped
rwxrwxrwx 0/0 0 Sep 10 15:44 1991 sun3.4.0.3/dapany/dapa symbolic link to dapf
rwxrwxrwx 0/0 0 Sep 10 15:44 1991 sun3.4.0.3/dapany/dapapp symbolic link to dapdfpp
rwxrwxrwx 0/0 0 Sep 10 15:44 1991 sun3.4.0.3/dapany/dapfold symbolic link to dapf
rwxrwxrwx 0/0 0 Sep 10 15:44 1991 sun3.4.0.3/dapany/dapm symbolic link to dapf
rwxr-xr-x 0/0 0 Sep 9 15:10 1991 sun3.4.1/
rwxr-xr-x 0/0 0 Sep 10 15:44 1991 sun3.4.1/dapany/

```

```

r--r--r-- 0/0 28828 Sep 10 15:30 1991 sun3.4.1/dapany/interface.o
--x--x--x 0/0 147456 Sep 10 15:30 1991 sun3.4.1/dapany/dapasm
--x--x--x 0/0 786432 Sep 10 15:30 1991 sun3.4.1/dapany/dapfort
--x--x--x 0/0 581632 Sep 10 15:30 1991 sun3.4.1/dapany/dapfortold
--x--x--x 0/0 57344 Sep 10 15:30 1991 sun3.4.1/dapany/dapcon
--x--x--x 0/0 73728 Sep 10 15:30 1991 sun3.4.1/dapany/dapf
--x--x--x 0/0 65536 Sep 10 15:30 1991 sun3.4.1/dapany/dapdfpp
--x--x--x 0/0 32768 Sep 10 15:30 1991 sun3.4.1/dapany/daplib
--x--x--x 0/0 24576 Sep 10 15:30 1991 sun3.4.1/dapany/dapopt
--x--x--x 0/0 24576 Sep 10 15:30 1991 sun3.4.1/dapany/dapprof
--x--x--x 0/0 163840 Sep 10 15:30 1991 sun3.4.1/dapany/dapdb
--x--x--x 0/0 40960 Sep 10 15:30 1991 sun3.4.1/dapany/dapload_
--x--x--x 0/0 65536 Sep 10 15:31 1991 sun3.4.1/dapany/dapsimwork
--x--x--x 0/0 196608 Sep 10 15:30 1991 sun3.4.1/dapany/dapsupport_
--x--x--x 0/0 163840 Sep 10 15:30 1991 sun3.4.1/dapany/dapdbold
--x--x--x 0/0 32768 Sep 10 15:30 1991 sun3.4.1/dapany/dapload
--x--x--x 0/0 188416 Sep 10 15:31 1991 sun3.4.1/dapany/dapsupport
--x--x--x 0/0 24576 Sep 10 15:30 1991 sun3.4.1/dapany/daped
rwxrwxrwx 0/0 0 Sep 10 15:44 1991 sun3.4.1/dapany/dapa symbolic link to dapf
rwxrwxrwx 0/0 0 Sep 10 15:44 1991 sun3.4.1/dapany/dapapp symbolic link to dapdfpp
rwxrwxrwx 0/0 0 Sep 10 15:44 1991 sun3.4.1/dapany/dapfold symbolic link to dapf
rwxrwxrwx 0/0 0 Sep 10 15:44 1991 sun3.4.1/dapany/dapm symbolic link to dapf
rwxr-xr-x 0/0 0 Sep 9 15:10 1991 sun3.4.1.1/
rwxr-xr-x 0/0 0 Sep 10 15:44 1991 sun3.4.1.1/dapany/
r--r--r-- 0/0 28828 Sep 10 15:29 1991 sun3.4.1.1/dapany/interface.o
--x--x--x 0/0 147456 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapasm
--x--x--x 0/0 786432 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapfort
--x--x--x 0/0 581632 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapfortold
--x--x--x 0/0 57344 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapcon
--x--x--x 0/0 73728 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapf
--x--x--x 0/0 65536 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapdfpp
--x--x--x 0/0 32768 Sep 10 15:29 1991 sun3.4.1.1/dapany/daplib
--x--x--x 0/0 24576 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapopt
--x--x--x 0/0 24576 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapprof
--x--x--x 0/0 163840 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapdb
--x--x--x 0/0 40960 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapload_
--x--x--x 0/0 65536 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapsimwork
--x--x--x 0/0 196608 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapsupport_
--x--x--x 0/0 163840 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapdbold
--x--x--x 0/0 32768 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapload
--x--x--x 0/0 188416 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapsupport
--x--x--x 0/0 24576 Sep 10 15:29 1991 sun3.4.1.1/dapany/daped
rwxrwxrwx 0/0 0 Sep 10 15:44 1991 sun3.4.1.1/dapany/dapa symbolic link to dapf
rwxrwxrwx 0/0 0 Sep 10 15:44 1991 sun3.4.1.1/dapany/dapapp symbolic link to dapdfpp
rwxrwxrwx 0/0 0 Sep 10 15:44 1991 sun3.4.1.1/dapany/dapfold symbolic link to dapf
rwxrwxrwx 0/0 0 Sep 10 15:44 1991 sun3.4.1.1/dapany/dapm symbolic link to dapf
rwxr-xr-x 0/0 0 Sep 9 15:10 1991 sun4.4.0.3/
rwxr-xr-x 0/0 0 Sep 10 15:44 1991 sun4.4.0.3/dapany/
r--r--r-- 0/0 38582 Sep 10 15:29 1991 sun4.4.0.3/dapany/interface.o
--x--x--x 0/0 180224 Sep 10 15:28 1991 sun4.4.0.3/dapany/dapasm
--x--x--x 0/0 983040 Sep 10 15:28 1991 sun4.4.0.3/dapany/dapfort
--x--x--x 0/0 696320 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapfortold
--x--x--x 0/0 65536 Sep 10 15:28 1991 sun4.4.0.3/dapany/dapcon
--x--x--x 0/0 81920 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapf

```

```

--x--x--x 0/0 90112 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapdfpp
--x--x--x 0/0 32768 Sep 10 15:29 1991 sun4.4.0.3/dapany/daplib
--x--x--x 0/0 32768 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapopt
--x--x--x 0/0 24576 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapprof
--x--x--x 0/0 196608 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapdb
--x--x--x 0/0 40960 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapload_
--x--x--x 0/0 81920 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapsimwork
--x--x--x 0/0 237568 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapsupport_
--x--x--x 0/0 204800 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapdbold
--x--x--x 0/0 40960 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapload
--x--x--x 0/0 229376 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapsupport
--x--x--x 0/0 32768 Sep 10 15:29 1991 sun4.4.0.3/dapany/daped
rwxrwxrwx 0/0 0 Sep 10 15:44 1991 sun4.4.0.3/dapany/dapa symbolic link to dapf
rwxrwxrwx 0/0 0 Sep 10 15:44 1991 sun4.4.0.3/dapany/dapapp symbolic link to dapdfpp
rwxrwxrwx 0/0 0 Sep 10 15:44 1991 sun4.4.0.3/dapany/dapfold symbolic link to dapf
rwxrwxrwx 0/0 0 Sep 10 15:44 1991 sun4.4.0.3/dapany/dapm symbolic link to dapf
rwxr-xr-x 0/0 0 Sep 9 15:10 1991 sun4.4.1/
rwxr-xr-x 0/0 0 Sep 10 15:44 1991 sun4.4.1/dapany/
r--r--r-- 0/0 38566 Sep 10 15:28 1991 sun4.4.1/dapany/interface.o
--x--x--x 0/0 180224 Sep 10 15:28 1991 sun4.4.1/dapany/dapasm
--x--x--x 0/01007616 Sep 10 15:28 1991 sun4.4.1/dapany/dapfort
--x--x--x 0/0 761856 Sep 10 15:28 1991 sun4.4.1/dapany/dapfortold
--x--x--x 0/0 65536 Sep 10 15:28 1991 sun4.4.1/dapany/dapcon
--x--x--x 0/0 81920 Sep 10 15:28 1991 sun4.4.1/dapany/dapf
--x--x--x 0/0 90112 Sep 10 15:28 1991 sun4.4.1/dapany/dapdfpp
--x--x--x 0/0 40960 Sep 10 15:28 1991 sun4.4.1/dapany/daplib
--x--x--x 0/0 32768 Sep 10 15:29 1991 sun4.4.1/dapany/dapopt
--x--x--x 0/0 24576 Sep 10 15:29 1991 sun4.4.1/dapany/dapprof
--x--x--x 0/0 196608 Sep 10 15:29 1991 sun4.4.1/dapany/dapdb
--x--x--x 0/0 40960 Sep 10 15:29 1991 sun4.4.1/dapany/dapload_
--x--x--x 0/0 81920 Sep 10 15:29 1991 sun4.4.1/dapany/dapsimwork
--x--x--x 0/0 237568 Sep 10 15:29 1991 sun4.4.1/dapany/dapsupport_
--x--x--x 0/0 204800 Sep 10 15:29 1991 sun4.4.1/dapany/dapdbold
--x--x--x 0/0 40960 Sep 10 15:29 1991 sun4.4.1/dapany/dapload
--x--x--x 0/0 229376 Sep 10 15:29 1991 sun4.4.1/dapany/dapsupport
--x--x--x 0/0 32768 Sep 10 15:29 1991 sun4.4.1/dapany/daped
rwxrwxrwx 0/0 0 Sep 10 15:44 1991 sun4.4.1/dapany/dapa symbolic link to dapf
rwxrwxrwx 0/0 0 Sep 10 15:44 1991 sun4.4.1/dapany/dapapp symbolic link to dapdfpp
rwxrwxrwx 0/0 0 Sep 10 15:44 1991 sun4.4.1/dapany/dapfold symbolic link to dapf
rwxrwxrwx 0/0 0 Sep 10 15:44 1991 sun4.4.1/dapany/dapm symbolic link to dapf
rwxr-xr-x 0/0 0 Sep 9 15:10 1991 sun4.4.1.1/
rwxr-xr-x 0/0 0 Sep 10 15:45 1991 sun4.4.1.1/dapany/
r--r--r-- 0/0 38566 Sep 10 15:28 1991 sun4.4.1.1/dapany/interface.o
--x--x--x 0/0 180224 Sep 10 15:28 1991 sun4.4.1.1/dapany/dapasm
--x--x--x 0/01007616 Sep 10 15:28 1991 sun4.4.1.1/dapany/dapfort
--x--x--x 0/0 761856 Sep 10 15:28 1991 sun4.4.1.1/dapany/dapfortold
--x--x--x 0/0 65536 Sep 10 15:28 1991 sun4.4.1.1/dapany/dapcon
--x--x--x 0/0 81920 Sep 10 15:28 1991 sun4.4.1.1/dapany/dapf
--x--x--x 0/0 90112 Sep 10 15:28 1991 sun4.4.1.1/dapany/dapdfpp
--x--x--x 0/0 40960 Sep 10 15:28 1991 sun4.4.1.1/dapany/daplib
--x--x--x 0/0 32768 Sep 10 15:28 1991 sun4.4.1.1/dapany/dapopt
--x--x--x 0/0 24576 Sep 10 15:28 1991 sun4.4.1.1/dapany/dapprof
--x--x--x 0/0 196608 Sep 10 15:28 1991 sun4.4.1.1/dapany/dapdb
--x--x--x 0/0 40960 Sep 10 15:28 1991 sun4.4.1.1/dapany/dapload_

```

```

--x--x--x 0/0 81920 Sep 10 15:28 1991 sun4.4.1.1/dapany/dapsimwork
--x--x--x 0/0 237568 Sep 10 15:28 1991 sun4.4.1.1/dapany/dapsupport_
--x--x--x 0/0 204800 Sep 10 15:28 1991 sun4.4.1.1/dapany/dapdbold
--x--x--x 0/0 40960 Sep 10 15:28 1991 sun4.4.1.1/dapany/dapload
--x--x--x 0/0 229376 Sep 10 15:28 1991 sun4.4.1.1/dapany/dapsupport
--x--x--x 0/0 32768 Sep 10 15:28 1991 sun4.4.1.1/dapany/daped
rwxrwxrwx 0/0 0 Sep 10 15:45 1991 sun4.4.1.1/dapany/dapa symbolic link to dapf
rwxrwxrwx 0/0 0 Sep 10 15:45 1991 sun4.4.1.1/dapany/dapapp symbolic link to dapdfpp
rwxrwxrwx 0/0 0 Sep 10 15:45 1991 sun4.4.1.1/dapany/dapfold symbolic link to dapf
rwxrwxrwx 0/0 0 Sep 10 15:45 1991 sun4.4.1.1/dapany/dapm symbolic link to dapf
rwxr-xr-x 0/0 0 Sep 9 15:09 1991 sunany/
rwxr-xr-x 0/0 0 Sep 10 09:53 1991 sunany/dapany/
rwxr-xr-x 0/0 0 Sep 9 15:09 1991 sunany/dapany/installtests/
rwxr-xr-x 0/0 0 Sep 10 14:04 1991 sunany/dapany/installtests/SDS/
r--r--r-- 0/0 5248 Sep 10 14:04 1991 sunany/dapany/installtests/SDS/SAVdiag5
r--r--r-- 0/0 20992 Sep 10 14:04 1991 sunany/dapany/installtests/SDS/SAVdiag6
r--r--r-- 0/0 337 Sep 10 14:04 1991 sunany/dapany/installtests/SDS/daphost.c
r--r--r-- 0/0 1315 Sep 10 14:04 1991 sunany/dapany/installtests/SDS/iapal.da
r--r--r-- 0/0 425 Sep 10 14:04 1991 sunany/dapany/installtests/SDS/ifort.df
r-xr-xr-x 0/0 3109 Sep 10 14:04 1991 sunany/dapany/installtests/SDS/INSTTEST
rwxr-xr-x 0/0 0 Sep 9 18:02 1991 sunany/dapany/rtshelp/
r--r--r-- 0/0 2783 Sep 9 18:01 1991 sunany/dapany/rtshelp/alias.1
r--r--r-- 0/0 7438 Sep 9 18:01 1991 sunany/dapany/rtshelp/array.1
r--r--r-- 0/0 1930 Sep 9 18:01 1991 sunany/dapany/rtshelp/attributes.1
r--r--r-- 0/0 2643 Sep 9 18:01 1991 sunany/dapany/rtshelp/backtrack.1
r--r--r-- 0/0 6196 Sep 9 18:01 1991 sunany/dapany/rtshelp/breakpoint.1
r--r--r-- 0/0 4078 Sep 9 18:01 1991 sunany/dapany/rtshelp/code.1
r--r--r-- 0/0 890 Sep 9 18:01 1991 sunany/dapany/rtshelp/continue.1
r--r--r-- 0/0 988 Sep 9 18:01 1991 sunany/dapany/rtshelp/core.1
r--r--r-- 0/0 496 Sep 9 18:01 1991 sunany/dapany/rtshelp/date.1
r--r--r-- 0/0 1795 Sep 9 18:02 1991 sunany/dapany/rtshelp/display.1
r--r--r-- 0/0 1048 Sep 9 18:02 1991 sunany/dapany/rtshelp/dump.1
r--r--r-- 0/0 607 Sep 9 18:02 1991 sunany/dapany/rtshelp/echo.1
r--r--r-- 0/0 2162 Sep 9 18:02 1991 sunany/dapany/rtshelp/errors.1
r--r--r-- 0/0 2034 Sep 9 18:02 1991 sunany/dapany/rtshelp/file.1
r--r--r-- 0/0 4419 Sep 9 18:02 1991 sunany/dapany/rtshelp/help.1
r--r--r-- 0/0 631 Sep 9 18:02 1991 sunany/dapany/rtshelp/history.1
r--r--r-- 0/0 5766 Sep 9 18:02 1991 sunany/dapany/rtshelp/interpreter.1
r--r--r-- 0/0 3834 Sep 9 18:02 1991 sunany/dapany/rtshelp/list.1
r--r--r-- 0/0 1941 Sep 9 18:02 1991 sunany/dapany/rtshelp/macro.1
r--r--r-- 0/0 992 Sep 9 18:02 1991 sunany/dapany/rtshelp/mask.1
r--r--r-- 0/0 4147 Sep 9 18:02 1991 sunany/dapany/rtshelp/message.1
r--r--r-- 0/0 6275 Sep 9 18:02 1991 sunany/dapany/rtshelp/print.1
r--r--r-- 0/0 1699 Sep 9 18:02 1991 sunany/dapany/rtshelp/procedure.1
r--r--r-- 0/0 564 Sep 9 18:02 1991 sunany/dapany/rtshelp/quit.1
r--r--r-- 0/0 3105 Sep 9 18:02 1991 sunany/dapany/rtshelp/register.1
r--r--r-- 0/0 779 Sep 9 18:02 1991 sunany/dapany/rtshelp/select.1
r--r--r-- 0/0 6843 Sep 9 18:02 1991 sunany/dapany/rtshelp/set.1
r--r--r-- 0/0 2380 Sep 9 18:02 1991 sunany/dapany/rtshelp/step.1
r--r--r-- 0/0 1188 Sep 9 18:02 1991 sunany/dapany/rtshelp/top.1
r--r--r-- 0/0 2187 Sep 9 18:02 1991 sunany/dapany/rtshelp/map.1
r--r--r-- 0/0 1436 Sep 9 18:02 1991 sunany/dapany/rtshelp/time.1
r--r--r-- 0/0 512 Sep 9 18:01 1991 sunany/dapany/patterns.df
r--r--r-- 0/0 1142 Sep 9 18:01 1991 sunany/dapany/usrmacs.da

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```
r--r--r-- 0/0 45662 Sep 9 18:01 1991 sunany/dapany/amtmacs.da
r--r--r-- 0/0 1698 Sep 9 18:01 1991 sunany/dapany/Dap.d
r--r--r-- 0/0 12582 Sep 9 18:03 1991 sunany/dapany/dap_msg_lib
r--r--r-- 0/0 4015 Sep 9 18:03 1991 sunany/dapany/dap_templates
r--r--r-- 0/0 3160 Sep 9 18:03 1991 sunany/dapany/gra_msg_lib
r--r--r-- 0/0 1135 Sep 9 18:03 1991 sunany/dapany/gra_templates
r--r--r-- 0/0 152495 Sep 10 09:53 1991 sunany/dapany/stdlib.dml
rwxr--r-- 0/0 0 Sep 10 13:37 1991 sunany/dap500/
r--r--r-- 0/02175572 Sep 10 13:10 1991 sunany/dap500/stdlib5.dl
r--r--r-- 0/0 315261 Sep 10 13:21 1991 sunany/dap500/stdlibm5.dl
r--r--r-- 0/0 370095 Sep 10 13:31 1991 sunany/dap500/gralib5.dl
r--r--r-- 0/0 60836 Sep 10 13:32 1991 sunany/dap500/gralibm5.dl
r--r--r-- 0/0 272299 Sep 10 13:37 1991 sunany/dap500/gralibold5.dl
rwxr--r-- 0/0 0 Sep 10 13:35 1991 sunany/dap600/
r--r--r-- 0/02195844 Sep 10 11:28 1991 sunany/dap600/stdlib6.dl
r--r--r-- 0/0 310909 Sep 10 11:39 1991 sunany/dap600/stdlibm6.dl
r--r--r-- 0/0 483172 Sep 10 13:27 1991 sunany/dap600/gralib6.dl
r--r--r-- 0/0 60160 Sep 10 13:28 1991 sunany/dap600/gralibm6.dl
r--r--r-- 0/0 386372 Sep 10 13:35 1991 sunany/dap600/gralibold6.dl
```

6 Contents of RTE tape for release 4.1S

```

r-xr-xr-x 0/0 11164 Sep 10 15:49 1991 INSTALLRTE
rwxr-xr-x 0/0 0 Sep 9 15:09 1991 sun3.3.4/
rwxr-xr-x 0/0 0 Sep 10 15:35 1991 sun3.3.4/dapany/
rwxr-xr-x 0/0 0 Sep 9 15:09 1991 sun3.3.4/dapany/installtests/
rwxr-xr-x 0/0 0 Sep 10 14:05 1991 sun3.3.4/dapany/installtests/MOUSE/
--x--x--x 0/0 49152 Sep 10 15:35 1991 sun3.3.4/dapany/installtests/MOUSE/mintest
rwxr-xr-x 0/0 0 Sep 10 14:06 1991 sun3.3.4/dapany/installtests/RTE/
--x--x--x 0/0 106496 Sep 10 15:35 1991 sun3.3.4/dapany/installtests/RTE/brot
--x--x--x 0/0 49152 Sep 10 15:35 1991 sun3.3.4/dapany/installtests/RTE/multiply
--x--x--x 0/0 49152 Sep 10 15:35 1991 sun3.3.4/dapany/installtests/RTE/sim
rwxr-xr-x 0/0 0 Sep 10 14:22 1991 sun3.3.4/dapany/test/
--s--x--x 0/0 147456 Sep 10 15:35 1991 sun3.3.4/dapany/test/dapet
rwxr-xr-x 0/0 0 Sep 9 15:09 1991 sun3.3.4/dapany/devdr/
rwxr-xr-x 0/0 0 Sep 9 15:09 1991 sun3.3.4/dapany/devdr/sun3/
r--r--r-- 0/0 6695 Mar 12 12:01 1991 sun3.3.4/dapany/devdr/sun3/sc.o
r--r--r-- 0/0 13023 Mar 12 12:01 1991 sun3.3.4/dapany/devdr/sun3/sd.o
r--r--r-- 0/0 26598 Mar 12 12:01 1991 sun3.3.4/dapany/devdr/sun3/si.o
r--r--r-- 0/0 13158 Mar 12 12:01 1991 sun3.3.4/dapany/devdr/sun3/st.o
r--r--r-- 0/0 16668 Mar 12 12:01 1991 sun3.3.4/dapany/devdr/sun3/dap.o
r--r--r-- 0/0 8600 Mar 12 12:01 1991 sun3.3.4/dapany/devdr/sun3/pmes.o
--s--x--x 0/0 24576 Mar 12 15:00 1991 sun3.3.4/dapany/devdr/sun3/daptrace
r-xr-xr-x 0/0 21217 Mar 13 14:48 1991 sun3.3.4/dapany/devdr/COMMANDS
r-xr-xr-x 0/0 15144 Mar 13 14:48 1991 sun3.3.4/dapany/devdr/COMMANDSPME
r-xr-xr-x 0/0 239 Mar 12 12:01 1991 sun3.3.4/dapany/devdr/MAKEDEV
r--r--r-- 0/0 3303 Mar 12 12:01 1991 sun3.3.4/dapany/devdr/dapreg.h
r--r--r-- 0/0 4375 Mar 12 12:01 1991 sun3.3.4/dapany/devdr/sc_conf.c
r--r--r-- 0/0 23125 Mar 12 12:01 1991 sun3.3.4/dapany/devdr/scsi.h
--x--x--x 0/0 49152 Sep 10 15:35 1991 sun3.3.4/dapany/dapopt
--x--x--x 0/0 32768 Sep 10 15:35 1991 sun3.3.4/dapany/daprof
--x--x--x 0/0 204800 Sep 10 15:35 1991 sun3.3.4/dapany/dapdb
--x--x--x 0/0 49152 Sep 10 15:35 1991 sun3.3.4/dapany/dapload_
--x--x--x 0/0 81920 Sep 10 15:35 1991 sun3.3.4/dapany/dapsimwork
--x--x--x 0/0 237568 Sep 10 15:35 1991 sun3.3.4/dapany/dapsupport_
--s--x--x 0/0 106496 Sep 10 15:35 1991 sun3.3.4/dapany/dapboot
r--r--r-- 0/0 22892 Sep 10 15:35 1991 sun3.3.4/dapany/dapcontrol.o
--x--x--x 0/0 65536 Sep 10 15:35 1991 sun3.3.4/dapany/dapoip
--s--x--x 0/0 24576 Sep 10 15:35 1991 sun3.3.4/dapany/dapreset
--x--x--x 0/0 212992 Sep 10 15:35 1991 sun3.3.4/dapany/dapdbold
--x--x--x 0/0 49152 Sep 10 15:35 1991 sun3.3.4/dapany/dapload
--x--x--x 0/0 237568 Sep 10 15:35 1991 sun3.3.4/dapany/dapsupport
--x--x--x 0/0 40960 Sep 10 15:35 1991 sun3.3.4/dapany/daped
rwxr-xr-x 0/0 0 Sep 9 15:10 1991 sun3.4.0.3/
rwxr-xr-x 0/0 0 Sep 10 15:31 1991 sun3.4.0.3/dapany/
rwxr-xr-x 0/0 0 Sep 9 15:10 1991 sun3.4.0.3/dapany/installtests/
rwxr-xr-x 0/0 0 Sep 10 14:05 1991 sun3.4.0.3/dapany/installtests/MOUSE/
--x--x--x 0/0 32768 Sep 10 15:31 1991 sun3.4.0.3/dapany/installtests/MOUSE/mintest
rwxr-xr-x 0/0 0 Sep 10 14:07 1991 sun3.4.0.3/dapany/installtests/RTE/
--x--x--x 0/0 106496 Sep 10 15:31 1991 sun3.4.0.3/dapany/installtests/RTE/brot
--x--x--x 0/0 24576 Sep 10 15:31 1991 sun3.4.0.3/dapany/installtests/RTE/multiply
--x--x--x 0/0 24576 Sep 10 15:31 1991 sun3.4.0.3/dapany/installtests/RTE/sim
rwxr-xr-x 0/0 0 Sep 10 14:24 1991 sun3.4.0.3/dapany/test/

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--s--x--x 0/0 114688 Sep 10 15:31 1991 sun3.4.0.3/dapany/test/dapet
RWXR-XR-X 0/0      0 Sep  9 15:10 1991 sun3.4.0.3/dapany/devdr/
RWXR-XR-X 0/0      0 Sep  9 15:10 1991 sun3.4.0.3/dapany/devdr/sun3/
r--r--r-- 0/0 16678 Mar 12 12:04 1991 sun3.4.0.3/dapany/devdr/sun3/dap.o
r--r--r-- 0/0  8597 Mar 12 12:04 1991 sun3.4.0.3/dapany/devdr/sun3/pmes.o
--s--x--x 0/0 16384 Mar 12 14:59 1991 sun3.4.0.3/dapany/devdr/sun3/daptrace
RWXR-XR-X 0/0      0 Sep  9 15:10 1991 sun3.4.0.3/dapany/devdr/sun3x/
--s--x--x 0/0 16384 Jun 20 16:41 1990 sun3.4.0.3/dapany/devdr/sun3x/daptrace
r--r--r-- 0/0 16658 Jun 20 10:45 1990 sun3.4.0.3/dapany/devdr/sun3x/dap.o
r--r--r-- 0/0 12647 Jun 20 10:38 1990 sun3.4.0.3/dapany/devdr/sun3x/sm.o
r-xr-xr-x 0/0 21219 Mar 13 14:49 1991 sun3.4.0.3/dapany/devdr/COMMANDS
r-xr-xr-x 0/0 15146 Mar 13 14:49 1991 sun3.4.0.3/dapany/devdr/COMMANDSPME
r-xr-xr-x 0/0   239 Mar 12 12:04 1991 sun3.4.0.3/dapany/devdr/MAKEDEV
r--r--r-- 0/0  3546 Mar 12 12:04 1991 sun3.4.0.3/dapany/devdr/dapreg.h
r--r--r-- 0/0  5947 Mar 12 12:04 1991 sun3.4.0.3/dapany/devdr/sc_conf.c
--x--x--x 0/0 24576 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapopt
--x--x--x 0/0 24576 Sep 10 15:31 1991 sun3.4.0.3/dapany/daprof
--x--x--x 0/0 172032 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapdb
--x--x--x 0/0  40960 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapload_
--x--x--x 0/0  65536 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapsimwork
--x--x--x 0/0 204800 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapsupport_
--s--x--x 0/0  57344 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapboot
r--r--r-- 0/0 22832 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapcontrol.o
--x--x--x 0/0 24576 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapoip
--s--x--x 0/0 16384 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapreset
--x--x--x 0/0 180224 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapdbold
--x--x--x 0/0  32768 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapload
--x--x--x 0/0 204800 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapsupport
--x--x--x 0/0 24576 Sep 10 15:31 1991 sun3.4.0.3/dapany/daped
RWXR-XR-X 0/0      0 Sep  9 15:10 1991 sun3.4.1/
RWXR-XR-X 0/0      0 Sep 10 15:31 1991 sun3.4.1/dapany/
RWXR-XR-X 0/0      0 Sep  9 15:10 1991 sun3.4.1/dapany/installtests/
RWXR-XR-X 0/0      0 Sep 10 14:06 1991 sun3.4.1/dapany/installtests/MOUSE/
--x--x--x 0/0  32768 Sep 10 15:31 1991 sun3.4.1/dapany/installtests/MOUSE/mintest
RWXR-XR-X 0/0      0 Sep 10 14:07 1991 sun3.4.1/dapany/installtests/RTE/
--x--x--x 0/0 180224 Sep 10 15:31 1991 sun3.4.1/dapany/installtests/RTE/brot
--x--x--x 0/0  32768 Sep 10 15:31 1991 sun3.4.1/dapany/installtests/RTE/multiply
--x--x--x 0/0  24576 Sep 10 15:31 1991 sun3.4.1/dapany/installtests/RTE/sim
RWXR-XR-X 0/0      0 Sep 10 14:29 1991 sun3.4.1/dapany/test/
--s--x--x 0/0 114688 Sep 10 15:31 1991 sun3.4.1/dapany/test/dapet
RWXR-XR-X 0/0      0 Sep  9 15:10 1991 sun3.4.1/dapany/devdr/
RWXR-XR-X 0/0      0 Sep  9 15:10 1991 sun3.4.1/dapany/devdr/sun3/
r--r--r-- 0/0 16164 Mar 12 12:07 1991 sun3.4.1/dapany/devdr/sun3/dap.o
r--r--r-- 0/0  8416 Mar 12 12:07 1991 sun3.4.1/dapany/devdr/sun3/pmes.o
--s--x--x 0/0 16384 Mar 12 14:59 1991 sun3.4.1/dapany/devdr/sun3/daptrace
RWXR-XR-X 0/0      0 Sep  9 15:10 1991 sun3.4.1/dapany/devdr/sun3x/
r--r--r-- 0/0 16144 Mar 12 12:58 1991 sun3.4.1/dapany/devdr/sun3x/dap.o
--s--x--x 0/0 16384 Mar 12 14:59 1991 sun3.4.1/dapany/devdr/sun3x/daptrace
r-xr-xr-x 0/0 21217 Mar 13 14:50 1991 sun3.4.1/dapany/devdr/COMMANDS
r-xr-xr-x 0/0 15144 Mar 13 14:50 1991 sun3.4.1/dapany/devdr/COMMANDSPME
r-xr-xr-x 0/0   239 Mar 12 12:07 1991 sun3.4.1/dapany/devdr/MAKEDEV
r--r--r-- 0/0  3546 Mar 12 12:07 1991 sun3.4.1/dapany/devdr/dapreg.h
r--r--r-- 0/0  5889 Mar 12 12:07 1991 sun3.4.1/dapany/devdr/sc_conf.c
--x--x--x 0/0 24576 Sep 10 15:31 1991 sun3.4.1/dapany/dapopt

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--x--x--x 0/0 24576 Sep 10 15:31 1991 sun3.4.1/dapany/dapprof
--x--x--x 0/0 163840 Sep 10 15:31 1991 sun3.4.1/dapany/dapdb
--x--x--x 0/0 40960 Sep 10 15:31 1991 sun3.4.1/dapany/dapload_
--x--x--x 0/0 65536 Sep 10 15:31 1991 sun3.4.1/dapany/dapsimwork
--x--x--x 0/0 196608 Sep 10 15:31 1991 sun3.4.1/dapany/dapsupport_
--s--x--x 0/0 57344 Sep 10 15:31 1991 sun3.4.1/dapany/dapboot
r--r--r-- 0/0 22896 Sep 10 15:31 1991 sun3.4.1/dapany/dapcontrol.o
--x--x--x 0/0 24576 Sep 10 15:31 1991 sun3.4.1/dapany/dapoip
--s--x--x 0/0 16384 Sep 10 15:31 1991 sun3.4.1/dapany/dapreset
--x--x--x 0/0 163840 Sep 10 15:31 1991 sun3.4.1/dapany/dapdbold
--x--x--x 0/0 32768 Sep 10 15:31 1991 sun3.4.1/dapany/dapload
--x--x--x 0/0 188416 Sep 10 15:31 1991 sun3.4.1/dapany/dapsupport
--x--x--x 0/0 24576 Sep 10 15:31 1991 sun3.4.1/dapany/daped
rwxr-xr-x 0/0 0 Sep 9 15:10 1991 sun3.4.1.1/
rwxr-xr-x 0/0 0 Sep 10 15:29 1991 sun3.4.1.1/dapany/
rwxr-xr-x 0/0 0 Sep 9 15:10 1991 sun3.4.1.1/dapany/installtests/
rwxr-xr-x 0/0 0 Sep 10 14:05 1991 sun3.4.1.1/dapany/installtests/MOUSE/
--x--x--x 0/0 32768 Sep 10 15:29 1991 sun3.4.1.1/dapany/installtests/MOUSE/mintest
rwxr-xr-x 0/0 0 Sep 10 14:07 1991 sun3.4.1.1/dapany/installtests/RTE/
--x--x--x 0/0 180224 Sep 10 15:29 1991 sun3.4.1.1/dapany/installtests/RTE/brot
--x--x--x 0/0 32768 Sep 10 15:29 1991 sun3.4.1.1/dapany/installtests/RTE/multiply
--x--x--x 0/0 24576 Sep 10 15:29 1991 sun3.4.1.1/dapany/installtests/RTE/sim
rwxr-xr-x 0/0 0 Sep 10 14:26 1991 sun3.4.1.1/dapany/test/
--s--x--x 0/0 114688 Sep 10 15:29 1991 sun3.4.1.1/dapany/test/dapet
rwxr-xr-x 0/0 0 Sep 9 15:10 1991 sun3.4.1.1/dapany/devdr/
rwxr-xr-x 0/0 0 Sep 9 15:10 1991 sun3.4.1.1/dapany/devdr/sun3/
r--r--r-- 0/0 16164 Jan 31 14:52 1991 sun3.4.1.1/dapany/devdr/sun3/dap.o
r--r--r-- 0/0 8416 Jan 31 14:52 1991 sun3.4.1.1/dapany/devdr/sun3/pmes.o
--s--x--x 0/0 16384 Mar 12 15:02 1991 sun3.4.1.1/dapany/devdr/sun3/daptrace
rwxr-xr-x 0/0 0 Sep 9 15:10 1991 sun3.4.1.1/dapany/devdr/sun3x/
r--r--r-- 0/0 16060 Jan 31 15:07 1991 sun3.4.1.1/dapany/devdr/sun3x/dap.o
--s--x--x 0/0 16384 Mar 12 15:02 1991 sun3.4.1.1/dapany/devdr/sun3x/daptrace
r-xr-xr-x 0/0 21219 Mar 13 14:50 1991 sun3.4.1.1/dapany/devdr/COMMANDS
r-xr-xr-x 0/0 15146 Mar 13 14:50 1991 sun3.4.1.1/dapany/devdr/COMMANDSPME
r-xr-xr-x 0/0 239 Jan 16 19:49 1989 sun3.4.1.1/dapany/devdr/MAKEDEV
r--r--r-- 0/0 3546 Jul 10 13:43 1989 sun3.4.1.1/dapany/devdr/dapreg.h
r--r--r-- 0/0 5889 Mar 1 15:34 1991 sun3.4.1.1/dapany/devdr/sc_conf.c
--x--x--x 0/0 24576 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapopt
--x--x--x 0/0 24576 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapprof
--x--x--x 0/0 163840 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapdb
--x--x--x 0/0 40960 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapload_
--x--x--x 0/0 65536 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapsimwork
--x--x--x 0/0 196608 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapsupport_
--s--x--x 0/0 57344 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapboot
r--r--r-- 0/0 22896 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapcontrol.o
--x--x--x 0/0 24576 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapoip
--s--x--x 0/0 16384 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapreset
--x--x--x 0/0 163840 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapdbold
--x--x--x 0/0 32768 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapload
--x--x--x 0/0 188416 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapsupport
--x--x--x 0/0 24576 Sep 10 15:29 1991 sun3.4.1.1/dapany/daped
rwxr-xr-x 0/0 0 Sep 9 15:10 1991 sun4.4.0.3/
rwxr-xr-x 0/0 0 Sep 10 15:29 1991 sun4.4.0.3/dapany/
rwxr-xr-x 0/0 0 Sep 9 15:10 1991 sun4.4.0.3/dapany/installtests/

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RWXR-XR-X 0/0      0 Sep 10 14:05 1991 sun4.4.0.3/dapany/installtests/MOUSE/
--X--X--X 0/0    32768 Sep 10 15:29 1991 sun4.4.0.3/dapany/installtests/MOUSE/mintest
RWXR-XR-X 0/0      0 Sep 10 14:06 1991 sun4.4.0.3/dapany/installtests/RTE/
--X--X--X 0/0   139264 Sep 10 15:29 1991 sun4.4.0.3/dapany/installtests/RTE/brot
--X--X--X 0/0    32768 Sep 10 15:29 1991 sun4.4.0.3/dapany/installtests/RTE/multiply
--X--X--X 0/0    32768 Sep 10 15:29 1991 sun4.4.0.3/dapany/installtests/RTE/sim
RWXR-XR-X 0/0      0 Sep 10 14:20 1991 sun4.4.0.3/dapany/test/
--S--X--X 0/0   131072 Sep 10 15:29 1991 sun4.4.0.3/dapany/test/dapet
RWXR-XR-X 0/0      0 Sep  9 15:10 1991 sun4.4.0.3/dapany/devdr/
RWXR-XR-X 0/0      0 Sep  9 15:10 1991 sun4.4.0.3/dapany/devdr/sun4/
R--R--R-- 0/0    18842 Mar 12 12:02 1991 sun4.4.0.3/dapany/devdr/sun4/sm.o
R--R--R-- 0/0    21299 Mar 12 12:02 1991 sun4.4.0.3/dapany/devdr/sun4/dap.o
R--R--R-- 0/0    10550 Mar 12 12:02 1991 sun4.4.0.3/dapany/devdr/sun4/pmes.o
--S--X--X 0/0    16384 Mar 12 14:58 1991 sun4.4.0.3/dapany/devdr/sun4/daptrace
R-XR-XR-X 0/0    21219 Mar 13 14:49 1991 sun4.4.0.3/dapany/devdr/COMMANDS
R-XR-XR-X 0/0    21232 Mar 13 14:49 1991 sun4.4.0.3/dapany/devdr/COMMANDS90
R-XR-XR-X 0/0    15146 Mar 13 14:49 1991 sun4.4.0.3/dapany/devdr/COMMANDSPME
R-XR-XR-X 0/0      239 Mar 12 12:02 1991 sun4.4.0.3/dapany/devdr/MAKEDEV
R--R--R-- 0/0     3546 Mar 12 12:02 1991 sun4.4.0.3/dapany/devdr/dapreg.h
R--R--R-- 0/0     5947 Mar 12 12:02 1991 sun4.4.0.3/dapany/devdr/sc_conf.c
R--R--R-- 0/0     6608 Mar 12 12:02 1991 sun4.4.0.3/dapany/devdr/sc_conf.c.90
--X--X--X 0/0    32768 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapopt
--X--X--X 0/0    24576 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapprof
--X--X--X 0/0   196608 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapdb
--X--X--X 0/0    40960 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapload_
--X--X--X 0/0    81920 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapsimwork
--X--X--X 0/0   237568 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapsupport_
--S--X--X 0/0    65536 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapboot
R--R--R-- 0/0    32410 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapcontrol.o
--X--X--X 0/0    32768 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapoip
--S--X--X 0/0    16384 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapreset
--X--X--X 0/0   204800 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapdbold
--X--X--X 0/0    40960 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapload
--X--X--X 0/0   229376 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapsupport
--X--X--X 0/0    32768 Sep 10 15:29 1991 sun4.4.0.3/dapany/daped
RWXR-XR-X 0/0      0 Sep  9 15:10 1991 sun4.4.1/
RWXR-XR-X 0/0      0 Sep 10 15:29 1991 sun4.4.1/dapany/
RWXR-XR-X 0/0      0 Sep  9 15:10 1991 sun4.4.1/dapany/installtests/
RWXR-XR-X 0/0      0 Sep 10 14:05 1991 sun4.4.1/dapany/installtests/MOUSE/
--X--X--X 0/0    32768 Sep 10 15:29 1991 sun4.4.1/dapany/installtests/MOUSE/mintest
RWXR-XR-X 0/0      0 Sep 10 14:06 1991 sun4.4.1/dapany/installtests/RTE/
--X--X--X 0/0   237568 Sep 10 15:29 1991 sun4.4.1/dapany/installtests/RTE/brot
--X--X--X 0/0    32768 Sep 10 15:29 1991 sun4.4.1/dapany/installtests/RTE/multiply
--X--X--X 0/0    32768 Sep 10 15:29 1991 sun4.4.1/dapany/installtests/RTE/sim
RWXR-XR-X 0/0      0 Sep 10 14:22 1991 sun4.4.1/dapany/test/
--S--X--X 0/0   131072 Sep 10 15:29 1991 sun4.4.1/dapany/test/dapet
RWXR-XR-X 0/0      0 Sep  9 15:10 1991 sun4.4.1/dapany/devdr/
RWXR-XR-X 0/0      0 Sep  9 15:10 1991 sun4.4.1/dapany/devdr/sun4/
R--R--R-- 0/0    22424 Mar 12 12:02 1991 sun4.4.1/dapany/devdr/sun4/dap.o
R--R--R-- 0/0    10544 Mar 12 12:02 1991 sun4.4.1/dapany/devdr/sun4/pmes.o
--S--X--X 0/0    16384 Mar 12 14:57 1991 sun4.4.1/dapany/devdr/sun4/daptrace
RWXR-XR-X 0/0      0 Sep  9 15:10 1991 sun4.4.1/dapany/devdr/sun4c/
R--R--R-- 0/0    40956 Mar 12 12:56 1991 sun4.4.1/dapany/devdr/sun4c/esp.o
R--R--R-- 0/0    30852 Mar 12 12:56 1991 sun4.4.1/dapany/devdr/sun4c/dap.o

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--s--x--x 0/0 16384 Mar 12 14:58 1991 sun4.4.1/dapany/devdr/sun4c/daptrace
r-xr-xr-x 0/0 21217 Mar 13 14:50 1991 sun4.4.1/dapany/devdr/COMMANDS
r-xr-xr-x 0/0 15144 Mar 13 14:50 1991 sun4.4.1/dapany/devdr/COMMANDSPME
r-xr-xr-x 0/0 239 Mar 12 12:02 1991 sun4.4.1/dapany/devdr/MAKEDEV
r--r--r-- 0/0 3546 Mar 12 12:02 1991 sun4.4.1/dapany/devdr/dapreg.h
r--r--r-- 0/0 5889 Mar 12 12:02 1991 sun4.4.1/dapany/devdr/sc_conf.c
r--r--r-- 0/0 4487 Mar 12 12:56 1991 sun4.4.1/dapany/devdr/dapdef.h
r--r--r-- 0/0 721 Mar 12 12:56 1991 sun4.4.1/dapany/devdr/dap_conf.c
--x--x--x 0/0 32768 Sep 10 15:29 1991 sun4.4.1/dapany/dapopt
--x--x--x 0/0 24576 Sep 10 15:29 1991 sun4.4.1/dapany/dapprof
--x--x--x 0/0 196608 Sep 10 15:29 1991 sun4.4.1/dapany/dapdb
--x--x--x 0/0 40960 Sep 10 15:29 1991 sun4.4.1/dapany/dapload_
--x--x--x 0/0 81920 Sep 10 15:29 1991 sun4.4.1/dapany/dapsimwork
--x--x--x 0/0 237568 Sep 10 15:29 1991 sun4.4.1/dapany/dapsupport_
--s--x--x 0/0 65536 Sep 10 15:29 1991 sun4.4.1/dapany/dapboot
r--r--r-- 0/0 32356 Sep 10 15:29 1991 sun4.4.1/dapany/dapcontrol.o
--x--x--x 0/0 32768 Sep 10 15:29 1991 sun4.4.1/dapany/dapoip
--s--x--x 0/0 16384 Sep 10 15:29 1991 sun4.4.1/dapany/dapreset
--x--x--x 0/0 204800 Sep 10 15:29 1991 sun4.4.1/dapany/dapdbold
--x--x--x 0/0 40960 Sep 10 15:29 1991 sun4.4.1/dapany/dapload
--x--x--x 0/0 229376 Sep 10 15:29 1991 sun4.4.1/dapany/dapsupport
--x--x--x 0/0 32768 Sep 10 15:29 1991 sun4.4.1/dapany/daped
rwxr-xr-x 0/0 0 Sep 9 15:10 1991 sun4.4.1.1/
rwxr-xr-x 0/0 0 Sep 10 15:29 1991 sun4.4.1.1/dapany/
rwxr-xr-x 0/0 0 Sep 9 15:10 1991 sun4.4.1.1/dapany/installtests/
rwxr-xr-x 0/0 0 Sep 10 14:01 1991 sun4.4.1.1/dapany/installtests/MOUSE/
--x--x--x 0/0 32768 Sep 10 15:29 1991 sun4.4.1.1/dapany/installtests/MOUSE/mintest
rwxr-xr-x 0/0 0 Sep 10 14:04 1991 sun4.4.1.1/dapany/installtests/RTE/
--x--x--x 0/0 237568 Sep 10 15:29 1991 sun4.4.1.1/dapany/installtests/RTE/brot
--x--x--x 0/0 32768 Sep 10 15:29 1991 sun4.4.1.1/dapany/installtests/RTE/multiply
--x--x--x 0/0 32768 Sep 10 15:29 1991 sun4.4.1.1/dapany/installtests/RTE/sim
rwxr-xr-x 0/0 0 Sep 10 14:18 1991 sun4.4.1.1/dapany/test/
--s--x--x 0/0 131072 Sep 10 15:29 1991 sun4.4.1.1/dapany/test/dapet
rwxr-xr-x 0/0 0 Sep 9 15:10 1991 sun4.4.1.1/dapany/devdr/
rwxr-xr-x 0/0 0 Sep 9 15:10 1991 sun4.4.1.1/dapany/devdr/sun4/
r--r--r-- 0/0 22424 Jan 31 15:09 1991 sun4.4.1.1/dapany/devdr/sun4/dap.o
r--r--r-- 0/0 10544 Jan 31 15:09 1991 sun4.4.1.1/dapany/devdr/sun4/pmes.o
--s--x--x 0/0 16384 Mar 12 15:02 1991 sun4.4.1.1/dapany/devdr/sun4/daptrace
rwxr-xr-x 0/0 0 Sep 9 15:10 1991 sun4.4.1.1/dapany/devdr/sun4c/
--s--x--x 0/0 16384 Mar 12 15:02 1991 sun4.4.1.1/dapany/devdr/sun4c/daptrace
r--r--r-- 0/0 39117 Feb 19 17:09 1991 sun4.4.1.1/dapany/devdr/sun4c/esp.o
r--r--r-- 0/0 31574 Feb 19 17:10 1991 sun4.4.1.1/dapany/devdr/sun4c/dap.o
r-xr-xr-x 0/0 21219 Mar 13 14:50 1991 sun4.4.1.1/dapany/devdr/COMMANDS
r-xr-xr-x 0/0 15146 Mar 13 14:50 1991 sun4.4.1.1/dapany/devdr/COMMANDSPME
r-xr-xr-x 0/0 239 Jan 16 19:49 1989 sun4.4.1.1/dapany/devdr/MAKEDEV
r--r--r-- 0/0 3546 Jul 10 13:43 1989 sun4.4.1.1/dapany/devdr/dapreg.h
r--r--r-- 0/0 5889 Mar 1 15:34 1991 sun4.4.1.1/dapany/devdr/sc_conf.c
r--r--r-- 0/0 4487 Feb 19 19:58 1991 sun4.4.1.1/dapany/devdr/dapdef.h
r--r--r-- 0/0 721 Feb 19 19:58 1991 sun4.4.1.1/dapany/devdr/dap_conf.c
--x--x--x 0/0 32768 Sep 10 15:29 1991 sun4.4.1.1/dapany/dapopt
--x--x--x 0/0 24576 Sep 10 15:29 1991 sun4.4.1.1/dapany/dapprof
--x--x--x 0/0 196608 Sep 10 15:29 1991 sun4.4.1.1/dapany/dapdb
--x--x--x 0/0 40960 Sep 10 15:29 1991 sun4.4.1.1/dapany/dapload_
--x--x--x 0/0 81920 Sep 10 15:29 1991 sun4.4.1.1/dapany/dapsimwork

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--x--x--x 0/0 237568 Sep 10 15:29 1991 sun4.4.1.1/dapany/dapsupport_
--s--x--x 0/0 65536 Sep 10 15:29 1991 sun4.4.1.1/dapany/dapboot
r--r--r-- 0/0 32356 Sep 10 15:29 1991 sun4.4.1.1/dapany/dapcontrol.o
--x--x--x 0/0 32768 Sep 10 15:29 1991 sun4.4.1.1/dapany/dapoip
--s--x--x 0/0 16384 Sep 10 15:29 1991 sun4.4.1.1/dapany/dapreset
--x--x--x 0/0 204800 Sep 10 15:29 1991 sun4.4.1.1/dapany/dapdbold
--x--x--x 0/0 40960 Sep 10 15:29 1991 sun4.4.1.1/dapany/dapload
--x--x--x 0/0 229376 Sep 10 15:29 1991 sun4.4.1.1/dapany/dapsupport
--x--x--x 0/0 32768 Sep 10 15:29 1991 sun4.4.1.1/dapany/daped
rwxr-xr-x 0/0 0 Sep 9 15:09 1991 sunany/
rwxr-xr-x 0/0 0 Sep 10 14:11 1991 sunany/dapany/
rwxr-xr-x 0/0 0 Sep 9 15:09 1991 sunany/dapany/SYSNONE/
rwxr-xr-x 0/0 0 Sep 10 14:10 1991 sunany/dapany/SYSVFI/
r--r--r-- 0/0 168 Sep 10 14:10 1991 sunany/dapany/SYSVFI/config.sys
rwxr-xr-x 0/0 0 Sep 10 14:10 1991 sunany/dapany/SYSDPIO/
r--r--r-- 0/0 174 Sep 10 14:10 1991 sunany/dapany/SYSDPIO/config.sys
rwxr-xr-x 0/0 0 Sep 9 18:03 1991 sunany/dapany/rtshelp/
r--r--r-- 0/0 2783 Sep 9 18:02 1991 sunany/dapany/rtshelp/alias.1
r--r--r-- 0/0 7438 Sep 9 18:02 1991 sunany/dapany/rtshelp/array.1
r--r--r-- 0/0 1930 Sep 9 18:02 1991 sunany/dapany/rtshelp/attributes.1
r--r--r-- 0/0 2643 Sep 9 18:02 1991 sunany/dapany/rtshelp/backtrack.1
r--r--r-- 0/0 6196 Sep 9 18:02 1991 sunany/dapany/rtshelp/breakpoint.1
r--r--r-- 0/0 4078 Sep 9 18:02 1991 sunany/dapany/rtshelp/code.1
r--r--r-- 0/0 890 Sep 9 18:02 1991 sunany/dapany/rtshelp/continue.1
r--r--r-- 0/0 988 Sep 9 18:02 1991 sunany/dapany/rtshelp/core.1
r--r--r-- 0/0 496 Sep 9 18:02 1991 sunany/dapany/rtshelp/date.1
r--r--r-- 0/0 1795 Sep 9 18:02 1991 sunany/dapany/rtshelp/display.1
r--r--r-- 0/0 1048 Sep 9 18:02 1991 sunany/dapany/rtshelp/dump.1
r--r--r-- 0/0 607 Sep 9 18:02 1991 sunany/dapany/rtshelp/echo.1
r--r--r-- 0/0 2162 Sep 9 18:02 1991 sunany/dapany/rtshelp/errors.1
r--r--r-- 0/0 2034 Sep 9 18:02 1991 sunany/dapany/rtshelp/file.1
r--r--r-- 0/0 4419 Sep 9 18:02 1991 sunany/dapany/rtshelp/help.1
r--r--r-- 0/0 631 Sep 9 18:02 1991 sunany/dapany/rtshelp/history.1
r--r--r-- 0/0 5766 Sep 9 18:02 1991 sunany/dapany/rtshelp/interpreter.1
r--r--r-- 0/0 3834 Sep 9 18:02 1991 sunany/dapany/rtshelp/list.1
r--r--r-- 0/0 1941 Sep 9 18:02 1991 sunany/dapany/rtshelp/macro.1
r--r--r-- 0/0 992 Sep 9 18:02 1991 sunany/dapany/rtshelp/mask.1
r--r--r-- 0/0 4147 Sep 9 18:03 1991 sunany/dapany/rtshelp/message.1
r--r--r-- 0/0 6275 Sep 9 18:03 1991 sunany/dapany/rtshelp/print.1
r--r--r-- 0/0 1699 Sep 9 18:03 1991 sunany/dapany/rtshelp/procedure.1
r--r--r-- 0/0 564 Sep 9 18:03 1991 sunany/dapany/rtshelp/quit.1
r--r--r-- 0/0 3105 Sep 9 18:03 1991 sunany/dapany/rtshelp/register.1
r--r--r-- 0/0 779 Sep 9 18:03 1991 sunany/dapany/rtshelp/select.1
r--r--r-- 0/0 6843 Sep 9 18:03 1991 sunany/dapany/rtshelp/set.1
r--r--r-- 0/0 2380 Sep 9 18:03 1991 sunany/dapany/rtshelp/step.1
r--r--r-- 0/0 1188 Sep 9 18:03 1991 sunany/dapany/rtshelp/top.1
r--r--r-- 0/0 2187 Sep 9 18:03 1991 sunany/dapany/rtshelp/map.1
r--r--r-- 0/0 1436 Sep 9 18:03 1991 sunany/dapany/rtshelp/time.1
rwxr-xr-x 0/0 0 Sep 10 14:15 1991 sunany/dapany/test/
r--r--r-- 0/0 3534 Sep 10 14:15 1991 sunany/dapany/test/setnv.hcu
r--r--r-- 0/0 4052 Sep 10 14:15 1991 sunany/dapany/test/setnvram.hcu
rwxr-xr-x 0/0 0 Sep 9 15:09 1991 sunany/dapany/installtests/
rwxr-xr-x 0/0 0 Sep 10 14:01 1991 sunany/dapany/installtests/MOUSE/
r-xr-xr-x 0/0 1030 Sep 10 14:01 1991 sunany/dapany/installtests/MOUSE/INSTTEST

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rwXr-Xr-x	0/0	0	Sep 10 14:03 1991	sunany/dapany/installtests/RTE/
r--r--r--	0/0	219	Sep 10 14:03 1991	sunany/dapany/installtests/RTE/brot.dat
r--r--r--	0/0	3328	Sep 10 14:03 1991	sunany/dapany/installtests/RTE/default.pal
r--r--r--	0/0	2504	Sep 10 14:03 1991	sunany/dapany/installtests/RTE/roots.pal
r--r--r--	0/0	2664	Sep 10 14:03 1991	sunany/dapany/installtests/RTE/brot.pal
r-Xr-Xr-x	0/0	2799	Sep 10 14:03 1991	sunany/dapany/installtests/RTE/INSTTEST
r--r--r--	0/0	1698	Sep 9 18:02 1991	sunany/dapany/Dap.d
r--r--r--	0/0	12582	Sep 9 18:03 1991	sunany/dapany/dap_msg_lib
r--r--r--	0/0	3160	Sep 9 18:03 1991	sunany/dapany/gra_msg_lib
r--r--r--	0/0	306	Sep 10 09:48 1991	sunany/dapany/mculib.dml
r--r--r--	0/0	152495	Sep 10 09:53 1991	sunany/dapany/stdlib.dml
r--r--r--	0/0	28270	Sep 10 14:09 1991	sunany/dapany/daphcucp
r--r--r--	0/0	7092	Sep 10 14:09 1991	sunany/dapany/dapmsgs
r--r--r--	0/0	11518	Sep 10 14:11 1991	sunany/dapany/AMTMOUSE.hcu
r--r--r--	0/0	56	Sep 10 14:11 1991	sunany/dapany/config.sys.mouse
rwXr-Xr-x	0/0	0	Sep 10 14:10 1991	sunany/dap500/
rwXr-Xr-x	0/0	0	Sep 9 15:09 1991	sunany/dap500/installtests/
rwXr-Xr-x	0/0	0	Sep 10 14:02 1991	sunany/dap500/installtests/MOUSE/
r--r--r--	0/0	10579	Sep 10 14:02 1991	sunany/dap500/installtests/MOUSE/minst.dap5
rwXr-Xr-x	0/0	0	Sep 10 14:03 1991	sunany/dap500/installtests/RTE/
r--r--r--	0/0	55873	Sep 10 14:02 1991	sunany/dap500/installtests/RTE/brotdap5
r--r--r--	0/0	13953	Sep 10 14:02 1991	sunany/dap500/installtests/RTE/matmult5
r--r--r--	0/0	10202	Sep 10 14:02 1991	sunany/dap500/installtests/RTE/simtest5
r--r--r--	0/0	55559	Sep 10 14:03 1991	sunany/dap500/installtests/RTE/brotdap5C
r--r--r--	0/0	13503	Sep 10 14:03 1991	sunany/dap500/installtests/RTE/matmult5C
r--r--r--	0/0	8746	Sep 10 14:03 1991	sunany/dap500/installtests/RTE/simtest5C
rwXr-Xr-x	0/0	0	Sep 10 15:18 1991	sunany/dap500/test/
r--r--r--	0/0	494	Sep 10 14:18 1991	sunany/dap500/test/AUTOSEQUENCES
r--r--r--	0/0	721	Sep 10 14:18 1991	sunany/dap500/test/permissions5
r--r--r--	0/0	28385	Sep 10 14:19 1991	sunany/dap500/test/dapet_help5.txt
r--r--r--	0/0	112	Sep 10 14:48 1991	sunany/dap500/test/SEQTEST500.index
r--r--r--	0/0	1448	Sep 10 14:48 1991	sunany/dap500/test/SEQTEST500.text
r--r--r--	0/0	13285	Sep 10 14:48 1991	sunany/dap500/test/SEQTEST500
r--r--r--	0/0	88	Sep 10 14:48 1991	sunany/dap500/test/DCUTEST500.index
r--r--r--	0/0	1253	Sep 10 14:48 1991	sunany/dap500/test/DCUTEST500.text
r--r--r--	0/0	12470	Sep 10 14:49 1991	sunany/dap500/test/DCUTEST500
r--r--r--	0/0	544	Sep 10 14:49 1991	sunany/dap500/test/CP8TEST501.index
r--r--r--	0/0	18988	Sep 10 14:49 1991	sunany/dap500/test/CP8TEST501.text
r--r--r--	0/0	19994	Sep 10 14:49 1991	sunany/dap500/test/CP8TEST501
r--r--r--	0/0	2764	Sep 10 14:49 1991	sunany/dap500/test/CP8TEST502.index
r--r--r--	0/0	110642	Sep 10 14:49 1991	sunany/dap500/test/CP8TEST502.text
r--r--r--	0/0	59133	Sep 10 14:51 1991	sunany/dap500/test/CP8TEST502
r--r--r--	0/0	208	Sep 10 14:51 1991	sunany/dap500/test/CP8TEST503.index
r--r--r--	0/0	8373	Sep 10 14:51 1991	sunany/dap500/test/CP8TEST503.text
r--r--r--	0/0	940	Sep 10 14:51 1991	sunany/dap500/test/MCUTEST501.index
r--r--r--	0/0	9096	Sep 10 14:51 1991	sunany/dap500/test/MCUTEST501.text
r--r--r--	0/0	45158	Sep 10 14:51 1991	sunany/dap500/test/MCUTEST501
r--r--r--	0/0	1120	Sep 10 14:51 1991	sunany/dap500/test/MCUTEST502.index
r--r--r--	0/0	24185	Sep 10 14:51 1991	sunany/dap500/test/MCUTEST502.text
r--r--r--	0/0	27835	Sep 10 14:52 1991	sunany/dap500/test/MCUTEST502
r--r--r--	0/0	1936	Sep 10 14:52 1991	sunany/dap500/test/MCUTEST503.index
r--r--r--	0/0	28160	Sep 10 14:52 1991	sunany/dap500/test/MCUTEST503.text
r--r--r--	0/0	34238	Sep 10 14:52 1991	sunany/dap500/test/MCUTEST503
r--r--r--	0/0	364	Sep 10 14:52 1991	sunany/dap500/test/MCUTEST504.index

r--r--r--	0/0	4128	Sep 10	14:52	1991	sunany/dap500/test/MCUTEST504.text
r--r--r--	0/0	18931	Sep 10	14:53	1991	sunany/dap500/test/MCUTEST504
r--r--r--	0/0	280	Sep 10	14:53	1991	sunany/dap500/test/MCUTEST505.index
r--r--r--	0/0	6244	Sep 10	14:53	1991	sunany/dap500/test/MCUTEST505.text
r--r--r--	0/0	15636	Sep 10	14:53	1991	sunany/dap500/test/MCUTEST505
r--r--r--	0/0	3616	Sep 10	14:53	1991	sunany/dap500/test/ARRAYTEST500.index
r--r--r--	0/0	131204	Sep 10	14:53	1991	sunany/dap500/test/ARRAYTEST500.text
r--r--r--	0/0	61281	Sep 10	14:55	1991	sunany/dap500/test/ARRAYTEST500
r--r--r--	0/0	388	Sep 10	14:55	1991	sunany/dap500/test/STORETEST500.index
r--r--r--	0/0	4486	Sep 10	14:55	1991	sunany/dap500/test/STORETEST500.text
r--r--r--	0/0	16583	Sep 10	14:55	1991	sunany/dap500/test/STORETEST500
r--r--r--	0/0	52	Sep 10	14:56	1991	sunany/dap500/test/MEMTEST500.index
r--r--r--	0/0	598	Sep 10	14:55	1991	sunany/dap500/test/MEMTEST500.text
r--r--r--	0/0	11610	Sep 10	14:56	1991	sunany/dap500/test/MEMTEST500
r--r--r--	0/0	52	Sep 10	14:56	1991	sunany/dap500/test/DISTURB500.index
r--r--r--	0/0	4559	Sep 10	14:56	1991	sunany/dap500/test/DISTURB500.text
r--r--r--	0/0	76163	Sep 10	15:13	1991	sunany/dap500/test/DISTURB500
r--r--r--	0/0	1492	Sep 10	15:13	1991	sunany/dap500/test/VFITEST500.index
r--r--r--	0/0	31310	Sep 10	15:13	1991	sunany/dap500/test/VFITEST500.text
r--r--r--	0/0	30350	Sep 10	15:14	1991	sunany/dap500/test/VFITEST500
r--r--r--	0/0	940	Sep 10	15:14	1991	sunany/dap500/test/VFI24TEST500.index
r--r--r--	0/0	13950	Sep 10	15:14	1991	sunany/dap500/test/VFI24TEST500.text
r--r--r--	0/0	24462	Sep 10	15:14	1991	sunany/dap500/test/VFI24TEST500
r--r--r--	0/0	1048	Sep 10	15:14	1991	sunany/dap500/test/VFIPAR500.index
r--r--r--	0/0	8496	Sep 10	15:14	1991	sunany/dap500/test/VFIPAR500.text
r--r--r--	0/0	40013	Sep 10	15:15	1991	sunany/dap500/test/VFIPAR500
r--r--r--	0/0	772	Sep 10	15:15	1991	sunany/dap500/test/DPIOTEST500.index
r--r--r--	0/0	21291	Sep 10	15:15	1991	sunany/dap500/test/DPIOTEST500.text
r--r--r--	0/0	21918	Sep 10	15:15	1991	sunany/dap500/test/DPIOTEST500
r--r--r--	0/0	988	Sep 10	15:15	1991	sunany/dap500/test/DPIOPAR500.index
r--r--r--	0/0	17395	Sep 10	15:15	1991	sunany/dap500/test/DPIOPAR500.text
r--r--r--	0/0	44737	Sep 10	15:16	1991	sunany/dap500/test/DPIOPAR500
r--r--r--	0/0	1456	Sep 10	15:16	1991	sunany/dap500/test/DISKTEST500.index
r--r--r--	0/0	27324	Sep 10	15:16	1991	sunany/dap500/test/DISKTEST500
r--r--r--	0/0	34190	Sep 10	15:16	1991	sunany/dap500/test/DISKTEST500.text
r--r--r--	0/0	1144	Sep 10	15:17	1991	sunany/dap500/test/DIOCTEST500.index
r--r--r--	0/0	14059	Sep 10	15:17	1991	sunany/dap500/test/DIOCTEST500.text
r--r--r--	0/0	56275	Sep 10	15:17	1991	sunany/dap500/test/DIOCTEST500
r--r--r--	0/0	758	Sep 10	15:17	1991	sunany/dap500/test/perr.dm5
r--r--r--	0/0	308	Sep 10	15:17	1991	sunany/dap500/test/autocp8.dm5
r--r--r--	0/0	146	Sep 10	15:17	1991	sunany/dap500/test/clearmicro.dm5
r--r--r--	0/0	420	Sep 10	15:17	1991	sunany/dap500/test/config.dm5
r--r--r--	0/0	575	Sep 10	15:17	1991	sunany/dap500/test/cp8reset.dm5
r--r--r--	0/0	2635	Sep 10	15:17	1991	sunany/dap500/test/cperr.dm5
r--r--r--	0/0	182	Sep 10	15:17	1991	sunany/dap500/test/dcpc.dm5
r--r--r--	0/0	194	Sep 10	15:17	1991	sunany/dap500/test/dcpm.dm5
r--r--r--	0/0	348	Sep 10	15:17	1991	sunany/dap500/test/dcpq.dm5
r--r--r--	0/0	25	Sep 10	15:17	1991	sunany/dap500/test/dmicro.dm5
r--r--r--	0/0	76	Sep 10	15:17	1991	sunany/dap500/test/dsmany.dm5
r--r--r--	0/0	111	Sep 10	15:17	1991	sunany/dap500/test/k.dm5
r--r--r--	0/0	174	Sep 10	15:17	1991	sunany/dap500/test/kb.dm5
r--r--r--	0/0	923	Sep 10	15:17	1991	sunany/dap500/test/kbloop.dm5
r--r--r--	0/0	177	Sep 10	15:17	1991	sunany/dap500/test/kin.dm5
r--r--r--	0/0	155	Sep 10	15:17	1991	sunany/dap500/test/kout.dm5

r--r--r--	0/0	315	Sep 10	15:17	1991	sunany/dap500/test/ldmicro.dm5
r--r--r--	0/0	351	Sep 10	15:17	1991	sunany/dap500/test/micro.dp5
r--r--r--	0/0	186	Sep 10	15:17	1991	sunany/dap500/test/readm.dm5
r--r--r--	0/0	91	Sep 10	15:17	1991	sunany/dap500/test/rke.dm5
r--r--r--	0/0	118	Sep 10	15:18	1991	sunany/dap500/test/rkf.dm5
r--r--r--	0/0	293	Sep 10	15:18	1991	sunany/dap500/test/sk.dm5
r--r--r--	0/0	201	Sep 10	15:18	1991	sunany/dap500/test/wcpc.dm5
r--r--r--	0/0	193	Sep 10	15:18	1991	sunany/dap500/test/wcpm.dm5
r--r--r--	0/0	324	Sep 10	15:18	1991	sunany/dap500/test/wcpq.dm5
r--r--r--	0/0	200	Sep 10	15:18	1991	sunany/dap500/test/writem.dm5
r--r--r--	0/0	13370	Sep 10	14:51	1991	sunany/dap500/test/CP8TEST503
rwxr-xr-x	0/0	0	Sep 10	14:10	1991	sunany/dap500/systemcif/
r--r--r--	0/0	60754	Sep 10	13:22	1991	sunany/dap500/systemcif/VFI5.dc
r--r--r--	0/0	50547	Sep 10	13:22	1991	sunany/dap500/systemcif/DPIO5.dc
r--r--r--	0/0	2293	Sep 10	13:23	1991	sunany/dap500/systemcif/video_dev5.dl
r--r--r--	0/0	24469	Sep 10	14:10	1991	sunany/dap500/systemcif/mcucp5.dc
r--r--r--	0/0	83439	Sep 10	14:10	1991	sunany/dap500/dapmcucp5
rwxr-xr-x	0/0	0	Sep 10	14:10	1991	sunany/dap600/
rwxr-xr-x	0/0	0	Sep 9	15:09	1991	sunany/dap600/installtests/
rwxr-xr-x	0/0	0	Sep 10	14:02	1991	sunany/dap600/installtests/MOUSE/
r--r--r--	0/0	10331	Sep 10	14:02	1991	sunany/dap600/installtests/MOUSE/minst.dap6
rwxr-xr-x	0/0	0	Sep 10	14:04	1991	sunany/dap600/installtests/RTE/
r--r--r--	0/0	61931	Sep 10	14:03	1991	sunany/dap600/installtests/RTE/brotdap6
r--r--r--	0/0	18678	Sep 10	14:03	1991	sunany/dap600/installtests/RTE/matmult6
r--r--r--	0/0	14927	Sep 10	14:03	1991	sunany/dap600/installtests/RTE/simtest6
r--r--r--	0/0	61617	Sep 10	14:04	1991	sunany/dap600/installtests/RTE/brotdap6C
r--r--r--	0/0	18224	Sep 10	14:04	1991	sunany/dap600/installtests/RTE/matmult6C
r--r--r--	0/0	13274	Sep 10	14:04	1991	sunany/dap600/installtests/RTE/simtest6C
rwxr-xr-x	0/0	0	Sep 10	14:48	1991	sunany/dap600/test/
r--r--r--	0/0	494	Sep 10	14:19	1991	sunany/dap600/test/AUTOSEQUENCE6
r--r--r--	0/0	661	Sep 10	14:19	1991	sunany/dap600/test/permissions6
r--r--r--	0/0	29117	Sep 10	14:19	1991	sunany/dap600/test/dapet_help6.txt
r--r--r--	0/0	112	Sep 10	14:19	1991	sunany/dap600/test/SEQTEST600.index
r--r--r--	0/0	1448	Sep 10	14:19	1991	sunany/dap600/test/SEQTEST600.text
r--r--r--	0/0	16544	Sep 10	14:19	1991	sunany/dap600/test/SEQTEST600
r--r--r--	0/0	88	Sep 10	14:19	1991	sunany/dap600/test/DCUTEST600.index
r--r--r--	0/0	1253	Sep 10	14:19	1991	sunany/dap600/test/DCUTEST600.text
r--r--r--	0/0	15665	Sep 10	14:20	1991	sunany/dap600/test/DCUTEST600
r--r--r--	0/0	544	Sep 10	14:20	1991	sunany/dap600/test/CP8TEST601.index
r--r--r--	0/0	18988	Sep 10	14:20	1991	sunany/dap600/test/CP8TEST601.text
r--r--r--	0/0	23738	Sep 10	14:20	1991	sunany/dap600/test/CP8TEST601
r--r--r--	0/0	2764	Sep 10	14:20	1991	sunany/dap600/test/CP8TEST602.index
r--r--r--	0/0	110642	Sep 10	14:20	1991	sunany/dap600/test/CP8TEST602.text
r--r--r--	0/0	66456	Sep 10	14:22	1991	sunany/dap600/test/CP8TEST602
r--r--r--	0/0	208	Sep 10	14:22	1991	sunany/dap600/test/CP8TEST603.index
r--r--r--	0/0	8373	Sep 10	14:22	1991	sunany/dap600/test/CP8TEST603.text
r--r--r--	0/0	14454	Sep 10	14:22	1991	sunany/dap600/test/CP8TEST603
r--r--r--	0/0	940	Sep 10	14:22	1991	sunany/dap600/test/MCUTEST601.index
r--r--r--	0/0	9093	Sep 10	14:22	1991	sunany/dap600/test/MCUTEST601.text
r--r--r--	0/0	45341	Sep 10	14:22	1991	sunany/dap600/test/MCUTEST601
r--r--r--	0/0	1120	Sep 10	14:23	1991	sunany/dap600/test/MCUTEST602.index
r--r--r--	0/0	24185	Sep 10	14:23	1991	sunany/dap600/test/MCUTEST602.text
r--r--r--	0/0	30918	Sep 10	14:23	1991	sunany/dap600/test/MCUTEST602
r--r--r--	0/0	1936	Sep 10	14:23	1991	sunany/dap600/test/MCUTEST603.index

r--r--r--	0/0	28160	Sep 10	14:23	1991	sunany/dap600/test/MCUTEST603.text
r--r--r--	0/0	37377	Sep 10	14:24	1991	sunany/dap600/test/MCUTEST603
r--r--r--	0/0	364	Sep 10	14:24	1991	sunany/dap600/test/MCUTEST604.index
r--r--r--	0/0	4128	Sep 10	14:24	1991	sunany/dap600/test/MCUTEST604.text
r--r--r--	0/0	22014	Sep 10	14:24	1991	sunany/dap600/test/MCUTEST604
r--r--r--	0/0	280	Sep 10	14:24	1991	sunany/dap600/test/MCUTEST605.index
r--r--r--	0/0	6244	Sep 10	14:24	1991	sunany/dap600/test/MCUTEST605.text
r--r--r--	0/0	18719	Sep 10	14:25	1991	sunany/dap600/test/MCUTEST605
r--r--r--	0/0	3616	Sep 10	14:25	1991	sunany/dap600/test/ARRAYTEST600.index
r--r--r--	0/0	131204	Sep 10	14:25	1991	sunany/dap600/test/ARRAYTEST600.text
r--r--r--	0/0	71826	Sep 10	14:27	1991	sunany/dap600/test/ARRAYTEST600
r--r--r--	0/0	388	Sep 10	14:27	1991	sunany/dap600/test/STORETEST600.index
r--r--r--	0/0	4486	Sep 10	14:27	1991	sunany/dap600/test/STORETEST600.text
r--r--r--	0/0	19954	Sep 10	14:27	1991	sunany/dap600/test/STORETEST600
r--r--r--	0/0	52	Sep 10	14:27	1991	sunany/dap600/test/MEMTEST600.index
r--r--r--	0/0	111	Sep 10	14:48	1991	sunany/dap600/test/k.dm6
r--r--r--	0/0	614	Sep 10	14:27	1991	sunany/dap600/test/MEMTEST600.text
r--r--r--	0/0	14733	Sep 10	14:27	1991	sunany/dap600/test/MEMTEST600
r--r--r--	0/0	52	Sep 10	14:27	1991	sunany/dap600/test/DISTURB600.index
r--r--r--	0/0	4559	Sep 10	14:27	1991	sunany/dap600/test/DISTURB600.text
r--r--r--	0/0	78583	Sep 10	14:45	1991	sunany/dap600/test/DISTURB600
r--r--r--	0/0	1060	Sep 10	14:45	1991	sunany/dap600/test/VFITEST600.index
r--r--r--	0/0	17085	Sep 10	14:45	1991	sunany/dap600/test/VFITEST600.text
r--r--r--	0/0	30783	Sep 10	14:45	1991	sunany/dap600/test/VFITEST600
r--r--r--	0/0	940	Sep 10	14:45	1991	sunany/dap600/test/VFI24TEST600.index
r--r--r--	0/0	13950	Sep 10	14:45	1991	sunany/dap600/test/VFI24TEST600.text
r--r--r--	0/0	27805	Sep 10	14:46	1991	sunany/dap600/test/VFI24TEST600
r--r--r--	0/0	1048	Sep 10	14:46	1991	sunany/dap600/test/VFIPAR600.index
r--r--r--	0/0	8496	Sep 10	14:46	1991	sunany/dap600/test/VFIPAR600.text
r--r--r--	0/0	44280	Sep 10	14:46	1991	sunany/dap600/test/VFIPAR600
r--r--r--	0/0	1456	Sep 10	14:46	1991	sunany/dap600/test/DISKTEST600.index
r--r--r--	0/0	34190	Sep 10	14:46	1991	sunany/dap600/test/DISKTEST600.text
r--r--r--	0/0	30527	Sep 10	14:47	1991	sunany/dap600/test/DISKTEST600
r--r--r--	0/0	1144	Sep 10	14:47	1991	sunany/dap600/test/DIOCTEST600.index
r--r--r--	0/0	14059	Sep 10	14:47	1991	sunany/dap600/test/DIOCTEST600.text
r--r--r--	0/0	62249	Sep 10	14:48	1991	sunany/dap600/test/DIOCTEST600
r--r--r--	0/0	1921	Sep 10	14:48	1991	sunany/dap600/test/perr.dm6
r--r--r--	0/0	308	Sep 10	14:48	1991	sunany/dap600/test/autocp8.dm6
r--r--r--	0/0	146	Sep 10	14:48	1991	sunany/dap600/test/clearmicro.dm6
r--r--r--	0/0	316	Sep 10	14:48	1991	sunany/dap600/test/clock120.dm6
r--r--r--	0/0	316	Sep 10	14:48	1991	sunany/dap600/test/clock200.dm6
r--r--r--	0/0	420	Sep 10	14:48	1991	sunany/dap600/test/config.dm6
r--r--r--	0/0	1439	Sep 10	14:48	1991	sunany/dap600/test/cp8reset.dm6
r--r--r--	0/0	9862	Sep 10	14:48	1991	sunany/dap600/test/cperr.dm6
r--r--r--	0/0	182	Sep 10	14:48	1991	sunany/dap600/test/dcpc.dm6
r--r--r--	0/0	194	Sep 10	14:48	1991	sunany/dap600/test/dcpm.dm6
r--r--r--	0/0	348	Sep 10	14:48	1991	sunany/dap600/test/dcpq.dm6
r--r--r--	0/0	295	Sep 10	14:48	1991	sunany/dap600/test/dmicro.dm6
r--r--r--	0/0	76	Sep 10	14:48	1991	sunany/dap600/test/dsmany.dm6
r--r--r--	0/0	174	Sep 10	14:48	1991	sunany/dap600/test/kb.dm6
r--r--r--	0/0	1047	Sep 10	14:48	1991	sunany/dap600/test/kbloop.dm6
r--r--r--	0/0	177	Sep 10	14:48	1991	sunany/dap600/test/kin.dm6
r--r--r--	0/0	155	Sep 10	14:48	1991	sunany/dap600/test/kout.dm6
r--r--r--	0/0	315	Sep 10	14:48	1991	sunany/dap600/test/ldmicro.dm6

r--r--r--	0/0	186	Sep 10 14:48	1991	sunany/dap600/test/readm.dm6
r--r--r--	0/0	98	Sep 10 14:48	1991	sunany/dap600/test/rke.dm6
r--r--r--	0/0	115	Sep 10 14:48	1991	sunany/dap600/test/rkf.dm6
r--r--r--	0/0	293	Sep 10 14:48	1991	sunany/dap600/test/sk.dm6
r--r--r--	0/0	201	Sep 10 14:48	1991	sunany/dap600/test/wcpc.dm6
r--r--r--	0/0	193	Sep 10 14:48	1991	sunany/dap600/test/wcpm.dm6
r--r--r--	0/0	324	Sep 10 14:48	1991	sunany/dap600/test/wcpq.dm6
r--r--r--	0/0	200	Sep 10 14:48	1991	sunany/dap600/test/writem.dm6
rwxr-xr-x	0/0	0	Sep 10 14:10	1991	sunany/dap600/systemcif/
r--r--r--	0/0	59230	Sep 10 13:22	1991	sunany/dap600/systemcif/VFI6.dc
r--r--r--	0/0	2293	Sep 10 13:23	1991	sunany/dap600/systemcif/video_dev6.dl
r--r--r--	0/0	24557	Sep 10 14:10	1991	sunany/dap600/systemcif/mcucp6.dc
r--r--r--	0/0	49608	Sep 10 14:10	1991	sunany/dap600/dapmcucp6

READ ME FIRST!



Software Release Note

Product: DAP series - Sun host srn141

Subject Release 4.1S - general

Summary This note briefly describes the new features in release 4.1S of the AMT DAP basic software designed for use on your Sun system and lists the various other notes that form part of the documentation pack that accompanies release 4.1S.
How to install the tapes holding the release 4.1S software is described in srn140.

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1 New features in release 4.1S

1.1 Support for new DAP models

The major enhancement in release 4.0S of the DAP basic software was the support for the new DAP models incorporating optional 8-bit coprocessors. Since 4.0S was only supplied on request the details of that and the other enhancements are repeated here (along with the enhancements new in release 4.1S) for the benefit

to add the mouse to your system and also describes how to access the mouse from Fortran-Plus.

1.4 High-level execution profiler

A new product supplied with release 4.0S is a high-level execution profiler. This enables you to analyse a program run and determine what proportion of the total run-time is spent in each code-section. This information should help you determine which parts of your program are time-critical and therefore potentially worth optimising. Full details of how this tool may be used with either Fortran-Plus or APAL programs is given in section 3.5 of the new **Program Development under UNIX** manual.

1.5 New type in Fortran-Plus

The compiler released with release 4.1S allows for a new data type in Fortran-Plus. The name of the new type is **ANYTHING**. The purpose of it is to allow subroutines and functions to be written which take arguments of any of the Fortran types without the need to turn off parameter checking. You could therefore write a subroutine:

```
subroutine specialops(x, i)
  anything x(*,*)
  integer i
```

There will be no checks performed on the type of the first argument passed to the routine but the full set of checks (subject as always to any compilation flags) will be performed on **i**.

The only variables which may be of type **anything** are arguments to functions and subroutines. Variables of this type may not appear in arithmetic, relational, logical expressions or assignment statements. They may be passed on as arguments to other subprograms though and when this happens their true type information is associated with them.

anything may appear in an **implicit** statement and as such can prove very useful in detecting mistyped variables which would otherwise be implicitly declared as local variables of type integer or real within a subprogram.

Please note though that this new type is only available with Fortran-Plus Enhanced (as available through **dapf**) and not the earlier Fortran version (available still through **dapfold**).

1.6 Improvements in optimiser

Release 4.1S incorporates improvements to the optimiser in the Fortran-Plus compiler. These optimisations are particularly significant when compiling code for the coprocessor range of machines. As before, by default the optimiser is not invoked and the highest level of optimisation is obtained by passing `-O` as a flag to `dapf`.

2 Software release notes supporting release 4.1S

Brief details of the other AMT notes in the release 4.1S documentation pack are:

- **srn024** DAP control panel

This note describes the facilities that are available from the front panel of your DAP and how they may be used.

- **srn076** New system calls at release 3.3

Various system calls were added to the basic software in release 3.3 which are not yet incorporated into a manual. This note describes the calls.

- **srn090** Normal use of your DAP

This note tells you how to prepare and boot your DAP ready for use.

- **srn119** Building a Sun kernel including a DAP SCSI driver in release 4.0S

The method of incorporating the DAP SCSI driver into the Sun kernel was greatly simplified in release 4.0S and the same method is used with release 4.1S. This note describes how it is done. It covers Sun operating system releases 3.4, 3.5, 4.0.3, 4.1 and 4.1.1

Warning:

Some customers have experienced problems using this new method when they have additional equipment besides the DAP attached to their Sun. We therefore ask all customers using this method to first search through the file:

```
/usr/sys/sun/conf.c
```

for all occurrences of the string:

```
cdevsw
```

If there are not just 4 occurrences of the string on 2 different lines please contact AMT before proceeding to build a new kernel.

- **srn121** DAP Mouse Driver and Library

Now that a DAP library of mouse software is supplied as part of the AMT basic software this note tells you how to install a mouse and write programs which use it.

- **srn140** Installation of SDS and RTE tape for release 4.1S

This note tells you how to load the software from either the Software Development System tape or the Run Time Environment tape into your Sun and run the relevant installation test.

- **srn142** Bugs cleared and outstanding in release 4.1S

As well as listing bugs from previous releases which have been cleared this note gives details of all known outstanding bugs in 4.1S

3 New user-manual issued with release 4.1S

A new manual was issued with release 4.0S. Customers who did not receive that release will be issued with it with 4.1S. It is:

- **DAP Series: Program Development under UNIX (man003.04)**

4 Sun and DAP architectures supported in release 4.1S

Software is supplied with this release for DAP 500, DAP 600, DAP 500C and DAP 600C systems, hosted by Sun3, Sun3x, Sun4 or Sun4c kernel architectures running Sun OS 3.4, 3.5, 4.0.3, 4.1 or 4.1.1

of those customers who did not have that release. DAPs fitted with the CP8 co-processor hardware have an additional 8-bit processor corresponding to each 1-bit processor. This greatly enhances the performance of the DAP especially in floating-point operations. You identify a DAP with these coprocessors by the presence of the letter C in its model number - as in DAP510C.

The coprocessors are controlled by *microcode* instructions loaded down from the host. Like the DAP MCU 1-bit processors they all execute the same instructions simultaneously but on different data, but since they are working on 8-bit data items rather than the 1-bit items considerable gains in processing speed are possible.

Each coprocessor has its own local memory and data must be copied into this memory from the DAP array store before the coprocessors can operate on it. When the co-processor operation is complete, the results are transferred back to the array store. This transfer of data between the array store and the coprocessor can take place at the same time as data is being processed by the coprocessor.

To make use of the coprocessors, if they are available on your DAP, you need only set an environment variable prior to compiling your program. There are no source code changes required. However a program compiled in this way will not work on a DAP without coprocessors. Programs compiled without this environment variable being set work equally well on DAPs with and without coprocessors.

Changes have also been made to the simulator to allow programs compiled for DAPs with coprocessors to be run in the absence of the hardware. Amongst other things this allows you to obtain accurate measurements of program execution times.

Setting the environment variable to make use of the coprocessors is covered in section 2.1 of the new issue of the manual **Program Development under UNIX** also supplied with this release. This manual also explains the interactions of the coprocessor with the rest of the basic software including the debugging system.

1.2 Faster loading of DAP programs

The algorithm used for loading programs into the DAP has been modified leading, in many cases, to very much faster loading times. However, this algorithm will only be used if your DAP and host programs are *both* relinked under the new 4.0S or later software. **Beware:** having relinked your programs in this way you will not be able to run them at a site which is not running at least release 4.0S of the AMT DAP basic software.

1.3 Support for DAP Mouse

Release 4.0S now provides, with the basic software, support for connecting a Mouse Systems 'Omnimouse' to the DAP. Such support was previously available but only as an optional product. Accompanying this release is *srn121* which tells you how



Software Release Note

Product: DAP series - Sun host srn142

Subject Release 4.1S - bugs cleared and outstanding

Summary This note describes the bugs cleared and those still outstanding at release 4.1S(issue 0) of the DAP basic software.

Contents

1	Introduction	1
2	Bugs cleared at issue 4.1S	1
3	Bugs outstanding at issue 4.1S	4

References	[1]	Fortran-Plus enhanced	(man102.01)
	[2]	Low-level Graphics Library (enhanced)	(man117.01)
	[3]	APAL Manual	(man005.03)

1 Introduction

This release note describes all known bugs relating to the DAP basic software. The bugs are listed in two sections, those cleared at release 4.1S (issue 0) and those still outstanding.

2 Bugs cleared at issue 4.1S

<i>AMT Reference Area affected</i>	<i>General Description</i>
9122600 FORTRAN-PLUS	1) When integer scalars of lengths *5 - *7 were lengthened, they were not sign extended correctly 2) LE comparisons between integer scalars of lengths *5 - *8 and constants did not work correctly.

9122101	FORTRAN-PLUS	The Fortran-Plus compiler did not allow sufficient stack space for the GETMAT function.
9105300	FORTRAN-PLUS	The Fortran-Plus compiler did not allow local variables to be dimensioned using an integer from a COMMON block.
9121700	GRAPHICS	The AMT_GRA_PUT_RECTANGLES routine drew rectangles which were too wide by a single pixel column (at the right-hand end of the rectangle).
9121104	FORTRAN-PLUS	When compiling for a non-coprocessor DAP, with run-time checks on, the optimized code for multiplying integer matrices by constant powers-of-two did not signal overflow in some cases.
9121100	GRAPHICS	The AMT_GRA_PUT_RECTANGLES ignored the final component of its MASK argument and hence did not draw the corresponding rectangle.
9120300	FORTRAN-PLUS	Assignments of the form, $X(i,j) = \text{expression}$ where i and j are integer scalars sometimes updated the wrong component.
9119001	FORTRAN-PLUS	On a coprocessor DAP, SQRT(0.0) returned an unnormalized result for data-lengths greater than 32 bits.
9119000	FORTRAN-PLUS	Truncation of integer matrices to shorter data-lengths sometimes gave rise to spurious overflows.
9117900	FORTRAN-PLUS	Assignments of the form, $A(\text{MASK}) = -B$ where A , B , and MASK are dynamically-sized subprogram arguments, did not work correctly.
9114300	FORTRAN-PLUS	For data-lengths greater than 32 bits, division of integer scalars by constant powers-of-two sometimes produced the wrong result (the result was rounded up instead of truncated).

9112900	FORTRAN-PLUS	The Fortran-Plus code, REAL M(*128,*128) M=SHNC(M, 64) caused the message, Attempted access outside array store datum or limit
9112300	FORTRAN-PLUS	On a coprocessor DAP 1) some masked assignments used the inverse of the specified mask 2) Square of integer matrices of data-lengths greater than 32 bits sometimes gave the wrong result.
9112200	GRAPHICS	The AMT_GRA_MAGNIFY routine did not check whether the graphics library had been initialized (by a call to AMT_GRA_INIT_GRAPHICS).
9111600	PROFILER	The profiler did not correctly handle pro- grams which made repeated entries to the DAP.
9108600	FORTRAN-PLUS	When run on a DAP600, the code $Z = X^{**}Y$ where X, Y and Z are real scalars of data- length 24 or 32 bits caused spurious over- flows.
9108000	FORTRAN-PLUS	Multiplication of integer * 4 and real * 3 vari- ables was done at 24-bit data-length and not 32-bit as stated in the language manual.
9107800	FORTRAN-PLUS	Under certain exceptional circumstances, the equality and non-equality comparisons be- tween the constant 0 and integer or real scalars of data-length less than 32 bits gave the wrong result.
9103901	FORTRAN-PLUS	If a logical matrix was given as the second argument to the MAXV function, no check was made that it conforms with the first ar- gument.
8832201	PSAM	If a user in PSAM exited sunttools, the pro- cess dapsupport was left running and the associated DAP program was not unloaded from the DAP.

3 Bugs outstanding at issue 4.1S

<i>AMT Reference Area affected</i>		<i>General Description</i>
9122100	MOUSE	The documentation for the DAP mouse does not mention that the order in which the routines <code>AMT_MOUSE_SETUP</code> and <code>AMT_MOUSE_START</code> are called is significant. If <code>AMT_MOUSE_START</code> is called before <code>AMT_MOUSE_SETUP</code> , the mouse coordinates are not read correctly.
9115501	PSAM	<code>APAL</code> instructions of the form, <p style="text-align: center;"><code>QQ 0(M2)</code></p> are incorrectly disassembled in <code>PSAM</code> .
9114100	FORTRAN-PLUS	Out-of-range values are not trapped if they appear in <code>PARAMETER</code> statements.
9110000	FORTRAN-PLUS	The real constant <code>32767.0(*3)</code> , when used in an expression, causes the message, <p style="text-align: center;">Warning - loss of precision in real constant</p> yet the value can be represented exactly as <code>#447FFF</code> .
9102100	Documentation	In section 2.2 of Appendix A of [1], the storage of logical data is described incorrectly.
9035200	Documentation	Appendix E of [3] omits the <code>EXIT</code> mnemonic.
9033100	CONSTRAINED FORTRAN-PLUS	A constant argument passed to a subroutine in parentheses is not passed correctly. <i>Note: this bug does not exist in the unconstrained compiler.</i>
9031902	Graphics	If a user already has the graphics monitor in use, other users wishing to use it fail with error code -12 from <code>INIT_GRAPHICS</code> . This should say 'monitor already in use'.

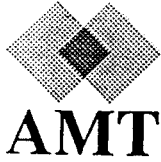
- | | | |
|---------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9029700 | Graphics | The <code>PACKED_FLAG</code> argument to the <code>AMT_GRA_DEFINE_IMAGE</code> graphics library routine does not work correctly with a DPIO graphics board. |
| 9027501 | Documentation | In the description of the routine <code>AMT_GRA_DEFINE_IMAGE</code> the arguments <code>IMG_X</code> and <code>IMG_Y</code> should have unit origin, not zero (page 14 of [2]). |
| 9025501 | Documentation | On page 31 of [2], the dimension statement should read:
DIMENSION AMT_GRA_RGB_VALS(*,*)
and the number 9,000 should be 90,000. |
| 9025500 | FORTRAN-PLUS | The compiler erroneously accepts the following invalid code:

<pre style="margin-left: 40px;"> IF (CHAR .EQ. ' ') THEN : ELSE IF (CHAR .EQ. ' ')GOTO 20 : ELSE : ENDIF </pre> the <code>GOTO</code> being invalid (only <code>THEN</code> should be allowed in a block <code>ELSE-IF</code>). |
| 9021400 | Documentation | On page 33 of [2], the calling sequence for the <code>AMT_GRA_SET_LUT</code> is given incorrectly. The first argument should be an integer scalar in the range 1 to 4 and not a scalar array as shown. |
| 9019202 | PSAM | The display generated on a DAP600 by the <code>array</code> command is unnecessarily split over several lines when term collection is not in use. |

<i>AMT Reference Area affected</i>		<i>General Description</i>
9017200	Documentation	On page 32 of [3], section 4.2.2.2, the description of repeat counts is incorrect.
9007401	FORTRAN-PLUS	The compiler erroneously accepts an invalid parameter statement of the form: PARAMETER(K)
9007400	FORTRAN-PLUS	The number of initializers in a DATA statement is limited to 164.
9003600	FORTRAN-PLUS	The compiler does not detect overflow of large integer constants in an IF statement.
8925000	APAL	Assembler has two bugs concerned with the STACK directive: (a) It ignores a STACK statement after the end of a code section (b) It always emits a stack request corresponding to the last STACK statement encountered rather than the for the largest.
8919102	Documentation	On page 52 of [3], section 6.2.2, the group 0 instruction QS_AS(N) should be QS(N)_AS(N) . Also CPCS(N) should be defined as C plane = carry from: C plane + (inverted)
8909601	Documentation	In section 15.2.1.1 of [1] the description of the SETSTATE function when state has value 2 (the text beginning 'provided the user...') is invalid.
8906001	FORTRAN-PLUS	The compiler does not allow constants established in PARAMETER statements to be used as initializers in <i>type</i> statements (although they can be used in DATA statements).

<i>AMT Reference Area affected</i>	<i>General Description</i>
8902400 FORTRAN-PLUS	The compiler can get confused by variables which start with keywords.
8834902 FORTRAN-PLUS	A DO statement specifying an (invalid) 6 digit label causes the compiler to fail with an access violation.
8834800 FORTRAN-PLUS	Terminating a subroutine with the invalid statement: END/D causes the compiler to go into an infinite loop.
8830501 RTS	A host program linked with Sunview can hang when doing daprec .
8817201 APAL	Under certain circumstances, the assembler prints a row of asterisks instead of a number in the message "... lines assembled" .
8813700 APAL	The assembler gets confused by a line of the form: MEND !! .

Note ends



Software Release Note

Product: DAP series - Sun host srn145

Subject Installation of the AMT General Support Library -
release 4.0S

Summary This note tells you how to load release 4.0S of the AMT Gen-
eral Support Library on to your SUN system and how to run
its installation test

Contents

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1 Reference

DAP Series: General Support Library Users Manual MAN010.03

2 Introduction

WARNING

If you already have a previous release of the AMT General Support library, note that the release you are about to install is NOT a simple upgrade, and it will overwrite your existing library. For a detailed list of changes please refer to srn154: 'General Support Library - Release 4.0 Compatibility'.

If you wish to continue to compile programs using the routines defined in the previous release, you need to take special action to provide this compatibility. BEFORE installing release 4.0S, perform the following commands:

```
master# cd /usr/lib/dap
master# mv gslib5.dl oldgslib5.dl
master# mv gslib6.dl oldgslib6.dl
```

as appropriate to the types of DAP for which you installed the previous version of the library. In order to compile a program using the previous version of the library you should then use a command such as:

```
master# dapf myfile.df -l oldgslib
```

This release of the **AMT General Support Library** contains a set of general support routines designed for use with the FORTRAN-PLUS language.

NOTE This release of the **AMT General Support Library** requires Release 4:1 or later of **AMT Basic Software**.

3 Changes in release 4.0S

This is a new implementation of the General Support Library exploiting the unconstrained features in the FORTRAN-PLUS enhanced language. A detailed list of changes is given in srn154: 'General Support Library - Release 4.0 Compatibility'.

4 Installation of release 4.0S

4.1 The Software

The software on the tape contains an installation script which controls the actual installation of the software. You can delete the script at the end of the installation. The script first asks you a series of questions to find out what hardware you have and how the installation is to be done. These questions and how you should answer them are covered in the next section.

To read the installation script from the tape you should go to the *master* SUN machine on the network where you want to install the DAP software. The terms *master* and *host* machine used in this release note are defined here:

- The *host* machine is the machine physically attached to the DAP
- The *master* machine is the SUN which 'owns' the file systems `/usr/bin` and `/usr/lib` used by the *host* machine

Depending on your site configuration, a machine might satisfy one or both of the above definitions. In particular, if you are installing on a standalone machine, it satisfies both.

Login to the *master* machine as *root*. If the master machine has a suitable local tape drive, insert the release tape in the tape drive, then type the following command at the *master#* prompt:

```
master# tar xvpf /dev/rxxx INSTOPT
```

where `/dev/rxxx` is the name of your local tape drive and `xxx` is likely to be either `st0` or `mt0`.

If you are installing the **AMT General Support Library** on a network-based SUN, and for any reason you are unable to use the master machine's local tape drive then insert the tape in the drive of another machine on the network, and type the following commands at the *master#* prompt, substituting the name of the remote tape drive's machine for *tapesun*:

```
master# rsh tapesun /bin/mt -f /dev/rxxx rewind  
master# rsh tapesun /bin/dd if=/dev/rxxx | /bin/tar xBpf - INSTOPT
```

where `/dev/rxxx` is the name of the local tape drive on machine *tapesun* and `xxx` is likely to be either `st0` or `mt0`.

Note that it does not matter which directory you are in when you execute these commands. Having read in the file you then need to invoke the shell script, by typing:

```
master# ./INSTOPT
```

The software will respond with:

```
INSTALLATION OF DAP General Support LIBRARY
```

4.2 Decisions

This section goes through the questions that you are asked by `INSTOPT` and helps you to answer them.

The full list of questions that the script asks you is given below:

```
Enter tape location [local | remote]:
```

If your master machine has a local tape drive and you have already used it to read in `INSTOPT`, you should answer `local` here. If you had to use the tape drive in another `SUN`, you should choose `remote`, in which case you will be asked for the name of the remote host:

```
Enter host name of remote drive:
```

Whether you are using a local or a remote tape drive, the shell script then asks you to complete the name of the tape drive:

```
Enter device name (eg st0, mt0) : /dev/r
```

note that the first part of the name has already been supplied for you. You need only type the same three characters that you typed when you loaded the tape at the start of the installation procedure.

```
Please ensure the release tape is mounted and press return when ready
```

When this message appears, confirm that the tape is mounted and ready by pressing the RETURN key.

Some of the **General Support Library** software depends on the size of DAP you have. This question allows you to specify what you want:

```
Do you wish to install the library for DAP500 or 600 or both ? [5 | 6 |
56 ]:
```

The next question asks what type of DAP you wish to install the library for:

```
Do you wish to install for coprocessor, non-coprocessor or both ? [c |
n | b ]:
```

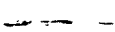
The General Support library contains a set of core routines, which are automatically installed, and two optional sets of routines which contain additional data-lengths; you are asked whether you want them:

```
You will automatically get the core library containing:-
Data-Lengths (*1,*2,*4, *8 and Logicals)
```

```
There are 2 optional supplements:-
```

```
Do you want Additional Data-Lengths (*3)? [ y | n ]:
```

```
Do you want Additional Data-Lengths (*5,*6,*7)? [ y | n ]:
```

The next question asks whether your machine is standalone or a server: 

```
Enter the master machine type [standalone | server]:
```

If you answer server to the question above, you will then be asked:

```
Do you wish to install the library for SUN3, SUN4 or both ? [3 | 4 |
34]:
```

Once the system knows where to put the software, it will install it, displaying the message:

```
Installing library for architecture sunx
```

Depending on whether you are installing on one or two SUN architectures you will see this message once or twice. The installation takes several minutes for each SUN architecture.

The next screen message confirms that the software installation is complete:

```
The installation of the library is complete
```

You don't need the installation script any more, and you can delete it from filestore by typing at the *master#* prompt:

```
master# rm INSTOPT
```

5 Running the Installation test

The installation test ensures that the software has been installed correctly. It checks that all the necessary files are present and that library routines can be correctly linked into programs.

The installation test should be run from an empty directory for which you have write permission.

```
host# cd any-suitable-directory  
host# /usr/lib/dap/installtests/GSLIB/INSTTEST
```

The script will then run and confirm or deny whether the software has been installed correctly.

As an example the following messages will be output from a successful installation of DAP500 only software:

Running the installation test for DAP 500
Mon Aug 12 10:20:57 BST 1991

Link successful for DAP510

Link successful for DAP510C

No DAP 600 library software found

6 Size of General Support Library release 4.0S

For each SUN architecture and each type of DAP for which you are installing, the approximate size of the library is as follows;

Core library	(Data-Lengths (*1,*2,*4, *8 and logicals))	1	MBytes
Option 1	(Data-Lengths (*3))	0.5	MBytes
Option 2	(Data-Lengths (*5,*6,*7))	1	MBytes

Also, the installation procedure temporarily uses a further 2.5 MBytes of disk space.

7 Contents of tape for General Support Library release 4.0S

```

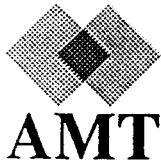
r-xr-xr-x 0/0 9187 Nov 29 09:32 INSTOPT

r--r--r-- 0/0 103 Nov 29 09:32 TOC

rwxr-xr-x 0/0 0 Nov 29 09:31 1991 sunany/
rwxr-xr-x 0/0 0 Nov 29 10:31 1991 sunany/dap500/
r--r--r-- 0/0 608671 Nov 29 10:03 1991 sunany/dap500/gslib-o0-5.dl
r--r--r-- 0/0 627183 Nov 29 10:31 1991 sunany/dap500/gslib-o0-m5.dl
r--r--r-- 0/0 722097 Nov 29 10:02 1991 sunany/dap500/gslib-o2-5.dl
r--r--r-- 0/0 227833 Nov 29 10:02 1991 sunany/dap500/gslib-o1-5.dl
r--r--r-- 0/0 753646 Nov 29 10:30 1991 sunany/dap500/gslib-o2-m5.dl
r--r--r-- 0/0 236056 Nov 29 10:30 1991 sunany/dap500/gslib-o1-m5.dl
rwxr-xr-x 0/0 0 Nov 29 11:29 1991 sunany/dap600/
r--r--r-- 0/0 612047 Nov 29 11:01 1991 sunany/dap600/gslib-o0-6.dl
r--r--r-- 0/0 626247 Nov 29 11:29 1991 sunany/dap600/gslib-o0-m6.dl
r--r--r-- 0/0 727857 Nov 29 11:00 1991 sunany/dap600/gslib-o2-6.dl
r--r--r-- 0/0 229753 Nov 29 11:00 1991 sunany/dap600/gslib-o1-6.dl
r--r--r-- 0/0 752938 Nov 29 11:29 1991 sunany/dap600/gslib-o2-m6.dl
r--r--r-- 0/0 235820 Nov 29 11:29 1991 sunany/dap600/gslib-o1-m6.dl
rwxr-xr-x 0/0 0 Nov 29 11:29 1991 sunany/dapany/
rwxr-xr-x 0/0 0 Nov 29 09:31 1991 sunany/dapany/installtests/
rwxr-xr-x 0/0 0 Nov 29 11:29 1991 sunany/dapany/installtests/GSLIB/
r-xr-xr-x 0/0 2894 Nov 29 11:29 1991 sunany/dapany/installtests/GSLIB/INSTTEST
r--r--r-- 0/0 256 Nov 29 11:29 1991 sunany/dapany/installtests/GSLIB/example.df
r--r--r-- 0/0 1261 Nov 29 09:33 1991 sunany/dapany/gs_templates
r--r--r-- 0/0 2037 Nov 29 11:29 1991 sunany/dapany/gslib.dml
r--r--r-- 0/0 1232 Nov 29 11:29 1991 sunany/dapany/gs_msg_lib

```

Note ends



Software Release Note

Product: DAP series

srn154

Subject General Support Library - Release 4.0 Compatibility

Summary This note lists the changes in release 4.0 of the AMT General Support Library

Contents

1	Introduction	1
2	Changes in release 4.0	1

1 Introduction

This note describes the differences between release 4.0 of the General Support Library and the previous release. This note can be ignored if you are installing the General Support Library for the first time.

2 Changes in release 4.0

1. This release of the General Support Library is the first to exploit the unconstrained features in the FORTRAN-PLUS enhanced language. Parallel objects used as arguments to library routines may have any dimensions, subject of course to memory limitations and certain minimum sizes that are detailed for the individual routines.
2. In accordance with the conventions of FORTRAN-PLUS enhanced, arrays are sheet mapped.
3. The FFT routines have been withdrawn. All transforms are now in the separate Transforms Library.
4. The linear algebra routines have been withdrawn.
5. All routine names have the prefix `AMT_GS_`. There are some other minor but self-evident changes in name.
6. All routines are now subroutines rather than functions.
7. All routines now return an error response to the calling code.

8. Some entirely new routines have been added.
9. Routines are provided to deal with operands of all valid integer data-lengths and all valid real data-lengths.

For a particular routine you always use the same name (unlike earlier releases where the routine name had a suffix to indicate the precision), and the compilation system automatically links in the appropriate routine dependent on the type and precision of one or more of the arguments.

The following list gives all the routines in the previous and current releases of the library.

For the routines in the previous library, a '?' in the name indicates a type or data-length for which that routine was available. For each such routine the generic name of the corresponding routine in release 4.0 is given (though the detail of the calling sequence is different), or a note of why there is no such routine in release 4.0.

Some of the routines in release 4.0 have no equivalent in the previous release.

Previous Release	Release 4.0
A03_ADD_PLANES_I1	AMT_GS_ADD_PLANES
C06_FFT_ESS	(see separate Transforms library)
C06_FFT_LV	(see separate Transforms library)
F01_G_MM	(linear algebra routine)
F01_M_INV	(linear algebra routine)
F01_MM_STRASSEN	(linear algebra routine)
F02_ALL_EIG_VALS_TD_ES	(linear algebra routine)
F02_ALL_EIG_VALS_TD_LV	(linear algebra routine)
F02_EIG_VALS_TD_LV	(linear algebra routine)
F02_JACOBI	(linear algebra routine)
F04_BIGSOLVE	(linear algebra routine)
F04_GJ_NLE_ES	(linear algebra routine)
F04_QR_GIVENS_SOLVE	(linear algebra routine)
F04_TRIDS_ES	(linear algebra routine)
F04_TRIDS_ES_SQ	(linear algebra routine)
F04_TRIDS_LV	(linear algebra routine)
G05_MC_BEGIN	AMT_GS_RAND_INIT
G05_MC_?	AMT_GS_RAND_MC
G05_MC_NORMAL_?	AMT_GS_RAND_MC_NORMAL
G05_MC_REPEAT	AMT_GS_RAND_INIT
H01_L_ASSIGN	(withdrawn)
J06_CHAR_CONT	(withdrawn)
J06_ZEBRA_CHART	(withdrawn)
M01_BSORT_LV	AMT_GS_SORT_D
M01_INV_PERMUTE_COLS	AMT_GS_SCATTER_COLS
M01_INV_PERMUTE_LV_32	AMT_GS_SCATTER_VEC
M01_INV_PERMUTE_ROWS	AMT_GS_SCATTER_ROWS

M01_PERMUTE_COLS	AMT_GS_GATHER_COLS
M01_PERMUTE_LV_32	AMT_GS_GATHER_VEC
M01_PERMUTE_ROWS	AMT_GS_GATHER_ROWS
M01_SORT_V_I4	AMT_GS_SORT_D
M01_SORT_V_R4	AMT_GS_SORT_D
S04_ARC_COS	AMT_GS_ARC_COS
S04_ARC_SIN	AMT_GS_ARC_SIN
S04_ATAN2_M	AMT_GS_ATAN2
S04_ATAN2_V	AMT_GS_ATAN2
S04_COS_INT	AMT_GS_COS_INT
S04_MOD_BES_I0	AMT_GS_MOD_BES_I0
S04_MOD_BES_I1	AMT_GS_MOD_BES_I1
S04_SIN_INT	AMT_GS_SIN_INT
S15_ERF	AMT_GS_ERF
S15_ERFC	AMT_GS_ERFC
X01_PI	AMT_GS_PI
X02_EPSILON	AMT_GS_EPSILON
X02_MAXDEC	AMT_GS_MAX_DEC
X02_MAXINT	AMT_GS_MAX_INT
X02_MAXPW2	AMT_GS_MAX_PW2
X02_MINPW2	AMT_GS_MIN_PW2
X02_RMAX	AMT_GS_MAX_REAL
X02_RMIN	AMT_GS_MIN_REAL
X02_TOL	AMT_GS_TOL
X05_ALT_LV	(implementable using FORTRAN-PLUS)
X05_CRINKLE	AMT_GS_CRINKLE
X05_EAST_BOUNDARY	AMT_GS_EAST_BOUNDARY
X05_?_MAX_PC	AMT_GS_MAXP_C
X05_?_MAX_PR	AMT_GS_MAXP_R
X05_?_MAX_VC	AMT_GS_MAXV_C
X05_?_MAX_VR	AMT_GS_MAXV_R
X05_?_MIN_PC	AMT_GS_MINP_C
X05_?_MIN_PR	AMT_GS_MINP_R
X05_?_MIN_VC	AMT_GS_MINV_C
X05_?_MIN_VR	AMT_GS_MINV_R
X05_EXCH_P	AMT_GS_EXCHANGE
X05_GATHER_V_32	AMT_GS_GATHER_VEC
X05_LOG2	AMT_GS_LOG2
X05_LONG_INDEX	(implementable using FORTRAN-PLUS)
X05_NORTH_BOUNDARY	AMT_GS_NORTH_BOUNDARY
X05_PATTERN	(implementable using FORTRAN-PLUS)
X05_SCATTER_V_32	AMT_GS_SCATTER_VEC
X05_SHLC_LV	(implementable using FORTRAN-PLUS)
X05_SHLP_LV	(implementable using FORTRAN-PLUS)
X05_SHORT_INDEX	(implementable using FORTRAN-PLUS)
X05_SHRC_LV	(implementable using FORTRAN-PLUS)
X05_SHRP_LV	(implementable using FORTRAN-PLUS)

X05_SOUTH_BOUNDARY	AMT_GS_SOUTH_BOUNDARY
X05_STRETCH_4	(withdrawn)
X05_STRETCH_8	(withdrawn)
X05_STRETCH_N	(withdrawn)
X05_SUM_LEFT_I2	AMT_GS_SUM_LEFT
X05_SUM_RIGHT_I2	AMT_GS_SUM_RIGHT
X05_UNCRINKLE	AMT_GS_UNCRINKLE
X05_WEST_BOUNDARY	AMT_GS_WEST_BOUNDARY
-	AMT_GS_E
-	AMT_GS_EXCHANGE_M
-	AMT_GS_GATHER_MAT
-	AMT_GS_SCATTER_MAT
-	AMT_GS_SORT_C
-	AMT_GS_TLU
-	AMT_GS_UPPER_INDEX

Note ends



Software Release Note

Product: DAP series

srn155

Subject Image Processing Library - Release 3.0 Compatibility

Summary This note lists the changes in release 3.0 of the AMT Image Processing Library

Contents

1	Introduction	1
2	Changes in Release 3.0	1

1 Introduction

This note describes the differences between release 3.0 of the Image Processing Library and the previous release. This note can be ignored if you are installing the Image Processing Library for the first time.

2 Changes in Release 3.0

1. This release of the Image Processing Library is the first to exploit the unconstrained features in the FORTRAN-PLUS language. Parallel objects used as arguments to library routines may have any dimensions, subject of course to memory limitations and certain minimum sizes that are detailed for the individual routines.
2. In accordance with the conventions of FORTRAN-PLUS, arrays are sheet mapped (in the earlier releases, most of the routines assumed crinkle mapping). Thus, routines for conversion between sheet and crinkled mappings, are no longer required and have been removed.
3. All transforms are now in a separate Transforms Library.
4. There are no linear algebra routines in the Image Processing library; please refer to the previous release of the General Support library.
5. All the basic arithmetic routines and the shift routines are omitted since equivalent facilities on unconstrained arrays are available within FORTRAN-PLUS itself.

6. All routines have an argument that is used to return a fail indication to the calling routine.
7. All routine names have the prefix `AMT_IP_`. There are some other minor but self-evident changes in name; for example `CLASSIF` has been renamed `AMT_IP_CLASSIFY`.
8. Some entirely new routines have been added.
9. Routines are provided to deal with operands of all valid integer data-lengths and all valid real data-lengths. For a particular routine you always use the same name (unlike earlier releases where the routine name had a suffix to indicate the data-length), and the compilation system automatically links in the appropriate routine dependent on the type and data-length of one or more arguments.

The following list gives all the routines in the previous release and in Release 3.0 of the library, apart from the shift routines for which only the north shifts are listed.

For the routines in the previous library, a '?' in the name indicates a data-length in bits for which that routine was available (usually 8 or 16). For each such routine the generic name of the corresponding routine in release 3.0 is given (though the detail of the calling sequence is different), or a note of why there is no such routine in release 3.0. Some of the routines in release 3.0 have no equivalent in the previous release.

Previous Release	Release 3.0
<code>ABS_THRESH_?</code>	(implementable using FORTRAN-PLUS)
<code>ADD_?</code>	(FORTRAN-PLUS)
<code>AVERAGE_?</code>	<code>AMT_IP_AVERAGE</code>
<code>BOX_IN_BOX_?</code>	<code>AMT_IP_BOX_IN_BOX</code>
<code>C06_FFT_ESS</code>	(see separate Transforms library)
<code>C06_FFT_LV</code>	(see separate Transforms library)
<code>CLASSIF</code>	<code>AMT_IP_CLASSIFY</code>
<code>COMP_FFT_2D_?_TO_?</code>	(see separate Transforms library)
<code>COMP_FFT_2D_REAL_3</code>	(see separate Transforms library)
<code>CONVOLVE_?</code>	<code>AMT_IP_CONVOLVE</code>
<code>CRINK_RASTER</code>	(not applicable; sheet mapping only)
<code>CRINK_SHEET</code>	(not applicable; sheet mapping only)
<code>DIFF_OF_GAUSS_?</code>	<code>AMT_IP_DIFF_OF_GAUSS</code>
<code>F01_G_MM</code>	(linear algebra routine)
<code>F01_M_INV</code>	(linear algebra routine)
<code>F04_QR_GIVENS_SOLVE</code>	(linear algebra routine)
<code>FEATURES_?</code>	<code>AMT_IP_FEATURES</code>
<code>FILL_IN_1</code>	<code>AMT_IP_FILL</code>
<code>HISTOGRAM_C_?</code>	(not applicable; sheet mapping only)
<code>HISTOGRAM_S_?</code>	<code>AMT_IP_HISTOGRAM</code>
<code>KIRSCH_?</code>	<code>AMT_IP_KIRSCH</code>
<code>LABEL_?</code>	<code>AMT_IP_LABEL</code>
<code>LAPLACE_?</code>	<code>AMT_IP_LAPLACE</code>

LINE_DET_?	AMT_IP_LINE_DET
MULT_?_TO_?	(implementable using FORTRAN-PLUS)
NORMALIZE_?	AMT_IP_NORMALIZE
PERC_THRESH_?	AMT_IP_PERC_THRESH
PREWITT_?	AMT_IP_PREWITT
PSEUDO_MEDIAN_?	AMT_IP_PSEUDO_MEDIAN
PURE_MEDIAN_?	AMT_IP_MEDIAN
RASTER_CRINK	(not applicable; sheet mapping only)
RASTER_SHEET	(not applicable; sheet mapping only)
ROBERTS_?	AMT_IP_ROBERTS
SCAL_ADD_?	(FORTRAN-PLUS)
SCAL_DIV_?	(FORTRAN-PLUS)
SCAL_MULT_?_TO_?	(FORTRAN-PLUS)
SEGMENT_?	AMT_IP_SEGMENT
SHEET_CRINK	(not applicable; sheet mapping only)
SHEET_RASTER	(not applicable; sheet mapping only)
SHIFT_COL_NORTH_C	(not applicable)
SHIFT_COL_NORTH_P	(not applicable)
SHIFT_IMAGE_NORTH_C	(FORTRAN-PLUS)
SHIFT_IMAGE_NORTH_P	(FORTRAN-PLUS)
SHIFT_ROW_NORTH_C	(not applicable)
SHIFT_ROW_NORTH_P	(not applicable)
SHIFT_SHEET_NORTH_C	(not applicable)
SHIFT_SHEET_NORTH_P	(not applicable)
SOBEL_?	AMT_IP_SOBEL
SUB_?	(FORTRAN-PLUS)
TWO_UNSIG	(implementable using FORTRAN-PLUS)
UNSIG_TWO	(implementable using FORTRAN-PLUS)
ZERO_X_?	AMT_IP_ZERO_X
-	AMT_IP_DILATE
-	AMT_IP_DILATE_L
-	AMT_IP_DITHER
-	AMT_IP_DUMP_IMAGE
-	AMT_IP_DUMP_IMAGE_LUT
-	AMT_IP_ERODE
-	AMT_IP_ERODE_L
-	AMT_IP_HIST_EQUALIZE
-	AMT_IP_LOAD_HEADER
-	AMT_IP_LOAD_IMAGE
-	AMT_IP_LOAD_LUT
-	AMT_IP_NORMALIZE_POS
-	AMT_IP_ROTATE
-	AMT_IP_SKELETON
-	AMT_IP_ZOOM

Note ends



Software Release Note

Product: DAP series

srn155

Subject Image Processing Library - Release 3.0 Compatibility

Summary This note lists the changes in release 3.0 of the AMT Image Processing Library

Contents

1	Introduction	1
2	Changes in Release 3.0	1

1 Introduction

This note describes the differences between release 3.0 of the Image Processing Library and the previous release. This note can be ignored if you are installing the Image Processing Library for the first time.

2 Changes in Release 3.0

1. This release of the Image Processing Library is the first to exploit the unconstrained features in the FORTRAN-PLUS language. Parallel objects used as arguments to library routines may have any dimensions, subject of course to memory limitations and certain minimum sizes that are detailed for the individual routines.
2. In accordance with the conventions of FORTRAN-PLUS, arrays are sheet mapped (in the earlier releases, most of the routines assumed crinkle mapping). Thus, routines for conversion between sheet and crinkled mappings, are no longer required and have been removed.
3. All transforms are now in a separate Transforms Library.
4. There are no linear algebra routines in the Image Processing library; please refer to the previous release of the General Support library.
5. All the basic arithmetic routines and the shift routines are omitted since equivalent facilities on unconstrained arrays are available within FORTRAN-PLUS itself.

6. All routines have an argument that is used to return a fail indication to the calling routine.
7. All routine names have the prefix `AMT_IP_`. There are some other minor but self-evident changes in name; for example `CLASSIF` has been renamed `AMT_IP_CLASSIFY`.
8. Some entirely new routines have been added.
9. Routines are provided to deal with operands of all valid integer data-lengths and all valid real data-lengths. For a particular routine you always use the same name (unlike earlier releases where the routine name had a suffix to indicate the data-length), and the compilation system automatically links in the appropriate routine dependent on the type and data-length of one or more arguments.

The following list gives all the routines in the previous release and in Release 3.0 of the library, apart from the shift routines for which only the north shifts are listed.

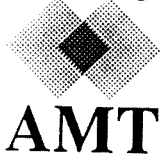
For the routines in the previous library, a '?' in the name indicates a data-length in bits for which that routine was available (usually 8 or 16). For each such routine the generic name of the corresponding routine in release 3.0 is given (though the detail of the calling sequence is different), or a note of why there is no such routine in release 3.0. Some of the routines in release 3.0 have no equivalent in the previous release.

Previous Release	Release 3.0
<code>ABS_THRESH_?</code>	(implementable using FORTRAN-PLUS)
<code>ADD_?</code>	(FORTRAN-PLUS)
<code>AVERAGE_?</code>	<code>AMT_IP_AVERAGE</code>
<code>BOX_IN_BOX_?</code>	<code>AMT_IP_BOX_IN_BOX</code>
<code>C06_FFT_ESS</code>	(see separate Transforms library)
<code>C06_FFT_LV</code>	(see separate Transforms library)
<code>CLASSIF</code>	<code>AMT_IP_CLASSIFY</code>
<code>COMP_FFT_2D_?_TO_?</code>	(see separate Transforms library)
<code>COMP_FFT_2D_REAL_3</code>	(see separate Transforms library)
<code>CONVOLVE_?</code>	<code>AMT_IP_CONVOLVE</code>
<code>CRINK_RASTER</code>	(not applicable; sheet mapping only)
<code>CRINK_SHEET</code>	(not applicable; sheet mapping only)
<code>DIFF_OF_GAUSS_?</code>	<code>AMT_IP_DIFF_OF_GAUSS</code>
<code>F01_G_MM</code>	(linear algebra routine)
<code>F01_M_INV</code>	(linear algebra routine)
<code>F04_QR_GIVENS_SOLVE</code>	(linear algebra routine)
<code>FEATURES_?</code>	<code>AMT_IP_FEATURES</code>
<code>FILL_IN_1</code>	<code>AMT_IP_FILL</code>
<code>HISTOGRAM_C_?</code>	(not applicable; sheet mapping only)
<code>HISTOGRAM_S_?</code>	<code>AMT_IP_HISTOGRAM</code>
<code>KIRSCH_?</code>	<code>AMT_IP_KIRSCH</code>
<code>LABEL_?</code>	<code>AMT_IP_LABEL</code>
<code>LAPLACE_?</code>	<code>AMT_IP_LAPLACE</code>

LINE_DET_?	AMT_IP_LINE_DET
MULT_?_TO_?	(implementable using FORTRAN-PLUS)
NORMALIZE_?	AMT_IP_NORMALIZE
PERC_THRESH_?	AMT_IP_PERC_THRESH
PREWITT_?	AMT_IP_PREWITT
PSEUDO_MEDIAN_?	AMT_IP_PSEUDO_MEDIAN
PURE_MEDIAN_?	AMT_IP_MEDIAN
RASTER_CRINK	(not applicable; sheet mapping only)
RASTER_SHEET	(not applicable; sheet mapping only)
ROBERTS_?	AMT_IP_ROBERTS
SCAL_ADD_?	(FORTRAN-PLUS)
SCAL_DIV_?	(FORTRAN-PLUS)
SCAL_MULT_?_TO_?	(FORTRAN-PLUS)
SEGMENT_?	AMT_IP_SEGMENT
SHEET_CRINK	(not applicable; sheet mapping only)
SHEET_RASTER	(not applicable; sheet mapping only)
SHIFT_COL_NORTH_C	(not applicable)
SHIFT_COL_NORTH_P	(not applicable)
SHIFT_IMAGE_NORTH_C	(FORTRAN-PLUS)
SHIFT_IMAGE_NORTH_P	(FORTRAN-PLUS)
SHIFT_ROW_NORTH_C	(not applicable)
SHIFT_ROW_NORTH_P	(not applicable)
SHIFT_SHEET_NORTH_C	(not applicable)
SHIFT_SHEET_NORTH_P	(not applicable)
SOBEL_?	AMT_IP_SOBEL
SUB_?	(FORTRAN-PLUS)
TWO_UNSIG	(implementable using FORTRAN-PLUS)
UNSIG_TWO	(implementable using FORTRAN-PLUS)
ZERO_X_?	AMT_IP_ZERO_X
-	AMT_IP_DILATE
-	AMT_IP_DILATE_L
-	AMT_IP_DITHER
-	AMT_IP_DUMP_IMAGE
-	AMT_IP_DUMP_IMAGE_LUT
-	AMT_IP_ERODE
-	AMT_IP_ERODE_L
-	AMT_IP_HIST_EQUALIZE
-	AMT_IP_LOAD_HEADER
-	AMT_IP_LOAD_IMAGE
-	AMT_IP_LOAD_LUT
-	AMT_IP_NORMALIZE_POS
-	AMT_IP_ROTATE
-	AMT_IP_SKELETON
-	AMT_IP_ZOOM

Note ends

cambridge



Software Release Note

Product: DAP series - Sun host srn170

Subject Release 4.1S Issue 1 - bugs cleared and outstanding

Summary This note describes the bugs cleared and those still outstanding at release 4.1S Issue 1 of the DAP basic software.

Contents

1	Introduction	1
2	Bugs cleared at issue 1	1
3	Bugs outstanding at issue 1	3

References	[1]	Fortran-Plus enhanced	(man102.01)
	[2]	Low-level Graphics Library (enhanced)	(man117.01)
	[3]	APAL Language	(man005.03)
	[4]	Program Development under UNIX	(man004.03)

1 Introduction

This release note describes all known bugs relating to the DAP basic software. The bugs are listed in two sections, those cleared at release 4.1S Issue 1 and those still outstanding.

2 Bugs cleared at issue 1

AMT Reference Area affected

General Description

9215301	FORTRAN-PLUS	When compiling optimised code for a coprocessor DAP, an incorrect result is returned in the first 32 rows of the result of a 64x32 integer * 2 matrix multiplied by a real * 3 matrix. The result is correct if the optimiser is not used or if compiled for a non-CP8 DAP.
---------	--------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<i>AMT Reference Area affected</i>		<i>General Description</i>
9216300	FORTRAN-PLUS	Forming a matrix by taking MATC of a row of another matrix sometimes gave the wrong result.
9209102	FORTRAN-PLUS	The FORTRAN-PLUS TRACE statement did not work with PARAMETERS .
9209101	FORTRAN-PLUS	The stack space allocated for statically-sized programs was sometimes wrong.
9209100	FORTRAN-PLUS	Masked assignment to a vector did not work in some cases.
9208400	PSAM	Control did not return to PSAM if the step command was used to step over a call to AMT5_STOP .
9203603	FORTRAN-PLUS	The REV function sometimes gave the wrong result when applied to an edge-size x edge-size matrix (long-vector style operation only).
9203602	FORTRAN-PLUS	If the result obtained from applying a long-vector operation to a dynamically-sized object was passed as an argument to another operation, the second operation would fail.
9203601	FORTRAN-PLUS	The compiler sometimes failed to detect non-conformance of matrices (in particular when one was the result of a MATR or MATC operation).
9200900	FORTRAN-PLUS	Cyclic shifting of a vector of length equal to a multiple of the square of the DAP edge-size did not always work.
9135200	FORTRAN-PLUS	A vector to vector assignment of the form: $V(I) = W * 1$ where I is an INTEGER scalar failed when compiled with full optimization on a co-processor DAP. Matrix to matrix assignments were affected in the same way.
9135000	FORTRAN-PLUS	A vector to vector assignment using reduced-rank indexing failed on a DAP600. For example, $V(I) = W$ could update the wrong component of V .

<i>AMT Reference Area affected</i>	<i>General Description</i>
9133800 FORTRAN-PLUS	Masked assignment to a vector of the result of a vector shift function ignored the mask.

3 Bugs outstanding at issue 1

<i>AMT Reference Area affected</i>	<i>General Description</i>
9222600 Documentation	The description of generating profile output from APAL programs, as it appears in [4], is incorrect. The profiling option must not be used when assembling APAL programs.
9202000 CONSTRAINED FORTRAN-PLUS	Implicit shortening of an INTEGER*2 scalar to an INTEGER*1 scalar sometimes erroneously reports overflow. <i>Note: this bug does not exist in the unconstrained compiler.</i>
9132400 Graphics	DAP CIF files which call certain graphics routines and were created under release 4.0S will not link under 4.1S unless they are re-compiled.
9131600 Graphics	When using a VFI board, the 'frequency' argument to AMT_GRA_START_SEQUENCE can only be 1 or 2. otherwise a library error occurs.
9114100 FORTRAN-PLUS	Out-of-range values in PARAMETER statements are not trapped by the compiler. for example: <div style="text-align: center;"> INTEGER * 1 II PARAMETER (II=-200) </div>
9110000 FORTRAN-PLUS	The real constant 32767.0(*3) (when used in an expression) gives a 'loss of precision' warning, when the value can be. and is. represented exactly as #447FFF.
9102100 Documentation	In section 2.2 of Appendix A of [1], the storage of logical data is described incorrectly.

<i>AMT Reference Area affected</i>	<i>General Description</i>
9035200 Documentation	Appendix E of [3] omits the EXIT mnemonic.
9033100 CONSTRAINED FORTRAN-PLUS	A constant argument passed to a subroutine in parentheses is not passed correctly. <i>Note: this bug does not exist in the unconstrained compiler.</i>
9031902 Graphics	If a user already has the graphics monitor in use, other users wishing to use it fail with error code -12 from INIT_GRAPHICS . This should say 'monitor already in use'.
9029700 Graphics	The PACKED_FLAG argument to the AMT_GRA_DEFINE_IMAGE graphics library routine does not work correctly with a DPIO graphics board.
9027501 Documentation	In the description of the routine AMT_GRA_DEFINE_IMAGE the arguments IMG_X and IMG_Y should have unit origin, not zero (page 14 of [2]).
9025501 Documentation	On page 31 of [2], the dimension statement should read: DIMENSION AMT_GRA_RGB_VALS(*,*) and the number 9,000 should be 90,000.
9025500 FORTRAN-PLUS	The compiler erroneously accepts the following invalid code:

```

IF (CHAR .EQ. ' ') THEN
:
ELSE IF (CHAR .EQ. '-') GOTO 20
:
ELSE
:
ENDIF

```

the **GOTO** being invalid (only **THEN** should be allowed in a block **ELSE-IF**).

<i>AMT Reference Area affected</i>		<i>General Description</i>
9021400	Documentation	On page 33 of [2], the calling sequence for the AMT_GRA_SET_LUT is given incorrectly. The first argument should be an integer scalar in the range 1 to 4 and not a scalar array as shown.
9019202	PSAM	The display generated on a DAP600 by the array command is unnecessarily split over several lines when term collection is not in use.
9017200	Documentation	On page 32 of [3], section 4.2.2.2, the description of repeat counts is incorrect.
9007401	FORTRAN-PLUS	The compiler erroneously accepts an invalid parameter statement of the form: PARAMETER(K)
9007400	FORTRAN-PLUS	The number of initialisers in a DATA statement is limited to 164.
9003600	FORTRAN-PLUS	The compiler does not detect overflow of large integer constants in an IF statement.
8925000	APAL	Assembler has two bugs concerned with the STACK directive: (a) It ignores a STACK statement after the end of a code section (b) It always emits a stack request corresponding to the last STACK statement encountered rather than for the largest.
8919102	Documentation	On page 52 of [3], section 6.2.2, the group 0 instruction QS_AS(N) should be QS(N)_AS(N) . Also CPCS(N) should be defined as C plane = carry from: C plane + (inverted)
8909601	Documentation	In section 15.2.1.1 of [1] the description of the SETSTATE function when state has value 2 (the text beginning 'provided the user...') is invalid.

<i>AMT Reference</i>	<i>Area affected</i>	<i>General Description</i>
8906001	FORTTRAN-PLUS	The compiler does not allow constants established in PARAMETER statements to be used as initialisers in <i>type</i> statements (although they can be used in DATA statements).
8902400	FORTTRAN-PLUS	The compiler can get confused by variables which start with keywords.
8834902	FORTTRAN-PLUS	A DO statement specifying an (invalid) 6 digit label causes the compiler to fail with an access violation.
8834800	FORTTRAN-PLUS	Terminating a subroutine with the invalid statement: END/D causes the compiler to go into an infinite loop.
8832201	PSAM	If a user in PSAM exits suntools, the process dapsupport is left running and the associated DAP program is not unloaded from the DAP.
8830501	RTS	A host program linked with Sunview can hang when doing daprec .
8817201	APAL	Under certain circumstances, the assembler prints a row of asterisks instead of a number in the message "... lines assembled" .
8813700	APAL	The assembler gets confused by a line of the form: MEND !! .

End of Software Release Note 170

READ ME FIRST!

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AMT

Software Release Note

Product: DAP series - Sun host srn171

Subject SDS Release 4.1S Issue 1 - general

Summary This note briefly describes the new features in SDS release 4.1S Issue 1 of the AMT DAP basic software and lists the various other notes that form part of the documentation pack that accompanies release 4.1S Issue 1.

How to install the tape holding the SDS release 4.1S Issue 1 software is described in **srn172**.

Contents

1	New features in SDS release 4.1S Issue 1	2
2	Software release notes supporting SDS release 4.1S Issue 1	2
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WARNING !

If you are installing the AMT RTE 4.1S Issue 0 tape as well, then that tape must be read first as it contains features which are superseded by the contents of the SDS tape.

1 New features in SDS release 4.1S Issue 1

The purpose of this release is to correct several major bugs in the AMT DAP basic software. Details of these bug clearances can be found in **srn170**.

2 Software release notes supporting SDS release 4.1S Issue 1

Brief details of the other AMT notes in the SDS release 4.1S Issue 1 documentation pack are:

- **srn076** New system calls at release 3.3
Various system calls were added to the basic software in release 3.3 which are not yet incorporated into a manual. This note describes the calls.
- **srn121** DAP Mouse Driver and Library
Now that a DAP library of mouse software is supplied as part of the AMT basic software this note tells you how to install a mouse and write programs which use it.
- **srn172** Installation of SDS tape for release 4.1S Issue 1
This note tells you how to load the software from the Software Development System tape into your Sun and run the relevant installation test.

- **srn170** Bugs cleared and outstanding in release 4.1S Issue 1
As well as listing bugs from previous releases which have been cleared this note gives details of all known outstanding bugs in 4.1S Issue 1

The current release of the run-time environment (RTE) software is still 4.1S Issue 0. The following release notes are therefore relevant:

- **srn024** DAP control panel
- **srn090** Normal use of your DAP
- **srn119** Building a Sun kernel including a DAP SCSI driver in release 4.0S
- **srn140** Installation of SDS and RTE tape for release 4.1S

3 Sun and DAP architectures supported in SDS release 4.1S Issue 1

Software is supplied with this release for DAP 500, DAP 600, DAP 500C and DAP 600C systems, hosted by Sun3 or Sun4 application architectures running Sun OS 3.4, 3.5, 4.0.3, 4.1, 4.1.1 or 4.1.2.

Note that this is the last release of AMT software to support the Sun OS releases 3.4 and 3.5.

4 New features in subsequent major releases

This section describes new features of AMT software which are currently in development and which will form part of a future major release.

4.1 New Type in Fortran Plus

The UNSIGNED type will be added to Fortran-Plus. Variables can be declared in the usual way, e.g.:

```
UNSIGNED * 4 COUNT, INDICES(*100, *90)
```

would declare a 32-bit unsigned scalar called **COUNT** and a 32-bit unsigned matrix called **INDICES**. The arithmetic operators perform in the appropriate way except that unary minus and **ABS** are not allowed on unsigned objects.

Unsigned variables can be coerced to floating point by the **FLOAT** function and **INTEGER** or **REAL** variables can be made unsigned by the **UINT** function. Note that when converting between integer and unsigned values, the numbers must lie in the common range, otherwise an overflow is signalled. For example, -1 cannot legally be converted to unsigned nor can the number 255, regarded as an eight-bit quantity, be made integer.

4.2 New Intrinsic in Fortran Plus

The following FORTRAN-90 intrinsics will be added to the Fortran-Plus language. Unless otherwise stated, the intrinsics are elemental — that is, they operate independently on each component of their operands which may be scalars, vectors or matrices.

4.2.1 Character Conversion Functions

- **CHAR** This function converts an integer into the corresponding character value.
- **ICHAR** This function converts a character into the corresponding integer value.
- **UCHAR** This function converts a character into the corresponding unsigned value.

4.2.2 Bit Manipulation Functions

- **BTEST** Tests whether a bit is set or not
- **IAND** Logical AND of two values
- **IBCLR** Clears the specified bit
- **IBITS** Extracts the specified range of bits
- **IBSET** Sets the specified bit
- **IEOR** Exclusive OR of two values
- **ISHFT** Logical shift
- **ISHFTC** Circular shift
- **NOT** Logical complement

4.2.3 Intrinsic Subroutines

- **MVBITS** Copies bits from one integer or unsigned to another

4.3 Generic Host Program

Some DAP applications do not need to perform any processing on their host computer. To avoid having to construct a host program to drive the application, a generic host program will be provided, namely *daprun*. You use it as follows:

```
% daprun mydof entry-point-name
```

where *mydof* is the name of the DAP program and *entry-point-name* is the name of the **ENTRY** subroutine.

4.4 Execution Profiler Enhancements

The DAP execution profiler will be enhanced in the following ways:

- The name of the file into which the profiler writes its statistics will be specified by the **DAPOPT** program. This means that successive runs of a program can generate different profiles for subsequent analysis.
- The restriction on the number of subroutines accommodated by the profiler (1000) will be lifted.

In addition, future issues of AMT libraries will be compiled for profiling so that the names of AMT library routines will appear in profile output just like user-written routines.

4.5 File I/O filename length restrictions

The length of filenames used in calls to the **AMT5_OPEN** routine will no longer be restricted to 32 characters.

4.6 DAP programs now interruptible

A facility will be added to the **DAPOIP** program to interrupt DAP programs. The new command forces the program into **PSAM** so that the behaviour can be inspected. The program can then be continued in the usual way.

4.7 UNIX-style man pages

UNIX-style manual pages for various AMT commands will be available.

4.8 Multiple graphics boards supported by GRALIB

The current DAP design allows up to four graphics output boards to be added. Extensions to the Low-Level Graphics Library will mean that a single user program can access any or all of these graphics devices.

4.9 Interrupt Status in Hardware Failure Messages

Messages indicating the failure of the DAP will indicate the reason. For example, "array store parity error".

4.10 Improved Facilities in PSAM

When in PSAM, printing of variables will be possible in a format other than the "natural" one. For example, **INTEGER** variables can be printed as hexadecimal or characters.

4.11 Improved Facilities in Fortran-Plus Preprocessor

The Fortran-Plus Preprocessor will support the following features:

- The **#if** directive will allow any symbol to appear and also more complex expressions.
- The **#else** directive for conditional compilation
- Command-line definition of symbols by the **-D** argument. For example, you could type:

```
% dapf -DPROBSIZE=772
```

to define the symbol **PROBSIZE** with the value 772.

4.12 New DAP Interface Routines

The DAP interface library (accessed by **-ldap**) will be augmented as follows:

- **DAPSTA** — Begins execution of the DAP program and allows the host program to continue
- **DAPWAI** — Awaits completion of the DAP program after a previous call to **DAPSTA**

4.13 New PDT Features

The Parallel Data Transform (**PDT**) software will be enhanced in the following ways:

- The specification of mapping vectors will be independent of the size of the underlying DAP hardware (i.e. DAP 500 or DAP 600)
- The Hardware Data Transforms will be integrated with the pdt software so that no special preprocessor is needed for Fortran-Plus programs using these facilities.

4.14 New APAL Macro Suite

There will be a new suite of APAL macros designed to simplify the task of interfacing APAL routines to Fortran-Plus routines. The macro suite is called *amtmacs* and is included by adding the line:

```
#include <amtmacs.da>
```

to APAL source.

End of Software Release Note 171



Software Release Note

Product: DAP series - Sun host srn172

Subject Installation of SDS tape for release 4.1S Issue 1

Summary This note tells you how to install SDS release 4.1S Issue 1 of the AMT DAP basic software on your system.

Contents

1	Introduction	1
2	Size of software	1
3	Installation of the SDS tape for release 4.1S Issue 1	2
3.1	The software	2
3.2	Decisions	3
4	Running the installation test	5
5	Contents of SDS tape for release 4.1S Issue 1	7

1 Introduction

This note accompanies the Software Development System (SDS) tape supplied by AMT for release 4.1S Issue 1 of the DAP basic software. It describes how to load the tape and how to run the installation test.

2 Size of software

This section aims to give you an idea of the host disk space needed to hold AMT DAP basic software. The table below lists the required disk space for the SDS tape. In addition AMT provides various libraries and application codes. The relevant release notes detail their sizes and if you are installing any of them as well those sizes should be borne in mind when choosing a suitable disk partition to hold the software.

You need to hold a copy of each of the items of DAP software for each different Sun architecture on which you want to use the software.

	Approximate host disk space required (in Mbytes) for software to run on:		
Product	DAP500	DAP600	DAP500 and 600
SDS	7.0	7.5	10.5

3 Installation of the SDS tape for release 4.1S Issue 1

3.1 The software

The SDS tape contains an installation script which controls the actual installation of the software. You can delete the script at the end of the installation. The script first asks you a series of questions to find out what hardware you have and how the installation is to be done. These questions and how you should answer them are covered here.

To read the installation script from the SDS tape you should go to the *master* Sun machine on the network where you want to install the DAP software. The *master* machine is the Sun which 'owns' the file systems `/usr/bin` and `/usr/lib` used by the machine(s) which will run the software.

Login to the master machine as `root`, and, if the machine has a suitable local tape drive, insert your release tape in the tape drive and type the following command at the *master#* prompt:

```
master# tar xvpf /dev/rxxx INSTALLSDS
```

where `/dev/rxxx` is the name of your local tape drive and `xxx` is likely to be `st0`.

If for any reason you are unable to use the master machine's local tape drive then insert the tape in the drive of another machine on the network, and type the following commands at the *master#* prompt, substituting the name of the remote tape drive's machine for *tapesun*:

```
master# rsh tapesun /bin/mt -f /dev/rxxx rew
master# rsh tapesun /bin/dd if=/dev/rxxx | /bin/tar xvpf - INSTALLSDS
```

where `/dev/rxxx` is the name of your local tape drive and `xxx` is likely to be `st0`.

Note that it does not matter which directory you are in when you execute these commands. Having extracted the file, you now invoke the shell script by typing:

```
master# ./INSTALLSDS
```

The software will respond with:

```
INSTALLATION OF AMT DAP SDS SOFTWARE
```

3.2 Decisions

This section goes through the questions that you are asked by the shell script and helps you to answer them. The AMT-suggested directory for the standard software is `/usr/lib/dap` for the Sun architecture you are installing for. If such a directory exists in your master machine's filestore the software will be loaded into it.

If such a directory does not exist, you will be asked to choose a directory to hold the software. There is no requirement for DAP users or the software itself to write to this directory, so it can be in a read-only file system if you want, but obviously it needs to be in a file system that will be mounted by the relevant machine(s).

If the relevant `/usr/lib/dap` does not exist and you choose not to specify it to hold the standard software then `/usr/lib/dap` will be created, as a link to the directory you choose.

```
Enter tape location [local | remote]:
```

If your master machine has a local tape drive and you have already used it to read the installation script, you should answer `local` here. If you had to use the tape drive on another Sun, you should choose `remote`, in which case you will be asked for the name of the remote host:

```
Enter host name of remote drive:
```

Whether you are using a local or a remote tape drive, the shell script then asks you to complete the name of the tape drive:

```
Enter device name (eg st0, mt0) : /dev/r
```

Note that the first part of the name has already been supplied for you. You just have to type the same 3 characters (probably `st0`) that you typed when you loaded the tape at the start of the installation procedure.

```
Please ensure the release tape is mounted and press return when ready
```

When this message appears, confirm that the tape is mounted and ready by pressing

the RETURN key.

```
Do you wish to install SDS software for DAP500, DAP600 or both? [5 | 6 | 56]:
```

Some of the basic software is dependent on the size of DAP you have or want to simulate. This question allows you to specify what you want.

```
Enter Sun Operating System level [3.4 | 3.5 | 4.0.3 | 4.1 | 4.1.1 | 4.1.2]:
```

It is important that you answer this correctly. The contents of `/etc/motd` or the output of `/etc/dmesg` may help if you are not sure.

```
Enter the master machine type [standalone | server]:
```

If you answered `server` to the above question you will then be asked:

```
Do you wish to install SDS software for sun3, sun4 or both? [3 | 4 | 34]:
```

For each Sun architecture which you have selected, and for which `/usr/lib/dap` does not yet exist, you will be asked:

```
Do you wish to install SDS software for sunx in /usr/lib/dap ? [y | n]:
```

If you answer `n` then you will be asked:

```
Please give the full hierarchic name of the directory you wish to use:
```

and you should give the name of the directory you do want to use.

```
Installing SDS software for architecture sunx
```

Depending on whether you are installing on one or two Sun architectures you will see this message once or twice.

You will then see:

```
The installation of the DAP SDS software is complete
```

```
Now perform the SDS installation test
```

Running the installation test is covered in the next section of this document.

4 Running the installation test

The installation test for the SDS software uses the Fortran-Plus and APAL language systems, the CIF library maintenance utility and the run-time options specifier to produce an executable program. The test program is designed to run on the simulator, and the results are checked against pre-computed values supplied with the software. The installation test is therefore designed to be a complete check on the functionality of the development software system.

You should run the installation test from a directory for which you have read and write permissions. This 'test directory' is called *any-suitable-directory* in the discussion that follows; files holding the test result will be written to *any-suitable-directory*.

The test suite will look for the DAP 500 simulator, if it finds that then also the DAP 500C simulator, then the DAP 600 simulator and if it finds that the DAP 600C simulator, and compiles and runs the test for each in turn. If any of them is not found then an appropriate message is output to the screen.

Both the shell script to run the test, and all the necessary source files, are contained in the directory `/usr/lib/dap/installtests/SDS`, and were loaded in when you installed the software.

You should run the test at least once for each Sun architecture for which you have installed software. On a suitable machine, type the following commands:

```
host# cd any-suitable-directory
host# /usr/lib/dap/installtests/SDS/INSTTEST
```

where *any-suitable-directory* is any directory for which you have read and write permissions.

If no software for a particular DAP configuration can be found, a single message will be output:

```
No DAP zzzz software found
```

where *zzzz* is the DAP configuration that cannot be found.

Provided software for at least one DAP configuration is found, the messages that follow will be displayed on the Sun screen as the test proceeds.

```
Running the DAP SDS Installation Test for DAP zzzz time and date

Compiling the DAP source files ...
Linking the DAP program ...
Compiling the host program ...
Running the program using the DAP zzzz simulator .....
```

where *time and date* is the current time and date when the test is run, expressed in the normal form for your UNIX installation.

The test then checks the results against the 'correct' result held in a file

```
Checking the results
```

and if all is well will output the message:

```
Correct results were obtained with the DAP zzzz simulator
```

You know the whole series of tests is complete when the *host#* prompt reappears on your Sun screen. Assuming a '**Correct results were obtained with the DAP zzzz simulator**' message was output for each simulator you installed, then all is well, and you can proceed.

5 Contents of SDS tape for release 4.1S Issue 1

```

r-xr-xr-x 0/0 10216 Jun  2 16:53 1992 INSTALLSDS

rwxr-xr-x 0/0      0 Dec  6 14:58 1991 sun3.3.4/
rwxr-xr-x 0/0      0 Jun 19 11:26 1992 sun3.3.4/dapany/
r--r--r-- 0/0 29404 Jun 19 10:57 1992 sun3.3.4/dapany/interface.o
--x--x--x 0/0 155648 Sep 10 15:35 1991 sun3.3.4/dapany/dapasm
--x--x--x 0/0 737280 Jun 19 10:56 1992 sun3.3.4/dapany/dapfort
--x--x--x 0/0 507904 Sep 10 15:35 1991 sun3.3.4/dapany/dapfortold
--x--x--x 0/0 73728 Sep 10 15:35 1991 sun3.3.4/dapany/dapcon
--x--x--x 0/0 90112 Sep 10 15:35 1991 sun3.3.4/dapany/dapf
--x--x--x 0/0 73728 Sep 10 15:35 1991 sun3.3.4/dapany/dapdfpp
--x--x--x 0/0 49152 Sep 10 15:35 1991 sun3.3.4/dapany/daplib
--x--x--x 0/0 49152 Sep 10 15:35 1991 sun3.3.4/dapany/dapopt
--x--x--x 0/0 32768 Jun 19 10:56 1992 sun3.3.4/dapany/daprof
--x--x--x 0/0 180224 Jun 19 10:56 1992 sun3.3.4/dapany/dapdb
--x--x--x 0/0 49152 Jun 19 10:56 1992 sun3.3.4/dapany/dapload_
--x--x--x 0/0 81920 Jun 19 10:56 1992 sun3.3.4/dapany/dapsimwork
--x--x--x 0/0 212992 Jun 19 10:56 1992 sun3.3.4/dapany/dapsupport_
--x--x--x 0/0 212992 Sep 10 15:35 1991 sun3.3.4/dapany/dapdbold
--x--x--x 0/0 49152 Sep 10 15:35 1991 sun3.3.4/dapany/dapload
--x--x--x 0/0 237568 Sep 10 15:35 1991 sun3.3.4/dapany/dapsupport
--x--x--x 0/0 40960 Sep 10 15:35 1991 sun3.3.4/dapany/daped
rwxrwxrwx 0/0      0 Jun 19 11:26 1992 sun3.3.4/dapany/dapa symbolic link to dapf
rwxrwxrwx 0/0      0 Jun 19 11:26 1992 sun3.3.4/dapany/dapapp symbolic link to dapdfpp
rwxrwxrwx 0/0      0 Jun 19 11:26 1992 sun3.3.4/dapany/dapfold symbolic link to dapf
rwxrwxrwx 0/0      0 Jun 19 11:26 1992 sun3.3.4/dapany/dapm symbolic link to dapf
rwxr-xr-x 0/0      0 Dec  6 14:58 1991 sun3.4.0.3/
rwxr-xr-x 0/0      0 Jun 19 11:27 1992 sun3.4.0.3/dapany/
rwxrwxrwx 0/0      0 Jun 19 11:27 1992 sun3.4.0.3/dapany/dapa symbolic link to dapf
rwxrwxrwx 0/0      0 Jun 19 11:27 1992 sun3.4.0.3/dapany/dapapp symbolic link to dapdfpp
rwxrwxrwx 0/0      0 Jun 19 11:27 1992 sun3.4.0.3/dapany/dapfold symbolic link to dapf
rwxrwxrwx 0/0      0 Jun 19 11:27 1992 sun3.4.0.3/dapany/dapm symbolic link to dapf
r--r--r-- 0/0 29384 Jun 19 10:58 1992 sun3.4.0.3/dapany/interface.o
--x--x--x 0/0 147456 Sep 10 15:30 1991 sun3.4.0.3/dapany/dapasm
--x--x--x 0/0 778240 Jun 19 10:58 1992 sun3.4.0.3/dapany/dapfort
--x--x--x 0/0 524288 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapfortold
--x--x--x 0/0 57344 Sep 10 15:30 1991 sun3.4.0.3/dapany/dapcon
--x--x--x 0/0 73728 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapf
--x--x--x 0/0 65536 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapdfpp
--x--x--x 0/0 32768 Sep 10 15:31 1991 sun3.4.0.3/dapany/daplib
--x--x--x 0/0 24576 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapopt
--x--x--x 0/0 24576 Jun 19 10:58 1992 sun3.4.0.3/dapany/daprof
--x--x--x 0/0 139264 Jun 19 10:58 1992 sun3.4.0.3/dapany/dapdb
--x--x--x 0/0 40960 Jun 19 10:58 1992 sun3.4.0.3/dapany/dapload_
--x--x--x 0/0 65536 Jun 19 10:58 1992 sun3.4.0.3/dapany/dapsimwork
--x--x--x 0/0 163840 Jun 19 10:58 1992 sun3.4.0.3/dapany/dapsupport_
--x--x--x 0/0 180224 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapdbold
--x--x--x 0/0 32768 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapload
--x--x--x 0/0 204800 Sep 10 15:31 1991 sun3.4.0.3/dapany/dapsupport
--x--x--x 0/0 24576 Sep 10 15:31 1991 sun3.4.0.3/dapany/daped
rwxr-xr-x 0/0      0 Dec  6 14:58 1991 sun3.4.1/

```

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rwxr-xr-x 0/0      0 Jun 19 11:27 1992 sun3.4.1/dapany/
rwxrwxrwx 0/0      0 Jun 19 11:27 1992 sun3.4.1/dapany/dapa symbolic link to dapf
r--r--r-- 0/0    28828 Jun 19 10:58 1992 sun3.4.1/dapany/interface.o
--x--x--x 0/0   147456 Sep 10 15:30 1991 sun3.4.1/dapany/dapasm
--x--x--x 0/0  1400832 Jun 19 10:58 1992 sun3.4.1/dapany/dapfort
--x--x--x 0/0   581632 Sep 10 15:30 1991 sun3.4.1/dapany/dapfortold
--x--x--x 0/0   57344 Sep 10 15:30 1991 sun3.4.1/dapany/dapcon
--x--x--x 0/0   73728 Sep 10 15:30 1991 sun3.4.1/dapany/dapf
--x--x--x 0/0   65536 Sep 10 15:30 1991 sun3.4.1/dapany/dapdfpp
--x--x--x 0/0   32768 Sep 10 15:30 1991 sun3.4.1/dapany/daplib
--x--x--x 0/0   24576 Sep 10 15:30 1991 sun3.4.1/dapany/dapopt
--x--x--x 0/0   24576 Jun 19 10:58 1992 sun3.4.1/dapany/dapprof
--x--x--x 0/0  122880 Jun 19 10:58 1992 sun3.4.1/dapany/dapdb
--x--x--x 0/0   40960 Jun 19 10:58 1992 sun3.4.1/dapany/dapload_
--x--x--x 0/0   65536 Jun 19 10:58 1992 sun3.4.1/dapany/dapsimwork
rwxrwxrwx 0/0      0 Jun 19 11:27 1992 sun3.4.1/dapany/dapapp symbolic link to dapdfpp
--x--x--x 0/0  155648 Jun 19 10:58 1992 sun3.4.1/dapany/dapsupport_
--x--x--x 0/0  163840 Sep 10 15:30 1991 sun3.4.1/dapany/dapdbold
--x--x--x 0/0   32768 Sep 10 15:30 1991 sun3.4.1/dapany/dapload
--x--x--x 0/0  188416 Sep 10 15:31 1991 sun3.4.1/dapany/dapsupport
--x--x--x 0/0   24576 Sep 10 15:30 1991 sun3.4.1/dapany/daped
rwxrwxrwx 0/0      0 Jun 19 11:27 1992 sun3.4.1/dapany/dapfold symbolic link to dapf
rwxrwxrwx 0/0      0 Jun 19 11:27 1992 sun3.4.1/dapany/dapm symbolic link to dapf
rwxr-xr-x 0/0      0 Dec  6 14:58 1991 sun3.4.1.1/
rwxr-xr-x 0/0      0 Jun 19 11:27 1992 sun3.4.1.1/dapany/
r--r--r-- 0/0    28828 Jun 19 10:58 1992 sun3.4.1.1/dapany/interface.o
rwxrwxrwx 0/0      0 Jun 19 11:27 1992 sun3.4.1.1/dapany/dapa symbolic link to dapf
--x--x--x 0/0   147456 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapasm
rwxrwxrwx 0/0      0 Jun 19 11:27 1992 sun3.4.1.1/dapany/dapapp symbolic link to dapdfpp
--x--x--x 0/0  1400832 Jun 19 10:58 1992 sun3.4.1.1/dapany/dapfort
--x--x--x 0/0   581632 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapfortold
--x--x--x 0/0   57344 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapcon
--x--x--x 0/0   73728 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapf
--x--x--x 0/0   65536 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapdfpp
--x--x--x 0/0   32768 Sep 10 15:29 1991 sun3.4.1.1/dapany/daplib
--x--x--x 0/0   24576 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapopt
--x--x--x 0/0   24576 Jun 19 10:58 1992 sun3.4.1.1/dapany/dapprof
--x--x--x 0/0  122880 Jun 19 10:58 1992 sun3.4.1.1/dapany/dapdb
--x--x--x 0/0   40960 Jun 19 10:58 1992 sun3.4.1.1/dapany/dapload_
--x--x--x 0/0   65536 Jun 19 10:58 1992 sun3.4.1.1/dapany/dapsimwork
--x--x--x 0/0  155648 Jun 19 10:58 1992 sun3.4.1.1/dapany/dapsupport_
--x--x--x 0/0  163840 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapdbold
--x--x--x 0/0   32768 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapload
--x--x--x 0/0  188416 Sep 10 15:29 1991 sun3.4.1.1/dapany/dapsupport
rwxrwxrwx 0/0      0 Jun 19 11:27 1992 sun3.4.1.1/dapany/dapfold symbolic link to dapf
rwxrwxrwx 0/0      0 Jun 19 11:27 1992 sun3.4.1.1/dapany/dapm symbolic link to dapf
--x--x--x 0/0   24576 Sep 10 15:29 1991 sun3.4.1.1/dapany/daped
rwxr-xr-x 0/0      0 Dec  6 14:58 1991 sun4.4.0.3/
rwxr-xr-x 0/0      0 Jun 19 11:27 1992 sun4.4.0.3/dapany/
rwxrwxrwx 0/0      0 Jun 19 11:27 1992 sun4.4.0.3/dapany/dapa symbolic link to dapf
r--r--r-- 0/0    38582 Jun 19 10:58 1992 sun4.4.0.3/dapany/interface.o
--x--x--x 0/0  180224 Sep 10 15:28 1991 sun4.4.0.3/dapany/dapasm
--x--x--x 0/0  983040 Jun 19 10:58 1992 sun4.4.0.3/dapany/dapfort
--x--x--x 0/0  696320 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapfortold

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```

rwxrwxrwx 0/0      0 Jun 19 11:27 1992 sun4.4.0.3/dapany/dapapp symbolic link to dapdfpp
--x--x--x 0/0    65536 Sep 10 15:28 1991 sun4.4.0.3/dapany/dapcon
--x--x--x 0/0    81920 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapf
--x--x--x 0/0    90112 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapdfpp
--x--x--x 0/0    32768 Sep 10 15:29 1991 sun4.4.0.3/dapany/daplib
--x--x--x 0/0    32768 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapopt
--x--x--x 0/0    24576 Jun 19 10:58 1992 sun4.4.0.3/dapany/dapprof
--x--x--x 0/0   155648 Jun 19 10:58 1992 sun4.4.0.3/dapany/dapdb
--x--x--x 0/0    40960 Jun 19 10:58 1992 sun4.4.0.3/dapany/dapload_
--x--x--x 0/0    81920 Jun 19 10:58 1992 sun4.4.0.3/dapany/dapsimwork
--x--x--x 0/0   188416 Jun 19 10:58 1992 sun4.4.0.3/dapany/dapsupport_
--x--x--x 0/0   204800 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapdbold
--x--x--x 0/0    40960 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapload
--x--x--x 0/0   229376 Sep 10 15:29 1991 sun4.4.0.3/dapany/dapsupport
--x--x--x 0/0    32768 Sep 10 15:29 1991 sun4.4.0.3/dapany/daped
rwxrwxrwx 0/0      0 Jun 19 11:27 1992 sun4.4.0.3/dapany/dapfold symbolic link to dapf
rwxrwxrwx 0/0      0 Jun 19 11:27 1992 sun4.4.0.3/dapany/dapm symbolic link to dapf
rwxr-xr-x 0/0      0 Dec  6 14:58 1991 sun4.4.1/
rwxr-xr-x 0/0      0 Jun 19 11:27 1992 sun4.4.1/dapany/
rwxrwxrwx 0/0      0 Jun 19 11:27 1992 sun4.4.1/dapany/dapa symbolic link to dapf
rwxrwxrwx 0/0      0 Jun 19 11:27 1992 sun4.4.1/dapany/dapapp symbolic link to dapdfpp
rwxrwxrwx 0/0      0 Jun 19 11:27 1992 sun4.4.1/dapany/dapfold symbolic link to dapf
rwxrwxrwx 0/0      0 Jun 19 11:27 1992 sun4.4.1/dapany/dapm symbolic link to dapf
r--r--r-- 0/0    38566 Jun 19 10:58 1992 sun4.4.1/dapany/interface.o
--x--x--x 0/0   180224 Sep 10 15:28 1991 sun4.4.1/dapany/dapasm
--x--x--x 0/0  01622016 Jun 19 10:58 1992 sun4.4.1/dapany/dapfort
--x--x--x 0/0    761856 Sep 10 15:28 1991 sun4.4.1/dapany/dapfortold
--x--x--x 0/0    65536 Sep 10 15:28 1991 sun4.4.1/dapany/dapcon
--x--x--x 0/0    81920 Sep 10 15:28 1991 sun4.4.1/dapany/dapf
--x--x--x 0/0    90112 Sep 10 15:28 1991 sun4.4.1/dapany/dapdfpp
--x--x--x 0/0    40960 Sep 10 15:28 1991 sun4.4.1/dapany/daplib
--x--x--x 0/0    32768 Sep 10 15:29 1991 sun4.4.1/dapany/dapopt
--x--x--x 0/0    24576 Jun 19 10:58 1992 sun4.4.1/dapany/dapprof
--x--x--x 0/0   155648 Jun 19 10:58 1992 sun4.4.1/dapany/dapdb
--x--x--x 0/0    40960 Jun 19 10:58 1992 sun4.4.1/dapany/dapload_
--x--x--x 0/0    81920 Jun 19 10:59 1992 sun4.4.1/dapany/dapsimwork
--x--x--x 0/0   188416 Jun 19 10:59 1992 sun4.4.1/dapany/dapsupport_
--x--x--x 0/0   204800 Sep 10 15:29 1991 sun4.4.1/dapany/dapdbold
--x--x--x 0/0    40960 Sep 10 15:29 1991 sun4.4.1/dapany/dapload
--x--x--x 0/0   229376 Sep 10 15:29 1991 sun4.4.1/dapany/dapsupport
--x--x--x 0/0    32768 Sep 10 15:29 1991 sun4.4.1/dapany/daped
rwxr-xr-x 0/0      0 Dec  6 14:58 1991 sun4.4.1.1/
rwxr-xr-x 0/0      0 Jun 19 11:27 1992 sun4.4.1.1/dapany/
rwxrwxrwx 0/0      0 Jun 19 11:27 1992 sun4.4.1.1/dapany/dapa symbolic link to dapf
r--r--r-- 0/0    38566 Jun 19 10:58 1992 sun4.4.1.1/dapany/interface.o
rwxrwxrwx 0/0      0 Jun 19 11:27 1992 sun4.4.1.1/dapany/dapapp symbolic link to dapdfpp
--x--x--x 0/0   180224 Sep 10 15:28 1991 sun4.4.1.1/dapany/dapasm
--x--x--x 0/0  01622016 Jun 19 10:58 1992 sun4.4.1.1/dapany/dapfort
--x--x--x 0/0    761856 Sep 10 15:28 1991 sun4.4.1.1/dapany/dapfortold
--x--x--x 0/0    65536 Sep 10 15:28 1991 sun4.4.1.1/dapany/dapcon
--x--x--x 0/0    81920 Sep 10 15:28 1991 sun4.4.1.1/dapany/dapf
--x--x--x 0/0    90112 Sep 10 15:28 1991 sun4.4.1.1/dapany/dapdfpp
--x--x--x 0/0    40960 Sep 10 15:28 1991 sun4.4.1.1/dapany/daplib
--x--x--x 0/0    32768 Sep 10 15:28 1991 sun4.4.1.1/dapany/dapopt

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--x--x--x 0/0 24576 Jun 19 10:58 1992 sun4.4.1.1/dapany/dapprof
--x--x--x 0/0 155648 Jun 19 10:59 1992 sun4.4.1.1/dapany/dapdb
--x--x--x 0/0 40960 Jun 19 10:59 1992 sun4.4.1.1/dapany/dapload_
--x--x--x 0/0 81920 Jun 19 10:59 1992 sun4.4.1.1/dapany/dapsimwork
--x--x--x 0/0 188416 Jun 19 10:59 1992 sun4.4.1.1/dapany/dapsupport_
--x--x--x 0/0 204800 Sep 10 15:28 1991 sun4.4.1.1/dapany/dapdbold
--x--x--x 0/0 40960 Sep 10 15:28 1991 sun4.4.1.1/dapany/dapload
--x--x--x 0/0 229376 Sep 10 15:28 1991 sun4.4.1.1/dapany/dapsupport
--x--x--x 0/0 32768 Sep 10 15:28 1991 sun4.4.1.1/dapany/daped
rwxrwxrwx 0/0 0 Jun 19 11:27 1992 sun4.4.1.1/dapany/dapfold symbolic link to dapf
rwxrwxrwx 0/0 0 Jun 19 11:27 1992 sun4.4.1.1/dapany/dapm symbolic link to dapf
rwxr-xr-x 0/0 0 Dec 6 14:58 1991 sunany/
rwxr-xr-x 0/0 0 Jun 15 14:27 1992 sunany/dapany/
rwxr-xr-x 0/0 0 Sep 9 15:09 1991 sunany/dapany/installtests/
rwxr-xr-x 0/0 0 Sep 10 14:04 1991 sunany/dapany/installtests/SDS/
r--r--r-- 0/0 5248 Sep 10 14:04 1991 sunany/dapany/installtests/SDS/SAVdiag5
r--r--r-- 0/0 20992 Sep 10 14:04 1991 sunany/dapany/installtests/SDS/SAVdiag6
r--r--r-- 0/0 337 Sep 10 14:04 1991 sunany/dapany/installtests/SDS/daphost.c
r--r--r-- 0/0 1315 Sep 10 14:04 1991 sunany/dapany/installtests/SDS/iapal.da
r--r--r-- 0/0 425 Sep 10 14:04 1991 sunany/dapany/installtests/SDS/ifort.df
r-xr-xr-x 0/0 3109 Sep 10 14:04 1991 sunany/dapany/installtests/SDS/INSTTEST
rwxr-xr-x 0/0 0 Sep 9 18:02 1991 sunany/dapany/rtshelp/
r--r--r-- 0/0 2783 Sep 9 18:01 1991 sunany/dapany/rtshelp/alias.1
r--r--r-- 0/0 7438 Sep 9 18:01 1991 sunany/dapany/rtshelp/array.1
r--r--r-- 0/0 1930 Sep 9 18:01 1991 sunany/dapany/rtshelp/attributes.1
r--r--r-- 0/0 2643 Sep 9 18:01 1991 sunany/dapany/rtshelp/backtrack.1
r--r--r-- 0/0 6196 Sep 9 18:01 1991 sunany/dapany/rtshelp/breakpoint.1
r--r--r-- 0/0 4078 Sep 9 18:01 1991 sunany/dapany/rtshelp/code.1
r--r--r-- 0/0 890 Sep 9 18:01 1991 sunany/dapany/rtshelp/continue.1
r--r--r-- 0/0 988 Sep 9 18:01 1991 sunany/dapany/rtshelp/core.1
r--r--r-- 0/0 496 Sep 9 18:01 1991 sunany/dapany/rtshelp/date.1
r--r--r-- 0/0 1795 Sep 9 18:02 1991 sunany/dapany/rtshelp/display.1
r--r--r-- 0/0 1048 Sep 9 18:02 1991 sunany/dapany/rtshelp/dump.1
r--r--r-- 0/0 607 Sep 9 18:02 1991 sunany/dapany/rtshelp/echo.1
r--r--r-- 0/0 2162 Sep 9 18:02 1991 sunany/dapany/rtshelp/errors.1
r--r--r-- 0/0 2034 Sep 9 18:02 1991 sunany/dapany/rtshelp/file.1
r--r--r-- 0/0 4419 Sep 9 18:02 1991 sunany/dapany/rtshelp/help.1
r--r--r-- 0/0 631 Sep 9 18:02 1991 sunany/dapany/rtshelp/history.1
r--r--r-- 0/0 5766 Sep 9 18:02 1991 sunany/dapany/rtshelp/interpreter.1
r--r--r-- 0/0 3834 Sep 9 18:02 1991 sunany/dapany/rtshelp/list.1
r--r--r-- 0/0 1941 Sep 9 18:02 1991 sunany/dapany/rtshelp/macro.1
r--r--r-- 0/0 992 Sep 9 18:02 1991 sunany/dapany/rtshelp/mask.1
r--r--r-- 0/0 4147 Sep 9 18:02 1991 sunany/dapany/rtshelp/message.1
r--r--r-- 0/0 6275 Sep 9 18:02 1991 sunany/dapany/rtshelp/print.1
r--r--r-- 0/0 1699 Sep 9 18:02 1991 sunany/dapany/rtshelp/procedure.1
r--r--r-- 0/0 564 Sep 9 18:02 1991 sunany/dapany/rtshelp/quit.1
r--r--r-- 0/0 3105 Sep 9 18:02 1991 sunany/dapany/rtshelp/register.1
r--r--r-- 0/0 779 Sep 9 18:02 1991 sunany/dapany/rtshelp/select.1
r--r--r-- 0/0 6843 Sep 9 18:02 1991 sunany/dapany/rtshelp/set.1
r--r--r-- 0/0 2380 Sep 9 18:02 1991 sunany/dapany/rtshelp/step.1
r--r--r-- 0/0 1188 Sep 9 18:02 1991 sunany/dapany/rtshelp/top.1
r--r--r-- 0/0 2187 Sep 9 18:02 1991 sunany/dapany/rtshelp/map.1
r--r--r-- 0/0 1436 Sep 9 18:02 1991 sunany/dapany/rtshelp/time.1
r--r--r-- 0/0 512 Sep 9 18:01 1991 sunany/dapany/patterns.df

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r--r--r-- 0/0 1142 Sep 9 18:01 1991 sunany/dapany/usrmacs.da
r--r--r-- 0/0 45662 Sep 9 18:01 1991 sunany/dapany/amtmacs.da
r--r--r-- 0/0 1698 Sep 9 18:01 1991 sunany/dapany/Dap.d
r--r--r-- 0/0 12582 Sep 9 18:03 1991 sunany/dapany/dap_msg_lib
r--r--r-- 0/0 4015 Sep 9 18:03 1991 sunany/dapany/dap_templates
r--r--r-- 0/0 3160 Sep 9 18:03 1991 sunany/dapany/gra_msg_lib
r--r--r-- 0/0 1135 Sep 9 18:03 1991 sunany/dapany/gra_templates
r--r--r-- 0/0 152495 Jun 15 14:27 1992 sunany/dapany/stdlib.dml
rwxr-xr-x 0/0 0 Jun 15 18:16 1992 sunany/dap500/
r--r--r-- 0/02190486 Jun 15 17:55 1992 sunany/dap500/stdlib5.dl
r--r--r-- 0/0 298769 Jun 15 18:08 1992 sunany/dap500/stdlibm5.dl
r--r--r-- 0/0 370230 Jun 15 18:15 1992 sunany/dap500/gralib5.dl
r--r--r-- 0/0 60836 Jun 15 18:16 1992 sunany/dap500/gralibm5.dl
r--r--r-- 0/0 272299 Sep 10 13:37 1991 sunany/dap500/gralibold5.dl
rwxr-xr-x 0/0 0 Jun 15 18:12 1992 sunany/dap600/
r--r--r-- 0/02210990 Jun 15 16:08 1992 sunany/dap600/stdlib6.dl
r--r--r-- 0/0 294649 Jun 15 16:22 1992 sunany/dap600/stdlibm6.dl
r--r--r-- 0/0 483307 Jun 15 18:11 1992 sunany/dap600/gralib6.dl
r--r--r-- 0/0 60160 Jun 15 18:12 1992 sunany/dap600/gralibm6.dl
r--r--r-- 0/0 386372 Sep 10 13:35 1991 sunany/dap600/gralibold6.dl

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End of Software Release Note 172