

Release Notice:
OpenPC™ for AViiON™ Systems

Revision 1.0

Model Number A001A

June 1990

085-600222-00

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1. Introduction

This release notice describes the OpenPC software product and provides you with information about Revision 1.0 of OpenPC which is not available in the published documentation.

This product consists of the following parts.

Part Description	Part Number
OpenPC for AViiON Systems release notice	085-600222-00
OpenPC for AViiON Systems release media	Listed in section 7.1 of this release notice.

This printed release notice always accompanies the software. You can print additional copies of this notice after you have installed the product. A lineprinter ready copy is available in the file `/usr/opt/OpenPC/openpc_1.0.rn`.

2. Product Description

Data General's OpenPC for AViiON Systems is a software product which provides a virtual PC environment that allows users to run MS-DOS® applications on Data General AViiON computer systems. OpenPC fully emulates an IBM PC/AT® and runs under the X Window System™. OpenPC allows MS-DOS and UNIX® applications to run simultaneously and cooperatively on the same computer.

3. Environment

3.1 Hardware

OpenPC will run on an AViiON system with a cartridge tape drive, a minimum of 8Mb of memory (12Mb or more is highly recommended). The AViiON floppy diskette drive is also recommended for loading MS-DOS applications.

Floppy diskette drives are not supported under OpenPC on the 25Mhz AV 6200 and AV 5200 series machines. In addition, only 3.5" diskette drives are supported on the 20Mhz AV 5000 and AV 6000 series machines.

An X-terminal or AViiON console is required for full graphics support.

3.2 Software

Data General supports this revision of OpenPC with DG/UX™ Rev 4.20 or higher, including the X11 Rev 3 windowing system, which is included with the DG/UX operating system.

4. Enhancements and Changes

There are no enhancements and changes. This is the first release of OpenPC for AViiON Systems.

5. Notes and Warnings

This section offers helpful hints for setting up and using OpenPC. Please read through this section before installing the product and use it as a reference if any problems occur during installation or anytime you use OpenPC.

5.1 Notes

1. A PC mouse driver is NOT supplied with OpenPC. MS-DOS applications will frequently provide their own mouse driver to be used with that particular application.
2. When the OpenPC wide fonts are active, the OpenPC window will resize to the "normal" font size if you are running a graphics application. OpenPC will resize to the wide font window when running a text-based

application.

3. Data General's MS-DOS 4.01 is provided on the OpenPC tape. This version of DOS can use DOSSHELL, a menu environment which uses a DOS shell. This functionality will run under OpenPC but is not in the default autoexec.bat file. For more information on the DOS shell program, refer to your Data General MS-DOS 4.01 user's manuals which ship with the OpenPC product.
4. A Restricted Rights Legend window appears each time you start OpenPC. This window will automatically disappear after 15 seconds. You can choose "OK" to remove the window immediately, or use the mouse to "move" it to another place on the screen.

5.2 Warnings

1. OpenPC is a CPU-intensive program. Therefore, if more than one session of OpenPC is running at the same time, there will be a noticeable performance degradation. We recommend that you only run one OpenPC session at a time. OpenPC is set to run at a lower priority than other user processes on DG/UX so that each process (including OpenPC) will get CPU time.
2. OpenPC does not retain the state of the Caps Lock key if you move the mouse cursor to another window outside of OpenPC. If you move the mouse cursor to another xterm window and change the state of Caps Lock, be sure to toggle it back to its original state before returning to the OpenPC window. This procedure will prevent the Caps Lock status from being "out of sync" with the LED on the Caps Lock key.
3. Do not run OpenPC when logged on as root. Root has access to administrative disk space, which may cause OpenPC to think it has more disk space available than there actually is, and some DOS applications may fail when manipulating data files.
4. When retrieving and saving files to a locally redirected drive in InstaPlan 2.0, you may get an error message saying that there is not enough space on the disk to save or retrieve the file. The error message can be ignored. You will be able to successfully save and retrieve the file.
5. If you get an "Unexpected Software Interrupt 06" error from OpenPC, reboot OpenPC using ctrl-alt-del, and submit an STR to Data General. The STR should contain details about exactly what you were doing when the error occurred. See section 9 of this release notice for more information about submitting STRs.
6. OpenPC provides two virtual hard disks, C: and D:, which start out at 3Mb and can grow until they reach 20Mb in size. If you get an error while writing to C: or D:, check the write permissions on the dosc.dat and dosd.dat files. Also, if a "dir" on the C: or D: drive indicates there are free bytes, but you are getting write errors on the drive, check the space of the DG/UX filesystem where dosc.dat and dosd.dat reside. The filesystem may be out of space.
7. The following applications must be run on a virtual disk (C: or D:) or a locally mounted redirected drive, not on a redirected drive accessed via NFS™ (remotely mounted drive). These applications can also run on a diskless workstation provided that they are stored on the C: or D: pseudovolumes:
 - Lotus 123™ Revision 2.2
 - MS-Excel™ Revision 2.1
 - PageMaker™ Revision 3.0

The following applications must be run only on a virtual disk (C: or D:), not on a local or remote redirected drive.

- Autocad™ Revision 2.52
- Harvard Graphics™ Revision 2.10
- Harvard Project Manager Revision 3.0™

- Professional Write™ Revision 2.1
 - Symantec GrandView™ Revision 1.0
8. CEO Connection™ does not run reliably under OpenPC.
 9. PC Labs bench21 benchmark test fails intermittently when running in a batch file under OpenPC.
 10. The atperf PC benchmark requires real-time response. Atperf results will vary and will be unreliable based upon system loading of your AViiON.
 11. When running Pagemaker 3.0 under OpenPC, type "mode co80" before invoking PageMaker. This command will make OpenPC run in color graphics (CGA) video mode, which is required for running PageMaker.
 12. When running OfficeWriter™ 6.0 under OpenPC, note that the OfficeWriter "Go" key is actually the "+" key on the AViiON number pad, not the Enter key.
 13. Do not run Javelin Plus™ version 2.01 with expanded memory installed.
 14. Symantec Time Line® Revision 3.0 and Borland Quattro® Pro will not install correctly via the floppy diskettes.

Additional Warnings for Floppy Diskette Users

1. If you are a floppy diskette user, make sure you have read section 3.1 of this release notice. Section 3.1 lists hardware restrictions which will affect some floppy diskette users.
2. For best results, always start OpenPC with a DOS floppy diskette in your floppy disk drive.
3. If you are running on an AViiON workstation or AVX-30 terminal and you start OpenPC without a floppy diskette in the drive, you will see a message similar to

```
(3) Unable to open /dev/rpdk/3 as DOS drive A
Choose Option
```

You may choose the "Exit" option and restart OpenPC with a floppy diskette in the drive, or choose "Continue" to start OpenPC. Either option should allow you to access the floppy diskette at any time during your OpenPC session. To avoid seeing this error message each time you start OpenPC, simply start with a DOS floppy diskette in the drive.

If you are running on a serial terminal and you start OpenPC without a floppy diskette in the drive, you will see a message similar to

```
(3) Unable to open /dev/rpdk/3 as DOS drive A
Type "y" to continue, anything else to abort
```

If you see this error message, you must press any key to abort OpenPC and re-start OpenPC with a DOS floppy diskette in the drive.

4. If you are using the floppy diskette drive and are running more than one OpenPC session at the same time, the second OpenPC session will get a message similar to:

```
(57) Floppy file /dev/rpdk/3 is not acquired -
another user has it
```

indicating that the first OpenPC session has opened and locked the floppy device, and the second OpenPC session cannot open the same device. Only one OpenPC session can have read/write access to the floppy drive at any given time to prevent write conflicts by more than one user.

Choose "Continue" to allow the second user to start OpenPC without immediate access to the floppy drive. To give the second user read/write access to the floppy drive, the first OpenPC user must choose "Release Diskette" from the "Customize" pull-down menu (or "opencmd releasediskette a:" on a serial terminal). The second user must then select "Assign Diskette" from the "Customize" menu.

Note that if the first OpenPC user releases the diskette but then does a DOS operation such as "dir a:", OpenPC will automatically re-open the diskette device if another user has not already assigned the diskette to himself. The automatic re-open is not available to the second OpenPC user and is only available to the first user until another user assigns and releases the diskette device.

5. Do NOT issue a DOS command other than "format" to an unformatted floppy diskette. If you have a console window active and you issue, for example, a "dir a:" on an unformatted diskette, you will get a message similar to this in your console window:

```
From System:
Disk device at SCSI ID 6, unit 0 encountered a hard error at
block 18 with status = 0x%h
```

DOS will display a "Not Ready" error reading or writing to the diskette.

6. If you have a floppy drive configuration of two floppy drives in a single PHU (peripheral housing unit), you CANNOT format a 1.2Mb diskette in the 5.25" diskette drive. You can read, write, and copy 1.2Mb diskettes that have been formatted in another system. In order to format 1.2Mb diskettes under OpenPC, the drive must be in a single PHU, i.e., it must not have the same SCSI id # as another diskette drive.

Additional Warnings for Serial Communications Users

1. Modem communications are NOT supported in this revision of OpenPC.
2. For best results when using serial terminals with OpenPC, make sure you are running DG/UX Revision 4.22 or higher.
3. The Data General D462+™, D412+™, and D216+™ serial terminals have a pc emulation mode called dg_pcterm for use with OpenPC. The terminal type dg_pcterm is actually equivalent to VT™100 emulation mode except that dg_pcterm mode will allow you to take advantage of PC emulation while running OpenPC. While running DG/UX from these terminals, you can still run in dg_pcterm mode correctly.
4. When running OpenPC from a Data General D462+, D412+, and D216+ serial terminal, characters may be dropped randomly especially if you type ahead and fill the character buffer very quickly. Type slowly if you notice characters being dropped.
5. When running OpenPC from a Data General D462+, D412+, or D216+ serial terminal, do not use the terminal menus to change your terminal to dg_pcterm emulation mode. Your system administrator should set up a TERM variable for dg_pcterm. Use "TERM=dg_pcterm" to activate dg_pcterm mode.
6. Some Microsoft applications will exhibit visual problems when running on a serial terminal. The screen may not always clear correctly and stray characters will be left behind. This problem occurs mostly during the SETUP procedure for Microsoft applications, and should NOT affect the functionality of the applications. These terminal problems have appeared particularly with Microsoft Word and Microsoft Excel.
7. When running OpenPC from a Data General D462+, D412+, or D216+ serial terminal, if you abort or exit OpenPC abnormally, your terminal will be left in an indeterminate state. To correct this problem, simply power off the terminal and power it back on.
8. If you are using the AViiON serial port for serial terminal communications within OpenPC, there cannot be a getty or a uugetty running on that port. If you want to use the port for DG/UX work, use the SYSADM tty management option to turn the login state to "off".

- If you are running an application that requires the "+" key on the numeric keypad, instead use the "," key on the keypad of a DG serial terminal with a CEO-style keyboard.

6. Documentation

The following manuals are provided with OpenPC:

Part Number	Name
069-100267-00	Using OpenPC for AViiON Systems
069-100315-00	Microsoft MS-DOS User's Reference
069-100316-00	Microsoft MS-DOS Shell Manager User's Guide

6.1 Changes

- Pages 4-8 and 4-11 of the user manual refer to the Sound Off/On feature of OpenPC. Full sound capabilities are not supported under OpenPC. The Sound Off/On function only affects beeps. If your Xdefaults file is configured for sound, i.e., it includes a line such as "xset b on b 75", and OpenPC is configured for Sound On via the Customize menu, then you will hear a beep when bringing up OpenPC. OpenPC defaults to Sound On. Musical programs will not play music under OpenPC.
- On page 4-20, LINE_PRINTER_1 is defined as /dev/lp. The "/dev/lp" should be replaced with "cat > /dev/lp".
- The default autoexec.bat and config.sys files differ slightly from those shown in the OpenPC user's manual.
- On page 3-12, "device=pemm.exe" should be replaced with "device=pemm.sys".

7. Software

This section describes the OpenPC release media organization and files.

7.1 Media

The media distribution format for OpenPC is a QIC cartridge tape (150mb).

Model Number	Part Number	Description
A001ABN1CA	079-600048-00	QIC cartridge tape (150mb)
A001AEN1CA	079-600048-00	QIC cartridge tape (150mb)
A001AFN1CA	079-600048-00	QIC cartridge tape (150mb)

7.2 Organization

Magnetic Tape Organization

Vol	File	Name	Type
1	0	Empty	empty image
1	1	XDRTOC	tape table of contents
1	2	Empty	empty image
1	3	OpenPC__uopt.img	tar image

7.3 Files

This is a list of the files on the OpenPC release tape.

```

/usr/opt/OpenPC/
/usr/opt/OpenPC/defaults/
/usr/opt/OpenPC/defaults/cmos.dat
/usr/opt/OpenPC/defaults/dosc.dat
/usr/opt/OpenPC/defaults/dosd.dat
/usr/opt/OpenPC/defaults/rom.dat
/usr/opt/OpenPC/disks/
/usr/opt/OpenPC/disks/dosa.dat
/usr/opt/OpenPC/disks/dosb.dat
/usr/opt/OpenPC/fonts/
/usr/opt/OpenPC/fonts/pc_font.bdf
/usr/opt/OpenPC/fonts/pc_font.snf
/usr/opt/OpenPC/fonts/pc_font40.bdf
/usr/opt/OpenPC/fonts/pc_font40.snf
/usr/opt/OpenPC/fonts/pc_fontb.bdf
/usr/opt/OpenPC/fonts/pc_fontb.snf
/usr/opt/OpenPC/fonts/pc_fontu.bdf
/usr/opt/OpenPC/fonts/pc_fontu.snf
/usr/opt/OpenPC/fonts/pc_fontub.bdf
/usr/opt/OpenPC/fonts/pc_fontub.snf
/usr/opt/OpenPC/fonts/pc_wfont.bdf
/usr/opt/OpenPC/fonts/pc_wfont.snf
/usr/opt/OpenPC/fonts/pc_wfont40.bdf
/usr/opt/OpenPC/fonts/pc_wfont40.snf
/usr/opt/OpenPC/fonts/pc_wfontb.bdf
/usr/opt/OpenPC/fonts/pc_wfontb.snf
/usr/opt/OpenPC/fonts/pc_wfontu.bdf
/usr/opt/OpenPC/fonts/pc_wfontu.snf
/usr/opt/OpenPC/fonts/pc_wfontub.bdf
/usr/opt/OpenPC/fonts/pc_wfontub.snf
/usr/opt/OpenPC/openpc
/usr/opt/OpenPC/openpc.1
/usr/opt/OpenPC/openpc.dat
/usr/opt/OpenPC/options/OpenPC.name
/usr/opt/OpenPC/release/
/usr/opt/OpenPC/release/OpenPC_1.0.fl
/usr/opt/OpenPC/release/OpenPC_1.0.rm
/usr/opt/OpenPC/sbin/

```



```

/usr/opt/OpenPC/sbin/setup.d/
/usr/opt/OpenPC/sbin/setup.d/usr/
/usr/opt/OpenPC/sbin/setup.d/usr/OpenPC__1.openpc.do
/usr/opt/OpenPC/term/
/usr/opt/OpenPC/term/aviion.key
/usr/opt/OpenPC/term/avx30.key
/usr/opt/OpenPC/term/dg_pcterm
/usr/opt/OpenPC/term/dg_pcterm.ti
/usr/opt/OpenPC/term/lk201.key
/usr/opt/OpenPC/term/lk301.key
/usr/opt/OpenPC/term/mips.key
/usr/opt/OpenPC/term/ncd.key
/usr/opt/OpenPC/term/sun.key
/usr/opt/OpenPC/term/wyse60

```

8. Installation Instructions

Installation of this package will require 25,000 blocks of free space.

Before you begin the OpenPC installation process, we suggest you first create a logical disk that will be used for OpenPC and a logical disk that will be used for your MS-DOS applications. If your physical disks are already completely partitioned, you must skip this step, but you must have at least 25,000 free blocks available in /usr to load OpenPC.

To create a separate logical disk unit for OpenPC, follow the steps in "Installing and Managing DG/UX", Chapters 6 and 7.

OpenPC expects to be loaded in /usr/opt/OpenPC. The filesystem /usr/opt/dosbin should contain your MS-DOS applications.

OpenPC requires that you be at init 3 for installation. If you are on a standalone workstation, you can still go to init 3 although you will not have access to the network at init 3.

At init 3, login as root and type the following:

```

# sysadm loadpackage
Release Area? [PRIMARY]<NL>
Tape Drive [0]? 0
Is the tape mounted and ready? y

```

The **loadpackage** program will prompt you with the name of each package on the tape and ask if it should be loaded. Take the default answer ("yes") for the packages you would like loaded, otherwise type "n".

You will then be prompted for some additional information before loading will begin:

```

List file names while loading [yes]? <NL>
Mount Volume 1.
Is the tape mounted and ready? y

```

The package will be installed in the /usr/opt/OpenPC directory. To setup the package, type the following:

```

# sysadm setuppackage

```

The setup script will link the file `/usr/opt/OpenPC/openpc` to `/usr/bin/openpc` in order to make `openpc(1)` accessible to all users on your system. It will also install the `openpc(1)` man page.

If you get a message

```
Could not find X11 font directory - OpenPC fonts not installed
```

during `setuppackage`, check to make sure your X11 directories are mounted and accessible. If you plan to run OpenPC on a serial terminal, you can safely ignore this warning since the serial terminal does not utilize X11.

You MUST configure your DG/UX kernel with a shared memory segment of 2 MB before running OpenPC for the first time. Otherwise, you will get an error message when starting up OpenPC for the first time that says "(70) Error getting shared memory. See OpenPC release notes." Follow the instructions below:

- a. At init 1, run `sysadm newdgux` and add the tunable parameter `"SHMMAX 2097152"` to the section of the kernel configuration file called "Tunable Configuration Parameters". This step will allow your kernel to have a shared memory segment of `2**21` or 2Mb.
- b. Build and boot the new kernel before running OpenPC.

The system administrator should copy the `cmos.dat`, `openpc.dat`, `dosc.dat`, and `dosd.dat` files from `/usr/opt/OpenPC/defaults` to each user's home directory. Use `chmod` to make sure each of these files have the permissions set to `-rw-r--r-- (644)`. Also change the owner and group for these files to the appropriate names. Update your `openpc.dat` file to include the correct pathnames for these files.

Set your OPENPC environment variable and start X11. Refer to your OpenPC user's manual (Chapters 3 and 4) for more information on these two steps.

After following the above steps, you should be able to start and run OpenPC successfully. Refer to your "Installing and Managing the DG/UX System" manual for more information on configuring the kernel for shared memory.

Additional Installation Instructions for Floppy Diskette Users

OpenPC supports both the 5.25" and the 3.5" floppy diskette drives for loading MS-DOS applications. Refer to page 3-6 of the OpenPC user's manual for more information on configuring your `openpc.dat` file for floppy diskettes. Before using your AViiON floppy diskette with OpenPC, you should have the system administrator do the following:

1. Assign a System ID # for the AViiON floppy diskette drive.
2. Set the access permissions for the floppy device. Become superuser and change to the `/dev/rpdsk` directory. Type `chmod 666` to give read/write privileges to all users. Exit superuser mode before invoking OpenPC. These access privileges will be effective until the system is shutdown.
3. Edit `openpc.dat` to un-comment the CMOS.DAT configuration line. Make sure you have the correct pathname to where the `cmos.dat` file resides (probably the user's home directory).
4. Invoke OpenPC and type "SETUP" from the DOS prompt. SETUP will allow you to activate any floppy diskette drives that are installed. Simply check the configuration lists that SETUP provides, and follow the instructions to change where necessary. SETUP will ask you to select the capacity for each diskette drive. Use 1.2Mb for 5.25" disk drives, and 1.44Mb for 3.5" diskettes. Choose the defaults selections for all other options in SETUP. SETUP will then reboot your system automatically.
5. After SETUP has rebooted your OpenPC session, you must "cold reboot" OpenPC. Select "Session" from the OpenPC menu bar, then choose the "Reboot" and "Cold Reboot" options, or exit out of OpenPC and re-start

your session.

9. Preparing a Software Trouble Report (STR)

If you believe you have found an error in the OpenPC software or its documentation, or if you have a suggestion for enhancing or improving the product, use a Data General Software Trouble Report (STR) to communicate this to Data General.

The standard STR form is available online. It is called `/usr/release/STR_form` and is line printer ready. STR forms are also available from the nearest DG office or DG representative, or the Software Support Center. If your contract permits, you may report the information called for in this section to your Data General representative. To help us process STRs quickly, **please include only one problem or suggestion on each STR form**. Please follow these guidelines when filling out your Software Trouble Report:

1. List the name of the product as "OpenPC". List the release number as 1.0. Also list the model number(s) that appears on your distribution tape.
2. Decide what kind of STR you are writing:
 - Enhancement: describe the proposed enhancement clearly and tell why you want it. The better we understand your desire, the easier it is for us to evaluate your request.
 - Documentation Error: list the title and part number of the document and list the page and paragraph (or section) containing the error. Please state exactly why you think there is an error.
 - Software Problem: clearly and specifically state the problem so that support personnel can try to reproduce it. See the section *Software Problems* below for more details.
3. On the STR form provide all of the following information:
 - Date
 - Name and revision of the product
 - Revision of the microcode
 - Revision of the operating system
 - Names and revisions of other software this product uses
 - The CPU type and amount of memory
 - Terminal and printer types, if relevant
 - The command line, complete instruction, or program name that caused the problem
 - How often the problem occurs and how serious it is
 - The action(s) necessary to reproduce the problem
4. If the problem occurred soon after installing a new revision of the operating system, after installing OpenPC, or after installing new hardware, note this.
5. If you received an error message, please write down the exact text (and number, if present) of the message. Also, note when you received the message.

9.1 Software Problems

Report any particular activity or program running on the system that seems to cause the problem. If the program is supplied by DG, report in detail the exact steps used to reproduce the problem. If the program is supplied by another vendor or written by an installation, include a copy of the program and its source code if possible. **Again, report in**

detail the exact steps used to reproduce the problem.

You can shorten the time it takes to solve the problem by isolating the problem to the best of your ability. To do this, you might try to identify whether the problem is hardware dependent by trying it on different machines (if available).

For problems with terminals, printers, or modems send the device characteristics and the hardware settings.

If we cannot reproduce a problem because you did not send necessary software (program module, breakfile, macro, or other crucial file), it will delay answering the STR. Sometimes, we have to close the STR with the answer "not reproducible" or "insufficient information". To avoid this, please:

Include the smallest possible application that demonstrates the problem. This can be a shortened version of the original application. Make sure you send any necessary shell scripts or configuration files needed to reproduce the problem.

Include a text file on the media describing the application sent, calling hierarchy (if one exists), and what you've done to track down the problem. You can send hard copy, but a text file is preferable.

Clearly label the media, giving format, contents, density, buffersize, and date. Verify that the media is readable.

--- End of Release Notice ---