

AOS/VS DG/GATE
Software Release Notice

DG/GATE Rev 2.35

Model Number 30605

February 1986

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This Release Notice provides specific product information which is not supplied in the software documentation.

The sections are:

1. Product Description
2. Prerequisites
3. Enhancements
4. Fixes
5. Tips and Techniques
6. Product Organization
 - A. Software
 - B. Documentation
7. Installation Instructions
8. Hardware configuration

Please read all sections carefully. Thank you.

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1. Product Description

DG/GATE is a utility that allows your computer system to connect to a remote computer system over an asynchronous communications line and function as an asynchronous terminal.

DG/GATE runs under the AOS/WS, AOS, AOS/VS, DG/RDOS, and ECLIPSE RDOS operating systems. DG/GATE allows the user to:

Connect to a remote DG system and function as an asynchronous DG terminal.

Connect to a remote Lexis/Nexis system and function as an asynchronous Lexis/Nexis terminal as terminal type ".DATGEN".

Connect to a remote system and act as a simple teletype, with or without local echoing.

Connect to a remote system as an ANSI terminal with or without local echoing.

Maintain a local phonebook describing the access links to various remote systems, including phone numbers.

Transfer files between local system and any remote DG system that has the asynchronous file transfer slave.

Transfer files, containing ASCII text only, between local system and many remote systems including non-DG systems.

Log communications.

Use the HAYES SMARTMODEM, which incorporates an auto call unit in the same box as the modem.

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yes SMARTMODEM is a trademark of Hayes Microcomputer Products, Inc

2. Prerequisites

DG/GATE configurations for MV/Family computers require a computer utilizing the AOS/VS operating system. The minimum amount of computer memory is the minimum required for the AOS operating system. DG/GATE requires 32kw of program space, a console, any permissible type of disk storage, and at least one communications line. DG/GATE runs under Revision 4.04 or later of AOS/VS.

The two systems may be connected directly or by telephone lines.

3. Enhancements

- 1 Added a local-echo option. If this option is exercised during a session, DG/GATE will echo all characters locally. This allows DG/GATE to communicate with non-DG remote systems that expect user terminals to do their own echoing (e.g., IBM TSO systems, certain Honeywell systems, Lexis/Nexis systems).
- 2 Extended (8-bit) pass-through option also added. This is of interest to international customers. By default DG/GATE only passes through the lower 7 bits of each character from the keyboard or the mux line - the high bit is masked off.
- 3 DG/GATE now sets baud rate, and parity for IAC devices. This means that the user no longer has to worry if the line was sysgen'd properly with these characteristics if you have an IAC. If you have an IOP you must still sysgen these characteristics for the line.
- 4 A terminal type question has replaced the translation question in the phonebook maintenance. DG/GATE will now perform translation based on the terminal type requested. The terminal types which are currently defined are:

- 1 = DG standard
- 2 = ANSI
- 3 = TTY
- 4 = Lexis/Nexis

DG standard mode means that no translation occurs. Characters are passed thru unchanged.

If an ANSI terminal type is selected, then DG/GATE will send out a sequence of characters to place the terminal in ANSI mode.

In TTY mode DG/GATE acts as a dumb terminal. This is like the old DG/GATE Rev.1 translation mode, with added local echoing flexibility.

In Lexis/Nexis mode, DG/GATE will emulate a Lexis/Nexis terminal and translate characters accordingly.

- 5 Phonebook format changed to reflect new options. A phonebook conversion utility "REVPHONE.PR" is provided to convert a rev. 1 phonebook to a rev. 2.35 phonebook.

To use enter "XEQ REVPHONE" at which time REVPHONE will ask you the filename of your rev. 1 phonebook and the filename of your rev. 2.35 phonebook. Note that the rev. 1 phonebook must exist in the current directory and the filename specified as the rev. 2.35 phonebook must not exist in the current directory.

- 6 This release contains a file GATE.CLI that should be used to execute GATE. It will allow GATE additional concurrent system calls to aid performance on AOS/VS systems. The contents are :

```
PROC/DEF/BL/IOC/CALLS=4/NAME=GATE GATE.PR%/DX
```

- 7 New help facility has been added. Entering "?" on any question in DG/GATE will result in a help message being displayed for that question.

- 8 DG/GATE now turns on Flow Control while in emulation.

- 9 Performance improvements have been made in the area of queue management and mux reading algorithms.

- 10 A local delimiter and remote trigger have been added to the "no protocol" file transfer. DG/GATE will transmit records up to the local delimiter and then wait until the remote trigger is sent back before sending another record. User specifies the local delimiter and remote trigger.

- 11 DG/GATE will accept the ESCAPE key to return to the main DG/GATE menu from the current menu. Using the ESCAPE key during protocol file transfer will kill the remote slave process and return to the session.

- 12 A rotary selection feature allows the user to sequentially access phonebook entries until a successful connection is established or until all of the entries in the phonebook and the retry count are exhausted.

- 13 The file transfer blocksize was reduced to 128 bytes to give more reliable performance on loaded systems.

- 14 The following switches have been added to the XEQ GATE command. They refer to the new features described below:

/P=filename

If this switch is included, the phonebook file will be "filename" instead of "GATEPHONEB", which is the default.

/S

If this switch is used, then DG/GATE will come up and try to access each line in the phonebook until a successful connection is established. This switch is used in situations where there are fewer outbound ports on a machine than there are people who want to use them. It is typically used in conjunction with the /I switch. The number of times DG/GATE cycles through the phonebook is given by the value of the "/T=" switch.

/T=n

If this switch is used, then /S must have been specified. Here, "n" is the number of times that DG/GATE will attempt the rotary line selection process.

/I=num-min

If this switch is used, then DG/GATE will terminate a session if more than "num_min" minutes elapse during which time the user has not used his keyboard. This switch must be used in conjunction with the "/S" switch.

/N

This switch, which is valid only when used in conjunction with the "/S" switch, will exit from DG/GATE with no menu display when a session is terminated.

4. Fixes

The file transfer slave, AFTSLAVE, was not re-synching properly on noisy lines. This has been fixed.

If the user chose to exit DG/GATE without terminating the session, DG/GATE would not terminate the session properly. This has been fixed.

5. Tips and Techniques

The most up-to-date information concerning the use of DG/GATE may be found in the on-line HELP and Information Menu.

 D. Product Organization

1. Software

40S/VS DG/GATE on high density 1600 BPI mag tape and cartridge

Model Number 30605/H/C

Part Number	Description
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071-000370-01	Contents of the tape and cartridge:
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File D:	OGGATE235.RN (Rev. 2.35 Release Notice)
	GATEHELP.NX
	GATEHELP.TX
	GATE.PR
	GATE.ST
	AFTSLAVE.PR
	AFTSLAVE.ST
	REVPHONE.PR
	REVPHONE.ST
	GATE.CLI
	SET_GATE_PREFIX.CLI

40S/VS DG/GATE on 24 MB Cartridge Tape

Model # 30605/B

Part Number	Description
-----	-----

061-000125-00	Same files as above
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40S/VS DG/GATE on 96TPI Mini Diskette

Model # 30605/G

Part Number	Description
-----	-----

081-000287-01	Same files as above
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E. Documentation

Part Number	Description
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093-000353-00	Generating, Running, and Using DG/GATE
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085-000457-03	40S/VS DG/GATE Software Release Notice
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7. Installing the product

The following procedure should be used to install the DG/GATE product:

1. Load the product from the supplied magnetic tape in the :UTIL directory using the LOAD/V/R command.
2. The communication line(s) on your MV/Family computer should be genned according to your hardware and desired use of DG/GATE. Refer to page 11 for examples of VSGEN dialogs appropriate to setting up your system to use DG/GATE.
3. The communications hardware on your MV/Family computer should be configured according to your desired use of DG/GATE. The following applicable subsections should be referenced for examples of cabling appropriate to setting up your system to use DG/GATE:

Modem connection	-->	Page 13
Direct connect RS232-C	-->	Page 15
Direct connect RS422-A	-->	Page 16
Direct connect current loop	-->	Page 17

4. Configure the remote system as outlined on Page 15.

Local system configuration

Note that the local DG/GATE line must be configured with eight data bits and no parity, independent of the parity requirements of the remote system. This is due to the fact that DG/GATE generates parity by means of software routines while in emulation mode.

On a non IAC system it is important to realize that the local DG/GATE line should be genned with a line speed or baud rate that matches that of the line on the remote system. Every time you wish to communicate with a remote system that has a different line speed, you will have to re-gen the line. On an IAC sysgen DG/GATE will set the baud rate according to the phone book.

Note also that the local DG/GATE line should be genned without modem control, even if the line will be connected to a modem. This is due to the lack of support for auto-dial modems in the current revision of PMGR. Thus, only the DG/GATE product needs to be told that the line is connected to a modem.

Here is a sample VSGEN dialog that specifies a 1200 Baud DG/GATE line as IAC-8 line number 0:

```

ENTER A COMMAND: A
NAME OF DEVICE TO ADD: IAC
DEVICE CODE [65]: 65
IAC BASE LINE NUMBER [0]: 0
IAC DEVICE TYPE [??]: 8
IAC SPLIT BAUD RATE [NONE]: NONE
LINES [??]: 0
CONSOLE TYPE [CRT3]: CRT3
INPUT BUFFER LENGTH [96]: 255
OUTPUT BUFFER LENGTH [128]: 255
CHARACTERISTIC WORD 0 [STANDARD]: STANDARD
CHARACTERISTIC WORD 1 [STANDARD]: STANDARD
CHARACTERISTIC WORD 2
    LINES PER PAGE [STANDARD]: STANDARD
    CHARS PER LINE [STANDARD]: STANDARD
CHARACTERISTIC WORD 3 [STANDARD]: STANDARD
INITIALIZATION WORD [STANDARD]: ?CLN8 ?CS10 ?CPR0 ?CSBDS ?CR12H

```

Note that the line initialization word specifies 8 data bits, 1 stop bit, no parity, and 1200 Baud. Once again, note that this line may be used to communicate with remote systems that are configured for some type of parity generation even though the local DG/GATE line has been configured with no parity. This is due to the fact that if the DG/GATE phone book entry specifies parity generation, DG/GATE will generate the appropriate parity bit internally by using software routines.

Here is a sample VSGEN dialog that specifies a 1200 Baud DG/GATE line as ATI line number 0. In this example, it is assumed that ATI clock 2 is set at 1200 Baud.

```

ENTER A COMMAND: A
NAME OF DEVICE TO ADD: ATI
LINES [??]: 0
CONSOLE TYPE [CRT3]: CRT3
INPUT BUFFER LENGTH [96]: 255
OUTPUT BUFFER LENGTH [128]: 255
CHARACTERISTIC WORD 0 [STANDARD]: STANDARD
CHARACTERISTIC WORD 1 [STANDARD]: STANDARD
CHARACTERISTIC WORD 2
    LINES PER PAGE [STANDARD]: STANDARD
    CHARS PER LINE [STANDARD]: STANDARD
CHARACTERISTIC WORD 3 [STANDARD]: STANDARD
INITIALIZATION WORD [STANDARD]: ?PAR0 ?COD3 ?STPD ?CLK2

```

Note that the line initialization word specifies 8 data bits, 1 stop bit, no parity, and clock 2 which is assumed to be a line speed of 1200 baud. Your own clock speeds may be different. Once again, note that this line may be used to communicate with remote systems that are configured for some type of parity generation even though the local DG/GATE line has been configured with no parity. This is due to the fact that if the DG/GATE phone book entry specifies parity generation, DG/GATE will generate the appropriate parity bit internally by using software routines.

Of course, after you have re-generated, you will need to bring your local system down and then up again in order for the changes you have specified to take effect.

The following procedure should be used to bring up an AOS/VS
DG/GATE system from the 96TPI mini diskette:

Load the appropriate files from the supplied diskette
in the desired directory using the following commands:

```
CP ON  
LOAD/V BLPO:VOL1:DG_GATE  
CP OFF
```

3. Hardware configuration

Basically, there are four different ways in which your local DG/GATE system may be connected to the remote system. These methods are:

- 1) Indirectly, through modems.
- 2) Directly, through an RS232-C system-to-system link.
- 3) Directly, through an RS422-A system-to-system link.
- 4) Directly, through a current loop system-to-system link.

Each of these ways has its own advantages and disadvantages. Your choice of connection method will be determined by the communications hardware present on the remote system that you are trying to communicate with.

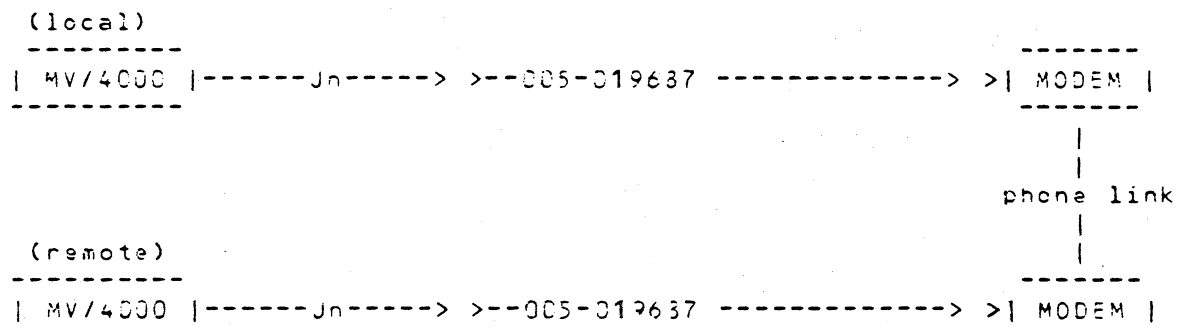
Note that the modem-type connection is the only connection method described here that may be used for communications with both DG and non-DG remote systems. It is beyond the scope of this guide to explain how to directly connect your local DG/GATE system to an arbitrary non-DG remote host system. For the purposes of this guide, it will be assumed that you will connect to remote non-DG systems only via modems. The direct connection methodology presented in this guide is appropriate only for direct connection to remote DG systems.

Hardware configuration - modem connection

Attach a modem cable, part number 005-019637. Attach the female end of the modem cable to the appropriate connector on the multiplexor. Next attach the male end of the modem cable to the modem being used.

Here is an example of a modem connection. In this example, the symbols "-->" and "<--" represent male type connectors, while the symbols "--<" and ">--" represent female type connectors.

Two MV/Family systems connected via modems.



For your convenience, the switch settings for the HAYES SMARTMODEM that are appropriate for the local DG/GATE system are listed below. There are many other possible switch settings that will work just fine in many situations; treat these as suggestions:

HAYES SMARTMODEM switch settings

Switch	Setting	Explanation
1	DOWN	DTR assumed true
2	DOWN	1 digit result code returned to computer
3	DOWN	Result codes returned to computer
4	DOWN	Do not echo characters in command state
5	UP	Auto-answer of incoming call
6	DOWN	Carrier detect always up
7	UP	Single telephone-jack installation
8	DOWN	Enables SMARTMODEM 1200 command recognition

Hardware configuration - RS232-C system-to-system connection

Attach one end of an RS232-C system-to-system cable, part number 005-021381, to the appropriate connector on the multiplexor, and the other end to the male terminal connector on the remote system's bulkhead.

Here is an example of a RS232-C system-to-system connection. In this example, the symbols "-->" and "<--" represent male type connectors, while the symbols "--<" and ">--" represent female type connectors.

Two MV/Family systems connected via an RS232-C system-to-system connection.

```
      (local)                                     (remote)
-----
| MV/4000 |-----Jn-----> >--005-021381 --< <-----Jn-----| MV/4000 |
-----
```

Hardware configuration - RS422-A system-to-system connection

Attach one end of an RS422-A system-to-system cable, part number 005-021381, to the appropriate connector on the multiplexor, and the other end to the male terminal connector on the remote system's bulkhead.

Here is an example of a RS422-A system-to-system connection. In this example, the symbols "-->" and "<--" represent male type connectors, while the symbols "--<" and ">--" represent female type connectors.

Two MV/Family systems connected via an RS422-A system-to-system connection.

```

(local)                                     (remote)
-----                                     -----
| MV/4000 |-----Jn-----> >--005-021381 ---< <-----Jn-----| MV/4000 |
-----                                     -----

```

hardware configuration - current loop system-to-system connection

Attach a current loop adapter unit, part number 005-21359. Attach the J1, EMULATOR end of this cable to the appropriate connector on the multiplexor.

Then, attach a current loop interface device cable, part number 005-013260. That is, attach the J2 end of this current loop adapter unit to the male end of the current loop interface device cable. Lastly, attach the female end of the current loop interface device cable to the male end of the terminal connectors located on the remote system's bulkhead.

Here is an example of a current loop system-to-system connection. In this example, the symbols "-->" and "<--" represent male type connectors, while the symbols "--<" and ">--" represent female type connectors.

Two MV/Family systems connected via a current loop system-to-system connection.

(local)	(remote)
-----	-----
MV/4000 --Jn-->	<--Jn-- MV/4000
-----	-----

Remote system configuration

Your local system, when properly configured, should appear as a terminal when used in conjunction with the DG/GATE product. Therefore, the remote system should be configured as if your local DG/GATE system were a terminal. In particular, if the remote system is an AOS/V3, AOS, or AOS/WS system, the remote communications line should be under the control of EXEC and should be enabled for logging on.

Line attributes such as line speed (baud rate), number of data bits and stop bits, as well as interface type (RS232-C, RS422-A, current loop or modem) should agree.

It is recommended that remote DG systems be configured for 8 data bits and no parity, so that file transfer may work. For the same reason, it is also recommended that the remote system be configured with "flow control" OFF whenever file transfer is to be employed.

Since file transfer is not an issue when DG/GATE is being used to communicate with remote non-DG systems, it is not necessary to restrict the remote non-DG system to no-parity configurations.

If the remote system needs to be reconfigured in order for you to use DG/GATE to communicate with it, please consult the remote system's systems manager.

-End of Release Notice-