Service Bulletin

COPIER

Issued by Canon Europa N.V.

Model : GP160 series, GP405 series, GP605 series, CP600IR, CLC1100 series

No.: GEN-620 (FF-T01-F-000010-01)

DATE: 09.04.99

Location : INTRODUCING A NEW TOOL

Subject : WRITING TO DIMM, USING ROM WRITER AND PC

Reason : This bulletin communicates an outline of how to write data to a DIMM using a ROM writer and a PC and how to go about the work.

Details : The contents of this bulletin applies to models equipped with flash ROMs/DIMMs; e.g., GP160 Series, GP405 Series, GP605 Series, CP600IR, CLC1100 Series.

1. Outline

< Upgrading a Copier's DIMM>

You can upgrade a copier's DIMM by any of the following ways:

a. Downloading data provided by Canon Inc. to the copier from a PC (does not apply to GP160 Series).

b. Transferring data provided by Canon Inc. to a ROM writer from a PC; writing the data to a DIMM using the ROM writer; and then replacing the existing DIMM with the DIMM.

This bulletin explains method b.

Note that specific data contents will be communicated separately when they have been finalized.

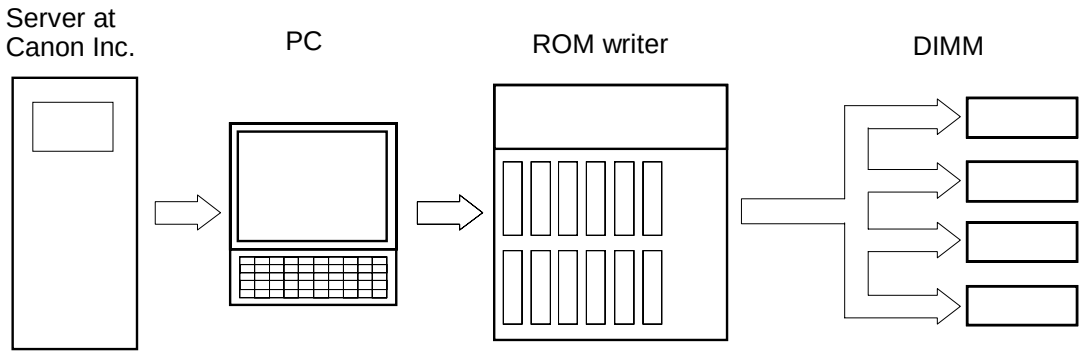


Figure 1

2. Points to Note

a. Exercise care, as this method differs from the way writing is done from a master ROM to a DIMM.

b. Whenever you must hold the DIMM, be sure to avoid touching the terminals (gold-plated). Otherwise, the resulting poor contact or static electricity can damage the DIMM.

3. Writing to a DIMM Using a ROM Writer

3-1. Outline

You can use a ROM writer (MODEL 1930 from Minato) to write ROM data to a 1-MB, 2-MB, or 4-MB DIMM.

A DIMM is equipped with two flash ROM chips. Since they will require separate writing, you will be repeating the same work.

a. Registering the Flash ROM to the ROM Writer

The ROM writer can deal with different types of ROMs. When the power is turned on, it is for the previous writing operation, requiring you to reset it so that it will be able to recognize the type of the flash ROM mounted on the DIMM you will be writing to.

b. Transferring ROM Data from a PC to the ROM Writer

ROM data is transferred from a PC to the ROM writer using a parallel port (printer port). To do so, you must select the appropriate format of the data file.

The ROM data files are binary files consisting only of the data written to the ROM. Select "NO FORMAT" as the format setting.

The ROM writer is equipped with both parallel and serial interfaces. Select the appropriate interface, and start transfer.

Data may be transferred from a PC either by opening the DOS window and using the Copy command (binary mode) or by using the GP/PDL downloader that comes with the printer board. Here, we will discuss the use of the GP/PDL downloader, which can be operated more easily and provides a higher data speed than the DOS Copy command.

When you double-click the file (GPDL105.exe or PDLd1115.exe), which has been distributed previously, installation will start automatically and the appropriate icon will be stored as part of the Startup programs.

c. Writing to the DIMM Flash ROM

The ROM data file is in the form of 16-bit data for DIMMs. The DIMM data bus operates on a 16-bit basis, and addresses are in units of bytes.

A 16-bit data item is given an even-numbered address (most significant) or an odd-numbered address (least significant bytes).

The DIMM is equipped with two flash ROMs whose data bus operates on an 8-bit basis: one of the flash ROMs is given even-numbered addresses, while the other flash ROM is given odd-numbered addresses.

Here, you will make settings to enable writing by dividing the ROM data units stored in the ROM writer into ones in even-numbered bytes and ones in odd-numbered bytes.

You will be writing to the flash ROMs in units of chips, requiring you to perform deleting and writing operations twice to complete the two flash ROMs on the DIMM.

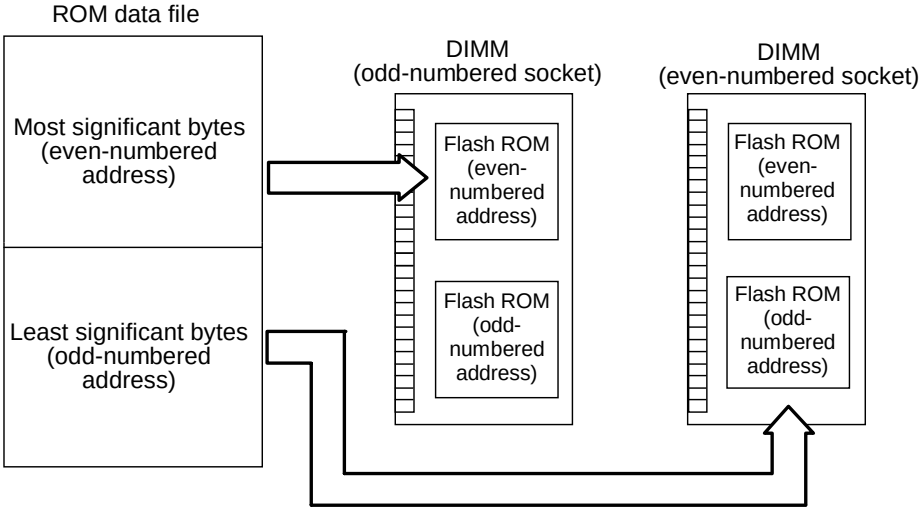


Figure 2

3-2. Getting Ready

a. PC

Be sure to store the data to write to the DIMM.

Since you will be using the GP/PDL downloader when transferring ROM data from the PC to the ROM writer, be sure to install the downloader to the PC in advance.

b. Bi-Centronics Cable

Obtain a cable with the indication "IEE1284-compliant." Choose the shortest cable you can work with without a problem.

3-3. Starting Up the PC

1) Connect the PC and the ROM writer with the Centronics cable.
2) Start the PC.
3) Start the GP/PDL downloader using Windows' Startup Menu program.

3-4. Registering the Flash ROM to the ROM Writer

a. Turning On the ROM Writer

1) Turn on the power switch found on the back of the ROM writer.
2) Wait until self diagnosis ends.

b. Mounting the DIMM Adapter

Mount the DIMM adapter to the socket in the ROM writer.

Match the DIMM adapter against the front of the socket.

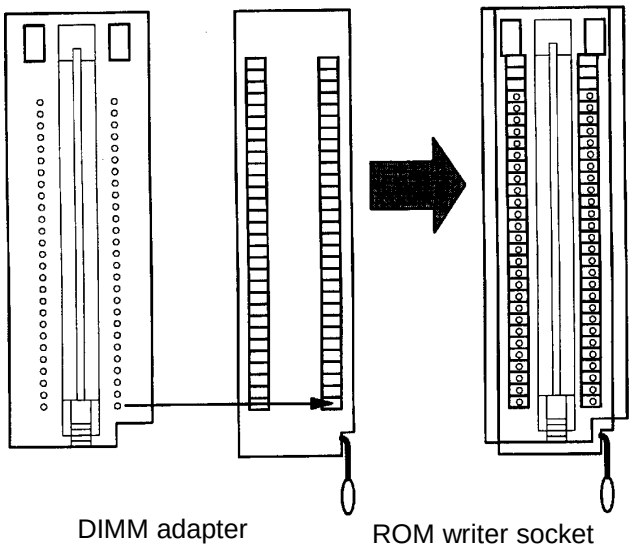


Figure 3

c. Setting the DIM Adapter Switch

Be sure to set the switch of the DIMM adapter as shown in the following figure.

Caution:

Keep in mind that the switch settings differ between the DIMM adapter to be mounted to the even-numbered socket and the DIMM adapter to be mounted to the odd-numbered socket.

If you have made a mistake, although an error will not occur during writing operation, the copier will not work normally after you have installed the completed DIMM to it.aution:

■ 1-MB and 4-MB DIMM Switch Settings (does not apply to GP160 Series).

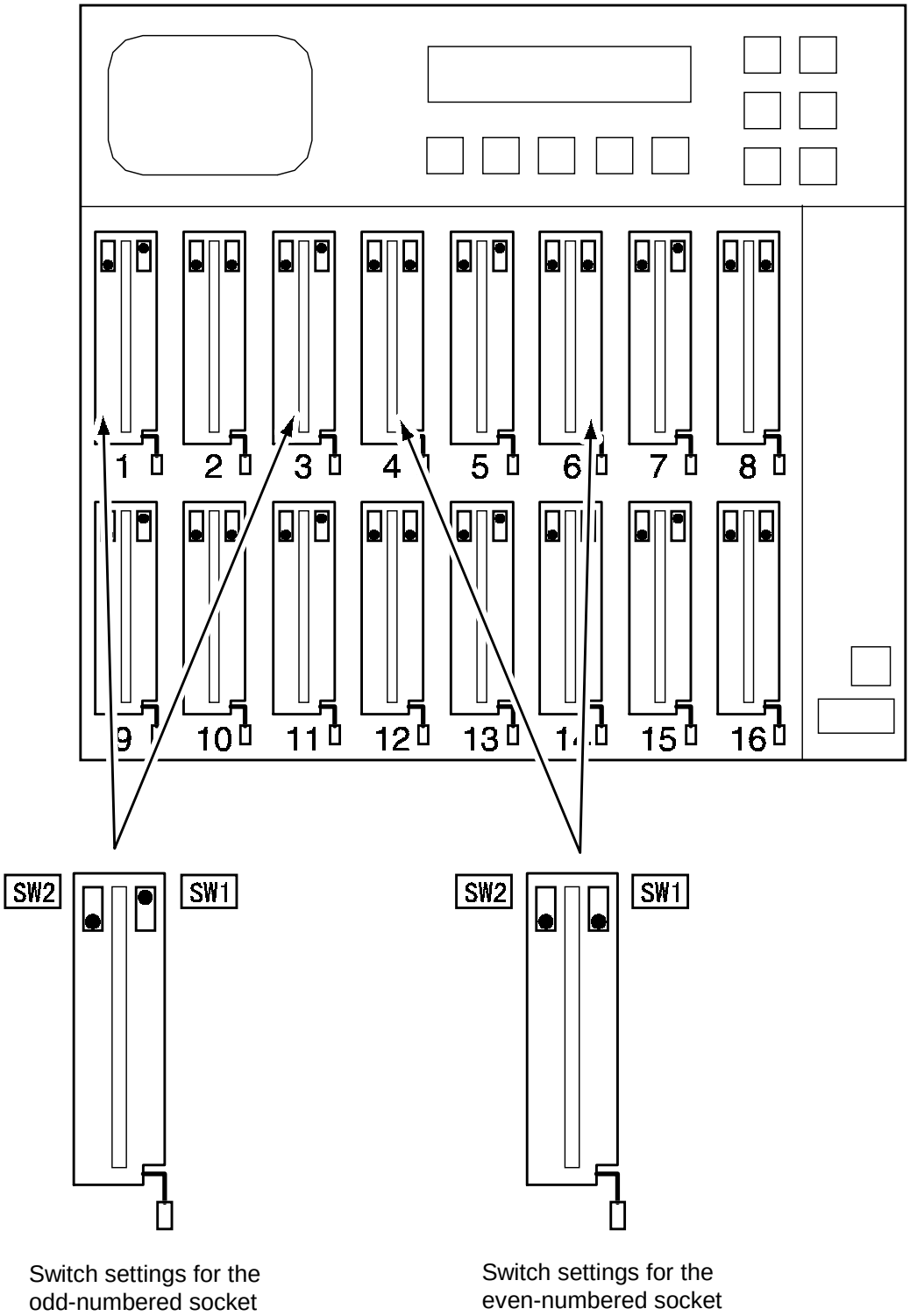


Figure 4

■ 2-MB DIMM Switch Settings (only applicable to GP160 Series).

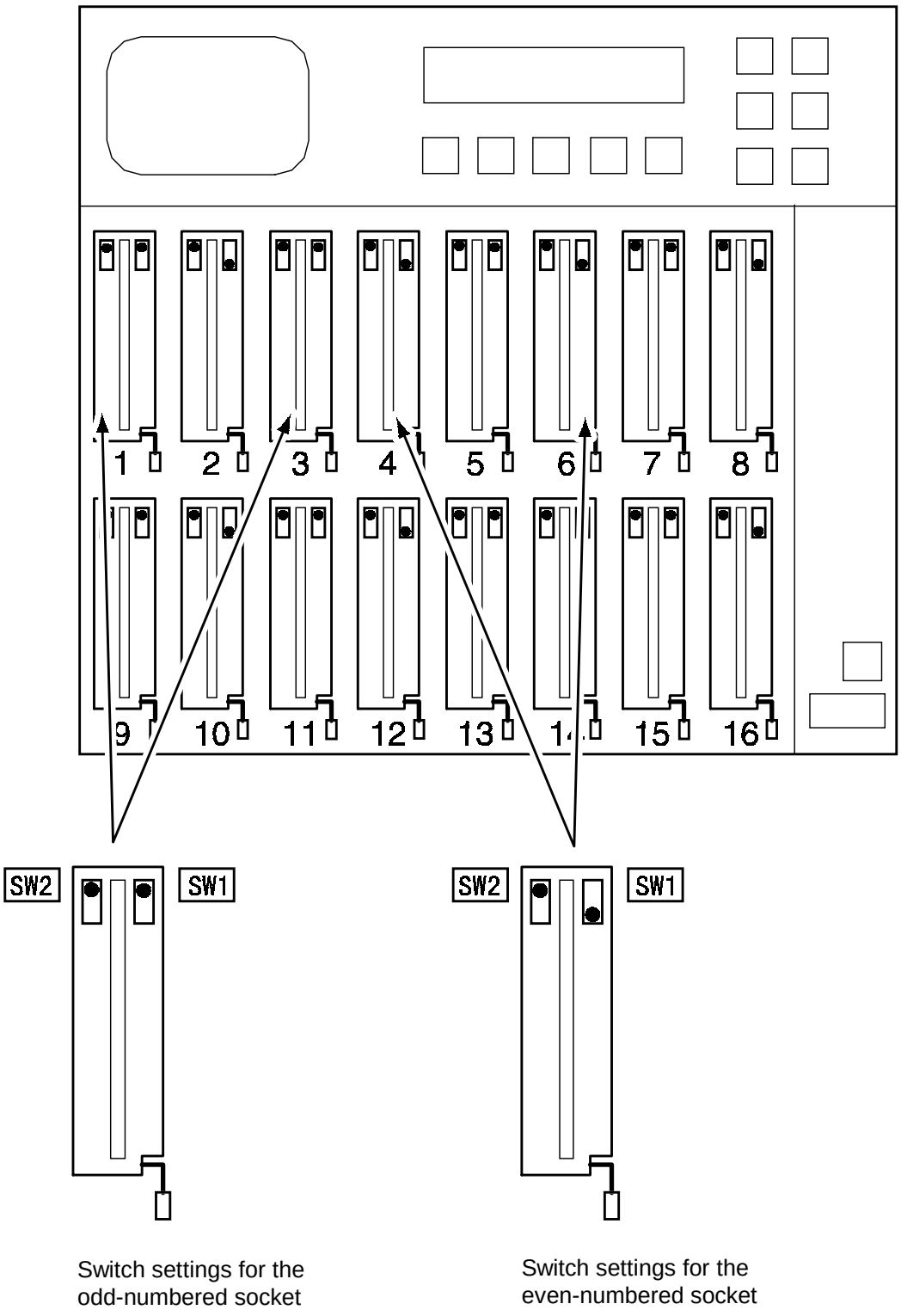


Figure 5

d. Registering the Flash ROM
   1) Attach one DIMM you want to the adapter of socket No. 1.
      (The DIMM may contain any data. This step is performed simply to have the ROM writer recognize the type of the flash ROM.)
   2) Press the DEVICE button.
   3) Press the ENT button.
   4) Press the RESET button.
   5) Check to make sure that the following is indicated in the display of the ROM writer:
      i) if 1-MB DIMM, "MB29F040"
      ii) if 2-MB DIMM, "MB29F080"
      iii) if 4-MB DIMM, "MB29F016"
   6) Press the RESET button.

3-5. Transferring Data from the PC to the ROM Writer

a. Selecting the Format
   1) Hold down the MODE button until "CONFIG. I/F" appears.
   2) Hold down the ð button until "CONFIG. Format" appears.
   3) Press the ENT button.
   4) Press the ↑ or ↓ button so that "NO FORMAT" appears.
   5) Press the STAR button.
   6) When "COMPLETE" has appeared, press the RESET button.

b. Transferring the Data
   - Operating the ROM Writer

   1) Hold down the MODE button until "I/O Rs input" appears.
   2) Press the ↑ or ↓ button until "I/O pr input" appears.
   3) Press the ENT button.
      ("PRIN NO FORMAT 000000 000000" will appear.)
   4) Press the START button.
      (PRIN NO FORMAT ADDR:" will appear.)

   - Operating the PC

   1) Click "Select File" of the GP/PDL downloader.
   2) Select the file of the ROM data for downloading.
      i) If the ROM data file is used in common with the service support tool,
         Open a file whose extension is not "prg."
         C: \ ServTool \ model name \ PCB \ version wanted
      ii) If the ROM data file is not used in common with the service tool,
         The name of the file you are asked to select will be communicated to you when ROM data is made available.
   3) Click the Downloading button.
   4) When the data transfer volume indicator shows 100% to indicate that transfer has ended, click the End button to end the GP/PDL download tool.
      Ending the ROM Writer

c. Press the RESET button of the ROM writer.

3-6. Writing to the Flash ROM of the DIMM

< Checking the Data >

a. Checking the Correct Check Sum (operating on the PC)

- If the ROM data file is used in common with the service support tool,
  On the note pad, open a file whose extension is "ift."
  C: \ ServTool \ model name \ PCB \ version wanted
  At the end of a file, you will find the check sum (Odd/Even) for using a ROM writer.
  Of the Odd an Even check sums, the Even value corresponds to socket No. 1 of the ROM writer and the Odd value corresponds to socket No. 2. (You will be using these values to check against the check sums computed by the ROM writer later.)
  Depending on the model, you may see a Total or DIMM check sum side by side; ignore such values.
  Sample File

Check sum of XXXX-IP-XXxxnnnnnnnnnn.prg. Even/Odd/Total (in HEX)
RWRCS 1234 .....Even value
RWRCS 5678 .....Odd value
RWRCS 9012 .....Not use

Figure 6

- If the ROM data file is not used in common with the service support too,
  See the information which will be distributed.

b. Checking the Data in the ROM writer

- Setting the Write Mode

1) Press the MODE button.
2) Press the DEVICE button. ("Address mode set 8bit X1" will appear.)
3) Press the ↑ or ↓ button to bring up "16bit X1."
   (If "X2" or the like is found next to "16bit," press the COPY button to bring up "16bit X1.")
4) Press the ENT button.

- Checking the Data

1) Pressdown the MODE button until "RAM INITIALIZE" appears.
2) Press the ↑ or ↓ button until "RAM CHECK_SUM" appears.
3) press the ENT button.
4) When the message "COMPLETE" has appeared, press the RESET button.
5) Press the VERIFY button.
6) Press the ↑ button once so that the check sum for the ROM data corresponding to socket No. 1 will appear. Compare it against the correct sum.
7) Press the ↑ button once again so that the check sum for the ROM data corresponding to socket No. 2 will appear. Compare it against the correct sum.
8) Press the REST button.

< Mounting the DIMM >

Mount the DIMM to the adapter.

< Deleting Data in the ROM >

1) Press the BLANK button.
2) Press the ↑ or ↓ key so that "ERASE" appears.
3) Press the START key.
   (When "START?" has appeared, press the START key. If an empty socket exists, the message "EMPTY SOCKET" will appear. Press the START button once gain.
4) When deleting operation has ended and the message "PASS" has appeared, press the RESET button.

< Writing Data to the ROM >

1) Press the PROG button.
2) Press the START button.
   (If an empty socket exists, the message "EMPTY SOCKET" will appear. Press the START button once gain.)
3) When writing ends, press the REST button.

< Exchange the DIMMs >

Exchange the DIMMs (even-numbered and odd-numbered).

Caution:

1. Do not exchange the adapters. Further, do not change the adapter switch settings.
2. If you are using only one adapter, however, exchange the socket together with the adapter, and change the adapter switch settings to suit the appropriate socket number.

< Deleting the Data in the ROM >

1) Press the BLANK button.
2) Press the ↑ or ↓ key so that "ERASE" appears.
3) Press the START button.
   (When the message "START?" appears, press the START button. If an empty socket exists, the message "EMPTY SOCKET" will appear. Press the START button once again.)
4) When deleting operation has ended and the message "PASS" has appeared, press the RESET button.

< Writing Data to the ROM >

1) Press the PROG button.
2) Press the START button.
   (If an empty socket exists, the message "EMPTY SOCKET" will appear. Press the START button once again.)
3) When writing operation has ended, press the RESET button.

3-7. Finishing the Work

1) Detach the DIMM from the adapter.
2) Detach the adapter from the socket.
3) Turn off the ROM writer.
4) Turn off the PC.
5) Disconnect the Centronics cable from the PC and the ROM writer.