Panasonic

EBL FIRMWARE MANAGER

Fire alarm solutions technical description

Table of Contents

1. INTRODUCTION

This document describes the EBL Firmware Manager which is used, by EBLWin from version 2.5.x, when downloading new software to the control unit or display unit.

This document contains information about the different versions of the program.

2. ABBREVIATIONS

CIE	Control and indicating equipment	= control unit
LED	Light Emitting Diode	

3. EBL FIRMWARE MANAGER INSTALLATION

EBL Firmware Manager is opened through the menu in EBLWin, but the program need to be installed separately

3.1.   INSTALLATION

a)   Download the EBL Firmware Manager software from www.panasonic-fire-security.com/ to the PC.
b)   Start the installation procedure.
c)   Select language and click **Next**.
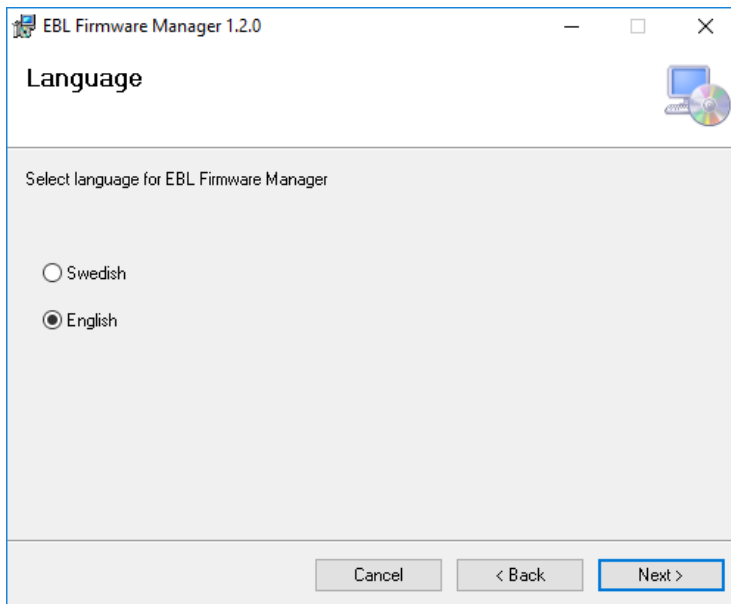
d)   Select installation folder and click **Next**.
e)   Click **Next**.
f)   Click **Close**. The installation of the EBL Firmware Manager is now complete.

3.2.　UNINSTALLATION

If you want to replace an EBL Firmware Manager version, you must first uninstall the old EBL Firmware Manager completely, before installing the new version.

3.3.　EBLWIN KEY

An EBLWin key 5094 is required to download software to the control unit. The EBLWin key 5094 must be plugged in a USB port on the PC / Laptop.

Make sure you have the EBLWin key driver installed on your computer. The latest HASP driver can be downloaded from https://cpl.thalesgroup.com/software-monetization/sentinel-drivers.

4. FIRMWARE MANAGER 1.1.0
4.1. EBL512 G3

a) Connect the PC to the USB connector in the CIE and start EBLWin. Do **not** logon.
b) Check that the EBLWin key is plugged in.
c) Select **Tools** menu / **Download Software**… to open the **EBL Firmware Manager** dialog box and do the required settings:
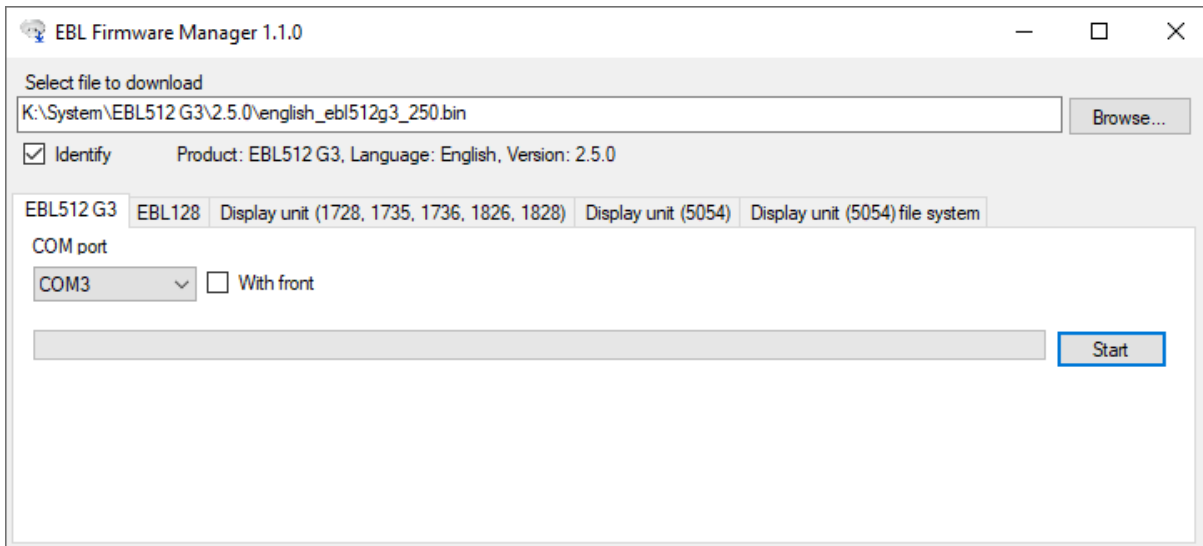

d) Select the path and the Software file name, for example English_EBL512G3_260.bin
   (260 = version 2.6.0.)
e) Use the checkbox "With front" to select EBL512 G3 type (5000 or 5001), see EBL512 G3 Planning Instructions.
   If the checkbox "Identify" is checked the program will try to identify the correct type when selecting Software file.
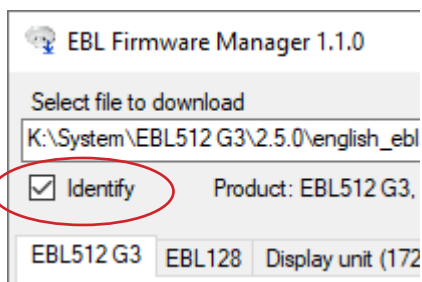
f) Select the COM port to be used on your PC.
   A tip: Check in Control Panel / Device Manager / Ports (COM & LPT) | EBL512 G3 Serial Port (COMx).
g) Do not click "Start" yet.
h) Set the main board in "boot" mode: Hold the "BOOT" button (SW2) down and push the "RESET" button (SW1) momentarily.
   Release the "BOOT" button. The main board LED "D24" is turned off while the main board is in "boot" mode.
i) Click **Start** to start the download.

If it is an EBL512 G3 type 5000 another dialog box will open.

j)   Set the MMI board in "boot" mode: Hold the "BOOT" button (SW2) down and push the "RESET" button (SW1) momentarily. Release the "BOOT" button. The MMI board LED "D18" is turned off and the buzzer is turned on. The MMI board is in "boot" mode.
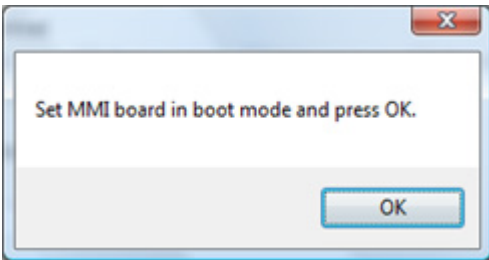
k)   Click **OK**. The buzzer is turned off and the download continues. The download status is indicated by the progress bar.

l)   When the progress bar has gone from red to green the download is completed and the following dialog box opens:
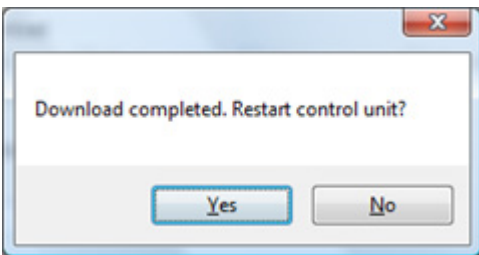
m)   Click **Yes** and the control unit will restart.
     After the restart the following fault messages will be shown. Code 00 / 50 indicates a normal restart of the Main board / MMI board after the S/W download.

FAULT: Restart control unit nn, code 00,
YYYY-MM-DD   HH:Mm

FAULT: Restart control unit nn, code 50,
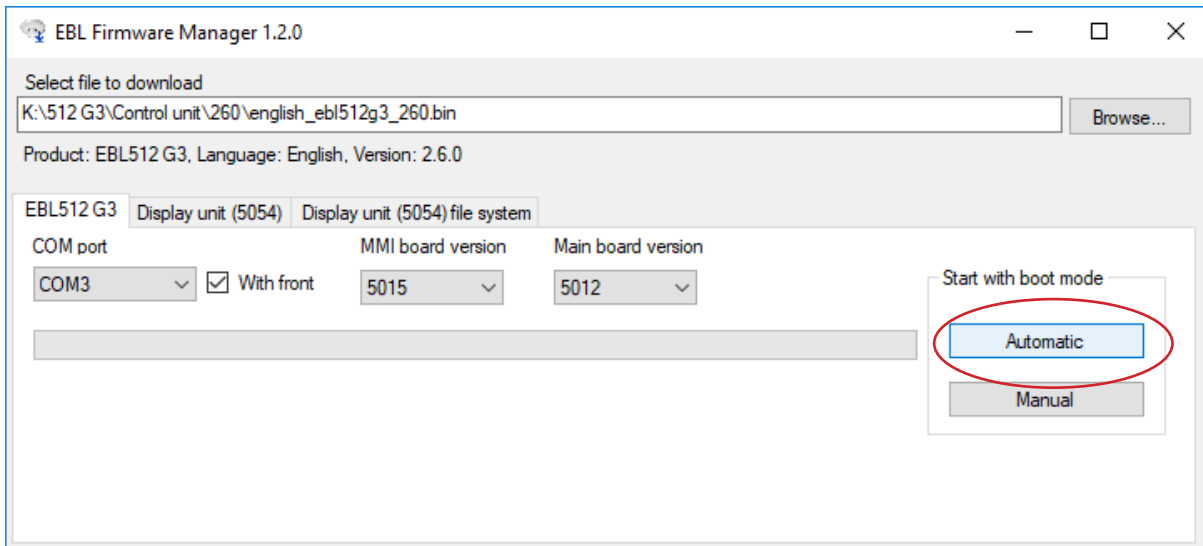YYYY-MM-DD   HH:Mm

n)   Acknowledge the restart faults. LED "Operation" on the front shall now be turned on and all other LEDs on the front shall normally be turned off. The download is finished.

5. FIRMWARE MANAGER 1.2.0

In Firmware Manager 1.2.0 the function to automatic start in boot mode is valid with main board 5012.

5.1.   EBL512 G3

a)   Connect the PC to the USB connector in the CIE and start EBLWin. Do not logon.
b)   Check that the EBLWin key is plugged in.
c)   Select **Tools** menu / **Download Software**… to open the **EBL Firmware Manager** dialog box and do the required settings:

d)   Select the path and the Software file name, for example English_EBL512G3_260.bin
     (260 = version 2.6.0.)
e)   Use the checkbox "With front" to select EBL512 G3 type (5000 or 5001), see EBL512 G3 Planning Instructions.
f)   Select the COM port to be used on your PC.

Check in Control Panel / Device Manager / Ports (COM & LPT) | EBL512 G3 Serial Port (COMx).

g)   Select MMI board.
h)   Select main board.
i)   Click **Automatic** to start the download.
j)   When the download is completed and the following dialog box opens:
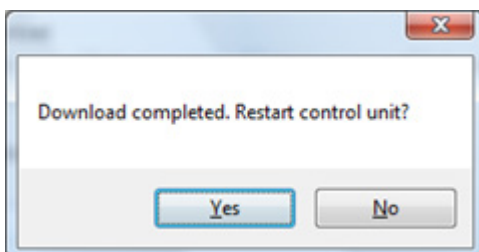
k)   Click **Yes** and the control unit will restart.

After the restart the following fault messages will be shown. Code 00 / 50 indicates a normal restart of the Main board / MMI board after the S/W download.

FAULT: Restart control unit nn, code 00,
YYYY-MM-DD   HH:Mm

FAULT: Restart control unit nn, code 50,
YYYY-MM-DD   HH:MM

Acknowledge the restart faults. LED "Operation" on the front shall now be turned on and all other LEDs on the front shall normally be turned off. The download is finished.

Some combinations of main board and MMI board is not valid for automatic boot mode. The function will be disabled and greyed out. In this case the main board need to be manually set in boot mode.

l)   Set the main board in "boot" mode: Hold the "BOOT" button (SW2) down and push the "RESET" button (SW1) momentarily. Release the "BOOT" button. The main board LED "D24" is turned off while the main board is in "boot" mode.
m) Click **Manual** to start the download.
n)   When the download is completed and the following dialog box opens:

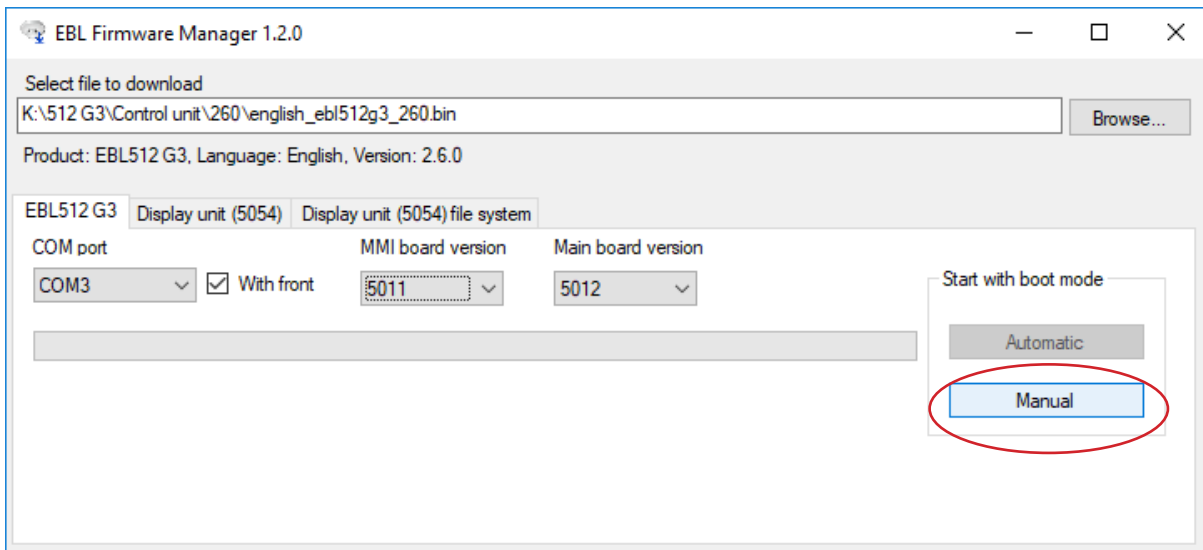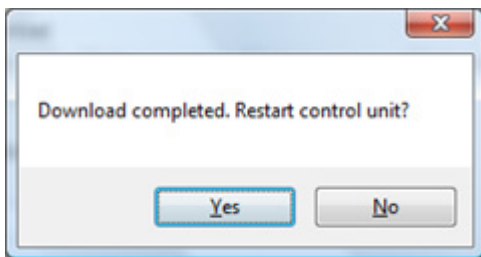o)   Click **Yes** and the control unit will restart.
     After the restart the following fault messages will be shown. Code 00 / 50 indicates a normal restart of the Main board / MMI board after the S/W download.
p)   Acknowledge the restart faults. LED "Operation" on the front shall now be turned on and all other LEDs on the front shall normally be turned off. The download is finished.

5.2.   DISPLAY UNIT

The firmware and file system is stored in a flash memory in each display unit. The firmware and file system can be downloaded from EBL Firmware Manager, which is opened through the menu in EBLWin.

Some Microsoft Windows versions may require the USB driver for Display unit 5054 to be installed on your computer before using the EBL Firmware manager. The driver can be downloaded from www.panasonic-fire-security.com.

5.2.1.   VERSION

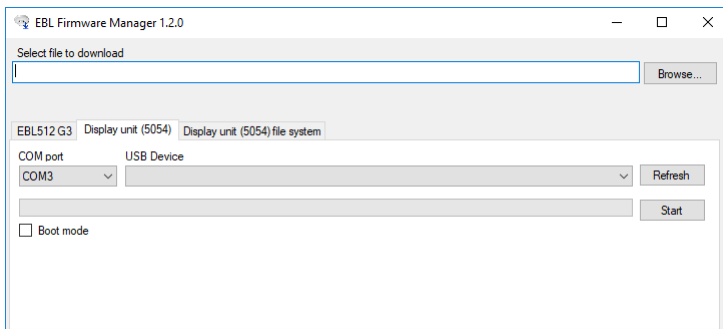The firmware and file system version is shown in the service menu in the display unit.
All units connected to the same RS485 line must have the same firmware version and file system version, for example. 1.0.x and 1.0.x respectively.
It is highly recommended to have the same versions in all the display units in the system.
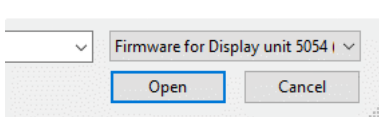
5.2.2.   FIRMWARE DOWNLOAD

The display unit is equipped with an USB, which makes it possible to connect a PC and carry out the downloading directly to the unit.

  a)   Prepare the PC and start EBLWin.
  b)   Connect the PC to the display unit via USB.
  c)   In EBLWin, click **Tool / Download software** to open the EBL Firmware Manager.
  d)   Select the Display unit (5054) tab.

  e)   Browse to the firmware file to be downloaded, DU5054_x.x.x_FW.dfu.

You must select the correct file extension.

  f)   Select COM port.
  g)   Click **Start** to download the firmware.

When the download is ready, there will be a pop up dialog window, asking if you want to restart the display unit. Click Yes to restart the display unit.
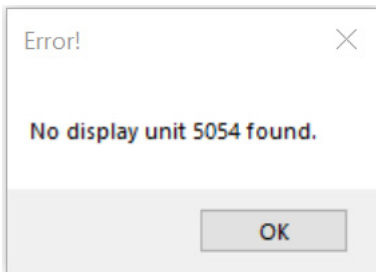
> *If something unforeseen happens and the display unit cannot be restarted, it can be forced into boot mode, see *

h)   Normally a new file system must be downloaded after the firmware is changed, continue with

DOWNLOAD FIRMWARE IN BOOT MODE

If the display unit cannot be restarted, it can be forced into boot mode to be able to download new firmware. A Display unit driver is needed for downloading when the unit is in boot mode. Make sure you have the driver installed on your computer before you open EBL Firmware Manager.

If the driver is missing when downloading firmware, the following fault message will be shown:

Error!   ✕

No display unit 5054 found.

OK

The latest Display unit driver can be downloaded from our homepage.

a)   Force the display unit into boot mode by placing jumper BOOT0 and momentarily short jumper RESET.
b)   In Firmware Manager, check the checkbox 'Boot mode' and click **Refresh**.
c)   Select the display unit in the USB Device dropdown list and click **Start**.
d)   When the downloading is finished, remove the jumper BOOT0 before clicking **YES** in the 'Restart unit' dialog window.

5.2.3.   FILE SYSTEM DOWNLOAD

Download the file system

   a)   Prepare the PC and start EBLWin.
   b)   Connect the PC to the display unit via USB.
   c)   In EBLWin, click **Tool / Download software** to open the EBL Firmware Manager.
   d)   Select the Display unit (5054) file system tab.
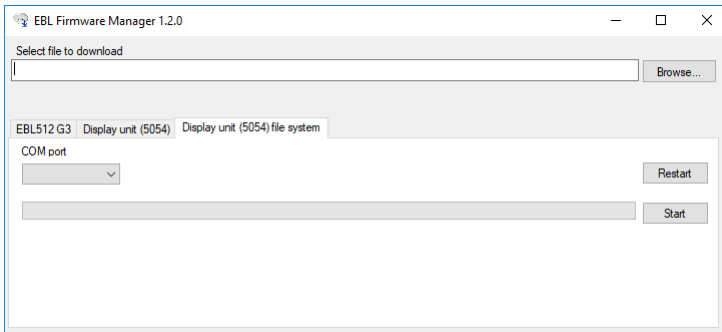
   e)   Browse to the file system file to be downloaded, DU5054_x.x.x_FS.bin.
   f)   Select comport.
   g)   Click **Start** to download the file system.
   h)   When the download is ready the pop up dialog window 'Download completed successfully' is shown and the display unit will restart.

6. FIRMWARE MANAGER 1.3.0

Firmware manager 1.3.0 will detect if the software file is version 3.0.0 or newer, and automatically select the correct MMI and main board version.

The software download can be started with automatic boot mode or manual boot mode. The function to automatic start in boot mode requires main board 5012 with a downloaded S/W. In other cases the main board need to be manually set in boot mode.

6.1. EBL512 G3

EBL512 G3 v.3.0.0 or higher, require EBL Firmware Manager version 1.3.0 or newer to download S/W.

a) Connect the PC to the USB connector in the CIE and start EBLWin. Do not logon.
b) Check that the EBLWin key is plugged in.
c) Select Tools menu / Download Software… to open the EBL Firmware Manager dialog box and do the required settings:
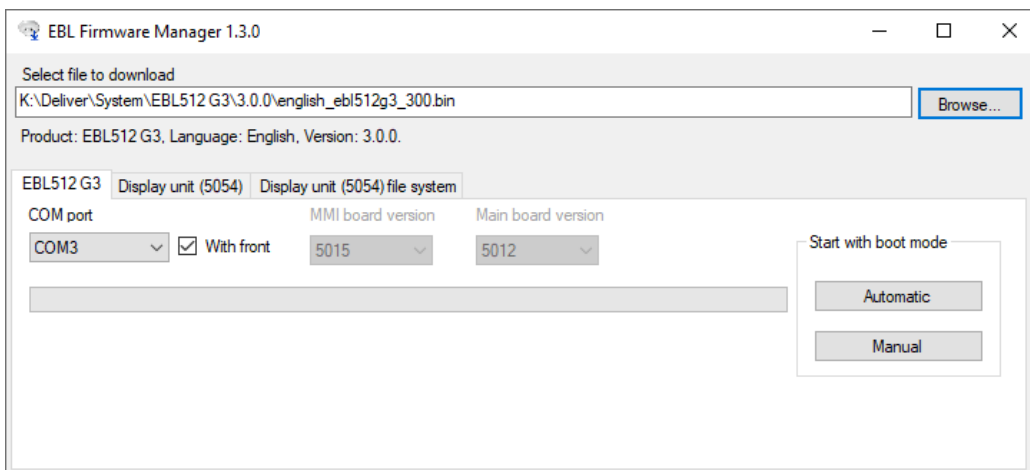

d) Select the path and the Software file name, for example English_EBL512G3_300.bin
(300 = version 3.0.0.)
e) Use the checkbox "With front" to select EBL512 G3 type (5000 or 5001).
f) Select the COM port to be used on your PC.

Check in Control Panel / Device Manager / Ports (COM & LPT) | EBL512 G3 Serial Port (COMx).

From EBL512 G3 v.3.0.0, main board 5010 and MMI board 5011 are not supported.
Skip step g) and h) below.

g) Select MMI board.
h) Select main board.
i) If manual boot mode is to be used:
Set the main board in "boot" mode: Hold the "BOOT" button (SW2) down and push the "RESET" button (SW1) momentarily. Release the "BOOT" button. The main board LED "D24" is turned off while the main board is in "boot" mode.
j) If possible to use automatic boot mode, click **Automatic,** otherwise **Manual,** to start the download.
k) When the download is completed and the following dialog box opens:
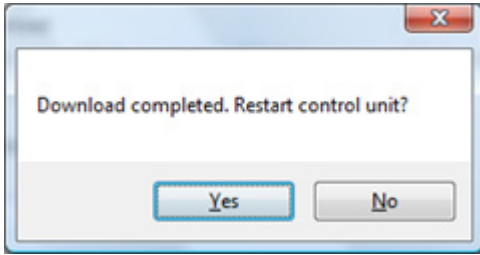
l)   Click **Yes** and the control unit will restart.

After the restart the following fault messages will be shown. Code 00 / 50 indicates a normal restart of the Main board / MMI board after the S/W download.

FAULT: Restart control unit nn, code 00
YYYY-MM-DD   HH:MM

FAULT: Restart control unit nn code 50
YYYY-MM-DD   HH:MM

m)   Acknowledge the restart faults. LED "Operation" on the front shall now be turned on and all other LEDs on the front shall normally be turned off. The download is finished.

6.2.   DISPLAY UNIT

The firmware and file system is stored in a flash memory in each display unit. The firmware and file system can be downloaded from EBL Firmware Manager, which is opened through the menu in EBLWin.

The procedures below describes the EBL Firmware manager version 1.3.0.
Some Microsoft Windows versions may require the USB driver for Display unit 5054 to be installed on your computer before using the EBL Firmware manager. The driver can be downloaded from www.panasonic-fire-security.com.

6.2.1.   VERSION

The firmware and file system version is shown in the service menu in the display unit.
All units connected to the same RS485 line must have the same firmware version and file system version, for example. 3.0.x and 3.0.x respectively.
It is highly recommended to have the same versions in all the display units in the system.
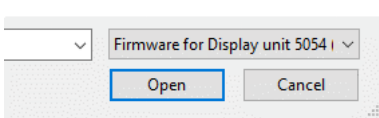
6.2.2.   FIRMWARE DOWNLOAD

The display unit is equipped with an USB, which makes it possible to connect a PC and carry out the downloading directly to the unit.

a)   Prepare the PC and start EBLWin.
b)   Connect the PC to the display unit via USB.
c)   In EBLWin, click **Tool / Download software** to open the EBL Firmware Manager.
d)   Select the Display unit (5054) tab.
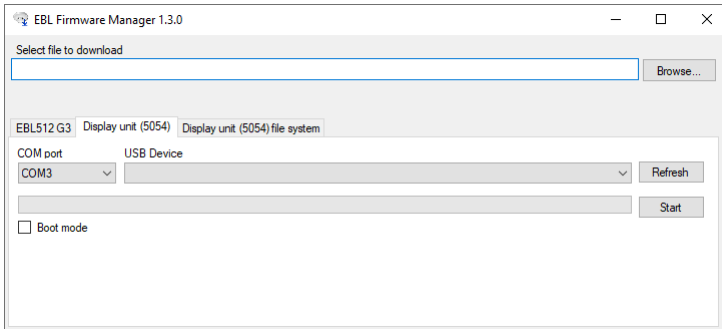
e)   Browse to the firmware file to be downloaded, DU5054_x.x.x_FW.dfu.

f)   Select COM port.
g)   Click **Start** to download the firmware.

When the download is ready, there will be a pop up dialog window, asking if you want to restart the display unit. Click Yes to restart the display unit.
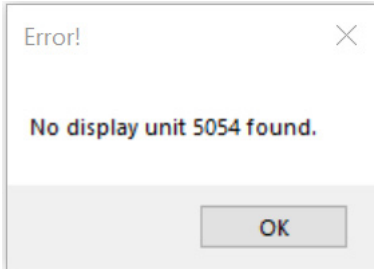
If something unforeseen happens and the display unit cannot be restarted, it can be forced into boot mode, see DOWNLOAD FIRMWARE IN BOOT MODE on page 18.

h)   Normally a new file system must be downloaded after the firmware is changed, continue with 5.2.3. FILE SYSTEM DOWNLOAD on page 14.

DOWNLOAD FIRMWARE IN BOOT MODE

If the display unit cannot be restarted, it can be forced into boot mode to be able to download new firmware. A Display unit driver is needed for downloading when the unit is in boot mode. Make sure you have the driver installed on your computer before you open EBL Firmware Manager.

If the driver is missing when downloading firmware, the following fault message will be shown:

The latest Display unit driver can be downloaded from our homepage.

a)   Force the display unit into boot mode by placing jumper BOOT0 and momentarily short jumper RESET.
b)   In Firmware Manager, check the checkbox 'Boot mode' and click Refresh.
c)   Select the display unit in the USB Device dropdown list and click Start.
d)   When the downloading is finished, remove the jumper BOOT0 before clicking YES in the 'Restart unit' dialog window.

7. FIRMWARE MANAGER 1.3.2

In Firmware Manager 1.3.2 the drop-down list of available COM ports is now automatically updated and shows COM ports that have been connected or removed after opening the EBL Firmware Manager.

From version 1.3.2 it is possible to download new software to EBLOne control unit, however version 1.3.3 is highly recommended.

7.1. EBLONE

The "USB driver for 5054 and EBLOne" must be installed on your computer before using the EBL Firmware manager. The driver can be downloaded from www.panasonic-fire-security.com.

Visual C++ Redistributable Packages must be installed on your computer before downloading software. Download C++ from this page: https://www.microsoft.com/en-us/download/details.aspx?id=40784

a) Connect the PC to the USB connector in the CIE and start EBLWin. Do not logon.
b) Check that the EBLWin key is plugged in.
c) Select **Tools** menu / **Download Software**… to open the **EBL Firmware Manager.**
d) Select the EBLOne tab.

e) Click **Browse** and select the path and the Software file name, for example eblone_330.bin (330 = version 3.3.0.).
f) Select the COM port to be used on your PC.

Check in Control Panel / Device Manager / Ports (COM & LPT) | USB Serial Device (COMx).

g)   Click **Start** to start the download. The progress bars will indicate for each step of the download.
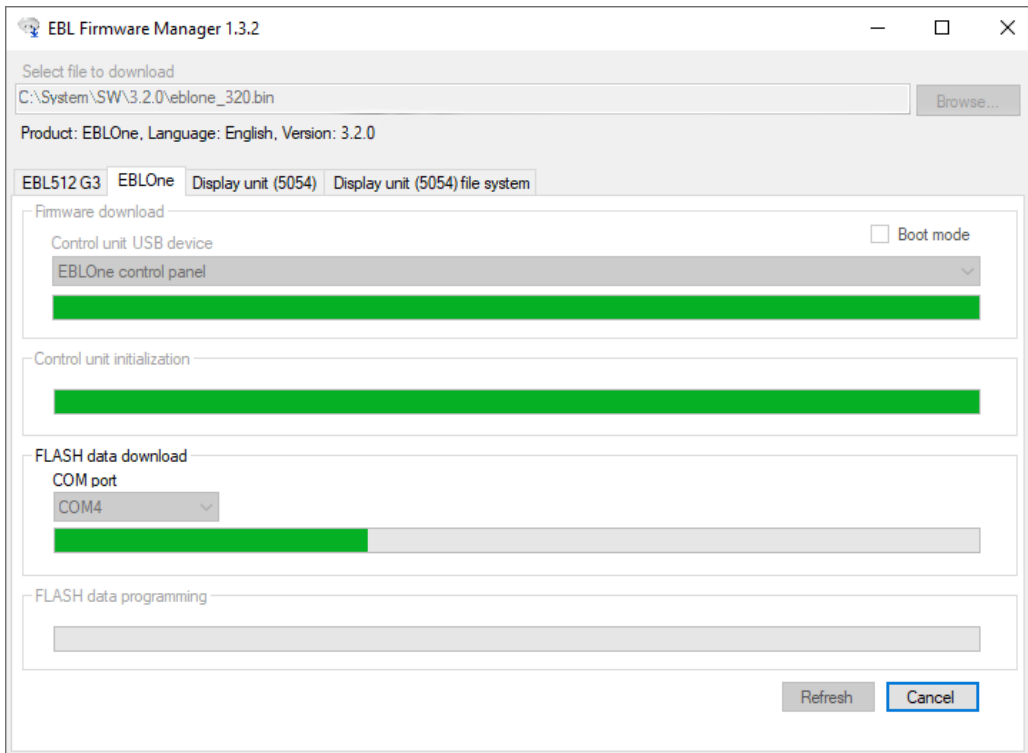
h)   When the download is completed and the following dialog box opens:
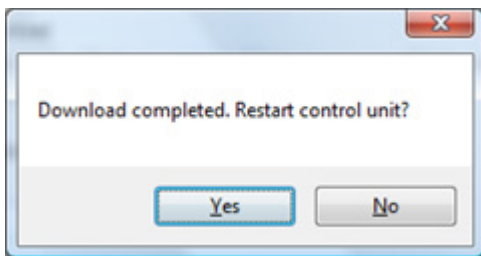
i)   Click **Yes** and the control unit will restart.

DOWNLOAD FIRMWARE IN BOOT MODE

If something unforeseen happens and the software can not be downloaded, whit the procedure above, it is possible to download the software in boot mode.

a)   Short jumper JP5.
b)   Make a power off / power on restart.
c)   Remove jumper JP5
d)   Check the checkbox 'Boot mode' and click Refresh.
e)   Select the unit in the Control unit USB device dropdown.
f)   Click **Start** to start the download.
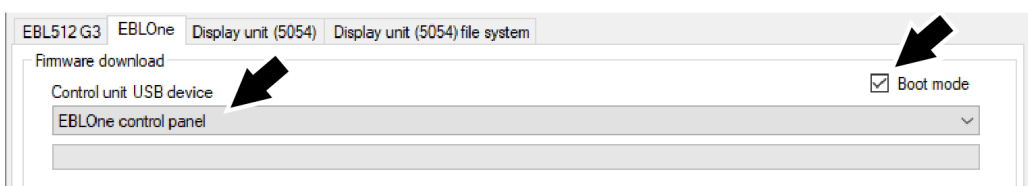
8. FIRMWARE MANAGER 1.3.3

Display unit 5054 with version 3.4 or higher uses a software file (.bin) that includes both the firmware and the file system.
In Firmware Manager 1.3.3, EBLOne and Display unit ≥ v.3.4 uses the same installation process.

8.1.   EBLONE / DISPLAY UNIT V.3.4

The "USB driver for 5054 and EBLOne" must be installed on your computer before using the EBL Firmware manager. The driver can be downloaded from www.panasonic-fire-security.com.
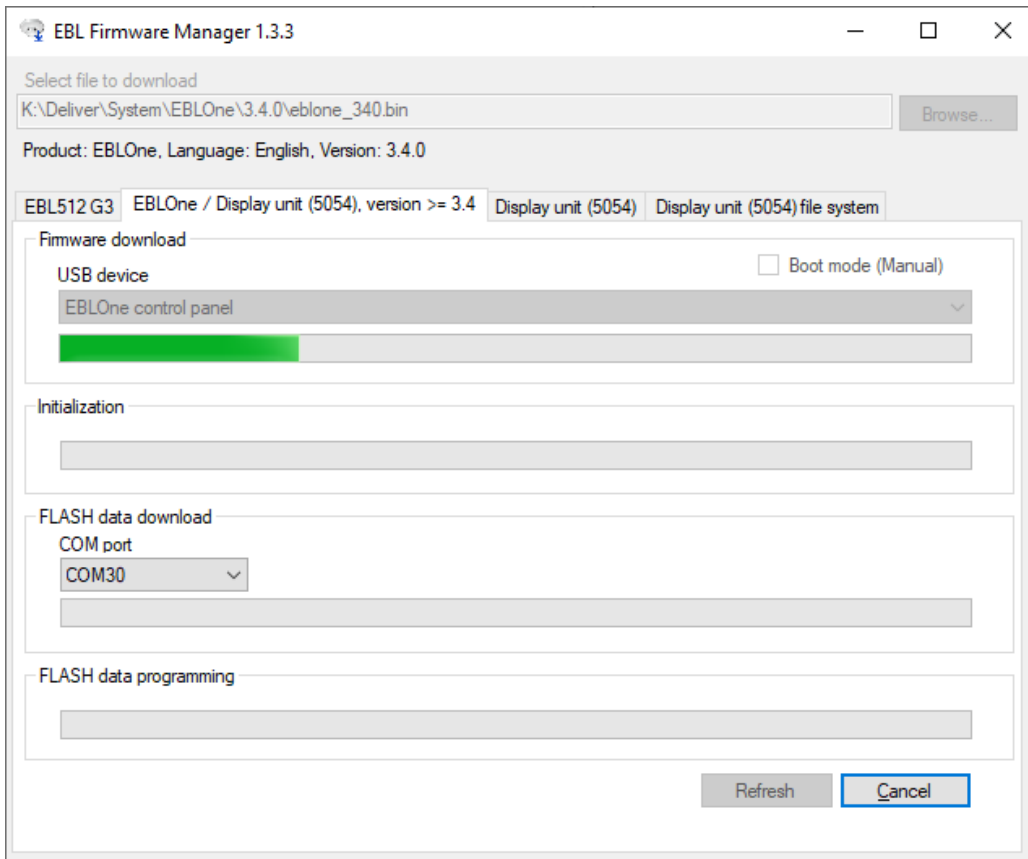
Visual C++ Redistributable Packages must be installed on your computer before downloading software.
Download C++ from this page: https://www.microsoft.com/en-us/download/details.aspx?id=40784

a)   Connect the PC to the USB connector and start EBLWin. Do not logon.
b)   Check that the EBLWin key is plugged in.
c)   Select **Tools** menu / **Download Software**… to open the **EBL Firmware Manager.**
d)   Select the EBLOne / Display unit (5054) v. ≥ 3.4 tab.

e)   Click **Browse** and select the path and the Software file name, for example eblone_340.bin (340 = version 3.4.0.).
f)   Select the COM port to be used on your PC.

Check in Control Panel / Device Manager / Ports (COM & LPT) | USB Serial Device (COMx).

g) Click **Download** to start the download. The progress bars will indicate for each step of the download.

The SW download procedure goes through five steps:
1. Putting the CPU in boot mode
   - **Boot mode (Manual) unchecked**: Automatic boot mode by command from EBL Firmware Manager
   - **Boot mode (Manual) checked**: Automatic boot mode shall normally be used but it requires a running software in the unit. If that is not the case, then manual boot mode must be used, see DOWNLOAD FIRMWARE WITH MANUAL BOOT MODE on page 23.
2. Download of the actual software to the CPU:s internal flash memory. This download is performed using the CPU as a USB DFU device. During this time the display is black because the CPU can not communicate with the display when it is in boot mode.
3. The CPU is restarted and the downloaded software starts up. The display turns on with a grey background but since the data in the external flash memory is inconsistent with the software nothing can be shown on the display.
4. Download of texts, images and other data to the external flash memory. This download is performed using the normal COM-port.
5. Waiting for the external flash memory to finish its programming sequence.

When the download is ready the display unit will restart.

DOWNLOAD FIRMWARE WITH MANUAL BOOT MODE

If something unforeseen happens and the software can not be downloaded, whit the procedure above, it is possible to download the software by setting the unit in boot mode manually.

a) Short the BOOT jumper (JP5 in EBLOne).
b) Make a restart, either by momentarily shunting RESET jumper (5054) or by making a power off / power on restart (EBLOne).
c) Remove BOOT jumper.
d) Check the checkbox 'Boot mode (Manual)' and click Refresh.
e) Select the unit in the USB device dropdown.
f) Click **Download** to start the download.
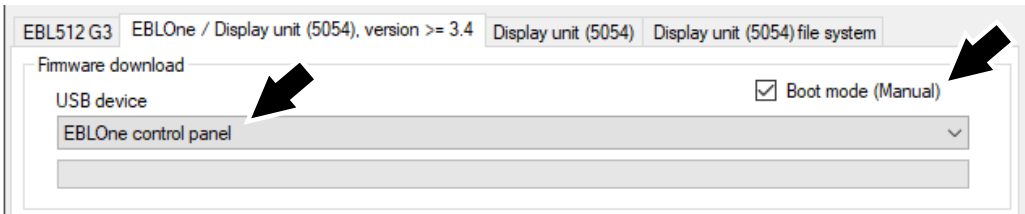
g) When the download of the internal memory is finished and the unit has started up the following dialog is shown:
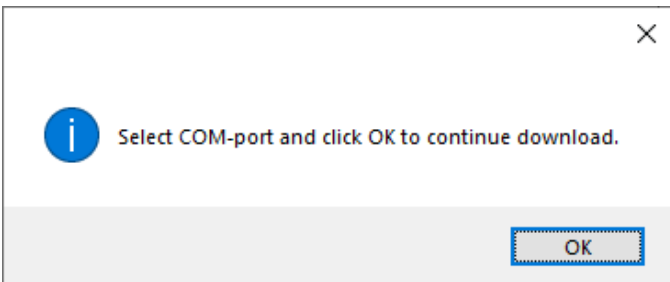
h) Select the COM-port and click **OK.** The download will now continue.

Check in Control Panel / Device Manager / Ports (COM & LPT) | USB Serial Device (COMx).

9. FIRMWARE MANAGER 1.3.4

In version 3.6.0 of EBL512 G3 the communication speed between the CU and EBLWin has been increased. This also affects the Automatic boot mode in Firmware Manager since the 'goto boot' command is sent with normal communication. Therefore Firmware Manager version 1.3.4 must be used when a control unit running version 3.6.0 or higher is upgraded or downgraded.

> *Firmware Manager 1.3.4 sends the 'goto boot' command with the new communication speed. If it doesn't work it will try the old communication speed instead. This means that Firmware Manager 1.3.4 is back-wards compatible with version 1.3.3.*

If the software is dowloaded in boot mode there is no change in the communication speed. Any versions can be used together if the procedure with Manual boot is used.
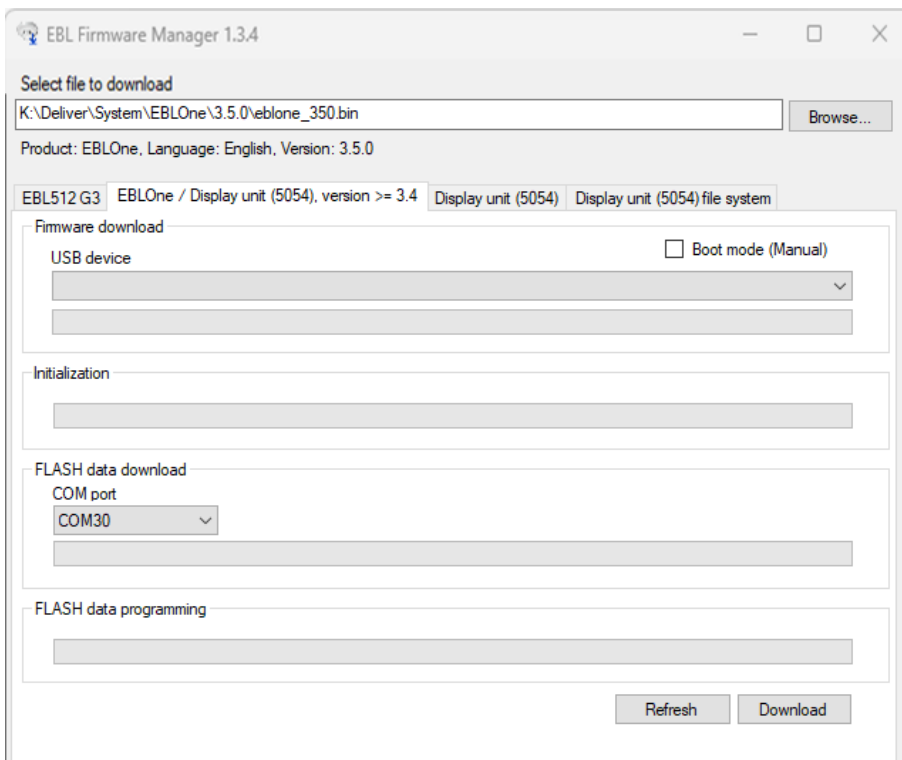
9.1.   EBL512 G3

> *EBL512 G3 v.3.6.0 or higher, require EBL Firmware Manager version 1.3.4 or newer to download S/W.*

9.2.   EBLONE / DISPLAY UNIT V.3.4

The "USB driver for 5054 and EBLOne" must be installed on your computer before using the EBL Firmware manager. The driver can be downloaded from www.panasonic-fire-security.com.

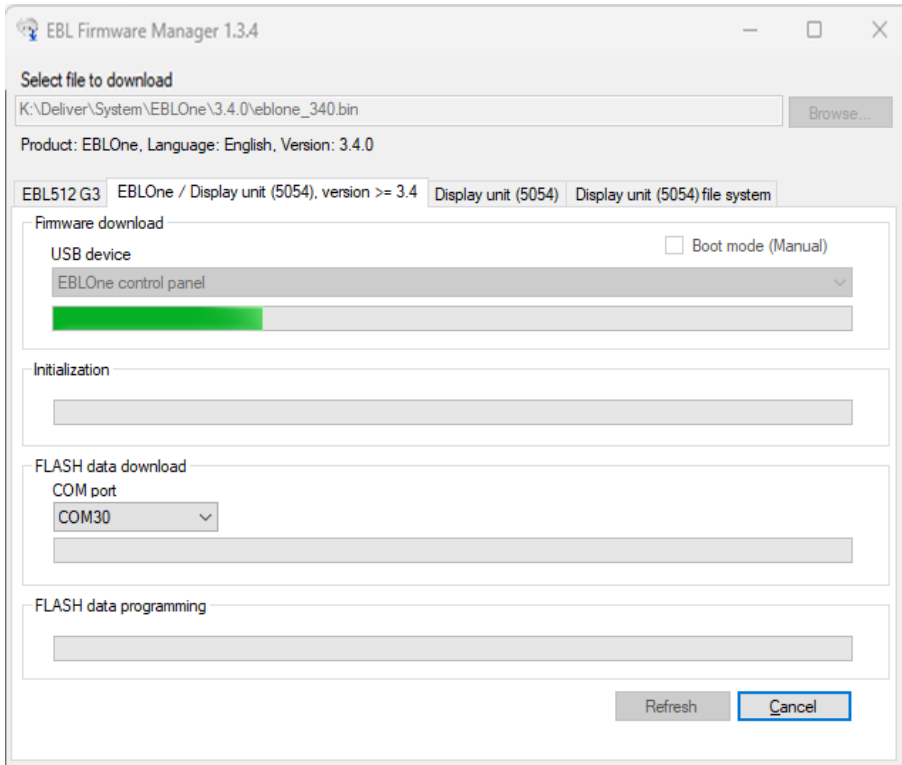> *Visual C++ Redistributable Packages must be installed on your computer before downloading software. Download C++ from this page: https://www.microsoft.com/en-us/download/details.aspx?id=40784*

a)   Connect the PC to the USB connector and start EBLWin. Do not logon.
b)   Check that the EBLWin key is plugged in.
c)   Select **Tools** menu / **Download Software**… to open the **EBL Firmware Manager.**
d)   Select the EBLOne / Display unit (5054) v. ≥ 3.4 tab.

e)   Click **Browse** and select the path and the Software file name, for example eblone_350.bin (350 = version 3.5.0.).
f)   Select the COM port to be used on your PC.

*Check in Control Panel / Device Manager / Ports (COM & LPT) | USB Serial Device (COMx).*

g)   Click **Download** to start the download. The progress bars will indicate for each step of the download.

The SW download procedure goes through five steps:
1.   Putting the CPU in boot mode
  -   **Boot mode (Manual) unchecked**: Automatic boot mode by command from EBL Firmware Manager
  -   **Boot mode (Manual) checked**: Automatic boot mode shall normally be used but it requires a running software in the unit. If that is not the case, then manual boot mode must be used, see DOWNLOAD FIRMWARE WITH MANUAL BOOT MODE on page 23.
2.   Download of the actual software to the CPU:s internal flash memory. This download is performed using the CPU as a USB DFU device. During this time the display is black because the CPU can not communicate with the display when it is in boot mode.
3.   The CPU is restarted and the downloaded software starts up. The display turns on with a grey background but since the data in the external flash memory is inconsistent with the software nothing can be shown on the display.
4.   Download of texts, images and other data to the external flash memory. This download is performed using the normal COM-port.
5.   Waiting for the external flash memory to finish its programming sequence.

When the download is completed, the following dialog box is shown.

Download completed successfully.

OK
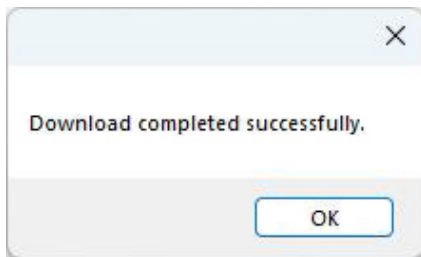
h)   Click OK.

After the SW download the display unit will restart.

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