



AutoDome Modular Camera System

VG4 Series Firmware Update Manual



BOSCH

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1 VG4 Firmware Updates via a TCP/IP Network

The IP AutoDome® incorporates a network video server in the IP module. The primary function of the server is to encode video and control data for transmission over a TCP/IP network. The IP AutoDome also allows an operator to update the AutoDome firmware via the TCP/IP network. This chapter applies to a VG4 100, 200, 300, or 500i Series AutoDome with an IP Communications Module. Two versions of the IP Communication Module exist and you must identify the module your application uses. The hardware version of the IP Communications Module used in your IP camera determines which service pack you must use to update the camera firmware.

Refer to the *AutoDome Modular Camera System Installation Manual*, the *100 Series User's Manual* and the *200, 300, 500i Series User's Manual* for specific instructions on configuring the IP AutoDome camera.

The latest VG4 service pack is available on the Bosch Security Systems Web site. To download the service pack from the Web, navigate to www.boschsecurity.us, click the CCTV link, then click Cameras, PTZ and navigate to the product page for your AutoDome. Then click the Software tab on the product page.

To update firmware on a non-IP AutoDome see *Section 2 VG4 Firmware Updates via the CTFID*, page 13.



CAUTION! If a service pack contains an upgrade to the IP firmware file (`vip_x_app1.fw`), you must upgrade the IP firmware before you perform any other firmware update. (For example, before uploading `SCBootApp.g4i` or `SCMain.g4i`).

1.1 Determining the IP Communications Module

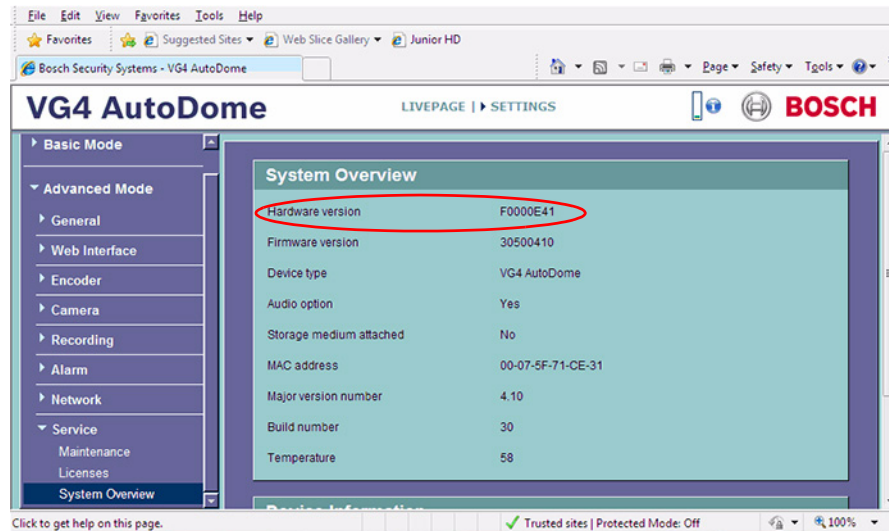
Each IP AutoDome contains a communication module that encodes the video signal for transfer over an IP network. Two versions of the IP Communication Module exist:

- VG4-MTRN-E: older module that uses MPEG-4 encoding
- VG4-MTRN-E1: current module that uses H.264 encoding

Separate service packs exist for the MPEG-4 and the H.264 module. You must first determine the IP Communications Module used in your AutoDome before updating the firmware using an AutoDome Service Pack.

To determine the IP Communications Module:

1. Launch Internet Explorer and type the IP address for the AutoDome in the Address bar and click Go.
Internet Explorer opens the Livepage view for the IP AutoDome.
2. Click the SETTINGS link, located at the top of the page.
3. Expand the Advanced options and click the Service link in the left pane.
4. Click the System Overview link.



5. Note the Hardware Version listed on the System Overview page and compare to the following:

Hardware Version	IP Communications Module	Firmware Version
F0000E41	VG4-MTRN-E	MPEG-4
F0002E41	VG4-MTRN-E1	H.264

6. Download the appropriate service Pack from the Bosch Security Systems Web site.

1.2 Upgrading the IP AutoDome

Use the following instructions to update the CPU or IP communications module firmware to an IP AutoDome (100, 200, 300 or 500i Series) over a TCP/IP network.

The preferred method to update an IP AutoDome is through a direct connection between the AutoDome and a PC. This method entails connecting the Ethernet cable from the IP AutoDome directly to the Ethernet port of a PC.

If the direct-connect method is not practical you can also update the IP AutoDome through a Local Area Network (LAN). You cannot, however, update the IP AutoDome through a Wide Area Network (WAN) or via the Internet.

The upgrade process for a VG4 100 Series AutoDome differs from the process to upgrade a VG4 200, 300 or 500i Series AutoDome. Refer to the next section (*Section 1.3 Upgrading the VG4 100 Series AutoDome*) to update a VG4 100 Series IP AutoDome. Refer to *Section 1.4 Determining Minimum Requirements (200, 300, 500i Series)* to start the update process for a VG4 200, 300, or 500i Series IP AutoDome.

1.3 Upgrading the VG4 100 Series AutoDome

The firmware update process for a VG4 100 Series IP AutoDome requires you to upload one image (.img) file to the AutoDome. The table below summarizes firmware releases for the VG4 100 Series AutoDome:

Release	Firmware Version	Release Date
1.05	1.09	November 28, 2006
1.06	1.10	December 14, 2006
1.07	1.11	January 26, 2007
1.08	1.12	February 21, 2007
1.09	1.13	February 23, 2007

If you are upgrading a VG4 100 Series IP AutoDome refer to section *Section 1.5 Beginning the Firmware Update Process*, page 5, for further instructions.

1.4 Determining Minimum Requirements (200, 300, 500i Series)

The table below summarizes the information for the first full production versions of the VG4 AutoDome firmware.

Component	First Released Version	Release Date
SCBootApp.g4i	01.00.00.01	November 2006
SCMain.g4i	01.00.00.02	November 2006
VCA_App.g4i	01.00.00.01	April 2007
VCA_boot.g4i	00.06.00.00	April 2007
vip_x_app1.fw	2.00.00.58	November 2006

If the AutoDome receiving an upgrade contains firmware older than the files above, then the AutoDome is considered a pre-production model. Service packs may not properly update a pre-production model. If you do need to update a pre-production model, follow the special instructions in *Section 3.1 Pre-production Firmware Versions (All Models)*, page 31.

1.4.1 Supporting Software Requirements

In addition to the release levels of the service pack files, you must download and install the latest releases of the Bosch ActiveX utility and the Sun Java software. Bosch recommends that you install this software prior to any VG4 firmware updates. The latest releases of this software is available at www.boschsecurity.com. Once at the site, navigate to the PTZ catalog listing and access one of the AutoDome Modular Camera System products.

1.4.2 Selecting the Service Pack

The VG4 AutoDome service packs are cumulative. Before you begin a firmware update, check the version of the System Controller (SC) firmware currently installed in the AutoDome (refer to *Section 3.2 VG4 Series Firmware Version Identification*, page 31, for more information). The version of the SC firmware determines the service pack you must start with. To determine the SC firmware version:

1. From the AutoDome IP Web-based interface, click the Services link.
2. Click the Service Settings link in the left pane; then click the Version Information link.
3. Compare the SC firmware level with the following table:

System Controller (SC) Version	Start with Service Pack	Release Date
1.00.00.02 to 1.04.00.02	1.01	July 12, 2007
1.05.00.02	1.02	October 2, 2007
1.06.00.04	1.03	November 19, 2007
1.07.00.01	1.04.05	January 11, 2008
1.08.00.02	1.05.01	September, 16 2008

Note: This table contains the latest information as of Service Pack 1.05.01. For subsequent service packs, refer to the table in the service pack release notes.

4. Download the appropriate service packs from www.boschsecurity.com and install each sequentially.

1.5 Beginning the Firmware Update Process

Use this procedure to connect to your IP AutoDome (VG4 100, 200, 300 or 500i Series AutoDome) and to navigate to the Firmware Update page.

1. Launch Internet Explorer and type the IP address for the AutoDome in the Address bar and click Go.

Internet Explorer opens the Livepage view for the IP AutoDome.

2. Click the SETTINGS link, located at the top of the page.

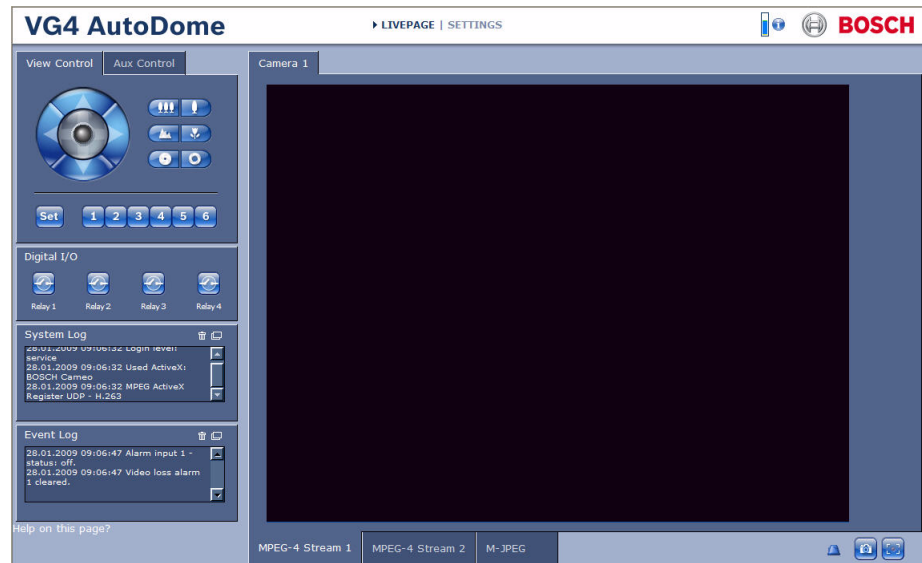


Figure 1.1 Select SETTINGS link

3. Click the Service link in the left pane.

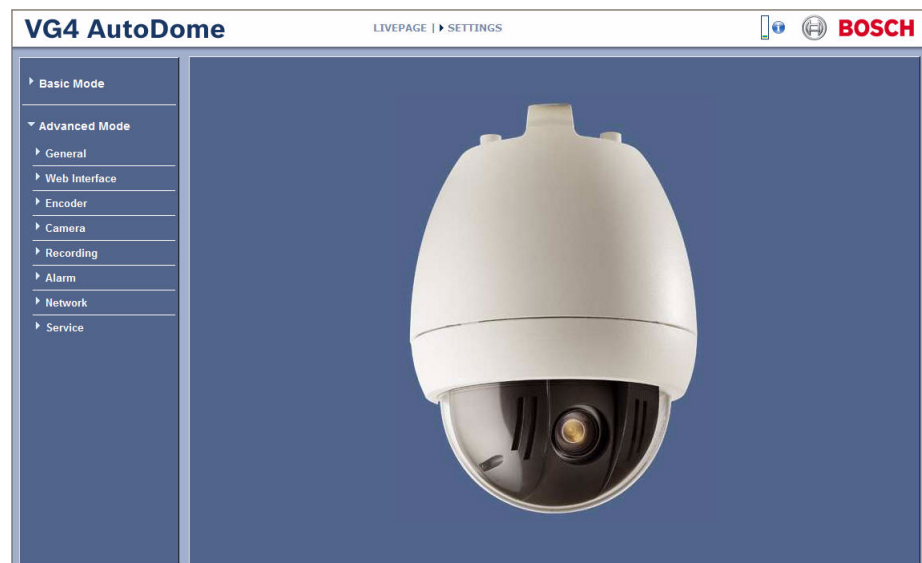


Figure 1.2 Select the Service link

4. Click the Maintenance link below the Service link.



Figure 1.3 Service Settings Maintenance option

5. Refer to the following sections, depending on the VG4 IP AutoDome series you need to update:
 - VG4 100 Series IP AutoDome: *Section 1.6 Updating VG4 100 Series IP AutoDome Firmware*, page 6
 - VG4 200, 300 or 500i Series IP AutoDome: *Section 1.6 Updating VG4 100 Series IP AutoDome Firmware*, page 6

1.6

Updating VG4 100 Series IP AutoDome Firmware



CAUTION! Updating the firmware erases all device settings. To save these settings, click the Configuration download button to save the current device settings and then upload this file after the completion of the firmware update.

1. Click the Search button next to the Maintenance pane Firmware Upload field; then browse to the directory that contains the firmware files.
2. Select the appropriate image (.img) file for your Device Model and Video Type; then click OK.
3. Click the Upload button.
4. Click OK to the warning message to continue the firmware upload, or click Cancel to stop the upload. The page displays a progress bar as the firmware is uploaded.



CAUTION! Do not perform any action, click any object, or minimize the Internet Explorer browser window during the firmware upload.

Note: Once the progress bar reaches 100% the system opens the reset page. Allow the reset page to complete its action.

5. The VG4 100 Series IP AutoDome firmware update is complete.

1.7 Updating VG4 200, 300 or 500i Series IP AutoDome Firmware

The latest VG4 service pack is available on the Bosch Security Systems Web site. To download a service pack from the Web, navigate to www.boschsecurity.us, click the CCTV link, then click Software under the Download Library heading. Select CCTV, then Camera, PTZ and choose the AutoDome model to choose the service pack you want to download.

A service pack update usually contains more than one file. The VG4 AutoDome system determines which files it requires, and automatically selects a service pack file if its version is greater than the version installed in the AutoDome.

Note: When uploading a service pack to an AutoDome you can choose to install the files which are automatically selected, or skip a file by deselecting it. If you choose to deselect a file that is a newer version than the one already installed, you will receive a warning that skipping a particular file may cause system instability.

1.7.1 Order to Upload Files

There is a specific order in which service pack files must be uploaded to the AutoDome. Before starting a firmware upgrade, note the current version of firmware of your AutoDome: Select the SETTINGS link, then click the Service link in the left pane, and select Version Information.

The following table shows the order of file installation and offers descriptions for each file:

File Name	AutoDome Series/Module	Function
Vip_x_app1.fw	IP Communications Module	Updates the IP Comms module firmware.
SCBootApp.g4i	200, 300, 500i	Updates the system controller boot firmware.
VCA_boot.g4i	500i	Updates PTZ camera Video Content Analysis firmware. Install this file during the installation of the SCBoot.g4i file.
SCMain.g4i	200, 300, 500i	Updates the system controller firmware.
VCA_app.g4i	500i	Updates PTZ camera Video Content Analysis firmware. Install this file during the installation of the SCMain.g4i file.
FPGA_SC.g4i	200, 300	Updates the FPGA chip.
FPGA_VCA.g4i	500i	Updates the FPGA chip.
Language_Lang	200, 300, 500i	Uploads an additional language file for the VG4 on-screen display menus.

Table 1.1 Firmware files and their function

Notes for File Upload

1. **VIP_X:** You must upload the `vip_x_app1.fw` file first, if the firmware service pack contains an upgrade to the current IP firmware.



CAUTION! If a service pack contains an upgrade to the IP firmware file (`vip_x_app1.fw`), you must upgrade the IP firmware before you perform any other firmware update. (For example, before uploading `SCBootApp.g4i` or `SCMain.g4i`).

2. **System Controller (SC) Boot/VCA Boot:** You must upload the SC/VCA Boot files if the version contained in the service pack is greater than the installed version. The boot files are stored in a separate Boot directory. Always check for and install these files before before installing the system configuration SC Main files.

Note: The SC Boot upload process erases the resident SC Main components, which completely disables the VG4 AutoDome. When you upload the SC Boot files the IP Web Server displays a message notifying the installer that the SC Main files must be reinstalled.

3. **System Controller (SC) Main/VCA Main:** If the service pack contains only the SC/VCA Main files, you can upload these files without a corresponding upload of the SC/VCA Boot file. However, if the service pack contains an SC/VCA Boot file upgrade, there can be incompatibility issues if the SC/VCA Boot is not uploaded before the SC/VCA Main file.
4. **Custom Language:** Certain Service Pack include an optional language file to upgrade the VG4 AutoDome on-screen display menus. This firmware upgrade is installed last.

1.7.2

Selecting and Uploading Firmware Files

To upload the service pack firmware, use the following procedure:

1. Check the version of the SC firmware file to determine the service that you must start with. See *Section 1.4.2 Selecting the Service Pack*, page 4.
2. Click the Search button next to the Firmware Upload field; then browse to the directory that contains the firmware files.

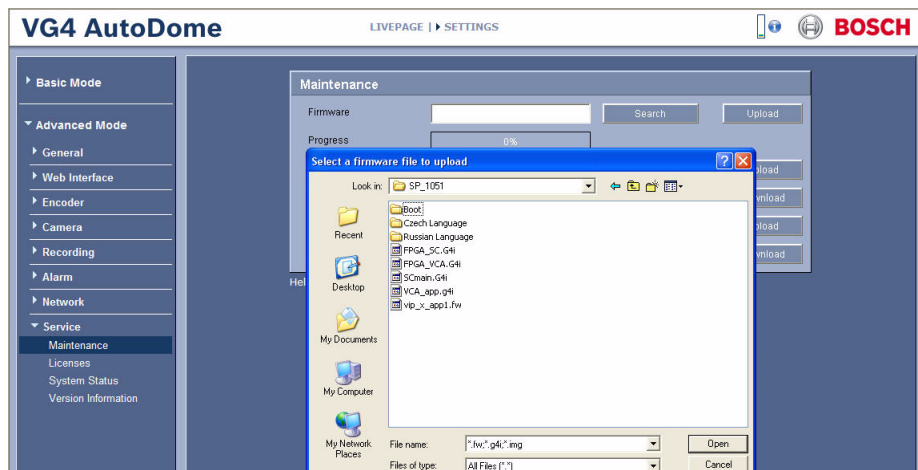


Figure 1.4 Choose firmware directory

3. Select the appropriate firmware update file and click Open.
 - a. If a service pack contains an IP upgrade file (`vip_x_app1.fw`), you must upload this file first, before performing any other firmware update. (For example, before uploading the `SCBootApp.g4i` or the `SCMain.g4i` files.)
 - b. If a service pack contains an upgrade to the SC Boot file and to the VCA Boot file, you must upload these files before uploading the SC Main and VCA_app file. The boot files are stored in a separate Boot directory. Always check for and install these files before installing the SC Main and VCA_app files. Browse to and open the Boot directory, then install the `SCBootApp.g4i` file before installing the `SCMain.g4i` files



CAUTION! If a service pack contains an upgrade to the IP firmware file (`vip_x_app1.fw`), you must upgrade the IP firmware before you perform any other firmware update. (For example, before uploading `SCBootApp.g4i` or `SCMain.g4i`).

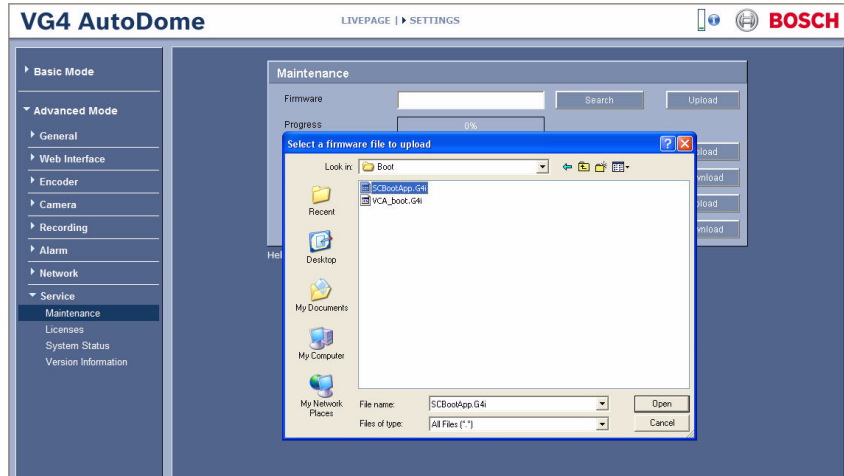


Figure 1.5 Select a Firmware file to upload

4. Click the Upload button.

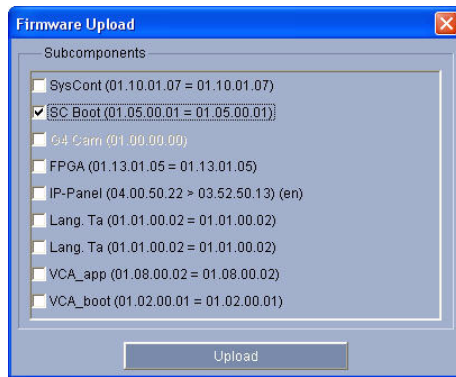


Figure 1.6 Upload Firmware

Note: Subcomponent files in the dialogue box may differ depending on the model of AutoDome and firmware being uploaded.

A highlighted filename indicates that the service pack directory contains that file. However, Boot files are stored in a separate Boot directory. If you are not in the Boot directory, the dialogue box will not highlight the boot files even though they are included in the service pack.

The dialog box displays the version of the file currently installed in an AutoDome and the version contained in the service pack separated by one of the following symbols:

Symbol	Description
=	The file currently installed is the same version as the file in the service pack
<	The file currently installed is an earlier version than the file in the service pack. The Update process automatically selects this file.
>	The file currently installed is a later version than the file in the service pack. If you choose to install this file, you receive a warning that the installation of this file may cause system instability.



CAUTION! Installing a file with a lower version number or skipping the installation of a file with a higher version number can cause instability within the system.

5. Click OK to the warning message to continue the firmware upload, or Cancel to stop the upload.



CAUTION! Updating the firmware erases all device settings. To save these settings, click the Configuration download button to save the current device settings and then upload this file after the completion of the firmware update.

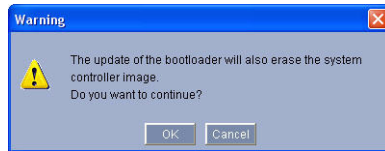


Figure 1.7 Warning message

The page displays a progress bar as the firmware is uploaded.

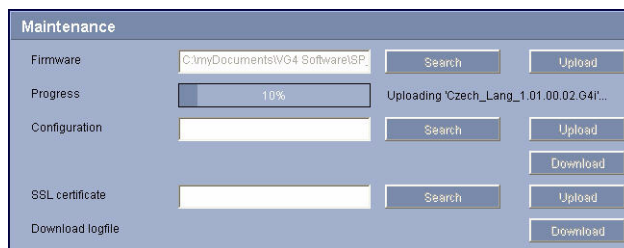


Figure 1.8 Upload progress bar



CAUTION! Do not perform any action, click any object in, or minimize the Internet Explorer browser window during the firmware upload.

Note: Once the progress bar reaches 100% the system opens the reset page. Allow the reset page to complete its action.

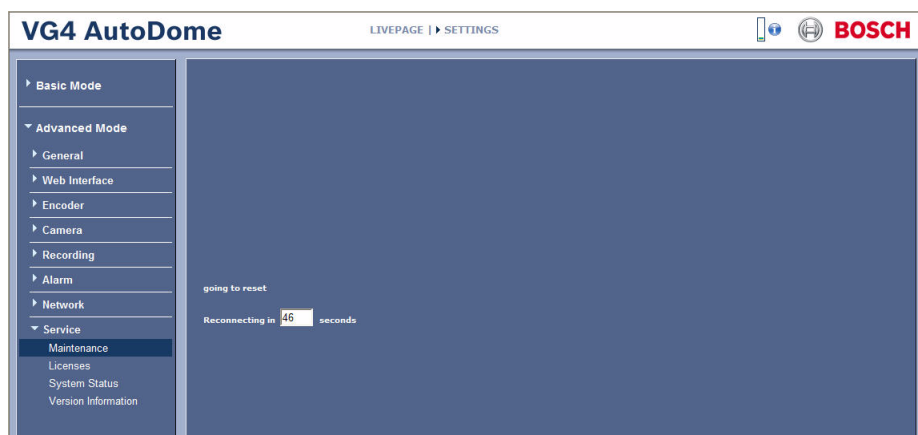


Figure 1.9 System Reset

6. Once the reset is complete, the following occurs depending on the firmware upgrade:
 - If only upgrading the IP Communications module firmware, the upgrade is complete.
 - If upgrading the AutoDome SCBoot firmware, after the AutoDome reinitializes and returns to the firmware upload mode, you will be prompted to upload the SCMain files (system configuration files) to complete the firmware update.

Note: To continue to upgrade the SCMain configuration files, follow steps 2 through 5 above to select and upload the files to the AutoDome.

1.7.3

Alternate Language Option

Certain Service Packs, versions 1.03 and later, may include the option to upload additional languages to the VG4 AutoDome. The firmware file to add a new language is located in the Language folder. Before installing an additional language, you must first upgrade the SCBoot and the SC Main files (refer to *Section 1.7.2 Selecting and Uploading Firmware Files*, page 8). The procedure for uploading an additional language is the same as uploading the other files.

Note: The VG4 Series AutoDome supports one additional language.

To install an additional language to the AutoDome:

1. From the IP AutoDome LIVEPAGE, select the SETTINGS link at the top of the window.
2. Click the Service Settings link in the left pane.
3. Click the Maintenance option to open the Maintenance window.
4. In the Maintenance window, click the firmware upload Search button, and browse to the Language folder in the service pack.
5. Select and open the Language folder.

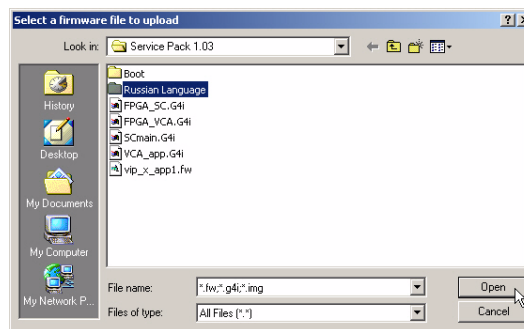


Figure 1.10 Language folder

6. Select the *language_Lang_xx.xx.xx.xx.G4i* file, and then click the Open button.

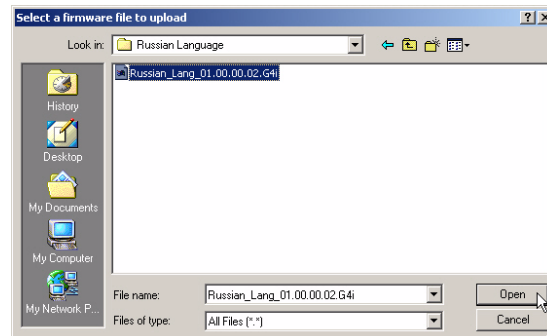


Figure 1.11 Select the Language file

7. Check the Language Table box under the subcomponents upload window.

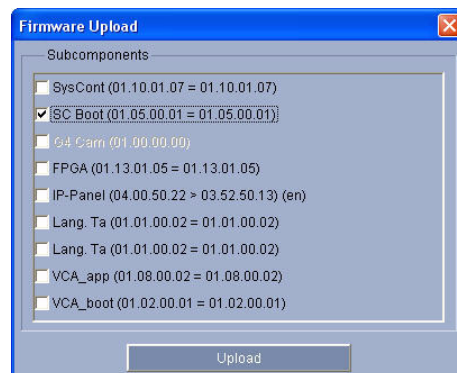


Figure 1.12 Check the Language Table box

8. Click the Upload Firmware button to start uploading the file. The browser displays a warning message.
 9. Click OK to continue the firmware upload.
- The page displays a progress bar. Once the progress bar reaches 100% the system opens the reset page. Allow the reset page to complete its action.



CAUTION! Do not perform any action, click any object in, or minimize the Internet Explorer browser window that is uploading the service pack files.

10. The AutoDome will restart and reconnect to the web browser after a successful upload. Refresh the window to restore the video to the AutoDome LIVEPAGE.

1.7.4

Changing the VG4 AutoDome OSD Language

There are two methods to change the VG4 AutoDome on-screen-display (OSD) language:

1. From the IP Autodome SETTINGS page:
 - a. Click the Camera Settings link in the left pane.
 - b. Click the Display link option.
 - c. Click Settings Group 1.
 - d. Select the appropriate OSD language from the Language drop down menu in the Settings Group 1 pane on the right.
2. From the AutoDome OSD menu:
 - a. Enter **ON-46-ENTER** from a control keyboard to open the Main menu.
 - b. Use the joystick control to select the Language menu and press a Focus or Iris button.
 - c. Use the joystick control to select to select the appropriate Language and press a Focus or Iris button.
 - d. Exit the Language menu and then the Main menu.

2 VG4 Firmware Updates via the CTFID

This chapter details the procedure to update the firmware files for a VG4 100, 200, or a 300 Series AutoDome® using the Configuration Tool for Imaging Devices (CTFID). The CTFID connects a computer to an AutoDome using a BNC to USB (Bilinx) connection or via a serial (RS232/RS485) connection.

Bilinx is a communication protocol that allows you to update the firmware for a VG4 Series over the video cable (coaxial or passive UTP). For a Bilinx connection, the CTFID is connected to an AutoDome using a BNC to USB converter (Bosch part VP-USB). For a serial connection, the AutoDome is connected to a computer through the DB9 Com port.

The version of the CTFID software must be version 3.04 or higher to interface with an AutoDome. (Visit www.boschsecurity.com for the latest version of the CTFID software). For further references and details, refer to the CTFID online help, to the CTFID *User's Manual* and to the *AutoDome Modular Camera System Installation Manual*.

The latest VG4 service pack is available on the Bosch Security Systems Web site. To download the service pack from the Web, navigate to www.boschsecurity.us, click the CCTV link, then click Cameras, PTZ and navigate to the product page for your AutoDome. Then click the Software tab on the product page.



NOTICE! Use this upgrade method with an AutoDome using a standard, non-IP Communications Module installed. If your AutoDome is IP-enabled, refer to *Section 1 VG4 Firmware Updates via a TCP/IP Network*, on page 1.

2.1 Upgrading the VG4 100 Series AutoDome

The upgrade process for a VG4 100 Series AutoDome differs from the process to upgrade a VG4 200 or 300 Series AutoDome. The firmware update process for a VG4 100 Series AutoDome requires you to upload one image (.img) file to the AutoDome.

The table below summarizes firmware releases for the VG4 100 Series AutoDome:

Release	Firmware Version	Release Date
1.05	1.09	November 28, 2006
1.06	1.10	December 14, 2006
1.07	1.11	January 26, 2007
1.08	1.12	February 21, 2007
1.09	1.13	February 23, 2007

If you are upgrading a VG4 100 Series AutoDome refer to section *Section 2.3 Hardware Connections*, on page 15, for instructions on connecting a VG4 100 Series AutoDome to the CTFID application.

2.2 Upgrading the VG4 200 or 300 Series AutoDome

The firmware upgrade process for a VG4 200 or 300 Series AutoDome requires updates to one or all of the following files:

File Name	AutoDome Series/Module	Function
Vip_x_app1.fw	IP Communications Module	Updates the IP Comms module firmware.
SCBootApp.g4i	200, 300, 500i	Updates the system controller boot firmware.
SCMain.g4i	200, 300, 500i	Updates the system controller firmware.
FPGA_SC.g4i	200, 300	Updates the FPGA chip.
FPGA_VCA.g4i	500i	Updates the FPGA chip.
VCA_boot.g4i	500i	Updates PTZ camera Video Content Analysis firmware. Install this file during the installation of the SCBoot.g4i file.
VCA_app.g4i	500i	Updates PTZ camera Video Content Analysis firmware. Install this file during the installation of the SCMain.g4i file.
language_Lang	200, 300, 500i	Uploads an additional language file for the VG4 on-screen display menus.

The next sections contain information and instructions you need before upgrading a VG4 200 or 300 Series AutoDome with the CTFID application.

2.2.1 Determining Minimum Requirements

The table below summarizes the information for the first full production versions of the VG4 200 or 300 Series AutoDome firmware. If the AutoDome receiving an upgrade contains firmware files older than the files below, the AutoDome is considered a pre-production model. To determine the versions of the firmware files:

1. Issue the **ON-66-ENTER** command twice, in quick succession.
The AutoDome displays the current firmware levels for the AutoDome files.
2. Compare the firmware levels with the following table:

Component	First Released Version	Release Date
SC Boot (SCBootApp.g4i)	01.00.00.01	November 2006
SC Main (SCMain.g4i)	01.00.00.02	November 2006
VCA_App.g4i	01.00.00.01	April 2007
VCA_boot (VCA_boot.g4i)	00.06.00.00	April 2007
IP-Panel (vip_x_app1.fw)	2.00.00.58	November 2006

Service packs may not properly update a pre-production model. If you do need to update a pre-production model, follow the special instructions in *Section 3.1 Pre-production Firmware Versions (All Models)*, on page 31.

2.2.2 Selecting the Service Pack

The VG4 AutoDome service packs are cumulative. Before you begin a firmware update, check the version of the System Controller Main (SC) firmware currently installed in the AutoDome. The SC Main firmware version determines the service pack with which you must start. To determine the SC Main firmware version:

1. Issue the **ON-66-ENTER** command on the keyboard.

The AutoDome displays the current firmware levels for the AutoDome files. The SC Main firmware level is enclosed in the box in the illustration below.

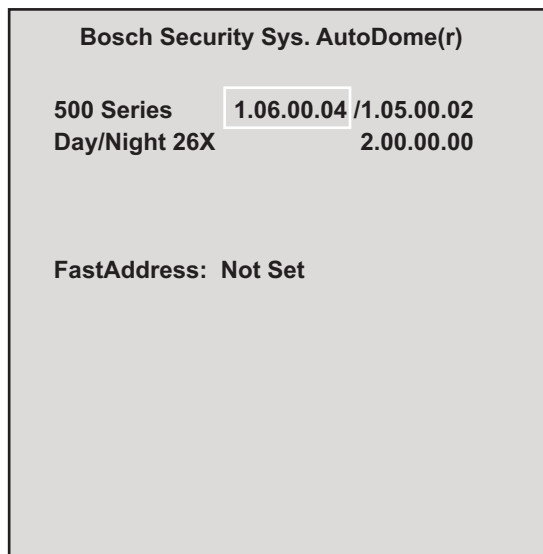


Figure 2.1 Display Software Version Menu

2. Compare the SC Main firmware level with the following table:

System Controller Main	Start with Service Pack	Release Date
1.00.00.02 to 1.04.00.02	1.01	July 12, 2007
1.05.00.02	1.02	October 2, 2007
1.06.00.04	1.03	November 19, 2007
1.07.00.01	1.04	January 11, 2008
1.08.00.02	1.05.01	September, 16 2008

Note: This table contains the latest information as of Service Pack 1.05.01. For subsequent service packs, refer to the table in the service pack release notes.

3. Download the appropriate service packs from www.boschsecurity.com and install each sequentially.

Refer to *Section 3.2 VG4 Series Firmware Version Identification*, on page 31, for more information.

2.3 Hardware Connections

This section provides a brief description of the devices necessary to connect a PC (with the CTFID software installed) to a VG4 AutoDome. Refer to the *AutoDome Modular Camera System Installation Manual* and to the *CTFID User's Manual* for detailed connection information.

2.3.1 Bilinx Connections

To create a Bilinx interface between a PC and a VG4 AutoDome you must have a Bosch VP-USB connector. The connector has a USB connector on one end and a female BNC on the other end. *Figure 2.2* illustrates the interface connections:

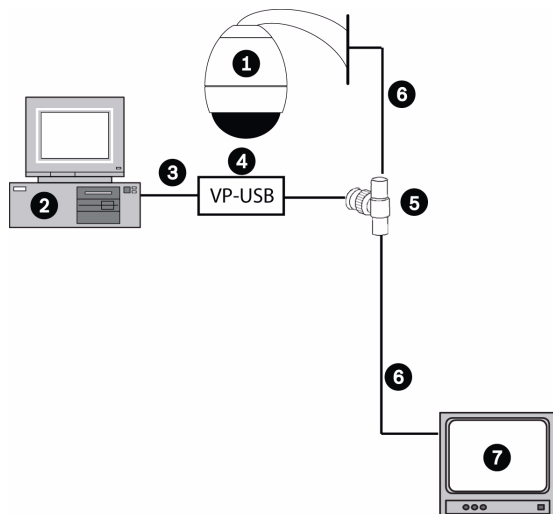


Figure 2.2 PC to VG4 AutoDome Bilinx Connections

1	AutoDome version 5.10 or higher, and another Bilinx device	5	BNC “T” connector
2	PC running CTFID software	6	Coax to input of monitor
3	USB Port	7	Typical CCTV monitor
4	VP-USB adapter		

It is recommended that the CTFID software be installed prior to connecting the hardware to the USB port. Refer to the *CTFID Installation Manual* for additional information.

To see the device output, use a CCTV monitor with looping inputs or a T connector (not provided) for the coaxial cable, and plug the second coaxial cable into the CCTV monitor. Ensure that the monitor is either auto-terminating or is set to low impedance.

2.3.2 Serial Connections

The CTFID can also communicate with a VG4 AutoDome via an RS232 or an RS485 serial cable connected to a PC with a DB9 connection. The following illustration depicts a typical serial connection (refer to the *CTFID User’s Manual* for detailed connection instructions) .

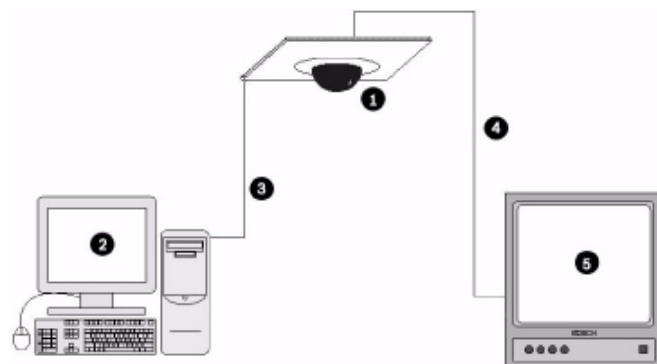


Figure 2.3 PC to VG4 AutoDome Serial Connections

1	AutoDome 100, 200 or 300 Series AutoDome
2	PC Running CTFID Software
3	RS-232 Connection
4	Coax to Monitor Input
5	Typical CCTV Monitor

2.4 Launching the CTFID Software

You must install the CTFID software on the computer from which you will configure a camera. To install the CTFID software, refer to the *CTFID User's Manual* for instructions.

The method in which the CTFID software responds depends on the type of connection (Bilinx or serial) it detects. The CTFID initially checks for a Bilinx connection through a USB port. If the CTFID does not detect a Bilinx connection, the software prompts you to identify the type of serial connection.

2.4.1 Launching with a Bilinx Connection

If using a Bilinx connection, use the following instructions to launch the CTFID software:

1. Double-click the CTFID icon on the Windows Desktop. The CTFID software automatically checks for the Bilinx signal from the VG4 AutoDome. Once connected, the CTFID displays the Main Screen:

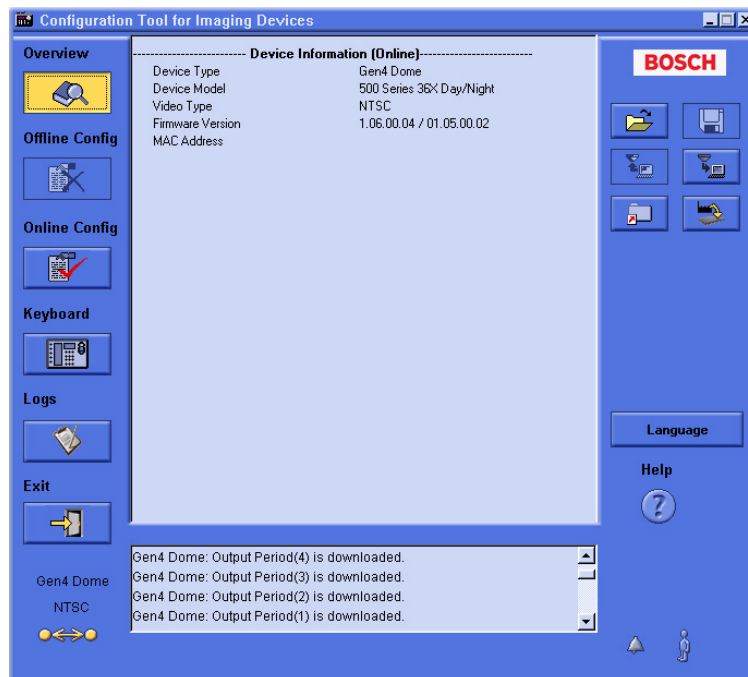


Figure 2.4 CTFID Main Screen

2. Proceed to *Section 2.5 Uploading VG4 AutoDome Firmware Files*, on page 20.

2.4.2 Launching with a RS232/RS485 Serial Connection

If using a RS232/RS485 serial connection, use the following instructions to launch the CTFID software.

1. Double-click the CTFID icon on the Windows Desktop.
2. Click Cancel to select an alternate interface.

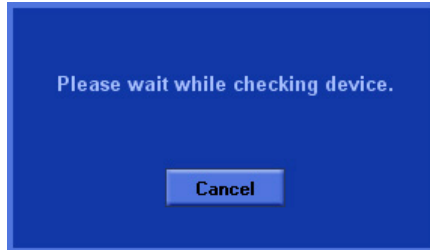


Figure 2.5 CTFID Detect Device Screen

3. Click the Select an alternate interface radio button and click Continue.



Figure 2.6 Alternate Interface dialog box

4. Ensure that the Serial radio button is selected.
5. Select the COM Port that is connected to the DB9 connector.
6. Accept the default baud rate.

Note: If unable to connect, make sure the VG4 AutoBaud setting is turned on.

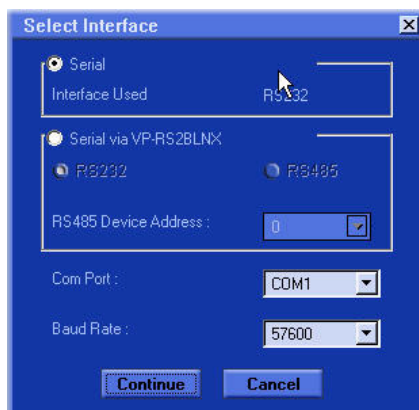


Figure 2.7 Select Interface dialog box



NOTICE! The VP-RS2BLNX device is not available in the United States.

7. Click Continue to start downloading the VG4 AutoDome configuration settings.

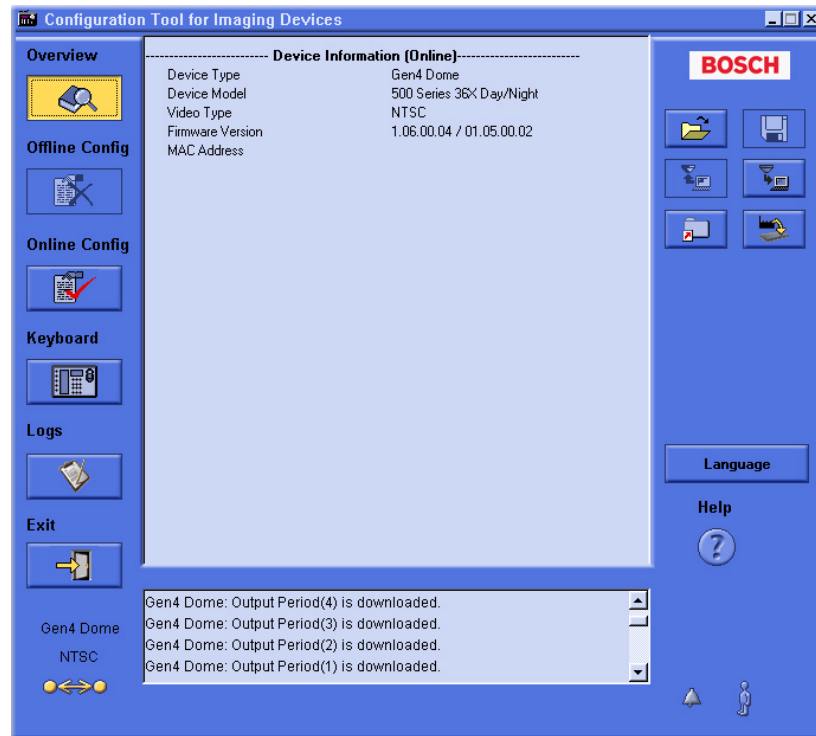


Figure 2.8 Downloading AutoDome Device Settings

8. Proceed to *Section 2.5 Uploading VG4 AutoDome Firmware Files*, on page 20.

Note: The CTFID typically connects to an AutoDome in approximately 15 seconds, but it can continue to attempt a connection for up to one minute.

2.5 Uploading VG4 AutoDome Firmware Files

The VG4 AutoDome service packs are available on the Bosch Security Systems Web site. To download a service pack from the Web, navigate to www.boschsecurity.us, click the CCTV link, then click Software under the Download Library heading. Then select CCTV and Camera, PTZ and choose the AutoDome model to download the service pack to the PC media storage device of your choice.

Refer to the next section for instructions to upload firmware files to a VG4 100 Series AutoDome. Skip to *Section 2.5.2 Uploading a VG4 200 or VG4 300 Series AutoDome Service Pack*, on page 21, for information and instructions for uploading firmware files to a VG4 200 or 300 Series AutoDome.

Note: When uploading a service pack to a VG4 AutoDome you can choose to install the files which are automatically selected, or skip a file by deselecting it. If you choose to skip a file that is a newer version than the one already installed, you will receive a warning that skipping a particular file may cause system instability.

2.5.1 Uploading a VG4 100 Series AutoDome Service Pack

1. Download the VG4 100 Series AutoDome firmware image (.img) file, from the Bosch Security Systems Web site, and save this file to a computer with the CTFID application.
2. Click the Upload Firmware button on the right side of the CTFID Main Screen.

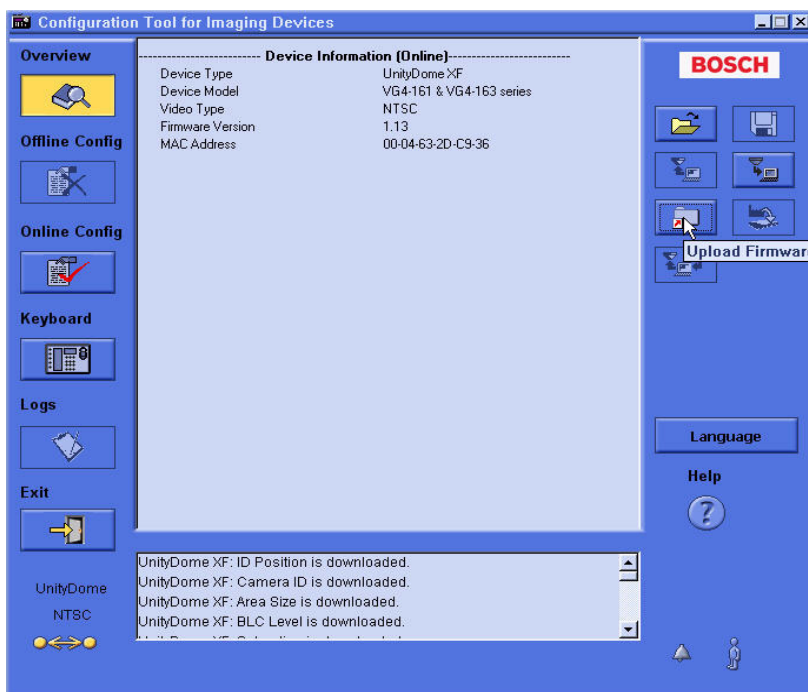


Figure 2.9 Upload Firmware Button

3. Navigate to the location of the firmware update file.
4. Select the appropriate file for your Device Model and Video Type; then click OK.

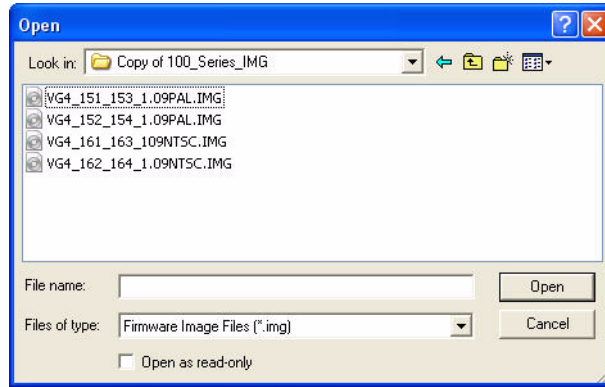


Figure 2.10 Select VG4 100 Series Firmware Image File

The CTFID displays a message warning you that the firmware update process erases all device settings and returns the settings to the factory default value.

5. Click OK to accept the warning and to start the update process.
The CTFID begins the firmware update and marks the update progress at the bottom of the screen. This process may take several minutes to complete.
6. Once the firmware update is complete, the CTFID displays a message that the firmware update was successful.
7. Click OK to confirm the message.
8. The CTFID reloads the settings from the camera and displays the Device Information screen.
9. Ensure that the Firmware Version field reflects the new firmware version.

2.5.2

Uploading a VG4 200 or VG4 300 Series AutoDome Service Pack

The table below summarizes the information for the first full production versions of the VG4 AutoDome firmware.

Component	First Released Version	Release Date
SCBootApp.g4i	01.00.00.01	November 2006
SCmain.g4i	01.00.00.02	November 2006
VCA_app.g4i	01.00.00.01	April 2007
VCA_boot.g4i	00.06.00.00	April 2007

If the AutoDome receiving an upgrade contains firmware older than the files above, then the AutoDome is considered a pre-production model. Service packs may not properly update a pre-production model. If you do need to update a pre-production model, follow the special instructions in *Section 3.1 Pre-production Firmware Versions (All Models)*, on page 31.

2.5.3 Order to Upload Files

There is a specific order in which service pack files must be uploaded to the AutoDome. Before starting a firmware upgrade, note the current firmware version of your AutoDome listed in the CTFID Device Information window.

Use the following file order to upload firmware to the AutoDome:

1. **SC Boot:** You must first upload the SC Boot file if the service pack contains a version of the file greater than the installed version. The boot files are stored in a separate Boot directory. Always check for and install this file before installing the System Configuration (SC) Main file.
Note: The SC Boot upload process erases the resident SC Main components, which completely disables the VG4 AutoDome. When you upload the SC Boot files the CTFID displays a message notifying the installer that the SC Main files must be reinstalled.
2. **SC Main:** Upload this file after uploading the SC Boot file. If the service pack does not contain an SC Boot update, you should upload the SC Main file first.
3. **FPGA:** This file is uploaded along with the SC Main file.
4. **Language:** Certain service packs include an optional language upgrade file used to update the VG4 AutoDome on-screen display menus. Upload this firmware file last.

2.5.4 Selecting and Uploading Firmware Files

To upload the service pack firmware, use the following procedure:

1. Check the version of the SC Boot firmware file to determine the service pack that you must start with. See *Section 2.2.2 Selecting the Service Pack*, on page 15.
2. Download the service pack from the Bosch Security Systems Web site. See *Section 2.5 Uploading VG4 AutoDome Firmware Files*, on page 20
3. Click the Upload Firmware button on the right side of the CTFID Main Screen.

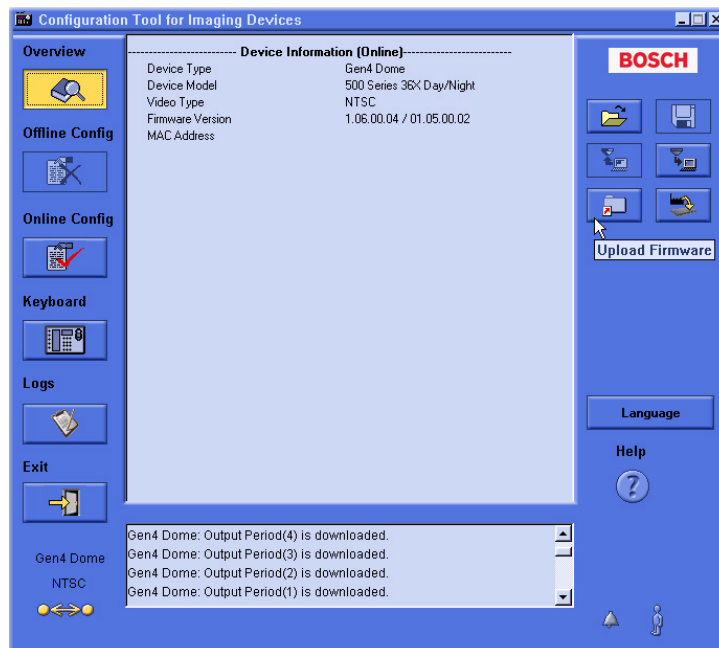


Figure 2.11 CTFID Main Screen - Firmware Upload Button

The CTFID opens the Choose Service Pack Folder dialog window.

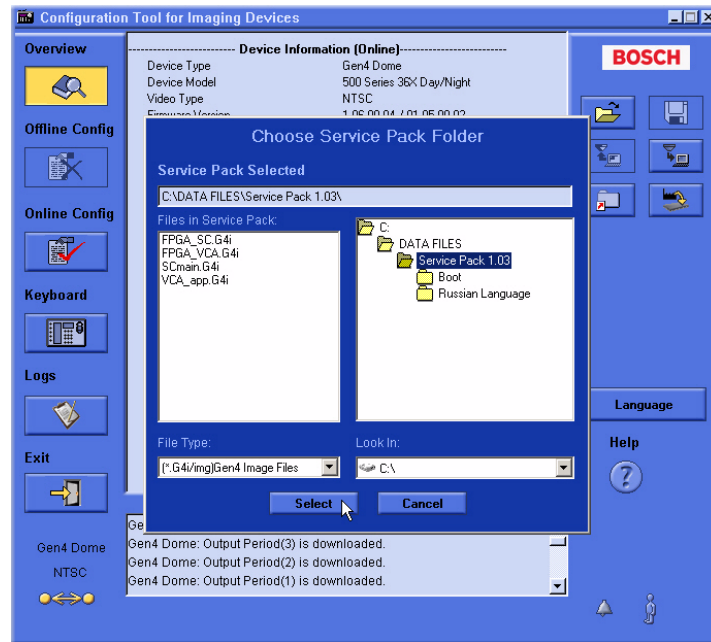


Figure 2.12 Choose a Service Pack

4. From the Look In drop-down list, navigate to the drive that contains the service pack.
5. Select the directory that contains the service pack files.

Note: If the service pack contains an updated SC Boot file, you must update this file first. You must navigate to the Boot directory first to check for an updated version of the SC Boot file. See Section 2.5.3 Order to Upload Files, on page 22.

2.5.5 Updating the SC Boot file

1. Double-click the Boot subdirectory to check if the service pack contains an update for the SC Boot file.

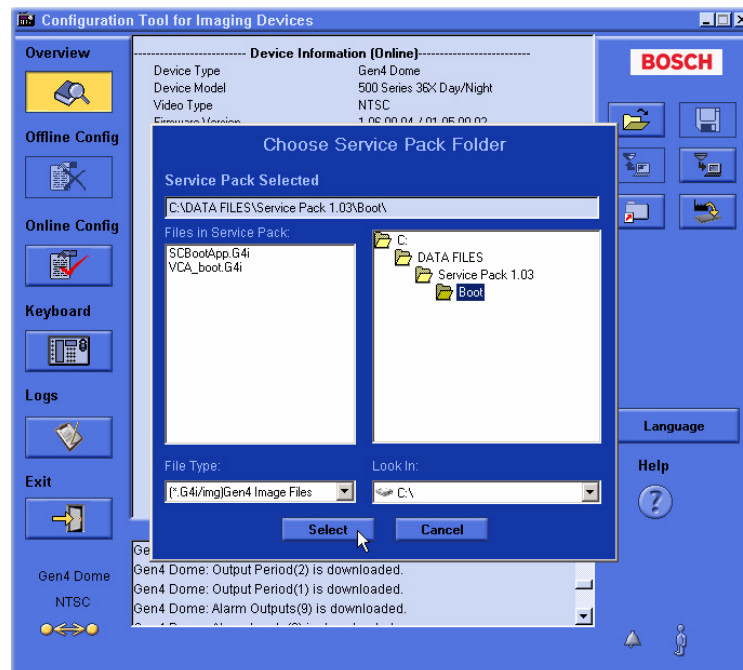


Figure 2.13 Service Pack File Selections

- The CTFID reads the firmware file versions installed on the AutoDome, and compares it to the firmware file versions in the directory. The CTFID automatically selects the required files to update the AutoDome to the latest versions. The Select Firmware Upload dialog box displays the firmware files that the CTFID determines are updated files.

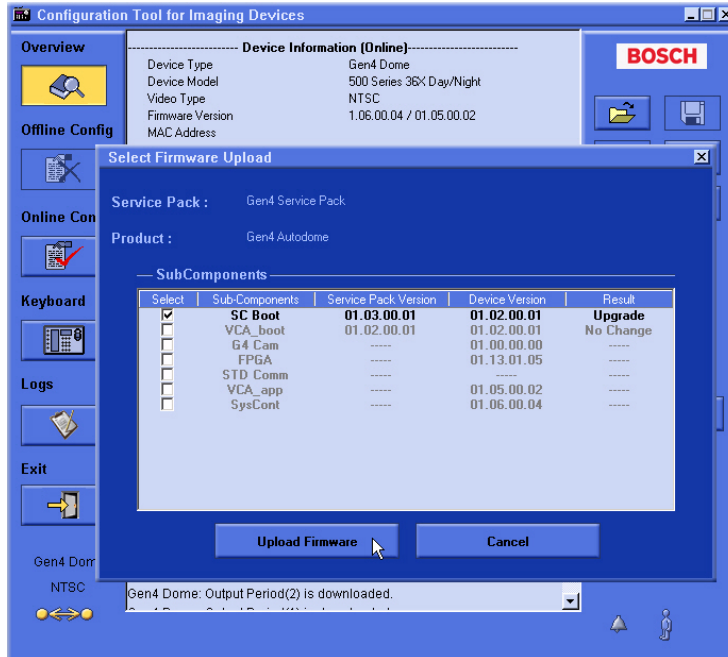


Figure 2.14 Service Pack subcomponents

A highlighted filename with a check mark in the box indicates that the service pack directory contains that file. The subcomponent list also displays the version of the file in the service pack and the version of the file currently installed in the VG4 AutoDome (Device Version). The CTFID automatically selects a service pack file for uploading if its version is greater than the version of the file installed in the AutoDome.

Note: Boot files are stored in a separate Boot directory. If you are not in the Boot directory, the Firmware Upload window does not highlight the boot files even though they are included in the service pack.

- Click the Upload Firmware button to accept the checked files.
- Click Yes to the Warning message to start the update process.



CAUTION! Updating the firmware erases all device settings. To save these settings, click on the Configuration download button to save the current device settings and then upload this file after the completion of the firmware update.

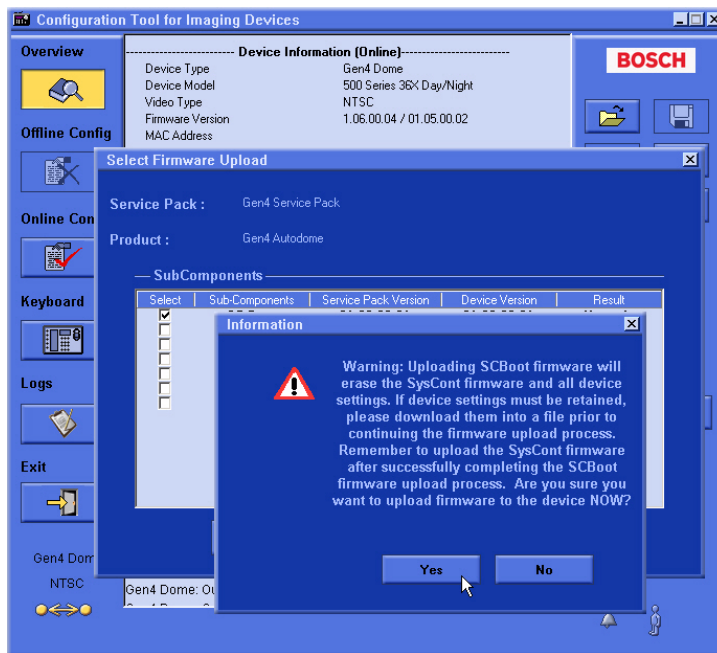


Figure 2.15 Firmware Update Warning

5. The AutoDome disconnects from the CTFID; then restarts into the BootLoader mode and reconnects to the CTFID.

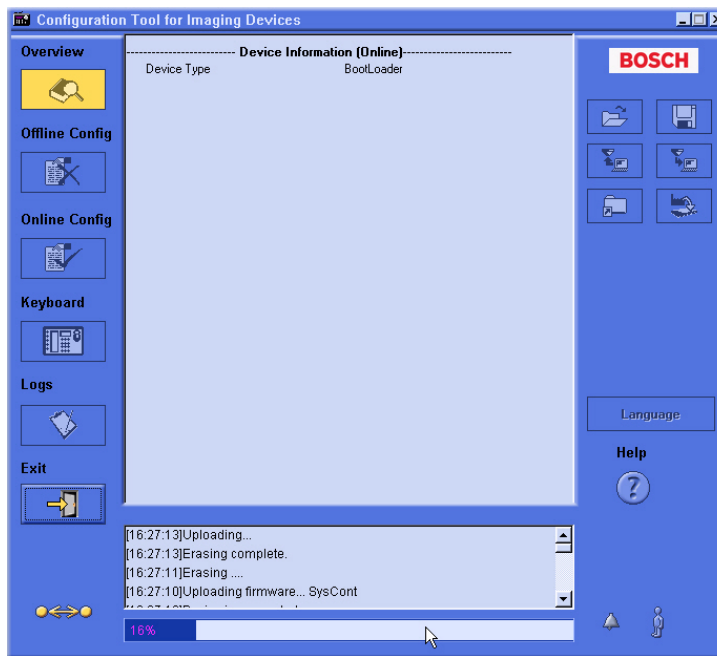


Figure 2.16 BootLoader Mode

- Click OK to continue uploading the service pack files.

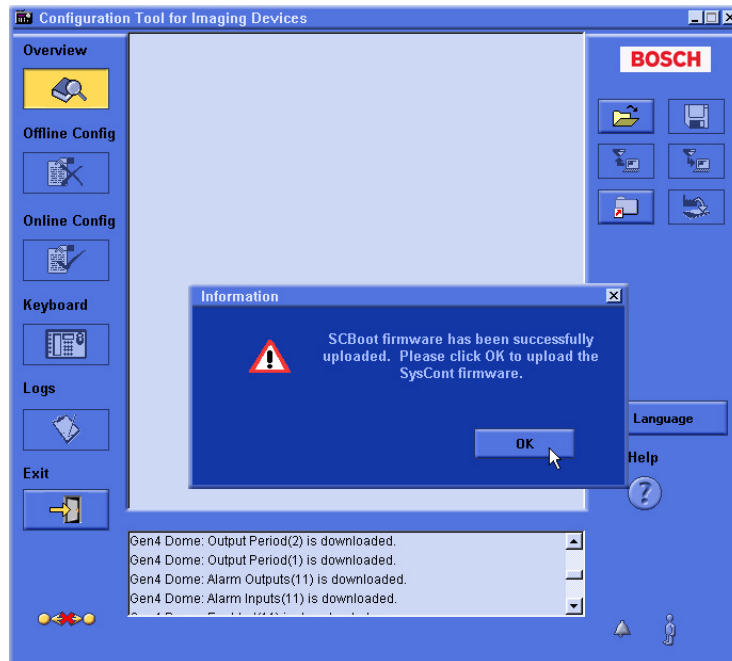


Figure 2.17 Successful SCBoot Upgrade

2.5.6 Updating the SC Main Files

The SC Main file must be uploaded next.

- Navigate to the Service Pack directory that contains the SC Main files and double-click on the folder to refresh the Files In Service Pack list.



Figure 2.18 Choose Service Pack Folder

- The CTFID reads the firmware file versions installed on the AutoDome, and compares it to the firmware file versions in the Service Pack directory. The CTFID automatically selects the required files to update the AutoDome to the latest versions. The Select Firmware Upload dialog box displays the firmware files that the CTFID determines are updated files.

- Click the Firmware Upload button to accept the checked files. The CTFID displays a warning message.

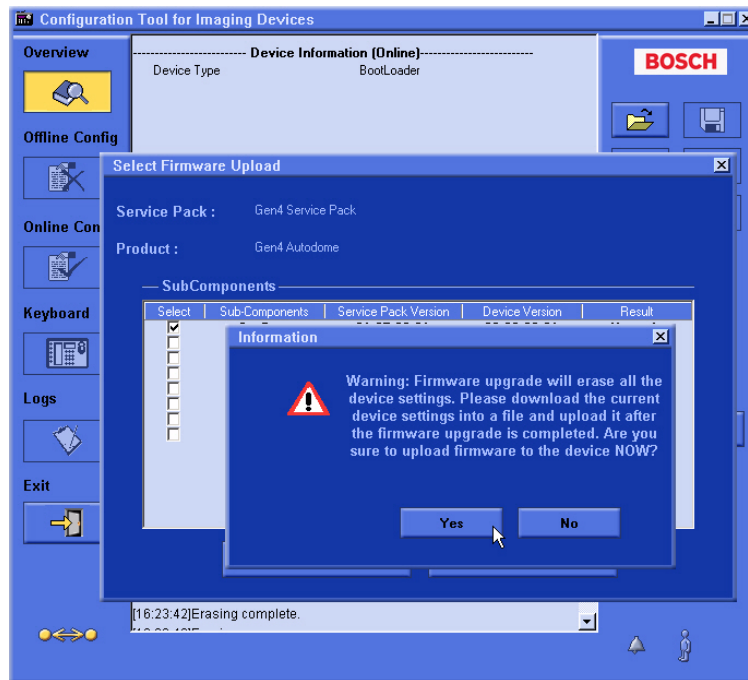


Figure 2.19 Firmware upgrade warning

- Click Yes to start the file update process.



CAUTION! Updating the firmware erases all device settings. To save these settings, click on the Configuration download button to save the current device settings and then upload this file after the completion of the firmware update.

- The AutoDome disconnects and proceeds through its homing process, and then restarts. During this time **DO NOT CLICK ANYTHING!** The AutoDome reconnects automatically to the CTFID.

- Click OK to complete the upgrade process.

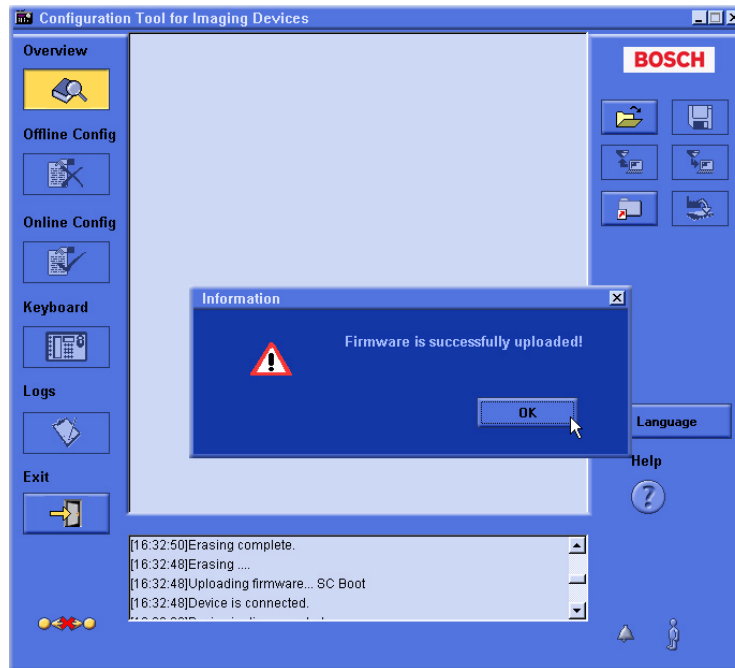


Figure 2.20 Successful upload message



NOTICE! When the upgrade operation is complete, the CTFID may display the Load Configuration dialog box. Disregard this dialog box; the CTFID removes the dialog box once the AutoDome reconnects to the CTFID.

- Confirm that the CTFID Main Screen displays the new firmware version for the AutoDome.

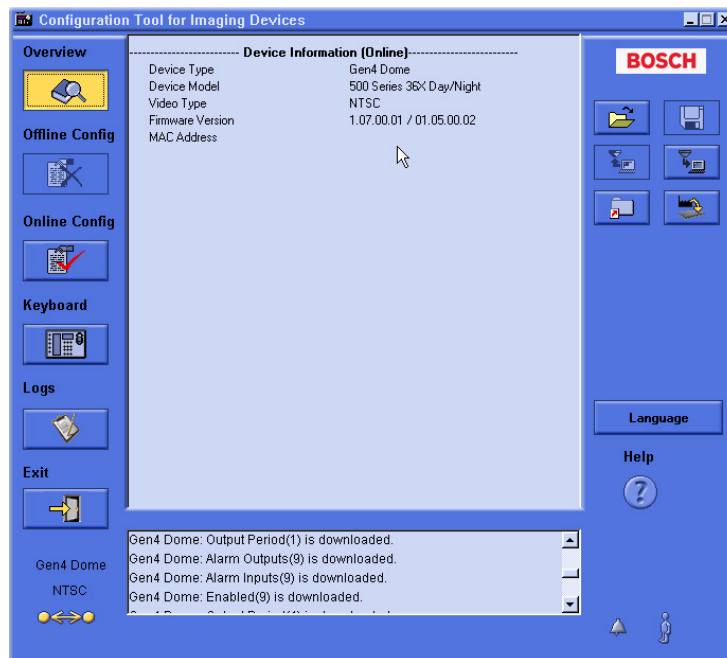


Figure 2.21 Confirm firmware version

2.5.7 Additional Language Option

Certain Service Packs, versions 1.03 and later, may include the option to upload the additional languages to the VG4 AutoDome. The firmware file to add a new language is located in the Language folder. Before installing an additional language, you must first upgrade the SCBoot and the SC Main files (refer to *Section 2.5.4 Selecting and Uploading Firmware Files*). The procedure for uploading an additional language is the same as uploading the other files.

Note: The VG4 Series AutoDome supports one additional language.

To install an additional language to the AutoDome do the following:

1. From the CTFID Main Window, click the Firmware Upload button located on the lower left side of the right pane.
2. Navigate to the Language folder and double-click on the folder to refresh the files in the Choose Service Pack Folder pane on the left.
3. Click the Select button to display the sub-component file list.

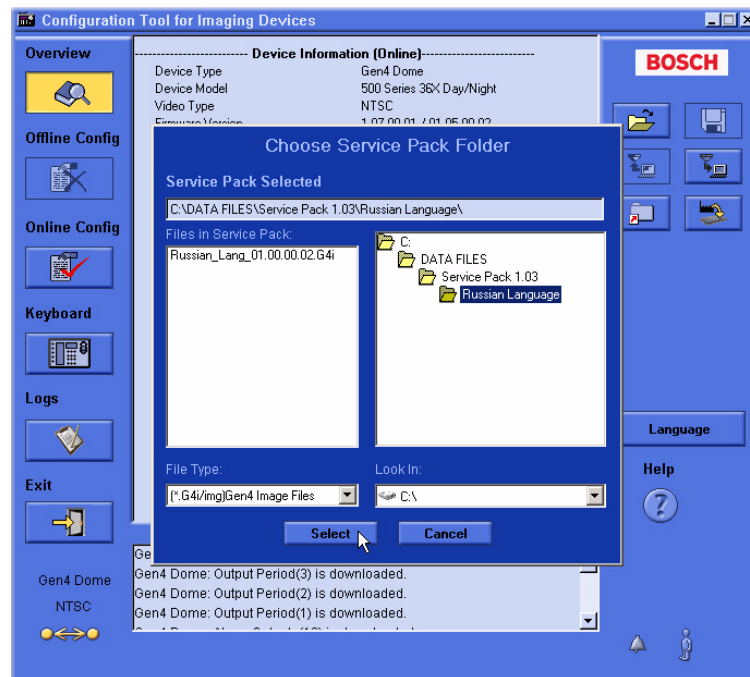


Figure 2.22 Select Language folder

4. Check the Language Table box in the Select Firmware Upload dialogue window.
Note: You must check the Language Table box in the sub-components list to select the additional language file for upload.

5. Click the Upload Firmware button, and acknowledge the Warning message to start uploading the Language Table file.



Figure 2.23 Upload Language table

6. The AutoDome disconnects and proceeds through its homing process, and then restarts. During this time DO NOT CLICK ANYTHING! The AutoDome reconnects automatically to the CTFID.

Note: Do not click on any buttons while the AutoDome is uploading. The CTFID removes the Load Configuration window after the AutoDome reconnects.
7. Once the Language Table file has successfully uploaded, click OK to close the message.

2.5.8

Changing the VG4 AutoDome OSD Language

There are two methods to change the VG4 AutoDome on-screen-display (OSD) language:

1. From the CTFID Main window:
 - a. Click the Online Config button on the left side of the window.
 - b. Click on Display - Setting Group 1.
 - c. Select the appropriate OSD language from the Language drop down menu.

Note: The Language button on the Main CTFID window changes the language for the CTFID user interface, It does not change the VG4 OSD menu.

2. From the VG4 AutoDome OSD menu:
 - a. Enter **ON-46-ENTER** from a control keyboard to open the Main window.
 - b. From the Main window select Language menu.
 - c. Select the appropriate Language from the menu.

3 Troubleshooting

This section provides information for issues that may arise during the upgrade process of a VG4 100, 200, 300, and a 500i Series AutoDome with or without the IP Communications module.

3.1 Pre-production Firmware Versions (All Models)



CAUTION! There is an increased risk when updating pre-production units. Possible hardware/software combinations may cause the firmware upgrade to fail.

If you attempt to upgrade a pre-production unit, refer to the normal upgrade instructions EXCEPT that each upgrade MUST be done in the following order:

1. Upgrade the IP Communications module first, if applicable, with the `Vip_x_app1.fw` file.
2. Upgrade the boot files:
 - `SCBootApp.g4i`, for 200, 300, and 500i Series AutoDomes.
 - `VCA_boot.g4i`, for 500i Series AutoDomes.
3. Upgrade the System Controller using the `SCMain.G4i` file.
4. Upgrade the 500i Series AutoDomes, if applicable, using the `VCA_App.g4i` file.

3.2 VG4 Series Firmware Version Identification

Each service pack contains a version of the files in the illustration below. The version number of the Service Pack is sequential, but the versions of the firmware modules included in the service pack varies. Although all files are included in a service pack, only a few of these files are upgraded with each service pack release.

To display the current versions of the VG4 firmware files:

- ▶ Issue the ON-66-ENTER command twice, in quick succession.

The AutoDome displays the current firmware levels for the AutoDome files. Compare these version numbers to the latest versions identified in the Release Notes, included with the Service Pack to determine if the VG4 requires an upgrade.



Figure 3.1 VG4 Firmware File Version On-screen Display

Ref.	Module Name	Filename
1	System Controller (SC)	SCMain.G4i
2	AutoTracker/Motion Detection (500 series only) Video Content Analysis	VCA_app.g4i
3	System Controller (SC) Boot	SCBootApp.G4i
4	Field Programmable Gate Array (200/300 series)	FPGA_SC.G4i
	Field Programmable Gate Array (500 series)	FPGA_VCA.G4i
5	Custom Language Table	Czech_Lang_01.01.00.02.G4i
		Russian_Lang_01.01.00.02.G4i
6	VCA Boot (500 series only)	VCA_boot.G4i
7	IP-Panel (Ethernet Comms module only)	vip_x_app1.fw

3.3 VG4 AutoDome with an IP Communications Module

This section offers suggestions if a firmware upgrade fails in a 100, 200, 300, and 500i Series AutoDome that contains an IP Communications module.

3.3.1 Web Browser Issues

The browser displayed video correctly before the upgrade, but is no longer streams after completing the upgrade process. Do a manual refresh of the LivePage. If this does not work, check to ensure the following:

- **Microsoft® Internet Explorer® version**

You must use Internet Explorer version 6.0 or higher with the 2.50 release level of the Bosch IP firmware. Internet Explorer version 5.0 worked with the Bosch IP firmware version 2.00.

- **Bosch MPEG ActiveX version**

Compare the Bosch MPEG ActiveX version number, displayed in the Internet Explorer information bar, to the latest version available on the VG4 CD, in the Install directory, or at the Bosch Security Systems Web site (www.boschsecurity.us).

- **Java version**

Microsoft Java is not longer supported. Install the latest Sun Java VM available on the VG4 CD, in the Tools directory, or at the Bosch Security Systems Web site (www.boschsecurity.us).

- **DirectX version**

The version of DirectX must be 9.0c or higher. Install the latest version, which is available on the VG4 CD, in the Tools directory, or at the Bosch Security Systems Web site (www.boschsecurity.us).

3.3.2 IP Firmware Update Error

If you attempt to upgrade the IP firmware (using the `Vip_x_app1.fw` file) after you update the CPU firmware (using the `SCBootApp.g4i` or the `SCMain.g4i` file) the VG4 AutoDome may lock and you may receive the following error:

`C_Http_FwUpload::unknown error`

To correct this issue, use the following steps:

1. Connect to the AutoDome from a computer that contains the Configuration Tool for Imaging Devices (version 3.03 or higher) via an RS-232 or an RS-485 connector. Refer to *Section 2.4 Launching the CTFID Software*, page 17, for more information about an RS-232 connection, an RS-485 connection, and the CTFID tool.
2. Launch the CTFID tool.
3. Downgrade the version of the `SCBootApp.g4i` and the `SCMain.g4i` file to the release level prior to the upgrade.
4. Once the `SCBootApp.g4i` and the `SCMain.g4i` files are successfully downgraded, restart the IP firmware upgrade process, installing the IP firmware update file first. Refer to *Section 1 VG4 Firmware Updates via a TCP/IP Network*, page 1, for complete instructions on installing the IP firmware upgrade.

3.3.3 IP Firmware Upgrade Fails

If an error message appears stating that the IP firmware upgrade has failed, navigate to the following special URL:

`http://IP_AutoDome_IP_Address/upload.htm`

Where `IP_AutoDome_IP_Address` is the IP address for your IP AutoDome.

The browser then displays the following window:

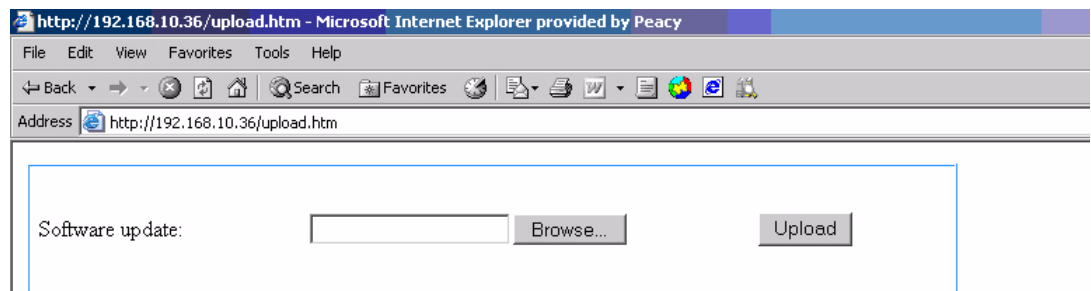


Figure 3.2 IP Firmware Upgrade URL

Click Browse and navigate to the IP directory. Select the IP firmware file and click OK. Then click Upload to attempt the IP firmware upload again. If the upgrade fails again, contact Bosch technical support for assistance.

3.3.4 VCA App File Fails Upload

If the VCA App file fails to upload via an IP connection can cause the VG4 500i Series AutoDome not to function. The failure sets the VCA App and Boot firmware versions to 0.0.0.0 To correct this issue, return the AutoDome to the BootLoader mode and update the VCA App file via an IP connection.

1. Turn OFF the power to the AutoDome.
2. Copy the VCA App and SC Main (`VCAApp.G4i` and `SCMain.G4i`) files from the service pack directory into a separate, temporary directory.
3. Turn ON the power to the AutoDome.
The AutoDome restarts and attempts to load the VCA App twice. On the third attempt, the AutoDome starts without loading the VCA App.

4. Using the Windows `cmd.exe` application, ping the IP address of the AutoDome.
 - If you do not receive a response from the ping, recycle the power to the AutoDome.
 - If you receive a response from the ping, proceed to the next step.
5. Launch Internet Explorer and navigate to the IP address of the AutoDome.
6. Click the Service link at the top of the page.
7. Click the Maintenance link, located in the left pane, then click the Firmware Upload link.
8. Click the Search button and navigate to the temporary directory that contains only the `VCAApp.G4i` and the `SCMain.G4i` files and click OK.
9. Click the Upload button to start the update process.

The upload process prompts you to select the components to update.
10. Accept the default file selections.

The AutoDome attempts to upload the VCA App first.
11. Once the VCA App upload progresses to 1% turn OFF the power to the AutoDome and close Internet Explorer.
12. Remove the `SCMain.G4i` file from the temporary directory.
13. Turn ON the power for the AutoDome.
14. Launch Internet Explorer and navigate to the IP address of the AutoDome.

The AutoDome IP interface takes some time to communicate with the AutoDome. The interface displays the following message:

```
Waiting for camera
```

Do not proceed to the next step until communication is established with the AutoDome.
15. Click the Service link at the top of the page.
16. Click the Maintenance link, located in the left pane, then click the Firmware Upload link.
17. Click the Search button and navigate to the directory that contains only the `VCAApp.G4i` file and click OK.
18. Click the Upload button to start the update process.

The upload process prompts you to select the components to update.
19. Accept the default selections.

The AutoDome uploads the VCA App and restarts automatically after the upload finishes.
20. Issue the ON 66 ENTER command twice, in quick succession, to verify that the VCA App is restored.

3.4 Upgrading Firmware with the CTFID

These suggestions are applicable if upgrading using the CTFID software with either a Bilinx or a serial hardware connection.

3.4.1 CTFID does not Connect

Ensure that the latest version of CTFID has been installed from a CD or downloaded from the Bosch web site (www.boschsecurity.us).

3.4.2

BILINX

- Ensure that only one BILINX device is connected to the PC. For example, only one VP-USB may be connected to a PC at one time. In addition, disconnect the video output from the AutoDome from any other BILINX controller during a firmware upgrade.
- Confirm that all connections are correct and that the maximum recommended distance has not been exceeded.
- Confirm that there is a direct coax connection to the dome. BILINX cannot be transmitted through fiber without special fiber modules. BILINX also cannot be passed through analog distribution amplifiers, with the exception to the Bosch LTC 5231/90 and LTC 5234/90.
- Confirm that the coax signal is correctly terminated with only one 75 ohm load.

3.4.3

Serial (RS232 or RS485)

- Ensure that the CPU switch is set to the correct format. The factory default setting is RS485. Refer to the *AutoDome Modular Camera System Installation Manual* for more information.
- Confirm that the correct COM port was selected and that the cable is connected firmly to the DB9 connector.
- Ensure that all connections are correct and that the maximum recommended distance has not been exceeded.
- Ensure that the RS232 GROUND connection has been used.
- If using RS485, ensure that the termination resistor has been installed.
- Ensure the AutoDome AutoBaud is turned on.

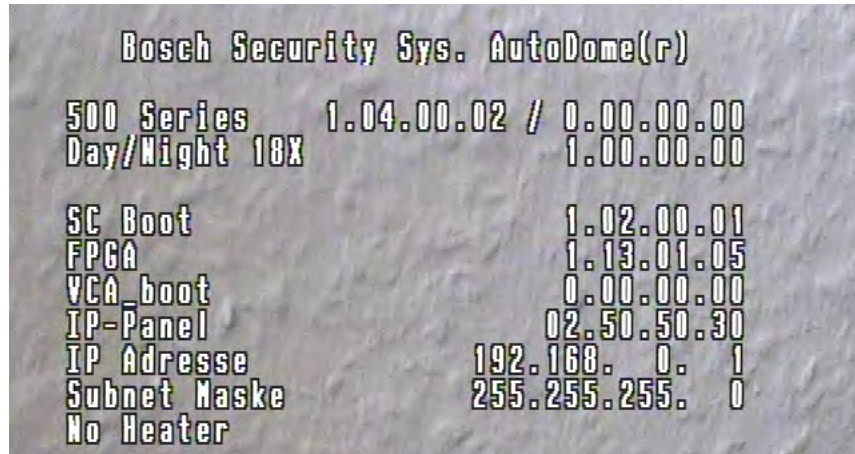
3.4.4

Firmware Upgrade via CTFID Fails

Try to repeat the upgrade a second time. If the upgrade continues to fail, contact Bosch technical support.

3.5 Auto Tracker Does not Activate with ON 78 ENTER

If the Auto Tracker does not activate when you enter the ON 78 ENTER command, check the version of the VCA firmware. To determine the firmware versions installed on an AutoDome, issue the AUX ON 66 command twice. The AutoDome displays a screen similar to the following:



If the version of the VCA firmware is 0.00.00.00, then the VCA firmware was not installed correctly.

To correct this issue, use the following steps:

1. Obtain the latest Service Pack from www.boschsecurity.us.
2. Connect to the AutoDome using either the CTFID (RS232, RS485, or Bilinx connection) or the web browser (IP AutoDome with Ethernet connection).
3. Re-install the VCA_boot.g4i and the VCA_App.g4i files from the service pack. Refer to *Section 2 VG4 Firmware Updates via the CTFID*, page 13, OR *Section 1 VG4 Firmware Updates via a TCP/IP Network*, page 1 for detailed steps to install the firmware updates).
4. Once the VCA_boot.g4i and the VCA_App.g4i files are successfully installed, the AutoDome will restart and the Auto Tracker will operate correctly.

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