



SB168-ES Firmware Update Guide

Thank you for choosing a Yamaha product.

This guide explains how to update the SB168-ES firmware and its built-in EtherSound module firmware.

■ Precautions (please be sure to read these)

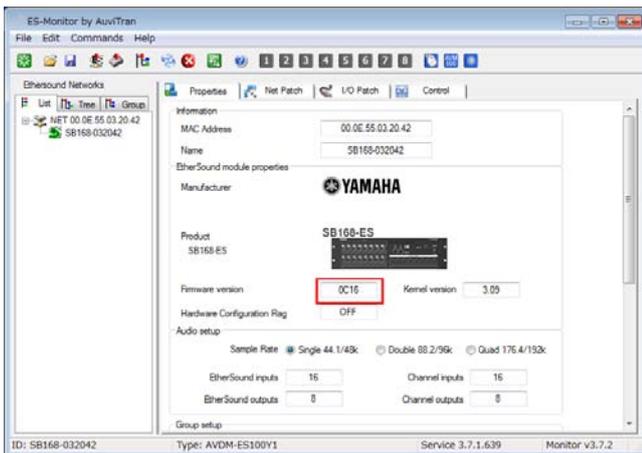
- The user assumes full responsibility for the update.
- Update the firmware components one unit at a time.
- Please note that the device may be damaged if you fail to follow these instructions properly, or turn off the device or disconnect the cable while the update is in progress.
- If the update fails, and the device still does not operate correctly even after you execute the update once again, please contact your Yamaha dealer.
- Yamaha Corporation owns exclusive copyrights for the SB168-ES firmware, its update program, and the update guide.
- AuviTran owns exclusive copyrights for the EtherSound firmware and its update program.
- It is prohibited to duplicate or modify the firmware, software or guides, in part or in their entirety, without permission from the copyright owner.
- The screen shots in this guide are for use with this update procedure only and may be different from the actual screen shots.
- EtherSound is a registered trademark of Digigram S.A.
- Windows is a registered trademark of Microsoft ® Corporation in the United States and other countries.
- The company names and product names in this document are the trademarks or registered trademarks of their respective companies.

■ Checking the version number

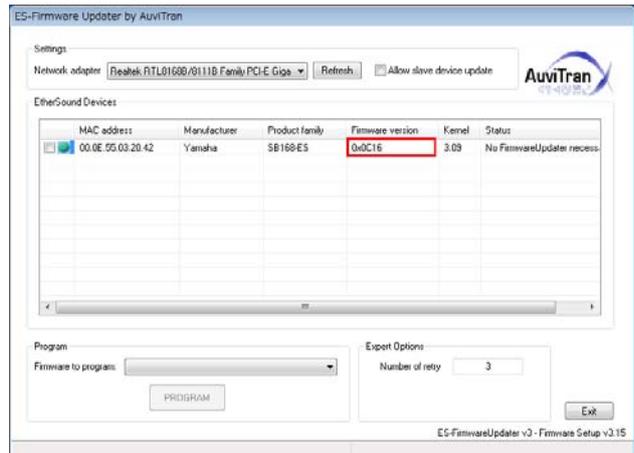
- You can determine the SB168-ES firmware version number by the illumination pattern of the INPUT jack indicators when the power is turned on.

Version	Illumination pattern
1.0	Each INPUT jack indicator lights in sequence from INPUT 1 to INPUT 8, and INPUT 16 to INPUT 9 in parallel.
1.1 or later	<p>The number of simultaneous illuminations of all INPUT 1-8 indicators represents the first digit of the version number. The number of simultaneous illuminations of all INPUT 9-16 indicators represents the fraction number. The version number illumination is repeated twice.</p> <p>For example, if the firmware is version 1.1, INPUT 1-8 indicators will light simultaneously once, then turn off. Then, INPUT 9-16 indicators will light simultaneously twice, then turn off. (This entire pattern will be repeated twice.)</p>

- You can check EtherSound firmware version using AuviTran AVS-ESMonitor or ES-Firmware Updater (EtherSound firmware update program).



AVS-ESMonitor



ES-Firmware Updater

■ Preparing for the update

You will need the following items ready to execute the update procedure.

- A Windows computer equipped with the following conditions:

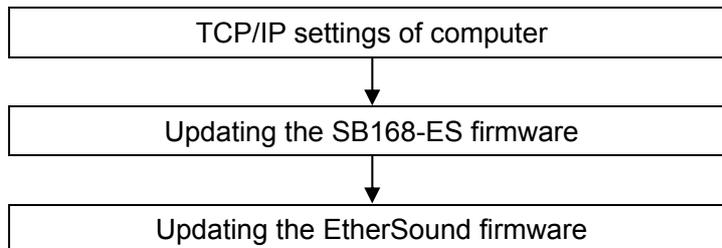
OS	Windows 7	Ultimate / Professional / Home Premium
	Windows Vista	Ultimate / Enterprise / Business / Home Premium / Home Basic
	Windows XP	Professional SP2 or later / Home Edition SP2 or later
CPU	Intel Pentium 1.2GHz or Intel Celeron 1.7GHz or higher	
HDD	250MB or more	
Network connector	An Ethernet connector that supports a data transfer rate of 100Mbps or higher	

- An Ethernet cable (CAT5e or higher recommended. Straight or cross.)
- The SB168-ES firmware update program
Download the latest program from the following URL.
<http://www.yamahaproaudio.com/downloads/>
- The EtherSound firmware update program
Download the latest program from the following URL.
http://www.auvitran.com/view.php?downloads_updates.php

■ Update procedure sequence

Update each firmware component in the following sequence:

If you plan to update multiple SB168-ES units, repeat the procedure described in “Updating SB168-ES firmware” and “Updating the EtherSound firmware” for each unit in sequence.



■ TCP/IP settings of computer

Before you update the SB168-ES firmware, you must modify your computer's TCP/IP settings.

After the firmware update procedure is complete, return the TCP/IP settings to their original settings.

Windows Vista / 7

1. Select [Start] → [Control Panel], then click or double-click [Network and Sharing Center] or [View network status and tasks]. The "Network and Sharing Center" is displayed.

2. Click [Manage network connection] or [Change Adapter settings] from the "Tasks" list located in the left side of "Network and Sharing Center" window, then double-click [Local Area Connection].

The "Local Area Connection Status" dialog box will be displayed.

NOTE

- The "User Account Control" dialog box may appear. Click [Continue] or [Yes].
- If the "Local Area Connection properties" dialog box appears, skip ahead to step 4.

3. Click [Properties].

The "Local Area Connection properties" dialog box will be displayed.

NOTE

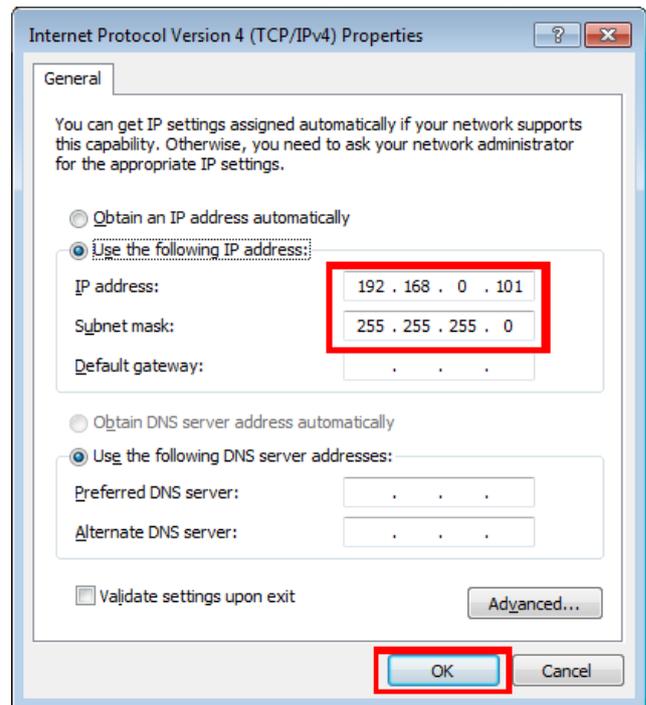
- The "User Account Control" dialog box may appear. Click [Continue] or [Yes].

4. Select [Internet Protocol Version 4 (TCP/IPv4)], then click [Properties].

The "Internet Protocol Version 4(TCP/IPv4) Protocol" dialog box will be displayed.

5. Click [Use the following IP address].

6. Enter your computer's IP address "192.168.0.101" into [IP address], and "255.255.255.0" into [Subnet mask].



NOTE

- If you specify other values for the IP address, you will be unable to update SB168-ES firmware.

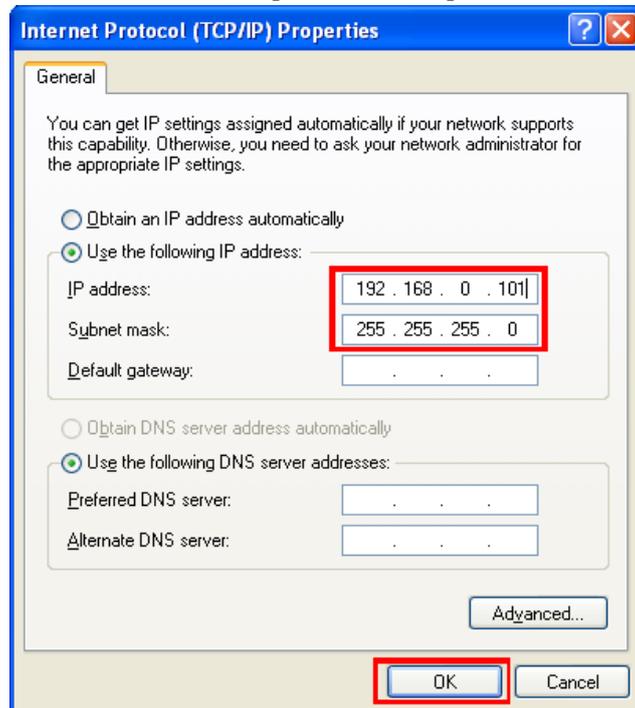
7. Click [OK].

Windows XP

1. **Select [Start] → [Control Panel].**
The "Control Panel" is displayed.
2. **If the control panel appears as category view, click [Switch to Classic View].**
3. **Double-click [Network Connections] → [Local Area Connection].**
The "Local Area Connection Status" dialog box will be displayed.

NOTE
• If the "Local Area Connection properties" dialog box appears, skip ahead to step 5.
4. **Click [Properties].**
The "Local Area Connection Properties" dialog box will be displayed.
5. **Select [Internet Protocol (TCP/IP)], then click [Properties].**
The "Internet Protocol (TCP/IP) Properties" dialog box will be displayed.
6. **Click [Use the following IP address].**

7. **Enter your computer's IP address "192.168.0.101" into [IP address], and "255.255.255.0" into [Subnet mask].**



NOTE

• If you specify other values for the IP address, you will be unable to update SB168-ES firmware.

8. **Click [OK].**

■ Updating the SB168-ES firmware

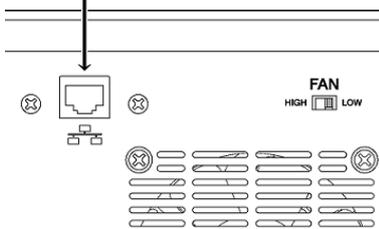
This section explains how to update the SB168-ES firmware.

Before you start updating the firmware, decompress the downloaded compressed file. Place "SB168-ES_PROG.bin," "update.exe" and "update.ini" in the same folder.

NOTE

- For information about messages displayed by the SB168-ES firmware update program, refer to ["Error Message List \(SB168-ES Update Program\)"](#) at the end of this guide.
- Before starting the update program, quit all other programs. While the update is in progress, do not start any other programs or switch between windows.
- If your computer enters Sleep or Energy Save mode, data transfer to the device may stop. Therefore, you should disable these functions to prevent this from happening. We also recommend that you do not use any screen saver or similar background programs.

1. **Connect the NETWORK jack on the rear panel of the SB168-ES unit to the Ethernet jack on the computer using an Ethernet cable.**

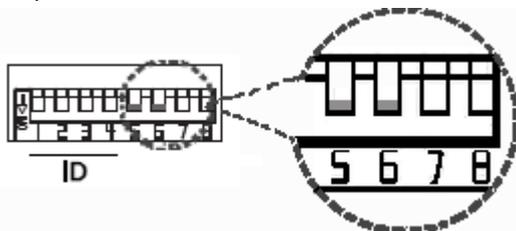


2. **Make a note of the current settings of the dip switches located on the front panel of the SB168-ES.**

Write down the current dip switch settings before you modify them in the next step, since you will need to return the switches to their original settings in step 8.

3. **Set dip switches 5 and 6 (located on the front panel of SB168-ES) to the down position (ON), leave dip switches 7 and 8 in the up position (OFF), then turn on the power to the SB168-ES.**

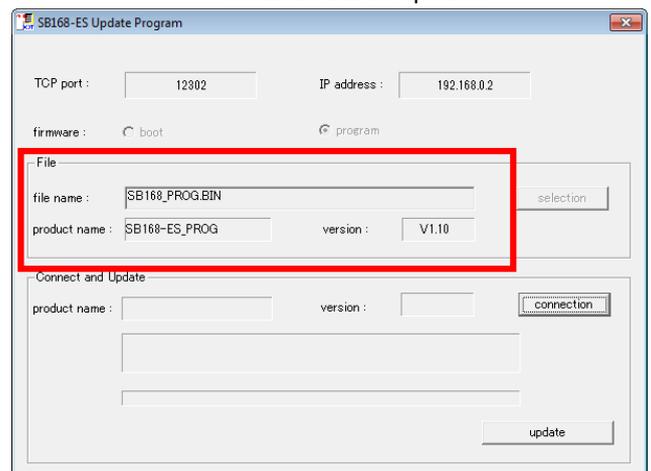
All +48V indicators will blink and the unit will start up in Update mode.



4. **Double-click [update.exe].**

The SB168-ES Update Program will start up. Make sure that the fields in the "File" section indicate as follows:

file name : SB168-ES_PROG.bin
 product name : SB168-ES_PROG
 version : Version number to which the firmware will be updated



NOTE

- When running under Windows Vista / 7, the "User Account Control" dialog box may appear. Click [Continue] or [Yes].

5. **Click the [Connection] button in the "Connect and Update" column.**

The "product name" field will display "SB168-ES," and the "version" field will display the version number of the SB168-ES firmware.

NOTE

- If these fields are empty, your computer may not be properly connected to the SB168-ES. Please make sure that the cable is not disconnected or damaged, that the TCP/IP settings are correct, and that the SB168-ES has started in Update mode.

6. Click the [Update] button in the “Connect and Update” column.

The update operation will begin.



The update will take about 90 seconds. During the update operation, do not turn off the power to the unit or disconnect the cable. If update fails due to disconnection of the power cable during the update, or due to other reasons, the device may become inoperative.

7. When the “Connect and Update” section displays the message “Updating was completed. Close this Update Program” click the [X] button in the upper-right corner of the program window to close the program.

8. Turn off the power to the SB168-ES, then return the dip switches to their original settings.

Return the dip switches back to the settings you noted in step 2.

Proceed to the update procedure for the EtherSound firmware.

■ Updating the EtherSound firmware

This section explains how to update the firmware for the EtherSound module built into the SB168-ES.

NOTE

• For more information on the ES-Firmware Updater, an EtherSound firmware update program, visit the AuviTran SARL website or refer to the “ES-Firmware Updater USER’S MANUAL” installed during the course of this update.

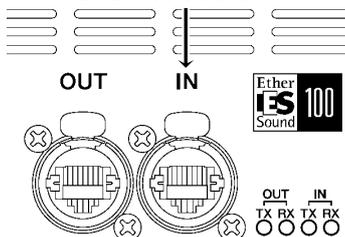
1. Double-click “AVS-FirmwareUpdater Setup vx.xx.exe” (an update program installer you downloaded from [the AuviTran website](#)), then follow the instructions on screen to install the program.

“vx.xx” represents the version number of the ES-Firmware Updater.

NOTE

- When running under Windows Vista / 7, the “User Account Control” dialog box may appear. Click [Continue] or [Yes].
- You may be prompted to restart the computer after the installation is complete. Before proceeding to step 2, restart the computer.

2. Connect the EtherSound [IN] jack on the front panel of the SB168-ES unit to the Ethernet jack on the computer using an Ethernet cable.



3. Turn on the power to the SB168-ES.

4. Select [Start]→[All programs]→[AuviTran]→[Firmware Update]→[ES-Firmware Updater].

A license agreement dialog box will appear.

NOTE

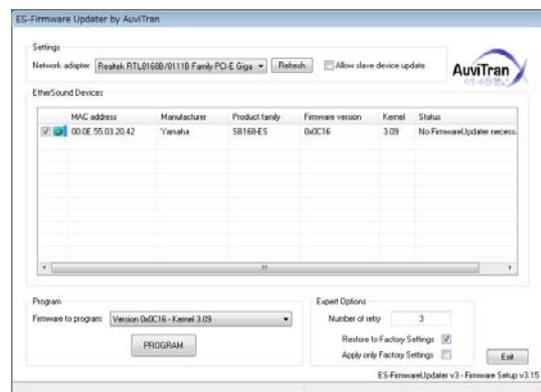
- When running under Windows Vista / 7, the “User Account Control” dialog box may appear. Click [Continue] or [Yes].

5. Scroll to the end of the agreement, then click [I Agree].

The ES-Firmware Updater will start up.

NOTE

- If a dialog box enabling you to stop the EtherSound service appears, click [Yes].



6. For [Network adapter] in the “Settings” section, select the network adapter for the Ethernet connector that is connected to the SB168-ES.

7. Check the box to the left of the device description listed in the “EtherSound Devices” section.

NOTE

- If no device is listed, click the [Refresh] button. If still no device is listed, your computer may not be properly connected to the SB168-ES. Please make sure that the cable is not disconnected or damaged, that you have selected the correct network adapter, and that the SB168-ES has started in Normal mode.

8. Select an appropriate firmware component for [Firmware to program:] in the “Program” section.

Select firmware version 0x0C16 or later.

9. Click the [PROGRAM] button in the “Program” section.

The update operation will begin.



The update will take about 3 minutes. During the update operation, do not turn off the power to the unit or disconnect the cable. If update fails due to disconnection of the power cable during the update, or due to other reasons, the device may become inoperative.

10. When a “Success!” dialog box appears, click [OK].

The update is now complete. If a dialog box other than “Success!” appears, first make sure that the devices are connected properly, then close the ES-Firmware Updater without turning off the power to the SB168-ES. Then, resume the procedure from step 4.

11. Restart the SB168-ES.

12. Click the [Refresh] button in the “Settings” section.

The “EtherSound Devices” section will display information on the SB168-ES that you just restarted.

13. Make sure that the firmware version displayed in the “EtherSound Devices” section matches the firmware version to which you just updated.

If the version numbers do not match, the update operation may have failed. Try the update operation again, starting from step 7.

14. Click [Exit].

The ES-Firmware Updater will close.
The EtherSound firmware update is now complete.

■ Error Message List (SB168-ES Update Program)

Error messages (that consist of an error number and a string in English) for the SB168-ES Update Program may be displayed on the computer.

This section explains the error numbers, the English strings, and the appropriate action to take.

NOTE

- If the same error message appears each time you try to update, the device may need repairing, in which case you should contact your Yamaha dealer.

Number	Summary	Response
[ERROR:001] - [ERROR:006], [ERROR:101] - [ERROR:107]	An error occurred while communicating with the device.	Make sure that the computer is connected to the SB168ES correctly, then restart the SB168-ES Update Program and the SB168-ES unit. (→P.6)
[ERROR:009]	The SB168-ES is not engaged in Update mode.	First turn off the power to the SB168-ES, then set dip switches 5 and 6 to the down position (ON) and set dip switches 7 and 8 to up position (OFF). Then, turn on the power to the unit. (→P.5)
[ERROR:108], [ERROR:109]	Information on the SB168-ES could not be obtained.	The device may need repairing, in which case you should contact your Yamaha dealer.
[ERROR:111]	The firmware data file was not found.	Place the "SB168-ES_PROG.bin" file in the folder that contains the "update.exe" file. (→P.6)