

# MII and MII+ Owners Manual

---

*Version: 1.0*



## Table of Contents

1. Getting Started.....	3
2. Adapter Operation .....	4
2.1 MII .....	4
2.2 MII+ .....	4
2.2.1 Video While In Motion for MII+ .....	5
2.2.2 Possible Issues And How To Resolve Them .....	6
3. Firmware Updates.....	7
3.1.1 Possible Issues And How To Resolve Them .....	8
4. Warranty, Disclaimer And Liability.....	9
4.1 Warranty .....	9
4.2 Disclaimer and Liability .....	9
4.3 Trademarks .....	9

## 1. Getting Started

**Thank you for purchasing an MII/MII+ adapter!**

By reading this manual and using the adapter you will soon find that this adapter has the most feature rich and multipurpose functionality of any available adapter. It takes full advantage of the extendible Volvo audio system and was designed to seamlessly integrate into the factory audio and video components without any of the limitations found in similar products.

**These are the main features:**

- Seamless integration into the OEM Volvo audio system.
- Works with RTI (Volvo OEM navigation system)
- All HU-xxx models supported (*S40(classic), V40, S60, V/XC70, S80*).
- HU-1205 supported in other Volvo's as well.
- User selectable HU-channel configuration.
  - o The MII runs with audio playback on the external 10 CD Changer, MD Changer or Satellite and the TV channel.
  - o The MII+ runs with audio and video playback on the TV channel (video playback requires the RTI in-dash screen or third party TFT)
- The MII gives you the possibility to integrate up to two additional stereo audio sources to your car stereo

## 2. Adapter Operation

### 2.1 MII



With the MII you are able to integrate 2 additional stereo audio sources to your HU. This is possible through 4 RCA jacks (2 stereo channels) located on the side of the device. Through firmware updates you can choose on which source you would like to run the MII: The external 10 CD Changer, MD Changer (not applicable for all HU's), Television or Satellite Receiver (only on HU-x50 units).

- The Display shows **CD01 TRK01** if the device runs on the external 10 CD Changer and the first input channel is currently selected
- By pressing the  button you can switch to the second input channel and the Display shows **CD02 TRK02**

Changing the firmware version to a different channel makes sense, if there is already a device running on the external 10 CD Changer. In that case you could just choose one of the other 3 options that is still available in your car. The new channel will be added to your HU's source list once the firmware has been uploaded to your MII. See chapter 3 to find out more about firmware upgrades.



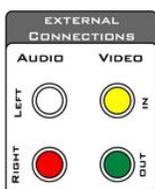
Button	Description
	Change to next audio channel (Aux 1)
	Change to previous audio channel (Aux 2)

In case of support questions or warranty claims you might have to provide us the serial number of the device you purchased. This number is located right underneath the bar code on the device (see red outline in picture below).



Figure 1 Serial Number on an MII

### 2.2 MII+



With the MII+ you can add an additional video channel to your car stereo including sound. That is realized through 3 RCA jacks: 1 for video-in, 1 for audio left and 1 for audio right. The 4<sup>th</sup> (green) connector you can see on the picture to the left is the video-out jack, which can be hooked up to the Volvo build in OEM Navigation System (RTI) or

any other 3<sup>rd</sup> party TFT with Composite Video-in. With the video-out signal connected to the RTI it is possible, to show videos on the in-dash navigation screen.

The MII+ runs on the HU's TV channel. Using the ⏪ and ⏩ button you can switch between **TV 1** and **TV 0** while **TV 0** is the RTI screen and **TV 1** whatever is connected to the MII+'s input.

In order to download features like *Video While In Motion* (see 2.2.1 for details) you will need the adapters serial number which is located right underneath a bar code on the MII+ (see picture below).



Figure 2 Serial Number on an MII+

## 2.2.1 Video While In Motion for MII+

### 2.2.1.1 Important Information

The MII+ integrates your digital entertainment source(s) with the OEM car radio and RTI (Road Traffic Information) in-dash LCD screen. While some video source configurations will allow will allow (for) a video signal on the RTI screen while the car is in motion, it has not been the specifically designed by Sensolutions to permit watching video images while driving on the RTI screen. Therefore the video connection between the RTI and the MII+ is only to be used for transmitting motion picture frames while the vehicle is stationary. Specifically, the MII+ video output is incorporated for rear seat entertainment or still picture display on your RTI screen. Any other use is strongly discouraged for traffic safety reasons.

If you must watch the screen, do so briefly: remain attentive while driving. In some jurisdictions/countries it is unlawful for the driver to watch video while driving: **OBEY LOCAL TRAFFIC LAWS**. Operating any device while driving, including the MII+ and/or any of its connected peripherals (radio, MP3 player), poses a risk. This risk includes accidental property damage, personal injury or even death. If you must **OPERATE THE iMIV** or its peripherals, do so **ONLY WHEN** the car is **AT A COMPLETE STOP**.

Remember, you drive a VOLVO™: **SAFETY FIRST!**

### 2.2.1.2 Where To Get The Video While In Motion Feature

A special file has to be downloaded from [www.imiv.ca](http://www.imiv.ca) (log-in necessary). In order to download that file you have to agree to the terms of use and type in your MII+'s serial number, which can be found underneath the bar code on the MII+ unit itself (see [Figure 2 Serial Number on an MII+](#)).

It is important to download the file especially for your device, because the file is being created upon request with the serial number you entered and will not work on other devices.



Right now the *iMIV website* is designed in a way that you have to select an iPod model when you sign up for a user account. This is more important for the iMIV adapter as there are different firmware files for different iPod models. It has no effect on the MII+ firmware files. So just choose a model in order to finish the registration process.

### **2.2.1.3 How To Install Video While In Motion**

After downloading and unpacking the archive from our website you will see a \*.wav file. This file has to be installed just in the same way as you upload a new firmware version to your device. See chapter 3 for detailed information about the upload process.

## **2.2.2 Possible Issues And How To Resolve Them**

### **MII+:**



Video is playing while the car is not in motion but the RTI signal appears as soon as the car starts driving.



Since the RTI unit is mainly designed for navigation the unit itself determines the precedence of the navigation screen and the connected video signal. Navigation always has priority over the video signal. In order to still use the *Video While In Motion* the RTI has to be **switched off**.



The RTI remains quiet after installing the MELBUS adapter.



This phenomenon is more installation related: The kit has probably been shipped with a “MELBUS second in Chain Cable”, which means that the MII/MII+ has to be connected behind the RTI. No disconnection of the RTI necessary: Just plug the received “MELBUS second in Chain Cable” into the free connector of the RTI and plug the other end into the HU labeled connector of the MII/MII+.

### 3. Firmware Updates

You can download new firmware files and versions from our *iMIV website* ([www.imiv.ca](http://www.imiv.ca)). In order to do so you have to sign up and create a user account. After that you are able to access a download page with all available firmware files.



Right now the *iMIV website* is designed in a way that you have to select an iPod model when you sign up for a user account. This is more important for the iMIV adapter as there are different firmware files for different iPod models. It has no effect on the MII+ firmware files. So just choose a model in order to finish the registration process.

#### How to perform a firmware upgrade:

1. Download your new firmware file from our website and put it on the device you use for audio playback:
  - o E.g. an MP3 or burn in onto a CD if you use a CD/DVD player
2. Make sure the audio source is connected to the MII's **AUX 1** input or the MII+ **red and white** (audio input) RCA jacks
3. Turn off the ignition and wait for at least 30 seconds or until the indication LED is switched off.
4. Set the switch on the side of the adapter marked as "prg" to position "1" (see [Figure 3](#) and [Figure 4](#) for location).
5. Prepare and pause the device you are using to play the new firmware file, but do not start playing yet.
6. Turn on the ignition. The indication LED on the adapter lights red.
7. Wait approximately 2 seconds. The adapter starts up in firmware upload mode and is ready to receive new firmware. The indication LED starts blinking red/green after approximately 2 seconds. The adapter will not communicate with the HU which results in an error being displayed on the HU (depending on the current firmware version **CD ERROR**, **MD ERROR**, **SAT ERROR** or **TV ERROR**). This is normal behavior.
8. Start playing the firmware sound file. The adapter expects the firmware sound file to be started within approximately 30 seconds. The indication LED remains flashing red/green during this time to indicate that a firmware file can be started. If the adapter does not recognize a valid firmware file or the file has not been started within 30 seconds it stops the procedure without uploading firmware and returns to normal operation.
9. If uploading has started the LED lights constantly red with a short green flash every 2 seconds. The uploading will take a few minutes to finish. *It is very important **NOT to pause the firmware file during uploading**, because that could result in corrupted firmware and causes the adapter to fail!* Once the sound file has finished playing, the indication LED flashes green 4 times shortly to indicate a successful upload. The adapter returns to normal operation with a green indication LED and the HU reflects the changes after a few seconds.

10. Turn off the ignition and wait for at least 30 seconds or until the indication LED is switched off. Reset the jumper/switch from position “1” back to position “2”.
11. Turn on the ignition and check if everything works as expected. If the additional HU channels do not show up, something went wrong with the upload and the adapter fails to operate normally. Re-engage this procedure to restore correct firmware to the adapter



Figure 3 Switch location on an MII



Figure 4 Switch location on an MII+

### 3.1.1 Possible Issues And How To Resolve Them



The LED is solid green just a few seconds after the firmware file has been started.



The reason for that problem is a version conflict. That means that the firmware file is not compatible with the MELBUS adapter.

Solutions:

- Check, if you downloaded a firmware file for the right device (use the filter functions on our website in order to narrow down the search results), download the correct file and go through the upgrade process again.

## 4. Warranty, Disclaimer And Liability

### 4.1 Warranty

Please retain the receipt as proof of purchase and write down the information below in case you need to obtain support information

- Sensolutions Product
- Date of Purchase
- Serial Number
- Invoice Number and/or Dealer:

The Sensolutions MII/MII+ carries a one year limited warranty that protects you from defects in material and workmanship. We do not warrant any installation. Should a product fail to perform as described above within the warranted period, it will be repaired or replaced with the same functionally equivalent product by Sensolutions, at its discretion, free of charge provided you:

1. Return the failed product to a Sensolutions designated repair facility with shipping charges prepaid, and
2. Provide Sensolutions with proof of the original date of purchase

Repaired or replacement products will be returned to you with shipping charges prepaid. If Sensolutions is unable to repair or replace the defective product, it will issue a refund at a fair market value. Warranty does not cover normal tear and wear, damages due to negligence, improper installation or operation. Warranty is void if opened. The maximum liability of Sensolutions under this warranty is limited to the purchase price of the product covered by the warranty. Prior to returning any defective product, you must obtain a Returns Materials Authorization (RMA) number from Sensolutions. All defective products should be returned to Sensolutions with shipping charges prepaid. Sensolutions will not accept collect shipments.

### 4.2 Disclaimer and Liability

The MII/MII+ adapter's design and specifications are subject to change without notice.

Sensolutions is not liable for any incidental, consequential or indirect damages. Nor can we be held liable for warranties that are voided because of the use of this adapter.

In case of erratic behavior of your car's electrical system please disconnect your MII/MII+ first and have it checked by your installer. Sensolutions assumes no liability for any diagnostic fees.

The maximum liability of Sensolutions under its warranty is limited to the purchase price of the product covered by the warranty.

### 4.3 Trademarks

- Volvo is a registered trademark of Volvo Trademark Holding AB and/ or Volvo Cars

- Sensolutions is not affiliated with AB Volvo, Volvo Car Corporation, Volvo Cars or any other Volvo companies