

FM Midi Synth Driver Version 2.10

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The FM MIDI Synth driver is a replacement driver for sound cards that implement FM synthesis. It features an extensive MIDI implementation as well as support for loadable instrument banks and a Control Panel applet for run-time configuration of driver parameters. It is designed to work with as many different sound cards from various manufacturers as possible.

Installing the FM MIDI Synth driver

The first step is to unzip the FM Synth driver and related files (including the one you are reading) to either a diskette, or a directory on your hard drive. The driver will be installed from this location (make note of the disk and/or directory name).

More hardware configuration parameters are provided than are available for most drivers. In order to optimally configure the FM Synth driver, it is important to have prior knowledge of the hardware configuration of your sound card.

The FM Synth driver is installed via the Windows Control Panel Drivers applet. The following steps are performed when installing a new driver:

1) Remove any existing FM driver. It is recommended that any existing FM driver be removed before installation is attempted. While it is possible to have more than one FM driver installed, it is essential that only one be in use at a given time. Note: Only the FM driver should need removal, not the Wave, MIDI or Aux. driver. To remove a driver, open the Drivers applet, select the FM driver to remove (this could be the Adlib driver, the SB Pro 2 FM Synth, the Voyetra OPL3 FM driver, or some other name). Press the remove button and answer OK to the dialog box which warns that the driver may be needed by the system.

2) Restart Windows. After removing a driver, you must restart or exit Windows before adding the FM Synth driver. This is because the driver has only been removed from the SYSTEM.INI file, and is still present in memory -- a new driver can not be loaded until the current one is removed from memory.

3) Install the FM Synth driver. Open the Drivers applet from the Control Panel and press the Add button. Select Unlisted or Updated Driver from the list and press the OK button. Type the full directory name, or floppy drive (ex: **A:\FMDRV**) of the location where the driver resides into the dialog box and press OK. A dialog box containing the name: **Jamie O'Connell - FM Synth MIDI Driver** will be presented. Ensure that it is selected and press OK.

Next the FM Synth hardware configuration dialog is displayed. This dialog only needs to be filled out once, but the selections are critical to proper driver operation (the dialog can be opened again later, if required, by opening Drivers, selecting the FM MIDI Synth and pressing the Setup button).

Note: when re-installing a newer version of the FM Synth driver, you must first remove the older version as detailed above.

Configuration

The FM Synth Setup dialog contains two sections: I/O Port Address and sound card FM chip type.

I/O Port Address

The I/O Port Address is the physical port of the FM sound chip. In some sound cards this may be different from the cards base address. For instance, the original Sound Blaster 1.5 has a base port address of 220 hex, but the FM chips are located at port address 228 hex. You would choose port 228 for this card.

FM Chip Type

The FM chip type depends on which card you possess. The earliest Adlib and Sound Blaster FM Cards contained a single Yamaha OPL2 sound chip. The first version of the Sound Blaster Pro added a second OPL2 chip. Early Media Vision Pro Audio Spectrum cards also have the 2 OPL2 configuration. Newer sound cards, including the SB Pro 2, and the MV PAS 16 use a single Yamaha OPL3 chip. The OPL3 contains the equivalent of 2 OPL2 chips plus some other features such as 4 Operator support. Almost all sound cards implement Adlib compatibility: Port: 388 hex, 1 OPL2 chip, though choosing this setting may reduce the capabilities of the driver (The Adlib is a mono only card capable of 9 melodic, and 5 percussive simultaneous voices).

It should be noted that the FM Synth driver does not require knowledge of either the DMA or IRQ for the sound card, as these are only used for the digital sound, and MIDI portions of the cards. Following is a table of settings for some common sound cards with factory setup configurations. If your card is not listed, or has been changed from the factory setup, consult the user manual issued with the card:

Name	I/O Port (hex)	Chip Type
Adlib FM Card	388	1 OPL2
Sound Blaster 1.5	228	1 OPL2
Sound Blaster Pro (original)	220	2 OPL2
Sound Blaster Pro2	220	1 OPL3
MV PAS (original)	388	2 OPL2
MV Pro Audio Spectrum 16	388	1 OPL3

If the Port address for your card is not listed in the dialog box, select Other and type the hexadecimal port address into the edit field. Next choose the chip type and press the OK button. If an FM chip is detected, the dialog box will close, and a restart warning is issued. Go ahead and restart Windows once again. If an FM chip is not detected, a message stating that the hardware settings on the card do not match the selected driver I/O Port address is issued. In this case, you must change the I/O Port Address setting -- as stated before, Port 388 can almost always be specified.

After restarting Windows, a Control Panel applet, FM Synth, will be available for run-time configuration. A Windows help file is attached to a button on the applet.

It is possible to create a regular program icon to start the FM Synth applet. To do this, open the Program Manager, and then the Program Group where you want to store your FM Synth Icon. From the FILE menu, select NEW and then New Program Item. In the Description box, type the label you want to appear under the new icon. In the Command Line box type: FMTASK.EXE. You can skip the Working Directory, and can optionally add a shortcut-key sequence. An icon has been provided, but you can choose the Change Icon button to assign an icon of your choice. To launch FM Synth, double click on the icon, or use the shortcut-key if you assigned one. When launched this way, you won't see the Control Panel, only the FM Synth applet.

Changes

Version 2.10 Adds Multiple driver openings: you can use the driver with more than one MIDI program at a time. It improves MIDI response while reducing the driver size. It now supports channel and key aftertouch. It adds an enhanced and improved Windows help file. A new percussion pitch algorithm has been implemented. Certain melodic patches have been improved. Installation offers to automatically add an FM Synth MIDI Mapper Setup while preserving any existing setup.

Version 2.00 Adds Percussion IBK Bank Loading, a Percussion Boost Parameter, and a Stay On Top option for the applet. Many small bugs have been corrected and other enhancements have been made.

Getting Help

If you experience problems when using the driver, or have suggestions about the program, documentation, etc., you can contact me directly or post messages here in the Sound Card section of Compuserve's Sight & Sound or MIDI forums. I'll be monitoring the sections, and keeping the latest driver versions there.

Jamie O'Connell [72662,1433]

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