LINE 6

MIDI Mobilizer

MIDI Memo Recorder

Advanced Guide

An in-depth guide to the features and functionality of the
MIDI Mobilizer hardware and MIDI Memo Recorder
application for iPhone and iPod touch

Electrophonic Limited Edition

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Overview

MIDI Mobilizer is a hardware MID interface that allows MIDI communication between an iPhone (or iPod touch) and the millions of hardware MIDI devices in existence. With MIDI Mobilizer, an iPhone becomes the easiest and most portable MIDI system there is. It can be used to capture musical ideas, backup keyboard and effects settings, and more. This guide covers the basics of MIDI, connection of the MIDI Mobilizer, and operation of the MIDI Memo Recorder application.

What is MIDI?

MIDI (Musical Instrument Digital Interface) is what musical instruments and electronics use to communicate with each other. Drum machines, synthesizers, digital pianos, samplers and computers can all communicate via MIDI.

MIDI first appeared on synthesizers in 1983, and every MIDI device from that point to now is compatible with each other. MIDI is a serial digital interface protocol that sends data that can represent what note was played (and how hard), controller information (like a knob or button), and parameter settings. This data is sent out the MIDI Out connection of a device, which can then be received by another device when connected to its MIDI In connection. The standard connector used for MIDI is called a 5-pin DIN connector (which looks a lot like the MIDI Memo Recorder icon).

MIDI does not send audio information. Instead, the information can be used by the receiving device to create audio. For example, when a note is played on a MIDI keyboard, the data sent out MIDI conveys what key on the keyboard was played (a Note On with a Note Number), and how hard it was played (Velocity). When the note is released, a Note Off command is sent out MIDI. The receiving device (a computer, a synthesizer, etc.) determines how this information will be used. If it is a sound generator, it can create the audio with whatever sound is selected at the pitch and volume determined by the MIDI message. If it is a device that records MIDI data (a computer, or the MIDI Mobilizer on an iPhone), it can store the MIDI message so it can be played back to the sending device (or another device) later.

MIDI can send virtually any information about the sending device, depending on what the product's manufacturer chose to implement. Data that is specific to a particular device is called Sysex, which is short for System Exclusive. This type of data is only useful for the specific product it is designed for, and will be ignored by any other products. Sysex data is a common method of backing up the settings and/or sound parameters of a MIDI musical instrument or effect.

Using the MIDI Memo Record application, MIDI Mobilizer can record any data that is received at its MIDI Input. This can include note information, controllers, pedals, parameters, and Sysex data. It can then play back the MIDI data through its MIDI Output with the same information and timing as it was received.
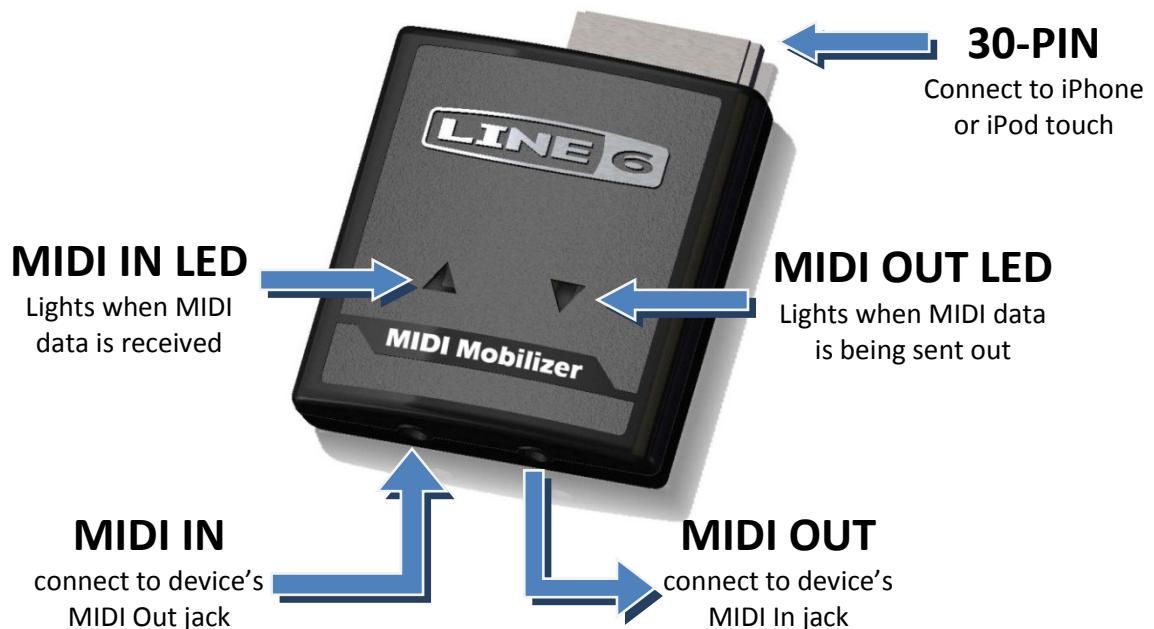
Getting Started

Connecting the MIDI Mobilizer

MIDI Mobilizer connects directly to the 30-pin connector of an iPhone or iPod touch. It is compatible with all current generations of iPhone and iPod touch that are using OS 3.0 or greater operating system. Although some other models of iPods (such as the iPod nano) also include a 30-pin connector, they do not provide a way to download applications so MIDI Mobilizer cannot be used with these other models.

MIDI Mobilizer comes with two Planet Waves MIDI cables to connect to your MIDI devices. The MIDI Input of MIDI Mobilizer is the left-most connector, and has an LED indicator shaped as a triangle pointing towards the iPhone. The MIDI Output is on the right side, and has an LED triangle pointing away from the iPhone. MIDI Mobilizer's MIDI Input should be connected to your device's MIDI Output, and MIDI Mobilizer's MIDI Output should be connected to your device's MIDI Input.

30-PIN
Connect to iPhone
or iPod touch

MIDI IN LED
Lights when MIDI
data is received

MIDI OUT LED
Lights when MIDI data
is being sent out

MIDI IN
connect to device's
MIDI Out jack

MIDI OUT
connect to device's
MIDI In jack

Downloading MIDI Memo Recorder

To use your MIDI Mobilizer, it is necessary to download the free MIDI Memo Recorder application from the App Store. If MIDI Memo hasn't been downloaded when MIDI Mobilizer is connected, you'll see the message shown to the right. Clicking "Yes" will open the App Store so that the application can be downloaded. MIDI Memo Recorder can also be searched for directly in the App Store by searching for "MIDI Memo".

Application Not Installed
This accessory requires an application you do not have Installed. Would you like to install it from the App Store?
No   Yes

Running MIDI Memo Recorder with MIDI Mobilizer

MIDI Memo

To use MIDI Memo, just press on its application icon. If the MIDI Mobilizer is not connected, MIDI Memo will display the message on the right. Pressing "Learn More" will open Safari to a web page that provides more information on MIDI Mobilizer hardware. Pressing "Not Now" allows the MIDI Memo application to run without the MIDI Mobilizer hardware.

Requires MIDI Mobilizer
This software requires a Line 6 MIDI interface for full functionality.
Not Now   Learn More

Although it won't be possible to record or play back MIDI files without the MIDI Mobilizer, MIDI Memo can still be used to rename, reorder, delete, or email any memos that have already been created.

Updating Firmware

MIDI Mobilizer contains a microprocessor and programming (firmware) that handles all MIDI and iPhone communication. If this firmware is not the most current version, the MIDI Memo software can update it for you. Each time MIDI Memo is run, it checks the firmware version in the MIDI Mobilizer. If it is not the most current, the following message below on the left will be displayed.
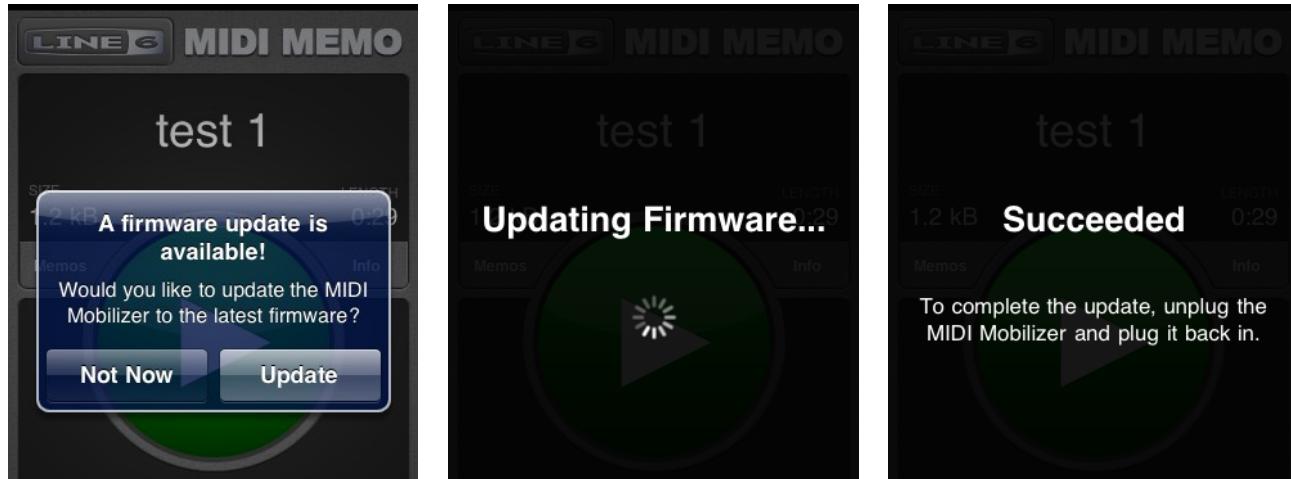
Pressing "Not Now" will leave the firmware unchanged. It is recommended that any time this message appears that "Update" should be pressed. When pressed, the second display above will be shown for a short time (less than a minute), followed by the third shown display. As indicated, it is necessary to unplug and re-plug MIDI Mobilizer to complete the update.

Testing MIDI Mobilizer Connections

When MIDI Memo is first run, a memo labeled "C Chord" is preloaded. This memo simply plays the MIDI notes of a C major chord for a second. When pressing the large green Play button, the red MIDI Out LED should light briefly, and if a keyboard or other sound generator is connected, a C major chord will be heard. If you see the MIDI Out LED but do not hear the chord, check that the MIDI Mobilizer's MIDI Out is connected to the keyboard's MIDI Input. Next, check that the keyboard is powered, has its audio connected, has its MIDI In enabled and set to Channel 1 (or Omni) and the volume is turned up.

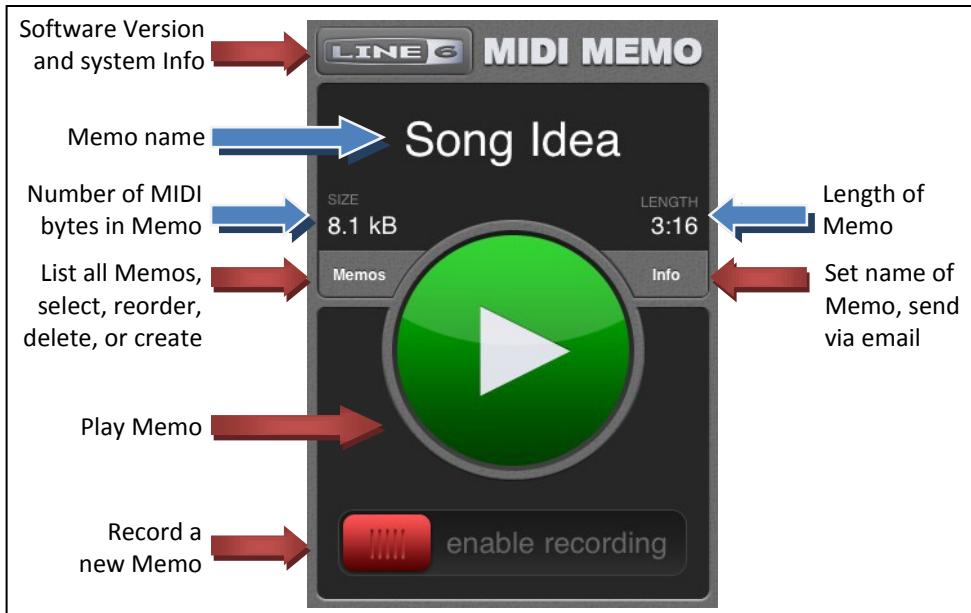The MIDI Input can be tested by playing any MIDI data into the MIDI Mobilizer. If connected properly, the MIDI In LED should light. If not, be sure the MIDI device's MIDI Out is connected to MIDI Mobilizer's MIDI In, and that both the device and the iPhone are turned on.

The "C Chord" memo can be deleted at any time if it is no longer needed. This can be done on the "Memos" page (described later).

Basic Operation

The picture on the right shows the main elements of the MIDI Memo application. The blue arrows indicate information fields and the red arrows point to buttons with the text describing the functions. More details of operation are covered in the following sections.

Software Version and system Info

Memo name

Number of MIDI bytes in Memo

List all Memos, select, reorder, delete, or create

Play Memo

Record a new Memo

Length of Memo

Set name of Memo, send via email

Recording MIDI

To enable record mode in MIDI Memo, slide the red slider to the right, across where it says "enable recording". The display will change as shown below on the left. To start recording, press the large round Record button. MIDI Memo will wait until MIDI is received before it actually begins recording, as shown in the middle display, with the Length counter waiting at 0:00. Once MIDI is being received, all incoming MIDI information will be recorded. The Size counter will count the number of MIDI bytes being recorded, and the Length counter will show the amount of time passing while in record, as shown on the right display.

Each time Record is entered, a new Memo is created. This way, there's never a chance to accidently record over an existing Memo. If the current Memo is not blank, then entering record will cause a new Memo to be created that has the same name but with a new number appended to it.

MIDI Memo will record any MIDI information that it receives, along with the moment in time it is received. All information from all 16 MIDI channels is captured. Whatever comes in is stored in the Memo. NOTE: the iPhone will not go into "sleep" mode while recording, to insure no data will be lost.

Playing MIDI

To play back a Memo, press the large green Play button, as shown below on the left. MIDI data from the memo will be output at the MIDI Out, and an elapsed time counter will be displayed as shown in the middle display below. At any time the playback can be paused by pressing the round Pause button. When paused, MIDI will stop being output, the counter will stop elapsing, and the display will appear as shown on the right. Playback can also be stopped at any time by pressing the red Stop button.

Note that since MIDI data is different than audio data, the sound from your MIDI device may or may not stop when pressing Stop or Pause. This will depend on the type of sound selected and what data events were taking place. Additionally, when resuming from Pause, any previously sustaining notes may retrigger, which can also sound unexpected depending on the type of sound that is selected.

Memo Info

Press the Info button to get more details on the currently selected Memo, and to rename or send via email. This page provides the total number of MIDI messages (i.e., each note played is one message, a note released is another message), the size of the Memo in bytes (each message is typically three bytes, although Sysex messages can be much more), the length of the Memo in minutes and seconds, and the date and time it was created.
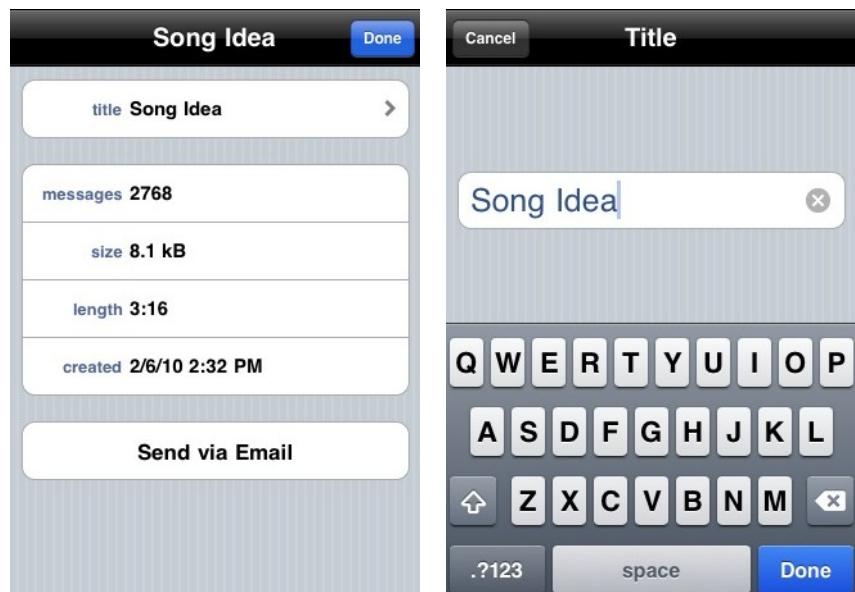
Pressing the Title arrow opens a page where the Memo can be renamed (as shown on the right). Pressing "Send via Email" opens an email message with the current Memo attached as a Standard MIDI File (SMF). This file format can be opened by most computer sequencing and recording computer programs.

Memos List

Press the Memos button to see a list of all current Memos, as shown on the leftmost display. The currently selected Memo has a check mark to its right. If more memos exist than can fit on the screen, the list can be scrolled through by swiping upward on the screen. To select a Memo from the list, just touch its name.

The + button is used to create a new blank Memo. This can be useful if you want to create and rename a Memo before entering Record. Alternatively, Record can be entered with any Memo currently selected, and a new Memo will be created with a number appended to the name of the previous Memo, making it unnecessary to create a new Memo in advance.

Press the Edit button to reorder or delete a Memo, as shown on the right display. To place the Memos in a different order, drag the right handle of the Memo to the desired location. If the red circle is pressed, a Delete button will appear to the right of the Memo name. Pressing Delete will permanently delete that Memo. When finished reordering and/or deleting, press Done to return to the Memos list. The Delete button can also be brought up by swiping rightward on any memo in the list.

WiFi Access Setup

In addition to email, Memos can also be accessed by a computer via a WiFi connection. First, WiFi access must be enabled for MIDI Memo. This is enabled in the iPhone's Settings application. Scroll down and select MIDI Memo from the list of applications on the Settings page. The display shown to the right will appear. WiFi access can be enabled here. If desired, authentication can be used in order to prevent others with WiFi from accessing your Memos. With Authentication enabled, you can enter in a username and password of your choice, which will be required on the computer before any Memos can be accessed. This is shown in the second picture to the right.

To access your Memos via the web, WiFi must be enabled on the iPhone, and you must be connected to a WiFi network. From any computer on that network a browser can be used to see the list of Memos on the iPhone, and to select which ones to download. The web address for access can be found in the System info page (see next section).

System Info

Pressing the Line 6 logo reveals MIDI Memo's "About" screen. The version of the MIDI Memo Recorder software and the version of MIDI Mobilizer's firmware are displayed.

If WiFi access for MIDI Memo sharing is enabled, the URL address is displayed on this screen. This address can be entered into a browser window on a computer to access the Memos via WiFi.

Pressing "Visit Line 6" will open Safari with Line 6's web page, and pressing Audiofile Engineering will open our software development partner's webpage.
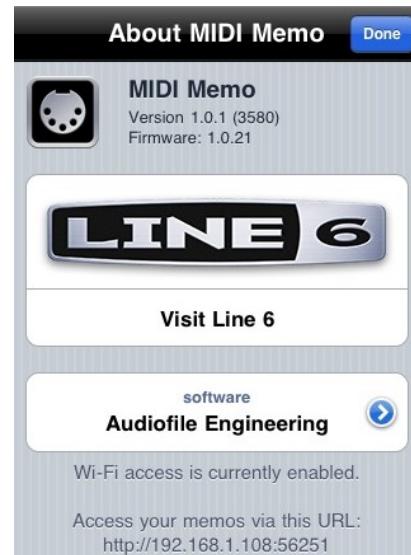
WiFi Computer Connection

Any computer on the same network as the iPhone's WiFi connection can be used to see the list of Memos, and to select which ones to download. On the computer, enter the URL provided on the About page into a web browser application. A screen similar to what's shown below should appear:

Name	Messages	Size	Created
C Chord	6	18 B	3/4/10 1:36 PM
Vetta Patches	456	1.3 kB	3/4/10 3:41 PM
Synth Sounds	70	210 B	3/4/10 3:42 PM
Lighting Cues	152	456 B	3/4/10 3:43 PM
Sound Effect Trigger	2	6 B	3/4/10 3:44 PM
M13 Stomp Box Settings	263	789 B	3/4/10 3:45 PM
New Music Ideas	4228	12.4 kB	3/4/10 3:46 PM
OB-8 Sysex Dump	913	2.7 kB	3/4/10 3:51 PM
Sequence Backup	13861	40.6 kB	3/15/10 6:04 AM

By selecting from the list of memos you can download any of the files directly to your computer.

Using MIDI Mobilizer with Line 6 Products

Most Line 6 products with MIDI connectors can send out the stored settings via MIDI Sysex commands. The MIDI Mobilizer can be used to store these settings as a backup, so that you can later restore them, or load them into another Line 6 device. This section briefly explains the MIDI backup process for several Line 6 products. More detail can be found in each product's respective owner's manual, including how to send individual tones, which products have compatible tones, and more.

AxSys 212 & AX2

1. Press the top edit button so that the LED next to Aux/MIDI lights
2. Turn the rightmost knob ("Transmit Sounds") until the LED display reads "ALL"
3. Press the Store button to begin transmitting all sounds out MIDI

No setup is required for receiving MIDI Sysex data.

Flextone II, Plus, XL, SE, & HD

1. Hold the Save button, and while holding, press Manual (then release both buttons)
2. Press the D button
3. Press the Save button

No setup is required for receiving MIDI Sys ex data.

Flextone III, Plus, XL, & HD147

1. Turn power off
2. Press and hold the Tap Tempo, Comp, and Mod Select buttons
3. While holding all three buttons, turn on the amp

No setup is required for receiving MIDI Sys ex data.

Vetta I & II, Combo & HD

1. Press the Save button
2. Turn the Page knob until the display shows page 7
3. Press the Save button
4. [to restore:] Press "Save"; turn to page 9; press "Save" (to erase memory); send MIDI data

To receive, Press "Save", turn to page 9, press "Save", then send in data.

Spider Valve MkII 112, 212, & HD100 (requires software version 2.01 or above)

1. Press the Preset knob ("Press to Edit")
2. Press the" >" button until "MIDI" is in top line of display
3. Press the "^" button until "Dump" is in bottom line of display
4. Turn the Preset knob until "All" is in bottom line of display
5. Press "Tap Tempo" button

No setup is required for receiving MIDI Sys ex data.

POD 2.0, POD Pro, Bass POD, & Bass POD Pro

1. Press the MIDI button
2. Press the Save button –display should show "A" (for All)
3. Press the Save button

No setup is required for receiving MIDI Sys ex data.

POD xt, PODxt Pro, PODxt Live, Bass PODxt, Bass PODxt Pro & Bass PODxt Live

1. Press the Save button
2. Turn the Select knob until MIDI Dump page
3. Turn the Effect Tweak knob until display says "All Channels"
4. Press the Save button

No setup is required for receiving MIDI Sys ex data.

POD X3 Live, POD X3 Pro (requires software version 2.01 or above)

1. Hold the Home button for 2 seconds to enter Commands mode
2. Turn the Select knob until SYSEX TONE SEND is selected
3. Turn the knob below the display to choose which sound to send
4. Press the Select/Save knob

No setup is required for receiving MIDI Sys ex data into the edit buffer.

Echo Pro, Mod Pro, & Filter Pro

1. Press the MIDI/Sys button
2. Turn the Program Select knob until display shows "DU"'
3. Turn the Time knob until the display shows "ALL"
4. Press the Save button

No setup is required for receiving MIDI Sys ex data.

M13 Stompbox Modeler

1. Press and hold the Looper Controls footswitch to enter Setup mode
2. Turn the Model Select knob on fX 4 until display says "Dump All?"
3. Press the Model Select knob

No setup is required for receiving MIDI Sys ex data.

M9 Stompbox Modeler

1. Press 1B & 2B footswitches simultaneously to enter Setup mode
2. Press the Model Select knob repeatedly until MIDI screen is displayed
3. Turn Model Select knob to "Dump All?"
4. Press and hold Tap Tempo and press the Model Select knob

No setup is required for receiving MIDI Sys ex data.