

# **Brotech Electronics**

## **Mini Midi Sequencer+**

### **Tablet Wireless Midi Player**

The Mini Midi Sequencer+ (mMS) is a tablet controlled midi player for use with midi enabled automated musical instruments such as a band organ. It works with all midi to parallel interfaces. The mMS reads type 0 midi files from a local SD memory card, sequences the midi information and streams it to an external instrument. The hardware is controlled wirelessly via Bluetooth linked to an Android tablet using a custom App. One tablet can control an unlimited number of instruments, one at a time. The tablet acts as a remote directory and filename viewer and selector, showing the songs on the SD memory card. The file and directory names are alphabetically sorted in a scrolling list. The custom App has soft keys for Play Selection, Stop, Play Sequential, Play Random, Tempo change, and more... Can also play songs in order from a playlist; edit it yourself manually or use our simple companion *MMS Playlist Editor App* and create a playlist using the tablet.

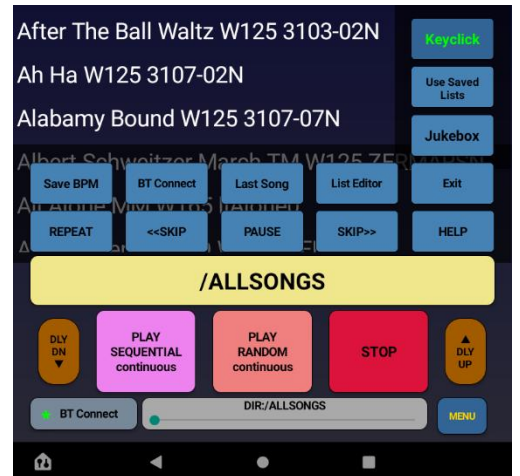


The system ships with mMS+ custom hardware, standard 7" Fire tablet (8" HD8 tablet optional), with the Apps preinstalled, minimum 4Gig SD memory card, Power Supply, inline switch.

#### **Mini Midi General Operation**

Add songs and directories to the memory card using a personal computer and SD memory card adapter (unlimited number of directories, 1100 songs per directory). After copying your midi files to the SD memory card, insert it into the mMS+ hardware. With the App running on the tablet, link the tablet to the hardware. When they link and whenever the directory is changed, all song and playlist filenames in the current directory are uploaded quickly and wirelessly to the tablet. These names are shown in a scrollable list on the tablet, alphabetically sorted and separated into; Directories, Playlists, and Midi Files.

Scroll through the list and select and play any individual song by tapping on it. In a similar way, select a new directory by tapping on it (equivalent to changing directories on a computer). Or, select a Playlist and play songs in the order that you previously created.



Besides selecting individual songs to play, use the App softkeys to play songs automatically in either of continuous *Sequential* or *Random Play*. Press the *STOP* key to quickly terminate current song play. In autoplay modes, the selection bar on the tablet shows the currently playing song, or a countdown to the next song to be played. There is also an advanced menu for additional playback controls, such as Skip, Pause, and more; change and save song tempos; view a real time list of the last five songs played, and more.

The tablet does not actually stream any midi data - it only acts as a remote file controller; all midi files are played from the local SD card on mMS hardware. The tablet is only used to select which song to play, or what auto play mode to play in. This is why the system works so reliably. Once set to playing a song, the mMS hardware will continue playing even if the tablet enters sleep mode or is powered off. Songs never stop midstream, mid-play - unless you press the *STOP* button.

Besides tablet control, the mMS hardware has basic standalone Random and Sequential play capability through the front panel switch, and can play midi songs without the tablet. This is useful for quick song play test, or daylong continuous play.

#### **General Hardware, Controls, Ports, Technical**

Midi Output Connector: A standard midi compliant 5-pin female DIN connector

SD Memory Slot: Accept standard SD Memory card – depress to seat, depress again to release.

DC Power Jack: DC power jack, 5.5mm x 2.1mm DC barrel plug, center positive polarity. Inline D/C switch

Songs and Naming: Maximum midi filename or directory name length = 88 characters; maximum number of songs in any single directory = 1100 (anything above these limits are ignored); maximum number of directories = unlimited

Autonomous play: mMS hardware can play songs automatically without connection to a tablet in Continuous Random or Sequential mode, using the front panel switch. This feature is useful for testing new songs or just playing songs without the tablet

Audible status signals: The mMS hardware can play user set status notes through the instrument, providing audible status feedback.

Configuration File: The user can set the default power-on directory, and many other user selectable features by editing the *mmsConfig.txt* configuration file using a standard text editor.

Bluetooth Range: Typical Bluetooth range is at least 10M (30 feet)

Power: A/C adapter, 9VDC/1A, center positive, 2.1 x 5.5mm barrel plug

SD Memory Card: FAT32 Windows/MSDOS file system, SDHC card up to 32G, min class 4; standard file/directory naming convention

Serial USB Connector: future functionality

### **Hardware Play Modes**

Mode Play Selection Switch (3 position)

Auto Sequential Play: Auto continuous sequential loop play all songs in the current directory (does not require tablet).

Auto Random Play: Auto continuous random play all songs in the current directory (plays continuously without a tablet).

Tablet Remote: Set to Normal Tablet Remote control mode, and stops any autoplay mode (after completing current song play)

### **mMS App Tablet Soft-Key Controls and Indicators**

STOP: This soft-button stops the currently playing midi song

PLAY SEQUENTIAL or Random CONTINUOUS: Works like the hardware play mode. Currently playing song is displayed on the Tablet selection bar. If a song interval is set, the countdown to next song is also shown.

Selection Bar: Any scrolling list selections that are tapped are copied to this command bar. When this command bar is then tapped, the selected song plays or the selected directory change is initiated

SKIP Forward, Reverse, Repeat and Pause: Skip to the next or previous song, Repeat or Pause play (common playback controls)

Forward Fast, Forward Slow play: Temporarily change play speed to 2X or 1/2X, long-press BPM UP/DN buttons.

BPM/DLY up/down: Two skeleton buttons tapped to temporarily slow or speed up the currently playing song. The tempo Beats Per Minute (BPM) is briefly displayed on the tablet selection bar. When not playing a song, these set the silence interval between automatically playing songs, from 1 second to 60. These keys are also used to change the font size and line spacing

Last Song: Real time display of the last 5 songs updated continuously

List Editor: Switch to the Playlist Editor App.

Jukebox: tap and select songs in the existing directory, and play them all in the order in which they were selected

BTConnect: When tapped, reasserts Bluetooth connection; when pressed and held - restarts the Bluetooth link screen

DIR: Shows the currently selected directory

Bluetooth Status Indicator: blinking green indicates active and connected Bluetooth; red indicates disconnect

Status Messages: status messages appear from time to time briefly on the display and then disappear.

Tablet sleep mode: The tablet can be put into sleep mode to save battery life, and the mMS hardware will continue playing. The tablet automatically reconnects to the mMS when it becomes active again.

Rename Bluetooth: for multiple instrument installations, link to the name of your instrument, other than the default

Save BPM: use the BPM UP/DN keys to change the song tempo, and then save the new tempo

Pre and Post Command and delay: Can be used to trigger an event (power on a blower) before a song or song group begins playing, and then trigger another event after play ends and after a retriggerable delay time. Schematically it works like this;

PrePlayCommand note-> wait Pre Delay time-> play song or group of songs-> wait Post Delay time-> PostPlayCommand note

### **Optional Features**

External Switch Play (extra cost): use an external switch to play music (coin trip, keyfob RF relay). Set it to 1 thru 8 trips (coins) per play; keeps count of coin trips even while playing.

External Relay Control (extra cost): Trigger an external UL Recognized opto-isolated solid state relay, to power ON/OFF an instrument.

Secure Play: Will only play midi files that have an embedded key (for system installers and music resellers)

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#### **Brotech Electronics**

518 Boxwood Drive  
Shirley, NY 11967

[mfbrotech@outlook.com](mailto:mfbrotech@outlook.com)

631-834-3244

[www.BrotechElectronics.com](http://www.BrotechElectronics.com)

**Product Warranty:** Guaranteed free from defects in material and workmanship for 90 days from date of purchase. If a problem arises, first contact us to see if they might be resolved. If the product needs to be returned for repair, contact us for a return number. Customer pays for tracked and insured shipping one way. Brotech does not warranty the tablet. Any tablet warranty or operating problems must be resolved through the manufacturer directly.