

MZ-X500

MZ-X300

Firmware Version 1.40 User's Guide

Updates Provided by Firmware Version 1.10

Firmware changes provided by Version 1.0X are those described below.

- Addition of a Pitch Bend Mode for Melody tones and Hex Layer tones
- Addition of a Portamento Mode for Melody tones and Hex Layer tones
- Addition of Decay Time Key Follow for Hex Layer tones
- Enhanced volume adjustment function for Drawbar Organ tones
- Addition of a Percussion Mode for Drawbar Organ tones
- Addition of user samples to the Inst Select (instrument selection) of Drum tones
- Addition of a Group setting for pads
- Addition of a Package load function
- Addition of sample data
- Other improvements in function

Updates Provided by Firmware Version 1.21

Firmware changes provided by Version 1.10 are those described below.

- Addition of User Sampling Sets
- Addition of functions to load or save all data or all pad data
- Other improvements in function

Updates Provided by Firmware Version 1.31

Firmware changes provided by Version 1.21 are those described below.

- Addition of variation number recording in registration memory
- Addition of the ability to specify the number of a variation to be played after an intro
- Addition of area number lookup when saving a registration
- Addition of sustain pedal operation recording during pattern sequencer recording
- Addition of selection of waveforms imported by an expansion tone for hex layer and drum tones
- Addition of functions for tempo syncing to sample pad setting item
- Addition of direct access shortcuts to the tone editing screen and accompaniment editing screen by holding down buttons
- Addition of storage of externally input mixer settings
- Addition of direct button operations for modification of tone and accompaniment selection screen settings
- Addition of a setting to specify the initial startup screen
- Addition of a function to rewrite MIDI data header information used by the MIDI Recorder Mode
- Addition of a wav file loader function
- Addition of remaining memory capacity indication
- Addition of sample data
- Other improvements in function

Updates Provided by Firmware Version 1.40

Firmware changes provided by Version 1.31 are those described below.

- Enhanced Audio Recorder function and new mp3 player
- Folder data read and write support for USB flash drive operations
- Additional user accompaniment storage capacity
- New direct import from USB flash drive to accompaniment function
- Enhanced quantize settings for the pattern sequencer recorder
- New record repeat setting for the pattern sequencer recorder
- New Tempo option for registration filter items
- Note Preview sounds event notes when the Event Editor cursor is moved
- New MIDI Clock output setting
- Other improvements in function

User Data Compatibility

This section explains about user data compatibility between an old firmware version and the latest firmware version.

- The following data, when saved with an old firmware version, can be imported with the latest firmware version: user data (rhythm (AC7), normal tones (ZTN), versatile tones (ZVT), piano tones (ZPF), hex layer tones (ZLT: MZ-X500 only), drum sound data (ZDR), drawbar organ tones (ZDO), music data (ZMF), music presets (ZMP), registration (ZRM), pad bank (ZPB), sampling data (ZWT), phrase data (ZPH), chord sequence data (ZCD), arpeggio data (ZAR), all tone data (ZTA), all auto accompaniment data (ZAA), all registration data (ZRA)).
- User data saved with the latest firmware version cannot be imported with an older firmware version.

Updating Firmware

IMPORTANT!

Performing the firmware update procedure incorrectly can result in you are not being able to start up your Digital Keyboard. Be sure to observe the points below.

- Back up user data in Digital Keyboard memory to a USB flash drive before updating the Digital Keyboard firmware.
- Do not disconnect the AC adaptor or remove the USB flash drive from the Digital Keyboard while firmware updating is in progress.
- Do not touch any buttons or keyboard keys, except as required for updating, while firmware updating is in progress.

Perform the steps below to update.

1. Copy the “update.bin” firmware file to a USB flash drive.
 - Use a USB flash drive that has been formatted to FAT32.
 - Place the “update.bin” firmware file into the root (not a folder) of the USB flash drive.
2. Insert the USB flash drive from step 1 of this procedure into the Digital Keyboard’s USB flash drive port.
3. On the MENU screen, touch “SYSTEM SETTING”.
4. Next to “Information”, touch “Enter”.
5. In the list that appears, touch “Execute” next to “Update Firmware”.
6. In response to the “Sure? Yes/No” message that appears, touch “Yes”.
 - Firmware updating takes about 30 minutes. Do not touch the Digital Keyboard during that period.
 - A progress bar will appear on the display to show you the progress of the update.
 - The Digital Keyboard will automatically restart after the update is complete.
7. After the Digital Keyboard restarts, remove the USB flash drive.

This completes the firmware update operation.

IMPORTANT!

If an error message appears and updating fails for some reason, perform the steps below to re-attempt updating.

1. Unplug the AC adaptor from the Digital Keyboard.
2. Correctly re-copy the “update.bin” update file to the USB flash drive.
3. Make sure that the USB flash drive is inserted correctly into the Digital Keyboard’s USB port.
4. Connect the AC adaptor to the Digital Keyboard.

5. Press the Digital Keyboard's power button to turn it on.

- If the update operation starts automatically, wait for about 30 minutes until updating is complete and the Digital Keyboard restarts.
- If the Digital Keyboard restarts normally, go to the MENU screen, and touch "SYSTEM SETTING" and then "Information". Check the Digital Keyboard's current firmware version. If it is not planned firmware Version, perform steps 5, 6, and 7 of the update operation again.
- If updating is stopped by display of an error message, it could mean that there is something wrong with your "update.bin" file and/or USB flash drive. Check for problems.

Firmware Version 1.10 New Functions

This section explains functions that are changed with firmware Version 1.10.

■ Addition of a Pitch Bend Mode for Melody tones and Hex Layer tones

■ Addition of a Portamento Mode for Melody tones and Hex Layer tones

(Both MZ-X500 and MZ-X300; Hex Layer tone addition MZ-X500 only)

The editable parameters below have been added to Melody tones and Hex Layer tones.



- The Portamento On/Off parameter setting of Version 1.0X is now incorporated into the Portamento Mode as shown below.

Display Name	Description	Settings
Portamento >Enter	This is a group of editable portamento parameters.	
Portamento Mode	Selecting “On” for this setting causes the portamento effect to be applied, while “Legato” applies the legato effect. Selecting “Off” disables the effects.	Off, On, Legato
Pitch Bend Mode	This setting controls which keyboard keys are affected by the pitch bend effect. To have the pitch bend applied to the note of the pressed key only, select “Key”. Selecting “All” applies the effect to all sounding notes.	All, Key

■ Addition of Decay Time Key Follow for Hex Layer tones

(MZ-X500 only)

Addition of decay time key follow for Hex Layer tones by this version results in addition of the parameters shown below.

Display Name	Description	Settings
Filter >Enter	This is a group of editable filter parameters.	
Decay Time Key Follow	Adjusts the amount of change in the filter envelope decay time between neighboring keyboard keys. A greater value represents greater change. Increases the value shortens the decay time of the keyboard’s high range, and lengthens the decay time of the low range.	–64 to 0 to +63
Amp >Enter	This is a group of editable amp parameters.	
Decay Time Key Follow	Adjusts the amount of change in the volume envelope decay time between neighboring keyboard keys. A greater value represents greater change. Increases the value shortens the decay time of the keyboard’s high range, and lengthens the decay time of the low range.	–64 to 0 to +63

■ Enhanced volume adjustment function for Drawbar Organ tones

■ Addition of a Percussion Mode for Drawbar Organ tones

(Both MZ-X500 and MZ-X300)

The drawbar organ parameters shown below are added by this version.

NOTE

- The Leakage Noise setting of Version 1.0X has been changed to the Running Noise setting for this version.

Display Name	Description	Settings
Volume	Controls drawbar organ overall volume.	0 to 127
Click Level	Sets the click volume.	0 to 15
Percussion Mode	Specifies how percussion is sounded. Select “Mono” for monophonic sound, or “Poly” for polyphonic sound.	Mono, Poly
Noise >Enter	This is a group of editable noise parameters.	
Running Noise	Specifies the volume of the tone wheel signal (Running Noise) that is always being generated while nothing is being played.	0 to 15
Tone Wheel Leakage	Specifies the volume of signal leakage from other tone wheels (Tone Wheel Leakage Noise) while something is being played.	0 to 15
Drawbar Leakage	Specifies the volume of signal leakage from drawbars (Drawbar Leakage Noise) that are set to level 0.	0 to 15

■ Addition of user samples to the Inst Select (instrument selection) of Drum tones

(Both MZ-X500 and MZ-X300)

This change makes it possible to use the Inst Select item on the drum sound editable tone parameter screen to specify user samples loaded from a USB flash drive or recorded with the pad sampling function.

- Note that only user samples for which Short is specified as the Length can be specified for a drum sound.

■ Addition of a Group setting for pads

(Both MZ-X500 and MZ-X300)

This update adds a Group function that makes it possible to alternate multiple pads with the pad Setting Item.

Display Name	Description	Settings
Group	Assigns a group number (1 to 8) to a pad. Performing a pad operation while the operation of another pad with the same group number is being performed causes the ongoing pad operation to stop as the new pad operation is started.	Off, 1 to 8

■ Addition of a Package load function

(Both MZ-X500 and MZ-X300)

A package groups multiple tones, Auto Accompaniment, and other user data into a user data file (ZPK). Perform the steps below to load a package.

IMPORTANT!

- If the package load operation will overwrite existing data that you want to keep, back up the existing data to a USB flash drive before performing the operation below.

1. Copy the user package file (ZPK) to the “MUSICDAT” folder of a USB flash drive.
2. Insert the USB flash drive into the digital keyboard’s USB flash drive port.
3. On the MENU screen, touch “MEDIA”.
4. Touch “Load”.
5. Select “Package”.
6. Select the package file you want to load, and then touch “Select”.
7. A load package setting screen will appear, which shows a list of load destinations for the data in the package.
 - If the package includes user tone data, tone sub-categories will also be displayed.
 - If the package includes user sampled data and Long is specified as the Length of the sample data, samples will be displayed individually.
8. Specify a load designation of each user data item.
9. Touch “Execute”.
 - This displays a package load confirmation message “Sure?”.
 - If there is already data in the load destination in Digital Keyboard memory, a message “Replace?” will appear asking if you want to replace it with the new data.
10. Touch “Yes”.
 - The message “Please Wait” remains on the display while the operation is being performed.
 - Do not perform any operation while this message is on the display.
 - “Complete” appears on the display after loading is complete.
 - To cancel the load operation, touch “No”.

■ Addition of sample data

Sample data that can be assigned to pads is added with this version update. For specific details, see the Ver1.10 Appendix.

Firmware Version 1.21 New Functions

This section explains functions that are changed with firmware Version 1.21.

■ Addition of User Sampling Sets

(Both MZ-X500 and MZ-X300)

Sampling data specifications have been enhanced, and it is now possible to select User Sampling Sets.

A User Sampling Set consists of multiple sets of user sampling data, and you can select one User Sampling Set to use from among of a total three sets (A to C).

The user sampling data in each set consists of 12 short samples (with a recordable time of about 3 seconds each) and 4 long samples (with a recordable time of about 9 seconds each). Use the procedure below to change the User Sampling Set.

1. On the MENU screen, touch “PAD” to display the Pad menu.
2. Touch “User Sampling Set”, and then select from “Set A/Set B/Set C”.
3. When the message “Sure? Yes/No” appears, touch “Yes” to change the User Sampling Set.
4. The message “Please Wait” is displayed while the operation is being performed.
 - After the User Sampling Set has been changed, the message “Complete!” appears.



- User Sampling Sets cannot be stored in Registration or Pad Bank.
- When you change the User Sampling Set, the sampling data that is loaded to the current pad bank changes automatically.

■ Addition of functions to load or save all data or all pad data

(Both MZ-X500 and MZ-X300)

You can now load or save all data (ZAL) or all pad bank data (ZPA).

Use the procedure below to load or save data.

1. Insert the USB flash drive into the digital keyboard's USB flash drive port.
 - If you want to load data, copy the user file that you want to load to the “MUSICDAT” folder of the USB flash memory device in advance.
2. On the MENU screen, touch “MEDIA”.
3. To load data, touch “Load All”. To save data, touch “Save All”.
4. If you are loading data, select the file that you want to load, and then touch “Execute”. If you are saving data, choose a file name, and then touch “Enter”.
 - The message “Sure?” appears to confirm that you want to load or save the file.
 - If you are loading data and data is already present in the location where the new data is to be loaded in the Digital Keyboard memory, the message “Replace?” will appear to confirm that you want to replace the existing data with the new data.
5. Touch “Yes”.
 - The message “Please Wait” is displayed while the operation is being performed.
 - Do not perform any operations while this message is being displayed.
 - After loading or saving is complete, the message “Complete” appears.
 - To cancel an operation to load or save data, touch “No”.

Firmware Version 1.31 New Functions

This section explains functions that are changed with firmware Version 1.31.

■ Addition of variation number recording in registration memory

(Both MZ-X500 and MZ-X300)

The accompaniment variation number can be recorded to and recalled from registration memory. The procedure below specifies a variation number and stores it to registration memory.

1. While accompaniment is stopped, press the SYNCHRO START button.
2. Press a VARIATION button (1 to 4) so the corresponding variation number is flashing.
3. While holding down the STORE button, press a registration button (1 to 8) to store the variation number in the corresponding registration memory area.

While accompaniment playback is in progress, selecting a registration memory area where a variation number was stored using the procedure above will playback accompaniment according to the stored variation number. (Selecting a registration memory area while accompaniment is stopped enters synchro standby.)

■ Addition of the ability to specify the number of a variation to be played after an intro

(Both MZ-X500 and MZ-X300)

The variation number to be transitioned to after the accompaniment intro is complete can be pre-specified. The procedure below pre-specifies the variation number.

1. While accompaniment is stopped, press the SYNCHRO START button.
2. Press a VARIATION button (1 to 4) so the corresponding variation number is flashing.
3. Press an INTRO button (1 or 2) so the corresponding intro number is flashing.
4. Pressing the START/STOP button plays the intro and then, after the intro is complete, transitions to the variation with the number corresponding to the button pressed in step 2.



- The intro number and variation number specification in step 3 can be recorded to registration memory.

■ Addition of the ability to view the area number when saving a registration

(Both MZ-X500 and MZ-X300)

When the registration STORE button is pressed, the area button (1 to 8) that corresponds to the currently selected registration memory area number flashes.

Holding down the STORE button as you press the flashing number button stores the registration.

■ Addition of sustain pedal operation recording during pattern sequencer recording

(Both MZ-X500 and MZ-X300)

Sustain pedal operation is included in recorded pattern sequencer recording, which makes it possible to change how long keyboard notes are sustained.

■ Addition of selection of waveforms imported by an expansion tone for hex layer and drum tones

(Both MZ-X500 and MZ-X300)

Waveforms embedded in tones loaded from MEDIA can be selected with the hex layer tone and drum sound editing screens.

The procedures below can be used to navigate to the waveform selection screen and select a loaded tone with an embedded waveform.

- Hex Layer Tone: Tone → Edit → Advanced → Layer → Wave Number → User
- Drum Sound: Tone → Edit → Inst → User

■ Addition of functions for tempo syncing to sample pad setting item

(Both MZ-X500 and MZ-X300)

A Timing Sync setting has been added, which loops sample playback synced with the timing of the setting of the pad to which the sample is assigned.

Display Name	Description	Settings
Timing Sync	Syncs playback timing of the sample of a tapped pad with the playback timing of Auto Accompaniment playback timing. Off: No syncing Beat: Forces correction of deviation in beat units. Measure: Forces correction of deviation in measure units.	Off, Beat, Measure

■ Addition of direct access shortcuts to the tone editing screen and accompaniment editing screen by holding down buttons

(Both MZ-X500 and MZ-X300)

Shortcuts have been added to enable display of editing screens by holding down the SETTING group buttons below.

Holding down the TONE button displays the Tone Edit screen.

Holding down the RHYTHM button displays the Pattern Sequencer screen.

■ Addition of storage of externally input mixer settings

The externally input mixer settings can be saved by auto resume and in registration memory.

The parameters below are saved.

External Part: Volume, Reverb Send, Chorus Send, Delay Send, Line Select

■ Addition of direct button operations for modification of tone and accompaniment selection screen settings

(Both MZ-X500 and MZ-X300)

On the tone or accompaniment selection screen, the [+] and [-] buttons can be used to scroll to the next or previous data item.

Also, repeatedly pressing the same tone switch changes the sub-category.

Example: To select the second tone under E.Piano

Press the Piano button twice, and then press the [+] button once.

■ Addition of a setting to specify the initial startup screen

(Both MZ-X500 and MZ-X300)

A new Initial Display setting for the Advanced item of SETTING can be used to specify MENU, MAIN, TONE, RHYTHM, or MIXER as the initial startup screen.

Display Name	Description	Settings
Initial Display	Specifies the initial startup screen.	MENU, MAIN, TONE, RHYTHM, MIXER

■ Addition of a function to rewrite MIDI data header information used by the MIDI Recorder Mode

(Both MZ-X500 and MZ-X300)

When you start playing, various mixer settings are recorded to the MIDI data header, which is used by the MIDI Recorder Mode, as header information.

The added function can be used to rewrite header information by performing the procedure below.

- Rewritten Information

Parts

System Track (Port: B Part1- 5), Solo Track 1-16 (Port: C, Part1-16)

Parameters

Tone, Volume, Pan, Coarse Tune, Fine Tune, Bend Range, Reverb Send, Chorus Send, Delay Send

1. Select the user MIDI data to be changed by the MIDI Recorder Mode.
2. Display the Mixer screen, and change the parameter whose MIDI data you want to rewrite. Target MIDI recorder header settings are those shown above.
3. After the changes are the way you want, hold down the Store button as you press the MIDI Play/Stop button.
4. This will overwrite the MIDI header information with the current mixer settings and then display "Complete!"

■ Addition of a wav file loader function

(Both MZ-X500 and MZ-X300)

In addition to the ZWT native sample data file format, general-purpose WAV files* can also be imported when using the Load command on the Media menu to load sample data from USB memory.

WAV files are listed in the MUSICDAT folder along with the ZWT files.

* Linear PCM, 16 bits, Monaural/Stereo, 44.1kHz/22.05 kHz



- Depending on the storage location, 3 seconds (Short) or 9 seconds (Long) are cut from the data header of the imported wav file, which is then converted to 44.1kHz monaural. WAV format is not supported when saving unit data to USB memory.

■ Addition of remaining memory capacity indication

(Both MZ-X500 and MZ-X300)

The SETTING Information screen shows the current remaining memory capacity.

Display Name	Description	Settings
Free Space	Shows how much free space is currently available.	–

■ Addition of sample data

- Tone data and accompaniment data has been updated.
The number of tones has been increased. (MZ-X300: From 900 to 950 tones; MZ-X500: From 1100 to 1150 tones)
For specific details, see the Ver1.31 Appendix.

Firmware Version 1.40 New Functions

This section explains functions that are changed with firmware Version 1.40.

■ Enhanced Audio Recorder function and new mp3 player

(Both MZ-X500 and MZ-X300)

This version adds an mp3* player.

* mp3 Format

- File name extension: mp3
- MPEG-1 Audio Layer3
- Sampling frequency: 44.1kHz/48kHz
- Bit rate: 32 to 320 kbps; Variable bit rate (VBR) compatible
- Channel: Monaural, Stereo
- Playable track length: 90 minutes max.

NOTE

- mp3 format audio recording is not supported.
- In the case of an mp3 file created with VBR, the keyboard may not be able to obtain the proper track play time. During mp3 play, you can view the information below by pressing the Info button.
File Name, Title, Artist, Album, Year, Genre, Time, Bit Rate, Sampling Rate (single-byte characters only)
(During playback of a wav file, only the following information is displayed: File Name, Time, Bit Rate, Sampling Rate.)

A repeat function has been added.

An operation icon allows selection of OFF, repeat one, and repeat all.

NOTE

- Selected repeat all plays all of the songs in a folder in the alphabetical order of their titles.

■ Folder data read and write support for USB flash drive operations

(Both MZ-X500 and MZ-X300)

When performing USB flash drive operations, you can now browse folder contents, navigate to the parent folder, and create new folders. This added capability changes the USB flash drive file display, Media menu, playback Media category, MIDI Recorder, and Audio Recorder.

- An arrow mark of a folder name indicates that folder contents can be viewed.
- A "ParentFolder" item in the list lets you return to the parent folder when required.

NOTE

- Up to 10 folder nesting levels and 999 files are supported by these operations.

■ Additional user accompaniment storage capacity

(Both MZ-X500 and MZ-X300)

The storage area for user accompaniment data is increased from 100 items to 500 items.

■ New direct import from USB flash drive to accompaniment function

(Both MZ-X500 and MZ-X300)

The accompaniment function now supports direct loading of user data from a USB flash drive. A Media category has been added to the accompaniment selection screen.



- Media category accompaniment data is not supported for recording with the MIDI recorder. Media category data also cannot be edited with the pattern sequencer. To perform such operations, the accompaniment data must first be loaded into Digital Keyboard memory.
- Accompaniment selected in the Media category cannot be changed while Audio Player playback or recording is in progress.

■ Enhanced quantize settings for the pattern sequencer recorder

(Both MZ-X500 and MZ-X300)

Thirty-second notes and thirty-second note triplets are added for the pattern sequencer recorder.

■ New record repeat setting for the pattern sequencer recorder

(Both MZ-X500 and MZ-X300)

A new Loop On/Off function for the pattern sequencer recorder lets you control whether or not recording should be repeated when the end of a loop is reached.

■ New Tempo option for registration filter items

(Both MZ-X500 and MZ-X300)

A new Tempo option is available for registration filter items.

■ Note Preview sounds event notes when the Event Editor cursor is moved

(Both MZ-X500 and MZ-X300)

While the Note Preview item in the Event Editor “Setting” is enabled, moving the cursor to a note number from C-1 to G-9 in the event edit list causes the corresponding note to sound so you can check its pitch.

■ New MIDI Clock output setting

(Both MZ-X500 and MZ-X300)

A “Clock Out On/Off” items has been added to the MIDI menu to control output of the MIDI Clock, MIDI data start/stop, accompaniment data start/stop, and more.

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