

MIFP-03

Operating Manual

Preface

Thank you for supporting us by choosing the **MFP-03**. This is not just a player — with its help you will be able to record, copy, set in order, and edit your music. Although it can't replace a sequencer, we hope that it will be very useful for you with its specific features. Here're the most important ones:

- ☑ **Plays** all Standard MIDI Files and RMID RIFF files in format 0 (single track) or format 1 (up to 64 tracks), stored on 89 mm (3½") 2DD, 2HD or *LS-120*[™] (*SuperDisk*[™] or UHD) diskettes in *MS-DOS*[®] format, no matter whether off-the-shelf or recorded by you. Up to 32 MIDI channels are supported (two separate ports of 16 channels each).
- ☑ **Has on-board** an *Yamaha*[®] *DB51XG*[™] synthesizer, as well as an on-board amplifier. The *XG* standard allows much more expressiveness than the older *GM* and *GS*. The songs written especially for *XG* play back with maximal fidelity. The *GS* songs also play back well due to the embedded *TG300B* emulation.
- ☑ **Mixes** the accompaniment played back with what you're playing at the moment on your MIDI synthesizer. The so created MIDI stream can be played back by one or more sound modules, connected to one or both MIDI outputs of the **MFP-03**.
- ☑ **Records** your performance on any MIDI keyboard (incl. with auto-accompaniment like the *Roland*[®] *E-15*[™]) or the MIDI information, played back by a sequencer. If external MIDI clock is detected, it tracks all *tempo changes* and plays them back with a great accuracy. This way you can transfer a song in *any* format from *any* device to a MIDI file on a diskette.
- ☑ **Lets** you select a new song, *while the old one is still playing back*.
- ☑ **Has modes** for instant toggling any MIDI channel off and on, and for mixing the channels *during the playback*.
- ☑ **Allows for** global editing of the song *during the playback* (tempo change, transpose, channel mute) and saving the changes on disk.
- ☑ **Edits** program changes, continuous controllers and percussions — notes and velocity with auditioning. Can remap channels as well. The so changed song can be saved on disk. During the editing of programs and percussions the **MFP-03** "self-teaches" and editing of each consecutive song is getting increasingly easy and quick.
- ☑ **Loads** each subsequent song automatically and when you press PLAY, begins playback instantly. Songs can be played back automatically one after another too, as well as each song can repeat in an endless loop.
- ☑ **Can** play back only a part of the song, selected by you (e.g. chorus or verse), which can endlessly repeat too. This makes its study easier.
- ☑ **Permits** changes of the song playback order (arranging). You can change the order of only a part of the songs as well. Every change is instantly saved on disk and the next time songs play back in the order you've given them.
- ☑ **Shows** the *names* of the songs (files), not just their number. This allows you orientate easier.
- ☑ **Creates**, removes and renames directories, so that all songs can be organised in hierarchical directory trees for easier song selection and repertoire maintenance.
- ☑ **Copies** separate songs (*including copy-protected ones — at your responsibility!*), as well as

whole directories and HD/DD diskettes. If your new diskette isn't preformatted in *MS-DOS*[®] format, you can do that with the **MFP-03**.

- ☑ **Has functions** for deletion and renaming of separate songs, as well as for information about the number of the songs, the free disk space percentage and other data.

And here are some additional standards and features, typical of the personal computer world, supported by the **MFP-03**:

- ☑ **Supports** *Stacker*[®] *LZS*[™] disk compression, so that 2 to 2½ times more songs can fit on a single disk (typically about 75 ÷ 80 fully orchestrated songs on a single 1,44 MB disk; a *SuperDisk*[™] will hold above 5000!). Compressed “volumes” can be created after formatting of a new diskette. They can be copied just as the normal disks, even though *Stacker* auto-mounts them as compressed disks.
- ☑ **Unzips** and plays back all Format 0 Standard MIDI Files, compressed with *PKZIP*[®], *ZIP*, *WinZip*[®] and compatible archiving programs. Thus a single *SuperDisk*[™] can hold more than 7000 fully orchestrated songs, which are available in seconds and have a theoretical mean playback time of over a fortnight! This huge amount of songs can be transferred to or from another device or computer, which is impossible with the hard-disk-based filers.
- ☑ **Employs** sophisticated proprietary *lookAhead Vcache*[™] disk caching technology of *Golden Bow Systems*[®], which significantly accelerates disk access, especially for songs that have already been played. A whole HD disk worth of songs can be read in the cache memory, thus providing virtually zero access time for each song!
- ☑ **Upgrades** its flash-memory-located firmware automatically, when the file containing its new version is recognised on disk, even inside a *ZIP* file, downloadable over the Internet.

Precautions

- ☞ Do not ever apply excessive force to the mechanical parts, keys or disk drive.
- ☞ Do not position the unit near heat sources or in excessively humid or dusty atmospheres.
- ☞ Do not subject the unit to stress during transport or use.
- ☞ Do not, where possible, position the instrument near units that produce interference, like radio or TV appliances, etc.
- ☞ Do not, for any reason, allow objects or liquids of any kind to penetrate the unit's casing.
- ☞ Do not use solvents to clean the outside of the instrument. Use a soft cloth damped with water.
- ☞ Do not try to remove the unit's metal casing. Always call in an expert for repairs.
- ☞ Do not remove the floppy disk from the drive unit until the LED indicator has gone out.
- ☞ Do not leave a floppy disk in the drive unit during transportation, this can cause malfunction.
- ☞ Do not use floppy drive cleaning kits which don't bear the *LS-120* logo or you will damage the drive unit.






- ☞ Do not expose floppy disks to magnetic fields (magnets, loudspeakers, televisions, etc.) or to direct sunlight.
- ☞ Regularly make back-up copies of your data on floppy disks to avoid accidental deletion or damage and subsequent loss of the recorded material.


Connection

There are 11 connectors on the rear panel: two for *pedals*, 4 *MIDI*, 4 for *line audio input/output* and one for *headphones/speakers*:






- ⦿ The *power supply* cable is connected to a electricity mains outlet.
- ☠ **CAUTION: Pull out all cables in case of a thunderstorm. A nearby lightning strike can cause irreversible damage to the unit! Operation of the unit is guaranteed only at mains voltage of 90 to 264 V with frequency of 47 to 440 Hz.**
- ⦿ The *pedal* connectors, designated as PLAY and NEXT, can be connected to optional pedals. When depressed, these pedals replace the respective keys. As an exception, the PLAY pedal replaces the SELECT key, when a directory is chosen.
- ⦿ The *MIDI* connectors are four: an IN input, connected to the output of your MIDI controller (e.g. a keyboard); a THRU output, which can be connected to the input of a synthesizer, driven *directly* by the MIDI controller; and OUT1 / OUT2 outputs, connected to the inputs of the controlled synthesizers or sound modules. If your songs use only one output port (16 MIDI channels), connect the input of your synthesizer (module) only to OUT1. The OUT2 output is for the second port (# 2).
- ☝ In case that you use one and the same synthesizer as both a controller and sound module, switch off the direct connection between its keyboard and sound generator (local control). For details turn to its manufacturer's documentation.
- ⦿ The *line audio* connectors, designated as LINE IN and LINE OUT, are one for each channel (left and right). To hear the signal from the on-board synthesizer, connect an amplifier to LINE OUT, and optionally feed LINE IN with a signal to be processed by the embedded signal processor of the DB60XG synthesizer (if one is installed instead of the DB51XG) and mixed with its output signal.
- 🔔 The on-board synthesizer plays back only the MIDI messages for port 1; those for port 2 are routed only to the MIDI OUT2 output.
- ⦿ The *headphones/speakers* connector, designated as 8~32 Ω, can be connected to stereo headphones with impedance no less than 32 Ω, or speakers with impedance no less than 8 Ω, to hear the audio signal of the on-board synthesizer, amplified by the on-board amplifier.
- 🔔 The output power is limited to 2 X 75 mW (for headphones) or 2 X 300 mW (for speakers).
- 🔔 The sound volume of all audio outputs is adjusted using the VOLUME potentiometer from the front panel.

Switching On and Disk Change

-  After the **MFP-03** is properly connected, turn on the mains switch in I position. At this moment a typical noise should be heard from the floppy drive, whose LED flashes for a while.
-  Insert a diskette with songs into the disk drive.
-  A few seconds later the messages `<MFP-03>`, `ROOTING.`, and `READING.` should appear on the display. Next the **MFP-03** reads the names of all directories and songs off the disk and sorts them alphabetically into a list. (This list will remain in the **MFP-03**'s memory till the next time you press DSK.) During that time, the number of currently found directories is displayed. Finally, the name of the first directory (the first song, if there are no directories) will appear, or `NO SONGS`, if there are no MIDI files on this disk.
-  To change the diskette, press the button of the disk drive, remove the old diskette, insert a new one and press DSK to update the song list.
-  When the power is off, the diskette can be removed with a needle in the button's hole.

The diskette can be changed *during the playback of a song* too. After the end of the sounding song, if it's not the last one in the directory, the **MFP-03** will try to load the next song from the old diskette, although you've changed it. In this case the display will show an `*ENOENT` error (no such file). Press DSK to confirm the error and to update the song list. After the **MFP-03** does that (if there are many directories you will have to wait a little), the name of the first directory or song of the new diskette will appear.
-  If you depress DSK before the end of the sounding song, the playback will stop!

Directory and Song Selection and Playing Back

-  Using the PREV and NEXT keys, you can choose a previous and next directory or song for playback, respectively, and using -10 and +10 — to skip 10 directories or songs backward or forward in the list, respectively. (The continuous pressing of a key causes automatically a fast name change about 7 times per second.)
-  The rotary selector can also be used to select a song or directory.
-  If you're not in the top-level directory, you can quickly select the parent using the OK key.
-  Using the SELECT key, a directory can be entered. They form the so-called "tree". Every directory except the top-level one (called "root") has its parent directory. Each directory can hold songs or other directories. Directories are always listed before songs. If the directory name is shorter than 8 characters, it gets filled with the `>` symbol, e.g. `DIR123>>`.
-  After you've selected a *song*, press PLAY. The song will load off disk and its playback will start immediately.

During the loading the display shows the track that is currently being loaded and the total number of tracks in the song. During the playback the current measure number, the mode and the tempo are shown.

There are three playback modes, which can be walked through using the MODE key. They are `SNGL`, `REPT` and `AUTO`. The first letter of the mode is shown exactly above the MODE key.

The normal mode is *SNGL* (*single*). In it, after each song, the next one gets loaded automatically off disk, but its playback starts the instant you press PLAY. In *REPT* (*repeat*) the current song gets repeated continuously, and in *AUTO* all songs get played back automatically one after another.

A new song can be selected in the aforesaid way *during the playback too!* In *SINGLE* mode it will load automatically, when the current song finishes, or if you press STOP. To start its playback, press PLAY. In *AUTO* mode its playback will start automatically.

- ☞ Remote *Song Select*, playback control (*Start / Stop / Continue*) and tempo determination (via *MIDI Clock*) are possible through MIDI.
- ☞ If the selected song isn't loaded, depressing SELECT toggles (*SYNC ON / SYNC OFF*) transmission of the synchronisation messages (*MIDI Clock, Start, Stop* and *Continue*) via the MIDI OUT1 output.

Playback Control

During the playback, the following information is shown on the display:

- ☞ On the leftmost two, three or four positions, the current measure is shown.
- ☞ On the third position, an *A* (*All*), *B* (*Begin*) or *E* (*End*) is shown, depending on the playback zone selection (see “partial song playback” below).
- ☞ The fourth position is empty during the playback, but during a pause, a *P* is shown there.
- ☞ On the fifth position, the abbreviated playback mode is shown (see above).
- ☞ On the last three positions, the tempo, the channel status, or the transposing interval is shown, depending on what we are currently changing (see below).

For playback control, the following keys are used:


- ☞ STOP for stop and PAUSE for pause. Playback is resumed with PLAY.
- ☞ SLOWER and FASTER for slowing down and accelerating the tempo in the —50...+100% interval with a step of 1%. The change is applied during all following tempo changes too.
- ☞ LOWER and HIGHER for transposing down and up in the —24...+24 semitones interval (two octaves). All channels are transposed but channel 10 (where normally the percussions are). You can transpose a separate channel too (see below).

STOP is used also to shut up any “hung” notes (“panic”).

MIDI Channel Control


- ☞ Using the CHAN key, a MIDI channel in increasing order from 1 to 16 is selected.
- ☞ Using the STATUS key, its status is changed. There are three kinds of status — *P* (*Pass Through*), *M* (*Mute*) and *T* (*Transpose*). On transposing, all channels get *T* status but channel 10, which has *P* status. Using the STATUS key you can change the status of any channel (for example if the percussions are on channel 16, you can transpose it and not channel 10). It's


possible to shut off the solo part channel (most often 4) and so on.

 If you press CHAN after channel 16, a simultaneous channel access mode will be entered, where the bottom two keyboard rows toggle the corresponding channel. The second row is for channels from 1 to 8, and the third — from 9 to 16. A dash is shown on the display for every channel switched on. The transposing doesn't work in this mode. To exit it, press CHAN.


The simultaneous access mode is useful if you don't know which part is on which channel. With successive channel toggling, this is easy to determine.

 If there are two different parts on the same MIDI channel for port # 1 and # 2, they are affected simultaneously from the STATUS key.


 If you want to save a song in which you've changed something (see "saving"), you have to press SAVE or STOP before its end. Otherwise, the next song will be loaded.

 Using the SELECT key, the three varieties of the simultaneous channel access mode can be walked through — toggling of all channels, mixing channels from 1 to 8, and mixing channels from 9 to 16.


In the channel *mixing* during playback mode, each key column corresponds to one MIDI channel, from 1 to 8 or from 9 to 16. Using the middle row keys the velocity of the given channel is increased, while using the bottom row keys it's decreased.

 During mixdown, the velocity of the note and channel / polyphonic pressure messages is corrected. If you make a correction, after a given note already sounds, this note naturally won't change its velocity, but the next notes from this channel will be affected.


The change is limited to +/-24 units, from the total of 128 possible values, i.e. if the old value was 90, it can be corrected from 66 to 114. The corrections are displayed as digits from 1 to 9. If there's no change, the digit is 5, on maximum it gets 9, and on minimum — 1. On each pressing of the corresponding key, the digit is altered with 1 unit, but the value — with 6 units.

 The changes can be saved on the diskette using the SAVE key.









Partial Song Playback

 If the indicator above the SELECT key shows *A (All)*, the song is played back entirely. To select a starting measure of the playback zone, press SELECT. Now the indicator shows *B (Begin)*. Using the ◀ (backward) and ▶ (forward), a starting measure can be selected (from 1 to 99). Press SELECT one more time. The indicator will show *E (End)*. Choose an ending measure using the ◀ and ▶ keys. On pressing PLAY the song gets played back from the selected starting to the selected ending measure.





If we select the *REPT* (repeat) mode using the MODE key, the selected measures will repeat in an endless loop. This is convenient when studying a solo or improvisation. If you want to hear only one or a few parts, switch off the channels of the rest (see "MIDI channel control" above).

 The start of the playback in this mode is always delayed for a while. If a later starting measure is selected, there are more tracks, or the song texture is more complex, this delay can be significant. It's unavoidable, because all song tracks are scanned on start of playback until the starting measure is reached.

Program Change Editing




-  Using the EDIT key, the four edit modes are walked through — *PGMEDIT*, *CTLEDIT*, *DRMEDIT* and *CHREMAP*. For program change edit choose *PGMEDIT* (*ProGraM EDIT*) and press OK.
 -  The MIDI channel, the measure and the program number of the first song track are displayed.
 -  If you want to change the displayed program number, choose the new one using the HIGHER and LOWER keys. Press OK. Now, data of the next program change is displayed. Continue the same way till the end of the song. If you want to exit the editor, press CAN (*cancel*) — the changes made so far will be kept. (This is relevant to all the edit modes.)
 -  The rotary selector can also be used to select a new program number.
 -  On each change, the new program is heard through port 1 with a pitch of middle C. To stop the sound, press STOP.
 -  While the **MFP-03** is searching the next program change, the current track and the total number of tracks are displayed, for you to know where in the song you are. (This is relevant to all the editing modes.)
- Every newly entered program is remembered in a special program (patch) map. Once entered, the program is valid for the entire song. This means that if the same program is encountered somewhere else in the song, the **MFP-03** *automatically* replaces it with the program you selected. On editing the next song, the question *OLD MAP?* is asked in the beginning. If you answer OK, the map is kept and the **MFP-03** *automatically* replaces the old program changes with the new ones from the map, asking you only about the programs not yet encountered. This is convenient for series of songs with orchestration for one and the same synthesizer. If you answer with CAN, the map is cleared and you must enter every correspondence between old and new programs again.
-  The information from the maps is lost when the power is switched off.
 -  If there are two different parts on the same channel for port # 1 and # 2, they are affected simultaneously during the editing.

Continuous Controller Editing









-  Press EDIT until *CTLEDIT?* (*ConTroLler EDIT*) is displayed. Answer with OK.
-  The channel, the number and the value of the first control change on the first track is displayed.
-  Using the HIGHER and LOWER keys, select the desired value. Press OK. Now the next control change is displayed. Continue the same way till the end of the song.
-  The rotary selector can also be used to select the desired value.

Every changed controller on each channel is remembered and when the same controller on the same channel is encountered again, it's changed proportionally. For example, if you've increased controller 7 (channel volume) from 100 to 110 (+10%), upon encountering a controller 7 with a value of 50 on the same MIDI channel again, it will be increased to 55 (again with +10%). In this way, when there is a long chain of controllers, it's not necessary for you to

change each message. Examples for such chains are the fade out (with controller 7), modulation (with controller 1) or the pan effect (with controller 10).

-  The on/off pedal controllers (from 64 to 69) and the mode messages (from 120 onward) are ignored during the editing and are not displayed.
-  The registered and non-registered parametric controllers (from 98 to 101) just get displayed. If you change their value, a real change *is not made*.
-  The bank select (0 and 32) and data entry (6 and 38) controllers are shown and can be changed, but the change is valid one time only and doesn't get remembered. When the same controller is encountered again, even on the same channel, it's not changed automatically, and you're given a chance to edit it again.

Percussion Editing

-  Press EDIT until *DRMEDIT?* (*DRuM EDIT*) is displayed. Answer with OK.
-  *CHAN=10?* is displayed. If the percussions are on channel 10, answer OK. If not, press CHAN until the desired channel appears. Press OK.
-  The old and the new percussion note numbers are displayed, divided with an arrow (\rightarrow). Initially, both numbers are equal.
-  Using the HIGHER and LOWER keys, choose the desired note number. Press OK.
-  *VELO=XXX* is displayed, where *XXX* is the velocity of this percussion note.
-  Using the HIGHER and LOWER keys, choose the desired velocity. Press OK. Continue the same way till the end of the song.
-  The rotary selector can also be used to select the desired note or velocity.
-  Every note or velocity change can be heard through port # 1.

The numbers entered are stored in a drum map, which is further used to change the notes in the same way as with the program changes. The velocity change however is proportional, as with the controllers (see above).

Channel Re-map

-  Press EDIT until *CHREMAP?* (*CHannel REMAP*) is displayed. Answer with OK.

If this mode hasn't been used before, you're prompted to enter a channel map. For this purpose the old channel (1) and an arrow are displayed on the left, and then the new channel, which can be changed using the CHAN key. Press OK. The next corresponding channel (2) pair is shown. Continue in the same way up to channel 16. Then the program begins changing the channels of all MIDI events from all tracks, replacing each old channel with the new one from the map. While this is being done, the current track and the total number of tracks are displayed. When the operation is complete, the song name is displayed again. If you want to save the changes, press SAVE.

If you've used this mode at least once, the next time you enter it, an *OLD MAP?* question is

displayed. Answer with OK to change the channels the same way as the last time (using the old map). If you wish to change the channel correspondence pairs, answer with CAN to enter a new map.

- ☞ This mode is most frequently used for altering the percussion channel for synthesizers, which don't use the standard channel 10 for this, but for example channel 16 instead. Changing the channels of the melodic and / or harmonic parts is also possible, if your synthesizer doesn't support the channels used in a particular song.
- ☞ Take into account that the program won't allow you to re-map two or more channels in one (this could lead to part mixing). It is designed in such a way that if you try to enter an already used number for a new channel, the old channel doesn't get incremented. This means that the value has not been accepted. This will happen, when and if you enter a number not yet used for this channel.

Song Saving

☞ If you want to save the changes after editing of a particular song, press SAVE and confirm with OK. After the short *SAVING..*, the current track and the total number of tracks in the song will be displayed. When the operation finishes, the song name will be shown.

☞ If you forget to save the editing changes, a *DISCARD?* question appears. If you want to discard the changes, press OK. Otherwise, press CAN and save the song.

Saving may be done on a *different* diskette, too. This is convenient, if you want to *copy* some song from one diskette to another — just load it with PLAY and when it begins playing, change the diskette, press SAVE and choose a destination directory (see “directory and song selection” above)!

If you want to create a new directory in the already selected one on the new diskette, in which to save this song, press RECORD to create the directory, enter its name (see “renaming” below) and press OK.

If the song already exists in the selected directory, *REPLACE?* is displayed. Press OK to replace the old song. If you don't want to lose the old song, press CAN. Now the name of the new song is shown. Change it using the top row keys and press OK. If the selected name is already in use, it appears again and you have to change it again, until you find an unused name.

⌚ ☞ Upon saving of a transposed song, or if the MIDI channel status or the tempo have been changed, saving occurs significantly slower. This is so because every single event is scanned.


☞ If a particular MIDI channel has been muted (*M* status), on saving all events from this channel *will be lost for good!* This reduces the song size, but if you want to retrieve this channel later, don't mute it, but decrease its volume with controller 7 (see above) to a degree that it doesn't get heard (e.g. 15). Then you can restore it later in the same way. Don't tone it down to zero, because if there is a fade out, it will get lost on recovery!


☞ On formatting, recording, editing, saving, renaming, ordering, deletion, copying and creating directories, songs and diskettes, always remove the diskette write protection by closing its write protect tab.


☞ On the aforementioned operations the playback *stops!*

Song Ordering

 Press CHAIN. Answer OK the *CHAIN?* question.

 The name of the first song of the directory is displayed. There is *01* on the first two positions, and the name is shifted to the right. (If the last two name characters are digits, they're kept, and the name doesn't get shifted so you can distinguish one song from another.)

 Using the PREV and NEXT keys, choose the name of the first song in the chain you want to make. Press OK.


 After the short *ADDING..*, the name of the next song of the directory is displayed, now showing *02* on the first two positions.


Continue the same way. If you want to order only part of the songs, cancel the ordering using CAN. The remaining songs will queue up *after* the already ordered ones.


During the ordering, the **MFP-03** will actually *rename* each song, inserting the two digits of its serial number in the beginning. On playback, the songs are always sorted in alphabetical order. Since the digits rank *before* the letters, the ordered songs are always in the beginning.

You can always change the order of your songs in the same way later.


Song or Directory Deletion and Renaming


 Choose the song or directory you wish to rename or delete (see “directory and song selection” above).

 For *d e l e t i o n* press DELETE and confirm with OK. After the short *WIPING..*, the next song name will be displayed, or *NO SONGS*, if there are no more.


 **Caution:** *The deleted song gets lost for good!* If you're not sure that you've selected exactly the song you don't need, press CAN. *CANCELED* will be displayed. Then choose the song that is subject to deletion again.


If you delete a directory that is not empty (i.e. it contains other sub-directories or songs too), you'll be asked *WIPEALL?*. If you answer with OK, you'll be given a last chance to cancel with the question *REALLY??*. If you're not sure that you've selected exactly the directory you don't need, press CAN. Then select the directory that is subject to deletion again. Otherwise, confirm again with OK.

 **Caution:** *Any songs and sub-directories in the deleted directory get lost for good!* You must be absolutely sure that you don't need anything in the deleted directory anymore.




 The top-level (root) and the parent directories cannot be deleted or renamed.

 For *r e n a m i n g* of a song or a directory, press REN and confirm with OK.


 *UNTITLED* is displayed, or the name of the last renamed, recorded or created by you song or directory.

 Using the top row keys, choose a new name. Each key changes the character exactly above it. Characters alternate in the following order: the underscore (_), the letters from A to Z, the digits from 0 to 9, then the underscore again and so on. You can change the character of each of the











eight name positions.

-  The rotary selector can also be used to select the character under the current position.
-  The limitations for the possible name characters follow the *ISO9660* standard and allow the files and directories to be transferred to various computers.
-  Press OK to save the change on the diskette.

If the selected name is already in use, it appears anew and you have to change it again until you find an unused name.

-  Deletion and renaming are useful, if you want to make space for new songs or to entitle songs whose names consist of unintelligible digits (for example songs from an off-the-shelf diskette or songs recorded with an auto-accompanying synthesizer).

New Song Recording

-  Connect the MIDI output of the recording source (sequencer, computer, controller or synthesizer) to the IN output of the **MFP-03**.
-  Press RECORD. Choose the time signature using the HIGHER and LOWER keys. You can choose among several tens of different time signatures from 1/1 to 24/16. The default time signature is the one of the previous song, or if this is the first song, **4/4**. Confirm your choice with OK.
-  The rotary selector can also be used to select the desired time signature.
-  Choose the name of the new song (see “renaming” above). Press OK.
-  *WAITING* is displayed. Start sequencer playback (or if you’re recording live, start playing your synthesizer).
-  *STARTED* is displayed and the recording begins.
-  After the end of the song press STOP. Answer OK the *SAVE?* question, if you want to write the song onto the diskette. If you change the diskette, you can save the song in some of its directories or to create a new one (see “saving” above).
-  Pauses before the start and after the end of the recording are ignored by the **MFP-03**.
-  If *MIDI Clock* is not detected at the input, the recording is done with internal synchronisation. In this case when the recorded song is played back, the tempo and the measures won’t correspond to the real ones.
-  External recording synchronisation is possible as well. If *MIDI Clock* is detected at the input, instead of the usual *STARTED*, the measure number, *M* (MIDI) and the current tempo are displayed. All tempo changes are quantised down to the value of the time signature denominator — for example for time signature of **6/8** this is the quaver.

On recording with external synchronisation, a preservation of the tempo and all its changes during the recording is done. The so recorded song will play back with the original tempo. The tempo changes will play too, quantised down to the time signature denominator. At that, unlike the internal synchronisation, the note timings and positions in the measures are kept. This

means that the so recorded song can be edited at note/event level with any sequencer, which supports the Standard MIDI Files format.

- ☞ This makes it possible to transfer through MIDI songs from the older sequencers, which don't support this format (e.g. *Kawai*[®] *Q-80*[™], some music workstations of *Korg*[®], *Ensoniq*[®] etc.), without loss of musical information. Only the eventual time signature changes in the middle of the song will be lost.

Formatting and Copying of Diskettes and Directories

Most diskettes are sold factory formatted for MS-DOS[®]. But if you come across some which aren't, you can format them with the **MFP-03**. For that purpose:

- 📁 Insert a diskette in the disk drive, press FORMAT and confirm with OK.
- 💻 The **MFP-03** will format the diskette. The current track number and the head number are displayed. If the formatting is successful, *COMPLETE* is displayed in the end.

If you've formatted an HD or *LS-120* diskette, at the end of the formatting a question appears: *STACK?* If you answer with OK, *STACKING* is displayed and a compressed volume is created on the diskette, which holds on the average 2 to 2.5 times more songs than an uncompressed diskette. After the end of this process —*REMOVE*— is displayed. Remove the diskette and press OK. The display will show *COMPLETE*. On inserting the so formatted diskette and pressing DSK, *Stacker* recognises and auto-mounts it as a compressed volume.

If you don't want to create a compressed volume, answer the *STACK?* question with pressing the CAN key. Formatting finishes and *COMPLETE* is displayed.
- ☞ Compressed diskettes cannot be formatted anymore by the **MFP-03** and copying diskettes over them is impossible.
- 📁 To copy a whole HD (incl. *compressed*) or DD diskette, *protect it from writing* (open its write-protect tab), insert it in the disk drive and press COPY until *DSKCOPY?* is displayed. Confirm with OK.
- 💻 *READING*— is displayed and the last character (the hyphen) begins rotating slowly, which shows that copying is in progress. After reading of the first disk portion —*TARGET*— is displayed.
- 📁 Replace the source with the *target* diskette (it must be of same type, but *uncompressed*). Press OK.
- 💻 *WRITING*— is displayed and the read portion of the source disk is written.
- 📁 If the diskette cannot be copied at once, —*SOURCE*— is displayed. Replace the diskettes the other way around. Press OK. Continue the same way until *COMPLETE* is displayed.
- 💣 **Caution:** *The entire contents of the formatted or target diskette are lost for good!* If you're not sure you want to start the operation, cancel it with CAN. *CANCELED* is displayed.
- ☞ If formatting is unsuccessful (see "errors" below) after the second attempt too, throw the diskette out. Even if the third attempt is successful, sometime later this diskette will cause you troubles! This applies to the target diskette when copying too.

☞ In case of many errors, clean the disk drive heads with isopropyl alcohol and a special disk head cleaning kit, which must bear the obligatory *LS-120* logo.

☠ **Never use cleaning kits for “standard” (1.44 MB) floppy disk drives — this will lead to irreversible damage to the disk drive unit!**

You can copy the current *directory* of songs instead the diskette. Press COPY until *SNGCOPY?* (SoNG COPY) is displayed. Confirm with OK and act as in disk copying. The song names from the source directory will appear during the copying. On inserting the destination diskette (this time it can be of different type and even compressed) choose or create a destination directory first (see “directory selection” and “song saving” above).

If there is not enough space on the destination diskette for the new songs, *NEW DISK* will be displayed. Insert a new diskette, choose or create a destination directory and press OK. It may become necessary for you to insert even more new diskettes. If you haven’t got any, cancel with CAN.

Information and Demonstration




































☞ From the root directory press OK and confirm again with OK. You can exit this mode using CAN at any time.

- ☞ The number of directories is shown. On next pressings of OK, the following is shown:
- ☞ The total number of songs on disk.
- ☞ The percentage of free disk space.
- ☞ The free space on the RAM-disk; it’s used to load songs, copy diskettes and so on.
- ☞ The percentage of the disk *cache* efficiency.
- ☞ The current time (hour, minutes, seconds).
- ☞ The current date (month, day and the last two digits of the year).
- ☞ The version number of the disk operating system (*DOS*).
- ☞ The revision number if the operating system.
- ☞ The location of the operating system.
- ☞ The version number of the control program of the **MFP-03**, *LIVE!JAM*.
- ☞ If there is a demonstration song embedded, it is played back. No keys work during the playback. At the end of playback, *FINISHED* is displayed. If there is no embedded demonstration song, *NO DEMO* is displayed. Press OK for the last time to exit this mode. *COMPLETE* is displayed.

Error Messages

The error messages are four types, depending on its starting character:

- \$ — Floppy disk driver errors.
- * — Disk Operating System (*DOS*) errors.
- # — Decompressor (*PKUNZIPjr*TM) errors.
- = — MIDI file (song) errors.
- ? — Recoverable errors, in which the failed operation can be repeated.

	If an error arises, press <u>RTRY</u> (<i>retry</i>) or <u>CAN</u> (<i>cancel</i>). Which one — this does matter only for the recoverable errors.
	?EWRPROT Disk write protected. Remove the diskette, close its write-protection tab, insert it again and press <u>RTRY</u> . <i>Don't replace</i> the diskette with another one!
	?ENOTRDY No diskette in the disk drive. Insert it and press <u>RTRY</u> .
	?EDATA Data error. Re-insert the diskette " " "
	?ESECTNF Sector not found. " " " " "
	?ESEEEK Seek error. " " " " "
	?EWRFLT Write fault. " " " " "
	?ERDFLT Read fault. " " " " "
	?EGENFLR General failure. The diskette is not formatted for <i>MS-DOS</i> [®] .
	?EUNKTYP Unknown media type. Unformatted or damaged diskette.
	*ENOENT No such file or directory. You've changed the disk without pressing <u>DSK</u> .
	*ENOMEM Not enough memory (a software bug?)
	*EACCES Permission denied. You're trying to save a write-protected file.
	*ERANGE The song has more than 64 tracks and the MFP-03 cannot play it back.
	*ENOSPC No space left on disk. Delete the needless songs or replace the diskette.
	#EZIPCRC The compressed song has failed Cyclic Redundancy Check (it's damaged).
	#EBADZIP The compressed song is not in <i>ZIP</i> format despite its ".ZIP" suffix.
	#ETABLE The compressed song has an error in its encoding (it's corrupt) .
	#ENOSPC No space left on the RAM-disk. The compressed song is too large.
	=EBADHDR Invalid MIDI file header — this is not a MIDI file.
	=EBADTRK Damaged first track of the MIDI file. The file ends before it.
	=ENOTSUP Unsupported MIDI file format. Only format types 0 and 1 are supported.
	=ENOMSYX Too many <i>SysEx</i> events. A single song may not have be more than 1000.
	=ETOLSYX Attempt to record or play back a too long <i>SysEx</i> (over 4KB).
	\$EWRPROT Attempt to write over a write-protected disk. Unprotect and start over.
	\$EBADSCT Address mark not found. Re-insert the diskette again and start over.
	\$ESECTNF Sector not found. " " " " "
	\$EBADSFL Invalid sector flag. " " " " "
	\$EBADTRK Invalid track flag. " " " " "
	\$EBADCRC Data error. " " " " "
	\$ESEEEK Seek error. " " " " "
	\$EWRFLT Write fault. " " " " "
	\$EINVMED Media type not found. Unformatted or damaged diskette.
	\$EGENFLR General failure. The diskette is not formatted for <i>MS-DOS</i> [®] .
	\$ENOTRDY Drive not ready. Insert a diskette and start over.

An error message not included in the above list is a sign for failure. In this case you should write down the *exact* message and turn to the manufacturer.

Limitations

Supported file formats:	0 and 1 (not 2)
Maximum number of MIDI channels:	32 (16 for each port)
Maximum number of tracks:	64
Maximum file size for playback:	1,95 MB

Maximum number of <i>SysEx</i> messages in a single file:	1000
Maximum single <i>SysEx</i> size (recording/playback):	4 KB
Slowest recording tempo that can be tracked:	23 beats per minute (M.M.)
Maximum pause between two songs in <i>AUTO</i> mode:	1 s (<i>LS-120</i>) / 2 s (<i>HD/DD</i>)
Minimum guaranteed number of <i>Flash-ROM</i> upgrades:	100 000

Electrical and Mechanical Parameters

Power supply voltage:	~ 90 ÷ 264 V / 47 ÷ 440 Hz
Power consumption:	6 W (in peak — 22 W)
Power-up (start-up, bootstrap) time:	< 5 s
Type of diskettes used:	89 mm (3½")/ <i>LS-120/HD/DD</i>
Dimensions:	315 x 190 x 40 mm
Weight (without diskette):	1,99 kG

Operating conditions

Working ambient temperature:	+10 ÷ +35 °C
Relative air humidity:	40 ÷ 80 % at 25 °C
Attitude:	0 ÷ 3000 m
Absence of aggressive admixtures in the environment.	

Appendix #1 — Controller Numbers

Table 3: Control Changes and Mode Changes (Status Bytes 176-191)
 (adapted from "MIDI by the Numbers" by D. Valenti-Electronic Musician 2/88)
 Updated 1995/1999 By the MIDI Manufacturers Association

2nd Byte Value			Function	3rd Byte	
Binary	Hex	Dec		Value	Use
00000000=	00=	0	Bank Select	0-127	MSB
00000001=	01=	1	Modulation wheel	0-127	MSB
00000010=	02=	2	Breath control	0-127	MSB
00000011=	03=	3	Undefined	0-127	MSB
00000100=	04=	4	Foot controller	0-127	MSB
00000101=	05=	5	Portamento time	0-127	MSB
00000110=	06=	6	Data Entry	0-127	MSB
00000111=	07=	7	Channel Volume (formerly Main Volume)	0-127	MSB
00001000=	08=	8	Balance	0-127	MSB
00001001=	09=	9	Undefined	0-127	MSB
00001010=	0A=	10	Pan	0-127	MSB
00001011=	0B=	11	Expression Controller	0-127	MSB
00001100=	0C=	12	Effect control 1	0-127	MSB
00001101=	0D=	13	Effect control 2	0-127	MSB
00001110=	0E=	14	Undefined	0-127	MSB
00001111=	0F=	15	Undefined	0-127	MSB
00010000=	10=	16	General Purpose Controller #1	0-127	MSB
00010001=	11=	17	General Purpose Controller #2	0-127	MSB
00010010=	12=	18	General Purpose Controller #3	0-127	MSB
00010011=	13=	19	General Purpose Controller #4	0-127	MSB
00010100=	14=	20	Undefined	0-127	MSB
00010101=	15=	21	Undefined	0-127	MSB
00010110=	16=	22	Undefined	0-127	MSB
00010111=	17=	23	Undefined	0-127	MSB
00011000=	18=	24	Undefined	0-127	MSB

00011001=	19=	25	Undefined	0-127	MSB
00011010=	1A=	26	Undefined	0-127	MSB
00011011=	1B=	27	Undefined	0-127	MSB
00011100=	1C=	28	Undefined	0-127	MSB
00011101=	1D=	29	Undefined	0-127	MSB
00011110=	1E=	30	Undefined	0-127	MSB
00011111=	1F=	31	Undefined	0-127	MSB
00100000=	20=	32	Bank Select	0-127	LSB
00100001=	21=	33	Modulation wheel	0-127	LSB
00100010=	22=	34	Breath control	0-127	LSB
00100011=	23=	35	Undefined	0-127	LSB
00100100=	24=	36	Foot controller	0-127	LSB
00100101=	25=	37	Portamento time	0-127	LSB
00100110=	26=	38	Data entry	0-127	LSB
00100111=	27=	39	Channel Volume (formerly Main Volume)	0-127	LSB
00101000=	28=	40	Balance	0-127	LSB
00101001=	29=	41	Undefined	0-127	LSB
00101010=	2A=	42	Pan	0-127	LSB
00101011=	2B=	43	Expression Controller	0-127	LSB
00101100=	2C=	44	Effect control 1	0-127	LSB
00101101=	2D=	45	Effect control 2	0-127	LSB
00101110=	2E=	46	Undefined	0-127	LSB
00101111=	2F=	47	Undefined	0-127	LSB
00110000=	30=	48	General Purpose Controller #1	0-127	LSB
00110001=	31=	49	General Purpose Controller #2	0-127	LSB
00110010=	32=	50	General Purpose Controller #3	0-127	LSB
00110011=	33=	51	General Purpose Controller #4	0-127	LSB
00110100=	34=	52	Undefined	0-127	LSB
00110101=	35=	53	Undefined	0-127	LSB
00110110=	36=	54	Undefined	0-127	LSB
00110111=	37=	55	Undefined	0-127	LSB
00111000=	38=	56	Undefined	0-127	LSB
00111001=	39=	57	Undefined	0-127	LSB
00111010=	3A=	58	Undefined	0-127	LSB
00111011=	3B=	59	Undefined	0-127	LSB
00111100=	3C=	60	Undefined	0-127	LSB
00111101=	3D=	61	Undefined	0-127	LSB
00111110=	3E=	62	Undefined	0-127	LSB
00111111=	3F=	63	Undefined	0-127	LSB
01000000=	40=	64	Damper pedal on/off (Sustain)	<63=off	>64=on
01000001=	41=	65	Portamento on/off	<63=off	>64=on
01000010=	42=	66	Sostenuto on/off	<63=off	>64=on
01000011=	43=	67	Soft pedal on/off	<63=off	>64=on
01000100=	44=	68	Legato Footswitch	<63=off	>64=on
01000101=	45=	69	Hold 2	<63=off	>64=on
01000110=	46=	70	Sound Cont. 1 (Sound Variation)	0-127	LSB
01000111=	47=	71	Sound Cont. 2 (Timbre/Harmonic Intens.)	0-127	LSB
01001000=	48=	72	Sound Cont. 3 (Release Time)	0-127	LSB
01001001=	49=	73	Sound Cont. 4 (Attack Time)	0-127	LSB
01001010=	4A=	74	Sound Cont. 5 (Brightness)	0-127	LSB
01001011=	4B=	75	Sound Cont. 6 (Decay Time)	0-127	LSB
01001100=	4C=	76	Sound Cont. 7 (Vibrato Rate)	0-127	LSB
01001101=	4D=	77	Sound Cont. 8 (Vibrato Depth)	0-127	LSB
01001110=	4E=	78	Sound Cont. 9 (Vibrato Delay)	0-127	LSB
01001111=	4F=	79	Sound Cont. 10	0-127	LSB
01010000=	50=	80	General Purpose Controller #5	0-127	LSB
01010001=	51=	81	General Purpose Controller #6	0-127	LSB
01010010=	52=	82	General Purpose Controller #7	0-127	LSB
01010011=	53=	83	General Purpose Controller #8	0-127	LSB
01010100=	54=	84	Portamento Control	0-127	Source Note
01010101=	55=	85	Undefined	0-127	LSB
01010110=	56=	86	Undefined	0-127	LSB
01010111=	57=	87	Undefined	0-127	LSB
01011000=	58=	88	Undefined	0-127	LSB
01011001=	59=	89	Undefined	0-127	LSB
01011010=	5A=	90	Undefined	0-127	LSB
01011011=	5B=	91	Reverb Send Level	0-127	LSB

01011100=	5C=	92	Effects 2 Depth (Tremolo Depth)	0-127	LSB
01011101=	5D=	93	Chorus Send Level	0-127	LSB
01011110=	5E=	94	Effects 4 Depth (Celeste/Detune Depth)	0-127	LSB
01011111=	5F=	95	Effects 5 Depth (Phaser Depth)	0-127	LSB

01100000=	60=	96	Data entry +1		N/A
01100001=	61=	97	Data entry -1		N/A
01100010=	62=	98	Non-Registered Parameter Number LSB	0-127	LSB
01100011=	63=	99	Non-Registered Parameter Number MSB	0-127	MSB
01100100=	64=	100	Registered Parameter Number LSB*	0-127	LSB
01100101=	65=	101	Registered Parameter Number MSB*	0-127	MSB
01100110=	66=	102	Undefined		?
01100111=	67=	103	Undefined		?
01101000=	68=	104	Undefined		?
01101001=	69=	105	Undefined		?
01101010=	6A=	106	Undefined		?
01101011=	6B=	107	Undefined		?
01101100=	6C=	108	Undefined		?
01101101=	6D=	109	Undefined		?
01101110=	6E=	110	Undefined		?
01101111=	6F=	111	Undefined		?
01110000=	70=	112	Undefined		?
01110001=	71=	113	Undefined		?
01110010=	72=	114	Undefined		?
01110011=	73=	115	Undefined		?
01110100=	74=	116	Undefined		?
01110101=	75=	117	Undefined		?
01110110=	76=	118	Undefined		?
01110111=	77=	119	Undefined		?

01111000=	78=	120	All Sound Off		0
01111001=	79=	121	Reset All Controllers		0
01111010=	7A=	122	Local control on/off	0=off	127=on
01111011=	7B=	123	All notes off		0
01111100=	7C=	124	Omni mode off (+ all notes off)		0
01111101=	7D=	125	Omni mode on (+ all notes off)		0
01111110=	7E=	126	Poly mode on/off (+ all notes off)		**
01111111=	7F=	127	Poly mode on (incl mono=off +all notes off)		0

**Note: This equals the number of channels, or zero if the number of channels equals the number of voices in the receiver.

*Table 3a: Registered Parameter Numbers [CC# 65H,64H]

CC#65 (MSB)		CC#64 (LSB)		Function
Hex	Dec	Hex	Dec	
00	= 0	00	= 0	Pitch Bend Sensitivity
00	= 0	01	= 1	Channel Fine Tuning
00	= 0	02	= 2	Channel Coarse Tuning
00	= 0	03	= 3	Tuning Program Change
00	= 0	04	= 4	Tuning Bank Select

Appendix #2 — GM Instrument Map

1-8	Piano	65-72	Reed
9-16	Chromatic Percussion	73-80	Pipe
17-24	Organ	81-88	Synth Lead
25-32	Guitar	89-96	Synth Pad
33-40	Bass	97-104	Synth Effects
41-48	Strings	105-112	Ethnic
49-56	Ensemble	113-120	Percussive
57-64	Brass	121-128	Sound Effects
1.	Acoustic Grand Piano	65.	Soprano Sax

2.	Bright Acoustic Piano	66.	Alto Sax
3.	Electric Grand Piano	67.	Tenor Sax
4.	Honky-tonk Piano	68.	Baritone Sax
5.	Electric Piano 1	69.	Oboe
6.	Electric Piano 2	70.	English Horn
7.	Harpsichord	71.	Bassoon
8.	Clavi	72.	Clarinet
9.	Celesta	73.	Piccolo
10.	Glockenspiel	74.	Flute
11.	Music Box	75.	Recorder
12.	Vibraphone	76.	Pan Flute
13.	Marimba	77.	Blown Bottle
14.	Xylophone	78.	Shakuhachi
15.	Tubular Bells	79.	Whistle
16.	Dulcimer	80.	Ocarina
17.	Drawbar Organ	81.	Lead 1 (square)
18.	Percussive Organ	82.	Lead 2 (sawtooth)
19.	Rock Organ	83.	Lead 3 (calliope)
20.	Church Organ	84.	Lead 4 (chiff)
21.	Reed Organ	85.	Lead 5 (charang)
22.	Accordion	86.	Lead 6 (voice)
23.	Harmonica	87.	Lead 7 (fifths)
24.	Tango Accordion	88.	Lead 8 (bass + lead)
25.	Acoustic Guitar (nylon)	89.	Pad 1 (new age)
26.	Acoustic Guitar (steel)	90.	Pad 2 (warm)
27.	Electric Guitar (jazz)	91.	Pad 3 (polysynth)
28.	Electric Guitar (clean)	92.	Pad 4 (choir)
29.	Electric Guitar (muted)	93.	Pad 5 (bowed)
30.	Overdriven Guitar	94.	Pad 6 (metallic)
31.	Distortion Guitar	95.	Pad 7 (halo)
32.	Guitar harmonics	96.	Pad 8 (sweep)
33.	Acoustic Bass	97.	FX 1 (rain)
34.	Electric Bass (finger)	98.	FX 2 (soundtrack)
35.	Electric Bass (pick)	99.	FX 3 (crystal)
36.	Fretless Bass	100.	FX 4 (atmosphere)
37.	Slap Bass 1	101.	FX 5 (brightness)
38.	Slap Bass 2	102.	FX 6 (goblins)
39.	Synth Bass 1	103.	FX 7 (echoes)
40.	Synth Bass 2	104.	FX 8 (sci-fi)
41.	Violin	105.	Sitar
42.	Viola	106.	Banjo
43.	Cello	107.	Shamisen
44.	Contrabass	108.	Koto
45.	Tremolo Strings	109.	Kalimba
46.	Pizzicato Strings	110.	Bag pipe
47.	Orchestral Harp	111.	Fiddle
48.	Timpani	112.	Shanai
49.	String Ensemble 1	113.	Tinkle Bell
50.	String Ensemble 2	114.	Agogo
51.	SynthStrings 1	115.	Steel Drums
52.	SynthStrings 2	116.	Woodblock
53.	Choir Aahs	117.	Taiko Drum
54.	Voice Oohs	118.	Melodic Tom
55.	Synth Voice	119.	Synth Drum
56.	Orchestra Hit	120.	Reverse Cymbal
57.	Trumpet	121.	Guitar Fret Noise
58.	Trombone	122.	Breath Noise
59.	Tuba	123.	Seashore
60.	Muted Trumpet	124.	Bird Tweet
61.	French Horn	125.	Telephone Ring
62.	Brass Section	126.	Helicopter
63.	SynthBrass 1	127.	Applause
64.	SynthBrass 2	128.	Gunshot

Appendix #3 — GM Percussion Map

35	Acoustic Bass Drum	59	Ride Cymbal 2
36	Bass Drum 1	60	Hi Bongo
37	Side Stick	61	Low Bongo
38	Acoustic Snare	62	Mute Hi Conga
39	Hand Clap	63	Open Hi Conga
40	Electric Snare	64	Low Conga
41	Low Floor Tom	65	High Timbale
42	Closed Hi Hat	66	Low Timbale
43	High Floor Tom	67	High Agogo
44	Pedal Hi-Hat	68	Low Agogo
45	Low Tom	69	Cabasa
46	Open Hi-Hat	70	Maracas
47	Low-Mid Tom	71	Short Whistle
48	Hi Mid Tom	72	Long Whistle
49	Crash Cymbal 1	73	Short Guiro
50	High Tom	74	Long Guiro
51	Ride Cymbal 1	75	Claves
52	Chinese Cymbal	76	Hi Wood Block
53	Ride Bell	77	Low Wood Block
54	Tambourine	78	Mute Cuica
55	Splash Cymbal	79	Open Cuica
56	Cowbell	80	Mute Triangle
57	Crash Cymbal 2	81	Open Triangle
58	Vibraslap		

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