Important Informations

ⓘ IMPORTANT SAFETY INSTRUCTIONS ⓘ

- **GROUNDING INSTRUCTIONS**
  The product which is equipped with a three wire grounding type line plug must be grounded!
  For the USA: This device must be grounded!
  For the U.K.: This Apparatus must be earthed!
- Read all instructions below and the Owners's Manual bevor using the device.
- Before the use in a foreign country consult your retailer or MIDITEMP.
- Protect the unit from strong impact. (Do not drop it!)
- Never place heavy objects on the device.
- Do not use this product near water (e.g. a swimming pool, a washbowl, or the like).
- The device should be located so that it does not interfere with its proper ventilation.
- The device should be located away from heat sources (p.e. radiators or other products producing heat). Never use it in overheated or damp locations, or in strong direct sunlight.
- Always use only the original connection cables. The power-supply cord should be unplugges from the outlet when left unused for a long period of time.
- The electronic components in the device are extremly sensitive to sudden voltage fluctuations. You are therefore advised not to use it during electrical storms, or where the main supply is suspect. Whenever the possibility of lightning in your area is suspected, pull the plug on the power cord out of the outlet.
- Do not open or perform any internal modifications on the device. It contains no user-servicable parts, and should be opened by authorized personnel only. Never open the casing yourself to attempt a repair, because there is a risc of electric shock which could cause irreparable damage to both you and the device.

ⓘ Always observe the following: ⓘ

- Always grasp only the plug on the power cord when plugging into, or unplugging from, an outlet or this device.
- Try to prevent cords and cables from becoming entangled. All cords and cables should be outside of the reach of children.
- Never handle the power cord or ist plugs with wet hands.
- Before moving the unit make sure all connections and cords are disconnected.
- Before cleaning the device turn off the power and unplug the power cord from the outlet.
- When using the device with a rack or stand recommended by MIDITEMP, the rack or stand must be carefully placed so it is level and sure to remain stable. If not using a rack or stand you have to make sure the device is placed on a surface which properly supports the device, and keeps it from wobbling.
- Avoid damaging the power- and the remote-controller-cord. Do not bend it excessively, step on it, place heavy objects on it, etc. A damaged cord can easily become a shock or fire hazard. Never use cords after they have been damaged!
- In households with small children, an adult should provide supervision until the child is capable of following all the rules essential for the safe operation of the device.
- Do not force the power-supply cord of the device to share an outlet with an unreasonable number of other devices. Be especially careful when using extension cords – do not exceed the total power rating (watts/amperes) for the extension cord. Excessive loads can cause the insulation on the cord to heat up and eventually melt through.

INTRODUCTION

Welcome aboard!

Thank you for purchasing this powerful MIDI controlling and processing System belonging to the famous MIDITEMPs **MIOC generation**. The following features are in common to all systems:

- Incredible MIDI data processing speed
- MIDITEMPs ASIC chip and Midi processor MIOC (**M**idi **I**nput **O**utput **C**ontroller)
- Identical operation of allmost all units via unified remote controller
- Optional networking capability via FORNET (**F**iber **O**ptic **R**ealtime **NET**work)
- Huge storage capacity with built-in Smart-Media-slot, internal IDE-harddisc-drive or external storage devices via SCSI-connector (only MULTIPLAYER series)

The series can be used in the following five ways:

- **Midi patchbay**
  with smallest possible delay times over long distances
- **Midi data processor**
  with highest flexibility and distinction of different event types
- **Midi controller**
  with many simple-to-use and professional masterkeyboard functions
- **Midi sequencer**
  for playback and recording of Standard Midi Files (SMF) and sysex data
- **Wave player**
  for stereo harddisc playback in CD-quality

The device can handle all these tasks – recording, storage and playback of songs, playback of wave files together with reception, distribution and manipulation of incoming Midi data, simultaneously and independently!

The Sequencer

A 64 track sequence player with a resolution of 1/1536th notes. Although never intended to rival the amazing editing capabilities of a software sequencer, the MULTIPLAYER can be thought of as a vital additional tool for stage performance. It offers a compact and reliable alternative in situations where the computer – far more at home in a cosy studio or office – would be likely to let you down in the heat of the action. Since each song can be assigned its own program number, songs can be selected as easily as the sounds on a synthesizer. With the potential for memory expansion right up to 16 MBytes, it is possible with the unique memory structure of the MIOC generation to get access to a maximum of 8192 songs nearly without any loading time!

The MATRIX (Midi-Router)

The MIOC Midi processor has at its disposal a capable of recognizing, transforming and rerouting Midi data in realtime. Each unit of the MIOC generation has the same Midi matrix for its 2, 8 oder 16 MIDI in- and outputs and handles many of the masterkeyboard tasks as split, transpose, velocity curves etc. Using FORNET the system may be extended to huge arrays.

An exciting feature of the MIOC generation is their ability to use several matrix programs (up to eight) simultaniously. This means that variations e.g. filter settings or velocity processing no longer have to be programmed into every single matrix program.

The Wave Player

One digital stereo audio track offers playback capability for AIFF or WAVE files, sampling rates from 5 kHz up to 50 kHz and the resolutions 8 and 16 bit. Each Wave is assigned to a note number, therefore waves can – like the sounds of a drumset in a synthesizer – reside on any desired key of a defined keyrange. Depending on the fittet harddisk and the RAM size hundreds of waves can be assigned and played via the keyboard or the sequencer.

Daughterboards / Wavetables

The MULTIPLAYER offers plug-and-play capability via GM daughterboards (e.g. MIDITEMP, ROLAND, YAMAHA, TURTLE BEACH, TERRATEC ...), which can directly be fittet inside the MultiPlayer. They are internally accessed via a seperately software port (MP22 series) or OUT 7 (MP88-series), and can be monitored on one of the Audio output pairs of the MP.

SCSI Interface

All MULTIPLAYERs can optionally be delivered with built-in IDE-harddisk-drive. At the SCSI port external removable or non-removable storage or SCSI-devices may be connected and used with the audio functions of the MP.

Connecting a PC: By using a PC with built-in SCSI controllercard you can use this port to organize the contens of the internal harddisk of the MP in a very comfortable way. These devices will be recognized by the PC as additional drives.

Songtext display (Lyrics-/karaoke-function)

Together with the optional MIDITEMP karaoke card and a PAL TV set (even LCD/TFT monitors) lyrics may be displayed in different font sizes and colours over different backgrounds. The current syllables or words will be marked with a different colour, synchronized to the running song, which makes it very easy for sing-along purposes.

FORNET network

Using FORNET, you can interconnect several MIOC units to make up for a higher number of MIDI ports. For instance an interconnection of one MP88-W, one PMM-88E and one MT16-X makes a system of 32 32 seperate MIDI in/outputs. On top of that you control the whole array via one single remote control - even as if it would be a single unit! (not available for the MP22-systems!)

Update Service

The update Service of a MULTIPLAYER is very easy. All units (2-Series and older systems equiped with disk-drive and flash EEPROM) can update their system via floppy disk. You don not have to open the unit, change an EPROM, leave bloody spots on the board, etcetera – in about one minute you can use all new functions!

And the update file contains the whole operating system – so you can jump from an older version just to the latest without any problems!

To ensure that you have the most up-to-date version, please copy the serial number of your device, which you will find on the back panel, onto a postcard, together with your name and address, and register immediately at the following address:

MIDITEMP GmbH
Am Pfanderling 62   fon: (0049) 08133 2488
D 85778 HAIMHAUSEN   fax: (0049) 08133 2024

The fastest way to be registered, or to get your update, is working via internet! **TIP: by registering on our update-page you will automatically be informed about new updates!**

Our internet address:
        http://www.miditemp.com

For further information you can reach us via eMail:
        Miditemp@miditemp.com

OWNER OF a PMM 88 or MT 16-X:

After receiving and fitting the new EPROMs please return the old ones for the conveniance of our free-of-charge update service!

Another helpful internet address is the MIDITEMP user group MPClub:
        http://www.mpclub.net

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List of conventional icons

①...⑨   These icons in front of a row show common settings on the unit where you don 't have directly to press a button (e.g. „connect the Midi line using a 5-pole cable")

↘   This icon indicates you have to press a button to prepare the execution of a function

❶ .. ❿   These icons indicate the following steps are necessary for the execution of the previously described functions

↖   This icon indicates by acting with this function you can either cancel the execution of the previous described or leave the function

👁   This icon shows the importance of the following

☞   This icon shows the following describes a variety of settings or alternatives

⧗   This icon signals a tip or hint which is not next to understand the manual – in a quiet moment drink a cup of coffee and work off the presented background informations

●   This icon symbols the use of the blue data wheel on the remote controller

Chapter II - Basic operation

Setting up a system
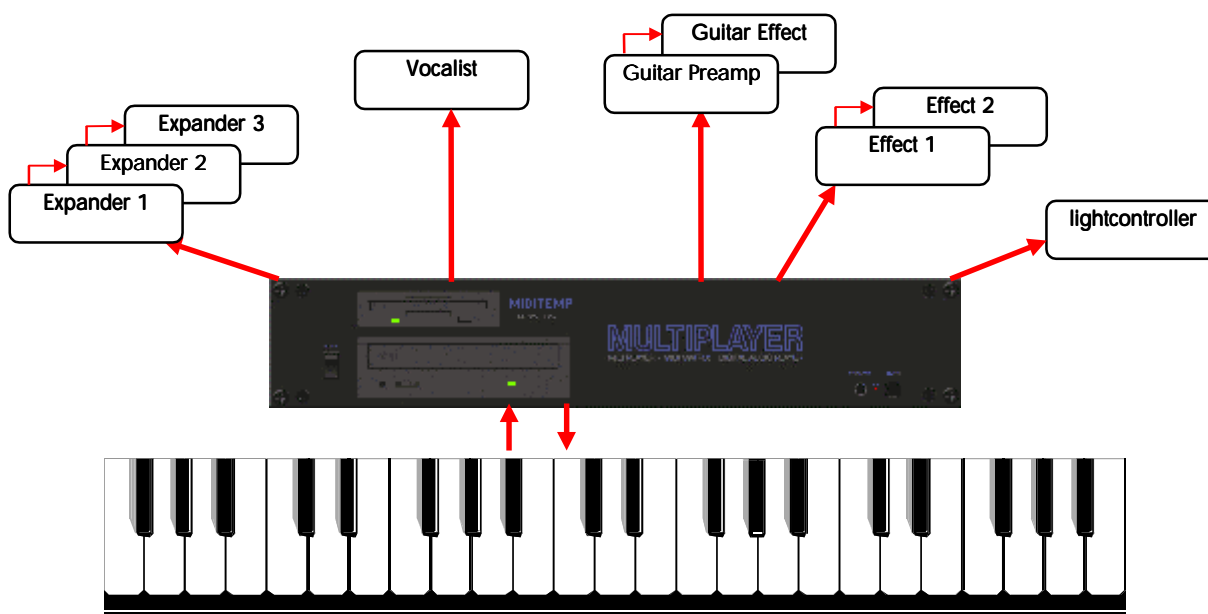
You centainly may connect more than the above shown number of Midi-inputs, e.g. a second keyboard, a midified accordeon, a breath controller (via your keyboard). Please notice the Midi-output-chain should not serve more than three devices – otherwise you could catch a Midi dealy!

Remote controller

Every MIDITEMP system is controlled via the unique cable remote controller. Please connect it with the delivered cable between the REMOTE SLOTS of the system and the remote controller.

The start/stop/continue sequencer functions, or the up/down matrix functions, can be controlled via an optional foot switch. More examples you will find in the section »JOBS« (page 73).

Owner of an MP88 with 1st generation remote controller: in case of problems please contact the MIDITEMP technical support.

You can use the W-series remote controller as well for the "old" systems, of course. MIDITEMP supplies the needed adapter.

New functions, like »AUDIO« can only reached with the W-series system and are without a function with "older" systems.

1. Buttons and controls

- aborting functions
- **In dialogs: "NO"**
- Disk directories:: »close«, (bringing you one structure level higher)

- While entering numbers: figure 0
- After changing disks: refreshing the display
- Display of all files of the current directory (*.*)
- All other cases: panic-function »Transparent Midi reset« (TMR)

- Pressing shortly: Cursor jumps one position further
- Pressing and holding in some displays: quick value-change

Backlighted display
with 2 x 40 characters

The LEDs light up for functions
regarding the **inputs** and **outputs**

Data wheel
- Chossing functions
- Change parameters in steps of +/- 1

- Numeric keys
- Soft-key function (number entry)

Access to
the Midi in
and out of
the system

Entering the
PERFormance
mode

ENTER
- Opposite of "EXIT"
- Selecting function in the different modes MATRIX, SEQUENCER und WAVE.
- Entering values
- **in dialogs: "YES"**
- Disk directories:: »open«

PLAY
- Start at the current song position
During song playback the LED flashes in the current tempo

- once: **WAVE** mode
- Double-click: switching into the global wave settings

Bank select level

STOP
- once: song stops
- double click: Song returns to the start position

SKIP
- **left key** switches to the previous song
- **right key** switches to the next song
both keys are locked if a song is running

Pause-/Continue
- Stops the running song
- Continues the stopped song at the current position

Audio-settings

- once: **MATR**ix mode
- double click: entering the »device configuration menue«

DRIVE
- Access to the storage devices
- double click: reload of the displayed song or Wave
- clicking while a file list is shown: changing the drive

- once: **SEQ**uencer mode
- double click: entering the »device configuration menue«

2. Display

```
→M1A  1
 S1A  1
```

        The LCD display always shows where you are in the device, or, with the cursor position, which parameter can be changed at that moment. Immediately after powering-up the unit is on the highest operational level (= top level), and the display (default) is divided into an upper "Matrix" line with one shown Matrix Bank and a lower "Sequencer" line showing the song Bank.
However, the "Display Layout" configuration function allows a different division to be used (page 28). You may also notice the „Night mode" (page 39). The position of the mode arrow indicates which mode the unit is in at any time.

3. Selecting Programs

❧   Press MATR or SEQ , depending on whether you want to switch to a Matrix or Song Program.

The arrow jumps to the corresponding display line.

❶   Enter a Program number using the number keys.
Number and name (if any) of the Program are now displayed, but as long as the arrow to the left of the display is hollow and the cursor blinks right to the number the Program is not yet

recalled! You can also use ● to search for the new Program, while the settings of the last recalled Program are still active.

```
⇨M1A123■ Dancefloor
 S1A  1
```

❧   Press ENTER . Through this action the new entry will be confirmed, and the new program is activated.

```
→M1A123  Dancefloor
 S1A  1
```

The blinking cursor disappears and the arrow turns to black. This means that the unit has switched to the displayed program and all settings of that program are now active.

4. Numbering your Songs

There are three different types of numbering your playlist of Standard Midi Files:

- Standard Bank/Programm mode
- 3-digit-mode
- 4-digit-mode

In the **Standard Bank/Program** mode the numbering is organized in a maximum of 56 Banks, each with up to 128 entries (= Midifiles). Via Midi you can reach them with Bank select starting at no. 65, value is the desired song. All other numbering modes are based on this system, but display your playlist in a linear counting system.

In the **3-digit** mode you can choose your songs without using the bank button directly from 001 up to 999 songs in one display. You can select the song places via Midi still the same way as in the Standard Bank/program mode (but only with eight different bank selects, of course).

In the **4-digit** mode you can choose your songs without using the bank button directly from 001 up to 8.192 songs (7.168 if the wave player is activated) in one display. The possibility of selecting song places via Midi are still the same as written above.

The system for the two linear counting modes is:

Bank S1A 1 to S1A 128 = S 001 to S 128
Bank S1B 1 to S1B 128 = S 129 to S 256
Bank S1C 1 to S1C 128 = S 257 to S 384
etc.

An assign-file written with an operating system higher than version 4.09 can only be read with an older version if the Standard Bank/program mode had been used!

---

5. Selecting functions

Almost all functions of the unit are recalled with a special kind of **menu**. For instance, if you are in Sequencer mode and press `ENTER`, the upper line of the display will show "**Select Function**". In the lower line three letters will appear above each number key. These are abbreviations for the names of each function. The number keys act as **soft keys** (keys with variable functions). Pressing a number key (`1` to `0`) will immediately call up the relevant function. If arrows appear above the keys `0` and `9`, there are more functions in the specified direction. In case you forget what one of the abbreviations means, simply turn the data wheel ●. The LED of the number key for each function will flash, and the function's full title will appear in the upper line of the display. The required function can then be called up either by pressing `ENTER` or by pressing the relevant number key.

After entering a function, the number keys may still serve as soft keys, whereas the data wheel in this stage is more likely to be used to set parameter values instead of selecting functions.

6. Activating MIDI inputs and outputs generally

Pressing one of the keys `IN` or `OUT` in the highest function level will display as **MIDI EYE** the **status of the MIDI ports** (no entry for on, "off" of course means off!). Where there are more than eight inputs and outputs (e.g. on the MT-16 X), the extra ones are displayed by turning ● or `0` and `9`). With the numeric keys these ports can be switched on or off (see also page 85).

The keys `IN` and `OUT` also provide instant access to the input and output stages from within the Routing, Split and similar functions. The LED of one of the keys will flash to show whether an input or an output has been selected. After a selection has been made the display will show the current settings for this port.

If a function affecting the MIDI inputs or outputs is selected, the LEDs will light on the number keys to show which inputs or outputs have active assignments, data filters etc. This makes it easier to find and alter event filters etc.

6. Finding your way around Matrix Banks

The organisation of the total of 128 Memory Banks (each one of them containing 128 Program spaces), definitely is not easy to understand as a whole, however, while you are working with it, you will always find it logical and it never distracts.

You just shouldn't care thinking about using all of the theoretically possible 16384 Programs at the same time. More likely the task is to use the complexity of this structure in a way that for each Song, each masterkeyboard, each working situation you have the right set of Programs.

Following are the seven magic spells for MultiPlayers (to learn by heart):

I. **One Program is either a Matrix Program, a Song or a Wave.**

II. **The Programs are subdivided into Banks with 128 Programs each.**

III. **The Banks are subdivided into 10 Groups:**

IV. **There are eight Matrix Groups, one Song Group and one Wave Group.**

V. **The 8 Matrix Groups each contain 8 Banks, the Song Group contains 56 Banks (7∗8) and the last 8 Banks are Wave Banks.**

VI. **One Program can be set per Group, which allows for a maximum of eight Matrix Programs, one Song and one Wave to be active simultaneously.**

VII. **If one Program is selected, the previously active Program of the same Group will be switched off and the new Program will be active. All Programs in the other Groups remain active.**

You may imagine the ten Groups as ten different "devices". Eight devices serve for processing Midi data, device no. 9 can record and playback Midi Songs, no. 10 can playback Waves. If you initialize (or activate) one Bank in a Group, you have literally switched on this device (this Group).

A maximum of eight Matrix Banks can be activated per unit. If coupled via FORNET with more systems the number of possible groups and banks will raise adequate.

WVA	WVB	WVC	WVD	WVE	WVF	WVG	WVH		**Wave Group** 8 banks with 128 programs = 1024 Wave entries
S7A	S7B	S7C	S7D	S7E	S7F	S7G	S7H		
S6A	S6B	S6C	S6D	S6E	S6F	S6G	S6H		**Song Group** 56 banks with 128 programs = 7168 Song entries
S5A	S5B	S5C	S5D	S5E	S5F	S5G	S5H		
S4A	S4B	S4C	S4D	S4E	S4F	S4G	S4H		
S3A	S3B	S3C	S3D	S3E	S3F	S3G	S3H		
S2A	S2B	S2C	S2D	S2E	S2F	S2G	S2H		
S1A	S1B	S1C	S1D	S1E	S1F	S1G	S1H		
M8A	M8B	M8C	M8D	M8E	M8F	M8G	M8H		
M7A	M7B	M7C	M7D	M7E	M7F	M7G	M7H		
M6A	M6B	M6C	M6D	M6E	M6F	M6G	M6H		**8 Matrix Sroups with each** 8 banks with 128 programs = 8192 Matrix entries
M5A	M5B	M5C	M5D	M5E	M5F	M5G	M5H		
M4A	M4B	M4C	M4D	M4E	M4F	M4G	M4H		
M3A	M3B	M3C	M3D	M3E	M3F	M3G	M3H		
M2A	M2B	M2C	M2D	M2E	M2F	M2G	M2H		
M1A	M1B	M1C	M1D	M1E	M1F	M1G	M1H		

Again all figures:

- eight Matrix Groups, each with eight Banks, numbered A to H.

- One Song Group with 64 Banks. The 56 Song Banks are numbered S1A to S7H.

- eight Wave Banks are numbered WVA to WVH.

- Each Bank with 128 Program places.

To make it possible to select banks via Midi (using Program Change or Song Select messages), each bank has its own Midi number. Matrix Banks range from 1 to 64, Song Banks from 65 to 120 and Wave Banks from 121 to 128.

6.1 Example: Organizing Matrix programs

Let's say you work in two different situations: you play in a live band, and you occasionally do songwriting at home. Let's also assume you have a professional master keyboard with polyphonic aftertouch and several synth modules permanently installed in your transportable rack for stage work. At home you have a few more MIDI devices plus a sequencer for composition purposes. To satisfy all your (MIDI-) needs in both situations, it is a good idea to create a single global program for each of the above scenarios to cover all the various basic conditions:

➢ For the live band, this program could filter out the superfluous aftertouch data and increase the velocity sensitivity of the keyboard so that you don't have to hammer your fingers to the bone when the engineer turned you down …. You can also determine a MIDI input and channel for the first (M1A) bank's MIDI program changes: this allows the master keyboard to be used to select sub-programs which are only needed for specific songs or passages.

➢ For home use, you'll want to record all the data from the master keyboard without changing it, so filter functions etc. won't apply here. Though you can program your composing environment; programming conditions like "I always want the drum pads to appear with channel 10 on MIDI port A of my sequencer", and so on.

It's best if the "global program" is created in Group 8 (please read also section "Combining control methods", page 104), because you won't need to edit this program while playing. The "sub-programs" within the global program are stored in the first bank and contain only those routing, filter and processing functions which are required for specific sounds or songs. The advantage is that the global settings defined for both scenarios above don't have to be programmed again for each sub-program.

The global program remains in the background and is not changed for another one: it serves as a "working environment" for specific performance situations.
The sub-programs operate in the foreground. They are switched manually or via MIDI and contain the settings for individual songs or passages.

The possibilities offered by even just two active Matrix Programs are pretty staggering. For instance you could use the Programs of Group 2 to filter out unwanted events from any of the Midi inputs. Provided you don't switch off the Program containing these filters, it will perform its functions independently from the Program in Group 1. This means that you no longer need to call up lots of different Matrix Programs just to get them to filter out an extra type of event - you only need to alter a single Program in Group 2, and the new settings will act on the whole device. Then you could make the Banks in Group 1 (as well as the Song Banks, of course) respond to Midi Program Changes so that you can control your Matrix via Midi in the usual way.

If you want to connect several Midi musicians into a Matrix, each one of them (up to a maximum of eight) can be given his or her own Group containing the programs that determine the routings required by the musicians. Midi Remote can be used independently for each Bank (i.e. that thankfully each musician will only be changing Programs within his or her own Group). Each of the eight Banks within a group contains 128 Program spaces so no-one is going to run out of memories.

When networking more than one device the number of Midi ports increases, as does the total number of available Banks. The number of simultaneously active Banks, however, remains the same as for one device - no more than ten (8 x Matrix, 1 x Song, 1 x Wave).

---

7. General rules of naming

During the work it turned out to store the results in intervals because some of them could get lost if the power shuts down (... maybe in a break down of the current supply). Therefore you find some different types of storing. But all of them have the method of naming in common:

At the end of a storage operation you find in the lower line of the display the name suggestion of the MIDITEMP (e.g. assign.asg, noname.mid, matrix.m88 ...).

↘   press CURSOR to get the cursor
❶   select by using the soft keys the character class (spc, 1, A, a, ins and del) and insert the sign at the current cursor position – or erase the sign at the cursor position:

```
nonam_
spc   1    A    a    ins del
```
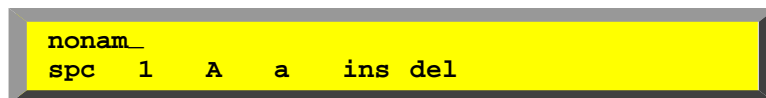
☞   [0] => space
☞   [1] => numbers
☞   [2] => capital letter
☞   [3] => small letter
☞   [4] => insert
☞   [5] => delete

❷   After slecting the character class with the soft keys you choose the needed sign by the ● data wheel.
❸   press CURSOR to jump one position further.
❹   press ENTER to close the storage.
↖   press EXIT to leave.

This procedure of naming not only works in the storage functions but everywhere you have to give names (e.g. "naming midi ins and outs", page 28).

Working with storage functions normally the MIDITEMP shows the right extension for that menu you are in. Press [0] to refresh the display or to show all file extensions (very useful after changing a removable storage device like a disk without leaving the menu.)

⌛   In the storage functions pressing [3] doesn't produce an "a" but a "_" or a " " because filenames with small letters are not allowed!

To navigate in the file system you can use two keys:

Using ENTER you open folders or move one structure level deeper.

Using EXIT you close folders or move one structure level higher.

8. PANIC - Transparent MIDI Reset (TMR)

Any connection between two MIDI instruments which is accidentally or prematurely broken could result in "hanging" notes, where notes which are already sounding are never told to stop, or in controllers which were in use at the time not being zeroed or switched off. Worse than that, if any of your expanders do not recognize the "All Notes Off" command, you could be in serious trouble in a live situation.

All MIDITEMP devices have a "Transparent MIDI Reset" function, which can correct these problems without interrupting the flow of incoming MIDI data, with the result that these catastophes usually pass unnoticed.

Simply press the ▯ on the highest level (also works on many other levels). The display shows ** Transparent MIDI Reset ** and the "Panic" function commences immediately. While the function is at work (approx. 6 seconds) you may continue to play your master keyboard, or run the Sequencer. Pressing any other key will abort the "Panic" function, otherwise the device will return to the Mode you were in at the time you pressed the "Panic" button.

In the Configuration Menu „Miscellaneous" you can exclude this function on the top level to prevent an inadverntently release during a live situation on stage.

The following data is sent via all MIDI ports and channels when the Panic function is activated:

☞	Pitch Wheel	Value 64 (neutral point)
☞	Controller No. 1 (Modul.)	Value 0
☞	Controller No. 2 (Breath Ctrl.)	Value 0
☞	Controller No. 33 (Mod. [fine])	Value 0
☞	Controller No. 64 (Hold/Sust.)	Value 0
☞	Controller No. 65 (Portamento)	Value 0
☞	Controller No. 66 (Sostenuto)	Value 0
☞	Controller No. 67 (Soft Pedal)	Value 0
☞	Note Off	1-128 on all 16 MIDI channels

⧗ The huge amount of data necessary for this function can sometimes mean that you will experience slight timing delays during complex passages. This is because the expanders, and indeed the MIDI ports themselves, are being stretched to the limit. It is usually only the expanders which are in "Omni Mode" which have the most trouble. This is because they have to laboriously process every command on every channel.

9. Disk functions (general)

All storage functions in the MIDITEMP MULTIPLAYERs are similar. In the modes `SEQ`, `MATR` and `WAVE` you reach the drive functions pressing `DRIVE`. You get the following display:

```
<DRIVE> Select function:
 TMR LOA SAV LDA      COP ERA DIR CD    →
```

TMR	=>	Transparent Midi Reset
LOA	=>	Load ...
SAV	=>	Save ...
LDA	=>	Load all Songs of the current Assign into internal memory (only SEQ mode)
COP	=>	Copy files ...
ERA	=>	Erase file ...
DIR	=>	Show directory of the current drive
CD	=>	Change drive

Pressing soft key `0` » ← « and `9` » → « you switch between the two possible displays:

```
<DRIVE> Select function:
 ←   MKD RMD BAK      FMT      OFF
```

MKD	=>	Make directory on the current drive
RMD	=>	Remove directory on the current drive
BAK	=>	Backup a complete drive or medium
FMT	=>	Format Floppy Disk
OFF	=>	Turn drive motor of the current drive off

9.1 Change storage drive (CD)

First of all, starting your storage work in this session, you have to select which storage device is first needed. After pressing `DRIVE` choose your drive using the soft key `8` »CD « :

```
select drive:
    A:  B:  C:  D:  --  F:  --  --
```

This is the default setting after an update or an initialisation, too. The letters mean:

A:	always the disk drive
B:	the internal hard disk (modifyable)
C:	the internal/external CD-ROM drive (modifyable)
D:	an external hard disk (via SCSI)
F:	the Smart Media Card slot (modifyable)

This is valid for all situations you want to change the drive.

> ⏳ If you are in any disk operation and want to change the drive immediately just press `DRIVE` and you reach the »DRIVE Select function« menu.

9.2 Load Songs, Matrix programs, Waves (LOA; LDB; LOA)

↘ To load a song select the place (program number) you want to load the song in and confirm with `ENTER`. Then press `SEQ` and `DRIVE` to get the drive functions menu:

```
<DRIVE> Select function:
 TMR LOA SAV LDA    COP ERA DIR CD   →
```

❶ With `1` »LOA« and the data wheel ● you can select your Song file.

```
B:\*.MID
 JINGLE1.MID      2k      [load]   14737k
```

The upper line in this example shows you are on drive B, root position, and are ready to load a Midifile (*.MID). The lower line indicates the name of the Midifile, the size and the free space on the internal RAM memory.

❷ If you want to change the drive now just press `DRIVE` and select the drive.
❸ If you see the name of the song in the lower line confirm with `ENTER`.
↖ With `EXIT` you leave the function.

In the Matrix mode the work is similar:

↘ To load a Matrix bank select with `MATR` and `BANK` the bank you want to load the datas in.
❶ With `DRIVE`, `1` »LDB« and the data wheel ● you can select your Matrix file.

```
B:\*.M88
 MATRIX.M88       2k      [load]   14737k
```

❷ If you want to change the drive now just press `DRIVE` and select the drive.
❸ If you see the wanted Matrix file in the lower line confirm with `ENTER`.
↖ With `EXIT` you leave the function.

In the Wave mode the work is similar:

↘ To load a Wave select with `WAVE`, `BANK` and ● the place you want to load the datas in. Press `DRIVE` to get the wave disk functions. To get a Wave with another extension (e.g. AIF) just change the file-extension by pressing `0`.
❶ With `1` »LOA« and the data wheel ● you can select your file.

```
B:\*.WAV
 BEATE.WAV     2112k      [load]   14737k
```

❷ If you want to change the drive now just press `DRIVE` and select the drive.
❸ If you see the wanted Audio file in the lower line confirm with `ENTER`.
↖ With `EXIT` you leave the function.

9.3 Save Songs, Matrix programs, Waves (SAV; SVB; SAV)

↘ To store a song activate the song and press **DRIVE** to get the drive functions menu:

```
<DRIVE> Select function:
  TMR LOA SAV LDA      COP ERA DIR CD    →
```

❶ Press **2** »SAV«. The MP suggests a name (either the original name of the file or, if you want to save a recorded song "noname.MID"). If you want to overwrite an existing file choose it with the data wheel ●. If you want to give the song a new name use the naming function (page 17). If a file with exactly this name already exists on the drive the MP shows "save" in the lower line in brackets, if not you find "new" in the brackets.

```
B:\*.MID
  JINGLE1.MID      2k      [save] 123456k
```

The upper line in this example shows you are on drive B, root position, and are ready to save a Midifile (*.MID). The lower line indicates the name of the Midifile, the size, the saving mode and the free space on this drive.

❷ If you want to change the drive now just press **DRIVE** and select the drive. The name of the song appears again in the lower line.
❸ Confirm with **ENTER**.
↖ With **EXIT** you leave the function.

In the Matrix mode the work is similar:

↘ To save a Matrix bank select it with **MATR** and **BANK**.
❶ Press **DRIVE** and **2** »SVB«. Naming and storage works as well as the sense in the brackets of the lower line to the action of the song mode!

```
B:\*.M88
  MATRIX.M88       2k      [new]   123456k
```

❷ If you want to change the drive now just press **DRIVE** and select the drive. The name of the song appears again in the lower line.
❸ Confirm with **ENTER**.
↖ With **EXIT** you leave the function.

In the Wave mode it works different:

⌛ **Although you find this function in the drive function menu it does not work in the WAVE mode.**

9.4 Copy file (COP)

The MIDITEMP MULTIPLAYER works with an universal storage system. You can store and copy even files the MP cannot read (e.g. textfiles, pictures ... you want to carry that way to your home computer). So the copy-function is one of the general utilities for all modes:

↘ Press **DRIVE** to reach the drive functions menu:

```
<DRIVE> Select function:
 TMR LOA SAV LDA      COP ERA DIR CD    →
```

❶ Call up the function with **5** »COP«. It follows the (really fast dissapearing) message:

```
Copy Files - select destination dir:
```

and the current path appears.

❷ Open the folder or directory, into which you want to copy one or more files, so that the folder name (see page 23) appears in the upper line in the display. With **ENTER**, you can open a folder, with **EXIT** you can leave the folder, with **DRIVE** you can change the drive.

❸ Press **CURSOR** . It follows the (really fast dissapearing) message:

```
Select Files to copy:
```

The MP will remeber the path you've just selected (even if you want to copy much later in that session!).

❹ Using **DRIVE** , **ENTER** , **EXIT** , and ●, find the files on that drive you want to copy in the previously specified folder:

```
B:\*.*
SONG.MID          46k         [copy]    ALL
```

☞ On each single file to be copied press **ENTER** . Each press will immediately copy the currently displayed file to the selected device position.

☞ Press **9** »ALL« to copy all following files in alphabetical order of the currently selected folder into the selected file.

↖ With **EXIT** you leave the function. (Using the "ALL"-mode the MP automatically returns to the main display!)

⧗ The display shows the current position with the name of the file. The MULTIPLAYER copies files in alphabetical order from the current file (included) displayed before pressing the **9** . With this method you're able to copy only parts of a folder (e.g. if the space isn't big enough on the selected backup drive).
Copy stops if a storage device is full with the message "Disk full". Change the medium and start the copy function again – the MP displays the last (not copied) file so you can remain the copy routine just by pressing **9** »ALL«!

9.5 Erase files (ERA)

As written above the MIDITEMP MULTIPLAYER works with an universal storage system. You can erase each kind of file with one and the same function. So the erase-function is one of the utilities which works in all modes similar:

↘ Enter the Drive function menu pressing `DRIVE`.

```
<DRIVE> Select function:
 TMR LOA SAV LDA     COP ERA DIR CD    →
```

❶ Select the drive you want to work on with `8` »CD« (see page 19).

❷ Call up the Erase-function pressing `6`.

❸ If you change Floppy disks, press `0`, to display a new directory of all files.

❹ Select the file you wish to erase using the ● (`ENTER`, and `EXIT` to change into a folder).

```
B:\*.*
TEST.MID         46k     [erase]  82000k
```

❺ Press `ENTER`.

❻ The confirmation message will appear:

```
OK to ersae?
TEST.MID         46k     [erase]  82000k
```

❼ Press `ENTER` to continue or `EXIT` to abort the function.

↖ After erasing one or more files, quit this function by pressing `EXIT`.

9.6 Creating a folder (MKD)

↘ Enter the Drive function menu pressing `DRIVE`, and press `9` » → «

```
<DRIVE> Select function:
 ←  MKD RMD BAK     FMT     OFF
```

↘ select `1` »MKD«.

You are now in the directory (or folder, path) you where in last. If you want to create the directory in another path move back to the Drive functions menu and call up the DIR function for your selection.

↘ The bottom line will now read „Create new directory:" and the cursor will appear there, too. You can now enter the name of the directory as you would name a file (see page 17). Close the procedure with `ENTER`, and the path name occupies the top line.

⧗ Whenever you leave a disk function by pressing `CURSOR` instead of `EXIT` the selected folder remains open so the next time you call up the function you return to the same directory without having to look for it again.

9.7 Deleting a folder (RMD)

You cannot delete a folder unless it is empty! If the folder contains files, the unit states: „*Unable to remove directory!". First step is to enter the directory you want to remove.*

↘ Enter the Drive function menu [DRIVE] and [9] » → «

```
<DRIVE> Select function:
 ←  MKD RMD BAK     FMT      OFF
```

↘ select [2] »RMD«. You will be asked „Remove current directory?".

❸ Confirm with [ENTER] or leave the function with [EXIT].

9.8 Alternative call for MKD/RMD

You can call up the functions »MKD« and »RMD« even from within several disk functions just by pressing [IN] (for MKD) respectively [OUT] (for RMD). This applies in all situations when the path of the currently open folder appears in the upper display line.

»RMD« will also be called when you press [ENTER] within an empty folder (diplay: "no file") while in the function "Erase File"!

9.9 Directory of a storage device (DIR)

With this function you can only read (or control) the contents of a storage device but not work on it!

↘ Press [DRIVE] to get the drive functions menu:

```
<DRIVE> Select function:
 TMR LOA SAV LDA     COP ERA DIR CD    →
```

❶ Select [7] »DIR«.

```
B:\*.MID
 JINGLE1.MID        2k        [load]  14737k
```
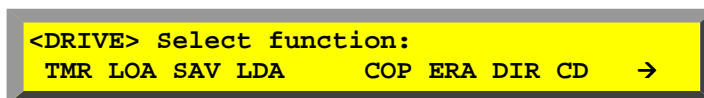
❷ If you want to change the drive press [DRIVE].

❸ Search using the data wheel ●.

! Press [ENTER] to open a directory (indicated with ⇨ in front of the name) . If a file is already shown you can leave the function using [ENTER].

! Press [EXIT] to close a directory (or jump one level higher). If you are already on the top level you can leave the function using [EXIT].

9.10 Backup of a storage device (BAK)

With the Backup function you can copy easily the complete contents of one storage device (including all files and directories) to another.

↘ Enter the Drive function menu `DRIVE` `9`

```
<DRIVE> Select function:
 ←  MKD RMD BAK      FMT      OFF
```

↘ select `3` »BAK«. You will be asked:

```
Backup from ?
     A:  B:  C:  D:  --  F:  --  --
```

❶ Enter the corresponding letter of the drive you want to backup.

```
Backup from name: to ?
     A:  B:  C:  D:  --  F:  --  --
```

❷ Enter the corresponding letter of the destination drive.

```
Backup from name: to name:
Ok to start backup ?
```

❸ Confirm with `ENTER`, the display shows the advancement of the work.

If the work is complete the unit automatically removes to the top level display.

With `EXIT` you can break the function!

If a device is not ready, or if a device is not formatted, the unit gives an adequate message bevore moving to the display of step ❶ or ❷ and removes to the top level.

9.11 Switch off hard disk drive motor (OFF)

Here you can switch off the motor of the drive selected in the function »CD«. Use this function only if you know that there will be no disk access for a long time, since spinning up and down will wear out the drive a little bit more than constant operation.

! ATTENTION: The Wave player will neither play from a stopped drive, nor start the drive!

↘ Enter the Drive function menu `DRIVE` `9`

```
<DRIVE> Select function:
 ←  MKD RMD BAK      FMT      OFF
```

↘ select `7` »OFF«.

The drive motor spins down and starts automatically with the next required access (this does not apply for Waves!).

9.12 Audio-CD-Player using an internal/external CD-ROM-drive

As long as you have installed a CD-ROM-drive with the Device Drive Manager you can use this either as a data-drive, or as an audio CD-player. Only in this case an arrow appears above the number key ▣9▣.

Using an internal CD-ROM (like the built-in devices in the MP 22-CDW or the MP 88-CD) you can choose on which Audio-out on the rear of the unit you can send the signal (see page 44). Using an external CD-ROM drive you have to connect this directly using an additional audio connection to the mixing console! You can control the volume in this case via SCSI, too.

First you have to place an audio-cd (you can even playback mixed mode CD's) into the drive.

↘ select the Audio menu pressing ▣AUDIO▣ .

```
Audio Out(A/B), Vol.( CD )■■■■■■■■■■◆127
Card A   B  Wave A   B   CD  A   B      →
```
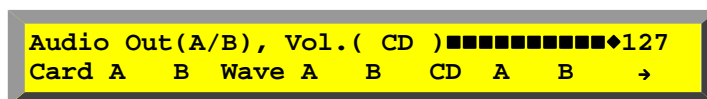
↘ select the CD Audio output (only shown by usage of an internal CD-ROM-drive) pressing ▣7▣ or ▣8▣ .

↘ select the CD Audio control menu pressing ▣9▣ .

```
CD Audio Control        Vol.■■■■■■■■■■◆127
 ←Track=              Time=            ▭
```
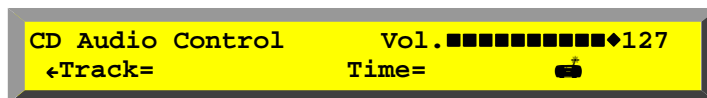
↘ The control buttons are:

☞ ▣►▣ => to start playback
☞ ▣■▣ => to stop playback
☞ ▣‖▣ => to pause playback
☞ ● => to control the volume
☞ ▣►►|▣ => in stop/pause mode to skip one title forward
in play mode fast forward the title
☞ ▣|◄◄▣ => in stop/pause mode to skip one title back
in play mode fast rewind the title
☞ ▣8▣ => to open the CD-ROM-drive ▲

Chapter III - Configuration

The Configuration level contains various settings which ease the general use of the device. The Configuration Menu can be reached by double-clicking one of the mode keys **SEQ** or **MATR**, or click **INTR** and use the soft-key function »CNF«.

```
Device Configuration Menu:
 TMR DCT DSP NAM ID  ANO FS  INI DRV  →
```

```
Device Configuration Menu:
 ←   UPD WVM WVP DLY NIT SNM MSC LOK  →
```

```
Device Configuration Menu
 ←   PW  XMR  SND  EQU
```

Most of the settings are not storable and lost after an update or a reset! Only the function »NAM« can be stored for itself!

1. Double Click Time (DCT)

↘ Double-click on **SEQ** or **MATR**.

↘ Select **1** »DCT«.

```
Double Click Time
short■■■■■■■■◆·····················long, test 1-8
```

❶ Use ● to set the minimum time you need to perform a double-click.

You can use one of the number keys as test buttons to see whether the device recognizes your double-click. The LED of the key will light up for "YES". The lenght of the bar in the display will show the time you have set between "short" and "long". Shorter times mean that your two clicks have to follow each other more quickly. Conversely, a longer time lets you space your double-click out more, but you run the risk that the device might interpret two successive single clicks as a double!

↖ Leave the function with **EXIT**.

2. Display Layout (DSP)

This function allows to configure the display of up to four simultaniously shown Matrix or Song banks. Normally it is set to show one Matrix bank in the upper and the Song bank in the lower line. For example, you can switch this to show the Song bank on the top line, or (e.g. for the PMM88-E or the MT 16-X) four Matrix Banks on one display at the same time. More than one bank from a single group cannot be displayed!

➔ A maximun of four Matrix banks (or 3 Matrix + 1 Song) can be displayed.
➔ Up to five additional Matrix banks (plus one Wave bank) can be active in the background.

↘ Double-click on [SEQ] or [MATR].
↘ Select [2] »DSP«.

```
→G=1                    G=none
 G=S                    G=none
```
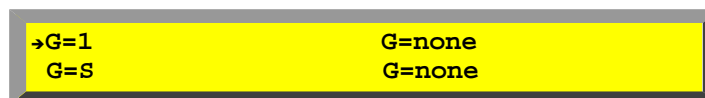
❶ Move the arrow using [CURSOR] and select the group in each position you wish to display using ●. Setting ″none″ indicates that no group is to be displayed in that position on the main screen. ″G=S″ means that the Song group shall be displayed on that position. The Wave group cannot be displayed on the main screen.

⧗ It is recommended not to use the space to the right of the Song group, meanwhile a song is loaded the bar count would not be displayed on the right side of the Song name!

3. Naming Midi Inputs and Outputs (NAM)

To ease your life each MIDI port can be named seperately. These names will appear everytime a function controlling MIDI ports is called up.

↘ Double-click on [SEQ] or [MATR].
↘ Select [3] »NAM«.

```
I/O Names                    1:
    ( 1)   2   3   4   5   6   7   8
```
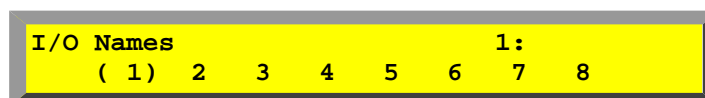
❶ Select inputs or outputs using [IN] and [OUT] (the relevant LED flashes).

❷ Select the desired port using [1] to [8] or via ● and [ENTER]. The cursor will jump to the name field. You can now name the ports as you would name a file (see page 17).

❸ Confirm with [ENTER] and name the next MIDI port.

↖ Leave the function with [EXIT].

⧗ You can Load or save the I/O names with a special DRIVE function in the Matrix mode. To Store the names use the function ″SVN″, to load them the function ″LDN″.

4. Device ID (ID)

In this window you can allocate your device a name and an identification letter. However, this is necessary only if you intend to network several devices using the (optional) "FORNET" optical network. The name is entered in exactly the same way for MIDI port (see above).

↘ Double-click on `SEQ` or `MATR`.
↘ Select `4` »ID«.

```
Device Name     = MP88-CDW  ID:
spc  1    A    a  ins del
```

❶ The unit suggests a name. `ENTER` puts you to the next position.
  Confirming `ENTER` (without giving an ID-number) turns back to the main screen.
↖ Leave the function with `EXIT`.

5. Send "all notes off" after program change (ANO)

The default setting is "YES". This means when a program change is requested, all notes are switched off, so that if a routing is changed you will not be left with droning or "hanging" notes. You can set an »ANO« for each Matrix group seperately.

↘ Double-click on `SEQ` or `MATR`.
↘ Select `5` »ANO«.

```
All Notes Off after PC
     M1   M2   M3   M4   M5   M6   M7   M8
```

❶ With the soft-keys `1` to `8` you can set for each Matrix group if the function is activated (LED flashes) or not (LED turns off).

↖ Leave the function with `EXIT`.

6. Setting footswitch functions (FS)

Connect your footswitch (or double footswitch with a stereo jack) with the plug on the front of your device.

↘ Double-click on `SEQ` or `MATR`.
↘ Select `6` »FS«.

```
Foot Switch Settings
 TMR FS1 FS2 +/-
```

❶ Select a footswitch with `1` or `2` or ● and `ENTER`.

⧗ The units are normally equiped with a mono jack socket. However it is possible to have your device fitted with a stereo jack socket. In this case the tip is FS1 and the ring is FS2.

> ⌛ If you have only one footwitch connected via a mono jack plug this is automatically designated FS1.

❷ Select the required function of the footswitch using ●. The function will be displayed in the lower line. The options are:

➢ program switching (+1 program place) for Banks G1 to G8 and GS
➢ TMR (panic button. CAUTION: calling up of the TMR via footswitch is not displayed!)
➢ Sequencer Start/Stop
➢ Sequencer Stop/Continue
➢ Toggle Loop: activate/deactivate the Loop function

↰ Quit the function using `EXIT`.

> ⌛ Avoid plugging the footswitches during your performance meanwhile an unintential function could be released!
>
> If two footswitches are connected via a stereo plug and both are set to "Switch Program" of the same Song group, the first one automatically operates the function "Program +1", the second one the function "Program -1".

7. Recognizing the footswitch polarity (+/-)

Connect your footswitch (or double footswitch with a stereo jack) via the socket on the front of your device.

↘ Double-click on `SEQ` or `MATR`.

↘ Select `6` »FS«.

❶ Select the function "+/-" using ●. The polarity of the footswitch(es) will be learned and the device will switch back to normal mode. The device assumes that no pedals are being pressed while the function is active!

8. Reset/ Initialisation of the entire memory (INI)

This function ereases and resets all the memories (Configuration settings, all Matrix programs and all Names) in the internal RAM!

> ⌛ **To proceed a RESET hold `EXIT` while switching on the device!**

Important:
if you proceed this function all data in the internal memories (not the storage devices!) are destroyed forever! Save all your Matrix programs and I/O-names first!

�’ Double-click on `SEQ` or `MATR`.

➘ Selecting `7` »INI« calls up the "warning-screen"

> **WARNING! You are going to clear all the user-defined settings!**

❶ Confirm with `ENTER`.

> **OK for Initialization?**

❷ Confirm with `ENTER` or abort the function with `EXIT`.

↖ The unit restarts.

> ⧖ After using this function the unit restarts with the default values. If you have renamed the storage drives you have to install them again on their adresses.

You can reload after the reset (or a system update) the defaults for the Wave-player, too. If you confirm during the request "Setup Waveplayer?" with "YES", the following defaults are set:

➢ **Reserved Wave memory (WVM) = 9 x 64K**
➢ **Wave-chanel = OUT4, channel 15**
➢ **Activated Wave bank = WVH**

9. The Device Drive Manager (DRV)

The Device Drive Manager allows you to install and release internal and external storage-devices, to assign them via their ID's and to format them (not the floppy disks, therefore see page 36). In addition you can set the SCSI-ID of the host adapter, switch parity on/off and monitor the connected drives. The internal floppy-disk-drive of the MULTIPLAYER is already installed as drive "A:" and cannot be altered!

➘ Double-click on `SEQ` or `MATR`.

➘ Select `8` »DRV«

> **Device Drive Manager**
> **TMR INS REL FMT INI   HID PAR**

9.1 Connecting an IDE-/SCSI drive

With this function you can install or remove (release) a storage device.

> IMPORTANT: Each Drive letter has to be assigned to only one device adress! If you want a different letter to one of your installed drives, or another drive to an "occupied" letter, you must first release it using »REL«, otherwise an error message will be displayed!
>
> The latest Generation (since August 1999) of the MULTIPLAYERs own an ATA-Interface for the use with internal IDE drives. You find the additional drives on the adresses "X" (ATA drive 1 "master") and "Y" (ATA drive 1 "slave"). The ID "Z" is for the use with Smart Media Cards.
>
> The IDE drives are not direct connected with the SCSI bus. Since OS 4.20 you find the internal drive "X"during the use via the SCSI bus under the SCSI ID from the MULTIPLAYER (see HID, page 35).

↘ Double-click on `SEQ` or `MATR`.

↘ Select `8` »DRV«

```
Device Drive Manager
 TMR INS REL FMT INI    HID PAR
```

9.1.1 Install a drive (INS)

↘ Select `1` »INS«. If you don't have changed anything the default settings are actual and the display shows this:

```
Install Drive - select drive letter
   A:  B:X  C:3  D:4  E:  F:Z  G:  H:
```

❶ Select the required drive letter using `1` to `8` or via ● and `ENTER` . As soon you have selected a letter the storage device whose SCSI ID is "0" will communicate with the MULTIPLAYER. If there's no SCSI ID "0" the message – no response – appears.

❷ Enter the desired SCSI ID using ●.
Its manufacturer and model will be displayed together with ist size and wether or not it is a removable drive. If more than one drive is connected, the additional drives appear at their corrresponding ID numbers. Also, the ID of the SCSI host adapter (the very own SCSI ID of the MULTIPLAYER) appears at the chosen number.

❸ Confirm with `ENTER`

(If the drive has not yet been partitioned, the following prompt appears:

```
Invalid partition table or not found!
Do you wish to create a new one?
```

❹ Pressing `ENTER` will create a partition table.)

After Step ❸ or ❹ the device returns automatically to the top level.

9.1.2 Release a drive (REL)

↘ Select 2 »REL«. If you don't have changed anything the default settings are actual and the display shows this:

```
Release Drive - select drive letter
   A:  B:X  C:3  D:4  E:  F:Z  G:  H:
```

❶ Select the drive letter to be released with the number keys 1 to 8 or via ● and ENTER. As soon you have confirmed the MULTIPLAYER will return to the top level.

9.2 Using multiple partitions on a drive

Using this function the contents of an existing drive will be ignored and the complete medium new partitionized and formated. This procedure assigns the complete storage place on the medium to this partition. Especially users of IOMEGA ZIP drives ® will be happy to have this function because of the problems partitions of pre-formated mediums can make.

↘ Double-click on SEQ or MATR.

↘ Select 8 »DRV«

```
Device Drive Manager
 TMR INS REL FMT INI     HID PAR
```

↘ Select 4 »INI«

The complete storage space of devices higher than 2 Gigabyte will be assigned to this partition. Drives with a size bigger than 2GB will cause the message, bigger partitions are not compatible to DOS or WINDOWS 3.x. If you want to use these operation systems together with your MULTIPLAYER you get here the possibility to limit the partition size to a maximum of 2GB. Using WINDOWs 95 (or higher) or WINDWOS NT, or if you only use the drive with your MULTIPLAYER, each partition can be sized to a maximum of 4GB.

Drives bigger than 4GB are automatically partitionized by the MULTIPLAYER to 4GB. Since OS 4.20 the player supports up to four partitions on one drive. To create them just call up in the »INS« menu as often as you can do the same drive adress (e.G. "X"). The MULTIPLAYER automatically sets the partitions in the right order to the drive letter. After you have partitionized you have to format each partition! The function "Initialize Partrition Table" can only be used if no partition except partition one is installed!

All other steps are similar to the function "Format Medium"!

9.3 Using a Smart Media Card

With the MULTIPLAYER you can use Smart Media Cards (3.3V, sizes up to 64MB) as storage devices. The Smart Media Card connector wears the ID "Z", default installed on drive letter "F:". You can work with the Smart Media Cards the same way as with harddisc drives, CD-ROMs etc.

Normally the pre-format of a Smart Media Card (like those designed for digital cameras etc.) is no problem for the MULTIPLAYER. If you format one with the function of the MULTIPLAYER this format is not compatible to the origin device (if that unit cannot format the card, there's no way to bring the "old" format back).

9.4 Format the IDE- or SCSI medium (FMT)

With this function you can prepare a storage medium for the use. WARNING: The format wipes out all existing datas on a medium - this process cannot be aborted!

> We recommend during the lifetime of a storage medium to mirror sometimes (maybe every year ...) the contents via the backup function (see page 25) to another device, format the medium and mirror it back. Working like this you can exclude defect sectors on a medium (because during the format-process the procedure automatically signs those defect sectors and then all controllers avoid a storage in those places).

↪ Double-click on `SEQ` or `MATR` and `8` »DRV«

```
Device Drive Manager
 TMR INS REL FMT INI    HID PAR
```

↘ Select `3` »FMT«

```
Format Medium - select drive letter
  A:   B:X  C:3  D:4  E:   F:Z   G:   H:
```

❶ Select the drive letter to be released with the number keys `1` to `0` or via ● and `ENTER`. As soon you have confirmed a last warning message appears (e.g. if drive letter "B:" is selected):

```
WARNING! Next Step will destroy all data
on non-removable disk drive B:
```

↘ Confirm with `ENTER` or abort with `EXIT`. The display will show the state:

```
Formatting 3323M...
||||||||||||||||||||||||||
```

(e.g. a medium with 3GB), the message flashes and the MULTIPLAYER turns back to the top level.

```
Format complete.
```

↖ (If it shows the size of the medium in the lower line)
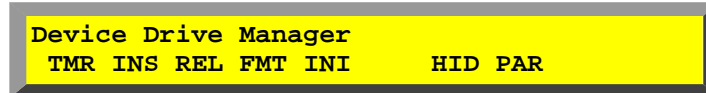leave the function (message) with `EXIT`.

9.5 Initialize partition table (INI)

The procedure is similar as written in "9.2 using multiple partitions on a drive" (see page 33). This function only works with drives if there's no partition but the first one installed!
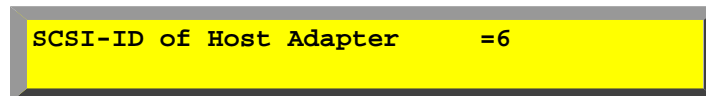
9.6 Setting the SCSI-ID of the MULTIPLAYER (HID)

With this function you can set the SCSI ID of the MULTIPLAYER. This is important whenever you connect it to a computer via the SCSI port (remember: all connected SCSI devices must have different SCSI Ids).

↘ Double-click on `SEQ` or `MATR` and `8` »DRV«

```
Device Drive Manager
 TMR INS REL FMT INI    HID PAR
```

↘ Select `6` »HID«

```
SCSI-ID of Host Adapter      =6
```

❶ Select the desired ID (default is "6") via ● and confirm with `ENTER` . The MULTIPLAYER automatically returns to the top level.

9.7 Switching SCSI parity on/off (PAR)

With this function you can switch the SCSI parity on or off.

⧖ **WARNING:**
This switch should only be used in exceptional cases! Having problems with SCSI parity please contact the technical support of MIDITEMP (see page 4).

↘ Double-click on `SEQ` or `MATR` and `8` »DRV«

```
Device Drive Manager
 TMR INS REL FMT INI    HID PAR
```

↘ Select `7` »PAR«

```
SCSI Parity
         enabled
```
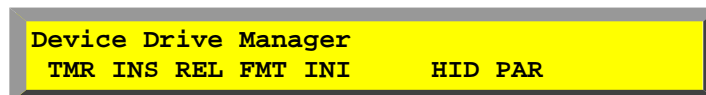
❶ Switch parity on or off via ● and confirm with `ENTER` . The MULTIPLAYER automatically returns to the top level.

10. Formatting floppy disks

↘ Enter the Drive function menu pressing `DRVL`.

```
<DRIVE> Select function:
 TMR LOA SAV LDA      COP ERA DIR CD    →
```

↘ Change the menu page `9`

```
<DRIVE> Select function:
 ←  MKD RMD BAK      FMT      OFF
```

↘ select `5` »FMT«.

```
Insert new diskette for drive A:
and press ENTER when ready...
```

❶ If a floppy disk is placed into the floppy drive on the front of the MULTIPLAYER confirm with `ENTER` :

```
Formatting 1.44M...
||||||||||||||||||||||||||
```

The floppy disk will automatically be formatted to either 720kB or 1.44MB, depending on which sort of disk (DD or HD) is in use. The finish of the procedure is displayed as:

```
Format complete.
   1423k total disk space
```

↖ Leave the function with `EXIT`.

⧗ With this function only floppy disks can be formatted, in no way a hard-disk! For this please refer to "9.4 Format the IDE- or SCSI medium (FMT)" on page 34.

---

11. Load (update) a new operating system (UPD)

With the update function a new version of the operating system can be loaded into the Flash ROM of the MULTIPLAYER. You should only execute this function in the case you received the brand new OS version by MIDITEMP (via floppy disk or Internet download).

⧗ The same as in a reset or initialisation the update function erases the complete internal memory (but nothing of the storage devices!). Notice your global settings and store before executing your Matrix banks and your I/O-names!

↘ Put the floppy disk with the new OS into the disk drive and double-click on `SEQ` or `MATR`.

↘ Press `9` » → « and select `1` »UPD«. The message appears:

> **Writes new operating system into ROM.**
> **It also initializes device - continue?**

❶ Confirm with `ENTER`.

The directory of the floppy disk will be displayed.

❷ If you got several OSs on the medium dial via ⬤ to the name concerning to the type of your MULTIPLAYER (all OS-files wear the extension "X.bin") and confirm with `ENTER`.

After the file has been loaded, the message "Programming Flash EEPROM" will light up for about six seconds. Be sure not to switch off the MULTIPLAYER while the update is in progress! Then the unit initializes again.

❸ Now you will be asked if the MULTIPLAYER shall set the defaults for the Waveplayer:

> **Setup Waveplayer?**
> **TMR   no yes**

Confirming with `1` "yes" the unit is set on default values; confirming with `2` "no", and you need the Waveplayer, you'll have to set the values (see page 31) as described in "5.2 Set MIDI channel and keyboard range" on page 108. The MULTIPLAYER automatically returns to the top level.

> ⏳ After using this function the unit restarts with the default values. If you have renamed the storage drives you have to install them again on their adresses.

12. Reserving memory for the Waveplayer (WVM)

With this function you reserve waveform memory for the Waveplayer. Each step corresponds to 64kB memory space, while one block creats space for around 1 or two waves, depending on the quality. In addition the Waveplayer reserves a small part of RAM as working memory.

> ⏳ This reduces the memory of the Midifileplayer! E.g. if you have 1MB internal RAM (which can be raised up to 16MB), and you have reseved the default value of 9x64kB = 576kB, you have left a size of about 400kB for the Midifileplayer functions. If you don't use waves, and you reach the message "out of memory", just close the WVM to 0x64kB!

↘ Double-click `SEQ` or `MATR`.
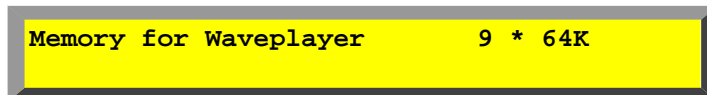
↘ Press `9` » ➔ « and select `2` »WVM«.

```
Memory for Waveplayer        9 * 64K
```

❶ Choose the desired value using ● and confirm with `ENTER`. After the (automatic) restart there is memory space available for Waves.

13. Setting the size of the pre-loaded Wave parts (WVP)

The Waveplayer loads the beginning of each Audio-file assigned to one song into the internal memory for an immediately playback start. With this function you define the size of the preloaded Wave part. This function is in strong connection with the above described WVM. So you have to reserve enough space with the WVM function to get all Waves preloaded!

The default value set here applies to stereo samples with 48kHz sampling rate and 16bit resolution. For lower sampling rates or resolutions the value will be adapted individually for each Wave, but will never fall below 32kB. For hard disk drives with slower access rates higher values might be helpful to ensure a continuous playback!

↘ Double-click `SEQ` or `MATR`.

↘ Press `9` » ➔ « and select `3` »WVP«.

```
Preload for Waves            4 * 16K
```
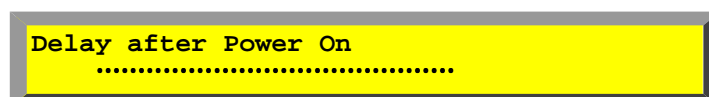
❶ Choose the desired value using ● and confirm with `ENTER`. After the (automatic) restart there is the specified amount of memory sapce available for Wave playback.

14. Delay of the booting process (DLY)

With this function you can set an approximate time the system waits for the booting procedure of connected drives (e.g. if the assign-file doesn't load automatically just raise the DLY). After this period the operating system is loaded.

↘ Double-click `SEQ` or `MATR`.

↘ Press `9` » ➔ « and select `4` »DLY«.

```
Delay after Power On
   ....................................
```

❶ Choose the desired value using ● and confirm with `ENTER`. The MULTIPLAYER returns automatically to the top level.

15. Night Mode (NIT)

The night mode only affects the display and can be helpful to allow safe operation even in difficult lighting situations. In night mode the labelling of the numeric keys will be repeated directly above each key in the display. This representation is most likely intended for the experienced user, who know the most important key commands by heart and number, and who want to rely on fast recognition of the keys.

↘ Double-click `SEQ` or `MATR`.

↘ Press `9` » → « and select `5` »NIT«. The display flashes the message

```
Night Mode on/off
```

and returns to the top level. The effect is the group displayed on the lower line moves to the upper line, changing between the mode displays can be reached with the keys `SEQ` or `MATR`.

```
→M1A  1 live
   0   1   2   3   4   5   6   7   8   9
```

The unit switches between the night mode or normal display mode everytime you use this function.
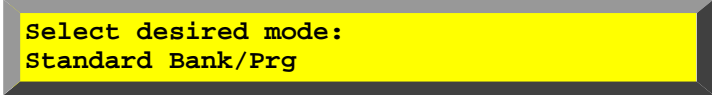
16. Song numbering mode (SNM)

This special function affects only the display of the Song group. For details please see "4. Numbering your songs" (page 13).

↘ Double-click `SEQ` or `MATR`.

↘ Press `9` » → « and select `6` »SNM«.

❶ Now you can select your favoured display mode via ● and `ENTER`.

```
Select desired mode:
Standard Bank/Prg
```

↖ The unit automatically returns to the highest level.

⧗ The selected Song numbering mode is saved with the assign file!

If you use "3-digit decimal number" and create a bank higher than S1H all Songs higher then "999" will be displayed in the "Standard Bank/Prg". In this case you better choose the system "4-digit decimal number".

17. Miscellaneous ... (MSC)

The subfunctions of this menu are at the service of many "bothered users" ...!

↘ Double-click [SEQ] or [MATR].

↘ Press [9] » → « and select [6] »MSC«. Now you reach the displays

```
Miscellaneous...
 TMR K0+ K0- PK+ PK- SJ+ SJ- CP+ CP-  →
```

```
Miscellaneous...
 ←   AD+ AD-
```
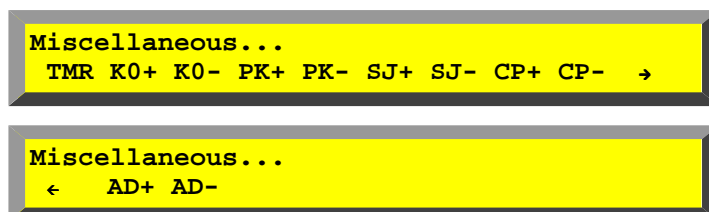
Turn the ● (or use the number keys) to reach these functions:

☞   **TMR** ⇔ Transparent Midi Rest or panic (see page 18)

☞   **K0+/K0-** ⇔ »Allow/Prevent TMR from Toplevel« - if you seldomly use the panic function and instead prefer faster operation, you can hereby switch off the TMR function of [0] (K0). Having done so, you can enter Song numbers or Matrix programs very quickly and without having to active those grey cells ...

☞   **PK+/PK-** ⇔ »Enable/Disable PAUSE-Key« - fast operation of the Remote Control while playback is in progress may lead to the inevitable moment where you accidentally hit the Pause key, which can lead to a serious adrenaline shock and permanent damage to your health, which is true especially for TV live shows! With this function you can deactivate the Pause key to avoid unwanted stopping of Songs.

☞   **SJ+/SJ-** ⇔ »Start Jobs by program select/manually« - with this parameter you can determine whether or not Jobs will be started automatically directly after loading in order to reduce the necessary number of operation steps.
WARNING: The Job will always be started, even at the time you only intend to edit a Job! Please switch this function off, before you try to edit or create a Job.

☞   **CP+/CP-** ⇔ »Couple/Don't couple M.Prgs with Songs« - if you have programed your Matrix programs in combination to a Song you can determine with this function everytime you choose a Song number the depending Matrix program with the same number as the chosen Song is called and activated. This link only works with the first eight Song-/Matrix banks!
If a corresponding Matrix bank to a Song bank does not exists until now, the Bank name in the Matrix group disappears and you cannot do any entry. Press [BANK] and select one of the Bank numbers 1..8 to create a new bank.

☞ **AD+/AD-** ⇔ »`Automatic/No Automatic Directory Usage`« - working with a higher number of files on the hard disk drive you should sort them into a different number of folders. This is not only to get a better survey, but a technical need. Working with DOS you only have to have a fixed maximum of files on the root of a storage device (it doesn't matter if there is more space for the datas, the number of entries is relevant!). If you try to store more than the allowed number on the root and the MULTIPLAYER gives the message "`No directory space`" ⇒ this function helps to get the sorting automated. To prevent untrained musician of that message the OS uses (since OS 4.20) this function as default!
One popular method of file sorting is to use the first sign of the file name, so the MULTIPLAYER uses this system.

Handling if AD+ is activated:

- Load the new song onto the program place it shall later stay in your playlist.
- Change with DRIVE and 8 »CD« the path to your hard disk.
- During the Save process with »SAV« the MULTIPLAYER automatically opens (or creates) a folder with the first sign of the file (e.g. "`B:\_S_\*.MID`" if the song name starts with an "S"). Confirm with ENTER.
- Store your Assign file.

WARNING:
If you change the file name before confirming with ENTER the still opened (or new created) folder will not be changed!

18. Configuring a password (PW)

You can lock the MULTIPLAYER (e.g. if you attend to leave the stage, or to prevent unwanted actions on the storage drives during a hot session ...) with a 4-digit code number. Only one code at a time can be set. The password gives security for the following functions:

➢ Enable/Disable password   The password function itself (PW)
➢ Lock device   To lock the unit (LOK)
➢ Format medium   To format a storage drive (DRV-FMT)
➢ Initialize/reset   The INI-function as well as the hard reset
➢ Device drive manager   Configuration menu and DRV-function
➢ Backup   Copy of partitions (DRIVE-BAK)
➢ Save Assign   Save the Assign file (ASG-SAV)
➢ Save song   Save song (DRIVE-SAV)
➢ Copy files   Copy files (DRIVE-COP)
➢ Delete files   Delete file (DRIVE-ERA)
➢ Synchronize   Change of synchronisation settings (SYN)

If the device is locked and you want to execute one of the above written functions you first have to enter your code. Just follow the instructions on the display. The characters will be shown in the display as "*". Entering a wrong code – and the function will be interrupted.

If you have forgotten your password please contact the MIDITEMP technical support (see page 4).

↘ Double-click SEQ or MATR.

↘ Press 9 » → « two times and select 1 »PW«. Now you reach the display:

```
Please enter new password:
```

❶ Enter a code of four numeric characters. Enter it a seond time for security request:

```
Please enter new password: ****
            Once more:
```

the MULTIPLAYER flashes (really short)

```
Password is now  enabeled!
```

and returns automatically to the top level.

To disable the password function just repeat the above written procedure!

⧗ The password is enabled/disabled if both entered codes are identical. Enter 2 different characters or abord with EXIT and the password function is not enabled/disabled.

19. Locking the device (LOK)

You can lock the MULTIPLAYER (e.g. if you attend to leave the stage) with a code, consisting of a 4-digit number.

↘ Double-click SEQ or MATR.

↘ Press 9 » → « and select 8 »LOK«. Now you reach the display:

```
Device is locked!
Enter password to unlock...
```

If you meanwhile have not configured a password the MULTIPLAYER calls up the PW-function (see above) and you can do this now. Otherwise just enter your codeand the device is locked.

⧗ Since Operating System 4.08 you can activate the LOK-function by pressing EXIT longer than 2 seconds. After that period the LOK function starts, too.

20. Exclude MIDI chanels during TMR (XMR)

To prevent unwanted effects (e.g. with the use of light controllers, midified consoles etc.) you can exclude defined MIDI outs of the MULTIPLAYER from sending the TMR as well as sending the command "all notes off" during the change of a Matrix program.

↘ Double-click `SEQ` or `MATR`.

↘ Press `9` » → « two times and select `2` »XMR«. Now you reach the display:

```
Excl.OUT frim MIDI Reset
OUT=   1   2   3   4   5   6   7   8
```
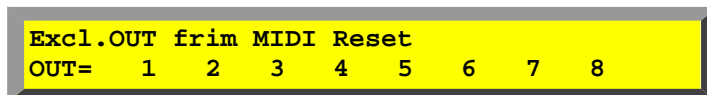
❶ Select the MIDI out to be excluded with the number keys `1` to `8` (the "activated" out will be signed with the lit LED).
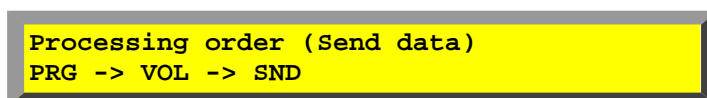
↖ Leave the function with `EXIT`.

21. Processing order of send data commands

Since there are some Midi receivers (like synthesizers, sound expanders etc.) having a defined sequence to receive program changes (PRG), volume events (VOL) and sysex datas (SND, those strings which are defined in the send data function of the Matrix program) the MIDITEMP offers the possibility to change the processing order. E.g. it could be that your sound module first have to receive a mode change via a sysex string and as the secondary informations the program change plus the volume data.

The default setting in the MIDITEMP is: PRG -> VOL -> SND. WARNING: These settings are universal and valid for all Matrix programs and groups!

↘ Double-click `SEQ` or `MATR`.

↘ Press `9` » → « two times and select `3` »SND«. Now you reach the display:

```
Processing order (Send data)
PRG -> VOL -> SND
```

❶ Select the required order via ●.

↖ Leave the function with `EXIT`.

22. Equalizer settings for the DS-48 (Soundcard)

If you have installed the new MIDITEMP Wavetable (Daughterboard) DS-48 in your MULTIPLAYER you get the opportunity to affect the sound characteristic via an efficient 4-band equalizer. These settings are only valid for this paticular card, not for cards of any other manufacturer!

↘ Double-click `SEQ` or `MATR`.

↘ Press `9` » → « two times and select `4` »EQU«. Now you reach the display (default):

```
Equalizer of DS-48
Low: +32  midl: 00    midh: 00    high:+32
```

❶ Select the required equalizer band via `CURSOR` and change the value via ●.
(the maximum of +/-64 appropriate +/- 12dB)

↖ Leave the function with `EXIT`.

23. AUDIO functions (Soundcard, Wave & CD)

In the audio menu you can seperately determine the desired audio-output (A, B) and the output level for:

- ➢ Card
  (= a built-in Wavetable or Daughterboard like the MIDITEMP DS-48)
- ➢ Wave
  (= the built-in Waveplayer unit)
- ➢ CD (if connected and installed in the Device Drive Manager)
  (= an internal/external CD-ROM drive, outputs can only be chosen for internal drives like in the MP 22-CDW or MP 88-CD ...)

↘ select the Audio menu pressing `AUDIO`.

```
Audio Out(A/B), Vol.( CD )■■■■■■■■■■■♦127
Card A    B  Wave A    B    CD  A    B      →
```

↘ for volume settings of the three devices just press the depending number key and change the value using the ●.

↘ to send the signals to the two Audio outputs (A,B) on the rear of the device just select the desired Audio outputs by pressing the depending number keys for the different devices.

↘ the volume settings for the Audio CD player can be changed in the "CD Audio Control" menu, too, using the ●.

↖ Leave the mode with `EXIT`.

⧖ If you enter the AUDIO menu again you just come to the page you've left. E.g. if you left the function on the "CD Audio Control" page you will get back there pressing `AUDIO`.

During playback of an audio CD you can turn back to normal mode and select Songs, Matrix programs etc.

During playback of an audio CD (e.g. if you leave the stage) you can lock the device (see page 42) to exclude unauthorized usage.

Chapter IV - Sequencer

1. General

The MULTIPLAYER plays, manipulates and stores songs in the Standard Midi File format (file extension => *.MID). The easiest way to work is therefore to load in disks containing Midifiles (recommended in format SMF1). This allows songs on Atari ST or MS-DOS disks to be loaded straight in without any special procedures. If your songs are on disks of a different format (like the special format of a Synthesizer etc.), or not saved as Midifiles, you should play them on the origin unit and record them in the MULTIPLAYER via its MIDI inputs. Since the MULTIPLAYER uses extremely high resolutions (up to 1/1536[th]s) the copy will be incredibly faithful to the original. This is important for those who want to change their system (and the "old" system does not support the SMF format).

Although the MULTIPLAYER has functions to record a Midifile, together with possibilities to change main controllers (like time measure, Program changes, Control changes, Volumes etc.), it chrystallized (e.g. for songwriters/-programers) not to be a real competitor to the immense possibilities of a software sequencer in a personal computer. The main idea of the MULTIPLAYER is to be a perfect playback machine, with extraordinary functions to perform Midifiles, and helpful operations to revise a Song "on tour".

MIDITEMP has placed a lot of uncommon, but in its efficience incredible profitable, ideas into the MULTIPLAYER to reach an extraordinary flexibility on stage for musician:

➢ First the *playlist* (called the "ASSIGN"), in which you sort your (on stage) needed Midifiles in your personal order, so you easily can call them up by songnumber. Using this ASSIGN you even can work with a Midifile without reprogramming in different ways (e.g. in different bands, for different purposes in several tunings etc.)

➢ Second the "perfomance mode". Here you can create (and store for each songnumber seperately) loops e.g. to repeat songparts, or jump to decided bar positions. Here you can transpose songs, or change temporarily the tempo, find tools to edit songs ...

➢ Third you can create *Jobs*. Programing those you work with a determined sequence of songs, can automatically switch Matrix programs between them and program predestinated navigations for the footswitch(es).

➢ Fourth you have the possibility to steer Audio files via your Midifle (e.g. to "fly" in a backing choir). Think e.g. your guitar player has no choice to play a job – you just record him at home on your personal computer and playback this origin instrument track coordinated and simultaniously with your Midifile on stage ...

➢ Last but not least we have to mention the optional possibilities like the lyrics board (to display a songtext via the viedo out on a TV set) or FORNET, which hands users of the MP88 –X- or PMM 88E- / MT 16-X-units the incredible possibility to work in a Midifile with up to some dozend different MIDI ports, controlled via one controller!

⏳ Turn the unit on and the MULTIPLAYER loads automatically the Assign-file called ASSIGN.ASG of the root path of the storage device! If you don't have one on that position the MULTIPLAYER boots with an empty Assign!

The Sequence mode is always a temporarily Assign - you don't need to built-up a special one. Everything you do in the Sequence mode stays temporarily in this ASSIGN – but all settings during a session would be ereased, if you turn the unit off without saving them as an assing-file.

The Assign is everytime the highest working level of the Sequencer mode - you don't have a chance to work with Songs without an Assign!

You can save many dozens of different Assigns on the harddisc – but only one of them is active at a time.

1.0 Playback the first Midisong with the MULTIPLAYER:

This is just to get the first positive result, and to check if your MULTIPLAYER is working!

❶ Close all connections orderly and check if your audio system works.

❷ Place a floppy disk (containing a Standard Midi File) into the floppy disk drive on front of your MULTIPLAYER.

❸ Change to the Midifileplayer mode pressing `SEQ`

❹ Turn the ● to find a free Song place (discernible behind the Song number there is no entry on the buttom line; on the first five Song places you will find replacable demo titles which are MULTIFiles, containing Audio files) and confirm with `ENTER` . The arrow in front of the Song number will turn black.

❺ Press `DRVE` , `8` »CD« and `1` "A:" to call up the the floppy disk drive.

❻ Press `DRVE` and `1` »LOA«. The MULTIPLAYER shows the directory of the floppy disk. Now you can select via ● your desired Song and start the loading process with `ENTER`.

❼ The Song stays now in the internal memory. Pressing `▶` the bar counter should start running and you should hear your first song played back!

If not please control the output assign (see page 65, if the song is really sent to a connected sound module), or, if the LED over the PLAY button doesn't flashes, the synchronisation (see page 64, if it's set to external Midi clock) or, if you can read instead of PLAY REC in the right lower corner check the Recording settings (see page 59).

1.1 Select a Song

1.1.1 Selecting a new Song memory place

❶ Press **SEQ** to switch into the Sequencer mode.

❷ Choose the Song memory place into which the Midifile shall be loaded. Use ●, or the numeric keys **0** to **9**, and press **ENTER** . The arrow in front of the "S" turns to black.

> ⧖ If there is no song on that memory place you will find a blank line.
>
> If there is already one stored on this Song memory place the depending Song will immediately be loaded and be ready for playback (indicated with the bar counter, too).
>
> If there is one Song stored on this place, but the medium on which that file should stay is not ready, you get an error message.

1.1.2 Switching Songs via MIDI

All the 128 Song memory places in a Song Bank (this works, of course, even if you have changed the Song numbering mode! see page 39) can be called up using the "program change" message via any MIDI input, as well as from each MIDI channel. The different Song banks can be switched via different MIDI channels, or via the „bank select" message (controller no. 0). (RMT, see page 102). The remote settings have to be activated in the Matrix mode.

1.2 Select a Song Bank

The numbering of Song banks is similar to that of Matrix banks, but their organisation is quite different. The basic concept is: only one song may run at once! For this reason there is only one Song group (Remember: only one Bank can be active per Group). However, to keep the Song performance as flexible as possible, instead of eight Banks, the Song Group has 56, each with 128 Program memories. This gives a total of 7.168 Songs, which should be enough for every conceivable application. If not you just open a second ASSIGN, in which you have the next possible 7.168 entries ....

↘ Press **SEQ** to switch into the Sequencer mode.

↘ Press **BANK**.

```
No.: 65  66  67  68  69  70  71  72    G=S
Name:S1A
```

The Bank select menu appears; the LED for the active Bank lights up. Banks 65 to 72 are assigned to the number keys (**1** to **8**). In the top right the display shows that the Song Group is being selected (G=S). Using ● the next Banks are displayed.

❶ Select a Bank using the number keys. The display immediately returns to the top level.

❷ Select a Song memory place using ●, or the numeric keys [0] to [9], and press [ENTER] to activate it. The arrow in front of the "S" turns to black.

⧗ To create a new Bank press one of the number keys above which there is no Bank number. After a dialog window has been answered with "YES" a new Bank will be created. The Song number flashes, and can be selected via ●, the numeric keys [0] to [9] and [ENTER].

1.3 Load a Song

See Chapter "9.2 Load songs, matrix programs, waves (LOA;LDB;LOA)", page 20. If you load a song on a Song memory place while there is already one entrance, the "old" song will be replaced. The Assign will automatically be actualized.

CAUTION: All settings of the Performance mode are settings on the memory place, and still active on the new song!

1.3.1 Loading a Song during playback

You can load individual Songs into memory (into Program memories without Assignment) even while a Song is playing back:

❶ Select a Song memory place using ●, or the numeric keys [0] to [9], into which the song will be loaded. In this case though, please do not press press [ENTER] yet.

❷ Double click on [DRIVE].

❸ Find the required song using ● and press [ENTER]. When the song has finished loading, the display will return to the song currently playing.

⧗ This function allows to load songs on the spur of the moment if they are not in the current Assignment (such as songs on a floppy disk, with a different Assign file ...)

1.4 Like a CD player ...

A song can be started or stopped by hand using the keys [►] and [■], or using the footswitch(es). You can step (not during a playback of a song) to the previous or to the next song in an Assign using the keys [◄◄] and [►►]. In this case the song will be selected and immediately be loaded to get active. You can break the playback of a song using [II]. In short – the Sequencer can be handled like a CD-player.

2. File Assignment (ASG)

„File Assignment" is one of the key functions of the MULTIPLAYER. Conventional sequencers only allow access to one or a few songs at once, whereas the MULTIPLAYER can handle a vast number at a time, and, depending on memory size, hold large numbers of them in memory simultaneously.

File Assignment functions are used to allocate Songs to Program memories. Here you find a tool to

> ➢ sort your songs in your personal order,
> ➢ call them up via a Song number or MIDI,
> ➢ to load them very quickly from harddisk without having to find them first,
> ➢ keep generally tabs on everything.

A "Song" in the MULTIPLAYER can even be a single note, a phrase, a sysex file ...   which you can call up in the right situation.

2.1 The Assign file

The Assign file is a list of Songs (including all settings as transposition, loop points, output assignments ...), Jobs and Waves.

If there is an Assign file named "ASSIGN.ASG" on the root directory of the hard disc drive, the MULTIPLAYER will automatically boot the Sequencer with this one.

The follwing data are saved in the ASSIGN:

> ➢ user defined output settings (DOA)
> ➢ all program numbers to which a Song has been assigned
> ➢ file names and storage path of the assigned songs (PTH)
> ➢ song names, as shown in the display (NAM)
> ➢ the key assignments of the Waves from all eight Wave Banks
> ➢ file names and storage path of the assigned waves
> ➢ the output routings for each track of the Song (OUT)
> ➢ the cue points (SP1-SP4) and loop-setting (active/not active)
> ➢ transposition of this Song memory place

⧗   The ASSIGN file can be edited on a personal computer (see Appendix G).

2.2 File work with the Assign file

When the MULTIPLAYER is first switched on, it will boot with an Assign containing no entries, or, if the factory demo Assign file (named ASSIGN.ASG) resides on the internal drive, with the MULTIFiles demo Assign.

Whenever you switch on the MULTIPLAYER it will scan the drive for the file with the name "ASSIGN.ASG" and automatically load it. All program numbers will then show the file names of the songs assigned to them, and also the assigned Waves appear at the corresponding note numbers in the Wave display. If there are any Songs included with Song names (written into them via a software-sequencer or the NAM function of the MULTIPLAYER) instead of the file names these special names will appear in the display after the selection of a song.

2.2.1 Load new Assignment (LOA)

If there are one or more Assign files on the drive, yet none of them named "ASSIGN.ASG", or if you wish to use a different file as the automatic (self loading) one, or if the MULTIPLAYER didn't boot with the Assign (malfunction, raising DLY could be helpful, see page 38), you can load an Assign file by hand.

↘ Press `SEQ` and `ENTER` to switch into the "<Sequencer>" menu.
↘ Select `4` »ASG«.

```
File Assignment
TMR   LOA MER SAV        PTH ASG MOV CLR    →
```

❶ With `1` » LOA« and the data wheel ● you can select your Assign file.

❷ If you want to change the drive now just press `DRIVE` and select the drive.
❸ If you see the name of the ASSIGN in the lower line confirm with `ENTER`.
↖ With `EXIT` you leave the function.

WARNING:
This will automatically erase all Songs in memory (not a drive!)

Loading a new ASSIGN (or reload the actual one) will erase all Songs from the MULTIPLAYER's internal (temporary) memory. This means you could actually use it as a "Remove all Songs" function, too.

2.2.2 Merge Assignment (MER)

This function allows to add an Assignment from disk to the one in the temporary memory of the MULTIPLAYER, thus creating one complete Assign from two partial ones.

↘ Press `SEQ` and `ENTER` to switch into the "<Sequencer>" menu.

↘ Select `4` »ASG«.

```
File Assignment
TMR  LOA MER SAV     PTH ASG MOV CLR    →
```

❶ With `2` » MER« and the data wheel ● you can select the required Assign file.

❷ If you want to change the drive now just press `DRIVE` and select the drive.

❸ If you see the name of the ASSIGN in the lower line confirm with `ENTER`.

↖ With `EXIT` you leave the function.

IMPORTANT:
The unit will always give priority to the Assignments loaded from disk over those in its internal memory. If you need to get around this, save the Assignment in memory first under a new name, then load the other Assign file, and finally call up the Merge function and merge the file you just saved under the new name. Of course, the priorities will now be the other way round!

2.2.3 Save Assignment (SAV)

To fix all your settings of the session concerning the Assign (see page 49, "2.1 The Assign file"), which stay at this moment in the temporary memory of the MULTIPLAYER and would be lost after switching the unit off, you should use this function. To get them back later you will save them as an "ASSIGN FILE". Everytime using this function all entries of the Assign are saved together!

↘ Press `SEQ` and `ENTER` to switch into the "<Sequencer>" menu.

↘ Select `4` »ASG«.

```
File Assignment
TMR  LOA MER SAV     PTH ASG MOV CLR    →
```
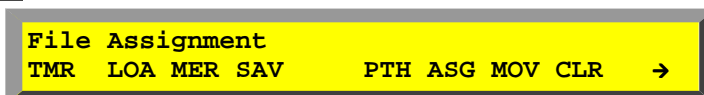
❶ Press `3` » SAV« and the default name "ASSIGN.ASG" appears in the display.

❷ If you want to change the drive just press `DRIVE` and select the drive, if you want to place it into a folder select this via ● and `ENTER`. If there is already an Assign file with the same name on disk which you don't want to overwrite (= erease while overwriting) just press `CURSOR` and give a new name (see page17).

↖ With `EXIT` you leave the function.

⌛ We strongly recommend to save a backup copy of the Assign file under a different name from time to time – a story has been told of someone who deleted his 3000 Song Assign file by saving an empty one with the same name ...

2.2.4 Showing the storage path of the current entry (PTH)

This function displays which file (SMF or Audio file) refers to the selected Song memory place and on which position on which drive you can find it. This can be helpful with messages e.g. „File not found" or to control the position of a file.

For Songs and JOBS:

↘ Press `SEQ` and `ENTER` to switch into the "<Sequencer>" menu.

↘ Select `4` »ASG«.

❶ Press `5` » PTH«.

```
B:\_T_\TEST.MID
```

and the search path will be displayed

For WAVES:

↘ Press `WAVE`.

↘ Select via ● the Audio file and press `ENTER`.

❶ Press `7` » PTH«.

```
B:\_T_\AUDIO.WAV
```

and the search path will be displayed

2.3 Functions of the Assign menu

2.3.1 Assign to file (ASG)

This function allows to allocate a Song memory place to each song just by using the file names, without loading the song into the internal memory. This function is used to produce Assigns pretty fast without doing any settings. This is work for a later session. E.g. you can use this function as preliminary work just to sort all your files into an Assign. ***Don't forget to save your new Assign!***

↘ Select a Song memory place. Press `SEQ` and `ENTER` and select `4` »ASG«.

❶ Press `6` » ASG«. and select the Song using ●.

```
B:\_T_\*.MID
JINGLE1.MID        2k        [assgn]
```

❷ Press `ENTER`. This confirms the assignment, and the Song is given the Song memory number. (If you want to load the Song now just double-click `DRIVE`)

❸ Select another Song memory number and repeat the above procedure until all Songs are assigned.

2.3.2 Move a Song in the assignment (MOV)

All settings assigned to a Song memory place can easily moved to another. The procedure just changes the two selected Song places. On this way you can sort your Assign without any late consequences as often as you want. ***Don't forget to save your new Assign!***

↘ Select a Song memory place. Press [SEQ] and [ENTER] and select [4] »ASG«.

❶ Press [7] » MOV«.

```
Move S1A  1 Test1
 To: ➡S1A  1 Test1
```

❷ and select Song memory place to change with using ●. If needed you can change the Bank as usual.

❷ Confirm with [ENTER] and the MULTIPLAYER turns back to the top level and the selected Song memory place.

↖ With [EXIT] you leave the function.

2.3.3 Clear Assignment (CLR)

This function cancels the assignment of one Song memory place includimg all settings and removes the Song from memory. Use this function to remove a Song (which is still available on the storage drive) from your playlist. ***Don't forget to save your new Assign!***

↘ Select the Song to be canceled, press [SEQ] and [ENTER] and select [4] »ASG«.

❶ Press [8] »CLR«.

```
Clear Assignment?
➡S1A   1 Test1                   001.01.0001
```

↘ If you want to clear another Song memory place you can select it via ●.
↘ With [ENTER] you cornfirm and leave an empty Song memory place .
↖ With [EXIT] you cancel the function.

2.3.4 Delete Program (DEL)

This function works the same as »CLR«, since this function moves all following Song memory places one Song number lower without leaving a space. This will only be done until the next free Song memory place! ***Don't forget to save your new Assign!***

↘ Select the Song to be canceled, press [SEQ], [ENTER], [4] »ASG«, [9] » ➔ «.
↘ Press [1] »DEL« and the MULTIPLAYER immediately executes the function.
↖ With [EXIT] you can abort the function.

2.3.5 Insert Program (INS)

This function works opposite to »DEL«, since this function generates an empty Song memory place at the selected position and moves all following Song memory places one Song number higher. This will only be done until the next free Song memory place! *Don't forget to save your new Assign!*

↘ Select the position where a free Song memory place shall be created, press `SEQ`, `ENTER`, `4` »ASG«, `9` » ➔ «.

↘ Press `2` »INS« and the MULTIPLAYER immediately executes the function.

↖ With `EXIT` you can abort the function.

2.3.6 Sort Programs alphabetically (SRT)

Songs can automatically be sorted with this function in alphabetical order on the Song memory places. All Song numbers in the area around this Song memory place until the next higher and lower space will be touched by this function. Value for the sorting are the file names – not the self given names! *Don't forget to save your new Assign!*

↘ Select a Song in the area to be sorted. Press `SEQ`, `ENTER`, `4` »ASG«, `9` » ➔ «.

↘ Press `3` »SRT« and the MULTIPLAYER immediately executes the function.

↖ With `EXIT` you can abort the function.

2.3.7 Default Output Assign (DOA)

When you load a Song onto a free Song memory place the MULTIPLAYER automatically assigns MIDI outputs (default assign for the MP 88-W = MIDI output 1/2/7/8, for the MP 22-W = 1/2/3 ...). With this function you can set your personal "Default Output Assign". If you have always the same track number to assign to a specified MIDI output you can automize it with this function!

<u>Defining an User Output Assign:</u>

❶ Enter your personal Output Assign to a Song using the function "Output Assignment" (see page 65) or select a Song memory place wearing such an Output Assignment.

↘ Press `SEQ`, `ENTER`, `1` »ASG«, `9` » ➔ «.

↘ Press `4` »DOA«.

```
Default Output Asg.
 TMR CLR DEF ALL
```

❷ With `2` »DEF« the Output Assign of the actual Song memory place will be stored as the new Default Output Assign. Each Song you now load on a new Song memory place will have this output Assign.

<u>To copy the User Output Assign to all Songs of a Bank:</u>

↘ Press `SEQ`, `ENTER`, `1` »ASG«, `9` » → «.

↘ Press `4` »DOA«.

```
Default Output Asg.
 TMR CLR DEF ALL
```

❶ With `3` »ALL« "Apply DOA to entire bank" this Output Assign will be placed on all Song memory palces of the complete Bank.

<u>To clear an User Output Assign:</u>

↘ Press `SEQ`, `ENTER`, `4` »ASG«, `9` » → «.

↘ Press `4` » DOA«.

```
Default Output Asg.
 TMR CLR DEF ALL
```

❶ With `1` »CLR« "Clear user's DOA" this Output Assign will be cleared and the MIDITEMP's default Output Assign is valid again.

⧖   The Default Output Assign is saved with the Assign file. Loading a new Assign file with another Default Output Assign will erase and replace the existing one!

2.4 Working on the Assign file in your computer

The Assign file is saved on disk in ASCII format. This means it is feasible to edit it using any word processor capable of loading and saving ASCII files. It is even possible to write your Assign completely from scratch of the word processor, and save it to disk as an ASCII file with the extension ".ASG" (provided you feel confident that you understand the layout of the Assign file. It's quite simple really) See Appendix G "Format of the Assign files".

❶ Save or copy the Assign file onto a floppy disk (or use the SCSI interface for transferring it).

❷ Load the Assign file into your word processor as an ASCII text file and work on it using any options you have there (cut and paste, copy, insert ...)

❸ Save the file back onto floppy disk as an ASCII file and load it into the MULTIPLAYER as the Assign file (or use the SCSI interface for transferring it).

2.5 Automatic loading of Songs with Assignment

The informations in the display will tell you which of the following applies to each Song memory place:

➢ For a Song memory place without an Assignment, and which has no Song loaded into it, you will see only the Program number next to the Bank number.

➢ For a Song which is in the Assignment, but which has not yet been loaded, you will see the name of the Song next to the Program number.

➢ For a Song which has been loaded, you will see the Program number, the Song name and the bar counter.

⧖   This and the following functions can only be used if an Assignment has already been created or loaded. See "The Assign file", page 49.

2.5.1 Loading a single Song within the Assignment

Using ●, select the required Song name, and press ENTER. The Song is found on the storage device and loaded immediately. If the Song could not be found (e.g. when it is not residing on the inserted disk), the Song can be loaded manually by double-clicking DRIVE after inserting the appropriate disk or after changing the directory path. The right storage address you can figure out using the »PTH« function (see page 52).

2.5.2 Loading all Songs of an Assignment (LDA)

This function comes from the very first MULTIPLAYER generation and a time when hard disc drives had been immense expensive. It is only important for the use with floppy disks. It entalls to load all registered Songs of an Assign into the internal memory (which worked in former times with some dotzend songs, but today with some hundred Songs it does not make that sense). If you really entend to work with this function here some hints:

⧖   Calling up the »LDA« function entalls to load all Songs of the current Assign (which will be found) into the internal memory. The function stops automatically if the memory is too full to load more Songs. You can also stop manually by pressing EXIT.

If the Songs are more than one floppy disk, you must run this function again after each disk change. The MULTIPLAYER will look for Songs which have not yet been found.

If you can't fit all the Songs in memory at once, select a higher Program number in the display when you load more, just before calling up the function. Program numbers lower than this will then be ignored.

2.6 Automatic erasure of Songs from internal memory

When loading extra Songs into memory, sometimes you will not have enough memory space to proceed. You will need to erase some Songs from memory first.

In these cases the MULTIPLAYER will automatically erase Songs which have already been played:

☞   The search begins at Song 1.

☞   A Song is counted as "played" as soon as it has been started at least once.

☞   Songs which are not involved in a currently active Job are erased first.

☞   A Song which has not yet been played will never be erased automatically.

☞   Automatic erasure cannot be turned off.

⧗   If you do not wish Songs to be erased automatically, you must check before loading that you have enough memory left for the Songs you need – erasing Songs manually if necessary. Bear in mind you can expand the memory of a MULTIPLAYER up to 16 Mbytes. This could alleviate any problems caused by automatic erasure.

2.6 Erasing an Assign file from disk (ERA)

3. Sequencer functions

3.1 Recording a Song

The STANDARD MIDI FILE format (SMF), which practically all software sequencers offer as an option, and which the MULTIPLAYER uses permanently, is very useful in several contexts. It developed as the most uncomplicated method for the transport of Songs between different devices of any manufacturer.

Unfortunately, however, the format does not cater for certain individual characteristics of particular sequencers. In addition, not all sequencer manufacturers use the format to the full. If your Songs have a degree of complexity which goes beyond the scope of the SMF format, then playback of those MIDI files may not give exactly the same results as playback in your sequencer's normal file format. If this happens, simply play your sequencer and record the Song via the MULTIPLAYER's inputs.

3.1.1 Resolution (Division) (DIV)

↘ Press SEQ and ENTER, double-click 9 »→ «.

↘ Press 1 »DIV«.

```
Set Division:     = 1/1536   [SONG]
```

❶ Using ● select a note division. Choose between: 1/96, 1/192, 1/384, 1/768, 1/1536.

When MIDI files are played back the resolution of the data track is read and adopted. The resolution of a Song which has already been loaded cannot be subsequently altered. In this case the word »[song]« will be displayed in square brackets after the value.

> ⧖ A 1/768 note corresponds to a resolution of 2.6 ms at a tempo of 120BPM. At this or higher tempi this resolution is quite sufficient, since it exceeds the data transmission speed of MIDI (one ms per event) as soon as three simultaneous notes (e.g. a chord) are sent. At the highest resolution (1/1536 note), and a tempo of 156BPM, the technical limits of the MIDI standard are reached (one ms per played and transmitted note). Some sequencer programs use even higher resolutions. The MULTIPLAYER will play back these files accurately with resolutions up to 1/1920 note, provided the information is stored within the Song. Such high resolutions are only useful in fairly slow Songs with unquantized tracks.

3.1.2 Record Song (REC)

① Connect the MIDI output(s) of your sequencer to the MULTIPLAYER′s MIDI inputs.

⌛ If your sequencer uses more than one parallel MIDI outputs, you can connect them to the MULTIPLAYER′s MIDI inputs. The MULTIPLAYER will then record as much tracks at once as connections are used.
For playback with the MULTIPLAYER these tracks must then be assigned to the outputs on the Output Assignment page, otherwise all tracks will be sent via all MIDI outputs simultaniously.

② Activate a free Song memory place (see page47).

↘ Press `ENTER`, and call up `1` »REC«.

❶ Use the number keys to select the MIDI inputs which you have connected, or want to record from. The LED′s on these keys will light up.

↖ Leave with `EXIT`.

↘ Press `ENTER`, and call up `2` »SYN«.

❷ Using the number keys for the MIDI inputs, select the type of synchronisation required ("internal" or "MIDI Clock")

⌛ We recommend external synchronisation via MIDI Clock when transferring complete Songs. To use this method the sending sequencer must be capable of sending a START command, and MIDI Clock signals when it runs. If this is not the case, you can use internal synchronisation, and designate a MIDI output to send MIDI Clock with which to synchronize the sequencer. For this to work you would have to connect the designated MIDI output to the MIDI input of the sequencer, and make sure that the sequencer′s MIDI Thru function is switched off! In the majority of cases, however, this will not be necessary.

↘ Press `ENTER` and `PERF`.

❸ Press `8` and select via ● the required tempo. At this tempo the Song will be played back later.

⌛ You can change the tempo later using the "Tempo" function (see page 72). If you record via external synchronisation, the Tempo will be calculated automatically of the received MIDI Clock impulses.

❹ Quit Performance mode by pressing `EXIT`, and start the sequencer (external sync), or press `►` to start the MULTIPLAYER (internal sync). Recording starts, the Song status display shows "REC", and you can let the Song play through to the end.

❺ In internal sync you can stop recording by pressing `■`. In external sync it will stop automatically when the sequencer sends a MIDI Stop command.

IMPORTANT:
You must confirm acceptance of the newly recorded tracks by calling up the "REC" function again!

❻ To do this, press `SEQ` and call up with `ENTER` and `1` »REC« the function again.

```
02 tracks recorded - append to Song?
```

❼ Press `ENTER`, if you want to keep the just recorded tracks in memory. (See also below "3.1.3 Permanent Record")

❽ Set synchronisation back to "Internal" if you want to play the song back.

3.1.3 Permanent Record

The MULTIPLAYER makes no distinction between its play and record functions. Even during playback, it will record incoming data, so long as inputs have been selected for recording within the "REC" function window. After stopping the Song, if the data is to be kept, simply call up the "REC" function again and confirm the recording.

> ⧗ Permanent record is brilliant for those situations where, e.g., you have just played a superb solo and want to keep it or, if you have a digital mixer in use, you want to place an automatisation manually. In this case you can confirm your acceptance and save the Song. The record process does not compromise playback in any way, and is well within the MULTIPLAYER's capabilities. If you have enough spare memory, this is actually the best and easiest way to proceed. (see "Keep tracks", page 61)

While a Song is playing back, the MULTIPLAYER records any data received at the designated MIDI inputs until the Song finishes or the internal memory runs out.

Any tracks which are not "kept" are automatically erased either when the Song is started again, or when you select a different Song.

3.1.4 Recording MIDI Events (SysEx, PC, CC ...)

As well as notes, other MIDI data can be recorded and organized in tracks. Such data might include, e.g., Program Change messages, which select the sound on your synthesizers and expanders before the Song starts, or SysEx information, which contains all the necessary internal sound parameters for any synthesizers or modules in the system.

There is a special way of recording tracks which are to playback right at the beginning of the Song and contain no notes (Program Changes, Control data, etc.):

① Set synchronisation to "MIDI Clock" (external)

② Press `▶` to start the Song manually. In this case the MULTIPLAYER will not receive the MIDI Start signal, which means it will stay on the first beat, yet it will still record.

③ Play in all the SysEx data, Program Changes, MIDI Volume etc., and stop the recording by pressing `■`.

④ Confirm the recording with the "Keep Tracks" function (see next page). You can now assign the new tracks to the correct outputs using the "Output Assignment" function (see page 65).

3.1.5 Track numbers

If, for example, you make a recording using MIDI inputs 2 and 8, input 2 is the first recorded track, and is therefore track 1 ("`Track 01`"). Input 8 is the second track, i.e. "`Track 02`". If you then add more tracks to the same Song, the new track from input 2 becomes track 3, and the one from input 8 is track 4, and so on. The tracks are also given names which show the input used.

The number of tracks created during each recording is determined by the settings in the RECORD window, and wether or not MIDI data is actually received (see following section).

> ⧖   When making a recording, if no data is received at one of the MIDI inputs (even it has been activated in the "REC" window), a track will not be created for it. When recording additional tracks into an existing Song, instead of "`REC`" the word "`PLAY`" is displayed.

3.1.6 Keep tracks (REC)

① *Immediately after recording, call up the "REC" function again. A display appears showing how many tracks have been recorded:*

② *Press* `ENTER`*. The new tracks have now been accepted, or "kept". If you do not do this the Song (or at least the new tracks) will be lost with the next Program Change (see "Permanent Record", page 60).*

③ *Now save the new, or altered, Song to disk.*

3.1.7 Naming tracks (NAM)

This function is for all those, who prefer a more predicatory name for a Song than the file name (e.g. "`Livin' la vida loca`" instead of "`LIVIN.MID`"). It does not affect the file name! You can reach this within to a maximum of 20 characters.

> ⧖   This way, you can store an additional information for your live play in the display (e.g. "Loop T26", or for those easily forgetting the key: "Gmj").
> If already a name is displayed (e.g. an information fixed by the software sequencer: "demixed") you can change it with this function.
> If you store the Assign file while the name is displayed, it will be taken and by searching through the Song memory numbers they will be displayed (if not, you first get the file name, and after the confirmation the "long name" will be displayed).
> In "Track 00" you store a Song name, but for clearance in your arrangement you can name all the tracks of a Song, too, which will be displayed using the "Output Assign" function.

↘ Press `SEQ`, `ENTER` and `9` »➜«

↘ Select `2` »`NAM`«. Now you reach the display:

```
Trk=00 no_name
Select track
```

❶ Select the desired track via ⬤ and press `ENTER`.

❷ Enter the desired name for the track (see page 17).

❸ Confirm the name with `ENTER`.

❹ Repeat step ❶ to ❸ for all tracks you want.

↖ Leave the function with `EXIT`.

> ⧗ You don't see the new given name directly. First you have to save the song (see page 21). After a reload (double-click on `DRIVE`) the new track name appears in the display!
> After this procedure the entrance in the Assign has changed. To hold it save the Assign file (see page 51).
> To change the Song names for a huge number of files we recommend to do this with a text editor in a personal computer (see Appendix G "Format of the Assign files", step [N:<Song name>]

3.1.8 Couple Matrix Program with Song (MXP)

You can couple each Song individually with a Matrix Program, which will be activated with the Song selection.

↘ Press `SEQ`, `ENTER` and `9` »➜«

↘ Select `3` »NAM«. Now you reach the display:

```
Matrix= (none)
    CLR SEL
```

❶ With »CLR« or »SEL« you can change the Assign:

   ♦ »SEL«   select a Matrix program or change the actual assign
   ♦ »CLR«   clear the actual assign

3.1.9 Outset of the Loop function (LOP)

For each Song you can store with the Assign wether the loop function by activating a Song memory place is active or not. You can either use the LOP function, or change into the Performance mode and activate the loop; don't forget to save the Assign file.

3.1.10 Configuration menu (CNF)

This function is identical with the result of a double-click on `SEQ` or `MATR`.

3.2 Dump functions

3.2.1 Universal Dump

This function allows you to store, manage and transmit tone parameters and other System Exclusive information. The great thing about the MULTIPLAYER's universal dump facility is that you don't notice anything unusual or different about the handling of these files.

➡ *SysEx files are handled in exactly the same way as Song files.*

In practice this means as far as the MULTIPLAYER is concerned, it makes absolutely no difference whether the file which is being recorded or played back is a Song or a sound bank. All of the MULTIPLAYER's facilities can therefore also be used when organizing SysEx data.

Of course, it is also possible to combine song and SysEx data in one file. A single file also could hold sound banks for all the instruments which are connected to the MULTIPLAYER's MIDI outputs. Using all eight parallel outputs of an MP 88-W you can send SysEx data to eight expanders simultaneously. Like normal Songs, these files can be called up via MIDI, by footswitch or directly, or integrated in Jobs.

① Set up the recording as if you were about to record a Song (see page 59).
② If you wish to record System Exclusive data only, it is enough to select the inputs for recording. Tempo and time signature settings are meanless here. You may also choose either synchronisation method, but remember to start the MULTIPLAYER manually (press "START"), even when using external sync ("MIDI Clock"), because your synthesizer will not issue a START command when you ask it to dump its data.
③ Start the dump function on your MIDI instrument.
④ If you have several instruments connected to the active inputs you can save their data at the same time. Activate the dump function on each in one turn.
⑤ When all the dumps are completed, call up the RECORD function again and press `ENTER`, to keep the recorded data.
⑥ Use the Output Assignment function (see page 65) to send each track to the correct output, so that the SysEx goes to the correct expander!

3.2.2 Dump Request

Some MIDI instruments will dump their data when they receive the correct command via MIDI, making manual dumps unnecessary. This type of command is called a "Dump Request" and there can be several different varieties. The format of the correct command for each of your instruments will no doubt be found in the owner's manual. Take a closer look at the "Send Data" Matrix functon (see page 100), which allows you to program and store any Dump Request commands you need.

### 3.2.3 Saving, Loading and Sending Dump Requests

The operation for saving, loading and sending SysEx files are exactly the same as for Songs. They are sent with "PLAY", received with "REC", and moved to and from disk with "LOAD" and "SAVE". The names of these files also wear the ".MID" extension.

3.3 Synchronisation (SYN)

Every time you have to record or playback datas from/to another device (e.g. software sequencers, hardware sequencers, any device controlled with SysEx data strings etc.) you have to synchronize the MULTIPLAYER with this unit. The sending unit is named "master", the receiving (following) unit "slave".

### 3.3.1 Inputs

↘ Press [SEQ] and [ENTER].
↘ Press [2] »SYN«.

```
SYNC: Internal                  1:
   (1)    2    3    4    5    6    7    8
```
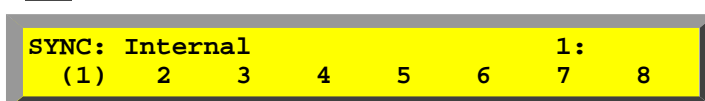
❶ Select MIDI input using [IN].

❷ Using the number keys [1] to [8], select the connected MIDI inputs in which you want to activate or deactivate external MIDI Clock reception.

❸ Pressing [ENTER] or the corresonding number key will toggle between external and internal synchronisation. The selected input will now receive externally generated MIDI Clock and START/STOP/CONTINUE commands. During external synchronisation using MIDI Clock tempo will be dictated by a device connected to this input.

> ⧖ When using "internal" sync, Song will be played back at the MULTIPLAYER's internal tempo. In this case the selected input will ignore the incoming MIDI Clock, yet will still react to any START/STOP/CONTINUE commands.

3.3.2 Outputs

↘ Press [SEQ] and [ENTER].
↘ Press [2] »SYN«.

```
SYNC: Internal                  1:
   (1)    2    3    4    5    6    7    8
```
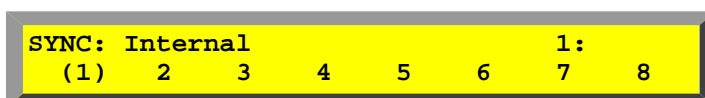
❶ Select MIDI output using [OUT].

❷ Using the number keys [1] to [8], select the connected MIDI output in which you want to activate or deactivate external MIDI Clock transmission.

❸ Pressing [ENTER] or the corresonding number key will toggle between external and internal synchronisation. Internally generated MIDI Clock and START/STOP/CONTINUE commands will now be send from the selected output. When synchronizing external MIDI devices using MIDI Clock, the tempo of these devices will be dictated by the MULTIPLAYER.

3.4 Output Assignment (OUT)

This function allows you to assign whole Songs or individual tracks to the MULTIPLAYER's MIDI outputs. In this way you can split the data from the 64 possible tracks across the disposal MIDI outputs in any way you choose. And this individually for each Song memory place in an Assign! These patches are then saved in the Assign file by using "Save Assignment" (see page 51).

Everytime you load a Song into a Song memory place the MULTIPLAYER automatically assigns the tracks to those MIDI outputs defined in the "Defaull Output Assign" (see page 54). If you still use the factory default (which is only intended as a test set-up) you should find the settings: for the MP 88-W 1/2/7/8 (MP22-W on 1/2/SC).

Assigning individual tracks to separate outputs is heartly recommended. You will improve the timing of you MIDI data on playback (since all tracks, and all MIDI channels are played on all outputs) because the mass of data is divided between several output ports and Soundgenerators.

If you use Songs which are in the MIDI file format, up to 16 tracks are automatically available. In most cases, using SMF's is the easiest way of working. If you buy ready-made Songs, you should be able to simply load and play.

There are two formats used by the SMF's: SMF0 and SMF1. The difference is an SMF0 organizes all MIDI channels to one track – SMF1 uses for each MIDI channel a seperate track (or maybe several tracks for one MIDI channel [e.g. it makes sense to divide a drum track on channel 10 (GM) up to several drum instrument tracks to send each to an individual Sound device]). The track names (if there are any) you can read with this function
Each manufacturer of SMF's offers the possibility to order the Song as SMF0 or SMF1!

THERE IS NO WAY TO CONVERT SMF0 INTO SMF1 WITH THE MULTIPLAYER!

On the other hand, if you are transfering a Song from an external device, and it contains more than 16 tracks, there is often far more work involved in converting it to a MIDI file than simply playing it across via MIDI. There are also sequencers which do not make full (or indeed any!) use of the MIDI file format. Since splitting the data into tracks is not nearly so important in the MULTIPLAYER as it is in a software sequencer, we heartly recommend playing in via MIDI.

If the whole Song has been recorded on one input, you can simply assign the whole track to one output. Since track information is not included in MIDI, a Song which is recorded all in one go consists of a single track.

If you would like to assign different tracks of the Song to different outputs you will need to record each of the tracks seperately (mute the tracks to be separated, then play the Song in; unmute these tracks and mute the rest of them, then play again ...). If your sequencer has more than one MIDI output you will cut down the number of recordings required.

3.4.1 Procedure

↘ Press `SEQ` and `ENTER`.

↘ Press `3` »OUT«.

```
Track 01 STREICHER
TMR     1    2    3    4    5    6    7    8
```

♦ In the upper line the track is shown. For Songs recorded into the MULTIPLAYER you will also see the record input and its name, for Songs loaded from other sequencers the track name (if stored with) will be shown.

♦ "Track ALL" indicates a complete Song (all tracks). Any assignment will affect all tracks at once.

♦ "Track 00" is a data track which will normally contain no note information. It is not necessary to assign this track. Most sequencers (including the MULTIPLAYER) use track 0 for tempo change, time signature, the Song name and other similar data.

♦ "Track 01" to "Track 64" are the numbers of individual tracks. The track numbers either have not to correspond to the MIDI channels or to the numbering of your sequencer.

❶ Using the ●, select all tracks (Track: ALL) and assign this to the required outputs using the number keys. The relevant LED's will light up for each output. To assign tracks individually it is a good idea to delete the "TRACK: ALL" assignment. This will mean the whole Song is temporarily not assigned to any output – i.e. it is muted.

❷ Using ●, select a track. Using the number keys, switch the required output(s) for that track on or off. The relevant LEDs will light.

❸ Repeat step ❷ until all tracks are assigned to one or more outputs.

↖ When all tracks have been assigned in this way, quit this function with `EXIT`. Using "Save Assignment" (see page 51) you can save the Output Assignments for each Song.

⌛ *Only using the SMF1 format you can assign tracks to individual outputs!*

Output assignments are not saved with the Song, but in the Assign file!

Output assignments are retained, even if you manually replace an occupied Song number with a new Song, which has not been entered into the Assign file in that place. The new Song will be played back using the Assignment for the Song normally occupying that space in the Assign file.

3.5 Remove Songs from memory (RMV)

The "Remove Song" function can be used to erase Songs from internal memory (see also "Load New Assignment", page 50). The Assignment of this Song memory place remains unaffected.

↘ Using the ● or the number keys select the Song to be removed and press ENTER.

↘ Press SEQ and ENTER.

↘ Press 7 »RMV«.

```
Remove Song from Memory?  (0=All)
➧S1A  1 Test1                001.01.0001
```

On this appearing question press ENTER to remove this particular. Pressing 0

```
Remove All Songs?
```
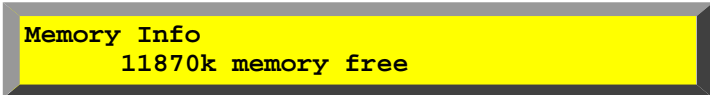
you can erase with ENTER all Songs remaining in the internal RAM (indicated with no bar counter on any Song memory place).

↖ Press EXIT or SEQ to abort the function.

3.6 Display remaining memory (MEM)

↘ Press SEQ and ENTER.

↘ Press 8 »MEM«.

```
Memory Info
      11870k memory free
```

The unit displays the free memory left for Songs and the Assign file (in this example the MULTIPLAYER is eqiped with a 16Mbyte Sipp module). Whenever a hard disk is used, after loading the Assign file the free memory space should be at least be sufficient for your most complex song. Please note that when loading the Assign file 1 kb of memory space will be reserved for each used Song memory place. The size of the Assign file displayed in the Disk directory therefore does not reflect the actual memory space needed!

The DRAM memory of MIOC devices can be expanded to 16Mbytes. This huge memory is particularly useful if

♦ you are not using a hard disc drive and want to have instant access to many Songs without changing floppy disks. The basic memory is 1Mbyte, which is generally (without using the Wave memory possibility) enough to hold about 20 Songs simultaneously, or around 130.000 notes.

♦ You are using a very big Assign file with over 900 Songs (and without using Wave memory).

♦ You want to have instant access to many wave files.

4. The Performance mode

Meanwhile the Assign is programmed at home the Performance opens a varyity of functions to affect the MIDI files in realtime. Press [PERF] to reach the main display

```
S1A  1 TEST.MID              001.01.0001
 TMR --- --- --- --- LOP TRP  ←□→  125
```
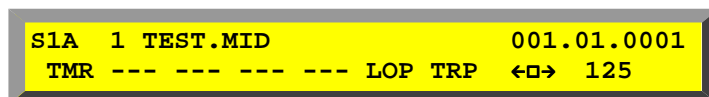
4.1 Bar counter (symbol ←□→)

In Preformance mode the bar counter appears in the top right of the display.

❶ Press [7] »←□→«

❷ Press keys [7], [8] and [9] to move within the display, and use ● to find the required position. The key allows you to alter the song position by bars (left), beats (middle) or ticks (right).

❸ Pressing [ENTER] the Song will immediately jump to the position you have set.

4.2 Repeat loops and markers (LOP; SP1-SP4)

One of the extraordinary functions of a MULTIPLAYER are loops. Up to four markers (SP1 to SP4; other names are Song pointers or Cue points) can be stored within one Song. The markers are stored in the Assign file. For each Song memory place they can be set seperately! They store bar positions to which you can make the Song jump at any time at a touch of a button. The markers and Loop function are particularly useful for spontaneous repeats of certain passages.

① Start a Song.

↘ Press [PERF].

❶ To memorize the markers, double-click on key [1] to [4] at the four Song positions which you need to mark – anywhere except right at the start of the Song (see note below). After a key has been used, the name of the marker (SP1 to SP4) will appear.

   The markers will always be set to the beginning of the bar following the double-click. If you press the key part way through a bar, the Song pointer will automatically be set to the beginning of the next bar.

   Song pointers can be erased when you stop the song, transport to the beginning (bar 1) and double-click the according Song pointer again.

❷ When you have set all markers you need, start the Song again.

❸ If you now select any of the Song pointers via the corresponding number key the Song will jump to the programmed position at the beginning of the next bar.

❹ Pressing key 〔 5 〕 (LOP) causes a passage of the Song between two markers to repeat until the Loop function is switched off again. The passage loops between the two markers either side of the current bar position.

⌛ You can program in the required bar position, or jump to the Song pointers while the Song is stopped if you prefer.

If you start the playback of a Song with activated Loop function the MULTIPLAYER runs over the first SP and toggles between SP1 and SP2!

❺ Since the Song pointers are not stored into the Songs but within the Song memory place you have to save your work with the Assignment! Therefore please use the function "Save Assignment" (see page 51) to save these settings.

4.3 GM Transpose of a Song (TRP)

With this function you can shift the pitch of a Song simply in semitones (-64/+63). Since this function in most cases is used with Standard MIDI files in GM/GS/XG format (MIDI channel 10 = the reserved main drum channel) this function does not affect the MIDI channel 10.

The value of the transposition is stored within the Song memory place. If you want to hold this you have to save your settings with "Save Assignment" (see page 51).

① Load a Song.

↘ Press PERF .

↘ Press 〔 6 〕 »TRP«

```
GM Transpose = 00
TMR --- --- --- ---   LOP  TRP  ←□→ 125
```

❶ Select the desired value (-64/+63) via ● .

↖ Leave the function with EXIT .

⌛ The GM Transpose function only affects the Song channels 1 to 9 and 11 to 16 – it does not affect any settings of the Matrix functions!

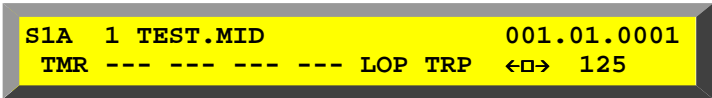These settings only affect this one Song memory place – and not any other!

If you just want to transpose temporarily on stage some semitones – don't save the Assign and the next time this Song will sound transposed as usual.

Working this way you can use the same Song file with different transpositions on different Song memory places!

If you transpose during the playback of a Song a "note hanger" could be produced. In this case just press 〔 0 〕 (TMR).

4.4 Tempo change (temporarily)

① Load a Song.

```
S1A  1 TEST.MID                001.01.0001
 TMR --- --- --- --- LOP TRP  ←□→  125
```

↘ Press `PERF`.

↘ Press `8` right below the Tempo display.

❶ Choose the desired tempo via ● and press `ENTER` or `8` again. If you are using external synchronisation, this setting is simply saved with the tempo which is displayed. However, playback tempo will always be determined by the incoming external MIDI Clock.

⧖ You can set the tempo in this window anywhere from 8 to 255 BPM in 1 BPM increments. For finer settings please read the following section.

The tempo set with this function cannot be saved within the Song or the Assignment. Please use therefore "4.5.3 Tempo Change"!

4.5 Edit functions (EDI)
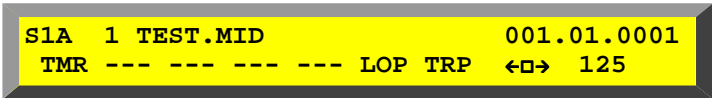
With the following functions you can edit a Song or Standard Midi File. Although these functions cannot rival with the tremendoues possibilities of a screen-supported software sequencer, they will be helpful for small change purposes. You can change Sound settings (Program Change, Control Change, Volume etc.) as well as Tempo settings or Time signature settings.

Since these settings affect the Song file directly, they have to be saved via the "Save Song" function (see page 21)!

4.5.1 How to reach the different edit functions
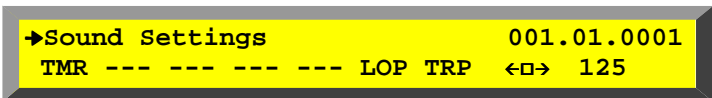
① Load the Song.

↘ Press `PERF`.

```
S1A  1 TEST.MID                001.01.0001
 TMR --- --- --- --- LOP TRP  ←□→  125
```

❶ Press `7` »←□→«

❷ Choose the Edit function `5` »EDI«.

```
→Sound Settings                001.01.0001
 TMR --- --- --- --- LOP TRP  ←□→  125
```

4.5.2 Editing the sound-parameters of a Song

↘ Press `ENTER` to enter the "Sound Settings" menu.

❶ Using the ● you can select a track.
   REMEMBER: The track numbers have not to be identical with the MIDI channel numbers!

❷ Using the number keys below the parameter shortcuts, or `CURSOR`, you can read or change the value.

❸ Using number key `7` you can choose a bar position to which a parameter change shall be send.

☞ **TRK**   Here you can select the track. Using SMF0 you cannot change the value 00 because those files exists just out of one track. As soon as the cursor flashes on the TRK-field the MULTIPLAYER displays the name of the track (if it is already named!).

☞ **CHN**   Here you can select the MIDI channel in a track. Usually it will be the originally fixed channel of the recored Song.

☞ **PRG**   Program Change command, which is programmed in this track in the selected MIDI channel. A "-" displayes there is no such value. Using `ENTER` you can set a Program Change.

☞ **VOL**   Displays the the Volume value (Controller 7), which is programmed in this track in the selected MIDI channel and stands at the with "Read" searched position. A "-" displayes there is no such value. Using `ENTER` you can set a Volume value.

☞ **#10**   With this function you can edit Control Changes. As default CC10 (Panorama) is selected. With `CURSOR` and ● you can change the position to select any other CC, using the ● you can change the value. A "-" indicates there is no such value. Using `ENTER` you can set a value.

☞ **CLR**   This helps to erase a setting. If the cursor defines a PRG, VOL aor CC every entrance on this track will be erased with the displayed value. In this case you will see the warning message "ok to remove?", which you have to confirm with `ENTER`.

☞ **Read**   With this function you can find the position (on which bar) and the value of a MIDI value on this track. Move the cursor on the requested data field and press `9` "Read". The actual track will then be searched for the requested MIDI function and the value with the corresponding bar position will be displayed.

4.5.3 Tempo change

When a recording is made into an empty Song memory via the MIDI inputs, or a Standard Midi File is loaded, tempo changes are recorded and stored in track 0. However, the MULTIPLAYER also has the facility to alter the tempo at any point in the song. In extreme cases this is the most precise way of doing it, because tempo changes via MIDI Clock always involve a certain amount of interpolation.

① Call up the "Edit" menu as written above.

↘ Select "+ Tempo Change" using the ● and confirm with ENTER.

❶ Program the desired tempo value (8 BPM to 255,9999 BPM). The cursor can be moved behind the decimal point using CURSOR.

❷ Pressing will insert the new tempo at the selected bar position.

❸ Repeat the above written steps if you wish to program more tempo changes.

↖ Quit this function by pressing EXIT ot the »EDI« key, which will bring you back to Performance mode.

4.5.4 Time signature

The time signature is really only relevant to the accuracy of the bar counter display. It makes no difference at all to the audible playback. Above all, if time signatures changes were originally programmed into the sequence, the false bar readings on playback can make life very confusing!

Time signature is one of the parameters which is stored within the MIDI Song file format, and should therefore come up properly anyway. If you are recording a Song into the MULTIPLAYER, the default time signature is "4/4". In either case you can change time signatures as follows:

① Call up the "Edit" menu as written above.

↘ Select "+ Time Signature" using the ● and confirm with ENTER.

❶ Program the desired value.

❷ Pressing ENTER will insert the new time signature at the selected bar position.

❸ Repeat the above written steps if you wish to program more time signature changes.

↖ Quit this function by pressing EXIT ot the »EDI« key, which will bring you back to Performance mode.

4.5.5 Delete tempo and time signature changes

① Call up the "Edit" menu as written above.

↘ Select "-All Signature Events" or "-All Tempo Events" using the ●.

❶ Press ENTER and a confirmation message "OK to remove?" will appear.

❷ Press ENTER to delete all tempo or time signature changes, or EXIT to abort the function.

↖ Quit this function by pressing EXIT ot the »EDI« key, which will bring you back to Performance mode.

5. Jobs

A Job is actually a string of commands which can be programmed by the user, and which the device carries out in order. It is the device's highest operation level, and (especially in live performance) largely does away with the need for manual operation.

One of the most useful facilities is that if Songs are often played in the same order, this can happen automatically (e.g. fashion show, entertainment shows, concerts ...). This leaves you free to concentrate on what is important – i.e. your playing! If you have done your Job programming carefully, on stage you can forget about the MULTIPLAYER as soon as you have switched it on. All you need to do is stamp on a footswitch ...

Matrix Programs can also be integrated into Jobs. Just like Songs, the names of Jobs can be entered into the Assignment, and stored on disk in the Assign file, which means that they can be called up using Program Change messages like Songs or Matrix Programs.

The actual commands in each Job are stored on the disk as files with the extension ".MPJ". The size of a Job is always 1Kbyte. Always make sure that these files are on the current disk, otherwise the Job cannot be performed.

Creating Jobs involves the use of a programming language. Actually it is really only a mini-programming language, which you will have no trouble mastering. It comprises ten commands which you already know.

5.1 Commands

The MULTIPLAYER makes use of the following commands:

☞ **1** MXP (activates a Matrix Program)

☞ **2** SQP (a Song memory place is called up and loaded)

☞ **3** FSW (waits for a footswitch press)

☞ **4** STA (starts the last Song to be called up in the Job chain)

☞ **5** WFE (waits for the end/Stop of the Job)

☞ **6** WFS (waits for a Start command)

☞ **7** CON (continues playback)

☞ **8** DEL (deletes a command event)

☞ ➜ **1** STO (stops the Song currently playing)

☞ ➜ **2** RND (randomize the sequence of the Songs in the running Job)

On the commands FOOTSWITCH, WAIT FOR END and WAIT FOR START the MULTIPLAYER waits until the relevant action has been taken (footswitch pressed or Start issued), or the condition is met (the Song comes to an end/Stop). If the footswitch is pressed and the MULTIPLAYER finds no "FOOTSWITCH" entry in the Job chain, the footswitch performs the function set under "Footswitch settings" (see page 29).

5.2 Operation

No doubt during the course of reading this manual you have loaded and played a few Songs, or created an Assign file with some Matrix and Song programs. Try experimenting your own repertoire:

① Load your Assign file.

② Select an empty Song memory place in the MULTIPLAYER's Song line.

↘ Press ENTER and call up 6 »JOB«.

```
Edit Job
    Do you wish to create one?
```

↘ Confirm with ENTER.

```
STOP                         step #  1
                [0]                  MNU
```

The current command is always shown in the middle of the lower line. On the upper right corner the step number of the actual command is displayed. Key 9 displays a menu, which contains all commands available for the Jobs. If you know the command numbers off by heart you can enter them "blind" using the numerical keys without having to call up this menu.

```
STOP                         step #  1
TMR MXP SQP FSW STA WFE WFS CON DEL   →
```

```
STOP                         step #  1
←   STP RND
```

❶ Commands are entered using the number keys.

❷ When "MXP" and "SQP" are selected, the cursor will jump to the top left, where you can call up the Program number of the required Matrix or Song Program (using the ● or the number keys). Whenever a Program memory has been used, its name, or the default "no name" will appear. After pressing ENTER the cursor jumps back again.

❸ Using ● you can scan the command chain from left to right if more than one command has been entered.

❹ Pressing [8] will delete the current step (shown in square brackets).

⌛ You can press [9] (HLP) before each entry. This key displays the abbreviated names of all the commands in the lower line.

In the upper line the full title of the current command is shown.

↖ Quit this function by pressing [EXIT]

The Job is automatically give the name "NO_NAME.MPJ". (For naming the Job use the „Save Song" function (see page 21) and rename as written on page 17)

5.3 Starting a Job

As for Songs, you can load a Job from the Assign file, then start it using [▶] or by MIDI Program Change (see page 14). In normal mode an existing Job is indicated by the word "JOB" in the display. When a Job is active, the letter "J" appears instead of the arrow in both lines of the display.

While a Job is active it is impossible to call up a Matrix or Sequencer function!

Only Performance mode and the MIDI eye window can be selected and operated without restriction.

5.4 Jumping to specific Job commands

Every now and then you may wish to start a Job from a step part-away through the chain instead of from the beginning. To do this, call up the Job function, find the required starting point with the ● and confirm with [▶]. You will quit the Job function, and the Job will start immediately from the chosen starting point, and you will see the "Job runtime display".

5.5 Job runtime display

Here will be displayed which command step of the Job is currently in progress. If you press [ENTER] while a Job is in progress, you can see the Job Chain just as in the passage "Edit Job". The only difference is that you cannot change anything by now. To the right of the display "RUN" is displayed. Press [EXIT] to leave this mode.

5.6 Saving and loading a Job

Since Jobs are handled exactly like Songs, disk operations are exactly the same, too. The Job name is saved in the Assign file along with the Song names, and the Job itself is saved to disk like a Song.

5.7 Quit Job

You can quit an active Job by pressing `EXIT`. The confirmation message "`Quit Job (ENTER)`" will appear.

A Job is automatically quit when the last command has been completed. The MULTIPLAYER then switches back to normal (Song) mode.

5.8 Examples

Example 1

Lower line of display: 2-1-3-4-3-1-3-2-4

Meaning:
SONG ➡ MATRIX ➡ FOOT SWITCH ➡ START ➡ FOOT SWITCH ➡ MATRIX ➡ FOOT SWITCH ➡ SONG ➡ START

The Job runs as follows:

1	SONG	= Song No. 1 is loaded and selected.
2	MATRIX	= Matrix Program 1 is activated.
3	FOOT SWITCH	= The MultiPlayer waits for a foot switch press.
4	START	= When the foot switch is pressed, Song 1 starts.
5	FOOT SWITCH	= The MultiPlayer waits for a foot switch press.
6	MATRIX	= A new Matrix Program is activated.
7	FOOT SWITCH	= Press the foot switch to go to step 8.
8	SONG	= Song No. 2 is loaded and selected …
9	START	= … and starts immediately.

Example 2

In step 7 of the previous example you would need to be absolutely sure that the old Song had finished, otherwise, although the new Song would be loaded, the Start command would be ignored because there is no STOP command in this position in the chain. This is because the MultiPlayer will never interrupt a Song which is playing unless it has been given a definite command to do so.

If you want to incorporate the option of stopping a Song prematurely, and to start the next one, the chain should look like this at that point:

1 to 6	(as in Example 1)	
7	SONG	= Load Song 2, while Song 1 plays.
8	FOOT SWITCH	= Press the foot switch to go to step 9.
9	STOP	= Stops Song 1 …
10	SONG	= Selects Song 2 …
10	START	= … … and starts it immediately.

Example 3

In the previous examples the command steps are separated by the wait command "FOOT SWITCH", and performed only after the foot switch has been pressed. This lets you actively initiate Job commands.

If you replace the "FOOT SWITCH" commands with "WAIT FOR STOP" the Job will run completely automatically:

SONG ➡ MATRIX ➡ START ➡ WAIT FOR STOP ➡ SONG ➡ START ....

1	SONG	= The required Song is loaded and selected.
2	MATRIX	= A Matrix Program is activated.
3	START	= The Song is started.
4	WAIT FOR STOP	= When the Song finishes, step 5 is performed:
5	SONG	= A new Song is loaded or selected and …
6	START	= … starts automatically, etc.

In this way a whole series of Songs can be played automatically. Of course, you could use a combination of FOOT SWITCH and WAIT FOR STOP or WAIT FOR START commands, for part fully, part semi-automatic performance. "WAIT FOR START" is very useful for changing Matrix Programs in synchronisation with the start of a Song. The possibilities are endless – and best left to your own imagination and performance style.

However, we wish to remind you of the secondary function of the foot switch, which cannot be disabled, namely the START and STOP commands. If you connect all the Songs in the Job chain together using the "WAIT FOR STOP" command and the Foot switch command is not used at all, its START/STOP function is fully functional. If, for instance, a Song is dragging on a bit, pressing the foot switch will cause it to stop, which activates the "WAIT FOR STOP" step. This is because it makes no difference to the MultiPlayer whether a Song finishes by itself or is stopped manually. The steps following the WAIT FOR STOP command are then carried out immediately (e.g. selecting and starting a new Song). In this way you have the best of both worlds – automatic performance with room for spontaneity.

> ⧖ *Obviously you can only program in Song Programs from the current Assignment and Matrix Programs from either of the two Matrix Banks, because the MultiPlayer can recognize only Song names in the current Assign file. You are therefore not restricted to tied Songs and Matrix options. For instance, a Job could equally well consist purely of Songs, or of a series of several Matrix Programs.*

Example 4

Command chain: 2-4-2-2-2-2-5-2-4 …

In full: Song1➡START➡Song2➡Song3➡Song4➡Song5➡WAIT FOR STOP➡Song2➡START …

The Job runs as follows:

1	Song 1 is loaded …
2	… and started immediately.
3	While Song 1 plays, the rest of the Songs in the set (Songs 2 to 5) are loaded into memory.
4	WAIT FOR STOP – When Song 1 finishes …
5	… Song 2 is automatically selected …
6	… and starts immediately, etc.

Example 5

A Job can also be made up of a chain of MATRIX Programs:

Command chain: 1-3-1-3-1 …

In full: Matrix-Prg. 1 ➡ FOOT SWITCH ➡ Matrix-Prg. 2 ➡ FOOT SWITCH ➡ Matrix-Prg. 3 …

6. Karaoke settings (LYR)

The following instructions are only relevant if your MULTIPLAYER is equiped with a lyrics board (karaoke board). In this case you have to use the MP XX-WK Operating System (it doesn't matter if you have updated with this OS without having a lyrics board built-in – the functions only will not affect anything). If not – just forget this passage.

To reach the Lyrics menu:

↘ Press `SEQ` and `ENTER` and `5` »LYR«.

```
Lyrics display setup:
 TMR TRK COL FNT MRK TMM SPC NWL
```

6.1 Selecting Lyrics track (TRK)

With this function you define which track has to be scanned for the lyrics events. The setting "ALL" effects the MULTIPLAYER scans all tracks of the MIDI file simultaniously (=default). As soon as a track containing text events is found this will be used.

↘ Press `1` »TRK«.

```
Select track to scan
TRK =ALL
```

❶ Using ● you can select a track by hand.
↖ Leave with `EXIT`.

6.2 Selecting color (COL)

This function is to change the displayed backing colour on the connected TV-set or monitor. Everytime you press `2` »COL« the colour changes.

6.3 Selecting font (FNT)

↘ Press `3` »SAV«.

```
Select Font  (key 0-9)
Current Font= 0
```

❶ Using the number keys `0` to `9` you can select the desired Font. The MULTIPLAYER returns automatically into the "Lyrics display setup".

6.4 Aktivate marker (MRK)

↘ Press **4** »MRK«.

> **Text Marker on/off**
> **→off**

❶ Everytime pressing **4** the Marker mode changes (on/off). The MULTIPLAYER flashes the new setting and returns automatically into the "Lyrics display setup".

6.5 Marker mode (TMM)

↘ Press **5** »TMM«.

> **Text Marker mode**

❶ Everytime pressing **5** The MULTIPLAYER flashes the above shown message and returns automatically into the "Lyrics display setup". You can change between the two alternatives:
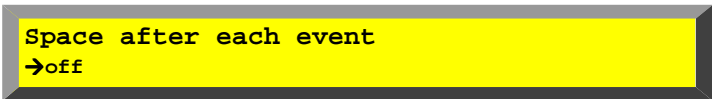
☞ the actual to sing word is signed (inverted)

☞ the already sung words are signed (inverted)

6.6 Aktivate space mode (SPC)

↘ Press **6** »SPC«.

> **Space after each event**
> **→off**

❶ Everytime pressing **6** the setting changes (on/off) and between the syllables a space will be set (or not). The MULTIPLAYER flashes the new setting and returns automatically into the "Lyrics display setup".

6.7 Select new line mode (NWL)

↘ Press **7** »SPC«.

> **Char for New Line**
> **(default=10): 10**

❶ Dependend which text software you are using the character for a new line can differ. Using ● you can select the desired character. The MULTIPLAYER returns automatically into the "Lyrics display setup".

CHAPTER V - The Matrix / MIDI Router

1. General

The Matrix (or Router) in the MULTIPLAYER functions is completely independently from the Sequencer section. In addition, all Matrix function settings (such as transpose, filters etc.) can be made to affect the Song's tracks as they are recorded or played back. When a recording is being made via the MIDI inputs the sequencer receives the data after it has gone through the Matrix – i.e. after the "Realtime Processor" (please read also the section 6 on page 88).

```
<MATRIX> Select function:
TMR  RTG FLT SPL TRP VEL CTR PRG VOL  →
```

```
<MATRIX> Select function:
←    SND RMT CAP WAV NAM COP DEL DMP   →
```

```
<MATRIX> Select function:
←    CNF
```

1.1 Selecting a Matrix program

Each Bank contains 128 Programs, but here you cannot change the numbering mode as with the Song memory places (see page 39).

❶ Click on █MATR█, to switch to Matrix Mode.

❷ Select a Program using ● or the numeric keys █0█ to █9█ and press █ENTER█ . The arrow in front of the "M" turns to black.

Matrix Programs can also be selected using MIDI Program Change commands (please read also Section 6.10 (RMT), page 102).

⧖ You have selected a Program within a Bank. If this Program memory is empty you can create a new Program simply by selecting any of its functions (e.g. "Routing"). As soon as you exit from this again "no name" will have appeared next to the memory number, showing this Program exists.

1.2 Installing a new Matrix bank

↘ Select `MATR` and press `BANK`. The Bank Select menu appears and the LED for the active Bank lights up. Banks 1 to 8 are assigned to the number keys (1 to 8). The current Group is shown in the top right of the display (e.g. "G=1").

```
No.:  1    2    3    4    5    6    7    8    G=1
Name:M1A
```
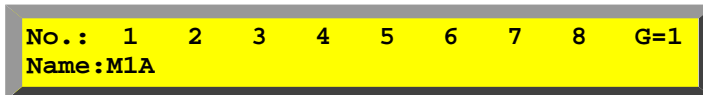
❶ Use ● to display the next row of eight (9 to 16, 17 to 24 etc.). Keep an eye on the Group display in the top right (G=2, G=3 etc.).

❷ If you press one of the number keys which is not illuminated you will be asked whether the relevant Bank should be installed (or "created").

❸ Pressing "yes" will install the Bank, the display will return to normal mode, and the arrow will indicate the new Bank.

❹ Using ●, choose a Program number and press `ENTER`. A Matrix program has now been selected, and is ready for editing.

1.3 Selecting an existing Matrix bank

↘ Select `MATR`.

↘ press `BANK`. The Bank select menu appears and the LED for the active Bank lights up. Banks 1 to 8 are assigned to the number keys `1` to `8`. The current Group is shown in the top right of the display (e.g. G=1).

❶ Use ● to display the next row of eight (9 to 16, 17 to 24 etc.). Keep an eye on the Group display in the top right (G=2, G=3 etc.).

❷ Press `1` to `8` to select an existing Bank (illuminated number key).

❸ After a number key is pressed the display returns immediately to the highest level.

❹ Using ●, choose a Program number and press `ENTER`. A Matrix program has now been selected, and is ready for editing.

1.4 Copying a Matrix program (COP)

❶ Using ● in normal mode, find a Program memory into which you wish to copy another Matrix program, and press `ENTER`.

❷ Call up `9` »→« and select `6` »COP«.

```
Copy: ➡M1A  1                        to:M1A  1
```

❸ If the Program you wish to copy is in a different Bank, press `BANK` once, choose the Bank and press `ENTER`.

❹ Using ●, choose the Program you wish to copy, and press `ENTER`.

1.5 Deleting Matrix programs (DEL)

❶ Using ● select the Program which is to be deleted and press ENTER.

❷ Call up 9 »➔« and select 7 »DEL«.

```
Delete Program        M1A  1
  TMR  ?  not     one     all
```

You can choose between:

➢ not   ⇨   do not delete
➢ one   ⇨   delete only the selected Program
➢ all   ⇨   delete all Programs in a Bank.

❸ Choosing "one" will activate the Delete function immediately, the selection "all" displays a warning message.

↖ Pressing EXIT will abort the function.

1.6 Name a Matrix program (NAM)

❶ Call up 9 »➔« and select 5 »NAM«.

```
Name of Program       M1A  1 no name
Spc  1  A  a  ins del
```

❷ Give a name (see Section7 "General rules of naming", page 17).

1.7 Dump functions (DMP)

❶ Call up 9 »➔« and select 8 »DMP«.

```
Tx/Rx Dump                   Bank:01 M1A
  TMR BNK TXB TXN BLK EVD CHK        ?
```

At the top right you will see the Bank number and type.

➔ Choose between:

➢ BNK   ⇨   Select Bank
➢ TXB   ⇨   Transmit Bank – a whole Bank can be sent
➢ TXN   ⇨   Transmit Names – the MIDI port names can be sent
➢ BLK   ⇨   Bulk Dump – all Banks, Programs and names can be sent
➢ EVD   ⇨   Enable/Disable Dump evaluation
➢ CHK   ⇨   Enable/Disable Checksum evaluation
➢ ?   ⇨   Display current Bank

❶ Using ● and you can select the Bank to or from which data is to be sent.

❷ When sending SysEx data ("TXB", "TXN" and "BLK") you need only select the MIDI output via which the data is to be sent.

When receiving the unit should be on the highest function level. If you get the error message "System Buffer full" during the transmission of a Bank, you have first to delete all Programs before you start the transmission once again. As an alternative you may try to send the data with lower speed.

With the function "EVD" you can swith off the evaluation of the Matrix SysEx data. In this way these data can be routed to other devices or recorded with the "Record" function of the MULTIPLAYER like all other MIDI data.

The function "CHK" allows the reception of Program Banks that are sent with Operation System version 1.XX (the calculation method of the checksum has been changed in the 2.00 release).

With each power-up the settings of "EVD" and "CHK" will be set to the default "enabled".

1.8 Configuration menu (CNF)

This function is identical with the result of a double-click on SEQ or MATR.

2. MIDI connections

① **Connect all the required MIDI outputs on your system to the MIDI inputs of the Matrix.**
② **Connect all the required MIDI outputs of the Matrix to the MIDI inputs on your system.**
③ **If your controlling keyboard has sounds of ist own, switch it to "local off".**

If in the MULTIPLAYER you did not make any assignments, you now <u>cannot</u> play a single expander, you can <u>not</u> record and even your software sequencer sends its data <u>to the land of nowhere</u>! Indeed, this is not a message of success. Still, there is one advantage: from now on you can monitor all your routings in the Matrix, being sure, there are no mystic background connections.

Naturally, you now have to read the Routing section to get to know how you can (for instance) play an expander via your masterkeyboard, or even the internal sounds of the keyboard, which you just cut out using the "local off" function. As soon as you start to hear again, you successfully made your first Routing!

3. MIDI inputs and outputs

3.1 "MIDI-eye" display

The "MIDI-eye" display helps you to make and check the MIDI connections in your system, and to test your MIDI cabling. For example, you could use it to verify whether MIDI data is actually being sent from the MIDI outputs when a Song is played back. "MIDI-eye" indicates MIDI activity at the inputs or outputs using little bargraph meters. Active sensing is also displayed. This is data which is sent automaticaly every 100 to 300 milliseconds, which means you will see it in the display immediately whenever a MIDI device is connected which sends active sensing messages.

❶ Press, on the highest level, the key `IN` or `OUT`.
LEDs will show which inputs or outputs are connected, and the display will show which of these are receiving or sending data.

❷ If your system has more than eight MIDI in- and outputs, you can display the next (or previous) set with ●.

↖ Quit this function by pressing `EXIT`.

3.2 Switching MIDI inputs and outputs on/off

While in the MIDI-eye window, the number keys act as on/off switches for the MIDI ports. Each port on the MULTIPLAYER can be activated and de-activated independently (see page 14).

When you switch a MIDI port off using one of the number keys all MIDI transmissions are blocked, and nothing is sent from it (MIDI OFF). To avoid the possibility of hanging notes, an „All Notes Off" message is automatically sent from the output being switched off on all 16 MIDI channels.

This function can only be set manually, and not be stored in a Matrix program!

4. PANIC - Transparent MIDI Reset (TMR)

Please read "8. PANIC – Transparent MIDI Reset (TMR)", page 18

5. Routing (RTG)

The Routing level is where you determine the connections between the input and outputs of your device. This is the first function to call up after you have made all the physical connections between the MIDITEMP Matrix and the rest of your equipment, in other words, when all the MIDI cables have been plugged in. You can link any of the inputs with any of the outputs without compromise. This involves a variety of merge and switch functions. The MULTIPLAYER has a dedicated non-volatile RAM memory for the storage of Matrix Programs and their processing functions. This ensures whenever you switch on, all your Programs are still intact, ready for use.

You can think of the Routing function as like an audio-patchbay.

Factory equiped, the MIDITEMP wears a 32kByte non-volatile RAM, which can be axpanded up to 128kByte with a standard Chip.

Actually, routing should belong with the Processor functions. However, since it has a lot in common with cabling connections, and since it is crucial to master it if you want your MIDI data to go anywhere once it has entered the device, we thought this function deserved its own section in the manual.

5.1 Making and breaking connections

↘ Click on `MATR` or `C_R30S`, to switch to Matrix Mode.

① Choose an empty Matrix program using ●, then press `ENTER`.

↘ Press `ENTER` and call up the Routing function `1` »RTG«.

```
1:              omni‹    ›orig  1:
    ( 1)   2   3   4   5   6   7   8
```
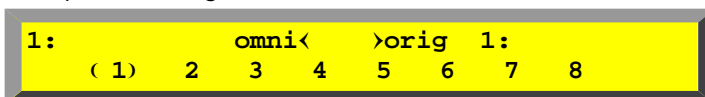
In the top left of the display you can see the number of the MIDI input, and its name if it has one. In the top right is the number of MIDI output, and its name if it has one.

❶ Press `IN` and select an input using `1` to `8`.

❷ Using ●, choose either "omni" or a MIDI channel (1-16).

❸ Press `OUT` and select an output using `1` to `8`.

❹ Using ●, choose either "orig" or a MIDI channel (1-16).

❺ Press `ENTER`. An arrow appears, indicating the connection exists. The LED light up for the port which now has a connection. You can toggle between the display of inputs and outputs at any time by pressing `IN` / `OUT`.

❻ Press `ENTER` again. The arrow disappears, indicating that particular connection has been broken.

Pressing `ENTER` therefore makes or breaks whichever connection is being displayed. Pressing `C_R30S` allows you to toggle between the input selected in ❶ and the output selected in ❸, so that you can make further connections for individual MIDI channels. Please also read "Multi converting" on page 87.

↖ Quit this function by pressing `EXIT`. The Program will automatically be given the title "no name".

5.1.1 Connection settings; re-transmitting the original channel (omni; orig)

➔ When "omni" appears in the left (input) part of the display, this indicates that data on all channels will be received by that input. In other words, the input is in Omni mode.

➔ When "orig" appears on the right (output), this means that any data received at the input will be sent from the output on the identical (i.e. "original") channel(s).

A setting of "omni" / "original" is therefore exactly the same as a connection between two pieces of equipment with a MIDI cable.
If you set the input to "Ch 1" and the output to "orig", this is exactly the same as setting of "Ch 1 ➔ Ch 1".
If you set the input to "omni" and the output to a single channel, the input will receive any data, regardless of its channel number, and retransmit it on the chosen single channel.

5.1.2 Multi Converting

"Multi Converting" is our own development, allowing for much wider scope in MIDI patching than the simple "omni/orig" setting.

➔ *Each individual MIDI channel from each of the Matrix's inputs can be routed, converted and assigned completely independently!*

> Understanding of this method of patching is vital to successful programming of the processor functions, such as keyboard split. We therefore recommend you take the time to get to know the method thoroughly before proceeding.

If you want to route a single input or input channel to more than one output, simply repeat steps ❸, ❹ and ❺ of section 5.1. LEDs will light on the keys to show which outputs are already connected to the inputs when the OUT is flashing.
If you want to feed a single output from to more than one input, simply repeat steps ❶, ❷ and ❺ of section 5.1. LEDs will light on the keys to show which inputs are already connected to the outputs when the IN is flashing.

5.1.3 Checking connections (READ)

The 9 "Read" key allows you to check the connections of a currently selected input or output at any time without fear of chinging anything. By repeatedly pressing the "Read" key, you can scroll through all of the ports.

6. Realtime MIDI processor

Processing can also be thought of as conversion. Every MIDI event is composed of up to three bytes, or blocks of numbers not bigger than 127. In the case of notes, for instance, one of these numbers is the velocity value, one is the note number (i.e. which note has been played). "Realtime" means any manipulation of these numbers is performed immediately, "on the fly". The Matrix can perform all the important processing functions which you might need on stage or in the studio.
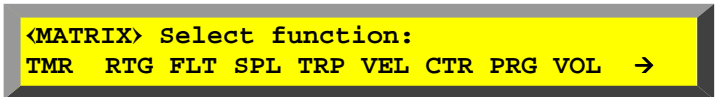
6.1 Calling up functions

Processing functions are performed in the Matrix part of the device. All settings are stored within your Matrix programs. Any processing which is applied to the outputs can be used without restriction to manipulate Song tracks during playback.

↘ Click on MATR or C_RBOR, to switch to Matrix Mode.

① If necessary, using ●, choose an empty Matrix program and press ENTER.

↘ Press ENTER.
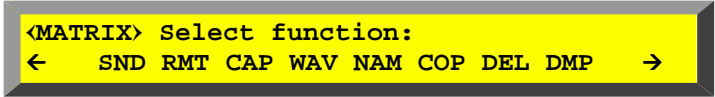
```
‹MATRIX› Select function:
TMR   RTG FLT SPL TRP VEL CTR PRG VOL   →
```

By pressing the relevant number key you can now reach the required processor window. Alternatively, you can use the ● to scan through the functions (you will see their name appear in full in the upper row), then select one by pressing ENTER.

↘ Press 9 » → « or turn the ● further to the right past "VOL".

```
‹MATRIX› Select function:
←     SND RMT CAP WAV NAM COP DEL DMP   →
```

There are more Matrix functions than number keys, so this second (and by repeating this step the third) page of functions allows you to call up the others.

➜ *All settings are stored automatically when you quit the Processor window using* EXIT *.*

6.2 Filter functions (FLT)

It can sometimes make a difference whether MIDI data is filtered at the input or the output. For this reason the Matrix allows you to set up filters for each input, each output and each MIDI channel seperately. The filter functions allow you to filter the following data types out of the MIDI data stream:

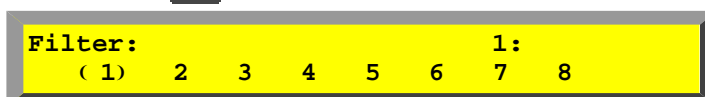> ➢ All notes (a range of or individual notes)
> ➢ Program Change
> ➢ Pitch Bend
> ➢ Aftertouch (Poly/Channel Pressure)
> ➢ Individual controllers 1 … 127
> ➢ All controllers
> ➢ System Exclusive messages
> ➢ System Common messages (Song Pointer, Tune, EOX)
> ➢ Real Time
> ➢ Active Sensing

⌛   You can look up the controller numbers (1-127) in Appendix E.

↘ Call up the Filter function: `2` »FLT«.

```
Filter:                        1:
   ( 1)    2    3    4    5    6    7    8
```

In the top right of the display you will see the number and name of the current MIDI input.

❶ Press IN or OUT and select an input or output using `1` to `8`.

❷ Using ●, choose the event type.

❸ Press ENTER to switch the Event Filter on or off
   ("filter is ▸ off" / "filter is ▸ on").

⌛   Filter settings, like all the other functions, act on the playback of Songs as well as on the Matrix.

6.2.1 Channel events

As soon as you have selected one of the following filter types
> ➢ Notes
> ➢ Note Events
> ➢ Poly Pressure
> ➢ Contrl. 0 … 127
> ➢ Program Change
> ➢ Channel Pressure
> ➢ Pitch Bend
> ➢ Control No. #

"omni" appears at the top right of the display.

❹ Press CURSOR, until the flashing cursor is over the word "omni".

❺ If you now use ● you can specify a MIDI channel for which this particular filter will be active.

➡ **NOTES**

Use this function to filter out notes and Poly Pressure events outside a range of notes on the selected MIDI channel. Turning ● allows you to change the direction of the arrow next to the caption "Notes". On the right you can set the upper and lower limits of your note range.

- ➢ < ⇨ Notes lower than the selected one will be filtered out.
- ➢ = ⇨ The selected note will be filtered out.
- ➢ > ⇨ Notes higher than the selected one will be filtered out.

❻ Select "Notes <" and press **CURSOR**, until the flashing cursor is over the note "C-2", and set the lowest note of your range.

❼ Select "Notes =" and press **CURSOR**, until the flashing cursor is over the note "C-2", and set the note you want to filter out.

❽ Select "Notes >" and press **CURSOR**, until the flashing cursor is over the note "C-2", and set the lowest note of your range.

➡ **Note Events**

Here you can filter out "Note ON", "Note OFF" and Poly Pressure events on the selected MIDI channel, independently of note numbers.

➡ **Poly Pressure**

Control 1 ... 127

Program Change

Channel Pressure

Pitch Bend

Use these commands to filter out each event type on the selected MIDI channel.

➡ **Contrl.# ...**

This filter allows you to filter out individual controllers.

❻ Press **CURSOR** until the flashing cursor is over "# 1".

❼ Using ●, select the controller you wish to filter out (e.g. No.1=Modulation, No.7=Volume etc.).

↖ Quit this function by pressing **EXIT**.

6.3 Split functions (SPL)

The split function allows you to split any MIDI keyboard connected to one of the Matrix's inputs into as many as 16 zones. With up to eight inputs available (MP 88-W), this means you can connect up to eight MIDI controllers, all of which can be split completely independently, process each of these zones within the Matrix and route them all to the outputs.

➥ *Notes and Poly Pressure can be split.*

⧖ The split function is the first in line as the data is passed through the Matrix. Only after passing through it data will reach the filters, transpose functions etc. This function operates only on the inputs.

↘ Call up the Split function: **3** »SPL«.

```
Split:                    1:
   ( 1)   2   3   4   5   6   7   8
```

In the top right of the display you will see the number and name of the current MIDI input. The LEDs light up on the number keys representing the inputs for which settings have already been made.

❶ Select an input using **1** to **8**.

```
Split: omni                    1:
TMR   CLR   ... off.... off.... off.. Read
```

❷ Press CURSOR, until the flashing cursor is over the word "omni".

❸ Press ENTER.

```
Split: omni➜ keyboard=Ch 1      1:
TMR   CLR   ... off.... off.... off.. Read
```

For now all incomming MIDI channels ("omni") are converted to channel 1.

⧖ If you wish to split several incoming channels differently, you can work on independent channels instead of "omni". However, for the moment, we will assume that you are working with "omni".

❹ Move the cursor to the first of the "off" settings in the display and press ENTER.

```
Split: omni➜left zone=Ch 1      1:
TMR   CLR   ... C 3.... off.... off.. Read
```

The words "keyboard= Ch 1" (MIDI base channel) changes to "left zone=Ch 1". This means the leftmost (lowest) zone of the keyboard will be converted to channel 1, and the next zone (in this case from C3 upwards) will automatically change to channel 2.

❺ Select your first (lowest) required split point using ●.

If you add further split points using CURSOR and ENTER, the third zone becomes channel 3, the fourth channel 4 …

❻ If you need more than three split points, you can bring up the next row of three split points using ▐ **⭥** ▌, where is an arrow.

The suggested MIDI channel for the next split zone in the sequence will be shown.

❼ Activate the new row of split points by pressing ▐ **ENTER** ▌, and program any further split points.

❽ The "CLR" (Clear) key deletes split points, starting always with the highest.

❾ The "Read" key allows you to check the split settings of your currently selected input without any danger of changing anything. Repeated presses will cycle through all the splits.

↖ Quit this function by pressing ▐ **EXIT** ▌.

⧖ No more than 16 split zones can be set up per input and MIDI base channel, because zones are split into MIDI channels. Designating channel 16 as the base channel would mean the next zone would become channel 1, which makes no chance.

With the Split function you have to work with the sequence of following channels and cannot leave one channel between out! Otherwise try your split with the Filter function (Notes < / >/).

6.3.1 Special handling of controllers

"**Controllers**" are MIDI control change events such as Modulation, Sustain, Volume etc. plus MIDI Pitch Bend events. All controllers and Pitch Bends are given special treatment within the split function. The idea of this is to allow this data to be separated from the rest. For this reason controller data is not split like notes are.

➜ *Controller events are kept on the MIDI channel on which your keyboard sent them, and not converted to other channels by the split function.*

The crucial factor in the output of keyboard split zones and controllers is routing. The most straightforward way of making use of this arrangement is to set the MIDI base channel to 2 ("keyboard=Ch 2" therefore "left zone=Ch 2"), but to leave the keyboard set to transmit on channel 1:

> ➢ Receive channel ⇨ channel 1
> ➢ "left zone" ⇨ channel 2
> ➢ Zone 2 ⇨ channel 3
> ➢ Zone 3 ⇨ channel 4
> ➢ Zone 4 ⇨ channel 5

You can then route the control channel (in this case 1) from this split input to the required outputs and convert it to the receive channel of the expander, synthesizer etc. which needs those controllers. The four split zones should be routed as follows:

> ➢ Channel 2 to ⇨ channel 10, output 2
> ➢ Channel 3 to ⇨ channel 11, output 2
> ➢ Channel 4 to ⇨ channel 12, output 2
> ➢ Channel 5 to ⇨ channel 13, output 2

Channel 1, the control channel, should also be routed to channels 10, 11, 12 and 13 in output 2 if all zones need to have controllers acting on them. If you do not program the routing for one of the split channels, you can filter controllers out for one or more of your keyboard zones.


6.4 Transpose (TRP)

The Transpose function will shift the pitch of the whole keyboard, or of any zones, which you have set up. Pitch can be raised or lowered by up to 64 semitones. Transposition can be programmed separately for each input, output and MIDI channel.

↘ Call up the Transpose function: **4** »TRP«.

```
Transpose:                    1:
 ( 1)   2   3   4   5   6   7   8
```
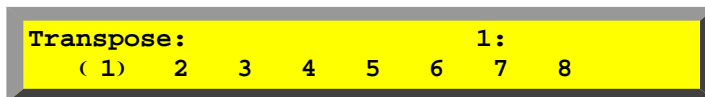
In the top right of the display you will see the number and name of the current MIDI input. LEDs light on the number keys representing inputs or outputs which already have settings.

↘ Press **IN** or **OUT**, and select an input or output using **1** to **8**.

```
Transpose:      omni    0    1:
TMR   CLR                         Read
```
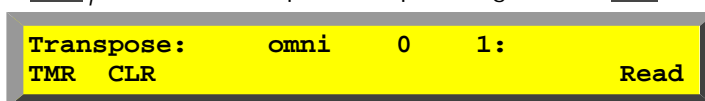
❶ If necessary, change "omni" to the MIDI channel you wish to transpose.

❷ Use **CURSOR** to move the blinking cursor to the transpose value ("0").

❸ Using ●, set the transpose value in semitones.

❹ Select any other inputs, outputs or MIDI channels.

❺ The "Read" key allows you to check each of the settings for your currently selected input.

❻ "CLR" will delete the currently displayed setting.

↖ Quit this function by pressing **EXIT**.

6.5 Velocity functions (VEL)

This function lets you control the dynamic response of your expanders etc. The following functions are possible: Velocity Switch, Velocity Crossfading, Velocity Off, Limit, Velocity Factor, Reverse Velocity.

➜ *This function can be used on the outputs only.*

↘ Call up the Velocity Processing function: **5** »VEL«.
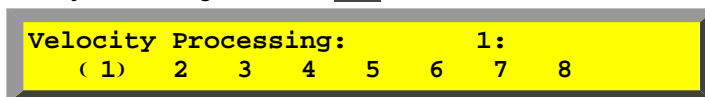
```
Velocity Processing:          1:
 ( 1)   2   3   4   5   6   7   8
```

In the top right of the display you will see the number and name of the current MIDI output. LEDs light on the number keys representing inputs or outputs which already have settings.

↘ Press **IN** or **OUT** and using **1** to **8**, select an output.

```
omni Pos1                          1:
TMR   CLR TRSH BLW ABV OFS POS  -Pos+ Read
```
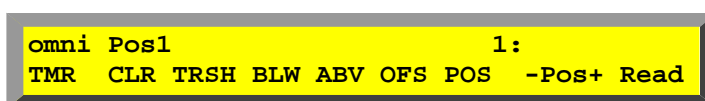
❶ Using ●, choose the MIDI channel of the expander or synthesizer you wish to play.

❷ Press ⬛ENTER. This activates the processing function. The first parameter to be displayed is "Treshold".

❸ Use ● to set the required value.

❹ Select "BLW", "ABV" and "OFS" and set each to the required value.

❺ Keys ⬛7 and ⬛8 underneath "-POS" let you program different stages in a processing chain. Most of the time one stage is quite enough. Normally stages 2 to 8 are switched off, but you can activate them by pressing ⬛ENTER.

❻ "POS" allows you to move the position of the current process to a different stage in the chain. In doing so the settings of the process which used to occupy the new position are erased.

❼ "Read" lets you check through the settings of a selected output.

❽ "CLR" will delete the process shown for the current position in the chain.

↰ Quit this function by pressing ⬛EXIT.

6.5.1 >Threshold<, >Below<, >Above<, >Offset< and >Position<

For each output and each MIDI channel, velocity can be altered by five parameters:

➢ Treshold	⇨	treshold value
➢ Below Factor	⇨	gradient below treshold
➢ Above Factor	⇨	gradient above treshold
➢ Offset	⇨	adds a fixed value to the velocity
➢ Position	⇨	number of processing stages.

Setting a treshold divides the velocity curve into two sections, for each of which a gradient and direction can be set using "Below Factor" and "Above Factor". The following diagrams will help to visualize this:

➔ **Below you will find a basic example of every type of function. Actual values should be adjusted to personal taste and requirements.**

Default setting (standard velocity curve):
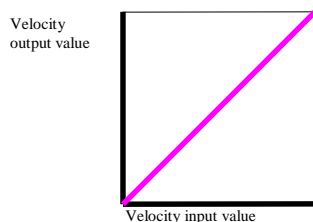
Pos1 = 1st stage
Threshold = 64 (halfway between 0 and 127)
Below = 1 (input value x 1 = output value)
Above = 1 (input value x 1 = output value)
Offset = 0

The "Treshold" setting will have no effect here, because the gradients for "below" and "above" are the same (i.e. 1). Below are some examples of variations on this curve:

Limiter effect at velocity 100:
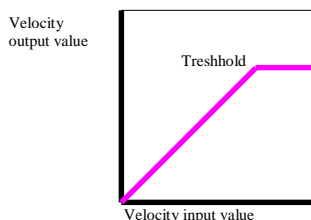
Pos1 = 1st stage
Threshold = 100
Below = 1
Above = 0
Offset = 0

Using this curve the velocity is kept unchanged below 100 (e.g. 85 x 1 = 85). Above 100 (treshold) the "above" gradient takes over. Since this is set to zero, any input velocity over 100 will be output as 100.
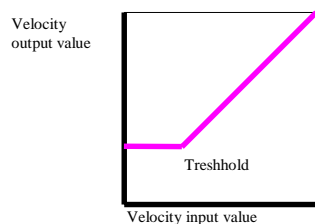
Compressor effect at velocity 20:

Pos1 = 1st stage
Threshold = 20
Below = 0
Above = 1
Offset = 0

The opposite of example 1. Any input velocity less than 20 will be output as 20.

You can program up to eight stages in a chain. The output of stage 1 is fed to the input of stage 2, the output of stage 2 into stage 3 and so on. The following diagram shows the resulting curve when the previous two examples are programmed as successive stages in the same chain.

Simultaneous compressor-limiter effect:
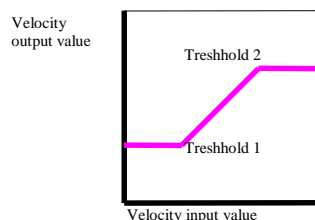
Pos1 = 1st stage
Threshold = 20
Below = 0
Above = 1
Pos2 = 2nd stage
Threshold = 100
Below = 1
Above = 0

This curve shows you only need one treshold, one below value and one above value, because you can chain up to eight stages together.

<u>Fixed velocity of value 75:</u>

Velocity
output value

Velocity input value
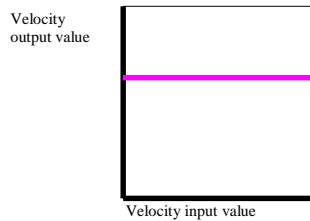
Pos1   = 1st stage
Threshold = 75
Below   = 0
Above   = 0
Offset   = 0

        The following two examples are for owners of some YAMAHA devices. Some of these units will not respond to velocities higher than 100. In addition, their keyboards will not generate velocities higher than 100, limiting their usefulness as controller keyboards.

<u>Keyboard receives velocity 0-100:</u>

Velocity
output value

Velocity input value
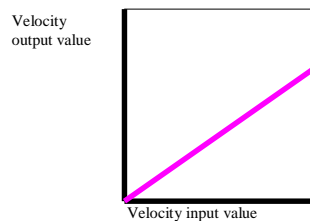
Pos1   = 1st stage
Threshold = 0
Below   = 0
Above   = 0,75
Offset   = 0

<u>Keyboard sends velocity 0-100:</u>

Velocity
output value

Velocity input value
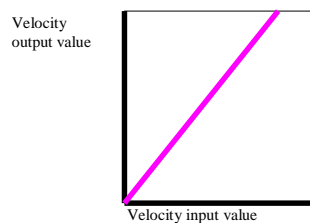
Pos1   = 1st stage
Threshold = 0
Below   = 0
Above   = 1,25
Offset   = 0

6.5.2 Velocity switch

The velocity switch function allows expanders etc. which are connected to the MULTIPLAYER's MIDI outputs to be adressed according to velocity, i.e. a different expander can be made to sound according to wether you play hard or soft.

Every keystrike on a MIDI keyboard has a velocity value. The numerical range of these velocities lies from 1 (softest touch) to 127 (most ferocious!). With "Treshold" you can set an exact switch point. Any incoming notes with a velocity higher than this switch point will be routed to a different expander from those with velocities below the switch point.

Example: all keystrikes played on a master keyboard connected to one of the Matrix's inputs with a velocity lower than value 70 are to sound on expander 1, connected to Matrix output 1. Any notes with a velocity higher than 70 are to sound on expander 2, Matrix output 2.

Follow the method outlined in section 6.5.1 (see page 94). Set the treshold to 70. Set the below value to 1.00, and the above value to its maximum negative value (-16).

IMPORTANT: The MIDI input must be routed to both MIDI outputs!

This setting has the effect of preventing the output of all notes with a velocity higher than 70 from output 1. The next step is to make these high velocities appear at output 2. To do this, repeat the same parameters for output 2 ("OUT 2", Channel 2) and swap the below and above values (below = -16.00, above = 1.00).

6.5.3   Reverse velocity

You may wish to completely reverse the effect of velocity on your expanders so that soft touches produce loud velocity sounds and vice versa:

Pos1   = 1st stage
Threshold = 0
Below   = -1,00
Above   = -1,00
Offset   = 127
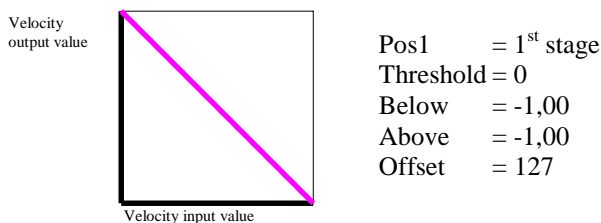
You can achieve the same result in two other ways:

Pos1   = 1st stage
Threshold = 64
Below   = -1,00
Above   = -1,00
Offset   = 0

Pos1   = 1st stage
Threshold = 127
Below   = -1,00
Above   = -1,00
Offset   = -127
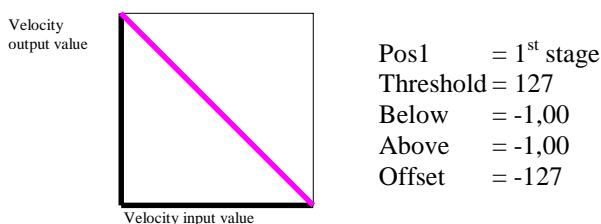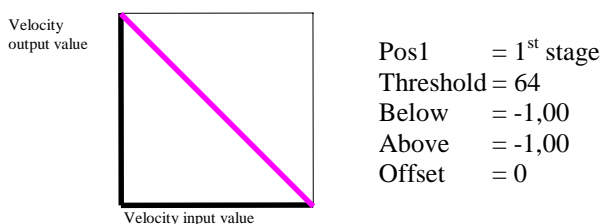
6.6 Controller mapping (CTR)

Some MIDI instruments use different controller numbers; for example "Dr. Böhm"-devices use control 0 for volume instead of control 7. This function lets you renumber controllers.

↘ Call up the Controller Mapping function: 6 »CTR«.
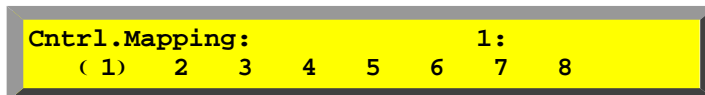
```
Cntrl.Mapping:              1:
     ( 1)   2    3    4    5    6    7    8
```

In the top right of the display you will see the number and name of the current MIDI input or output. LEDs light on the number keys representing inputs or outputs which already have settings.
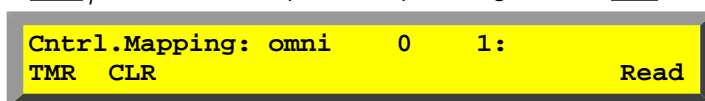
↘ Press IN or OUT, and select an input or output using 1 to 8.

```
Cntrl.Mapping: omni     0     1:
TMR   CLR                            Read
```

❶ Change the word "omni" to the number of the MIDI channel for which controller numbers are to be changed.

❷ Press ENTER.

❸ Using ●, find the controller to which you wish to assign a new number.

❹ Press ENTER.
An arrow will appear, together with a space for the new control number.

❺ Using ●, program the new control number.

❻ Using CURSOR, move the blinking cursor across the three parameters if you need to renumber any other controllers.

❼ The "Read" function allows you to check the settings of the current input or output.

❽ The "CLR" function allows you to delete the currently displayed number change.

↖ Quit this function by pressing EXIT.

6.7 Program change (PRG)

Using this function you can make the Matrix send out Program Change commands to all your expanders when you change Matrix Programs. A separate program number can be given to every MIDI channel of every output of the Matrix.
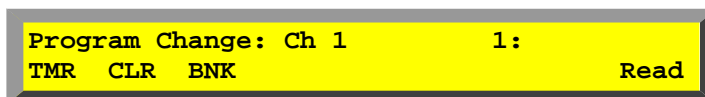
➜ *This function works on outputs only.*

↘ Call up the Program Change Mapping function: `7` »PRG«.
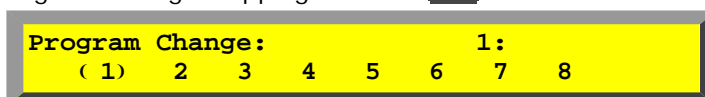
```
Program Change:              1:
   ( 1)   2    3    4    5    6    7    8
```

In the top right of the display you will see the number and name of the current MIDI output. LEDs light on the number keys representing outputs which already have settings.

↘ Select an output using `1` to `8`.

```
Program Change: Ch 1         1:
TMR   CLR   BNK                      Read
```

❶ Change "Ch 1" to the MIDI channel on which you wish to send a Program Change command.

❷ Press `ENTER`.

❸ Using ●, select the program number you wish to send whenever this Matrix Program is selected.

❹ If you press `ENTER`, the command will be sent, so that you can check the effect on your expander.

❺ If necessary, move the blinking cursor with `CURSOR` across the two parameters and program any other settings you need.

❼ The "Read" function allows you to check the settings of the current output.

❻ The "CLR" function allows you to delete the currently displayed Program Change.

↖ Quit this function by pressing `EXIT`.

Using "BNK" you can define additional a Bank Select (Controller 0 and 32) to the currently Program Change. The values for Controller 0 and 32 are together the required bank number, but they are programed seperately. For the correct values please refer the manual of your sound device.

↘ Select `2` »BNK«.

```
Program Change: Ch 1          1:
TMR CLR   BNK Ctrl.0:   0 Ctrl.32:   0   Read
```
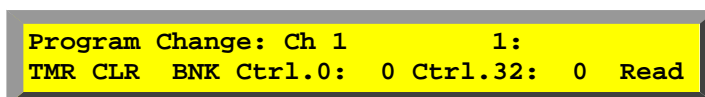
❶ Using `CURSOR`, you can move the blinking cursor across the two parameters.

❷ Using ●, you can change the values.

❸ The "Read" function allows you to check the settings without changing them

⏳ Using the "Read" function Program Change values, handled with the Bank Select, will be displayed completely. For all others, only the PC value will be shown.

6.8 MIDI volume

Using this function you can make the Matrix send out predetermined volume level (Control Change 7) commands to all your expanders when you change Matrix Programs. A seperate volume level can be given to every MIDI channel of every output of the Matrix.
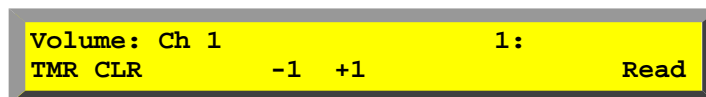
➜ *This function works on outputs only.*

↘ Call up the Volume function: [8] »VOL«.
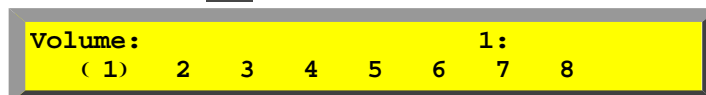
```
Volume:                        1:
   ( 1)    2    3    4    5    6    7    8
```

In the top right of the display you will see the number and name of the current MIDI output. LEDs light on the number keys representing outputs which already have settings.

↘ Select an output using [1] to [8].

```
Volume: Ch 1                   1:
TMR CLR          -1   +1            Read
```

❶ Change "Ch 1" to the MIDI channel on which you wish to send a volume level command.

❷ Press ENTER.

❸ Using ● or +1 and -1, select the volume level you wish to send whenever this Matrix Program is selected. The command will be sent immediately, so that you can check the effect on your expander.

❹ If you press ENTER, the command will be sent, so that you can check the effect on your expander.

❺ If necessary, move the blinking cursor with CURSOR across the two parameters and program any other settings you need.

❼ The "Read" function allows you to check the settings of the current output.

❻ The "CLR" function allows you to delete the currently displayed volume command.

↖ Quit this function by pressing EXIT.

6.9 Sending SysEx and other MIDI messages (SND)

To use the Send Data function properly requires in-depth knowledge of the MIDI specification and its data format. Study some of the technical books available on the subject and always double-check the manuals of the equipment you wish to send data to.

⧗ Everytime you send SysEx codes (= commands in the "machine language") to your expander these strings include the MIDI channel assignment, and have to be sent only to the referring MIDI output.

TIP: especially for the GS Standard (ROLAND) and XG Standard (YAMAHA) you get really good and "readable" literature by the distributors of your country!

"Send Data" is a function which allows predetermined MIDI data bytes to be automatically sent to your expanders whenever a program is selected. Strings of data can be programmed and stored for each MIDI output. The data bytes (0 – 255) can be programmed in either decimal or hexadecimal form. Send Data can be used in many ways, for example:

- ➢ Send Request   ⇨   asks the expander for SysEx data
- ➢ Omni/Poly/Mono   ⇨   changes modes on the expander
- ➢ Controller switching   ⇨   e.g. sustain, portamento ...
- ➢ Programming commands   ⇨   e.g. filter settings, effect programming ...

- ➢ Start/Stop/Continue/Song Pointer etc.
- ➢ Local on/off ... and many more

> This function can be used on the outputs only. There is also no way of specifying a MIDI channel, since the data which can be sent here does not need channel data.
> WARNING: Some expander's lock functions can be useless by incoming SysEx data!

↘ Call up the Send Data function: [9] »→« and select [1] »SND«.
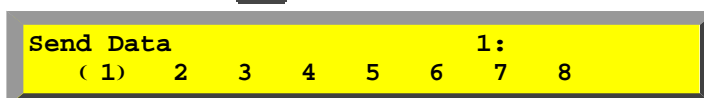
```
Send Data                   1:
  ( 1)   2   3   4   5   6   7   8
```

In the top right of the display you will see the number and name of the current MIDI output. LEDs light on the number keys representing outputs which already have settings.

↘ Select an output using [1] to [8].

```
(    )
TMR   tx  d/h brk ins del (no data  )
```
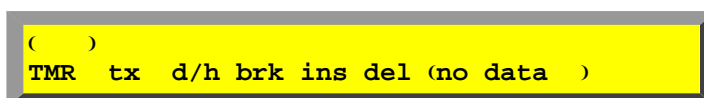
The soft keys have the following functions:

- ➢ tx   ⇨   Sends the string of data.
- ➢ d/h   ⇨   Toggles between decimal and hexadecimal display.
- ➢ brk   ⇨   Sends a pause of selectable duration.
- ➢ ins   ⇨   A 0 byte is inserted and following bytes are moved back.
- ➢ del   ⇨   Deletes the current byte.

The data type in each case can be seen in the brackets at the bottom right of the display. This is particularly interesting for "break" data, where the duration of the pause can be specified, and for values higher than 127, where normalized channel, system and realtime events are shown. With [ENTER], the cursor moves by one position to the right, with [CURSOR] by one position to the left. Normally, with ● the value at the cursor position will be changed, by turning the wheel while pressing [CURSOR] you can move the cursor to the left or right.

6.9.1 Example: Local off, Local on

The command "LOCAL OFF" has the following MIDI format:
[Bn] [7A] [00] (exadecimal) or [176 to 191] [122] [0] (decimal)

- ➢ B   =   Controller
- ➢ n   =   Channel number (Nos. 1-16 correspond to hexadecimal 0-F).
- ➢ 7A   =   The number of the controller for "LOCAL OFF"
- ➢ 00   =   OFF; for "LOCAL ON" you would send [$7F] or [127]

## 6.10 Remote selection of programs via MIDI (RMT)

⧖ This function is intended for switching sub-programs and so should be undertaken within a "global program". For more information refer to section 6.10.5 on page 104 "Combining control methods". Don't use this function in the program that you are currently working on except in special cases or it could lead some off-putting results!

This function allows the selection of Matrix Programs, or the loading, selection and starting of Songs using MIDI Program Change commands. As soon as the device receives the relevant command at the chosen MIDI input, it will select the required Matrix Program or Song. If the Song is not in memory, a disk scan is undertaken and the Song loaded.

⧖ This function can be used on the inputs only. Even though songs can be called up using MIDI Remote, it is still classed as a Matrix function.

↘ Call up the MIDI Remote function: 9 »➔« and select 2 »RMT«.
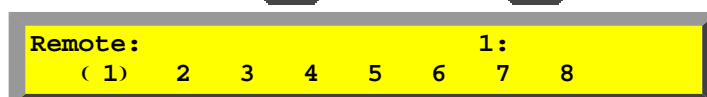
```
Remote:                    1:
   ( 1)   2   3   4   5   6   7   8
```

In the top right of the display you will see the number and name of the current MIDI input or output. LEDs light on the number keys representing inputs or outputs which already have settings.

↘ Press IN or OUT, and select an input or output using 1 to 8.

```
Remote: Ch 1  bank:    1     1:
TMR             ⇨off                Read
```
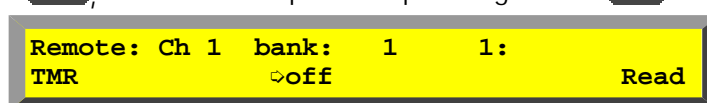
If the Remote Processor has been programmed for an output, it reacts on Program Changes issued through Routing from the inputs or by playing back a Song. Program Changes that are issued by the Matrix functions "Program Change" or "Send Data" will be ignored.

⧖ By programming the Remote Processor to be active on one of the outputs you can switch your Matrix Programs by Program Change events in the Song. You need only to assign the corresponding Song track to this output using the Output Assign function.

If you work with General MIDI (or GS- or XG-, or GM2-) modules simoultaniously as a playback module and expander for your playing, think that a Standard Midi File send a reset at the beginning of the Song. With steering this function via the Song you have to activate the corresponding Matrix program after the General MIDI reset of the Song.

6.10.1 Direct control of particular Banks

❶ Set the MIDI channel on which remote control is to happen and press ENTER.

❷ Set the Bank on which Program Changes are to have direct effects and press ENTER.

Reception of a Program Change on that MIDI channel causes not only the Program within this Bank to be changed, but also the Bank to be simultaneously activated.

6.10.2 Controlling the active Bank in each Group

Turning ● past the 128 Banks you will find the entries "G=1" to "G=8" and "G=S".

❶ Set the MIDI channel on which remote control is to happen and press ENTER.

❷ Set the Group whose active Bank is to be controlled and press ENTER.

The Matrix Program in this Group's active Bank can now be changed without changing the Bank.

6.10.3 Bank Select command before Program Change

Turning ● further past "G=S" you will find the entry "Ctrl.0".

❶ Set the MIDI channel on which remote control is to happen and press ENTER.

❷ Select "Ctrl.0" and press ENTER.

Now you can (and should) send a Bank Select command (Control 0). The Bank which is selected and activated by this command is changed via the Program Change command which follows it.

6.10.4 Simultaneous control of several Banks

One technique which may prove useful for you is that of allocating the same MIDI channel to a Matrix Bank and a Song Bank. When a Program Change is received it can be used to call up a Song and a suitable Matrix program simultaneously.

❶ Set the MIDI channel on which remote control is to happen and press ENTER.

❷ Select a Matrix Bank (1 to 64) on which Program Changes are to have direct effect and press ENTER.

❸ Select a Song Bank (65 to 128) on which Program Changes are to have direct effect and press ENTER.

⏳ Use the "Read" function to check that you have only programmed the switch that you wanted – it's all too easy to program more than one!

6.10.5 Combining control methods

⧖   As we mentioned in the introductory chapter (see page 14), it's possible to become completely lost in the open structure of MIOC Generation devices while programming unless you are clear how each function works. The flexibility of the Remote function is a perfect example of this.

       If you are in Bank 1 and you setup a Program Change for Bank 1 within the active Matrix Program (e.g. M!A 1) and then call up Program 2 via MIDI you reach a dead end, because you have only set up the Program Change in Program 1! You need to set up the Program Change for Bank 1 in Program 2 as well. Then at least you will be able to switch between Programs 1 and 2 in this Bank. If you call up Program 3 though, you'll be stuck again.

       A better way of using the Remote function might be to create a Program in, for instance, Bank 57, with only one function, namely, that of enabling MIDI Remote for Bank 1. Bank 57 is a good choice because it is the first Bank in Group 8, and therefore you are unlikely to need it for anything else. Then every Program Change received at the MIDI input and on the MIDI channel designated in Bank 57 will change Matrix Programs in Bank 1.

       You might then decide to set up direct Program Change programs for Banks 1 and 2. However, this is not really practical, because the device can allow only one active Bank per Group. In this case the Program Change for Bank 1 would be ignored because the higher Bank has priority. It would make more sense to set up direct Program Changes for Bank 9 (and Banks 17, 25, 33, 41 and 49) because all these Banks are in different Groups, and can therefore be active simultaneously. A single Program Change would activate all these Banks, and select the same Matrix Program number within each one.

       Furthermore, you could set up a Song Bank selection within the same Program in Bank 57. Since the Song Banks (65 to 128) are all in the same Group you are allowed only one Bank for MIDI control. If you should ever need remote access to more than the 128 Songs in a single Bank you could always use the "Ctrl.0" command instead. Bank Select commands higher than 64 will call up a Song Bank, each of which contains another 128 Songs.

6.11 Call another Matrix program with the Program (CAP)

       This is a really direct function inside the Matrix. Here you can set in another Matrix program (in another Group, of course) which will be automatically be activated with the call up of the current Matrix Program. You may either call up a corresponding Song, or link the current Matrix Program with another Matrix Program. The program number and name of an assigned program will be displayed, in the other case it will show "none".

↘ Call up the CAP function: `9` »➔« and select `3` »CAP«.

```
Call: (none)
   CLR SEL
```

➢ SEL   ➪   Select a Program or change the actual
➢ CLR   ➪   clear the actual assigned Program

⧖   If a Matrix Program calls up another Program out of the same Group (which could be intended) you cannot call this as usuall (e.g. to change settings) because it will switch automatically. In this case press ENTER after the selection for about one second – the "CAP" function will be suppressed.

6.12 Trigger Waves by MIDI (WAV)

In this function the MIDI data from inputs or outputs (!) are sent to the Wave Processor. The Wave Processor stays with the Matrix Program, in which the Processor has been programmed. As soon as you switch to another Program, this particular Wave Processor is not active anymore.

↘ Call up the Play Waves by MIDI function: [9] »→« [4] »WAV«.

```
MIDI → Wave:                    1:
   ( 1)    2    3    4    5    6    7    8
```

In the top right of the display you will see the number and name of the current MIDI input or output.

↘ Press [IN] or [OUT], and select an input or output using [1] to [8].

```
MIDI → Wave: Ch 1               1:
TMR CLR                            Read
```

❶ Set the MIDI channel to be used to play Waves.

❷ Press CURSOR or ENTER.

```
MIDI → Wave: Ch 1   bank=WVA    1:
TMR CLR            notes C-2 to G8    Read
```

❸ Set the Bank to be controlled, and the keyboard range, out of which the MIDI data for playback of Waves from the specified Bank are derived.

❹ Using CURSOR, you still can move through the parameters. If you cange the channel, you will thereby call up a second Wave Processor.

❺ With "Read" you can display all Wave Processors.

In most of the cases the Wave Processor should be programmed in a Global Program, which will not be changed, so that Waves always can be played.

> ⧗ Up to a maximum of 16 Wave Processors are for your use (because there are 16 MIDI channels). You can playback only a single Wave monophone at one time - as soon as you start a second one the playback of the first will be stopped.

7. Disc functions in Matrix mode

Please see therefore:

➢ Save Matrix Bank   ⇨   section 9.3, page 21
➢ Load Matrix Bank   ⇨   section 9.2, page 20

> ⧗ You always store a complete single Matrix Bank – there is no way to store only a single Matrix Program, or all Matrix Banks or all Matrix Groups at once!

CHAPTER VI - Wave Player

1. General

♦ Wave files must have been saved in the uncompressed formats WAV or AIFF.

♦ Whenever a Wave file comes on a floppy disk it will be loaded as a whole into the internal memory as the floppy disk drive is not fast enough to pre-load the data in time. Using a Waveplayer with a floppy drive disk should only be performed in special applications, where only a few and short Waves are needed (e.g. to produce a metronome click).

♦ If you want to use many Waves you should have a non-/removable hard disc drive and at least 4 Mbyte RAM.

♦ From each Wave file only the first 32-64 KB will be loaded into memory. Whenever you play a Wave (on the numeric keys on the Remote Control or via MIDI) these blocks are played back immediately while the next ones will be loaded. Watch out for your total memory space, as all needed Waves must be pre-loaded.

2. Wave Formats

2.1 WAV format

The format "WAV" by Microsoft is the sound file format mostly used on the PC market. The files must be uncompressed.

2.2 AIF format

The format AIF resp. "AIFF" (Audio interchange File Format) is also widely used by MACintosh Computers and PCs and will be recognized and loaded by the Wave Player. As for WAV, it is important the file is not compressed in any way.

3. Wave banks

There are eight Wave Banks WVA to WVH (Bank 121-128). Each Bank contains up to 128 Waves, each assigned to a single MIDI note number. This theoretically allows for 1024 different Waves per assignment.

The currently active Bank (normally WVA) will be displayed as soon as you switch to Wave Mode using `WAVE`. You can simply set the Bank pressing `BANK` in Wave Mode. Only one Bank is active at any one time.

Since OS version 3.3 Bank 128 (WVH) has a special function: The Wave-to-Note assignments set in that Bank will be linked with the Song Program, having the effect after switching to another Song you will have a completely different set of Wave files at your disposal, that are specially dedicated for this Song.

4. Triggering Waves

The Waves are triggered via MIDI Note On and Note Off events. These are filtered out of the MIDI data flow by data processor units at the MIDI inputs or outputs and forwarded to the Wave Player. For triggering the Waves from a MIDI File the Note events are usually entered in a track of a Song at the desired time (the note-length has to correspond to the playback-length of the Wave). Using the function "Output Assignment" this track can then be assigned to one of the outputs of the MULTIPLAYER, where the notes are taken over by a Wave processor for further treatment.

> ⧖ In the MIDITEMP MULTIPLAYER MP 22-X you will find the special MIDI port called "WV". This corresponds to the setting in an MP 88-X as MIDI port "4"!

4.1. Global Wave processor

The MULTIPLAYERs also allow to determine a **single** MIDI input or output, channel and note zone for triggering Waves (see section 5.2 on page108). The Bank out of which the Waves will be played is the one selected in Wave Mode. This function works independently of other settings in the Wave Processors of the Matrix Programs. This differs to the MP 22-X-series.

4.2 Wave processor of Matrix programs

The settings in this function are similar to those of the global Wave Processor (see last section), but in addition you can determine the Wave Bank out of which the Waves will be recalled (please read also section 6.12, page 105). The second difference to the global setting is the option to program several Wave processors for different MIDI inputs, outputs and channels. In this way you can, for example, play Waves from different Banks through notes with different MIDI channels.

5. Procedure

You must reserve memory for the Wave Player first. Otherwise, the following error message appears:

> **No memory reserved for waveplayer!**

5.1 Reserve Memory for Waveplayer (WVM)

↘ Double-click `SEQ` or `MATR`.

↘ Press `9` » ➔ « and select `2` »`WVM`«.

> **Memory for Waveplayer   9 * 64K**

❶ Choose the desired value using ● and confirm with `ENTER`. After the (automatical) restart there is memory space available for Waves.

➔ *Please read also section 12, page 37*

5.2 Set MIDI channel and keyboard range

↘ Double-click on **WAVE**.

```
MIDI → Wave (global): Ch15     4:
    1    2    3  ( 4)   5    6    7    8
```

↘ Select an input or output using **IN** or **OUT**.
(not for the MP 22-X series)

```
MIDI → Wave (global): Ch15      4:
TMR CLR
```

↘ Select a MIDI channel using ● and press **ENTER**.

```
MIDI → Wave (global): Ch15      4:
TMR CLR           notes  C-2 to  G 8
```

❶ Set the desired keyboard range, in which Waves are to be played. If you choose an input, in this area <u>only</u> Waves can be played; Notes will not anymore be generated.

❷ Using **CURSOR** you can move the blinking cursor across the parameters.

❸ The "CLR" function allows you to delete an assignment.

↖ Quit this function by pressing **EXIT**.

5.3 Load, select and play Waves

⧖ When loading Waves, the assignments of Waves to MIDI notes will be automatically entered in the current Assignment. ***Therefore load the Assignment first***. This brings the advantage you don't have to merge Assignments after loading the desired Waves: While loading the first Waves the current Assignment in memory will already be supplemented.

↘ Press **WAVE**.

```
Wave:  WVA   C-2
←   ( 0)   1    2    3    4    5    6    7    →
```

Now you are in the highest Wave level. "WVA" means Wave Bank A. The numbers in the bottom line are MIDI note numbers.

In the top line the corresponding MIDI note name appears (C-2), in the bottom line there are brackets around note number 0 (you may choose any number here by using ●, but remember to choose one that lies within the specified keyboard range, if you want to start the Wave via your keyboard).

❶ Double-click on **DRVE**. You will see the directory, that was selected last time you used a disk-related function. Select a Wave. If your Audio file wears another extension than ".WAV" press **0**, the search-display changes to " *.* ". Search using the ●.

❷ Press ENTER.

```
Wave:   WVA   C-2   WAVEDEMO.WAV
←   (   0)   1   2   3   4   5   6   7   →
```
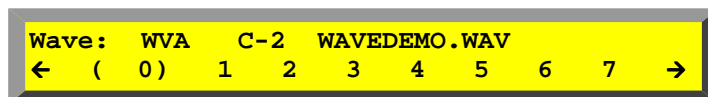
        The LED of the number key right below number 0 lights up. Depending on if you have a device with or without hard disk, either the entire Wave has been loaded from the inserted floppy disk, or, the first data blocks of the Wave have been loaded from hard disk. If you press this key shortly the Wave will be played in fully length. If you hold the key, the Wave will only be played, until you release the key. On one Bank you can assign as many Waves as there are MIDI note numbers.

        ❸ Repeating these steps, you can now assign different Waves to other note numbers.

        ↖ Quit this function by pressing EXIT.

⏳ If you started a Wave by shortly pressing a depending number key you can stop the playback by pressing another number key. If there is another Wave assigned to that key the next Wave will start to playback, if there is none assigned to the key the Wave Player is stopped.

5.4 Songspecific Assign of Wave files

        With the songspecific assign of Waves you get the possibility just by selecting a Song to load all depending Audio files to this Song into the memory with one function. Working like this you don't need to hold all Waves in the memory at once. On the other side you can use the same MIDI channel, key range and note-assignment for each Song (but with different Waves, of course). The assignment of the Waves to Songs has to be done via the "WVH"-Bank, which is especially reserved for this purpose.

PROCEDURE

        ① Select the Song memory playce with the MIDI File Waves shall be assigned to.

        ↘ Press WAVE and select with BANK the "WVH" Bank.

        ❶ Assign the needed Waves to the different notes (as written in 5.3, page 108). Every setting will automatically registered by the MULTIPLAYER.

        ② Don't forget to save your Assign file to store the new settings!

⧗	Every time a Song memory place is activated first action the MULTIPLAYER deletes all Waves from the WVH Bank. If placed then the depending Waves of the new Song will be pre-loaded. This action may last at least some seconds (depending on the number of Waves to be pre-loaded).
⧗	If you definde the MIDI channel and MIDI output for triggering Waves as "globale setting" (via double-click on ▪▪▪▪) watch that only Waves in the just activated Bank of the Wave function will be triggered. If you want additional trigger, for example, some „Jingles" in the WVA Bank (e.g. applause, thunder, animal voices ...) independently from the current Song via your keyboard or the Remote Controller, you should therefore trigger the WVH Bank via a Matrix Program using the settings of the "WAV" function (see page 105). Meanwhile you define this way the Bank to trigger (for this example: WVH) the triggering of the Song-Waves will work independently of the activated Bank in the Wave Mode.

6. Wave utilities

If you want to stop a Wave, remove one from your Assignment, clean one of the internal memory of the MULTIPLAYER or just want to know the path of the Wave file these functions will help.

↘ Press ▪▪▪▪ and select the desired Wave using ●.

↘ Press ▪▪▪▪.

```
Wave:   WVA    C-2   WAVEDEMO.WAV
  TMR WAV STP              RMV PTH CLR
```

Now you are in the Wave functions menu. "WVA" means Wave Bank A, in the top line the name of the Wave (WAVEDEMON.WAV) with the corresponding MIDI note name appears (C-2). The soft keys have the following functions:

> TMR   ⇨   ** Transparent MIDI Reset = Panic **
> WAV   ⇨   Play Waves by MIDI
> STP   ⇨   Stop playing Waves (see TIP 5.3, page 109)
> RMV   ⇨   Remove the current displayed Wave from Memory
> PTH   ⇨   Display assigned Path
> CLR   ⇨   Clear the current displayed Wave from Assignment

↖ Leave this menu pressing ▪▪▪▪ .

APPENDIX

A Troubleshooting

Expanders or synthesizers cut notes short for no apparent reason, and controllers are reset (e.g. volume to maximum).

Problem:
No MIDI message was sent down the cable for 300 milliseconds. The MIDI receiver has therefore concluded that the MIDI connection has been broken, and switched off what it thinks are droning notes, and possibly reset itself to its power-up condition (volume to max, etc.).

Explanation:
This bizarre behaviour usually happens because of "Active Sensing" in conjunction with the splitting of MIDI data across more than one output or the use of data filters.
"Active Sensing" is sent roughly every 200 ms from a master (keyboard, sequencer, etc.) whenever there is no other MIDI data to be sent. Its purpose is to let any connected instruments know that the MIDI connection is still intact (a sort of "Hi there! Yes, I'm still here!" message).
The problem arises when a processor (such as an MPXX-W or PMM-88E) using Split or Filter functions etc. is not allowing all of the data which the master is sending to reach an expander. The master is happily sending lots of MIDI data (and therefore no Active Sensing), but not all of it is reaching the expander, which can cause the above problem.

Solution:
You should disable Active Sensing completely. If the master does not let you do this, use a global Active Sensing filter at the corresponding input of the MULTIPLAYER. This works because a receiver will only expect Active Sensing if it received it immediately after being switched on or reset.

Transmission of System Exclusive data from the MULTIPLAYER to the synthesizer or expander is unsuccessful.

Problem:
The instrument is not capable of dealing with SysEx data mixed in with Real Time data.

Explanation:
If one of the MULTIPLAYER's outputs has been designated as a synchronisation output, it will send Clock events from this output at regular intervals, depending on the current tempo setting, regardless of whether or not SysEx is being sent. This is because the MIDI specification makes it quite clear that Real Time data such as MIDI Clock can be sent at any time, even in between the bytes of a SysEx message. Even when the MULTIPLAYER is stopped Clock data is always sent, so that any connected slaves can set themselves to the correct tempo even before a Start command.

Solution:
The Sync function should be de-activated for the output which has the troubled instrument connected, or the instrument must be moved to an output which never needs MIDI Clock (i.e. no drum machines, sequencers, etc. on this socket).

After a Start command, the MULTIPLAYER sticks on the first note of bar one, instead of playing the Song.

<u>Problem:</u>
The MULTIPLAYER is set to "SYNC: MIDI clock".

<u>Explanation:</u>
You have probably forgotten to set the MULTIPLAYER back to internal synchronisation after recording a Song via MIDI in external sync. So the MULTIPLAYER waits for some MIDI Clock.

<u>Solution:</u>
Set the sync back to "internal" and press Start again.

A MIDI file created on a software sequencer doesn't play back like it did on the computer. Whole sections or voices are missing, drum and bass parts simply stop after four bars, some of the settings (channel, transpose, velocity, etc.) are being ignored, only the intro of the Song is played, or the whole Song comes from only one synthesiser, or not at all!

<u>Problem:</u>
The playback parameters of the software sequencer have not been converted and stored within the MIDI file.

<u>Explanation:</u>
The MULTIPLAYER will only play exactly what is stored within the MIDI file. The "MIDI File Format" allows the following song data to be saved:

- Several parallel tracks with any number of events on all 16 MIDI channels
- Full resolution (e.g. 1/768 Note)
- All MIDI channel information (Control, Poly/Channel Pressure etc.)
- SysEx events without handshaking
- Tempo
- Time signature
- (Text events)

The software sequencer will save each event with whichever channel, velocity, pitch, event position, etc. appears in the Event Editor (i.e. the "original" data).
Sections which seem to be missing are sometimes being played on other MIDI channels, namely the original channel that they were recorded on in the software. The same is true of the "playback parameters". A track which has been transposed there will nevertheless be saved in its original key.
Furthermore, the whole Song must end up as one single pattern, because a Song with lots of separate patterns cannot be saved as a MIDI file.

<u>Solution:</u>
Before saving the Song as a standard MIDI file, you must replace the playback parameters with real, "hard" events (e.g. "Normalize" and "Fix Quantize" in Creator/Notator, and MIDI channel calculation using "Process Data" or [Shift-T] in the Editor).
Loops are also playback parameters, and must therefore be replaced by physical copies (in Creator/Notator: "Segment Copy", Number of Copies: Loop value / bar count x number of bars).
In Creator/Notator, arrangements of patterns must be merged together into one long pattern using "Arrange-to-Pattern Copy". In CUBASE the tracks have to be glued to one complete track, too.
Having done all this, re-save and re-load the Song as a MIDI file into the software sequencer to check for accuracy.

Automatic Assignment loading on power-up doesn't work.

__Problem:__
The Assign file on the current drive is not called ASSIGN.ASG.

__Explanation:__
On power-up, the automatic load function scans the current drive for an Assignment called "ASSIGN.ASG", and if it finds one, it will load it. ".ASG" files with other names are ignored.

__Solution:__
Rename your start-up Assignment "ASSIGN.ASG" (naturally, you can have a different file with this name on each of your disks if you want to, so you are not limited to only one Assign file).

The message "WRONG DISK FORMAT" appears.

__Problem:__
The disk cannot be read.

__Explanation:__
The message indicates a disk which is either unformatted or in the wrong format. The MULTIPLAYER cannot read Macintosh disks or compressed formats (no 10 or 11 sector per track or 83 track disks please!).

__Solution:__
Use only double-sided 720 kByte DD or 1.44 MByte HD disks. Use them only if they are marked "DD" (Double Density) or "HD" (High Density).

The MULTIPLAYER won't load a song (or chooses the wrong drive).

__Problem:__
The MultiPlayer can't find the song, the Assignment shows the wrong path.

__Explanation:__
The wrong path has been saved in the Assignment (see section 1.3 on page 48, "Load a Song").

__Solution:__
Choose the "Assign to file" function or manually load the desired song. This will update the Assignment. Then save the correct Assignment.

The MULTIPLAYER does not start up.

__Problem:__
The operating system cannot be loaded.

__Explanation 1:__
For some mystic reason (e.g. like unstable mains voltage or voltage peaks) the data in memory are messed up.

__Solution 1:__
Keep ▨EXIT▨ pressed while switching on the unit. The entire memory will be initilized (corresponds to the Configuration function "INI", page 30).

__Explanation 2:__
You did an SCSI connection without switching the device on. The SCSI chain doesn't work.

__Solution 2:__
Switch on the MULTIPLAYER after powering up all SCSI devices. Control your SCSI-termination!

The MULTIPLAYER doesn't do anything – it is just "freezed"!

Problem:
One key is mechanically fixed on the remote.

Explanation:
The last press on one of of the keys you did pretty strong so it clambs mechanically under the top of the remote. This blocks all further entries.

Solution:
Just look and find the key. Press it smooth so it will remove.

The MULTIPLAYER works well, but suddenly has no internal storage drive

Problem:
The MULTIPLAYER starts as usual but does not boot with the Assign, and by searching it via any Drive function an drive error message appears.

Explanation:
99% of all cases the internal data cable of the hard disc drive is unplugged (the plugs are sitting under pressure and can seldom jump off by a rough transport. Ask your roady – you will hear: „... me ... ???").

Solution:
Let the unit open by an authorized person and the fixing of all data plugs in the unit check.

The MULTIPLAYER suddenly stops the playback

Problem:
During playback (on stage, of course) the MULTIPLAYER suddenly stops. Pressing ▶ again it starts and plays with no problems.

Explanation:
This problem occurs really seldom and is often caused by an unwanted contact of the footswitch plug, without a plugged-in footswitch.

Solution:
Check the settings (see page 29) and change them into not a start/stop or stop/continue function.

Please visit our FAQ (frequently asked questions) area on our homepage:

www.miditemp.com

B Signal flow charts

B.1 One MIDI channel – from input to output

```
                                        ┌──────────┐
                                        │  Remote  │
                                        └────┬─────┘
┌─────────────────┐   ┌─────────────┐   ┌───────────────┐   ┌───────────────┐
│                 │   │   Split     │   │               │   │               │
│   MIDI Input    │───│(see diagram 2)│─│ Input Transpose│──│ Input Filters │
│                 │   │             │   │               │   │               │
└─────────────────┘   └─────────────┘   └───────────────┘   └───────────────┘

┌─────────────────────────┐   ┌──────────────┐   ┌──────────────────┐   ┌────────────────────┐
│                         │   │              │   │                  │   │                    │
│ ROUTING      Controller │   │ Output Filter│   │ Output Transpose │   │ Velocity Processing│
│         Reassign        │   │              │   │                  │   │                    │
└─────────────────────────┘   └──────────────┘   └──────────────────┘   └────────────────────┘

┌─────────────────┐   ┌──────────────────┐
│ Program Change  │   │                  │
│ Volume Control  │───│   MIDI Output    │
│  Send Data      │   │                  │
└─────────────────┘   └──────────────────┘
```

B.2 Split

```
                                                              ┌────────────────┐
                                                              │ Split Ch.8     │── etc.
                                                              │ left zone: Ch 8│
                                         ┌───────────────────┐└────────────────┘
                              ┌──────────┤4. Split region: Ch 8│
                              │Split Ch.5│3. Split region: Ch 7│
                              │left zone:│2. Split region: Ch 6│
                              │  Ch 5    │1. Split region: Ch 5│
               ┌─────────────┐└──────────┴───────────────────┘   ┌────────────┐
               │4. Split region: Ch 5│                           │            │
               │3. Split region: Ch 4│                           │  Routing   │
               │2. Split region: Ch 3│                           │ Controller │
               │1. Split region: Ch 2│                           │  Reassign  │
┌────────────┐ └─────────────────────┘                           │            │
│Keyboard: Ch1│  ┌────────────┐  ┌────────────────────┐          └────────────┘
│            │──│ Split Ch 1:│──│                     │
└────────────┘  │left zone:Ch2│  │ Ch 1: Controller    │
                └────────────┘  └────────────────────┘
```

C Glossary

term	explanation
above	signs the factor above a value for calculating the Velocity functions
aftertouch	Channel Pressure and Poly Pressure. These Events are sent after a strike on the keys. The »polyphonic Aftertouch« (Poly Pressure) considers additional the note number = the different strike on each key seperately.
All Notes Off	Channel Mode Message (Ctrl. No. 123) stops all voicing note numbers
internal memory	The temporarily area in the MULTIPLAYER in which Songs and Waves are loaded.
ASSIGN file	The file on disk where the Assignments are stored.
assignment	All Songs can be allocated individual Program numbers (File Assignment). In addition, tracks can be assigned to any of the MIDI outputs (Output Assignment).
below	signs the factor below a value for calculating the Velocity functions
Control Changes	MIDI events whose first byte determines their function. E.g. »CC 1« is the modulation wheel, 2 = breath control, 4 = foot pedal, 7 = MIDI volume, 64 = Sustain On/Off etc. The second data byte contains the value.
MIDI dump	Transmission of large data amounts via MIDI
dump request	MIDI command between two MIDI devices for sending SysEx datas.
extension	The extension is used to show the type of file. E.g. Songs always end with the extension ».MID« (MIDI File format).
file	For the MULTIPLAYER a file has to have an eight-character name and a three-character "extension", seperated by a full stop.
General MIDI (GM)	Definition of a MIDI standard. E.g. the direction of a soundbank containing 128 Sounds in a specific order ...
Job	Programmable sequence of different functions. In the MULTIPLAYER it works like a »mini programming language« .
MIDI	Musical Instrument Digital Interface. MIDI is a standarized specification for digital instruments to communicate via the MIDI plugs (IN, OUT, THRU).
MIDI channel	MIDI informations can be divided up in a maximum of 16 different "parts". Each part characterizes a MIDI channel.
zero setting	The value on which a controller does not affect anything. (mostly 0)
offset	The start value of the Velocity function for the calculation.
Omni Mode	A MIDI device can receive datas on all 16 MIDI channels.
Program Change	Command event to switch a sound.
Standard MIDI File	Standarized format to change datas between devices and systems.
Systemexklusive Messages (SysEx)	These messages (datas) are not in the "MIDI language" but the machine codes of a system. To provide trouble with MIDI the messages start with a »SysEx-Header« and ends with an »EOX«- (End Of Message) command. E.g. a SysEx message could be: »manufacturer Roland, synthesizer XV-88, set the Cutoff-Filter on value 0« or » manufacturer Yamaha, expander CS6xR, here the complete sound datas for your edit buffer!«, ...
Text Events	To display lyrics via the MULTIPLAYER the Songs have to contain Text Events, special MIDI commands. Each of these commands can be a letter, a syllable, a word or a complete sentence. These Text Events can be displayed on a connected TV screen.
Matrix	A Matrix is a grid whereby any junction can be connected to any other. This principle is the key to logical organisation of the eight inputs and outputs. From Matrix mode the processor and master keyboard functions are available.
Wave	Digital sampled or "digitized" sound or waveform

D Specifications

		MULTIPLAYER / MIDI MATRIX SYSTEM
Mains	Power connector:	Standard IEC socket
	Voltage:	Adapts automatically to voltages between 100 V and 240 V.
	Power consumption	Approx. 15 W, 50/60 Hz
Size and Weight	Dimmensions (B, H, T):	483 x 44,5 x 265 mm (19", 1 U)
	weight:	Between 6 and 8 kg
Footswitch (Option)	connector:	6,3 mm jack socket (mono)
	Type:	Momentary
	Switching:	Polarity is sensed automatically
Computer	Memory:	1 MByte, expandable up to 16 Mbyte (Sipp module)
	Memory (static):	32 KB, expandable up to 128 kByte
	Interfaces:	2/8 x MIDI IN, 2/8 x MIDI OUT, Floppy, SCSI, Audio, Smart Media Card slot, optional FORNET (not MP22-WX)
Storage media	Floppy disk:	3,5" DD/HD Floppy Disk Drive, 9 Sect./80 tracks, LED
	Disk format:	MS-DOS, Atari ST-komp. (MFM)
	Smart Media Card:	Smart Media flash card, 3,3V, 4MB up to 64MB
	Hard disk:	SCSI, IDE, 2,5", max. 16 Gbyte/drive
Remote controller	Dimensions (B, H, T):	210 x 25 x 94 mm
	Connector:	Cable: 5 m, plug: 8-Pol
	Display:	2x40 character backlit LC display
	Keys and controls:	[0] – [9], [IN], [OUT], [PERF], [WAVE], [AUDIO], [MATR], [SEQ], [DRVE], [BANK], [EXIT], [CURSOR], [ENTER], [◄◄], [►►], [■], [►], [II],
WavePlayer	Playable formats:	WAV, AIFF
	Playback parameters	Mono or stereo, 8 or 16 bit, 5–50 kHz Sampling frequency
	Number of Waves	Up to 1024 Waves (monaural)
Further Options	FORNET	MP 88-W, MP 88-CD, PMM 88-E, MT 16-X
	GM-Daughterboard	Only MULTIPLAYERs

E Event list

Noten-Events:
9n	Note On	(Byte 1 = Note number, Byte 2 = Velocity)
9n	Note Off	(Byte 1 = Note number, Byte 2 = 0 [off])
8n	Soft Note Off	(Byte 1 = Note number, Byte 2 = Release Vel.)
An	PolyPressure (polyph. Aftertouch)	(Byte 1 = Note number, Byte 2 = value)

Channel Messages:
En	Pitch Wheel	(Byte 1 = LSB, Byte 2 = MSB)
Cn	Program Change	(Byte 1 = Program number)
Dn	Channel Pressure (Ch.-Aftertouch)	(Byte 1 = value)

Controller (Ch.-Messages) (Byte 1 = Status, Byte 2 = value):
Bn	Modulation Wheel	1
Bn	Breath Control	2
Bn	Foot Control	4
Bn	Portamento	5
Bn	Data Slider	6
Bn	Volume	7
Bn	Balance	8
Bn	Panorama	10
Bn	Expression	11

(Control 32 to 63 control the LSB values for Controls 0 to 31 respectively)

Bn	Sustain/Hold Pedal	64
Bn	Portamento	65
Bn	Sostenuto	66
Bn	Soft Pedal	67
Bn	Hold 2	69
Bn	Tremolo Depth	92
Bn	Chorus Depth	93
Bn	Celeste Depth	94
Bn	Phase Depth	95
Bn	Increment	96
Bn	Decrement	97
Bn	Local On/Off	122

Channel Mode Messages (Controller):
Bn	All Notes Off	123
Bn	Omni Off	124
Bn	Omni On	125
Bn	Mono On (Poly Off)	126
Bn	Poly On (Mono Off)	127

System-Messages

System Exclusive:
F0	System Exclusive	(Byte 1 = Manufacturer ID, Byte 2 = Device ID, Byte 3 = Parameter ID [no Channel Byte]). Next follows a message of any length
F7	End Of Exclusive (EOX)	(2 Bytes; End of System Exklusive Transmission, Actually this is a »Common« Event type, see below)

System Realtime:
F8	MIDI-Clock	(1/96 pulse, only together with Start command)
FA	Start	(Start command, always at beginning of Songs)
FB	Continue	(proceed after Stop command)
FC	Stop	(Stop command, MIDI clock runs on)
FE	Active Sensing	(every 200 ms, checks MIDI connection)
FF	System Reset	(initiates reset in some devices)

System Common:
F1	MIDI-Timecode (MTC)	(pseudo »SMPTE via MIDI«)
F2	Song Position Pointer	(16383 Song positions with LSB/MSB)
F3	Song Select	(selection of 128 Songs)
F6	Tune Request	(tune-up command for some devices)
F7	End Of Exclusive (EOX)	(see above)

F Error Messages

Error message	
CRC error	The data on the inserted floppy disk is corrupted..
directory exceeds	A directory or folder contains more than 1000 files.
disk full	There is not enough space on the medium to save the file.
disk structure bad	None of the above faults were found, yet the disk cannot be read.
file not found	The file which is to be loaded does not reside on the selected drive.
MIDI buffer full #	A MIDI bottleneck at one of the MIDI ports has caused the MIDI buffer memory to overflow. The number and name of the afflicted port is displayed along with this message. An output can only overflow when too much data arrives at it, during Send Data or SysEx transmissions.
MIDI data error #	This message warns of incomplete MIDI data at one of the inputs, i.e. the bit count of an individual MIDI byte (start bit, bit data, stop bit) was wrong. Possible causes are: poor cables, too many thru-in connections before the data reaches the MULTIPLAYER, or a synthesizer has emitted a burst of random "garbage" as it was switched on.
no data	The medium is unformatted, or of the wrong format.
no directory space	There are too many files in the root directory or folder.
no disk	There's no floppy disk in the drive.
No memory reserved for waveplayer!	You attempted to switch into Wave mode although there was no memory reseved for the Wave Player.
no response	The selected SCSI device is not responding.
out of memory	The MULTIPLAYER's Song memory is full. Either there is not enough room to load a Song from disk, or, when recording, there is no room for incoming data. In this case recording will stop on the track which experienced the problem, and any data already recorded on that track will be deleted. However, recording will continue on any other tracks.
Processing-Resources exceeded!	Too many data processors (Filter, Split, Transpose etc.) have been used.
reservation conflict	Two SCSI devices have the same SCSI ID.
Routing-Resources exceeded!	Too many or too complex routings have been programmed. This and the previous message only occur when a single device is being overstretched within a FORNET setup.
SCSI error #	An error has occured in one of the SCSI devices (the error number is sent by the relevant device, an error list you may find on www.miditemp.com)
sector not found	A sector on the disk could not be found, or is corrupted.
Sequencer program must be a JOB!	The »job« function has been called up but the program is a Standard MIDI File. Select an already existing JOB or a free Song memory place.
System buffer full	During a transmission of SysEx data, especially Matrix Banks; the programs of the receiver should be cleared up first, then repeat the transmission.
unsupported format	The format of the disk has been recognized as incorrect.
Wave memory full!	There is no memory space available for additional waves.
write protected	The disk is write-protected. Double-check you really want to add something to this disk. If so, close the small plastic protect tab of the disk, replace it in the drive, press `ENTER`.

G Format of the Assign files

The MULTIPLAYER treats the Assignment like a text file (ASCII). This allows to view its contents on a computer screen and to use a text editor to edit the file or completely rework it.

The minimum Assignment contains two lines for a Song. The first line contains the Bank name and Song number (or the Song memory place) plus the file name and the path which is to be loaded into this location. The second line gives the MIDI outputs via which the Song data is to be transmitted.

A typical Assignment entry (e.g. the european factory demo) will look like this:

```
S1A  1=B:\DEMO\98168\98168_GM.MID
  #1,2,3,7 T02:0 T38:4
```

This means the Song 98168_GM.MID is going to be loaded from the internal drive into location number 1 in the first Bank. All tracks are to be transmitted via outputs 1,2,3 and 7. In addition, some tracks are to be transmitted via seperate outputs: track 2 is muted (no output has been selected), track 38 only via output 4.

The Assignment entry (since OS 4.09) generally takes the form:

[<Default Output Assign>]	DOA, see page 54
<bank name><song number> = <loading path><Song file>	
or	❶
<Song memory place>=<loading path><Song file>	
[N:<Song name>]	NAM, see page
[#<standard outputs>][T<track>[-<track>]:<outputs>]	❷
[Q1=<SP1>][Q2=<SP2>][Q3=<SP3>][Q4=<SP4>][L]	Performance mode, see page
[TRP=<transposition>]	TRP, see page
[M<Matrix Program>]	Assigned Matrix to Song number
[{Wave Assignment, if neede several lines}]	Wave mode, see page

Explanation:

Entries in square brackets can be skipped, entries in chevrons are spaces for entering values.

❶ Indicates the Song to be loaded. This usually contains the complete path and the file name. The path consists of the drive followed by a colon and then the name of the subdirectory (seperated by "\"). A single "\" indicates the root directory of the drive. If you enter just the file name (without "\") the file will be searched for in the currently selected directory. If no drive is selected, the drive previously selected by the "Change Drive" command will be addressed.

❷ This entry represents the allocation of the tracks to the output for the song. The outputs are listed after a "hash" which initially means all tracks are assigned to these outputs. This corresponds to the setting "Tracks=ALL" in the "Output Assignment" function. If this entry is omitted, the default value "1/2/3/8" is used. After this come any tracks which deviate from the output allocation. In this case there will be the letter "T" ("track") followed by the track number, a colon and the list of outputs. If the allocation is the same for several tracks that follow one after the other, you can define a zone rather than enter individual tracks.

You can also enter some explanatory text at the end of each line. We recommend that you precede such text with a semicolon (;). When you save the Assignment using the "Save Assign" function, a completely new file is always created which naturally contains no explanatory text, so you shouldn't alter any Assignment containing a commentary in the MULTIPLAYER!

The latest news about the rules concerning the Assign layout you always will find on the MIDITEMP's homepage: **www.miditemp.com**

Here some examples of typical contents of an Assign file:

```
S1A 25=A:\LETS_TWI.MID
```
On Song memory place 25, Bank S1A the file LETS_TWI.MID will be loaded from floppy disk, original directory. Output will be DOA.

```
S001=B:\DEMO\98168\98168_GM.MID
N:No Matter What
    #1,2,3,7 T02:0 T38:4
{
WVH128=B:\DEMO\98168\0198168C.WAV
WVH127=B:\DEMO\98168\0298168C.WAV
WVH126=B:\DEMO\98168\0398168C.WAV
WVH125=B:\DEMO\98168\0498168C.WAV
WVH124=B:\DEMO\98168\0598168C.WAV
WVH123=B:\DEMO\98168\0698168C.WAV
WVH122=B:\DEMO\98168\0798168C.WAV
WVH121=B:\DEMO\98168\0898168C.WAV
WVH120=B:\DEMO\98168\0998168C.WAV
}
```
SNM = 3-digit decimal number,
Song 001 will be loaded from internal harddisc,
The name "No Matter What" will be displayed,
All tracks are to be transmitted via outputs 1/2/3/7, track 2 is muted, track 38 assigned to output 4
On the WVH Bank these definde audio files will be loaded by activating the song and can immediately be played back.

```
S2078=B:\DEMO\98173\98173_GM.MID
N:Brother Louie 1998
    #1,7
Q1=24 Q2=36 L
TRP-2
```
SNM = 4-digit decimal number,
Song 2078 will be loaded from internal harddisc,
The name "Brother Louie 1998" will be displayed,
All tracks are to be transmitted via outputs 1/7,
Two cue points are defined
Loop is activated
The song sounds transposed –2 semitones

H Mode structures

Main Level	Sub Level 1	Sub Level 2	Sub Level 3	Sub Level 4	Explanation	Page
SEQ SEQ or **MATR** MATR					**Konfiguration menu**	
					Device Configuration Menu TMR DCT DSP NAM ID ANO FS INI DRV →	
					Device Configuration Menu ← UPD WVM WVP DLY NIT SNM MSC LOK →	
					Device Configuration Menu ← PW XMR	
	TMR				** Transparent MIDI Reset **	18
	DCT				Double Click Time	27
	DSP				Display Layout	28
	NAM				I/O Names	28
	ID				Device Name	29
	ANO				All Notes Off	29
	FS				Foot Switch Settings	29
					Foot Switch Settings TMR FS1 FS2 +/-	
		TMR			** Transparent MIDI Reset **	18
		FS1			Set function of FS1	29
		FS2			Set function of FS2	29
		+/-			Polarity	30
	INI				Initialize Device	30
	DRV				Device Drive Manager	31
					Device Drive Manager TMR INS REL FMT INI HID PAR	
		TMR			** Transparent MIDI Reset **	18
		INS			Install Drive	32
		REL			Release Drive	33
		FMT			Format Medium (SCSI, IOMEGA, etc)	34
		INI			Initialize partition table	34
		HID			SCSI-ID of Host Adapter	35
		PAR			SCSI Parity	35
	UPD				Update Operating System	36
	WVM				Memory for Waveplayer	37
	WVP				Preload for waves	38
	DLY				Delay after Power On	38
	NIT				Night Mode on/off	39

<table>
<tr><td>SNM</td><td></td><td></td><td>Song Numbering Mode</td><td>39</td></tr>
<tr><td>MSC</td><td></td><td></td><td>Miscellaneous</td><td>40</td></tr>
</table>

```
Miscellaneous...
 TMR K0+ K0- PK+ PK- SJ+ SJ- CP+ CP-   →
```

```
Miscellaneous...
  ←    AD+ AD-
```

TMR		** Transparent MIDI Reset **	18
K0+/K0-		Allow/Prevent TMR from Toplevel	40
PK+/PK-		Enable/Disable Pause Key	40
SJ+/SJ-		Start Jobs by Prg.Select / manually	40
CP+/CP-		Couple/Don't couple M.-Prgs with Songs	40
AD+/AD-		Automatic/No Automatic Directory Usage	41
LOK		Lock device	42
PW		Enable/Disable Password	41
XMR		Exclude Midi Channel from TMR	43
		=> switch into **Sequencer Mode**	

```
<SEQUENCER> Select function:
 TMR REC SYN OUT ASG LYR JOB RMV MEM   →
```

```
<SEQUENCER> Select function:
 ←    DIV NAM MXP LOP CNF
```

TMR		** Transparent MIDI Reset **	18
REC		Record or keep tracks	61
SYN		Synchronisation	64
OUT		Output Assignment	65
ASG		File Assignment	49

```
File Assignment
 TMR LOA MER SAV       PTH ASG MOV CLR   →
```

```
File Assignment
 ←    DEL INS SRT DOA
```

TMR	** Transparent MIDI Reset **	18
LOA	Load Assignment	50
MER	Merge Assignment	51
SAV	Save Assignment	51
PTH	See file Path to the current Song memory place	52
ASG	Assign to File	52
MOV	Move Assignment	53
CLR	Clear Assignment	53
DEL	Delete Assignment	53

SEQ

ENTER
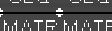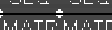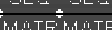
	INS	Insert Assignment	54
	SRT	Sort Programs alphabetically	54
	DOA	Default Output Assignment	54

```
Default Output Asg.
  TMR CLR DEF ALL
```

	TMR	** Transparent MIDI Reset **	18
	CLR	Clear User's DOA	55
	DEF	Define Default Output Asg.	54
	ALL	Apply DOA to entire bank	55
LYR		Lyrics Display Setup	

```
Lyrics display setup:
  TMR TRK COL FNT MRK TMM SPC NWL
```

	TMR	** Transparent MIDI Reset **	18
	TRK	Select Track	79
	COL	Select Colour	79
	FNT	Select Font	79
	MRK	Select Marker	80
	TMM	Marker Mode	80
	SPC	Spaces between words	80
	NWL	Set Newline Character	80
JOB		Jobs	73
RMV		Remove Song from Memory	67
MEM		Memory Info	67
DIV		Set Division	58
NAM		Edit Track names	61
MXP		Couple Matrix Program with Song	62
LOP		Initial Loop Status	62
CNF		Device Configuration (see above.)	62
		Creating or changing a Song Bank	
		Loading... (reloads a Song)	
		Drive Functions (Sequencer)	

BANK
DRIVE DRIVE
DRIVE

```
<DRIVE> Select function:
  TMR LOA SAV LDA      COP ERA DIR CD      →
```

```
<DRIVE> Select function:
  ←  MKD RMD BAK      FMT      OFF
```

TMR		** Transparent MIDI Reset **	18
LOA		Load Song	20
SAV		Save Song	21
LDA		Load All Songs	56
COP		Copy Files	22

Performance Mode

```
┌─────────────────────────────────────────────────┐
│  S1A   1 WAVEDEMO.MID          001.01.0001       │
│   TMR --- --- --- --- LOP TRP ←□→ 120            │
└─────────────────────────────────────────────────┘
```

```
┌─────────────────────────────────────────────────┐
│        01   Drums             001.01.0001        │
│   TMR CLR TRK CHN PRG VOL #10 ←□→    Read         │
└─────────────────────────────────────────────────┘
```

```
┌─────────────────────────────────────────────────┐
│  <MATRIX> Select function:                       │
│   TMR RTG FLT SPL TRP VEL CTR PRG VOL  →          │
└─────────────────────────────────────────────────┘
```

```
┌─────────────────────────────────────────────────┐
│  <MATRIX> Select function:                       │
│   ←    SND RMT CAP WAV NAM COP DEL DMP  →          │
└─────────────────────────────────────────────────┘
```

```
<MATRIX> Select function:
  ←   CNF
```

Creating or changing a Matrix Bank

Drive Functions (Matrix)

```
<DRIVE> Select function:
 TMR LDB SVB LDN SVN COP ERA DIR CD    →
```

```
<DRIVE> Select function:
  ←   MKD RMD BAK     FMT     OFF
```

Global Settings for MIDI channel, output and keyra

Wave Assign to seperate notes

```
Wave:  WVH  C-2  TUUUT.WAV
 TMR WAV STP          RMV PTH CLR
```

ENTER

A_DIR

I Default parameters

Main functions	Sub1	Sub2	Sub3	Sub4	Default	value	Note / Explanation
MATR MATR or SEQ SEQ	ANO				all 8 Banks to YES	YES / NO (8x)	Send „All Notes Off" after Matrix program changes
MATR MATR or SEQ SEQ	FS	FS1			START / STOP	Switch Program TMR STOP / CONTINUE START / STOP	Footswitch 1
MATR MATR or SEQ SEQ	FS	FS2			SONG++ (=Switch Program)	Switch Program TMR STOP / CONTINUE START / STOP	Footswitch 2
MATR MATR or SEQ SEQ and 9	SNM				STANDARD BANK / PRG	Standard Bank / Prg 3-digit decimal number 4-digit decimal number	Numbering System for Songs, 128th Banks
MATR MATR or SEQ SEQ and 9	NIT				OFF	ON / OFF	Night Modus
MATR MATR or SEQ SEQ	DRV	INS REL			B:2 C:3 D:4	---	SCSI drive installation B: and D: as hard disk C: as CD-ROM
AUDIO					WAVE = A CARD = A CD-ROM = A Volume for all: = 127	A / B / OFF	AUIO OUT
SEQ ENTER	LOP				LOP = OFF	ON / OFF	Pre setting for the Loop function for each Song (see Assign file)
MATR MATR or SEQ SEQ	MSC				enabled = K0+	K0+ / K0-	TMR from TOP-Level
MATR MATR or SEQ SEQ	MSC				enabled = PK+	PK+ / PK-	Pause key activated
MATR MATR or SEQ SEQ	MSC				disabled = SJ-	SJ+ / SJ-	JOB runs automatically when selected
MATR MATR or SEQ SEQ	MSC				disabled = CP-	CP+ / CP-	automatic couple of Song and Matrix programs
MATR MATR or SEQ SEQ	MSC				disabled = AD-	AD+ / AD-	automatic Directory management for "Save Song"
MATR MATR or SEQ SEQ	WVM				9 * 64K	Memory size	Memory for Waveplayer
WAVE WAVE					OUT 4, Ch 15	OUT 1-8, CH 1-16	settings for Wave steering
WAVE WAVE					WVH	WVA - WVH	Wave Bank
MATR MATR or SEQ SEQ	WVP				64 K	0 - 64 K	Wave Preload

K INDEX