

*DOEPFER*

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# **MIDI Master Keyboard**

# **LMK1 +**

## **User's Guide**



The difference between the MIDI Masterkeyboards LMK1 und LMK1+ is the type of keys. LMK1 uses weighted plastic keys while LMK1+ has keys with real hammer mechanics. The control of LMK1 and LMK1+ is identical. Both instruments are delivered with the combined LMK1/LMK1+ manual.

*Technical specifications are subject to change without notice.*

## 1. POWER SUPPLY

The LMK1 does not have a built-in power supply. Instead it uses a plug-in type external power supply (AC adapter). One reason for this feature is electrical safety. Keeping danger voltages (main) out of the keyboard increases the electrical safety. Therefore an external power supply of high quality and safety should be used. If the keyboard is used in Germany the external power supply must be VDE approved. Another reason for the external power supply is the fact that line voltages and plug types vary considerably from country to country. Using a plug-in external supply the LMK1 can be used any where with a locally purchased power supply, thus keeping the retail price down.

The power supply must be able to deliver 7-12 VDC unstabilized voltage, as well as a minimum current of 200mA. The LMK1 is switched ON by plugging the AC adapter into a wall outlet and connecting it to the appropriate jack on the back of the keyboard case. There is no separate ON/OFF switch. If the polarity of the power supply is incorrect, the LMK1 will not function. However, there is no danger of damage to the circuitry since it is protected by a diode. A 230V power supply with European type of plug is included with the LMK1. Other types of power supply must be purchased locally by the user.

If you are using not the power supply enclosed with the LMK1 you may find the pinout of the LMK1 power jack in the appendix.

## 2. MIDI-INTERFACE

Connect the MIDI-OUT jack(s) of the LMK1 with MIDI-IN of the device(s) to be controlled (i.e. Expander, Sequencer, Synthesizer, etc.) via a suitable MIDI-cable. Both MIDI-OUTs are sending the same MIDI-signal. If you want to control more than 2 MIDI devices you have to use daisy chain MIDI THRU/MIDI IN connection of the devices ore use a external MIDI THRU BOX.

## 3. CONNECTION OF EXTERNAL PEDAL AND FOOT CONTROLLER

Located on the rear of the keyboard case are 2 jacks for connecting a single or double foot switch and a foot controller. The jack for the switches is labeled SUSTAIN, the jack for the foot controller VOLUME. The two foot switches have SUSTAIN (MIDI controller #64) and SOSTENUTO pedal function (MIDI controller #66). If a single foot switch is used only the SUSTAIN function is available. A suitable double foot switch is the DOEPFER VFP2. If a foot controller is connected to the VOLUME jack it has volume function (MIDI controller #7). A suitable foot controller is the DOEPFER FP5.

If you are not using VFP2 or FP5 you may find the pinout of the SUSTAIN and VOLUME jacks in the appendix as well as the type of potentiometer required for the foot controller.

Do not connect the footswitches or the foot controller unless the LMK1 is switched OFF. While power on the LMK1 electronics checks the levels of the foot switches and assumes that these levels are the "off" states. So do not operate the foot switches while turning power on. This feature allows the use of foot switches with contacts open at rest as well as those closed at rest. The foot switches and the foot controller are not included with the LMK1 and have to be ordered separately if required. The LMK1 will work without the foot switches and the foot controller, although the functions SUSTAIN, SOSTENUTO and VOLUME will not be available to the user in that case.

## 4. CONTROLS

The only controls of LMK1 is a power control display (LED) and 2 wheels. The wheel without spring is the **Modulation Wheel** (MIDI controller #1). The spring loaded wheel is the **Pitch Bend Wheel** (MIDI pitch bend function). In addition LMK1 is equipped with a **monophonic After Touch** sensor below the keys that is activated if you put pressure on the keys pressed down.

LMK1 transmits all MIDI messages on **MIDI channel 1**:

- note on/off (with velocity)
- modulation wheel (controller #1)
- pitch bend
- monophonic after touch

and

- volume (controller #7)
- sustain (controller #64)
- sostenuto (controller #66)

if the foot controllers in question are connected.

If desired another MIDI channel can be adjusted by authorized service personal (additional price).

## 5. Operating and Security Instructions

Please follow the given instructions for use of the instrument because this will guarantee correct instrument operation. Due to the fact that these instructions touch on Product Liability, it is absolutely imperative that they be read carefully. Any claim for defect will be rejected if one or more of the items was observed. Disregard of the instructions can endanger the 6 month warranty.

The instrument may only be used for the purpose described in this operating manual. Due to safety reasons, the instrument must never be used for other purposes not described in this manual. If you are not sure about the intended purpose of the instrument please contact an expert.

The instrument may only be operated with the voltage written on the power input on the rear panel. Before opening the case disconnect the power plug.

All eventual modifications must only be carried out by a qualified person who will follow the valid safety instructions. Every modification should be carried out only at the manufacturer or an authorized service company. Any modification not released by the manufacturer leads to the extinction of the operation permission. With the introduction of a third person the warranty will be lost. In case of a destroyed warranty seal, any warranty claim will be rejected.

The instrument must never be operated outdoors but in dry, closed rooms. Never use the instrument in a humid or wet environment nor near inflammables.

No liquids or conducting materials must get into the instrument. If this should happen the instrument must be disconnected from power immediately and be examined, cleaned and eventually be repaired by a qualified person.

Never subject the instrument to temperatures above +50°C or below -10°C. Before operation the instrument should have a temperature of at least 10°C. Do not place the instrument into direct sun light. Do not install the instrument near heat sources.

Keep the top side of the instrument free in order to guarantee proper ventilation, otherwise the instrument could be overheated. Never place heavy objects on the instrument.

All cables connected with the instrument must be checked periodically. If there is any damage the cables must be repaired or replaced by an authorized person.

Transport the instrument carefully, never let it fall or overturn. Make sure that during transport and in use the instrument has a proper stand and does not fall, slip or turn over because persons could be injured.

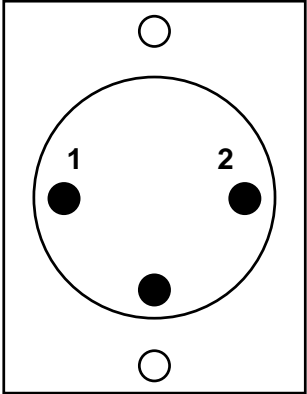
Never use the instrument in the immediate proximity of interfering electronic devices (e.g. monitors, computers) since this could create disturbances within the instrument and corrupt memory data.

The exchange of electronic parts (e.g. EPROMs for software update) is allowed only if the instrument is disconnected from power supply.

The instrument should only be shipped in the original packaging. Any instruments shipped to us for return, exchange, warranty repair, update or examination must be in their original packaging! Any other deliveries will be rejected. Therefore, you should keep the original packaging and the technical documentation.

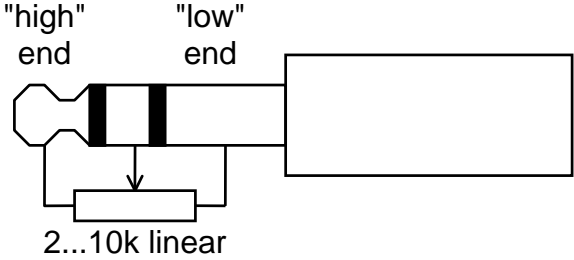
When using the instrument in Germany, the appropriate VDE standards must be followed. The following standards are of special importance: DIN VDE 0100 (Teil 300/11.85, Teil 410/11.83, Teil 481/10.87), DIN VDE 0532 (Teil 1/03.82), DIN VDE 0550 (Teil 1/12.69), DIN VDE 0551 (05.72), DIN VDE 0551e (06.75), DIN VDE 0700 (Teil 1/02.81, Teil 207/10.82), DIN VDE 0711 (Teil 500/10.89), DIN VDE 0860 (05.89), DIN VDE 0869 (01.85). VDE papers can be obtained from the VDE-Verlag GmbH, Berlin.

# APPENDIX: Pin Assignment of the Jack Sockets

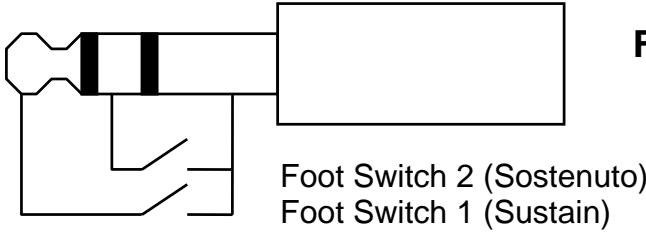


## Power Supply

1 = +7...12V DC  
2 = GND



## Foot Controller ("Volume")



## Foot Controller ("Sustain")