



OWNER'S MANUAL

LACHNIT MK Standard 88, MK Studio 88 and **LACHNIT** MK Imperial 97



Thank you very much for choosing an **FLKeys** product.

180 years of Viennese piano building experience, as well as 30 years of research and knowledge in piano electronics are packed into each LACHNIT FLK MIDI keyboard.

Our customers are mainly professional musicians and artists but our products are also suitable for students, especially as they give you the freedom to practice anytime anywhere.

Many thoughts were spent to make operating the keyboard as easy as possible. If you are familiar with MIDI basics, you will be able to play your MK22 instantly without having to look into the manual for first steps instructions.

Nevertheless, we advise you to read your owner's manual thoroughly as it will give you valuable information to get the best results out of your LACHNIT MK22 -keyboard.

Friedrich Lachnit

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FIRST STEPS

Read enclosed safety instructions carefully. SPECIAL MESSAGE SECTION Page 22

Place the instrument in a stable position. The surface has to be as even as possible to ensure a stable position for all legs to touch the ground. We recommend using a high quality keyboard stand. Find a position where all legs or the bottom of the keyboard rest in a secure stable position. Incorrect positioning can result in damage of your keyboard as well as production of unwanted secondary noises. Tilted positions are possible but reduce the weightage of the keys and change the mechanical touch when playing.

Connect the **FLK** power supply

We highly recommend using only the original **FLK** power supply. Damages caused by using other forms of power supply are not included in your warranty.

Midi connection

If required plug in pedals.

The MK22 is pre-programmed to work with the separately purchasable FLK double pedal, but works just fine with any conventional damper pedal. Pedal contact type (Open / Close) is automatically detected when your keyboard is turned on.

(For more detailed information see page 13: pedal and page 17: technical details)

Push **ON** to turn your **MK22** keyboard on

Key 1 lights up and the display shows **P I**

Your **MK22** receives data on all channels (Omni Mode ON).

Panic Reset flashes when keys are pressed or controllers are used (for further details go to page 12: MIDI activity)

To turn off your keyboard hold the **ON** button down till the display changes from **P I** to **BYE**.
The delay in switching off prevents accidental turn off while in use.

For detailed factory settings refer to technical details on page 20

OPERATION

DYNAMICS



The Dynamics controller changes the velocities of the MK22 keys to suit your keystroke. It customizes the output to meet the dynamic needs of the attached sound module.

Controller in neutral position: LED is green, display shows 0

Turn left up to -64 or right up to 63: the LED changes to red.

Controller position is different to current settings: LED doesn't light up, display shows ---.

Classic: heavy keystroke – less volume -64 (MIDI 127 similar to grand piano).

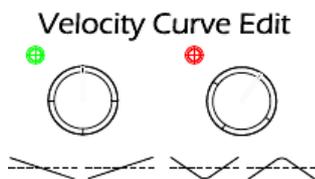
Neutral average keystroke 0

Pop light keystroke – more volume 63 (MIDI 127 easy achievable).

Each controller position uses the full midi velocity resolution. Even the slightest nuances in your dynamic play will be allocated correspondent midi values from 1 to 127. (Read more on page 12: Piano Modus on/off)

For detailed technical information go to page 17

VELOCITY CURVE EDIT



These two controllers adjust the volume on individual regions of the keyboard. They can be used whilst playing and enable you to optimise the output to the requirements of your sound module.

neutral: 0 max left -64 max right 63

bass



Volume increases on lower keys, it decreases on higher ones.

treble



Volume increases on higher keys, it decreases on lower ones.

middle drop



Volume decreases on middle keys (c1), it increases on higher and lower ones.

middle peak



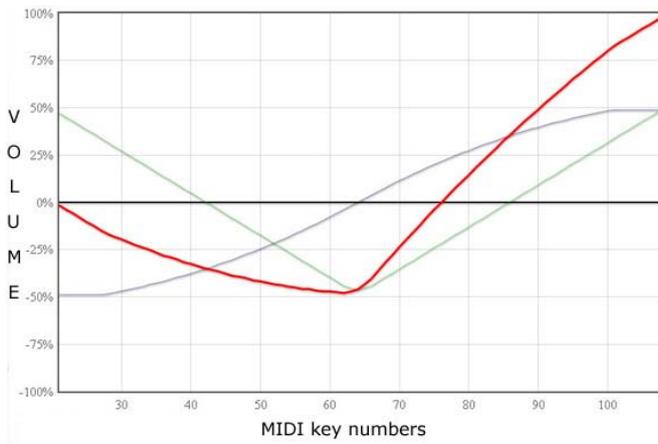
Volume increases on middle keys (c1), it decreases on higher and lower ones.

neutral: no change, display: 0
LED is green

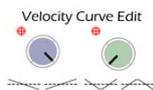
neutral: no change, display: 0
LED is green

The controllers can be used together for generating more complex velocity curves.

Example: both controllers set to maximum:



Controller setting:



Display:

63 -64

Resulting Velocity Curve:



Your personal dynamic settings can be assigned by using „Dyn Store“ to the current program number. (For further details see secondary key functions page 10)

When recalling a previously stored dynamic setting all stored parameters (dynamic and both velocity curves) are automatically set. Therefore the current position of the knobs might not be the one used by the setting. In this case the LED of the controller in question doesn't light up.

If you twist a controller the recalled settings are changed and the LEDs as well as the display behave again as mentioned above. The stored settings stay in the memory till you use „Dyn Store“ and the same program number again.

*If you want to work with previously stored dynamic settings, push **Mode** while turning the controller in question till the LEDs light up. Stored data is displayed and the controllers are in tune with your settings.*

Note:

*If you want to use your dynamic settings without changing the current program on the sound module, it is possible to disable the program change. (See secondary key functions page 10 und 16) The display changes to **d--** with the profile number.*

KEYS **1 2 3 4** PROGRAM SELECTION

Push **Mode** to see the active bank number.

Hold **Mode** and push keys 1 – 4 to select a bank. After selecting a bank the first program of a bank is always selected.

Example:

Display: **P 2** key 2: green LED on program 2: is active

I want to change to program 10:

Hold **mode** ->

key 2: green LED off – key 1 red LED on (I'm still in bank 1 programs 1-4) ->

push key 3 (Now I'm in bank 3, programs 9-12) ->

release **Mode** ->

key 1: green LED on, program 9 is active, display: **P 9**

push key 2 green LED on, program 10 is active, display: **P 10**

KEY: **PANIC RESET**

The LED flashes green twice to confirm input, the display shows: **Pnc**

Sends to all connected MIDI devices:

All Notes off

Controller Reset

Resends all current settings

MIDI ACTIVITY:

Panic Reset key LED flashes red when data is received or sent using the MIDI interface.

Factory settings MIDI activity: transmit and receive on; adjustable with secondary piano key function mode

KNOB: **CONTR.**

Range: Min - Max

Factory settings: reverb

Display: **0** to **127**

Any user defined control number can be assigned by using the secondary key functions.

Number 0: Aftertouch sensibility can be changed

AFTERTOUCH SENSIBILITY ADJUSTABLE with **CONTR.**

The aftertouch sensitivity is automatically adjusted by the current position of the dynamics knob. If you want to adjust the aftertouch sensitivity manually whilst playing, assign the controller number 0 to **CONTR** using secondary function keys. In this state, the display will show **AFt** when turning the controller.

MK22 Imperial 97: Note Nr. 6 – 14 no aftertouch available.

Refer to page 16: Examples secondary key functions

SECONDARY PIANO KEY FUNCTIONS

Please read following instructions carefully before using the secondary key functions!

The keys don't generate sound if you switch to secondary piano key function mode. If you press a key you will change the settings. Therefore make sure you exit secondary piano key function mode before playing.

But don't worry, to change settings you always have to press more than one key at a time or hold down keys for several seconds. An acoustic signal as well as the display informs you of impending changes to the settings.

If you should accidentally get in this situation, don't panic. Read current settings on the display and double check them. If everything goes wrong you can always reset to factory settings or your personal setup. (User Store / User Recall)

ACTIVATE SECONDARY PIANO KEY FUNCTION MODE

To activate secondary piano key function mode press **Mode** and **ON** simultaneously. The LEDs on keys **1 2 3** and **4** turn red and **Mode** starts flashing red. Display shows **mod**. Secondary piano key function mode is now active.

Each valid second key function input is confirmed with a brief acoustic signal.

Black keys (selection keys) select the setting you want to change; white keys (input keys) allow you to choose the desired parameter of the selection. Pushing down any selection key displays you the current setting. To change it, hold down the selection key while making changes by pushing the input key.

Exceptions: Dyn Store, User Store

For more detailed information refer to Examples secondary key functions (page 16).

The key a1 generates sound even in secondary piano key function mode to allow sound checks.

We highly recommend saving user defined settings before exiting secondary piano key function mode. If you should, for any reasons change your defined settings, "User Store" enables you to retrieve your personalised settings.

Go to "User Store" for further instructions on page 11

Exit secondary piano key function mode with the key **Mode**.

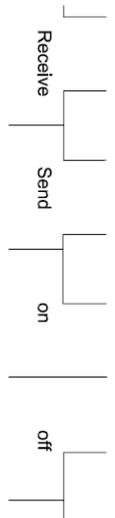
Mode stops flashing, the LED changes to green and the display shows **P** or **d**

RESET TO FACTORY SETTINGS

Change to secondary piano key function mode (**Mode** flashes red) and hold the key **Panic Reset** for three seconds, till it flashes red four times and you hear an acoustic signal.

Display toggles till you hear the signal: **9En rES** Confirmation when finished: **don**

All configurations are changed to factory settings (see page 20) including User Store, dynamics and velocity curve settings.



USER RECALL

Reset to last stored user defined setting

You can use USER RECALL whilst playing. You don't have to change to secondary piano key function mode. To activate USER RECALL push the keys **Mode** and **Panic Reset** at the same time for one second till **Panic Reset** LED flashes red three times and you hear an acoustic signal.

Display: *Urc* Confirmation: *don*

All settings are returned to the last saved user settings.

USER STORE

Stores all user defined keyboard configurations except dynamics velocity curve edit and pedal settings. USER STORE can be recalled whilst playing by pushing **Mode** and **Panic Reset** for one second. The last saved settings can be recalled. Storing new settings overrides previous stored settings.

Push **Mode** and **ON**. Display shows *iad*

Push and hold the black key "User Store" (B-2) for two seconds.

Display: *USt* Confirmation: *don*

Exit secondary piano key function mode with the key **Mode**.

HI RES CC#88 (OPTIONAL)

Push **Mode** and **ON**. Display shows *iad*

Push and hold the unlabeled black key D#-1. Change settings by using the white keys:
on (h) **Hi** MIDI High Resolution cc#88 16256 dynamic resolution.

off (c1) **Lo** MIDI Standard 127

Exit secondary piano key function mode with the key **Mode**.

KEY TRANSPOSE

Push **Mode** and **ON**. Display shows *iad*

Push and hold the black key "Key Transp." (...)

Push briefly one of the white keys -6 to +5.

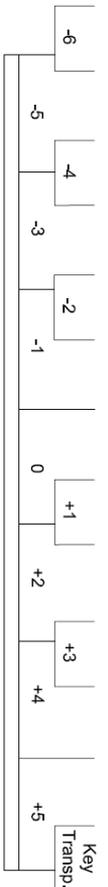
Contra Fis	F#-1	-6 (lower)
C	C	regular
F	F	+5 (higher)

a1 can be used for sound check

Exit secondary piano key function mode with the key **Mode**.

User Store

Hi Res



MIDI SETTINGS

Push **Mode** and **ON**. Display shows **iad**
Push and hold the correspondent black key

OMNI MODE

PROGRAM CHANGE

CONTROL CHANGE

MIDI ACTIVITY

Change settings with the respective white keys.

Receive (g)	Shows received data
Send (a)	Shows sent data
on: receive/send (h)	Received AND sent data / acoustic signal on
off (c1)	Off / acoustic signal off

Note:

*MIDI Act. off enables you to turn off the **acoustic signal** that confirms input.*
Exit secondary piano key function mode with the key **Mode**.

PIANO MODE

Push **Mode** and **ON**. Display shows **iad**
Push and hold the black key “Piano Mode” (...). Change settings by using the white keys:
on (h) very slow key speed: no sound is produced
(please refer to note on Sympathetic Resonance page 18)

off (c1)
a1 can be used for sound check
Exit secondary piano key function mode with the key **Mode**.

WATERFALL

Push **Mode** and **ON**. Display shows **iad**
Push and hold the black key “Waterfall” (...). Change settings by using the white keys:
on (h) Every keystroke generates the same velocity.
Factory setting: MIDI 100. Change value with white keys 0-9.

off (c1)
a1 can be used for sound check
Exit secondary piano key function mode with the key **Mode**.

DYN STORE

Push **Mode** and **ON**. Display shows **mod**

Push and hold the black key “Dyn Store” (...) for three seconds. Acoustic signal confirms successful input.

Display shows first: **Sto** then **d..** Confirmation: **don**

Exit secondary piano key function mode with the key **Mode**.

Dynamic und Velocity Curve Edit settings are stored on the currently program number location.

(Please refer to page 6 for further details)

Dyn Store

PEDALS

Push **Mode** and **ON**. Display shows **mod**

Push and hold the correspondent black key. Change settings by using the white keys:

		Controller numbers (default)
Left (f#2)	left pedal	67
Mid (g#2)	middle pedal	66
Right (b2)	right pedal	64

Exit secondary piano key function mode with the key **Mode**.

The MK22 is pre-programmed to work with the separable purchasable FLK pedals, but works just fine with any conventional pedal. Pedal contact type (Open / Close) is automatically detected when your keyboard is turned on. It can be changed with “Pedal Invers” (f#4) (see page 14).

For more details see: technical details page 17

CONTROLLER SETTINGS: PEDALS / EXPR. / KNOB / MOD. WHEEL / AFTERTOUC

Push **Mode** and **ON**. Display shows **mod**

Push and hold the correspondent black key. Change settings by using the white keys.

Use keys 0 – 9 (f2 – a3) to enter the required controller number:

Please see also:

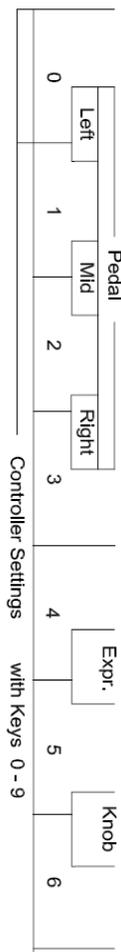
digit	0	1	2	3	4	5	6	7	8	9
key	f2	g2	a2	h2	c3	d3	e3	f3	g3	a3

Please see also: Examples secondary key functions on page 16

After entering 3 digits or release of the required black key an acoustic signal (ascending melody) confirms your input. In case of an invalid input you will hear a descending melody and your input is rejected.

PEDALS, EXPR., KNOB, MOD. WHEEL and AFTERTOUC can be turned “on” (h1) and “off” (c1). Additionally you can invert the midi output with key “Ped Invers” (f#4). You can also change the output mode to continuous using the key “contin” (c#4) or to switch using the key “switch” (d#4).

Exit secondary piano key function mode with the key **Mode**.



EXPRESSION

Please note: Factory setting Expression OFF !

Push **Mode** and **ON**. Display shows **Mod**

Push and hold the correspondent black key. Change settings by using the white keys.

Use the black key “Expr.” (c#3) to define the used controller number.

Default: Expression (controller number 11)

Exit secondary piano key function mode with the key **Mode**.

A sostenuto pedal can also be plugged into “2 / Expression”.

Further details tip ring / ring tip, KOhm etc in technical details, page 17.

KNOB

Push **Mode** and **ON**. Display shows **Mod**

Push and hold the correspondent black key. Change settings by using the white keys.

Use the black key “Knob” (d#3) to define the used controller number.

Default: Reverb (controller number 91)

Exit secondary piano key function mode with the key **Mode**.

MOD WHEEL

Push **Mode** and **ON**. Display shows **Mod**

Push and hold the correspondent black key. Change settings by using the white keys.

Use the black key “Mod. Wheel” (f#3) to define the used controller number.

Default: Modulation (controller number 1)

Exit secondary piano key function mode with the key **Mode**.

AFTERTOUCHE

Push **Mode** and **ON**. Display shows **Mod**

Push and hold the correspondent black key. Change settings by using the white keys.

Use the black key “Afters touch” (g#3) to define the used controller number.

Default: Channel Afters touch (controller number 0)

The afters touch sensitivity will be adjusted according the current position of the controller **Contr** instead of the automatic adjustment by assigning the controller number 0. In this mode, the display will show **FFt** when changing the controller.

Exit secondary piano key function mode with the key **Mode**.

MK22 Imperial 97: Note Nr. 6 – 14 no afters touch available.

Controller Mode

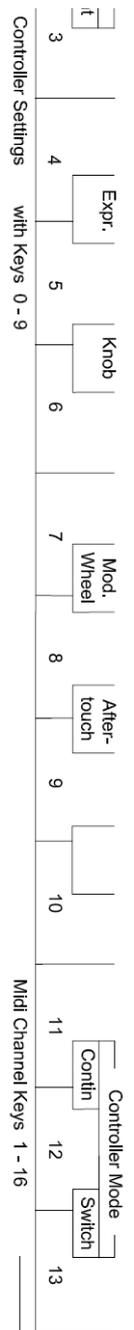
Push **Mode** and **ON**. Display shows **Mod**

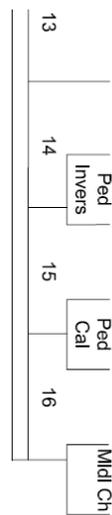
When a controller is selected, you can change it to continuous or switch mode using following keys:

Contin (c#4) continuous controller (0-127) Display: **Co**

Switch (d#4) on-off controller (0-64 off / 65-127 On) Display: **5!**

Exit secondary piano key function mode with the key **Mode**.





PEDAL INVERS

Push **Mode** and **ON**. Display shows **̄i**ad

Select a controller using black keys and push the black key „Ped Invers“ to invert the controller (relative to the current state). The display will show **i** Co or **i** S! for an inverted controller and **Co** or **S!** for a non-inverted controller.

Exit secondary piano key function mode with the key **Mode**.

PED CAL

Push **Mode** and **ON**. Display shows **̄i**ad

With this key you are able to calibrate your pedals. More details see page 17 Pedals

MIDI CHANNEL SELECTION 1 – 16

Push **Mode** and **ON**. Display shows **̄i**ad

Push and hold the black key “Midi Ch.” (b4) and use the white number keys to select the required MIDI channel from 1 to 16.

Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
key	g2	a2	h2	c3	d3	e3	f3	g3	a3	h3	c4	d4	e4	f4	g4	a4

Exit secondary piano key function mode with the key **Mode**.

DISPLAY BRIGHTNESS

Push **Mode** and **ON**. Display shows **̄i**ad

Using the program selection keys 1 2 3 4 you can select a low (1) or high (4) brightness.

Exit secondary piano key function mode with the key **Mode**.

EXAMPLES SECONDARY KEY FUNCTIONS

- You want to activate the **Piano Mode**:

Push **MODE** and **ON**. The 4 program selection keys turn red and the mode key starts blinking. The secondary piano key function mode is activated; display shows **iOd**

Hold down the black key for “Piano Mode” (...) and push the white key for “On” (...), you will hear an acoustic signal and will see a change on the display.

Exit secondary piano key function mode with the key **Mode**.

- You want to use the knob “Contr.” to control the **aftertouch sensibility**:

Therefore you have to assign the controller number 0.

Push **MODE** and **ON**. The 4 program selection keys turn red and the mode key starts blinking. The secondary piano key function mode is activated, display shows **iOd**.

Hold down the black key for “Knob” (d#3) and push the white key for “0” (f2).

If you press a key you will hear an acoustic signal.

After releasing the key “Knob” (d#3) you will hear an acoustic confirmation (ascending melody).

Display shows **AfE** following with **iOd**. Your input was successful.

Exit secondary piano key function mode with the key **Mode**.

You are now able to use the controller for adjusting the aftertouch sensibility to suit your needs.

- To assign a multi-digit number always put in the highest digit first.

For example: To enter controller number 91 (Reverb) first enter “9” (white key a3), following “1” (white key g2). After releasing the black key you assigned the controller number. The controller will send the values 0 – 127 with controller number 91 using the MIDI interface.

MK22 Imperial 97: Note Nr. 6 – 14 no aftertouch available.

Note:

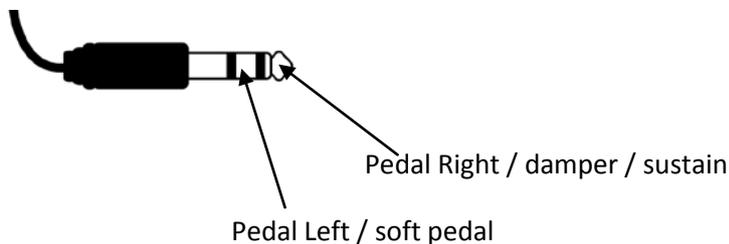
You are also able to use the white keys for two digit numbers 10 – 16. e.g. 127 using the white keys for 12 and 7.

We recommend saving your current settings using “User Store” (B-2) before leaving secondary piano key function mode.

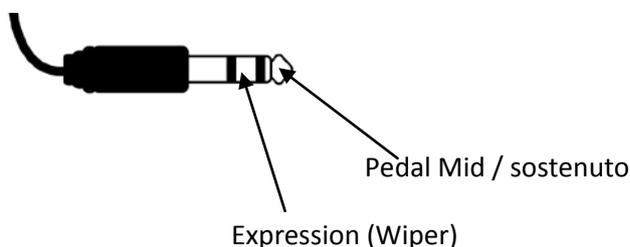
TECHNICAL DETAILS

PEDALS

Stereo Jack: Pedal (prepared to work with FLK pedals stereo jacks)



Stereo Jack: Expr. / 2 (prepared to work with the FLK triple pedal mono jack)



Original FLK pedals feature a continuous damper pedal. Factory settings support the most conventional damper pedals.

Pedals with closed contacts are shown as:  or 

Pedals with open contacts are shown as:  or 

Using secondary piano key function mode, every pedal can be inverted.

To support pedals from other manufacturers you are able to calibrate the internal parameters to use the whole range of your pedal (calibration).

Special codes for MK22 pedal calibration using the secondary piano key function mode:

Hold down the black key “Ped Cal” (g#4) and enter code for:

right pedal / damper / sustain	501
middle pedal / sostenuto	504
left pedal / soft	502
expression pedal	503

Factory setting FLK dual pedal until May 2014	510
Factory setting FLK triple pedal and new FLK dual pedal June 2014	511

Default 516 resets **ALL** pedal calibrations to factory settings. (0 – 127 equals ~2 to 10 kOhm). User calibration data will be deleted!

Example:

Push **MODE** and **ON** simultaneously > Hold down "Ped Cal" (g#4) > Enter the required code > Release "Ped Cal" (g#4) > Ascending melody for confirmation

The minimum and maximum position of your pedal will be automatically measured and saved when quitting the secondary piano key function mode by pressing **Mode**.

Hint:

We recommend pushing the pedals by hand when calibrating as the results will be more accurate, especially if you only want to calibrate part of the travel range.

Instructions:

*Push the pedal to the required minimum. After you let go "Ped Cal" (g#4) the current position is stored as zero point. Push the pedal now slowly to the desired end setting and hold this position. Store it by pushing **MODE**. This also exits secondary piano key function mode.*

Attention: The longest travel range within a calibration session is stored. Calibrating the pedal again overrides previous stored values.

Almost any conventional pedal can be used with your FLK. (It may be necessary to use a stereo to mono splitter).

EXPRESSION PEDALS:

Please note: Input Expression factory preset is **OFF**

For Expr. / Volume pedals: Pot ca 10 K Ohm, **Wiper on ring**:

Expr. **On** Pedal Mid **OFF**

For Expr. / Volume pedals **Wiper on tip**:

Expr **OFF**, Pedal Mid **On** Controller Pedal Mid Sostenuto change from **066** to **011**.

Controller Mode: Contin **Co**

Pedals up to 50 K Ohm can be calibrated (using code 503 Expr or 504 Mid).

SYMPATHETIC RESONANCE

When using a sound module with Sympathetic Resonance we recommend disabling Piano Mode. It is then much easier to play notes with velocity 1 and allow the strings to sound.

USB CONNECTION, FLK DRIVER

Win XP™ shows it as „USB Audio Device“. If so you can install the FLK USB driver for Win XP. Then it will be listed by name.

FLK drivers can be downloaded from our website www.flkeys.at

POWER SUPPLY

Always use the original FLK power supply. It is suitable for AC voltage 100 V to 240 V at 47 Hz to 63 Hz.

Damages caused by using any other form of power supply are not covered by the FLKeys warranty.

FIRMWARE UPDATE FLK LOADER

Download zip file

Be sure the LACHNIT MK is turned on and connected via USB.

Firmware .hex files are up to date and already included.

You can check the FLK website for updates.

ADVANCED MODE: FOR TECHNICIANS, EXPERIENCED USERS

Check or choose firmware . hex files, version nr., different combinations etc...

Technician:

Be sure that you know what you do...

We do not take responsibility for unintended, wrong usage or non FLKeys Firmware hex files.

FACTORY SETTINGS MK22

Function	value / setting	MIDI Controller No.	Restored on power Up	Notes
Midi	1		yes	
Program	1		yes	
Omni	On		yes	
Program Change	On		yes	
Control Change	On		yes	
MIDI activity	On receive /transmit		yes	
Piano Mode	On		yes	
Waterfall	Off / MIDI 100		yes	
Pedal right damper sustain pedal	switch On	64	yes	
Pedal mid sostenuto	switch On	66	yes	
Pedal left soft	switch On	67	yes	
Expression Ped	continuous Off	11	yes	
Knob Contr.	continuous On	91	yes	
Mod. Wheel	continuous On	1	yes	
Aftertouch	continuous On	0 (Channel AT)	yes	
Knob Dynamics / Velocity Curve Edit	neutral (green LED) saved setups 1-16 neutral		yes	
Transpose	0		no	
Pedals	inverted		no	
Knob, Wheels, Aftert.	inverted		yes	

Pedal input is inverted if no pedals are connected. Display:   or  
 Calibration settings are **not** changed by reset to factory settings.

Function		Transmitted	Recognized	Remarks
Basic Channel:	Default	1 – 16	1 – 16	Memorized
	Changed	1 – 16	1 – 16	
Mode	Default	1, 3	1, 3	Memorized
	Messages Altered	X *****	O 4 => 3, 2 => 1	
Note Number	True Voice	15 – 113, 6 – 113 (*4) *****	X X	MK22 Imperial 97: Note Nr. 6 – 14 no aftertouch available.
Velocity	Note ON	O (1 – 127)	X	Adjustable (*1)
	Note OFF	O (1 – 127)	X	
After Touch	Keys	X	X	(*4)
	Channels	O	O	
Pitch Bend		O	O	MK22 Studio only
Control Change (*2)	1	O	O	Modulation
	4	O	O	Expression
	7	O	O	Main Volume
	64	O	O	Hold Pedal
	66	O	O	Sostenuto
	67	O	O	Soft Pedal
	91	O	O	Reverb
	0 – 127	O	O	Customized Controller (*3)
Program Change (*2)	True #	O (0 – 15) *****	O (0 – 127) 0 – 15	16 => 0, 17 => 1, ...
	System Exclusive	X	X	
Common	Song Position	X	X	
	Song Select	X	X	
	Tune	X	X	
System Real Time	Clock	X	X	
	Comand	X	X	
Aux Messages	All Sounds Off	O	O	
	Reset All	O	O	
	Controller	X	O	
	Local On/Off	O	X	
	All Notes Off	O	O	
	Active Sense	O	O	
Reset				
Remarks *1: Note On Velocity Calculation can be adjusted according to your personal style. *2: Transmission and reception can be activated and deactivated separately. *3: Each controller (except volume and pitch wheel) can be customized to a user defined controller number. *4: LACHNIT MK22 Imperial 97 (97 Keys) <i>Note Nr. 6 – 14 no aftertouch available.</i>				

Mode 1: Omni On, Poly Mode 2: Omni On, Mono
Mode 3: Omni Off, Poly Mode 4: Omni Off, Mono

O : Yes
X : No

SPECIAL MESSAGE SECTION

WARNING: Do not place this product in a position where anyone could walk on, trip over, or roll anything over power or connecting cords of any kind.

SPECIFICATIONS SUBJECT TO CHANGE: The information contained in this manual is believed to be correct at the time of printing. However, FLKeys reserves the right to change or modify any of the specifications without notice or obligation to update existing units.

NOTICE: Service charges incurred due to a lack of knowledge relating to how a function or effect works (when the unit is operating as designed) are not covered by the manufacturer's warranty, and are therefore the owner's responsibility. Please study this

manual carefully and consult your dealer before requesting service.

IMPORTANT NOTICE: DO NOT MODIFY THIS UNIT! This product, when installed as indicated in the instructions contained in this manual, is compliant with CE / FCC Part 15 10-1-12 Edition / ICES-003 Issue 5 August 2012. Modifications not expressly approved by FLKeys may void your authority to use the product.

IMPORTANT: When connecting this product to accessories and/or another products use only high quality shielded cables. Cable/s supplied with this product **MUST** be used. Follow all installation instructions.

PRECAUTIONS

PLEASE READ CAREFULLY BEFORE PROCEEDING

Please keep this manual in a safe place for future reference



WARNING

Always follow the basic precautions listed below to avoid the possibility of serious injury or even death from electrical shock, short-circuiting, damages, fire or other hazards. These precautions include, but are not limited to, the following:

Power supply

Do not place the power cord near heat sources such as heaters or radiators, and do not excessively bend or otherwise damage the cord, place heavy objects on it, or place it in a position where anyone could walk on, trip over, or roll anything over it.

Only use the voltage specified as correct for the instrument.

Use the specified adaptor only. Using the wrong adaptor can result in damage to the instrument or overheating.

Check the electric plug periodically and remove any dirt or dust which may have accumulated on it.

Do not open

This instrument contains no user-serviceable parts. Do not open the instrument or attempt to disassemble or modify the internal components in any way. If it should appear to be malfunctioning, discontinue use immediately and have it inspected by qualified FLKeys service personnel.

Water warning

Do not expose the instrument to rain, use it near water or in damp or wet conditions, or place containers on it containing liquids which might spill into any openings. If any liquid such as water seeps into the instrument, turn off the power immediately and unplug the power cord from the AC outlet. Then have the instrument inspected by qualified FLKeys service personnel.

Never insert or remove an electric plug with wet hands.

Fire warning

Do not put burning items, such as candles, on the unit.



CAUTION

Always follow the basic precautions listed below to avoid the possibility of physical injury to you or others, or damage to the instrument or other property. These precautions include, but are not limited to, the following:

Power supply

When removing the electric plug from the instrument or an outlet, always hold the plug itself and not the cord. Pulling by the cord can damage it.

Remove the electric plug from the outlet when the instrument is not to be used for extended periods of time, or during electrical storms.

Location

Do not place the instrument in an unstable position where it might accidentally fall over.

Before moving the instrument, remove all connected cables.

When setting up the product, make sure that the AC outlet you are using is easily accessible. If some trouble or malfunction occurs,

If you notice any abnormality

When one of the following problems occur, immediately turn off the power switch and disconnect the electric plug from the outlet. Then have the device inspected by FLKeys service personnel.

The power cord or plug becomes frayed or damaged.

It emits unusual smells or smoke.

Some object has been dropped into the instrument.

There is a sudden loss of sound during use of the instrument.

immediately turn off the power switch and disconnect the plug from the outlet. Even when the power switch is turned off, electricity is still flowing to the product at the minimum level. When you are not using the product for a long time, make sure to unplug the power supply from the wall AC outlet.

Use only a high quality stand specified for the instrument.

Connections

Before connecting the instrument to other electronic components, turn off the power for all components. Before turning the power on or off for all components, set all volume levels to minimum.

Be sure to set the volumes of all components at their minimum levels and gradually raise the volume controls while playing the

instrument to set the desired listening level. This product in combination with sound software, an amplifier and headphones or speaker/s, may be capable of producing sound levels that could cause permanent hearing loss. DO NOT operate for long periods of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.

IMPORTANT: The louder the sound, the shorter the time period before damage occurs.

Handling caution

Do not insert a finger or hand in any gaps on the instrument.

Notice

To avoid the possibility of malfunction/damage to the product, damage to data, or damage to other property, follow the notices below.

Handling, transport and maintenance

If you want to ship the instrument via mail, parcel service, rail, forwarding agency or others you always must use the original packaging. Therefore, you should keep the original packaging. The instrument has to be shipped only 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.

Transport the instrument carefully, never let it fall or overturn. The hammer action inside could be damaged. 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.

Do not use the instrument in the vicinity of a TV, radio, stereo equipment, mobile phone, or other electric devices. Otherwise, the instrument, TV, or radio may generate noise.

Do not expose the instrument to excessive dust or vibrations, or extreme cold or heat (such as in direct sunlight, near a heater, or in a car during the day) to prevent the possibility of panel disfiguration, damage to the internal components or unstable operation. (Verified operating temperature range: 5° – 40°C, or 41° – 104°F.)

Do not place vinyl, plastic or rubber objects on the instrument, since this might discolour the panel or keyboard.

When cleaning the instrument, use a soft, dry cloth. Do not use paint thinners, solvents, cleaning fluids, or chemical-impregnated wiping cloths.

Never insert or drop paper, metallic, or other objects into the gaps on the panel or keyboard. This could cause physical injury to you or others, damage to the instrument or other property, or operational failure.

Do not rest your weight on, or place heavy objects on the instrument, and do not use excessive force on the buttons, switches or connectors.

Do not use the instrument/device or headphones for a long period of time at a high or uncomfortable volume level, since this can cause permanent hearing loss.

If you experience any hearing loss or ringing in the ears, consult a physician.