

# Leipzig-S / SK

## u s e r   m a n u a l



# Leipzig-S/SK User Manual

<b>Welcome!</b> .....	4
MANUAL OVERVIEW .....	6
Power .....	6
MIDI .....	6
Using This Unit Safely .....	7
Placement .....	9
Maintenance .....	9
Additional Precautions .....	9
FRONT PANEL .....	10
REAR PANEL .....	10
Vco - Voltage control oscillators .....	11
VCO1 .....	12
VCO2 .....	13
MIXER .....	15
VC LPF – VOLTAGE CONTROLLED LOW PASS FILTER .....	17
LFO – LOW FREQUENCY MODULATION .....	18
MODULATION .....	19
VCO1 .....	19
VCO2 .....	20
VCF .....	21
EG1 & EG2 - ENEVELOPE GENERATORS .....	22
VCA – VOLTAGE CONTROLLED AMPLIFIER .....	24
MODE .....	24
MIDI .....	26
<b>PROGRAM (rack version only)</b> .....	26
Duophonic Mode .....	27
To connect them up: .....	27
SEQUENCER .....	28
SYNC SOURCE .....	28
Note about how Sync choice affects EG .....	29
How to Sync Leipzig-S/-SK to MIDI .....	30
RESET .....	30
STEP .....	30
DESTINATION .....	32
Sequencer / EG Triggering .....	33
Sequencer Triggering Only .....	33
Normal MIDI use .....	33
Other .....	33

# Leipzig-S/SK User Manual

---

USING THE SEQUENCER AS AN AUDIO OSCILLATOR .....	33
Specification .....	35
LEIPZIG-Sk Pitch Bend and Mod Wheel.....	37
LEIPZIG-SK Rear Panel Audio Connections.....	38
CV/Gate Jacks.....	39

# Leipzig-S/SK User Manual

---

## WELCOME!

---

Leipzig-S is a 100% analogue synth using circuits that date back to the 1970s and 1980s – these give Leipzig a really old sound that is rich and full of character.

The circuits are not stabilized and sanitised by CPUs and the controls are not read by CPUs and quantised.

Leipzig has a huge sound, especially when used for bass (something it excels at!), a fact often commented to us by our customers with great excitement!

Though a master at big bass sounds, Leipzig is exceptionally good at making electronic percussion. Not just the sounds, but also percussive loops by using the on board step sequencer. Patterns can quickly be produced, then either easily sync'd to your DAW, or sampled in.

As well as bass and percussion, Leipzig will produce leads, effects, modular style and other sounds equally well.

Leipzig is extremely powerful. Don't be fool by the 'simple' looking front panel. The synth has been designed to be easy to use, ideal for beginners, but still have the depth and versatility to enable many years of service.

Many of the controls can route more than one signal to a destination. There are many modulation choices on the rotary select switches. All signal choices have been carefully chosen.

Leipzig was designed by a musician of electronic music, and used in many of the music productions. We like to think we know what makes a good synth and that is reflected in the design of Leipzig.

The on board sequencer is not just for making simple melodies or percussive loops. Think of it also as a modulation source. Each step can be used to drastically change the sounds. This makes it also serve as a simple way of making 'presets'. Just step to get the next sound. The sequencer can control the pitch of either VCO, and also the filter cut-off.

Sync'ing the sequencer to a MIDI sequencer or DAW couldn't be easier. It will respond to MIDI Sync, but it is far better and easier to sync to MIDI Note. That way you can clock the sequencer at any tempo, divide the tempo down (relative to your DAW's tempo), stop it, start it, mute, etc, all from your DAW – something that you cannot do with MIDI Sync.

So Leipzig is ideal for both beginners, and more advanced synthesists and musicians. Use anywhere you want big analogue sounds that have a true vintage sounds. Ideal also if you have the budget for just one analogue synth since this synth covers so many bases (and basses!).

## MAIN FEATURES

---

- Pure analogue voice and modulation circuitry.
- Fat Moog style transistor ladder filter – 24db/Octave 4 pole.
- 2 VCOs with Glide.
- Sub-VCOs for extra depth and power.
- Osc Sync & Cross-Mod
- Plenty of modulation routing possibilities.
- Analogue step sequencer – with plenty of clocking options.
- Use sequencer as a modulation source.
- Audio input so can be used as a sound processor.
- Rugged steel/aluminium construction.
- MIDI In for software sequencer control.

# Leipzig-S/SK User Manual

---

## MANUAL OVERVIEW

---

Though Leipzig-S has some very special features, the general architecture, signal flow, control naming etc is fairly standard, so using this synth should be fairly straightforward.

If you have experience with other analogue synths you should be able to get this going without reading the manual! However, we advise you read the safety information and further read the rest to discover how to use some of the unique features.

This manual does not aim to teach you the principles of analogue synthesis and assumes you have prior knowledge of analogue synths and their use. What this manual does is list the functions and their use.

A quick web search will bring up plenty of general analogue synth tutorials and forums are always a good place to ask question about general synth use.

## POWER

---

Leipzig-S comes with a power supply. It uses a power supply with an AC output (not DC!)

If your power supply comes with a selection of connector plugs, use the one with the yellow coloured centre. You'll know it's the right one as the fit will feel right.

It does not matter which was around you insert the plug into the end of the power supply lead.

Plug the power leads into the rear of Leipzig-S.

Leipzig-SK uses standard IEC power cable, supplied. Leipzig-SK will either be set to 230V or 115V. It will be set correctly to the country it was originally shipped to. If you have bought yours from another country, or second hand, ensure voltage is correctly set for your country.

Voltage setting is marked on the back panel.

## MIDI

---

### LEIPZIG-S HAS

---

MIDI In      to play the synth from a MIDI keyboard, sequencer or DAW.

MIDI Thru    outputs a copy of what comes into the MIDI In socket.

# Leipzig-S/SK User Manual

## USING THIS UNIT SAFELY

Before using this unit read this instruction manual.

Do not open or modify this unit or its power supply.

Do not attempt to repair the unit or replace parts within it. Refer servicing to a qualified service engineer.

Never use or store the unit in places that are;

- subject to extremes of temperature (such as in direct sunlight in an enclosed vehicle, on a heater or near a heating duct, etc).
- that are damp or wet (e.g. bathrooms),
- humid,
- exposed to rain,
- dusty,
- high levels of vibration.

Make sure the unit is placed on a stable and level surface.

Use only the specified AC adaptor. Make sure the mains voltage matches that of the adaptor. Ensure the correct polarity adaptor is used. Other adaptors could be of the wrong type of voltage or polarity and could result in damage, malfunction, or electric shock.

Do not excessively bend or twist the adaptor cable. Doing so may damage the cable. Damaged cables could cause a malfunction, or a shock or fire hazard.

Do not allow any small parts (like pins, coins), liquids, flammable material to enter the unit.

Immediately disconnect the mains supply and adaptor, and contact a qualified service engineer;

- when the AC adaptor or power supply cord has been damaged,
- when objects have fallen onto, or a liquid has been spilled into the unit,
- when the unit has been exposed to rain or other liquids,
- when the unit does not appear to function correctly.

When small children are present adult supervision must be provided.

Protect the unit from strong impact, including being dropped.

If the unit is sharing a power outlet with several other devices when using extension cords/multi-sockets, ensure the current rating of the cords/sockets are not exceeded.

Before using the unit in a different country, check the mains supply is correct for the AC adaptor.

When disconnecting the AC adaptor plug, always grasp it by the plug body, not the wire.

When the unit is to remain unused for a length of time, disconnect the adaptor from the mains.

Cables can be a risk to small children. Always place the out of reach.

Never climb, or place objects on top of the unit.

# Leipzig-S/SK User Manual

---

Never handle the unit, the AC adaptor, or any cables with wet or moist hands.

Before cleaning the unit, disconnect from the mains.

Whenever you suspect lightning in the area, disconnect the AC adaptor.

Did you read all this? Good now you will be safe, but please still use what common sense health and safety assumes we all don't have!



# IMPORTANT NOTES

---

### PLACEMENT

---

This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.

Do not expose the unit to direct sunlight or place it near devices that radiate heat, or leave inside an enclosed vehicle, or otherwise subject it to extremes of heat. Excessive heat may also discolour the unit.

Do not use the unit in a wet area, or expose it to rain or moisture.

### MAINTENANCE

---

For everyday cleaning, wipe it down with a dry soft cloth, or one that has been slightly dampened with water. To remove stubborn dirt, use a cloth impregnated with a mild non-abrasive detergent. Afterwards be sure to wipe the unit dry thoroughly with a dry cloth.

Be sure to disconnect the AC adaptor before any cleaning.

Never use benzene, thinners, alcohol or other such chemicals and solvents to clean the unit.

### ADDITIONAL PRECAUTIONS

---

Use a reasonable amount of care when using the buttons and knobs. Unreasonable use or rough handling may cause damage or malfunctions.

Never strike or apply strong pressure to the unit.

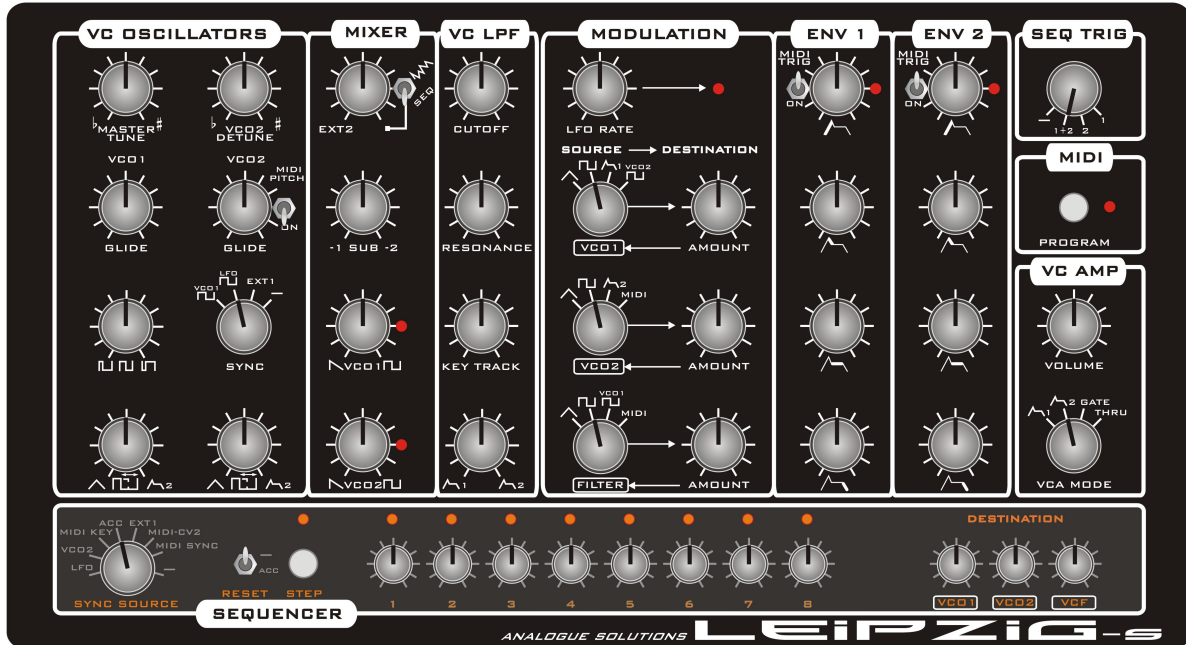
When disconnecting or connecting any cable, hold the cable plug not the cable. Insert or remove straight and perpendicular to the case.

To avoid disturbing your neighbours always keep your volume levels at a reasonable level.

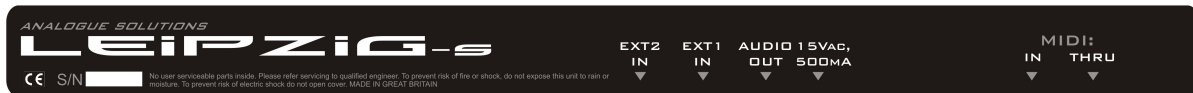
When transporting the unit use the original packaging.

# MAKING CONNECTIONS

## FRONT PANEL



## REAR PANEL



Turn the input level down on your mixer.

Connect AUDIO OUT to your mixer using a standard 1/4" (6.35mm) mono jack cable.

Connect the mains adaptor to the rear.

Rotate the SEQ SYNC rotary switch in the lower left corner to LFO to start the sequencer.

Slowly increase the level on your mixer to a suitable level.

Note; you will have to adjust other controls on Leipzig to get a sound, like VOLUME, VCO Levels, Filter CUTOFF. Many settings will produce no sound!

If you wish to play the synth with a MIDI sequencer or MIDI keyboard connect the controller's MIDI OUT to Leipzig's MIDI IN.

# TOUR OF THE CONTROLS

## VCO - VOLTAGE CONTROL OSCILLATORS



The two VCOs are almost identical, but VCO1 has a manual pulse width control, and VCO2 has a Sync feature.

## VCO1

---

### MASTER TUNE

---



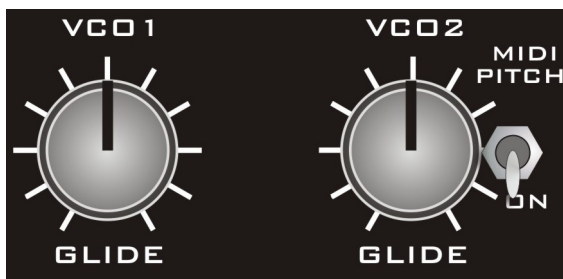
This tune control affects both VCOs.

Note; there are lots of ways this synth can play out of tune. Obviously Master Tune and Detune must be set correctly. But also the MODULATION AMOUNT controls will affect tuning, the VCO2 MIDI PITCH switch, and also the positions of the sequencer's VCO1/2 DESTINATION amount controls.

In normal use, turn the sequencer DESTINATION amount controls to zero.

### GLIDE

---



This is a portamento function. Each note will glide to the next new note, slowly rising or falling in pitch to the new note. The Glide knob changes the rate (time) it takes to reach the new note.

### MANUAL PULSE WIDTH

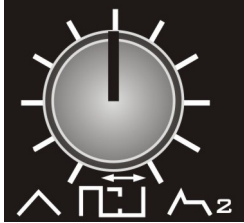
---



# Leipzig-S/SK User Manual

This changes the pulse width (duty cycle) of the square wave. Basically turn it and hear the effect it has on the sound of the square wave!

## PULSE WIDTH MODULATION



This allows modulation of the Pulse Width of the square wave. It can be modulated by the LFO Triangle wave when turned left, or, by Envelope1 when turned right. Centre position is off (no modulation).

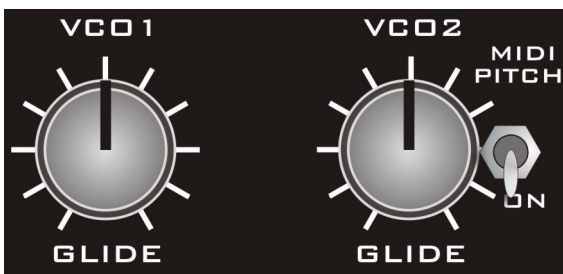
## VCO2

### TUNE



This tune control only affects VCO2.

### GLIDE



This is a portamento function. Each note will glide to the next new note, slowly rising or falling in pitch to the new note. The Glide knob changes the rate (time) it takes to reach the new note.

## SYNC

---



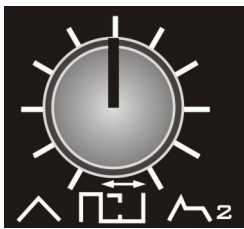
Oscillator sync is where the VCO's waveform can be reset by another signal. Don't worry about the technicalities. Just use the feature and enjoy the sound!

VCO2 can be sync'ed to VCO1 Square wave, LFO Square wave, External Signal 1, or it can be turned off.

The best effect can be heard when set to VCO1. For an extreme sound modulate the pitch of VCO2. You may need to play around with the pitches of VCO1 and VCO2 to find a setting that works best.

## PULSE WIDTH MODULATOR

---



This allows modulation of the Pulse Width of the square wave. It can be modulated by the LFO Triangle wave when turned left, or, by Envelope1 when turned right. Centre position is off (no modulation).

## MIDI PITCH

---



This switch disconnects the Pitch control of VCO2 from MIDI, so it will no longer respond to MIDI note commands.

It becomes a 'free running oscillator' and will not respond to MIDI. Ideal for modulation.

## MIXER

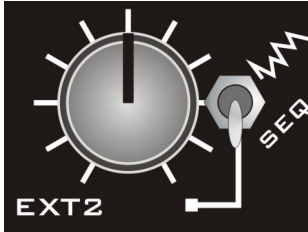


There audio is mixed with the mixer before being fed to the input of the filter.

Each control can choose between two signals. Centre is zero volume. As you gradually turn the control left or right you increase the level of the sound that is in the left or right position.

## EXT2 / NOISE / SEQUENCER

---



Left; changes the level of the signal coming into the EXT2.

Right; changes the level of either the White Noise generator or the Sequencer, depending on the position of the toggle switch.

If the toggle switch is set to SEQ (sequencer) in some cases this can kill the normal audio from the VCOs. This is normal! Set it to Noise, or put to the centre if the Sequencer signal is not to be used as an audio signal.

Clock the sequencer at audio frequencies then the sequencer output becomes an audio frequency. It can be heard when the toggle switch is set to SEQ and the control turned clockwise.

## SUB-OSCILLATOR

---



Left; changes the level of VCO1 Sub, which is one octave down from VCO1.

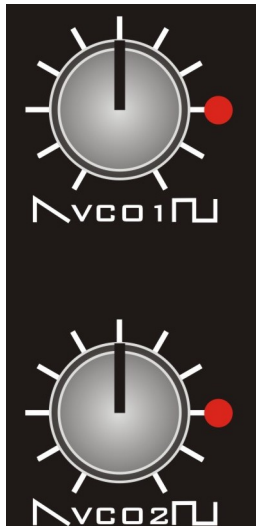
Right; changes the level of VCO2 Sub, which is two octaves down from VCO2.

Adding sub-osc to the normal VCO sounds really beefs up the sound.

## VCO1

---





Left; changes the level of VCO1 Sawtooth waveform.

Right; changes the level of VCO1 Square waveform.

## VCO2

---

Left; changes the level of VCO2 Sawtooth waveform.

Right; changes the level of VCO2 Square waveform.

## VC LPF – VOLTAGE CONTROLLED LOW PASS FILTER

---

The Leipzig has a 24db/octave transistor ladder filter with a sound similar to the old Moog synths.

## CUTOFF

---



This changes the cutoff frequency and changes how bright the sound can be.

## RESONANCE

---



Sometimes called Q or Emphasis on other synths. This changes the Q, or feedback at the cutoff frequency. In simple terms, the squigyness of the sound!

The resonance is quite sensitive at the upper end of the control's travel.

### KEY TRACK

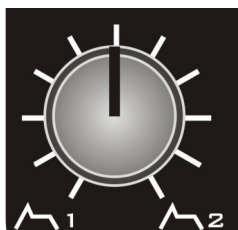
---



This control routes pitch CV to the filter cutoff. When it is turned up, as you play higher up the keyboard, the filter will open up. This makes the sound get brighter as you play up the keyboard.

### EG MODULATION

---



This control routes either envelope to modulate the frequency cutoff. The centre position is off/no modulation. Modulation can be either EG1 (left) or EG2 (right).

## LFO – LOW FREQUENCY MODULATION

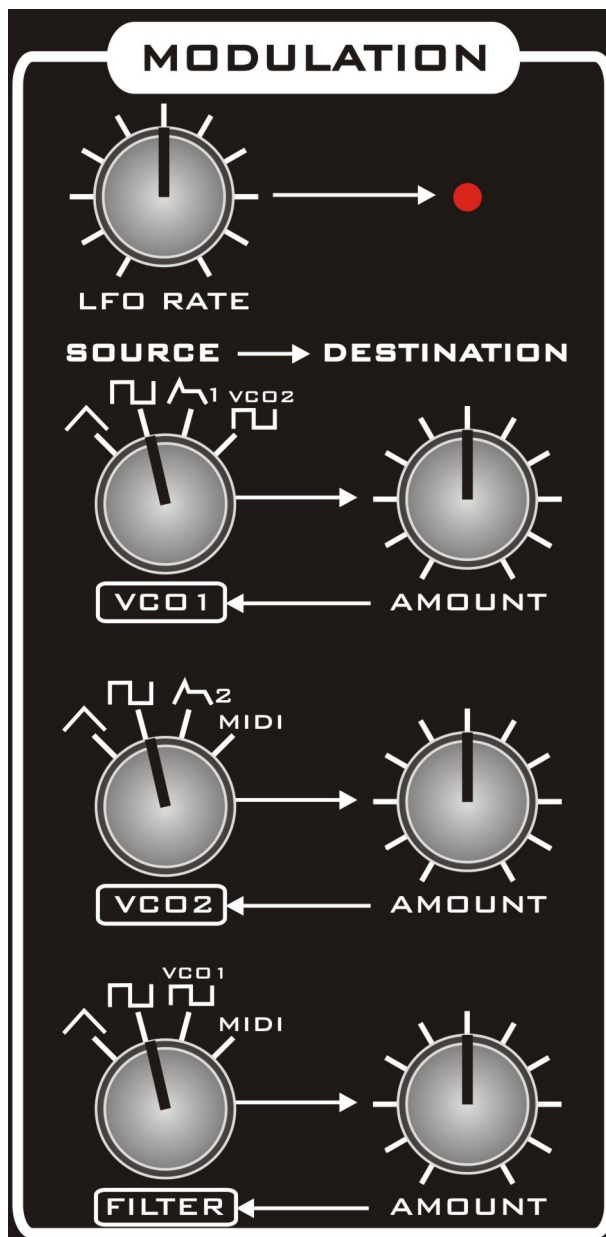
---

The LFO produces both triangle and square waveform outputs. The LFO modulation signal is typically used to create 'wah-wah' or vibrato type effects.

## RATE



This control sets the speed of the LFO.



## MODULATION

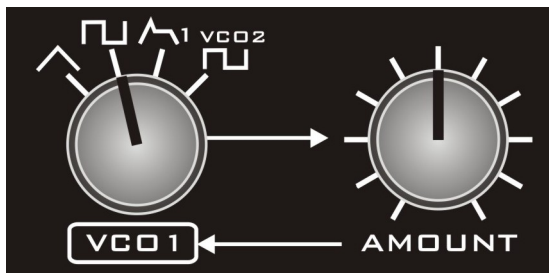
This section selects and routes various modulation signals to the VCO and VCF circuits.

The three rotary switches select the modulation source, for example LFO or EG.

The Level control sets the modulation level.

Each circuit (VCO1, VCO2, VCF) has its own choice of modulations sources.

## VCO1



## LFO TRIANGLE

Ideal for vibrato effects.

## LFO SQUARE

Ideal for special effects.

## EG1

Pitch sweeps. Extreme settings are good for percussion.

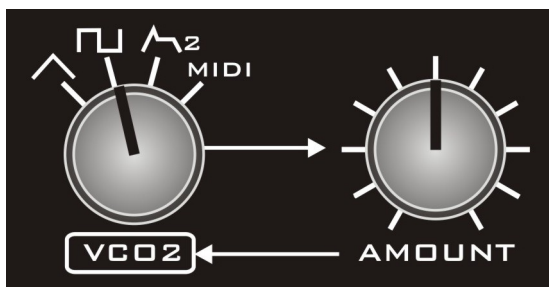
## VCO2 SQUARE

Extreme settings create Ring-mod and metallic type sounds.

---

## VCO2

---



## LFO TRIANGLE

Ideal for vibrato effects.

## LFO SQUARE

Ideal for special effects.

## EG2

Pitch sweeps. Extreme settings are good for percussion.

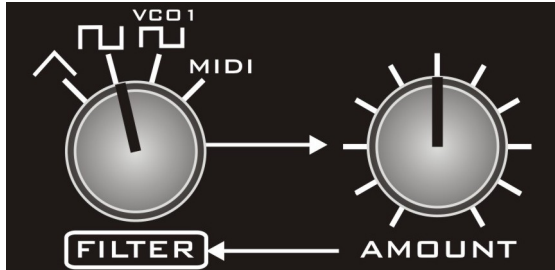
## MIDI

CV2 (auxiliary CV/MIDI controller) controls pitch

---

## VCF

---



### LFO TRIANGLE

Ideal for wah-wah effects.

### LFO SQUARE

Ideal for special effects.

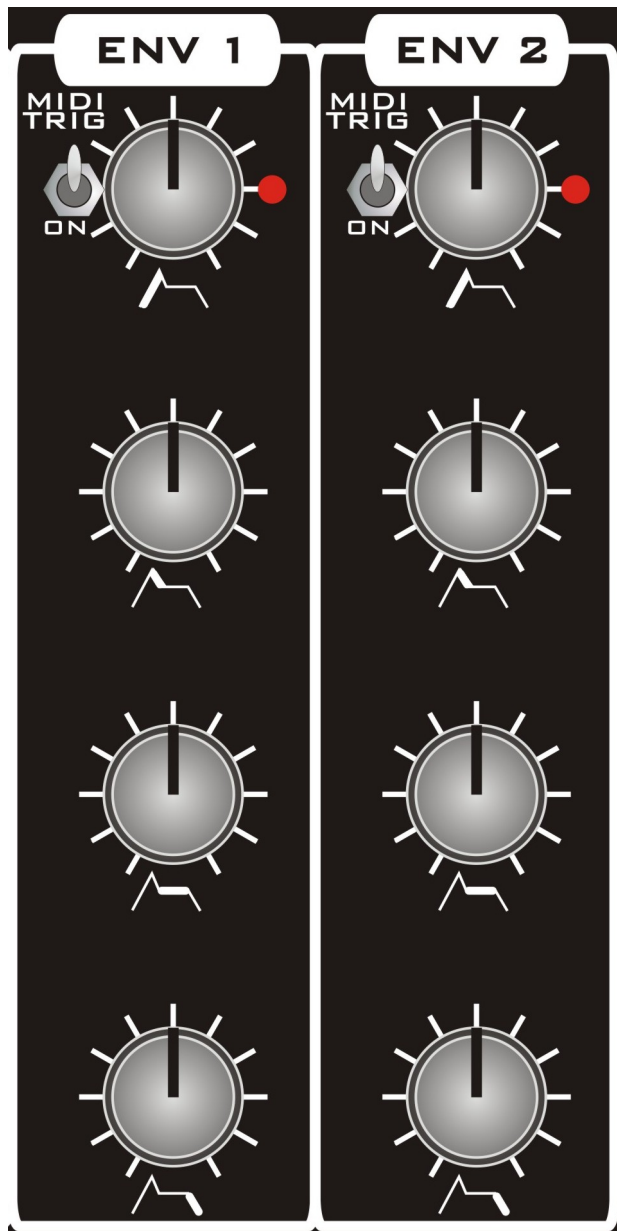
### VCO1

Use with full Resonance for metallic type sounds.

### MIDI

Control from auxiliary CV/MIDI controller. Balance this with filter cut-off and EG-Mod for create filter dynamics.

## EG1 & EG2 - ENEVELOPE GENERATORS



Envelopes are modulation signals that you trigger and then they evolve over time. Typically used to change the volume or filter cutoff, though they can also be used to modulate the VCO pulse widths or pitch.

Both envelopes are identical, so only one will be described!

### ATTACK

This controls how low the EG takes to reach maximum level once triggered.

### DECAY

After reaching maximum level following the Attach stage, Decay sets the time taken to reach the level set by Sustain.

## SUSTAIN

---

Once the Attack and Decay stages have passed, Sustain sets the level that the EG will hold its output at for as long as a key is held down.

## RELEASE

---

Once the key is released, this sets the time take for the signal to fade to zero.

## LED

---

The LED gives a rough approximation of output level.

## MIDI TRIG SWITCH.

---

The EGs can be triggered from MIDI or the sequencer. When this switch is down it can be triggered from MIDI. See more notes about this in the section about sequencer triggering.

## SEQ TRIG ROTARY SWITCH

---

This switch sets which EGs the sequencer will trigger.

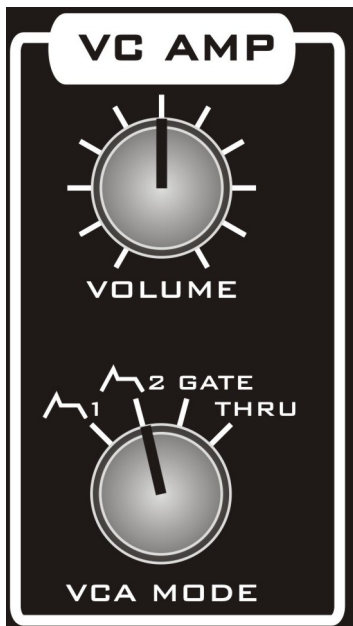
The Sequencer must be running, and ideally, both EG MIDI TRIG toggle switches set to Off (up).

Switch choices;

- \_ Sequencer will trigger neither EG
- 1+2 Sequencer will trigger both EGs
- 2 Sequencer will trigger EG 2 only
- 1 Sequencer will trigger EG 1 only

## VCA – VOLTAGE CONTROLLED AMPLIFIER

---



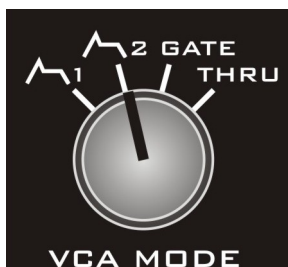
The VCA is an amplifier whose gain can be changed with a modulation signal, typically an envelope.

There are four choices available on the rotary switch.

---

### MODE

---



EG1 /EG2

Normally used to contour the volume.

GATE

The VCA opens and closes with no gradual attack or decay, much like an organ.

THRU

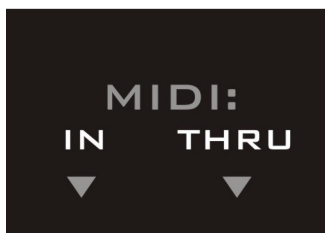
This holds the VCA open at full volume. This is typically used when feeding external audio into the synth. It can then be used like an effects processor.





## MIDI

---



MIDI control has been kept intentionally minimal. This is a 'traditional' true analogue synth. We don't want you to get carried away micro-editing controller values with your clever computer!

There are three main elements you can control;

Pitch CV (MIDI Note) – used to control the pitch of the VCOs.

Gate (MIDI Note on/off) – used to trigger the envelopes or clock the sequencer.

Auxiliary CV / CV2 – this is a modulation CV. It is controlled by either MIDI velocity or a MIDI Controller.

## PROGRAM (RACK VERSION ONLY)

---



This button is used to set the MIDI channel and CV2 controller.

Works best if you plug a MIDI keyboard direct to program rather than via a DAW.

*To change the MIDI channel and CV2 controller;*

Press and hold the PROG button.

Press a MIDI key or move a MIDI controller.

Release the key/controller, then release the PROG button.

The synth will set its MIDI receive channel to the same channel of the MIDI message that was received.

CV2 will be set to Velocity if you used a MIDI key or to the same controller number of the controller that was moved.

# Leipzig-S/SK User Manual

---

## DUOPHONIC MODE

---

If you have two rack Leipzig-S (this does not apply to the keys version) then you can poly-chain the pair and play duophonically.

This can be done with most of our products, including Telemark. So you could poly-chain both Telemark and Leipzig-S!

From approx. 2003 onwards, Telemark and Leipzig-S synths have modified software to add poly-chain to accommodate one other synth.

This will allow 2 Telemarks to be played together as a single 2 voice polysynth. (4 voice is possible too on request - if you are lucky enough to own 4 Telemarks!)

---

### TO CONNECT THEM UP:

---

Set the Slave Leipzig-S to MIDI channel 2

Connect your keyboard to the MIDI In of the Master Leipzig-S.

Connect the MIDI Thru from the Master Leipzig-S to the MIDI In of the Slave Leipzig-S.

To activate the Poly mode, Press and hold the MIDI/PROG button whilst powering up the Master Leipzig-S. (Do the same to toggle it back to normal mono mode)

There is no need for the Slave Leipzig-S to have the special software or be in any special mode, just as long as it is set to Channel 2.

Essentially the Master synth that is in poly mod strips out any 2<sup>nd</sup> held notes and passes them out the Thru sockets on channel 2.

note; Pitch bend is not passed through. The poly mod is fairly basic (for example there is no note buffer) but it suffices as a 'free' extra and works well enough!

## SEQUENCER



This is the fun bit 😊

Leipzig-S has a built in analogue step sequencer. It can be clocked from various sources and produces an analogue CV that can be used to modulate the VCOs or filter cut-off.

It is fantastic as a modulation source.

It can also be used to create simple melodies that can be transposed with your MIDI keyboard.

It can also be used as a simple waveform generator and then used as a new audio source that can be played and filtered.

Note; it does not produce a MIDI output! This is an analogue synth, after all! Think of this sequencer more as a modulation source, though of course you can create simple melodies.

## SYNC SOURCE



The sequencer can be clocked from seven different sources;

### LFO

Internal LFO becomes the clock source.

### VCO2 AUDIO

VCO2 clock source becomes the clock source. This means the sequencer is running at audio frequencies! More on this later.

### MIDI KEY

Sequencer advances one step each time a MIDI key is played. This is the BEST way to sync to a MIDI sequencer. More on this later.

### ACCENT

## Leipzig-S/SK User Manual

---

Sequencer advances one step each time a MIDI key is played with a velocity over 80 (accented).

### EXT1

---

If a clock signal or LFO is fed into the EXT1 socket on the rear panel then that becomes the source.

### MIDI-CV2

---

The auxiliary CV (controlled by MIDI velocity or MIDI controller) steps the sequencer. When the CV goes from 0v to approx. 2V, the sequencer steps.

### MIDI SYNC (ON LEIPZIG-SK THIS IS EXT2)

---

The sequencer will run when it received MIDI Sync. It responds to Start and Stop messages too.

---

### NOTE ABOUT HOW SYNC CHOICE AFFECTS EG

---

Different sync sources are different lengths. Eg, MIDI Sync and Accent are short pulses, where as something like using MIDI-CV2 could result in a very long signal.

The length of the sync source signal directly affects how the EG is played – that is a ‘on’ signal will hold open the EG’s Sustain.

Essentially, common sense prevails - play around with the EG’s parameters to get the effect desired.

# Leipzig-S/SK User Manual

---

## HOW TO SYNC LEIPZIG-S/-SK TO MIDI

---

Using MIDI-Sync on Leipzig-SK is NOT a problem! In fact using MIDI Sync is the WORST

way to sync the sequencer to a MIDI sequencer.

Sync'ing using MIDI KEY is by far more creative and flexible than using MIDI SYNC (MIDI Clock).

When using this, each time a MIDI note is received, the sequencer advances one place.

Just create a track of 16x 16<sup>th</sup> notes on your MIDI sequencer. Experiment with different patterns of notes, and different note lengths. But ensure the notes do not overlap.

The note number of the MIDI notes will affect the pitch as usual. Ideal for transposing the Leipzig's analogue sequencer.

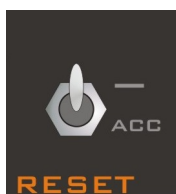
### ADVANTAGES;

---

- You can use your MIDI Sequencer's 'Mute' to stop/start Leipzig's sequencer.
- The track that controls Leipzig's sequencer doesn't need to be a run of 16<sup>th</sup> notes. It can be any pattern you wish.
- The above CANNOT be done with MIDI Sync!
- The pitch of the MIDI Notes will transpose the pitch of Leipzig.

## RESET

---



The sequencer can be reset to step one every time it receives a MIDI note whose velocity value is over 80 (accented). To do this, ensure that the toggle switch is down.

**Note**, on Leipzig-SK the switch position ACC is in fact EXT2. So an external signal can be used to reset the sequencer.

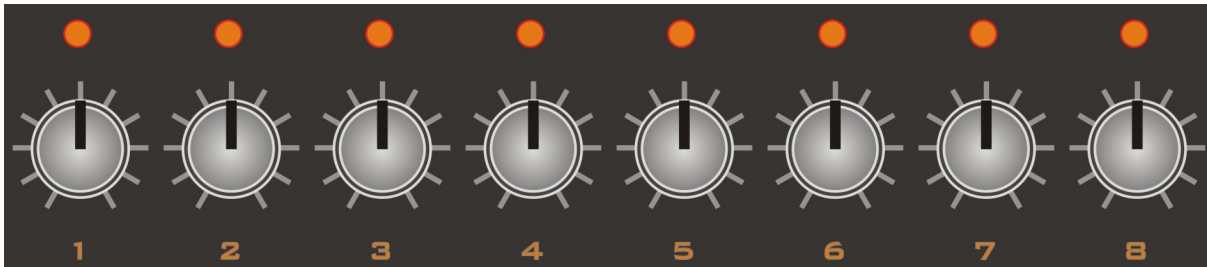
## STEP

---



The step button allows you to manually step the sequencer.

## STEP CV Knobs 1-8



These adjust the CV level for each step.

---

## DESTINATION

---



The output CV of the sequencer can be routed to VCO1 pitch, VCO2 pitch and VCF cutoff. The level can be changed using the appropriate control.

You must tune the VCO1 and VCO2 mod level pots by ear so that both VCOs are playing in unison. However, by adjusting them differently, you can make them seem to play separate melodies, or in combination with other settings, create new and interesting sounds.

Set lowish filter CUTOFF and VCF EG MOD settings, and full VCF Sequencer mod settings and create great filter dynamics!



# Leipzig-S/SK User Manual

---

## SEQUENCER / EG TRIGGERING

---

The range of possibilities for how the EGs are triggered has been well thought out and there are too many combinations to explain here.

The thought process of all the triggering options is that you want choices of whether the sequencer triggers the envelopes, or MIDI, or some combination of both.

For example, you may want the sequencer to play Leipzig, but have the option of transposing the sequence using a MIDI keyboard. But you would want to be able to do this without the MIDI keyboard re-triggering the envelopes. You just want the sequencer to deal with triggering.

---

### SEQUENCER TRIGGERING ONLY

---

If you just want the Sequencer to play Leipzig, then;

Turn both EG MIDI TRIG toggle switches OFF (up).

Set the SEQ TRIG rotary switch to 1+2.

---

### NORMAL MIDI USE

---

When playing from a MIDI Sequencer or MIDI keyboard;

Turn both EG MIDI TRIG toggle switches ON (down).

Set the SEQ TRIG rotary switch to – (off).

---

### OTHER

---

Using various combinations of these switches will produce different triggering depending on your desires! Note, some combinations are less useful than others! But most are exciting and useful!

---

### USING THE SEQUENCER AS AN AUDIO OSCILLATOR

---

Set SEQ SYNC to VCO2. This is so the sequencer will be clocked at audio frequencies.

## Leipzig-S/SK User Manual

---

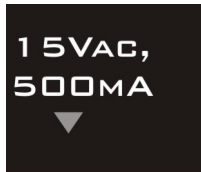
On the mixer move the toggle switch to SEQ to route the output of the sequencer to the mixer. This means you will hear the sequencer's output.

The audio out is quite a harsh metal sound being a neat digital waveform. Use the filter to tame it, and turn the sequencer step controls to change the harmonics.

## SPECIFICATION

### **Leipzig-S**

#### *Power*



#### Current consumption

<1A

#### *Voltage*

12V AC (DC will not work!)

#### *Power plug*

2.1mm

#### *Weight (mass)*

Approx. 3Kg

#### *Size*

100x222x483mm (DxHxW)

#### Packaging weight and size

#### *LEDs*

15

#### *Push buttons*

2

#### *Toggle Switches*

5

#### *Rotary Switches*

7

#### *Rotary Potentiometer*

39

#### *Jack sockets*

# Leipzig-S/SK User Manual

---

3 x 6.35mm mono

*MIDI sockets*



2

*Power Sockets*

1

## **Leipzig-SK**

*Voltage*

230V / 115V AC (check back panel for correct voltage!)

*Power plug*

IEC socket

*Weight (mass)*

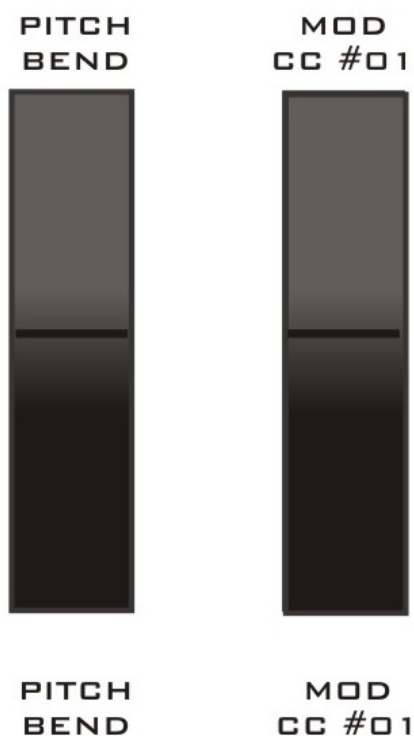
Approx. 7.7Kg

*Size*

565mm x 405mm x 135mm (W x D x H)

## LEIPZIG-SK PITCH BEND AND MOD WHEEL

---



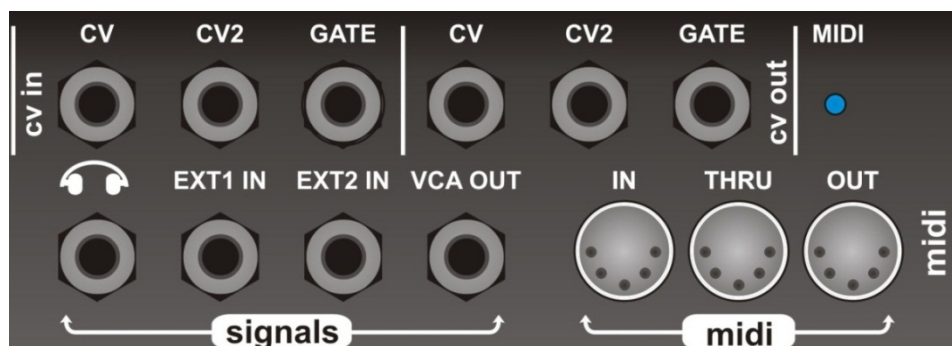
### PITCH BEND WHEEL

Pitch Bend range can be set via the LCD display. Default value is usually set to +/-2 semitones. The Pitch Bend MIDI data is sent to the MIDI OUT socket and will also control the on board MIDI to CV converter to affect the pitch of both VCOs equally.

### MOD WHEEL

The mod wheel will send MIDI controller one data to the MIDI Out socket. MIDI2 (CV2) can be set to be modulated by any controller, therefore can be set to one to be controlled by the mod wheel. This means that the mod wheel can be used to change, say, filter cutoff.

## LEIPZIG-SK REAR PANEL AUDIO CONNECTIONS



**CV IN:** This is a pitch CV input socket if you want to control the synth's pitch from an external synth. Scaling is 1v/Oct.

**CV2 IN:** This is a CV input socket if you want to control the synth's 'MIDI2' patch points (selected via the rotary switches) using an external synth.

**GATE IN:** This is a Gate input socket if you want to trigger the two envelope generators via an external synth. Triggering is positive 5v or more signal.

**CV Out:** The pitch CV signal is fed out here from the MIDI to CV converter.

**CV2 Out:** The MIDI2 aux/controller CV signal is fed out here from the MIDI to CV converter.

**GATE Out:** The gate signal is fed out here from the MIDI to CV converter.

**HEADPHONE:** The signal is mono. Level is controlled together with the main output socket level using the volume control on the front panel

**EXT1 IN:** This is an audio input socket to feed audio signals directly into mixer.

**EXT2 IN:** This is a second audio input socket to feed audio signals directly into mixer.

**VCA OUT:** This is the main audio output from the synth. It is the signal output from the VCA, post Volume control.

**MIDI IN:** Plug your MIDI cable in here to all another MIDI device to control the synth.

**MIDI THRU:** The MIDI data coming into the In socket is copied to the Thru socket. This is so you can control additional devices from your MIDI controller without the need of a MIDI thru box. The Thru socket will not function when in Poly mode.

**MIDI OUT:** Use this socket to allow the Telemark to control other MIDI devices or use it as a master keyboard in your MIDI setup.

## CV/GATE JACKS

---

If you insert a jack plug into the CV in or out sockets then the internal connection will be broken.

E.g., if you connect an external CV sequencer or MIDI to CV converter to the CV1, CV2, Gate In sockets, you will disconnect the synth's internal MIDI-CV converter from the voice circuits. This way you can directly control the voice circuits from an external device. The internal MIDI-CV converter will still work, and its signals still available from the CV1, CV2, Gate Out sockets.

Likewise, if you connect the CV1, CV2, Gate Out sockets to an external analogue synth, the internal MIDI-CV converter will be disconnected from the internal voice circuits.

In summary, the signal flow is such;

Internal MIDI-CV converter -> CV/Gate out Sockets -> CV/Gate In Sockets -> Internal Voice circuits.

By inserting jacks into either the In or Out sockets, you will disconnect the internal MIDI-CV converter from the voice circuits.

The main signal output is on the rear panel and is oddly labelled VCA OUT. Connect this socket to a spare mixing desk input channel. If you want to feed external signals into the synth, use the rear panel EXT1 or EXT2 sockets. Maybe hardwire it from your desk's effect send.

It is recommended to keep your MIDI and CV/audio cables as short as possible to keep the signal quality as high as possible. We recommend no more than 3 metre cable lengths.

---

Specification subject to change without notice.

## **Warranty**

Leipzig comes with a 1 year (from purchase date) back to base warranty, (i.e. customer must arrange and pay for carriage to and from Analogue Solutions or the dealer from which purchased).

This warranty shall not apply where the product has been subject to alteration, misuse, accident, neglect (such as extremes of temperature and/or moisture) or to wear resulting from normal use.

At the sole discretion of Analogue Solutions, the warranty is deemed to be void should the unit be or considered to have been opened or any other modifications or tampering be carried out by unauthorised parties.

## **CE Compliance**

This unit complies with EU Directives 73/23/EEC and 89/336/EEC. Standards: EN55103-1, EN55103-2, EN60065

*LEIPZIG-S / LEIPZIG-KS 'user manual'*

Analogue Solutions

web: [www.analoguesolutions.com](http://www.analoguesolutions.com)

web: [www.analoguesolutions.co.uk](http://www.analoguesolutions.co.uk)

email: [info@analoguesolutions.com](mailto:info@analoguesolutions.com)

post: 1 Court Crescent, kingswinford, dy6 9rj, uk



