

paradis - a concept guitar by rolf spuler

let's turn the wheel of time 60 years back and take a look at the evolution and development of the electric guitar. musicians asked for a regular acoustic guitar that could be played really loud. the answer was an 'industrial guitar' that featured an all new sound.

this was the starting point of my vision. with the paradis i wanted to make available what in 1950 remained a dream: a stage-friendly guitar, staying true to its natural sound at any volume level, for nylon- and steel-strings alike.

developing a proprietary piezo pickup system, this vision became reality. however, my requirements for a perfect guitar went beyond brilliant acoustics: it should look truly beautiful and be a pleasure to touch. the electronics of the paradis are stateof-the-art, and the integrated polybass supplements the round, acoustic sound with fat suboctave basses. above all, with the firewire onboard-card, the paradis mutates to become a true digital guitar for direct computer access.

by rolf spuler, 2005



specifications

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type	semi-solidbody guitar with nylon- or steel-strings
origin	switzerland
production method	handcraft and cnc, set-neck construction
body-wood standard	mahogany one-piece
body-wood options	flamed maple, birdseye maple, quilted maple, cherry, apple, bubinga, padouk, quilted mahogany, nogal
neck-wood standard	solid indian rosewood
neck-wood options	solid brasilian rosewood 50-years aged
frets	24, medium-jumbo up to 12th, medium from 13th
neck-extension	2 additional frets on bass-section (dropped d)
saddle	glass reinforced pom
bridge	6 mono rails made of rosewood, bridge/pickup of brass 2d-adjustable
surface finish	oil/wax polish
finish option	2c-lacquer uncoloured or coloured translucent, high-gloss, pearlwhite satin, metallic effects
tuning machines	modified gotoh magnum lock, goldplated
pickup	single string piezo transducer, patented
pickup-options	magnetic pickup, body-transducer, microphone
electronics	studio-type analog, discreet 10-channel fet pre-stage, polybass 4-voices
electronics options	firewire-digital onboard-card, 13-pin guitarmidi onboard-card
controls	slide-control for volume, slide-control for polybass
controls options	pickup switch, 2 slide-controls for software/synt-volume, program-change switch
batteries	4 pcs aa / mignon, continuous operation time approx. 20 hrs
battery-electronics	automatic power-off after 4min of silence
scale	648mm 25.5"
width at saddle	classic: 50mm, steel: 45mm
string-spacing bridge	58.5mm
fingerboard radius	classic: radius 457mm 18", steel: radius 381mm 15"
weight	2.25kg (standard mahogany)

fix the string at bridge side



straight string-end through left hole



loop back through second hole back again, string

back again, string-end through loop



pull string, bind a tight stitch

cut off the string-end



adjusting / setting volume on separate string pickups

use a small screwdriver to adjust trim-potmeters: play the guitar string by string and equal the volume of each of them. be carefull to touch no electronic element other than the wheel of the trim-potmeter. there's no dangerous voltage power, however shortswitching the electronics circuit can damage the preamplifier.





setting of polybass switch

the following pre-sets can be activated by 4 internal mini-switches:

- 1 priority-mode on/off
- 2 second bass-string (A5) on/off
- 3 third bass-string (D4) on/off
- 4 fourth bass-string (G3) on/off

a fader on top of the guitar body controls the octave-bass enhancement

in default, polybass acts on the three bottom strings, named as D4th, A5th, E6th. priority-mode is ON.



default setting

what's priority-mode?

priority is a musical feature: an intelligent circuit continuously analyzes which strings are plucked, and gives priority to the lowest of them for adding a 'clean' octave. even a chord is played, only one bass voice is generated avoiding interferences with polyphonic low voices. the setting of activated strings has no effect on the priority function. in case of desired polyphonic low voices, priority-mode can be switched off.

manual

- open back cover plate (use phillips screwdriver)
- with a little stick or just the fingernail, slide the lever of the 4-part-switch into favored position





battery-saver setting

the paradis guitar electronics include a battery saver circuit. even the jack-connector is plugged in, the battery-power switches off when the guitar is no more in action, shutdown after 4 minutes of 'silence'.

in some cases this convenient feature can be irritating. it can be setted out of operation by an internal jumper-switch.

set the jumper:

- disconnect all plugs
- open back cover (two or four crosshead screws)
- optional cards: remove 20-pin flatcable, release 4 nuts of the card, carefully lift up the card from its bolts and connector



- shortswitch this two pins by a jumper to set the battery-saver out of operation
- clip on hukepak-card, attach nuts and flatcable, close cover aso.



service manual / R13-interface-board / adjustment of trimpots

this manual is to show how the adjustment has to proceed.

the trim-pots are for voltage adjustment. the volume-sliders of the guitar should control a precise range of 0..5 volts. however, due to mechanically limited travel, they do not act over the full resistance rail. therefore the end-positions have to be set to 5 volts respectively 0 volts (max. volume / min. volume)

required equipment: multimeter, power supply +/- 7 volts (or a roland guitarsynth device), small screwdriver





20-pin connector	13-pin connector	function	connected
1		polybass	
2	6	string E6	
3	5	string A5	
4	4	string D4	
5	3	string G3	
6	2	string B2	
7	1	string E1	
8		aux1	
9	7	mono-mix	
10	9	multi-purpose	
11		vol-control	
12		master-slider	
13		switch m-p	
14		switch m-p	
15	10	switch 1	
16	11	switch 2	
17	13	-7 volts	
18	housing	GND	
19	12	+ 7 volts	
20	housing	GND	



jumper for setting headphone output

the paradis guitar consists of a multi-functional jack-output. some functions are automatic, some can be manually setted by jumpers (bridge-switches).

the 1/4-inch socket is a stereo-type which allows the separation of the basic guitar-sound and polybass-sound.

when connected with a standard mono jack-cable, polybass and guitar go together.

when fitted with the optional firewire-card and connected to a 1394 port, the jack-output turns to stereo-headphone-out, transmitting the soundmix from the computers audio-application. if this headphone application is not wanted, a jumper can be removed to let the output permanently act as a conventional guitar out.

when fitted with the optional 13-pin-interface-card and connected to a guitar-synth, the jack-output should act as a conventional guitar out since no headphone signal is delivered, so the jumper has to be removed.

removing jumper / make headphone function inoperable:

- disconnect all plugs
- open back cover (two or four crosshead screws)
- optional cards: remove 20-pin flatcable, release 4 nuts of the card, carefully lift up the card from its bolts and connector





- lift up / remove this jumper when operating 13-pin-card (color may vary)

- clip on hukepak-card, attach nuts and flatcable, close cover aso.

setting for separating polybass

the paradis electronics offers settings to define the function of the 1/4-inch jack. an internal 3-pin-socket allows the following functions:

- no jumper: automatic detection of mono- or stereo-cable: conventional mono-jack-cable transmits a mix of guitar- and polybass-sound, a stereo-jack-cable separates the guitar- and polybass line -guitar on tip, polybass on ring-contact (*special function at 13-pin-card, see below)
- jumper to the left: the 1/4-inch jack is permanently setted to stereo which separates the guitar- and polybass line -guitar on tip, polybass on ring-contact. when a mono-jack connected, polybass-sound will be muted. (*special function through 13-pin cable: only basic guitar sound)
- jumper to the right: the 1/4-inch jack is permanently setted to mono, transmitting a mix of guitar- and polybass-sound. when a stereo-jack connected, no change will happen.



set jumper to the left, for permanent stereo:

on the 3-pin-socket, shortswitch middle and leftside pin by plugging the blue jumper to the left. this results in a permanent separation of polybass- and guitar- sound, meaning the polybass-signal gets separated from the guitar-sound and leads to the ring-contact of the 1/4-inch jack.

* special function by inserted 13-pin-interface-card, connected to roland or axon: *

no jumper:	the 13-pin cable transmits a mix of guitar- and polybass-sound (on pin-9).
	the 1/4-inch jack transmits a mix of guitar- and polybass-sound to the tip of the plug, no matter if
	mono- or stereo plug.
jumper to the left:	the 1/4-inch jack is permanently setted to stereo (as described above).
	the 13-pin cable transmits the basic guitar-sound, no polybass