

Operating Instructions

1000RB

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Introduction

We are very proud of the 1000RB, G-K's most powerful bass amplifier to date, and in many ways, the culmination of 27 years in the amplification business. The 1000RB was designed with you in mind - to be your personal creative tool, to give you the ultimate bass response and tone. We've learned many things by talking to bass players like you for almost three decades. We know you want lots of headroom and raw power, yet you want your amp to be dead quiet and free of noise. You need fast response and clarity. And perhaps most of all, you want all that great performance night after night, year after year, from an amp that will never let you down.

The 1000RB is definitely not just another high power bass amp. Its High Current Capacity output stages - capable of delivering instantaneous power of 5,000 watts - are revolutionary. Its relay-activated Fault Detection Circuitry is state - of - the art. All the design parameters for the 1000RB are optimized for response, headroom, and reliability.

Like all G-K bass amps, the 1000RB is user friendly. It's easy to get the sound you're looking for - in fact, it is hard to get a bad sound. We took all the same responsive bass tone G-K amps are known for, and made it even better. We think you will be very pleased with your new 1000RB. We are.

Bob Gallien & Rich Krueger

1000RB Features

Power : 500 watts RMS into 4 ohms

High Current Capacity : 60 amps peak current

(5,000 watts of instantaneous power) gives the 1000RB unparalleled transient response with complete control over the movement of your speakers.

Low Noise Operation : Both preamp and power amp stages have increased headroom so that noise (hiss) is barely perceptible.

Fault Detection Circuitry : Relays automatically disconnect the amplifier from your speakers during power up/down, or if any unsafe operating conditions occur.

Fan Cooling : Temperature controlled, continuously variable fan speed.

Tuner output with footswitchable mute.

Tunable Voicing Filters

Four Band Active Equalization

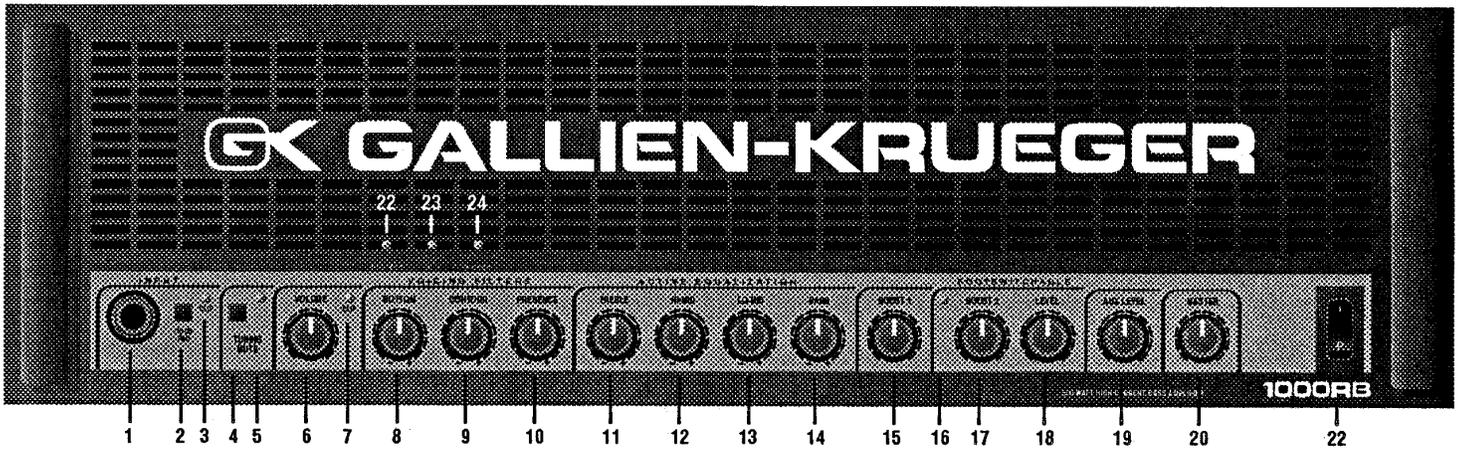
Boost 1 (Normal) & Boost 2 (High Gain) :
Footswitching between these two sections.

GIVE Technology : Gate Induced Valve Effect, used throughout for warm, "punchy" response.

Parallel effects loop with Stereo Aux In and Aux Return Level

Direct/balanced output : Electronically balanced, low impedance output with variable level, pre/post & ground lift switches.

Speakon™ connectors : For reliable connection of high power / high current outputs to speaker cabinets.



Front Panel Features

(1) INPUT JACK

1/4" phone jack to plug in active or passive basses with a shielded cord

(2) -10 dB PAD

This switch should be pressed if the CLIP(3) light stays on continuously. It may be necessary to "pad" the input if you are using a bass with active electronics or very high output.

(3) CLIP

LED indicator which lights when the input stage is being overdriven. If -10dB PAD (2) is pressed and CLIP(3) still stays lit, turn down the volume on your bass.

(4) TUNING MUTE

Switch that mutes all outputs from the amplifier (speakers, direct and balanced outs) so you can tune up without sending signal to the audience or the P.A.. Tuning mute can be footswitch controlled by using a G-K RF2 footswitch, which will leave both hands free to tune your instrument. To control TUNING MUTE by footswitch, TUNING MUTE (4) switch must be "in"

(5) LED INDICATOR

Lights when TUNING MUTE is activated.

(6) VOLUME

Controls signal level at the beginning of preamp stages.

Volume should be turned up until the CLIP(7) light comes on when you're hitting your loudest notes. At this setting you will have the optimum signal/noise ratio. Remember that your settings in the VOICING FILTER and ACTIVE EQUALIZATION sections can also cause clipping. IF this occurs, re-adjust VOLUME as explained above.

(7) CLIP

LED indicator that lights when either VOLUME, VOICING FILTER, OR ACTIVE EQUALIZATION stages are being overdriven.

(8) BOTTOM

Voicing filter which boosts or cuts +/-12dB at very low frequencies (20Hz center freq.). Boost this control if you want to add more low-bass response. Or, keep it turned down if you want a tighter, less "boomy" bottom end.

(9) CONTOUR

Voicing filter that boosts highs (4kHz) and lows (80Hz), while dropping out mids (600Hz). Most players use this control between half and maximum to create a "round" or "hi-fi" sound. Use lower settings for a "flatter" response.

(10) PRESENCE

Voicing filter that boosts high frequencies (6.5kHz center freq.) by as much as 12dB. This control adds "edge" to help you cut through the mix.

(11) - (14) ACTIVE EQUALIZATION

Four highly active tone controls, TREBLE, HI MID, LO MID, AND BASS. Each band of EQ creates wide tonal variations without affecting the other bands.

(15) BOOST 1

A post EQ gain stage using GIVE Technology which adds "growl" as you turn it up. The RF2 footswitch allows you to switch between BOOST1 and BOOST 2.

(16) LED INDICATOR

Lights when you have footswitched into the BOOST 2 mode.

(17) BOOST 2

A post EQ gain stage like BOOST 1, except this stage has higher gain for "lead-bass" or solos. Use BOOST 2 with LEVEL (18) to create the desired amount of overdrive. Note: You can only access the BOOST 2 section via the RF2 footswitch.

(18) LEVEL

Determines the level coming out of BOOST 2 section. Used to set a different volume level for solos.

(19) AUX LEVEL

Controls signal level coming from AUX IN(26). Creates effects blend (dry vs. wet) when used in a "parallel" effects loop.

(20) MASTER

Master volume that controls output level to speakers.

(21) POWER SWITCH

(22) PROTECT

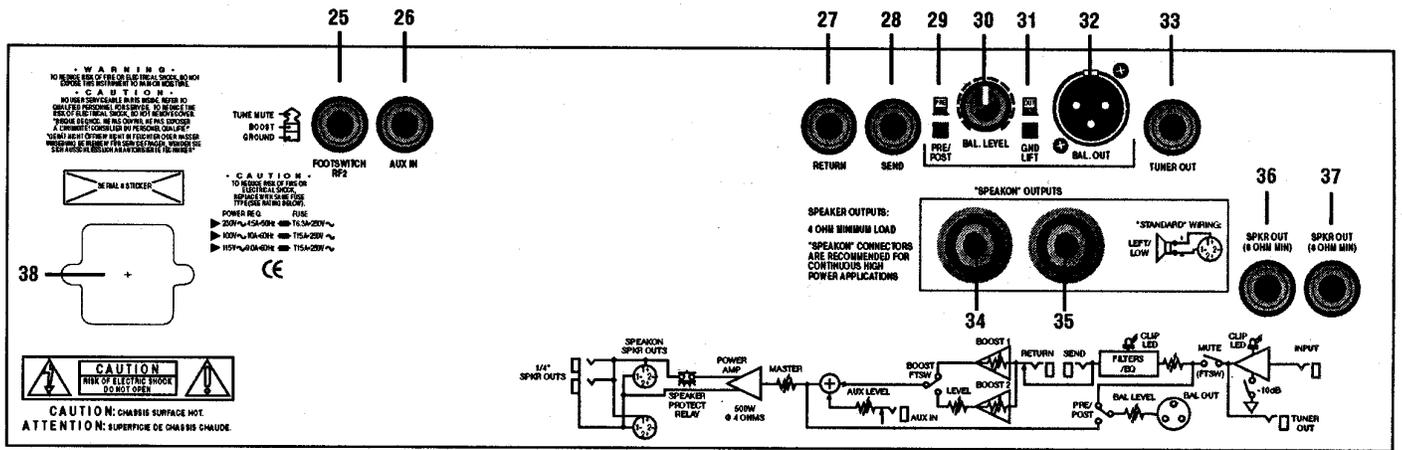
LED indicator that lights on power up, power down, or whenever the FAULT DETECTION CIRCUITRY relays have disconnected the 1000RB from your speakers.

(23) CLIP

LED indicator that lights when the output is clipping.

(24) POWER

LED indicator that lights during normal operation.



Rear Panel Features

Note : The block diagram of the 1000RB is printed on the rear panel and describes the signal flow from input to output. Many of your questions about the use and functions of the 1000RB are explained in this diagram.

(25) FOOTSWITCH RF2

1/4" stereo phone jack that connects to RF2, two button footswitch, via stereo cable. This jack is wired so that TUNING MUTE is controlled by the "tip", BOOST 2 is controlled by the "ring", and the "sleeve" is ground.

(26) AUX IN

1/4" phone jack that accepts a line level input. Can be used as an effects return in a "parallel" effects loop.

(27) RETURN

Accepts line level return from external effects that are connected in a "series loop" (such as limiters, enhancers, etc.). Plugging into RETURN opens the connection between the 1000RB pre-amp and power amp stages.

(28) SEND

Line level output that is post EQ and pre BOOST. Used when sending a full range mono signal to an external device (effects or slave amp).

(29) PRE/POST

Select the source for the XLR balanced output(32). In the "out" position, the direct output is PRE meaning that it comes right off the input stage, (after TUNING MUTE, before VOLUME), and is unaffected by any front panel controls except the -10dB PAD switch. The PRE position is used to take a balanced direct output to the house PA in a live situation where the soundman wants a signal unaffected by your VOLUME and EQ controls. In the "in" position the balanced output is POST (comes from the last point in the preamp, just before the master volumes) and is affected by all the front panel controls. A POST balanced output can be used for recording.

(30) BAL. LEVEL

Adjusts signal level of balanced output (32).

(31) GND LIFT

Ground lift switch that disconnects ground on balanced output (32) to eliminate hum.

(32) Bal. Out

XLR connector with electronically balanced, low impedance output, used to send signal to P.A. or recording consoles. Wiring for the XLR is "American Standard" : Pin 1 is ground, pin 2 is +, and pin 3 is-.

(33) TUNER OUT

Output that comes directly off the input stage, and can be patched to a tuner with a shielded patch cord.

(34)&(35) SPEAKON™ CONNECTORS

Deliver power to your speaker(s). Cables with Speakon™ connectors are recommended because of the high power/current output of the 1000RB. Refer to the section titled "HOOKING UP YOUR SPEAKERS" for recommended Speakon™ cables.

(36) & (37) 1/4" CONNECTORS

Provided as back-up outputs. 1/4" connectors do not have the same power handling as Speakon™ connectors, and should only be used if Speakon™ cable are unavailable.

(38) AC RECEPTACLE

Plug the power cord that is included with the 1000RB into this receptacle.

Hooking Up Your Speakers

Before you power up your 1000RB, make sure your speaker cabinets are compatible with your amp. Remember, you can not hook up a combined speaker impedance which is less than 4ohms to your 1000RB. Anything over 4 ohms is OK. Using more speaker cabinets than recommended will drop your combined speaker impedance below 4 ohms, which could result in the Fault Detection System disconnecting your 1000RB from your speakers. Refer to the chart below:

1000RB OUTPUT POWER		
SPEAKER CONFIG.	COMBINED IMPEDANCE	POWER DELIVERED
(1) 8 OHM CAB.	8 OHMS	325 WATTS
(2) 8 OHM CABS OR (1) 4 OHM CAB.	4 OHMS	500 WATTS
MORE THAN (2) 8 OHM CABS MORE THAN (1) 4 OHM CAB	NOT RECOMMENDED.	

A note regarding speaker cable: The 1000RB is capable of delivering more power than typical speaker cables can handle. We therefore recommend Speakon™ speaker cables. Choose cables that are compatible with the connectors on your speaker cabinets. These can be purchased through your G-K dealer.

G-K part no.: 304-0007-0 (Speakon™ -1/4" , "Normal" cable)
 G-K part no.: 304-0009-0 (Speakon™ -"banana", "Normal" cable)
 G-K part no.: 304-0011-0 (Speakon™ - Speakon™, "Normal" cable)

Getting Your Sound

Your should have your speakers hooked up with the recommended cables. Now, connect the power cord to your amp and to a rounded (3prong) AC outlet that has at least 20 amps of capacity. Use a power cord which is 16 gauge or heavier.

1. PLUG IN YOUR BASS

For starters, turn the volume on your bass all the way up. You may need to adjust this later. If you have conventional tone controls on your bass, turn them all the way up. If your bass has active tone controls that boost and cut, set them in the flat position. You can fine tune these tone controls after you finish the following instructions.

2. INITIAL FRONT PANEL SETTINGS

Start by setting these front panel controls at 12 O'clock: VOICING FILTERS (BOTTOM, CONTOUR, PRESENCE), ACTIVE EQUALIZATION (TREBLE, HI MID, LO MID, BASS), BOOST1 and BOOST2. Turn down VOLUME and MASTER control.

3. POWER UP

Turn on the power switch and wait about 5 seconds for the PROTECT lights to go off and the POWER lights to come on. This indicates that the system checks OK and protection relays have connected the 1000RB to your speakers.

4. CHECK TO SEE IF -10dB PAD IS REQUIRED

Play a few notes and notice if the CLIP (3) LED stays on continuously. If so, press the -10dB PAD(2) to prevent clipping in the input stage. The CLIP indicator should only light when you hit your loudest notes. If it stays lit after you have pressed the -10dB PAD, turn down the volume on your bass.

5. ADJUST VOLUME FOR LOW NOISE OPERATION

Turn up VOLUME(6) as you play, and set it so the CLIP (7) LED comes on with your loudest notes. Save this setting-it will give you the best signal to noise ratio. You may have to come back and re-adjust VOLUME once you have found VOICING FILTER and ACTIVE EQ settings you like. You may have to reduce VOLUME (which also determines the SEND level) to prevent your external effects from being overdriven. You can now set the MASTER control for comfortable listening.

6. VOICING FILTERS

CONTOUR:

Many players like CONTOUR, so start by setting this control between 12 and 3 O'clock. CONTOUR drops mids while boosting highs and lows, which creates a "round" sound. If you like a flatter response ("funk" e.g.)try experimenting with CONTOUR settings between 9 and 12 O'clock.

BOTTOM:

If you want lots of low end response, try boosting BOTTOM above 12 O'clock. If you want the tone of older G-K amps, try setting Bottom between 10 and 12 O'clock.

PRESENCE:

Presence will add "edge" so you can cut through the mix. Try settings below and above 12 O'clock until you find one you like. Note: PRESENCE adds high end-too much can also create unwanted "hiss".

7. ACTIVE EQUALIZATION

Once you have your VOICING FILTER settings, use the ACTIVE EQ to "tailor" your tone. While you play, adjust each EQ control all the way up and all the way down from the center position, until you find settings you like. Let your ears be the judge. There are no EQ settings that can harm your amp.

8. BOOST 1

Most players use BOOST because it adds "growl" (an effect that is very noticeable but hard to describe). Start with BOOST 1 set between 10 and 1 O'clock, and experiment with settings above and below.

9. BOOST 2 & LEVEL

BOOST 2 (which is only activated by footswitch) gives you a more pronounced BOOST effect for solos. In the higher settings, BOOST 2 is slightly overdriven. Use LEVEL to set your volume for solos.

10. MASTER

Now that you have your basic tone, use the MASTER control to set your loudness(stage volume).

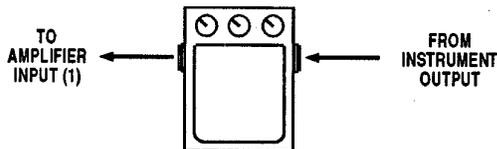
Troubleshooting

SYMPTOM	POSSIBLE CAUSE	POSSIBLE SOLUTION
NO LIGHTS	UNIT NOT PLUGGED IN	CONNECT POWER CORD TO AC OUTLET, CHECK AC OUTLET
	UNIT HAS FAILED	REFER TO SERVICE TECHNICIAN
POWER LED ON BUT FAULT LED ALSO ON	SHORTED SPEAKER CORD	REPLACE W/DIFFERENT CABLE
	SPEAKER IMPEDANCE TOO LOW	CHECK MANUAL FOR RECOMMENDED SPEAKER LOADS
	AMP HAS OVERHEATED	TURN AMP OFF, WAIT&TURN ON CHECK SPEAKER IMPEDANCES
	AMP HAS FAILED	REFER TO SERVICE TECHNICIAN
POWER LED ON BUT NO SOUND	TUNING MUTE ON	TURN TUNING MUTE OFF
	EFFECT IN LOOP TURNED OFF	TURN EFFECT ON
	VOLUME, BOOST,MASTERS OFF	TURN CONTROLS UP
	INSTRUMENT TURNED OFF	TURN INSTRUMENT VOLUME UP
	BAD GUITAR CABLE	REPLACE CABLE
	BAD BATTERY IN ACTIVE BASS	CHECK BATTERY
	COMPONENT FAILURE	REFER TO SERVICE TECHNICIAN
HUM AND/OR NOISE	PICKUPS TOO CLOSE TO AMP OR OR OTHER ELECTRICAL DEVICE	TRY MOVING,TURN OFF LIGHTS, OR OTHER ELECTRONIC DEVICES
	BAD GUITAR CABLE	REPLACE CABLE
	COMPONENT FAILURE	REFER TO SERVICE TECHNICIAN
DISTORTION	INPUT STAGE CLIPPING	PRESS-10Db SWITCH, TURN DOWN BASS
	PREAMP CLIPPING	TURN DOWN VOLUME, ADJUST EQ
	EFFECTS CLIPPING	TURN DOWN VOLUME, BOOST OR LEVELS ON EFFECTS
	POWER AMP CLIPPING	TURN DOWN VOLUME, BOOST OR MASTER VOLUME
	BAD BATTER IN ACTIVE BASS	CHECK BATTERY
	COMPONENT FAILURE	REFER TO SERVICE TECHNICIAN
LOUDNESS IS BELOW NORMAL	EFFECTS NOT HOOKED UP CORRECTLY	CHECK MANUAL FOR USING EFFECTS
	WRONG SPEAKON CABLE	USE NORMAL SPEAKON CABLE, NOT BRIDGE MODE CABLE
HUM IN DIRECT OUT	GROUND LOOP	PRESS GROUND LIFT SWITCH
DISTORTION IN DIRECT	SIGNAL TOO "HOT"	TURN DOWN BAL.LEVEL CONTROL
TUNING MUTE AND/OR BOOST2	BAD CORD FOR RF2 FOOTSWITCH RF2 DEFECTIVE	REPLACE CORD REFER TO SERVICE TECHNICIAN
NOT WORKING	COMPONENT FAILURE	REFER TO SERVICE TECHNICIAN

Using Effects

1. In line with the input

Effects like compression work best when connected in line with the input of the 1000RB. Many players also connect other "stomp box" type effects in line with the input because it is so easy. Except for compression, however, this is not the best configuration for low noise, since it amplifies any noise created in your effects by the gain of the whole amplifier.



Come out of your instrument with a shielded patch cord, into the effects unit, and from there into the INPUT of the 200RB.

2. "Series" effects loop

A "Series" effects loop is a simple and effective way to use effects like chorus, delay, or reverb with the 1000RB. It is also the best configuration for a limiter. Putting effects in a "loop" results in much lower noise than "in line with the input". In a

"series" effects loop, effects are connected in "series" between the 1000RB's preamp and power amp stages. Connect SEND(28) to the "mono" input of an external (effects) device. Come out of the "mono" output of your effects unit into RETURN(27). SEND(28) is post VOLUME, and post EQ. If the SEND signal is too "hot", it can overdrive your effects unit, and it may be necessary to reduce VOLUME (6) until the unwanted distortion in your effects goes away.

3. "Parallel" effects loop

Also known as a "side chain", this configuration works like the "effects buss" on a professional mixing console.

A line level signal is taken from either SEND(28), routed to an external effects unit, and finally brought back to the 1000RB via the AUX IN(26). Then AUX LEVEL(19) is used to mix the effects signal with the main signal, which creates an effects blend("wet" vs. "dry").