RAMMFIRE
RZK
MODERN
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MATCHED CABINET
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Manual

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1 About RAMMFIRE

Richard Z. Kruspe is the enigmatic guitarist behind the sonic colossus that is Rammstein. Even though he's been a long time user of NI products such as BATTERY and MASSIVE, he describes himself an “analog guitarist,” so you might wonder how he came to cooperate with NI on a guitar amp simulation...

Why NI?

Richard Z. Kruspe was once quoted in an interview, stating that he had checked out an older version of GUITAR RIG, and that the Gratifier emulation just didn't sound quite right. Being an expert on this kind of amp sound, NI approached him and proposed to develop a special version of it, based on his own amp. He saw that this was a genuine chance to create something truly unique, so he agreed to take part.

Even though Richard Z. Kruspe was pleased with the initial results, it was quite a challenge to satisfy his professional standards while in the early stages of development. However, he became even deeper involved in the project, refining what became RAMMFIRE in a real partnership with NI's lead developer. Together they created an extremely high-end result, which deserved the name tag *RZK*—Richard Z. Kruspe.

After the bare amp modeling was done, they went on to record impulse responses (IRs) in Kruspe's own studio, tweaking every stage under his supervision. After many stages of recording, modeling and checking, the speaker simulation turned out to be so realistic that he now often refrains from hooking up his real speakers when recording ideas in his apartment!

Richard Z. Kruspe even ended up doing sound design for his own use, outfitting the RAMMFIRE with a selection of ready-to-use sounds—the exact same ones he uses when warming up back-stage. And so RAMMFIRE was born; the outcome of an ambitious approach from NI fused with Richard Z. Kruspe's constant critical edge and perfectionism. Together they created a highly usable tool for recording and performing which harnesses the original sound of Rammstein.

2 Richard Z. Kruspe's Signature Sound

First of all, the choice of pickups is crucial: Richard Z. Kruspe uses an active EMG 81, giving him a powerful distorted sound with the attack, precision and control he needs for his stoic and robotic rhythmical style sporting many damped and short-stopped notes.
Needless to say that his signature sound originates in the fingers as much as any other legendary guitar sound. Richard is a precision maniac, deliberately choosing to play a simpler riff if he can play it tighter—the “Rammstein sound” archetype comes from the whole band really nailing these heavy archaic rhythms.
Aside from the playing—which can only come from dedicated practice—RAMMFIRE really has you covered with the accurate ingredients of the Rammstein sound.
The room sound is of major importance, and Richard Z. Kruspe's own studio—where the amp and cabinet have been sampled—has undergone many stages of optimization over the years. The choice of microphones isn't the typical, say, SM57® setup, but a rather exclusive combination of the audiophile-revered Neumann® M149™ and Telefunken U47. Being a control freak in the best possible sense, Richard built a robotic system to be able to find the sweet spot for each cabinet, so he can remotely control the mic position direct from the mixing desk.
Of course, the choice of preamp wasn't a light-hearted one—Richard claims to have tested all relevant mic preamps available, but has come back to the Neve® 1081 every time. It gives him characteristic EQing of the upper mid range by pushing the 3KHz and the 1,5KHz bands.
With RAMMFIRE, you get the signal of each of the microphones both with and without EQ for each of the cabinets. In the included special version of the acclaimed Control Room module, these eight signals are available phase-aligned to mix your very own taste of the Rammstein sound.

Achieving the Rammstein Studio Sound

The characteristic sound of a Rammstein production works with overdubbing techniques; in earlier arrangements Paul Landers and Richard Z. Kruspe's guitar parts would run in parallel octaves to achieve a thick riff sound spanning the whole frequency spectrum. This approach came to an early climax while recording “Mutter”: Richard would pile up to 24

tracks of his own guitar part in search of massive and overwhelming power, combined with an obsession of technically being able to record all these tracks without the result sounding messy.
However, he admits that even the most precise timing can't avoid a certain softening effect in the attack when so many tracks are overdubbed. After spending energy on refining the production and arrangement techniques, this extreme-layering philosophy has become obsolete. Today, Richard has a rather modest recording approach, building his sound out of one guitar track panned to the left, one to the right, and two centered overdubs.
Typically, Richard Z. Kruspe will record with the finished drum track and—besides all tightness—play a little laid-back, 'letting his groove fall slightly behind the snare', as he puts it. This intuitive combination of precision and feeling is why he never feels editing would help him with his guitar tracks.
He testifies that most of the power behind Rammstein's guitar sound comes from just playing the rhythm tight and getting the right mix of microphones. While we can't help you with the playing, the good news is that we included a Matched Cabinet, which relieves you from having to mix the microphones yourself. It offers you an instantly pleasing choice of two real Rammstein mixes, with optional Air Control and the possibility to fade from one to the other.

3 RAMMFIRE in Detail

Fig. 3.1 RAMMFIRE with Matched Cabinet

From the beginning of his musical career—back in GDR's East-Berlin—Richard Z. Kruspe had been on a quest for the perfect rhythm amp sound. Shortly after the fall of the Berlin wall, he went to the Musikmesse conference in Frankfurt. When he entered the first hall, he heard a guitarist jamming on his own, yet filling the entire room with sound. The setup

was a Dual Rectifier® with a 4x12 cabinet, and it was love at first sight for Richard Z. Kruspe. He eventually acquired one of the highly sought-after, rare pre-500 series—Revision C—and used it on every Rammstein album since.
Richard Z. Kruspe went through a dozen same-model candidates (not to speak of the later 3-channel versions) to find a backup for his beloved amp, but none of them could compete—he compares his relationship to the amp to that of a marriage.
He came to the conclusion that—in the analogue world—no two pieces of equipment are exactly the same. Applied to the complex circuitry of guitar amps, this means that his amp —and our model—are really one of a kind!

3.1 Amp Interface

Fig. 3.2 The RAMMFIRE amp head with Expert controls expanded

RAMMFIRE emulates a famous multi-channel solo head with a tube power amp. A fourth channel has been added to span the tonal range from clean to over-the-top distortion.

- To switch between RAMMFIRE's four channels, click on the Clean, Vintage, Modern or RZK LEDs.

3.1.1 Controls

- MASTER sets the master level of the amp. Setting this to a high level causes the power amp stage to overdrive.
- GAIN determines the amount of preamp overdrive. Use this to dial in the desired crunch and timbre.

- The BASS knob adjusts the low frequency response.
- The MID knob adjusts the midrange frequency response.
- The TREBLE knob adjusts the high frequency response.
- The PRESENCE control boosts the frequency response in the upper midrange.

3.1.2 Expert controls

Click on the small arrow symbol on the right side of RAMMFIRE's rack frame to display its expert panel:

- POWER SUPPLY switches between 50 and 60Hz for the frequency of the mains AC voltage of RAMMFIRE's power supply. The DC power voltage inside the modeled amp has a ripple at this frequency, which imparts a very subtle modulation to the sound.
- VARIAC emulates the effect of inserting a variable transformer in the AC line, thus reducing the supply voltage (for the famous "brown sound") or increasing it above normal (making the sound bolder).
- SAG simulates what happens to the power supply when you hit it with a loud signal, and the supply voltage sags for a fraction of a second because it cannot deliver the necessary power. Increasing SAG results in the power supply becoming more "spongy", as would occur with a tube-based rectifier circuit. Tuning it down makes the power supply harder, like a silicon diode-based rectifier circuit.
- RESPONSE changes the power storing capacity of the power supply capacitors. Turning down RESPONSE increases their capacity, so that the supply voltage reacts more slowly to playing dynamics. Turning it up will result in RAMMFIRE's power supply reacting more rapidly.
- BIAS adjusts the virtual tube's grid bias, which influences crossover distortion. Some real tube amps allow adjusting the bias, but it is also naturally changing as a result of the aging of the tubes. You may wish to adjust BIAS after changing the VARIAC and SAG settings.
- STEREO activates true stereo processing. As this consumes considerably more CPU power, it should only be activated when you need it!

3.2 Matched Cabinet Interface

Fig. 3.3 RAMMFIRE's Matched Cabinet

When adding any amplifier to the rack, a Matched Cabinet will also be added right below it. It provides a cabinet fitting the amp you chose, as well as two mic settings which can be blended at any ratio, and an intuitive DRY/AIR control.

Controls

- The Cabinet selector (the drop-down menu on the left side) allows you to switch between the different flavors of the Matched Cabinet component, allowing them to be combined with any of the amps.
- The A/B Mix slider blends between the two microphones picking up the cabinet. They are different with each Matched Cabinet, offering two fitting variations of it. The general characteristics of both are opposed, giving you an edgy and a mellow option. You can mix between the two to achieve your desired blend.
- VOLUME sets the volume of the matched cabinets output.

- LEARN: Automatically learn the best output volume by activating this button and playing as loud as you can. GUITAR RIG 4 will automatically select the maximum volume while avoiding clipping. Once the volume has been adjusted, the learn function will automatically turn off.
- DRY/AIR controls the amount of early reflections picked up by the microphone, simulating the response of the room.
- STEREO activates true stereo processing for this component. As this consumes a lot of CPU power, it should only be activated when you need it!

3.3 Control Room Interface

Fig. 3.4 The Control Room showing the Rammfire Cabinet

The Control Room is a major leap in mating recording techniques of professional analog studios with the versatility and convenience of GUITAR RIG. You are offered up to eight classic microphones to create a unique blend of tonal characteristics—perfect custom tone! The modelled setup is the outcome of decades of guitar recording experience: Each cabinet is paired with perfectly chosen and positioned microphones which are all in phase,

so you can mix them as you please. They offer a large variety of tonal colors and are an invitation to experiment! Be sure to check out the Component Presets, as they offer some decent classic tones which you can use as a starting point.

The number of available cabinets varies depending on the GUITAR RIG edition you are using.

Controls

The Cabinet Model Selector on the right side of the Component shows a small picture of the cabinet model. The mixing console offers six to eight channel strips, each consisting of the same set of controls:

- The Headline gives an indication of the type of microphone used.
- The L/R knob controls the panning of this microphone's signal, i.e. the position in the stereo panorama.
- The fader controls the volume of this channel, all faders together determine the mix.
- M(ute) and S(olo) are standard controls of a mixing desk. M mutes the according channel, S mutes all others to hear it solo.
- The CONTROL ROOM offers some master controls to shape the sum of all the signals:
- AIR controls the level of early reflections picked up by the mic, simulating the response of the room.
- BASS boosts or cuts the level of the lower frequencies.
- TREBLE boosts or cuts the level of the higher frequencies.
- VOLUME controls the master volume for all microphones, allowing to adjust their level after you have balanced them to your liking.
- L(earn): After pressing the small button right of the VOLUME knob, the output volume is "learned" automatically: Just play as loud as you can for a few seconds. Once the volume has been adjusted to the maximum while avoiding clipping, the learn function will automatically turn off.
- STEREO activates true stereo processing for this component. As this consumes quite a lot of CPU power, you should only activate it if needed!

4 Credits

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