

Rumpelrausch Täips

AZR3

(Aufgerüstetes Zugriegelinstrument, 3-manualig)



<http://rumpelrausch.de.vu/>



VST plugin technology bei Steinberg.
VST is a trademark of Steinberg Soft- und Hardware GmbH.

1. What is it?

AZR3 is a VST instrument plugin. It tries to emulate an electric/electronic drawbar organ. Though not equipped with an emulation of tonewheels, the sound should nevertheless get quite close to one of those famous half-mechanic instruments.

„VST instrument“ means that you will need a VST host program. One of the most frequently asked questions so far was: „Will you port your plugins to interface XXX ?“. The answer is: Very probably not, sorry. This is an afterwork project, and I don't have much free resources left. But: Since the source code is available, the community is kindly asked to improve the product. I would recommend putting ports to DirectX, LADSPA and other interfaces on top of the list...

2. How much is it?

AZR3 is free of charge. It has been released under the GNU Public License which is stated further down. In summary it means you can use it, sell it, modify it, sell the modified product and use parts of or the whole code in your projects. Whatever you distribute, it has to occur under the GNU Public License itself. Which means you would have to make any source code derived from AZR3 open to the public.

The license regulates what's allowed and what has to be done.

I, the author, have in addition a wish to everyone using AZR3:

You are kindly asked to donate for a globally acting non government organisation like Amnesty International, Greenpeace, Medicines Sans Frontieres or likewise.

This is completely voluntary, using AZR3 without donation is alright.

But not perfect. Please make up your mind – is there any amount you could spare?

Just do it. Make a change.

3. Support

I can only give limited support on this free product. Especially questions about other operating systems than Windows can't be answered properly. I don't have a mac, I don't develop for linux audio hosts and I've never seen BeOS on my PC. I would definitely like to, but the day is of 24 hours only.

However, you can contact me at „rumpelrausch at gmx dot de“.

Of course, I'd always be happy about feedback of any kind, congratulations or devout blessings.

4. What's new?

I decided to discontinue development of ZR-1 and ZR-3. All new ideas and improvements should get invested into AZR3. In comparison to ZR-3, these are the major changes:

- Warmer sound
- No internal program handling anymore
The „compare“ and „save“ buttons have disappeared. Concerning program and parameter changes AZR3 now behaves like most other VST plugins: Changes will immediately be memorized. If you want the last version or factory sounds you would have to load your saved programs/banks or reload the plugin. The compare/save mechanism caused just too many problems with the different VST hosts on the market, so I disabled it.
- Improved speaker emulation
More complexity; phase shifting and a new horn speaker make up for a much smoother sound.
- Lower speaker can be switched between fixed and rotating.
- Envelope of sound generators steeper (faster attack/release).
- Completely rebuilt overdrive section.
Now implemented as multiband overdrive/clipping combination.

5. Controls

5.1 Program control



- Click on the black program window and drag mouse up or down for program selection.
- You can split the midi input on channel one between pedal and first generator section. Press this button, then hit a note on your midi keyboard: This note will be the new split point.

5.2 Sound generation



- MONO
Switches the whole instrument into mono mode, using one single tone generator per midi channel.
- CLICK
Amount of key klicking.

- BENDER
Number of half tones for pitch shifting midi control.
- SUSTAIN
Amount of ADSR release.
- SHAPE
Waveform for the sound generators. „1“ is a pure sine wave, „6“ has much more overtones.
- PERC
Percussion register. Uses the same footage descriptions as the drawbars.
Percussion is implemented as an additional sound generator per played note. It will be triggered together with the standard generator and adds a percussively enveloped sine wave.
- PERC-vol
Percussion volume.
- PERC FADE
ADSR release time for the percussion effect.
- VOL1 – VOL3
Volume of each of the three midi channel generators.
- MASTER
Main Volume
- PERC (left of drawbars)
Enable switch for percussion effect.
- SUST
Enable switch for sustain effect.

The drawbars and midi channel lights just do what you would expect them to do.

5.3 Vibrato



Vibrato is only available for the two „upper“ keyboards on midi channel one and two.

- STRENGTH
Amount of pitch shifting.
- MIX
Ratio between shifted and original signal.
The shifted signal is a pure vibrato effect. Mixing with the original signal results in a chorus like sound.

5.4 Overdrive and speakers



Mr. Valve:

- DRIVE
Amount of lowband distortion.
If set to zero only the low pass filter will be enabled. This allows usage of „Mr. Valve“ as an additional warmth filter.

- SET
Level from which on clipping will occur. The lower the value the stronger the clipping distortion.
- TONE
Low pass filter placed behind distortion and clipping.
- MIX
Ratio between pure and distorted signal.

Speakers:

- SPEED
Switches rotor on or off.
- Upper/Lower SLOW/FAST
Speed adjustments for the two rotors. If „lower/SLOW“ is set to zero, the lower speaker appears fixed, not rotating.
- BELT
There's a belt connecting the electric motor and the rotating speaker plate. The tighter it is, the faster the speed changes.
- COMPLEX
Adds more delay lines for higher sound complexity.
- MIDI PEDAL SPEED
If switched on, the hold pedal will control the SPEED switch. If switched off, hold pedal will work as a hold pedal.

6. Midi implementation

AZR3 responds to:

Note on	channel 1-3
Note off	channel 1-3
Pitch bend	channels 1-3
Program change	(all channels)

Control changes	channel 1-3:
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HEX	DEZ		
0x01	01	modulation wheel	rotor speed
0x03	03	channel volume	
0x07	07	main volume	
0x40	64	hold pedal	hold (A) or rotor speed (B)
0x4b	75	drawbar 16"	
0x4c	76	drawbar 5 1/3"	
0x4d	77	drawbar 8"	
0x4e	78	drawbar 4"	
0x4f	79	drawbar 2 2/3"	
0x50	80	drawbar 2"	only channel 1 and 2
0x51	81	drawbar 1 3/5"	only channel 1 and 2
0x51	82	drawbar 1 1/3"	only channel 1 and 2
0x53	83	drawbar 1"	only channel 1 and 2

7. Tips from the engine room

Add ambience

Rotating Speakers need space to fully unfold their characteristics. Simply add a reverbation effect, let it simulate a medium size natural room (avoid cathedrals) and listen to the full power of the rotating speakers effect.

Such a room simulation is not part of AZR3 because:

- Some want it dry
- There's already sooo many reverbation effects freely available

Play it loud

Well, don't blast your ears (noise deafness can never be healed!). But: Try to convince your neighbours: This is a simulation of a real instrument, and it needs its natural environment to prosper. Turn It Up. Let it shake your bones. Allow yourself to get carried away; try new licks and riffs without thinking. That's fun!

Experiment with *Mr. Ray*

This is no straight tube simulation, it's a low-passed multiband waveshaper, distorter and clipper (wow – whatever). Some setups will sound rather artificial, whereas others add that gritty old "gnaartch" to your sound. Don't give up too early.

Send me your sounds

I need them for future releases. Please...

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