



JIGGERY-POKERY



Combo Continental Organ v1.0.0

Produced and Designed by Matt Black

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www.jiggery-pokery.com



Combo Continental Organ



It's the entire 1960's wrapped up in the handy little box.

There is no combo organ that holds quite the cachet as does that attached to the name Vox. In the heady days of early rock 'n' roll, a small British outfit, Jennings Musical Instruments Ltd and the Vox brand, already synonymous with one of the most highly regarded guitar amps of the time—a range that included the still eponymous AC-30—launched what is perhaps the defining sound of sixties music: the Vox Continental transistor organ.

Where few roadies had previously been prepared to shift large Hammond or Lowrey organs from stage to stage, suddenly few bands were prepared to be without their highly portable trannies. And in 1965 you either used the Combo Compact or the Continental, and most likely it was the Continental.

John Lennon was known to have used it with The Beatles but it was a signature sound for both The Animals (Alan Price) and The Doors (Ray Manzarek), and can be heard on tracks from bands as diverse as The Monkees (Peter Tork likely used it as well as session players) to "The" Status Quo with their original keyboardist Roy Lynes using it for psychedelic classics such as Picturesque Matchstickable. On both sides of the Atlantic the Vox Continental became the pre-eminent organ sound of era.

Vox may not have been the only name in the market, the nearest rivals being the Compact, and by the late 1960s the Lowrey-built Gibson combo organs, but with its inverse coloured keys and funky steel Z-frame, it was the ultra-stylish, orange-topped Continental that captured the imagination of keyboard players. Crucial to the Vox sound was combining multiple registrations into a single drawbar. Continentals were also licensed for manufacture in Italy and the US.



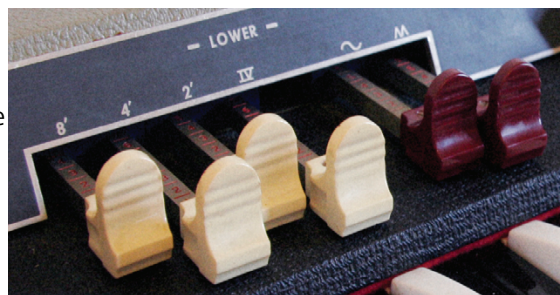
The dual manual versions of the Continental added percussion and additional drawbars.

Reworking JP's popular Vox Continental ReFill, *Combo Continental Organ* brings the full dual manual Continental 300 sound into an easy-to-use Rack Extension to your Reason studio, with all the footages, pedals and percussions.

The Continental 300

The Vox Continental 300 used in the production of the original ReFill dates from the early 1970's. Sample recordings were made in 24-bit at 96kHz, and the final output downsampled to 44.1kHz.

The C300 was a late period top-of-the-range dual manual model, dating somewhere between 1970-1974, utilising silicon transistors. All the major combo organ manufacturers, including Farfisa and Lowrey, had moved to silicon transistors by this time, providing greater reliability compared to the earlier germanium-based models. The C300 was the last hurrah for the range, which by the late 60s had generally been suffering quality control issues: even Manzarek had moved away from his Italian-built Continental (reputedly far less reliable than the UK-built models) to Gibson-branded G-101 trannies by 1968. JP's Vox C300 (serial #8377) was sold to Jerry Dammers in 2008, to replace the Continental II he used with The Specials in the late 1970's.



Drawbars

The drawbar arrangement of a Vox organ was significantly different to those of a Hammond.

Rather than having nine drawbars for each tone, the number was reduced to four or five pitch drawbars by combining some of the registrations. These combined pitches were labeled with a Roman numeral, signifying the number of pitches produced by that drawbar. Additionally, a separate pair of Tone drawbars controlled the amount of **Foundation** (a flute-like tone, labeled ~) or **Reed** (a saw-like tone, labeled M) there was to the tone. The organ does not produce a sound until either the **Foundation** tone or **Reed** tone drawbars are drawn in combination with one or more of the Pitch drawbars or Percussion buttons.

The single manual Continental had the following drawbars:

- 16' 8' 4' IV

Using that combination you're automatically in Animals/Doors territory.

The dual manual Continentals had these three sets:

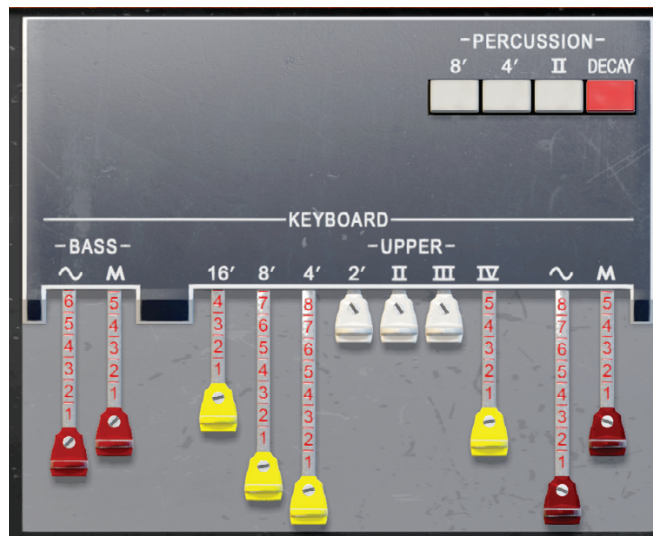
- Upper manual: 16' 8' 4' II III
- Lower manual: 8' 4' 2' IV
- Pedals: 16' 8'

The combined drawbars breakdown as follows:

- II : $5^{-1/3}'$ and $1^{-3/5}'$
- III : $2^{-2/3}'$, $2'$ and $1'$
- IV : $2^{-2/3}'$, $2'$, $1^{-3/5}'$ and $1'$

Curiously, you may have noticed you couldn't get the single-manual Continental tone on the C300 itself! The original "classic" combination of footages from the orange top—16', 8', 4' and the IV mixture—were not available on any other model. The lower manual was missing the 16', not uncommon in dual manual organs, while the upper manual if you use the III you'd

lose the $1^{-3/5}'$ component of the IV. You could include the II but then you were forced to add the $5^{-1/3}'$. Fortunately at least all

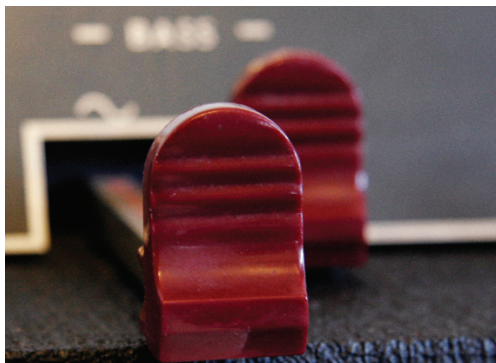


the tone combinations were available to sample on one manual or the other, so we could easily put them together in Reason to emulate the orange-topped beauty.

To emphasise the combinations available, the Upper **16'**, **8'**, **4'** and **IV** drawbars use the yellow colour scheme of the original UK Continentals, while the extra dual manual drawbars, the **2'**, **II** and **III** use the white drawbar colour scheme of the C300. Upper Tone drawbars are maroon, and the Bass Tone drawbars are red.

Drawbars use a “current note” setup: any changes to those drawbar levels will be heard while a note is playing, so you can fade tones up or down as required without needing a note retrigger.

Bass Section



The C300 footpedals are here mapped from C0-B2. With separate Tone drawbars, bass tones were selectable between 16' and 8'. For the *Combo Continental Organ* these are available independently, so you can have 16' Foundation Bass with an 8' Reed Bass, but be aware that selecting the **Bass Footages** buttons are “next note” behaviours, meaning you won't hear the change until a new note is triggered. The release can be changed using the **Bass Sustain** rotary controller.



The Bass Section is not routed through the Reverb, Drive, or EQ circuitry. By connecting an audio jack to the Bass Output, the Bass Section can be sent to its own audio channel for separate effects processing, rather than mixed in with the Main Outs.

If you have a 5-octave keyboard, I highly recommend transposing it one octave down, which will give you the normal playing range of C0 (Bass) to C5 at once.

Percussion Section



As the deluxe model, the C300 also had percussion tones on the upper manual. The tones produced on JP's C300 had a high sustain level, which I never determined was correct behaviour or not. For this product you can select the decay as normal with the red **Percussion Decay** button next to the **Percussion Footage** selector buttons, but you can also choose whether to sustain the percussion by turning the **Percussion Sustain** button On, or fade them to silent with it Off. The sustain is at a lower level than my C300, which I feel is more natural.



Percussion footages are **Percussion 8'**, **Percussion 4'** and **Percussion II** mixture. The levels are independent for Foundation and Reed which are determined by the upper manual Tone drawbars, as with the Pitch drawbars. Percussion tones are also affected by vibrato.

The behaviour of percussion buttons are “current note” for the three **Percussion Footage** selectors, but “next note” for **Percussion Decay** and **Percussion Sustain**.

Vibrato Section

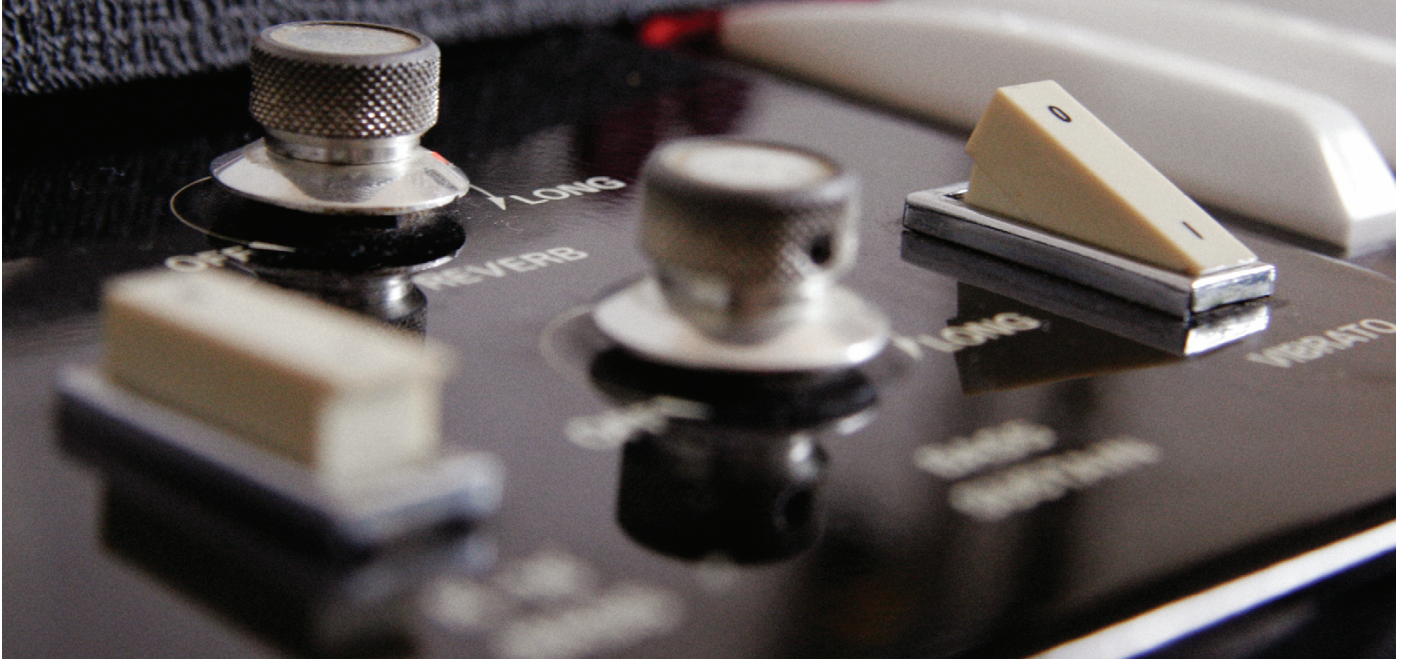
No organ would be complete without some vibrato! Turn it on or off with **Vibrato Off/On**, set the depth with **Vibrato Light/Heavy**, and the rate with **Vibrato Slow/Fast**.

“The vibrato control can be so much more effective if used with discretion. This is left for the organist to operate in accordance with the character of the music. It should be borne in mind that the organ can be tonally more interesting by inspired use of this very important feature.” Vox Continental Operation Guide

Vibrato defaults to 7.00Hz, although at my discretion I prefer the Continental to be a little faster at 7.50Hz.

Reverb Section

For the reverb we are using the glorious Farfisa F/AR spring reverb from *Combo Compact Organ*. The reverb level can be adjusted using the **Reverb** rotary. If using an external reverb you can turn it off completely and save a few cycles of processing by setting to the "Off" position. Reverb is applied to the Upper and Percussion tones only.



Amp Section

Click the **Type** button to toggle between Tube or Transistor distortion types. Adjust the distortion amount with the **Drive** rotary; a minimum setting does not turn the amp off, it merely sets a zero level of drive. Depending on other settings you will typically notice the difference between Transistor and Tube modes even with no drive. The amp section can be used on the Upper tones only.

"For best results an amplifier with an output of at least 15 watts is recommended. The VOX A.C. 30 watt TWIN AMP is particularly suitable but it should be emphasised that any good make of amplifier will do. Further novelty effects can be obtained by feeding the Continental through the vibrato inputs of the amplifier. This is most effective on slow amplitude tremulant as opposed to the fast shallow vibrato." Vox Continental Operation Guide

Volume/EQ Section

Apply +/- 20dB **Bass** (low shelf) and **Treble** (high shelf) to the Voice or Multi-Boost tabs only, and adjust the output **Volume** of the Bass Section plus Voice or Multi-Boost tabs (bass output jack not connected), or just the Voice or Multi-Boost tabs (bass output jack connected).

Expression/Swell pedal

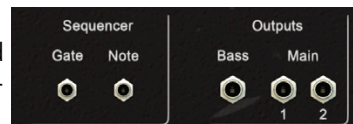
You can enable an additional level control using your expression pedal; flick the **Pedal** switch from Off to On. The range of the swell does not go all the way down to silence, which is normal behaviour.

If using the expression pedal, ensure that you record the automation for it, or else when you reopen your song—or in some

other miscellaneous circumstances—you might find that it defaults to a minimum level. For this reason, the **Pedal** defaults to off, and is left turned off for all included patches.

Back panel connections/CV control

Apart from the natively supported Gate/Note sequencer inputs, the RE IDT system does not currently support CV parameter input or output. All front-panel parameters can be controlled by placing the device in a Combinator and using its own CV inputs and the TS8450 programmer to route them to the *Combo Continental Organ*.



The Main Out jacks will auto-route in dual mono. You can leave them both connected, but for authenticity you can use just one output, or you could create a faux stereo output by processing both separately. The Bass Section is automatically output through the Main Out jacks unless the Bass Out jack is manually connected.

“As both plugs and sockets are of different types, accurate connection is simple.” Vox Continental Operation Guide

Patches

Lots of presets, including reworked versions of most of those found in the ReFill version, are included in the Rack Extension package, as well as some new Combinators. Additionally, a sub-folder called “RE Combis” is available in the Combinators folder, which features some choice patches which will require some additional Rack Extensions, including Propellerhead’s *Rotor*, an essential companion for all big organ lovers, and our own *Ammo 100LA* modular oscillator.

Patch levels

All main patches in the main root folder of your Continental Organ Rack Extension have been set to a default of -12dB peak using a C2-E2-G2 chord. Perceptively, levels of patches with fewer harmonics will appear quieter.

An additional subfolder, “Factory Suggestions”, contains the Continental presets from the original Operation Guide. No. 13, (8888 88, or in our extended drawbar situation, 8880 008 88), the “full on” setting, has been set to -12dB, and the remaining patches are relative to this patch; all other parameters are set identically.

The samples have been left unfiltered so that you can add low or high pass filtering as required. Remember these samples are from a machine that is at least 40 years old; the noise is part of the charm and authenticity.

Voices vs Polyphony

Combo Continental Organ allows for up to 200 voices. Note that polyphony and voices are different things.

Each footage is two voices, Foundation and Reed; playing one note alone is actually playing twenty voices (seven pitch drawbars by two tones, plus three percussion by two tones), even if you only have one pitch or tone selected to be heard. 200 voices should provide enough polyphony (12 notes) before oldest note stealing—where the oldest note active of a chord is replaced by a new note—occurs. Playing more notes does increase CPU load of the device; however, in typical use a six note polyphony (for example, two 3-note chords with both left and right hands) has little significant impact.

Remote Mapping

```
//Remote Map template for Instruments      Jiggery-Pokery Sound: Combo Continental Organ
Scope  Jiggery Pokery      com.jiggerypokery.ComboContinental
//      Control Surface Item      Key      Remotable Item      Scale      Mode

Map    _control_          Volume
Map    _control_          Expression Pedal
Map    _control_          Amp Drive
Map    _control_          Amp Type
Map    _control_          Reverb Amount

Map    _control_          Bass Balance
Map    _control_          Treble Balance

Map    _control_          Vibrato Rate
Map    _control_          Vibrato Depth
Map    _control_          Vibrato

Map    _control_          Bass Foundation
Map    _control_          Bass Reed
Map    _control_          Bass Foundation Footage
Map    _control_          Bass Reed Footage
Map    _control_          Bass Sustain

Map    _control_          Upper Foundation
Map    _control_          Upper Reed
Map    _control_          DB 16'
Map    _control_          DB 8'
Map    _control_          DB 4'
Map    _control_          DB 2'
Map    _control_          DB II
Map    _control_          DB III
Map    _control_          DB IV

Map    _control_          Percussion Decay
Map    _control_          Percussion 8'
Map    _control_          Percussion 4'
Map    _control_          Percussion II
Map    _control_          Percussion Sustain
```

Version history

1.1.1

- Added internal preset selection
- Fixes an issue where zero GUI value could result in non-zero internal value
- Fixes an issue where attempting to retrigger a note already playing will hang the device
- A few extra patches

1.0.0

- Initial release
-

Special thanks to the Continental testing crew: Paul Kellet, Dogboy1973, Ozone0, alteree, kylelee, NaviRetlav, Reason101 and Shokstar.

Compact Continental Organ was designed and assembled for Reason by Jiggery-Pokery Sound, of London, England

Jiggery-Pokery Sound



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From the maker of ...

Rack Extensions

- **Ammo 100LA Modulation Oscillator** - Portable single-channel oscillator for audio and CV rate synthesis and LFOs, featuring 128 waveforms
- **Ammo 400R Modulation Oscillators** - 4-channel LFO generator with audio output, featuring 136 waveforms and advanced modulation mixing
- **Ammo 1200BR Modulation Synthesizer** - Advanced 4-channel LFO generator and audio synthesizer adds S&H, Comparator and Electro-Switch
- **Anansi Mid/Side Mastering Router** - Mid/side audio router with mono compatibility check, 3-in merger and 3-out splitter
- **Charlotte Envelope Generator** - 9-stage EG with time, level, curve and velocity control per stage, and a priority-selectable MIDI-to-cv-pitch splitter
- **Chenille BBD Chorus Ensemble** - Realistic BBD chorus device, based on the 70s string synth ensembles and the classic Roland Dimension D rack unit
- **Combo B3T Organ** - The famous American tonewheel organ and Leslie combo in highly tweakable and additive Rack Extension format
- **Combo Compact Organ** - The classic Italian transistor organ now in a brilliant, easy to use and equally compact Rack Extension format. Bags o' fun!
- **Combo Continental Organ** - The classic British transistor organ in a fantastic Rack Extension for that instant 60s feel!
- **Combo X-705 Space Organ** - An inspirational Frankensynth monster: an all-in-one Hammond clone, synthesizer and Rhapsody 610 string ensemble!
- **Itsy Stereo/Phase Inverter** - L/R channel flip, cv-controllable 180° stereo inverting width adjust, stereo phase inverters and phase correlation metering
- **Lolth CV Delay Splitter** - 4x4 channel cv splitter with independently adjustable gain and inversion controls, channel delay, and mirroring
- **Miranda CV Delay Merger** - 4x4 channel cv merger with independently adjustable gain and inversion controls, channel delay, and mirroring
- **Mordred Audio Bypass Merger** - 4 x 5 channel stereo audio merger with independently switchable outputs and autofade control
- **Shelob Audio Bypass Splitter** - 4 x 5 channel stereo audio splitter with independently switchable outputs, mirroring, and autofade control
- **Super-Spider Bundle** - Anansi, Itsy, Lolth, Miranda, Mordred and Shelob: buy all six and get one and a couple of knobs on another absolutely free!
- **Steerpike BBD Delay Ensemble** - Vintage style 6-tap BBD device, with multiple delay modes including parallel, serial, and reverse
- **Titus BBD Delay Line** - A lightweight 1U delay device featuring a single Steerpike delay line, with reverse

ReFills

- **Guitars vol.1+2: Stratocaster & Telecaster** - Multi-sampled guitars with slides, mutes, signature L6 effects and keyswitching
- **Elements?: Vector Synthesis Workstation** - Massive patch collection featuring Korg Wavestation/MS2000, Waldorf Blofeld and Roland SC-8850
- **Additions: Vintage Additive Synthesizers** - DK Synergy + Kawai K5m + Thor FM.
- **Blue Meanie: Virtually an ARP2600** - Thor and Kong-based analogue synth machine
- **Kings of Kong Classic Drum Machines*** - the premier ReFill for Reason 5+, with over 50 classic beatboxes for Kong Drum Designer
- **Retro Organs v2-** Hammond B3 + Farfisa Combo Compact + Vox Continental in one brilliant ReFill. Also available for Reason Essentials
- **B3 Tonewheels v1.5** - the original 24-bit non-Leslie samples ReFill with advanced rotary speaker emulation
- **Farfisa Combo Compact Deluxe v1.5** - the complete set of original 24-bit Farfisa samples covering, both standard and Deluxe models
- **Vox Continental v1.5** - a complete set of original samples from the classic C300 organ, featuring original and extended Continental footages
- **Hammond Novachord*** - the near-antique pre-WW2 monster polyphonic valve synthesizer
- **Retrospective: 40 years of Synthesizer History*** - Over 1Gb of vintage samples from synths and electronic keyboards from the Hollow Sun archive

FreeFills

- **Additives** - demo version of Additions: the fantastic Additives tracks from PUF Challenge #2 can be found at <http://soundcloud.com/groups/additives>
- **8-BIT Magic: The ZX Spectrum ReFill**
- **Classic Drum Machine Collection v1.1**
- **Eminent 310 Strings** v3** - the classic Jarre string sound, with stereo samples plus the Oxygene II / Equinoxe 4 pizzicato lead
- **Harpe Laser**** - the famous Laser Harp sound, the Elka Synthex preset 46 "Ring Mod"
- **Moog Taurus Bass Synthesizer** v1.1**

For more information on these products and for direct downloads of these latest versions, plus a wide range of great Combinator skins, please visit www.jiggery-pokery.com

* Includes samples licensed from HollowSun.com

** demo ReFills for Retrospective