

WersiClub UK.Focus

Re-visiting the Wersi Helios Organ

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Way back in the 1970's, Wersi started producing a series of analogue, kit based organs. The range consisted initially of these models:

Orion W1T and W1S

Helios W2T, W2S and W2SV

Zenith W3S

Classica W3SK

Galaxy W4SKT, the 3 keyboard flagship.

The home Spinets were the 'S' models, the 'T' models were Transportables and the W2SV was a keyboard style Helios with a round, tubular legs and a flight case. The Classica was a liturgical organ and had no rhythm unit or sound computer fitted. The Orion had only mono sound production. Additional organs the Concerto, Saturn W3T and Cosmos were added later.

THE HELIOS:

The Helios was the most popular model for home use and the consisted of 14 kits 1-8 and 10-14 [kit 9 was a special pedal kit for the Classica only]. The basic Helios cost around £3000 in 1978.

KIT PACKS:

- Kit 1 Power Supply, Tone Generator, Pitch control [Slalom/Hawaii/Transposer], Vibrato
- Kit 2 Electronic Keying, Envelope control [Soft Attack/3 level Sustain] 8 Octaves, Wiring.
- Kit 3 Polyphonic 4 Octave Keyboards, Drawbars
- Kit 4 Wood Cabinet [completed], hinged shelves and metal stop mounting boards, Stool
- Kit 5 Stereo Pre-Amp, 8 levels of Reverb, Sound wiring harness, Swell pedal, Interfaces
- Kit 6 Power Amp chassis, Speakers, Power wire harness
- Kit 7 Fixed Stops
- Kit 8 Pedals, Pedal voices
- Kit 10 WersiVoice rotor and string/choir sounds
- Kit 11 Special Effects [Percussion, Wah, Contracuss; Repeat, Tremolo,Vibes/Xylo, Synth]
- Kit 12 Piano Kit [Piano, Celeste, Kinura, HonkyTonk, Harpsichord, Banjo]
- Kit 13 Wersi Data storage [replaced by the Sound Computer]
- Kit 14 Wersimatic2 Rhythm Unit [24 patterns, 15 percussives, 24 Functions.

REGISTRATION:

Drawbars: 11 Upper: 16, 8, 5-1/3, 4, 2-2/3, 2, 1-3/5, 1, 4/5, 2/3 footages
 7 Lower: 8, 4, 2-2/3, 2, 1-3/5, 1-1/3, 1 footages
 5 Pedals: 16, 8, 4, 2, 1-1/2 footages

Fixed Stops:

18 Upper: 16' Cello, Horn, Accordion, Trombone, Saxophone
 8' Horn, Viola, Clarinet, Oboe, Flute, Trumpet
 4' Flute, Violin
 2-2/3' Nasat 2' Principal 1' Piccolo + Cymbal 3 & 5 Fold Mixture
 12 Lower 8' Gedackt, Viola, Principal, Horn
 4' Violin, Principal

2-2/3' Nasat 2' Principal
 1' Piccolo, + 2 Fold Mixture
 4 Pedal: 16' Trumpet, Tuba, StringBass, Bass Guitar.

Construction time averaged 500 hours. The wood parts of the cabinet arrived completely assembled & finished. The organ [drawbars only] was playable after Kit 6 was installed. The WersiVision Sound Computer [a forerunner of the current Preset storage facility] could store 64 user mixtures [and fully changeable] presets including 16 factory set sounds. Compared to the specification of current Wersi organs, there does not appear to be a very large selection of sounds. Indeed several other cheaper organs at the time did have a more extensive specification. However, two things must be realised; a) the Wersi organ actually sounded much better than most others and crucially, had much more of a 'mixing desk' capability. Almost every sound stop could be altered in several ways and saved as a new sound. How was this achieved? Let's run through the various possibilities for each of the 'sound producing kits':-

DRAWBARS. KIT 3.

As can be seen above the first immediate difference from the standard issue Hammond is the simple addition of two Upper extra drawbars [4/5ths and 2/3rds] the effect of which is a much brighter sound when they are used. The raw sine wave sound [direct from the Tone Generator] could be affected in several ways: adding soft attack would remove the initial clip of the note. Adding 1, 2 or 3 levels of sustain added decay of differing lengths, producing chime effects. Additionally, Vibrato and Tremolo could be added. When the Drawbars [with or without the aforementioned effects] were then directed to the WersiVoice, the results were amazing. There were slow, medium and heavy rotor effects. The drawbars could also be chorused by selecting the Choir setting and the Drawbars could also be directed to the Special Effects kit, of which more later. Finally, separate Percussion Drawbars could also be included in the upper mixtures.

FIXED STOPS. KIT 7.

Every Fixed Stop had its own filter circuit board behind each switch. This filtered the tone wave into a sine, saw, or square wave to produce a very passable imitation of each real instrument, probably not as accurate as current technology but much better than most other brands. Each stop could be sent to the same effects mentioned above for Drawbars. For instance, setting soft attack for string, brass and woodwind stops plus a little delayed Vibrato would produce a very realistic solo sound. Each keyboard was mounted on 2 velocity+pressure sensitive devices which could mimic the harder hitting of a real Piano keyboard or by pressing firmly down on a key would increase the depth of the vibrato. To achieve the famous String sound, one would select Cello, Viola, Violin on Upper, Viola and Violin on Lower and StringBass on Pedals. Adding Soft Attack, Level 3 Sustain and then sending the whole lot to the WersiVoice Choir setting would produce a String Orchestra that even Mantovani would be proud to conduct! The same treatment could be used for Brass and Woodwind mixtures for different sounding orchestras. Any mix of Fixed Stops is possible and all settings could then be store in the Sound Computer for instant recall.

PEDALS. KIT 8.

The Helios has a 13 note pedalboard. This is monophonic [ie only one note sounds at a time]. However, Sustain [short + long] is included and Fixed Stops can be mixed with the pedal drawbars. Because short footages are present, Chiming pedals [by including long sustain] is possible. The Bass Guitar is particularly good.

WERSIVOICE. KIT 10.

This is the remarkable electronic rotary and choir kit, replacing the Lesley type rotating baffle speakers associated with the Hammond organ type. It was electronic throughout; therefore its stereo output could be heard via the earphones and also output via line connection rather than needing microphones for recording purposes, thus avoiding extraneous noises on recordings. There were rotating baffle sounds, choir, chorale, instant or delayed speed changes and fadeout. Any drawbar mix, fixed stops, piano sound and special effect could be channeled through this board and all functions can be saved on the sound computer. Any keyboard sound could be sent to the Wersivoice kit.

SPECIAL EFFECTS. KIT 11.

This was used to 'doctor' sounds from Upper drawbars, fixed stops and the piano kit sounds. Wah Wah, Auh Auh [Wah backwards!], Contracussion [opposite of Percussion], Tremolo, Synth, Echo, Repeat [aka mandolin] and Vibrophonic/Xylophonic effects were available and mixable. Output could also be sent to the WersiVoice. Instances were to select Trumpet Upper, Contracussion, Tremolo, Sustain and Soft Attack. This produced a Guitar sound much like that used on Deer Hunter by Hank Marvin. The notes appeared to be the result of the guitar strings being stretched rather than plucked. Or perhaps by selecting Harpsichord via Repeat to produce a very passable Mandolin sound.

PIANO. KIT 12.

The addition of this kit provided many single and mixtures of piano type sounds. These were all available to be treated just the same as the Fixed Stops above, adding various effects to the basic sounds. With foot-switch controlled dampening and sustain, a very realistic sounding piano results. Since the sounds on this kit had their own generator, the player could set their volume separately from the rest of the organ voicing, allowing a fade in or out effect for the strings or other sounds behind the piano kit. A later additional kit was the Wersi Harp or Arpeggiator kit. This took the Piano kit voices and employed the players chords to produce arpeggiations, riffs and runs in such a way as to make the listener believe a fully trained concert pianist was at work. There was even a touch sensitive, 15cm long strip mounted between the upper and lower manuals, which could be stroked by the fingertip to produce harp-like strumming sounds. Amazing fun!

SOUND COMPUTER. KIT 13.

This kit superseded the WersiData storage device, which was of limited capacity. After selecting various tabs and effects, the user can store these in the Computer. Even Drawbar value settings [fixed] can be stored [certain sized resistors were soldered onto each Drawbar board for this purpose]. The kit came with 32 storage locations as standard per manual [an extra 32 slots could be purchased as extra space. 16 of these were factory presets. Very complex registrations could be changed simply by pushing one button. Of course, this has come to be an expected feature these days, but in the 70's this system was almost unique for organs.

WERSIMATIC2 RHYTHM UNIT. KIT 14.

In its day, the WM2 was pretty well unbeatable. It was only replaced in the 80's by the CX1 digital kit. The unit had its own tone generator and 24 variable rhythm patterns, 15 percussion instruments, 24 variable Accompaniment patterns, and several other useful features, including Pre-set Tempo for dances, Drum Break, Snare rolls, manual + touch rhythms, alternating pattern changes in 2-2 or 4-4 bars, walking bass, arpeggios, autochord+memory, intros and breaks. The selected pattern could be stored within the sound computer along with a particular registration. This kit was also available as the WM24, a free standing, 2-box unit for other organs.

Rhythms:

Shuffle, Soul Beat, Swing, Foxtrot, Twist, Twist Rock, 6/8 March, March 1+2, March Rock, Rock+Roll, Slow Rock, Waltz, Bajong, Disco 1+2, Samba, Samba Rock, Mambo, Tango, Bossa Nova, Cha Cha, Beguine.

Instruments:

Bass Drum, Lo+Hi Tomtom, Low+Hi Bongo, Snare, Small+Large Cymbals+Hi-Hats, Woodblock, Maracas, Washboard, Tamborine, Cowbell.

Accompaniment Sounds:

Bass Guitar, Piano, Harpsichord, Guitar, Arpeggios 1+2 all from a separate sound generator.

LATER ADD-ON KITS.

WERSIHARP. This is mentioned above.

KEY POP. In the early days of Hammond organs, an annoying electrical key clicking sound was often produced by the early tone wheel organs. Hammond spent quite some time and money getting rid of this. Wersi produced a 2" square add-on circuit board containing only 23 components to replicate this percussive click!!

TWIN TRANSPOSER. Used to transpose the rhythm accompaniment as well as the main organ.

DRUM BREAK EMPHASIS. Small board to enhance the drum volume during breaks.

SILENCER. Old style Reverb springs could make weird noises from interference from domestic appliances like fridges. This 2" square add-on board removed these noises.

BASS COUPLER. Allowed pedal voices to be played on Lower manual [lowest note sounding].

GUITAR KIT. This larger add-on took the Fixed stops and transformed them into various guitar sounds. The best was by using the Trumpet stop, which gave a very good Hank Marvin Stratocaster type sound.

A SELECTION OF REGISTRATIONS FOR THE HELIOS.

Sound:	Upper:	Lower:	Envelope+Effects:	WersiVoice
Strings	Cello, Viola, Violin-WV	Viola, Violin	Soft Attck, Lev3 Sus, WV Choir	
Piano+Strings	Piano, [Viola,Violin-WV]	Viola,Violin	Soft Attck, Lev3 Sus, WV Choir	
Brass Orchestra	Sax, Trumpet	Horn, Piccolo	Soft Attack	
WoodWind Orc	Clarinet, Oboe, Principal	Principals, Horn	Soft Attack	
Guitar	Trumpet to Guitar kit	Any	Tremolo on Guitar Kit.	
Pianos	Piano	Strings>WV*	WersiHarp+Piano>circular run	
Pizzicato	Violin or Viola + L2 Sustain	to Short Percussion+Echo	on SpFX	
DiscoStrings	Viola, Violin>SpFX 2nd Voice+Wah:	Free-run :- all to WV Choir		

Further registrations, including drawbar sounds, appear in previous articles on the club website.

CONCLUSION:

The analogue range was way ahead of the competition. Luckily, some of the sounds from those organs can be found within the current Preset library along with some from of the later, digital organs. I hope you found this retrospective review interesting. I still have a copy of the two catalogues showing off this wonderful technology and reading them brings back many happy memories of the Helios I constructed way back then. I can still picture the look my Fathers face when my Helios kits arrived on our doorstep in very many boxes! Priceless.

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