

ORGANS USING RECORDED SAMPLES

These jOrgan Virtual Pipe Organs may be downloaded under the terms of a Creative Commons Share-Alike Licence:

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Each download zip file contains all the necessary files for use with jOrgan version 3.21, also an INSTRUCTIONS file for people new to jOrgan, and my usual assortment of jOrgan MIDI files along with a file to explain their use. You need to uncompress (“unzip”) it, at which point it becomes a “disposition folder”. You should place this folder into some convenient location on your computer (e.g. in Windows, it would be “Documents”).

With the exception of Organ No.1 below, all these VPO's contain a stop called “PANIC SWITCH”, to be used to silence any note which is refusing to go off, and also a stop called “WIND DESTABILIZER”. This effect, which imparts a very slow and quite subtle pitch variation to the instrument, is a modification of a jOrgan effect designed by Paul Stratman. Common to all these VPO's is the “TREMULANT” stop, which is produced as a vibrato by parameter settings within the soundfonts. I regard the vibrato so produced as a more attractive sound than what results from trying to emulate the more conventional pipe organ tremulant.

NOTE RE JORGAN UPGRADES

VPO's designed for particular versions of jOrgan should work with later versions. However, when a VPO is opened in a later version of jOrgan, after being saved it will have been converted for use with that later version, and may no longer be able to be used with the earlier version. If you wish to avoid this, you should firstly copy the VPO disposition folder to the Desktop, rename it to signify the new version of jOrgan it will be used with, do the same for the actual disposition file within it, and then move that folder back to where the original VPO folder is located. Proceed by opening the newly-named VPO, using the later version of jOrgan.

All these recorded samples VPO's have been built using jOrgan 3.21, but they do seem to be compatible with 3.20. If you wish to use them with jOrgan 3.20, you will receive a warning message when first opening them in 3.20, but after you have saved them, you should find that the message no longer appears.

NOTE RE “FINAL METHOD” OF MAKING THE SAMPLES

With the exception of Organs 1, 3 and 10 below, all the VPO's listed here use a dual-sample method (two samples created for each note) for most stops. The method is described within the Details for VPO 5 below (the “SNEAK PREVIEW”). Click [HERE](#).

1. THE KLOP ORGAN IN RIDDERKERK

This tracker pipe organ of two manuals and pedals and 25 speaking stops was built in 1996 by the Klop Company of Garderen, The Netherlands, for the Maranatha Church in Ridderkerk, an ancient city close to Rotterdam. The organist of the church, Dries Nelemans, recorded every second note of each stop, and I believe that it was the first set of recordings made with jOrgan specifically in mind. The resulting jOrgan Virtual Pipe Organ was released in 2013. Although it is basically Dries' work, he and I shared the processing of the samples, jointly working out the precise methods used as time went by. I put together the soundfont, which is the large computer file containing the finished sound samples. Dries created the jOrgan disposition, making use of previous work done by other jOrgan developers, and adding certain features which he devised. This organ is included here in an attempt to increase awareness of what I regard as an exceptionally fine VPO.

Click [HERE](#).

2. THE HILL ORGAN AT ST. MARY'S CHURCH, EAST BALMAIN N.S.W.

This is my first VPO using recorded samples. This organ is a two-manuals and pedals tracker instrument of 11 speaking stops, made by the well-known Hill Company of London, and installed in 1872. It was probably the second of many pipe organs which they built for Australian churches during the late 19th Century.

Click [HERE](#).

3. THE HILL ORGAN AT ST. BARNABAS' CHURCH, BROADWAY N.S.W.

This fine two-manuals and pedals tracker instrument, originally of 23 speaking stops, was built by the Hill Company in London and installed in 1880. It was for many years regarded as one of Sydney's finest pipe organs. The organ and church were both destroyed in a disastrous fire in 2006. Shortly before the fire, the Sydney organist Mr Pastor de Lasala recorded every note of every stop. Unfortunately the recordings were not suitable for direct use in making VPO samples, but I realised that it might be possible to get enough information from the recordings to allow me to "superimpose" the Broadway sound upon recorded samples which had been made of the Hill Organ at East Balmain. The result turned out better than it may have deserved to, and late in 2015 the Broadway VPO was installed in St George's Church at Earlwood N.S.W., making it perhaps the first jOrgan VPO to be installed in an Australian church.

Click [HERE](#).

4. THE ORGAN AT ST. MATTHEW'S CHURCH, WEST PENNANT HILLS N.S.W.

This is a two-manuals and pedals instrument of five ranks, which uses extension techniques to produce quite a large specification. It was built in the early 1970's. The action is direct-electric and the switching system consists of diode arrays and transistor drivers. The flue pipe ranks came from a pipe organ of an unidentified builder, and most of them have pipes of good quality and of some considerable age. The reed rank was built for this new installation by Rogers of the U.K.

Click [HERE](#).

5. THE "SNEAK PREVIEW" ORGAN

This VPO of only 3 ranks with extension techniques, was released in 2016 to show the superlative sounds that can be produced by using what I regard as my "Final Method" of noise reduction. The recordings are of a privately-owned two-manual and pedals pipe organ of five ranks, with direct-electric action using extension techniques (VPO 6, immediately below). When this VPO 5 was released, two ranks still remained unrecorded. What makes this VPO noteworthy, is that the very low level of unwanted noise allowed samples of extraordinary likeness to the original pipe sounds to be produced, giving the player the rare experience of a VPO which really does produce the "close up" sound of the pipes. I was so pleased with this result, that I reworked the samples to Organs 2 & 4 above using the Final Method. The improvement was considerable, but the substantial level of unwanted noise in these two cases meant that they do not quite match the quality of the Sneak Preview sounds. It is my intention to use the Final Method in all subsequent VPO's I release.

Click [HERE](#).

6. THE HOUSE ORGAN AT LITTLE BAY N.S.W.

This privately-owned two-manual and pedals pipe organ of five ranks, with direct-electric action using extension techniques, was referred to in the previous paragraph (VPO 5), and is here released as a full VPO. Because of the size requirements, some stops have been incorporated using analogue electronic organ means, but in the VPO these have been replaced by using recorded samples of pipe ranks from other instruments.

Click [HERE](#).

7. THE ORGAN AT ST PAUL'S ANGLICAN CHURCH, KOGARAH N.S.W.

This 9-stop tracker pipe organ was built in 1904 by Peter Conacher & Co., of Huddersfield U.K., for the General Sunday School at Holthead, in North Yorkshire. In 1970 it was installed by Pitchford & Garside in the Kogarah church.

Click [HERE](#).

8. EXTENDED VERSION OF THE KOGARAH ORGAN

This VPO, called KOGARAH TWO, is an extended version of the previous VPO, which although having good basic stops, is deficient in having no upperwork at all, and in having no stops of the Principal family in the Swell Department. In this extended version it can be said that there are 22 speaking stops and 7 couplers.

Click [HERE](#).

9. THE ORGAN AT THE EVANGELICAL LUTHERAN CHURCH, SYDNEY

This German neo-baroque 17-rank tracker pipe organ was built for the Evangelical Lutheran Church in the Sydney Central Business District by the Berlin firm of Karl Schuke, and installed in 1980.

Click [HERE](#).

10. THE NORDEN SCHNITGER

This VPO represents almost a year's work of sample-making, in a serious attempt to re-create for jOrgan users the beautiful sound of the pipe organ which Arp Schnitger built for St Ludgeri's Church in Norden, North Germany, in 1693. Schnitger made use of some existing pipe-work in the church, the efforts of earlier builders, but supplied many stops of his own. The passage of time has meant that much of what was original to him, especially all the reed stops, has been lost altogether. A restoration by the builder Jurgen Ahrend in the 1985 has been acclaimed as a remarkable achievement, giving an excellent impression of what may have been the original sound.

Click [HERE](#).

11. THE ROMANTIC HARMONY

This two-manuals and pedals VPO of 37 speaking stops represents at least a year's work of sample-making, in a serious effort to imitate the sounds of Romantic pipe organs of the late 19th Century, particularly from the Continent, the United Kingdom and the United States. It does not replicate the specification of any one particular instrument, nor does it make direct use of recorded samples, apart from those I made from pipe organs of that period, located in Sydney and used in some of my earlier jOrgan VPO's listed above.

Click [HERE](#).

VPO DETAILS AND DOWNLOAD LINKS

1. THE KLOP ORGAN IN RIDDERKERK

All details can be accessed on the website of Mr Dries Nelemans. Click [HERE](#).

2. THE HILL ORGAN AT ST. MARY'S CHURCH, EAST BALMAIN N.S.W.

This organ is comprehensively described on the website of the Sydney Organ Music Society. Click [HERE](#).

Although Hill pipework was used, it seems that Hill outsourced the actual construction to another builder. I was attracted to using it as a basis for a virtual organ not only by its sound, but also by its size: it did not represent too big a task. I recorded every second note for about 6 seconds, and as a general rule used 6 samples per octave for the manual 8-foot stops, the Great Principal 4' and the Pedal Bourdon 16'. Other stops were apportioned 3 samples per octave, but "interleaved" into six two-note zones per octave to disguise what is happening. The excessive noise was dealt with by using SPEAR and the capabilities of Audacity.

In the interests of greater flexibility, I have added the following couplers to the Swell:Octave Coupler, Sub-Octave Coupler, Unison-Off Coupler.



I am very grateful to Dries Nelemans of Ridderkerk (near Rotterdam) for contributing lovely new graphics based partly on photographs I sent him, and for his making significant additions to the disposition. At my request, Dries also added three extra "consoles" containing general details of the organ and its virtual "copy", a photograph of the organ, and the Settings controls. Thanks also to the jOrgan community for its long-term help, and especially to Sven Meier the creator of jOrgan, and to Paul Stratman, whose "old" version of the Wind Destabilizer I used, somewhat modified, for this and later dispositions.

The 118 MB zip file can be downloaded [HERE](#).

3. THE HILL ORGAN AT ST. BARNABAS' CHURCH, BROADWAY N.S.W.

This organ is comprehensively described on the website of the Sydney Organ Music Society. Click [HERE](#).

This organ had some significance for me personally. It was one of the two Sydney pipe organs which formed part of my research efforts in producing my Electrical Engineering thesis back in 1960. Then much more recently, it was played by a good friend for the wedding of my son, a wedding which I conducted. The bride and groom, along with the congregation, left the church to the majestic strains of the Widor Toccata.

I intended this Virtual Pipe Organ to be a tribute to the instrument destroyed in the 2006 fire. The story of how this VPO came about is remarkable in itself. Three or four years before working on this VPO, I attended an Organ Ramble conducted by the Sydney Organ Music Society in the Balmain area of Sydney. The first organ we visited was that in St Mary's Church, East Balmain. I was early for one of the later church venues, and I got talking to an organist who also was early. We were strangers to one another, although I did know who he was. I have no idea how the matter came up, but during the conversation he told me that a few months before the Broadway fire, he had recorded every note on that organ, using a digital recorder. You can imagine how interesting that was to me! In the course of time, I contacted him and he agreed to send me recordings of two of the stops. Unfortunately the recordings were almost useless for my purposes. Yes, he had played every note. But he had done so by playing fairly rapidly up the keyboard. The notes all merged into each other! But all was not lost. I had the 6-second samples of the East Balmain organ, which was also built by the Hill Company, but some years earlier. It dawned on me that I might be able to use Audacity's excellent audio equalizer program to "superimpose" the basic sounds of the lost Broadway organ upon the East Balmain samples. This would to some degree produce Hill-type attacks and pipe unsteadiness, but with a genuine connection to the Broadway sound.

So began 10 months of solid work. Given that the final product would not consist of direct recordings, I could not justify the time involved in processing more than three

samples per octave. However, I am delighted with the result. I consider it a worthy tribute to the lost organ, with sounds of great beauty along with exciting choruses. In the interests of greater flexibility, I have added the following couplers to the Swell: Octave Coupler, Sub-Octave Coupler, Unison-Off Coupler.

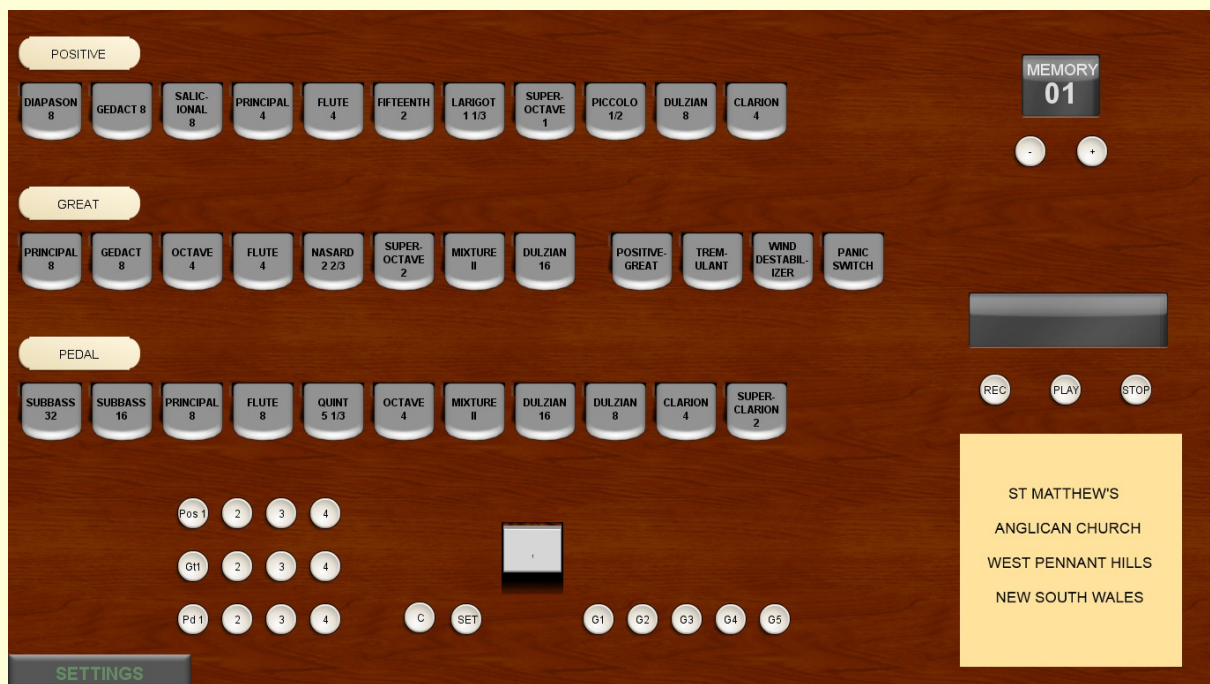


The 184 MB zip file can be downloaded [HERE](#).

4. THE ORGAN AT ST. MATTHEW'S CHURCH, WEST PENNANT HILLS N.S.W.

This organ is comprehensively described on the website of the Sydney Organ Music Society. Click [HERE](#).

Because this is a small extension pipe organ with a limited number of stops, common sense should dictate your approach to using the upper-work, especially on the Great, where it will inevitably produce a shrill and top-heavy result. Conversely, because the Pedal stops are derived from manual ranks, this department lacks the impact that would be produced by independent ranks of pipes. jOrgan and the use of the soundfont format allows us to produce an instrument using the same samples but without the drawbacks inherent in extension techniques, but in this particular VPO I have chosen to portray the instrument much as it is, with the exception that I have provided Swell control for the following ranks: Diapason (on the Positive), Salicional, and Dulcian (which is a Krummhorn with quite narrow resonators). The actual pipe organ lacks a swell box, but a Crescendo Pedal is provided instead. I also revoiced the Salicional slightly. It is actually a fairly dull Dulciana, but during the processing I reduced the level of the fundamental of each sample by 9 dB in an attempt to get a more Salicional-like sound.



The 112 MB zip file can be downloaded [HERE](#).

5. THE “SNEAK PREVIEW” ORGAN

Note re “Final Method”: The recordings used for this VPO had been on my computer for about 8 years, and I disregarded them because I had held the notes on for only about 3 seconds each, whereas I have come to the conclusion that one really needs about 6 seconds if one is to produce good loops that don’t sound obviously “looped”. I wanted to do justice to what I call the “edge tone” (also sometimes referred to as the “mouth noise”) - that is, the components other than the harmonics, which give the sound an “edge”, and which I think has been missing in most VPO samples I have heard, both from what others have made or from what I have made. This “edge” is very apparent to an organist playing a tracker organ, because of the player’s proximity to the pipes, but is hardly noticeable, if at all, if one is hearing the organ at some distance from it. My limited playing of pipe organs over the years has been almost totally on small tracker instruments, and so when playing I miss the edge tone very much if it cannot be heard.

With recordings merely 3 seconds long for each note, I was forced to develop a technique where FOR EACH NOTE I used the audio editing program SPEAR to create a file containing (in most cases) only the first few harmonics, and then I used the excellent filters in Audacity to produce a second file containing all the higher harmonics plus the edge tone. These were looped separately, and were combined only later, in the Soundfont Preset, where each “rank” has two Instruments. So for a

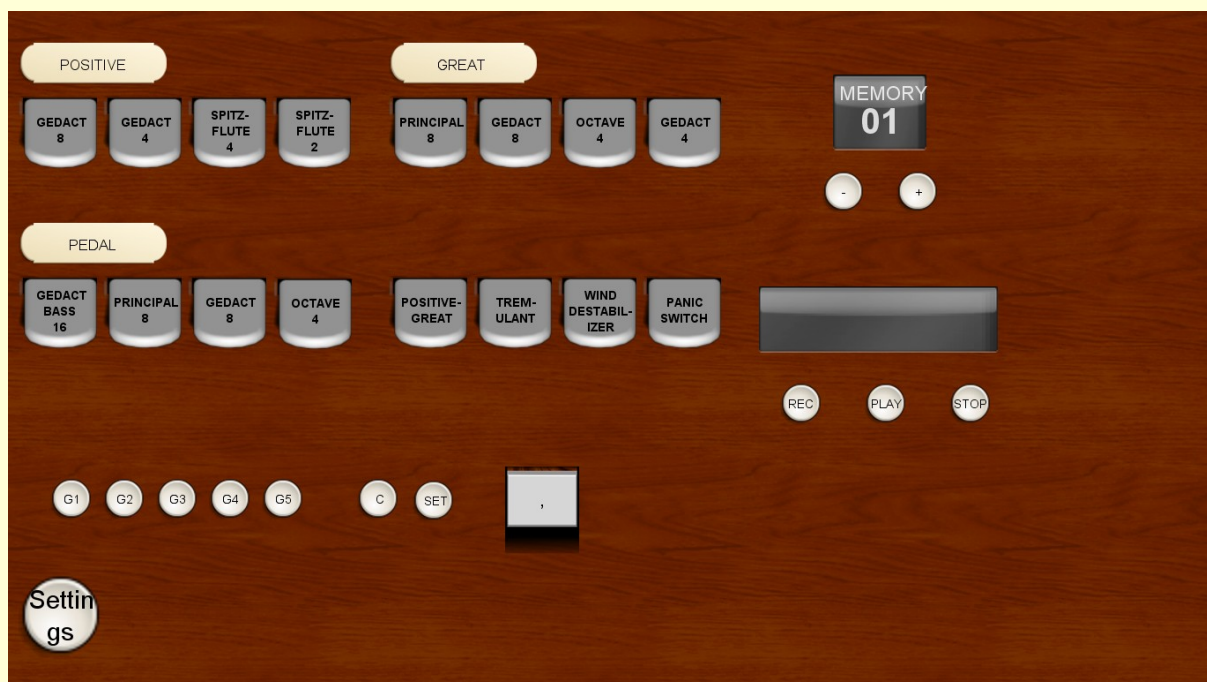
rank of say 60 notes, there are 60 sound files (30 pairs of files), given that I normally sample only every second note. By using the “stretching” method, each pair of samples can be used for creating two adjacent notes.

I was delighted with how successful this approach was. Because it would be quite some time before I was able to deliver this as a full VPO, I made up this small VPO of three ranks to demonstrate the results. The three ranks are:

1. Principal 4' but with treble extensions up to 2'. I have borrowed sounds from the West Pennant Hills VPO to provide the bottom 8' octave.
2. Gedact 8' but with one octave of treble extension. This rank could be regarded by some as of poor quality, with the edge (or air noise) being a bit excessive. The 16' octave in the Pedals has come from the recordings of the Gedact rank in Organ No.3 above.
3. Spitzflute 4' also with some treble extension.

The use of two samples per note carries the penalty of a larger soundfont file and extra work for the computer CPU during playing. The advantage is that it allows the user to adjust the level of the “noise and upper harmonics content” to suit individual tastes and the effect of the loudspeakers being used and the room where the organ is located. A soundfont editor must be used to make such adjustments.

In this VPO the Swell Pedal and Tremulant operate on all three ranks. There are probably good reasons to remove the Principal rank from Swell control if you feel so inclined. The download of the zip file is about 100 MB.



The 100 MB zip file can be downloaded [HERE](#).

6. THE HOUSE ORGAN AT LITTLE BAY N.S.W.

This direct-action unit-type pipe organ involving five ranks of pipes was designed and constructed by an Australian Catholic priest, the Revd Dr John de Luca, much of it done while he was parish priest of the Maroubra Bay Parish, a beach suburb of Sydney. The basic work was completed in 2010. I assisted him by designing the diode switching system and the printed circuit boards, which were made professionally. I also mentored him in soldering techniques, and this enabled him to assemble the boards according to my instructions, and to do much of the wiring of plugs and sockets required to make the organ readily dismountable. I also assisted in some of that wiring. My further contribution was to design and make a few pedal stops and an octave of manual sounds, using analogue electronic methods. Two tuning knobs were provided at the console to keep the electronically-generated sounds in tune with the pipe ranks.

Organ Specification:

MANUAL I

3. Prinzipal 8' [PR] with bottom 12 notes electronic
4. Gedackt 8' [GD]
5. Octave 4' [PR]
6. Gedacktfloete 4' [GD]
7. Nasat 2 2/3' [QU]
8. Blockfloete 2' [CF] (i.e Conical Flute)
9. Siffloete 1 1/3' [QU] with top 12 notes repeated
10. Octavin 1' [CF] with top 12 notes repeated

MANUAL II

11. Prinzipal 8' [Duplication of 1.]
12. Gedackt 8' [Duplication of 2.]
13. Floete 4' [CF] from Tenor C, bottom 12 notes from 2.
14. Nasat 2 2/3' [Duplication of 5.]
15. Octave 2' [PR]
16. Blockfloete 2' [Duplication of 6.]
17. Terz 1 3/5' [TZ]
18. Zimbelstern (Provided for)

PEDALS

19. Subbass 16' (electronic)

- 20. Prinzipalbass 8' (electronic)
- 21. Gedacktbass 8' [2.]
- 22. Octavebass 4' [1.]
- 23. Posaune 16' (electronic)

The manuals are 56 notes and the pedals 30 notes. A Tremulant stop modifies the wind supply for the whole organ. The organ was originally built unenclosed, but doors totally enclosing the pipe-work were added at a later stage. These can be swung out of the way, if needed.

The electronic sounds are mono, and are reproduced by a single audio amplifier and a 15-inch loudspeaker.

VPO DETAILS

The scheme involves 6 samples per octave for every rank. "Dry" samples were used, with the recording microphone placed quite close to the pipes. In most cases "double-samples" have been used, the Main sample containing the lower harmonics which have been processed to be very free of any noise content, along with the Noise sample, containing a targeted noise content along with any higher harmonics of any importance. The aim has been to retain as much as possible the "natural" noise produced by the pipe itself, while excluding as much as possible the ambient noise.

In many pipe organ installations, the ambient noise can be considerable, and it tends to be caused mostly by the motor and blower. Trying to exclude this noise from the samples can be problematic, as the process can easily remove parts of the true sound of the pipes. In the case of this pipe organ, the ambient noise is very low, and this fact meant that the noise content of the pipes could be reproduced very closely. The main stops are quite "breathy", and the VPO has captured this very faithfully. The result will not please all tastes, but I find it captivating, as it evokes closely the experiences I have had as a player mainly of tracker pipe organs, where one is close to the pipes, and so is able to hear details which are lost to those people listening more remotely.

I have added two pedal couplers, one to each manual. The electronic sounds have not been reproduced; instead I have used pipe samples from other VPO's I have made. In the VPO, the Tremulant is actually a Vibrato, applied by means of the soundfont parameters.



The 95 MB zip file may be downloaded [HERE](#).

(Photo below)



The casework was the first section to be completed, and the photograph shows it in the Maroubra Bay presbytery before being moved to another location, where the construction was completed. At its final destination in Little Bay, the doors were added, along with a movable platform accommodating the organ, pedalboard and bench.

7. THE CONACHER ORGAN AT ST PAUL'S CHURCH, KOGARAH

This VPO is based on the nine-stop tracker pipe organ at St Paul's Anglican Church, Kogarah, New South Wales. The organ is fully documented, with photographs by Trevor Bunning, on the website of the Sydney Organ Music Society. The link is: <http://www.sydneyorgan.com/KogarahAng.html>

The organ has a surprising connection to the pipe organ at St Matthew's Anglican Church, West Pennant Hills (VPO 4 above), given that the two churches, although both in suburban Sydney, are separated widely both in terms of geography and church tradition. In the late 1960's I had a brief play on the organ that was in the Kogarah church at the time, and was very pleased with the sound of some of its stops. Shortly afterwards, the organ was deemed unrepairable (nothing to do with the fact that I had played it!), and the best of its stops were used in the organ being built for the church at West Pennant Hills. The present pipe organ made by Peter Conacher of Huddersfield, England, was imported and installed at Kogarah about the same time. I would never have known of the West Pennant Hills organ but for the fact that my very good friend Dr Graeme Rawson had designed its specification and had assisted in its construction. I am familiar with the Conacher organ at Kogarah because recently I was playing there for a monthly evening service. It is not far from where I live. When recording every second note of every stop, I had the microphone much closer to the pipes than was the case with my previous organ recording sessions. I believe that this has paid dividends, and I am very pleased with the quality of the sounds.

In the Kogarah VPO I have added to the Swell a Tremulant stop (actually a Vibrato, achieved by means of the soundfont parameters) along with the Octave, Suboctave and Unison Off couplers. Typical of its period, the organ is lacking in upperwork, and an extended version follows which remedies that, as well as supply some other additional stops. As an optional extra, I have added to the original soundfont two special Pedal Bourdon 16' samples with a high 3rd Harmonic content, which could be helpful to users who are able to use a soundfont editor. These are found in an extra "store" split 34 in the Ped_Bourdon Instruments (Bourdon 16 and Bourdon 16N), and are meant to replace the allocated samples for the lowest notes, in installations where because of the poor loudspeaker response or the small size of the room, a resultant effect gives a better result than the allocated samples. For this to occur, a robust 8' stop should be used along with the Pedal Bourdon 16'. In the case of the Swell Oboe 8' stop, I made no attempt to use release samples, and instead chose to synthesize reed note-off transients by making the release times very short. There is a Settings Screen along with the normal Console Screen, where the user may make various adjustments. Note two

volume adjustments of importance: the Master Volume affecting the whole VPO, and that affecting just the Pedal Bourdon 16'.

Some details in the jOrgan disposition make use of work done by Paul Stratman and Dries Nelemans, and their work is gratefully acknowledged, along with that of Sven Meier, the creator of jOrgan. I am also grateful for the generous permission of Trevor Bunning of Canberra to use his photograph of the Builder's Nameplate in the console view.



The 138 MB zip file can be downloaded [HERE](#).

8. THE KOGARAH TWO

This is an extended version of the previous VPO, which although having good basic stops, is deficient in having no upperwork at all, and in having no stops of the Principal family in the Swell Department. In this extended version it can be said that there are 22 speaking stops and 7 couplers.

In making the KOGARAH TWO, I made use of the Great Principal 4' samples from KOGARAH, to produce the Great Twelfth 2 2/3' (perfectly tuned), the Great Fifteenth 2' and the Swell Mixture IV (perfectly tuned quints). This mixture, which is intended to add fulness of tone rather than extreme brilliance, has also been made available on the Great by the use of what is effectively a coupler to that stop. The Swell Voix Celestes 8' has been produced by adjusting the levels and pitches of samples of the Swell Salicional 8' from KOGARAH. The top octave sounds in the 2' stops and similar pitches in the

Swell Mixture IV are produced from samples in the WEST PENNANT HILLS VPO, since the pipe organ at Kogarah has no sounds higher than the top octave of the Great Principal 4'.

I had on hand recordings I had made of every second note of three stops in the Swell of the tracker pipe organ at St Edmund's Anglican Church in Pagewood, a Sydney suburb. I was the minister of that church from 1981 to 1994. Those stops are the Open Diapason 8', Gemshorn 4' and Trompette 8'. The two flue stops are almost certainly from a pipe organ made by E.F. Walcker of Ludwigsberg in the mid-1880's, and originally installed in the chapel of the Royal Prince Alfred Hospital, a major Sydney hospital. I used the Gemshorn 4' samples to produce the Swell Fifteenth 2'. I do not know the origin of the Trompette 8', which in this VPO I have placed in the Great (the Swell already has the Oboe 8'), and given it the name "Trumpet".

To the Pedal I have added a Trombone 16', produced from the Trompette 8' samples and using one of the low samples to derive the bottom octave of notes. The three other additional stops, Principal 8', Bass Flute 8' and Choral Bass 4' have been derived by extension from appropriate Great stops. See the details above of the KOGARAH VPO for further information relevant also to this extended version.



The 189 MB zip file can be downloaded [HERE](#).

9. THE SYDNEY SCHUKE

This German neo-baroque 17 rank tracker pipe organ was built for the Evangelical Lutheran Church in the Sydney Central Business District by the Berlin firm of Karl Schuke, and installed in 1980. I had a long-held ambition to reproduce the sound of this type of organ, and the presence of this particular instrument in my own city was a great boon. I did hear it back about that time, but had no recollection of its sound. I was very surprised when doing the recording to find that most ranks were voiced very mildly, which actually is understandable given the small size of the church building. Only the mixtures I found to be overpowering. The articulation is excellent, with obvious but not over-done chiffs.

The organ is well documented on the website of the Organ Music Society of Sydney. Here is the link: <http://www.sydneyorgan.com/GermanLutheran.html>.

I have made sure that the relative levels of the VPO stops corresponds to the average level in the middle octave of each stop, with two exceptions: I have lowered the Great Mixtur IV by 4 dB (I found it quite excessive at the console), and have raised the Pedal Subbass 16' by 10 dB (I found it very soft at the console). The latter stop has independent volume control in the Settings, so it can be easily adjusted to suit any taste. As in the KOGARAH and KOGARAH TWO soundfonts above, I have included within the Subbass samples a spare pair of samples with high 3rd Harmonic content, which can be used for the bottom notes of the 16' if the user so desires, and is able to edit the soundfont, for those situations where the subwoofer plus the room is failing to do justice to those bottom notes (see further details in the KOGARAH description).



The 211 MB zip file can be downloaded [HERE](#).

10. THE NORDEN SCHNITGER

The samples for this VPO were based on recordings I had made of the much smaller pipe organ built by the Berlin firm of Karl Schuke in the 1980's for the Evangelical Lutheran Church in Goulburn St, Sydney, N.S.W. (VPO 9 above). These recordings were not used directly. Early in 2019 I came across a demo video of the main stops of the Norden instrument, placed on YouTube by the current organist. I had some years earlier used a technique by which I "superimposed" the sounds of a larger organ upon recorded samples I had made of a smaller instrument (VPO 3 above). In the video, the organist improvised a short piece of music for each stop or group of stops. I found that I was still able to obtain most of the information I needed, even when a number of notes were being played at the same time. With a refined version of the original technique, I was able to reproduce with some accuracy the harmonic structure of the sustained sound of the notes to be heard on the recording (Harmonics 1 to 6 – enough for Principals and Flutes, but certainly not for Reeds. Also, the method cannot be applied to Mixtures and other compound stops). For each sample I mixed in higher pitch sounds from the Schuke organ at what I considered to be an appropriate level, and also adjusted the attack characteristics to be closer to what I could hear from the recording. (The Schuke instrument was built at the height of the neo-baroque movement.) For the flue pipe stops, I have provided 6 samples per octave. For the reed stops, there are 3 samples per octave, but they are not arranged in 4-note sequences, with the result that this compromise is not really apparent to the player. For Mixture stops, I used the Schuke mixture recorded samples unchanged as a basis, which means there were 6 samples per octave. For compound stops of usually only two ranks, I used two suitable ranks I had already created by the method, and then retuned, with adjusted levels, as needed, and so there are in effect 6 samples per octave for each of those ranks.

The Norden organ has 46 speaking stops. There are 3 manuals and a pedal-board, all of limited compass compared to modern standards, and the organ is tuned in a modified meantone temperament with A = 473 Hz, just over a semitone high. I have made the VPO for standard manual/pedalboard ranges and for standard pitch. jOrgan allows the user to depart from all this at will, both in pitch and temperament. The organ includes a Cimbelerne and a Vogel-Gesang. The samples for the Cimbelerne come from Panos Ghekas' "Small American Organ". They were provided by the jOrgan user, "JayR". I have merely prepared for the Vogel-Gesang, and it is unlikely that samples for it shall come to light. The volume of the Cimbelerne, if found to be too high, can be adjusted easily. Refer to p.5 of the INSTRUCTIONS.pdf included in the download.

There is only one coupler (III to II, the latter being the Hauptwerk), and Manual III is used for two separate departments: Oberpositiv and Brustwerk. Couplers allow either or both together to be played from Manual III. In the pipe organ this is achieved through the use of ventils. Manual I is used for the Ruckpositiv. There are no Pedal couplers. Separate tremulants are provided for the Ruckpositiv and the Oberpositiv.

I have provided three dispositions, III, IIa and IIb. They are all meant to be used with jOrgan version 3.20, but can be used safely (ignore the warning you receive when first using the disposition) with version 3.21 and any later 3.xx version. The III disposition reflects the Norden instrument as it stands, and so is intended for consoles of 3-manuals, and users of 2-manual consoles will have access to the Manual III departments only by coupling from the Hauptwerk. The IIa and IIb dispositions cater for those users with only two manuals, They contain special "Transfer Pistons", which enable the player to make a quick transfer by which either of the two manuals is suddenly playing the Manual III departments (however set up), instead of its own stops (as currently set up). Pressing the piston again returns things to the status quo. Dispositions IIa and IIb differ only in the extra couplers I have added in order to increase the usefulness of the VPO. IIb is probably the more flexible of the two. Owners of 3-manual consoles may prefer to use one of these, because of the extra flexibility, in which case they have no need to assign the Transfer pistons to physical pistons on their console. All of these VPO versions include combination pistons, although the original organ lacks registration aids, as far as I am aware. It also lacks any swell pedals, but this VPO allows the use of one or more swell pedals, if desired.

Owners of 2-manual consoles which lack physical pistons may choose to "sacrifice" the top C of each keyboard and use them as the Transfer Pistons. When using the Customizer to set up the connection between the physical manuals and pedal-board to the computer, they should press the top B as the top note of each manual, and should assign Toggle action to the two top C keys when linking them to the Transfer Pistons (III/I and III/II) by means of the appropriate Customizer page.

The 170 MB zipped download can be accessed [HERE](#).

Next page: a screenshot of Disposition III:



APPENDIX

This note describes how most of the Norden Schnitger samples were created.

The method starts with gathering the harmonic information (Harmonics 1 to 6 for each Norden note being used). The Audacity Spectrum Analyser was adequate for this. The appropriate recorded sample from the Schuke organ, which I had already retuned precisely and which had not been otherwise processed, was then displayed in Audacity in two forms - 1) the sample as it stands, and 2) the first six harmonics of that sample, using the SPEAR program to clean it up totally and then to recreate it as a .wav file.

For each note, spreadsheet techniques were used to compare the levels of those six harmonics in the Norden note with those existing in the Schuke note, namely the waveform called 2) above - and to calculate how the levels of the six harmonics in waveform 2) should be modified to end up with the Norden characteristic. That modification was applied to waveform 2) by using the Audacity Equalizer effect. Let us call the result, waveform 3). A very slight amount of processing of the attack of 3) was then applied, using the Audacity Fade-In effect. This was done to counter what I believe to be a tendency in SPEAR to make the attack sound slightly abrupt during the opening milliseconds of the waveform.

Using Audacity, High Pass filtering was then applied to waveform 1) to eliminate all content below the pitch of Harmonic 7. Let us call the waveform so modified, waveform 4). The final waveform was achieved by listening to the combination of 3) and 4), and adjusting the level of 4) until a satisfactory sound was achieved, along

with whatever modification of the attack – usually of waveform 4) - was felt to be needed.

Not all the Norden notes needed across the whole compass were available for this method, and spreadsheet techniques were used to “fill in” the gaps.

11. THE ROMANTIC HARMONY

Apart from some recorded samples I had made from various organs in the Sydney area, the other samples were created by gathering harmonic information of the sound of two pipes per octave of stops, most of which most can be accessed from the Internet. The process was very similar to that described in the APPENDIX for the NORDEN SCHNITGER VPO immediately above, but with the first ten harmonics being considered for each sound, rather than the first six.

My usual practice of applying a slight detuning to the soundfont has been followed. A perfectly-tuned soundfont can also be downloaded separately, to be placed in the disposition folder by the user should they wish to use it. (It still needs to be selected by the user once the disposition has been opened.) Links to the VPO disposition and to the alternative soundfont are provided following the console image below.



For the VPO disposition ROMANTIC HARMONY click [HERE](#).

For the alternative soundfont click [HERE](#).