

The Development of the 'Unit' Organ in Australia

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"Borrowed all over the place, with very little interest"

"The unit organ cannot be too severely condemned. It may have its field in the theatre, but has no right to invade the sanctuary, where it must be used to encourage congregational singing. It is as nonsensical as the man who would fill his book shelves with imitation books."

Preamble

It is particularly appropriate to be speaking on this topic, given the very high incidence of unit organs in the Australian Capital Territory, a number of which we will be visiting during the conference. Most Australian organbuilders of the second half of the 20th century have explored this *genre* but it would seem that an overview of the activity has not been written. Such instruments were despised during the organ reform movement but it is true to say that they comprise a substantial proportion of Australia's corpus of extant pipe organs.

Early history

The unit, or extension, organ made its first appearance in Australia some 84 years ago and subsequently had a major impact upon indigenous organbuilding, particularly in the two-decade period from 1950 to 1970. The concept was the brainchild of Robert Hope-Jones, an Englishman, whose first scheme for a unit organ appears to have been proposed in 1908 for The Auditorium, Ocean Grove (18 ranks) and brought into fruition in an organ built in 1910 for St John-the-Evangelist, St Paul, Minnesota (opus 10: 1910: 20 ranks) although he had utilised extension and borrowing before that date both in England and America in predominantly 'straight' organs. The advantages of the unit organ for churches were essentially cost, reduced space and tonal flexibility. These instruments cost less than 'straight' organs and could often be accommodated in less than ideal positions. A small number of ranks could deliver an impressive tonal result, although maybe with a loss of musical quality.

The development of the unit or extension organ was generally tied to the development of electro-pneumatic actions in organbuilding, although it should be stated that Hill & Son had been able in the late 19th century to produce an extended pedal Bass Flute 8ft on mechanical action. Wholesale borrowing (by mechanical means) had earlier been possible in the organ built by the Brussels-based firm of Merklin-Schütze for 'Melbourne. Cathédrale' in 1870 where the complete positif and pédale were mechanically borrowed from the stops of the grand orgue in line with its patent. Things of this nature had also happened in other parts of Europe.

The earliest documented examples of the usage of electro-pneumatic actions in Australia dated from the early years of the 20th century. W.G. Rendall built an organ for the Pitt Street Congregational Church in Sydney which he claimed to embrace "the latest and most approved methods in compound pneumatic and

electric actions" although a subsequent report made no mention of electric action. Shortly afterwards, in 1904-06, a major rebuilding and enlargement of the Melbourne Town Hall organ took place by Ingram & Company, of Hereford, successors to Robert Hope-Jones (who had fled to the States shortly beforehand to avoid criminal prosecution).

Ingram's rebuilding included the adoption of electric actions throughout, some minor borrowing, but little if any use of extension. In 1909, Fincham & Son used electro-pneumatic action for the remotely placed Echo Organ at The Scots' Church, Melbourne, although were not to use it as a standard action until after World War 2.

Early examples to WW2

The first clear example of an extension organ to appear in Australia was the 'unit orchestra' built in 1917 by the American firm of Wurlitzer for the Rose Bay, N.S.W. residence of the firm's agent W.A. Crowle. This instrument still happily survives, essentially unaltered, and was installed in 1928 at 'Montana', the residence of O.C. Hearne in Geelong. This was the first of a substantial number of Wurlitzer organs exported to Australia and installed in cinemas in all of the Australian states. Some were very large instruments of four manuals and 21 ranks, these models being installed in the State Theatre in Sydney and the Regent and State Theatres in Melbourne. The Wurlitzer organs exhibited an extraordinarily high level of engineering, construction and finish and were very costly at the time.

The influence of these instruments on the local craft of organbuilding was negligible. Many of them were installed by the Adelaide-based firm of J.E. Dodd - his son Eustace travelled around Australia and lived for some time in Sydney where he had his own Wurlitzer instrument in his home at Blakehurst. However, the Dodd firm did not proceed to manufacture unit organs at the time, although was fully cognisant with the principles of electro-pneumatic action which was employed in its rebuilding of the organ at Elder Hall, Adelaide in 1934.

The establishment of the firm of Hill, Norman & Beard in Australia from 1927 saw the beginning of the construction of unit organs in quantity. Some small examples still survive from this period such as St Margaret's, Turrumurra, NSW (five ranks) and St Paul's, Caulfield, Victoria (three ranks). At the same time, HN&B was constructing 'Christie' theatre organs here and went on to build a number of unit organs for Australian churches during the 1930s, including instruments for St John's Anglican Church and St Andrew's Presbyterian Church, both in Canberra, which we are inspecting during the conference.

The Adelaide organbuilder W.L. Roberts built unit organs with electro-pneumatic action for two New South Wales churches. The instrument at Holy Trinity Anglican Church, Concord West was built in 1929 (job number 117; cost £1017) and another for the Methodist Church, Adamstown, Newcastle in 1930 (job number 118; cost £1050). These were described in the press at the time: the *South Australian Register* referred on 28 April and 7 May 1928 to 'factory recitals for unit organs'.

In 1933 Whitehouse Bros, from Brisbane, built a five-rank unit organ with electro-pneumatic action for St James' Catholic Church, Forest Lodge. This firm would have had useful experience in electro-pneumatic design at the time of the rebuilding of the Brisbane City Hall organ in 1927-30, carried out in conjunction with Henry Willis & Sons Ltd (although the Whitehouse firm was given no credit on the console nameplate!). An early unit organ by this firm, dating from 1936, survives at the New England Grammar School, in Armidale, NSW. This has a total of five ranks: two unenclosed ranks on the Great (Open and Stopped Diapasons) and on the Swell Violin Diapason, Lieblich Gedact and an unextended Oboe. None of the manual stops are borrowed from one manual to another. These instruments incorporated high quality action components imported from Laukhuff in Germany, many of which continue to function to this day.

Back in conservative Victoria, Fincham & Sons were clearly reluctant to embrace the use of electro-pneumatic actions but nevertheless built in 1933 a monumental 12-rank unit instrument for St Mary's Anglican Church, Caulfield utilising tubular-pneumatic action throughout, with massive switching mechanisms. The instrument was designed by Harold A. Rooksby, the organist at the church and the construction was supervised by Herbert Palmer, curator of the Melbourne Town Hall organ. At the same time, C.W. Andrewartha (a professional cabinet maker) built two finely crafted unit instruments, with tubular-pneumatic action, for St Margaret's Anglican Church, Caulfield (1933) and the Methodist Church, Kooyong Road, Caulfield (1935). Another non-professional builder, K.L. Lavers, whom I know little about, constructed several unit organs with electro-pneumatic action one of which was placed in St Aloysius' Catholic Church, Caulfield for a short time.

Two interesting imports from the German firm of E.F. Walcker took place in 1938, just before the outbreak of World War 2. Through the local agency of Terrae Sanctae, of 114 Linden Court, Sydney, a firm run by J.B. Schombacher, two unit organs were installed at St Mary Magdalene's Catholic Church in Rose Bay, NSW (three manuals, four ranks, opus 2637) and in the Catholic Cathedral at Darwin in the Northern Territory (two manuals, opus 2649). The Rose Bay instrument still survives in its original location.

In Adelaide, Gunstar Organ Works built their earliest unit organ for Forrest Park Methodist Church in Western Australia in 1940 (five ranks) followed in 1941 by a similar instrument for St Stephen's Lutheran Church, Wakefield Street, Adelaide (four ranks), both operating on electro-pneumatic action.

After WW2

The unit organ saw an explosion in its construction after World War 2. Remember that the electronic organ was in its infancy and while the earliest Hammond models were seen in the late 1930s, these did not provide an ideal solution to the needs of churches. With the building of many churches from around 1950 onwards, there was a high level of demand for pipe organs which were affordable in price. Most of the local builders took up the challenge in a serious way (the only exception was Hill, Norman & Beard, strangely, possibly for artistic reasons, who only built one or two such instruments up until the retirement of its managing director W.A.F. Brodie in 1963). At the same time, too, overseas firms saw potential here and the English firm of J.W. Walker & Sons sent 18 of their so-called *Positif* instruments here from the late 1950s onwards. Other English firms, such as John Compton, F.H. Browne and Spurden-Rutt sent out isolated examples. The Walker *Positif* instruments provided a valuable model for the local firms to emulate, several firms (particularly George Fincham & Sons) producing their own versions which were tonally and mechanically superior and have proven extremely durable.

The Fincham firm built its earliest unit organ with electric action in 1950 (Presbyterian Church, Dandenong), building almost 50 such instruments up to 1970. Its expertise was greatly enhanced when Steve Laurie joined the firm in 1953. Trained with Comptons in London, he had been involved with the building of many unit organs. He understood their mechanisms well and importantly the subtleties in scaling and voicing pipework to achieve artistic results. The organ at Wesley Church, Canberra (nine ranks: 1955) was one of these instruments.

Steve Laurie stayed with Finchams for only a short while but made a major impact upon their work. He resigned in 1957 and built his first organ in 1958 for St Paul's Anglican Church, Euroa, Victoria at a cost of £3350 (five ranks), a triumph of *multum-in-parvo* organbuilding, with an impressive tonal range, including a fine harmonic Trumpet. His firm went on to build at least 42 unit organs in four Australian states and the Australian Capital Territory. Employing his own design of electro-pneumatic action and electro-mechanical switching, these were finely

crafted instruments of great musical flexibility, with a distinctive sound and original appearance.

Other well-established firms, such as Whitehouse Bros. in Brisbane, J.E. Dodd Gunstar Organ Works in Adelaide and S.T. Noad & Son in Sydney built many unit organs in the 1950s and 1960s, capitalising upon this expanding market. In Western Australia, Paul Hufner began operations in 1951. His work was locally important in ensuring pipe organs were installed in many churches which would have otherwise installed electronic substitutes; in all Hufner built more than 30 instruments, mostly unit organs of one or two manuals, with one to four extended ranks while a few were larger: of five or six extended ranks, with examples as far afield as Tasmania. All of Hufner's organs were manufactured completely in his factory, including keyboards, stop switches and wooden pipe ranks. J.P. Eagles (1908-1984), a former radiophysicist, built his first unit organ in 1953 for the Methodist Church, Epping, NSW and went on to build 35 such instruments, manufactured at his Cheltenham workshop. These were most affordable and included a number of single-manual instruments of two ranks. In Queensland, Charles Dirksen, from the Netherlands, spent seven years in Brisbane from 1956-1963, building many small unit organs with electro-magnetic action; many of which were installed in Mormon churches throughout Australia, from Perth to Brisbane.

The major firm of Hill, Norman & Beard only began to build unit organs in quantity from the time that C.M. Davies joined the firm as managing-director in 1963. These utilised electro-magnetic action and neo-classical voicing, generally with exposed pipework. A range of stock organs was developed, including the mobile two-rank 'Dorian' model. Indeed, two builders later known for their skills in constructing mechanical action instruments, Roger H. Pogson in NSW and John Larner in WA, built some finely crafted unit instruments before moving across to tracker construction.

More recently, a handful of unit organs have continued to be built in Melbourne by Australian Pipe Organs (a recent example of seven ranks plus a 'straight' three-rank Mixture is at Marist Brothers College here in Canberra, which we are visiting during the conference) and in South Australia by George Stephens (a finely crafted example from 1995 at Port Elliot was visited during our 1999 conference). With the use of solid-state technology, the construction of these instruments is extremely straightforward and the cumbersome wiring, relays and switching is a thing of the past. It is likely that such instruments will continue to be built well into the future when such issues as affordability, tonal flexibility and space are paramount. The possibility of recycling second-hand pipework of excellent quality is another factor that can bring costs down. With the cost of labour, design and materials for instruments with mechanical actions remaining very high, the unit organ continues to be a viable alternative to the acquisition of an electronic instrument. Long may this remain so!

Is a 'straight' organ always musically superior to a unit organ? Some three years ago OHTA visited a rural town. In the Anglican cathedral was a much-travelled instrument of some 49 ranks. In another church was a Compton 'Miniatura' three-rank extension organ. In spite of its size and impressive resources (on paper), the larger instrument did not command great musical interest. The smaller instrument, however, sustained an extended visit with a long queue of organists eager to sample its arresting sound and flexible resources. Surely the proof of the pudding is in the eating!

To conclude with an amusing story. Some four or so years ago I visited the assistant organist's house at Guildford Cathedral. In the corner was a diminutive organ façade while behind the couch was a polyphonic stopped pipe, probably not more than four or five feet long, all wired to a superseded Compton stopkey console. Through some highly dexterous wiring, combining a number of harmonics,

the pedal produced the sound of a synthetic 32ft reed from nowhere. An aural illusion certainly but showing the amazing potential of the unit organ!

SPECIFICATIONS

'MONTANA', RESIDENCE OF O.C. HEARNE, GEELONG

Built 1917 by the Rudolph Wurlitzer Company, of North Tonawanda, NY; opus 129. Remaining largely unaltered, the instrument was moved into storage late in 2001. A full restoration is to be carried out, but the final location of the instrument is yet to be decided. [It will be installed at Geelong College, Geelong.]

The instrument has the following ranks:

Diapason 16,8,4
Flute 16,8,4,2
Dulciana 8,4
Tibia Clausa 8,4,2 (later addition, ex Lyceum Theatre, Duluth, Minnesota)
Salicional 16 TC,8,4
Viol Celeste 8,4
Oboe Horn 8
Vox Humana 8

SOLO

Bass	16	(Diapason)
Contra Viol	16	TC (Salicional)
Bourdon	16	
Open Diapason	8	
Tibia Clausa	8	
Oboe Horn	8	
Salicional	8	
Viol Celeste	8	TC
Flute	8	
Vox Humana	8	
Dulciana	8	
Octave	4	(Diapason)
Tibia	4	
Salicet	4	
Viol Celeste	4	
Flute	4	
Dulcet	4	
Piccolo	2	(Flute)
Tibia	2	(Tibia)
Twelfth	2-2/3	
Tierce	1-3/5	
Chimes		
Chrysoglott		
Xylophone		
Glockenspiel		

ACCOMPANIMENT

Contra Viol	16	TC
Bourdon	16	TC
Open Diapason	8	
Tibia Clausa	8	
Oboe Horn	8	
Salicional	8	
Viol Celeste	8	TC
Flute	8	
Vox Humana	8	

Dulciana	8
Octave	4
Tibia	4
Salicet	4
Viol Celeste	4
Flute	4
Dulcet	4
Chrysoglott	

PEDAL

Bass	16	(Diapason)
Bourdon	16	
Open Diapason	8	
Cello	8	(Salicional)
Flute	8	
Dulciana	8	
Solo to Pedal		

Tremulants: main; Vox Humana; Tibia

Compass: 61/32

Thumb pistons

Balanced electro-pneumatic swell pedal

Detached stopkey console

Electro-pneumatic action

ST MARY'S ANGLICAN CHURCH, CAULFIELD, VICTORIA

Built by George Fincham & Sons Pty Ltd to the design of Harold A. Rooksby; opened 29 October 1933. The metal pipework was imported from Alfred M. Palmer. This instrument consists of 13 extended ranks, as follows:

Unenclosed:

Open Diapason 16,8,4,2 (bass octaves in case)

Major Bass 16,8 (open wood)

Enclosure one (Great & Choir)

Gamba 16,8,4,2-2/3,2 (bass octave in case)

Rohrflöte 16,8,4

Waldflöte 8,4

Tromba 16 TC,8,4

Clarinet 16,8

Enclosure two (Swell)

Open Diapason 8,4

Stopped Diapason 16,8,4,2

Dulciana 8,4,1-3/5,1-1/3

Voix Celeste 8,4

Oboe 16,8

Horn 8,4

GREAT

Contra Gamba	16
Bass Rohrflöte	16
Open Diapason	8

Gamba	8	
Rohrflöte	8	
Principal	4	
Gambette	4	
Octave Rohrflöte	4	
Twelfth	2-2/3	
Fifteenth	2	
Tromba	16	TC
Tromba	8	
Tromba	4	
Swell to Great		
Choir to Great		

SWELL

Double Stopped Diapason	16	
Open Diapason	8	
Stopped Diapason	8	
Dulciana	8	
Voix Celeste	8	TC
Principal	4	
Stopped Flute	4	
Dulcet	4	
Vox Angelica	4	
Stopped Flautina	2	
Salicet Tierce	1-3/5	
Dulcet Larigot	1-1/3	
Contra Oboe	16	
Horn	8	
Oboe	8	
Clarion	4	

CHOIR

Section one

Waldflöte	8	
Octave Waldflöte	4	
Bass Clarinet	16	
Clarinet	8	

Section two

(from Great)

Contra Gamba	16	
Bass Rohrflöte	16	
Gamba	8	
Rohrflöte	8	
Gambette	4	
Tromba	8	
Tromba	4	
Swell to Choir		
Tremulant		

PEDAL

Contra Bass	32	(resultant)
Major Bass	16	(wood)
Open Diapason	16	
Contra Gamba	16	
Bass Rohrflöte	16	
Echo Bourdon	16	

Octave	8
Principal	8
Gamba	8
Rohrflöte	8
Octave Rohrflöte	4
Contra Oboe	16
Bass Clarinet	16
Tromba	8
Great to Pedal	
Swell to Pedal	
Choir to Pedal	

Compass: 61/32

Tubular-pneumatic action (later converted to electro-pneumatic)

Detached drawstop console

ST PAUL'S LUTHERAN CHURCH, BOX HILL, VICTORIA

Built by Davis & Laurie Pty Ltd 1963. The instrument consists of six extended ranks together with an independent Mixture. The total number of pipes is 561 and the wind pressure 4 inches.

GREAT

Counter Bass	16	(melodic)
Open Diapason	8	
Rohr Flute	8	
Gamba	8	
Vox Angelica	8	TC
Octave	4	
Harmonic Flute	4	
Twelfth	2-2/3	
Fifteenth	2	
Mixture	III	19.22.26
Trumpet	8	
Swell to Great		

SWELL

Open Diapason	8
Harmonic Flute	8
Gamba	8
Rohr Flute	4
Viola	4
Rohr Nazard	2-2/3
Harmonic Piccolo	2
Tierce	1-3/5
Larigot	1-1/3
Octavin	1
Double Trumpet	16
Trumpet	8
Octave Trumpet	4

PEDAL

Sub-bass	16
Octave	8
Rohr Flute	8
Gamba	8
Quint	5-1/3

Harmonic Flute	4
Double Trumpet	16
Trumpet	8
Octave Trumpet	4
Great to Pedal	
Swell to Pedal	

Compass: 61/32
 Electro-pneumatic action
 Detached stopkey console

ANGLICAN CHAPEL, ROYAL MILITARY COLLEGE, DUNTROON, ACT

One of two organs built for the Anzac Memorial Chapel by Hill, Norman & Beard (Australia) Pty Ltd in 1966. The instrument consists of six extended ranks plus a three-rank Mixture.

GREAT

Principal	8	
Stopped Diapason	8	
Prestant	4	
Spitz Flute	4	
Sifflöte	2	
Furniture	III	22.26.29
Trumpet	8	
Positive to Great		

CHOIR/POSITIVE

Spitzflute	8
Dulciana	8
Nason Flute	4
Dulcet	4
Principal	2
Larigot	1-1/3
Octavin	1
Trumpet	8
Tremulant	

PEDAL

Sub Bass	16
Octave	8
Flute	8
Choral Bass	4
Octave Flute	4
Trumpet	8
Great to Pedal	
Swell to Pedal	

Compass: 61/30
 Electro-magnetic action
 Detached stopkey console