Little and large in London

Paul Hale

Mander Organs – formerly N.P. Mander Ltd – have in recent months carried out two major tasks in the City of London, very much their home-patch as the last major London-based organ-building company. One was a revisiting of their flagship 1972–77 organ at St Paul's Cathedral; the other was a new organ for St Giles' Church, Cripplegate, a church in which Noel Mander had installed a 44-stop west-end organ back in 1971.

The work at St Paul's has not only been general maintenance; two exciting projects have been carried out. The first was to replace five of the reeds up in the Dome, played from the fifth manual – chorus reeds at 16ft & 8ft, and the family of Dome Tubas at 16/8/4. Surprised? Let the St Paul's organ custodian, Ian Bell, tell us more:

> 'In addition to cleaning and the usual minor repairs, the work has consisted of releathering all of the soundboard underactions, some of which were felt by the organbuilders to be good for several more years – but we wanted to be sure that everything was on a level playing-field. There has been limited attention to targeted bellows leatherwork – principally the releathering of the two high-pressure control reservoirs in the Dome, plus the two Tuba reservoirs there. Nothing has been done to the relatively lightly-used west gallery section, which has deteriorated very little.'

Now to the Dome Tubas and chorus reeds, stops which had been remade on several occasions and were in a sorry state – far from ideal in tone-quality and power output:

> 'Whilst admiring of the presence and purpose of stops of this nature in the Dome area, both past and present musicians who were consulted during the planning stage had reservations about the exaggerated smoothness of all five stops, and particularly the two lesser stops which had been intended as chorus reeds for the 1972 Dome chorus, but were too unblending, and too high in wind-pressure, to fulfil that role properly. Experiment with adapting the existing pipes did not suggest that they would lend themselves to alteration.
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> The overall power level of the organ rose significantly in 1972 with the addition of the new Dome chorus, leaving the Tubas inadequate to perform their intended role of crowning the instrument. In this respect the presumed choking of their original output was not helpful, but the pipes were by now sufficiently altered that recovering that sound was unlikely. Therefore new pipes have been made for all five stops. The general construction, dimensions and metal alloys – whilst not in every respect an exact copy – have been set after reference to the originals. For the Tubas the wind-pressures remain as before, but the tone-quality has been edged very carefully towards being a little less smooth and a little more powerful, aiming to recapture the description "coals of fire" that was applied to these stops when new. This will allow them to blend better with the remainder, and to be a somewhat better balance in power.
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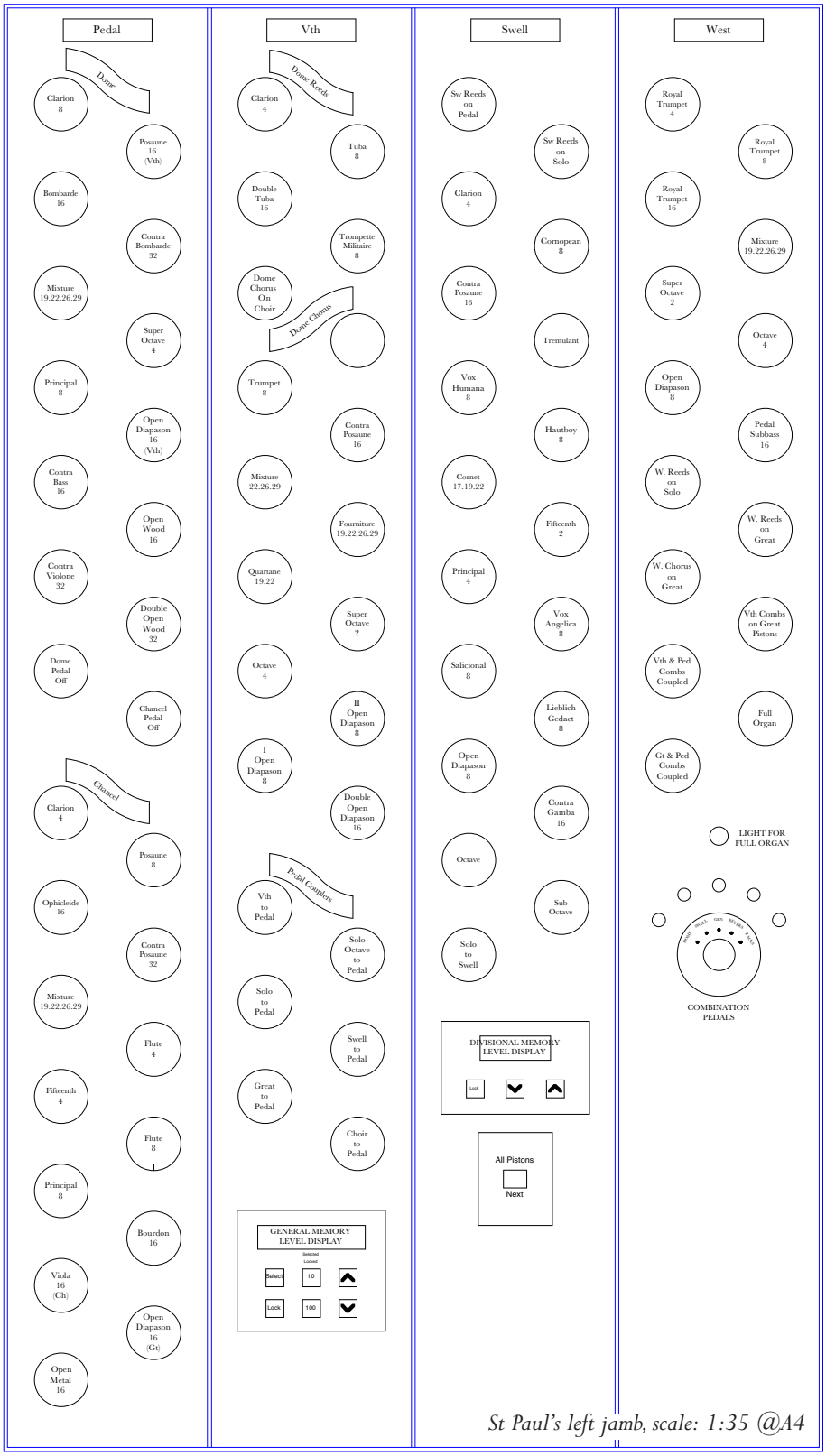
> The two lesser stops – the Contra Posaune and Trumpet – have been voiced on a lower wind-pressure

Chris Jeffrey LRPS & Gary Tollerfield

St Paul's new Nave console



St Paul's left jamb, scale: 1:35 @A4

than previously, and with a decidedly more open and blending quality that will give them a real role in hymn accompaniment. All five stops are being installed without hooded tops, to enable their sound to be more efficiently reflected and diffused by the concave ceiling above.'

Designing a comfortable 5-manual console is no mean feat: all the stops need to be reached, along with the top manual, and the music desk needs not just to be reached, but also not be so high as to give the player neck-ache. Ian Bell, at Manders when the 1970s console was built, was responsible for its design, including the elaborate casework and stop lay-out, in association with the then St Paul's organist, the late Christopher Dearnley. Ian describes the new console under the Dome:

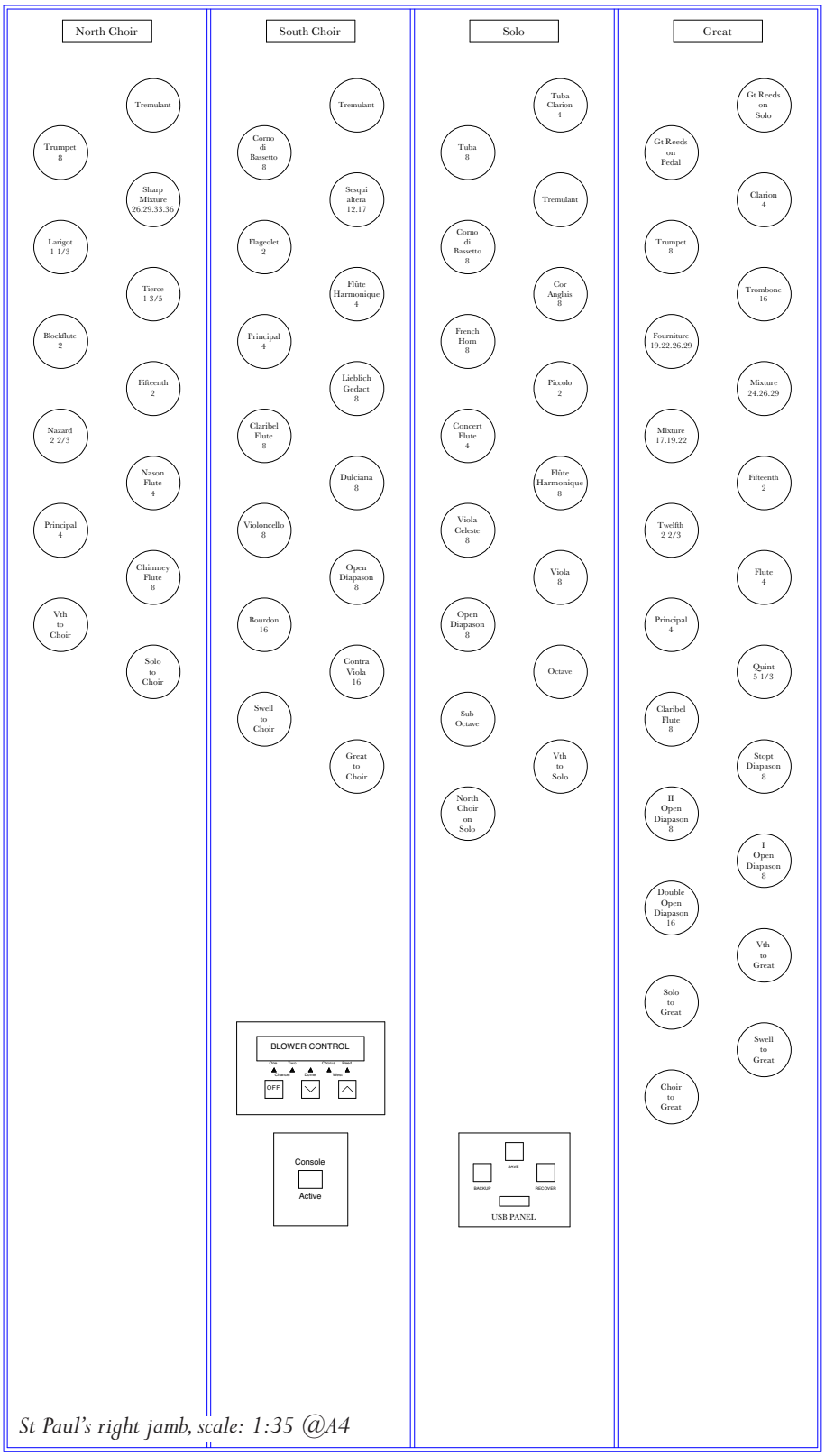
> 'The addition of the second console, proposed in 1947, revived in 1960 and prepared for in 1972, was approved by the Dean & Chapter on the recommendation of the Precentor, who in balancing the cost against the available funds was concerned to proceed only with items which would benefit the use of the organ in serving the liturgy. Increasingly, Sunday services and other major events centre around the Dome area, and the choir often moves there on these occasions. Movable choir stalls for the Dome are planned, and placing the organist as part of all that was felt by the musicians to be of great importance. There are, of course, other spin-offs – for the first time the organist can both hear balances when rehearsing, and then be seen in concert use; and educational tours are able to be introduced to the organ very easily. But these were not the prime aim, which was to facilitate choral and congregational accompaniment. The new console is a twin of that provided in 1976, though it has one or two additional couplers and transfers (which have now also been provided on the refurbished older console). A single piston control system, with 800 memory levels, serves both consoles and allows exchange of combination settings between the two. The new console can be plugged into four separate points around the Dome area.'

It is something of an irony that the year after they were asked to remove the fifth manual from their 1984 Birmingham Town Hall console, Manders should be building a new 5-manual console – a rare event for any company. For those interested in such statistics, a count of five-manual consoles in Britain (discounting any megolomanic electronic home organs) leaves us in 2008 with Liverpool Cathedral (two consoles: upstairs is Willis 1926 modernised, downstairs is its twin by David Wells,

1989), St Paul's Cathedral (Mander 1970s & 2008), Westminster Abbey (5-manual Hill in 1895, then a 4-manual Harrison & Harrison in 1937, a fifth manual being added at Simon Preston's direction in 1983), Doncaster Parish Church (Nicholson 1999, replacing a 1935 Walker stop-tab console now in storage), Wakefield Cathedral (Compton 1952, modernised Wood of Huddersfield 1985), Manchester Town Hall (Cavaillé-Coll 1893, new Jardine console in 1970) and Christ's Hospital School Chapel (Rushworth & Dreaper 1931, modernised 1983). And let's not forget the Duchess herself – John Compton's 206-stop entertainment masterpiece at the Odeon, Leicester Square. Quite a few 5-manual consoles have disappeared: for instance, Norwich Cathedral's 1899 Norman & Beard console was lost in the 1938 fire, Abbott & Smith's 1899 console at Leeds Parish Church was replaced by a Harrison 4-manual in 1913, the 1905 Abbott & Smith console at Leeds Town Hall was replaced by a 3-manual by Wood, Wordsworth in 1972, and Walker's 1948 Tewkesbury Abbey console (now connected by Paul Derrett to his 5-manual house organ) went during the Kenneth Jones project of 1997. Doubtless other losses will be known to readers including a 5-decker made in the UK and exported to St Andrew's United Church, Moose Jaw, Saskatchewan, Canada (HN&B 1954) which was destroyed by fire ten years later. It's ironic that the most internationally famous 5-manual British organ (Hill, 1889) resides in Sydney Town Hall – Australia. One fears that had this organ lived in the land of its birth, some meddlesome person would have altered it beyond recognition at least a couple of times over its 120-year life.

On the page 39 is a fine photographic portrait of the new St Paul's console by KCOA member Gary Tollerfield, a skilled photographer whose organ images have for many years graced the pages of KCOA's elegant members' journal. Of course, this photograph leaves the stop-knobs impossible to read.

When designing a console the organ-builder prepares layout drawings for the customer. We are privileged that Mander Organs has allowed access to their drawings for the new console; on these pages, we reproduce the drawstop jamb layouts so that you can see just where everything is – and imagine yourself drawing those new Dome Tubas…



St Paul's right jamb, scale: 1:35 @A4

The stop-jamb drawings have the unmistakable look of having been originated on a computer. 'CAD' has become an invaluable tool for virtually all organ-builders over the last decade. Aidan Nutter, designer at Manders, opines:

> 'For me the greatest benefit of CAD is the unprecedented level of coordination. When you draw objects they are in effect at full size. When producing scaled drawings

St Giles', Cripplegate

with pencil and paper, even the lines you draw will have a thickness which makes precision very difficult. With CAD, items are the size they are meant to be. It is now possible to tell someone precisely how to make a component for the organ and be sure it fits, even when the organ is yet to be built. Modifying drawings is also much easier. Rollerboards, for example, are much easier (and less messy) to draw by computer. Once you have established the lengths required for joining the two action runs, you can simply move them around until you have the layout that you want. Similarly if you have rollers that clash you can just swap them with others to remove the problem.'

These benefits are clearly to be seen in the clever design of Mander's new Cripplegate organ as seen on the left: note the lovely serpentine curves between the flats, a Harris/Bridge/Swarbrick trait Mander's have long wished to carry out. John Mander tells me 'I (and Stephen [Bicknell] when he was with us) have been wanting to do an ogee or serpentine case for years and at last we had an opportunity. It is not a straight copy of course, but the idiom is copied. It makes carving and the upper mouldings on the ogee "flats" a nightmare.'

All this work has, of course, to be drawn in advance – complicated here still further by St Giles' organist/pedagogue Anne Marsden-Thomas, wanting a very particular type of instrument for liturgical use and teaching, and one helpful to the partially-sighted or blind. This led to some unique console features all of which had to be designed and drawn to scale. We are fortunate also to be able to print a Mander CAD drawing for this work. The side elevation demonstrates the position of all parts, the colour-code identifying precisely what sort of part (frame, action, wind, pipes, electrics, etc.) is being shown. The glory of the computer is, of course, that all the drawings can be enlarged to precisely full-size, printed on a large plotter, and then used as templates for making and fitting each part.

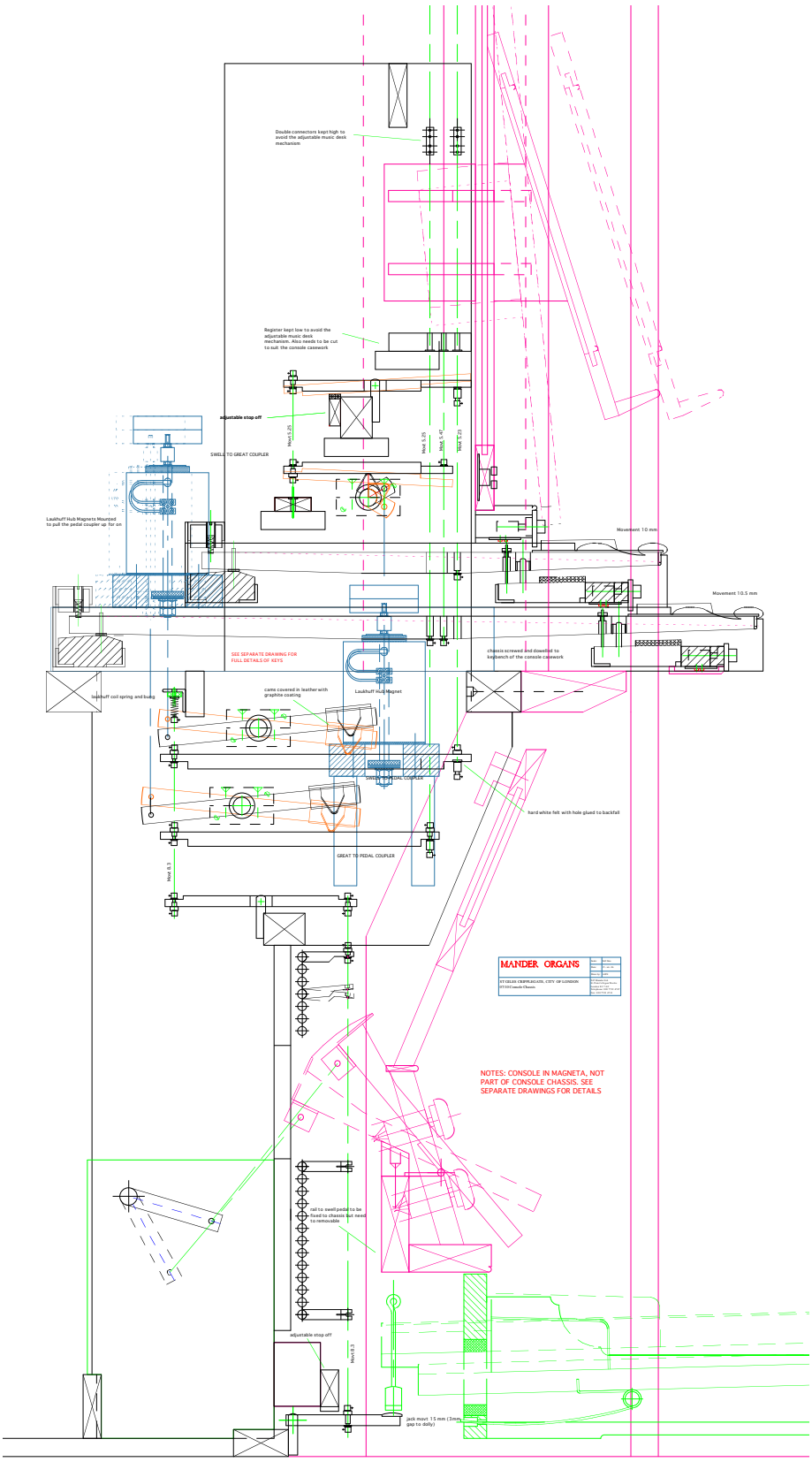
Looking at the side of the console, the manual and pedal keys are shown, along with the main chassis for the key-action and couplers, details of the music desk, support structure, thumb pistons, swell pedal and its action, and so on. Incidentally, this drawing also shows you the layout for a suspended key action rather than a balanced one: note the 'trackers' running up from just behind the music desk, the keys hanging off the trackers and being pivoted at the rear end. This was the type of action employed by French and Italian organ builders for centuries, as opposed to the 'balanced' actions (key pivoted in the centre, with a 'sticker' being pushed up at its rear end) more commonly used in these islands. For many builders, 'suspended' action is now their choice, where layout allows

its sensible use. There is another article to be written on this topic alone! Aidan Nutter explains the colour-coding:

> 'Various items on the drawing are picked out in specific colours. The runs of the key action are indicated in green dotted lines. The console casework is in magenta. The dark orange lines indicate the different positions of the coupler backfalls of the intermanual couplers (when off) and the cams to the manual to pedal couplers. Most of the backfalls shown on this chassis are centreless, which we frequently use. They work by having a cam, which presses against the backfall. Because of the tension of the key action the backfall will pivot where the cam is in contact with it. Here the cams are shown being moved in two different ways. The intermanual coupler (shown above the keys) has the cam mounted on a trundle, which is turned by moving the arm at the end. This system means that the cam strikes the backfalls in a sweeping movement which can move them horizontally. The manual to pedal couplers have an alternative system where the cam moves up and down without rotating which prevents the backfalls from being moved. The items shown in bluey-grey are the solenoids, which activate the couplers. When on, these move a rod up either pushing or pulling the arms on the trundles to the cams. Spread across the drawing are figures showing the intended movement of the key action.'

Although the Cripplegate tonal scheme has been published in other journals we print it at the end for the sake of completeness.

Notice the emphasis on a full Principal chorus plus Trumpet for the Great, with the Swell something of a cross between English eighteenth-century Choir and Echo [Swell] divisions. Versatile and colourful, the organ will serve the church and the St Giles International Organ School well for many years to come. Let us hope that the beholder will relish those delightful serpentine curves just as much as the organ's sound.



St Giles organ specification

GREAT ORGAN		SWELL ORGAN		PEDAL ORGAN	
Open Diapason	8	Gedackt	8	Bourdon	16
Stopped Diapason	8	Principal	4	Principal	8
Principal	4	Chimney Flute	4	Trumpet	8
Fifteenth	2	Recorder	2		
Mixture	IV	Sesquialtera	$2^2/_3$		
Trumpet	8	Oboe	8		
		Tremulant			