

THE JOHN R. SILBER
SYMPHONIC ORGAN
AT
BOSTON UNIVERSITY

NELSON BARDEN & ASSOCIATES









The John R. Silber Symphonic Organ

AT BOSTON UNIVERSITY

by JONATHAN AMBROSINO

NELSON BARDEN has long been known in Boston circles for his elegant restoration work on famous organs such as Church of the Advent, Groton School and Old South Church. But it is his firm's restorations of two small player organs at Boston University that have brought him international acclaim.

The first instrument is a 12-rank 1930 Skinner, Opus 764, originally installed in the home of Percy A. Rockefeller in Greenwich, Connecticut. In 1981 this organ was donated to Boston University by John R. Robinson, then Secretary of the University Board of Trustees. Shortly

afterward, a 23-rank 1930 Æolian, Opus 1783 from the Winchester mansion of Boston candy-maker William E. Schrafft, was added to the project, the donation of the late Dr. Arthur G. B. Metcalf, Chairman of the Board of Trustees from 1976 to 1994.

Dr. Metcalf's vision was to preserve the two instruments intact, yet combine them into a larger musical entity. Nelson Barden & Associates were appointed Restorers-in-Residence at Boston University, and installed a fully-equipped restoration studio in the Fuller Building on Commonwealth Avenue. An eight-year restoration to museum-quality standards was sponsored by the Arthur G. B.

Metcalf Foundation. During the project, additions from other vintage Skinner and Æolian organs enlarged the instrument from 35 to 62 ranks.

Throughout the 1980s, thousands of visitors from all over the world visited the studio to see the restored instrument in its parquet-floored chambers surrounded by polished brass handrails. Nelson Barden and his staff gave more than 500 demonstrations of the organ and its automatic player mechanisms, accompanied by a narrated history of the restoration. Probably the highlight of that period came during the 1990 American Guild of Organists National Convention in Boston, when the B.U. organ was featured in late-night demonstrations for more than 1,000 conventioners.

During the summer of 1993, the final phase of Dr. Metcalf's vision became a reality when the organ was relocated to Metcalf Hall in the George Sherman Union, the heart of University social life. On October 26, 1994 the instrument was formally dedicated in honor of Dr. John R. Silber, seventh President of Boston University.

Building on the success of the studio walk-through, the Metcalf Hall installation was conceived as a grand promenade of organ pipes. A parquet-floored corridor runs straight through the instrument, and visitors can look through glass doors into five of the chambers, the largest of which contains 1,560 pipes. The blowing plant (33 horsepower in all) is on display — a plethora of vintage blowers, reservoirs and shiny new metal ducts, with framed wind gauges showing the various stages of wind pressure. The original Skinner and Æolian consoles are exhibited in an adjacent room, while another chamber features



SIX BLOWERS TOTALING 33 HORSEPOWER

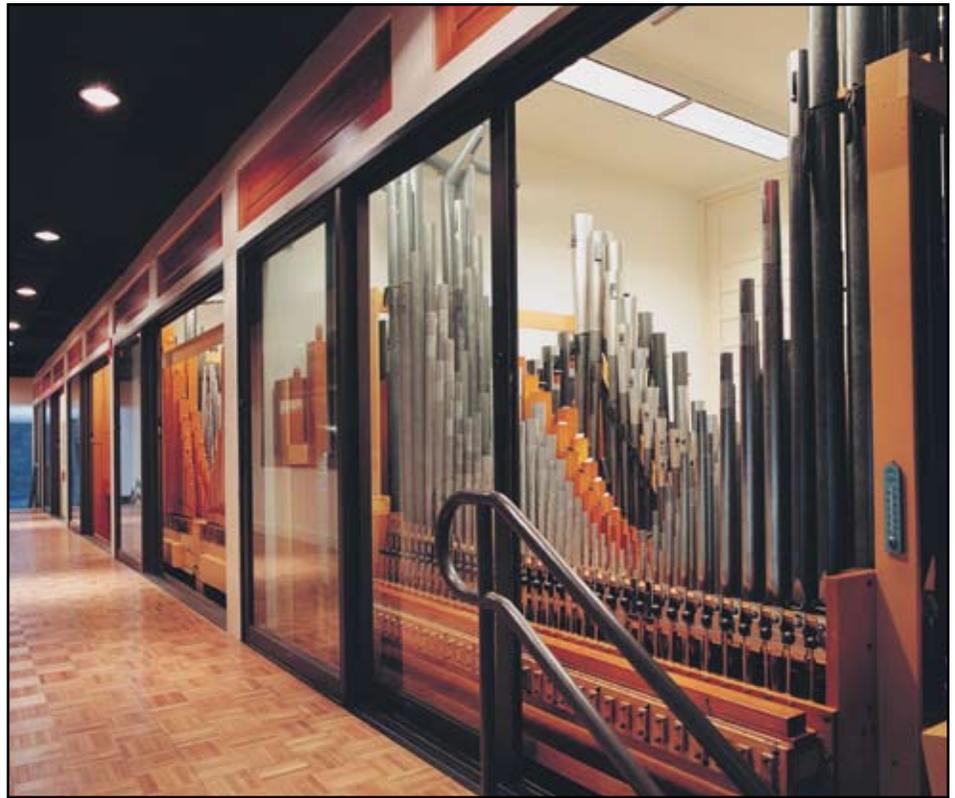
electro-pneumatically operated percussions. Even passersby who know little about pipe organs find this installation visually captivating.

Presenting a vintage instrument in this manner is a step beyond the kind of museum-quality restoration that Barden himself helped introduce to electro-pneumatic organs in the late 1970s. (Other key figures in this movement were the Thompson-Allen Company of New Haven and Edward M. Stout of San Francisco. Their pioneering efforts have encouraged other restorers to develop similar techniques.) In its first phase, the museum-quality movement emphasized that the look of an instrument, as much as its tone, contributed to the artistic effect. Chambers were painted, both for appearance and hard reflection of tone. Pipework was fully restored, in order to recapture the original voicing and effect. Internal leathering work reached a peak of perfection, while external components were given a fresh appearance, emphasizing the elegance of the original construction.

In the Silber organ, this approach has been taken to its logical conclusion. In addition to listening to the organ and viewing the chambers while it is playing, the main corridor through the instrument is always open as a pedestrian walkway. Students stroll through the organ on the way to class; some stop to eat lunch there. From the start, the instrument was designed to be a living display of art and technology, restored to perfection and open to the public. Whether playing or silent, the organ makes a statement on many artistic levels.

Tonally, the organ continues to respect the residence organ aesthetic. The Skinner and Æolian organs were gently voiced, and although effective in the studio setting, it was clear they could not be forced past their residence parameters without destroying their integrity. In addition, the core concept was automatic performance, and it seemed only natural that the new installation perpetuate and build upon that ideal.

RESIDENCE ORGANS were musical chameleons. They could mimic the sound of church, concert or theater organs, even a 1920s dance band.



THE MAIN ORGAN CORRIDOR: A PROMENADE OF ORGAN PIPES

However, their most elevated role was to reproduce the effect of a miniature symphony orchestra. Indeed, these instruments were the ultimate orchestral organs, with all the velocity, attack, tone color and expression that the concept implies.

Virtually all residence organs had automatic players run by paper roll recordings. These were of two kinds: symphony rolls and hand-played rolls. Symphony rolls were usually created by recording a rhythm track on graph paper and drawing in the notes directly from the orchestral score. The technique dates from 1885, when paper roll music was invented. By the 1920s, the techniques were highly refined.

The patterns of notes and registration on symphony rolls were entirely orchestral and quite different from those customarily employed even by skilled transcription players. For organists, the music had to fall within the physical possibilities of fingers and feet. But for roll editors, human limitations no longer applied. All the notes necessary to produce an orchestral effect, including chords of up to twenty notes, were effortlessly spread across the manuals.

Registrations changed with lightning speed, and complex melody coupling produced effects that even two organists playing a duet could not match. The only limitation on symphony roll music was the taste and imagination of the arranger.

In addition to arranged rolls, many noted organists made roll recordings, first produced in 1910 by Welte & Sohn in Freiburg, Germany. Despite the limited technology of the period, the Welte recorder captured the notes, shade movements and registration changes of live playing, all with astonishing fidelity. After World War I, the recording techniques were refined in America; soon enough, virtually every prominent organist could be heard on player rolls.

At Boston University, roll-operated performances range from orchestration arrangements made in the early 1880s to popular music of the 1930s. The early Welte recordings are particularly significant, as the artists were late-Victorians, some of whom were born as early as 1865.

Since many of the older rolls are now in deteriorated condition, a computer system was installed in the early 1980s.

By recording the roll performances for electronic playback, the computer preserved this fragile musical legacy in digital form. The software was rudimentary by today's standards, but it did allow notes, stops and expression to be altered and wrong notes to be removed.

In 1993, after seven years of development, an improved high-speed performance recorder was installed. Designed by John Irwin, a mathematics professor in Marlborough, England, the Boston University Symphonic Organ Recorder (colloquially known as BUSOR) is the fastest and most accurate organ record-edit-playback system available today.

In particular, its resolution and accuracy of note placement staggers the imagination. For example, the blink of an eye and the shortest note playable on an organ both take about a twentieth of a second. During that minuscule period, BUSOR is capable of playing 1,000 notes or changing 1,000 stops *fifty* times. Such infinitesimal fidelity captures every nuance of rhythm and articulation necessary to faithful reproduction.

The editing software allows the operator to create new recordings or computer-assisted arrangements of unlimited complexity. Through these features, BUSOR becomes an artistic medium in its own right. Where the old arrangers drew out symphony rolls on graph paper, today the music can be constructed right on screen.

METCALF HALL, the home of the Silber organ, is the University's primary multi-purpose facility for meetings, banquets and receptions. Sliding doors and walls adapt the size of the room to different purposes, from a 600-seat auditorium to a 600,000 cubic foot area that can seat 2,000 for dinner.

Clearly, these acoustical conditions are no longer those of a residence organ salon. Because of the variable sound transmission when the room is rearranged, a portable voicing machine helped determine the room's acoustical response in its various configurations. Based on these tests, a number of ranks were added to fit the organ to the new environment.

The Silber organ is 30' high, 100' wide and weighs 22.5 tons. The installation takes the form of five lower cham-

bers and three upper ones, with unenclosed ranks at either end. The lower chambers contain the 62 ranks of the original studio installation. Apart from minor reconfiguration and new two-inch-thick swell shades, these divisions were moved intact. The tonal result exhibits the refined *piano* and *mezzo* effects for which residence organs were renowned, and the broad horizontal spread creates a carpet of tone that is unusually orchestral in nature. Fast-running passages on the multiplicity of muted strings and woodwind voices are clear in texture and surprisingly fleet in effect.

The upper chambers contain a restored Solo division and a 1928 Skinner (Opus 665) which was discarded from



CHOIR ORGAN, ORCHESTRA BELLS

Boston's John Hancock Hall in 1991. Three-inch-thick swell shades direct the tone downward toward the floor of the room. The tone of the upper divisions grows out of the lower ones, lending increased presence, brilliance and dynamic impact. The culmination of the instrument will be a Fanfare division, now in the planning stages. This will include heroic chorus, woodwind and brass registers for climactic effects when Metcalf Hall is maximally expanded.

For an organist, it is difficult to understand the layout of an instrument unless it falls into established patterns. Therefore, to make the varied resources of the Silber organ conform to accepted practice, the names of the original divi-

sions were changed. The 12-rank Skinner, originally divided into Manual I and Manual II, was renamed Enclosed Great, and four ranks of strings from the studio installation were added in the same chamber. Fifty feet away at the other end of the organ, the former Æolian Great and Echo were combined to make the Choir. This duplicates the woodwind and brass voices in the Skinner (First and Second Trumpets, First and Second Clarinets, First and Second French Horns) to provide stereo and echo effects. The largest single division combines the pipes of the Æolian Swell and Antiphonal into a String Organ of 1,560 pipes, which completes the lower section of the organ.

On the upper level, the new Solo in the upper left corner combines flues on 10" wind and reeds on 15" wind. The center chamber contains the Skinner Swell division from Opus 665, unaltered except for the replacement of the 16' Bourdon with a 32'-16' Waldhorn. The Great and Choir from the same instrument became the unenclosed Great on the upper right. Pedal ranks from the studio are displayed on the wall at the ends of the instrument, with a 16' Major Bass crowning the top of the organ. Presently there are 102 ranks and 6,815 pipes. When the Fanfare is installed, there will be 7,500 pipes. A four-manual drawknob console, currently under construction, will control the entire instrument.

THE JOHN R. SILBER Symphonic Organ is the culmination of a 16-year development process that continues to this day. It is an unusual multi-purpose instrument designed to play a variety of music and serve many functions: classical organ concerts, symphonic realizations, silent film accompaniment, and background music for banquets and receptions. With its old and new technology, diverse tonal elements and walk-through experience, it is a singular combination of art and technology, and a unique display of Americana.

©1997 Jonathan Ambrosino.
Photographs ©1997 Joe Sloane.

*This article originally appeared in
The Northeast Organist, May-June, 1997*

THE JOHN R. SILBER SYMPHONIC ORGAN

Metcalf Hall — Boston University

GREAT ORGAN		CHOIR ORGAN		STRING ORGAN <i>floating</i>		PEDAL ORGAN	
<i>Unenclosed</i>		8' First Diapason	73	16' Spanish Flute	12	32' Wood Diapason	32 GENS
16' Violone	61	8' Second Diapason	73	16' Bourdon	61	32' Diaphone	32 GENS
8' First Diapason	61	8' Gamba	73	8' Horn Diapason	61	32' First Bourdon	12
8' Second Diapason	61	8' Gemshorn	73	8' Viola	73	16' Wood Diapason	32
8' Gamba	61	8' Gross Flute	73	8' Viola Celeste	73	16' Metal Diapason	32
8' Gamba Celeste	61	8' Dolce Flute	73	8' Salicional	73	16' Diaphone	32
8' Wald Flute	61	8' Spitz Flute	73	8' Salicional Celeste	61	16' Diaphonic Diapason	SOLO
8' Erzähler	61	8' Spitz Flute Celeste	61	8' String MF	61	16' Violone	GREAT
4' Octave	61	4' Harmonic Flute	73	8' String MF Celeste	61	16' Major Bass	32
4' Flute	61	8' Second Trumpet	73	8' String MP	61	16' First Bourdon	32
2 $\frac{2}{3}$ ' Twelfth	61	8' Second Clarinet	73	8' String MP Celeste	49	16' Second Bourdon	32
2' Fifteenth	61	8' Second French Horn	73	8' String PP	61	16' Third Bourdon	ENC. GR.
III Mixture	183	8' Second Vox Humana	73	8' Spanish Flute	73	16' Fourth Bourdon	STRING
8' Tromba	73	Tremolo		8' Flute Celeste	61	8' Metal Diapason	12
Tremolo				8' Quintadena	61	8' Diaphonic Diapason	SOLO
		SOLO ORGAN		8' Quintadena Celeste	61	8' Violone	GREAT
<i>Enclosed, Divisions I & II</i>		16' Diaphone	12	4' Salicet	61	8' Stentor Gamba	SOLO
16' Bourdon	12	8' Diaphonic Diapason	73	4' Flute	12	8' Gamba Celeste	SOLO
8' Third Diapason	61	4' Octave Diapason	12	4' Flute Celeste	61	8' Viola	SOLO
8' First Violins II	146	8' Solo Flute	73	2 $\frac{2}{3}$ ' Flute	--	8' Viola Celeste	SOLO
8' Second Violins II	134	5 $\frac{1}{3}$ ' Flute	--	2' Flute	--	8' Major Bass	12
8' Voix Celeste II	122	4' Flute	12	III String Mixture	183	8' First Bourdon	12
8' Chimney Flute	73	3 $\frac{1}{5}$ ' Flute	--	16' Bassoon	12	8' Second Bourdon	12
8' Flute Celeste II	110	2 $\frac{2}{5}$ ' Flute	--	8' Oboe	61	8' Third Bourdon	ENC. GR.
4' Flute	12	2' Flute	--	8' Flügel Horn	73	8' Fourth Bourdon	STRING
2 $\frac{2}{5}$ ' Nazard	--	1 $\frac{3}{5}$ ' Flute	--	8' Fourth Vox Humana	73	4' Metal Diapason	12
2' Piccolo	--	8' Stentor Gamba (<i>wood</i>)	73	8' Fifth Vox Humana	61	4' Viola	GREAT
8' First Trumpet	61	8' Stentor Gamba Celeste	73	Tremolo		4' First Bourdon	12
8' First Clarinet	61	8' Viola	73			32' Bombarde	--
8' First Corno d'Amore	61	8' Viola Celeste	73	FANFARE ORGAN <i>prepared</i>		32' Waldhorn	SWELL
8' First French Horn	61	8' Dulcet II	146			16' Bombarde	32
8' First Vox Humana	61	8' Musette	73			16' Waldhorn	SWELL
Tremolo		Tremolo				16' Bassoon	STRING
		Vibrato		TUNED PERCUSSIONS		8' Bombarde	12
SWELL ORGAN		8' Tuba	61	8' Piano		8' Ophicleide	SOLO
8' Diapason	73	4' Tuba Clarion	12	8' Chimes		8' Tuba Mirabilis	SOLO
8' Salicional	73	16' Contra Ophicleide	--	8' First Harp		8' Post Horn	SOLO
8' Voix Celeste	73	8' Ophicleide	61	8' Second Harp		8' Waldhorn	SWELL
8' Gedeckt	73	4' Clarion	12	4' Piano	<i>ext.</i>	4' Bombarde	--
8' Flauto Dolce	73	16' Contra Post Horn	--	4' First Celesta	<i>ext.</i>	4' Tuba Clarion	SOLO
8' Flute Celeste	61	8' Post Horn	61	4' Second Celesta	<i>ext.</i>		
4' Octave	73			4' Xylophone		16' Piano	
4' Flute Δ	73			4' Orchestra Bells		8' Piano	
III Mixture	183			4' Byrds (<i>37 pipes</i>)	PREP.		
32' Waldhorn	12					WIND PRESSURES	
16' Waldhorn	73	TRAPS <i>floating</i>				Great.....8"	
8' Cornopean	73	Snare Drum Tap	Castanets			Enc. Great.....7 $\frac{1}{2}$ "	
8' Second Corno d'Amore	73	Snare Drum Roll	Wood Block Tap			Swell.....8"	
8' Third Vox Humana	73	Bass Drum	Wood Block Roll			Choir.....5"	
4' Clarion	73	Tympani	Tambourine			Solo.....10", 15"	
Tremolo		First Cymbal	Triangle			String.....3 $\frac{1}{2}$ ", 5"	
Vibrato		Second Cymbal	Chinese Gong			Pedal.....3 $\frac{1}{2}$ ", 5", 7 $\frac{1}{2}$ ", 10"	
			Birdsong			Percussions.....9" or 20" (<i>selectable</i>)	