

The Curtis Sesquicentennial Exposition Organ

Opus 1416, Austin Organ Co., Hartford, Connecticut

Opus 1416 was built in 1926 for the Sesquicentennial International Exposition held in Philadelphia.

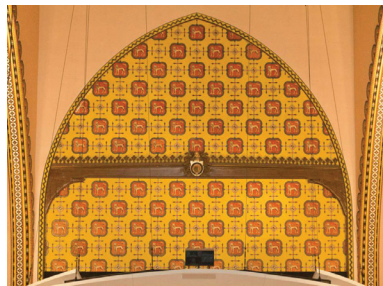
Afterward, the organ was purchased by publisher Cyrus Curtis, donated to the University of Pennsylvania, and installed in the newly-built Irvine Auditorium in 1928-29.

It was named the Cyrus H. K. Curtis Organ in honor of Mr. Curtis.

Opus 1416, at four manuals, 162 ranks (10,731 pipes) residing in Irvine Auditorium of the University of Pennsylvania, is the magnum opus (executed under a single contract) of the Austin firm. Built for Sesquicentennial Exposition in Philadelphia (in only six months!), it is a masterpiece of Symphonic organ building, remaining one of the very few, if not uniquely, unchanged symphonic instruments of the period.



Irvine Auditorium: Interior. A grand space for a grand instrument.
The majority of the organ is installed behind the stenciled scrims visible at left and right.
A portion only of the Pedal Division is housed behind the non-speaking façade pipes.
Grey reflector panels were installed in the 1997-2002 renovations.



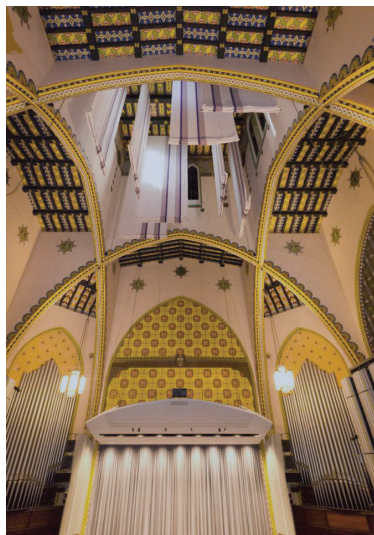
Proscenium and principal stenciling detail.



Gilt bust of Benjamin Franklin and University Seal on proscenium beam.

Opus 1416 was relocated to Irvine Auditorium during the building's construction, occupying the two side second-balconies, originally designated to seat 600. Installation delayed the opening of the hall by nearly two years. The organ also happens to be the second largest instrument in Philadelphia area (after the Wanamaker Organ)!

While comparatives and lists change and claims of size are hard to substantiate, the organ still ranks as one of the largest pipe organs in the world, currently estimated to be No. 22 by pipe count.



Irvine Auditorium: view of the proscenium and tower.



Irvine Auditorium: Exterior (pre-restoration).
The building was designed by the Trumbauer firm of Philadelphia by the its chief designer, Julian Abele, a University of Pennsylvania alumnus (Class of 1905) and one of the first African-American architects in the US.
Mr. Abele also designed The Philadelphia Museum of Art and most of the firm's projects from 1915 onward.

Specification

GREAT DIVISION

(35 ranks, 2135 pipes, 7" w.p.)

Unenclosed

1. Violone Dolce	16'
2. First Open Diapason	8'
3. Second Open Diapason	8'
4. Principal	4'
5. Octave Quint	2 ² / ₃ '
6. Super Octave	2'
7. Mixture III-IV (12-15-17-19)	2'

Enclosed

8. Bourdon (ext. #15)	16'
9. Third Open Diapason +	8'
10. Fourth Open Diapason	8'
11. Fifth Open Diapason +	8'
12. Flauto Major	8'
13. Doppel Flöte +	8'
14. Harmonic Flute +	8'
15. Bourdon	8'
16. Clarabella +	8'
17. Gamba	8'
18. Violoncello	8'
19. Gemshorn +	8'
20. Quint	5 ¹ / ₃ '
21. Octave	4'
22. Hohl Flöte +	4'
23. Harmonic Flute	4'
24. Mixture V (19-22-24-26-29)	1 ¹ / ₃ '
25. Double Trumpet	16'
26. French Trumpet	8'
27. Trumpet +	8'
28. French Horn +	8'
29. Clarion	4'
30. Tuba Magna (Solo #155)	8'
31. Tremolo (affects stops marked +)	
32. Harp	8'
33. Celesta	4'
34. Cathedral Chimes (Solo)	
35. Marimba (Solo)	8'
36. Great to Great	16'
37. Unison Off	
38. Great to Great	4'
39. String Organ on Great	
40. Trombone Chorus on Great	

SWELL DIVISION

(39 ranks, 2715 pipes, 7" w.p.)

Enclosed

41. Bourdon	16'
42. Gemshorn	16'
43. Diapason Phonon	8'
44. Open Diapason	8'
45. Horn Diapason	8'
46. Geigen Principal	8'
47. Melodia +	8'
48. Rohr Flöte +	8'
49. Viola d'Gamba	8'
50. Viole d'Orchestre +	8'
51. Viole Celeste III	8'
52. Salicional	8'
53. Vox Celeste	8'
54. Flauto Dolce +	8'
55. Unda Maris	8'
56. Principal	4'
57. Traverse Flute +	4'
58. Flute d'Amour	4'
59. Violina	4'
60. Twelfth*	2 ² / ₃ '
61. Fifteenth*	2'
62. Flautina	2'
63. Seventeenth*	1 ³ / ₅ '
64. Twenty-First*	1 ¹ / ₄ '
65. Twenty-Second*	1'
66. String Mixture V (Collective*)	
67. Mixture IV (19-22-26-29)	1 ¹ / ₃ '
68. Contra Fagotto	16'
69. Vox Humana +	16'
70. French Trumpet	8'
71. Cornopean	8'
72. Oboe +	8'
73. Corno d'Amore +	8'
74. Vox Humana II +	8'
75. Clarion	4'
76. Vox Humana +	4'
77. Tremolo (affects stops marked +)	
78. Swell to Swell	16'
79. Unison off	
80. Swell to Swell	4'
81. String Organ on Swell	
82. Trombone Chorus on Swell	

CHOIR DIVISION

(29 ranks, 2009 pipes, 7" w.p.)

Enclosed

83. Contra Gamba	16'
84. Double Dulciana + (ext. #96)	16'
85. Open Diapason	8'
86. Geigen Principal	8'
87. Stopped Diapason	8'
88. Chimney Flute +	8'
89. Quintadena	8'
90. Viole d'Orchestre +	8'
91. Viole Celeste	8'
92. Concert Flute +	8'
93. Flute Celeste	8'
94. Gemshorn	8'
95. Gemshorn Celeste	8'
96. Dulciana +	8'
97. Principal	4'
98. Flute d'Amour +	4'
99. Dolce + (ext. #96)	4'
100. Twelfth*	2 ² / ₃ '
101. Fifteenth*	2'
102. Flageolet	2'
103. Dulcet + (ext. #96)	2'
104. Seventeenth*	1 ³ / ₅ '
105. Dulcinet + (ext. #96)	1'
106. Cornet Mixture (Collective*)	
107. Trombone	16'
108. Baryton +	16'
109. Bass Clarinet	16'
110. Cor Anglais (ext. #115)	16'
111. Tromba	8'
112. Orchestral Horn +	8'
113. Orchestral Oboe +	8'
114. Clarinet +	8'
115. Cor Anglais +	8'
116. Vox Humana (4" w.p., Tremolo)	8'
117. Tromba Clarion	4'
118. Tremolo (affects stops marked +)	
119. Cathedral Chimes (Solo)	
120. Harp (Great)	8'
121. String Organ on Choir	
122. Trombone Chorus on Choir	

TROMBONE CHORUS

(5 ranks, 365 pipes, 10" w.p.)

Enclosed with Choir

123. Contra Trombone	16'
124. First Tromba	8'
125. Second Tromba	8'
126. First Clarion	4'
127. Second Clarion	4'

SOLO DIVISION

(14 ranks, 1022 pipes, 10" w.p.)

Enclosed

128. Grand Diapason Phonor	8'
129. Flauto Major +	8'
130. Gross Gamba +	8'
131. Gamba Celeste	8'
132. Gedeckt +	8'
133. Concert Flute (Choir #92)	8'
134. Flûte Ouverte +	4'
135. Flute d'Amour (Choir #98)	4'
136. Concert Piccolo	2'
137. Tuba Profunda	16'
138. Harmonic Tuba +	8'
139. French Bugle +	8'
140. Hunting Horn +	8'
141. Bell Clarinet	8'
142. French Horn (Great #28)	8'
143. Orchestral Oboe (Choir #113)	8'
144. Cor Anglais (Choir #115)	8'
145. Clarinet (Choir #114)	8'
146. Tuba Clarion	4'
147. Tremolo (affects stops marked +)	
148. Cathedral Chimes	
149. Marimba (reiterating)	8'
150. Harp (Great #32)	8'
151. Glockenspiel (reiterating)	4'
152. Carillons	4'
153. Xylophone	4'
154. Celesta (Great #32)	4'
155. Tuba Magna (20" w.p.)	8'
156. String Organ on Solo	
157. Trombone Chorus on Solo	
158. Solo to Solo	16'
159. Unison off	
160. Solo to Solo	4'

STRING DIVISION

(26 ranks, 1898 pipes, 7" w.p.)

Enclosed

161. Violes V	8'
162. Celestes V	8'
163. Violes III	8'
164. Celestes III	8'
165. Violes II	8'
166. Celestes II	8'
167. Violes III	4'
168. String Mixture III (12-15-17)	2 ² / ₃ '
169. Full String Organ	
170. Tremolo	
171. String Organ	16'
172. String Organ	4'

PEDAL DIVISION

(14 ranks, 587 pipes, 7 & 10" w.p.)

Unenclosed except #201

173. Resultant Bass (#178 & 183)	64'
174. Double Open Diapason (ext. #178)	32'
175. Contra Violone (ext. #181)	32'
176. Contra Bourdon (ext. #183)	32'
177. First Open Diapason	16'
178. Second Open Diapason	16'
179. Metal Open Diapason	16'
180. Diaphone	16'
181. Violone	16'
182. First Bourdon	16'
183. Second Bourdon	16'
184. Lieblich Gedeckt (Swell #41)	16'
185. Gamba (Choir #83)	16'
186. Violes Celestes III (String)	16'
187. Dulciana (Choir #96)	16'
188. Gross Quint (ext. #183)	10 ² / ₃ '
189. Octave (ext. #177)	8'
190. Principal (ext. #179)	8'
191. Gross Flute (ext. #178)	8'
192. Bourdon (ext. #183)	8'
193. Flauto Dolce (Swell #41)	8'
194. Dulciana (Choir #96)	8'
195. Violes Celestes III (ext. String #161 & 163)	8'
196. Violoncello Celeste II (Solo #130 & 131)	8'
197. Twelfth (ext. #183)	5 ¹ / ₃ '
198. Octave Flute (ext. #178)	4'
199. Mixture V (12-15-17-19-22)	5 ¹ / ₃ '
200. Contra Bombarde (ext. #201)	32'
201. Bombarde	16'
202. First Trombone	16'
203. Second Trombone (Choir #123)	16'
204. Tuba Profunda (ext. Solo #155)	16'
205. Contra Fagotto (Swell #68)	16'
206. Bass Clarinet (Choir #109)	16'
207. Tromba (ext. #202)	8'
208. Tuba Magna (Solo #155)	8'
209. Clarion (ext. #202)	4'
210. Tuba Clarion (Solo #155)	4'
211. Cathedral Chimes (Solo)	
212. Marimba (Solo)	8'
213. Glockenspiel (Solo)	8'
214. Trombone Chorus on Pedal	
215. Pedal to Pedal	10 ² / ₃ '
216. Pedal to Pedal	8'

COUPLERS

(Tilting Tablets above Solo)

1. Great to Pedal	8'
2. Great to Pedal	4'
3. Swell to Pedal	8'
4. Swell to Pedal	4'
5. Swell to Pedal‡	2'
6. Choir to Pedal	8'
7. Choir to Pedal	4'
8. Choir to Pedal	5 ¹ / ₃ '
9. Solo to Pedal	8'
10. Solo to Pedal	4'
11. Swell to Great	16'
12. Swell to Great	8'
13. Swell to Great	4'
14. Swell to Great‡	2'
15. Choir to Great	16'
16. Choir to Great	8'
17. Choir to Great	4'
18. Choir to Great‡	5 ¹ / ₃ '
19. Solo to Great	16'
20. Solo to Great	8'
21. Solo to Great	4'
22. Swell to Choir	16'
23. Swell to Choir	8'
24. Swell to Choir	4'
25. Solo to Choir	16'
26. Solo to Choir	8'
27. Solo to Choir	4'
28. Great to Choir	8'
29. Choir to Swell	16'
30. Choir to Swell	8'
31. Choir to Swell	4'
32. Solo to Swell	16'
33. Solo to Swell	8'
34. Solo to Swell	4'
35. Swell to Solo	8'
36. Great to Solo	8'
37. Choir to Solo	8'

‡ 1980 console addition

In 1980 the Pedal to Great 8' coupler was removed.

Expression shoe coupling fully assignable.

Some Curtis Organ fun facts, trivia and numbers:

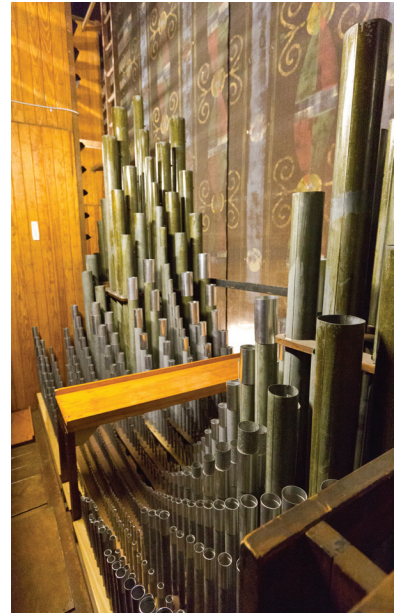
- I. The main divisions speak on 7" wind pressure (water-column inches, approx. 180 mm), with Solo, Trombone Chorus and some Pedal Division stops on 10" wind, powered by a 40 h.p. Spencer blower. The unenclosed Tuba Magna (one of only six the company made at 6" scale) is on 20" wind, boosted by a 5 h.p. Spencer blower.
- II. The official counts: 162 ranks, 184 stops, 10,731 pipes.
- III. The organ boasts 38 ranks of reeds, including *four* unique **French Horns**, a floating 5-rank **Trombone Chorus**, two unified ranks of Pedal Division reeds and the **Tuba Magna**, on 25" wind.
- IV. There are 12 **Diapason** ranks at 8' pitch and 25 **Flute** ranks in the manual divisions.
- V. The organ contains 45 ranks of **Strings**, including 15 in the Swell Division and the floating 26-rank String Division, a 32' & 16' metal **Violone** unit in the Pedal, and an extension (playable in the Pedal only) to 16' CCC of the **Viole Celeste III** borrowed from the String Division. Strings are tuned unison, sharp and flat throughout.
- VI. The organ contains the largest Universal Air Chest™ ever built by Austin. In its original configuration in the Exposition Great Auditorium, which **seated 20,000 people(!)**, the organ spanned 75 feet across the stage platform at the front of the room. At the dedication, a dinner for 150 was held in the airbox while the organ was played.
- VII. Original designs called for an elaborate case spanning the full width of the organ, similar in style to Opus 1416's older, smaller sibling installed in the Merrill Auditorium in Portland, Maine. The case was never built due to financial constraints.
- VIII. The organ is built in the *Symphonic* style, designed to play orchestral-style music and orchestral transcriptions. It was publicized as the "Organists' Organ" because the specifications were drawn up a committee of prominent Philadelphia organists: Henry S. Fry (chairman), Rollo F. Maitland, Frederick Maxson, S. Wesley Sears, and John McE. Ward.



Overhead in Irvine Auditorium the heraldry and flash of color take on great dimension and variety.



A portion of the front Swell Division showing several of its wooden flutes.
One of the Swell Vox Humana ranks is at left.



The unenclosed Great chorus stands in front of half the Swell Division.

