

AUSTIN ORGAN COMPANY OPUS 1416 -- CURTIS SESQUICENTENNIAL
EXPOSITION ORGAN

Specification of a FOUR MANUAL ORGAN for the
SESQUI-CENTENNIAL EXPOSITION PHILADELPHIA, PA., 1926
Built by AUSTIN ORGAN COMPANY, Hartford, CT. (Opus 1416).
Relocated (1927-29) to Irvine Auditorium,
University of Pennsylvania.
Slightly Modified, 1965-69
162 ranks. 184 stops. 10,731 pipes.

(Comments in brackets are notes on pipe scale, wind pressure & location)

GREAT ORGAN. 7" wind. 35 ranks. 2,135 pipes.
(West Upper Gallery)

Unenclosed

16'	Violone Dolce	[37 At CCC]	61 Pipes, Metal
8'	First Open Diapason	[40 Taper To 37-2/9]	61 " "
8'	Second Open Diapason	[43 - 1/4]	61 " "
8'	Viola Da Gamba	[55]	61 " "
4'	Principal	[52 1/4 Mouth]	61 " "
2-2/3'	Octave Quint	[Usual Great Scale]	61 " "
2'	Fifteenth	[Usual Great Scale]	61 " "
	Mixture 3 & 4 RKS.		232 " "
	12-15-17-19 (12th omitted in 1st octave)		
8'	Tuba Magna (From Solo)		61 Notes, Reed

Enclosed

16'	Bourdon (From 8' Bourdon)		61 Notes, Wood
8' +	Third Open Diapason	[43 - 2/9]	61 Pipes, Metal
8'	Fourth Open Diapason	[46 - 2/9]	61 " "
8' +	Fifth Open Diapason	[49 - 1/4]	61 " "
8'	Flauto Major	[Large Gross Flute Scale]	61 " Wood
8'	Bourdon	[Usual Great Scale]	73 " "
8' +	Doppel Flöte	[Usual Scale]	61 " "
8' +	Clarabella	[Usual With 2 Bar Bass]	61 " "
8' +	Harmonic Flute	[#0 Scale With 49 Scale Bass]	61 " Metal
8'	Violoncello	[52 Narrow Mouth]	61 " "
8' +	Gemshorn	[49 Taper]	61 " "

Great Organ-Enclosed Section (Continued)

5-1/3'	Quint	[50 G. 29 2/9 Mouth]	61	Pipes, Metal
4'	Octave	[55]	61	" "
4' +	Hohl Flöte	[Melodia Scale, Loudish]	61	" Wood
4'	Harmonic Flute	[#3]	61	" Metal
	Mixture 5 RKS. 19-22-24-26-29		305	" "
16'	Double Trumpet	[7-1/2"]	61	" Reed
8' +	Trumpet	[5"]	61	" "
8'	French Trumpet	[4"]	61	" "
8' +	French Horn*	[Usual 6"]	61	" "
4'	Clarion	[3"]	61	" "
	Tremolo			
	(Tremolos affect only stops marked with "+"; these have tiny "T"s on their stoptabs)			
	Chimes (from Solo)		25	Notes
8'	Harp* (Celesta)	[Austin Special]	61	Bars & Resonators
4'	Harp (From 8' Harp)		61	Notes
8'	Marimba Harp (From Solo)	[Deagan Single Stroke]	49	"

(* indicates this stop is duplexed on the Solo Organ)

Great to Great: 16', 4', Great Unison Off

Swell to Great: 16', 8', 4', 2'

Choir to Great: 16', 8', 5-1/3', 4'

Solo to Great: 16', 8', 4'

String Division to Great: 8'

(String Division couplers "couple through"; e.g. if String to Swell and Swell to Great are both drawn, the String Division will play from the Great as well as from the Swell. Other couplers are normal and do not couple through.)

(Console originally also had Pedal to Great 8'; this and the 3 other stoptab deletions noted in the spec was done in order to move the Unison Off couplers (originally to the side of each manual) onto regular tabs, under control of the combination action.)

SWELL ORGAN. 7" wind. 39 ranks. 2,715 pipes.
(West Upper Gallery)

16'	Bourdon	[Ped. Brdn. Scale]	73 Pipes, Wood
16'	Gemshorn	[Taper 37 At CCC, Louder Than Usual]	73 " Metal
8'	Open Diapason	[40 - 2/9]	73 " "
8'	Diapason Phonor	[43 - 1/4]	73 " "
8'	Horn Diapason	[46 - 1/4]	73 " "
8'	Geigen Principal	[49 - 2/9]	73 " "
8' +	Rohr Flöte	[Stopped Wood, Usual]	73 " Wood
8' +	Melodia	[Usual With 2 Bar Bass]	73 " "
8' +	Flute Celeste 2 RKS. draw together:		
	+ 8' Flauto Dolce	[Small Wood]	73 " "
	8' Unda Maris	[Small Wood]	61 " "
	(originally two separate stoptabs)		
8'	Viol Da Gamba	[58, Bright]	73 " "
8' +	Viole D'Orchestre	[#1]	73 " "
8'	Viole Celeste 3 RKS.	[#1]	219 " "
8'	Salicional	[61]	73 " "
8'	Voix Celeste	[61]	73 " "
4'	Principal	[55, 12 Upper Notes Soft]	73 " Metal
4' +	Traverse Flute	[Usual, 12 Upper Notes Soft]	73 " Wood
4'	Flute D'Amour	[Rohr Flute, 12 Upper Notes Soft]	73 " "
4'	Violina	[61]	73 " Metal
2-2/3'	Twelfth (From 5-Rnk. Mixture)		61 Notes, "
2'	Flautina	[Usual]	61 Pipes, "
2'	Fifteenth (From 5-Rnk. Mixture)		61 Notes, "
1-3/5'	Seventeenth (From 5-Rnk. Mixture)		61 " "
1-1/7'	Twenty-First (From 5-Rnk. Mixture)		61 " "
1'	Twenty-Second (From 5-Rnk. Mixture)		61 " "
	Mixture 4 RKS. 19-22-26-29		244 pipes, "
	Mixture 5 RKS. 12-15-17-21-22		305 " "
	(Selective: each of the 5 ranks also draws separately)		
16'	Contra Fagotto	[5"]	73 " Reed
16' +	Vox Humana (From 8' Vox, 1 Rank)		73 Notes, "
8'	French Trumpet	[3-5/8" Straight]	73 Pipes, "
8'	Corno	[4-1/2" Harmonic]	73 " "
8' +	Corno D'Amore	[5" Capped]	73 " "
8' +	Oboe	[Usual Scale]	73 " "
8' +	Vox Humana 2 RKS.	[usual scale]	146 " "
	(on chest with other stops; one rank goes down to 16' C)		
4'	Clarion	[Oboe Scale]	73 " "
4' +	Vox Humana (From 8' Vox, 1 Rank)		73 Notes, "
	Tremolo (affects stops marked with "+")		

Swell Organ (Continued)

Swell to Swell: 16', 4', Swell Unison Off

Choir to Swell: 16', 8', 4'

Solo to Swell: 16, 8', 4'

String Division to Swell: 8'

CHOIR ORGAN. 7" wind. 34 ranks. 2,374 pipes.

(East Upper Gallery)

16'	Contra Gamba	[49]	73 Pipes, Metal
16' +	Double Dulciana	[43]	73 Notes, "
	(From 8' Dulciana)		
8'	Open Diapason	[43 - 2/9]	73 Pipes, "
8'	Geigen Principal	[49 - 1/4]	73 " "
8'	Stopped Diapason	[Usual, Louder Than Chimney Flute]	73 " wood
8'	Quintadena	[Usual With 2 Bar Bass]	73 " Metal
8' +	Concert Flute*	[Usual With 2 Bar Bass]	73 " Wood
8'	Flute Celeste	[Usual With 2 Bar Bass]	61 " "
8' +	Chimney Flute	[Usual With 2 Bar Bass]	73 " M & W
8'	Gemshorn	[55 Taper]	73 " Metal
8'	Gemshorn Celeste	[55 Taper]	73 " "
8' +	Viole D'Orchestre	[#2]	73 " Tin
8'	Viole Celeste	[#2]	73 " "
8' +	Dulciana	[On 56]	109 " Metal
4'	Principal	[58]	73 " "
4' +	Flute D'Amour*	[Usual]	73 " Wood
4' +	Dolce (From 8' Dulciana)		73 Notes, Metal
2-2/3'	Twelfth (From 3-Rnk. Mixture)		61 " "
2'	Fifteenth (From 3-Rnk. Mixture)		61 " "
2'	Flageolet	[Usual]	61 Pipes, "
2' +	Dulcet (From 8' Dulciana)		73 Notes, "
1-3/5'	Seventeenth		61 " "
1' +	Dulcinet (From 8' Dulciana)		73 " "
	Mixture 3 RKS. 12-15-17		183 pipes, "
	(Selective: each of the 3 ranks also draws separately)		
16'	Trombone	[6"]	73 " Reed
16' +	Baryton	[Small Oboe Scale With 4" Ext.]	73 " "
16'	Bass Clarinet	[Usual Scale]	73 " "
16'	Cor Anglais (From 8' Cor Anglais)		73 Notes, "
8'	Tromba	[4"]	73 Pipes, "
8' +	Orchestral Horn	[Capped Tuba Scale]	73 " "
8' +	Cor Anglais*	[Usual Scale]	85 " "
8' +	Clarinet*	[Small Scale]	73 " "
8' +	Orchestral Oboe*	[Old Singletaper Scale]	61 " "

Choir Organ (Continued)		
8'	Vox Humana	61 " "
	[small scale, on separate chest, box & trem (always on), on 4" wind]	
4'	Tromba Clarion [On 4" Scale]	61 " "
	Tremolo (affects stops marked with "+")	
8'	Harp (From Great)	61 Notes
4'	Harp (From Great)	61 "
	Chimes (from Solo)	25 "

Choir to Choir: 16', 4', Choir Unison Off
 Great to Choir: 8'
 Swell to Choir: 16', 8', 4', 2'
 Solo to Choir: 16', 8', 4'
 String Division to Choir: 8'

(* indicates this stop is duplexed on the Solo Organ)

CHOIR TROMBONE CHORUS. 10" wind.
 Playable from Choir manual; enclosed with Choir Organ.

16'	Trombone	[7-1/2"]	61 Pipes, Reed
8'	First Tromba	[5"]	61 " "
8'	Second Tromba	[5"]	61 " "
4'	First Clarion	[4"]	61 " "
4'	Second Clarion	[4"]	61 " "

SOLO ORGAN. 10" wind. 14 ranks. 1,022 pipes.
 (East Upper Gallery)

8'	Grand Diapason Phonon	[Largest Scale]	73 Pipes, Metal
8' +	Flauto Major	[Big Scale]	73 " Wood
8' +	Gedeckt	[Tibia Clausa Scale Leathered]	73 " "
8' (+)	Concert Flute (From Choir)		61 Notes, "
8' +	Gross Gamba	[55]	73 Pipes, Metal
8'	Gamba Celeste	[55]	73 " "
4' +	Flute Ouverte	[Usual]	73 " Wood
4' (+)	Flute D'Amour (From Choir)		61 Notes, "

Solo Organ (Continued)

2'	Concert Piccolo	[Usual]	61 Pipes, Metal
16'	Tuba Profunda	[7-1/2"]	73 " Reed
8' +	Harmonic Tuba	[Usual]	73 " "
8' +	French Bugle	[3-5/8"]	73 " "
8' +	Hunting Horn	[6" French Horn Scale]	73 " "
8' (+)	French Horn (From Great)		61 Notes, "
8'	Bell Clarinet	[Old Style]	73 Pipes, "
8' (+)	Clarinet (From Choir)		61 Notes, "
8' (+)	Cor Anglais (From Choir)		61 " "
8' (+)	Orchestral Oboe (From Choir)		73 " "
4'	Tuba Clarion	[Usual]	73 Pipes, "
8'	Tuba Magna	[6" Scale, On 20" Wind, Unenclosed] [16' ext. used as pedal stop, scale 9"]	73 " "

(12 more pipes were added when the Tuba was replaced, total 85 pipes)

Tremolo (affects stops marked with "+")

8'	Harp (From Great)		61 Notes
	Cathedral Chimes (G-G)	[Deagan Class A]	25 tubes
8'	Marimba Harp (Repeating)	[Deagan]	49 Bars
4'	Xylophone (Repeating)	[Deagan]	37 "
4'	Carillons (Repeating)	[Deagan]	27 Notes
4'	Glockenspiel	[Deagan]	37 Bars

(single stroke or repeating, by reversible piston)

Schulmerich Carillon

Solo to Solo: 16', 4', Solo Unison Off

Great to Solo: 8'

Choir to Solo: 8'

Swell to Solo: 8'

String Division to Solo: 8'

(Originally the Harp (from Great) was also playable at 4' from the Solo.)

STRING ORGAN. 7" wind. 26 ranks. 1,898 pipes.
 (East Upper Gallery)

Floating, at will, on all manuals; enclosed in its own expression chamber
 and controlled from its own expression pedal.

8' +	Viole 5 RKS.	[Scale 61]	1 Unison - 2# - 2b	377 Pipes, Metal
8' +	Celeste 5 RKS.	[#2 V. D'Orch.]	2 Unison - 2# - 1b	365 " "
8' +	Viole 3 RKS.	[#1 V. D'Orch.]	1 Unison - 1# - 1b	219 " "
8' +	Celeste 3 RKS.	[55 taper with 61 straight bass]	1 Unison - 1# - 1b	243 " "
8' +	Viole 2 RKS.	[70 Scale]	1 Unison - 1#	146 " "
8' +	Celeste 2 RKS.	[Scale 61]	1 Unison - 1#	146 " "
4' +	Viole 3 RKS.	[Scale 73]	1 Unison - 1# - 1b	219 " "
+ String Mixture	3 RKS. 12-15-17	[scale 61 at 8'C]	Tuned correct	183 " "
+ String Organ (Collective: draws all String Division stops)				
Tremolo (affects all String Division stops)				

The unison rank from the Viole 5rks. and the sharp and flat ranks from the
 Viole 3rks. extend 12 notes down to 16', forming the Pedal String Celeste.
 [49 scale, 1 unison rank of 21 scale]

PEDAL ORGAN. 7" wind, with exceptions noted. 14 ranks. 587 pipes.
 (Divided among East and West Pedal chambers
 and both Upper Galleries)

64'	Resultant Bass (From 16' 2nd Diap. & 16' 2nd Brdn.)		32 Notes, Wood
32'	Double Open Diapason (From 2nd Diap.)		32 " "
32'	Contra Violone (From 16' Violone)	[19 Scale]	32 " Metal
32'	Contra Bourdon (From 2nd Brdn.)		32 " Wood
16'	Diaphone	[#2 Open Scale Bearded Loud]	32 Pipes, "
16'	First Open Diapason	[#1 Scale]	44 " "
16'	Second Open Diapason	[#2 Scale]	68 " "
16'	Metal Open Diapason	[28 Scale]	44 " Metal
16'	Violone	[31 Scale]	44 " "
16'	First Bourdon	[Sub Bass Scale]	32 Pipes, Wood
16'	Second Bourdon	[Usual Scale]	63 " "
16' (+)	Dulciana (From Choir)	[43 Scale]	32 Notes, Metal
16'	Lieblich Gedeckt (From Swell)		32 " Wood

Pedal Organ (Continued)

16' (+)String Celeste 4 RKS. (3 Rks. From String)	32 "	Metal
(Also uses Choir 16' Contra Gamba, originally a separate pedal stop)	32 "	"
10-2/3' Gross Quint (From 16' 2nd Brdn.)	32 "	Wood
8' Octave (From 16' 1st Diap.)	32 "	"
8' Principal (From 16' Metal Diap.)	32 "	Metal
8' Gross Flöte (From 16' 2nd Diap.)	32 "	Wood
8' Flauto Dolce (From Swell Brdn.)	32 "	"
8' (+)String Celeste 3 RKS. (From String)	32 "	Metal
8' (+)Violoncello Celeste 2 RKS. (From Solo)	32 "	"
8' (+)Dulciana (From Choir)	32 "	"
5-1/3' Twelfth (From 16' 2nd Brdn.)	32 "	Wood
4' Octave Flute (From 16' 2nd Open Diap.)	32 "	"
Mixture 5 RKS. 12-15-17-19-22 (5 1/3'-4'-3 1/5'-2 2/3'-2')		
[all ranks on 46 scale at CC]		160 pipes, metal
32' Contra Bombarde (From 16' Bombarde) [15" at CCCC]	32 Notes,	Reed
16' Bombarde [Enclosed In Solo, On 10" Wind]	44 Pipes,	"
16' Trombone [9" At CCC, On 10" Wind, Unenclosed]	56 "	"
16' Trombone (From Choir Trombone Chorus)	32 Notes,	"
16' Contra Fagotto (From Swell)	32 "	"
16' Bass Clarinet (From Choir)	32 "	"
8' Tromba (From 16' Ped. Trombone)	32 "	"
4' Clarion (From 16' Ped. Trombone)	32 "	"
16' Tuba Profunda (From Solo Tuba Magna)	32 "	"
[9" scale, 1st 12 pipes on 10" wind]		
8' Tuba Magna (From Solo Tuba Magna) [20" Wind]	32 "	"
4' Tuba Clarion (From Solo Tuba Magna) [20" Wind]	32 "	"

Pedal to Pedal: 10-2/3', 8'
 Great to Pedal: 8', 4'
 Swell to Pedal: 8', 4', 2'
 Choir to Pedal: 8', 5-1/3', 4'
 Solo to Pedal: 8', 4'

FEATURES

Action, Austin electropneumatic key & stop
Standard pneumatic tremolos exhausting enclosed tremolo chests
(not the usual Austin fan tremolos)
Console, detached & movable.
Four manuals, compass CC to C4, 61 notes.
Pedal, compass CCC to G, 32 notes.
Balanced Crescendo Pedal.
Balanced Expression Pedals for (left to right) Great Organ,
Choir Organ/Trombone Chorus, Swell Organ, Solo Organ,
and String Organ.
Expression couplers to assign control of each expression chamber to
any other expression pedal.
20 General Pistons (16 duplicated by toe studs).
10 Divisional Pistons each for Great, Choir, Swell, Solo and Pedal
(Pedal pistons duplicated by toe studs).
3 General Coupler Pistons.
2 General Cancel Pistons.
Special Austin Patent Divisional Cancellor Bars over each group of stop-keys.
Divisional Cancellor Bars Defeat.

REVERSIBLES:

Thumb pistons & toe studs:
Choir to Great 8', Swell to Great 8', Solo to Great 8'
Great to Pedal 8', Choir to Pedal 8', Swell to Pedal 8', Solo to Pedal 8'
Reeds Off
16' Manual Stops Off
16' Couplers Off
Tutti I
Tutti II
Zimbelstern [prep.]

Pistons Only:
Choir to Swell 8', Swell to Choir 8', Solo to Choir 8',
Great to Solo 8', Choir to Solo 8', String to Solo 8'
Crescendo I / Crescendo II
Solo Off Crescendo Pedal
Glockenspiel Reiteration [prep.]
Choir / Great Transfer
Swell Master Expression Pedal
General Cancel (2)

Features (Continued)

Studs Only:

32' Double Open Diapason

32' Contra Violone

32' Contra Bourdon

32' Contra Bombarde

Stoptab colors

Most flues: White, black engraving

Strings: Yellow, green engraving

Percussions: White, green engraving

Most reeds: White, red engraving

Trombone Chorus: Red, white engraving

Tuba Magna: Fuschia (bright reddish purple), red engraving

Tremolos: Black, white engraving

Most couplers: Black, white engraving

Unison Offs: White, black engraving

String division couplers: Yellow, black engraving