

# Famous Organs—

## The Wurlitzer at the Fox, San Francisco

. . . by Judd Walton

IMAGINE YOURSELF among the five thousand leading San Francisco citizens and celebrities gathering at Ninth and Market Streets to participate in the opening of the magnificent Fox Theater built and furnished at a cost of nearly five million dollars. You enter the lobby through solid brass doors, and exchange your invitation for a dedication program with a yellow, blue, and green cover design of the front of the theater and the announcement, "Fox Theater, San Francisco,—Dedicated to California, Friday June 28, 1929."

You pass into the main lobby. You're awe-struck by the magnificence of the decor and furnishings—the rug on the floor, 79 feet long and 39 feet wide placed there at a cost of \$39,000, the exquisite vases brought over from the courts of the Czars at \$3000 each, the Louis XIV architecture designed from Sixteenth Century splendor. You gaze slowly upwards to the domed roof 75 feet overhead, the whole illuminated to bring out the walnut panelling and the gold trim of the ornate columns and scroll work. Over the heads of the invited celebrities you see the grand staircase of imported Italian marble, richly carpeted, and then you become aware of subdued organ music of the richly decorated lobby organ built by Möller at a cost of \$15,000.

The show begins with overtures by the U. S. Army Band of the Presidio of San Francisco followed by selections by thirty-eight-piece theatre orchestra under the baton of the late Walt Roesner. You anxiously await that part of the program where the "World's largest orchestral organ" takes over the spotlight with Jamie Erickson at the console. What an organ! What a console! After that thrilling experience you settle down for the stage show including a presentation of famous Hollywood stars. Master of Ceremonies—Will Rogers.

Comfortably seated, you read in the golden tassled brochure:

"Into the life of San Francisco and all California, comes the Fox Theatre, art institute of amusements, as an addition to the artistic and pleasure-loving life of this great metropolis. You enter the wide swinging doors of this great Castle of Splendor, and behold the silent magic of life's mirror, the Screen, in creations of its finest magicians . . . the thousand-throated organ, now whispering in gentle melody, now reverberating in mighty thunder . . . the orchestra, trained musicians with fingers the soul of genius, in caprice of syncopation, in mysteries and moods of exquisite harmony . . . a myriad of multi-colored lights . . . architectural beauties . . . soft miles of carpeted wonder in lounge and foyer, in lobby and orchestra, in loge and balcony . . . Aladdin-like elevators that gently whisk you to balcony, and back again, . . . the vast magnificence of the palace of a King . . . the swift and silent service of minute men, couriers of ushering attention. Not King, nor Emperor, nor Croesus could command more! The Fox Theatre, latest link in the ever-growing chain of Fox West Coast Theatres . . . dedicated to California, for your everlasting enjoyment!" (Note the phrase—"Silent magic of etc.")

Gentle reader, you have participated in the scene of the opening night of this fabulous theater, seating 4651 and described as the largest west of the Mississippi. Built through

the coöperation of the Bank of America, and leased to the Fox West Coast Theatres just at the time of the 1929 market crash, which resulted in the loss of many fortunes including that of William Fox, the theater has shared good times and bad with the rest of the movie palaces throughout the country. But at the night of the opening, few probably could foresee the future, and the opening program was notable by the pomp and splendor and the personalities involved.

The theater is enormous—212 feet from screen to projectors; stage 75 feet wide, 43 feet deep, 110 feet from floor to dome; main balcony supporting truss has a depth of 20 feet, is 145 feet long and weighs 160 tons—the fulcrum girder is 110 feet long, weighs 70 tons, and was installed in one piece; height, ten stories. There is a 39-seat private theatre on the 9th floor for theater executives' use, together with a suite of offices.

### The Organ

The four-manual, 349-stop console is located in the center of the theater at the rear of the orchestra platform on its own independent elevator. 36 ranks!! Only four other Wurlitzers of such size are to be found in the United States:

Opus 1458	Paramount, N. Y.	(1926)
Opus 1894	Fox, Detroit	(1928)
Opus 1904	Fox, Brooklyn, N. Y.	(1928)
Opus 1997	Fox, St. Louis	(1928)

*Pipe Work*—(the specifications). The organ is laid out in five chambers under expression, with percussion instruments in the open on each side of the theatre and the 32-foot octave of the Diaphone in the open behind the proscenium arch. The Main and Foundation are on the left side while Orchestral, Solo, and Percussion are on the right. There are 2' extensions (the three Tibia Clausa, the Concert Flute, the Lieblich Flute, and the Viol D'Orchestre), and eleven 16' extensions (Tuba Mirabilis, English Horn, Diaphonic Diapason, the three Tibia Clausa, Horn Diapason, Solo String—25', Bourdon, Clarinet, Tuba Horn). The 32' Diaphone is a real bulb shaker and extremely effective in the theater. A vent control switch is provided at the console to disconnect the stop tablet against accidental use.

*The Relay*—Contains fourteen relay trays and seven switch stacks containing 354 individual switches. There are three relay trays for the Great, two for the Accompaniment, one for Accompaniment second touch, one for Great second touch, one for Great couplers, one for Pedal, one for Pedal Pizzicato, two for Bombarde, and two for the Solo. It is interesting to note the number of contacts required for the various manuals: Pedal, 37; Pedal Pizzicato, 6; Accompaniment, 57; Accompaniment second touch, 20; Great, 92; Great Second touch, 4; Great Coupler, 4; Bombarde, 40; and Solo, 52. The cable from the relays to the switch stacks contains nearly 18,000 wires! There are also two sostenuto trays, and two separate pizzicato relay trays for the Great and Accompaniment, as well as the shutter coupler control, sostenuto switches, and so on.

*The Blower Room*—Contains two 50-h.p. Spencer Orgblo's with direct-mounted generators of 50-Amp. capacity and are numbered one and two; one, a standby in case of

emergency. The blowers are rated at 4000 CFM at 15" and 2500 CFM at 25". Gate valves are provided in each of the two air lines from each blower to shut off the line to the idle blower to prevent air blowing back.

*The Main Console*—The top of the four-manual console is flat, without the high cheeks usually found on the large organs. The embossing is elaborate with designs carried on all surfaces except the back which is plain. The effect is elegant. There are six swell pedals—general swell and one for each of the five chambers—and a crescendo pedal. There are five non-reversible piano-type pedals for Sforzando Organ, Sforzando snare drum, cymbal, bass drum, thunder Tibia, 32' Diaphone, Tuba Mirabilis and one toe piston to operate a signal to the operator's booth. The pedal organ has seven stops on the front board under the second Touch nameplate which are actually a special Tibia Clausa Pizzicato section operating on first touch. There are three 16' Tibia stops, three 8' Tibia stops and one Tibia ensemble stop which fires all six of the stops just listed. These are operated through the pedal pizzicato relay mentioned previously. There are several "Ensemble" stops on the console, which operate all of the named functions at the given pitch. For instance, on the Solo Bolster, there is a String Ensemble stop, which controls separate switches for the following ranks: Viol D'Orchestre, Viol Celeste, Salicional, Gamba, Gamba Celeste, Solo String #1, and Solo String #2. The 25" Solo String in the Solo Chamber is not included; however, there are ensemble switches for the Tibias, Vox's, Chrysoglotts, etc., on the organ controlled by their respective stops. Hence the larger number of switches in the relay room than there are stops. The sound effects are controlled by pushbuttons mounted on two panels, one on each side and under the manual shelf, which swing out for use.

It would appear that only 34 of the 36 ranks are available on the Great. Actually, there are 34 ranks drawn at 8' pitch and one rank (the Harmonic Flute drawn at 4' pitch) for a total of 35. (Recall that the String stop tablet draws two ranks.) The English Horn is not available on the Great, being the only rank deleted on this manual.

There are 17 tremolos controlled by 13 stop tablets. The Orchestral tremolo stop controls 2; the Foundation, 2; the Main, 2; the Solo, 2—these in addition to the singly controlled tremolos for the Vox Humana, Tibia Clausa, Tuba, etc. The Diaphonic Diapason in the Foundation Chamber is without a tremolo entirely which lends considerable stability to the tone of the organ when included in combination.

The three Tibia Clausa are always in the following order: Orchestral, Foundation, Solo; the four Vox Humana: Orchestral, Foundation, Solo, Main. The Solo String No. 1 and No. 2 are always drawn together as a two-rank stop. This is not to be confused with the 25" Solo String in the Solo Chamber which is the third solo string in the organ. It will be remembered that Solo String No. 1 and No. 2 are in the Solo and Orchestral Chamber respectively. There are two Brass Trumpet stops—Solo Trumpet and Trumpet, the former being the brass trumpet in the Foundation Chamber, and the Trumpet the brass trumpet in the Solo Chamber. The Sleigh Bell is drawn only on the Solo manual. The piano has only one Mandolin stop, on the Accompaniment, and it affects all manuals, as is usual on all Wurlitzers.

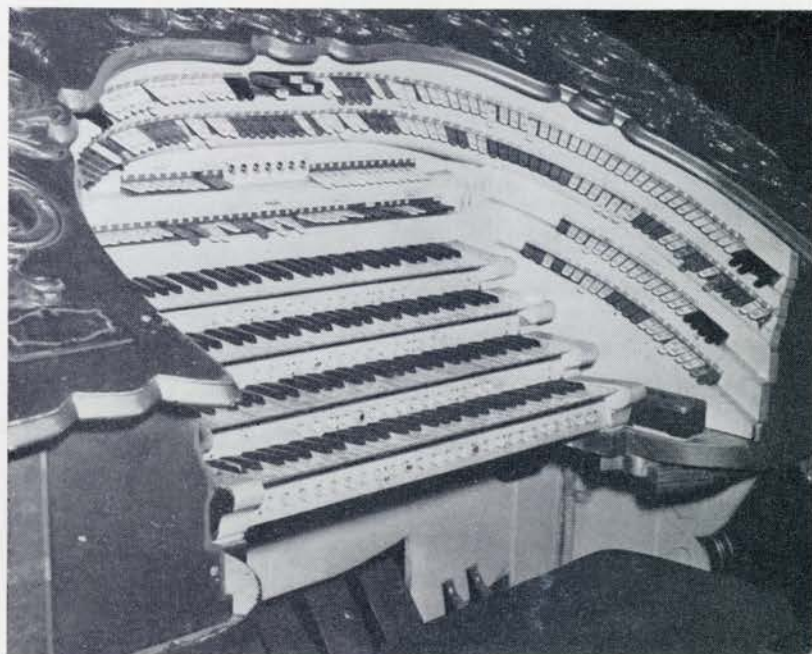
The second-touch pizzicato and tremolo stop tablets are mounted in two rows on the front board and are not the usual short front board stop tablets, but are of regular length. The bottom row is recessed to prevent interference with playing the solo manual; the top row is recessed another inch or so still further back. There are five swell pedal position indicators mounted in the center of the top bolster, one each for the Orchestral, Foundation, Solo, Main, and General swell pedals. The Sostenuo ventril switches are located in the left key cheek of the Accompaniment and Great manuals. The round inlaid chamber indicators over each stop

are engraved to indicate the various chambers as follows: Orchestral, a red dot; Foundation, a black ring; Solo, a black dot; Main, no engraving; Percussions, two concentric circles; unenclosed percussion, Solo side, black dot and circle; Main side, no engraving.

The Piano, an upright Wurlitzer of 88 notes, has an electro-vacuum action with four stages of vacuum which varies the piano's volume as the swell pedal is operated, accomplished by having wires to each of the four stages connected into the general swell pedal contacts at appropriate intervals. Each stage allows a progressively greater or lesser amount of air at atmospheric pressure to be admitted to the vacuum line in a simple muffler box installed in the base of the piano case. The more air admitted to the vacuum line, the lower the vacuum, and the softer the piano plays. This is a standard feature on Wurlitzers. The General Swell Pedal has the piano sustaining control button on the upper right hand corner. The mandolin attachment is simply a small wooden rod, hinged on each end of the piano, to which are attached leather fingers, each of which has a small metal clip on the end. The hinged arrangement allows one of the fingers to drop into place in front of each piano hammer, resulting in the metal clip on the end of each finger being struck by the piano hammer and in turn striking the piano wire and producing the peculiar metallic twang so common to this attachment. Its position is controlled by a small pneumatic mounted inside the piano case, and controlled by the Mandolin stop of the Accompaniment manual bolster.

Located in the console interior are the combination action chests, with an on and off magnet and a primary pneumatic for each stop, as well as the pneumatics controlling the stop action itself on the bolsters. There are two main bolsters containing the two top rows of stops, with an auxiliary double bolster on each side which contains the two bottom rows of stop tablets. The Auxiliary bolster completely disconnects from the console wind supply by means of a set of two connection blocks for the lead tubing. A latch arrangement locks them to a wind-tight position. Were it not for this arrangement, it would be nearly impossible to service these stops when necessary. The Crescendo Patch Board, also located in the back of the console, is constructed in two hinged units due to the large number of stops which can be operated by the crescendo pedal. This unit makes it possible to "plug in" whichever stops are wanted in any sequence as the Crescendo pedal is depressed.

*The Stage Console*—is just a shell containing four manuals, pedals, combination pistons and one swell pedal, a general. The stops are dummies. The only actually operating parts on the stage console are the manuals and pedals, combination pistons, and the one swell pedal and a disconnect switch which operates a series of switches in the relay room



to completely disconnect these functions from the main console.

Many organists have passed their fingers over the manuals with varying degrees of success. Some simply gave up after trying it once, others carried on for years. Never really coming into its own, as did the Paramount Theater organ of New York, it nevertheless has enjoyed the handling of several really fine and extremely talented organists. Following Jamie Erickson (who played for the opening week only) were Doc Wilson who played the organ with the orchestra until 1941 and Mel Hertz who played the Saturday Night Sings from 1933 until 1941; George Wright 1941 to late 1944; and Everett Nourse who took over when George left for New York. There also have been other short-term substitute organists from time to time. The organ was never featured as a solo spot until George Wright's time, except for the opening week, being used almost exclusively for fill-in spots and to accompany Saturday night sings! A really big change, made by George Wright when he started as featured organist, was the removal of the heavy drapes hanging in the organ screens on each side of the theatre which greatly stifled the organ's highs. Remaining is only a very thin gauze curtain of gold thread with an overlaid design. Quite transparent and of light weight, it is practically of no hindrance to the sound egress from the chambers.

Everett Nourse still remains as staff organist whenever the instrument is used. The writer and Bob Jacobus of Vallejo have endeavored to maintain the organ in the best possible condition. Recent maintenance activities have resulted in the replacement of all dead magnets, over 100 being required throughout the relay room, console and chambers! Mechanically the organ is in very good condition, and tuning remains the one big maintenance job.

## An Analysis by Chambers

### FOUNDATION CHAMBER

Rank	Pitch	No. of Pipes	Wind	Description
Rank	Pitch	No. of Pipes	Wind	Description
Rank	Pitch	No. of Pipes	Wind	Description
Diaphonic Diapason	32-8'	85 (30 wood)	25"	Wood Diaphone to 8' F
Gamba	8-4'	73	15"	
Gamba Celeste	8-4'	73	15"	
Harmonic Flute	4-2'	73	15"	Metal. Harmonic TC up
Tibia Clausa	16-2'	97	15"	Large Scale
Vox Humana	8'	61	6"	Standard Scale
Clarinet	16-8'	73	10"	Special 16' octave
Musette	8'	61	10"	Special 1/8 length open resonator
Brass Trumpet	8'	61	15"	
		<u>657</u>		

### MAIN CHAMBER

Open Diapason	8'	61	10"	
Horn Diapason	16-4'	85	10"	16' octave metal diaphone
Viol d'Orchestre	8-2'	85	10"	Fifteenth from 2' octave
Viol Celeste	8-4'	73	10"	
Salicional	8'	61	10"	
Dulciana	8'	61	10"	
Concert Flute	16-1 3/5'	97	10"	
Lieblich Flute	8-4'	73	10"	Stopped set. Wood & metal
Tuba Horn	16-4'	85	15"	
Vox Humana	8'	61	6"	Standard
Krumet	8'	61	10"	
Chrysoglott		49 bars		
Xylophone		37 bars		
Bass Drum				
Snare Drum				
Cymbal				

Castanets  
Tambourine  
Chinese Block  
Triangle  
Tom Tom

Standard size  
Standard size  
Small. 4" diameter — 3/16" thick

803

### ORCHESTRAL CHAMBER

Solo String #2	8-4'	73	10"	
Tibia Clausa	16-2'	97	25"	Large scale
English (Post) Horn	16-8'	73	15"	
Tuba Mirabilis	16-4'	85	25"	16' octave wood resonators
Vox Humana	8'	61	10"	Large scale. CC 2" diameter
		<u>389</u>		

### SOLO CHAMBER

Solo String #1	8-4'	73	10"	
	16-8'	73	25"	Only 16' open flue in organ
Quintadena	8'	61	10"	
Tibia Clausa	16-2'	97	15"	Small scale DD up Standard
Vox Humana	8'	61	6"	
Orchestral Oboe	8'	61	10"	
Oboe Horn	8'	61	10"	
Kinura	8'	61	10"	
French Horn	8'	61	10"	
Saxophone	8'	61	10"	Brass. Top octave flue pipes
Solo Trumpet	8'	61	10"	61 Brass pipes
Chrysoglott		49 bars		
		<u>731</u>		

### PERCUSSION CHAMBER (Enclosed)

Bass Drum				Very large. 40" x 20"
Snare Drum				Large, 16" x 12"
Chinese Gong				Very large. 18" diameter
Cymbal				Large
Sand Block				
Surf				
Auto Horn				Big car type
Loud Bell)				Steel bar 52" x 3" x 1/4" with heavy and light clapper. Four resonators tuned harmonically
Soft Bell)				
Fire Bell				
Horses Hoofs				
Wind Whistle				Three standard sirens
Boat Whistle (Deep toned)				Two large Tibia pipes, CC-FF#
Locomotive Whistle (shrill)				Three metal pipes built like caliope pipes with mouths 2/3 circumference in width. C, D#, F#

Telephone Bell				
Tympani		13 notes		Thirteen drums, FF to F
Chimes		25 notes		Standard 1 1/2" scale
Sleigh Bells		25 notes		
Glockenspiel		37 bars		

### PERCUSSION CHAMBER, LEFT (Unenclosed)

Marimba Harp		49 bars		
Piano	16-8'	85 notes		
Xylophone (Master)		37 bars		

### PERCUSSION CHAMBER, RIGHT (Unenclosed)

Cathedral Chimes		25 notes		Very large scale
Marimba Harp		49 bars		
Solo Xylophone		37 bars		Special large scale

### ABOVE PROCENIUM ARCH (Unenclosed)

32' Octave of Diaphonic Diapason (extension of Foundation Diapason)

Total Number of Pipes: 2,580

Total Number of Percussion Notes: 519

## CONSOLES:

Main console 4 manuals on lift in orchestra pit. 347 stop tablets. Second console 4 manuals on stage. Combination pistons only. Stop tablets not connected.

### CHAMBERS:

(1) Foundation	— 9 ranks —	enclosed
(2) Orchestral	— 5 ranks —	enclosed
(3) Main	— 11 ranks —	enclosed
(4) Solo	— 11 ranks —	enclosed
(5) Percussions		unenclosed
(6) Percussion	— Special traps —	enclosed
(7) Bass	— 32' Diaphone —	unenclosed
(8) Piano		unenclosed

**PEDAL (49 stops) (16 Second-Touch and Pizzicato-Touch stops)**

1 & 7	Diaphone	32'	3	Bass Drum	
2	Bombarde	16'	3	Cymbal (Jazz)	
1	Diaphone	16'	3	Snare Drum	
3	Ophicleide	16'	6	Chinese Gong	
2	Double English Horn	16'	3	Tambourine	
2	Tibia Clausa	16'	3	Castanets	
1	Tibia Clausa	16'	3	Chinese Block	
4	Tibia Clausa	16'	6	Triangle	
3	Diaphonic Horn	16'		Bombarde to Pedal	8'
1	Clarinet	16'		Great to Pedal	8'
4	Bass String—25"—	16'		Solo to Pedal	8'
3	Bourdon	16'		Accompaniment to Pedal	8'
2	Tuba Mirabilis	8'			
1	Solo Trumpet	8'			
3	Tuba Horn	8'			
2	English Horn	8'			
1	Octave	8'			
2	Tibia Clausa	8'			
1	Tibia Clausa	8'			
4	Tibia Clausa	8'			
4	Solo String	8'			
1	Gamba	8'			
3	Horn Diapason	8'			
2 & 4	String #1 & #2	8'			
1	Clarinet	8'			
3	Cello	8'			
3	Flute	8'			
2	Piccolo	4'			
8	Piano	16'			
8	Piano	8'			
5	Solo Harp				
8	Harp				
6	Tympani				
6	Bass Drum (Large)				
6	Cymbal				
6	Snare Drum (Large)				

**Second Touch**

2	Bombarde	16'
6	Tympani	
6	Bass Drum (Large)	
6	Cymbal	
6	Snare Drum	
6	Kettle Drum	
6	Chinese Gong	
3	Snare Drum (small)	
6	Triangle	

**Pizzicato Touch**

2	Tibia Clausa	16'
1	Tibia Clausa	16'
4	Tibia Clausa	16'
2	Tibia Clausa	8'
1	Tibia Clausa	8'
4	Tibia Clausa	8'
X	Tibia Ensemble	(All 16' and 8's)

**ACCOMPANIMENT (63 Stops) (22 Second-Touch Stops)**

2	Tuba Mirabilis	8'	5	Solo Marimba	
2	English Horn	8'	8	Marimba	
3	Tuba Horn	8'	5	Solo Harp	
1	Solo Trumpet	8'	8	Harp	
1	Diaphonic Diapason	8'	3	Xylophone	
3	Open Diapason	8'	3	Chrysoglott	
2	Tibia Clausa	8'	4	Chrysoglott	
1	Tibia Clausa	8'	6	Snare Drum (Large)	
4	Tibia Clausa	8'	3	Snare Drum	
2 & 4	Strings #1 & #2	8'	3	Tambourine	
3	Horn Diapason	8'	3	Castanets	
1	Gamba	8'	3	Chinese Block	
1	Gamba Celeste	8'	3	Tom Tom	
4	Saxophone	8'	6	Sand Block	
1	Clarinet	8'		Acc. to Acc.	4'
3	Viol d'Orchestre	8'		Solo to Acc.	8'
3	Viol Celeste	8'			
3	Krumet	8'			
4	French Horn	8'			
4	Oboe Horn	8'			
3	Salicional	8'			
4	Quintadena	8'			
3	Concert Flute	8'			
3	Lieblich Flute	8'			
2	Vox Humana	8'			
1	Vox Humana	8'			
4	Vox Humana	8'			
3	Vox Humana	8'			
3	Dulciana	8'			
3	Octave (Horn)	4'			
1	Piccolo	4'			
4	Piccolo	4'			
1	Gambette	4'			
3	Viol	4'			
1	Harmonic Flute	4'			
3	Flute	4'			
3	Lieblich Flute	4'			
2	Vox Humana	4'			
1	Vox Humana	4'			
4	Vox Humana	4'			
3	Vox Humana	4'			
3	Twelfth (Flute)	2 2/3'			
1	Harmonic Piccolo	2'			
3	Piccolo (Flute)	2'			
8	Piano	8'			
8	Piano	4'			
8	Mandolin				

**GREAT (91 Stops) (8 Second-Touch Stops)**

2	Bombarde	16'	2	Piccolo	4'
1	Solo Trumpet TC	16'	1	Piccolo	4'
3	Ophicleide	16'	4	Piccolo	4'
1	Diaphone	16'	2 & 4	Strings 2 Ranks	4'
3	Diaphonic Horn	16'	1	Gambette	4'
2	Tibia Clausa	16'	3	Viol	4'
1	Tibia Clausa	16'	1	Harmonic Flute	4'
4	Tibia Clausa	16'	3	Concert Flute	4'
1	Clarinet	16'	3	Lieblich Flute	4'
4	Saxophone TC	16'	1	Twelfth (Tibia)	2 2/3'

4	Solo String—25"—	16'	4	Twelfth (Tibia)	2 2/3'
	String Ensemble TC		4	Twelfth (Tibia)	2 2/3'
	(All Strings except 25")	16'	3	Fifteenth (Viol d'Orch.)	2'
2	Vox Humana TC	16'	1	Piccolo (Tibia)	2'
1	Vox Humana TC	16'	4	Piccolo (Tibia)	2'
4	Vox Humana TC	16'	1	Harmonic Piccolo	
3	Vox Humana TC	16'		(H. Flute)	2'
2	Tuba Mirabilis	8'	3	Piccolo (Flute)	2'
1	Solo Trumpet	8'	3	Tierce (Flute)	1 3/5'
4	Trumpet	8'	8	Piano	16'
3	Tuba Horn	8'	8	Piano	8'
1	Diaphonic Diapason	8'	8	Piano	4'
3	Open Diapason	8'	5	Solo Marimba	
3	Horn Diapason	8'	8	Marimba	
2	Tibia Clausa	8'	5	Solo Harp	
1	Tibia Clausa	8'	8	Harp	
4	Tibia Clausa	8'	5	Solo Xylophone	
2 & 4	Strings 2 Ranks	8'	6	Solo Xylophone	
4	Orchestral Oboe	8'	3	Xylophone	
4	Kinura	8'	3	Chrysoglott	
1	Musette	8'	4	Chrysoglott	
4	Solo String—25"—	8'	6	Snare Drum (Large)	
1	Gamba	8'	3	Snare Drum	
1	Gamba Celeste	8'	3	Tambourine	
4	Saxophone	8'	3	Castanets	
1	Clarinet	8'	3	Chinese Block	
3	Viol d'Orchestre	8'	6	Sand Block	
3	Viol Celeste	8'		Great to Great	16'
3	Krumet	8'		Great to Great	4'
4	French Horn	8'		Solo to Great	16'
4	Oboe Horn	8'		Solo to Great	8'
3	Salicional	8'			
4	Quintadena	8'			
3	Concert Flute	8'			
3	Lieblich Flute	8'			
2	Vox Humana	8'			
1	Vox Humana	8'			
4	Vox Humana	8'			
3	Vox Humana	8'			
3	Dulciana	8'			
3	Clarion	4'			
3	Octave Horn	4'			

**Second Touch**

2	Double English Horn	16'
1	Solo Trumpet TC	16'
2	Tibia Clausa	8'
4	Solo String—25"—	8'
	Bombarde to Great	8'
	Solo to Great	16'
	Solo to Great	8'
	Solo to Great Pizzicato	8'

**BOMBARDE (40 Stops) (2 Second-Touch Stops)**

2	Bombarde	16'	2	Piccolo (Tibia)	4'
1	Solo Trumpet TC	16'	1	Piccolo (Tibia)	4'
1	Diaphone	16'	4	Piccolo (Tibia)	4'
2	Double English Horn	16'	1	Harmonic Flute	4'
2	Tibia Clausa	16'	2	Twelfth (Tibia)	2 2/3'
1	Tibia Clausa	16'	2	Piccolo (Tibia)	2'
4	Tibia Clausa	16'	8	Piano	8'
4	Double String—25"—	16'	5	Solo Xylophone	
2 & 4	Solo String 2 ranks TC	16'	6	Solo Xylophone	
2	Vox Humana TC	16'	3	Xylophone	
2	Tuba Mirabilis	8'	6	Glockenspiel	
1	Solo Trumpet	8'		Chrysoglott (2)	
2	English Horn	8'	5	Solo Chimes	
1	Diaphonic Diapason	8'	6	Cathedral Chimes	
2	Tibia Clausa	8'		Acc. to Bombarde	8'
1	Tibia Clausa	8'		Great to Bombarde	8'
4	Tibia Clausa	8'		Solo to Bombarde	16'
4	Solo String—25"—	8'		Solo to Bombarde	8'
2 & 4	Strings 2 ranks	8'			
1	Gamba	8'			
1	Gamba Celeste	8'			
2	Vox Humana	8'			
2	Clarion (Tuba Mirabilis)	4'			

**Second Touch**

2	Bombarde	16'
2	English Horn	16'

**SOLO (43 Stops) (No Second-Touch Stops)**

3	Trumpet TC	16'	2	Piccolo (Tibia)	4'
2	Tibia Clausa	16'	1	Piccolo (Tibia)	4'
1	Tibia Clausa	16'	4	Piccolo (Tibia)	4'
4	Tibia Clausa	16'	2	Piccolo (Tibia)	2'
4	Saxophone TC	16'	1 & 4	Piccolos (Tibia)	2'
2	Tuba Mirabilis	8'	8	Piano	8'
4	Trumpet	8'	5	Solo Chimes	
2	English Horn	8'	6	Cathedral Chimes	
1	Diaphonic Diapason	8'	5	Solo Marimba	
2	Tibia Clausa	8'	8	Marimba	
1	Tibia Clausa	8'	5	Solo Harp	
4	Tibia Clausa	8'	8	Harp	
	String Ensemble	8'	5	Solo Xylophone	
4	Orchestral Oboe	8'	6	Solo Xylophone	
4	Kinura	8'	3	Xylophone	
1	Musette	8'	6	Glockenspiel	
3	Krumet	8'	6	Sleigh Bells	
4	Saxophone	8'	3 & 4	Chrysoglott (2)	
4	French Horn	8'		Bells	
4	Oboe Horn	8'		Solo to Solo	16'
4	Quintadena	8'		Acc. to Solo	8'
	Vox Humana Ensemble	8'			

**TREMULANTS**

**Orchestral Chamber—5 Tremulants**  
 Orchestral (English Horn and String)  
 Vox Humana  
 Tuba Mirabilis  
 Tibia Clausa

(Continued on bottom of next page)