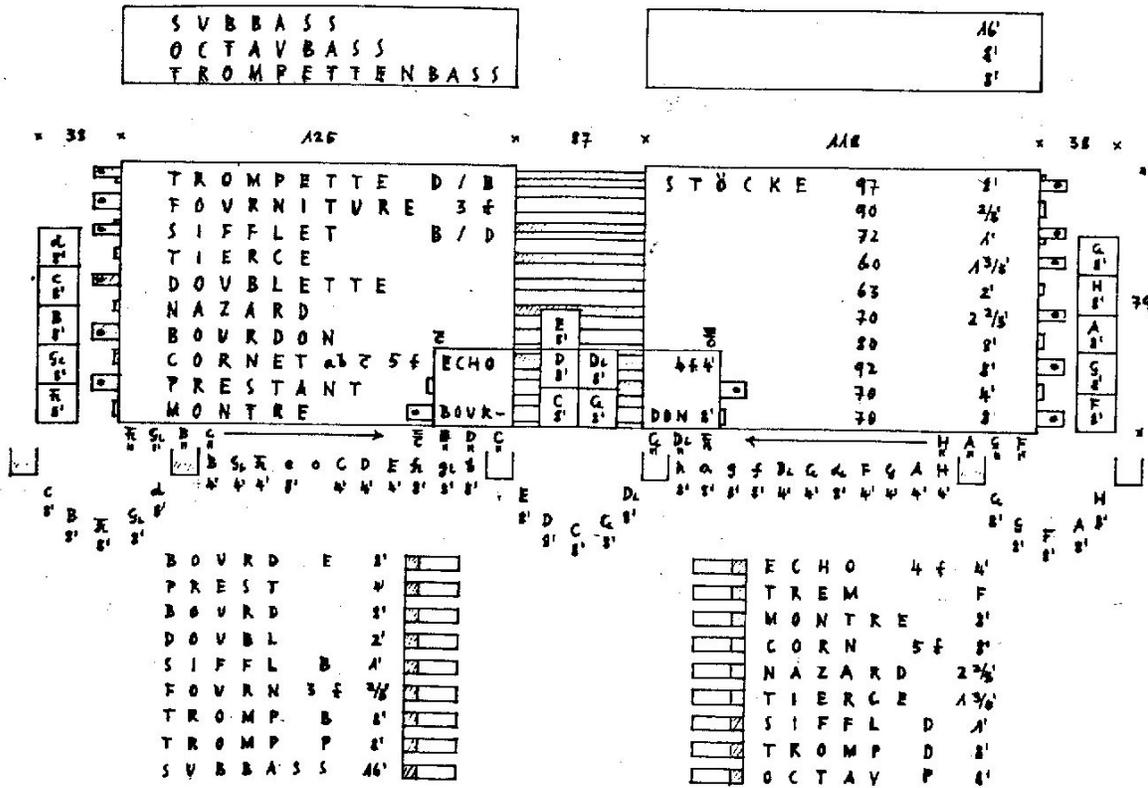


DIE SILBERMANN-ORGEL VON KESTENHOLZ



Gottfried Silbermann Organ - 1718

St. Peter and Paul Church

Kestenholz, Alsace, France

By Blair Batty

Forward

I am a retired organbuilder. I've always had an interest in pipe organ scaling and voicing. Scaling are the measurements of the pipes, that give them the particular sound of a particular organ. Over the years, I have collected and studied the scales of dozens of organs. As it was for my personal use, and I am not an academic, I often failed to note where I got the measurements from.

As this data may be useful to others, I decided to share it. You must use it with caution, as some of it was written down years ago. I may no longer know the source, or how reliable it may be.

Bear in mind when studying the scales, this organ is pitched at approximately $A=392$ Hz (*a whole tone below modern concert pitch of $A=440$ Hz*), characteristic of its time.

If you are new to scaling, I recommend: <http://www.blairbatty.ca/tonal.html#scales>

Do contact me, if you have any comments, corrections, sources or questions. I won't be offended.

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BlairBatty@Gmail.com

BlairBatty.ca

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Stoplist

Hauptwerk (C–c3)

8'	Montre	
8'	Bourdon	
4'	Prestant	
2 2/3'	Nazard	
2'	Doublette	
1 3/5'	Tierce	
1'	Sifflet	Bass
1'	Sifflet	Diskant
III	Fourniture	
V	Cornet	c1-c3
8'	Trompette	Bass
8'	Trompette de recit	Diskant
	POS-HW	

Echo (*c1–c3, upper manual*)

8'	Bourdon
IV	Cornet

Pedal (C–d1)

16'	Subbass
8'	Octavbass
8'	Trompettenbass
	Tremulant: Fort

Description of Measurements

If you are not familiar with scaling measurements, I recommend you checkout my book of Scaling. It is available for free download from my website <http://www.blairbatty.ca/tonal.html#scales>. I typically measure every “c” and “f#” pipe, to understand how the dimensions of the pipes change, throughout the compass, from bass to treble.

Diameter: This is the inside diameter of the pipe, measured in millimeters.

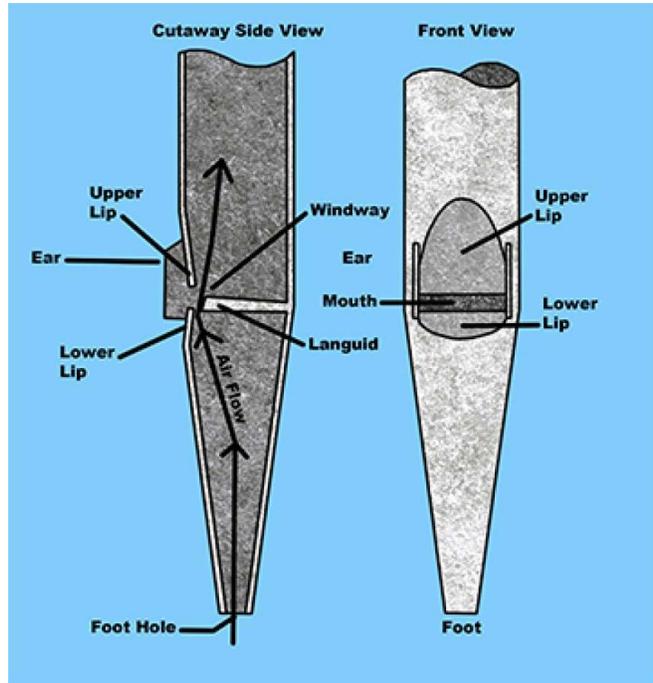
Mouthwidth: width of the mouth in millimeters.

Cutup: is distance between the upper and lower lips, in millimeters.

Windway: is the width of the slit of the windway, in millimeters.

Toehole: Is the diameter of the wind hole in the bottom of the foot, in millimeters.

Foot WP: Is the windpressure inside the foot of the pipe, measured in Pascal. Ten Pascal = ~1 millimeter watercolumn.



Calculations

Not everything was measured. Some of the numbers written down here were calculated from the measurements.

Topfer NM: The diameter, mouthwidth and cutup measurements were converted to Topfer Normmeasure and graphed. Mouth NM presumes $\frac{1}{4}$ mouth as normal, cutup presumes $\frac{1}{4}$ cutup as normal.

Mouthwidth and cutups: are commonly described as fractions (e.g. $\frac{1}{4}$ mouthwidth, $\frac{1}{4}$ cutup). So, these fractions were also calculated.

What do the Numbers Tell Us?

Some people, like I, enjoy measuring the various dimensions of the pipes in an organ, and generating various charts and graphs of that data. We do that to discover how the original designer and voicer scaled and manipulated the pipes, to arrive at the sound they wanted.

In very simplistic terms, scaling and voicing can be described in this way:

- Diameter determines the loudness of the fundamental of the pipe.
- Cutup fine-tunes the harmonic content.
- Toehole/mouthwidth/windway fine-tunes the loudness.

Of course, it's not that simple. For example, you can increase the scale of the pipe, which would increase the loudness of the fundamental (*and will also make the tone brighter*). Then by reducing the toehole size which reduces the wind and loudness, and by using a lower cutup to reduce the brightness you can approximate the original pipes sound. But it is not identical, change has consequence.

KESTENHOLZ JOH AND SILBERMANNORGEL

GRAND ORGUE

C-c''' Untermanual

1. Montre	8' d'	∅ 52,5	L 39,1	A 11,5	Zinn
	c''	33,9	25,2	8,4	
	c'''	20,8	15,1	4,7	

C-h Prospekt Zink, ab c' auf der Lade, c'/cs' noch Zink.

2. Prestant	4' d	∅ 53,0	L 38,3	10,9	Zinn
	c'	34,5	25,8	7,6	
	c''	21,0	15,5	5,0	
	h''	13,9	10,5	2,8	

C-H Prospekt Zink, ab c-auf-der-Lade, c/cs noch Zink.

3. Cornet

		8' 5fach, hochgeführt					
Bourdon	8' c'	∅ 43,0	L 32,6	A 14,5	RL 90,6	∅ 10,8	
	c''	c'' 26,4	22,7	8,9	70,0	8,5	
	c'''	19,0	14,4	4,7	58,5	7,4	
Körperlänge c' 322 c'' 152 c''' 65 Metall, Rohrflöte, keine Hüte, zugelötet, signiert „Cornet“.							
Prestant	4' c'	∅ 37,3	L 24,6	A 13,0	Metall		
	c''	24,2	16,8	5,5			
	c'''	16,5	11,6	3,4			
Nazard	2 2/3' c'	∅ 28,5	L 19,3	A 6,4	Metall		
	c''	18,7	12,9	4,3			
	c'''	13,0	8,5	2,8			
Doublette	2' c'	∅ 23,8	L 16,5	A 5,5	Metall		
	c''	16,5	11,5	3,2			
	c'''	11,0	7,4	2,5			
Tierce	1 3/5'	nicht erhalten					

4. Bourdon

8' C	S 118,0	: 83,0	A 35,0	E-N Holz, Gedack,
c'	74,0	: 47,0	25,0	
d	67,0	: 40,0	25,0	
ds	∅ 69,5	L 53,5	A 20,5	RL 110,0 ∅ 12,9
c'	50,0	38,5	15,8	81,0 11,0
c''	32,2	23,7	8,7	69,5 8,9
c'''	23,3	17,9	5,0	51,0 7,2

15 Holzpfeifen, Decke Eiche, Eichenvorschläge genagelt, Pergamentstreifen am oberen Rand, Stöpsel ohne Griff oder Schlinge. Rohrflöten Metall, zugelötet.

5. Nazard

2 2/3' C	∅ 79,0	L 51,0	A 14,8	Metall, zyl offen
c	48,5	32,4	8,8	
c'	31,0	20,5	5,6	
c''	20,4	13,6	4,3	
c'''	13,5	8,7	2,7	

6. Doublette

2' C	∅ 56,0	L 43,0	A 11,5	Zinn
c	34,5	25,4	7,9	
c'	21,3	15,7	4,7	
c''	14,1	11,0	3,0	
c'''	10,0	7,6	2,2	

Auf dem Stock der Doublette 2' steht zur Zeit Gamba 8'.

7. Tierce

1 3/5' nicht erhalten, zur Zeit Flöte 4'.

8. Sifflet

1' Baß nicht erhalten, zur Zeit hier Doublette 2'.

9. Sifflet

1' Diskant nicht erhalten.

10. Fourniture

3fach 2/3'

C	∅ 20,8	L 17,4	A 6,3	2/3'	„C“ Zinn
	17,2	14,0	4,7	1/2'	
	13,4	11,4	3,4	1/3'	
c	∅ 20,8	L 17,2	A 5,9	1 1/3'	„c“
	17,0	14,4	4,8	1'	
	13,3	11,4	4,0	2/3'	

	c'	∅ 16,7	L 14,4	A 4,3	2'	„c“
		13,2	11,0	3,7	1 1/3'	
		11,4	9,4	3,2	1'	
	c''	∅ 13,3	L 10,4	A 3,6	2 2/3'	„c“
		11,4	9,1	3,2	2'	
		9,3	7,8	2,4	1 1/3'	
	c'''	∅ 9,8	L 8,6	A 2,2	2 2/3'	„c“
		8,8	6,9	2,2	2'	
		8,0	6,5	2,0	1 1/3'	
11. Trompette	8' C	Lg 1800	∅ o 88,0	∅ u 20,0		Baß Zinn
	c	1120	78,0	15,3		
12. Trompette	8' c'	540	63,0	15,8		Diskant Zinn
	c''	265	60,0	11,5		
	c'''	115	45,0	13,0		

ECHO

c'-c''' Obermanual

1. Bourdon	8' c'	∅ 43,3	L 32,6	A 15,0	RL 93,5	∅ 10,5
	c''	28,0	21,7	9,0	70,0	9,0
	c'''	18,8	14,5	5,0	53,0	7,2

Körperlänge c' 320 c'' 152 c''' 65, Metall, Rohrflöte zugelötet, sign. „E“.

3. Cornet d' echo	4' 4fach					
Prestant	4' c'	∅ 32,0	L 22,5	A 6,6		Metall
	c''	24,9	17,0	5,6		
	c'''	17,1	10,4	4,0		
Nazard	2 2/3' c'	∅ 24,9	L 17,3	A 5,6		Metall
	c''	16,8	10,5	6,8		
	c'''	12,3	7,4	2,8		
Doublette	2' c'	∅ 20,9	L 13,8	A 4,9		Metall
	c''	13,9	10,0	2,8		
	c'''	11,0	7,3	2,0		

Der Cornet ist heute auf den ganzen Klavierumfang C-f''' eines späteren Schwellwerkes hinter der Orgel verteilt. Die Terzpfeyen sind für die Ergänzungen cs'''-f''' verwendet.

PEDAL

C-c

1. Subbaß	16' C	S 193,0	: 154,0	A 71,0		N Holz, Gedackt
	c	122,0	: 76,0	40,0		
2. Octavbaß	8' C	S 158,0	: 122,0	A 44,0		
	c	107,0	: 72,0	28,0		
Trompettenbaß Tremblant fort	8'	nicht erhalten, Einzelteile in der Mantromp.				