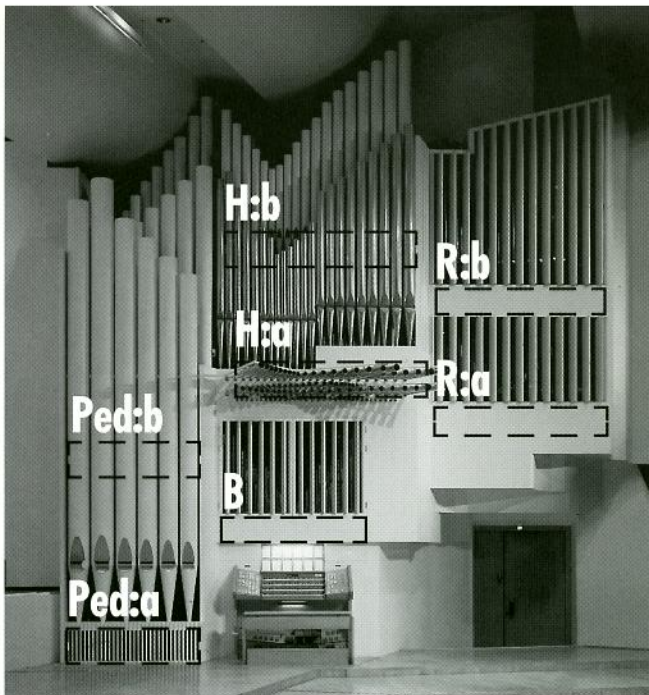


The separate console for the positive division equipped with pedal-board is here located directly in front of the positive. A 20 metre long cable makes it possible to move this console all the way to the centre of the stage, when needed.



Schematics of the structure of the different divisions of the organ. The horizontal rectangles depict the windchests of each division, the stops (ranks of pipes) are located on these chests.

H:a	lower windchest of the Great (Hauptwerk)
H:b	upper windchest of the Great
R:a and R:b	lower and upper windchests of the Swell
Ped:a and Ped:b	lower and upper windchests of the Pedal
B	the windchest of the Echo (Brustwerk)

ORGAN DATA

The basic unit of an organ is the organ pipe. The length of the pipe determines its pitch, and the shape its timbre. A row of pipes from bass to descant with the same tonal colour is called a stop (register). For each individual key on the keyboard (i.e. note in the scale) in each stop, there exists one pipe (in some instances a group of pipes). The stops of the organ are arranged in parallel rows, called ranks, of which a few are visible on the organ-front.

The stops are in turn arranged into divisions. Each division is located on top of its own windchest. Each division has its corresponding keyboard: manual or pedal. The facade usually gives an overview of the division structure.

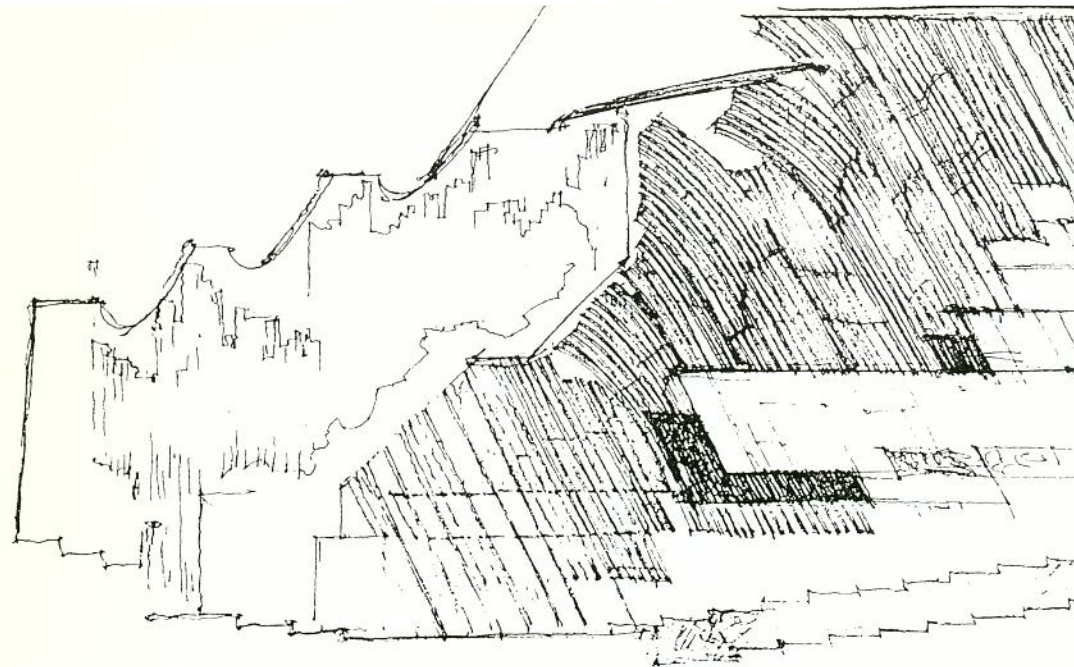
The console consists of the keyboards, but also of the registration knobs (or, as is the case at the Finlandia Hall, registration push-buttons, also

known as pistons), which let the organist choose the desired combination of stops, or registration. The console also has registration aids that are operated by feet: the push-buttons that couple one division to another are called couplers, and the pedal levers for the swell shutters that cover some divisions and thus affect the sound volume.

The tracker action relays the movement of the key to the vents in the windchest, and correspondingly, the register action connects the register knobs to sliders that in turn open or close a whole rank at a time. The action (both for playing and registration) can be mechanical - using wooden trackers or sliders, or strings - or the action can be electric.

The scheme listing the stops and their division in the organ, together with the most important technical facts of the organ, is called specification.

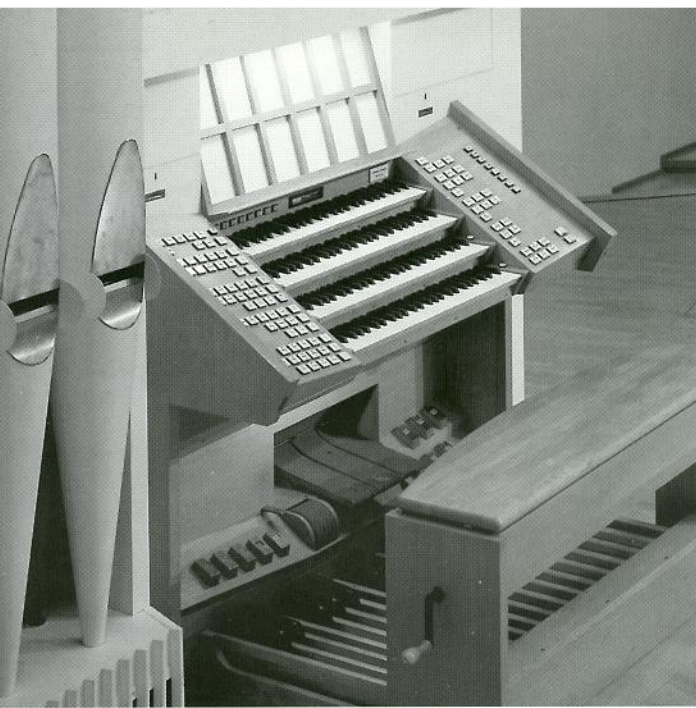
Alvar Aalto, The Finlandia Hall, 1962-71, concert hall, scetch, detail



THE FINLANDIA HALL ORGAN

Foto: Rauno Träskelin





The concert organ of the Finlandia Hall received its impressive look from the pen of Alvar Aalto, the world-famous designer of the Hall itself. The front of the organ breaks away from the traditional symmetry so often used in the design of organ facades, in order to balance the asymmetrical design of the hall itself, repeating the basic shapes found throughout the hall, yet standing as an independent object.

In modern concert halls the organ, in addition to being an important part of the symphony orchestra, needs to succeed as a solo instrument as well as in many varied tasks in accompaniment. The Finlandia Hall organ is a very flexible instrument, allowing the artist to perform works of the entire organ literature, ranging from the music of the Middle Ages to the works of our own time.



THE FINLANDIA HALL ORGAN

The goal of the designers of the organ of the Finlandia Hall was to create an instrument on which it would be possible to perform works from all the important periods in organ literature.

The most important stops of the German Baroque organ form the body of the instrument, while other national styles of the same period are also represented: the horizontal trumpets on the facade owe their origin to Spanish organs, and the many mutations (especially the third stops) are representative of the French Classical style. The swell box, which with its shutters makes it possible to perform impressive crescendi and diminuendi, is from the sound world of the French Romantic era. The separate positive division located to the left of the stage follows in turn the Italian Renaissance tradition. The purpose of this separate positive, in addition to being a separate division played on the topmost manual, is to provide a "stereophonic" doubling when combined with other manuals, to give the audience the feel of a broad organic sound even within the relatively short reverberation conditions of this hall. There is a separate, freely movable console which can be attached to the positive for

use in choir accompaniments or in pieces composed for two organs.

The organ of the Finlandia Hall has 70 stops, divided into four manuals and pedal. With the exception of the positive division, the organ has tracker action. The registration action for the stops is electric, and there is enough memory to allow the performer to enter up to 320 combinations of stops, or registrations. With the aid of the computer connection, it is possible to save these combinations and edit them even away from the organ. The organ is also equipped with an electric playing memory. The concert hall has an electrically enhanced acoustical system for the organ.

The organ of the Finlandia Hall was built in 1973 by Kangasalan urkutehdas (Kangasala Organ Company). Professor Enzo Forsblom was responsible for the specification and general design of the organ, while the building plans were overseen by technical directors Erkki Valanki and Pentti Pelto. The organ was renovated in 1998 by Veikko Virtanen Oy and the electrical equipment updated by OrgEL Oy.

SPECIFICATION

BRUSTWERK (B) I man.	GREAT ORGAN (H) II man.	SWELL ORGAN (R) III man.	POSITIV ORGAN (P) IV man.	PEDAL ORGAN (PED)
43 gedackt 8'	40 principal 16'	19 bordun 16'	2 principal 8'	86 principal 16'
66 kvintadena 8'	42 oktava 8'	20 principal 8'	12 voce umana 8'	57 subbass 16'
68 principal 4'	27 spitzflöte 8'	13 koppelflöte 8'	7 rohrlöte 8'	55 kvinta 10 2/3'
39 gedackflöte 4'	44 oktava 4'	18 gamba 8'	4 oktava 4'	88 oktava 8'
70 oktava 2'	25 nachthorn 4'	28 voix céleste 8'	5 spitzflöte 4'	51 ged.pommer 8'
37 gemshorn 2'	33 terz 3 1/5'	22 oktava 4'	3 sesquialtera 2x	90 oktava 4'
41 sifflöte 1 1/3'	31 kvinta 2 2/3'	11 traversflöte 4'	6 oktava 2'	49 koppelflöte 4'
72 oktava 1'	46 oktava 2'	17 nasat 2 2/3'	8 kvartian 2x	47 nachthorn 2'
74 scharf 4-5x	29 terz 1 3/5'	9 flachflöte 2'	10 mixtur 5x	53 basszink 3x
76 dulcian 16'	23 kornett 5x	15 terz 1 3/5'	16 trompete 8'	92 mixtur 6x
78 krummhorn 8'	48 mixtur 6-8x	24 mixtur 6x	14 vox humana 8'	94 fagott 32'
80 schalmey 4'	58 cymbel 3-4x	26 terzcymbel 3x	1 tremolo	96 fagott 16'
45 tremolo	50 trompete 16'	30 fagott 16'		98 posauone 16'
35 cymbelglocken	52 trompete 8'	32 tromp.harm. 8'		100 trompete 8'
	54 sp.trompete 8'	34 oboe 8'		102 trompete 4'
	56 sp.trompete 4'	36 clairon 4'		
		21 tremolo		

COUPLERS:

- 60 B/H
- 62 P/H
- 64 R/H
- 38 P/R
- 82 P/B
- 84 R/B
- 104 B/PED
- 106 P/PED
- 108 R/PED
- 110 H/PED

- tuning a¹ = 442 Hz
- manual range C-g³, pedal C-f¹
- tracker action, except for the positive (electric)
- electric couplers
- R, P and B are in swell box (the shutters for R open two ways, there are two pedals for this)

- 320 memory combinations
- sequencers
- tutti
- general crescendo
- playing memory (including registrations)
- computer connection