

**Societatea Română de Radiodifuziune**

**Bucuresti**  
**ROMÂNIA**



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**Estimate**  
**Supplementation, reparation and renovation**  
**of the Rieger-Kloss organ in**  
**the music-hall of broadcasting building**  
**in BUCURESTI**

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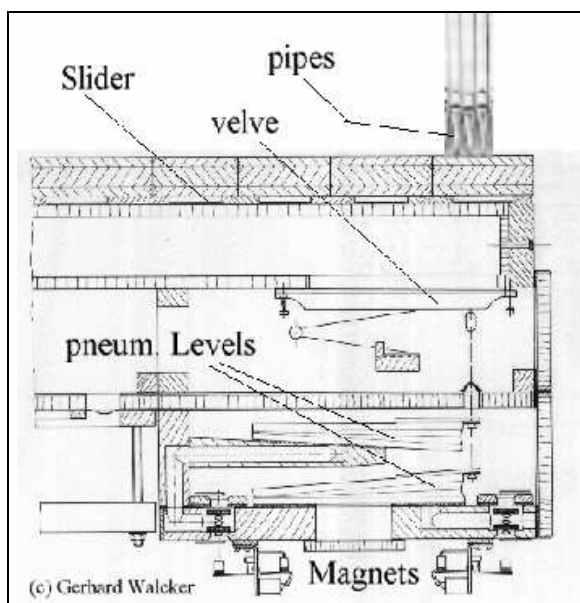
## A. Report of the organ, after my visit

The Rieger-Kloss organ in Bucuresti Radio-Music-Hall has 4 manuals C-c4 and pedal C-g1 and 86 stops.

The organ inside has to be cleaned, a lot of pipes are standing outside their holes.

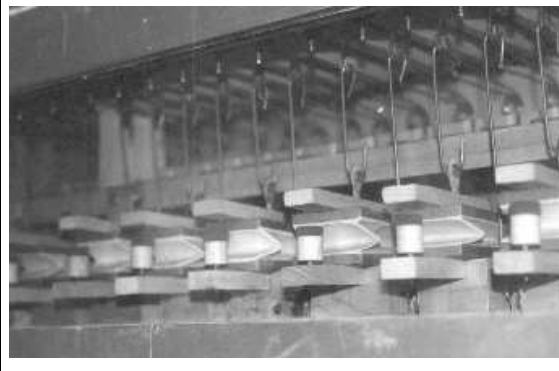
There are many stops where the sound is not well balanced. Also stops do not sound balanced together. The complete organ does sound too indifferent and too reserved. In my opinion there must be work to voice some stops more powerful, other stops have to be voiced more sensitive. Stops in the pedal shall get more darkness and the speaking of these pipes shall be more accurate. The difference between the 4 manuals in the sound must have more contrast.

The system of the windchests is like the sketch below; it is slider action by pull magnets. These system does work very well. Some disadvantages of these system are, that the repetition of quick played notes is some slow . I think we can manage a good result in regulation the pneumatic levels .

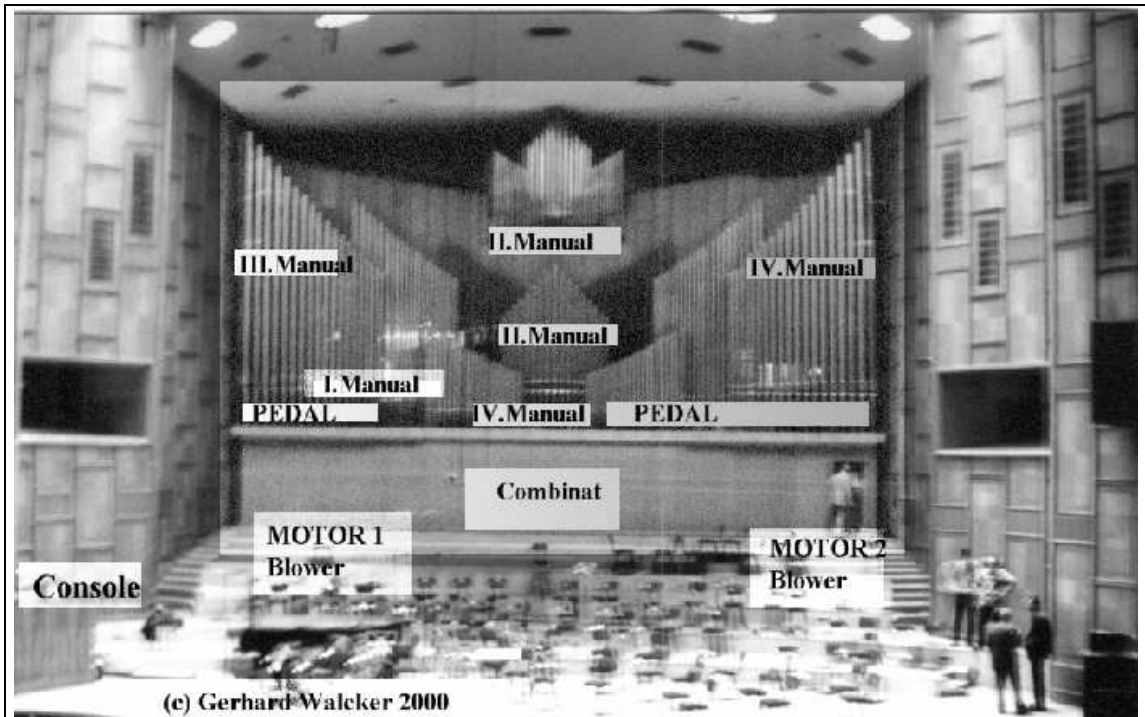


Windchest of Rieger-Kloss organ in Bucuresti –Radio-Music-Hall.  
Section view

On the photo below, you see the pneum. levels and the velves above.



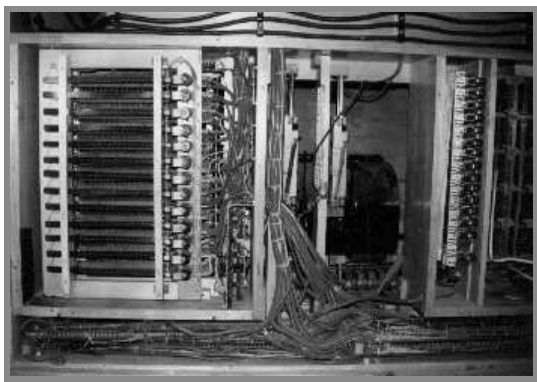
The very important point of the technic organ situation is, that the electric system is antiquated and not in complete function. To regulate the electro- mechanic combination action uses a lot of time. We suggest a new electronic system for the combination system and also for the complete new transmitting-system with light beam waveguides, which we will describe in the text below. Also we suggest to add a MIDI-System to the console, which is thought for a professional way to record the organplaying and possibility of editing the organ notes by personal computer or by the delivered MIDI-System on the console.



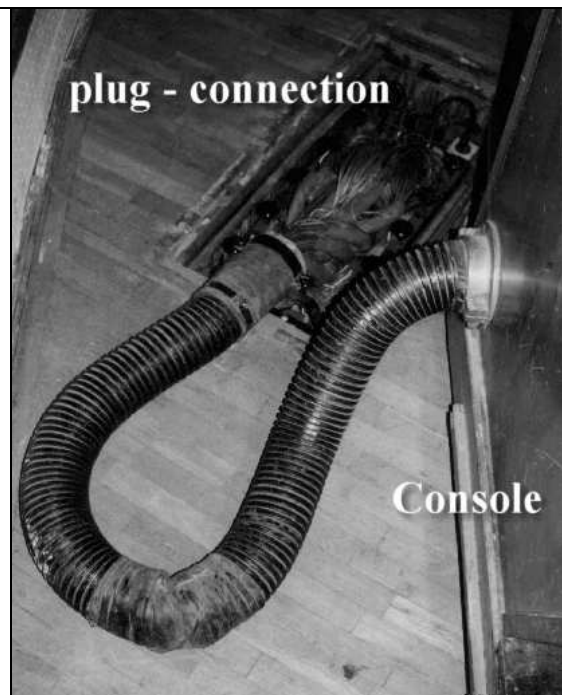
As the organ-photo shows here the scheme of the organ-layout and the arrangement of the different windchests, the connection from the console to the organ is done by to plugs. One of these plugs is at the point where the console is now and another one is near the middle of the podium.

We want to replace these plug-connection as here showed, against modern light beam waveguide cable, which has only one cable for the transmitting the information between console and organ.

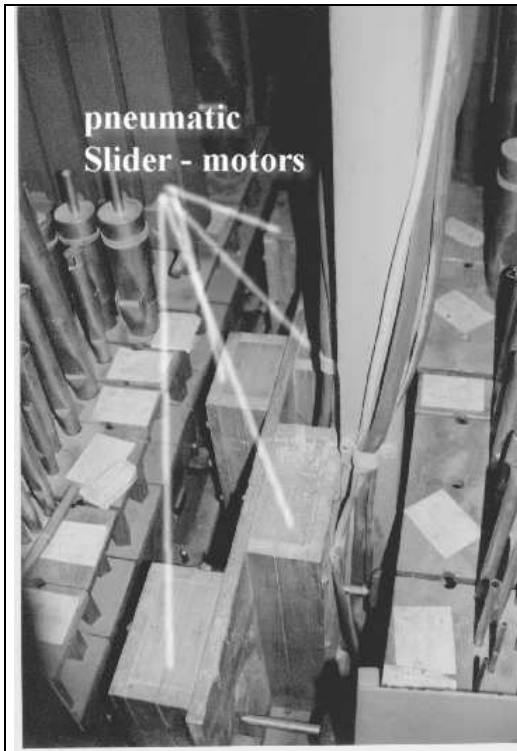
The console will be used in this case as it is, but the complete electro-mechanic parts and the cables inside have to be renewed.



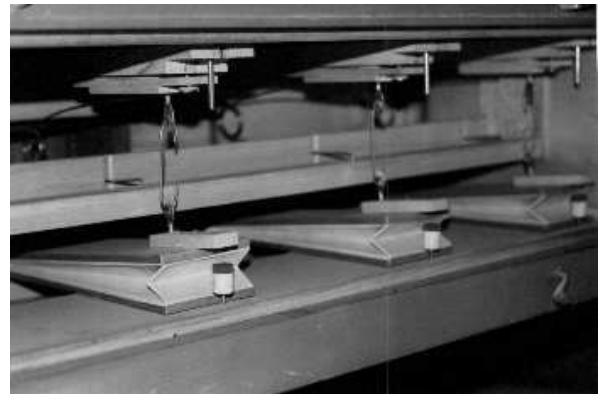
Inside and Backside of the console with the wiring, which has to be renewed.



The sound of the organ is very cautiously, what means that there is dust in the pipes and that there is muffled voicing, which must be more accentuate. There has to be cleaning by putting out the pipes and cleaning the windchests and the pipes.



Some of the electro-pneumatic slidermotors have to be repaired. These parts must be separated and have to be worked out with new material inside.



Some of the pneumatic levels have to added with new leather.

The pipework in front of the organ has several pipes which are not solid in their holding device. A lot of these pipes are also getting soft in their feet, and these feet are moving to drop down now.



warped feet of different pipes in front of the organ



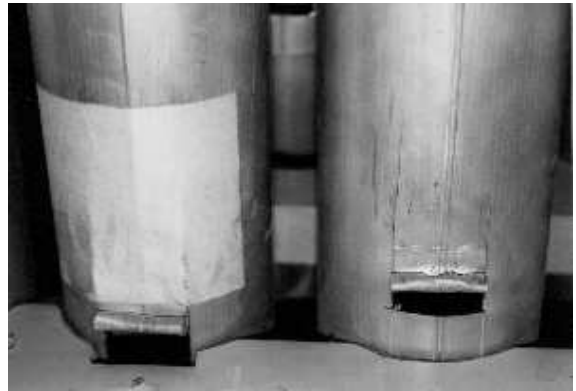
Some of the front pipes are not neat soldet at the mouth



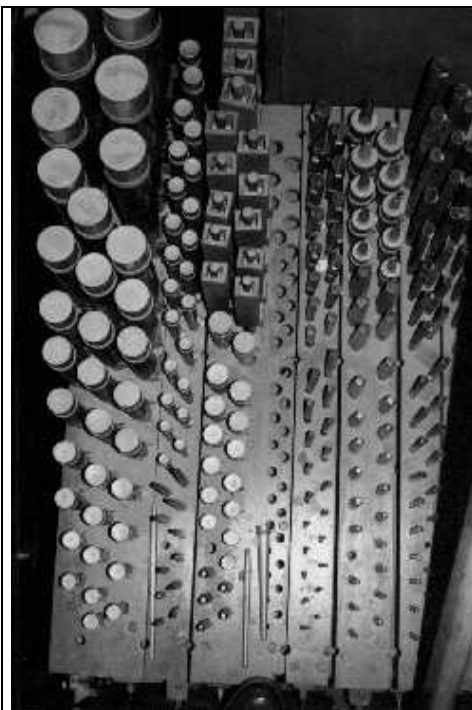
These picture shows a temporary repair at the tuning-part of the pipes with paper.



On these front-pipes you see that there are deformations on the whole body of the pipe.



These pipe is patched not professional, with paper, which will not keep a good tuning. These pipes, and there are a lot of them, have to be solded correct.



On this photo you see a lot of pipes missing in their holes, and these pipes will not sound of course.



Inside the organ there is a lot of place for tuning and working on the organ.

In the next pages we describe how we imagine to work on the organ, so that these instrument will work satisfied the next decades. The four main points to move the organ in a usefull condition are

- B1. Cleaning of the whole organ
- B2. New electronic devices
- B3. Reparation of pipes
- B4. Voicing and tuning of the organ

## **B1. Cleaning of the whole organ**

### **B1.1**

Dissassembly of the pipes, cleaning all of the pipes inside, part of the pipes have to be cleaned with water.

Wooden pipes have to be cleaned dry.

Remove from dust and dirt.

Careful cleaning of the windchest.

Cleaning of motor-wind-blower, of the belows and of all wind-channels.

Cleaning of all parts inside the organ.

Cleaning of the console.

### **B1.2**

Repairing of about 25 pneumatic slider-motors

Complete windsystem have to be worked out for seal and noiseless working. Some parts have do be sealed with leather.

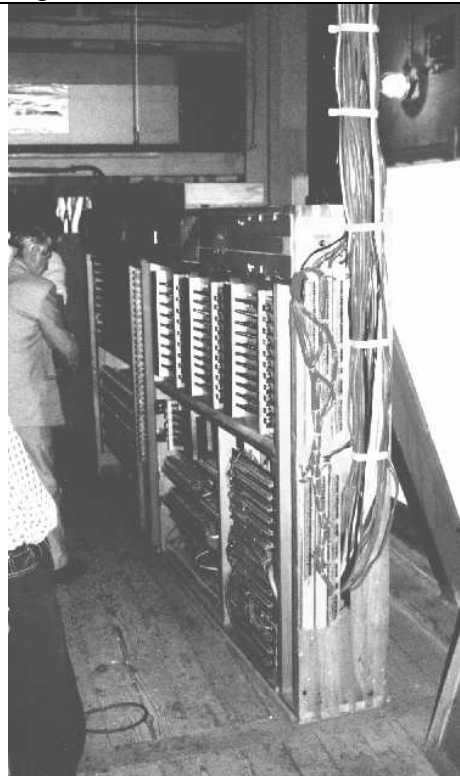
Some pneumatic levels inside the wind-chest have to be worked out with new leather.

The complete windchest-system with the levels has to be regulated.

## **B2. New electronic devices**

### **B2.1 New electronic combination action**

Instead of the old huge combination machine, which allows only 10 General combinations we decide to build and to install a new electronic combination system with 5000 General combinations. And this action has to be installed in the console instead of the organ ( as it is now).



old combination action in the organ



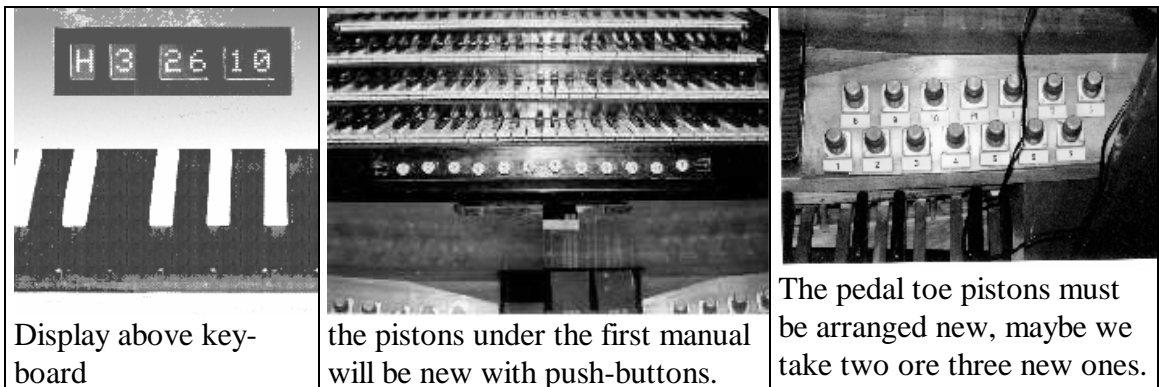
New system in modern design

### B2.1 New electronic combination action

The new capture System includes all stops of the console.

All ON / OFF functions as they are now in the console will be managed from the new division.

To drive all the 5000 combinations we will add new pistons and sequencer-pistons, so that the console will be an European-Standard console after the additional work. All these switches and devices to add in the console will be worked out with your organist and a technical plan of the console by us. We think it will be well to have some key-locked switches for the memory and a display which shows the actual status of the combinations.



Display above keyboard

the pistons under the first manual will be new with push-buttons.

The pedal toe pistons must be arranged new, maybe we take two or three new ones.

Also additional we add a disk drive for saving the combination in disk as an auxiliary. So the organists have the possibility to work out their registration for the concert on a personal computer or only to have it saved surely in their pocket.

Please note that these position of new electronic action is only for the replacement of the combination action. The other suggestions for adding new electronic actions as we describe it in the bottom is for transmitting the informations between console and organ.

### B2.2 New electronic for the

#### Digital transmitting system with light beam waveguides

Light beam waveguides as medium of the data transmission from the console to the organ are not prone to electrical and magnetic faults.

The complete connection of the action is by means of a thin fibre glass cable with a diameter of approx. 5mm, between transmitter in the console and receiver in the organ. Brigidable distance up to 800 m ( we need only about 25m). The waveguide junction is possible at different places according to demand by means of several plugs.

We think two or three plugs are enough.

Technical data:

Operation voltage 10-30 Volts

Sampling rate 250/sec for each contact

Input signal 10mAmps

Output current 1 Amps/12Volt

Printed circuit fitted in 19'' plug-in box

Unison couplers, sub/super couplers

Transmission, unification, offset and facade

MIDI – Interface

Connection for PC or Sequencer for recording

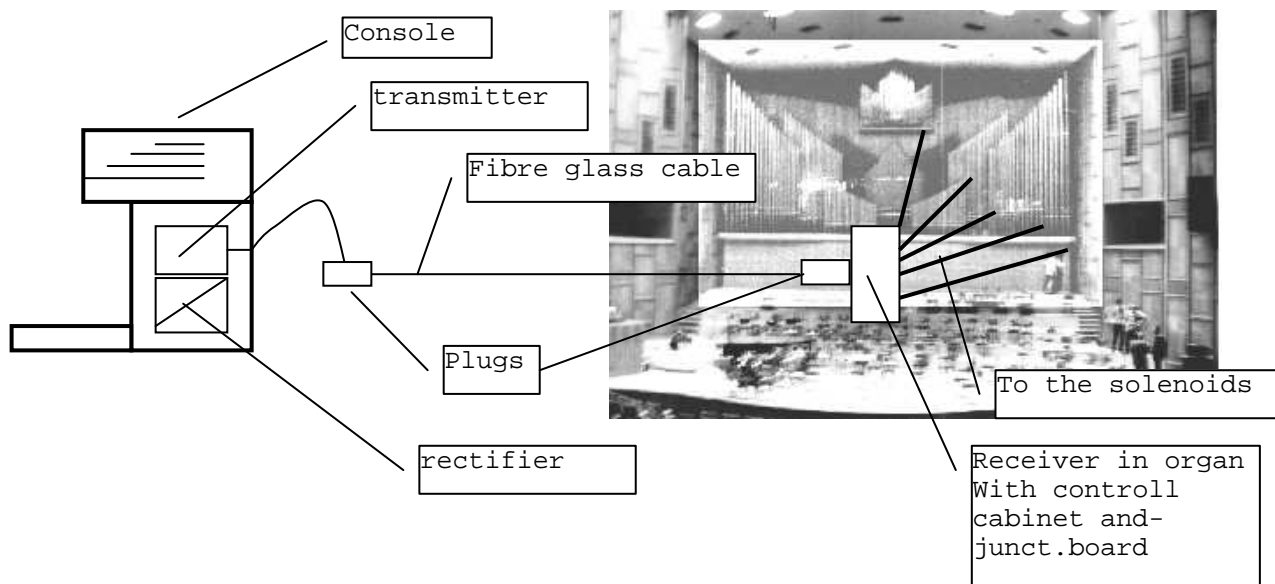
and reproduction

Connection for tuning-system

Over the LWL-Switching box there is the possibility to switch organ blowers on/off .

The current cable from the console to the motor contactor is no longer necessary.

### Digital transmitting system with light beam waveguides schema



### B2.3 MIDI – Recording System

This recorder uses the signals from the keys and stop action while the organ is being played. This is made possible by a specially developed interface between the LWL System and the recorder. The system allows the organist to listen his playing and check his registration from walking around in the music-hall and listening his own played organ-sound. The organ plays for itself. The MIDI-System is integrated in the console. From the MIDI-Dates it is also possible to print the notes by a Personal-Computer printer. The organist has the chance to rise the speed of his playing or he can edit a single played note of the MIDI-dates.

### B3.0 Repairing front pipes and pipes inside the organ

As we showed in the first part, there are a lot of front pipes with warped feet and other deformations. This feet have to be inserted with a copper stabilization inside. The complete work of repairing the pipes is in our suggestion 2 month work for 2 professional pipe-maker. Also there is needed the help of 2 man from Mr. Badea's group. The complete calculation means also, that we need different heavy iron-forms for rounding the large pipes. Most work on the pipes are able to be made in the room at the bottom under the organ, where now the old combination-action is situated.

If the Broadcasting directors are in the opinion that only the absolute necessary shall be done by repairing the pipe-work, we think we can divide the position in about the half of the here calculated costs. But this has to be a matter of the next discussion.

### B4.0 Voicing of the organ

For this work we calculated 2 organ-masterbuilder for 12 weeks. Similar to the point B3.0, there is the possibility to do this work in stages or in a smaler economical way. This has to be a matter of discussion. We think with our suggestion, to give the organ a more pithy sound, this will be a great advantage.

**C. Schedule of the working**

Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
		Cleaning organ									
	Electronic		Electronic installing								
				Pipeworking							
						Voicing					

**D. Costing****E. Conditions - Terms of delivery and trading**

In our prices are all occurring costs contained like working hours, cost of travelling, expenses of hotel and meals, all cost of material and transports.

The listed schedule is able to be observed only then, if the order of the works is accepted to Jan.2001, since the delivery time of the electronic components will last 10 weeks. The order of single positions is possible, like the electronic components, although we proposed the entire concept for the better hold.

For the electronic components is a down-payment of 50% necessary. At delivery of the assembly groups in Bucuresti are further 30% payment necessary.

To fashion the financing of the remaining works easily, we propose, that during the works in Bucharest all 4 weeks results an installment at us. This should be debated at a further conference.

The here indicated prices are fixed prices, which are valid for the year 2001.

It is also possible, to distribute the works at the organ on 2 years, this would have a minor increase of the labor costs for the year 2002 to the consequence.

We propose, that the terms of delivery count the league of German Orgelbaumeister (BDO) in the remaining, since these also generally have find consent in Eastern Europe.

Gerhard Walcker-Mayer  
Orgelbaumeister