

Detonator

1842

Waarnemingsverslag kanonnen I812 , Henry Le Boeuf-Zaal , PvSK , 29.11.1983

omstandigheden/conditions: lege zaal , salle vide  
 resonatoren geplaatst links en rechts boven het orkest  
 résonateurs dans les 'oreilles de scène '

genre de munition patroontype(lading)	NOIR/ZWART	GRIS/ONGEKLEURD	ROUGE/ROOD
resonator/resonateur:			
-fermé avec trou 12cm gesloten met een gat van 12 cm.	<i>P</i>	<i>f</i>	<i>fff</i>
-idem.+ tuyau id.+resonantiebuïs	<i>mf</i>	<i>ff</i>	<i>fff</i>
-avec trou de 20cm met een gat van 20cm +tuyau résonateur + resonantiebuïs	<i>f</i>	<i>fff</i>	-

Opmerkingen: - de hier vermelde geluidssterkten zijn vermeld zoals waargenomen op het orkestpodium , midden. De waargenomen geluidssterkten in de zaal , waarnemingspunt naast de koninklijke loge liggen minstens twee stappen lager : fff wordt dus f , ff - mf enz. Om boven het orkest uit te komen lijkt een niveau fff ons toch aangewezen. Onze ervaringen hebben uitgewezen dat de toevoeging van eenvoudige resonantiebuizen boven de opening in de resonatoren, het geluid een vollere en lagere klank verleent. Tijdens het tot ontploffing brengen van de rode patronen bleek dat deze zo krachtig zijn dat ze het deksel van de resonatoren tijdens de knal oplichten. Het verdient aanbeveling de deksels dan ook van een eenvoudig sluitingsmechanisme te voorzien. Overigens zal dit de donkere gewenste klankkleur van het effect ten goede komen.

Godfried-Willem RAES.

munition pétards résonateur	NOIR ZWART	GRIS ONGEKLEURD	ROUGE ROOD
bidon fermé + trou $\phi$ 12cm	P	f	fff
id + resona- teur *	mf	ff	ffff
trou $\phi$ 20 cm + tuyau	f	fff	—

# „1812“ Ouverture Solennelle

**Schlagzeug**  
(Pauken in G, B, Es)

P. Tschaikowsky, Op. 49  
Original mit Einzeichnungen für vereinfachte  
Besetzung von Martin Schmeling

**Largo**  
Vcl. I 23 Fl. I

32 Pauken 1 11 Ob. I 3 *Poco stringendo*

56 **B** *Poco più mosso* 1 Gr. Tr. u. Beck. 3 2  
Pos. III *ff*

70 Pauken 5 **C** *Andante* *fff* *p*  
Gr. Tr. u. Beck. 5 Kl. Tr. *fff* *p*

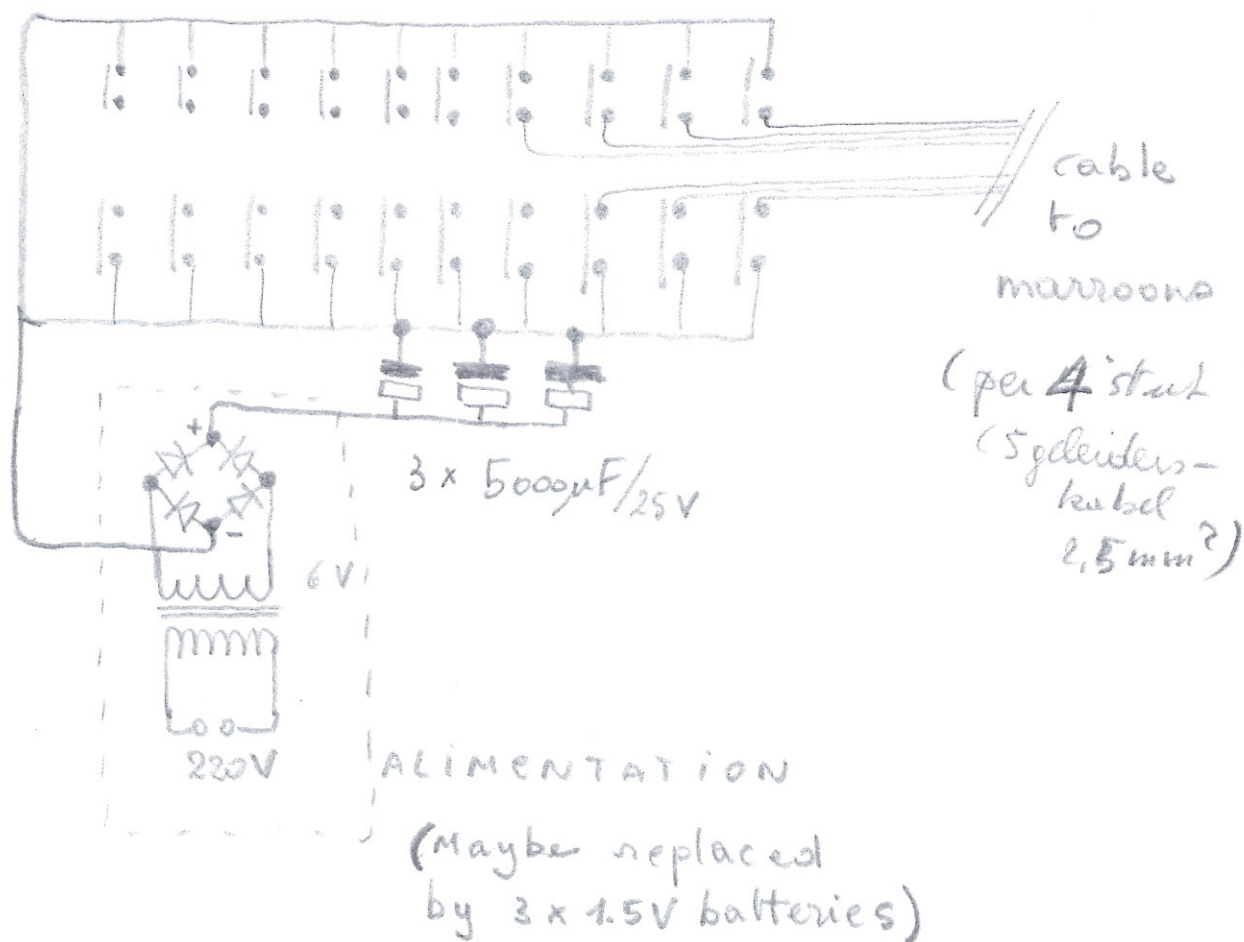
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83

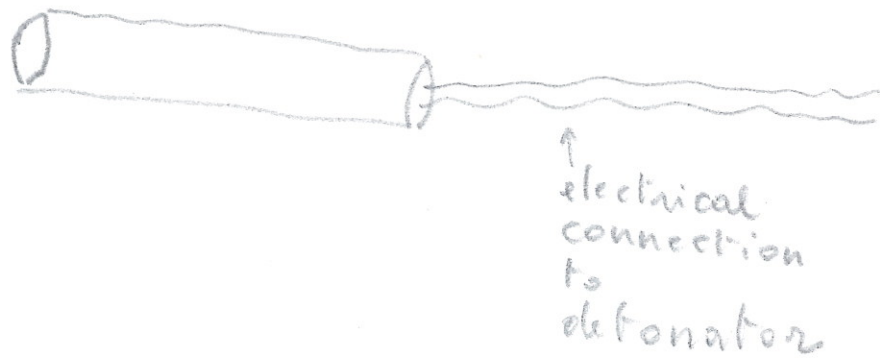
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Technical Description of a system for firing  
the maroons ~~by~~ for "1812 Overture" by  
Telminkowsky as used at Royal Albert Hall - London.

1. control : switching board with 20 push-switches  
connected :



## 2. MAROONS



(to be obtained from fire-work  
manufactory.)

## 3. RESONATORS

- 5 tanks of 800 à 1000 liter content
- material: heavy steel
- upper side open, but covered with a heavy steel wire mesh lid to stop pieces of maroon flying about.

~~The subs~~

undersigned

Herewith the ~~subscribed~~ . . . . .,

responsible for Rank Strand Electric

- taking in charge the technical realisation of the explosions at the concerts taking place at Royal Albert Hall - confirms that all descriptions and technical details of the machinery given in this document are conform with those in use at Royal Albert Hall.

He confirms as well that ~~there~~ until now no inconveniences happened that could be due to the use of ~~these~~ this equipment. This applies as well to the musicians as to the public and the ~~the~~ concert-hall itself.

The Brussels set-up, insofar conform these plans, maybe considered to be completely safe.



120  
(100)

$$\frac{90 \times 80}{450}$$

800  
liters

1 tank of 4 ft x 3 ft x 3 ft  
or 5 such tanks

Sum  
Material  
Storage

115 x 5



capaciteit: 20 knallen

inhand per tank: 972 liter

5095 Reservoir

3210 →

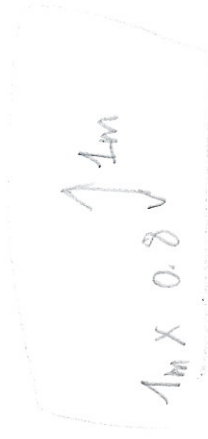
\* Maly - Ficus Atelion

Sloepstraat 1  
8006 Gent

Rasters: 1675

80 538153

Dumpla



Artificier

M Paul Ricard

tel magasin	512.23.87
usine	067/77.23.06
personnel	067/77.34.81

00//44-1-

Gavin: 01/960 1996

|| Radbrooke Grove 208  
|| London W10



# RANK STRAND ELECTRIC

52a Goldhawk Road Shepherds Bush London W12 8DH  
Telephone 01-749 3921

## A DIVISION OF RANK AUDIO VISUAL

Societe Philharmonique De Bruxelles  
Et Societe Des Concerts Populaires  
Palais Des Beaux-Arts De Bruxelles  
Rue Baron Horta 11  
1000 Bruxelles

18 January 1978

*RAES*

Att: H. Thys

Dear Sir ~~Mr~~

We thank you for your letter dated 29th December 1977 and our meeting with Mr. Bryars.

We confirm that we have only 1 Set of Tanks for firing the maroons for 1812 Overture and they are kept at the Royal Albert Hall, these tanks have never been a stock item, and to have these made up here would be an expensive item for carriage.

The system used in this country as explained to Mr. Bryars is by the use of galvanised water tanks 18 gauge heavy steel, and a heavy steel wire mesh lid to stop pieces of maroon flying about.

*Caliber*  
*↳ wirework*

*↳ petrol*  
*↳ draughtwork*

It would seem practicable for these to be made up by your local iron merchant.

*1.20 x 90 x 90*

We suggest that you should have 5 tanks in all 4ft x 3ft x 3ft and fire 4 maroons in each.

The control for these should be approximately 40ft away and could be made up locally to you, perhaps Mr. Gilis of A & J Draguet Rue Brogniez 144 - 146 Brussel 1070 Phone 521.00030 would help.

*→ 12 meter*

Regarding the actual ~~iron~~ maroons these could be a problem. We do not stock these any more, but, Brocks Fireworks Ltd. of Gateside Sanquhar Dumfriesshire DG4 6JP state that they could export them to you providing the explosives licence could be obtained, but the costs would be very high, alternative have you any firework manufacturers near you.

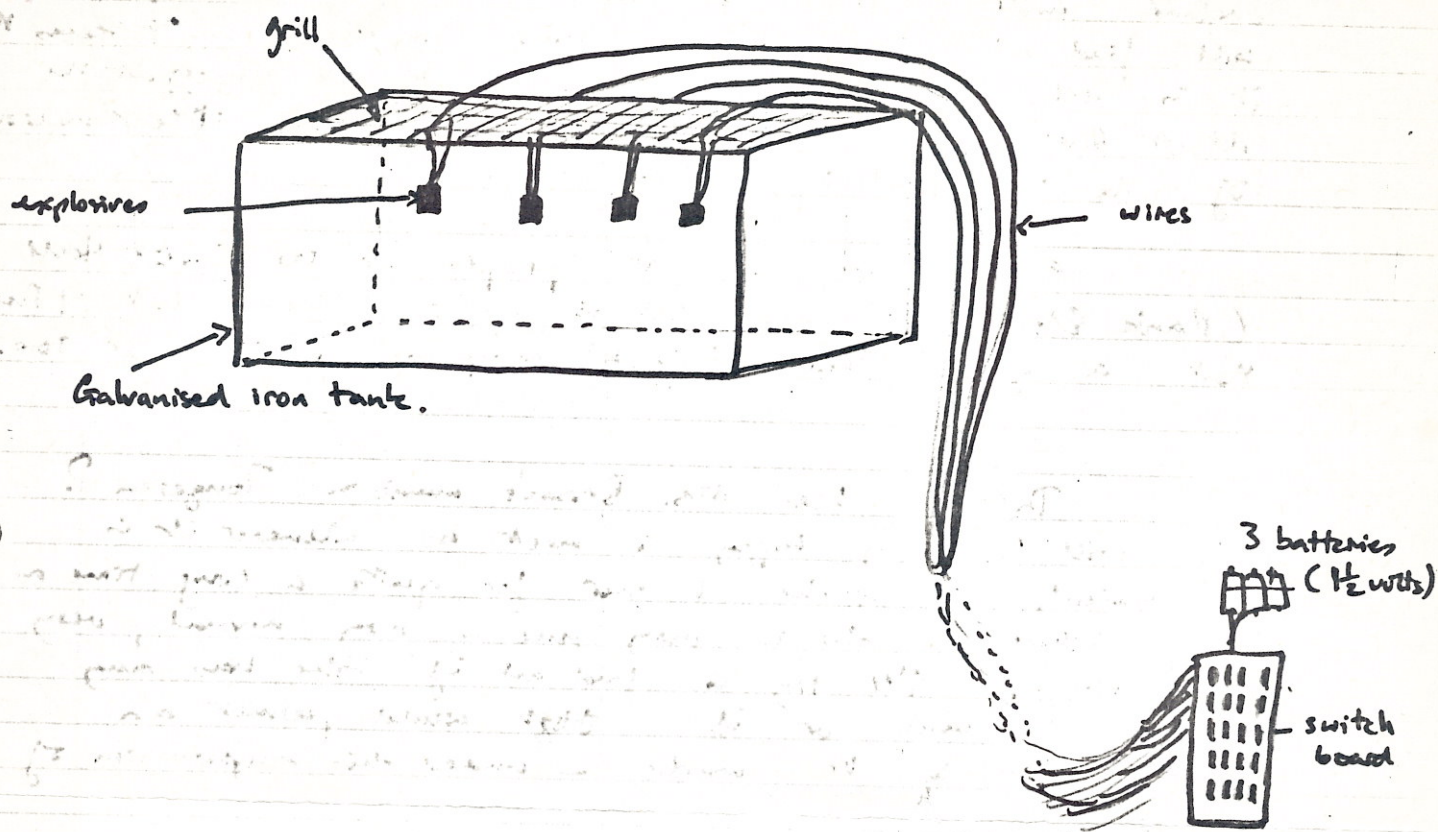
We trust the above will help you.

*J. HARVEY*

Yours faithfully

*J. Harvey*

W  
peu de recul.



This is the system: - You need about 5 empty galvanised metal water tanks, such as might be used in a garden. They must be open at the top, and a metal grill placed over it. From the grill, the explosives are suspended inside the tank. Each explosive contains a detonator which is attached to wires.

At a good distance from the tank (say 10 metres), there is a switchboard. One switch is for one explosive, and the wire from the explosive is attached to the switch. The switchboard is powered by a group of batteries (total  $4\frac{1}{2}$  volts). On a signal, the operator presses each switch in turn. For the Tchaikowsky "1812" overture they use 16 explosives (i.e. about 4 tanks), for the Beethoven "Battle" symphony about 10. Sometimes they use 20 for the "1812"!

It is important that the public are not near the explosives as they are very loud. At the Albert Hall they are kept in the top Gallery & the area is separated. In the Palais des Beaux-Arts, you could place them behind the orchestra, or in one of the boxes!

- So, what you need, in total, is
- 5 tanks, (app. \$100)
  - 20 x 10 metres of cable (app. \$100)
  - 1 20-way control board (app. \$30)
  - 3  $1\frac{1}{2}$  volt batteries
  - 20 explosive maroons

Total about \$250.

The chief problem in the exporters, which are only available in England under license, & they are difficult to export. 9  
it is found out if it can be done & legally; and it may be  
advised that with their supervision - but a little  
of the technician is inexperienced.

I am not sure the people at the  
(Rank Electric) could set it up in Belgium  
but a good there 'effort' company will



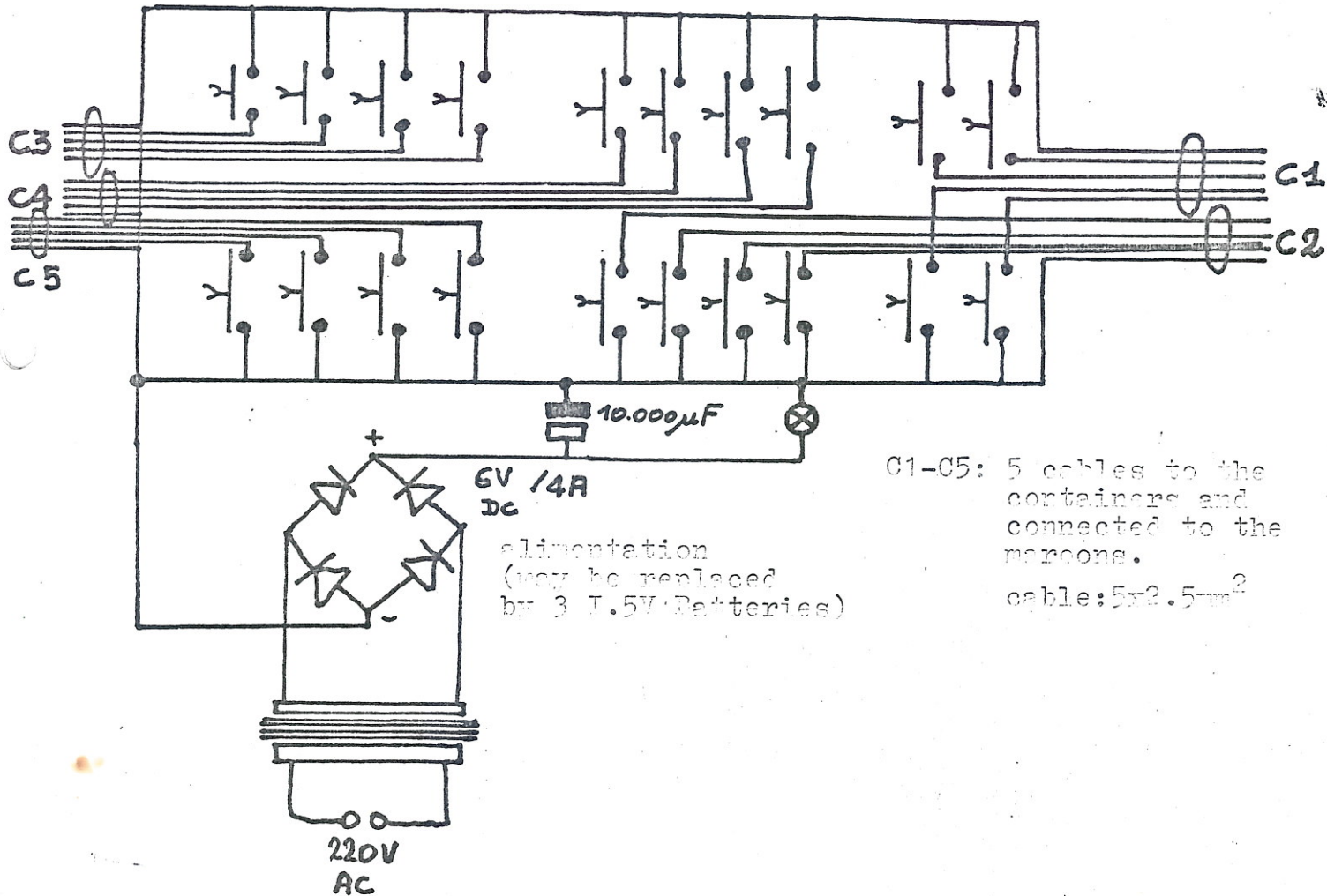
FILHARMONISCHE VERENIGING VAN BRUSSEL  
EN VERENIGING VOOR VOLKSCONCERTEN  
SOCIÉTÉ PHILHARMONIQUE DE BRUXELLES  
ET SOCIÉTÉ DES CONCERTS POPULAIRES

V. Z. W.  
A. S. B. L.

Technical description of a system for firing the maroons for the "1812 Overture" by Tchaikovsky, as used at Royal Albert Hall - London.

I. CONTROL DEVICE:

electrical low tension switching board with 20 push-buttons connected:



C1-C5: 5 cables to the containers and connected to the maroons.

cable:  $5 \times 2.5 \text{ mm}^2$

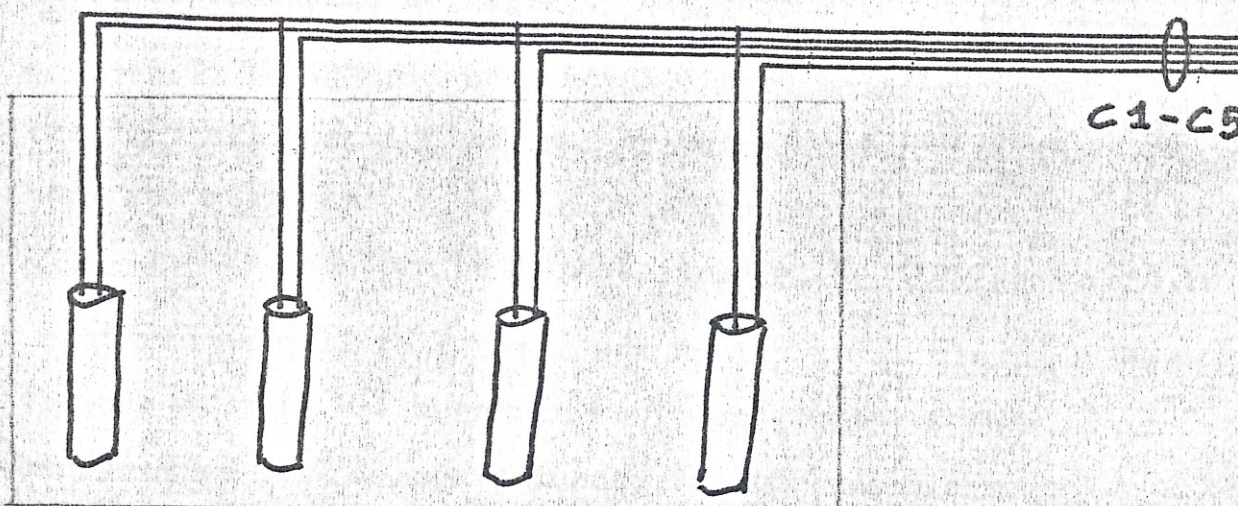
PALEIS VOOR SCHONE KUNSTEN VAN BRUSSEL, BARON HORTASTRAAT, 11, 1000 BRUSSEL  
PALAIS DES BEAUX-ARTS DE BRUXELLES, RUE BARON HORTA, 11, 1000 BRUXELLES

TEL.: 12.10.01 — TELEGR.: PALAISARTS — P.R. / C.C.P. 2820.82

BRUXELLES

## 2. MAROONS:

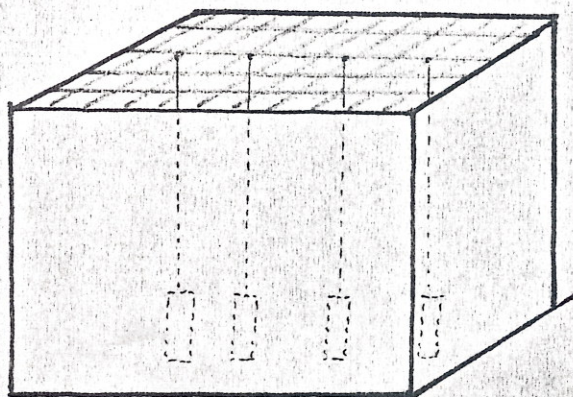
to be obtained from fire-work manufactory.  
In each container they should be connected :



For "I8I2", only 16 maroons are needed.

## 3. RESONATORS- CONTAINERS

- 5 tanks of 800 à 1.000 liters contents, about 1m high.
- material : heavy steel plates, welded together.
- upper side open, but covered with a heavy steel wire mesh lid to stop pieces of maroon flying about.
- In each container 4 maroons are suspended and connected to the control device.



DECLARATION OF CONFORMITY

Herewith, the undersigned, sir J. Harvey , of Rank Strand Electr  
 -taking at their charge the technical realisation of the explosio  
 at the concerts taking place at Royal Albert Hall London -  
 confirms that all descriptions and technical details of the  
 machinery and equipment given in this document are in all  
 relevant aspects conform with these used at Royal Albert Hall.

Heñ confirms as well that until now no inconveniences resulted  
 from the use of this and suchlike equipment during concerts.  
 This concerns as well inconveniences for the musicians as  
 for the audience and the concert-hall itself.

The Brussels set-up - as realised by the Philharmonic Society  
 of Brussels - insogar conform to these plans and lay-out ,maybe  
 considered to be completely safe .

date:

place:

signature:

----- ooo -----