

ORCHESTRA

3 flutes (if possible, each also plays alto flute: see pp. F 26, F 47, etc.)

2 oboes

1 English horn

3 clarinets

2 bassoons

2 contrabassoons

2 horns

3 trumpets

Each requires 5 mutes: see *Notation*.

4 trombones (2 with F-valve)

1st and 2nd require 4 mutes, the others require 3 mutes: see *Notation*.

2 tubas

1 synthesizer

(having timbres which can be continuously changed)

1 electric organ

(having timbres which can be continuously changed, and various speeds for vibrato, for example Hammond organ)

3 individual violins

8–12 group violins

6–8 group violas

2 individual violoncelli

4–6 group violoncelli

2 individual double-basses

4–6 group double-basses

4 percussionists

Perc. 1


Vib.

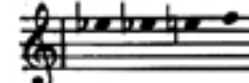
1 vibraphone

Rin

4 rin ¹⁾  (see *Explanations*) 

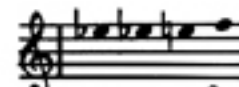
Glsp.

1 glockenspiel ²⁾ 

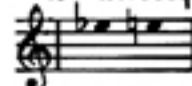
4 glockenspiel bars 

Perc. 2

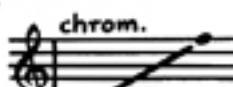
Cin.


4 cinelli ³⁾ 

Cymb. ant.

2 antique cymbals 


Rgl.

1 set of tubular bells 

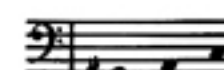
1 single tubular bell  hung

Perc. 3

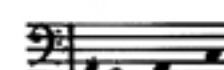
Gongs

3 Thai gongs  (nipple gongs)

Kpl.


3 sound plates ⁴⁾ 

Pgl.

3 plate bells ⁵⁾ 

Perc. 4



(Timpanist) Pk.

2 pedal timpani 


Tam.

3 tamtams ⁶⁾  notated 
 ca. 90cm 80cm

Explanatory Notes about the Instruments

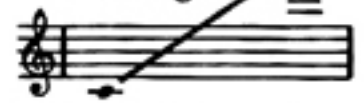
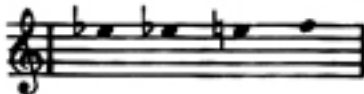
Percussionists 1 and 2 have the pitch  twice for each type of instrument. This enables them to make both instruments with the same pitch (or nearly the same) sound simultaneously during the bracketed sections indicating free shaping of this note , thus gaining many timbre variations from the resulting beats of pitch and dynamics.

- 1) **Rin** are brass-coloured metal cups used in Buddhist temple ceremonies in Japan. Their spectrum has a very long resonance and is exceedingly rich and pleasing to the ear. They are struck with wooden beaters which are covered halfway with skin. In Japan, these instruments with their cushions and beaters are found in specialised shops. Their diameter varies between ca. 6.5 cm and 15 cm. In order to assemble a fairly exact chromatic scale of pitches, it is necessary to try many *rin*. It is not possible to specify certain pitches when ordering *rin*.

The two  should very slightly deviate from one another.

Together with the conductor, the player decides on the use of the 2 **rin beaters** which are either played with felt, or turned around and played with the **wooden handle**. It is also possible to use wooden beaters without felt for "*hart*" and beaters with felt for "*weich*".

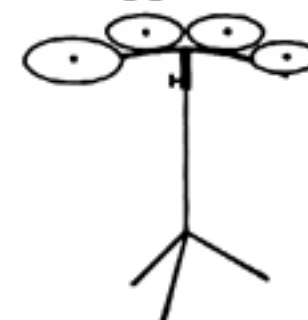
The beaters are struck against the edge of the *rin*.

- 2) A **glockenspiel** having the range  would be even better. Since normal glockenspiels do not have the required pitches, 4 **glockenspiel bars** having the pitches  must be specially manufactured and mounted next to each other on a resonance box.

The glockenspiel part of the performance material is **notated as sounding** (thus, not 1 or 2 octaves lower as is customary).

- 3) The 4 **cinelli** required are small cymbals (ca. 27 cm in diameter). These are mounted on a horizontal arc of iron on 4 metal pins having rubber holders. The arc is supported by a special stand.


side view:





The stand should be adjustable in height, so that the player can strike the cinelli from above, while standing.

Although the pitch is clearly perceptible, it is not yet possible to specify pitches when ordering cinelli. Thus one must personally select the pitches desired.

Cinelli have a brilliant, bright sound with a long resonance. Beaters used for cinelli have heads of hard caoutchouc and/or hard wood for "*hart*" and of soft rubber or felt for "*weich*".

Instead of the cinelli, it is also possible to have 4 **bronze crotales** specially cast with the pitches . These are either hung next to each other or mounted on a resonance box.

- 4) **Sound plates** having specified pitches are made of *Duralumin*.
- 5) **Plate bells** are either thin bronze plates or very heavy plates made of bell material.
- 6) **Tamtams** with the prescribed pitches are not the thin, noisy, "hissing" tamtams, but heavy cast bronze *Chau Luo* tamtams which have a clear attack pitch when not struck too hard. If one cannot find these tamtams with the pitches  then small tamtams one octave higher  must be selected. These pitches must in any case be correct.