

Instruments of the orchestra

JAHRESLAUF was composed – as has been said – in 1977 for *Gagaku orchestra*, and was world premiered by the musicians of the *Imperial Gagaku Orchestra*.

The first concert performance and recording with European instruments took place at the *WDR* in Cologne in 1979. In all performances since then, European instruments have been used.

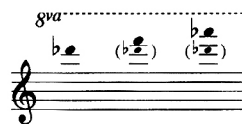
In the following list of instruments, the European instrument is named first, followed by the Japanese *Gagaku* instrument. If the European instrument(s) can be replaced by modern electric instrument(s), these come in second place in parentheses.

(All instruments are amplified: see **sound equipment**.)

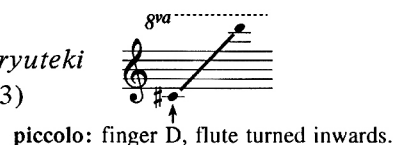
- 3 harmoniums (or *synthesizers/samplers*) or *sho*
(see *explanation 1*)



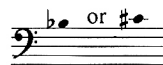
- 1 anvil or *shoko*, for example
(see *explanation 2*)



- 3 piccolo flutes or *ryuteki*
(see *explanation 3*)

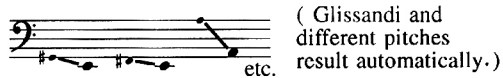


- 1 bongo or *kakko*
(see *explanation 4*)



- 3 soprano saxophones or *hichiriki* (see *explanation 5*)

- 1 bass drum or *taiko*
(see *explanation 6*)



- 1 (elec.) harpsichord (or *synthesizer/sampler*) or *gakuso*
(see *explanation 7*)



- 1 (elec.) guitar (with plectrum) or *biwa* (see *explanation 8*)



Portable instruments for the final procession

- 3 *accordions* or *melodicas* (wind instruments with keyboard) for the harmonium (*synthesizer/sampler*) players;
2 *antique cymbals* (hit against each other) or *metal tube* or *shoko*;
1 bongo or *kakko* (held in one hand or hung over the shoulder);
1 bass drum (held by one hand or hung over the shoulders).

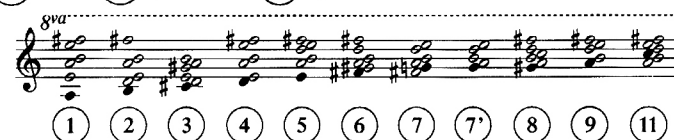
Explanations about the instruments

- 1) **Harmoniums (or synthesizers/samplers) or sho**

For the three *sho*, the 15 pitches of the traditional scale were used individually:



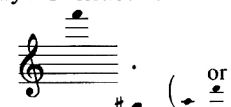
and only the following 11 chords, which are also indicated in the score by their traditional numbers to facilitate identification (there are ⑦ and ⑦', but no ⑩):



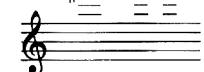
In the score, the *sho* pitches are notated as sounding. The *Gagaku* players requested, however, that **in the parts** all pitches be notated an **octave lower** to avoid the many ledger-lines. They also requested the omission of the chord-numeration.

Harmonium (*synthesizer/sampler*) players must therefore play their parts an **octave higher**.

The range of most harmoniums ends at



It is therefore necessary to specifically order harmoniums whose ranges extend to



They should in addition have at least three 4' registers and approximately two 2' registers as well as *vox coelestis*, *vox humana*, *aeolian harp* (all with *vibrato*) and several others for timbre changes and dynamic differentiation. Each player then implements his own dynamic scale *pp* - *p* - *mp* - *mf* - *f* - *ff* by switching on additional registers.

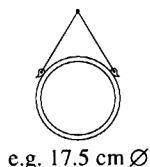
For accents and crescendi or decrescendi the **right-knee sweller** should be used (not the left swell because this adds the lower octave). No register having a 16' effect (addition of the lower octave) should be used.

Since good harmoniums are very difficult to find, the timbres of the 3 harmoniums can either be programmed and played using *synthesizers*, or harmonium or *sho* timbres can be recorded and played on *samplers*.

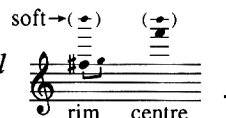
2) Anvil or shoko

The *shoko* used in the world premiere had the three pitches indicated, depending on how it was struck with a metal beater. Its sound had a rapid decay. A European instrument having a similar sound in this register is an anvil, beaten with a heavy blacksmith's hammer. It is also possible to use a cast-iron or steel tube which has a similar sound. For single beats, metal beaters are used, and for trills, lighter hard plastic beaters.

It is also possible to use a *geisha bell*: hung with its polished side away from the player, it is played on its inside rim or at its centre with 2 horn beaters or hard plastic beaters.



The pitches of the *geisha bell* used by the composer:



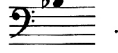
3) Piccolo flutes or ryuteki

The flutists should – if possible – play wooden piccolos or *ryuteki*. For the low C-sharp, piccolo players must turn the flute inwards. Another possibility – but less dependable – is to cover the end of the tube 2/3 with the little finger and pull down the pitch with the embouchure.

For the **glissandi** starting at bar 199, the piccolo players must practice slowly ascending and descending lip glissandi (possibly supported with fingering changes), as well as glissandi with *accelerando* or *ritardando*.

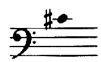
The piccolos or *ryuteki* sound an octave higher than notated.

4) Bongo or kakko

The pitch of a *kakko* drum is .

It is played using 2 thin sticks.

A **bongo** should, when hit at the centre, have the same pitch or



. When playing groups of beats, however, all pitch


and timbre nuances between the centre and the edge should be exploited.


5) Soprano saxophones or hichiriki

The sound of the *hichiriki* most resembles that of a soprano saxophone. It is recommended that the soprano saxophone players listen to a recording of JAHRESLAUF played by *hichiriki* and that they imitate that manner of playing (especially the glissandi) and the timbre. There are **transposed parts in B-flat** for soprano saxophones and **untransposed parts** for *hichiriki*.


6) Bass drum or taiko

The bass drum should sound similar to a *taiko*. It should be tuned

to  (when beaten at the centre of the head).

At *hart* (hard) it is beaten at the outer edge of the head so that it sounds much higher (circa ) with long decay.

It is struck with 2 **hard felt beaters**:

weich (soft) at the centre of the head,  (accent) *hart* (hard) which is also always louder, at the outer edge.

R = right hand, L = left hand.

7) (Elec.) harpsichord (or synthesizer/sampler) or gakuso

Either the equipment for amplification (microphones etc.) is already built into the **harpsichord**, or additional microphones or 2 contact microphones for treble and bass (with volume, treble and bass controls for the player) and monitor loudspeakers are used for amplification.

The overall amplification must be controlled from the mixing console at the centre of the hall. The built-in harpsichord amplifier with a second output as well as additional microphones are circuited to the mixing console and projected over several loudspeakers (see *sound equipment*).

It is also possible to play a *synthesizer* or *sampler* having harpsichord or *gakuso* timbres. In this case, the monitor loudspeaker must be quite powerful, placed behind the player and pointed diagonally towards him and the other players. Two parallel circuits lead to the mixing console in the hall.

Gakuso players are not accustomed to notation on two staves, so a *gakuso* player may have to arrange his part to facilitate reading.

8) (Elec.) guitar or biwa

Either an *electric guitar* or a *classical guitar* amplified with a microphone is used. The monitor loudspeaker stands next to the player. In either case, the sound is also controlled at the mixing console and projected over several loudspeakers. A *classical guitar* usually sounds better than a normal *electric guitar*. The guitar – like a *biwa* – should be played using a plectrum, and depending on the context, *sul ponticello*.

Like a *biwa*, it is possible to use only 4 strings, tuned

