



# Studio Orchestra Seating

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September 2008

## Abstract

This document presents the seating arrangement for a studio orchestra. Considerations and favourable aspects will be discussed. As an example, details will be given for the Metropole Orkest (studio orchestra of the Netherlands public radio and television, specialised in jazz, popular and film music). Concert visitors, unfamiliar with the working principles of a large studio orchestra, might benefit from these notes.

## 1 Seating arrangement

The diagram in Fig. 1 shows the seating arrangement for a medium to large studio orchestra, such as the Metropole Orchestra. The seating plan is quite similar to that of a symphony orchestra, with the strings in front, winds and brass in the centre and percussion in the rear of the sound stage.

We will consider a medium to large orchestra with approximately 50 musicians, see the Metropole Orkest overview in Fig. 2. In such a studio orchestra there is a number of instrument groups:

**Rhythm section:** The repertoire of the studio orchestra consists of jazz, popular and film music. Much of that music requires a strong rhythm section, maintaining the correct tempo (indicated by the conductor) and creating a groove. The tandem of *drummer* and *bass player* (on both acoustic bass and bass guitar) is the rhythm engine of the orchestra. Therefore it makes sense to put these in the centre. Other members of the rhythm section are the *guitar player* (on both rhythm and solo guitar, acoustic and electric) and the *piano* and *keyboard player*.

**Big band:** The big band contains the rhythm section plus saxophones, trombones and trumpets. Currently, there are 5 saxophones (alto 1 and 2, tenor 1 and 2, and baritone saxophone; in the studio orchestra they will double on clarinet and flute), 4 trombones (the 4th chair will play bass trombone and double on tuba; all trombone players may double on baritone or euphonium) and 4 trumpets (doubling on flugelhorn). Each group has a leader on first chair. The brass first chair frequently is the *high blower* (specialised in controlled and sustained production of high pitches), while the second chair takes most improvised solos. See the brass and saxophone groups in Fig. 3 and 4.

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\*Website: <http://www.fransabsil.nl>. Photographs by the author. Also visit the Metropole Orkest Website at <http://www.metropoleorkest.nl> for more pictures and information. Document history: update April 2010.

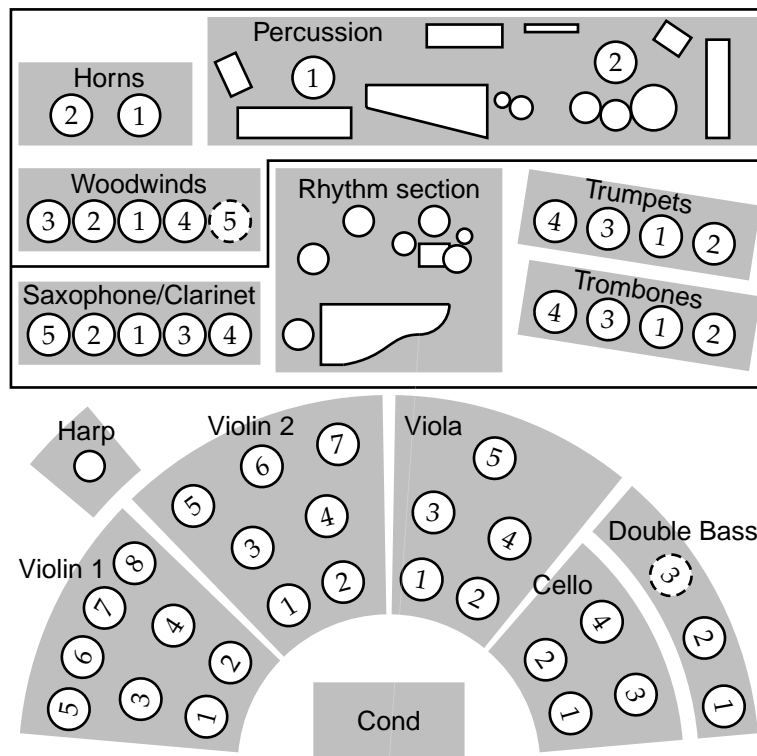


Figure 1: Studio orchestra seating plan. Three levels of seating (front, middle and rear) are indicated. The strings and harp are positioned at the front, the big band goes in the middle. At the rear, highest level part of the stage, we find woodwinds, horns and percussion. Dashed circles indicate optional chairs (see discussion in the text).



Figure 2: Overview of the Metropole Orkest on the large recording stage of the Hilversum radio studios.

**Strings and harp:** The string section should have enough players to counterbalance the big band; in our example the string section consists of 26 musicians. Each group, *first and second violins*, *violas*, *celli* and *double bass*, has a leader (the chair labeled with number 1). The Metropole Orchestra string section is subdivided into 8+7+5+4+2 players. In general the treble string groups (violins) must outnumber the lower strings. The dashed circle indicates that in this example there may be an optional third double bass player. Get another impression of the string section layout in Fig. 5.

**Woodwinds and horns:** High woodwinds and horns add another symphonic element to the studio orchestra. The example indicates 4 players that might play *piccolo*, *flute 1 and 2*, *oboe 1*, and either 2nd oboe (English horn) or *bassoon*. Obviously, other combinations are possible. *French horns* are seated behind the woodwinds; they mix well with all other orchestral groups, and their number will definitely be increased to 4 players for larger productions.

**Percussion:** Finally, a number of percussion players (typically two players) will handle both pitched (such as the *mallets*, *timpani* and the *tubular bells*) and unpitched instruments (e.g., *bass drum*, *cymbals*, *woodblocks*, *triangle*, *tam-tam* and *Latin percussion*). They will create both musical mood effects and contribute to the groove or dance rhythms.

## 2 Considerations about the seating arrangement

There is a number of reasons for preferring this seating layout:



Figure 3: The Metropole Orkest violin, saxophone and woodwind section.



Figure 4: The Metropole Orkest brass section with conductor Vince Mendoza listening.



Figure 5: Detailed view of the Metropole Orkest string section with conductor Vince Mendoza.



- The rhythm section is positioned in the centre for obvious reasons: all group leaders can pick up the tempo and groove from the two driving rhythm players, i.e., bass and drums.
- String group leaders are obviously in the front row, for close coordination with the conductor and between string groups. The other chairs in the string group may observe bow movements from their leader. The big band and woodwind lead chairs are in the group centre, in order to achieve synchronised dynamics, phrasing and articulation within a group; perfect ensemble playing is the signature sound of any big band.
- The classical symphony orchestra layout for the strings has a lot to do with the increased complexity of string parts in contemporary studio orchestra repertoire. The days are over when they would only play long note harmonic backgrounds to jazz lead melodies or improvisations. The line-of-sight (eye contact) helps all string players to synchronise phrasing and bow movement. The string sound is weaker than the big band, and therefore all possible measures should be taken to prevent unbalance. Placing the strings on the front stage certainly helps. And finally, since the string sound takes a little longer to develop, compared to woodwinds and brass, their front position (especially on a large stage) helps simultaneity between note attacks from different orchestral groups. Consult [1] for details about string positioning in the symphony orchestra.
- The harp plays in the same range as the higher string players and woodwinds. Regularly it is used in mixed instrumentation, and therefore proximity is an advantage. It must also be protected from loud brass sounds, in order not to get lost in the balance.
- The 4th trombone player, doubling on tuba, is placed near the centre stage, close to the bass player from the rhythm group. This helps when there is an unisono line shared between the two. This, however, is not the case with the 5th saxophone player (on baritone saxophone, bass and contrabass clarinet), who is positioned on the outside. The reason is that woodwind doubling of the bass line is less likely than brass doubling.
- The saxophones double on woodwinds regularly; therefore they are seated close to the other woodwinds, in order to get a better balance and synchronisation. This makes big band ensemble playing slightly more demanding. On the other hand, it helps to prevent hearing damage from the fortissimo, very loud brass sounds; with the current seating arrangement, the trombones suffer most from this risk.
- The horn sound mixes most comfortably with any other instrument group (woodwinds, strings or brass). Their position is a bit of a compromise; it guarantees a good mix with strings and woodwinds, and the bells are pointing in the best direction for the sound not to get lost. In their role as part of the full brass group, especially when doubling a trumpet lead at the lower octave, they are a bit set back, due to the large distance from the high brass. Horns should not be placed in front of the percussion; their sound might excite drum and timpani membranes and cause resonance.
- The percussion group will distribute their instruments over their allotted space (usually a cramped area, with the subsequent danger of tripping when they hurry to change instruments). However, there is a tendency to have the high-pitched instruments (especially the xylophone and glockenspiel) close to the woodwind group. The timpani are closer to the brass to support bass notes, as are the bass drum and tam-tam. In order to make subtle percussion instruments (such as bar chimes and shakers) audible, *close miking* will be essential.

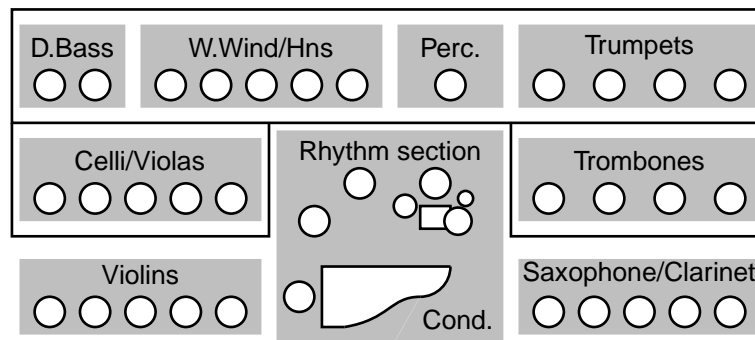


Figure 6: Alternative orchestra seating plan with focus on the big band.

- Compare this layout with an alternative seating that is regularly chosen for smaller ensembles. It is shown in Fig. 6. Now the focus is on the big band, which is sitting in its traditional layout (saxophones in front, trombones in the middle, trumpets in the rear, with the rhythm section to the side), close to the conductor. The symphonic components, i.e., strings, woodwinds and horns are on the opposite side of the rhythm section, further away from the conductor. String players have difficulty synchronising, since the front row of high strings has no line-of-sight with the lower strings. This is also a set-up for more traditional studio orchestra music, where the strings play harmonic backgrounds.

A peculiar compromise between the two seating layouts may be found on the recordings of the Nelson Riddle Orchestra with singer Frank Sinatra (see the sleeve photo on *Sinatra's Swingin' Sessions* from 1960). With the rhythm section in the centre, brass are sitting to one side, while saxophones are sitting on the other side, *in front of* the strings. The reason of this arrangement has to do with the recording techniques (cross-talk on microphones); all the tracks were recorded with the ensemble playing. Have a look at [2], which discloses some of the recording aspects from that era.

### 3 Further reading

Additional information about (classical) orchestra seating arrangements may be found in [1, 2, 3]. Symphonic wind band arrangement diagrams are shown in [4].

### References

- [1] Ermanno Briner. *Reclams Musikinstrumentenführer*. Philipp Reclam Jun. GmbH & Co., Stuttgart, 1988. (in German).
- [2] Harry F. Olson. *Music, Physics and Engineering*. Dover Publications, Inc., New York, second edition, 1967.
- [3] Norman Del Mar. *Anatomy of the Orchestra*. Faber & Faber, London, 1983.
- [4] Frank L. Battisti. *On Becoming a Conductor: Lessons and Meditations on the Art of Conducting*. Meredith Music Publications, Galesville, Maryland, first edition, 2007.