

When the stem direction varies within a bar, maintain the stem direction of the notes that are part of the same beat or half-bar:



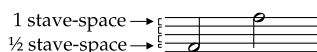
When there is no clear-cut case for either direction, the convention is to use a down-stem. Some editions use down-stems exclusively.

Some editions of vocal music use up-stems only, to allow the text to be placed close to the stave.

(See also *Stem direction on beamed groups*, p. 24; for single-stemmed chords, see *Stem direction*, p. 47; for *Double-stemmed writing*, see p. 52.)

Stem length

The standard length of a stem is one octave (i.e. $3\frac{1}{2}$ stave-spaces) from the centre of the notehead:



(For grace notes, see *Design*, p. 125; for cue notation, see *Size and spacing*, p. 569.)

NOTES ON LEDGER LINES

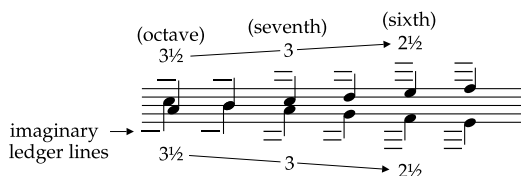
Stems for notes on more than one ledger line extend to the middle stave-line (marked * below):



DOUBLE-STEMMED WRITING

As stems fall further outside the stave, they are progressively shortened. The shortest stem length is a sixth ($2\frac{1}{2}$ stave-spaces): no stem should ever be shorter than this.

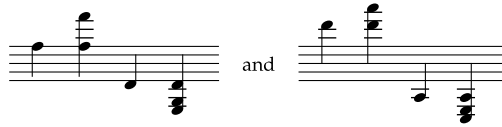
stem length measured by (interval) and in stave-spaces



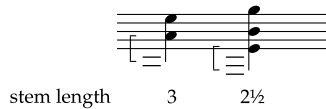
CHORDS

Stem length is measured from the note closest to the open end of the stem. This stem is the length it would be as a single note.

Stems within the stave are one octave long ($3\frac{1}{2}$ stave-spaces); stems for notes on ledger lines reach to the middle line:



Stems outside the stave are progressively shortened (as in *Double-stemmed writing*, opposite):



ADDING TAILS AND BEAMS

The standard stem length allows room for one or two tails or beams to be attached. In double-stemmed writing, the stem length of $2\frac{1}{2}$ spaces accommodates only one tail or beam. For each additional tail or beam, the stem must be lengthened (see *Additional tails*, p. 16; also, *Additional beams*, p. 19).

Tails

Quaver tails

The engraved design of tail is $2\frac{1}{2}$ – $3\frac{1}{4}$ stave-spaces long (3 – $3\frac{1}{4}$ is the norm). This ensures that the tail of an up-stemmed note finishes opposite or just above the notehead:



The tail of a down-stemmed note may curve as far as to touch the notehead:



Direction of beam angle

The beam is angled in the direction of the interval for a pair of notes or the outside interval for a group of notes.

MULTI-DIRECTIONAL BEAMED GROUP

The outer notes of the group determine the beam direction:

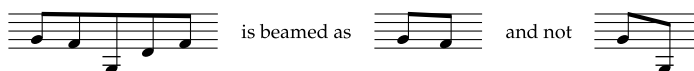


This is regardless of the direction of the majority of the notes:



(But see also groups of concave shape, opposite.)

The beam angle reflects the interval between the outside notes, and not the angle of the group's most extreme interval:



The beam is horizontal when:

(a) the group begins and ends with the same note:



(b) there is a repeated pattern of pitches:



(c) an inner note (marked ↓ or ↑) is closer to the beam than either of the outer notes. Such a group forms a concave shape:

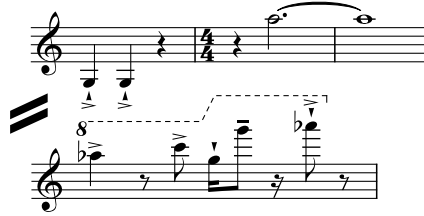


Usually the octave sign will be outside all other notation. It must never cut through other symbols, as this is visually confusing. If restricted vertical space does not permit the dotted line to be parallel with the staff, it can be lowered or raised to follow the contour of the notes, in order not to collide with other notation:

preferable (requires ample vertical space)



acceptable (with restricted vertical space)



incorrect



However, avoid deviation from the horizontal if at all possible.

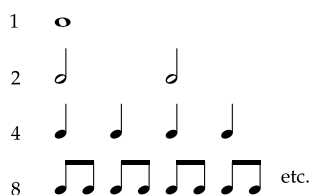
When there are phrase marks or tuplet brackets as well as octave signs, whichever covers the longest duration goes on the outside:



FOR A WHOLE SYSTEM

Place an extension line for a whole system outside all other notation (notes, short slurs, articulation and dynamics), since the dotted line visually cuts off all information outside it. In addition, once the line is established, the player does not need to keep referring to it, and therefore information that potentially changes (e.g. dynamics) is better placed closer to the staff.

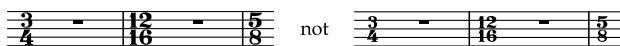
Only tempo markings and piano pedal indications remain outside an octave extension line that continues for a whole system.



(See also *Denominator as any division of the semibreve*, p. 180.)

Size and placing

Time-signature numerals should exactly fill the height of the stave. Smaller numerals are not sufficiently conspicuous:



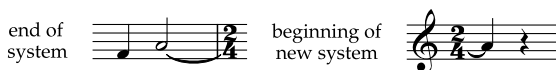
Time-signature numerals use a unique heavy font so that they stand out as clearly as possible against the stave. The font distinguishes them from other numerals so that the eye identifies them instantly.

At the beginning of a piece, the time signature goes after a clef and any key signature. It holds good for a whole movement or up to a change of metre. It should be repeated at the beginning of a new movement, even if this is the same as that of the previous movement, and even when the music follows on from the previous movement without a break (see *Layout between movements*, p. 486).

Placing time-signature changes

The new time signature is always placed after the barline.

When a change of time signature occurs between systems, add a cautionary indication at the end of the first system, after the last barline:



A thin double barline precedes a change of time signature only when one coincides with a new musical section.

(For part preparation, see *Time signatures*, p. 563; for score layout, see *Enlarging time-signature symbols*, p. 519.)

Beaming according to the metre

Divisions of a beat are beamed together in all metres, in order to simplify reading beats:

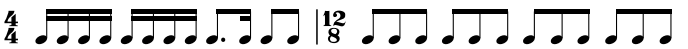
metres of 2 beats



metres of 3 beats



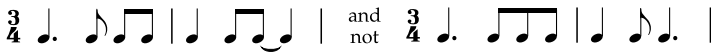
metres of 4 beats



In $\frac{2}{4}$ and in $\frac{3}{4}$, any number of quavers can be beamed together:



This is provided that groups in $\frac{3}{4}$ do not give the appearance of $\frac{6}{8}$ accentuation. For example, the following common figurations should be notated thus:



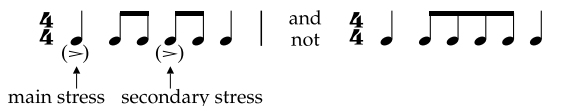
The second example incorrectly implies $\frac{6}{8}$ accentuation. (Music from the Classical and Romantic periods frequently uses this beaming – the context makes it clear that cross rhythm is not intended.)

(See also *Dividing notes in three-beat and compound-time metres*, p. 168.)

In $\frac{4}{8}$ and in $\frac{4}{4}$, groups of semiquavers and quavers respectively may be beamed into half-bars:



However, notes should never be beamed over the middle of the bar, since the third beat carries a secondary stress which should always be indicated in the notation:



PLACING RESTS

Centre each rest around the middle space or on the middle line:

position of rests on a 2-line stave



position of rests on a 3-line stave



When there are multiple lines, place a rest that is part of a beat on a horizontal level with adjacent notes. Place other rests at the centre of the group of lines (see Table 1, opposite).

(See also *Rests on a single line*, p. 38.)

Multiple-instrument part (one player)

By far the best layout is one five-line stave, even if this entails placing notes on one or two ledger lines to create sufficient lines for the required instruments (see Table 1 (a)). Players are most used to reading the five-line stave, and other configurations will, therefore, prove more problematic.

The five-line stave is vertically compact and thus quicker to read than a group of widely spaced lines. A part becomes harder to read the greater the depth of the system (Table 1 (b) and (c)). A solution that reduces the number of lines to a minimum is not easier to read should the notehead positions be difficult to distinguish (d).

When one five-line stave is insufficient for the number of instruments being used, introduce a second stave. (A good example of this practice is found in the percussion parts of Xenakis's *Rebonds* and *Kombai*, which use one five-line stave, expanding to two for the introduction of a second group of instruments.) Alternatively, create additional lines above or below the stave, separating them from the stave for visual clarity.

Given the above guidelines, provide sufficient staves (or additional lines) for there to be as many lines and spaces as instruments in a given passage. Thus the player can recognize each instrument from its position within the group. Do not move instruments onto fewer lines in order to save space, as this is confusing: players become accustomed to the unique layout of a piece. Only for an extended passage using fewer instruments, or a different group of instruments, is it acceptable to omit a group of lines.

TABLE 1: Comparative layouts for multiple-instrument part

(a) recommended layout*

2 Wood bl.
Temple bl.
2 Bongos
S.D.
T.D.
B.D.

(b) acceptable layout: each instrument allocated a line

2 Wood bl.
Temple bl.
2 Bongos
S.D.
T.D.
B.D.

The following examples are impossible to read:

(c) wide line-spacing

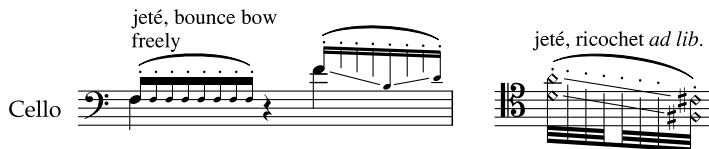
2 Wood bl.
Temple bl.
2 Bongos
S.D.
T.D.
B.D.

(d) a minimum number of lines

2 Wood bl.
Temple bl.
2 Bongos
S.D.
T.D.
B.D.

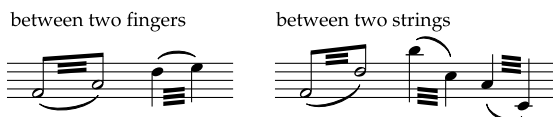
* An instrument in the middle of the staff is allocated crossed noteheads for clarity. This should not be used if crossed noteheads indicate rim, rim shot or finger damping in the same piece.

The use of grace notes indicates that the rhythm is the result of the bounced bow. Otherwise short note-values may be accompanied by an *ad lib.* instruction to suggest the flexible rhythm:

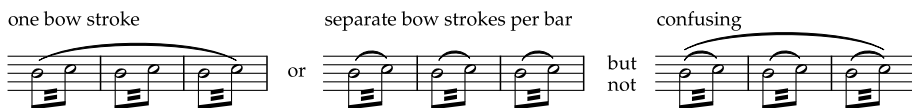


Two-note tremolos

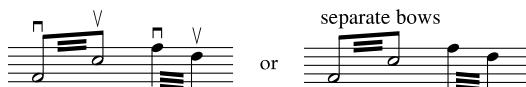
When a tremolo between two notes is played in one bow stroke, place a slur between the two notes. The tremolo will be either between two fingers on one string ('the finger tremolo'), or between two strings ('the bow and finger tremolo'):



When tremolo note-values are repeated within one bow stroke, use a single slur. A slur should always indicate the length of the bow stroke (there should not be separate slurs for each two-note tremolo unless each has a separate bow stroke). To use two sets of slurs is confusing, as it is unclear whether a second set functions as bowing or phrasing:



When a two-note tremolo is articulated by separate bow strokes, there is a change of bow and finger, or bow and string, for each note. This technique is much less commonly used than the slurred tremolo, so clarify that bow changes are required:



(See also *Two-note tremolos*, p. 225.)

Bowing marks

Down-bow: travelling towards the point ▢

Up-bow: travelling towards the heel ∇

Bow direction choices should be left to the player, since either direction can very often achieve the required effect (especially as regards accentuation). Indicate the relevant articulation, and leave the player to find the best bowing to achieve this. Bowing may be prescribed for educational music but should otherwise be reserved for very special techniques, e.g. where the bowing contradicts what would normally be used (see following example).

Place a bowing mark over the staff, aligned with the first note of the bow stroke and above all other markings (see *Positioning symbols*, p. 427):

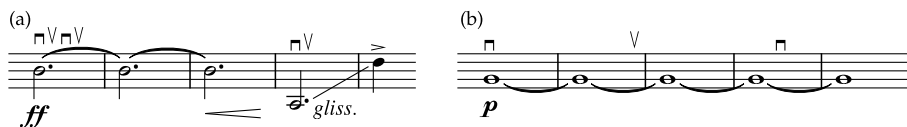


Where two instruments share a staff in a score, the bowing symbols for a lower part are inverted below the staff. However, since the up-bow sign can be mistaken for an accent, it is best not to place two parts on one staff where bowing is to be included – and most certainly not if the score is to be played from:



UNSYNCHRONIZED BOW CHANGES

These may be indicated by an instruction such as *change bow freely*. Alternatively, for a single held duration, group bow-change indications above the first note (a), or spread them over the course of the held pitch (b):



Specific section of the bow

The player will always find the section of the bow where a required effect works best. The specifications *at the heel* (Italian: *al tallone*) and *at the point* (Italian: *alla punta*) should be reserved for an effect that demands an unconventional bow placing or when the player would not necessarily play exclusively in that part of the bow.

Preparation

Players will tend to be well disposed towards a work whose instrumental parts are carefully prepared. The size and spacing of the notation, the placing of staves on the page and the timing of page-turns all contribute to the success or failure of a performance. However brilliant a piece is, arguably performers can do justice to it only if it is easily legible, leaving them free to concentrate on delivering the performance.

Performance conditions

It is very important to choose a stave size that the player is able to read comfortably. Consider the likely performance conditions before deciding on appropriate page and stave sizes.

- If the performer is likely to be some distance from the stand or if two players share a copy, the stave size should be larger than otherwise (e.g. 7 mm)
- In bad lighting conditions, e.g. in an orchestra pit, small notation is difficult to read
- In cramped conditions, avoid large pages for performers who must sit close together (e.g. woodwind players)
- Do not give an enormous (A3 or larger) or flimsy copy to a performer who will need to transfer it from one stand to another (e.g. a percussionist, or a pianist doubling celesta)

An ideal stave size in good lighting conditions is 6.7 mm (see *Stave sizes*, p. 482).

PAGE SIZE

Instrumental parts benefit from a slightly larger page size than A4 (see *Page sizes and formats*, p. 481).

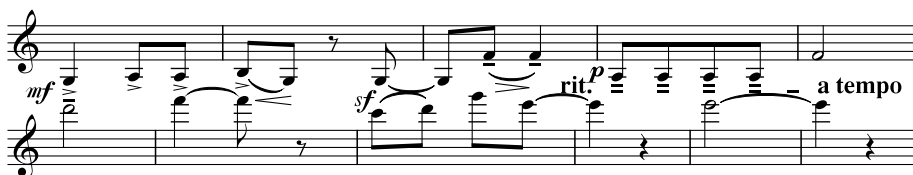
In order to use an ample stave size to satisfy criteria of legibility, especially at a distance, it may be preferable to have a generous page size. However, if considering a page larger than B4, take into account the following:

- A large copy must fit onto a performer's stand
- The copy should not obliterate the performer's view of everyone else
- The copy must be easily legible from one edge of the double page to the other. For instance, a pianist whose instrument has a high music rest may struggle to read the top of an A3 portrait-format page. Two string players at a desk will have difficulty reading the furthest side of an A3-sized copy

Spacing staves

Allow plenty of space between systems on a page whenever possible, so that it is immediately clear which notation belongs to which stave. It is essential that there is adequate space to allow players to write cues, beats, fingerings, bowings, etc., above each stave of their copies. The following cramped spacing creates unnecessary difficulties and ambiguities, and would be impossible to use:

not acceptable



(See also *Distance between staves*, and *Spacing a braced part*, p. 488.)

Titles

List movements in all material even if some performers may not be included in one or more movements, so that the musician knows none of the part is missing (see *Tacet*, p. 580; also, *Matching information for all materials*, p. 501).

An instrumental part need not have a title page as long as all essential information can be fitted on the first music page (see also *Title page*, p. 501). Each part should contain a copyright line (see *Information on the first page of music*, p. 504).

Labelling the part

On the first page of music, place the instrument name above or below the title, flush with the left-hand edge of the printed area (see oboe example, opposite). List all doubling instruments and any others the player needs. A part that requires more than one player should state this: e.g. 'Piano (2 players)'.

A percussion part must list all instruments needed, together with the number of players required to play them (see *Listing instruments and specifications*, p. 272).

For subsequent pages it is good policy to label the top centre of each page with instrument name and player number, in case pages become separated later (this is known as a 'running head'). For a part with instrumental doubling, it is necessary to give only the principal instrument for the running head (see also *Running heads*, p. 501).

Providing cues

A cue may fulfil several functions: it may be used for orientation; for tuning or for co-ordination (see *Cue stave*, p. 575); or to indicate a line that is to be played in the absence of, or to support, other forces (see *Playing cues*, p. 498).

For orientation

The number of bars' rest a player can reasonably be expected to count between entries without a cue depends on the complexity of the music. If in doubt, add a cue. The more complex the music, the greater the need for cues – even after only a few bars' rest.

A cue is essential before an important solo entry, so that the soloist has utmost confidence that the entry will be correctly placed.

Cues are useful after a change of tempo, so that the players can confirm correct counting in the new tempo, not (say) at half or double speed.

In long rest periods cues also provide landmarks (e.g. at section changes).

Provide plenty of cues in rhythmically complex music, in situations in which co-ordination will be difficult and when the pulse is inaudible.

In unconduted music, for security it may be very useful to provide a virtually continuous cue line during rest bars, so that the player does not have to rely solely on accurate counting.

What to cue

Selecting the most useful cue is an important aspect of preparing a part. Consider which type of cue is most helpful according to the most prominent features of the music, and combine any of the following options. A metre change or a G.P. bar indication helps players to identify their places and this may obviate the need for a cue.

MELODIC LINE

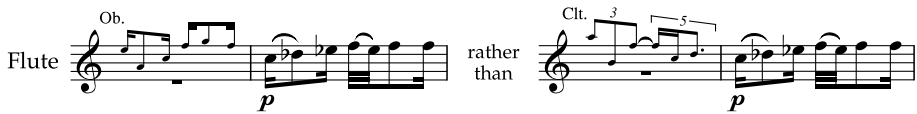
A melodic line provides an ideal cue:

- except when the line is too fast for the player to follow
- except when pitch is not a prominent feature of the material
- except when pitch clusters make an individual line difficult to hear

In these cases a rhythm is likely to be a more suitable cue (see opposite).

Select a cue that will definitely be audible to the player. This is more important than cueing the most musically significant entry. If in doubt, cue the line of a player sitting in close proximity. In a theatre pit, a player in the middle of the group may not hear a cue from a player seated at the side.

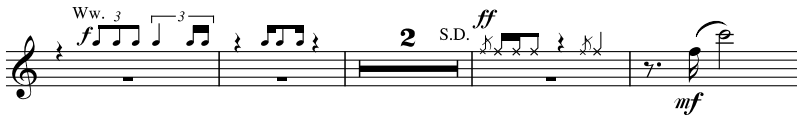
When there is a choice of cues, select a line with similar rhythmic material to the player's entry:



Note that chords are not useful as cues – it is the cue entry that is important.

RHYTHM

A rhythm alone is an appropriate cue when the material is predominantly rhythmic rather than melodic in character. Select, for example, the rhythm of a group of instruments playing in rhythmic unison. The rhythm may be cued either as notes placed just above the staff, or as stems without noteheads (although rhythms that have noteheads are easier to read). It is useful to distinguish a percussion cue by using crossed noteheads:



(See also *Rhythmic cue line*, p. 576.)

INDICATION OF PROMINENT ENTRIES

Prominent entries are useful markers during long rest periods and preceding a melodic or rhythmic cue. Indicate the instrument or section abbreviation under the bar in which it enters. If necessary, divide multiple-rest bars to do this. Vocal or choral entries may also be indicated in this way.

In rhythmically complex music, it is useful for the player to know when the part is in rhythmic or melodic unison with another player. This is marked 'col . . .' or 'with . . .' at the entry, usually below the staff and after any dynamic:

