

## Reed Instruments

### About Reeds

A reed is a thin elastic strip of cane fixed at one end and free at the other. It is set into vibration by moving air. Reeds are the sound generators in the instruments described below.

Cane reeds are built as either double or single reeds. A double reed consists of two pieces of cane carved and bound into a hollow, round shape at one end and flattened out and shaved thin at the other. The two pieces are tied together to form a channel. The single reed is a piece of cane shaved at one end and fastened at the other to a mouthpiece.

### Single Reed Instruments

**Clarinet:** A family of single reed instruments with mainly a cylindrical bore. They are made of grenadilla (African blackwood) or ebonite, plastic, and metal. Clarinets are transposing instruments\* and come in different keys. The most common ones used in orchestras are the clarinet in A and the clarinet in Bb. When a part calls for a clarinet in A, the player may either double -i.e. play the clarinet in A, or play the clarinet in Bb and transpose\* the part as he plays. During the time of Beethoven, the clarinet in C was also in use and players were expected to be able to play all three instruments when required. All clarinets are notated in the treble clef and have approximately the same written range: E below middle C to c'''' (C five ledger lines above the staff).

**Bass Clarinet:** A member of the clarinet family made of wood, which sounds an octave lower than the Clarinet in Bb. It is much longer than the clarinet and is shaped more like a saxophone with its bell (made of metal) being bent upward and towards the front. It has a metal pin at the base of the bell to help the player steady the instrument. A neck strap is also used to help hold the instrument in front of the player. It has the same range as the Bb Clarinet but an octave lower. The higher octaves are seldom used because the Bass Clarinet sounds best when played in the lower range.

**Saxophone:** A family of single reed, metal (brass), conical-bore woodwind instruments patented by Adolphe Sax of Brussels in 1841. They have always been made in two shapes. The smaller one (soprano) with a straight bore and the larger ones (alto, tenor, and baritone) with a bore bent up and toward the front. The alto, tenor, and baritone saxes are held with the aid of a neck strap. Because of its relatively late origin, the saxophone is not considered a regular member of the orchestra. They are all transposing instruments and are made in Eb and Bb. The tenor sax in Bb is typically the special guest in the woodwind section. It is notated in the treble clef and has a written range of Ab (two octaves below middle C) to f' (two octaves above middle C).

### Double Reed Instruments

**Oboe:** A conical-bore, double-reed woodwind instrument made from grenadilla. The bell of the oboe is flared. Oboe music is written in the treble clef and is in the key of C. The oboe is a non transposing instrument. Its range is from Bb below middle C to a<sup>''''</sup> (an A four ledger lines above the staff).

**English horn:** A member of the oboe family, this double reed instrument is pitched lower than the oboe. It is made of grenadilla and has a hollow, bulb-shaped bell and a curved bocal\*. It is a transposing instrument in F, a fifth below the oboe. Music for the English horn is written in the treble clef. Its sounding range is from E below middle C to a<sup>''</sup> (the first A above the staff.)

**Bassoon:** A conical-bore, double-reed instrument that has its bore folded in the center to reduce its exterior dimensions. There are two styles of bassoons which differ in design and fingering: German, made of maple and French, made of rosewood. The finger holes of the bassoon are drilled at an angle into the bore to make them more accessible to the player. Bassoons are built in four sections called the wing, boot, long, and the bell. The reed is connected to the wing by an S-shaped bocal. Music for the bassoon is written in the bass clef. Its range is from Bb1 (two ledger lines below bass clef staff) to e<sup>''</sup> (the top space of the treble clef staff)

**Contrabassoon:** The only other member of the bassoon family still used in orchestras today. Much longer than the bassoon, it too is a folded, conical-bore instrument made of hardwood. It is written in the bass clef and sounds an octave lower than written. Its written range is from A2 (three ledger lines below the bass clef staff) to g (the first G above middle C).

**Transposition** - The rewriting or performance of music at a pitch other than the original one. This means that each note must be raised or lowered the exact same interval such as a whole step, a fourth, a fifth, etc. Woodwind players are often required to do this when reading parts not written for their specific instrument.

**\*Transposing Instrument:** Instruments whose notated pitch is different from their sounded pitch.

**\*bocal** - the curved metal tube into which the reed of an English horn or bassoon, or contrabassoon is attached.