

Instrument Ranges

Timbral Characteristics

Dynamic Curves

Additional Comments

Piccolo
 Range: D4 - C7
 Sounds 1 octave higher
 Characteristics: Weak, but soft + mellow; Bright + clear; Shrill
 Dynamic Curve: Flutes

Flute
 Range: B3 - D7
 Only use B6 upwards at the end of an upward-rushing, f,fff scale.
 These trills and tremolos are unplayable on the flute.
 Characteristics: Quiet, easily covered, hauntingly hollow sound; Sweet, but with little carrying power; Clear + brilliant; Shrill + penetrating
 Dynamic Curve: Flutes

Oboe
 Range: Bb3 - A6
 These notes are hard to play at dynamics less than mf.
 Characteristics: Cold + weak, but luscious; Warm, prominent, reedy, + poignant; Thin, but clear; Pinched + ineffective
 Dynamic Curve: Oboes

English Horn
 Range: E3 - B5
 sounds perfect 5th lower
 written
 Characteristics: Mellow, reedy, sonorous; Thin, pinched
 Dynamic Curve: Oboes

Clarinet
 Range: C3 - F#6
 A clarinet sounds (minor and lower)
 B clarinet sounds (major and lower)
 E clarinet sounds (major and higher)
 All written
 written
 Avoid major 2nd trills on these notes, when the part is solo, or exposed. OK when used in tutti.
 Characteristics: Deep, rich + intense; Throat tones: rather pale, fuzzy + lifeless; Piercing, shrill, flute-like
 Dynamic Curve: Clarinets (written)

Bass Clarinet in Bb
 Range: D#2 - G5
 sounds (major 5th lower)
 written
 Characteristics: Chalumeau register: deep, rich + dark; Clarino register: diffused + windy; Thin, but clear
 Dynamic Curve: Clarinets (written)

Bassoon
 Range: Bb1 - E5
 Avoid trills (major or minor 2nd) from low G downwards, or on all D's, E's, G's or on A4.
 Characteristics: Chalumeau register: deep, rich, very dark + mellow - goblinique; Sweet, more subdued, but expressive, horn-like, transparent + blends well; Thin, but intense; Thin + often pinched
 Dynamic Curve: Bassoons

Double Bassoon
 Range: Bb1 - C5
 sounds 1 octave lower
 Characteristics: Growly, brittle, dark + full; Rough, but focused + expressive; Poor quality, easily masked
 Dynamic Curve: Bassoons

Horn in F
 Range: G1 - F5
 sounds (perfect 5th lower)
 written
 sounds
 Pedal tones (black notes) and lower range: write only as long holding notes.
 Characteristics: Deep + solid; Bright + heroic; Brilliant, loud + exciting; Hard to play above written A4.
 Dynamic Curve: Horns (written)

Trumpet in C
 Range: F#3 - D6
 Characteristics: Dark, unfocused, weak, + easily covered; Warm, expressive; ppp-mp = Haunting + dark; mf-fff = Heroic + brilliant; Brilliant, but strident
 Dynamic Curve: Trumpets

Tenor Trombone
 Range: E2 - D5
 Pedal tones: Bb1 is easily playable. Below that the notes become increasingly insecure. G1 is usually the bottom limit for most players.
 Characteristics: Firm, powerful, rich + sonorous; Very intense
 Dynamic Curve: Trombones

Bass Trombone
 Range: C2 - D5
 Pedal tones: Full sound with great carrying power. More secure than Tenor Trombone's pedal tones. Do not make them very rapid.
 Characteristics: Dark, less strong, + tubby, but good pitch focus; Deep + solid; Very powerful
 Dynamic Curve: Trombones

Tuba
 Range: D1 - F4
 Lower notes: Always use ledger lines, not 5ve sign.
 Pedal tones: Hard to play, but possible. Best approached step-wise, or, if by leaping, use tempo 'ritardato ad lib'.
 Characteristics: Heavy + quite strong; Very strong, smooth, + mellow; Getting weaker but quite intense, + strained
 Dynamic Curve: Tubas

Timpani
 Range: C2 - A2, F2 - C3, Bb2 - F3, D3 - A3, F3 - C4
 The centre range of each drum produces the best tone.
 Characteristics: Light + clear, but with small dynamic range, little carrying power + quick decay; Very rich + warm; Somber, dark + sonorous
 Dynamic Curve: Harp

Harp
 Range: C#1 - G#7, A2 - F5
 sounds 1 octave higher: write this information into the score
 Characteristics: Very rich + warm
 Dynamic Curve: Harp

Violin
 Range: G3 - E7 (B7)
 Normal range, Harmonic range, Pizzicato range
 Characteristics: G - Rich + dark. Higher range less focused but more intensity; D - Calm, fuzzy + introspective; A - Unique and expressive. More mellow than E string in the same range; E - Brilliant with best carrying power. Softly-unworldly shimmer. Not placid, penetrating.
 Dynamic Curve: - uniform -

Viola
 Range: C3 - C6 (A6)
 Normal range, Harmonic range, Pizzicato range
 Characteristics: C - Dark + thick; G - Moderately rich; D - Quiet warmth; A - Penetrating, brilliant, reedy + unique
 Dynamic Curve: - dynamic -

Cello
 Range: C2 - D5 (D6)
 (Cello uses tenor or treble clef for higher passages)
 Normal range, Harmonic range, Pizzicato range
 Characteristics: C - Heavy + rich; G - Grave + reflective. Lighter than C string, but similar; D - Tranquil, warm + not much bite. Brighter than C or G string; A - Expressive, powerful, rich, melodious + vibrant. The most expressive of all the strings.
 Dynamic Curve: - range -

Double Bass
 Range: C2 - D5 (G5)
 sounds 1 octave lower
 actual sounds
 Characteristics: E - Dark, somber + slightly dull; A - Ponderous. More buzz than E string, but a bit bland; D - Rich, mellow + reedy; G - Very rich + expressive. It can be melodious or aggressive + can rival any string in the orchestra for expressiveness.
 Dynamic Curve: - range -

Violin Additional Comments:
 -Most agile, responsive + versatile of strings
 -Sul Tasto: Bow over the fingerboard
 -Col Legno: Tap string with wood of bow-hard, clattery sound (ord.=Bow with the hair of the bow)
 -Poncillo or Sul Poncillo: Bow near bridge
 -Multiple stops: i) Double: Adjacent strings, all dynamics, can sustain, easy to play; ii) Triple: Only mf-fff; If 2 open + 1 stopped string - easy; iii) Quadruple: Only f-fff
 -Glissandi

Viola Additional Comments:
 -Good for doubling melodic lines at 8ve or in unison with violin
 -Can reinforce + double cello, acting as a small cello
 -Good used as the only bass part - solid, but not heavy foundation
 -Usually divisi, not multiple stops, for 2, 3, or 4 pitches (but it can play multiple stops - same limitations of multiple stops as violin)
 -Excellent used in or as accompaniment - rhythmic figurations, or harmonic structure
 -Sul Tasto: Bow over the fingerboard - very good

Cello Additional Comments:
 -Avoid wide tremolos
 -Double: Adjacent strings, all dynamics, can sustain, good in mid and lower lines easy to play. Avoid 2nds + 8ves unless 1 string is open.
 -Triple: Best at f,fff. At mf or less the chord is broken.
 -Agile, expressive, melodic, mellow+warm
 -Can play complex+intricate lines
 -Bass lines: Clear+focused. Subtle or aggressive
 -Often scored above viola where it is very assertive

Double Bass Additional Comments:
 -Less agile than other strings
 -Double stops: Best if 1 string is open
 -Mid-upper range has a powerful intensity
 -Pizzicato: Excellent, warm, full, sustaining. Good at ppp-fff. They can provide the only necessary bass to a complex tonal structure!
 -Natural Harmonics: Easy + good. They can provide an alternative to other string section tones because they are in the middle of the string section range.

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