

Instrument Ranges

Timbral Characteristics

Dynamic Curves

Additional Comments

The image displays a comprehensive musical score for a wide array of instruments. Each instrument's part is presented in a staff with notes, rests, and dynamic markings. Accompanying each staff are detailed annotations regarding its timbral characteristics, dynamic curves, and specific playing techniques. For example, the Flute section notes that it is 'Agile' and 'Expressive', with dynamic curves showing its range from *ppp* to *fff*. The Violin section describes its 'Normal range' and 'Harmonic range', and notes that it is 'Most agile, responsive + versatile of strings'. The Double Bass section highlights its 'Solemn, dark + sonorous' sound and its role in providing a 'powerful' accompaniment. The score is meticulously organized, allowing for a clear comparison of the capabilities and characteristics of each instrument.

<p>Piccolo</p> <ul style="list-style-type: none"> -More agile than flute -Faster articulations -Dynamic curve similar to flute but with exaggerated contrast -Solo piccolo in mid+low registers - valuable voice -High <i>piano</i> (<i>p</i>) - still shines through orchestral tutti 	<p>Flute</p> <ul style="list-style-type: none"> -Agile -Fast articulations -Rapid scales -Intonation good except from G6 upwards: -Also at this register, 2 flutes produce obvious beats which are more obvious with 4ths+5ths, less so with 3rds+6ths -Easily masked below C5 (above mid C)
<p>Oboe</p> <ul style="list-style-type: none"> -Agile -Expressive -Precise staccatos -Rapid scales -Smooth legato - even with wide leaps -Double, triple tonguing. Flutter tonguing rare but possible 	<p>Oboes</p> <ul style="list-style-type: none"> -Vibrato - standard element -Trills+ornaments sound clear -All trills+tremolos possible (tremos wider than perfect 4th are awkward)
<p>English Horn</p> <ul style="list-style-type: none"> -As agile as oboe -More delicate and slightly quieter than oboe -Precise attack -Pointed staccatos -Rich in upper partials 	
<p>Clarinet</p> <ul style="list-style-type: none"> -'E' more shrill without much chalumeau -Agile -Smooth legatos -Tremolos - good -Staccato not as pointed as double reeds, so should be compensated for when used with oboes and/or bassoons -Dynamic range greater than other woodwinds - all dynamics are available in all registers (attacks can be almost inaudible) 	<p>Clarinets</p> <ul style="list-style-type: none"> -All major+minor 2nd trills possible (tricky ones listed opposite) -No problem crossing break from B4-B4
<p>Bass Clarinet</p> <ul style="list-style-type: none"> -Agile - almost as much as clarinet -Fluid -Useful ensemble voice - gives clarity to cellos + d. basses -Solo - distinguished + strikingly individual tone 	
<p>Bassoon</p> <ul style="list-style-type: none"> -Often doubles string melodies in unison, or in 8va below -Agile - except lowest 5th and above G4: -Rapid tonguing - single usual, but double + triple also possible -Rapid loud or low passages need lots of breath -Excellent as solo voice in upper range -Divide tricky rapid passages below F2 between 2 bassoons 	<p>Bassoons</p> <ul style="list-style-type: none"> -Wide leaps
<p>Double Bassoon</p> <ul style="list-style-type: none"> -Expressive -Slightly less agile than bassoon, so make parts simpler -Good bass to <i>p-mp</i> brass or woodwind ensemble -Reedy and growly -Adds unobtrusive pitch centre to low double basses -Often doubles double basses in unison and doubles cellos in 8va below 	
<p>Horn in F</p> <ul style="list-style-type: none"> -Stopped notes: Soft=Delicate, Loud=Ominous bite! -Not very agile - leaps over 1 8ve should be used sparingly -Tonguing is less incisive than other brasses, but pro players can perform double, triple and flutter tonguing -Trills: i) Lip-commonest+smoothest type. Most whole-step lip trills above written B4, above mid C, are possible ii) Valve-Best are minor 2nds throughout whole range -High notes lack accuracy+security, more so in soft passages 	<p>Horns</p> <ul style="list-style-type: none"> -Hard to play <i>ppp-p</i> above written A4
<p>Trumpet in C</p> <ul style="list-style-type: none"> -Very agile - rapid passages, wide leaps -Rapid tonguing easy - double, triple or flutter -Trills: All major + minor 2nds possible -Tremolos: minor 3rds+up are hard to play fast, but possible if both pitches require little or no change of fingering -Sturs: All possible, but bigger than 1 8ve ascending and bigger than a 6th descending are difficult 	<p>Trumpets</p> <ul style="list-style-type: none"> -Most whole-step lip trills above written B4, above mid C, are possible
<p>Tenor Trombone</p> <ul style="list-style-type: none"> -Responsive and flexible -Agile from B3 upwards (less so below that): -Rapid tonguing easy - double, triple or flutter -Good balance with orchestra in any voicing -Chords in open or close voicing - good -Unison or 8ve doubling - good -Sustained chords good, but not for too long above <i>mf</i> 	<p>Trombones</p> <ul style="list-style-type: none"> -Fast-moving passages are idiomatic
<p>Bass Trombone</p> <ul style="list-style-type: none"> -Darker, more somber tone -More secure lower range + pedal tones -Requires more breathing spaces in music passages -Glissandi 	
<p>Tuba</p> <ul style="list-style-type: none"> -Agile -Rapid tonguing - double, triple or flutter -Requires lots of air, especially in lower register + at <i>fff</i> -Always use ledger lines for lower notes -Uniform expressiveness throughout range -Usually used as bass line, or doubles bass line 8ve lower -Solo: Mellow + smooth 	<p>Tubas</p> <ul style="list-style-type: none"> -Flat b strings resonate more than natural b or sharp # strings
<p>Timpani</p> <ul style="list-style-type: none"> -5 Ranges: The best tone is in the centre of each drum's range -Each drum's lower range=Dull+thumpy, Upper=Hard+pingy -Can be muffled with cloth -Struck dead centre = Darker, more ominous - less ring -Soft sticks = Warm, more resonant -Hard sticks = Louder + greater clarity -Glissandi 	
<p>Harp</p> <ul style="list-style-type: none"> -Normal range -Harmonic range -Sounds 1 octave higher: write this information into the score -Very rich + warm -Somber, dark + sonorous 	<p>Harp</p> <ul style="list-style-type: none"> -Harmonics: Left hand-up to 3 close harmonics (not over a 5th apart), right hand-only 1 harmonic. Must be all b, #, or # per hand. -47 strings, 7 pedals for each pitch class. Only 1 b, #, or # tuning per string. -All 8ves affected by changing 1 pitch class pedal, except the lowest 2 strings which have to be tuned manually -Allow approximately 0.5-1 second per pedal change, which can be done while playing as long as that pitch is not played -Only the left hand can reach lowest 8ve -Chords of 4 or less notes per hand are possible -Thumb+3 fingers used: So favour large intervals between upper pitches, and avoid large intervals between lower pitches -Average hand span interval of 10th from thumb > ring finger -Tremolos: Fast and loud tremolos possible, using 2 strings tuned to same note -Bisbigliando: Delicate rustling tremos at <i>ppp-mp</i> only + less clear articulation -Glissandi: 1-handed, 2-handed, up, down or both, single notes or chord gliss. -Can change the tuning in mid gliss. -Sons Étouffés: Dampen notes-dry stacc. -Pés de la table: Guitar-like, plucked near soundboard
<p>Violin</p> <ul style="list-style-type: none"> -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) -Ponticello or Sul Ponticello: Bow near bridge -Multiple stops: i) Double: Adjacent strings, all dynamics, can sustain, easy to play ii) Triple: Only <i>mf-fff</i> if 2 open + 1 stopped string - easy iii) Quadruple: Only <i>f-fff</i> -Uniform 	<p>Violin</p> <ul style="list-style-type: none"> -Glissandi -Pizzicato: Can play 2 at once
<p>Viola</p> <ul style="list-style-type: none"> -Good for doubling melodic lines at 8ve or in unison with violin -Unison with English Horn = Rich + romantic -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 	<p>Viola</p> <ul style="list-style-type: none"> -Can be used as an inner voice -Solo: mellow + melancholy -Pizzicato: More ring + body than violin -Glissandi
<p>Cello</p> <ul style="list-style-type: none"> -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 -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 <i>ppp-fff</i>. 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. 	<p>Cello</p> <ul style="list-style-type: none"> -Solo: Commanding upper register. Also good in mid and lower lines -Pizzicato: Good ringing quality + wide dynamics. Light, rapid. Pitch is well-focused -Harmonics: Natural-up to the 12th partial - good -Ponticello: Bow near bridge - very effective -Sul Tasto: Bow over the fingerboard - very good
<p>Double Bass</p> <ul style="list-style-type: none"> -Solemn, dark + sonorous -Very rich + expressive. It can be melodious or aggressive + can rival any string in the orchestra for expressiveness. 	<p>Double Bass</p> <ul style="list-style-type: none"> -Try to avoid dividing basses in 8ves -Ponticello (bowing near the bridge): Both very effective! -Sul Tasto (bowing over the fingerboard): effective! -Long pedal notes: staggered in a group of d. basses due to the short bow (a solo player has to be skillful to avoid breaking long held notes) -Glissandi

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