

# Area of Study Four

Timbre and Dynamics



# Definition of Key Terms

Key Word	Definition
Timbre	The characteristic individual sound or tone-colour of an instrument or voice
Fundamental	The note we hear most strongly through the vibrations
Harmonics/overtones	Fainter, higher notes we hear through the vibrations
Reverb	When a sounds lasts longer because it is reflected between the walls, floor and ceiling of a room
Distortion	Often used in rock music, particularly on the electric guitar, sometimes creating an aggressive sound
Chorus	When a recorded voice or instrument is multiplied electronically, producing the effect of one voice or instrument sounding like many
Multi-tracking	A recording technique in which different tracks of sound are recorded separately but can be played back together
Compression	Boosts the level of the quietest sounds in a piece of music, so that they balance with the louder sounds
Vocoder	A device for synthesising speech
Sequencer	An electronic device or computer program that is used to record, edit and play back music data using MIDI
Panning	Occurs when the sound is electronically moved across from one speaker to another, or is separated into different speakers
Con arco	This means to play a string instrument 'with the bow'
Pizzicato	This is where the strings are plucked instead of being bowed
Con sordino	This means 'with a mute'

# Definition of Key Terms

Key Word	Definition
Double-stopping	Where string players bow two notes simultaneously, on adjacent strings
Tremolo/tremolando	Another string effect, this literally means 'trembling' or 'quivering'. It is produced by rapid up-and-down movements of the bow on the strings
Falsetto	A technique employed by male singers, to enable them to sing notes higher than their normal range
Vibrato	This technique literally means 'quivering' or 'shaking', and is an effect caused by small and rapid changes to the pitch of a note
Dynamics	The varying levels of loudness or softness in a piece of music
Piano ( <i>p</i> )	'soft'
Forte ( <i>f</i> )	'loud'
Fortissimo ( <i>ff</i> )	Very loud
Fortississimo ( <i>fff</i> )	Extremely loud
Pianissimo ( <i>pp</i> )	Very quiet
Pianississimo ( <i>ppp</i> )	Extremely quiet
Mezzo piano ( <i>mp</i> )	Moderately quiet
Mezzo forte ( <i>mf</i> )	Moderately loud
Forte-piano ( <i>fp</i> )	Loud, then suddenly soft
Sforzando ( <i>fz/sf/sfz</i> )	Suddenly forcing or accenting a note
<i>Sfp</i>	Forcing or accenting a note followed immediately by <i>piano</i>

# Definition of Key Terms

Key Word	Definition
Crescendo	Getting louder
Decrescendo/ diminuendo	Getting softer
molto	'more' or 'much'
Poco a poco	Little by little



# Timbre

- # Timbre is the characteristic individual sound or tone-colour of an instrument or voice
- # It is what enables us to tell the difference between, say , a violin, a trumpet and a flute – even if they all play the same note
- # Many factors account for this: for example, the materials from which the instrument is made, the way it produces its sound (for example with strings, or with a reed) and the way the sound is made to resonate (such as in the hollow body of a string instrument)



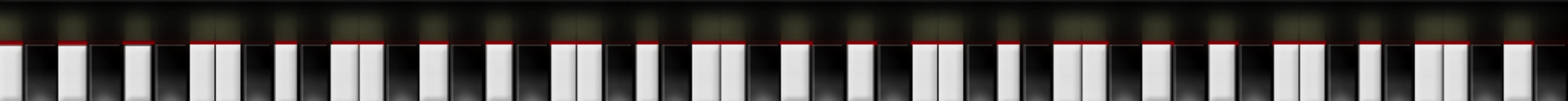
# Timbre

- # When an instrument plays a note, something vibrates – for instance a string, or the air inside a length of tube
- # The vibrations act in a complicated way: the note we think of as being played, but added to that are fainter, higher notes called **harmonics** or **overtones**
- # These add ‘colour’ to the fundamental
- # Some instruments produce more harmonics than others, or emphasise different harmonics
- # It is the relative strengths of the harmonics, and the way they are combined, that gives instruments and voices their unique, distinctive timbre



# Timbre

- # Timbre is important to a composer because it adds a special quality to the music which helps to create mood or feeling
- # Composers may use instruments on their own (solo), or blend together the timbres of several instruments to produce a particular effect
- # In the examination you may be asked to recognise individual instruments, or groups of instruments, or to comment in some way on the effect created in the music by using particular instruments or combinations of instruments



# What will you need to learn?

- # You will need to be able to recognise the following:
- # Instruments and voices, singly and in combination, as found in music for solo instruments, concertos, chamber groups, pop and vocal music
- # Generic families of instruments, as found in world music
- # Timbre, including the use of technology, synthesised and computer-generated sounds, sampling, and the use of techniques such as reverb, distortion and chorus
- # Instrumental techniques including *con arco* (with a bow), *pizzicato* (plucked), *con sordino* (muted), double-stopping, and *tremolo/tremolando*
- # Vocal techniques such as *falsetto* and *vibrato*





# The use of technology

- # Technology has enabled instruments not only to change their sound, but also to produce instrumental sounds that are created electronically
- # You may be asked to recognise some technology-based timbres:
- # **Reverb** – an abbreviation of **reverberation**. This is when a sound lasts longer because it is reflected between the walls, floor and ceiling of a room. It can be created electronically, or added to an *acoustic* (non-electronic) sound to improve the tone-quality



# The use of technology

- # **Distortion** is often used in rock music, particularly on the electric guitar, sometimes creating an aggressive sound
- # **Chorus** is when a recorded voice or instrument is multiplied electronically, producing the effect of one voice or instrument sounding like many
- # **Multi-tracking** is a recording technique in which different tracks of sound are recorded separately but can be played back together. This enables one performer to play or sing the different parts, combining them on playback



# The use of technology

- # **Compression** boosts the level of the quietest sounds in a piece of music, so that they balance with the louder sounds. This creates a more balanced dynamic level, giving an overall impression of an increase in volume, but without the louder sounds dominating.
- # A **vocoder** is essentially a device for synthesising speech. It works by electronically combining the characteristics of a human voice with a musical instrument
- # A **sequencer** is an electronic device or computer program that is used to record, edit and play back music data using MIDI
- # **Panning** occurs when the sound is electronically moved across from one speaker to another, or is separated into different speakers



# Instrumental techniques

- # These are particular ways of playing an instrument that can affect and enhance its timbre
- # In the examination you may be required to recognise the following techniques:
- # **Con arco.** This means playing a string instrument such as a violin, viola, cello or double bass with a bow
- # **Pizzicato.** This is where the strings are plucked instead of played with a bow



# Instrumental techniques

- # **Con sordino.** This means 'with a mute'. On string instruments the mute is a device attached to the bridge (the part which raises the strings above the body of the instrument), dampening the vibrations to produce a softer sound. On brass instruments there are different kinds of mutes that produce a variety of effects. These are placed inside the bell of the instrument (where the sound comes out).
- # **Double-stopping.** This is where string players bow two notes simultaneously, on adjacent strings. In triple- or quadruple-stopping, three or four notes are played. It sounds like a chord (although the player actually plays the lower strings first and then rocks the bow to play the higher strings in quick succession, since the curve of the bridge prevents all the strings from being played at the same time).
- # **Tremolo/tremolando.** Another string effect, this literally means 'trembling' or 'quivering'. It is produced by rapid up-and-down movements of the bow on the strings, creating an agitated, shimmering effect.



# Vocal techniques

- # **Falsetto** is a technique employed by male singers, to enable them to sing notes higher than their normal range
- # **Vibrato**. This technique literally means 'quivering' or 'shaking', and is an effect caused by small and rapid changes to the pitch of a note. It is used by string players and singers to add warmth and expression to the tone of the music



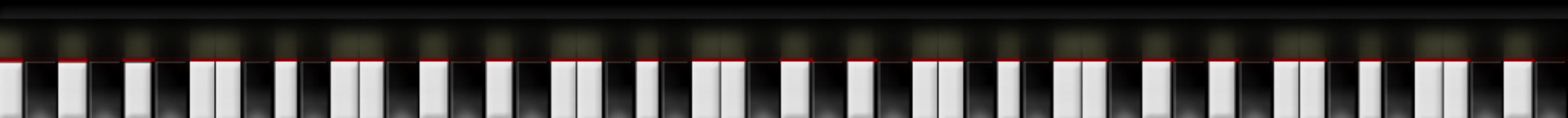
# Dynamics

- # Dynamics are the varying levels of loudness or softness in a piece of music
- # They are indicated by letters, signs, abbreviations or symbols in the music
- # Dynamics may change suddenly, or gradually, over a few notes or bars
- # In the examination you may be asked to comment on the dynamic level in an excerpt by identifying or using the appropriate signs, terms and symbols.



# Common signs, terms and symbols

- # Two basic dynamic indications are used in music. These are:
- # *p*, which is the first letter of the Italian word *piano*, which means 'soft'
- # *f*, which is the first letter of the Italian word *forte*, which means 'loud' or 'strong'





# Common signs, terms and symbols

# To indicate more extreme levels, more of the same letter are added. For example:

# *f* – loud (*forte*)

# *ff* – very loud (*fortissimo*)

# *fff* – extremely loud (*fortississimo*)

# *p* – soft (*piano*)

# *pp* – very soft (*pianissimo*)

# *ppp* – extremely soft (*pianississimo*)



# Common signs, terms and symbols

- # Most pieces of music do not go beyond three letters to indicate extreme dynamics
- # However, there are some examples of composers using four, five, and even six *ps* or *fs* in their music
- # More subtle shades of dynamics, those between soft and loud, are indicated by:
  - # *mp* – moderately soft (*mezzo piano*)
  - # *mf* – moderately loud (*mezzo forte*)



# Common signs, terms and symbols

- # Dynamic levels are relative to each other
- # Unlike tempo, which can be given a precise indication using a metronome, there is no way of indicating exactly how loud or soft a piece should be
- # This is left to the performer, who will take into consideration factors such as the size of the room the performance is taking place in



# Common signs, terms and symbols

- # Other commonly used signs are:
- # *fp* – loud, then suddenly soft (*forte-piano*)
- # *fz* (*forzato*), *sf*, or *sfz* (*sforzando*) – suddenly forcing or accenting a note
- # *sfp* – forcing or accenting a note followed immediately by *piano*



# Gradual changes

- # The two most common gradual changes in dynamics are:
- # **Crescendo** (getting louder)
- # **Decrescendo** or **diminuendo** (getting softer)
- # These terms, like the letters, are usually indicated below the stave
- # Crescendo is often shortened to **cresc.**, decrescendo to **decresc.**, and diminuendo to **dim.**



# Gradual changes

- # For quicker changes the word **molto** ('more' or 'much') is often used, for example *molto cresc.* or *molto dim.*
- # For slower changes the words **poco a poco** (little by little) are often used, as in *poco a poco cresc.*
- # Dashes may be used to show exactly how long a *crescendo* or *diminuendo* should last, for example *cresc. \_ \_ \_ \_ \_*
- # Another way of indicating gradual changes in dynamics is by using 'hairpins', so called because they look like old-fashioned hairpins
- # They are used to indicate quicker changes in dynamics, usually over a bar or two

