

NATIONAL QUALIFICATIONS CURRICULUM SUPPORT

Music

MIDI Sequencing

Revised Concepts Glossary

[MULTI-LEVEL]

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Section 1: MIDI Sequencing Concepts

A/D converter – Analogue-to-digital converter. An electronic circuit that takes an analogue waveform and converts it into digital binary information that can be stored, and processed by digital devices.

ADSR – See *Envelope*.

Aftertouch – A means of generating a control signal based on how much pressure is applied to the keys of a MIDI keyboard. Aftertouch may be used to control such functions as vibrato depth, filter brightness, loudness and so on.

AIFF (stands for Audio Interchange File Format) – The audio format developed originally for use on Apple Mac computers. Similar to the WAV format on a PC.

Ambience – The result of sound reflections in a confined space being added to the original sound. Ambience may also be added electronically by some digital reverb units. The main difference between ambience and reverberation is that ambience doesn't have the characteristic long decay time of reverberation, the reflections mainly give the sound a sense of space.

Amplifier – Device that increases the level of an electrical signal.

Analogue – A device that utilises a changing voltage or current to represent an acoustic signal.

Application – Another term for a computer program.

Arpeggiator – Device (or software) that allows a MIDI instrument to sequence around any notes currently being played. Most arpeggiators also allows the sound to be sequenced over several octaves, so that holding down a simple chord can result in an impressive repeating sequence of notes.

Arrange window – The main window in a MIDI sequencer, containing the MIDI tracks and some simple functions, e.g. volume, panning, playback and record.

ASIO (sound driver) – Audio Stream Input/Output. Devised by Steinberg, an ASIO driver is a software interface between an audio or sequencing package and a

hardware audio device. Without this software, the software and the hardware cannot 'talk' to one another.

Audio – Sounds which have been converted into a digital format.

Audio file – A collection of digitised audio information that can be played back or edited on a computer.

Audio instrument – An instrument whose sounds are generated using the excess processing power and memory of the host computer. There is no external instrument therefore, only software and a bank of samples that the audio instrument can access.

Audio interface – The piece of hardware which converts the acoustic signal into a digital one.

Automated mixing – A system whereby elements of a mix, or complete mixes, can be stored and recalled in either snapshot or real-time modes. This means that a mix engineer may adjust parameters during a mix and a computer will store and recall those adjustments in synchronisation with the music playback, thus allowing potentially very complex and dynamic mixes.

Auxiliary send/return – A mixing desk function that allows a signal or group of signals to be sent to a separate output – an auxiliary output – for either monitoring or processing. In the case of monitoring, a pre-fade send will be used. For effects processing, a post-fade send will be used and the signal with the process added to it will then be returned to the mixing desk.

Backup copy – Copy or clone of a recording or sequence for use in case of loss or damage to the original.

Balance – This word has several meanings. It may refer to the relative levels of the left and right channels of a stereo recording, or it may be used to describe the relative levels of the various instruments and voices within a mix. (See also *Mix*.)

Bank – A subset of sounds, usually in a sound card or synthesiser, e.g. a piano bank might contain 'grand piano', 'electric piano' and others.

Bass – The lower range of audible frequencies, nominally between about 20Hz and 320Hz.

Bit depth – When an analogue signal is digitised, one of the values applied is the bit depth. This is the length of the 'digital word' and relates to the range of amplitudes that can be measured by the A/D converter. When the converter

measures the sound, the amplitude may be either increased or decreased to fit into a set bit depth. This is called quantisation. Therefore the greater the number of bits the converter is capable of processing, the smaller the quantisation that needs to be applied. This means that higher bit depths result in better-quality A/D conversion. Typically, standard CDs have a bit depth of 16, but it is not unusual to find digital devices capable of 20-, 24- or even 32-bit resolution.

Boot – The process of starting a computerised system.

BPM – The number of beats per minute. This defines the tempo of an arrangement or song.

CD – Compact Disc. The standard optical, read-only format of consumer digital audio devised in the 1980s by Sony and Philips. A CD has a continuous track of digital data represented by pits burned into the surface of the disk; these are read by a laser. A CD can hold up to 750 MB of information, which equates roughly to 74 minutes of stereo audio at a sampling frequency of 44,100Hz and a bit depth of 16. These are standards for audio reproduction via CD called the Red Book Standard.

CD-R – Recordable Compact Discs. A write-once-only format of the CD. CD-Rs have become one of the most widely used storage formats in the world for both audio and other data. For a few years now it has been both cheap and simple to incorporate CD-burning devices on home computers. Like the CD, a CD-R can hold up to 750MB of information.

CD-RW – Re-Writable Compact Disc. A write-many-times version of the CD-R which gives the user the opportunity to re-write over old information previously recorded onto a CD. It is important to note that CD-RWs cannot be used for audio recording as they are a data-only storage medium and cannot comply with the Red Book Standard.

Chorus – The part of the song that is repeated and has the same music and lyrics for each repetition; the chorus will usually give the HIT point of the song.

Chorus (depth) – The intensity of the chorus effect.

Chorus (effect) – Effect created by doubling a signal and adding delay and pitch modulation.

Clipping – Severe and potentially damaging form of distortion that happens when a signal is too high for the piece of equipment it is being fed into. This can be particularly damaging to loudspeakers. Manufacturers include many safeguards

to avoid clipping in their equipment. It is very important to monitor meters and input lights. Flashing red is never a good sign.

Coda – The end section of a piece of music that serves to sum up and finish off the ideas.

Compressor/compression – A dynamic processor that can automatically control the gain of a signal. Once the incoming signal has reached a predetermined threshold, the compressor reduces the output of the signal by an amount determined by the ratio control. Effectively this is like a fraction, so if a ratio of 2:1 is set the amount of signal above the threshold will be halved, a ratio of 4:1 means it is quartered and so on. Compressors also have an attack control which determines how quickly the compressor reacts and a release control which determines how quickly the compressor stops compressing once the signal has gone below the threshold again.

Computer – An electronic device that accepts, processes, stores, and outputs data at high speeds according to programmed instructions.

Continuous controller – Type of MIDI message used to translate continuous change, such as from a pedal, wheel or breath control device.

Controller keyboard – A MIDI instrument, usually having no sounds onboard, but which is used to control one or more other MIDI devices.

Copy/cut and paste editing – The ability to copy or move sections of MIDI recordings to new locations.

Count-in – The beats that occur before the song or piece of music starts to give the performers the start point and tempo.

Crossfade – Where one track fades out at the same time as another fades in.

Cycle/loop modes – When enabled, a fixed section of a sequence will play over and over.

D/A converter – Digital-to-analogue converter. Electronic circuit that takes a previously digitised signal and converts it back to analogue information. See also *A/D converter*.

DAE (Digital Audio Engine) – The DAE software of Digidesign helps to power the Pro Tools software. Digital audio extraction is the process of reading audio from an audio CD and converting into a digital audio file.

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DAW – Digital Audio Workstation. Any digital recording workstation that features recording, editing and mastering is referred to as a DAW.

dB – decibel. The unit of measurement for audio.

Delay – The interval between an original signal and its repetition. While this is achieved electronically, it is similar to, and is used practically as, echo. Modern digital delay processors can repeat the original sound ad infinitum and with almost an infinite initial delay time.

DI – Short for Direct Inject, where a signal is plugged into an audio chain without the aid of a microphone.

Digital – Electronic system which represents data and signals in the form of codes comprising 1s and 0s.

Distortion – The rasping, grating sound generated when an incorrect (too high) setting is used. While generally it is an undesirable effect, on some instruments – the electric guitar and the organ, for example – it has become a standard creative effect.

Drop in/out – See *Punch in/out*.

Dry – A signal that has had no effect added to it.

DSP – Digital Signal Processor. A powerful microchip used to process digital signals.

Dynamics/expression – Way of describing the relative levels within a piece of music.

EASI (Enhanced Audio Streaming Interface) – E-magic's multi-channel alternative to stack multi-media audio drivers, EASI provides a direct and consistent way for audio software and hardware to communicate. This results in improved audio timing and reduced latency.

Effects (FX) – Device for treating an audio signal in order to change it in some creative way. Effects often involve the use of delay circuits, and include such treatments as reverb and echo.

Envelope (ADSR) – Envelope generator with Attack, Sustain, Decay and Release parameters. This is a simple type of envelope generator and was first used on early analogue synthesisers. This form of envelope generator continues to be popular on modern instruments.

EQ – Refers to the range of frequencies in an audio file. These values can be changed using an EQ processor, which would alter the bass, middle or treble frequencies.

Event – In MIDI terms, an event is a single unit of MIDI data, such as a note being turned on or off, a piece of controller information, a program change, and so on.

Expression – This is accessed using Continuous Controller 11 and is used to create crescendos and decrescendos, to expand and diminish intensity. It controls the *dynamics* of a recorded sequence.

Fade-in – When a track or piece of music increases in volume gradually from silence.

Fade-out – When a track or piece of music decreases in volume gradually to silence.

Fader – The linear sliding control that adjusts the channel's output.

File management – Methods of choosing how to deal with audio or MIDI material, e.g. naming and storing.

Firewire – An interface between a computer and external devices, allowing the exchange of data, e.g. external CD writers and video cameras.

Flanging – Modulated delay effect using feedback to create a dramatic, sweeping sound.

Format – Procedure required to ready a computer disk for use. Formatting organises the disk's surface into a series of electronic pigeon holes into which data can be stored. Different computers often use different formatting systems.

Frequency response – A measurement of the frequency range that can be handled by a specific piece of electrical equipment or loudspeaker.

Gate (noise) – An electrical device designed to mute low-level signals so as to improve noise performance during pauses in the wanted material.

Gated reverb – An effect whereby a noise gate is applied to the output of a reverb processor. The natural decay of the reverb is therefore cut off sharply resulting in a rather startling unfinished sound. The effect is most often used on drums and gives a powerful, if slightly obvious, sound. Nowadays, effect processors tend to have gated reverb settings preset within them with varying reverb characteristics and gate times.

General MIDI import and export – The process of opening a MIDI file or saving from within a sequencing program.

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Glitch – Describes an unwanted short-term corruption of a signal, or the unexplained short-term malfunction of a piece of equipment. For example, an inexplicable click on a track would be termed a glitch.

GM mixer – A software mixing device which conforms to the General MIDI specification.

GM (General MIDI) – General MIDI is a large list of specifications regarding computerised music. It is used as a common standard to ensure basic compatibility between devices and programs.

Groove – A rhythmic pattern which can be applied to a section of a MIDI sequence, altering the ‘feel’ of the music.

GS (General Standard MIDI) – A proprietary set of standards which goes beyond GM standards, specifically designed by Roland.

Hard disk drive – High capacity computer storage device based on a rotating rigid disk with a magnetic coating onto which data may be recorded.

Harmoniser – An effects process that takes an input musical note and adds harmonies to it by applying a short delay to the original signal and pitch, shifting it either up or down, or both, to create a series of intervals. While early harmonisers could only achieve a single fixed interval, harmonisers nowadays can be programmed to follow correctly the chord structure of a song and apply harmonies that fit accurately with the performance.

Headphones – A small stereo loudspeaker system that can be worn on the head or in the ears to allow isolated monitoring of signals. May be referred to as ‘cans’.

Hiss – Electronically generated high frequency noise. All audio devices will generate a small amount of hiss.

Hum – Signal contamination caused by the addition of low frequencies, usually related to the mains power frequency.

Input – The process of adding data to a sequencer or audio program.

Instrumental break – Usually a point in a piece of music where one instrument performs a solo.

Introduction – The first or opening part of a song. Often abbreviated to intro.

Jack connector – Commonly used audio connector. May be mono or stereo.

Joystick port – Also referred to as the games port on some sound cards, this is a connector which can be used as a MIDI interface with a MIDI kit.

Keyboard controller – See *Controller keyboard*.

Key change/modulation – The point at which the tonality of a piece changes up or down in pitch.

Key command – In the Key Editor of a MIDI sequencing package, a key command is a keyboard shortcut used to change MIDI values or other sequencer parameters quickly.

Latency – The delay between a signal going into a processor and coming back out again. While latency may occur to a small degree in most audio devices where what is being input is being simultaneously monitored, it predominates in A/D converters and D/A converters in computer-based recording set-ups. This is due to the time it takes for the computer to digitise and then un-digitise the audio information and it is directly related to the processing speed of the computer. Faster processors significantly reduce any latency.

Level – The degree of intensity of an audio signal.

Limiter – A dynamic processor that stops a signal from going over a pre-determined limit. Essentially a limiter is a compressor with fairly extreme settings – a high ratio and a very fast attack time. Limiters are used in live sound as protection devices. If there is a sudden spike in a signal, the limiter can react quickly and prevent loudspeakers getting damaged.

Line level – The output from a purely electronic source, a keyboard for example or any processing device. The actual output level is set by the manufacturer to industry standards depending on the standing of the equipment as ‘semi-professional’ (–10dBV) or ‘professional’ (+4dBu).

Link passage – A short section of music, joining two main themes.

Local on/off – A function to allow the keyboard and sound-generating section of a keyboard synthesiser to be used independently of each other.

Locators – Feature of a sequencer or other recording device that enables specific locations to be stored. Then at some later time, these locations within the recording can be recalled.

Loop – A section of a MIDI sequence which is set to repeat continuously.

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Loudspeaker – A transducer that converts the electronic audio signal back into a sound wave.

LSB – Least Significant Byte. If a piece of data has to be converted as two bytes, one byte represents high-value numbers and the other low-value numbers, in much the same way as tens and units function in the decimal system. The high-value, or most significant, part of the message is called the Most Significant Byte or MSB.

Markers – Markers are used to enable easy identification of particular points in a MIDI sequence – for example, punch-in/punch-out points or the beginning and end of a loop.

Master fader – The linear fader on a mixing desk that determines the overall output level. If performing a fade-in or fade-out, it is the master fader that should be used.

Merge – A sequencing technique whereby two recorded parts are combined to make a single part.

Metronome/click – A regular audible pulse that plays along with the MIDI sequence but is not part of the MIDI sequence. Using the metronome/click is essential for keeping tracks in time with each other.

Mic level – The level or voltage of a signal produced by a microphone. Typically mic-level signals are considerably lower than line-level signals, so a pre-amplifier must be used to boost their output. In some condenser microphones, the output of their built-in pre-amplifier is high enough not to require any more boosting.

Microphone – A transducer designed to convert a sound wave into an electrical current. Microphones are one of the most important elements of any signal path as they are the initial conversion point for any signal to be recorded. It is therefore important that high-quality microphones are used in recording-studio situations. All microphones have their own ‘sound’ due to tiny fluctuations in their frequency response, and many microphones are manufactured for a particular purpose or even instrument.

Middle 8 – The part of a song where a new or altered piece of music is introduced, usually after the second chorus. While it is normally 8 bars long – hence its title – it can be much more or even much less.

MIDI – Abbreviation for Musical Instrument Digital Interface.

MIDI channel – MIDI controls 16 channels. This allows 16 distinct messages to be sent to 16 different channel IDs and respond to all messages. Drum units default to Channel 10.

MIDI files – A standard file format for storing song data recorded on a MIDI sequencer in such a way as to allow it to be read by other makes or models of MIDI sequencer.

MIDI implementation chart – A chart, usually found in MIDI product manuals, which provides information as to which MIDI features are supported. Supported features are marked with the letter O while unsupported features are marked with an X. Additional information may be provided, such as MIDI instrument table.

MIDI interface – The piece of equipment that enables two or more MIDI devices to be connected to one another.

MIDI in – The socket used to receive information from a master controller or from the MIDI-thru socket of a slave unit.

MIDI out – The socket on a master controller or sequencer used to send MIDI information to the slave units.

MIDI thru – The socket on a slave unit used to feed the MIDI socket of the next unit in line.

Minidisc (MD) – A digital, optical, record-and-read storage medium. Similar to the CD in operation, Minidisc uses compression software to limit the material recorded in order to get all the information onto a very compact format. While Minidisc recorders/players are generally 2-track devices, some multitrack versions exist.

Mix/balance – The act and art of creating a balance of all the recorded tracks, processing where appropriate and necessary and creating a 2-track, stereo-mixed version of the music.

Mixer – A piece of equipment that adds several different music tracks together, enabling balancing and panning.

Monitor – A method of listening to recordings or sequences ‘live’.

Mono(phonic) – A single channel of audio.

MP3 – Moving Pictures Executive Group Level-1 Layer 3 – a digital data-compression format that reduces an audio file to around one-tenth of its original

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size. Devised primarily as a fast and efficient method of downloading large audio files via the internet, MP3 players have become popular due to their compact size, high quality and huge storage capacity. It is now possible to have an entire CD collection stored on an MP3 player the size of a mobile phone.

MSB – See *LSB*.

Multi-timbral – A synthesiser, sampler or sound module that can play several parts at the same time, each under the control of a different MIDI channel.

Mute – Cutting off the sound.

Noise – Hiss, hum, or other interference on an audio recording.

Non-linear – In recording terms, this is any device that allows playback or recording of material in any order with no gaps between them, e.g. digital hard disk recording.

Normalise – Adjusting the volume of audio files to a standard level.

Note number – The number of a note according to an agreed set, so that for example Middle C is called C3, the number referring to the octave of the note counting from the bottom.

Note off – The MIDI event that tells a device to stop playing a note.

Note on – The MIDI event that tells a device to start playing a note.

Nudge – The MIDI function which moves a note or set of notes, or an audio file or set of audio files, forwards or backwards in time by a set amount.

Octave – The term refers to the 8 notes between, for example, C3 and C4 (see *Note number*), more correctly an interval of 12 semitones.

Output – Where data or audio comes out of a device.

Outro – The section of music at the end of a piece.

Overdub – To add another part to a multitrack recording or to replace one of the existing parts.

Overload – To exceed the operating capacity of an electronic or electrical circuit.

Pad – Resistive circuit for reducing signal level.

Pan(ning) – MIDI controller number 10 which determines the stereophonic position of an instrument. When set to 0 the sound will be on the left, and at 127 the sound will be on the right. A central instrument will have the setting of 64.

Parameter – A variable value that affects some aspects of a device's performance.

Patch – Alternative term for Program, referring to a single programmed sound within a synthesiser that can be called up using *Program change* commands. MIDI effects units and samplers also have patches.

Peak – The highest signal level in any section of programme material.

Phantom power – A voltage (up to 48v) sent down the microphone cable from the mixing desk in order to power a condenser microphone. While this power source normally comes from the desk, stand-alone phantom power units are available for situations where a desk is not being used. Phantom power can only be sent down balanced microphone cables.

Phaser – Effect which combines a signal with a phase-shifted version of itself to produce creative filtering effects. Most phasers are controlled by means of a low-frequency oscillator.

Phono plug/connector – An unbalanced two-pin connector predominantly found in domestic hi-fi systems and non-professional equipment. Due to their normally being used in stereo systems, phono plugs tend to come in pairs coloured red and white. Generally the red connector will be used for the right-hand signal and white for the left.

Phrasing – The way a line of music is interpreted, which gives the 'feel' to the musical line.

Pitch – Musical interpretation of an audio frequency.

Pitch bend – A special control message specifically designed to produce a change of pitch in response to the movement of a pitch-bend wheel or lever. Pitch-bend data can be recorded and edited, just like any other MIDI controller data.

Pitch shifter – Device for changing the pitch of an audio signal without changing its duration.

Playlist – A list of different music files to be played one after another in a particular order in a computer program or on another device, such as an MP3 player.

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Plug-in – A piece of software which works within a main computer program and not as a stand-alone application: for example, software synthesisers and software effects processors.

Polyphony – Term used to describe the ability of an instrument to play two or more notes simultaneously. An instrument that can play one note at a time is described as monophonic.

Portamento – A gliding effect that allows a sound to change pitch at a gradual rate, rather than abruptly, when a new key is pressed or MIDI note sent.

PPM – Peak Programme Meter. A segmented bar-type meter designed to register peaks in a signal rather than just an average level.

Production log – In a studio situation, the production log keeps a record of information relating to recording sessions.

Program change – MIDI message designed to change instrument or affect unit patches.

Punch in/out – A technique in multitrack recording and MIDI sequencing that lets a performer record over mistakes or change parts previously recorded by punching or dropping in and out of record mode while the machine is in playback. Punching or dropping in can be performed by an engineer pushing the right buttons at the right time, the performer hitting a footswitch at the required point, or by advanced use of the machine's autolocate functions whereby the multitrack recorder or sequencer can be programmed to drop in and out of record mode automatically.

Quantise – A means of moving notes recorded in a MIDI sequencer so that they line up with user-defined subdivisions of a musical bar, for example, 16s. The facility may be used to correct timing errors, but over-quantisation can remove the human feel from a performance.

Rall – Rallentando. An Italian term meaning 'slowing down' and indicating a gradual decrease in tempo.

Real time – A recording method, where the information is recorded at tempo, 'live'.

Record – To store a performance onto a medium so it can be played back or edited.

Remix – The art of taking an original mix(es) and material and re-organising it or changing settings to change the feel, sound or structure.

Reset controller – A ‘universal’ command (controller number 121) that is sent to all attached MIDI devices, and which resets them to their original settings.

Reverberation – Usually abbreviated to reverb. Acoustic ambience created by multiple reflections in a confined space.

Rhythms – The different patterns of notes or beats grouped together.

Ritard – Ritardando. An Italian term meaning ‘a gradual slowing of pace or tempo’. See also *Rall.*

RTAS (plug-in) – A plug-in interface standard, used for example in the Pro Tools package. (Stands for Real Time Audio Suite.)

SACD (audio format) – SACD, which is the common abbreviation of Super Audio Compact Disk, is a format that was invented by Sony and Philips in an attempt to create a replacement for the CD audio standard.

Sample – A digitised sound used as a musical sound source in a sampler or synthesiser.

Sample editor – A program which allows the manipulation of small sections of audio recordings used as samples.

Sample frequency – The digital frequency of a sample.

Save – The computer command which copies your project or computer file from your program onto other media, e.g. hard disk or floppy disk.

Scrub – The scrub tool allows you to locate positions in an audio file by playing back, forwards, backwards, at any speed.

SDII (audio format) – Sound Designer 2 audio format, originally for use on Apple Mac computers.

Sequencer – Device for recording and replaying MIDI data, usually in a multitrack format, allowing complex compositions to be built up one part at a time.

Signal – Electrical representation of input such as sound.

Silence – The absence of sound.

Snap – A function which can be switched on or off, whereby sections of music or individual notes can be made to jump automatically to set marker or grid points.

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Softsynth – A ‘software synthesiser’. This is a type of MIDI software program that provides various sound sets for use in a MIDI sequencer without the need for any external hardware. See also *Audio instrument*.

Solo – A mixing desk and MIDI-sequencing control that mutes all other channels in order to isolate the soloed channel for monitoring.

Sound card – A piece of computer hardware that provides an audio and/or MIDI interface.

Sound module – An external MIDI instrument, usually having sound sets built in but without a piano keyboard.

S/PDIF – Sony/Philips Digital Interface. Digital devices can talk to each other in the digital domain. Signals that have been digitised therefore don't have to be D/A converted to send them along a digital signal path; in fact, to do so would be detrimental to the signal. A number of purely digital information interfaces exist therefore, and S/PDIF is one of the most basic. As two channels of information can be sent or received by an S/PDIF socket, only one socket is required for a stereo input or output. S/PDIF uses phono sockets as standard. S/PDIF outputs may be found on many CD players, whereas S/PDIF inputs and outputs are becoming standard on most semi-professional equipment.

Step-time recording – A system for programming a sequencer in non-real time.

Stereo(phonic) – Two-channel sound system feeding left and right loudspeakers.

Studio – A performing area set up for audio recording, usually sound-proofed and separate from the recording control area.

Surround sound – A multi-channel sound recording and reproduction system that utilises an array of speakers around the listener to create special effects and a realistic sound field.

Sustain – Part of the ADSR envelope which determines the level to which the sound will settle if a key is held down. Once the key is released, the sound decays at a rate set by the release parameter. The term also refers to a guitar's ability to hold notes which decay very slowly.

Sustain pedal – The pedal on a piano that removes the damping effect. This allows notes to ring on until the pedal is lifted. The term sometimes means an effects pedal for guitar or other instruments, giving a slight distortion to the sound.

Synchronisation – Bringing things together in time with one another – for example, sound and motion pictures.

Synthesiser – Electronic musical instrument designed to create a wide range of sounds, both imitative and abstract.

Talkback – A system, like an intercom, to enable the sound engineer or those in the control room to talk to the performers in the studio. Talkback systems usually consist of a small microphone built or plugged into the mixing desk with a switch that sends the signal from the mic through the foldback or monitoring system.

TDIF – Tascam Digital Interface. A multi-channel stream of digital audio information that can transmit up to 8 channels simultaneously.

Tempo – The rate of the ‘beat’ of a piece of music measured in beats per minute.

Threshold – Control on various dynamic processors that determines the point at which the process is applied to the signal. For example on a noise gate, the threshold is the point at which the gate opens and lets the signal pass. Signals that do not reach the threshold remain unaffected.

Timbre – The tonal ‘colour’ of a sound.

Time compression – Speeding up a section of music without changing the pitch.

Time expansion – Slowing down or stretching a section of music without affecting the pitch.

Time signature – The number of notes in a bar, or measure. Usually expressed as a fraction – the number of notes over the length of the notes, e.g. 4/4 which means 4 quarter notes per bar.

Toolbox – The pop-up window in a sequencer program containing frequently used editing tools.

Track list – The list of tracks in a sequencer program.

Track names – The name given to each track in a track list.

Track object – The ‘ticker-tape’ or other representation of the recorded material in a sequencer or audio program.

Transient – A short, loud signal with a very fast attack and decay time.

Transport bar – The pop-up window in a MIDI or audio program containing the playback, recording and related control buttons.

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Transpose – To shift a musical signal up or down in pitch by a fixed number of semitones.

Tremolo – An effect whereby the signal is varied up and down in volume. It can be particularly effective on guitar and electric piano sounds.

Truncate – To cut off or shorten by removing a part.

Undo – A command in many computer programs which allows the user to step back to a previous state.

USB – Universal Serial Buss. A high-speed serial communications protocol which allows (theoretically) up to 127 hot-swappable peripherals to be connected in daisy-chain fashion. USB devices can be unplugged/plugged in without having to reboot your computer. Popular on modern PCs and associated computer peripherals (printers, scanners, etc.) but also adopted by Apple on their iMac and blue G3 machines onwards.

Velocity – The rate at which a key is depressed. This may be used to control loudness (to simulate the response of instruments such as pianos) or other parameters on later synthesisers.

Verse – A unique section of a song, as opposed to the chorus section, which repeats.

Vocal break – An unaccompanied section of vocal solo.

Volume – A measure of the loudness of a piece of music.

VST – Virtual Studio Technology, this is a plug-in standard developed by Steinberg.

VST instrument – A software synthesiser or *Audio instrument* which conforms to the VST standard.

Vocoder – An electronic process that can apply synthesiser and instrumental control over an input signal, for example that from a microphone. Vocoder can create interesting ‘talking’ synthesiser effects.

Wav – The audio format developed for use in Windows-based computers. Similar to the AIFF format on Apple Mac computers.

Waveform – A graphic representation of a signal or a sound wave’s variation over time.

Wet – A signal that has had an effects process applied to it.

XLR connector – Three-pin, latching professional audio connector for balanced lines.
The type of connector used for microphones.

Zoom in/out – A function available in many computer programs which allows to the user to isolate particular sections of a piece of work, either in greater detail (zoom in) or in less detail (zoom out).

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Arrange window	Mix/balance	Amplifier
Boot	Mono(phonic)	Headphones
BPM (beats per minute)	Multi-timbral	Interface
Chorus (in a song structure)	Pan	Loudspeaker
Copy/cut and paste	Record	MIDI interface
Count-in	Save	Sequencer
Dynamics/expression	Silence	Synthesiser
Initialise	Stereo(phonic)	
Metronome/click	Tempo	
MIDI	Time signature	
MIDI files	Track (names)	
MIDI in	Undo	
MIDI out	Verse	
	Volume	

INDEX OF GENERAL TERMS AND EQUIPMENT

Intermediate 1 (Mandatory) MIDI Sequencing		
General terms		Equipment
Backup copy	MIDI channel	CD-R
Balance	MIDI thru	CD-RW
Digital	Mute	GM mixer
Effects (FX)	Octave	Phono connector
Event	Pitch	USB
General MIDI	Program change	
Import	Quantisation	
Introduction	Reset controller	
Key change/modulation	Reverb(eration)	
Level	Snap	
Local	Solo	
Locators	Sustain	
Loop	Time signature	
Markers	Track list	
Master fader	Transpose	

Intermediate 2 (Mandatory) MIDI Sequencing		
General terms		Equipment
Arpeggiator	Mix (down)	XG (soundcards)
Chorus depth	Note off	
Chorus (effect)	Note on	
Fade in	Overdub	
Fade out	Pitch bend	
Fader	Punch in/out - drop in/out	
Gated reverb	Real time	
Introduction	Remix	
Key command	Rhythms	
Merge	Tremolo	
Middle 8		

INDEX OF GENERAL TERMS AND EQUIPMENT

Higher (Mandatory) MIDI Sequencing		
General terms		Equipment
Aftertouch	Line level	Audio instrument
AIFF (Audio file format)	Mic level	Audio interface
Analogue	Mono	Compressor/compression
Audio	Noise	DI
Audio file	Normalise	Microphone
Clip	Nudge	Minidisc (MD)
dB	Phaser	Mixer
Delay	Pitch shifter	MP3
Distortion	Polyphony	Phantom power
Dry	Portamento	XLR connector
EQ	Sample	
Expression	Synchronisation	
Glitch	Wav	
Hiss	Waveform	
Hum	Wet	

Advanced Higher (Mandatory) MIDI Sequencing		
General terms		Equipment
ADSR	Harmoniser	A/D convertor
Ambience	Instrumental break	D/A convertor
ASIO (sound driver)	Limiter	Hard disk drive
Attack	Link passage	Harmoniser
Auxiliary send/return	Outro	Vocoder
Bass	Phrasing	
Crossfade	Release	
Coda	S/PDIF	
Decay	Surround sound	
Envelope (ADSR)	TDIF	
Flanging	Time compression	
Gate (noise)	Time expansion	
	Transient	
	Vocal break	

Other MIDI sequencing concepts for information and support in the unit

Access 3 (Support concepts)	
General terms	Equipment
Application File management Format Signal Toolbox Transport	CD Computer Jack connector Joystick port Keyboard controller Studio

Intermediate 1 (Support concepts)	
General terms	Equipment
Cycle/loop modes Export Input Note number Output Parameter	Patch Production log Timbre Track object Velocity Zoom in/out Monitor Sound card Sound module Sustain pedal

Intermediate 2 (Support concepts)	
General terms	Equipment
Continuous controller Cycle/loops mode GS (General Standard MIDI) MIDI implementation chart Step-time recording	

INDEX OF GENERAL TERMS AND EQUIPMENT

Higher (Support concepts)		
General terms		Equipment
Automated mixing	Sample editor	Firewire
Bank	Sample frequency	
Frequency response	Scrub	
Groove	Softsynth	
Latency	Talkback	
Overload	Threshold	
Peak	Truncate	
Playlist	VST	
Plug-in	VST instrument	

Advanced Higher (Support concepts)		
General terms		Equipment
Bit depth	Non-linear	DAW (digital/audio workstation)
DAE (Digital Audio Engine)	Pad	
DSP (software)	PPM	
EASI (Enhanced Audio Streaming Interface)	RTAS (plug-in)	
LSB	SACD (audio format)	
MSB	SDII (format)	