

MIDI sequencing

Introduction

MIDI (Musical Instrument Digital Interface) is a means of getting two or more pieces of electrical equipment to work together in one system and has revolutionised the way in which many types of music are created, stored and recorded. However, many teachers are reluctant to explore and use MIDI, and in particular sequencing, because they have not fully appreciated its nature or its full potential. Pupils are often only introduced to MIDI sequencing in Key Stage 4, yet it can be used very effectively in Key Stage 3 to develop pupils' knowledge, skills and understanding through performing, composing and arranging, through the development of aural perception or in appraising their own work or that of others.

Where to start

The *Training Guide* contains a 'taster' on MIDI and sequencing ([Session 2](#)). It introduces the basic principles of MIDI sequencing and how it might be used in the classroom. It also links to two video extracts and provides an opportunity for you to reflect upon the ways in which you may incorporate MIDI sequencing in your own music curriculum.

The MIDI sequencing module

This module is designed to help you to become more familiar with the ways in which MIDI sequencers can enhance and enable musical learning. It also provides the opportunity to acquire the necessary hands-on skills using exemplar classroom materials. Following this introductory unit, Unit 2 will help you to identify your training needs. Subsequent units provide a progressive training programme from foundation level to more advanced sequencing skills. There are five units:

- Unit 1 – Identifying personal training needs
- Unit 2 – Foundation skills
- Unit 3 – Step 1 skills
- Unit 4 – Step 2 skills
- Unit 5 – Step 3 skills

The units are designed to allow teachers to use them for self-supported study in their own schools, but could also be used to support in-service training.

Aims and objectives

By following this introduction you will:

- understand the overall structure of the other units in this module
- gain an understanding of what can be achieved using a MIDI sequencer
- see and hear a sequencer in action.

These materials teach sequencer operating skills by working through various types of learning situation. Awareness of the situations in which a sequencer can be of educational value is just as important as acquisition of operating skills. In some units more than one sequencer songfile is available for training activities. Some need more time than others and deal with different subsets of the skills that have been identified for that unit. This approach allows more flexibility in situations where time or personal confidence is limited.

The operating skills identified in Units 2 to 5 are the result of investigative research on the range of effective educational situations in which a sequencer might be applied at Key Stage 3. These have been broken down into the required operating skills, audited, and mapped into a progressive programme. Where possible, these skills have been expressed in generic terms that can be applied to all sequencing packages.

Various software distributors have agreed to collaborate with Becta to produce companion guides that explain how the generic skills can be put into practice using their particular sequencer program. These guides have been produced at the expense of the individual companies and may indicate their level of commitment to educational support in the UK. They are an integral part of this training scheme and are available from the software suppliers. If you are using a sequencer that does not have a companion guide, you can still follow this training scheme, but will have to search out the appropriate sections from the standard user guide supplied with your software.

Activity

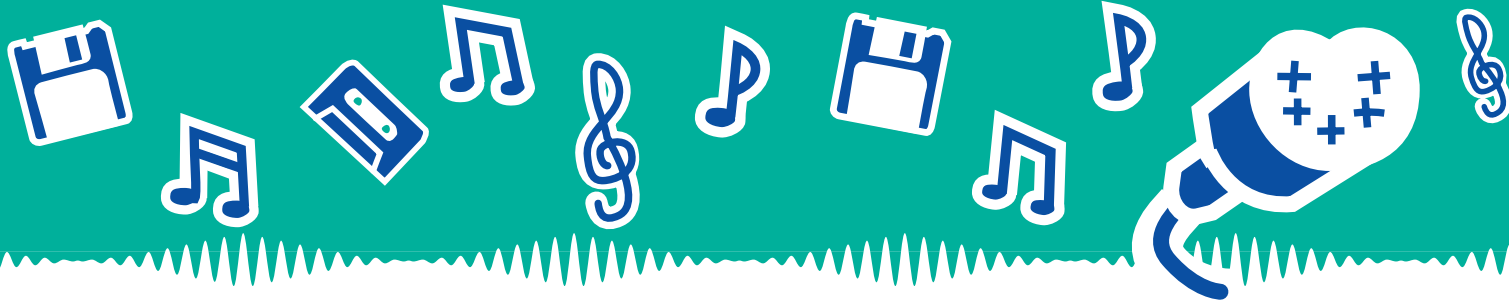
Resources needed:

- The [video](#)
- A video playback facility
- [Guide 4](#) from *The Music IT Pack*

The video (linked to above) includes a demonstration of what a sequencer can do. This is intended to demonstrate the typical facilities that sequencers offer, regardless of type.

But before you watch the video, spend some time looking at pages 4, 6 and 7 of Guide 4 from *The Music IT Pack*. This gives background information about a sequencer and its capabilities.

Watch excerpt C from the video and consider, and perhaps discuss, which areas of the music curriculum could be enhanced by the facilities a sequencer offers. Start to imagine what sort of activities might be suitable for pupils. You will probably find it helpful to watch the excerpt from the video tape again.



Unit 1

Identifying personal training needs

Some teachers already make some use of MIDI sequencing in the classroom whilst others may be relatively inexperienced. By reading the skills descriptions in this unit, you will be able to identify which of the subsequent units will best match your training needs.

Aims and objectives

The object of this unit is to allow teachers of varying levels of experience and competence with MIDI sequencers to identify which would be the most suitable starting point for them in the subsequent units. Read the descriptions of MIDI sequencing skills in order to find the level which will suit you. Remember that there is more to using a sequencer in the classroom than simply knowing the required operating skills. Consideration of the learning situations chosen as the scenarios for training activities is equally important for effective classroom use. You may find it helpful to refer to [Guide 4](#) (MIDI hardware and software for music education) from *The Music IT Pack*.

Once you have completed a unit, you may wish to consider whether it would be worth while to repeat that unit before proceeding to the next. Many music teachers find that there is much to take in that is new when learning about sequencing. As the best performers realise, there is good sense in repeating an exercise until it becomes second nature.

Where to go next

Unit 2: Foundation skills

Unit 2 explains:

- what the different parts of your system do
- how to connect and reconnect a system
- all the foundation skills listed below

Skill ref.	Short description
F.01	Understand mouse conventions
F.02	Launch sequencer
F.03	Load songfile
F.04	Get arrange view
F.05	Zoom arrange view
F.06	Scroll arrange view
F.07	Get transport
F.08	Select out port
F.09	Reset GM soundsource
F.10	Set sequencer for GM
F.11	Send instrument settings
F.12	Set playback level
F.13	Define metronome settings
F.14	Extras

If you feel confident about all these issues, look at the skills listed for Unit 3.

Unit 3: Step 1 skills

Unit 3 deals with:

- the kinds of learning situation printed on page 9 of [Guide 4](#) from *The Music IT Pack*
- all the Step 1 operating skills listed below

Skill ref.	Short description
I.01	Play from start
I.02	Stop
I.03	Pause
I.04	Continue
I.05	Play from mid-song
I.06	Set marker
I.07	Play from marker
I.08	Cycle section
I.09	Adjust tempo
I.10	Solo track
I.11	Mute track
I.12	Offset track velocity
I.13	Transpose (global)
I.14	Toggle metronome
I.15	Save song

If you feel confident about all these issues, look at the skills listed for Unit 4.



Where to go next

Unit 4: Step 2 skills

Unit 4 deals with:

- the kinds of learning situation printed on page 10 of [Guide 4](#) from *The Music IT Pack*
- all the Step 2 operating skills listed below

Skill ref.	Short description
2.01	Undo
2.02	Select/deselect component(s)
2.03	Join components (horizontal)
2.04	Divide component
2.05	Move component vertically
2.06	Copy component vertically
2.07	Move component horizontally
2.08	Copy component horizontally
2.09	Move component freely
2.10	Copy component freely
2.11	Mute component
2.12	Delete component
2.13	Rename component
2.14	Create new track
2.15	Delete track
2.16	Rename track
2.17	Reveal parameters
2.18	Set track channel
2.19	Choose track instrument
2.20	Set channel volume
2.21	Set channel pan
2.22	Set track delay
2.23	Transpose track
2.24	Transpose component
2.25	Offset component velocity

If you feel confident about all these issues, look at the skills listed for Unit 5.

Unit 5: Step 3 skills

Unit 5 deals with:

- the kinds of learning situation printed on page 11 of [Guide 4](#) from *The Music IT Pack*
- all the Step 3 operating skills listed below

Skill ref.	Short description
3.01	Set time signature
3.02	Insert (global)
3.03	Cut (global)
3.04	Set record count-in
3.05	Set record destination
3.06	Record real-time
3.07	Undo recording
3.08	Merge components (vertical)
3.09	Change component boundary
3.10	Arrange to grid view
3.11	Grid to arrange view
3.12	Solo grid play
3.13	Zoom grid view
3.14	Scroll grid view
3.15	Select/deselect grid event(s)
3.16	Copy grid event
3.17	Delete grid event
3.18	Edit grid event length
3.19	Edit grid event pitch
3.20	Edit grid event velocity
3.21	Edit grid event rhythm
3.22	Arrange to score view
3.23	Score to arrange view
3.24	Define score content
3.25	Zoom score view
3.26	Scroll score view
3.27	Set display quantise (score view)
3.28	Select/deselect score event(s)
3.29	Copy score event
3.30	Delete score event
3.31	Edit score event pitch
3.32	Edit score event rhythm

If you feel confident about all these issues, you are ready to consider extension skills.

Extension skills

In order to allow teachers to get started without too many complications, classroom scenarios used in earlier units rely quite heavily, although not exclusively, on the use of ready-prepared sequencer files. These are currently few and far between and, having now learnt the required skills, there is no guarantee that teachers will be able to find a prepared file suitable for use in a specific context of their own scheme of work. This extension work allows teachers an opportunity to prepare an original sequencer file for use in their own classroom and to learn new skills that become relevant.

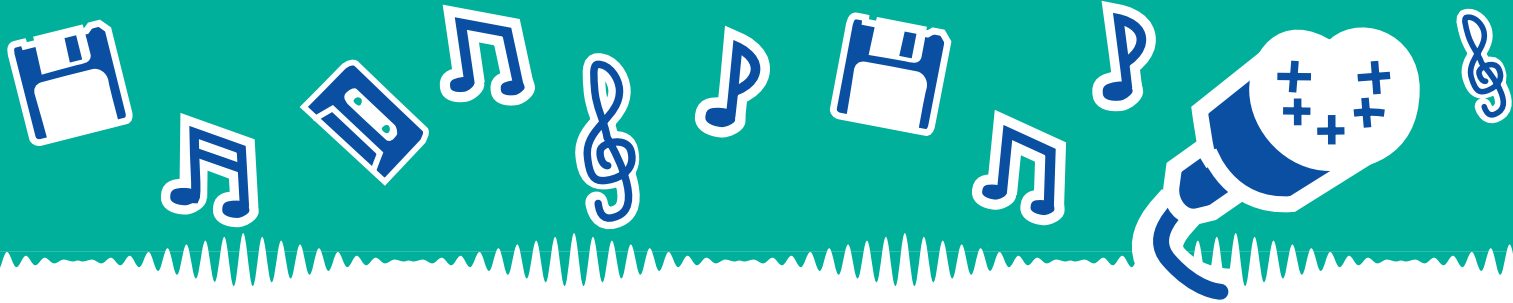
Materials to support this extension unit are available at the Virtual Teacher Centre (<http://vtc.ngfl.gov.uk>).

A note on sequencer files

Sequencer files needed for the training activities in this module are contained on the [CD](#) and are available for a range of sequencing programs. They can be accessed in a number of ways. If you are working on a suitable computer, files can be used directly from the CD or the web site. Where the computer has sequencing capability but no CD drive or internet access, the files will need to be copied to a floppy disk. They can either be downloaded from the music [CITs Web site](#) on the Virtual Teacher Centre, or copied from the CD using a suitable system elsewhere in the school. All files needed for one sequencing program will fit on a single floppy disk.

To use the MIDI training materials, you will need the following:

- A GM (General MIDI) soundsource. Roland's GS format and Yamaha's XG format are also compatible. You will not be able to follow the training activities unless you use one of these types of sound source.
- A working computer system and sequencing software
- The software training guide published by the distributor of your sequencing software.



Unit 2

Foundation skills

This unit is intended for teachers who are new to using MIDI equipment and a computer-based MIDI sequencer and for those wishing to consolidate basic skills. It deals with preparatory skills rather than active sequencing.

Before you start you should already have:

- ensured that all necessary components (including MIDI interface and sequencing software) have been installed and tested
- connected together the various items of standard computer equipment
- ensured that your system contains a General MIDI (or GS or XG format) sound source to give full compatibility with these materials
- obtained the companion guide to Becta sequencing skills from the company that distributes your sequencing software (if available)
- located the disc of songfiles that accompanies these materials. Alternatively, you could ask your IT co-ordinator to download the relevant files from Becta's Web site (<http://www.becta.org.uk>).

Aims and objectives

You may like to print these pages and tick each objective as you progress through the unit. By following the activities you will learn to:

- understand the functional stages of the sequencing process
- understand the purpose of the items of equipment that make up your MIDI sequencing system

- make appropriate MIDI, audio and serial cable connections between the items of equipment in your system
- power the system on and off safely
- 'initialise' the system to be ready for use
- use a mouse or an alternative input device to steer the screen pointer
- understand the difference between an application and a data file
- launch the MIDI sequencing application
- load a ready-prepared sequencer data file (or 'songfile')
- understand how to use the mouse or other device to change program settings
- apply the foundation skills listed on the right.

Resources needed:

- All the components of your MIDI system including sequencing software and all necessary connecting cables
- Some small sticky labels (coloured dots or small white squares)
- A pen or pencil
- The songfile called 'Showcase' from the CD or [web site](#)
- The companion guide to Becta sequencing skills designed to be used in conjunction with these training materials (obtainable from your software manufacturer). If no such companion guide exists, you may need the user manual for your sequencer and computer instead.
- [Guide 4](#) (MIDI hardware and software for music education) from *The Music IT Pack*.

Foundation skills

Skill ref.	Short description
F.01	Understand mouse conventions
F.02	Launch sequencer
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F.14	Extras

The table above shows the full list of foundation sequencer skills. This unit will also help you to understand more about how the sequencing system works and how to connect it up. In this unit you will learn operating skills concerned with understanding your MIDI sequencing system and getting it ready for use. Practical guidance about how to put these skills into practice on your sequencer is given in the relevant section of the companion software guides provided by some software distributors in collaboration with this initiative. If the distributor of your sequencing software has not yet produced a companion guide, you will still be able to follow this training unit, but you will need to refer to the sequencer's user manual and search out the relevant sections for yourself. Perhaps you might make up your own brief guide for future reference.

The remainder of this unit takes you through the explanations and training activities.



Understanding the four functional stages of the sequencing process

You may find it helpful to read page 2 of [Guide 4](#) from *The Music IT Pack* for background information before proceeding.

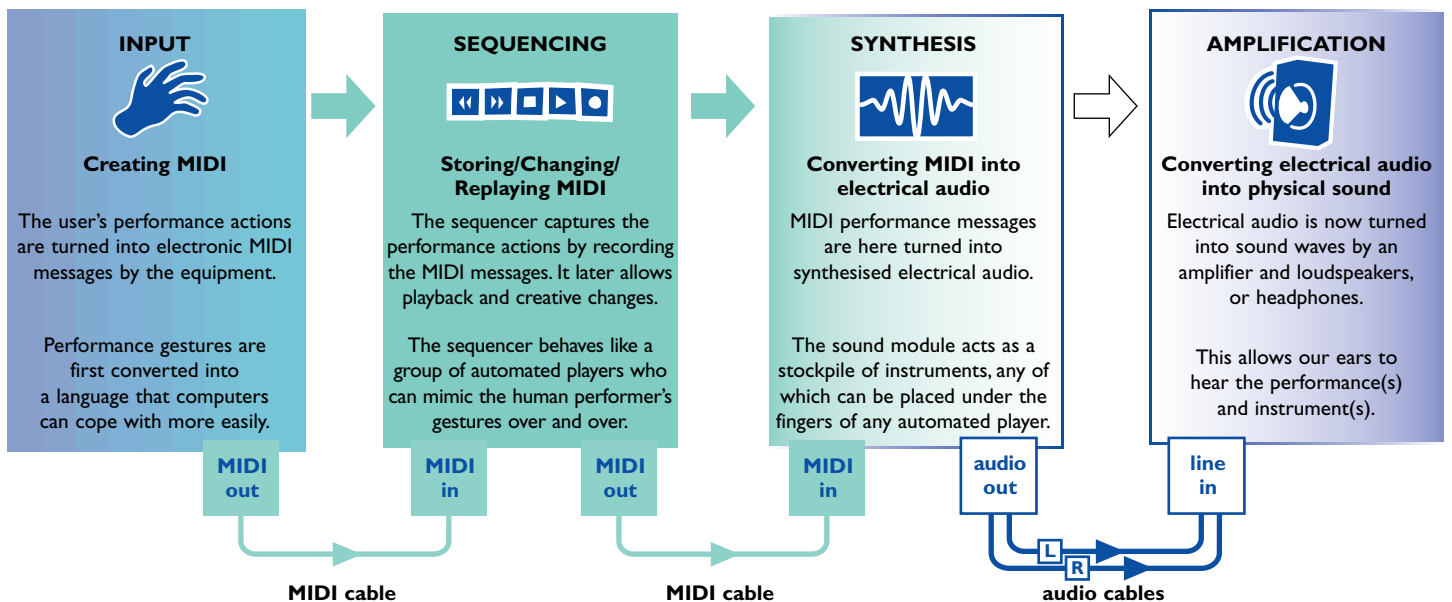
The diagram below sets out the four stages. Colours are used to distinguish different ‘realms’ through which the information passes on its journey.

There are four functional stages to the MIDI sequencing process, as shown below. The equipment that makes up a particular sequencing system must be able to fulfil all four functions. Understanding the sequencing process will help you to understand the function of each of the elements in your own system and how to connect them together. Knowing this will help you to connect and reconnect it (after a school concert, for example), and understand your system when the time comes to upgrade the equipment.

The four stages of the MIDI sequencing process

- human experience
- MIDI
- electrical audio

Page 7 of [Guide 3](#) gives more information about different kinds of amplifiers.



Note that MIDI and audio cables are different and cannot be swapped.

MIDI data is like one-way traffic and flows through a single cable. There are three types of MIDI socket: IN, OUT and THRU. What comes OUT of (or THRU) one unit must be cabled IN to the next.

The stereo audio out is like a dual carriageway. Separate cables are used for the left and right audio channels. A separate single socket may also be provided for use with headphones.




Understanding which functions your equipment can perform


Depicted below are some of the items of equipment often to be found in schools. Sometimes a single item of equipment can have more than one function. The icons from the previous page have been used again here to indicate which function, or combination of functions, each unit can perform.

Print out pages 6-8 and tick the items of equipment present in your system and ensure that all four of the important functions are represented. Where functions are duplicated you will need to decide which will be redundant when it comes to connecting the equipment together.


* Most computers will also need a MIDI interface before they can send or receive MIDI signals.

 A controller keyboard has no sounds of its own and can only be used to create MIDI data.




 Alternative input devices are designed simply to generate MIDI performance data.




 A tone module (or synthesiser module) produces electronic sounds from the MIDI messages it receives.




 A synthesiser allows performances to be turned into MIDI messages. It can also make electronic sounds.




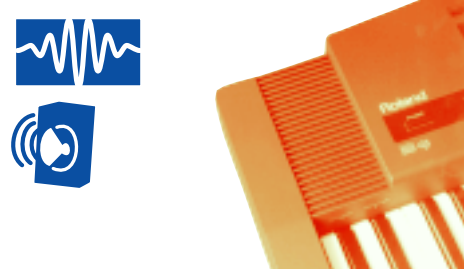
 A basic computer* will run software that turns it into a MIDI sequencer.




 A hi-fi amplifier (and speakers) with an aux input is suitable for amplification of electronic sounds from tone modules, synthesisers and keyboards.




 Some general MIDI keyboards also have built-in loud-speakers to avoid the need for external amplification.




 A computer* with a good wavetable soundcard (or synthesis software) may be suitable for making electronic sounds as well as sequencing.




 A pair of powered speakers or headphones will allow you to hear sounds made by tone modules, synthesisers and keyboards.




 A keyboard workstation includes everything in one unit, except listening facilities.



 A hardware sequencer has no other function. These materials are not really designed with hardware sequencers in mind.



 A MIDI guitar pickup or other MIDI instrument can provide an alternative to a MIDI keyboard for specialist players.



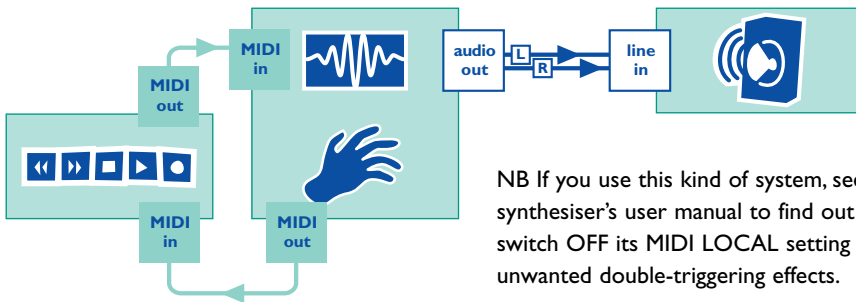
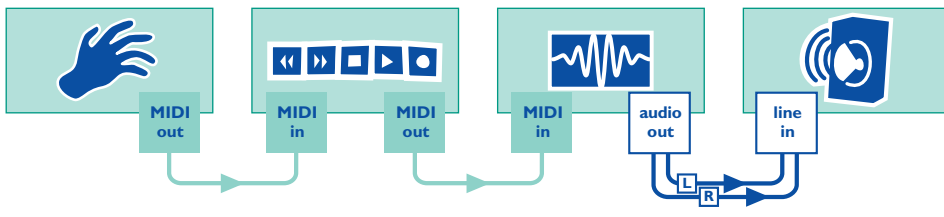


Understanding how to connect your MIDI system

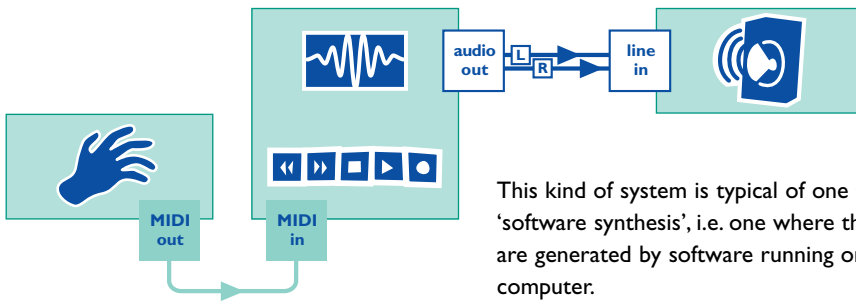
Most computers do not have built-in MIDI sockets. A special MIDI interface or cable should have been fitted by your supplier. Different connections are necessary if you are using a special tone module or synthesiser which has a 'serial interface' intended to link directly to a computer. Serial port connections are dealt with on the next page. This page deals with straightforward MIDI and audio connections.

Connecting together a MIDI sequencing system always reflects the logical stages shown earlier in this unit. Physical cabling will vary according to the combination of functions in the equipment being used. One of the diagrams below should match the combination of component items you ticked on the previous page.

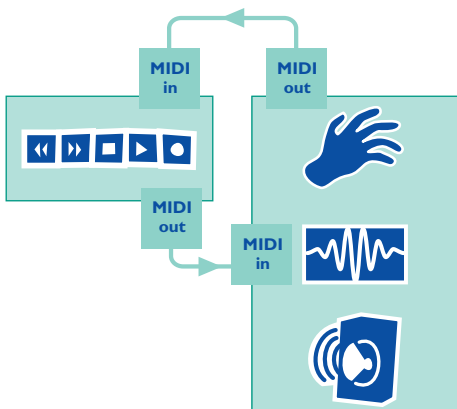
Examine the diagrams below and note the one which matches the system you are using.



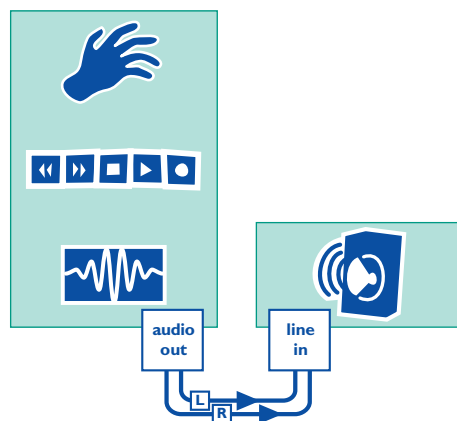
NB If you use this kind of system, see your synthesiser's user manual to find out how to switch OFF its MIDI LOCAL setting to avoid unwanted double-triggering effects.



This kind of system is typical of one that uses 'software synthesis', i.e. one where the sounds are generated by software running on the computer.



NB If you use this kind of system, see your synthesiser's user manual to find out how to switch OFF its MIDI LOCAL setting to avoid unwanted double-triggering effects.



This is typical of the 'sequencer workstation' system.

Which kind of connector?

MIDI connections



Be careful which way up you need to have the plug so that the 5 pins will fit with the holes in the MIDI socket.



Most PC soundcards need a special lead to convert from the 15-pin joystick connector to MIDI IN and OUT plugs.

Audio connections



Phono plugs are often required for connecting tone modules and hi-fi amplifiers.



Headphones sockets and computer soundcards often require a 3.5mm stereo jack plug (above right). Multimedia speakers are supplied with this kind of plug. A larger 1/4" stereo jack plug (above left) is usually used for the headphones socket on a synthesiser.



1/4" mono jack plugs (left, contrasted with stereo jack plug, far left) will usually be needed for both the L and R channels of synthesiser audio outs and mixer inputs.



Many types of adaptor are available to convert from one type of plug to another.



How to connect a system that uses a 'serial interface' tone module or synthesiser

This information only applies if you are using a special tone module or synthesiser that has a 'serial interface' as well as MIDI sockets. These can be connected directly to a PC or Macintosh computer with no MIDI interface of its own. You only need to connect the serial interface where you plan to use it instead of the MIDI sockets.

On a PC the serial cable plugs into one of the COM ports; on a Macintosh it plugs into the

modem (or printer) port. As these are a different shape and size you will need to have the right kind of lead for your make of computer. There will also be a switch by the serial socket on the synth or tone module that will need to be set to match the type of computer you are using.

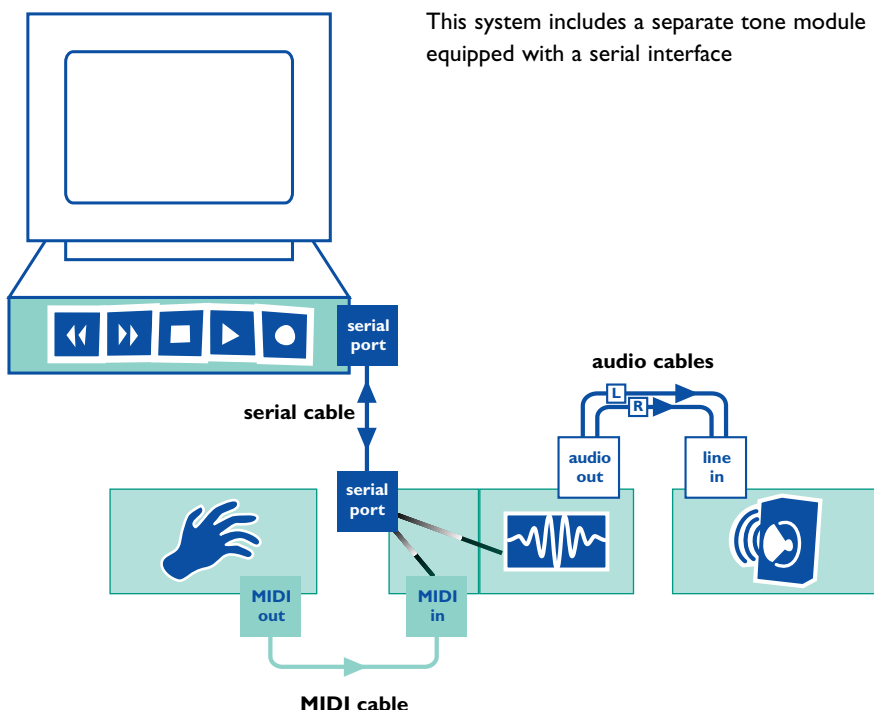
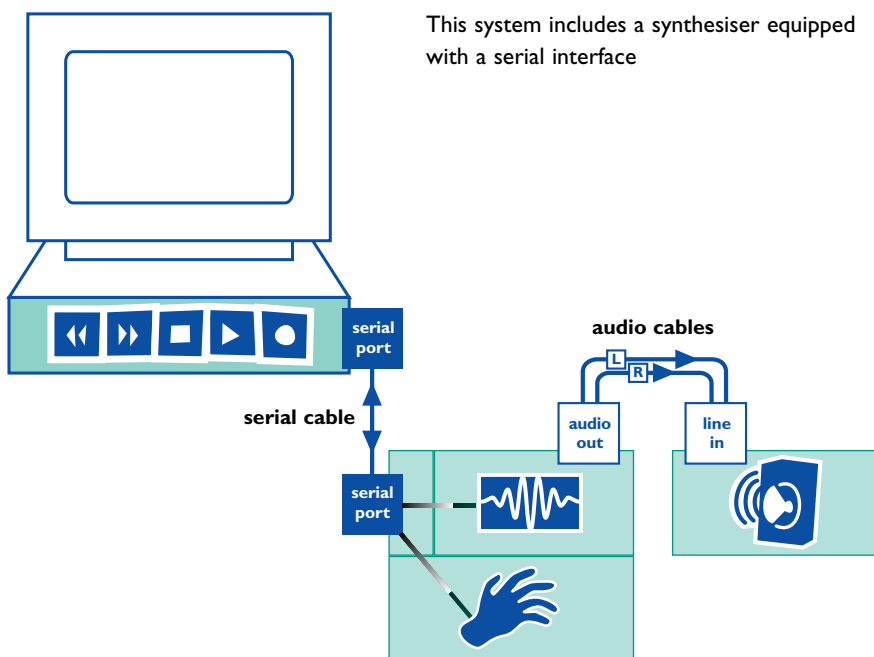
Note which of the diagrams below represents the combination of component items you marked on [p. 7 of this PDF](#).



You will need to set a switch to match the type of computer you are using

Serial connections

Serial connections are designed to allow information to pass in both directions using a single cable. The computer will need to have special 'drivers' installed before the serial connection will work properly. These drivers will be supplied on a floppy disk with the synthesiser or tone module, along with detailed instructions on how to install them. Seek expert technical assistance where possible as problems with driver installation are not uncommon and require detailed knowledge to resolve.



To plug into the COM port on a PC computer you need this kind of plug. If your computer has a 25-pin COM socket you may need a special 9-pin adaptor.



To plug into the modem port on a Macintosh computer you need this kind of plug



Making connections

One of the diagrams on the previous two pages should represent the system you intend to use. Using information from the previous two pages, you should now connect your system together. Before switching on the mains power, connect the computer components following your user manual, then the MIDI and audio (and serial, if applicable) connections.

Once everything is connected, you may find it helpful to place stickers on the leads and sockets to make it easier to reconnect the system in the future. One good way to do this is to use matching pairs of small sticky labels on the plug and the socket into which it should fit. You could either:

- use several matching pairs of differently coloured small sticky dots
- draw several matching pairs of symbols onto small white sticky labels.

Placing matching labels on plugs and sockets that belong together can make reconnection at a later date very simple.

Switching on

If you are now ready to power up your sequencing system, please remember that once it is switched on, you should *never switch off the power to your computer without having first shut down properly.*

If you or your pupils do not observe this basic rule there is a chance that you may stop the computer from working properly on future occasions. If you are not sure what the correct procedure is, refer to the guide supplied with your computer.

Ensure that all connections are properly made and then switch on the mains power to your system, following the order of events below.

- 1 Turn down the volume control on the amplifier.
- 2 Switch on mains power to all units *except the computer.*
- 3 Switch on mains power to the computer.

If your computer has been properly configured it will start to ‘boot up’ as soon as it is switched on. This may mean that it displays bursts of written information quickly on the screen or perhaps shows a pictorial screen while it is in the process of getting itself ready for use. Eventually, it will settle down and leave you looking at a screen referred to as the ‘desktop’.

There should also be a small arrow pointer (called the ‘cursor’) which will move about the screen as you move the mouse. If you do not get the desktop and mouse pointer within about two minutes of switching on the power, there is probably something wrong somewhere and you should seek expert advice.

If you are not familiar with how to steer the mouse pointer round the screen and select various windows and icons, refer to skill F.01 in the companion booklet produced by the manufacturer of your software or ask your IT co-ordinator for a demonstration. Refer to the computer’s user guide if there is no companion booklet.

Itemising your own system

Using information from the preceding pages you should now be able to create your own table with headings like the ones below, listing all the equipment that makes up your MIDI system. In the third column use the following abbreviations for the type of function each piece of equipment performs:

- I= Input
- Se = Sequencing
- Sy = Synthesis
- A = Amplification

Where a single piece of equipment performs more than one function, separate the relevant abbreviations with a slash (e.g. for a synthesiser you would write I/Sy).

It may be helpful to draw another diagram to summarise how the various pieces of equipment need to be connected together in your system.

Understanding the difference between application files and data files

If you already understand this difference, move directly to the tinted activity boxes.

Application files are often called *programs*. They are the complex sets of coded instructions that turn your computer into a useful tool (the application). MIDI sequencers are just one example of a type of computer application. You don’t need to understand what the coded instructions are or exactly how they work in order to use the application, but you will need to know how to get the computer to behave as a sequencer each time you switch it on. This is often called ‘launching’ the application or program.

A data file is different. It is the file of coded information that is used to store the work of someone who has used the application. Again, it is not necessary to understand exactly how the work has been encoded, but it is fairly important to know how to create and reload these data files if you need to use your work again. Sequencer datafiles are often called ‘songfiles’ (rather surprisingly, as they usually have nothing to do with the human voice). Each different sequencer has its own way of encoding information in songfiles and it is not generally possible to load a songfile into one sequencer if it was created from a different make of sequencer. When accessing the CD resources that form part of this training pack, you will need to use a data file that is compatible with the make of software you are using.

▶ Refer to skill F.02 in the companion booklet for your software. This will explain how to launch the sequencer application ready for use. Launch your sequencing application now. Refer to your sequencer’s user guide if you do not have access to a companion booklet.

Manufacturer	Model N°	MIDI function



Now refer to skill F.03 in the companion booklet for your software. This will explain how to load a datafile ready for further use within your sequencing application. Now load the songfile called 'Showcase' from the CD or [web site](#).

Viewing the sequenced information

Refer to pages 6 and 7 of [Guide 4](#) from *The Music IT Pack*. These pages show how musical information stored in a sequencer can be represented in a number of different ways. Each way is generally termed a 'view' of that information. Each view only tends to appear when you tell the program you want to see a window showing that view. The term 'score view' and 'score window' are therefore interchangeable. Perhaps the most useful view for carrying out basic tasks is the 'arrange view'.

Find the 'arrange view' on page 6 of [Guide 4](#) and read the information about it. Now refer to section F.04 of the separate companion booklet produced by the manufacturer of your software to find out how you can display this type of view on your own sequencer. Make the arrange view appear now, if it is not already showing.

On most sequencers it is possible to change the amount of information being shown in the arrange view by altering the 'zoom factor' of the window. By altering the zoom factor you effectively change the scale of the bar ruler against which the musical sequences are drawn. It is therefore possible to get an overview of the whole song by choosing a smaller scale (zooming out). When you choose a larger scale (zoom in) the whole song will no longer fit into the available space but you will be able to see more detail of the portion of the song that is being shown.

Refer to section F.05 of the companion booklet for your software to find out how to change the zoom factor. Try zooming in and out to display different amounts of the song.

When you are 'zoomed in' to a small portion of a song you may be able to see the required degree of detail, but the view may not be showing you the particular area of the song that interests you. You can change the section of the song being displayed by 'scrolling' the view backward or forward in time until you reach the required section. If you are familiar with the idea of panning a camera to left and right you will notice that scrolling through the data is quite similar.

Refer to section F.06 of the companion booklet for your software to find out how to scroll backward and forward through the information. Try zooming in first and then scroll to and fro to display different areas of the song.

Transport controls

Refer to pages 6 and 7 of [Guide 4](#) from *The Music IT Pack* and read about the 'transport window'. Remember that the transport controls on your sequencer may not appear exactly as illustrated in the guide. With some sequencers, transport controls do not appear in a separate window at all, but are a permanent feature of the screen. In most situations it is necessary to be able to use the transport controls quickly and simply. Where they are provided in a separate window, it is usual for it to 'float' automatically above any other window, such as the arrange window, so that transport controls are never obscured.

Refer to skill F.07 in the companion booklet for your software. Get transport controls to appear on your screen now, if they are not already showing. If you cannot resist the temptation to try starting and stopping playback, don't be too disappointed if you don't hear anything. There are a few more things to be checked yet!

Choosing where the MIDI information is sent

There may be a number of possible destinations for the MIDI information as it is played back by the sequencer. For example, if the computer has an internal soundcard, should the MIDI

information be sent to the soundcard or should it be routed to a separate output socket so that an external sound module can be used instead? Many sequencing programs leave this choice to the user and it is often possible to set the 'output destination' for each track independently. Each possible destination is called a 'port'. For most school-based work it will be necessary to set each of the tracks to the same output port as they will all be intended for the same sound-source. If no sound is heard when the sequencer is in play mode, it is possible that the tracks are not assigned to the required output port.

Refer to skill F.08 in the companion booklet for your software. Find out how to set the output port on your sequencer and, if necessary, choose the correct setting(s) for the system you are using. You may need to set each track independently. Once you have done this, try using the transport controls to start playback from the beginning of the piece. You should now be hearing something (but see next section), even though the sounds produced may not be quite right.

Checking the playback volume level

Of course, you won't be able to hear anything if the volume controls are all set to zero! Even if you could hear something in the last part of the previous activity, you may now like to adjust the playback volume so that it is more comfortable. Unlike the domestic stereo system, there are probably a number of different volume levels in the chain, each having an effect on the overall volume level you hear. As a general rule, these should probably all be set to roughly 80% of maximum except the very last volume control in the chain, which should be adjusted to suit your preference. Exactly where these volume controls are situated depends on the equipment system you are using, but the following checklist may help you to find all of them:

- The 'virtual' MIDI and master volume faders on your soundcard's mixer software
- The volume knob on your sound module or synthesiser



- The 'part' and master volume settings on your sound module or synthesiser (refer to the user guide for your equipment)
- The channel and master faders on any mixing desk you may be using
- The position of the input selector and the volume control on a hi-fi amplifier
- The volume control on desktop loudspeakers
- The volume control on headphones.

▶ Using the transport controls, start playback from the start of the song and adjust volume control settings until you can hear sound at a comfortable level, even though the instrumentation may not sound right yet. Also, refer to skill F.12 in the companion booklet for your software to check if it has any controls that might affect overall playback level.

Initialising the soundsource

As a rule, a soundsource will power on in the same condition as when it was switched off. You may be fortunate, but in general you will have no idea of how the last user left it, especially in a busy classroom environment. It is therefore wise to be very familiar with the procedure for 'initialising' your soundsource to its default General MIDI condition. Instructions about how to do this will be found in the user guide that was supplied with your soundsource. Alternatively, your sequencer may be equipped with a ready-made routine that will perform this function for you remotely in one simple operation.

▶ Refer to skill F.09 in the companion booklet for your software to check if it has any built-in feature that will initialise your soundsource to its default GM, GS or XG state. If it does not, check the user guide that was supplied with your soundsource to learn how to initialise it from its own buttons. Initialise your soundsource now and take special note of how to repeat this procedure in future.

Optimising the sequencer for use with a GM soundsource

It is strongly recommended that schools use a GM (or GS or XG) soundsource because it will have a standard minimum specification that makes it suitable for most educational purposes. Many sequencers are able to adapt themselves to work closely with this standard specification. This has many advantages, such as being able to choose instrumental timbres by name. Before it can do this, the sequencer will need to be made aware that it is connected to a GM soundsource.

▶ Determine whether or not you are using a GM, GS or XG format soundsource (see page 3 of [Guide 4](#) from *The Music IT Pack*). If you are, refer to skill F.10 in the companion booklet for your software to find out if you need to carry out any particular actions to make your sequencing software aware of this.

Transmitting information about instruments used

Even in its default condition, it is most unlikely that your soundsource will be in a state to provide the right instrumental sounds at the right volumes on the right MIDI channels to suit the file you are using in the sequencer. Most sequencers have a way of transmitting this information to the soundsource and set it up automatically, ready for immediate use. This function is usually called something like 'send used instrument settings' and some sequencers can be set to do this automatically when a new datafile is loaded.

▶ Refer to skill F.11 in the companion booklet for your software. Follow information in that section to transmit settings to the MIDI soundsource concerning the required instruments. When you have done this, try using the transport controls to play back the song from the start. You should now hear the music in the voicings that were intended by the programmer of the datafile. If you need to make a fine adjustment to the overall volume level, do so now.

Setting up the metronome sounds

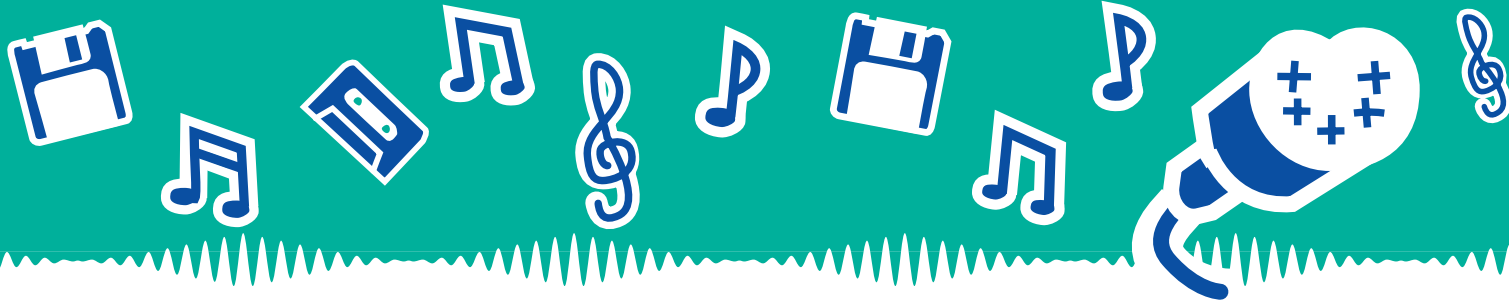
Most sequencers can provide a metronome click, when required, to clarify the pulse when recording or playing back. The metronome tempo adapts automatically to match the tempo in force at any moment in the songfile. However, the nature of the sounds used and the rhythmic spacing between metronome clicks can be set by the user. If the teacher does this, pupils will then be able to switch the metronome on and off very simply.

▶ Refer to skill I.13 in the companion booklet for your software and set up the metronome. You will probably want to test your metronome settings and may need to refer forward to skill I.14 to discover how to turn the metronome click on and off as the sequencer plays.

Extra features

Every sequencer is unique and it is likely that sequencer design will continue to develop over the years. To allow for future developments, that will hopefully make the teacher's life easier, we have allowed for a special section in the design of the companion software booklets and this initiative. Skill F.14 is not specified in this pack. It is an open opportunity for software writers to declare and explain in their booklets any special features of their program that are fundamental to the way the sequencer works and which might therefore be classed as 'foundation skills'.

▶ Refer to skill F.14 in the companion booklet for your software. If it contains any extra information then read it through and act on its contents.



Unit 3

Step 1 sequencing skills

This unit is intended for teachers who already understand foundation skills and are ready to begin learning how to use a MIDI sequencer in practice. It deals with the kinds of learning situation outlined on page 9 of [Guide 4](#) from *The Music IT Pack*. These are all geared towards using and exploring within given sequenced material.

Aims and objectives

By following the activities you will learn to:

- control the playback functions of your sequencer
- consider the educational contexts in which these skills might be applied.

Resources needed:

- The songfile called 'Pikapek' from the CD or the [web site](#)
- The companion guide to Becta sequencing skills designed to be used in conjunction with these training materials (obtainable from your software manufacturer). If no such companion guide exists, you will need your sequencer's user manual instead
- [Guide 4](#) (MIDI hardware and software for music education) from *The Music IT Pack*
- A blank formatted floppy disk (optional)

This unit covers operating skills concerned with exploring music in supplied sequencer files. It provides a short score of the music you will encounter and takes you through the training activities. It may be helpful to look at the training activity pages now (pages 16–18). Each row in the layout refers to a separate learning context. There are three columns: the first

Step 1 skills

Skill ref.	Short description	Pikapek
1.01	Play from start	•
1.02	Stop	•
1.03	Pause	•
1.04	Continue	•
1.05	Play from mid-song	•
1.06	Set marker	•
1.07	Play from marker	•
1.08	Cycle section	•
1.09	Adjust tempo	•
1.10	Solo track	•
1.11	Mute track	•
1.12	Offset track velocity	•
1.13	Transpose (global)	•
1.14	Toggle metronome	•
1.15	Save song	•

summarises the learning context in cartoon format, the second gives explanatory notes for teachers, while the third suggests a training activity to help familiarise you with the required operating skills and itemises them (refer to your software guide or user manual for guidance on how to achieve them on your own sequencer).

Refer also to page 9 of [Guide 4](#) from *The Music IT Pack* and familiarise yourself with the different areas of application of the sequencing skills you are about to encounter.

The table above shows the full list of Step 1 sequencing skills. It also indicates that all of these skills are included in the training programme associated with the Pikapek songfile. You may feel that some of the learning objectives exemplified in this unit might also be accomplished through more traditional strategies. This will ultimately be your own decision, but consider at all times whether there is any particular advantage in using a sequencer

compared with other methods. Insight into how operating skills might be put to use in the classroom is just as important for effective teaching as knowledge of the skills themselves. But also bear in mind that the basic skills in this unit are a foundation upon which the higher level skills to be encountered in subsequent units can be securely built.

This training scheme does not cover skills concerned with printed notation. This was a deliberate decision, based on the belief that MIDI sequencers should make a more significant contribution to music education than generating high-quality score print-out.

Pikapek

This training activity focuses on a sequenced arrangement of the traditional song *Pick a Bale of Cotton*, which is provided in the sequencer file 'Pikapek' on the CD or from the [web site](#). In the classroom scenario, pupils are learning a vocal piece in two parts, with added instrumental ostinati. The activity might be focused on different learning objectives, according to pupils' needs. Each independent part has been recorded on its own sequencer track. The teacher and pupils then use the sequencer to refine and enhance performing and appraising skills.

The next pages show an outline score of the piece you are about to work with. Only the two vocal parts and the pitched percussion ostinati are shown, although the sequencer file provides further instrumental parts. Many sequencers are capable of printing out these other parts, but this involves skills not addressed in this scheme. Study the outline score now to familiarise yourself with the nature and content of the piece.



Pick a Peck of Pepper

Pick a Peck of Pepper

based on 'Pick a Bale of Cotton'

Adapted and arranged by Andy Murray

Verse 1

mf

I Pe - ter Pi - per Pe - ter Pi - per

II *mf*

picked a peck of pep - per, picked a pep - per - corn.

Chorus

f

Oh Pe - ter! Oh Pe - ter! Pick a pep - per - corn.

Oh Pe - ter! Pick a peck of pep - per, Oh Pe - ter! Pick a pep - per - corn.

Oh Pe - ter! Oh Pe - ter! Pick a pep - per - corn.

Oh Pe - ter! Pick a peck of pep - per, Oh Pe - ter! Pick a pep - per - corn.

Verse 2

mf

Come and help Pe - ter Come and help Pe - ter

mf

pick a peck of pep - per, pick a pep - per - corn.

2nd time to Chorus

Verse 3

(all whistle)

2nd time to Chorus



Pick a Peck of Pepper

Verse 4

Musical notation for the first system of Verse 4. It consists of a vocal line and a piano accompaniment line. The key signature has one sharp (F#) and the time signature is 2/4. The lyrics are: "Pick a pick a pick a pick a pick a pick a peck of pick- led pep- per, Pick a peck of pep- per,"

Musical notation for the second system of Verse 4. The lyrics are: "Pe - ter Pi - per picked a peck of pick - led pep - per - corn. pick a pep - per - corn."

Final chorus

Musical notation for the first system of the Final chorus. It includes dynamic markings: *f* (forte) for the vocal line and *mp* (mezzo-piano) for the piano accompaniment. The lyrics are: "Oh Pe-ter! Oh Pe - ter! Pick a pep-per-corn. Oh Pe-ter! Pick a pick a pick a pick a pick a peck of pep-per, pick a pep-per-corn."

Musical notation for the second system of the Final chorus. The lyrics are: "Oh Pe-ter! Oh Pe - ter! Pick a pep-per-corn. Oh Pe-ter! Pick a pick a pick a pick a pick a peck of pep-per, pick a pep-per-corn."

Musical notation for the third system of the Final chorus. The lyrics are: "Oh Pe-ter! Oh Pe - ter! Pick a pep-per-corn. Oh Pe-ter! Pick a pick a pick a pick a pick a peck of pep-per, pick a pep-per-corn."








Training activities using the Pikapek songfile

In these training activities, each row in the layout refers to a separate learning context. There are three columns: the first summarises the

learning context, the second gives explanatory notes for teachers, while the third suggests a training activity to help familiarise you with the

required operating skills. The numbers in brackets refer you to the relevant skills in the companion software guide, if you have one.

Learning context	Notes for teachers	Training activities
<p>1</p> <p>I'll just get ready</p> 	<p>Before the lesson begins the teacher loads the file into the sequencer and prepares everything for use.</p> <p>She begins the lesson by explaining the task and the learning objectives.</p>	<p>Make sure your system is connected properly and launch the sequencer.</p> <p>Loading the sequencer file called 'Pikapek', take any necessary further steps to prepare the system for use.</p>
<p>2</p> <p>First, listen carefully to the whole piece through</p> 	<p>At this stage, the sequencer is used in a similar way to a standard audio recording to present a model performance for the class to listen to for the first time. As usual, guided listening is probably best. One advantage over audio recordings is that the structure is always visible on the sequencer screen and this can provide a useful focus of attention.</p>	<p>Play the piece through from beginning to end. Don't forget to stop the sequencer running after the piece has finished. (skills 1.01, 1.02)</p> <p>Follow the guide score and gently sing along if you wish.</p>
<p>3</p> <p>Let's listen to that section again</p> 	<p>The teacher now wishes to direct attention to different sections of the material to clarify pupils' understanding of the various musical features they contain. The sequencer allows easy access to any starting point.</p>	<p>Identify two musical features of the piece that you might wish to explain to pupils.</p> <p>Play the sections of the piece that contain these features. (skills 1.05, 1.02)</p>
<p>4</p> <p>Who can tell me the interval when I pause the music?</p> 	<p>The sequencer can be a useful tool for developing some areas of aural skills as it may have the capability to freeze the sound at any chosen moment. This allows pupils to contemplate the sound they have been asked to consider while it is still hanging.</p>	<p>Start playback from the beginning of the piece and attempt to pause the sound during the first minim of the chorus, e.g. bar 13. (skills 1.01, 1.03)</p> <p>Ask pupils to identify the interval between the two vocal parts in terminology that might be expected of a KS3 pupil. Then restart playback for a few more bars before stopping. (skills 1.04, 1.02)</p>
<p>5</p> <p>Who can play back the section where xxx happens?</p> 	<p>Having pointed out various musical features, the teacher now wishes to invite pupils to demonstrate their understanding. Any pupil who volunteers an answer is invited to work the sequencer.</p>	<p>Nominate one of the musical features you have identified. Think how you would explain clearly to a novice how to play back the section that contains that feature. (If you are working in a pair for an INSET activity, one partner could explain it out loud and the other could say how clear the explanation was.) (skills 1.05, 1.02)</p>



Training activities using the Pikapek songfile

6

Now let's listen to what each individual instrument plays



She allocates pupils to instrumental parts according to needs. Those able to start work without further help can move to a different area. Others stay to receive more help. The sequencer can demonstrate each part as a solo. Use a variety of strategies (singing, clapping, playing, following notations, etc.) to enhance pupils' understanding of their own parts. Pupils then practise independently.

Identify a few bars of one part that you think might be easily learned after a single hearing.

Solo that track, play back the phrase and then sing or clap it back (or ask your partner to try to sing or clap it). (skills 1.09, 1.05, 1.02)

7

I can't manage that bit!



More challenging sections may need to be repeated several times. A marker can usually be set that will make it easier to commence playback from the same point several times over. It is also possible to change the relative dynamic of any part. Initially, the part causing difficulty might be made more prominent. It could then be made progressively quieter with each playing as pupils play along and proficiency increases.

Identify a few bars of one part that may be difficult for pupils to assimilate accurately and set a marker at the start of the passage. (skill 1.06)

Raise the velocity of the track concerned to increase its dynamic. (skill 1.12)

Start playback from the marker several times over, each time changing the dynamic of the problem track. (skills 1.07, 1.02)

8

Can we keep repeating that section until we're sure of it?



It is often helpful to repeat a number of bars over and over for a variety of reasons: perhaps while pupils focus on active listening or to help them overcome some problem with performing a certain section. Most sequencers allow you to choose a section that will repeat over and over continually until you tell it to stop.

Identify a short section of the piece that you might want to repeat over and over without stopping and think of some possible reasons why you may want to do this.

Setting any necessary bar references on the sequencer, use the cycle facility to play your chosen passage over and over. (skills 1.08, 1.02)

9

Can I try my part along with the sequencer please?



When the able group return, claiming that they have learned their part, they can try it in context, using the sequencer to supply only the parts that are not represented. Any parts that are being played by pupils can be muted on the sequencer.

Mute out one of the strands of the sequence and sing or play it yourself while the remaining tracks play back from the sequencer. If you are working in a pair, each person could supply a different track (mute them both). (skills 1.11, 1.05, 1.02)

10

It's too high to sing!



In this age range, some allowance often needs to be made for changing voices. If a song is genuinely too high for comfort, the sequencer allows playback of the whole song to be transposed to a more suitable key.

Do whatever is necessary to transpose the whole song a tone lower, then play back enough of it that you can confirm it is sounding in the new key. (skills 1.13, 1.01, 1.02)

11

I can't keep up – it's too fast!



'Keeping up' is a common frustration in the early stages of learning a new piece. The sequencer is able to slow down (or speed up) without changing pitch, allowing the tempo to be altered at will to pace improving performing skills.

Ask pupils (or your partner) to sing a certain phrase at a new tempo that you consider would be more manageable. Having now indicated the intended tempo vocally, see how closely you can guess the required playback tempo setting on the sequencer. (skills 1.09, 1.05, 1.02)



Training activities using the Pikapek songfile

12

I've forgotten the rhythm of the middle section!



Learning the whole piece at once may be difficult for some pupils. During any autonomous practice time, encourage them to help themselves by identifying, isolating and listening to any sections of their part that they may need to listen to again.

From the score, nominate any passage that you think a pupil may wish to hear again. Think about how you would explain clearly to the pupil how that passage can be located and isolated for playback. If you are working in a pair, one could explain and the other could say how clear they found the explanation. Try to include an explanation of skills 1.01, 1.05, 1.10 and 1.02.

13

I don't get how my bit fits with the rest



Pupils may be struggling to see how their part fits in with the rest, so it may be helpful to accentuate one part above all others temporarily. It may then be heard more clearly, but still within the context of the overall texture.

Choose one track and adjust the velocity balance so that the chosen track sounds prominent above the others. (skills 1.12, 1.05, 1.02)

Return the balance to normal again afterwards.

14

I'll save that version ready for the next time I teach this class



Any alterations such as new transpositions or settings you make can be saved to disk ready to be reloaded immediately next time you take the same class. You will need to think of a new name for the data file, or it will replace the original version already on your disk.

Think of a suitable new filename (i.e. not 'Pikapek') and save the current version of the songfile to disk, using either the computer's hard drive or a formatted floppy disk, so that any changes you might want to keep would load in again next time you switched on the computer. (skill 1.15)

15

How many beats introduction before my part begins?



As work moves closer to the goal of a complete performance, an ability to count rests accurately assumes greater importance. Temporarily adding a metronome click will help pupils to feel and measure for themselves any rests that are required.

Identify somewhere in the piece where pupils are likely to need to count rests or perhaps long note values.

Switch on the metronome click and count the beats out loud above as you then play back that passage. (skills 1.14, 1.05, 1.02)

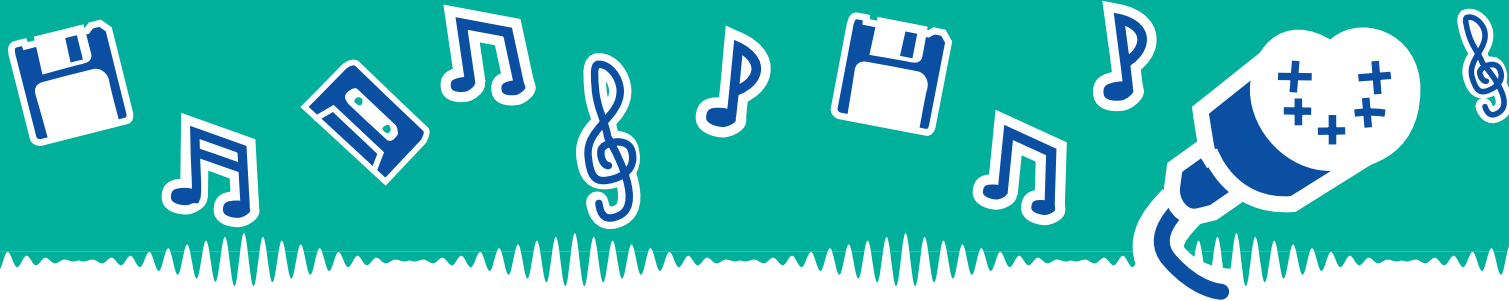
16

Can we try the whole thing on our own now, without the sequencer?



Remember that in this context the sequencer has simply been a learning tool. If all necessary parts can now be played reliably by pupils on acoustic instruments, it is perhaps time to realise that the sequencer has served its purpose and leave it idle.

Look back over the scenarios and activities you have encountered in this unit and reflect upon (or discuss) the nature of any contribution the sequencer may have made.



Unit 4

Step 2 sequencing skills

This module is intended for teachers who already understand foundation and Step 1 skills and are ready to learn more. It deals with the kinds of learning situation outlined on page 10 of [Guide 4](#) from *The Music IT Pack*. These are all geared towards reorganising textures and structures from given sequenced starting points.

Aims and objectives

By following the activities you will learn to:

- alter the texture and structure of sequenced music in a way that allows for creative decision making
- consider the educational contexts in which these skills might be applied.

Resources needed:

- The songfiles called 'Tallis' and 'Romcut'
- The companion guide to Becta sequencing skills designed to be used in conjunction with these training materials (obtainable from your software manufacturer). If no such companion guide exists, you will need your sequencer's user manual instead
- [Guide 4](#) (MIDI hardware and software for music education) from *The Music IT Pack*.
- A blank formatted floppy disk (optional).

Step 2 skills

Skill ref.	Short description	Tallis	Romcut
2.01	Undo	•	•
2.02	Select/deselect component(s)	•	•
2.03	Join components (horizontal)		•
2.04	Divide component		•
2.05	Move component vertically	•	•
2.06	Copy component vertically		•
2.07	Move component horizontally	•	•
2.08	Copy component horizontally	•	•
2.09	Move component freely		•
2.10	Copy component freely	•	•
2.11	Mute component		•
2.12	Delete component	•	•
2.13	Rename component		•
2.14	Create new track		•
2.15	Delete track	•	•
2.16	Rename track		•
2.17	Reveal parameters	•	•
2.18	Set track channel		•
2.19	Choose track instrument	•	•
2.20	Set channel volume	•	•
2.21	Set channel pan	•	•
2.22	Set track delay		•
2.23	Transpose track		•
2.24	Transpose component	•	•
2.25	Offset component velocity		•

In this unit you will encounter operating skills concerned with changing the structure and texture of music in supplied sequencer files. Practical guidance about how to put these skills into practice on your sequencer is given in the relevant section of the companion software guides provided by some software distributors in collaboration with this initiative. If the distributor of the sequencing software you use has not yet produced a companion guide, you will still be able to follow this training unit, but you will need to refer to the sequencer's user manual and search out the relevant sections for yourself. Perhaps you might make up your own brief guide for future reference.

Refer to page 10 of [Guide 4](#) from *The Music IT Pack*. By studying and perhaps discussing this page, familiarise yourself with the different areas of application of the sequencing skills you are about to encounter.

The table above shows the full list of Step 2 sequencing skills. It also indicates which skills are included in the training programme that goes with each songfile. Ideally, you should tackle both files, first 'Tallis' then 'Romcut'. Romcut gives more comprehensive coverage but will take longer to complete than Tallis.

The remaining pages of this unit take you through the training activities. Refer to these



pages now. Each row in the layout refers to a separate learning context. The first column indicates the learning context in summary cartoon format. The second gives explanatory notes for teachers. The third suggests a training activity that will help familiarise you with the required operating skills. The numbers in brackets in the third column refer you to the relevant skills in the companion software guide, if you have one.

The Tallis songfile

In the first set of training activities in this unit you will start with a sequenced harmonisation of a chorale by Thomas Tallis, often referred to as *Tallis' Canon*. This is provided in the sequencer file 'Tallis' on the CD and from the [web site](#).

You will learn how to balance the strands in the supplied texture, choose the most appropriate

of three alternative embellishments of the melody, extend the structure, construct a canon in the new section, reorder the entries and revoice the canonic section for a new combination of instruments.

The scenario does not require access to instruments, although an imaginative teacher might think of ways in which they might be integrated at certain stages in the proceedings.

The Romcut songfile

The second set of training activities also exemplifies creative work incorporating active listening and appraising and suggests how an initial idea might be developed into a longer composition. Later on, in its completed version, it might also be used to support class performance.

This scenario presumes that space allows for pupils to have access to instruments. Learning opportunities will be enhanced if they also have a clear view of the screen. With just one computer, or where pupils are not yet familiar enough with the system, learning will need to be teacher led with pupils participating by offering suggestions. Where several sequencing systems are available and pupils' skills are more developed, each group of pupils might be issued with a sheet containing targeted tasks.

The file itself makes use of a six-bar Romanian folk melody. Play it through before you begin the training exercise and presume that some time has already been spent in the lesson appraising and learning to play the fragments of melody.

Training activities using the Tallis songfile

Before working on these activities, check skill 2.1 in the companion guide for your software (or investigate the user manual) to discover whether it is possible to 'undo' an action that

has been carried out by mistake. You should follow this procedure whenever necessary as you work through the activities.

Learning context

Notes for teachers

Training activities

1

I'll just get ready



Before the lesson begins the teacher loads the file into the sequencer and prepares everything for use.

She begins the lesson by explaining the task and the learning objectives.

Make sure your system is connected properly and launch the sequencer.

Loading the sequencer file called 'Tallis', take any necessary further steps to prepare the system for use.

2

Let's set the volumes of those parts so they sound balanced



Balancing volumes of different musical elements is a fundamental skill in performing and composing activities. As an activity, it can be teacher led or left to the independent discretion of individual pupils. Note that adjusting volumes is subtly different from altering velocities (as encountered in Step 1 skills)*.

Focus your attention on just the first four tracks (the rest should already be muted). These SATB parts are deliberately designed to play out of balance.

Adjust the volume of each track until you are happy with the sounding blend of the four parts. (skills 2.17, 2.20)

* Changing the MIDI velocity mimics altering the force used to produce a note and, in a well designed sound module, changes in MIDI velocity will result in changes in the spectrum of the timbre. For example, a suspended cymbal struck gently (low velocity) will produce a radically different quality of sound to one struck fortissimo (high velocity) as well as being quieter. On the other hand, changing the MIDI volume has no impact on the spectrum of the timbre and simply affects the playback volume of notes subsequently produced on that channel.



Training activities using the Tallis songfile

3

Which of these musical alternatives do you prefer and why?



Consideration of why one alternative sounds preferable to another allows pupils ample opportunity to express opinions using musical vocabulary. This approach can often allow exposure to certain historical elements or conventions of style (in this context, for example, exposure to false relation in music of the Tudor period).

Tracks 5 to 8 should already be muted. Listen to each of them in turn, combined with the main chorale, and decide which offers the most appropriate decoration of the chorale melody and why. Pause playback (skill 1.3) to hold dubious dissonances.

For clarity, delete whichever two tracks you decide to reject. (skill 2.15)

4

Now let's extend the structure



Perhaps the simplest way to extend a musical structure is simply to repeat a given section with no modification. This will be the first step in our example.

Select all the material that currently exists in the arrangement and copy it so that a repeat begins on the last beat of bar 10. (skills 2.02, 2.08)

Now play the piece through from beginning to end to check that the repeat works properly.

5

Can't we change the repeat so it sounds different?



Introducing some contrast into the repeat allows a more complex structure to be explored. In this particular case, the melody lends itself to canonic treatment, which could be adopted instead of a simple repeat of the chorale treatment.

In the newly created repeat section, delete all material except the soprano chorale melody. (skills 2.02, 2.12)

Playing from bar 10 from time to time to check your progress, copy this melody to the alto, tenor and bass parts respectively, on tracks 2, 3 and 4. Delay each new entry by 1 bar (order of entry = SATB). (skills 2.02, 2.10)

6

Surely, the tenor and bass parts should sound an octave lower!



Pupils may notice that the tenor and bass parts should play an octave lower. In this case, the need for a change of pitch register is dictated by the physical capabilities of the imagined performance medium. In other cases, changes of pitch register can often be investigated as a matter of preference rather than requirement.

Transpose the newly created tenor and bass entries on tracks 3 and 4 down an octave (12 semitones). (skills 2.02, 2.24)

Check the sound of the result.

7

How does it sound if those parts enter in a different order?



The pupils now consider how it will sound if parts enter in a different order. This is one example of a learning situation in which it is necessary to be able to reposition components of existing textures earlier or later in time. This is often helpful in 'what if?' scenarios and offers pupils the ability to explore texture speculatively.

At the moment, the voices in the new section enter in the order SATB. Now reposition the new entries as necessary to give the reverse entry order BTAS. (skills 2.02, 2.07)

Listen to the result.

8

Can we try that section on instruments rather than voices?



The sequencer is a helpful tool for investigating the musical effect of using different timbres. At this key stage it may be helpful to suggest investigating consorts of similar instruments (or combinations that are historically appropriate or inappropriate) if pupils are likely to find it hard to decide or agree on free instrumentation.

Move all the material in the new section from tracks 1 to 4 down to tracks 6 to 9. (skills 2.02, 2.05)

Set up suitable instruments for tracks 6 to 9 and place each of these at the position of your choice in the stereo panorama. (skill 2.21)

Check the balance of these new instruments, making volume adjustments if necessary. (skill 2.20)



Training activities using the Romcut songfile

Before working on these activities, check skill 2.1 in the companion guide for your software (or investigate the user manual) to discover

whether it is possible to 'undo' an action that has been carried out by mistake. You should follow this procedure whenever necessary as you work through the activities.

Learning context

Notes for teachers

Training activities

1

I'll just get ready



Before the lesson begins, the teacher loads the file into the sequencer and prepares everything for use. She begins the lesson by explaining the task and the learning objectives. The main task here is to compose an extended structure.

Make sure your system is connected properly and launch the sequencer.

Loading the sequencer file called 'Romcut', take any necessary further steps to prepare the system for use.

2

Let's move all those fragments of melody onto one instrument



Each bar of the melody is currently assigned to different instrumental timbres. This makes it easy for all pupils to learn to play at least one segment. More able pupils may be able to tackle several.

Before you make any changes, listen to bars 1–6 as they currently sound.

Move all the melody fragments in bars 1 to 6 onto the flute line. (skills 2.02, 2.05)

Listen to the different effect in bars 1–6.

3

Now let's make a new section. What's the most important part?



Most pupils would agree that the melody will be the most important part in the new section. The first stage is therefore to copy the melody forward as a foundation. A decision is made to copy it to the calliope part for the sake of contrast. Some discussion of the nature of a calliope and how its sound compares to the flute might ensue.

Copy each of the components from bars 1–6 of the flute to bars 7–12 of the calliope. (skills 2.02, 2.10)

For future convenience, join the 6 copied bars in 7–12 into one longer component. (skills 2.02, 2.03)

For clarity, rename the newly assembled component as 'melody'. (skill 2.13)

Listen to bars 7–12.

4

Which melody bar would be best as an added bass ostinato?



Use of cycle play (skill 1.07) may allow pupils to make a more considered choice. The decision should be based more on melodic character than harmonic fit at this stage, so soloing (skill 1.09) the flute part may be helpful. Imagining an existing phrase in a new characterisation is the focal skill here. The training activity presumes that bar 6 has emerged as the speculative favourite. It's now time to test that choice.

Copy bar 6 of the melody onto the bass guitar part at bar 7. (skills 2.02, 2.10)

Rename the copy as 'Bass'. (skill 2.13)

Transpose it so that it sounds 2 octaves lower. (skills 2.17, 2.24)

Now copy it so that it sounds six times over, as bars 7–12. (skills 2.02, 2.08)

Listen to bars 7–12.



Training activities using the Romcut songfile

5

Which of these drum parts will add nicely to that texture?



Notice that percussion tracks are provided with this file, but are mute when it loads. A strategy of asking pupils to choose between these ideas makes it relatively simple for them to achieve some kind of result while also encouraging them to think hard about which is appropriate and why. There is one rogue pattern that has an inappropriate rhythmic cycle.

Move the percussion components forward six bars, still keeping them on the same tracks. (skills 2.02, 2.07)

Listen from bar 7, unmuting the percussion tracks as required until you have identified the rogue pattern. Delete it. (skill 2.12)

Listen again to the remainder and decide which elements you wish to include. Mute any component you decide not to use (or, if this is not possible, mute the track).

6

Let's add a new colour that enhances the melodic strand



The sequencer offers an ideal medium for exploring the effects of instrumental doubling as it is relatively simple to duplicate existing material onto another track. Testing ideas for different octave registers is also a quick process. Deciding how to name material can also help focus attention on the precise nature of the musical role it takes.

Double the melody by copying calliope bars 7–12 to music box bars 7–12. (skills 2.02, 2.06)

When you listen to bars 7–12 you may notice that the music box sounds deeper than is characteristic. Set the music box track to play everything an octave higher. (skills 2.17, 2.23)

Now try moving music box bars 7–12 down to the celeste track and decide which sound you prefer. (skills 2.02, 2.06)

7

Which instrument would best suit this new idea?



The track named 'Storage' contains a musical idea that is characteristic of one of the other instruments in the list. The teacher asks pupils to identify which instrument best suits it. There is no convenient parallel in the natural world for the sequencer's ability to allow the user to audition an idea on a number of alternative timbres. This has obvious benefits for absorbing the vocabulary of instrumental writing.

Unmute and then solo the track named 'Storage'. Play from bar 1 and imagine which of the instruments in the track list would best suit it.

Move the 'place me' component to occupy bars 13–19 of the prospective instrument's track. Try different tracks if you wish until you find a timbre that seems to marry well with it. (skills 2.02, 2.09, 2.05)

The track named 'Storage' is now no longer required and can be deleted. (skill 2.15)

8

How can we add to that to complete the third section?



Let's imagine that the class agrees to add the melody and a new combination of existing textural strands, but now using some effect that makes it sound different.

The chord wash, bass and melody will first be copied forward to add to the foundation.

Copy chord wash bars 1–6 forward to bars 13–19. (skills 2.02, 2.08)

Now copy the bass and melody forward from bars 7–12 to bars 13–19. (skills 2.02, 2.08)

Listen to bars 13–19 to hear the new foundation you have laid.

9

Let's add an echo effect to that



You could also experiment with adding an echo effect. Let's presume that the melodic material from bar 4 is chosen as the source material for the effect. Pupils will probably be familiar with natural 'echoes', but may not realise the variety of echo-like effects that can be produced by a sequencer. Exactly how the material is ultimately treated tends to be something that only evolves as the user experiments with the sequencer. For the time being you might still enlighten pupils through showing them a predetermined idea. You might listen to progress at each stage in the process of creating the effect.

Copy flute bar 4 to music box bar 13 and also to celeste bar 13. (skills 2.02, 2.10)

Transpose one of the copied segments up a perfect fifth, the other up a perfect twelfth. (skills 2.02, 2.17, 2.24)

In both instruments, copy bar 13 to bars 15 and 17. (skills 2.02, 2.08)

Pan one track fully to the left, the other fully to the right. (skills 2.17, 2.21)

Experiment with track delay values for the celeste track until the effect with the music box becomes a very tight spread or echo. (skills 2.17, 2.22)



Training activities using the Romcut songfile

10

Let's go further and add to the texture in a repeat of that last section



Let's presume that someone suggests using the melody in canon and this meets with general class approval. The previous section will first be block copied and then the added canonic entry will be assigned to a new instrumental timbre. Exploration of the application of canon to this melody might easily be combined with live performance. This might lead on to a discussion of the characteristics of some of the different textures used so far, such as polyphony, homophony and pedal.

Block copy all existing material from bars 13–18 to bars 19–25. (skills 2.02, 2.08)

Create a new track and set it to MIDI channel 8. (skills 2.14, 2.17, 2.18)

Copy the melody from calliope bars 19–25 to the new track bars 21–27 to give the canonic entry. (skills 2.02, 2.10)

Playing bars 19–27 at will, experiment with instrument, volume, transpose and pan settings for the new track until you are happy with what you hear. (skills 2.17, 2.19, 2.20, 2.23, 2.21)

Give your new track a suitable name. (skill 2.16)

11

How could we now bring our piece to a close?



Now you need to think about bringing the piece to a close. There might be some initial discussion about the function of a coda and what musical implications this might hold. Imagine it is then agreed to state the melody once more, this time in the bass register and more quietly, with a supporting bare 5th taken from bars 5–6 of the original chord wash.

Copy calliope bars 19–24 to bass guitar bars 25–30. (skills 2.02, 2.10)

Transpose the copied component so that it sounds 2 octaves lower. (skills 2.17, 2.24)

Reduce the dynamic of this new bass component. (skill 2.25)

Divide the chord wash segment at the start of bar 23. (skills 2.02, 2.04)

Copy chord wash bars 23–24 so that they play through three more times up until the end of bar 30. (skills 2.02, 2.08)

12

Now let's check our work by listening to it right through



Now it's time to check your work by listening to the whole piece. Reviewing sequencer work can serve two areas of music education: creativity and knowledge. Firstly, it offers pupils a chance to rethink or further refine the creative musical decisions taken earlier. Secondly, it allows a more considered opportunity to describe the functional role of any segment or track and to embody this analysis in an appropriate name label.

At first, there is often a tendency to over-indulge in the power of the sequencer and create textures that are overcrowded. It is often helpful to try muting a component to assess whether it really makes a useful contribution to the texture. There are also places in this exercise where you will want to add to the texture.

Play through your work from beginning to end, looking for ways you might refine it. By now, you should have encountered most of the skills you might need to make any changes.

Try muting a segment to assess whether you think it is really necessary. You could always unmute it again if you decide you want to keep it, or delete it permanently if you decide it serves no real purpose. (skills 2.11, 2.12)

13

Now let's listen to what the other class did

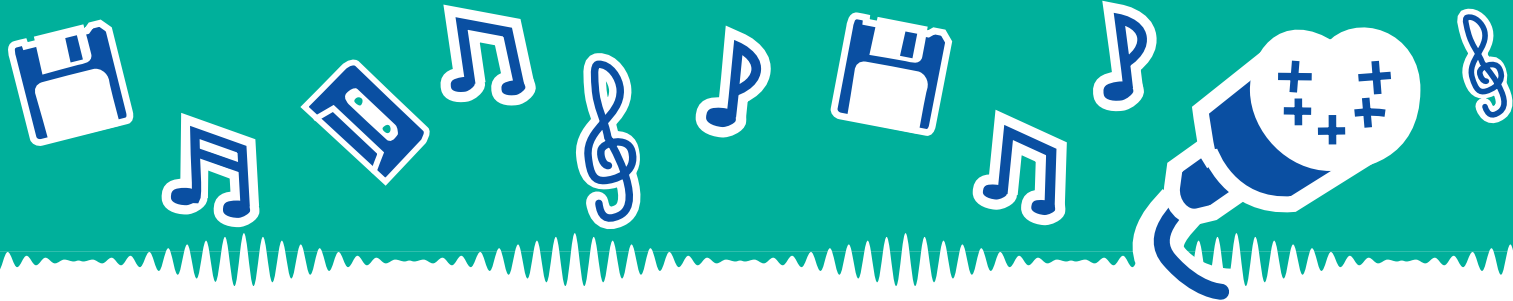


Once you have completed this activity with one class, you could play the result to the next class. Pupils find it fascinating to hear what has been created by their peers, when faced with the same task. This will perhaps offer them a different perspective and give them a good opportunity to express their observations and opinions.

First save your own version to disk using a new filename (see Step 1 skills).

Load the file called 'Romdone' and do anything necessary to make your system ready to play it back. (Foundation skills)

Play the file and, in the light of the work you have just done, consider or discuss the nature of the thought and understanding that must have been necessary to produce it.



Unit 5

Step 3 sequencing skills

This unit is intended for teachers who already understand foundation, Step 1 and Step 2 skills and are ready to learn more. It deals with the kinds of learning situation outlined on page 11 of [Guide 4](#) from *The Music IT Pack*. These are all geared toward recording new ideas and refining musical material.

Aims and objectives

By following the activities you will learn to:

- refine musical information in the sequencer using a variety of types of edit screen
- record new musical information
- consider the educational contexts in which these skills might be applied.

Resources needed:

- The songfile called 'Fdole'.
- The companion guide to Becta sequencing skills designed to be used in conjunction with these training materials (obtainable from your software manufacturer). If no such companion guide exists you will need your sequencer's user manual instead.
- [Guide 4](#) (MIDI hardware and software for music education) from *The Music IT Pack*

Step 3 skills

Skill ref.	Short description	Fdole	Without a songfile
3.01	Set time signature		•
3.02	Insert (global)	•	
3.03	Cut (global)	•	
3.04	Set record count-in	•	•
3.05	Set record destination	•	•
3.06	Record real-time	•	•
3.07	Undo recording	•	•
3.08	Merge components (vertical)	•	
3.09	Change component boundary		•
3.10	Arrange to grid view	•	•
3.11	Grid to arrange view	•	•
3.12	Solo grid play	•	
3.13	Zoom grid view	•	•
3.14	Scroll grid view	•	•
3.15	Select/deselect grid event(s)	•	•
3.16	Copy grid event	•	
3.17	Delete grid event	•	
3.18	Edit grid event length	•	
3.19	Edit grid event pitch	•	
3.20	Edit grid event velocity	•	•
3.21	Edit grid event rhythm	•	
3.22	Arrange to score view		•
3.23	Score to arrange view		•
3.24	Define score content		•
3.25	Zoom score view		•
3.26	Scroll score view		•
3.27	Set display quantise (score view)		•
3.28	Select/deselect score event(s)		•
3.29	Copy score event		•
3.30	Delete score event		•
3.31	Edit score event pitch		•
3.32	Edit score event rhythm		•

In this unit you will encounter operating skills concerned with recording new ideas and refining musical material. Practical guidance about how to put these skills into practice on your sequencer is given in the relevant section of the companion software guides provided by some software distributors in collaboration with this initiative.

If the distributor of the sequencing software you use has not yet produced a companion guide, you will still be able to follow this training unit, but you will need to refer to the sequencer's user manual and search out the relevant sections for yourself. Perhaps you might make up your own brief guide for future reference.



The table on the previous page shows the full list of Step 3 sequencing skills. It also indicates which skills are included in the training programme that goes with each songfile. Ideally you will need to tackle both files, as neither taken alone will cover the full range of skills.

Refer to page 11 of [Guide 4](#) from *The Music IT Pack*. By studying this page, familiarise yourself with the different areas of application of the sequencing skills you are about to encounter.

The remaining pages of this unit take you through the training activities. You may find it helpful to look at these pages now. Each row in the layout refers to a separate learning context. The first column indicates the learning

context in summary cartoon format. The second gives explanatory notes for teachers, while the third suggests a training activity that will help familiarise you with the required operating skills. The numbers in brackets in the third column refer to the relevant skills in the companion software guide, if you have one.

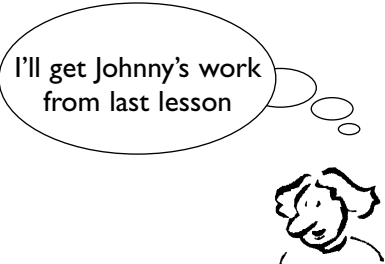
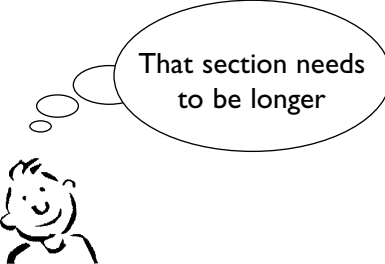
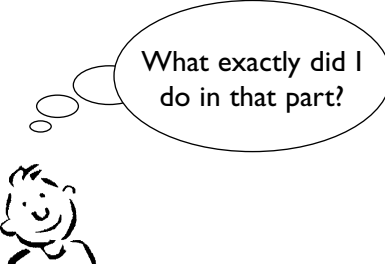
The Fdole songfile

In this scenario an able pupil is mid-way through using the sequencer on his own in a composing task based on ideas that the class has encountered in Bizet's *Farandole*. He has already recorded much of the material and now uses the sequencer to refine his work in various ways.

Activities with no songfile

There is no songfile associated with these training activities, which are based on a scenario where material is recorded from scratch. Pupils compose short phrases exploiting ideas of rhythmic emphasis as applied to vocal setting. One of these is recorded into the sequencer and the teacher leads a class investigation of how changing the stress and melodic contour can also have a significant effect. A score editor is used to reinforce pupils' understanding of (and familiarity with) standard notation. By concentrating attention on one short phrase there is increased potential for investigating the finer detail that the sequencer can control.

Training activities using the Fdole songfile

Learning context	Notes for teachers	Training activities
<p>1</p> 	<p>In a previous lesson, the class was set the task of composing a piece based on ideas in Bizet's <i>Farandole</i>, which they had already examined. They will now continue to work on their pieces and Johnny, an able pupil, will refine and add to his rondo. Before the lesson begins, the teacher prepares everything for use and makes sure that Johnny's work-in-progress file is available for him to load.</p>	<p>Make sure your system is connected properly and launch the sequencer.</p> <p>Loading the sequencer file named 'Fdole', take any necessary further steps to prepare the system for use (unspecified Foundation skills).</p>
<p>2</p> 	<p>One way in which the sequencer can help pupils to refine their work is by allowing them to lengthen or shorten structural sections to adjust proportion. This is normally done by inserting or cutting a number of bars 'globally', i.e. across all tracks at once. Any newly inserted region will initially contain 'blank space'.</p>	<p>Create space for an extra four bars at the very beginning of the piece. (skill 3.02)</p> <p>Copy the original pizzicato introduction twice over to fill the newly created region and listen to the result.</p> <p>As this intro now sounds too long, shorten it by cutting the first two bars. (skill 3.03)</p>
<p>3</p> 	<p>A sequencer usually allows fine adjustment of the properties of each individual note. Until now, this training scheme has only dealt with editing at the arrangement level, where each component is likely to represent a whole phrase. To adjust individual notes it is necessary to use a different kind of edit screen to reveal the finer detail inside a component.</p>	<p>Select the 'Harmony 1' component that appears between bars 5 and 13. Prepare the sequencer to cycle this region on playback.</p> <p>Get a grid view of the content of this component and, as the music plays, notice that you can now see a representation of each individual note. (skill 3.10)</p> <p>Explore changing the zoom factor to vary the magnification of the grid view. At very high magnifications you may need to scroll to areas of the grid that would otherwise not be visible. (skills 3.13, 3.14)</p>



Training activities using the Fdole songfile

4



These notes are the wrong length

A grid view (sometimes called a matrix view) represents notes in a way that is similar to a pianola roll. The duration of notes can be altered by resizing their 'slits'. This also allows pupils to consider whether phrasing should be legato or staccato. Soloing (isolating) the displayed material can be a helpful way of improving aural perception.

Solo the displayed material so that it will be easier to refine it with confidence. (skill 3.12)

Altering the durations of any notes that sound too long or too short, aim to make the articulation detached and even throughout the 'Harmony 1' component. It will sometimes be more efficient to change the durations of several notes all at once. (skills 3.15, 3.18)

Identify where else in the structure a similar problem occurs. Delete the offending component and replace it with a copy of the refined version.

5



Oops, my finger must have slipped!

A slip on an audio recording (e.g. a cassette tape) can only normally be corrected by re-recording the entire passage. On a sequencer, even overlapping notes have a separate identity, so an extra note played in error can be erased without needing to re-record everything again. However, it does take musical skill to be able to identify the offending note before it can be erased.

Perhaps you have already noticed that one of the notes in this passage seems not to belong. You may need to leave solo mode to identify precisely which note it is. Delete the offending note once you have identified it. (skill 3.17)

Leave the grid view and return to the arrange view. (skill 3.11)

Identify where else in the structure a similar problem occurs. Delete the offending component and replace it with a copy of the refined version.

6



Those parts don't seem to match

When listening carefully to the section beginning in bar 13, Johnny suspects that the 'Ped' sequence does not reinforce the stresses that he has already decided to use in the 'Accents' passages. His suspicion is confirmed when he checks by soloing the parts concerned. He decides to adapt the 'Ped' part to give it stresses that match and to re-use it whenever the passage recurs.

Get a grid view of the 'Ped' component that begins in bar 13. (skill 3.10)

Using any suitable tactic, identify which notes need more or less stress and adjust their velocities until they sound right. (skill 3.20)

Leave the grid view and return to the arrange view. (skill 3.11)

Rename the 'Ped' component as 'AccentPed'.

Identify where else in the structure a similar problem occurs. Delete the offending component and replace it with a copy of the refined version.

7

Have you thought of using light and shade anywhere?



Johnny's teacher listens to his work and she introduces a new consideration that she hopes will help him progress even further. After reflection, Johnny decides to use light and shade by selectively doubling certain notes at the octave in his B section. As this will not be applied universally to all notes in the component, he again uses the grid view to realise his idea.

Get a grid view of the 'MelodyB' component which begins just before bar 21. (skill 3.10)

Select just the first eight notes and copy them so that they will double the original phrase an octave higher. Be careful not to alter the rhythmic position of the copied notes. (skills 3.15, 3.16)

Listen to the section you have just edited, then leave the grid view and return to the arrange view. (skill 3.11)



Training activities using the Fdole songfile

8



I'll vary the rhythm

Johnny likes the 'light and shade' idea, but now wants to vary the rhythm for its repetition. He has recently been learning a piece in his instrumental lessons that exploits dotted rhythms. He plays his instrument to explore how that idea could be applied in this context. Having decided, he deletes the existing component, replacing it with an exact copy of the light and shade phrase, and then uses the grid view to alter the rhythm.

Delete the unaltered 'MelodyB' component which begins just before bar 29 and replace it with a copy of the recently refined component that immediately precedes it.

Get a grid view of the component you have just copied. (skill 3.10)

Change the rhythm from [a] to [b]. You will also have to alter durations, so that there are no overlaps, but don't worry too much about dots that are played as rests. (skills 3.21, 3.18)

Return to the arrange view and rename this segment 'DottedB'. (skill 3.11)

[a] 

[b] 

9



I remember!
I was going to
use inversion

Johnny now remembers that, last lesson, he was going to vary the melody by inverting it during the central section of his piece. But there wasn't time to finish and it was left half-done. So far, he's copied the first phrase of the melody, which now needs to be inverted. Then the edited component needs to be duplicated until it fills the section.

Get a grid view of the short 'Inv A' component that begins in bar 39 of the flute track. (skills 3.15, 3.10)

Change the pitches of the notes from [c] to [d]. (skill 3.19)

Leave the grid view and return to the arrange view. (skill 3.11)

Now copy the component so that it sounds four times over consecutively.

[c] 

[d] 

10

Can a double bass
play that high?



Johnny's teacher points out a potential problem in the calmer passage where he has used augmentation of the section B melody. He has split his pizzicato punctuation alternately between two instruments. One of these is playing in the bass register everywhere else in the piece, but here it plays much higher. This is no problem for a MIDI soundsource, but it would be awkward for a real double bass player. Johnny decides to merge all its notes with the upper part in this passage.

Merge the 'PizzLo' component into the 'PizzHi' component which is directly above it in bar 55. (skill 3.08)

Delete the separate 'PizzLo' component if it still remains in the arrangement after you have merged.

Rename the merged component as 'PizzLeap'.

11



What would
sound best?

To complete his work, Johnny wants to add a free melody in the flute just before it returns with a final restatement of melody A. He decides it will move mostly by step to reflect the nature of the other melodic elements, but is uncertain about whether or not to use a pentatonic scale for variety. He decides to carry on recording improvisations until he is satisfied. In this way he hopes to preserve the spontaneity that is sometimes lost through editing.

Set the record destination so that recording of a new flute component will begin in bar 71 and end in bar 87. (skill 3.05)

Decide how many bars of metronome you would like to hear before recording begins and set the record count-in accordingly. (skill 3.04)

Now record the kind of improvisation(s) that you think Johnny might make. Listen after each recording and undo any recording that you think can be bettered. (skills 3.06, 3.07)

12



Listen everyone!
What do you think
of this?

Johnny is now keen to hear what the teacher and members of his class think of his finished composition. He plays the piece through from beginning to end and prepares to talk about what he did.

Now play the finished piece right through and consider what you might say or ask if you were Johnny's teacher.



Training activities starting with no file loaded

3

Now it's time to use the sequencer



Having brought the class to a stage where most pupils have some awareness that stress and melodic contour contribute to emotional effect, it is now time to use the sequencer to help explore this principle. This could either be organised as a carefully regulated task for a small group of pupils, or (as imagined here) as a participatory teacher-led exploration for a larger group.

4

Who has a phrase we could put into the sequencer?



Only one pupil phrase will be used, but the teacher asks to hear several of those volunteered to choose one that has potential. The class then helps to identify its time signature and tempo and the sequencer is made ready to record it.

Set your chosen time signature so that it applies from bar 1. (skill 3.01)

Set the tempo you would like to use for recording (remembering that it can be altered for playback).

Set the destination zone for recording to be the start of track 1, for however many bars are needed. Plan to start recording any up-beat notes at the end of bar 1, instead of in 'bar 0' as would be the norm in a non-computer context. (skill 3.05)

Set the pre-record metronome count-in to however many bars you would prefer to hear. (skill 3.04)

5

Can I record it now?



The phrase should be recorded on a monotone to prevent keyboard-style legato; overlapping notes might cause problems later on when pitches are edited. Only accept staccato playing if it is intended. Recording should be re-attempted if there is any significant rhythmic hesitancy or untidiness, but the strength of any note can be altered later on.

Record your phrase now, remembering not to begin playing before bar 1. (skill 3.06)

If anything goes wrong, undo the recording and try again. (skill 3.07)

Check your recording by listening to it as it plays back.

6

Let's check how strong each note is



The sequencer allows you to quantify and adjust the strength of any note. Previous units have shown how to change the strength of a whole track or a component. To adjust individual notes it is necessary to use a different kind of edit screen to reveal the finer detail inside a component. There are several types of edit screen that show this detail but perhaps one of the easiest to assimilate is the grid view (or matrix view), which has much in common with a pianola roll. On some sequencers you are also shown a bar-chart of note velocities which allows you to see dynamic variation at a glance.

Get a grid view of the component you have just recorded. (skill 3.10)

Use zoom and scroll controls until the on-screen representation is clearly visible. (skills 3.13, 3.14)

Playing back as necessary, refine individual note velocities until you have maximised the clarity of the meaning behind your party invitation. (skills 3.15, 3.20)

Return to the arrange view when you are satisfied. (skill 3.11)



Training activities starting with no file loaded

7

Let's use notation to create a melodic shape



The shape of a melody that may take some time to unfold can be represented by the sequencer in a visual form that allows its comprehension in an instant. Creating a melodic shape from the monotone rhythm will help to reinforce the underlying meaning behind the party invitation phrase. This particular classroom situation also offers an opportunity, where relevant, to explore different modalities as well as melodic shape.

Get a score view of your work. (skill 3.22)

Change the display quantise if the rhythmic representation is too unforgiving. (skill 3.27)

Zoom and scroll the score display until you can see the information clearly. Using a high magnification will require less mouse precision when notes are being moved. (skills 3.25, 3.26)

Decide an appropriate musical mode to adopt and move note pitches to create a melodic shape that suggests the natural speech inflections that would be used to convey the meaning you intend. (skills 3.28, 3.31)

8

Let's add another invitation to the party



It would be possible to repeat the same procedure as before to record a new version in a separate subsequent component. This approach can more easily involve a larger number of pupils. A second approach would be to duplicate the existing component on the arrange view and then perhaps edit it separately. Yet another method would be to copy the existing phrase from within the score view and make any changes there. For the sake of comprehensive skills coverage, this training scheme adopts the latter approach.

Return to the arrange view. (skill 3.23)

Lengthen the component by extending its end boundary until its length is more than doubled. (skill 3.09)

Get the score view again. (skill 3.22)

Duplicate the whole phrase later in time, ensuring that the same note falls on the first beat of a bar. (skills 3.28, 3.29)

9

Could the 2nd invitation be given a new meaning?



This has actually been the teacher's plan all along. Start by moving the phrase so that a different note falls on the first beat of a bar. This will not in itself change the existing note strengths. They need to be adjusted manually.

Move the whole of the new phrase earlier or later so that a different note falls on the first beat of the bar. (skill 3.32)

Revisit the steps in activities 6 and 7 to make changes to the stress and melodic contour that imply a different hidden meaning for the second phrase. (skills 3.28, 3.20, 3.31)

10

Can someone add percussion that reinforces those stresses?



This activity is designed to develop an awareness of how texture can also be relevant to emphasis. The teacher points out the difference between an ostinato part and one that varies to be sympathetic to the musical context it supports. She suggests that only the stronger notes need to be emphasised and asks pupils to discuss briefly, in small groups, what sort of content the percussion part should have while she prepares the sequencer for the new recording.

Return to the arrange view. (skill 3.23 or 3.11)

Set the destination zone for recording to be the start of track 2, for however many bars are needed. (skill 3.05)



Training activities starting with no file loaded

11

Can we try out our idea first?



Following a whole-class discussion, the teacher chooses someone who has realised that the sound of certain percussion instruments (e.g. bass drum) carries more weight than others (e.g. claves). There is also a choice to be made about how loudly any note should be played. Anyone chosen will need to find out which note makes which percussion sound and to practise how hard to play. Other pupils can be invited to take on responsibility for recording one of the instruments or to make suggestions in the refinement process.

Practise playing your percussion part along with the sequencer, using cycle play (see skill 1.08) if repeated rewinding becomes tedious.

12

I think we're ready to record now



The teacher may need to remind pupils how many beats count-in to expect. Some pupils are quite concerned that they might make a mistake in front of others. Reassurance including how easy it is to re-record on a sequencer may help.

Record your percussion part now. (skill 3.06)

If anything goes wrong, undo the recording and try again. (skill 3.07)

Check your recording by listening to it as it plays back.

13

There are too many percussion notes



Economy in percussion writing is a rare skill. It is possible to delete a note from within score view, just as from within grid view. This is an under-used tool for refining compositions beyond the removal of glaring errors. Viewing a percussion part in a score editor will display the pitches of the notes that were actually played when producing the sound. Some sequencers allow specially mapped percussion-type score displays, but this requires more advanced skills.

Get a score view of your new percussion part. (skill 3.22)

You may need to set the display quantise if the rhythmic representation is too unforgiving. (skill 3.27)

Remove any notes that are not absolutely essential. (skill 3.30)

14

Which edit view is best?



Many people find that a percussion part is more easily viewed and edited on a grid. Some sequencers incorporate special drum grid editors requiring more advanced skills. One advantage of score display is that it often allows full score and single part options. Chromatic, whole-tone or atonal music is perhaps more easily edited by pupils from the grid, on which the complications of accidentals do not arise. Diatonic/modal music is often better viewed through a score editor so that variable tone and semitone steps are not a complication.

Change between single part and full score options. (skill 3.24)

Return to the arrange view and then get a grid view of the percussion part. (skills 3.23, 3.10)

Consider or discuss the merits of each as applied to the tasks you have followed.

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CD Sequencer Songfiles

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