

Learning with Beltower/Beltutor – at home

Whether you are an existing ringer or a new ringer, these notes set out a learning plan and explain how to use simulator software at home to practise your listening skills and develop your ‘ropesight’, by pressing the ‘Y’ key on the keyboard..

ART’s approach in ‘Learning the Ropes’ is to break down what is a complicated activity into a series of skills and practicing each skill in small manageable steps, before gradually putting them together. This avoids brain overload. Few people are able to multi-task!

People learn through repetition. Each skill needs immense concentration at first, then less concentration is required each time the activity is repeated, till eventually the action becomes automatic. The brain is then freed up to concentrate on other things.

Of course, it is important that you practice doing things correctly. Don’t let bad habits creep in as it will then take a lot longer to un-learn them. Practise alone does not make perfect. Only perfect practise makes perfect!

To plain hunt a bell or ring it to a method, you need to acquire the following skills.

- To **control** your bell and make it ring steadily in the same place.
- To be able to **pick out the sound** of your bell and distinguish it from the others.
- To be able to leave an **open-handstroke lead**
- To be able to handle your bell sufficiently well at handstroke and backstroke to make it move up or down one place – the **three speeds of ringing**
- To be able to **count your place** and know which place you are ringing in
- To **understand the theory** of plain hunting, or blue line of the method that you are ringing
- To pick out which rope you should be following next - **ropesight**.

Using simulator software at home can help you develop some of these skills, and speed up what you learn in the tower.

If you are an experienced ringer, ringing with a simulator, and especially by ear, is different to ringing with real ringers, who often adjust to fit round you. Therefore rather than try anything too complex, it is sensible to start with some basic exercises, as set out in this booklet.

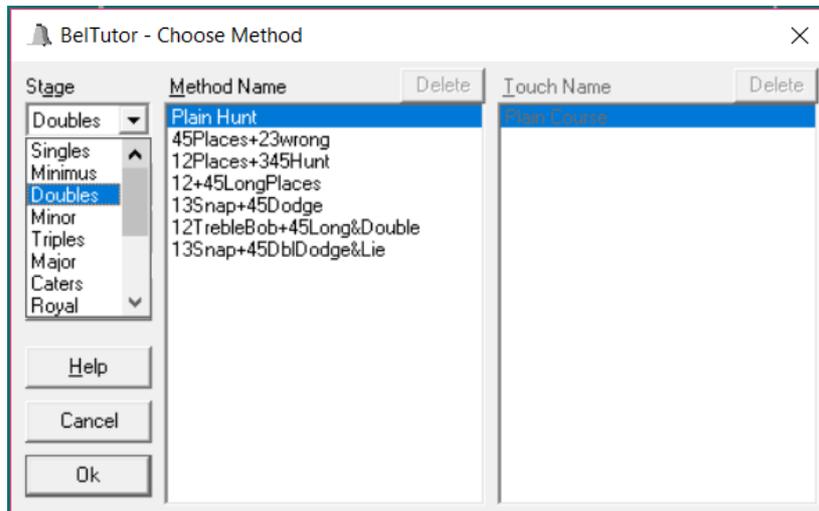
Whilst what has been written in this booklet explains how to use Beltower/Beltutor, the same principles apply to Abel and Virtual Belfry, and similar notes are available for those applications. Beltutor is the ‘freeware’ cut down version of Beltower and can be downloaded from the following dropbox link:

https://www.dropbox.com/sh/dd1zjfp6zxpolf1/AAAmXEY5IJ_HAPj-0S2-GbIFa?dl=0

All the basic functions of Beltower covered in this handout also work in Beltutor. Beltower contains a full library of methods and additional functionality useful in the tower, as well as features such as cooperative timing not currently available in other simulator applications. To access these features you can buy a copy of Beltower from Derek Ballard for £30. www.beltower.co.uk/

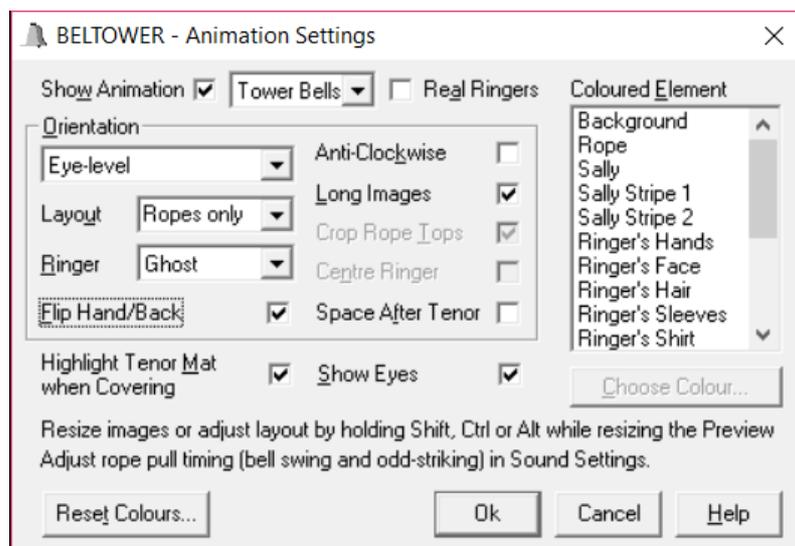
Getting started

After you have closed the tip of the day and the help window, when you open Beltower/Beltutor, you will be asked to choose a method. If you have never used a simulator before we suggest that you start by ringing rounds, so it does not matter which method you choose, as you are not going to 'go'. You can also access this window later by going to 'Method' ⇒ 'Choose...'

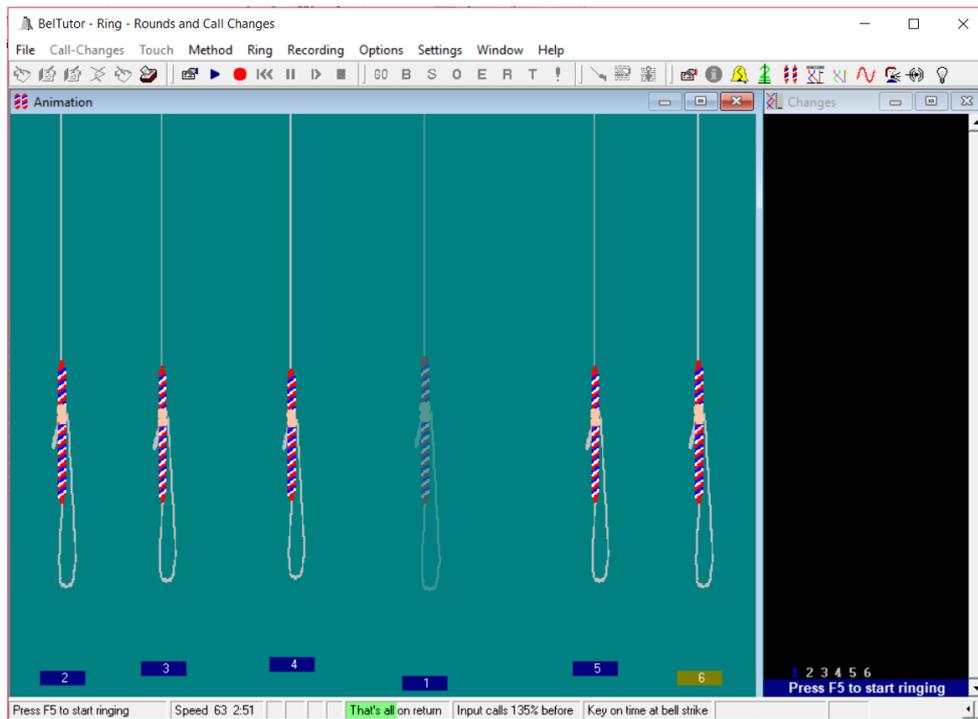


The animation settings

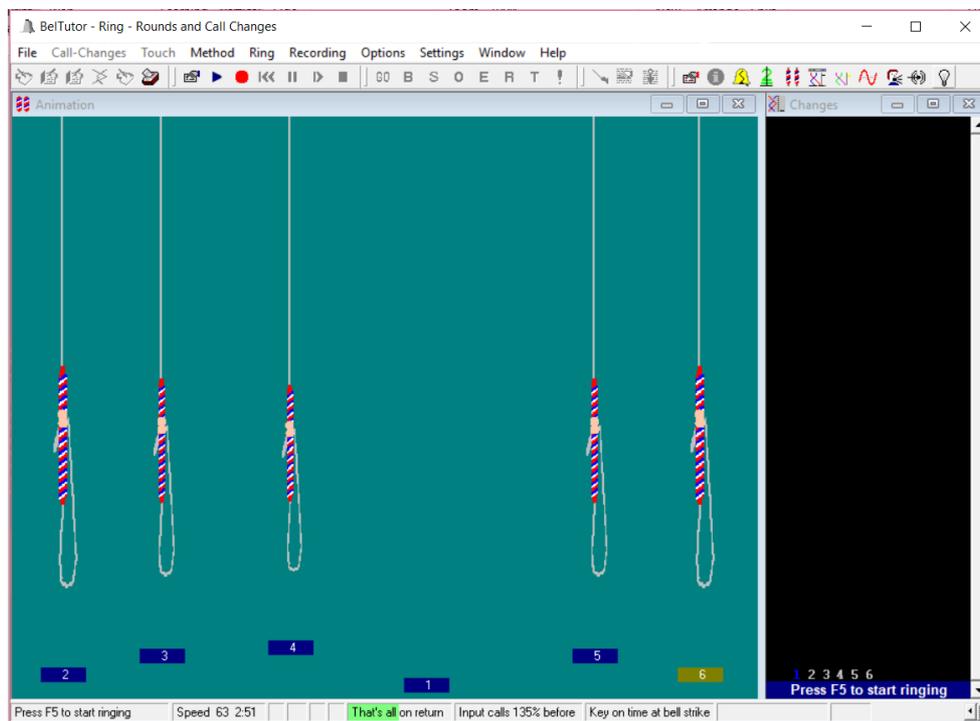
The next thing you will need to do is set the animation settings. Whilst Beltower has video clips of real ringers, because of the time delay between pulling on the rope and the bell sounding, we recommend that for home use you set the 'Ropes Only' option in the Layout box and tick Flip Hand/Back. The ropes will then change as soon as you click the 'Y' key. Make sure that Show Animation is ticked and real Ringers unticked.



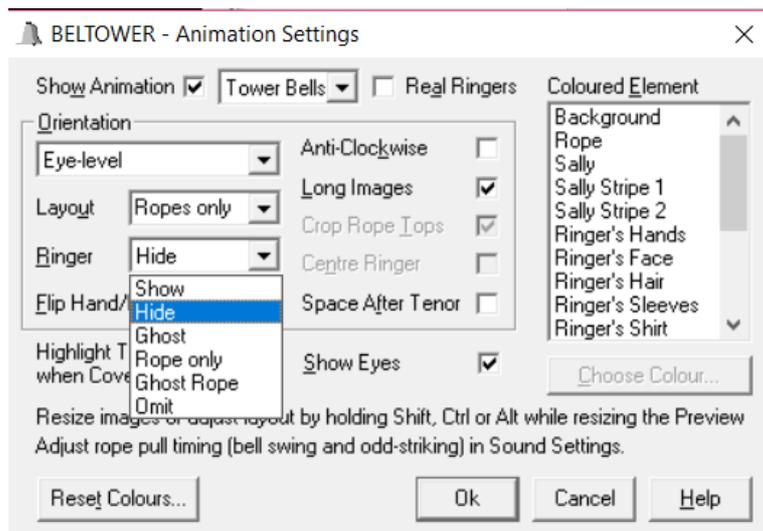
Animation Settings window



*In this example the treble is the 'Ringers Bell' (the one that strikes when the 'Y' key is pressed).
 The Ringers Bell is set to 'Ghost' in Animation Settings.*



*In this example the treble is the 'Ringers Bell' and it is set to 'Hide' in animation settings.
 The advantage of this view is that it what the ringer of the Ringers Bell actually sees in the tower,
 when looking at the centre of the circle.*



The 'Ringer' view in Animation Settings

Setting the Ring Options

To set the simulator up to practice with the 'Y' key and also see the ropes, make sure that:

- 'Timing options' is set to custom settings.
- 'Show animation', 'Strike on input' and 'Cooperative timing', are ticked
- 'Input Mode' is Y key on time
- 'Animate on Input' and 'Hand/Back alternate' are ticked



The 'Ring Options' window

Ringing rounds

Many ringers soon become conditioned to watching ropes, but bellringing is very much about the sound that comes out of the tower as watching ropes; some would say more so. Many people find that with a simulator after a little while they can hear their bell and do not need to watch ropes all the time. Do practice looking away from the screen altogether. It's not as difficult as you might imagine!

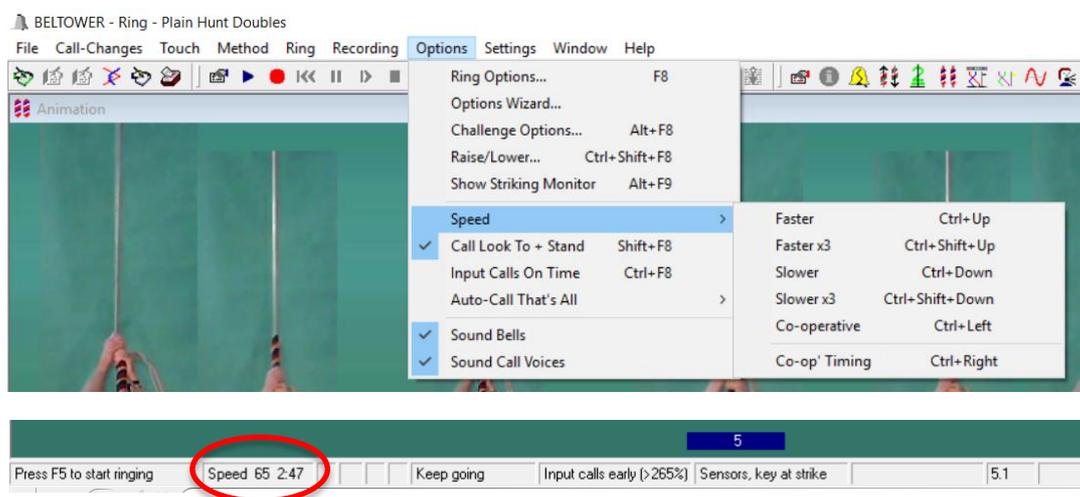
To learn to ring rounds on a simulator we suggest that you start with the tenor, as this is the easiest bell to hear. Then, once you have mastered ringing this, move to the 'inside' bells. If you have difficulty hearing six bells to start with, do start with three, four or five, and build up from there. You can even practice on eight, ten and twelve bells later!

To ring as a particular bell, click on the **rope icon** and then release. The selected bell will then move to the bottom centre of the screen, as shown in the images above.

You can now press the **spacebar** to set the bells ringing practice listening and counting your place in the row at home by pressing the 'Y' key on your keyboard. As cooperative timing has been selected Beltower/Beltutor will wait for you to press the 'Y' key.

Ringing Speed

You should also make sure that Beltower rings at the correct speed for your ring of bells. For the average ring with a tenor of 10cwt the peal time is around 2h:47m, but on a lighter ring it might be 2h:41m and a heavier ring 3h:00m. You can adjust the speed using the **Ctrl+Up** or **Ctrl+Down** keys. The speed is indicated in the bottom left hand corner of the screen:



If you have difficulty hearing six bells, try starting with three first and then move on to four and five, once you are ready. You can reduce the number of bells by going to 'Method' ⇒ 'Choose...' and selecting a method that requires less bells, such as singes (3), Minimus (4) or Doubles (5).

Co-operative speed and co-operative timing

For someone who has just started learning there are two challenges:

- (a) ringing at a steady pace;
- (b) ringing at the pace set by the other ringers (or simulator).

With **Co-operative timing** selected in Ring Options, it will wait for the preceding bell(s), and if they are early, it will close the gap.

With **Co-operative speed** and co-operative timing both selected, Beltower will also ring faster or slower to match the speed of the learner's bell. Just like a band of real ringers would do.

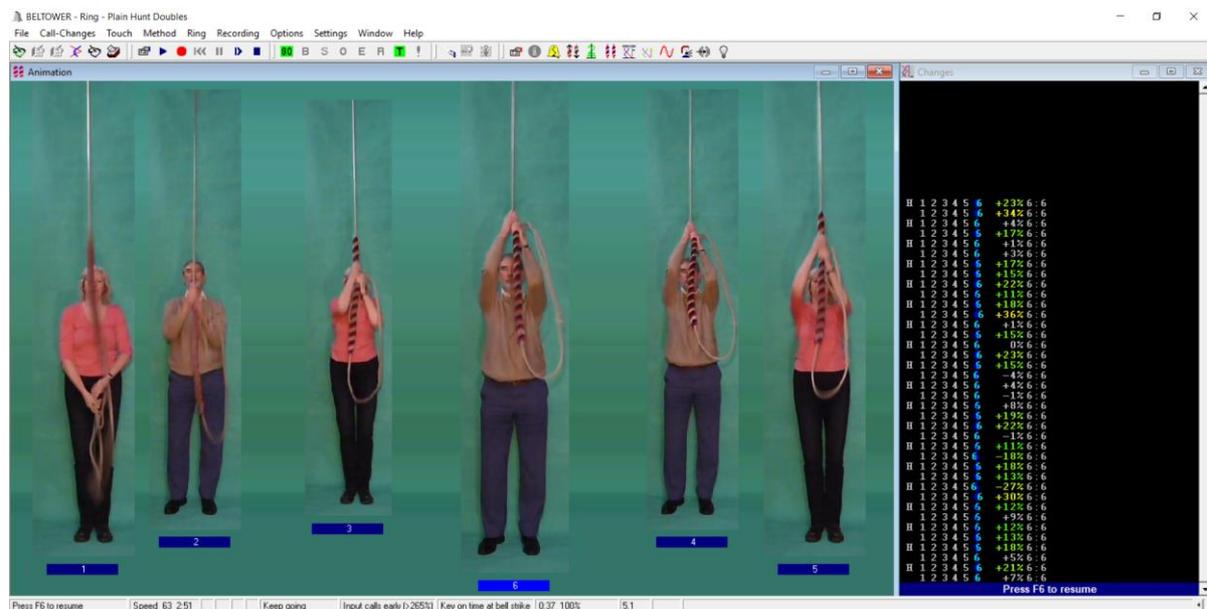
To activate these features select an appropriate check box in the '**Ring Options**' window . When active, it will show Vr-Spd in the status bar at the bottom of the screen. You can toggle CoopSpeed on/off using **Ctrl+Left** and switch off both with **Ctrl+Right**.

Of course, the object of a simulator is to teach people to ring by rhythm, so these features are only useful in the very early stages, and many people will not require them at all. For practice at home Co-operative timing is likely to be useful, at least to start with, but as soon as you feel confident, you can switch this off.

How accurately did you strike your bell?

Beltower/|Beltutor has two ways of showing the accuracy of your striking. In the main window to the right of the screen you will also see a display with a series of numbers. As you ring each row, in addition to hearing your bell you will be able to see how far out your bell is from its ideal position (indicated as a percentage error).

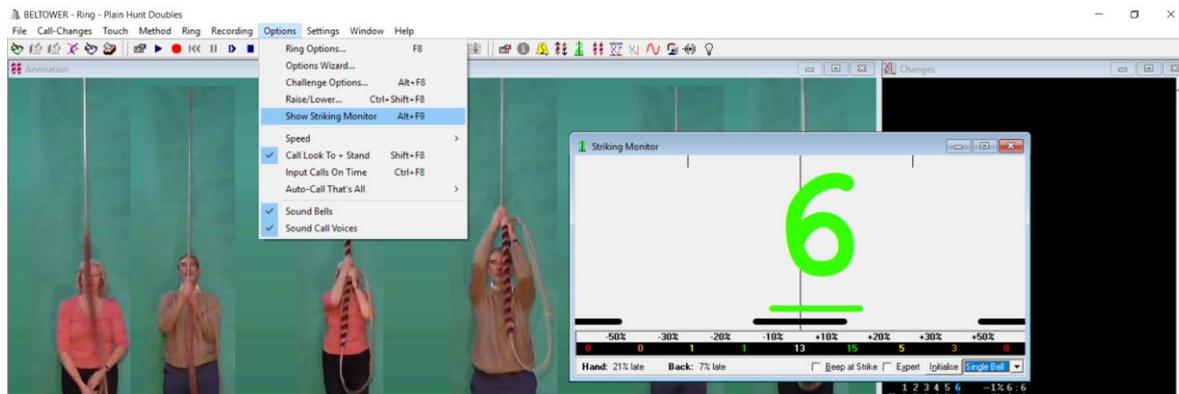
Ideally you should be aiming for an error of $\pm 10\%$ as this is the limit of the accuracy of human hearing.



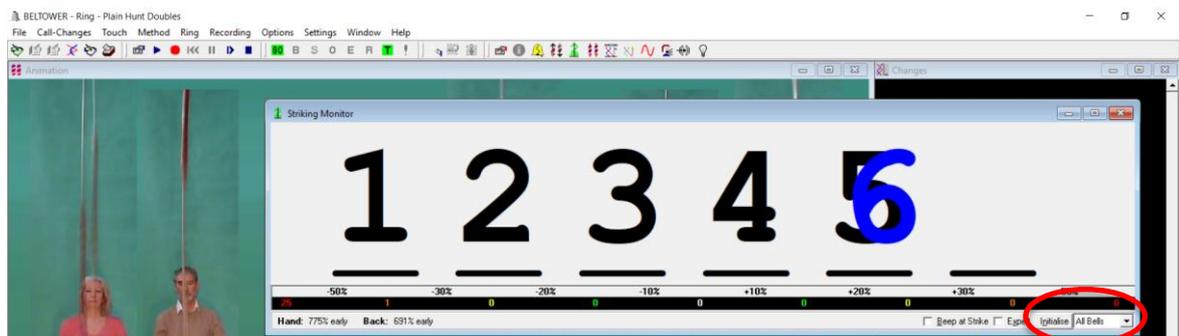
Striking accuracy to the right of the main screen

The display in the main window is relatively small, but Beltower also has a striking window which can be turned on from the 'Options' 'Show Striking Monitor' menu. This display can be maximized to fill the whole screen, or you can select 'all bells' to show how the simulated bell fits in with the others.

There is also an option to 'Beep at Strike' which makes two beeps, where the bell strikes and when it should have struck, which will cancel each other out when the simulated bell is struck on time.



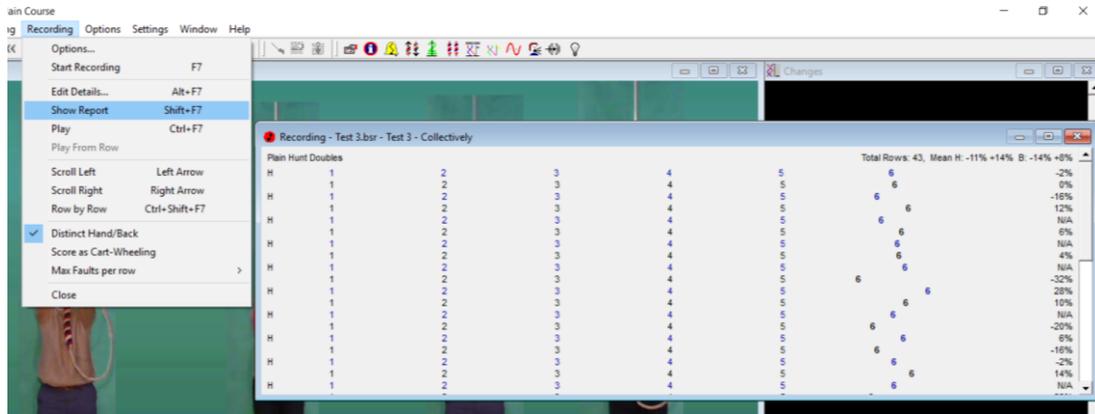
Striking monitor



Striking monitor – with 'all bells' selected

Recording your ringing

You can start recording in the Ringing mode at any time during ringing. To start recording, press **F7**, click the red toolbar button, or use the Recording menu. Recordings can be played back through the 'Recording' menu. Recording files can also be viewed by clicking on 'Show Report' in the Recording menu. Recordings can be saved in the 'File' ⇒ 'Save Recording As...' menu



The Recording Menu and Striking Report

What do the error statistics mean?

A bell can be early or late (+ve or -ve) so even if the bell strikes quite randomly, the two can cancel each other out. The average error (RMS) ignores whether the rows are early or late and is a more representative indication of how variable the striking is.

In the example above the 6th has a RMS error of 76 milliseconds, so is quite variable. You can see this from the saw-tooth pattern, although the errors will tend to cancel each other out to some extent. However the software also tells us that the 6th has a tendency to strike on average 25 milliseconds early at handstroke and 11 milliseconds late at backstroke.

Ideally you should be aiming for 10% average error on a tower bell or dumb bell, and 4% by pressing the 'Y' key. A 10% error is not really noticeable when ringing with real ringers and with practice most people can hear a 5% (15-20ms) inaccuracy of one bell if the other bells are all perfect.

One row of ringing (1 2 3 4 5 6) lasts about two seconds. Therefore the gap between each bell is one third of a second = 0.333 seconds. Multiply this by 1,000 = 333 milliseconds (Less if you are ringing on higher numbers). On six bells **10% error = 33 milliseconds**.

The open handstroke lead

In much of the country* it is a convention in ringing that a one beat pause is allowed at the end of each backstroke, before the next handstroke. [* notable exceptions are Devon and South Yorkshire]

1 2 3 4 5 6 1 2 3 4 5 6 - 1 2 3 4 5 6 1 2 3 4 5 6 - etc

In musical terms the bar has thirteen beats, the thirteenth beat being a rest.



Once you have mastered ringing the tenor and then an 'inside bell' in rounds, practice leading on the treble. It's not an easy skill to master, but far easier to learn with a simulator than with a real band!

Developing your ringing skills

The skills that you need to develop before moving on to ring methods are: Listening to your bell and being able to distinguish it from the others

- Counting your place and knowing which place you are in.
- Controlling your bell every handstroke and backstroke and making it ring where you want it to (practice being able to set it 10 times on each stroke)
- Developing a sense of rhythm and knowing how much to hold up or cut in to move one place

Counting your place

Count along in your head and emphasise your bell. It will take a lot of practice, but eventually it will become automatic and you will know instinctively which place you are ringing in.

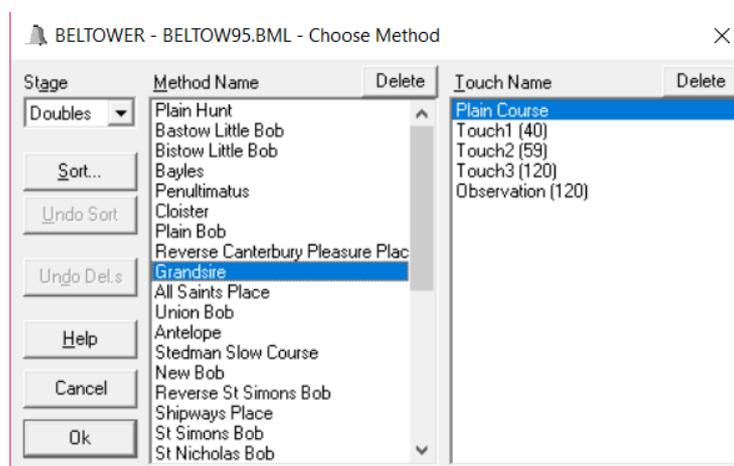
One, **two**, three, four, five six,
 One, **two**, three, four, five six, gap;
 One, **two**, three, four, five six,
 One, **two**, three, four, five six, gap;
 etc.

Developing listening by covering

You can practice covering to plain hunt with Beltutor, but if you then want to move on to the stage of covering to and ringing methods, you will need to purchase a copy of Beltower to have access to the full method library.

Perhaps the easiest bell to hear in any ring or on the simulator is the tenor. As it stays still in odd bell methods you can practice developing your listening skills by ringing the tenor (6th) to a doubles method such as Grandsire or Plain Bob.

To do this go 'Method' ⇒ 'Choose...' Select Doubles as the Stage and scroll down the Method Names. Then select Plain Hunt (Beltutor) or, Grandsire or Plain Bob (Beltower) and the length of the touch and click 'OK' To cover, make sure that you have selected the sixth bell by clicking on it, as described earlier



The three speeds of ringing

In change-ringing one of the basic conventions is that when you change places you usually only move up one place in a row, or down one place in a row. Of course, you can also stay still. Therefore, once you develop your control over the bell, and the feel of how hard and when you need to pull in order to wait to slow up, or cut in to speed up, you will start to develop the skill of ringing by rhythm

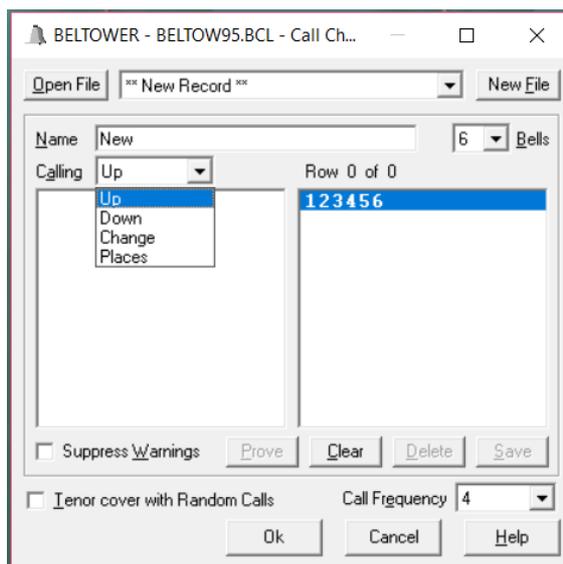
In addition, unless and until you can control the bell sufficiently accurately to move up or down one place, you will also be unable to see who you are following and develop the skill of ropesight, as you will actually be ringing at another position in the row.

On six bells, on a simulator in the tower, you can practice ringing at 2h:30m. 3h:00m and 3h:29m peal speed to get an idea what the three different speeds feel like.

Practicing Call Changes

You can use Beltower/Beltutor at home to help you understand call-changes.

In the 'Call Changes' ⇒ 'Choose/Edit...' menu or '**F2**' shortcut there are options to call changes by the bell going up or bell going down. You can also practice ringing call changes by calling the places that change, rather bell up or by bell down.



Once set, to practice call changes, start Beltower ringing rounds, then use **Ctrl+ bell number** or point the mouse over the ringing mat of the bell which moves up or down in the row and click the mouse.

The call pending flag will be displayed (maybe briefly), in the Status bar, and a voice calling the change should also be heard, then, at the following hand stroke, the change will take effect.

Kaleidoscope Training Exercises

There are a series of pre-programmed Training and Kaleidoscope exercises that can be loaded into Beltower through the **File menu**. It will ask if you want to switch off '**Auto That's All**' and you should click 'yes' if you want to ring the exercise continuously. If you only want to ring the exercise once then stay in rounds click 'no'

- **Long places** – where you move up or down one place every alternate handstroke
- **Short places** – where you move up or down one place every handstroke
- **Dodging** – Where you move up or down one place every stroke

	<u>1 2 3 4 5 6</u>
H	1 3 2 4 5 6
B	1 3 2 4 5 6
H	1 3 2 4 5 6
B	1 3 2 4 5 6
H	1 2 3 4 5 6
B	1 2 3 4 5 6
H	1 2 3 4 5 6
B	<u>1 2 3 4 5 6</u>

Long places

	<u>1 2 3 4 5 6</u>
H	1 3 2 4 5 6
B	1 3 2 4 5 6
H	1 2 3 4 5 6
B	<u>1 2 3 4 5 6</u>

Short places

	<u>1 2 3 4 5 6</u>
H	1 3 2 4 5 6
B	1 2 3 4 5 6
H	1 3 2 4 5 6
B	1 2 3 4 5 6
H	1 3 2 4 5 6
B	1 2 3 4 5 6

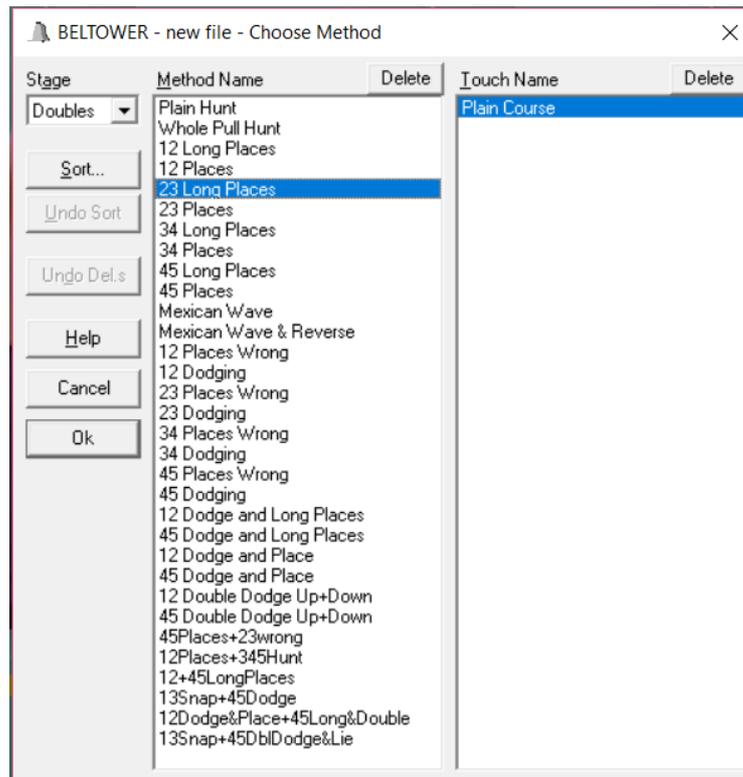
etc.

2-3 Dodging
(2nd dodging 'up')

	<u>1 2 3 4 5 6</u>
H	1 3 2 4 5 6
B	1 2 3 4 5 6
H	1 3 2 4 5 6
B	1 2 3 4 5 6
H	1 3 2 4 5 6
B	1 2 3 4 5 6

etc.

2-3 Dodging
(3rd dodging 'down')



*Training Exercises from the File Menu –
In the example above 2-3 Long Places has been selected.*

Choose an exercise and then select the bell which you wish to practice on, by clicking on the rope icon..

To begin press **F5** and the bells will start ringing rounds. To ring the exercise **press the spacebar** (or click on **Go** with the mouse) and you will hear a command to start next handstroke.

You can repeat this as frequently as you like, and once you are confident, you can unclick the box to practice the exercise continuously by going to the 'Options' ⇌ 'Ring Options' menu and unclicking '**Auto that's All**'.

Also make sure that '**Auto Stand**' is turned off as well, so that the bells just continue in rounds without standing; and the ringer/trainer can then press the **Space bar** or click **Go** again to repeat the method/exercise.



Adding ropesight.

You can progress on a simulator ringing by rhythm alone, but if ringing with real ringers, you will need a degree of ropesight, However all bells differ, so ropesight is only a guide to when to pull, and really good ringing depends on listening, which is why simulators are so valuable a tool.

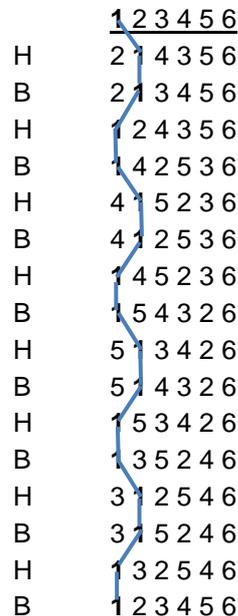
The moving ropes feature in Beltower can also help you develop your ropesight. However, because of the time delay it is not practical to do this by pressing the 'Y' key at the same time. The problem is not a limitation in Beltower, but a limitation in people!

However if you want to practice ropesight at home you can get Beltower to ring a method and you can watch what a particular bell is doing, just as if you are standing behind a real ringer in the tower. The added advantage of Beltower is that you can slow the ringing down by pressing **Ctrl+Dn** to slow the ringing down (or Ctrl+Up later to ring faster).

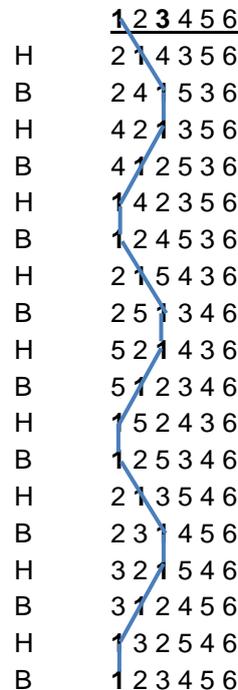
The Whiting Society have also produced an excellent DVD with lots of examples of ringing to watch along to. There are also on-line ropesight apps – e.g. <http://www.ringbell.co.uk/toolkit/ringbell.htm>

Bastow Doubles

In Bastow the treble rings handstroke and backstroke alternately in 1st and 2nd position, but follows a different bell (2, 3, 4 or 5 each time). Once you have reached the stage where you instinctively know how much to hold up or cut in at handstroke, you can ring the treble to Bastow and practice spotting who you are following. Don't forget, concentrate on counting your place and holding up or cutting in the right amount as your first priority. You will see what you are doing, without being able to do this first.



Bastow



Cloister

Plain hunt on three (Singles)

Once you have mastered simple changes at handstroke and backstroke, you can move on to plain hunt on three, with three bells covering. Select this from the list of Training and Kaleidoscope exercises, as before, but go up from Doubles to the Singles 'Stage'. Also go in to ring options and make sure that the start sequence is 123456.

Cloister Doubles

If you have mastered Plain Hunt on three and Bastow, then try ringing Cloister doubles.

In Cloister (with a Plain Bob Start) the treble and 2nd both move between 1st and 3rd place following different bells each time. This is good practice at counting a small number of places, and spotting ropes by ropesight, whether on a simulator, or with a real band.

Plain hunt on four (Minimus)

You can then move on to plain hunt on four.

If you have Beltower you can also try Plain Bob Minimus, where the treble moves up and down three times, following the others in different orders. To minimise the differences in speed, ring this with two bells covering.

Plain hunt on five (Doubles)

You can then move on to plain hunt on five.

Once you can do this, you can try Grandsire Doubles in which the treble and second both plain hunt. If you are ringing the treble, you will always start with the 2nd at the beginning of each run up or down, so you only really have three other bells to worry about. Plain Bob doubles lasts 40 changes and the treble hunts up and down four times, the other four inside bells swapping over each time.

Further Advice and Support

Now that you have mastered the basics, you should be able to progress on to attempting more advanced methods on your own, by going to the 'Method' 'Choose Method' window or pressing **F4**. Beltower will adjust the number of bells automatically if you choose a method on higher numbers. You just need to click on the bell you want to ring. However remember to build up to more complicated methods gradually. You should also be able to explore some of the other features in Beltower which there was not space to cover in this quick start guide.

The Association of Ringing Teachers publishes a book: Teaching with Simulators, which can be obtained by visiting their on-line shop <http://ringingteachers.org/resource-centre/shop>

ART are also producing a series of you-tube videos covering most of the exercises in these notes, and Beltower has extensive Help files..

Simulator workshops are also held in various parts of the country and can be booked by visiting the upcoming courses and workshops page <https://smartringer.org/public/daycourses/>

There is also a Ringing Simulator Users and Suppliers Facebook page, where you can communicate with other users and the software writers and hardware suppliers.

<https://www.facebook.com/groups/1441867412528870/>

We also have a network of experienced users who can help you set up and troubleshoot any problems that you may have. In the first instance contact the ART Resource Administrator:

resourceadmin@ringingteachers.org

Quick Reference

Y	Manual key to ring a simulated bell
F2	Call changes menu
F4	Choose method
F5	Start Ringing
F6	Resume ringing (after pause)
F7	Start recording
F8	Brings up ring options window
Spacebar	Go a method
ESC	Pause
End	Stand
Ctrl+Up	Ring faster (increments of 2 min peal speed)
Ctrl+Dn	Ring slower
B	Bob
S	Single
R	Rounds
Alt+F9	Show striking monitor
Shift+F7	Show striking report
Ctrl+Wdws	End ringing