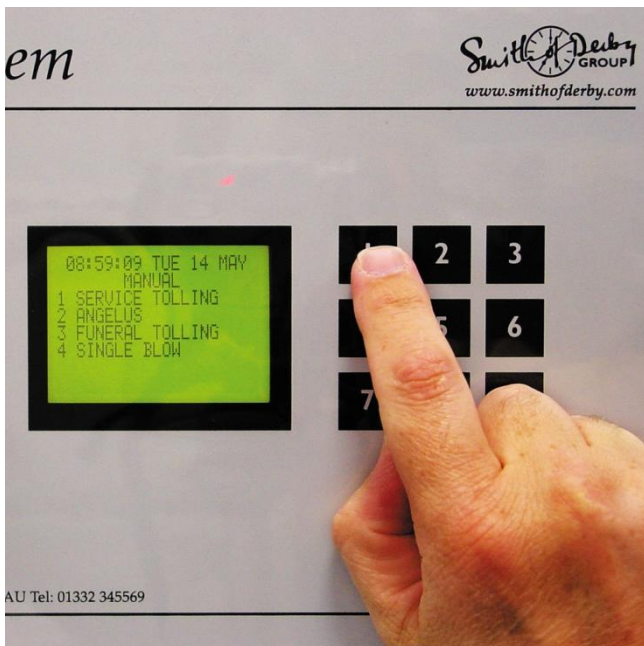


INSTALLATION & MAINTENANCE MANUAL



BELL SOUND SYSTEM

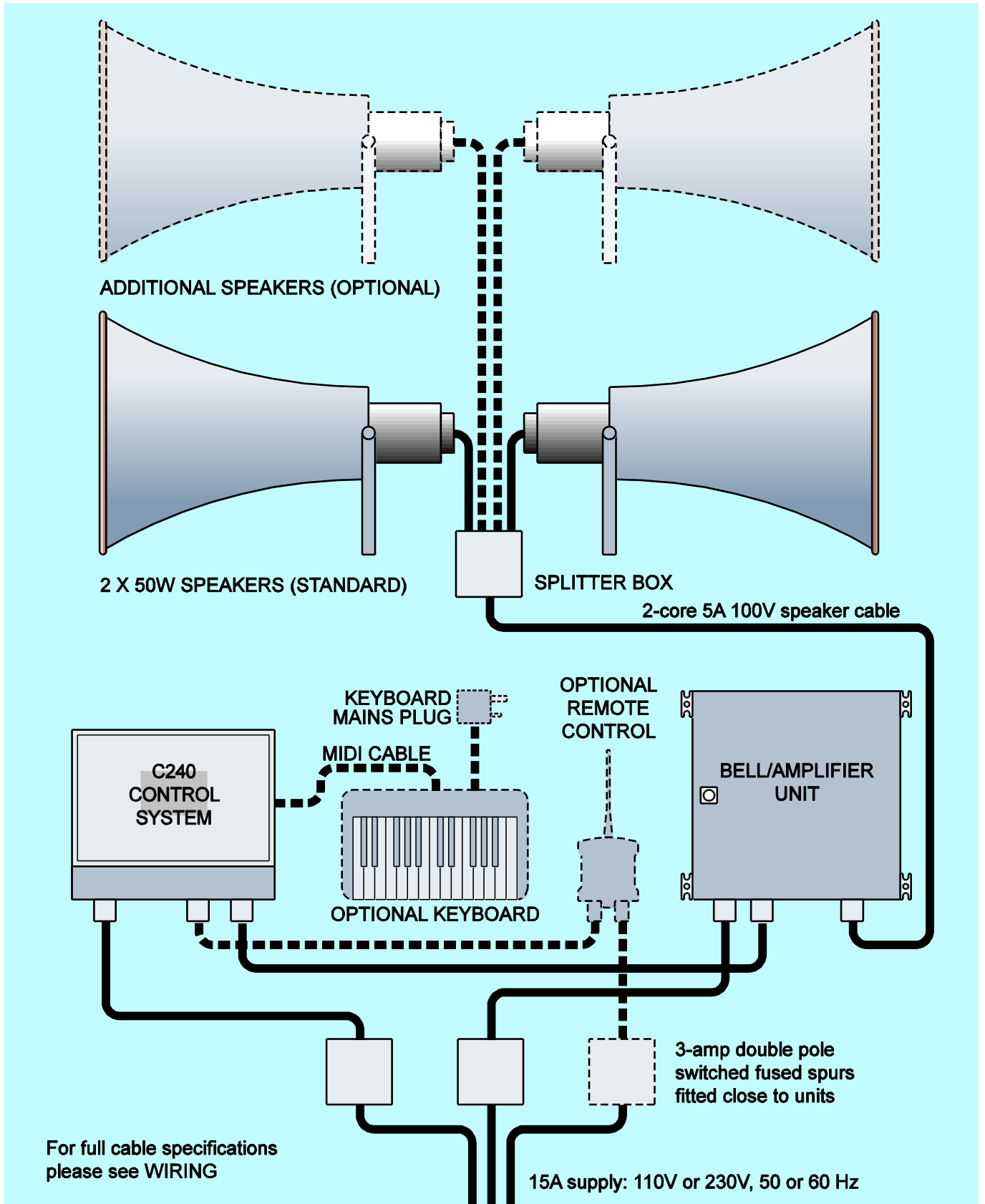
Authentic Bell Sound Reproduction

Issue date: 27 June 2011

CONTENTS

1	Introduction	page 2
2	Data and dimensions	page 5
3	Items supplied	page 6
4	Site assessment	page 7
5	Speaker installation	page 9
6	Bell/amplifier cabinet and C240 Controller installation	page 11
7	Remote control option	page 13
8	Wiring	page 15
9	Set-up and commissioning	page 16
10	Time setting	page 17
11	Programming	page 18
12	Bell and tune speed and note adjustment	page 25
13	Manual override operation	page 27
14	Optional keyboard set-up and operation	page 29
15	Optional remote control and operation	page 30
16	Fault finding	page 31
17	Maintenance	page 31
18	Tune listing arranged alphabetically	page 32
19	Tune listing arranged numerically	page 36
20	Site information and contact details	page 40

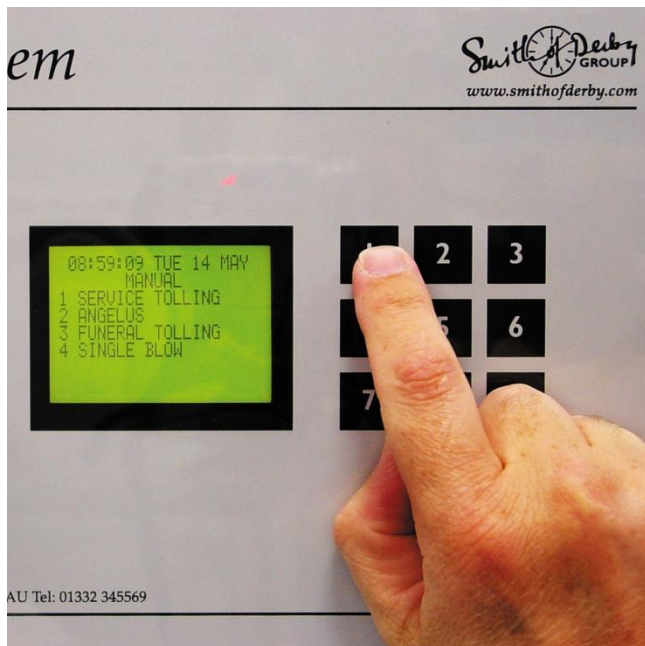
1 Introduction



METHOD OF OPERATION

The Smith of Derby Bell Sound System is a powerful system designed to be permanently installed in a building or bell tower to accurately reproduce the sound and resonance of traditional cast bells.

The Smith of Derby Bell Sound System comprises three principal units: C240 Control System, Bells/Amplifier Cabinet and Speakers.



C240 CONTROL SYSTEM

User interface and computer control unit, providing user settings of the bell programme/s such as chiming and pre-programmed tune playing. Each C240 unit is factory programmed to the client's specification and the actual programme will depend on the number of discrete bell notes included in the Bells/Amplifier.

Although pre-programmed, the user may if desired amend the programme and night silencing if included, and re-set the timekeeping.



BELLS/AMPLIFIER CABINET

Main power cabinet containing the audio amplifier and separate circuit boards for between 1 and 15 individual bell notes. Includes manual volume control. An additional bell cabinet, or a special extended single cabinet, if specified with your system, will give up to 30 individual bells. This provides for advanced programmed tune playing and manual carillon operation.



SPEAKERS

2 to 4 all-weather speakers designed for high quality reproduction in an outdoor or bell tower location. Assuming the speakers are mounted adjacent to each other in a cluster, 2-speaker sets are suitable for up to 120 degree sound direction and 4-speaker sets are suitable for up to 360 degree sound direction.

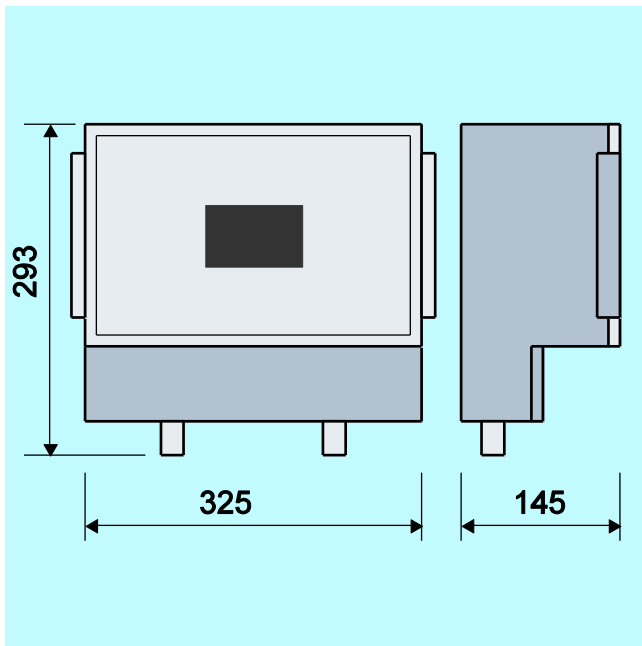


OPTIONAL REMOTE CONTROL AND MIDI KEYBOARD

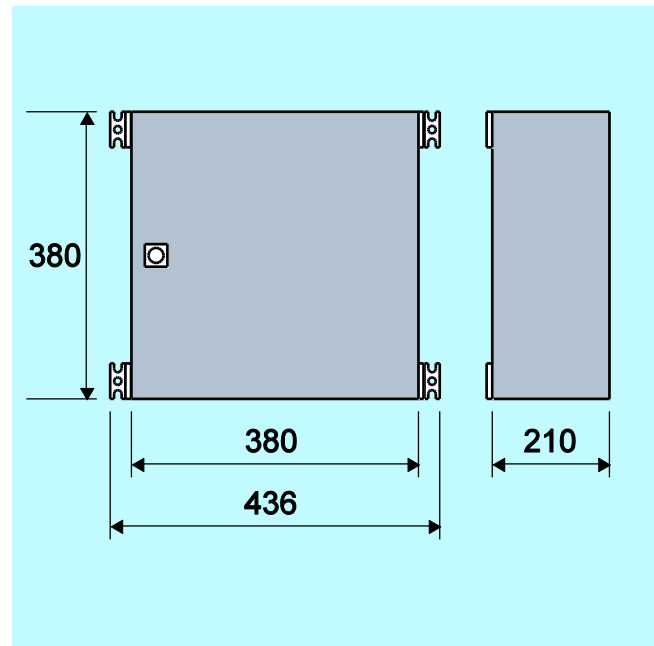
Wireless remote control is available for operation of a single bell, for example by the minister during a church service. The control can also be factory set to operate any pre-programmed function.

A MIDI keyboard converts the Bell Sound System into a modern-day carillon. As standard it can control up to 15 bell notes, and with the addition of a second Bell/Amplifier unit, up to 30 notes.

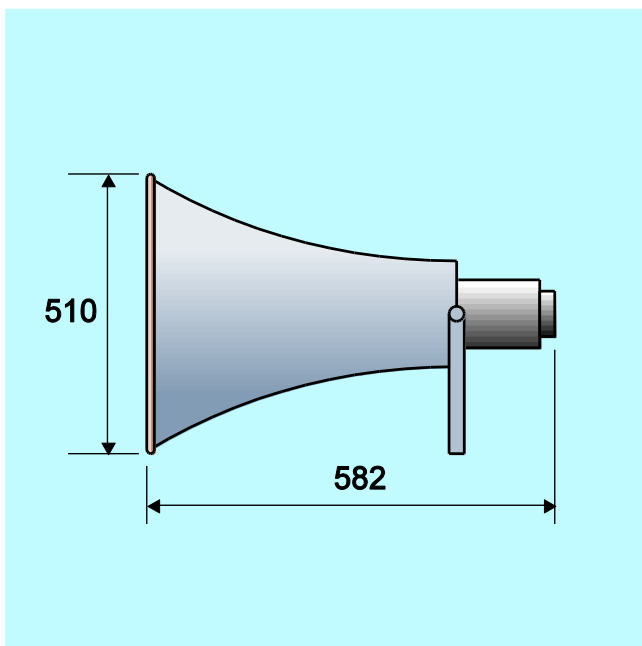
2 Data and Dimensions



Overall dimensions: C240 Control System



Overall dimensions: Bell/Amplifier cabinet



Overall dimensions: 50W Speaker

Weights	
C200 Control System:	3.7kg
Bell/Amplifier Cabinet:	17.3kg
50W Speaker:	5.7kg

Maximum power output: 120W

POWER REQUIREMENTS

110 – 120V or 220 – 230V AC, 50 or 60Hz.

TWO switched 3-A fused power outlets, plus ONE 3-A outlet for optional remote unit and ONE wall socket for optional keyboard.

Your bell sound system will have been factory set to your local power requirements specified at the time of order.

3 Items Supplied

ITEMS IN THE BOX/S:

C240 Controller

Bell/Amplifier Cabinet

2, 3 or 4 speaker drive units

2, 3 or 4 speaker mounting brackets

2, 3 or 4 speaker internal cones

2, 3 or 4 speaker bell horns

2m signal cable: C240 to Bell/Amplifier

*Optional remote control transmitter/receiver kit

*Optional keyboard

*Your bell sound system will include these items if specified at the time of order.

Please notify Smith of Derby immediately if there are any damaged or missing items.

TO COMPLETE THE INSTALLATION YOU WILL ALSO NEED:

Additional signal cable, up to a maximum permitted run of 100m (spec: multicore screened cable, 3 to 17 cores depending on number of bells).

Speaker cable, up to a maximum permitted run of 100m (e.g. 2-core "figure-8" 0.75mm sq).

Speaker cable for connecting optional remote control to the bell/amplifier, if the cable run is greater than 1.5 metres (e.g. 2-core "figure-8" 0.5mm sq).

1 splitter junction box for speaker cable (recommended for ease of installation on long cable runs). This may need to be an all-weather proof junction box. Depending on site requirements, up to four additional weatherproof junction boxes may be required. We recommend that for exterior installations, the flying lead cable pre-installed on the speaker is fed through a hole in a wall adjacent to the speaker to a junction box inside the building.

2 pre-installed 3-A power supplies, comprising switched fused spurs or distribution board points, adjacent to the C240 and Bell/Amp locations.

For optional radio remote unit another separate 3-A power supply is required.

For optional keyboard another separate power outlet (standard wall socket) is required adjacent to the keyboard location.

For optional keyboard a standard 5-pin MIDI cable up to 10 metre length if the supplied 3 metre cable is not long enough.

5-amp 3-core cable (flex) for connecting C240 controller, bell/amplifier and optional remote receiver to power outlets.

Cable clips for all cabling, recommended spacing 200-300mm.

4 wall plug fixings and screws for the Bell/Amplifier: e.g. no. 12 x 50mm, depending on wall substrate (brick, breeze block or drylining, etc).

3 wall plug fixings and screws for the C240 Controller: e.g. no. 8 x 50mm round head wood screws and compatible wall plugs. NOTE: maximum screw diameter 5mm.

3 wall plug fixings for the optional remote receiver: e.g. no. 8 x 50mm round head wood screws and compatible wall plugs. NOTE: maximum screw diameter 5mm.

3 wall plug or expanding bolt fixings PER SPEAKER: e.g. 10mm x 100mm rawlbolts or similar, depending on wall substrate (brick, stone, etc).

4 Site Assessment



SPEAKERS

Speakers must be mounted securely, particularly in areas prone to wind such as a building exterior or exposed belfry. They may be wall mounted or installed on a support beam provided by the site contractor (see photo above).

Due to the high volume and sudden operation of the system, speakers should be mounted away from ear level and not in very close proximity to unsupervised public access.

Actual location of the speakers will depend on site conditions and surrounding buildings and trees, but as a general rule the system is designed to give best performance with the speakers mounted between 6 and 15 m from ground level.

Speakers installed within a belfry behind louvres may if desired be set pointing downwards through the slats for improved directional sound effect.



C240 CONTROLLER AND BELL CABINET

These units may be installed adjacent to each other, or if preferred, the C240 Controller may be located in a convenient place such as an office or control panel room, with the Bell/Amp mounted within more audible range of the speakers to assist in manual adjustment of the volume.

DO NOT install either unit in any space where there is a risk of the room temperature exceeding 40 degrees Celsius.

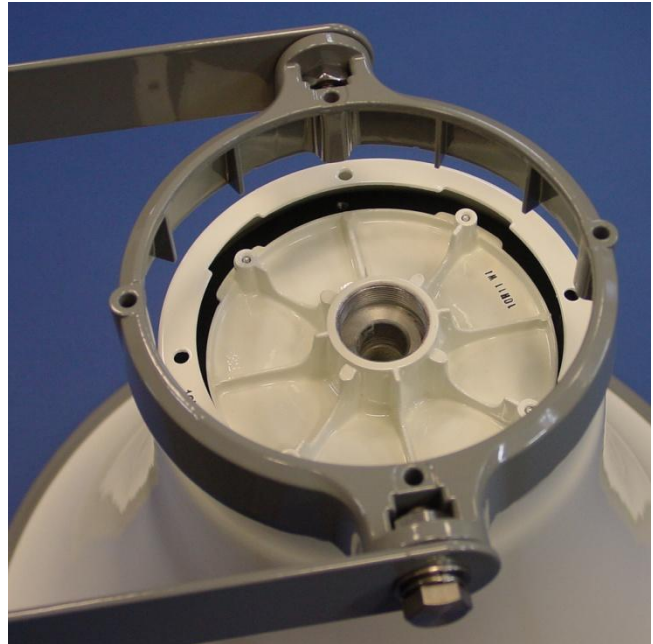
DO NOT install either unit in any outdoor or non-weatherproof space.

DO NOT install either unit in any public space where there is a risk of tampering.

5 Speaker Installation

NOTE: if preferred, you can dismantle the bracket assembly prior to installation, assemble the bracket ring and remaining speaker parts and re-fit when the bracket wall plate is fitted.

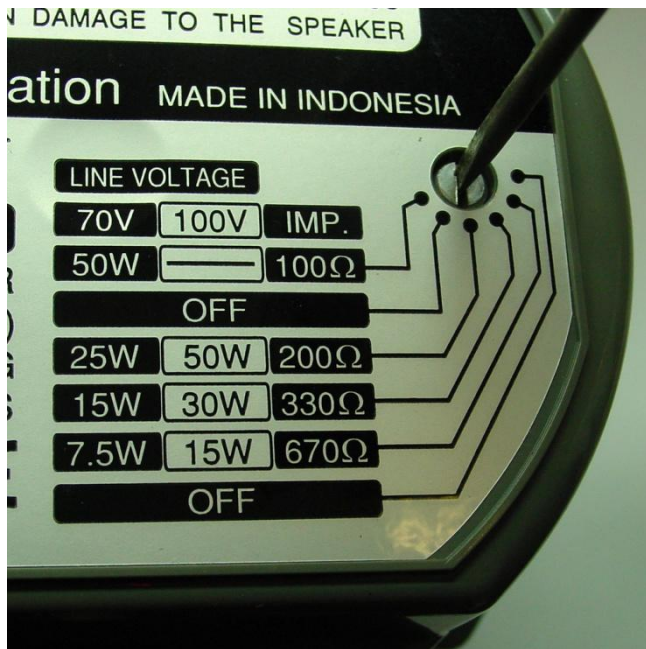
- 1 Check that you have sufficient space for the assembled speaker, taking into account the size of the speaker bracket. Note that the bracket allows for adjustment of the angle of the speaker.
- 2 Drill a fixing hole in the wall or mounting beam for the centre hole of the speaker mounting bracket.
- 3 Temporarily fasten the bracket to the wall but do not overtighten.
- 4 Estimate any rotation of the bracket which may be required if the speakers need to be set at a particular angle.
- 5 Mark the fixing positions for the two outer fixings. Remove the bracket.
- 6 Drill the two outer fixing holes and permanently fasten the bracket to the wall.
- 7 If required, set the position of a cable entry hole in the wall adjacent to the speaker. Note the length of the flying lead on the drive unit. We recommend that the cable should wherever possible be passed through the wall to a junction box inside the building. Remember to allow sufficient slack for ease of final angle adjustments.
- 8 Mark and drill cable entry hole if required.



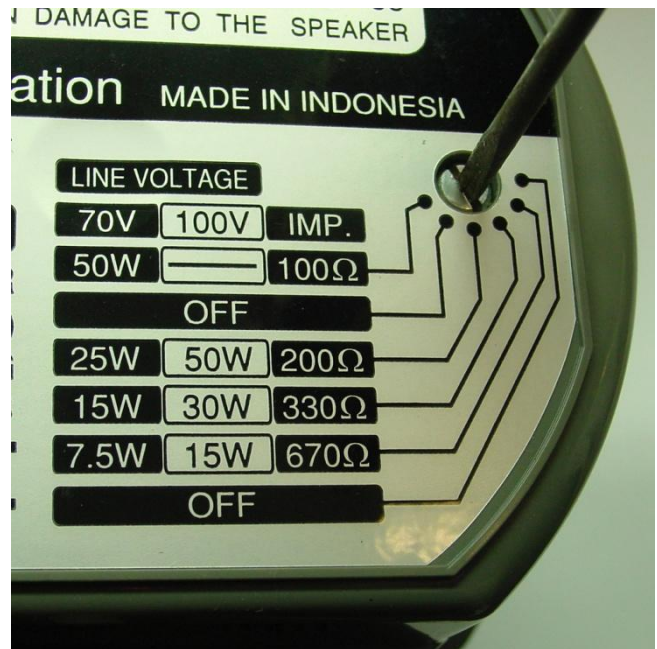
- 9 Remove the four screws from the inner cone. Place the bell horn over the inner cone, with the gasket in place on the inner cone flange.
- 10 Offer the cone and bell horn together to the bracket, and fasten all three items together with the screws. The rear flange of the bell horn is trapped between the bracket and the inner cone flange.



- 11 Screw the drive unit into the large threaded centre hole.
- 12 Install and secure the cable in readiness for connection to the Bell/Amplifier.



50W output setting

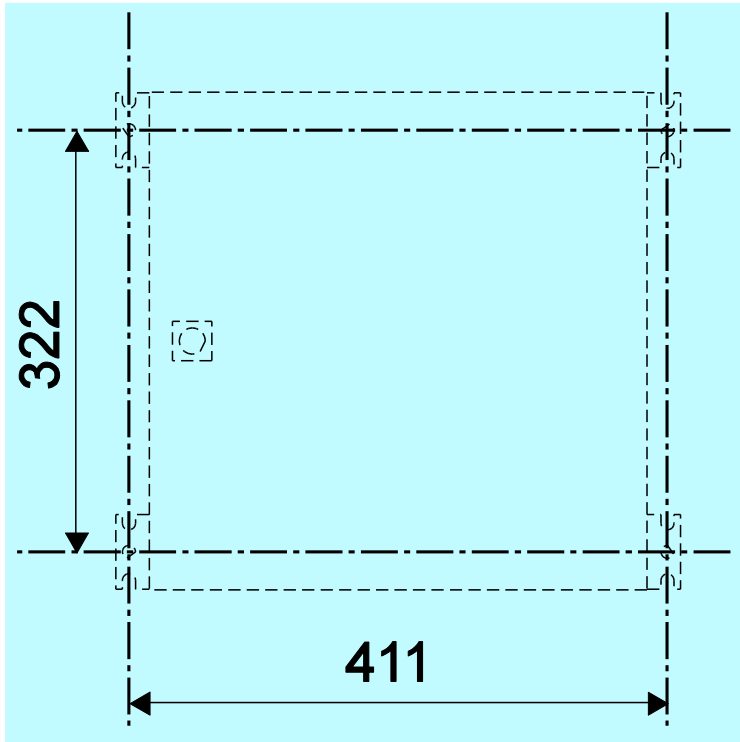


30W output setting

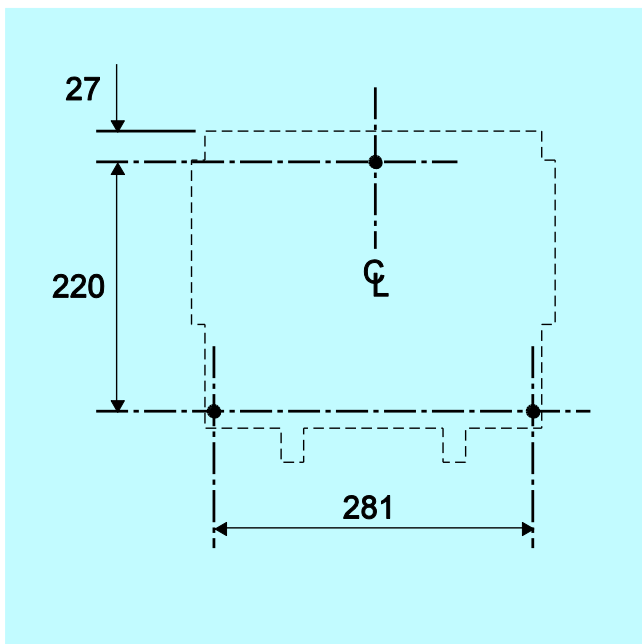
- 13 Check wattage setting on the rear of each speaker drive unit. Whether using 2, 3 or 4 speakers, each speaker can be set at a different wattage provided the TOTAL wattage does not exceed 120W. For example, you may require your bell sound system to give a lower output level in one direction, in which case one speaker can be set to 15W and 3 other speakers to 30W. REFER TO THE OUTPUT FIGURES IN THE SECOND (100V) COLUMN.
- 14 Check that all fixings are secure and that the speaker will not move or rotate.

6 Bell/Amplifier Cabinet and C240 Controller Installation

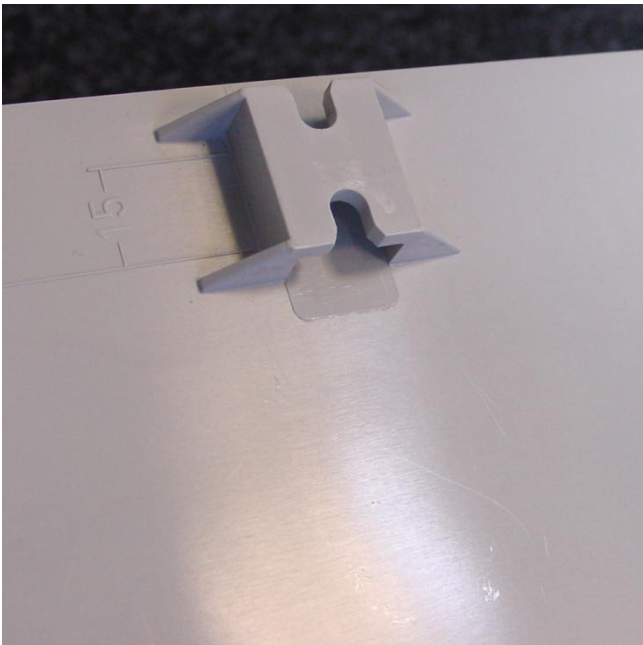
- 1 Check that you have sufficient space for the bell/amplifier cabinet, including space for the door to open.



- 2 Mark four fixing holes on the wall in accordance with the fixing holes diagram.
- 3 Drill the four fixing holes compatible with your chosen wall fixings.
- 4 Fasten the unit in place and check that it is firmly fixed.
- 5 Check that you have sufficient space for the C240 cabinet, including space for the door to open.



- 6 Mark three fixing holes on the wall in accordance with the fixing holes diagram.
- 7 Drill and plug top centre fixing ONLY.
- 8 Screw the top centre fixing into the wall, to protrude by 4mm from wall surface to rear face of head.
- 9 Remove the lower cover from the unit.



10 Hang the unit on the centre screw slot, and set it level.

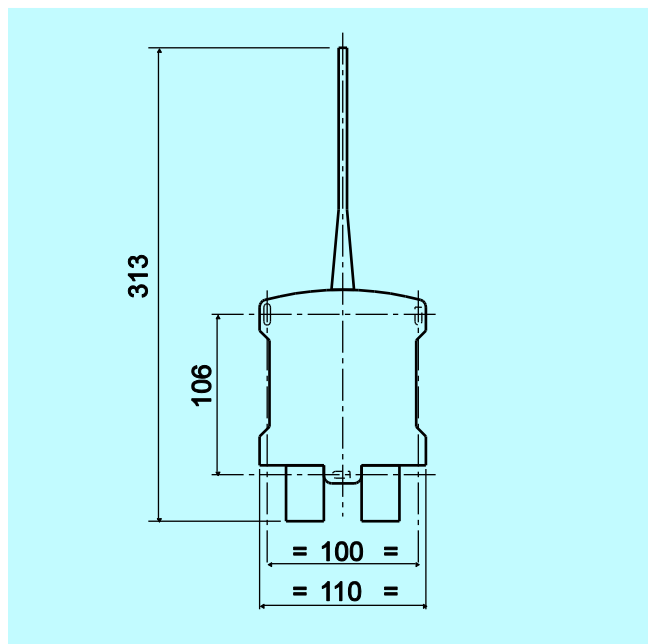


11 Verify the location of the two side fixing points through the oval fixing holes.

12 Remove the unit, drill and insert wall fixings, and re-hang the unit, securing at the two lower fixing points.

7 Remote Control Option Installation

- 1 Select a suitable location for the remote control receiver unit. This should ideally be within the same room where the remote control is to be used as stone or brick walls will reduce the signal strength. The remote unit has a good transmission range suitable for a large church or building but we recommend that you do not permanently fix the receiver to the wall until the bell sound system has been tested.



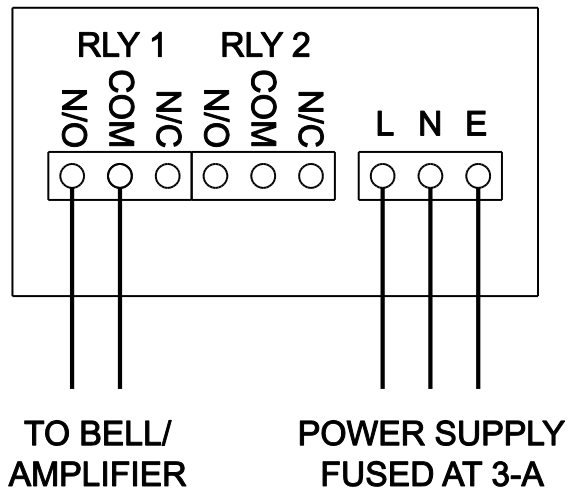
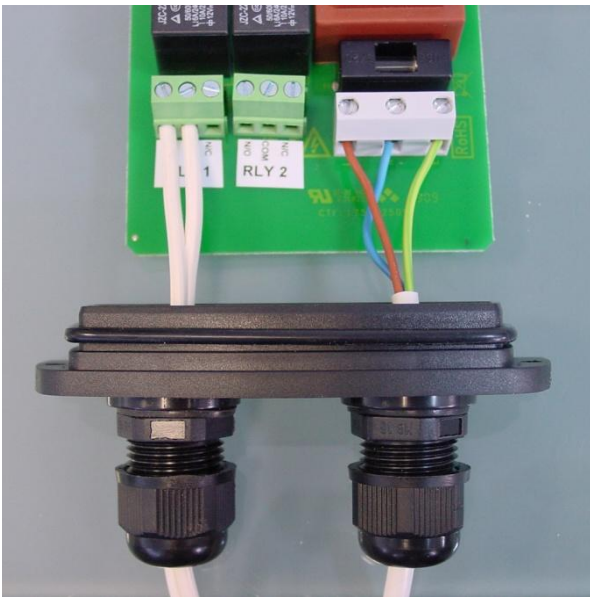
- 2 Mark and drill 3 fixing holes in the wall.
- 3 The receiver unit is supplied with approx 1.5m of cable fitted. If you require longer cables:



- a Remove the base panel of the receiver unit (2 screws).



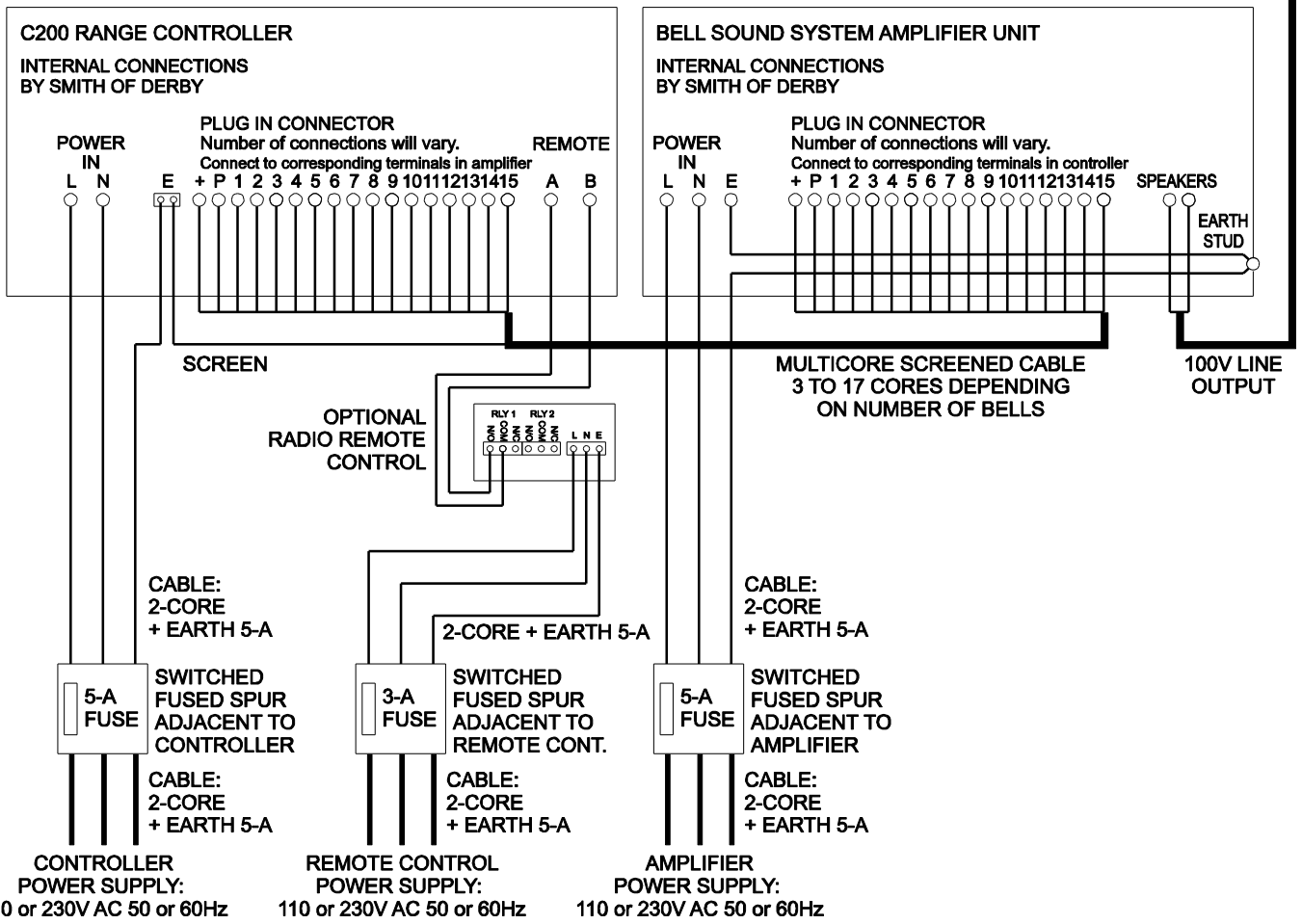
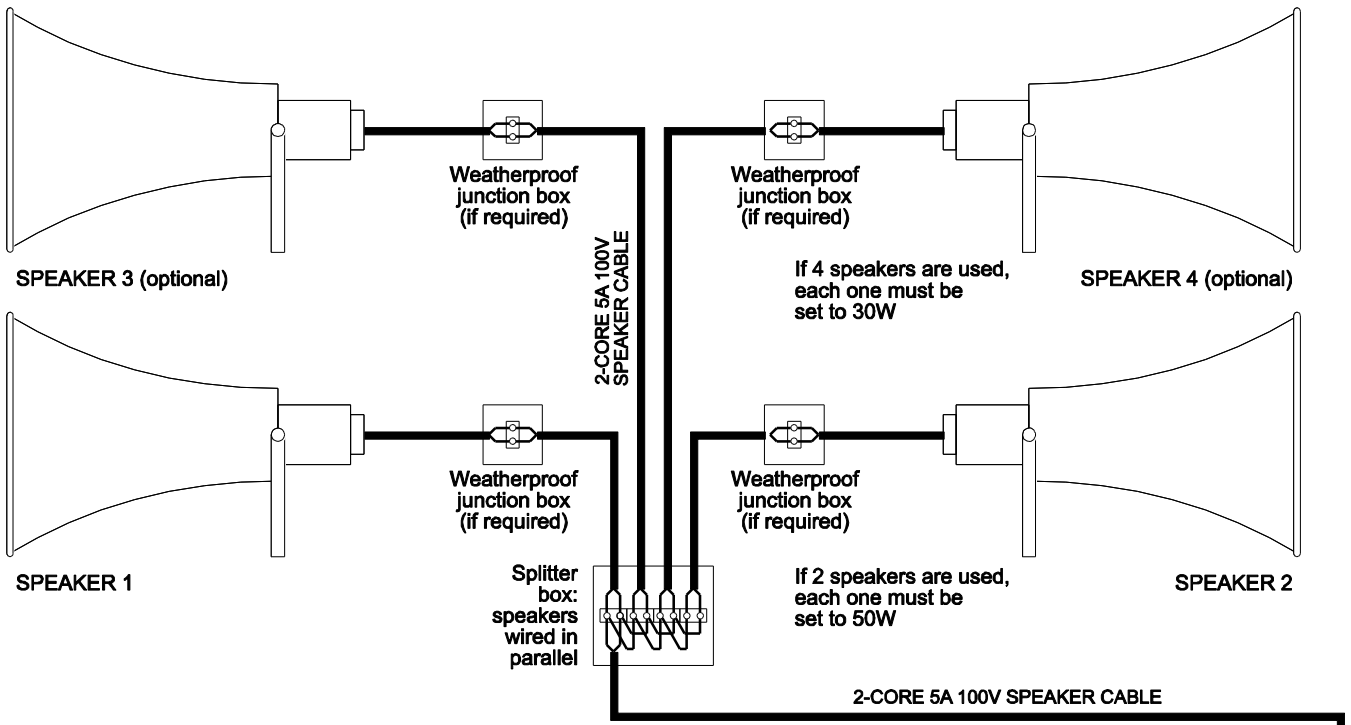
b Unscrew the aerial and withdraw the PCB.



- c Insert your replacement cables through the cable glands of the base panel and connect as per the diagram.
- d Reassemble the receiver unit: PCB, aerial and base panel.

- 4 Secure the unit to the wall with suitable fixings (not supplied).
- 6 See under SET-UP AND COMMISSIONING and PROGRAMMING for instructions on use.

8 Wiring



Follow the above diagram for making all connections between units.

Match polarity on all speaker connections.

NOTE: diagram shows maximum number of bells and speakers, plus optional remote control. Therefore please disregard any connections not required on your system.

9 Set-up and Commissioning

Your bell sound system has been factory set to your specifications, complete with programming of bell tunes and chimes.

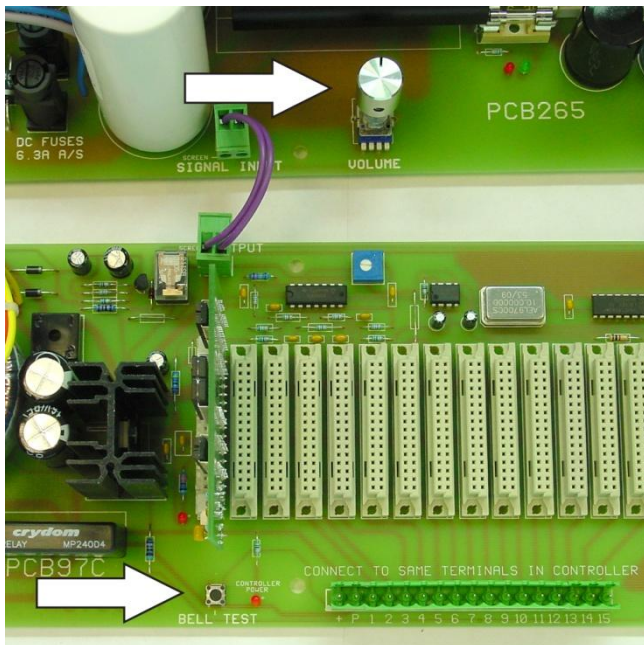
The clock has also been set to your local time zone, complete with any summer/winter (daylight saving) time automatic adjustments.

The speaker impedance has been set in accordance with the system requirements.

To view the settings, you will need to follow the instructions under REVIEWING EXISTING PROGRAMME ENTRIES in the TIME SETTING and PROGRAMMING chapters. However, we recommend that you allow the system to run as programmed for an initial period, for example one day or one week. Please contact Smith of Derby if the system does not function as you expected.

Once the units have been installed and all wiring connections have been made, switch on all power supplies. Check that the clock display on the C240 controller is showing the correct time.

MANUAL VOLUME CONTROL



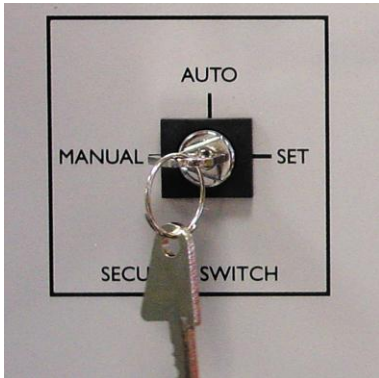
To vary the volume of the speakers, open the door of the bell/amplifier cabinet and locate the volume control knob and bell test switch. Each press of the switch will cause a single blow on the lowest bell in your system. Use the volume control to adjust the sound level.

When a tune is played, the sound of each bell note can overlap, resulting in a higher volume level than when the single bell sounds. You may therefore need to re-adjust the volume level on your system again at a later time.

If you require your system to give a lower volume output in a certain direction, you can adjust the wattage on each individual speaker. See chapter 5 SPEAKER INSTALLATION.

10 Time Setting

When entering this SET UP function the Controller real time clock will stop, therefore, it is necessary to set in a time a few minutes in advance of real time so that when the adjustments are finished the display clock can be started at the exact time set in. The seconds are automatically zeroed.



Turn the C240 Security Key Switch to 'SET' position.

The SET UP screen will appear

Press button 5 to select TIME AND DATE SET-UP

The screen shows the DISPLAY CLOCK SET-UP screen

The Hour digits are selected and flashing at the top of the screen.

Press button 2 to advance the flashing number.

OR

Press button 5 to select the next digit.

NOTE: If Button 1 'CANCEL' is pressed at any time before the final operation below, the original time and date information will be re instated and the Display will return to the SET UP screen.

When all adjustments are made wait until real time reaches the time set into the clock. Then:

Press button 8 at the exact second to start the clock and return to the SET UP screen.

Return the Security Key switch to 'AUTO'

11 Programming



The C240 Controller has ten separate Programme memories all of which can be programmed with up to 250 weekly operating times of tolling or angelus bell functions, hour strike and quarter Chime bells and tune playing.

Each Programme can contain different sequences of times to give varying seven day programmes which can then be selected when required.

As well as Automatic bell operating times the C240 controller has the facility to operate the bells manually.

The speed of the blows on all bell functions is adjustable.

The C240 controller memory will retain the time and date information together with any customer programmes and individual settings for many years without external power.

The C240 controller security key switch on the front panel selects the following:

AUTO MENU

This is the standard position during normal operation.

The display shows the current time and date, the controller model number and 'AUTO MODE'.

For ease of viewing the time is repeated in large numbers and the bottom line shows the actual programme number selected.

The key switch must be in the AUTO position to allow an automatic programme to operate.

The key switch must also be in the AUTO position to allow the optional remote control to operate.

MANUAL MENU

This position allows user control of the bell functions. The Manual bell functions on Model C240 controller are:

Service Tolling

Angelus bell sequence of 3-3-3 and then 9 blows

Funeral Tolling

Single Blow on a bell

Tune Playing

Manual playing of the bells from a MIDI Keyboard.

SET MENU

This position allows adjustment of all bell programmes such as weekly service bell functions, clock bell silencing times and bell playing speed.

If a pre-programmed sequence has been specified with order, this will normally be set in Programme 1, and a printed listing will be included in these instructions. The C200 controller display shows the programme number currently selected and the unit will follow the bell sequences according to that programme.

SECURITY KEY SWITCH

The key switch should be set and left at AUTO. As the unit is programmable, the key should be removed when unattended to prevent unauthorised operation or alteration of existing programmed information.

REVIEWING EXISTING PROGRAMME ENTRIES

This allows the listing and deleting of all Automatic Bell functions set into memory on any of the ten Automatic Programmes.

NOTE: check that the Programme number showing on the AUTO MODE screen is the programme number to be reviewed. If not, follow the MANUAL CHANGE OF PROGRAMME NUMBER instructions (below).

Turn the security key switch to SET.

Press button 1 LIST SELECTED PROG.

The display screen shows the first entry in the Programme.

At this point there are 3 options available and shown on the screen.

Press button 1 to RETURN the Controller to the SET-UP screen.

OR

Press button 2 to show the NEXT entry in the Programme.

The whole programme can be listed by repeatedly pressing button 2.

A message will appear on the screen after the last entry has been displayed.

TO DELETE AN ENTRY

Press button 9 to DELETE the entry showing on the screen.

The entry will be deleted and the screen will show the next entry in the programme.

When deleting a night silencer setting, deleting either the start time or end time will delete both those time settings.

NOTE: any deleted entry will disappear totally from the programme.

When you have finished, **turn the security key switch to AUTO.**

SELECTING PRESET BELL PROGRAMMES

Any of the ten programmes can have automatic bell operations set in.

A weekly sequence of bell functions can be set into a single programme number.

Varying weekly operations can be entered into different programme numbers.

Selecting the required Programme Number will then give that sequence of operations. Automatic changeover between different Programmes is also available.

Turn the security key switch to SET.

The SET UP screen will appear.

Press button 6 PROGRAMME No. SELECT.

The current Programme number is displayed.

Now follow either the Manual or Automatic routines:

MANUAL CHANGE OF PROGRAMME NUMBER

Press button 2 ADVANCE to increment the displayed programme number.

Press button 3 APPLY when the required Programme number shows.

The SET UP screen will re-appear.

When you have finished, **turn the security key switch to AUTO.**

AUTOMATIC CHANGE OF PROGRAMME NUMBER

Press button 4 AUTO PROGRAMME SELECT. This allows existing changeover programme dates to be listed and deleted if required or the entering of a new automatic change date.

The Automatic Change Screen appears showing DATE – MONTH - PROG

The Month digits are flashing.

Press button 4 to LIST any previously set Automatic changeover times. NOTE: If there are no existing changeover entries, the programme number screen will re-appear.

OR

Press button 5 to DELETE any of the LISTED automatic changeover times

OR

Press button 1 to return to the programme number screen

OR

To enter a new automatic change time:

(**Button 1** can be pressed at any time to abandon the entry.)

Press button 2 to advance the flashing digits to show the Month when a new change is required.

Press button 3 when the correct month is displayed.

The PROG (programme) numbers now flash.

Press button 2 to advance the flashing digits to show the New Programme Number required to be operational at the selected month.

Press button 3 when the correct Programme Number is displayed.

The DATE numbers now flash

Press button 2 to advance the flashing digits to show the required Day of the Month when the change is required.

Press button 3 to re-enter any incorrect details.

If the information is correct, **press button 6** to apply the Automatic Change and return to the Programme number screen.

Press button 3 APPLY to return to the SET UP screen.

When you have finished, **turn the security key switch to AUTO.**

ADDING A NEW ENTRY TO A PROGRAMME

Check that the Programme number showing on the AUTO MODE screen is the Programme number to be used, if not, follow the above SELECTING PRESET BELL PROGRAMMES instructions first.

If a new entry is added to an existing programme then check that the new function time and days do not coincide with any existing entry on the same programme.

Go to the relevant sub heading dealing with the function required.

ADDING AN ANGELUS BELL

Turn the security key to SET.

The SET UP screen appears.

Press button 3 PROGRAMME SET-UP.

From the list on the screen choose the function required.

(*)

Press button 3 for the ANGELUS bell function.

The DAY SELECTION screen appears and shows the days of the week with an arrow under the first day. When the letters representing the days are in **lower case**, the day is **not** selected. The letters change to **upper case** or capital letters when they are selected.

Select the day(s) of the week on which the bell function is required to ring.

Press button 7 to select **every day** of the week

OR

Press button 5 to select **weekdays**, i.e. Monday to Friday

OR

Press button 3 to select or deselect any day above the arrow.

Press button 2 to move the arrow to the next day position.

Repeat these operations to obtain the required combination of days.

If a day is incorrectly selected or omitted, move the arrow to that particular day and press button 3 to select or de-select the day as required.

Press button 4 when the combination of days is correct.

The Display will now show the function START TIME screen.

Enter the time (in 24 hour format) when the Angelus bell is to start ringing.

Press button 4 to increment the flashing digit

OR

Press button 3 to select the next digit.

Repeat these two operations until the required time is correctly entered.

Press button 6 to accept the entry.

The screen returns to the PROGRAMME SET-UP screen.

If more ANGELUS entries are to be set up then go back to (*) above.

If there are no more entries, **Press button 1** to return to the SET-UP Screen

When you have finished, **turn the security key switch to AUTO.**

ADDING A SERVICE TOLLING BELL

Turn the security key to SET.

The SET UP screen appears.

Press button 3 PROGRAMME SET-UP.

(*)

Press button 4 for the SERVICE TOLLING bell function.

The 'DAY SELECTION' screen appears and shows the days of the week with an arrow under the first day. When the letters representing the days are in **lower case**, the day is **not** selected. The letters change to **upper case** or capital letters when they **are** selected.

Select the day(s) of the week on which the bell function is required to ring.

Press button 7 to select **everyday** of the week

OR

Press button 5 to select **weekdays**, i.e. Monday to Friday

OR

Press button 3 to select or deselect **any day** above the arrow.

Press button 2 to move the arrow to the next day position.

If a day is incorrectly selected or omitted, move the arrow to that particular day and press button 3 to select or de-select the day as required.

Press button 4 when selection of days is correct.

The Display will now show the 'TOLLING START TIME' screen.

Enter the time (in 24 hour format) when the SERVICE bell is to start ringing.

Press button 4 to increment the flashing digit

OR

Press button 3 to select the next digit.

Repeat these two operations until the required time is correctly entered.

Press button 6 to accept the entry.

Now enter the number of minutes the tolling bell is to ring, selectable in half (0.5) minute increments, e.g. 07.5 mins equals seven and a half minutes.

Press button 4 to increment the flashing digit.

OR

Press button 3 to select the next digit.

Repeat these two operations until the required tolling time is correctly entered.

Press button 6 to accept the entry.

The display returns to the SET-UP screen.

If there are more entries go back to (*) above.

If there are **no more** entries, **press button 1** to return to the SET-UP Screen

When you have finished, **turn the security key switch to AUTO.**

ADDING CLOCK BELL SILENCING TIMES

The SILENCER is to restrict the times that the hour strike and quarter chimes bells will ring. Without this function the bells will ring every hour and quarter hour, day and night. If a new entry is added to an existing programme then check that the new function time and days do not coincide with an existing entry on the same programme.

Turn the security key to SET.

The SET UP screen appears.

Press button 3 PROGRAMME SET-UP.

The PROGRAMME SET-UP screen appears.

(*)

Press button 2 for AUTO CLOCK SILENT function.

The DAY SELECTION screen appears and shows the days of the week with an arrow under the first day. When the letters representing the days are in **lower case**, the day is **not** selected. The letters change to **upper case** or capital letters when they **are** selected.

Select the day(s) of the week on which the bell function is required to **start**.

Press button 7 to select **everyday** of the week

OR

Press button 5 to select **weekdays**, i.e. Monday to Friday

OR

Press button 3 to select or deselect any day above the arrow.

Press button 2 to move the arrow to the next day position.

If a day is incorrectly selected or omitted, move the arrow to that particular day and press button 3 to select or de-select the day as required.

Press button 4 when combination of days is correct.

The Display will now show the STRIKE AND QUARTERS START screen.

Enter the time (in 24 hour format) when the clock bells should START ringing on the selected days. Enter a time five minutes before the first bell is required.

Press button 4 to increment the flashing digit

OR

Press button 3 to select the next digit.

Repeat these two operations until the required time is correctly entered

Press button 6 to accept the entry

The screen now shows STRIKE AND CHIMES END time.

Enter a time 5 minutes after the last clock bells should stop ringing,

Press button 4 to increment the flashing digit

OR

Press button 3 to select the next digit.

Repeat these operations until the required time is correctly entered.

Press button 6 to accept the entry.

The display returns to the SET-UP screen,.

For more entries go to (*) above.

When you have finished, **turn the security key switch to AUTO.**

ADDING AUTOMATIC TUNE PLAYING TIMES

If a new entry is added to an existing programme then check that the new function time and days do not coincide with an existing entry on the same programme.

Turn the Security Key to SET.

The SET UP screen appears.

Press button 3 PROGRAMME SET-UP.

The 'PROGRAMME SET-UP' screen appears.

(*)

Press button 5 TUNE PLAYER.

The DAY SELECTION screen appears and shows the days of the week with an arrow under the first day. When the letters representing the days are in **lower case**, the day is **not** selected. The letters change to **upper case** or capital letters when they **are** selected.

Select the day(s) of the week on which the bell function is required to ring.

Press button 7 to select every day of the week

OR

Press button 5 to select weekdays i.e. Monday to Friday

OR

Press button 3 to select or deselect any day above the arrow.

Press button 2 to move the arrow to the next day position.

If a day is incorrectly selected or omitted, move the arrow to that particular day and press button 3 to select or de-select the day as required.

Press button 4 when combination of days is correct.

The Display will now show the TUNE START TIME screen.

Enter the time (in 24 hour format) when the tune should start playing on the selected days.

Press button 4 to advance the flashing number

Press button 3 to select the next digit.

Repeat these two operations until the required time is correctly entered.

Press button 6

The SELECT TUNE screen appears showing a number with the first digit flashing on and off.

Press button 4 to increment the number on the flashing digit. Press the button repeatedly until the correct number shows.

Press button 3 to move to the next digit which will then flash.

Repeat these two operations until the complete required number shows.

All three digits must match the tune number selected to play.

Press button 6 to accept the tune number selected.

The display will show the Title of the tune selected and ask for confirmation.

Press button 6 if the tune selected is incorrect.

The tune selection screen will re-appear.

OR

Press button 3 if the title of the tune is correct.

The screen returns to the PROGRAMME SET UP.

Repeat the whole instruction from (*) for more tune programming.

OR

Press button 1 to return to the SET UP screen.

When you have finished, **turn the security key switch to AUTO.**

12 Bell and Tune Speed and Note Adjustment

Bell speed: service tolling, angelus, funeral tolling, clock quarter chimes, hour strike bell, tune playing.

Turn the security key to SET.

The SET UP screen will appear.

Press button 4 BELL SPEED SET'.

The SPEED SET screen shows the Bell functions.

Select the function requiring adjustment.

Press button 2 for the SERVICE TOLLING speed.

OR

Press button 3 for the ANGELUS speed

OR

Press button 4 for the FUNERAL TOLLING speed

OR

Press button 5 for the CLOCK QUARTER CHIMES speed.

OR

Press button 6 for the HOUR STRIKE speed.

The screen shows a number. This represents the number of seconds between each bell note when you are adjusting either of the functions above.

Press button 2 to increment the number of seconds between each bell note:

From 1 second to 9.9 seconds for service tolling and angelus bells.

From 10 seconds to 60 seconds for the funeral bell.

From 0.5 seconds to 3 seconds for clock quarter chimes and hour strike.

If advanced past the maximum time the number reverts to the minimum time.

Press button 3 APPLY when your chosen rate is set.

If you have adjusted clock chimes or strike the C240 controller will immediately demonstrate the new setting by playing the appropriate bells. If you have adjusted angelus or funeral tolling, you can listen to the new speed by selecting it in MANUAL mode. See chapter 13 MANUAL OVERRIDE OPERATION.

The screen then returns to SPEED SET.

If there are no more adjustments, **press button 1** CANCEL to return to the SET UP screen.

When you have finished, **turn the security key switch to AUTO.**

ADJUSTING INDIVIDUAL TUNE SPEEDS

Turn the security key to SET.

The SET UP screen will appear.

Press button 4 SPEED SET.

The SPEED SET screen shows the bell functions. Select the function requiring adjustment.

Press button 7 for TUNE PLAYER speed adjustment.

The SELECT TUNE screen appears showing a number with the first digit flashing on and off.

Press button 4 to increment the number on the flashing digit

Press the button repeatedly until the correct number shows.

Press button 3 to move to the next digit which will then flash.

Repeat these two operations until all three digits match the required tune number.

Press button 6 to accept the tune number selected.

The display will show the title of the tune selected and ask for confirmation.

Press button 6 if the tune selected is **incorrect**.

The tune selection screen will re-appear

OR

Press button 3 if the tune selected is **correct**.

The TUNE SPEED screen appears with the speed number currently set for this tune.

Tune speeds are represented by a number from 5 to 30. 5 is the fastest speed available and 30 is the slowest.

Press button.2 to increment the number.

The number will **only** increment, therefore a smaller number has to be reached by pressing the button a number of times to increase the number to its maximum whereupon it will revert to the minimum number.

Selecting a **lower** number will **increase** the speed at which the tune plays and a **higher** number will **decrease** the speed of playing.

Press button 3 to accept the new speed

OR

Press button 1 to cancel the speed adjustment.

The display returns to the SPEED SET screen.

OPTIONAL NORMAL OR LOW OCTAVE BELL SELECTION (IF FITTED)

This function, factory installed to special order, allows the bells to play at a lower octave than normally supplied. The lower octave bells may not be suitable for some bell functions.

The octave currently selected is indicated by N or L in the lower right hand corner of the display when the Controller Key Switch is turned to MANUAL.

To change the octave:

Turn the security key to MANUAL.

Press button 7. The letter will toggle between N and L on each key press.

NOTE: all bell functions will be affected by the selection.

When you have finished, **turn the security key switch to AUTO.**

13 Manual Override Operation

For manual bell functions, **turn the security key to MANUAL.**

The MANUAL FUNCTION screen appears showing the options. Select the bell function required:

SERVICE TOLLING, and FUNERAL TOLLING (PRE-SET DURATION)

Press button 1 for service tolling.

OR

Press button 3 for funeral tolling.

The TOLLING TIME screen appears, with a choice of pre-set tolling times.

Press one of the buttons numbered 1 to 6 according to your selection.

The bell will ring for the time selected, e.g. 1 minute or 10 minutes, and then switch off.

Turn the security key back to AUTO.

The Controller will return to AUTO mode on completion.

The tolling can be stopped by pressing any button once.

USER DEFINED BELL RING TOLLING

If you wish to set the actual number of times (between 1 and 999) that the bell will ring:

Press button 7.

The SELECT NO OF BLOWS screen appears.

Press button 3 to select the digit you wish to adjust (hundreds, tens, units).

Press button 4 to increment the digits.

Press button 6 to accept.

Tolling will then start, and will stop after the set number of blows.

CONTINUOUS TOLLING

If you wish to set the tolling to run continuously:

Press button 8.

The bell will toll continuously

The tolling can be stopped by pressing any button once.

ANGELUS BELL SEQUENCE

Press button.2 for the angelus bell sequence 3 – 3 – 3 – 9 blows.

The angelus bell will ring the sequence and then automatically switch off.

The screen will show ANGELUS RINGING.

Turn the security key back to AUTO.

The Controller will return to AUTO mode on completion.

The angelus can be stopped by pressing any button once.

SINGLE BLOW

Press button 4 for a Single blow on the bell.

Each time button 4 is pressed the bell will ring a Single Blow.

When you have finished, **turn the security key switch to AUTO.**

MANUAL TUNE PLAYING

Choose a tune from your printed list of tunes and note the tune number.

Press button 4 TUNE PLAYER

The TUNE SELECTION screen appears showing a tune number with the first digit flashing on and off. Unless power to the system has been interrupted, it will default to the last tune system played, either in manual or programme mode.

Press button 4 to increment the number on the flashing digit. Press the button repeatedly until the correct number shows.

Press button 3 to move to the next digit which will then flash.

Repeat these two operations until the complete required number shows.

All three digits must match the tune number selected to play.

Press button 6 to accept the tune number selected. The display will show the title of the tune selected and ask for confirmation.

Press button 6 if the tune selected is **incorrect**. The tune selection screen will re-appear.

OR

Press button 3 to play the tune.

The Tune playing can be immediately stopped by pressing any button once.

If more tunes are to be played, wait until the tune has finished, the screen will return to the MANUAL FUNCTION screen ready for another selection to be made.

If no more manual functions are required, the Key switch may be returned to 'AUTO' as soon as the tune has been started.

When you have finished, **turn the security key switch to AUTO.**

The Controller will return to AUTO mode on completion of the tune playing.

MANUAL BELL SILENCING

These Bell Silencing functions allow either temporary or permanent silencing of automatic bell functions, e.g. during funerals or specific times when silence is appropriate.

The silencing functions available are:

ALL BELLS SILENT: turns ALL automatic bell functions OFF or ON.

HOUR STRIKE AND QUARTER CHIMES: turns strike and chimes only OFF or ON.

TOGGLE AUTOMATIC CLOCK SILENCER: this function will toggle the automatic or night silencer to the opposite state. If the silencer is currently OFF it will be turned ON or if it is ON it will be turned OFF. The automatic silencer will revert to normal operation at the next programmed time. This would allow, for instance, the clock bells to be silenced from mid-afternoon onwards and then automatically switch on at the next programmed ON time the following morning.

Turn the security key switch to SET.

The SET UP screen will appear.

Press button 2 - BELL SILENCERS.

The Bell Silencer screen appears. Select the appropriate function required:

Press button 5 HOURS AND QUARTER CHIMES SILENT. This will silence both quarter chimes and hour strike irrespective of any automatic silencing times but leave all other automatic functions operational.

Press button 7 TOGGLE AUTO SILENCER. This function will toggle the Automatic Silencer to the opposite state. So if the Silencer is currently OFF it will be turned ON or if the Silencer is ON it will be turned OFF. The Automatic Silencer will continue to operate normally at the next automatic programmed time.

Press button 3 ALL BELLS SILENT. This will stop every automatic bell function from occurring until this selection is reversed.

Press button 1 to return to the SET UP screen.

When you have finished, **turn the security key switch to AUTO.**

The AUTO MODE screen will show which manual silencers have been selected.

14 Optional Keyboard Set-Up And Operation



Connect the 5pin to 5 pin MIDI lead between the 5 way socket on the rear of the keyboard and the 5 way socket on the right hand side of the Controller.

Plug in the mains power pack and connect the 12volt output lead into the rear of the keyboard.

Turn the keyboard power switch to ON

The only playing keys which will ring the bells are marked on the keyboard and these correspond to the actual notes of the available bells.

Now set the Controller ready to play the bells

Turn the Security Key to the 'MANUAL' position.

The MANUAL FUNCTION screen appears showing the options.

Press button 6 - 'MIDI KEYBOARD'

The screen changes to show 'MIDI'. The keyboard is now ready for playing the bells.

All automatic bell functions are disabled when the MIDI function is selected.

When playing the keyboard is completed -

Press button 1

Turn the Security Key back to 'AUTO'.

The Controller will return to AUTO mode

Turn off the keyboard switch at the rear of the keyboard.

Remove the 5 pin MIDI lead from the Controller.

15 Optional Remote Control Operation



The hand held remote push button supplied will allow a bell to be rung whenever required from any position within range of the receiver.

The C200 controller should be left in AUTO mode so that automatic functions such as the hour strike and angelus will operate. When the remote control button is used, the controller temporarily switches out of AUTO and into REMOTE mode for a pre-set period to allow the bell to be operated manually.

The controller will stay in remote mode for 2 minutes after the last operation of the push button before it switches back to AUTO mode. Any other programmed function coinciding with the use of the remote control and the subsequent 2 minute timing will not operate. The programmes will not be affected and the system will revert to auto operation after 2 minutes.

To ring single blows

Press and release the remote control pushbutton.

On the first press of the button there will be a delay of approximately 2 seconds before the bell rings. Thereafter the bell will ring immediately on each press of the button.

Press and release the remote control push button as required.

If the button is not pressed within 2 minutes of the last press then the delay of two seconds will occur on the next bell note.

16 Fault Finding

Before contacting Smith of Derby for assistance, please carry out the following checks.

SAFETY NOTE: turn OFF power supplies before checking electrical connections. TAKE CARE when testing the system with cabinet doors open whilst “live”.

No audible sound

- 1 Check that there is power to C240 controller and bell/amplifier cabinet. If necessary, remove and test the fuses in the switched fused spurs. If either have “blown”, there may be a serious electrical fault. Please contact Smith of Derby before proceeding further.
- 2 Check the display on the C240 controller. It should be lit, showing the correct time of day and should change when the keyswitch is turned to MANUAL or SET. Try performing a manual “single blow” (see chapter 13 Manual Override Operation). If the C240 controller appears to be functioning correctly but there is no bell sound, suspect the bell/amplifier cabinet, wiring connections or speakers.
- 3 Open the door of the bell/amplifier cabinet and have an assistant turn the keyswitch on the C240 controller to MANUAL. There should be an audible click from a relay in the bell amplifier. If not, suspect the C240 controller.
- 3 Check all wiring connections in C240 controller, bell/amplifier cabinet and junctions boxes, also all cable runs for possible damage due to water ingress, vandalism, decay, infestation or vermin attack.
- 4 Check that speakers are secure, connected and free from any obvious damage as above.

Sound volume level low

- 1 Check that the volume control in the bell/amplifier cabinet has not been turned down (see chapter 9 Set-up and Commissioning).
- 2 Check that all speakers are functioning correctly. Turn off the power supply to the bell/amplifier and disconnect all speakers except one in turn, testing the system each time using the bell test pushbutton (see chapter 9 Set-up and Commissioning). If the system gives no sound on just one particular speaker, suspect that speaker or its wiring connections.
- 3 Check that all speakers are secure, have not moved, have no obstructions or infestations, and that no alterations to the building or sound outlet louvers are causing the problem.

One or some bell notes not sounding

- 1 Follow the instructions in the chapter Manual Override Operation and check if possible that the same note/s are not sounding regardless of the tune or notes being played. If the same bell fails to sound regardless of the tune or sequence, suspect the bell/amplifier cabinet. If all the bells seem to be working but not necessarily at the correct times, suspect the C240 controller and contact Smith of Derby.
- 2 Turn off the power supply to the bell/amplifier cabinet and check that all the individual PCBs are secure. Your system has one separate PCB for each bell note, all slotted into vertical connector slots on the main PCB. Carefully remove and re-seat any or all if you suspect that they have become loose. If this does not rectify the problem, suspect the bell PCB components and contact Smith of Derby

NOTE: on most installations, tune 128 will test all the bells in sequence, i.e. high to low then low to high.

17 Maintenance

Your Smith of Derby Bell sound system is designed for a long and trouble free life. The only maintenance required is to ensure that all units are kept clean and dry, and that all fixings of speakers and equipment boxes remain secure.

If any malfunctioning of the electrical equipment arises, please contact Smith of Derby. Please have your site name details to hand.

Repair of any damage to equipment or loss of items such as a remote control unit must also be through Smith of Derby.

Regardless of the likelihood of access by unauthorised persons, please DO NOT leave keys in the C240 controller or bell/amplifier cabinet door.

Damage caused by any unauthorised tampering or vandalism will not be covered by guarantee.

18 Tune listing arranged alphabetically

ALPHABETICAL TUNE LISTING

Standard Tune Set for Churches: Traditional Tunes with Suggested Speeds (Sp)

Chip numbers h1, h2, g1, p10

No.	Title	Name	Category	Sp
019	A Man There Lived In Galilee	Tyrol	General Hymns	14
182	A Mhuire Mathair		Irish Traditional	12
080	Abba Father		General Hymns	14
037	Abide With Me	Eventide	Evening	14
079	Ag Criost An Siol		General Hymns	14
058	All Hail The Power Of Jesus' Name	Miles Lane	General Hymns	14
014	All People That On Earth Do Dwell	Old Hundredth	General Hymns	14
124	All Things Bright And Beautiful	All Things Bright	General Hymns	13
144	All Through The Night		Evening	14
120	All To Jesus I Surrender	Laudant Omnia	General Hymns	14
095	Alleluia		R C Hymn	14
072	Alleluia Sing To Jesus	Hyfrydol	General Hymns	14
038	Amazing Grace		General Hymns	14
090	America The Beautiful		American Hymn	12
158	American National Anthem		National Anthem	14
181	An T-Aiseiri		Irish Traditional	14
106	Angel Voices Ever Singing	Angel Voices	General Hymns	14
189	Annie Laurie		Traditional	14
185	Anniversary Waltz		Traditional	14
083	As I Kneel Before You		General Hymns	14
134	Ash Grove		General Tunes	14
031	At The Name Of Jesus	Evelyns	General Hymns	14
131	Auld Lang Syne		General Tunes	14
243	Australian National Anthem			14
052	Awake My Soul	Morning Hymn	General Hymns	14
009	Away In A Manger	Cradle Song	Christmas	10
148	Baa Baa Black Sheep		Nursery Rhyme	14
129	Barbara Allen		General Tunes	14
046	Battle Hymn Of The Republic		General Hymns	14
100	Behold The Great Creator		Kilmarnock	14
076	Behold The Mountains	Glasgow	General Hymns	14
121	Blessed Assurance	Blessed Assurance	General Hymns	14
132	Blue Bells Of Scotland		General Tunes	12
161	Blueberry Hill		American General	10
244	Bob Major	6 Min	8 Bells	12
147	Bobbie Shaftoe		Traditional	14
152	Boys And Girls Come Out To Play		Nursery Rhyme	14
160	Brahms Lullaby		Childrens	12
003	Brother James Air		General Hymns	18
221	Call Changes	6 Min	12 Bells	18
168	Canadian National Anthem		National Anthem	18
097	Christ Be Near At Either Hand	Gartan	R C Hymn	18
177	Clementine		Traditional	14
175	Cockles And Mussels		Ireland	14
070	Come Ye Faithful Raise The Anthem	Neander	General Hymns	14
023	Come Ye Thankful People Come	St. George	Autumn	14
016	Dear Lord And Father Of Mankind	Repton	General Hymns	14
101	Deck The Halls		Christmas	14
007	Ding Dong Merrily On High		Christmas	14
174	Doing The Lambeth Walk		Traditional	10
135	Drink To Me Only		General Tunes	12
136	Early One Morning		General Tunes	14

173	Easter Bonnet		American General	14
191	Ellan Vannin		Manx Traditional	14
040	Eternal Father Strong To Save	Melita	General Hymns	14
137	Eton Boating Song		General Tunes	12
133	Evesham Adante		General Tunes	14
107	Fill Thou My Life O Lord My God	Richmond	General Hymns	14
017	For All The Saints	Sine Nomine	Autumn	14
002	Forty Days	Aus Der Tiefe	Easter Hymn	14
166	French National Anthem		National Anthem	14
057	From All That Dwell Below The Skies	Laast Uns Erfreuen	General Hymns	13
167	German National Anthem		National Anthem	14
021	Give Me Joy	Sing Hosanna	Easter Hymn	14
074	Give Praise To The Lord	Dunfermline	General Hymns	14
018	Glory To Thee	Tallis's Canon	Evening	14
122	Go Tell It On The Mountain	Traditional	General Hymns	14
187	God Bless The Prince Of Wales		Welsh Traditional	14
060	God Is Here As We His People	Blaenwern	General Hymns	14
043	God Rest Ye Merry Gentlemen		Christmas	14
164	God Save The Queen		National Anthem	10
153	Golden Slumbers		Childrens	14
026	Good Christian Men Rejoice	In Dulci Jubilo	Christmas	10
050	Good King Wenceslas		Christmas	14
157	Grandfathers Clock		Traditional	14
204	Grandsire Caters 5 Min		10 Bell Peals	12
082	Hail Queen Of Heaven		General Hymns	14
184	Happy Birthday		Traditional	14
108	Hark A Thrilling Voice Is Sounding	Merton	General Hymns	14
001	Hark The Herald Angels Sing	Mendelssohn	Christmas	14
093	He		American Hymn	14
138	Hearts Of Oak		General Tunes	14
183	Here Comes The Bride		Traditional	14
109	Here O My Lord	Farley Castle	General Hymns	14
149	Hickory Dickory Dock		Nursery Rhyme	10
012	Highland Cathedral		General Hymns	14
064	Holly And The Ivy		Christmas	14
098	Holy God We Praise Thy Name		Te Deum	10
073	Holy Holy Holy	Nicaea	General Hymns	14
081	Holy Virgin By Gods Decree		General Hymns	14
140	Home Sweet Home		General Tunes	14
062	How Great Thou Art		General Hymns	14
071	How Sweet The Name Of Jesus Sounds	St.Peter	General Hymns	14
150	Humpty Dumpty		Nursery Rhyme	10
099	Hymn To St. Patrick		R C Hymn	11
123	I Need Thee Every Hour	I Need Thee	General Hymns	12
084	I'll Sing A Song To Mary		General Hymns	14
087	Immaculate Mary		General Hymns	14
051	Immortal Invisible	St.Denio	General Hymns	14
034	In The Bleak Midwinter	Cranham	Christmas	14
092	In The Garden		American Hymn	14
172	Israeli National Anthem		National Anthem	14
035	It Came Upon A Midnight Clear	Noel	Christmas	14
165	Italian National Anthem		National Anthem	14
169	Japanese Na		National Anthem	14
241	Jerusalem			14
061	Jesu Lover Of My Soul	Hollingside	General Hymns	14
011	Jesus Christ Is Risen Today	Easter Hymn	Easter Hymn	14
015	Jesus Good Above All Other	Quem Pastores	Christmas	10
110	Jesus Lover Of My Soul	Aberystwyth	General Hymns	14

044	Jesus Shall Reign Where're The Sun	Truro	General Hymns	14
156	Jingle Bells		Christmas	14
088	Joyful Joyful We Adore Thee	Ode To Joy	General Hymn	14
091	Just A Closer Walk With Thee		American Hymn	10
170	Korean National Anthem		National Anthem	14
159	Land Of Hope And Glory		English	12
146	Land Of My Fathers		Welsh National Anthem	14
188	Lass Of Richmond Hill		Traditional	14
078	Lead Us Heavenly Father	Mannheim	General Hymns	14
013	Let Us With A Gladsome Mind	Monkland	General Hymns	10
005	Lift High The Cross	Crucifer	Easter Hymn	14
154	Lincolnshire Poacher		Traditional	14
142	Linden Lea		General Tunes	14
200	Little Bob Royal	3min	10 Bell Peals	14
141	Loch Lomond		General Tunes	14
143	Londonderry Air		General Tunes	14
020	Lord For The Years		General Hymns	12
010	Lords My Shepherd	Crimond	General Hymns	14
032	Love Divine All Love's Excelling	Love Divine	General Hymns	14
190	Manx National Anthem		National Anthem	12
130	Men Of Harlech		General Tunes	14
186	Minstrel Boy		Irish Traditional	14
008	Morning Has Broken	Bunessen	Morning	14
145	Myfanwy	Arabella	Welsh Traditional	14
049	Nearer My God To Thee		General Hymns	14
030	New Every Morning	Melcombe	Morning	14
089	Now Thank We All Our God		General Hymn	11
004	O Come All Ye Faithful	Adeste Fideles	Christmas	14
075	O Come And Let Us To The Lord		General Hymns	12
068	O Come Emmanuel	Veni Emmanuel	General Hymns	14
077	O God Of Bethel	Saltzburg	General Hymns	14
041	O God Our Help In Ages Past	St.Anne	General Hymns	14
056	O How Glorious		General Hymns	14
036	O Little Town Of Bethlehem	Forest Green	Christmas	10
111	O Love That Wilt Not Let Me Go	St. Margaret	General Hymns	14
112	O Praise Ye The Lord	Laudate Dominum	General Hymns	14
104	O Sanctisima		R C Hymn	14
039	O Worship The King	Hanover	General Hymns	14
027	On Christmas Night		Christmas	14
045	Once In Royal Davids City		Christmas	12
171	Oranges And Lemons		Childrens	12
139	Over The Hills And Far Away		General Tunes	14
151	Polly Out The Kettle On		Nursery Rhyme	14
113	Praise My Soul The King Of Heaven	Praise My Soul	General Hymns	14
114	Praise To The Holiest In The Height	Geronitus	General Hymns	10
210	Queens	8 Min	10 Bell Peals	14
239	Regina Coeli			12
115	Ride On Ride On In Majesty	Winchester New	General Hymns	14
048	Rock Of Ages		General Hymns	14
105	Salve Regina		R C Hymn	14
053	Saviour Again To Thy Dear Name	Ellers	General Hymns	14
096	Seacht Suailci		R C Hymn	10
179	She Moved Through The Fair		Irish Traditional	8
176	Shenandoah		Ireland	14
024	Silent Night		Christmas	14
085	Soul Of My Saviour		General Hymns	14
240	St Philip Neri			14
230	Steadman Changes			8

103	Sweet Heart Of Jesus		Irish Traditional	14
086	Sweet Sacrament Divine		General Hymns	14
125	Take My Life And Let It Be	Consecration	General Hymns	14
128	Test All Bells		Test Routine	14
192	Test All Bells			14
094	The Church In The Wildwood		American Hymn	14
069	The Church Of God A Kingdom Is	University	General Hymns	14
116	The Church's One Foundation	Aurelia	General Hymns	14
022	The Day Thou Gavest	St. Clements	Evening	14
033	The First Nowell		Christmas	14
006	The King Of Love	Dominus Regit Me	General Hymns	12
029	The Lord Is Risen Indeed	St. Michael	Easter Hymn	14
067	The Lord's My Shepherd	Crimond	General Hymns	15
047	The Old Rugged Cross		General Hymns	12
180	The Rising Of The Moon		Irish Traditional	14
178	The Sally Gardens		Irish Traditional	17
055	The Spacious Firmament On High		General Hymns	14
042	There Is A Green Hill	Horsley	Easter Hymn	14
066	Thine Be The Glory	Maccabaeus	General Hymns	9
117	Thou Didst Leave Thy Throne	Margaret	General Hymns	9
126	To God Be The Glory		General Hymns	9
025	Unto Us A Child Is Born		Christmas	9
242	Waltzing Matilda			14
102	We Saw Three Ships		Christmas	14
054	We Sing The Glorious Conquest	Ellacombe	General Hymns	12
063	We Three Kings		Christmas	12
155	We Wish You A Merry Christmas		Christmas	14
193	Wedding Peal 10 Min		12 Bells	8
127	What A Friend We Have In Jesus	Converse	General Hymns	14
059	When I Survey The Wondrous Cross	Rockingham	Easter Hymn	14
163	When Irish Eyes Are Smiling		Ireland	
119	When Morning Gilds The Skies	Laudes Domini	General Hymns	
065	While Shepherds Watched		Christmas	
162	White Christmas		Christmas	
028	Ye Choirs Of New Jerusalem	St. Fulbert	Easter Hymn	
118	Ye Holy Angels Bright	Darwall's 148th	General Hymns	

Any special tunes for individual requirements are documented separately. Please contact us for assistance.

19 Tune listing arranged numerically

NUMERIC TUNE LISTING

Standard Tune Set for Churches: Traditional Tunes with Suggested Speeds (Sp)
Chip numbers H1, H2, G1, P10

No.	Title	Name	Category	Sp
001	Hark The Herald Angels Sing	Mendelssohn	Christmas	14
002	Forty Days	Aus Der Tiefe	Easter Hymn	14
003	Brother James Air		General Hymns	14
004	O Come All Ye Faithful	Adeste Fideles	Christmas	14
005	Lift High The Cross	Crucifer	Easter Hymn	14
006	The King Of Love	Dominus Regit Me	General Hymns	14
007	Ding Dong Merrily On High		Christmas	10
008	Morning Has Broken	Bunessen	Morning	12
009	Away In A Manger	Cradle Song	Christmas	14
010	Lords My Shepherd	Crimond	General Hymns	14
011	Jesus Christ Is Risen Today	Easter Hymn	Easter Hymn	14
012	Highland Cathedral		General Hymns	14
013	Let Us With A Gladsome Mind	Monkland	General Hymns	14
014	All People That On Earth Do Dwell	Old Hundredth	General Hymns	14
015	Jesus Good Above All Other	Quem Pastores	Christmas	14
016	Dear Lord And Father Of Mankind	Repton	General Hymns	14
017	For All The Saints	Sine Nomine	Autumn	14
018	Glory To Thee	Tallis's Canon	Evening	14
019	A Man There Lived In Galilee	Tyrol	General Hymns	14
020	Lord For The Years		General Hymns	14
021	Give Me Joy	Sing Hosanna	Easter Hymn	14
022	The Day Thou Gavest	St. Clements	Evening	14
023	Come Ye Thankful People Come	St. George	Autumn	14
024	Silent Night		Christmas	14
025	Unto Us A Child Is Born		Christmas	14
026	Good Christian Men Rejoice	In Dulci Jubilo	Christmas	14
027	On Christmas Night		Christmas	14
028	Ye Choirs Of New Jerusalem	St. Fulbert	Easter Hymn	14
029	The Lord Is Risen Indeed	St. Michael	Easter Hymn	14
030	New Every Morning	Melcombe	Morning	14
031	At The Name Of Jesus	Evelyns	General Hymns	14
032	Love Divine All Love's Excelling	Love Divine	General Hymns	14
033	The First Nowell		Christmas	14
034	In The Bleak Midwinter	Cranham	Christmas	14
035	It Came Upon A Midnight Clear	Noel	Christmas	14
036	O Little Town Of Bethlehem	Forest Green	Christmas	14
037	Abide With Me	Eventide	Evening	14
038	Amazing Grace		General Hymns	14
039	O Worship The King	Hanover	General Hymns	14
040	Eternal Father Strong To Save	Melita	General Hymns	12
041	O God Our Help In Ages Past	St. Anne	General Hymns	12
042	There Is A Green Hill	Horsley	Easter Hymn	12
043	God Rest Ye Merry Gentlemen		Christmas	10
044	Jesus Shall Reign Where're The Sun	Truro	General Hymns	10
045	Once In Royal Davids City		Christmas	14
046	Battle Hymn Of The Republic		General Hymns	14
047	The Old Rugged Cross		General Hymns	14
048	Rock Of Ages		General Hymns	14
049	Nearer My God To Thee		General Hymns	14
050	Good King Wenceslas		Christmas	14
051	Immortal Invisible	St. Denio	General Hymns	14
052	Awake My Soul	Morning Hymn	General Hymns	14

053	Saviour Again To Thy Dear Name	Ellers	General Hymns	14
054	We Sing The Glorious Conquest	Ellacombe	General Hymns	14
055	The Spacious Firmament On High		General Hymns	14
056	O How Glorious		General Hymns	14
057	From All That Dwell Below The Skies	Laast Uns Erfreuen	General Hymns	14
058	All Hail The Power Of Jesus' Name	Miles Lane	General Hymns	14
059	When I Survey The Wondrous Cross	Rockingham	Easter Hymn	14
060	God Is Here As We His People	Blaenwern	General Hymns	14
061	Jesu Lover Of My Soul	Hollingside	General Hymns	14
062	How Great Thou Art		General Hymns	14
063	We Three Kings		Christmas	14
064	Holly And The Ivy		Christmas	14
065	While Shepherds Watched		Christmas	14
066	Thine Be The Glory	Maccabaeus	General Hymns	14
067	The Lord's My Shepherd	Crimond	General Hymns	14
068	O Come Emmanuel	Veni Emmanuel	General Hymns	11
069	The Church Of God A Kingdom Is	University	General Hymns	8
070	Come Ye Faithful Raise The Anthem	Neander	General Hymns	14
071	How Sweet The Name Of Jesus Sounds	St.Peter	General Hymns	14
072	Alleluia Sing To Jesus	Hyfrydol	General Hymns	14
073	Holy Holy Holy	Nicaea	General Hymns	14
074	Give Praise To The Lord	Dunfermline	General Hymns	14
075	O Come And Let Us To The Lord		General Hymns	14
076	Behold The Mountains	Glasgow	General Hymns	14
077	O God Of Bethel	Saltzburg	General Hymns	14
078	Lead Us Heavenly Father	Mannheim	General Hymns	14
079	Ag Criost An Siol		General Hymns	14
080	Abba Father		General Hymns	14
081	Holy Virgin By Gods Decree		General Hymns	14
082	Hail Queen Of Heaven		General Hymns	14
083	As I Kneel Before You		General Hymns	14
084	I'll Sing A Song To Mary		General Hymns	14
085	Soul Of My Saviour		General Hymns	14
086	Sweet Sacrament Divine		General Hymns	8
087	Immaculate Mary		General Hymns	14
088	Joyful Joyful We Adore Thee	Ode To Joy	General Hymn	14
089	Now Thank We All Our God		General Hymn	14
090	America The Beautiful		American Hymn	12
091	Just A Closer Walk With Thee		American Hymn	14
092	In The Garden		American Hymn	14
093	He		American Hymn	14
094	The Church In The Wildwood		American Hymn	14
095	Alleluia		R C Hymn	14
096	Seacht Suailci		R C Hymn	12
097	Christ Be Near At Either Hand	Gartan	R C Hymn	14
098	Holy God We Praise Thy Name		Te Deum	10
099	Hymn To St. Patrick		R C Hymn	11
100	Behold The Great Creator		Kilmarnock	14
101	Deck The Halls		Christmas	14
102	We Saw Three Ships		Christmas	17
103	Sweet Heart Of Jesus		Irish Traditional	10
104	O Sanctisima		R C Hymn	10
105	Salve Regina		R C Hymn	10
106	Angel Voices Ever Singing	Angel Voices	General Hymns	14
107	Fill Thou My Life O Lord My God	Richmond	General Hymns	14
108	Hark A Thrilling Voice Is Sounding	Merton	General Hymns	14
109	Here O My Lord	Farley Castle	General Hymns	14
110	Jesus Lover Of My Soul	Aberystwyth	General Hymns	14

111	O Love That Wilt Not Let Me Go	St. Margaret	General Hymns	14
112	O Praise Ye The Lord	Laudate Dominum	General Hymns	14
113	Praise My Soul The King Of Heaven	Praise My Soul	General Hymns	12
114	Praise To The Holiest In The Height	Geronitus	General Hymns	14
115	Ride On Ride On In Majesty	Winchester New	General Hymns	14
116	The Church's One Foundation	Aurelia	General Hymns	14
117	Thou Didst Leave Thy Throne	Margaret	General Hymns	15
118	Ye Holy Angels Bright	Darwall's 148th	General Hymns	14
119	When Morning Gilds The Skies	Laudes Domini	General Hymns	12
120	All To Jesus I Surrender	Laudant Omnia	General Hymns	14
121	Blessed Assurance	Blessed Assurance	General Hymns	14
122	Go Tell It On The Mountain	Traditional	General Hymns	14
123	I Need Thee Every Hour	I Need Thee	General Hymns	12
124	All Things Bright And Beautiful	All Things Bright	General Hymns	13
125	Take My Life And Let It Be	Consecration	General Hymns	14
126	To God Be The Glory		General Hymns	12
127	What A Friend We Have In Jesus	Converse	General Hymns	14
128	Test All Bells		Test Routine	
129	Barbara Allen		General Tunes	14
130	Men Of Harlech		General Tunes	14
131	Auld Lang Syne		General Tunes	14
132	Blue Bells Of Scotland		General Tunes	14
133	Evesham Adante		General Tunes	14
134	Ash Grove		General Tunes	14
135	Drink To Me Only		General Tunes	14
136	Early One Morning		General Tunes	14
137	Eton Boating Song		General Tunes	14
138	Hearts Of Oak		General Tunes	14
139	Over The Hills And Far Away		General Tunes	14
140	Home Sweet Home		General Tunes	14
141	Loch Lomond		General Tunes	14
142	Linden Lea		General Tunes	14
143	Londonderry Air		General Tunes	14
144	All Through The Night		Evening	14
145	Myfanwy	Arabella	Welsh Traditional	14
146	Land Of My Fathers		Welsh National Anthem	14
147	Bobbie Shaftoe		Traditional	10
148	Baa Baa Black Sheep		Nursery Rhyme	10
149	Hickory Dickory Dock		Nursery Rhyme	10
150	Humpty Dumpty		Nursery Rhyme	10
151	Polly Out The Kettle On		Nursery Rhyme	12
152	Boys And Girls Come Out To Play		Nursery Rhyme	12
153	Golden Slumbers		Childrens	10
154	Lincolnshire Poacher		Traditional	10
155	We Wish You A Merry Christmas		Christmas	9
156	Jingle Bells		Christmas	14
157	Grandfathers Clock		Traditional	12
158	American National Anthem		National Anthem	14
159	Land Of Hope And Glory		English	10
160	Brahms Lullaby		Childrens	14
161	Blueberry Hill		American General	12
162	White Christmas		Christmas	8
163	When Irish Eyes Are Smiling		Ireland	12
164	God Save The Queen		National Anthem	14
165	Italian National Anthem		National Anthem	14
166	French National Anthem		National Anthem	13
167	German National Anthem		National Anthem	14
168	Canadian National Anthem		National Anthem	12

169	Japanese National Anthem		National Anthem	14
170	Korean National Anthem		National Anthem	14
171	Oranges And Lemons		Childrens	14
172	Israeli National Anthem		National Anthem	14
173	Easter Bonnet		American General	14
174	Doing The Lambeth Walk		Traditional	12
175	Cockles And Mussels		Ireland	14
176	Shenandoah		Ireland	14
177	Clementine		Traditional	14
178	The Sally Gardens		Irish Traditional	14
179	She Moved Through The Fair		Irish Traditional	14
180	The Rising Of The Moon		Irish Traditional	14
181	An T-Aiseiri		Irish Traditional	14
182	A Mhuire Mathair		Irish Traditional	12
183	Here Comes The Bride		Traditional	14
184	Happy Birthday		Traditional	14
185	Anniversary Waltz		Traditional	14
186	Minstrel Boy		Irish Traditional	14
187	God Bless The Prince Of Wales		Welsh Traditional	14
188	Lass Of Richmond Hill		Traditional	12
189	Annie Laurie		Traditional	14
190	Manx National Anthem		National Anthem	12
191	Ellan Vannin		Manx Traditional	14
192	Test All Bells			14
193	Wedding Peal	10 Min	12 Bells	10
200	Little Bob Royal	3min	10 Bell Peals	10
204	Grandsire Caters	5 Min	10 Bell Peals	10
210	Queens	8 Min	10 Bell Peals	10
221	Call Changes	6 Min	12 Bells	10
230	Steadman Changes			8
239	Regina Coeli			12
240	St Philip Neri			14
241	Jerusalem			14
242	Waltzing Matilda			14
243	Australian National Anthem			14
244	Bob Major	6 Min	8 Bells	12

Any special tunes for individual requirements are documented separately. Please contact us for assistance.

