

Diocesan Advisory Committee (DAC) Bell Ringing Simulators



GUIDANCE NOTE

September 2023

Introduction

This guidance note is to assist in the installation of silent ringing devices and bell ringing devices. It particularly focuses on the electrical aspects of an installation.

Data wiring, that is commonly used in silent and simulated ringing installations, have different issues from mains wiring, however there are concerns where data and mains wiring are routed along similar paths. The need for this advice document arises because of the, sometimes, confusing wording of the Faculty Legislation.

This document is not exhaustive and if you have any questions please do get in touch with the Church Buildings Team at: DAC@Salisbury.anglican.org.

Wiring for Ringing Simulators

Most ringing simulators use data cabling with a maximum voltage of 9V DC to provide signals to a laptop or desktop computer which is likely to be mains operated from a standard 240V/13A switched socket outlet and subject to PAT testing. These Extremely Low Voltage (ELV) cables are different to those that are considered under the normal electrical legislation and guidance.

There are some electronic chiming systems that are mains operated. It is entirely appropriate therefore that these are installed by registered commercial full scope approved members of NICEIC, ECA or NAPIT (For further electrical guidance please see the DAC Electrical Guidance note). These electronic chiming systems are not ringing simulators though and they are something separate.

The wording in List B of the Church of England Faculty Rules relating to the installation of a ringing simulator is somewhat unclear. Because of this different interpretations of the rules across dioceses have resulted. The main difficulty being with the formal classification of simulator wiring and who should undertake the installation. As a result, a well-known provider of simulator systems has studied relevant published technical standards and has consulted qualified professional sources (many of whom are also

ringers), and the Central Council's Stewardship and Management Workgroup. The consensus found was that for fixed simulator installations, then a qualified electrician does not have to get involved with installation of what are in effect 'data' cables running at **less than 10V DC**, however any wiring does have to be done in such a way as to not compromise the integrity of the building or put the PCC at risk.

Safety aspects of BS7671 (the electrical installation regulations) must be followed. The regulations include choice of cable type to minimise the risks of shock, burns, explosion and fire, but these are clearly more relevant to mains installations and not for 'data' cables such as used in a simulator.

BS7671 does stipulate that **ALL cables** must be fixed in such a way as to avoid a premature collapse in the event of fire. The way this can be achieved will vary from tower to tower but would probably mean the use of metal or fire-retardant clips to hold any cables in place.

Faculty Considerations

Salisbury Diocese uses the Church of England [Online Faculty System](#), and strongly encourages the use of this to record all work in towers, whether List A (items which do not need any permission) or List B (items which need permission from the Archdeacon).

Here are some things to consider when applying for 'List B' permission to install a simulator: -

- Specify a suitable place to put the mains powered system components close to an existing mains socket in the ringing room (These are the computer, speakers, and simulator power supply)
- Keep the power and data wiring neat, tidy and unobtrusive, and bundle with any existing cables.
- Cables must not cause additional safety issues, e.g. trip hazards, so routing them around walls where possible is advisable.
- Ground floor ringing chambers which are in public areas of the church should remove the

cables and computer when not in use.

- Wireless systems are an alternative to the use of visible data cables. Note that Wi-Fi routers are 'List A'.
- 'AV' equipment such as the computer and speakers are also 'List A' items.
- It is very unlikely that simulator wiring will have any adverse impact on the effectiveness of lightning protection systems, however cables should be unplugged when not in use.

Once approval from the Archdeacon is obtained and the simulator has been installed, then the mains powered components of the system (including the computer and speakers) need to be adopted into the Church's electrical equipment testing procedures, often known as PAT testing. This covers all appliances whether they are portable or not, for example the organ blower.

The above advice has been seen by David Knight, Senior Church Buildings Officer at The Church of England and he agrees with the interpretation of the rules given. An extract from *The Ringing World* by David Knight is appended below (The appropriate text has been highlighted red for clarity). Clearly if a new mains supply is required to power a computer or speaker system, this would need to be installed by an appropriately qualified person or company.

The two pages following the journal article are extracted from a simulator designer's documentation and is an extract from the "Type 2 Build Installation Guide". They may help to explain the requirements.

Please note that the documents produced below are not that of the DAC of Salisbury and are to be taken as a guide only. It is the responsibility of the PCC to ensure they are using appropriately trained and competent professionals.

If in doubt please speak to the Church Buildings Team at: DAC@Salisbury.anglican.org

Quinquennial inspections and bells

David Knight, Senior Church Buildings Officer, Church Buildings Council

The Church of England was early to introduce the practice of regular inspection of its church buildings to report on its state of repair. This was first introduced in 1955, in the Inspection of Churches Measure. The legal requirement to do this is now in the less-memorably titled Care of Churches and Ecclesiastical Jurisdiction Measure 2018, Part 3 paras 45 to 48, as amended by the Miscellaneous Provisions Measure 2019 (Section 7).¹

The basis requirement for a quinquennial inspection to report on the condition of the building has not been changed by any recent legislative interventions. What has changed is the definition of who can undertake the inspection and the role of the diocese, exercised by its Diocesan Advisory Committee (DAC) in this.

The legislation now requires that the inspection is done by a suitably experienced and qualified professional, appointed after consultation with the DAC. The Church Buildings Council has given guidance on what a suitable experienced and qualified professional will look like according to the historic significance and architectural complexity of your church building.

The general line of this guidance is that the more complex the building, the more experience and evidence of professional qualification is needed. For example:

Competent to inspect **Grade I or II* churches**; proven experience of work in a sole capacity with listed buildings; proven experience of work with such highly designated church buildings at least at a junior level under a more experienced professional; preferably experience in sole capacity. Relevant accreditation would normally be required, and always for professionals undertaking their first Inspector role.

The appointment is made by the PCC, after taking advice from the DAC. The DAC must maintain a register of people appointed to undertake quinquennial inspections in the diocese. This is not a list of people approved or vetted by the DAC. It is a list of people appointed in the diocese.

A parish that needs to appoint an inspector is encouraged to invite two or three potential inspectors to tender, and then make an appointment after taking advice from the DAC. If a parish is happy with its current inspector it may simply reappoint them, and many choose to do this. If a new inspector is needed a parish might simply see who else is working in the diocese. A new initiative from the CBC and the National Churches Trust will see a new section introduced to the NCT website where people seeking work as an inspector can advertise, and DACs and others can encourage a church to use this as part of appointing a new inspector.²

This is a change from the previous situation where a DAC would approve architects or

surveyors to be inspectors in the diocese, and the parish would have to choose someone from the list. This way of working, dating from 1955, did not take account of contemporary regulation around anti-competitive practices and restraint of trade. With the increased availability of relevant professional qualifications and accreditation, there is no longer a need for the DAC to decide if a person was suitable to work with churches in its diocese.

For any professional providing a service it is a core part of their professionalism that they will not give advice on matters outside their professional competence. A church building will include many items whose inspection requires special professional skills. Bells and bell frames are one such thing; others will be electrical and gas safety, lightning protection, organs and fire alarms (if fitted).

For items requiring specialist skills the inspector is helped by being provided with information by the parish in advance of making an inspection. If these are not available the inspector will note this in his report. If an electrical safety test is not available, for example, the inspection report will say that one is needed.

An inspection report will not have detailed comments on the bells included in it. Even where the inspecting architect has knowledge of bells and bell frames it does not follow that the inspection will have a full report on the bell installation. This is not what they are employed to do during their inspection.

An inspector is likely to comment on the presence of bells and will comment on the condition of the building around the bells, whether belfry or bell cote. If the inspector has reason to doubt the safety of an installation, they are likely to indicate this and recommend that a bell hanger makes a separate inspection. Occasionally the inspector will note that the tower captain has reported to them about the condition of the ring, and will include this comment, but not take responsibility for its accuracy.

If an inspection of the bell installation is needed, this is a job for a bell hanger, with relevant professional insurance. It is not part of the role of the Diocesan Bell Adviser. A diocesan adviser may well have the knowledge and experience to understand if an installation is safe or not, but this is not the same as providing a report with the benefit of professional indemnity insurance, nor a specification for works to be done.

Note – List B and silent ringing devices

(See also David Knight's article 'Recent changes in faculty rules', 20 March p.287, and David Bagley's letter 'Faculty for installing a simulator?', 2 Oct p.970)

One new introduction to the items for bells in List B was 'an electric silent ringing device', which will usually mean a simulator. The condition on this item about work to an electrical installation is only to be applied

where work to the electrical installation is required. If the simulator is simply plugged into an existing power point, no work is done that would require the attention of a qualified electrician. If nothing in the proposals triggers this condition it does not apply. If something to do with the installation meant that work was required to an electrical installation, then the condition should be used.

However, the installation of a simulator does require the authorisation of the Archdeacon, however the simulator is connected to the electricity supply.

1. See <https://www.churchofengland.org/more/church-resources/churchcare/advice-and-guidance-church-buildings/quinquennial-inspections> for full documentation and guidance

2. <https://www.nationalchurchestrust.org/building-advice/professional-trades-directory>

Simulator Installation

Faculty Jurisdiction Rules

If you plan to install a simulator in a tower which falls under the Church of England *Faculty Jurisdiction Rules*, then from 1st April 2020 you will need the Archdeacon's formal approval for the installation. Installation of a simulator comes under *List B*³³, which covers minor works which can be undertaken with the Archdeacon's approval³⁴, and does not require the granting of a full faculty.

The full set of rules³⁵ runs to 132 pages, but the item covering the installation of a simulator can be found on page 66 under item B2(6) of List B, "*installation of an electric silent ringing device for the training of ringers*".

List B Application

The application process is relatively straightforward, and is all handled online via the *Church of England Online Faculty System*, which can be found here:

<https://facultyonline.churchofengland.org/home>

The application would usually be made on behalf of the church by an officer of the PCC. Full guidance is available on the *Online Faculty System* website, including specific guidance on making an application under List B³⁶.

The Liverpool Ringing Simulator Project documentation, or extracts from it, may be used to support your application, provided its source is acknowledged: all documentation is released under the Creative Commons Attribution-ShareAlike 4.0 International License (CC BY-SA) which permits you to re-use it for any purpose.

³³ "[List B] prescribes matters which may, subject to any specified conditions, be undertaken without a faculty if the archdeacon has been consulted on the proposal to undertake the matter and has given notice in writing that the matter may be undertaken without a faculty. The archdeacon may impose additional conditions in the written notice."

³⁴ List A covers minor works for which no prior approval is required. Works on List B require the Archdeacon's approval, and everything else requires the granting of a full faculty.

³⁵ https://www.churchofengland.org/sites/default/files/2020-04/FJR_2015_as_amended_by_FJ%28A%29R_2019.pdf

³⁶ https://facultyonline.churchofengland.org/Data/Sites/1/media/user-manuals/Starting_List_A_or_List_B_item_2020.pdf

Type 2 Simulator – Build & Installation Guide 1.4

Conditions

There are four standard conditions attached to item B2(6). These are listed and their implications discussed in the following table:

Condition	Implications
<i>Any work to an electrical installation or electrical equipment is carried out by a person whose work is subject to an accredited certification scheme (as defined in rule 3.1(6)).</i>	<ul style="list-style-type: none"> • This condition is likely to apply only if you require additional socket outlets installing to power the simulator, PC, etc • This condition essentially means that the church must engage a qualified electrician to do that work.
<i>The device is installed in a location not normally visible to the public.</i>	<ul style="list-style-type: none"> • Bell chambers and upstairs ringing rooms would not normally be considered visible to the public. • If the tower is, for example, a ground floor ring open to the body of the church, then you may need to arrange to store the ringing room equipment away when not in use, but that is probably advisable anyway for security.
<i>No alteration is made to the fittings of the bells other than the installation of electric contacts and wires.</i>	<ul style="list-style-type: none"> • No alteration to the fittings of a bell should be required to install a simulator or sensor. • The example installations depicted in this guide show how sensor mountings can be devised which require no permanent fixings. • No modern simulator uses “electric contacts”, and the terminology in this condition is antiquated, but could be construed to apply to optical or magnetic sensors.
<i>The device does not adversely affect the church’s protection against lightning.</i>	<ul style="list-style-type: none"> • The Liverpool Ringing Simulator design includes Transient Voltage Suppression devices on all signal and data lines. These are intended to protect the simulator itself and any downstream components from transients induced by, for example, nearby lightning strikes. For more information, please refer to the Technical Reference Guide. • Unless there are very unusual installation requirements, the presence of a simulator should present no additional hazard.

The best advice is, if in any doubt, discuss the installation with the Archdeacon before making an application.