

Chapter Five

Electromechanical devices for ringing bells **Electronic sensors for direct cueing** **Using synthesizers for accompaniment** **Arranging for synthesizers**

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Electromechanical devices for ringing bells

I searched for several years before I found an engineer who could (and would) design and build a device that would ring a handbell (or chime) at the touch of a switch. The switch may be triggered in whatever way suits the individual. I have seen persons who used a hand, a foot, or even the side of the head to make the bell ring.

In my music therapy clinic I have a device that holds a C4 handbell, and the clapper is mounted outside the bell. With force created by a small motor the clapper moves to strike the bell from the outside at the same point that it would normally strike from the inside. The sound is identical to the sound of the bell being rung in the traditional manner. I have seen the same type of device that would produce the sound of a chime.

Mr. Robert Dulaney, who lives not too far from New Orleans, built the device that I have. Working with Aaron Champagne and the Bayou Bell Ringers in Cut Off, Louisiana, he was able to accommodate at least ten persons in the choir with special electronic or mechanical devices that allowed them to participate.

Electronic sensors for direct cueing

Mr. Dulaney also designed electronic sensors that were attached below the knee to the legs of a woman who was blind and deaf. These sensors, controlled by the choir director, would touch her legs gently when a bell was to be rung.

Note: When I contacted Mr. Dulaney recently, I found that age and illness have made it impossible for him to continue to offer this service. If you feel that you need one of these special devices, I suggest that you contact Aaron Champagne. In the small town where he lives there are many talented persons who design and build coast guard cutters and sophisticated electronic equipment. You may contact him at the following address:

Aaron Champagne
223 West 58th Street
Cut Off, LA 70345
(985)632-3569
achampagne.coes@lafourche.k12.la.us

If you need this kind of equipment and have someone who may be able to build it for you, I can supply photographs of equipment of this type that is available to me.

Using synthesizers for accompaniment

The newer electronic keyboards (actually synthesizers) with a disk drive or other means of storing information have opened up user-friendly options for persons wishing to create accompaniments for handbells. One can record a basic piano sound (at any tempo) and play it back (at any tempo), or with the computerized rhythms and backgrounds, one can produce (in a very short time) an accompaniment using several instruments from the synthesizer.

For many years I wanted my bell choirs to play without accompaniment. Bells can create a beautiful sound by themselves, and that is the way we expect to hear them play most of the time. What I learned about the electronic accompaniment is that, with most special groups, it acts as a metronome and actually helps them to play in a more rhythmic manner. Anything that improves performance is worthy of consideration.

For the music therapist, especially one who works alone, the accompaniment patterns produced by an electronic keyboard can be a valuable asset to your interventions - whether you are using bells or not. To have both hands free for cueing, assisting with responses, modeling behaviors, or even defending yourself occasionally can be a very significant ingredient in your work.

Arranging for synthesizers

Below are some ideas from my experience that will help you arrange an accompaniment (electronic or live) for your handbell choir.

1. Select tunes that are familiar and/or easily learned performed by your choir using the method of choice.
2. When possible select tunes that allow statement in more than one key within the pitch capabilities of your choir – preferably without bell changes during the piece.
3. Develop an introduction from some of the following:
 - a. Statement of the tune in the key which is dominant of the key in which the melody will begin.
 - b. Basic vamp (I – vi – ii – V) or variations of the vamp.
 - c. Programmed synthesizer introduction.
 - d. Statement of the last phrase of the tune (in key to be played).
4. Try to develop harmonization for the arrangement that is more than just primary chords (I, IV, and V). Some standard tunes already have their own well-developed harmonic structure that may need little alteration. Use of the basic vamp within a tune is a way to create new harmonies.
5. If bell changes are necessary during an arrangement, develop sections of logical modulation (**sequential** - as discussed on the next page or other types) that allow time for these changes.
6. Many pentatonic tunes can be played in at least three keys without any significant bell changes. Suggested line-up is in dominant to tonic order, in order that no modulation sequences are required.
7. Develop a creative ending using larger chords. The basic vamp also may be used as the harmonic structure for an ending.
8. If parts of the melody are too difficult for your choir, you may let the synthesizer play melody, while the choir plays chords as accompaniment.
9. Arrange the accompaniment in a way that the bells may be heard above the accompaniment or as a nice blend with the accompaniment.

Sequential Modulation

In each of the examples below a fragment of the melody forms a sequence that moves up to a key one whole step higher. The sequence is stated three times. In the final phrase a melody is developed (harmonized above IIm7 and V7 in the key of destination). In the example below the sequence begins in the key of G, moves to the key of A, moves to the key of B, and the last phrase (harmonized above Dm7 and G7) leads to the destination key, which is C.

Modulation sequence used as a transition from "Home on the Range" in G to a new chorus in C.

The musical notation consists of four staves in treble clef with a key signature of one sharp (F#). The first staff shows a sequence of notes: G4, A4, B4, C5, G4, A4, B4, C5. Above the staff are the chord labels G, G7, and C. The second staff shows the sequence: A4, B4, C5, D5, A4, B4, C5, D5. Above the staff are the chord labels A and D. The third staff shows the sequence: B4, C5, D5, E5, B4, C5, D5, E5. Above the staff are the chord labels B, Em, and Dm7. The fourth staff shows the sequence: G4, A4, B4, C5, G4, A4, B4, C5. Above the staff are the chord labels G7 and C. The notation ends with "Etc. (in C)".

The sequential melody and the accompanying chords may have to be modified slightly to make the transition smoother. This means that the melody notes will be compatible with the original key and with the key of destination. Occasionally, a minor chord will be substituted for a chord that was major in the preceding sequence. Let your ear be your guide.

Modulation sequence used as a transition from "Lady of Spair" in C to a second chorus in F.

The musical notation consists of three staves in treble clef with a key signature of one flat (Bb). The first staff shows a sequence of notes: C4, D4, E4, F4, C4, D4, E4, F4. Above the staff are the chord labels C7, F(4 - 3), and D7. The second staff shows the sequence: G4, A4, B4, C5, G4, A4, B4, C5. Above the staff are the chord labels Gm (4 - 3), E7, and Am (4 - 3). The third staff shows the sequence: G4, A4, B4, C5, G4, A4, B4, C5. Above the staff are the chord labels Gm7, C7, and F. The notation ends with "Etc. (in F)".