

RiverBells

SACRAMENTO

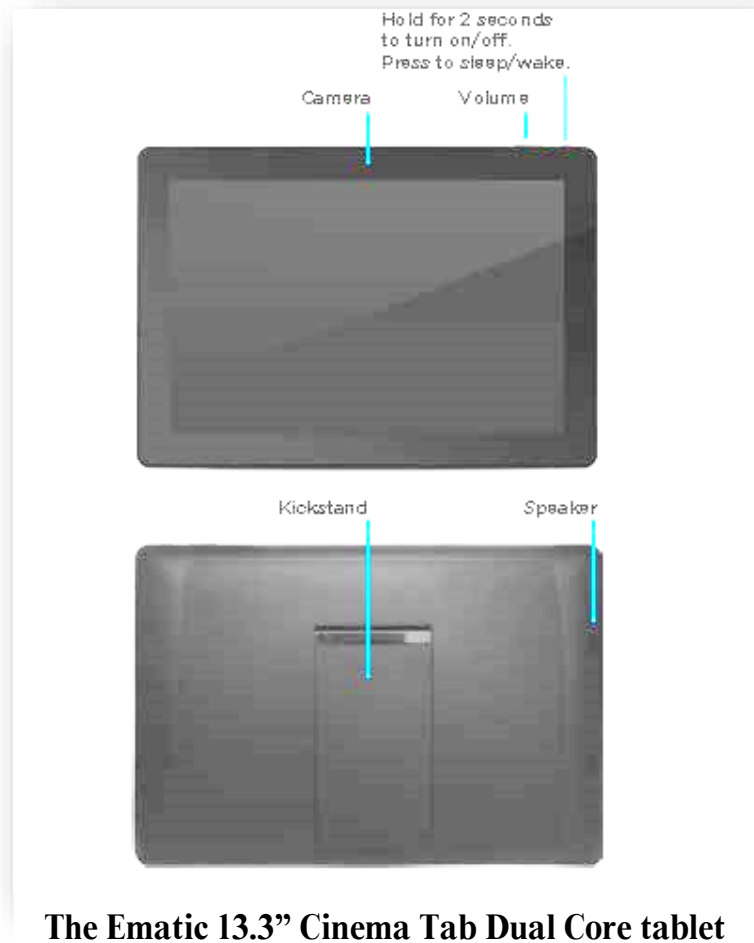
THE MUSIC TABLET

Not just a few people have asked us about the music tablets which we now use exclusively on our handbell tables. Ringers and audience members alike have probed our digital devotion. To answer those inquiries as completely as possible, we present our narrative. These music tablets have served to change our approach to rehearsals as well as to our performances, and to challenge our attitudes about printed music.

Originally, we started with the **Hannsprece 13.3" Quad Core tablet¹** (Model SN14T71) produced in the UK, which runs on the Android platform. The director has five of these tablets (one doesn't work, another has an irreparable screen). While this is an excellent machine in many ways it hosted some critical limitations. It was very hard to find. It comes with duty from the UK, so it costs between \$200 and \$275, if you can find it. Most of the units are used; apparently, no longer manufactured. This means that parts cannot be found.

We swapped to the **Ematic 13.3" Cinema Tab Dual Core tablet²** manufactured in the U.S. This also runs on the Android platform, can be readily found new between \$130 and \$180. We have acquired 20+ of these. Even though we typically host 14-15 ringers at the table at one time, we decided to stock some extras should a ringer take a tablet home and forget to bring it back or miss the next rehearsal, or in case a tablet goes wonky just at the outset of a concert.

The following tablets are also available, though we did not preview any of them: The **Nuvision TM1318 13.3" Android Tablet** for \$165; the



The Ematic 13.3" Cinema Tab Dual Core tablet (front and back view)

¹ <http://www.hannsprece.eu/en/products/tablet-pc>

² <http://ematic.us/tablets.html>

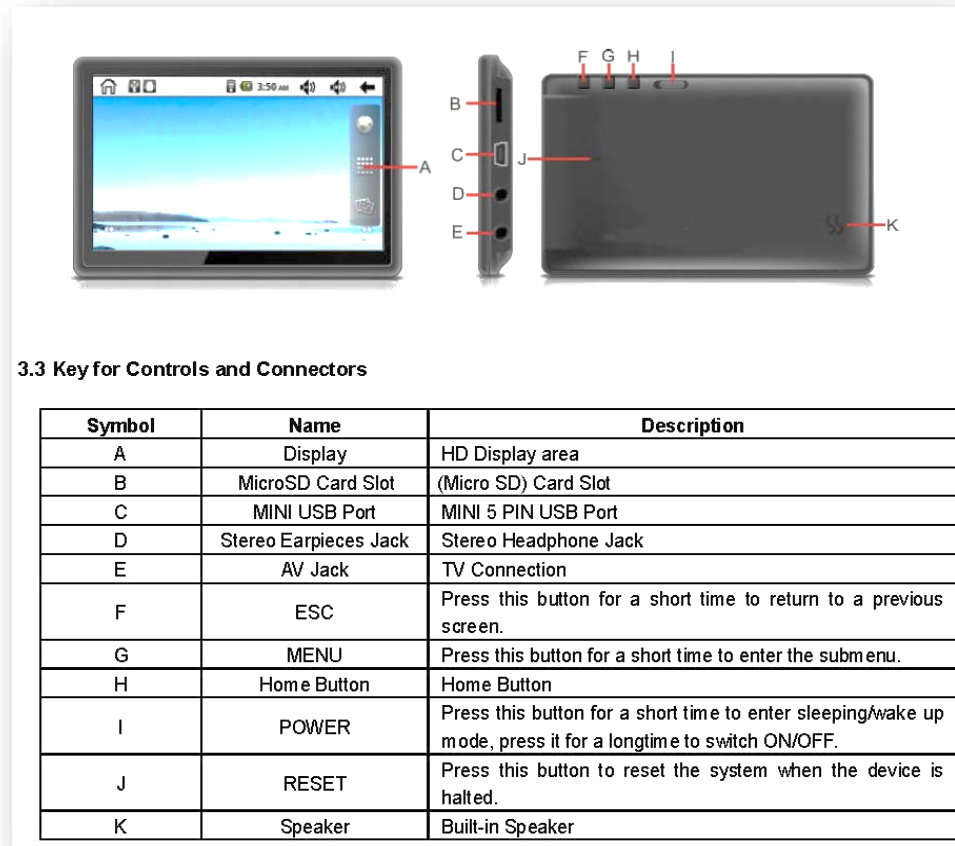
streamMachine ST13BK Full HD 13.3" 8GB Quad Core Tablet for \$250, and the **Azpen A1320G 13.3-Inch 16 GB Tablet**. All run on the Android platform. You could also go to 13.3" computers, such as the **Fire** or the **Surface**. but there you're talking about upwards of \$1200 per unit.

One drawback to the two premium tablets is that neither of them support Google Play. **Google Play** is the best "games" site to purchase the music reader program discussed below. To work-around we download **Amazon Underground** or **IMobileMarket** to buy free programs. However, these require that software's license be re-registered every two weeks – which might be inconvenient just before a concert at a location where there's no Wi-Fi!

Each tablet comes with a power cord. We purchased a dozen extra **power cords** at about \$10 each from Ematic customer support. Should a ringer leave their power cord at home, we can still hook their tablet up, during rehearsal or performance, to an electrical source.

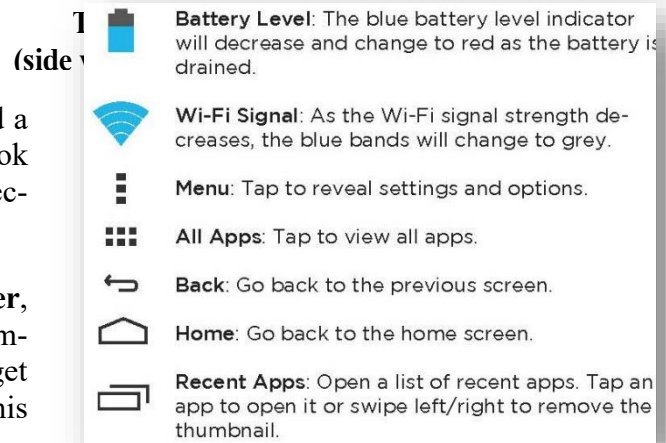
Each tablet has its own **micro USB adapter**, which connects the tablet to any laptop or desktop computer. You don't need this adapter to surf the Web or get e-mail or to purchase products, but you do need this adapter to download your music. More on this below.

The tablet comes equipped with Bluetooth capability as well as Wi-Fi access. Included in the software package is e-mail and an Amazon application. Internal memory for each tablet is 5GB.



3.3 Key for Controls and Connectors

Symbol	Name	Description
A	Display	HD Display area
B	MicroSD Card Slot	(Micro SD) Card Slot
C	MINI USB Port	MINI 5 PIN USB Port
D	Stereo Earpieces Jack	Stereo Headphone Jack
E	AV Jack	TV Connection
F	ESC	Press this button for a short time to return to a previous screen.
G	MENU	Press this button for a short time to enter the submenu.
H	Home Button	Home Button
I	POWER	Press this button for a short time to enter sleeping/wake up mode, press it for a longtime to switch ON/OFF.
J	RESET	Press this button to reset the system when the device is halted.
K	Speaker	Built-in Speaker



The Ematic Tablet (desktop controls)

We obtained the **Tucano NL 13" Neoprene Black New Elements Sleeve**³ for \$10 for each of the tablets. These covers, cheap from Amazon, enclose the tablets and provide insulation from bumps and weather.

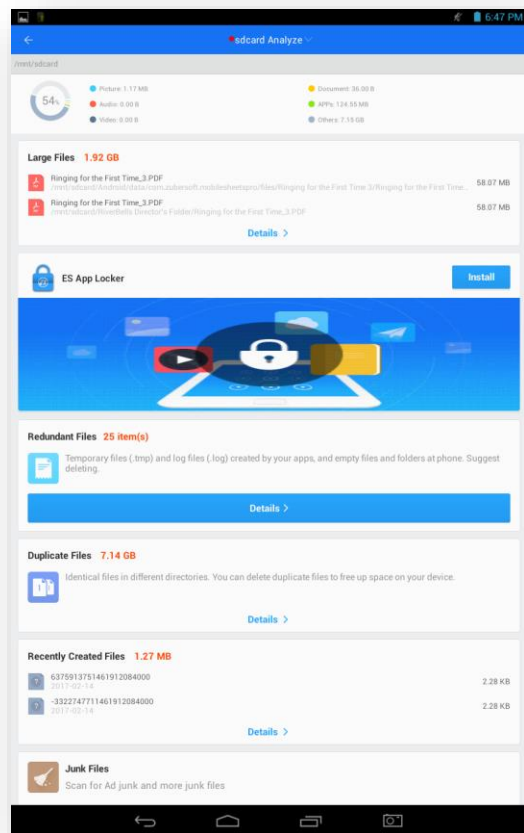
For each tablet, we mounted a **64GB Lexar High Performance Micro SDXC High Capacity Memory Card**. These cost under \$40, cheaply obtained from Walmart, Target, Costco, or any other bulk store. There is sufficient space in the tablet to run Wi-Fi, social media, applications, and other data. But you need a place to store the music that you want to read and edit.

Curiously, each time we loaded music into the SD card, the tablet announces that *the storage is damaged*. It really wasn't. We are not particularly impressed with the technical service of Ematic, and have found few satisfactory answers to our many queries. We've also noticed that the tablet acts quirky – for little or no reason, the tablet screen starts to switch from pane-to-pane, application-to-application, and page-to-page. Our only solution to this quandary was to wait until the spasm stops.⁴

All music is scanned from our copier to a .pdf. Any image format will do. This image resides on the home computer. There we give it a proper name – for example, *From the Banks of the Sacramento_6* – which is its proper title and its octaves. Some pieces have the same title and possibly the same octave – 4-6 – so we label these as “4-6A” and “4-6B” and so forth. Then we connect the tablet to the computer, click-and-drag the .pdf to the tablet where it is copied to the tablet's SD card. Within the tablet, we import the piece from the SD card to the tablet's internal memory, which has sufficient size. Edits are accomplished through the application.

We downloaded **ES File Explorer**. It's free, so there are advertisements. But this is a valuable, though not essential, administrative tool for the .pdf copies and assists the computer and the music reader. Its many useful functions include categorizing and filing each piece of music, cleaning the SD Drive, disposing of unwanted files, and downloading applications.

There are dozens of other **managers** for image files. You are encouraged to research them to discover if there exists one more accommodating to your tastes and needs.



**ES File Explorer
(opening menu)**

³ https://www.amazon.com/AmazonBasics-13-3-Inch-Laptop-Sleeve-Black/dp/B00CD8AF48/ref=pd_lpo_147_bs_img_2?_encoding=UTF8&psc=1&refRID=641AND67EJ807T909S10

⁴ We also installed service applications. The Ematic company finally acknowledged that their units are *defective* and offered to replace them! A cellular repair store determined that the connection between the screen and the tablet had to be tightened.

We purchased 20 **BiLiPro Foot Pedals**⁵ for \$50 each. BiLiPro makes three diverse foot pedals for musicians; we chose the simplest, the cheapest. It is a large unit, which is an advantage when placed on the floor underneath the handbell table, and has two raised orange knobs. The knobs glow when the tablet is on. The knob on the right advances the music to the next page, the one on the left goes back a previous page (or up and down, if your music is arranged in that fashion). The pedals are very sturdy, and come with a cord long enough to reach from the floor to the back of the tablet sitting on the table.



**The BiLiPro Foot Pedal
(two-control version)**

The foot pedal sells with its own USB plug, which is larger than either of the mini-ports on the tablet. We had to purchase 20 **Micro USB OTG Adapter Cables** for \$2 each, cheaply through Amazon, Walmart, Costco, or other outlets. They are relatively short, but durable. We had to be careful of the plug end, not to force it into the tablet's socket and bend the receivers.

We attained several six-packs of **Progo Ultra Absorbent Microfiber Cleaning Cloths** for \$37 per pack. Since use of the music tablet requires touching with the fingers or with a stylus, the touch-screen may become greasy, difficult to read or operate. These cloths, supplied to each ringer with extras left over, are placed inside the sleeve and further protect the tablet during storage or transportation.

To carry the tablets and ancillary equipment safely from rehearsal room to performance venue and back, we picked up two **62-quart storage boxes** outfitted with plastic rails for hanging folders; one **64-liter storage box** to carry our foot pedals; and one box of **legal size hanging folders**. This cost \$125 of unexpected budget. Ten hanging folders reside in each storage box. Into each folder abides one music tablet, along with a cleaning cloth, instruction books and quick-view slips. Each numbered hanging folder records which ringer is responsible for which folder.

Each ringer is assigned a specific, *home* music tablet. *This tablet is theirs to maintain.* However, since many of our ringers move to other stations during the course of a rehearsal or a concert, ***they do not take their tablets with them.*** Instead, the ringers move *to* the tablet that's at their new station. They may annotate the music on that particular tablet as their own. We have standard settings for all tablets, so there's less confusion. Not moving equipment cuts down on the possibility of accidents, and reduces the time it might take to swap out power cords, foot pedals, and music during concerts.

If a ringer wants to rehearse a piece at home, they need to determine which tablet to take with them – it might not be their “home” tablet. Each ringer has a laminated shield with their name on it; the shield is placed on the hanging folder to record the tablet they're taking with them. In this system, we monitor the use of tablets between rehearsals.

⁵ <http://www.bilipro.com/>

In the past, we have purchased **ten hard copies** of each title for the handbell choir – one for the director, nine for the ringers. This satisfies legal restrictions regarding performance. We still purchase ten copies of each new title for copyright reasons. One clean copy is immediately scanned. A .pdf is placed in the **RiverBells Ringer’s Folder**, and each tablet has one of these folders. The hard copies are stamped with the RiverBells ownership and stored in our music library. When we leave the rehearsal room for a concert, we take hard copies with us as a protective measure.

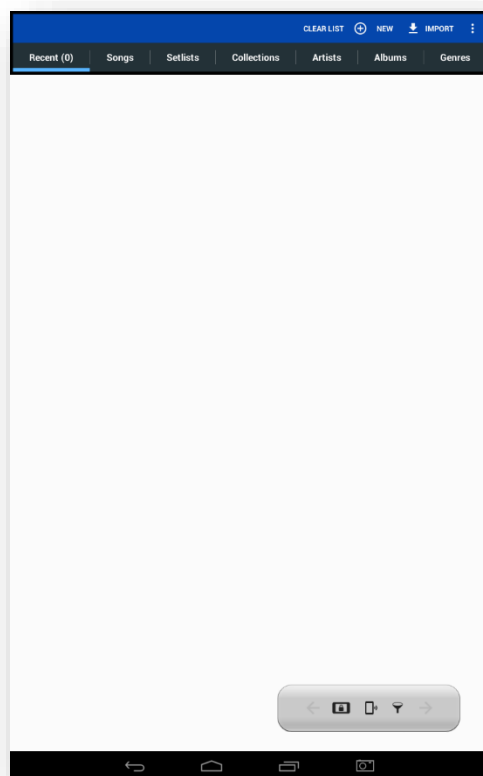
Making personal annotations on the music requires touching the tablet screen using static electricity. The human finger provides such a mechanism. However, a more precise instrument is the *stylus*. We bought several three-packs of **Honsky® Compactive Elegant Metal Stylist Pens** for \$10 each. We also allowed ringers to provide their own stylus.

After a few rehearsals, we discovered that these styli were not as responsive as we liked. Therefore, upon recommendation by one of our ringers, we purchased 20 **Chialstar Capacitive Active Stylus Touch Screen Drawing Writing Pencils** for \$23.50 each. These are electric. They have a small battery that lasts for about 2-1/2 hours. They come with a USB cable and five extra nibs. While they are expensive, they are well worth the investment. Each stylus has an on-off switch. The blue light indicates that the stylus is on, while the red light indicates that it’s charging. The nib is sensitive and fragile; if you press down hard on the stylus, the nib will split and have to be replaced; up to five nibs are supplied with each pen.

We have also had donated, by one of our ringers, two **iTD Gear 10A 50W FAST 10 Port USB chargers** which power up ten of these styli at a time. Each of these costs \$46. At the end of each rehearsal, ringers hook up their stylus for charging. Conveniently enough, each stylus can also be charged directly from the tablet using the included USB cord, or from the computer’s USB port using the USB adapter cable as part of the foot pedal assembly.

We use seven tables for our six octaves of bells and chimes, in rehearsal and performance. Underneath each table, we have attached, using Velcro, three **multiple-station outlets**, each with their own surge protector. We daisy-chain the outlets from table-to-table. Each tablet is within two feet of an outlet. When we set up for a concert, connecting the electricals is no more effort than we previously experienced mounting stand lights.

One of our ringers has designed and created a special **tablet stand** for each ringer. He made these using on-hand throw-away materials. The “riser” clings to the table and does not creep, even in spite of a hearty martellato. The stand lifts the top end of the tablet up 3-6 inches (there are four elevation settings), so that the tablet can be easily seen by the ringer but does not – in any way! – mask the audience’s view of the bells or the ringers (such as some risers do). The elevation also serves to remove glare from overhead lighting. (Non-glare sheets, in our experience, don’t work well.) The stands are painted black, the same color as our table covers and gloves.



**MobileSheetsPro
(desktop view)**

There is a notch on the back plate for the tablet's two operating cords (the power cord and the foot pedal cord). They are carried with us to all performances.

From our study, there are no stands currently manufactured for 13.3" tablets.

Finally, and most importantly for our particular task, we purchased 20+ licenses for **MobileSheetsPro**.⁶ MobileSheetsPro is an Android-basic application for \$13. Mike Zuber, the developer, upgrades the software every few months and is extremely responsive to questions, comments or suggestions.

MobileSheetsLite is free software and has all of the uses of the Pro version, except that it allows storage of only six musical titles. It's a good program to and explore the package, but its restrictions as a permanent program are severe.

With MobileSheetsPro, the tablet becomes a music folder! Music which has been scanned and placed as a .pdf in the tablet can be opened up, read, annotated, and edited. Since the tablet is approximately the same size as a regular piece of music, MSP presents the full-screen version of the music – in color.

Here are just a *few* of the features of MobileSheetsPro:

- Lighted screen displays as large as regularly published sheet music.
- Touch-screen accessibility using either fingers or stylus.
- Zoom-in/Zoom-out on any page. Sharpen image.
- Touch link one page of one song to another page in another song.
- Highlight or “pencil draw” in any color, any opacity, any line width.
- Insert dynamic markings and text boxes, including moving anything inserted.
- Orient vertically or horizontally.
- Turn by half- or full-page, vertically or horizontally. Turn pages automatically.
- Displays full-functioning metronome.
- Turn pages through foot pedal, swipe, or touch.
- Create set-lists, bookmarks, linking, snippets.
- Display night mode as well as blank annotations.



MobileSheetsPro
(crop tool activated,
desktop menu at bottom)

⁶ <http://www.zubersoft.com/mobilesheets/>. A word at this point needs to commend the excellent dedication of Mr. Zuber, the developer. As mentioned above, we found that every two weeks our MobileSheetsPro had to be re-licensed. This created unnecessary and unfortunate stress, complicated by Amazon and Ematic themselves, who did not provide license retrieval. Over a period of four months (I have the e-mails to prove this!), Mike worked through the problems which included **five** different MSPro downloads (such as www.zubersoft.com/mobilesheets/test/paul5.zip – don't try to use this; it's been deleted from his website). **Paul5** was the game winner, and allowed me to copy his program from an e-mail attachment to each of our tablets and register the devices' ID number. He and I will be in touch for future upgrades. His is the finest technical support I have ever experienced.

- Crop any or all pages,
- Records any audio passage.
- Edit notes for any title.
- Change colors for any inserted mark.
- Runs 2 ½ hours on battery charge.
- Regular upgrades provided.
- Fantastic technical support through e-mail.
- Record any audio file and play back through on-screen controls.
- Provision of on-line manual, a page of which is replicated above.

Our website director placed a repository for back-ups to our tablets. Once you've made annotations on your specific piece of music, it would be a tragedy if those notes disappeared into the ether. Therefore, MSP allows us to back-up all of the annotated music to our website.

If you have any questions or comments, feel free to contact the **RiverBells** SACRAMENTO director, **Paul W. Allen**, at musicallen@comcast.net.

Blaze 4-7 2 / 14

For P.L.

Blaze

for 4-6 (7) octaves of Handbells

Handbells used: 45, 56, 60, (61)

optional

4 octave choirs omit notes in [1]

5 octave choirs omit notes in [2-5]

5 and 6 octave choirs omit notes in [1]

By WILLIAM BRYAN KYLE (ASCAP)

Allegro con fuoco (♩ = 144)

mf

mallets simile*

* All notes are malletted through m. 30

MobileSheetsPro
 (page of music, annotations added.
 menu at top)

AFTERWORD

We've used these tools for nearly a year, and we've come across some important and distressing conclusions. We wish that we could get more **Hannspree tablets**, because the few that do have work perfectly in nearly every respect. All tablets seems to have one glaring weakness: the miniUSB ports (there are two) at the top of the tablets are very fragile, and don't respond well to weekly use. They should be utilized on in an emergency.

The **Ematic tablets** exhibit "ghost page turning" – a phenomenon in which, for no apparent reason, the tablet display starts to flip to other pages, other applications, other panes. We've been frustrated with this obstacle, and took several tablets to a cellular phone repair shop. After spending nearly \$300 on repairs, with no solution, we discovered that unplugging the tablet from a power source prevents the ghosting. Therefore, our new policy is to plug the tablets into a power outlet between rehearsals and between performance, and disconnect the tablet from the power source *during* rehearsals and *during* performances. The tablet are supposed to last for 2-1/2 hours, and our concerts rarely go beyond that limit.

The **BiLiPro foot pedals** are inexpensive, which means to say that they're cheap! We have 20 of them, and 12 of them don't work for any one of the following three reasons: when plugged into the tablet, they don't turn on; when plugged in, they blink and regular pattern but don't operate; or when plugged in they light, but don't respond to foot pedal pressure. We're working to get our money back. (They also require a direct-cord hookup to through the tablet's miniUSB port, and this has become troubling.)

Rafael Rodriguez at **Steptime Ware**⁷ has reminded us that the BiLiPro foot pedal the pedal "is designed for Windows, Mac and iOS" and not for the Android tablet. We remarked that this doesn't specifically mean that this pedal should *not* be used with Ematic Androids, but apparently, they believe that such misuse was the cause of the breakdown. He further commented that "[the] use of an after-market adapter could cause voltage problems inside the Page Turner circuit board." Unless we can receive satisfaction from the retailer, we're probably stuck with unusable foot pedals. Therefore we suggest that, unless you comply with the above conditions, you stay away from BiLiPro.

We've moved into Bluetooth-managed foot pedals. This means there are no cords to handle; the foot pedal wirelessly "pairs" with the tablet. You may have a whole series of Bluetooth pedals next to each other and, just like your cell phone's earbud, they don't confuse each other.

Originally, we ordered the **AirTurn ATFS-2 pedal with its paired BT-105 receiver**⁸ for \$59. Initially they work fine, are sleek, light-weight and grip the floor well, but we are concerned about the negative reviews it's received, such as breaking apart during performance, breaking down, and failure to respond. We are also testing the **AirTurn PED**⁹ which lists on their website for \$69. The BT-105 foot pedal has a lithium battery that needs to be recharged after six running hours and is supposed to last for years, while the PED has a circular battery (like your watch's battery) that's intended to last for six months (a second battery is included with the device).

⁷ This is the manufacturer of BiLiPro foot pedals, as well as other products at <http://www.steptimeware.com/>. This is not the retailer we had originally done business with, which was Warren B. White and his staff at Pro Audio Solutions, www.proaudiosolutions.com.

⁸ <https://store.airturn.com/products/b-stock-bt-105-with-2-atfs-2-pedals-and-pedal-board>

⁹ <https://store.airturn.com/products/airturn-ped-2>

Because AirTurn received so many negative reviews on their BT-105, they adjusted its specific design and “fixed the flaws” before releasing their newer **AirTurn BT-106 Duo**¹⁰ for \$99. We have ordered this and have yet to experiment with it.

We’re also interested in the **PageFlip Butterfly foot pedal**¹¹ for \$90, which has some very positive reviews. We have ordered one and have yet to receive it for testing.

The **mini-USB ports** at the top of the tablets (there are two, identical ports on each tablet) are fickle and fragile. They do not stand up well under repeated (weekly) in-and-out use. Therefore, if you wish to use a foot pedal (and why wouldn’t you?), you are left with two options.

First, go Bluetooth! The PageFlip Butterfly and the AirTurn are Bluetooth driven, and do not require the use of the min-USB ports. However, these foot pedals drain your tablet’s power, by as much as 50%.

Or you may decide to go direct-connect – but do not overuse the mini-USB port. Purchase the **magnetic strap** from Thoughts in Motion.¹² This tiny device – less than \$12.00 each – fits snugly into the mini-USB port, and you never have to remove it. Take the foot pedal, with its USB adapter and the **charger adapter** and connect them. The charger adapter is magnetic, so it connects seamlessly to the magnetic strap.

To conclude, **MobileSheetsPro** for Android is an excellent music-reading software. Nothing can beat its price, and the learning curve is moderate and well-worth the investment.

ES File Explorer, though not essential because of the depth of MobileSheetsPro, is still a fine investment in an administrative software package. Ignore the ads. In retrospect, we have changed to **File Manager Pro** a free app from Mobap; there are other “file managers” if you care to research. There are no ads and the visual presentation is much friendlier.

The **PageFlip Butterfly foot pedal** is supremely recommended, especially for the price. Even though it runs off the tablet’s Bluetooth function – and therefore tends to deplete the tablet’s battery more quickly – it pairs immediately with the tablet. It is not rechargeable, but runs from two double-AA batteries. Get a 40-pack of double-AA’s from Home Depot, keep them handy, and always put fresh batteries in the foot pedal before every concert! We cannot speak highly enough of this product.

The **Chialstar Capacitive Active Stylus Touch Screen Drawing Writing Pencils** are an excellent investment, as is its “companion” **iTD Gear 10A 50W FAST 10 Port USB charger**. We also recommend the **Mr. Shield Screen Protector**, which comes in a three-pack (invisible, bubble-free, ultra durable, scratch protection, and in matte texture), and it’s cut for exactly 13.3” tablets.

Finally, the **Ematic 13.3” Cinema Tab Dual Core tablet** has problems (discussed above), but it’s the only moderately-priced Android-based 13.3” tablet around. As of July, 2017 about a dozen of our 22 tablets have become defective through moderate use. We are currently negotiating to have them replaced.

¹⁰ <https://store.airturn.com/products/airturn-duo-1>

¹¹ <http://www.pageflip.com/butterfly.html>

¹² https://www.amazon.com/s/ref=sr_qz_back?sf=fr&rh=i%3Aaps%2Ck%3AThoughts+In+Motion&key-words=Thoughts+In+Motion&unfiltered=1&ie=UTF8&qid=1501606647

Before the start of our second year, we were able to get two “replacement” tablets from Ematic. They appeared to be slightly “improved,” because we couldn’t install ES File Explorer on them. In desperation, we installed **File Manager Pro**, another document manager that’s free. It’s quite impressive, at least because it doesn’t host all the advertisements that ES File Explorer now displays. We went through all the tablets and swapped them over to File Manager Pro. We suggest you do the same.

We’ll keep you informed through our website.

In January, 2018 members of the ringing ensemble requested permission to return to paper. This had overall nothing to do with the software, but rather with the hardware – specifically, the tablet. Some ringers wanted to continue with the tablets on hardware that had never before malfunctioned. Therefore we have a hybrid choir – some working from paper, others using the tablets.

APPENDIX 1

RiverBells

S A C R A M E N T O

The following **Music Tablet** items have been loaned to each member of the ringing ensemble:

- One Ematic 13.3 Cinema Tab Dual Core electronic tablet running on the Android platform;
- One power cord for each tablet;
- One Chialstar capacitive touch screen fine point drawing writing pencil (stylus);
- The AmazonAppware software, installed;
- One MobileSheetsPro music reading program, installed;
- One ES File Explorer storage administration program, installed;
- One BiliPro foot pedal;
- One 13” Tuscano black New Elements sleeve for the tablet;
- One Lexar high performance Micro SDXC High Capacity 64MG memory card, installed;
- One Micro USB OTG adapter cable (to connect the tablet to the foot pedal), installed;
- Scanned .pdf images of legal titles from our music library, installed;
- One Progo Ultra Absorbent Microfiber cleaning cloth;
- One Honsky compactive metal colored stylus; and
- Periodic updating of music from the RiverBells music library.

This involved a great deal of energy, time, and expense. While we expect normal wear and tear on the equipment, we also expect our users to exercise responsible care with the tablets during rehearsals and concerts.

Multiple ringers use each tablet. However, each tablet is assigned to a *principal ringer*. This ringer is recorded on an **assignment sheet** posted in the rehearsal room. This ringer is responsible for setting up the tablet at each rehearsal/concert, and for putting away the tablet at the end of the session – which includes buffing the screen and reporting any abuse. A storage box, with numbered hanging folders, houses all of the tablets.

Ringers are permitted to check-out and take home any *one* tablet each week. A **check-out slip**, with your name on it, can be found in your sleeve. All of the items listed above must be accounted for after the check-out time.

To the end of protecting the investment, I the undersigned agree to maintain the equipment as loaned to me (including cleaning the screen and dusting the keys), return the equipment at the next rehearsal/performance, inform the administration regarding any difficulties with the program.

(signature)

(print name)

(date)

APPENDIX 2
Master Tablet Assignments

Tablet Number	Ringer Name	Ringer Home
01		G₂ A₂ B₂ C₃
02		G₆ A₆ G₇ A₇
03		E₃ F₃ G₃ A₃
04		G₃ A₃ B₃
05		C₄ D₄
06		E₄ F₄
07		G₄ A₄
08		B₄ C₅
09		D₅ E₅
10		F₅ G₅
11		A₅ B₅
12		C₆ D₆ D₇
13		E₆ F₆ E₇ F₇
14		G₆ A₆ G₇ A₇
15		B₆ C₇ B₇ C₉
16		Reserve
17		Reserve
18		Reserve
19		Reserve
20		Reserve

