Internet Guidance

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Podcasting: A Technical Primer

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Summary

This guide is intended as a supplement to the document “Blogging and the Bahá’í Faith:
Suggestions and Possible Approaches,” for those interested in podcasting, which is
essentially an audio version of the text-based blog.

The Internet is a wonderful combination of wide reach and low costs. Even the most
powerful radio transmitter cannot reach a fraction of the potential listeners possible via
the Internet. Yet, even the smallest radio station is far more expensive than a typical
podcasting operation. In many parts of the world, radio continues to be the most common
form of mass communications and the audio content from podcasts can easily be shared
with the radio world.

Content is King

Listeners will forgive many technical errors if the content is interesting to them but the
best produced content will not be effective if the content is weak. It is easy to get so
immersed in the production process that one loses track of the listener’s interests. Don’t
let technical issues stop you from recording creative or valuable information. Podcasts
provide a unique vehicle to share first person testimonies of faith, reflections about the
Bahá’í teachings, or educational material. Unlike text, they allow the powers of the

human spirit to be more directly experienced by listeners.

Preparing for Recording

Audio recording can easily go wrong. A microphone placed next to a fan or an open window can pick up extraneous noise. Accidentally setting the recording levels too low can result in the recording being barely audible. These problems and most others can be avoided simply by running a test.

When recording a live event, it is best to have backups of key items. Even a well-tested setup can fail for a variety of reasons. The speaker may break the microphone or the batteries may die. It’s always a good idea to be over prepared.

Production Masters

There are two basic rules of thumb when creating content: you often will have more content than you need, and the final content will be of a lesser quality than that of the original recording. It is always a good idea to record at the highest possible recording standards. The original recording is called the master. The master is used to make the

audio files that you will actually distribute. While you may intend to use the content for a low-quality Internet audio file, having a high-quality master will allow you to produce a CD-ROM and higher-quality audio files at a later date.

There are two types of recording formats: lossless and lossy. Lossless means the format records all the audio content it hears. Lossy, on the other hand, is a format where file sizes are greatly reduced by intelligently removing “unnecessary” audio information. A master normally uses a lossless format, such as wav and flac, and then the final product is exported to a lossy format, such as mp3 and vorbis.

If you are going to be extensively editing your content, keep a book to track your recordings. That means labeling the tape, CD-ROMs, or file names of the recording medium. Most recording systems provide some sort of counter or timer that allow you to

identify the exact starting and stopping points for a segment. Not only will you want to record the segment times, but you may want to note points of interest during the recording just in case you want to extract a specific comment.

Hardware and Software

Recording audio has never been easier. There are many good ways to record audio. Below is a list of some workable systems 1 .

- MiniDisk Recorder (such as Sony's MZ-R10). These are often used by journalists because they are small but make high-quality recordings. Because the recording is in digital format, it can be copied directly to a computer.
- Computer. Computers – laptops and desktops – have the ability to record.

Computers have an advantage in being able to monitor the recording via computer screens. Computers are best when recording from an audio device, such as a tape or CD-ROM. This may not work as well when recording people talking because the computer may get in the way of the interview.

- Cassette tape. Some of the higher quality units can do a good job of recording.

The main problem is that the recording will still have to be digitized. This doubles the amount of time required because the digitization process takes as long as the recording is long. So a sixty minute recording requires another sixty minutes to convert.

- MP3 Device. Some MP3 music players can record at high fidelity. Many MP3 devices have built in recording capabilities. Check the device for its recording specifications. Some recorders are limited recording speech because they don't want to be used for recording music.
- Phone. It's possible to use a phone to record audio. You could call your home answering machine or use an online service. The recording probably will not be that good, but it's better than losing an opportunity.

http://www.pwop.com/podcastingkit.aspx Here is a sample of a fairly high-end podcasting kit. This is for serious work and is not required to do good work.

- Digital camera. If you have a digital video camera, you can use the camera's built-in microphone jack to record audio. Don't use the built-in microphone.

The
microphone’s placement in the camera can introduce noises associated with the camera’s internal mechanisms.

- VCR Deck. You may find yourself in a situation where you need a high-quality recording device but you did not bring one, or the one you brought had some problem at the last minute. The old VCR actually records with great fidelity. Finding a unit and a blank tape is often easy. Like the cassette tape, you are going to have to digitize the recording in order to get a computer file.
- Microphone. The microphone is usually the most important element for getting good sound. A suitable microphone will probably cost between $50 and $150. For purely voice, an $80 microphone should be fine 2 . You may need more than one microphone if you are recording individuals and groups. Some microphones are good for a single speaker while other microphones are designed to pick up all the sound in a room.
- Accessories. A few small items can make a big difference. Below are a few items to consider:
  - o A pop filter blocks the sounds of wind and strongly aspirated letters, such as the letter P.
  - o Microphone stands can keep a microphone from falling or being bumped.
  - o Gaffing tape can secure a cable on the floor so that no one trips over it – without damaging the surface with sticky residue.

In general, if you are traveling to a location to record an event, a MiniDisc or MP3 device is probably the best solution. If you are working with currently existing content, the computer is the way to go.

Audio software is an important ingredient in the recording process. If you are using a computer, recording software is required to turn the audio content into a usable computer file. Once you have a computer file, you still have to cut, splice, and manipulate the recordings. Cutting is almost always required. The time between the start of the recording and the actual start of the audio content needs to be trimmed. Less obvious is the need to cut out a small interlude between speakers or the sound of the recording unit being turned on and off. This last issue is especially common if you are working with an audio file recorded from a cassette tape.

Splicing is where two audio segments are put together. This may be due to your using
two audio disks for a long talk, or you may simply find some content not as interesting
and thus you cut it out. Splicing is also frequently done when the interviewer wants to
insert their questions. This is done because the interviewer may not have their own
microphone during the recording. The interviewer's questions are recorded at a later
point and then inserted before each answer during the editing process. This is how most
professional interviews are performed.

http://www.geekfishing.net/internet/podcast/2005/03/30/podcast_microphone.html Here is a description
of various microphones suitable for podcasting.

There are many ways to manipulate audio content. The most common reason to manipulate the content is to remove unwanted noise, such as pops, hisses, and hums. This
is often a problem with recordings originating from old cassette tapes. Another common
technique is to adjust or normalize the audio levels so that the recordings sound
essentially the same in terms of loudness within the recording and between different
recordings. You don't want to force the listener to constantly adjust the volume level up
and down as the sound level changes. Sometimes, adjusting the tone or adding reverb can
dramatically affect the sound quality of the tape. Naturally, the better your original
recording, the less adjustments you have to do later.

Producing for the Internet

The fundamental conundrum with preparing content for the Internet is that the better the
quality of the content, the bigger the file size and thus the fewer people who will be able
to access it. As file sizes go down, so does the quality level. People may be capable of
getting the content, but choose not to because of its poor quality. Below are a few factors
to consider.

1. Type of recording. A music file clearly requires better production values than

would a voice recording.
2. Audience bandwidth. If your audience has broadband connections, you can offer
larger files than you might do with an audience using lower-bandwidth connections.
3. Distribution model. Streaming, file downloads, and RSS are all common ways to
get audio files to the listener. Each one brings with it a set of bandwidth considerations. Podcasting uses RSS, and in most cases this is the optimal transfer
mechanism.
4. Player type. If you are fairly sure that most of the listeners will use their
computer's ten-dollar speakers, you don't have to be as concerned with sound
quality as you would if the recording is going to be played on a stereo or MP3 player.

Recording Tags

When you convert your file to the MP3 format – a common end-user audio format – there
will be the option to provide a myriad of information about the recording and how it was
produced. Enter meaningful information about the genre and style of the recording. This
information will appear in the listener's audio directory. Provide titles that are concise
and meaningful. A title that starts with "The Baha'i General Information Podcast: Raising
Healthy Children" will probably result with the user's display showing the first three
words. So the user sees ten recordings that all say "The Baha'i General…". Put your
production's name in the author field and put "Raising Healthy Children" in the title
field. Put in copyright information. Even if the information you are producing does not
have a copyright, your production of that content can be copyrighted. You are of course
free to let others know that the content may be freely used as part of your copyright
statement. It also does not hurt to put in the name of the locations where the recordings

can be found. You never know when someone will receive the recording from a third-
party and want to discover the source of the file. In fact, you cannot assume

that your
content will not be retrieved from some other source. Therefore, you may want to have a
short introduction at the start or end of the recording identifying yourself, the topic title,
and the source of the recording.

Tags and/or descriptions come into play when you list your recordings on search engines
and in podcast directories, such as iTunes. Accuracy is very important for getting the
right people to your content.

Finding a Home

While audio recordings are small in comparison with video files, they are large when
compared with text. A standard web site may not be able to host a large number of audio
files. You may run out of disk space or the service provider may charge you more for the
extra bandwidth your site is using.

There are a number of free sites that will host your recordings. Below are some well-
known free hosting sites.

- PodServe (http://podserve.biggu.com/)
- Odeo (http://odeo.com/)
- OurMedia (http://www.ourmedia.org/)

OurMedia is a free service, but it has performance issues and its requirement for public
domain content may prevent some content providers from uploading their materials. It is
certainly a good service when there is no funding for anything else. At some point
OurMedia will probably become more dependable.

Combining Old and New

Remember that podcasting is a combination of old technologies, such as radio, and new
technologies, such as the Internet and RSS. The recording and production of the masters
is in principle very similar to what people have been doing in radio for decades. The
lessons from radio and music production are well worth learning. The newer aspects are
still in flux. The guidelines here are far less clear and the only recommendation is to

experiment and be ready for new systems and processes.

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