

A thick, red, brushstroke-like graphic that starts at the top left and curves downwards and to the right, ending near the top of the title text.

Using Digital Music in Square Dancing

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A multi-colored brushstroke graphic that starts at the bottom right and curves upwards and to the left, ending near the bottom of the text. The colors transition from green at the bottom to yellow and blue at the top.

Objectives

- Provide a general overview of using digital music in square dancing
- Provide the background and framework you need to make appropriate decisions about what is right for you
- Provide references to sources with more detail
- This presentation is available for download without charge at <http://www.clasper.ca>



Agenda

- Why digital music?
- Four primary types of digital music player
- Common factors to consider
- Decision factors
- Details by player



Why Digital Music?

- Space/Weight/Portability
- Durability
- More music with you everywhere you go
 - All your records all the time
 - Party or interlude music
- Altered/Edited music
- Alternate source music
- Fear of disappearance of vinyl



Four Primary Types of Digital Player

- CD Player
- Mini Disk
- MP3 Player
- Laptop Computer



Common Factors to Consider

- Cables and connectors
- Signal booster
- Music acquisition
- Copyright
- Cataloguing, storage, indexing



Some Definitions

- Digital vs analog
- Transformations/Copying
- Data file vs audio file
- Track
- Looping
- Variable speed, tempo, pitch
- Removable media
- Download
- MP3
- Sampling rate and resolution
 - (44K, 16 bit = CD)



Decision Factors

■ At the dance

- Portability
 - Weight, size, other accoutrements
- Ease of setup
 - How many cables and connections (sound & power), space, adjustments
- Ease of Use
 - Finding/selecting music
 - Required button or control sequences
 - Variable speed
 - Looping
 - Singing call lyrics
 - Reading sequences
 - Working with others
- Capacity
- Backup



Decision Factors ...

■ Preparation

■ Acquiring music

- Recording, purchase, copy from other medium
- Transformations involved
- Time required
- Equipment required
- Variable speed

■ Cataloguing

- What are your storage units (files, CDs, MDs, Compact Flash, etc.)?
- How do you find a song?
- What is involved in adding a new song?
- What song attributes should be recorded?
- Lyrics, cuesheets, figures
- Backup (of physical media plus catalog/index files)



Decision Factors ...

- General
 - Cost
 - Time investment
 - Complexity
 - Learning curve
 - Future flexibility



Pre-Recorded CDs

■ At the dance

■ Portability

- Player is light and moderately small, has power adapter, cables and signal booster required, CDs

■ Ease of setup

- Must be connected to amplifier, power usually optional

■ Ease of Use

- Display and buttons vary widely
- Finding a selection same as vinyl
- Variable speed: probably not
- Looping: very limited
- Singing call lyrics: on paper similar to vinyl
- Working with others: similar to vinyl



Pre-Recorded CDs ...

■ At the dance ...

■ Capacity

- Theoretically 74 minutes of music, but most CDs have only 2 or 3 selections, albeit sometimes in different keys. Therefore, slightly more than vinyl.

■ Backup

- A failed CD is not a big problem - each CD contains only a few selections
- A failed CD player is a big problem:
 - ▶ Use records for backup
 - ▶ Carry a second CD player



Pre-Recorded CDs ...

■ Preparation

- Acquiring music
 - Purchase like records
 - Use as-is, no editing or copying needed
- Cataloguing
 - Each CD contains a few selections (typically 2-5)
 - Can be managed very similarly to however you manage vinyl today

■ General

- Cost is similar to vinyl plus cost of CD player, no added time investment
- Complexity is same as records, no learning curve



Self-Recorded CDs

■ At the dance

- Portability, ease of setup, and ease of use are identical to pre-recorded CDs, except a CD index probably needed to find selections
- Capacity
 - 74 minutes of music, which is between 10 and 15 records
- Backup
 - A failed CD now represents 10-15 records, but is still probably not a showstopper
 - A failed CD player is a big problem:
 - ▶ Use records for backup
 - ▶ Carry a second CD player



Self-Recorded CDs ...

■ Preparation

■ Acquiring music

- Record original music on a computer, then build audio CDs. Vinyl must be recorded in real-time, digital media might be read as data

■ Cataloguing

- Typically not practical to write names of 10-15 selections on face of CD, so some kind of index is required to record what selections are on what CD

■ General

- Cost is similar to vinyl plus cost of CDs (< \$1 each) plus CD player, minor additional complexity beyond vinyl, a computer is required



Mini Disks

■ At the dance

■ Portability

- Player is very light and small (usually shirt-pocket size), has power adapter, cables and signal booster required, MDs are required

■ Ease of setup

- Must be connected to amplifier, power usually optional

■ Ease of Use

- Each MD can hold about 30 selections, an index is required to find MD and track a selection is on
- Button/menu sequences to position to a track and start playback vary by model. Looping requires additional button presses at the correct time
- Variable speed only available as expensive add-on
- Singing call lyrics must be kept separately



Mini Disks ...

■ At the dance ...

■ Capacity

- Recorded in mono about 30-35 records. If high-compression model used, 70-100.

■ Backup

- A failed MD could be a big problem depending on what is on it. Critical MDs could be duplicated
- A failed MD player is a big problem:
 - ▶ Use records for backup
 - ▶ Carry a second MD player



Mini Disks ...

■ Preparation

■ Acquiring music

- Record in real-time from vinyl or CD direct to MD
- Later models can download MP3s from a computer
- Looping requires setting of "track marks" in the correct places, can be very time consuming

■ Cataloguing

- An external index is definitely required

■ General

- Cost is similar to vinyl plus cost of MDs (< \$5 each) and MD player, moderate additional complexity beyond vinyl, a computer is NOT required but can be useful, short learning curve involved



MP3 Players

■ At the dance

■ Portability

- Player is very light and small (usually shirt-pocket size), has power adapter, cables and signal booster required

■ Ease of setup

- Must be connected to amplifier, power usually optional

■ Ease of Use

- Titles shown on LCD display
- Button/menu sequences to position to a track and start playback vary by model. Looping generally not available, but extended play files can be loaded
- Variable speed probably not available
- Singing call lyrics must be kept separately



MP3 Players ...

■ At the dance ...

■ Capacity

- Capacity depends on internal storage. 250MB can store roughly 60-80 square dance records
- Some models can use external media such as SmartMedia and CompactFlash cards or micro-drives

■ Backup

- A failed MP3 player means no music
 - ▶ Use records for backup
 - ▶ Carry a second MP3 player (dual maintenance is a lot of work)



MP3 Players

■ Preparation

■ Acquiring music

- Record in real-time from vinyl or CD to computer, or purchase as MP3
- Download from computer to MP3 player
- A very few MP3 players can record music directly

■ Cataloguing

- MP3 software usually includes playlists. Player displays titles on its LCD.

■ General

- Cost includes original music, plus MP3 player, and a computer. Moderate complexity, moderate learning curve



Laptop Computers

■ At the dance

■ Portability

- Computer is heavy (4-8 lbs), has power adapter, cables and signal booster required

■ Ease of setup

- Must be connected to amplifier, power usually required (most batteries inadequate for a dance)

■ Ease of Use

- Function depends upon software used, but in general
 - ▶ Easy to read display
 - ▶ Easy control sequences (shortcut keys)
 - ▶ Looping available
 - ▶ Variable speed available
 - ▶ Lyrics can be displayed on computer screen



Laptop Computers ...

■ At the dance ...

■ Capacity

- Capacity depends on internal storage. 10GB harddrive can hold several hundred songs

■ Backup

- A failed laptop means no music (and also no sequences or lyrics if you're also using it for that)
 - ▶ Use records for backup
 - ▶ Carry a second laptop
 - ▶ Carry backup music on a data CD (about 100 songs per CD) and hope there is another laptop you can borrow
 - ▶ Carry an MP3 player



Laptop Computers

■ Preparation

■ Acquiring music

- Record in real-time from vinyl, "rip" from CD, or purchase as MP3. Steps involved depend on source medium and software used.

■ Cataloguing

- Depends upon software used. Most players have a playlist capability. Files can be organized using filenames and standard Windows folder functions or using spreadsheet (e.g. Excel) or database (e.g. Access). External (paper) index not required

■ General

- Cost includes original music, plus laptop. Significant complexity and learning curve



Information Sites and Articles

- **Vic Ceder: Digital Music Information**
 - http://www.ceder.net/digital_music.php4
- **Jeff Garbutt: Digital Music Media (2002)**
 - <http://www.jeff.garbutt.com/ccorner/digitalmedia.htm>
- **Andy Shore: Notes on Digital Music for Square Dancing**
 - <http://www.moveto.com/sd/MP3info.htm>
- **Kris Jensen: Digital Music (Callerlab session)**
 - <http://www.squarez.com/digitalmusic2003>
- **Dick Henschel (Hilton Audio): Digital Music (Callerlab session)**
 - http://www.hiltonaudio.com/portable/digital_music_03.htm
- **Gregg Anderson: MiniDisc Recorders and Their Application to Square Dance Calling or Round Dance Cueing**
 - <http://www.dosado.com/callers/mdisk.htm>



Finding MP3 Players

■ General Info:

- <http://www.howstuffworks.com/mp3-player.htm>

■ Reviews and Comparisons

- http://www.epinions.com/MP3_Digital_Audio_Players
- http://www.cleverjoe.com/articles/best_mp3_player_review.html
- <http://www.unleash.com/picks/mp3.asp>
- http://www.consumersearch.com/www/electronics/mp3_players/
- http://www.ecoustics.com/Editorial/Reviews/MP3_Player/
- <http://www.c3scripts.com/cgi-bin/ae.pl?type=browse&mode=516878>
- http://www.audioreview.com/MP3,Players/PLS_5548_913crx.aspx
- <http://www.torontotopics.com/digital.asp?pagename=mp3>
- http://www.bizrate.com/buy/browse__cat_id--499.html
- <http://www.mp3newswire.net/>



Finding MD Players

■ General Info

- <http://entertainment.howstuffworks.com/question55.htm>

■ Reviews and Comparisons

- http://www.cleverjoe.com/articles/best_mp3_player_review.html
- <http://www.minidisc.org>
- http://www.epinions.com/Personal_MiniDisc_Players
- <http://www.minidisc-canada.com/>
- http://www.audioreview.com/Minidisc,Player/PLS_2732crx.aspx
- <http://www.c3scripts.com/cgi-bin/ae.pl?mode=172631&type=browse&first=1>



Finding Computer Software

■ CSDS (Vic Ceder)

- <http://www.ceder.net/csds.php4>

■ SQMP3 (Dave Wilson)

- <http://www.sqmp3.com/>

■ SQView (Thomas Bernhed)

- <http://hem.passagen.se/thomasb/sqview.htm>

■ Digital Music Musician (Supreme Audio)

- <http://www.dosado.com/cgi-bin/lib/shop-wrapper.pl?page=dmm&shop=dosado>

■ Caller's Caddy (David Goebel, in German)

- <http://www.davidgoebel.de/cc/>

■ DanceMaster (Rounds, Clark Godfrey)

- <http://clarkandsandy.com/DanceMaster/index.htm>

■ ClogAmp (Clogging, Martin Rohrbach)

- <http://homepages.fh-giessen.de/~hg11000/ClogAmp/whatis.php>

