



## EQUIPMENT RECOMMENDATIONS

The following is a list of ideal equipment that can achieve quality sound transfers while being easy to use and suitable for portable mounting.

### Cost Overview

• 1 protective equipment case (for units intended for portability only; e.g. Gator GR6L case)	\$280.00
• 1 high quality Cassette desk (see page 2 for more details)	\$439.99 (approx.)
• 1-2 mounting rackshelves (e.g. Middle Atlantic UTR1 - \$44 USea.)	\$88.00 <b>US</b>
• 1 pair of quality headphones (e.g. Audio Technica ATHM40X)	\$149.00
• 2 good speakers (e.g. BX5 Carbon Studio Monitors - \$199.00ea.)	\$398.00
• 1 power distribution system (eg. ART Pro Audio)	\$169.00
• 2 audio cables (1/4" TRS to TRS cable- \$35.99ea.)	\$71.98
• 2 audio cables (1/4" TRS to RCA cable - \$31.63ea.)	\$63.26
• 1 USB Audio Interface (e.g. Focusrite Scarlett 2i2)	\$209.00
• 1 dedicated laptop or desktop computer (PC is preferred but Mac is ok, please call us to consult)	\$2,049.05

Sub Total before Tax: **\$3630.08**

Estimated Tax: **\$435.61**

Estimated Total: **\$4065.69**

(NOTE: US currency exchange on rackshelf not calculated in above estimate)

### Retailers

1. Tom Lee Music - <http://tomleemusic.ca> (604) 685-8471 ask for Scott - Knowledgeable about cassette decks, and has put together Indigitization tool kits in the past.
2. Long & McQuade -[https://www.long-mcquade.com/location/British\\_Columbia/Vancouver/](https://www.long-mcquade.com/location/British_Columbia/Vancouver/)
3. The Sound Room -<http://www.soundroom.ca/contact-us/> (604)736-7771 ask for Mark Macdonald, store owner.
4. B and H [photo-http://www.bhphotovideo.com](http://www.bhphotovideo.com) great retail source that converts to CDN dollar, offers free shipping and covers brokerage fee.
5. [Innovative Audio](#) - used audio retailer that also specializes in servicing used audio equipment



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### Audio Technicians

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### Buying a [Cassette Deck](#) for Audio Preservation Digitization

When the Tascam discontinued their 202MKVI model, we realized that we finally needed to start recommending USED decks. Despite the fact that there are still cassette decks in production, they no longer meet best practices for digitization, particularly given that their frequency response specifications are low. This can be tricky, and require a bit of searching. If you have someone in your community who knows audio, you might consult them. You can also be in touch with us with any questions you might have.

[Hifiengine](#) is a great source for checking the specifications on any model you may come across, and accessing manuals for particular decks.

Below are some things to keep in mind when sourcing a used deck.

#### Good Specifications

- Frequency response rating somewhere in the 30Hz – 17 kHz range
- Replay speed 17/8 ips (4.76 cm/s)
- Ability to play Type I, II, & IV cassettes
- Wow & flutter weighted better than .1%

#### Good Build Quality

- In general, cassette decks manufactured in the late 1980s to mid-1990s had the highest component quality standards
- In general, heavier is better. Newer Cassette deck models often use plastic parts that are more likely to wear than metal parts
- In general, portable cassette recorders and players sacrifice quality and durability in favor of weight and size, and are not suitable for cassette digitization.
- **Good brands** include: Nakamichi (models starting with two letters such as BX or CR), Denon, Pioneer, Technics, Yamaha, older Teac, or older Tascam etc...

#### Appropriate controls:

- **Dolby noise reduction (preferably types B and C.):** Few recent decks have multiple versions of Dolby NR available and many do not include this option at all. This feature is particularly useful when working with very old, or damaged tape. [\(More Info\)](#)
- **Automatic switching:** This feature is used to select Type I, II or IV cassettes. Almost all newer decks automatic tape type selection based on holes in the cassette shell. Older decks (1970s) often have manual switches to select what type of tape is being played. Automated switching bypasses the possibility of user errors in selecting proper playback settings.
- **Transport controls** (Play/Pause/FF/Rewind).

#### Desired options:

- **Headphone jack with volume control.** It is helpful to plug headphones directly into the cassette player to



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hear if an issue is coming from the original recording or perhaps a problem with the cassette deck. If the sound issue isn't heard through the headphones you can continue troubleshooting other parts of your system.

- **Signal meter.** It is very helpful to have a meter to show the strength of the original recorded signal. This knowledge can help you to figure out issues with poor quality sound, cabling or other connected equipment.

Unnecessary or unwanted options:

- **Variable speed control.** Variable speed control is used by DJs to match speed of different songs in order to fade between them. You should never alter the normal speed of playback when digitizing.
- **Auto-reverse.** You should capture each side of a cassette as a different digital file, not in one pass using auto-reverse.
- **Blank-skip function.** This option detects blank sections of the tape and fast-forwards the tape to the next recorded content. This does not keep a proper physical or time relationship for recordings on a tape. It is not advised to use this function.

Other thing to keep in mind:

- If the cassette decks needs to be serviced, one thing to make sure is that the belts will be replaced, and lubricated
- Can you find out if the deck is low-hour (has not been played extensively)? This is ideal
- In general, cleaner is better

For archival best practices see: <http://www.iasa-web.org/tc04/replay-equipment-professional-cassette-machines>



### EQUIPMENT DESCRIPTIONS

#### **Gator GR-6L [\$280.00 each]**

“Gator's deluxe rack cases are molded from incredibly durable high-density military grade Polyethylene. This lightweight yet super strong material insures maximum protection at a weight you can easily handle. The cases have 19.5" of rackable depth with front and rear threaded rack rails that are field replaceable. Exclusive to the Gator racks are locking front and rear lids...” ***Item only required if audio digitization kit is intended for portability.***



Available at L.A. Music: <https://www.lamusic.com/products/gr6l>

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#### **Mounting Rackshelf, 1RU, 10"D [US \$44.00 each]**

“Designed to mount smaller components, wireless units and other non-rackmount equipment. Includes hook-and-loop strips for component mounting. Features an enhanced ventilation pattern. Constructed from 16-gauge steel. Finished in a durable black powder coat.” ***Item only required if audio digitization kit is intended for portability. \*If your deck is not mountable, than you will need TWO mounting rackshelves.***

Available at Middle Atlantic Products: <http://www.middleatlantic.com/products/accessories/rackshelves/small-device-mounting-shelves/utr1.aspx>

\*Long & McQuade Musical Instruments, RP Electronics and Tom Lee Music are distributors for Middle Atlantic, so you can also order from them using the product code UTR1.

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#### **Audio Technica ATH-M40X Headphones [\$149.00 each]**

“The M-Series ATH-M40x professional monitor headphones are tuned flat for incredibly accurate audio monitoring across an extended frequency range. Your studio experience is enhanced with superior sound isolation and swiveling earcups for convenient one-ear monitoring. Engineered with pro-grade materials and robust construction, the M40x excels in professional studio tracking and mixing, as well as DJ monitoring...”



Available at Tom Lee Music: <http://tomleemusic.ca/172465>

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### **BX5 Carbon Studio Monitors (i.e. speakers) [\$199.00 each]**

“Building upon the acclaimed history of the best-selling BX line of studio monitors, M-Audio now announces the BX Carbon Series, which feature optimized Class AB amplifiers and offer flatter response for truer and more accurate monitoring. The BX Carbon Series includes three models: BX8 Carbon, BX6 Carbon, and BX5 Carbon, which include eight-inch, six-inch, and five-inch woofers, respectively...”



Available at Tom Lee Music: <http://tomleemusic.ca/199259>

OR:

### **MACKIE CR5BT 5-inch Monitors (i.e. speakers) with Bluetooth [\$289.99 pair]**

“Designed for premium sound that won't break the bank, CR Multimedia Monitors deliver the performance you expect from a Mackie studio monitor in designs ideal for home studios, multimedia creation, AV post-production and broadcast. Plus, with user-friendly front panel features and two models featuring Bluetooth for music streaming, they are great for any desktop in any situation...”



Available at Tom Lee Music:

<http://tomleemusic.ca/184379>

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### **ART Pro Audio - Power Distribution System [\$169.00]**

“Presenting the 4x4 PRO SERIES Power Distribution Systems from ART. Built on the foundation of the popular 4x4s, the PRO SERIES are durably constructed, reliable



power conditioners for use in many applications. Wherever power management system is required, the 4x4 PRO SERIES provide the surge protection you need to keep your rack safe from unwanted disruption.”

Available at Long & McQuade Musical Instruments:

[https://www.long-mcquade.com/1252/Pro\\_Audio\\_Recording/Accessories/ART\\_Pro\\_Audio/Power\\_Distribution\\_System.htm](https://www.long-mcquade.com/1252/Pro_Audio_Recording/Accessories/ART_Pro_Audio/Power_Distribution_System.htm)

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### **Yorkville Sound - DLX Series Balanced TRS Cable - 10 foot [\$35.99] – 2 needed**

Yorkville DLX Series deluxe audio cables are designed to deliver outstanding reliability, improved frequency response and good signal transparency. High quality Amphenol connectors with improved solderability and strain relief ensure the Yorkville DLX Series cable connectors will not fail in highly energetic live settings. The cable itself uses a dual core 24 Gauge 16-strand Dual Core copper conductors and braided copper shield that delivers highly





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effective EMI and RFI rejection. A rugged ultra-flexible PVC cable outer jacket delivers outstanding long-term durability. TRS 1/4" to TRS 1/4" patch cable - Amphenol ends - silver

Available at Long & McQuade Musical Instruments: [https://www.long-mcquade.com/12155/Pro\\_Audio\\_Recording/Cables/Yorkville\\_Sound/DLX\\_Series\\_Balanced\\_TRS\\_Cable\\_-\\_10\\_foot.htm](https://www.long-mcquade.com/12155/Pro_Audio_Recording/Cables/Yorkville_Sound/DLX_Series_Balanced_TRS_Cable_-_10_foot.htm)



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**Mogami pure patch RCA to 1/4" mono hi-def. Patch cable 6 ft. [\$31.63] – 2 needed** Virtually every major recording facility in the world is wired with Mogami cable. It is famous for unmatched accuracy, extremely low noise, and remarkable flexibility.

Features: most accurate cable available, 1/4" mono-RCA; widest frequency response; highest cancellation of hum and noise, increases dynamic range; lifetime guarantee

Available at Musician's Friend: <http://www.musiciansfriend.com/rca-cables/mogami-pure-patch-rca-to-1-4-mono-hi-definition-patch-cable/33903100000105>



Note: This is an American company however, their prices are quoted in Canadian dollars and they do international shipping.

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**Focusrite - USB Audio Interface - 24/96 2 In, 2 Out [\$209.00]**

**Model: Scarlett-2i2**

The Scarlett 2i2 is a 2 in / 2 out USB recording interface featuring two award-winning Focusrite preamps. Housed in an attractive anodised aluminium unibody chassis, the interface not only sounds fantastic but looks great too.



Available at Long & McQuade Musical Instruments: [https://www.long-mcquade.com/72278/Pro\\_Audio\\_Recording/Audio\\_Interfaces/Focusrite/Scarlett\\_2i2\\_MKII\\_24\\_96\\_2\\_In\\_2\\_Out\\_USB\\_Audio\\_Interface.htm](https://www.long-mcquade.com/72278/Pro_Audio_Recording/Audio_Interfaces/Focusrite/Scarlett_2i2_MKII_24_96_2_In_2_Out_USB_Audio_Interface.htm)

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### **General Specifications for Laptops:**

- Memory: 8GB RAM or higher
- Processor Type: Intel Core i5 or i7
- Hard Drive: 500GB or higher, or ideally a smaller SSD (solid state drive, with a second internal 500-1TB)





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**Best: Lenovo ThinkPad X1 Carbon [\$2,198.99]**

**CPU:** Intel Core i7-7500U Dual-core | **RAM:** 8GB | **Storage:** 8GB RAM, 256 SSD



Available at Best Buy Canada:

<https://www.bestbuy.ca/en-ca/product/lenovo-thinkpad-x1-carbon-20hr0057us-14-lcd-ultrabook-intel-core-i7-7th-gen-i7-7500u-dual-core-2-core-2-70-ghz-8gb/10717484.aspx>

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### DISCLAIMER

*Please note that the prices of these items are from preferred vendors, and are subject to change.*