

Choosing Equipment

Commissioned by Chamber Music Scotland as part of our
Audio Recording Resources for Chamber Musicians, written
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Handheld Recorder or Audio Interface and Separate Mics

If you explore this set of resources you will find learn about how to adapt stereo mic techniques to improve the sound of your mic placements. This requires you to have two separate mics that you can position, rather than a fixed system, as on a handheld recorder.

A dedicated audio interface will also generally sound better. We connect microphones to pre-amplifiers and they will slightly colour the sound we're capturing. The mic pres in handheld recorders will usually not be quite as nice as a dedicated interface.

A third issue I would highlight is the ability to multi-track using a interface. Some handheld recorders now have multi-track capabilities built in, but working in software on a computer will probably be easier. You can use some handhelds as a USB mic direct into a digital audio workstation (daw) but the issue of mic placement for me would be the biggest factor.

Handhelds and Audio Interface Options

Handhelds:

- Tascam DR-44WL - £229 (comes recommended by colleague. I've not used this)
- Zoom H4N - £187 (these are pretty good)
- Zoom H5N - £205 (I have the old version of one this. It has different mic modules which gives options. I use this to keep in my bike pannier for field recordings)

Audio Interfaces (all USB):

2-Input

- Focusrite Scarlett 2i2 - £133

4-Inputs

- Focusrite 18i8 - £297 - has four mic inputs, four line inputs and ADAT so very expandable.

8-Inputs

- Focusrite 18i20 - £399 - has eight mic/line inputs and ADAT so very expandable.

Bang for buck I think the Focusrite range is the best. They also have a 'Clarett' range with nicer converters and mic inputs which is more expensive. Other brands include **RME** (quite expensive, but **very** nice), **Sound Devices** (they make portable recorders that can be used as audio interfaces with fantastic mic inputs), I would avoid Behringer and M-Audio if you can.

If I was to buy one (pair of) mic(s) what should I get

If you are going to invest in mics to work with at the start I would recommend that condenser mics (either small or large diaphragm condensers) will be the best bet.

In the video demonstrating some different mic types and their characters you can listen to some mics and have a think about which type might suit your application. To summarise some considerations:

- If you are working in a **poor acoustic** you will want to use a **directional** mic (**probably cardioid**) **OR** a multi-pattern mic with a cardioid setting
- If you want to **smooth out/flatter** the sound then a **large diaphragm condenser** is probably a good choice
- If you want to add **brightness/detail** then a **small diaphragm condenser** is probably a good choice.
- If you want a very specific. **dark sound** then a **ribbon** mic will work well. Some ribbons sound more 'natural' than others, try to listen to audio examples online.

Small Diaphragm Condenser Options

- Line Audio CM3 (fixed polar pattern - cardioid) - £129 - *bang for buck the bet value on this list. They sound better than the more expensive rode*
- Line Audio OM1 (fixed polar pattern - omni) - £129
- Rode NT5 (fixed polar pattern - cardioid) - single £139, pair £239 - *these sound a little bright, I try to avoid using them on strings.*
- Neumann KM184 - (fixed polar pattern - cardioid) - single £529 , pair £990 - *these are a classic studio mic. They will work well on most sources. I don't find them a very inspiring mic to listen to but they won't let you down.*
- Microtech Gefell M300 - (fixed polar pattern - cardioid) - single £766, pair £1783 - *I really like these, they are true all-rounders and sound a bit more exciting than the KM184. They work well on close mic'd strings, which lots of these other mics wouldn't.*

A couple of thoughts, if you are wanting to do remote work and feel like you need something industry standard the Neumann KM184 is a good bet. Other brands with nice (more expensive mics) DPA, Schoeps.

Large Diaphragm Condensers

- Rode NT2 (multi-pattern) - £269 - these are good, but they aren't exceptional. they will work quite well on strings, which is a good test of how they will work on other bright sources.
- Audio Technica 4047 (fixed polar pattern - cardioid) - £588 - Audio Technica call this a vocal mic, but they work very well on most sources (I've used them on strings, vocals, piano, drum kit overhead).
- AKG C414 (multi-pattern) - single £618, pair £1325 - I don't like these personally, but the BBC use them for radio broadcast **a lot**. There's nothing *wrong* with them, but they don't inspire me.
- Microtech Gefell M930 (fixed polar pattern - cardioid) - £1069 - fantastic mic, will work well on any source.

Large Diaphragm Condensers are more expensive, particularly if they have multiple polar patterns. If you're worried about 'industry standards' then the AKG C414 is a commonly used mic, or the (much more expensive) Neumann U87 (which I don't like very much either!). The Neumann TLM170 is a very nice mic but also very expensive.

Ribbon Mics (all fixed polar pattern - bidirectional)

- Rode NTR - £420- I haven't used these but have heard very good things.
- Coles 4038 - £780 - Developed by the BBC, this is an amazing mic. More natural sounding than some ribbon mics, very good on piano, strings, brass and winds.
- AEA - make a number of different ribbon mics. I like the R88 (which is a stereo mic), I don't like the R84 (which is meant to sound the same as the R88...), I would like to try the R92 and other more expensive mics.

If you are buying a passive ribbon mic you will need to match the impedance to you mic pre. You either need a ribbon specific mic pre (focusrite, grace design and AEA sell mic pres that have high impedance settings - these will be expensive) **OR** an adapter. Cloudlifter sell one-input (£144) and two-input (on sale at £210 atm) boosters.

Mic Stands and Adapters

I wouldn't look past K&M who make very reliable/strong stands. Other cheaper brands I've used (samson, studiospares) have fallen apart very quickly. Definitely a false economy.

- K&M w/Telescoping Boom - £38 (a telescoping boom can go much shorter, very good for live work on stage).
- K&M w/out Telescoping Boom - £31

Stereo Bar:

- K&M Stereo Bar - £8.50

Adapter for Handheld Recorder Tripod Mount to Mic Stand Mount:

- Camera Adapter with 3/8" thread - £1.20

Cables

XLR Cables for Mics

As with mic stands, I would avoid cheap cables. Good cable brands include:

- Canford
- Van Damme
- Klotz

Good connectors

- Neutrick

A cable isn't going to make a meaningful difference to the recorded sound but a robust cable will work for longer.

You can buy cables direct from [Canford](#) that are quite reasonably priced:

- 5m - £8
- 10m - £16.26

OR

Van Damme cables from [CPC](#) - 10m for £19.08

What would you get?

- Audio interface with appropriate number of inputs
- 2 x Line Audio CM3s (I have the OM1s which are brilliant, but would probably want the cardioid polar pattern).
- K&M fixed boom mic stand
- K&M stereo bar
- 2 x 10m XLR cables (I solder my own, but would buy either from Canford or CPC).