

SCHOOL OF JOURNALISM AND DIGITAL COMMUNICATIONS

TE1070 CONNECTIONS – SEMESTER 2 – EXERCISE 6

AUDIO HARDWARE AND MEASUREMENT – CREATING A PODCAST STUDIO

Device (The purpose it serves in your podcasting setup i.e. not just make and model)	Justification (why you have chosen this specific device)	Audio Specification (you need to be able to explain the meaning of these i.e. not cut and pasted)	Cost
Mixer desk Behringer Xenyx X1204USB 	<p>After researching what equipment other start-up podcasters were using especially when it came to mixer desks I found that the most popular was a German Behringer.</p> <p>So I found a nice website selling the aforementioned mixers and took a look at the specs.</p> <p>This one has good slider faders to control the broadcast sound more easily. XLR mic inputs as well as jack plug inputs, so different microphones or sound source equipment could be connected. It has various output meters to enable quality control of broadcast volume. It also has phantom power for condenser mics if required. Finally as well as being able to broadcast in stereo which is very important for radio it has a USB/audio socket for direct connection with a computer for streaming or recording.</p>	<p>http://www.gak.co.uk/en/behringer-x1204-usb/31903</p> <ol style="list-style-type: none"> 12-Input 2/2-Bus Mixer – this equates to 6 stereo input channels "British" 3-band eqs – British standard high/mid/low equalisers Phantom-powered Mic Preamps – An extra boost for mics such as condensers that might require an external power boost Planet Earth switching power supply (100 - 240 V~) – In the UK we use a voltage system in the range of 220v/50hertz in the USA they use 110v/60hertz so the power supply to this mixer can handle both the higher and lower voltages 	£154.00
Microphone 1 broadcast mic Behringer C-3 Studio Condenser Microphone 	<p>I decided since I was using a Behringer mixer desk I would choose from their range of microphones. I knew from experience I needed a good Omni directional condenser microphone with an XLR connector. This one is both and a good robust construction and size; studio mics can take a lot of miss use over time.</p>	<p>http://www.amazon.co.uk/Behringer-C-3-Studio-Condenser-Microphones/dp/B000KUA8E1/ref=sr_1_2?ie=UTF8&qid=1362923562&sr=8-2</p> <ol style="list-style-type: none"> Dual-Diaphragm Studio Condenser Microphone – this helps to pick up good quality voice sounds due to its high sensitive diaphragm construction Selectable cardioid, omnidirectional or figure eight pickup pattern – switchable between the three pick up patterns depending on whether you want direct voice, two way conversation or background noise Maximum SPL (sound pressure level) of 136 dB – Can record high frequency's without clipping FET input circuitry – illuminates low frequency distortion to allow for even a whisper to be clearly picked up 	£44.02

Microphone 1 interview mic Shure SM58 Dynamic Vocal Microphone	<p>When it came to choosing a dynamic microphone I went for the Shure SM58 this one is a standard cardioid voice microphone. This would be used for interviewing guests so would not need to be as directional as the broadcasters microphone.</p> <p>XLR connection on mic but could be plugged into the mixer via a jack plug if required.</p> <p>This mic supposedly has a 'spherical wind and pop filter' to reduce unwanted vocal sounds.</p> <p>It is robust and can take a few studio knocks.</p>	http://www.amazon.co.uk/Shure-SM58-Dynamic-Vocal-Microphone/dp/B00105V5MQ/ref=sr_1_5?s=musical-instruments&ie=UTF8&qid=1363008501&sr=1-5 <ol style="list-style-type: none"> 1. 50 Hz to 15 kHz frequency response – the wider the frequency range the smaller the dB range and the more accurate the voice sound. Most FM radios don't broadcast over 15Khz so this would be a perfect mic to use 2. Sensitivity (at 1,000 Hz Open Circuit Voltage) –54.5 dBV/Pa (1.85 mV) 1 Pa = 94 dB SPL – I have not got a clue what this means 	£95.92
Zoom H2n Handy Recorder	<p>I choose this style of hand held zoom because I have used one before and I know how versatile it can be. They record straight to an SD card for easy file storage and transfer and have gain control as the ability to record as a Wav or Mp3 file.</p> <p>This version has five integrated microphones and four selectable recording patterns. So you can record from the front and back independently or both together or from the sides or from all sides to get a full surround sound.</p>	http://www.amazon.co.uk/Zoom-Handy-Recorder-Card-Wavelab/dp/B005CQ2ZY6/ref=sr_1_32?s=musical-instruments&ie=UTF8&qid=1362925441&sr=1-32#productDetails <ol style="list-style-type: none"> 1. Records in WAV up to 24-bit/96kHz and MP3 up to 320kbps – can handle 16 bit and 24bit depth at 44.1 KHz or 48 KHz and records compressed Mp3 files at 320 kbit/s 2. Records stereo two channel files for better editing 	£129.00
Software – Audacity (audio editor)	<p>GNU General Public Licensed free software for audio editing. Written in C and C+ it can perform equally as well on windows, Mac and Linux systems.</p> <p>Easy to use supports mono and stereo recordings and most major sound file formats</p>	http://audacity.sourceforge.net/ <ol style="list-style-type: none"> 1. Importing and exporting of WAV, AIFF, MP3 to allow for file compression and quality sound file recordings 2. Updated regularly and can run from an external drive or desktop. 	FREE

Behringer HPS3000 Studio Headphones x 2	 <p>Rugged studio style headphones with 40mm oval shaped cups for comfort on the ears. Wide frequency response and high dynamic range. ¼ jack connector so no need for adapter to connect to mixer desk and 2 meters of single strand cable to allow for broadcaster to move around</p>	http://www.amazon.co.uk/Electrovision-Ltd-HPS3000-Behringer-Headphones/dp/B0002Z82XA/ref=sr_1_2?s=musical-instruments&ie=UTF8&qid=1362925219&sr=1-2 <ol style="list-style-type: none"> Frequency response: 20 Hz - 20 kHz Max – standard hearing range of a human Impedance: 64 Ohm – draws less power from the device as it can store Independent power Sensitivity: 110 dB @ 1 kHz – high decibel range for greater sound quality and dynamic range 	£18.32 £18.32
Microphone Stand Boom	 <p>Durable microphone stand with a maximum height of 162cm and a minimum height of 96cm Adjustable angle</p>	http://www.amazon.co.uk/Microphone-Stand-Boom-FREE-Clip/dp/B001ANK7BS/ref=pd_sim_MI_5#productDetails	£11.99 £11.99
Stagg SMC6 6 metre standard microphone cable	 <p>Six meter M/F, XLR cable to connect mics to the mixer.</p>	http://www.amazon.co.uk/Stagg-SMC6-metre-standard-microphone/dp/B002PZXVRM/ref=sr_1_2?s=musical-instruments&ie=UTF8&qid=1363024832&sr=1-2 <p>Balanced XLR cables give better sound quality due to the noise reduction properties. A balanced cable does this by having a third pin connector that sends a signal inverted down the line to cancel out white background noise.</p>	£5.06 £5.06
Total			£493.76
Notes: Sources of information and the specialist suppliers I have researched.		£6.24 left in kitty for teabags milk sugar and biscuits	
http://schoolofpodcasting.com/equipment/ http://hiveologic.com/articles/podcasting-equipment-software-guide-2011 http://www.maplin.co.uk/6-channel-compact-mixer-zephyr-zmx862-562326 http://www.amazon.co.uk/Soundcraft-EPM6-Multi-Format-Mixer/dp/B000MLC7G2/ref=sr_1_1?s=musical-instruments&ie=UTF8&qid=1362658347&sr=1-1 http://www.amazon.co.uk/Behringer-DX2000USB-Channel-Pro-Mixer/dp/B003VWC29Q/ref=sr_1_1?ie=UTF8&qid=1362658669&sr=8-1 http://55d5340a043a828856e1-f62de27af599bb6703e11b472beadbcc.r28.cf2.rackcdn.com/specification_sheet/upload/82/us_pro_sm58_specsheets.pdf		£6.24 left in kitty for teabags milk sugar and biscuits	