

RIT SOFA Cage audio equipment & Information
By Dave Sluberski (Sr. Lecturer) & Vicky Mejia (Grad Assistant)
& Connor McGlynn (Assistant)

10.5.16

SOUND EFFECTS AND MUSIC FOR FILM & ANIMATION

To be used for Student and Faculty films synchronized with moving images and not to be distributed as stand-alone files.

RIT SOFA has rights for the use of these.

Location for RIT SOFA sound Library.

smb://cias-files.rit.edu/cage/sfx

Site to download software when logging in off campus

<https://www.rit.edu/its/services/vpn/protected>

All audio recorded and playback should be
24 bit rate - 48KHZ sample rate

A new VOICE service to try (not free)
Remember, casting the right voice is everything!

VOICES.com

Contact person

Aaron Haagsma

Business Development Representative

[Voices.com](https://www.voices.com)

Phone: +1-519-858-1051

Toll-free: 1-888-359-3472 ext. 051

aaron.haagsma@voices.com

Students can also visit [Voices.com](https://www.voices.com) and create their own account. Using our self-serve option, they can post the casting call and listen to all auditions that are submitted. However, for more complex projects or if a student prefers working with our project management team, it is best to connect with Aaron. All future questions should be directed to him.

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By Dave Sluberski (Lecturer) & Vicky Mejia (Grad Assistant)
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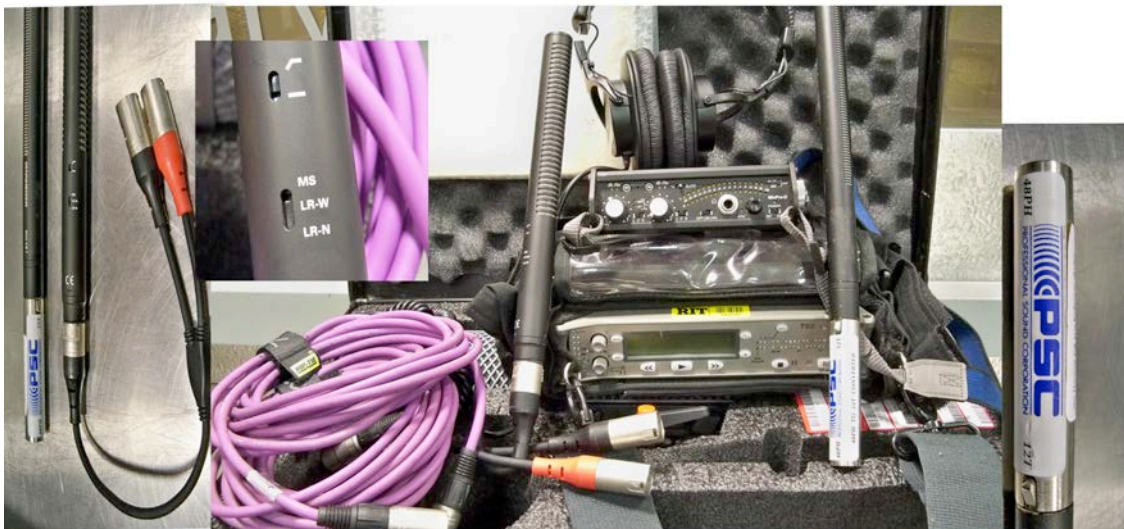
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702 Kits 1 - 10

Contents:

- 1) Sound Devices 702 Compact Flash recorder **NO CARD INCLUDED** (See approved media later in this document)
- 2) 2 channel Sound Devices Mic-Pre-mixer (48v phantom) "Needs batteries"(AAx2)
- 3) Audio Technica BP-4029 Stereo Shotgun (48 volt) with Adapter cable. (Switch for MS and LR on Mic) **Double check position.**
- 4) Sennheiser 416T Mono Shotgun. (Requires T power and needs 12V- 48V adapter)
- 5) PSC 12V – 48V Adapter for Mono Shotgun.
- 6) Sony Headphones MDR 7506
- 7) Zeppelin with covers and pistol grip, boom pole mounts
- 8) 2 XLR cable (all 15ft)

NEW!! there are no memory cards included with kit. ALL students have to purchase or check out memory kits from cage!



***Mic pre-amp with stereo 5 pin Y cord / two XLR's
Black is both Mid capsule and left when stereo
Red is both Side capsule and right when stereo***

***Stereo mic switches: MS is 2 separate capsules.
M is cardioid & S is figure 8
LR-W & LR-N is stereo already decoded Wide and Narrow***

***READ Cage equipment manual for more info & refer to Basic sound class notes on how to use
Mid Side mic'ing and matrix decoding. MONO shotgun that needs 48 to 12V adapter***

702 kits 1-10 are setup to record both Stereo and as a mono source for dialogue. The Audio Technica BP-4029 is a 48Volt phantom Microphone with 5 pin XLR to (2) 3 pin XLR adapter cable (Mid and Left channel is **BLACK**/ Side and right is **RED**). This is a dual capsule microphone providing Mid-Side or X-Y co-incident arrangement techniques. The Mid-Side needs to be "**Matrixed**" which can be done with 702 device. The included Sound Device "Mic-Pre" does not "Matrix". This is a two channel Microphone pre-amplifier that can provide phantom power and various monitoring configurations with a tone generator and metering. (Need Batteries AAx2). The Sennheiser MK416T is a mono shotgun that requires Tpower (12V), the PSC Adapter enables this microphone to work, by converting Tpower (12V) from Phantom Power (48V). Please remember, there is **NO** flash memory included in these Kits. There are a few available at the cage, although students should be prepared to purchase their own compact flash. (***See the specified options later on this document***)

Recommendations:

This kit is designed to gather stereo sounds as well as mono source for dialogue and sound effects.

Dave's Recommendations for On Set dialogue recording with Boom Op:

- 1) Set mic in MS position (BP-4029), connect 5 pin-XLR cable to Microphone, connect 3pin-XLR cable to **Black** (M/Left channel) only Y adapter and to mic preamp, so Boom op can hear the microphone and amplify signal to line level, output of preamp (Channel 1- Line Level) with feed 702 mixer (Channel 1) which needs to be set to line level input. The Boom op. can hear the microphone in both ears by setting the switches on the preamp L/C/R (Left/Center/Right). The 702 operator can monitor channel 1 in both ears by choosing HP monitoring in the menu (A1-B1). Operator needs to make a decision whether to record this audio on channel 1 or both channels for Dual Mono.

The Sennheiser mono (MK416T) mic can be used for dialogue only. However, it is a T powered microphone so the 48V to 12T adapter is needed between microphone and preamp. *Careful notes: Should document in production.*

Dave's Recommendations for Stereo recording MS stereo recording:

- 1) Set mic in MS position, connect 5pin-XLR cable to Microphone, connect 3pin-XLR cable to Black/Mid/Left Y adapter to Channel 1 of 702, and connect 3 pin-XLR to Red/Side/Right to channel 2. Both inputs on 702 must be microphone level (No external preamp needed). Use the skills and techniques from Basic Sound class regarding Matrixing and proper decoding stereo and going through menus regarding matrixing and monitoring on 702

Dave's additional notes:

- 1) There are multiple ways to use this Kit with or without the mic preamp, all depending on the production needs. Take the time to test the kit, plan ahead, document and writing what is actually recorded. AT THE BEGINNING OF THE RECORDING SESSION, SLATE THE RECORDING WITH YOUR VOICE HOW THIS IS SET UP. LATER IN POST-PRODUCTION, IT WOULD BE EASIER TO UNDERSTAND WHAT HAPPENED ON SET.

HD Kit – 744T (4Ch Audio Recorder)

Contents:

- 1) Sound Devices 744T 40 GB HD recorder with card
- 2) Sound devices MM-1 Pre-amp “2 AA Batteries needed, not supplied”
- 3) Neumann KM-81 48v phantom shotgun microphone (mono)
- 4) Lectrosonics wireless transmitter and receiver. “NEEDS BATTERIES NOT SUPPLIED” Check any Lectronics transmitters and receivers for battery types.
- 5) Tram TR-50 Lavalier microphone with assorted mic clips.
- 6) Sony Headphones MDR 7506
- 7) Zeppelin with covers and pistol grip
- 8) 1 XLR (25') - 1 XLR (8') - 2 FLXR –TA3F - 2 XLRM - TA3F - 1 ¼' tip/sleeve with 5 pin LEMO connection for smart slate. 1 Fire wire cable 6 - 6 pin.



Sound Devices 744t is a 4 channel hard drive recorder with time code option. This enables multiple channels of audio to be recorded which includes a Wireless lavalier and shotgun microphone with MM-1 Mic-Preamp. A Smart slate (cage equipment) can be used for the time code options. The 744t has two XLR Mic inputs and two TA3 line inputs. The Lectrosonics receiver's output can be adjusted to line out 0db and preamp is line out. These two devices would be connected to channels 3 & 4 with TA3-XLR adapter included in kit.

Recommendations: By combining two more wireless mics kits with additional boom mics, this has the ability for 2 -3 actors to be body mic'ed with a boom for coverage or various combinations. Monitoring all 4 channels in headphone is a bit difficult. They have to be listened in pairs. One needs to understand this unit very well before using. It can also be used in tandem with Sound Devices 552 mixer/recorder for a very powerful package and able to feed 4 inputs all at the same time (line level x 4). The internal

Time code generator can supply the smart slate for on – set synchronization. Boom pole(s) and assorted cable and batteries need to be planned as needed

552 Kit

(AVAILABLE FOR STUDENTS THAT HAVE TAKEN BASIC SOUND AND HAVE BEEN
TRAINED AND APPROVED BY DAVE SLUBERSKI)

Contents:

- 1) Sound Devices 552 5 channel mixer **NO MEDIA INCLUDED**, *(Needs SD card, See approved media later in this document)*
- 2) 20 ft. breakout cable with XLRs and 1/8' for headphone returns
- 3) 2 TA3F – TA3F (3ft)
- 4) 2 TA3F – XLRF (3ft)
- 5) 2 TA3F – XLRM (3ft)
- 6) 3 XLR cables (1)ft.
- 7) Rechargeable Battery Kit eliminating need for AA batteries



Sound Devices 552 kit is a 5 channel mixer with internal 2 channel flash recorder. It has 5 mic or line inputs and 5 line outputs. It also includes various cables especially a 20 ft. breakout cable. This is intended to feed another two channel device with return audio. This needs 4 AA batteries (Not included) and SD flash card (Not included). Auxiliary porta brace case for wireless mics.

Recommendations: This mixer can be used with 744t to record 4 channels unmixed as separate tracks while creating 2 channel field mix or final mix. The pouch has enough room for wireless receivers with cabling included. It has 5 line outputs from each channel. This also can record external time code with return input so the audio file has a timestamp

664 KIT

(AVAILABLE FOR STUDENTS THAT HAVE TAKEN BASIC SOUND AND HAVE BEEN
TRAINED AND APPROVED BY DAVE SLUBERSKI)

Contents:

- 1) Sound Devices 664 6 channel mixer recorder. **MEDIA NOT INCLUDED** (See approved media later in this document)
- 2) 20 ft. breakout cable with XLRs and 1/8' for headphone returns and timecode.
- 3) 4 TA3F – XLRF (3ft).
- 4) 2 TA3F – XLRM (3ft).
- 5) Timecode break out cable.
- 6) Rechargeable Battery Kit eliminating need for AA batteries



Sound devices 664 kit is a 6 channel mixer that can record and mix 6 microphones separately on discrete track. It can also record 12 individual tracks depending on the mode and menu settings. It also includes a break out cable to feed a camera and monitor audio from the camera and can generate and connect time code. This unit needs 5AA batteries and can use an SD or CF card (**NONE INCLUDED**). Auxiliary porta brace case for wireless mics

Recommendations:

This is a very complex and valuable recorder mixer. The ability to record 6 channels in one unit opens up many possibilities such as multiple

microphone set ups, one could conceivably use 2 booms, 2 wireless lavs, for a two person scene and have the best possible coverage. This device depletes batteries very fast, buy plenty. Or plug in to wall outlet if possible.

302 Kit

Contents:

- 1) Sound Devices 302 mixer – Tone Generator - 48v & 12T power – Line level output.
- 2) 20 ft. breakout cable with XLRs and 1/8' for headphone returns
- 3) 3 XLR jumpers (3ft)
- 4) 1 TA3F – XLRM
- 5) 1 XLRF “Y CORD” to 2 XLRM



Sound Devices 302 is a 3 channel mixer with Mid-Side capabilities for stereo recording. The pouch has enough room for additional gear such as 3 wireless receivers. This kit is designed for supplying audio to a camera or several recording devices. There is a 20 ft. Breakout cable with two XLR's and return audio paths to monitor from other devices. The included XLR “Y” cable allows audio to feed (2) other devices at same time for a multi camera shoot. 3 AA batteries NOT INCLUDED.

Recommendations: This is a great package for multi - camera shoot especially documentaries. The use of channel 3 with a Lav mic (Wireless or hardwired) and then MID –Side Mic in channel 1 & 2, one can interview with both Lav and boom and quickly get Stereo B Roll ambience (minimal tech changes).

Wireless Boom/Lav Kit (2)

- 1) 2 Lectrosonics UHF wireless transmitter
- 2) Lectrosonics UHF wireless receiver
- 3) "CUBE" for use on microphones
- 4) Supplies 48v phantom power (not 12T power).
- 5) Lectrosonics Lav microphone



This kit contains and Lectrosonics UHF wireless receiver with 2 Transmitters. One is a "CUBE" for use on microphones and supplies 48v phantom power (not 12T power). The other is a transmitter (body pack style) with included Lectrosonics Lav microphone. WARNING: only one transmitter can be used or turned at a time! Please check written documentation for frequency choice and battery types (Not included).

Wireless Kits 1 – 8 & 11 (Total of 11 Kits)

- 1) Lectrosonics UHF wireless transmitter
- 2) Lectrosonics UHF wireless receiver
- 3) Tram “TR-50” Lav microphone.
- 4) Rycote wind stoppers
- 5) **Red writing on kit describing battery requirements i.e. AA, 9V, etc.**



This kits contains a single pair of Lectrosonics UHF wireless transmitter – receiver combination with Tram “TR-50” Lav microphone. Please check written documentation for frequency choice (DO NOT CHANGE) and battery types (Not included).

Wireless Mic Kit 9 &10

- 1) Lectrosonics UHF wireless transmitter MMQUL (requires AAx2) *Smaller than Kit 1-8 and 11 transmitters.*
- 2) Lectrosonics UHF wireless receiver (requires AAx2)
- 3) Tram "TR-50" Lav microphone.



New style transmitter

NEW, Wireless kits 9 & 10.

Wireless mixer Kit in case.

- 1) 3 Lectrosonics VHF wireless receivers
- 2) 3 Lectrosonics VHF wireless transmitters
- 3) Mixer
- 4) 3 PSC lavalieres in a separate case
- 5) Body pack transmitters
- 6) Antennas.



This kit contains 3 Lectrosonics VHF wireless receivers and transmitters with a self-contained mixer that outputs all three mixed to a single “mic level” output (side of case-XLR). This is in a 2 RU spaced road case. Included are 3 PSC lavalieres in a separate case that includes the body pack transmitters. The antennas need to be connected on receivers before powering up. Please check written documentation for frequency choice and battery types (Not included). Requires AC power for receiver and mixer.

Sony Lav kit 1-4

- 1) Sony ECM 77BC w/power supply
- 2) Rycote over-covers and stickie's



These kits are hardwired Sony ECM 77BC w/power supply (LDC-78). Included are Rycote over-covers and stickies. This mic can use 48V phantom OR internal AA battery "not included"

Recommendations:

This is an ideal setup for Documentaries or situations where the mic can be hardwired to talent and the visuals of cable won't matter. In a pinch, this can be wireless using the wireless kit Boom Lav with Cube.

Audio Accessories Kit 1-4, 7,8

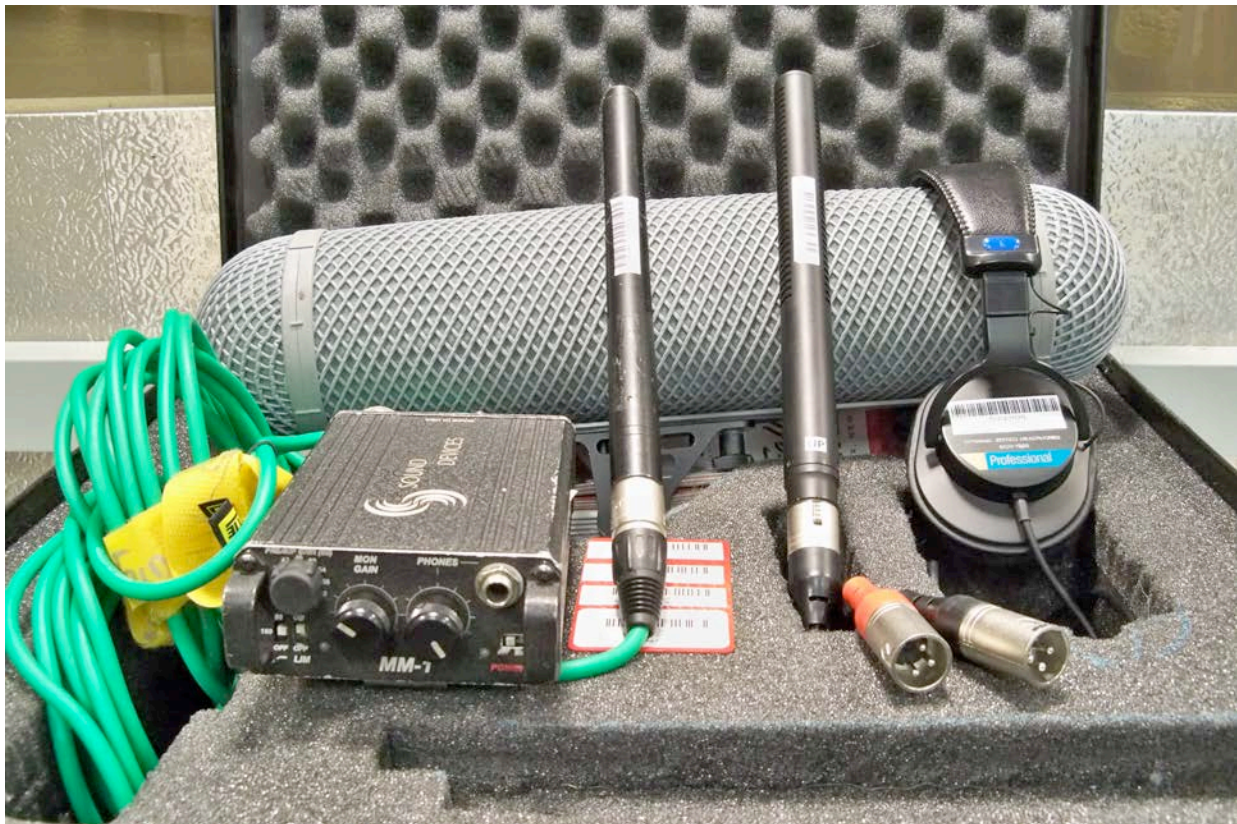
- 1) Beyer (MCE87N) (mono) shotgun (**kits1-4**) Needs AAx1 (*Won't function with phantom power provided by mixer or preamp*)
- 2) Sennheiser MKH 416T mono shotgun 12V T powered microphone (**Kits 7-8**)
- 3) Sound Devices MM-1 pre-amp
- 4) 25 XLR cables
- 5) Headphones
- 6) Zeppelin windjammer and pistol grip.



This kit contains a Sennheiser MKH 416T mono shotgun 12V T powered microphone. Included is Sound Devices MM-1 pre-amp that provides both 12v T & 48V phantom power. This kit includes other items; a Zeppelin windjammer with pistol grip, Headphones and a 25ft XLR cable. (Boom pole needed)

Audio Accessories Kit 6

- 1) Audio Technica BP4029 Stereo shotgun
- 2) Adapter (5 pin XLR to (2) 3 pin XLRs).
- 3) 2 (15ft) XLR cables
- 4) Headphones
- 5) Zeppelin windjammer and pistol grip.
- 6) MM1 preamp for 12V Tpower.
- 7) Sennheiser MKH416T Mono shotgun.



This kit contains Audio Technica BP4029 Stereo shotgun with adapter (5 pin XLR to (2) 3 pin XLRs). It also has a Sennheiser mono shotgun with an MM1 preamp which supplies and can only use 12v Tpower. Included are 2 (15ft) XLR cables, Headphones and Zeppelin windjammer and pistol grip. Of Note: The Audio Technica Stereo Shotgun needs 48 v phantom to work, but each capsule can be powered separately. The AT BP4029 can be used with MM1 pre-amp but only if in 48V mode and one channel best

used in M-S mode using Mid for Mono cardioid use only. Best to use the stereo shotgun directly into 702 or HD camera and monitor audio from that particular device.

Sennheiser 816T Shotgun

- 1) Sennheiser 816T
- 2) Zeppelin with pistol grip
- 3) XLR cable



The Sennheiser 816T super shotgun (mono) (21 inch length) is designed for longer distance and tighter pattern than others at RIT. It includes a Zeppelin with pistol grip and short XLR cable. This will need 12v power to work using a Sound Devices MM-1 preamp or other device that can provide proper resource.

Zoom Kits 1-6

- 1) Zoom H4n flash recorder (**MEDIA NOT INCLUDED**)
- 2) Beyer Dynamic cardioid M69 microphone
- 3) 10ft XLR cable



There are 6 of these kits each containing a Zoom H4n flash recorder with Beyer Dynamic cardioid M69 microphone and 1 10ft XLR cable. This recorder has an X-Y co-incident mic pattern for recording Stereo ambience. It also has two rear XLR combo jack inputs to record any type of microphone. It supplies 48V Phantom power and can do M-S matrixing but is recorded that way, no option for listening “only MS mode” such as 702 units can. 2 AA batteries

needed “Not Included”. The windscreen for X-Y isn’t very good outdoors but Rycote windjammers can be purchased (Professional audio suppliers) for under \$50.00 to make it more robust in the field.

Marantz PMD 670 Audio Kit

- 1) Marantz PMD 670
- 2) Beyer Dynamic cardioid M69 microphone
- 3) 10ft XLR cable
- 4) USB cable
- 5) Flash card reader



This kit contains a Marantz PMD 670 Compact Flash recorder with Beyer Dynamic cardioid M69 microphone and 1 10ft XLR cable. USB cable with Flash card reader included. This deck records 2 channels with mic and line inputs. It is industry standard for radio news reporters, specifically NPR and possibly BBC. Designed for back and forth interviews. It can use any type of microphone for other applications.

Grad Dat Kit.

- 1) Sony PCMD-10 Dat recorder
- 2) AC adapter
- 3) Battery



This single kits contains a Sony PCMD-10 Dat recorder with battery and AC adapter. These units were the first portable Digital recorders and are all but obsolete. They use Dat tape media and all transfers are in real time. 2 XLR mic and line level inputs. Purchasing of tapes are getting harder to find but in a pinch this is a great recorder for backup. Ideal for long interviews or lectures for documentaries plugged into shore power with a 2 hour tape.

Nagra Kit.

- 1) Power supply
- 2) Zeppelin
- 3) Headphones



This was the original field recorder for Film and Broadcast. It is a reel to reel recorder and contains a power supply and Headphones. Included is a Zeppelin able to attach to boom pole. No mic included. Tapes are getting harder to find and one is threaded on this unit. One would need a very good understanding of how this works and research needed to fully take advantages it may hold. With the introduction of Digital instruments, the problem of drifting and Tape sync virtually went away. This used Pilot tone to sync with cameras.

Assorted Microphones/headphones & Misc.



- 1) (4) Sennheiser ME-80 Shotgun mono microphone. Internal (battery) or external Phantom power. Switchable high pass filter -7db, -20db @ 50 Hz
- 2) (5) Sennheiser ME-66 Shotgun mono microphone "super cardioid pattern) Phantom power by 2 AA batteries or 48 V.
- 3) (1) Beyer M69 is a dynamic Hyper-cardioid handheld microphone. Ideally for interviews or an instrument application
- 4) (2) Neumann KMR-81 Shotgun mono microphone. Super cardioid pattern and needs 48v phantom power. This is the Cadillac of microphones.

- 5) (3) Beyer M200N Kits, 2 single mics in each Kit. This is a cardioid dynamic handheld type. Its okay for interviews but medium quality with proper mounting, coincident micing techniques such as XY or ORTF can be accomplished.
- 6) (1) Sony ECM-23 Electret Handheld type mic. An okay microphone.
- 7) (3) Shure Sm-83A Lavalier microphone. Omni pattern and needs 9V battery for internal phantom voltage.
- 8) **Assorted headphones.** “Dave Sluberski’s choice” Sony MDR 7506. A closed ear design with great frequency response. If it sounds good on these, then it will translate to a good playback anywhere. All Students serious about the audio of their projects should own a pair. Average cost \$100.00.
- 9) **Cables and boom poles:** There are many cable lengths of XLR balanced cables and a variety of boom poles to choose from. Be sure to have a spare cable for shoots.

Wireless mic settings should already be set, but this chart shows how to adjust.

There should be no need to adjust these! They are set by SOFA!

		100K Switch (Right)																
		0 1 2 3 4 5 6 7 8 9 A B C D E																
1.6m	Switch	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E		
(Left)		0	512.000	512.100	512.200	512.300	512.400	512.500	512.600	512.700	512.800	512.900	513.000	513.100	513.200	513.300	513.400	
		1	513.600	513.700	513.800	513.900	514.000	514.100	514.200	514.300	514.400	514.500	514.600	514.700	514.800	514.900	515.000	
		2	515.200	515.300	515.400	515.500	515.600	515.700	515.800	515.900	516.000	516.100	516.200	516.300	516.400	516.500	516.600	
		3	516.800	516.900	517.000	517.100	517.200	517.300	517.400	517.500	517.600	517.700	517.800	517.900	518.000	518.100	518.200	
		4	518.400	518.500	518.600	518.700	518.800	518.900	519.000	519.100	519.200	519.300	519.400	519.500	519.600	519.700	519.800	
		5	520.000	520.100	520.200	520.300	520.400	520.500	520.600	520.700	520.800	520.900	521.000	521.100	521.200	521.300	521.400	
		6	521.600	521.700	521.800	521.900	522.000	522.100	522.200	522.300	522.400	522.500	522.600	522.700	522.800	522.900	523.000	
		7	523.200	523.300	523.400	523.500	523.600	523.700	523.800	523.900	524.000	524.100	524.200	524.300	524.400	524.500	524.600	
		8	524.800	524.900	525.000	525.100	525.200	525.300	525.400	525.500	525.600	525.700	525.800	525.900	526.000	526.100	526.200	
		9	526.400	526.500	526.600	526.700	526.800	526.900	527.000	527.100	527.200	527.300	527.400	527.500	527.600	527.700	527.800	
		A	528.000	528.100	528.200	528.300	528.400	528.500	528.600	528.700	528.800	528.900	529.000	529.100	529.200	529.300	529.400	
		B	529.600	529.700	529.800	529.900	530.000	530.100	530.200	530.300	530.400	530.500	530.600	530.700	530.800	530.900	531.000	
		C	531.200	531.300	531.400	531.500	531.600	531.700	531.800	531.900	532.000	532.100	532.200	532.300	532.400	532.500	532.600	
		D	532.800	532.900	533.000	533.100	533.200	533.300	533.400	533.500	533.600	533.700	533.800	533.900	534.000	534.100	534.200	
		E	534.400	534.500	534.600	534.700	534.800	534.900	535.000	535.100	535.200	535.300	535.400	535.500	535.600	535.700	535.800	
		F	536.000	536.100	536.200	536.300	536.400	536.500	536.600	536.700	536.800	536.900	537.000	537.100	537.200	537.300	537.400	

Knowledge Base Article

MEDIA RECOMMENDATION BY CAGE

Reminder:

Audio Kits do **NOT** have media.



Recommended Media

Students are asked to purchase their own media



- JVC HD Cameras
- Zoom Audio Rec
- FS100/FS700 Cameras
- Nikon DSLR cameras
- Nikon 810 and Canon DSLRS
- Canon XF305/300
- 702 Audio Recorders (60MB/s)
- 544 Audio Recorder
- Video and Audio editing
- G-Drive with thunderbolt and USB 3
- Minimum drive speed 7200RPM
- Mac OS Extended Format (journaled)
- PC owners should purchase "Mac drive", driver to read Mac formatted hard drives
- Please transport your drive in a padded case,
- Thunderbolt-to-Firewire adapters available at the cage for checkout



Please DO NOT USE A 5400 RPM Speed Drive OR w/ExFAT/FAT32 formatting or USB flash Drive. (Only for file transfer not editing)

AVAILABLE MEDIA AT THE CAGE



RECOMMENDED MEDIA BY SOUND DEVICES

Approved Media

6-Series - Approved Media List

Sound Devices extensively tests removable recording media with the 633 (/633), 664 (/664) and 688 (/688) Mixer.

The cards listed below have successfully passed benchmark testing with the 633, 664 and 688. Many other cards may work but their performance and reliability cannot be confirmed unless they have been extensively tested at Sound Devices.

Type	Size	Brand	Model
CF Card	256 GB	SanDisk	Extreme Pro; UDMA7; 160MB/s
		SanDisk	Extreme Pro; UDMA7; 160MB/s
	128 GB	SanDisk	Extreme; UDMA7; 120MB/s
		Delkin Devices	CF1050X, UDMA7, 120 MB/s write; 160MB/s read
		SanDisk	Extreme Pro; UDMA7; 160MB/s
	64 GB	SanDisk	Extreme Pro; UDMA7; 90 MB/s
		SanDisk	Extreme; UDMA7; 120MB/s
		Delkin Devices	CF1050X, UDMA7, 120 MB/s write; 160MB/s read
		Delkin Devices	CF1000X, UDMA6 and 7
		SanDisk	Extreme Pro; UDMA7; 160MB/s
	32 GB	SanDisk	Extreme; UDMA7; 120MB/s
		SanDisk	Extreme; UDMA7; 90MB/s
		Delkin Devices	CF1050X, UDMA7, 120 MB/s write; 160MB/s read
		Delkin Devices	CF700X, UDMA6, 67 MB/s write; 105MB/s read
		LEXAR	Prof 1000X; UDMA7; 145 MB/s write; 150 MB/s read
		LEXAR	Prof 800X; UDMA7; 45 MB/s write; 120 MB/s read
		PNY	PRO-ELITE UDMA6, 50MB/s
		SanDisk	Extreme Pro; UDMA7; 160MB/s
	16 GB	SanDisk	Extreme; UDMA7; 120MB/s
		SanDisk	Extreme; UDMA7; 90MB/s
		Delkin Devices	CF1000X, UDMA6 and 7
		Delkin Devices	CF700X, UDMA6, 67 MB/s write; 105MB/s read See Note 2
		Delkin Devices	CF500X, UDMA6 16 GB
		WINTEC	Filemate Professional; UDMA5; 25 MB/s write
		SILICON POWER	400x

Type	Size	Brand	Model
SD Card	128 GB	SanDisk	Extreme PLUS; SDXC/UHS-1, Class 10; 80 MB/s
	64 GB	SanDisk	Extreme Pro; SDXC/UHS-1, Class 10; 95 MB/s
		SanDisk	Extreme; SDXC/UHS-1, Class 10; 45 MB/s
		LEXAR	Professional, 400X
	32 GB	SanDisk	Extreme PLUS; SDHC/UHS-1, Class 10; 80 MB/s
		Delkin Devices	600x; SDHC/UHS-1; 45 MB/s write, 90 MB/s read
		PNY	PRO-ELITE; UHS-1/Class 10; 35 MB/s
	16 GB	SanDisk	Extreme PLUS; SDHC/UHS-1, Class 10; 80 MB/s
		Delkin Devices	633x; SDHC/UHS-1; 80 MB/s write, 95 MB/s read
	8 GB	SanDisk	Extreme PLUS; SDHC/UHS-1, Class 10; 80 MB/s

* Note 1: Sound Devices has worked directly with Delkin to identify an intermittent Media I/O issue with newer Delkin CF 500x and CF 700x cards. Delkin has confirmed that a recent change to these two cards is most likely responsible for the errors. Cards containing KZ in the serial number are susceptible to this issue and should not be used. Cards containing VB in the serial number will function correctly and are approved. Delkin CF 1000x and 1050x cards do not experience this issue and may continue to be used.

Recommended batteries for field audio Equipment

In general, Energizer, Duracell and industrial manufactured prograde are the best batteries to be used for all RIT audio equipment. Never purchase generic batteries such as Walgreens, Walmart, etc. They don't meet the requirements.

The sound devices 664 and 552 along with wireless microphones demand an outstanding amount of power, here are our recommendations, which can also be purchased at the RIT photo store. (This is a good investment for the long turn).



The energizer charging Kit with 4 AA batteries included (rated at 1400MAH- mill watt amp hours) cost is \$ 38.95. This unit can also charge batteries in a car.

However we recommend using the AA batteries with 2300 mill watt amp hours, purchased separately for \$12.95.

There are also AAA batteries (700 mill watt amp) for \$12.95.

The charging unit can handle both AA and AAA batteries.

TOOLS & TIPS



USING MOLESKIN TO PREPARE MIC FOR UNDER GARMET MICING TECHNIQUE. THE KEY IS TRYING TO AVOID MOVEMENT NOISE FROM CLOTHES. CUT STRIPS AND FASHION THIS WAY. IT WORLKS PRETTY WELL AND IS COST EFFECTIVE.



WHEN PLACING A MIC, IT IS BETTER TO DROP DOWN BACK OF PERSON, THIS WAY IF MIC SHOULD BECOME LOOSE IN FRONT, IT CAN'T FALL TO WAIST. IT'S FASTER THIS WAY ESPECIALLY FOR DOCUMENTARY OR NEWS GATHERING.



FRONT VIEW WHEN PREPPING MIC PLACEMENT AFTER
DROPPING CABLE DOWN BACK.



TAPING MIC INTO PLACE UNDER THE SHIRT WHILE OVER TSHIRT. USE OF MEDICAL TAPE IS MUCH BETTER THAN GAFF TAPE. ALWAYS KNOW WHAT SUBJECT WILL BE DOING OR HOW THEY PROJECT WHEN PLACING MIC.



MICING WITH RYCOTE STICKY AND OVERCOVER.
CLEANER AND FASTER.



MICING WITH RYCOTE STICKY AND OVERCOVER.
CLEANER AND FASTER. NOW WITH RYCOTE
WINDJAMMER OVERCOVER ONTO STICKY.

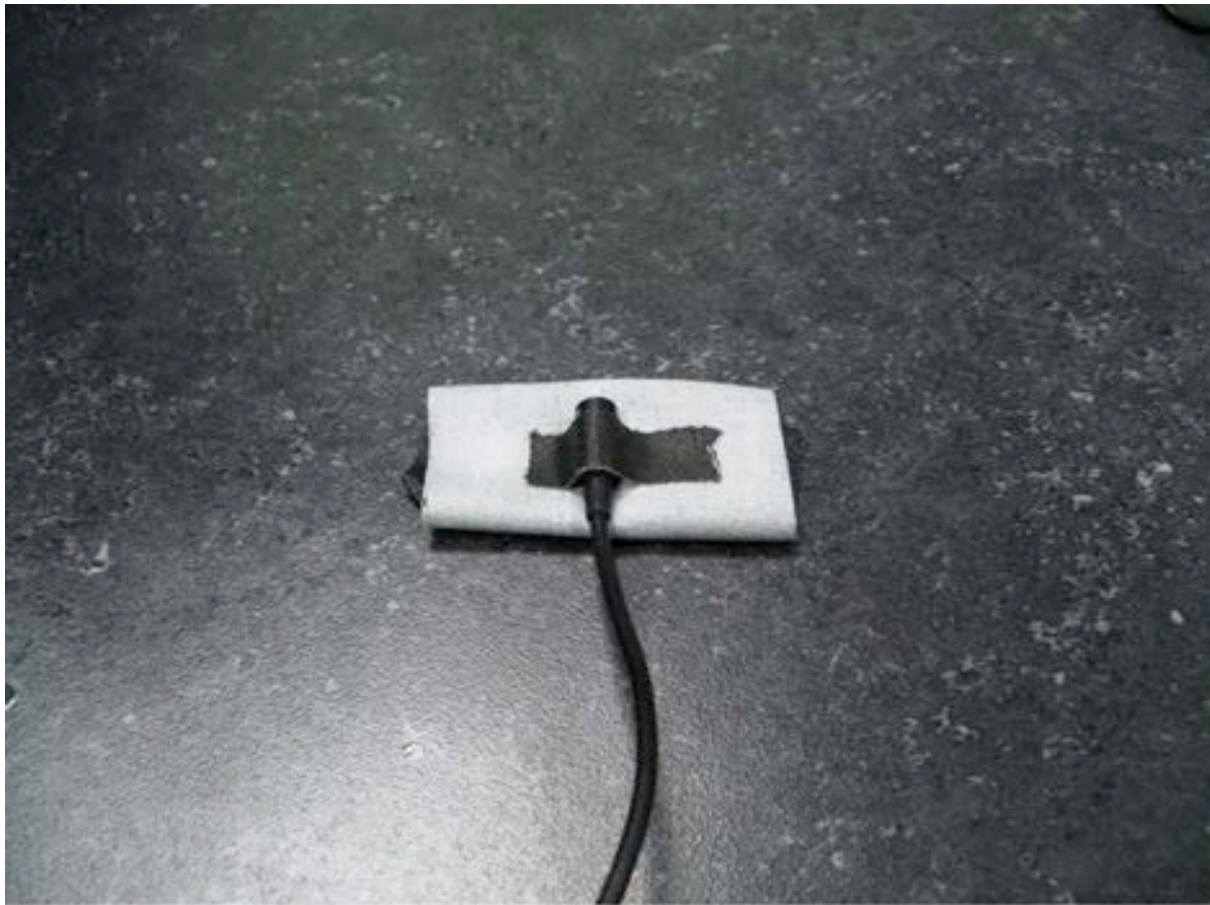


I AM A HAPPILY
MIC'ED PERSON.
YOU CAN'T SEE
THE MIC.

THE MICROPHONE IS HIDDEN AWAY AND HOPEFULLY
WE WON'T HEAR THE CLOTHING MOVEMENT.



FINAL LOOK WITH RYCOTE SYSTEM.



IF YOU ONLY HAVE GAFF TAPE, THIS IS A POSSIBLE SOLUTION BUT NOT VERY ELEGANT AND HARDER TO HIDE UNDER LIGHT GARMENTS. STEP ONE ROLL UP A PIECE OF GAFF TAPE.

STEP 2. TAPE TO GAFF WITH GAFF



IF YOU ONLY HAVE GAFF TAPE, THIS IS A POSSIBLE SOLUTION BUT NOT VERY ELEGANT AND HARDER TO HIDE UNDER LIGHT GARMENTS. STEP ONE ROLL UP A PIECE OF GAFF TAPE.

STEP 2. TAPE TO GAFF WITH GAFF

STEP 3, USE ANOTHER PIECE OF GAFF TO SECURE AND PROTECT MIC FROM MOVEMENT.

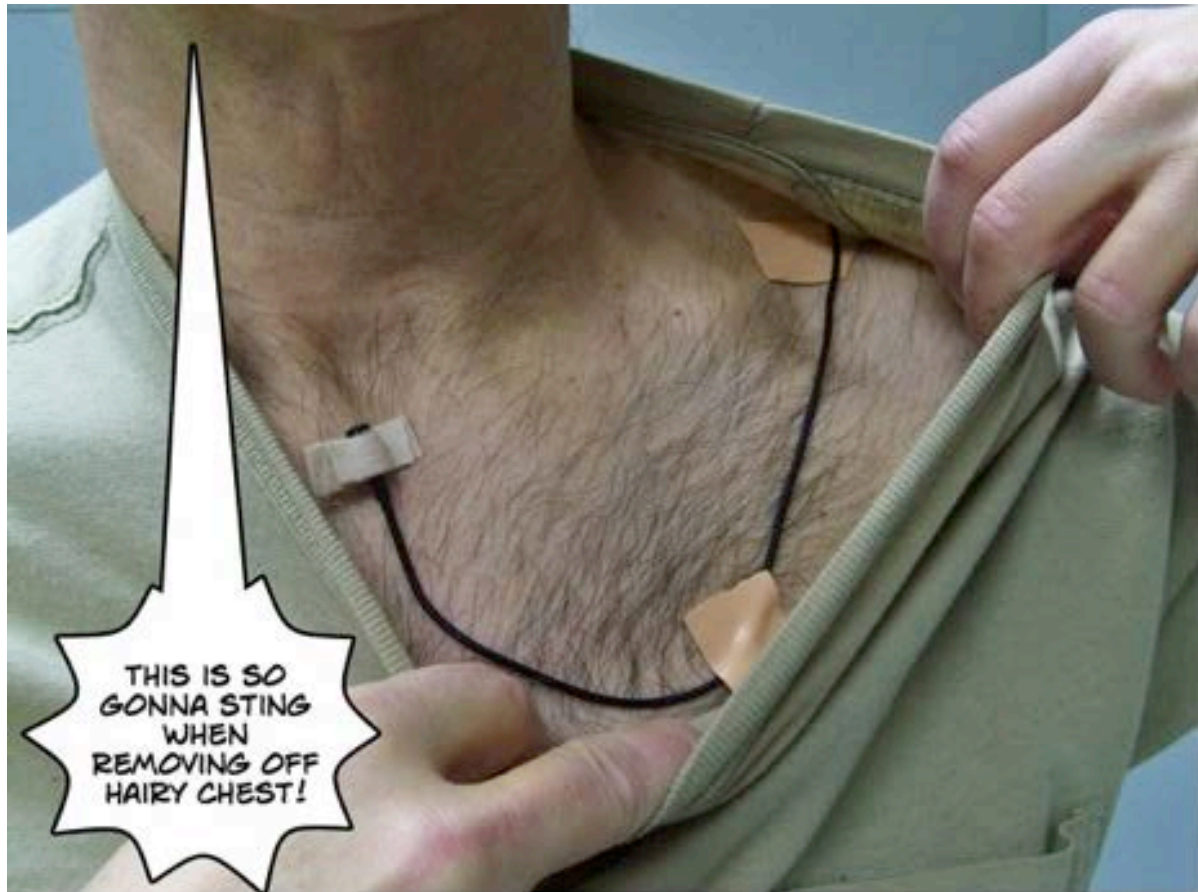


TAPING THE WHOLE GAFF THING IN PLACE OVER TEE-SHIRT BUT UNDER REGULAR SHIRT.



TAPING THE WHOLE GAFF THING IN PLACE OVER TEE-SHIRT BUT UNDER REGULAR SHIRT.

WE GOT AWAY WITH THIS BECAUSE OF SHIRT STYLE. IT WON'T WORK VERY GOOD UNDER T-SHIRT OR LIGHT GARMENTS.



HOW IS IT HIDDEN HERE?

THIS IS HOW WE DID IT. LOOPING CABLE AND PLACING MIC WHERE COLLAR IS TO HOPEFULLY NOT SEE IT. MEDICAL TAPE IS ALSO GOOD BECAUSE IT IS STERILE AND TELLING TALENT THAT MAY EASE THEIR WORRY OF GERMS. KEEP TAPE SEALED IN BAG WHEN NOT IN USE.



HOW IS IT HIDDEN HERE?

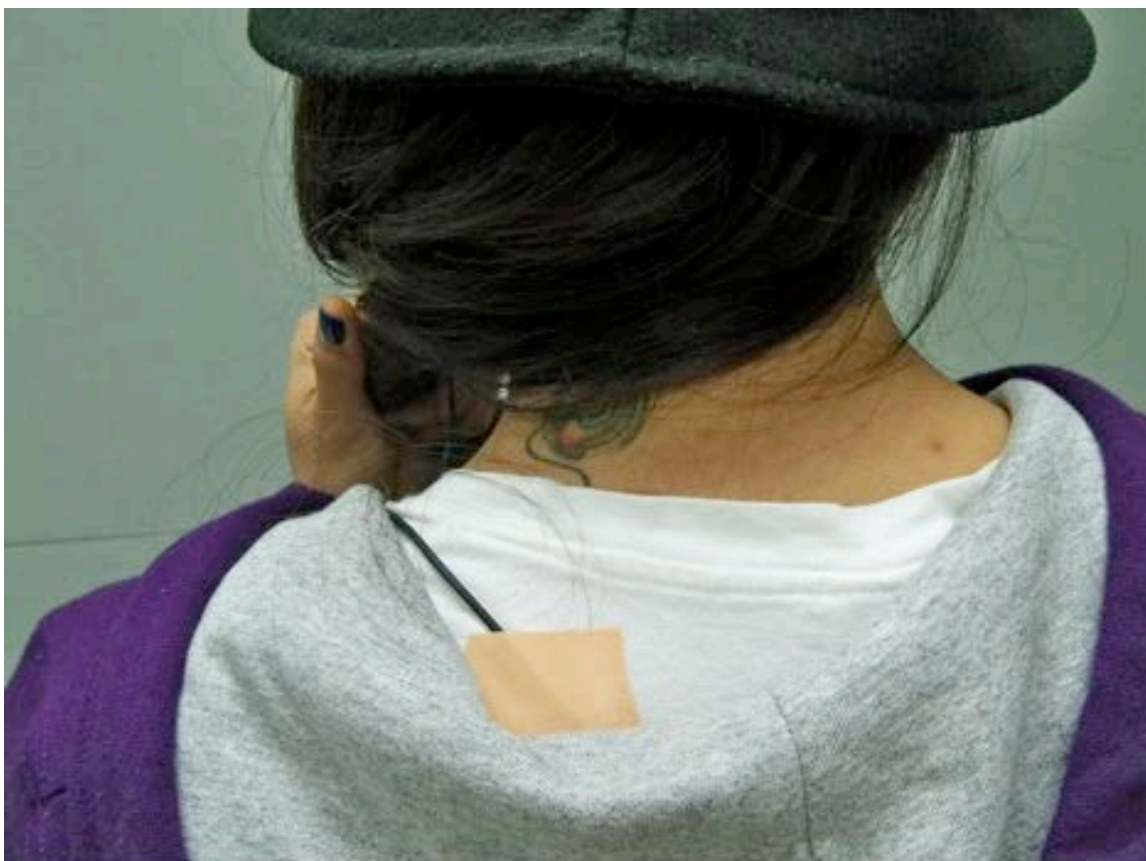


HOW IS IT HIDDEN HERE?

MICROPHONE USING RYCOTE SYSTEM IS HIDDEN UNDER BRIM. MICS CAN BE WOVEN INTO HAIR OR WIGS TOO. ABOVE FOREHEAD IS BEST AUDIO QUALITY AND ACOUSTIC SPACE. ANY WIND WILL BE REDUCED TOO!



HAT PREPARATION. IN THIS CASE USING GAFF TAPE AND FLOWING DOWN BACK OF HAT. VICKY HAS LONG HAIR AND CABLE WILL BE HIDDEN.



WEAVING CABLE UNDER HAIR AND TAPING INPLACE
TO PROTECT CABLE FROM GETTING LOOSE AND
POTENTIALLY RUINING A TAKE.



HOW IS IT HIDDEN HERE?

IN THIS CASE, TALENT WILL KEEP HAT ON FOR DURATION. CONSISTENCY OF MIC PLACEMENT WITHIN SCENE IS VERY IMPORTANT. KNOW THE SCENE OR ASK WHAT WILL BE HAPPENING.