



Motorcycle Theater Equipment FAQ

If you're interested in filming quality footage for Motorcycle Theater, then you're probably wondering what equipment is required to meet our minimum standards for purchase. Admittedly there are numerous cameras, both old and new, that will meet the minimum standards for Motorcycle Theater.

However, we have a few preferences for cameras and equipment which you might consider before choosing your audio/video equipment. The following is meant only as a guide for those who are interested in our opinions regarding equipment. We encourage you to consult print and online consumer reviews and to educate yourself before purchasing your first set of motorcycle filming equipment. Do your own research, and decide what works best for you. As always, consider the overall cost vs. overall value, taking into account features, performance, durability, and technology.

**Motorcycle Theater Minimum Standard:
720x480 NTSC Television Standard,
color with 380 line resolution.
Audio recorded at 16bt 32khtz**

What do we use? Motorcycle Theater currently uses at least four different types of video cameras to film our movies. These different cameras were not all acquired at once, but over a period of time, based on specific needs, and a cost analysis which was directly influenced by experience. If you have never owned a video camera before, consider starting small and inexpensive, with the goal of progressing to more expensive and feature-filled cameras. We call the four types of cameras we use: Main Production Video Camera, Secondary Production Video Camera, On Bike Mini-Cams, and Throw Down Cameras.



What Format? In our opinion, the best format for motorcycle filming is Mini-DV because of its durability in the field, resistance to vibration, and overall output quality. Generally speaking, DVD type camcorders are not appropriate for motorcycle filming because of their sensitivity to vibration. Flash memory, while new and improving, is relatively expensive and sometimes employs unwanted image compression which may reduce the quality of video output. Hard Drive memory can also be susceptible to vibration, and compression issues. As these formats improve with technology, they will surely replace the Mini-DV format. But for now, it is our opinion that Mini-DV offers the best all around value for motorcycle filming.

CAMERAS



Sony DCR-VX2100



Panasonic PV-GS500

Main Production Video Camera. Options: Sony DCR-Vx2100, Sony DSR-PD170, Canon XL-2, Canon GL-2, Panasonic DVX100B, Panasonic PV-GS400/500. This is the work horse of Motorcycle Theater. These

cameras are entry level professional 3ccd cameras, which means that it has not one but three (3) ccd chips, usually 1/6"-1/4" in size. Each chip captures a separate color, hence the vibrant colors of our videos. These cameras may have metal bodies, and a host of manual adjustments to allow an experienced videographer to tweak their filming. These cameras have external microphone options which is important for wireless or lavalier microphones used during interviews. These cameras are used to capture more than 60% of the footage in our DVDs, specifically for scenery, interviews, and action shots.

Cost: \$1,500-3,500 US



JVC GR-750



Sony DCR-HC96

Secondary Production Video Camera. Options: Sony DCR-HC-96, DCR-TVR22/33, JVC GR-750, Panasonic GS80. These cameras are used for action shots, on the bike shots, and some limited interviews when a larger camera is not appropriate. A majority of the remaining footage in our videos is shot with these cameras since they are small, and have relatively high quality. These cameras use single chips, usually 1/6"-1/4" ccd. The bigger the chip the better. Generally CMOS chips work poorly in low light conditions. You will note that we usually prefer Sony cameras and this is because Sony cameras typically use very high quality lenses, their battery packs and accessories may be interchangeable within generations, and they are feature filled. Some of the features that are important in a primary and secondary camera are external microphone options, A/V pass-through, and remote control.

Cost \$300-1,500 US

What is A/V Pass-through?

If you want to record into your digital video camera, your camcorder must be equipped with analog pass-through, sometimes called "A/V pass-through." A/V pass-through allows you to connect another audio/video source, like a TV, VCR, or mini-cam to your camera and record that image.

A/V pass-through is usually not offered in basic model camcorders, so look for this feature before you buy.



1/4" HAD Mini Cam



1/3" Pinhole Cam



1/4" Bullet Cam

On Bike Mini-cams. 1/6"-1/4" HAD surveillance mini-cameras, in pinhole or bullet cam style. While you can use a secondary camera to film on bike footage, you will find over time that it makes sense to have a dedicated camera or set of cameras that can be mounted to a bike and used to film. These cameras generally do not record on their own. They must be connected to another camcorder which does the actual recording (called A/V pass-through). When choosing mini-cameras, choose the largest size chip available.

Cost: \$60-300 US



What about Helmet Cams?

Helmet cams are great things. But they are expensive and vary in quality and durability. Because we have not yet found a helmet cam that truly represents a good cost/performance value, we don't recommend helmet cams. In our opinion, for the price of even the most basic helmet cam, you can purchase multiple mini-cams and custom configure them for your motorcycle filming needs. Mini-cams can cost less than \$100 per unit.

While a basic helmet cam unit may cost you in excess of \$300. It's also important to note that the guts of a helmet cam are in fact the same guts from a surveillance mini-cam. In some cases, you can get a better mini-cam for less money than a fancy helmet cam. Check the specs before you buy. Note the size and type of video chip, the line resolution, etc.



Samsung D372



VuPoint DV-DA1-VP



Aiptek A-HD

Throw Down Video Camera. Options: VuPoint DV-DA1-VP, Aiptek A-HD, Samsung D372 Mini-DV. There are times when you need a camera to record something, but you don't want to use a primary or secondary camera because they are either too big, too heavy, too complicated, too expensive, or just not the right tool for the job. Most of the time this means that you are afraid you will destroy or break one of your better cameras. A throw down camera is relatively cheap and basically disposable. Throw down cameras are used in bad weather, rough situations, covert situations, or any other time when you think you will likely lose or damage your camera. These cameras are not often used, and their quality may be slightly inferior. But they are priceless, like when the situation calls for *some* video, rather than *no* video. The key to choosing a throw down camera is to choose one that records at the minimum Motorcycle Theater standard, which is 720x480 NTSC, minimum 380 lines of resolution. There are decent flash and entry level Mini-DV cameras that can act as throw down cameras. **Cost: \$100-175**

Other Equipment

The camera is the single most important piece of equipment you need to start filming motorcycle movies. Spend your money there, first. And if you have any money left over, consider buying a tripod, external microphones, and lens filters, etc.

What do we use? Motorcycle Theater uses a simple, collapsible Manfrotto photography tripod, a few wired lavalier microphones, and a wireless microphone. We don't believe in fancy LANC remotes, liquid

floating tripod heads, steady cam devices, or other gadgetry. We base this opinion solely on our pocket book. With practice, you will find the basic IR remote that comes with a good quality secondary production video camera works just fine. Through practice and experience, you will improve your pans, and film stable footage using your bike, a basic tripod and objects in the environment.

Tripod or Monopod. You will need a either a tripod or monopod one day. Make your choice before you need it, picking the smallest but most stable tripod you can afford. While discount store camera tripods may seem like a bargain, the first time they shudder or collapse when the wind blows will make you wish you had spent a little more money. We like Manfrotto tripods and monopods. Superbly built, light weight, and they pack small.

Cost \$75-100



Manfrotto Tripod



Manfrotto Monopod



Camera Quick Release

Camera Quick Release. Stop screwing your camera directly to your tripod or bike mount. You are going to strip the threads or break the camera housing. Use a quick release and forget about it. Every mount should have one. It will save you time and worry.

Cost \$10

Neutral Density Filters/ Protective Lens. Shiny things like chrome, headlights, or sun on a lake all sparkle. To prevent glare in your videos, use a neutral density filter. In addition protect your camera lens with a clear protective lens. You will scratch your lens, just wait.

Cost \$10-40



External Microphones. Your camcorder's built in microphone will work in a pinch, but what about when the wind is blowing, or there's lots of background noise, or you just want that intimate narrative? Different microphones offer different options to you the filmmaker. As a good first choice, consider a wired lavalier microphone for interviews. They cost less than \$50 and offer big value. A step up would be an entry level wireless microphone, not for walking around, but great for interviews at a light distance where a cable or cord would get in the way. Lastly try a shotgun microphone when your budget really expands.

Cost \$40-300

Digital Audio Recorder. Your on bike mini-cams most likely won't capture audio. And guess what, if you bought a fancy helmet cam, the audio there will suck. Too much wind, too much noise. Use a digital audio recorder to capture bike engine sounds, background noise, ambient noise like jungle sounds and city life. Good audio is price less in post production. Record a few clips and put it away.

Cost \$20-100