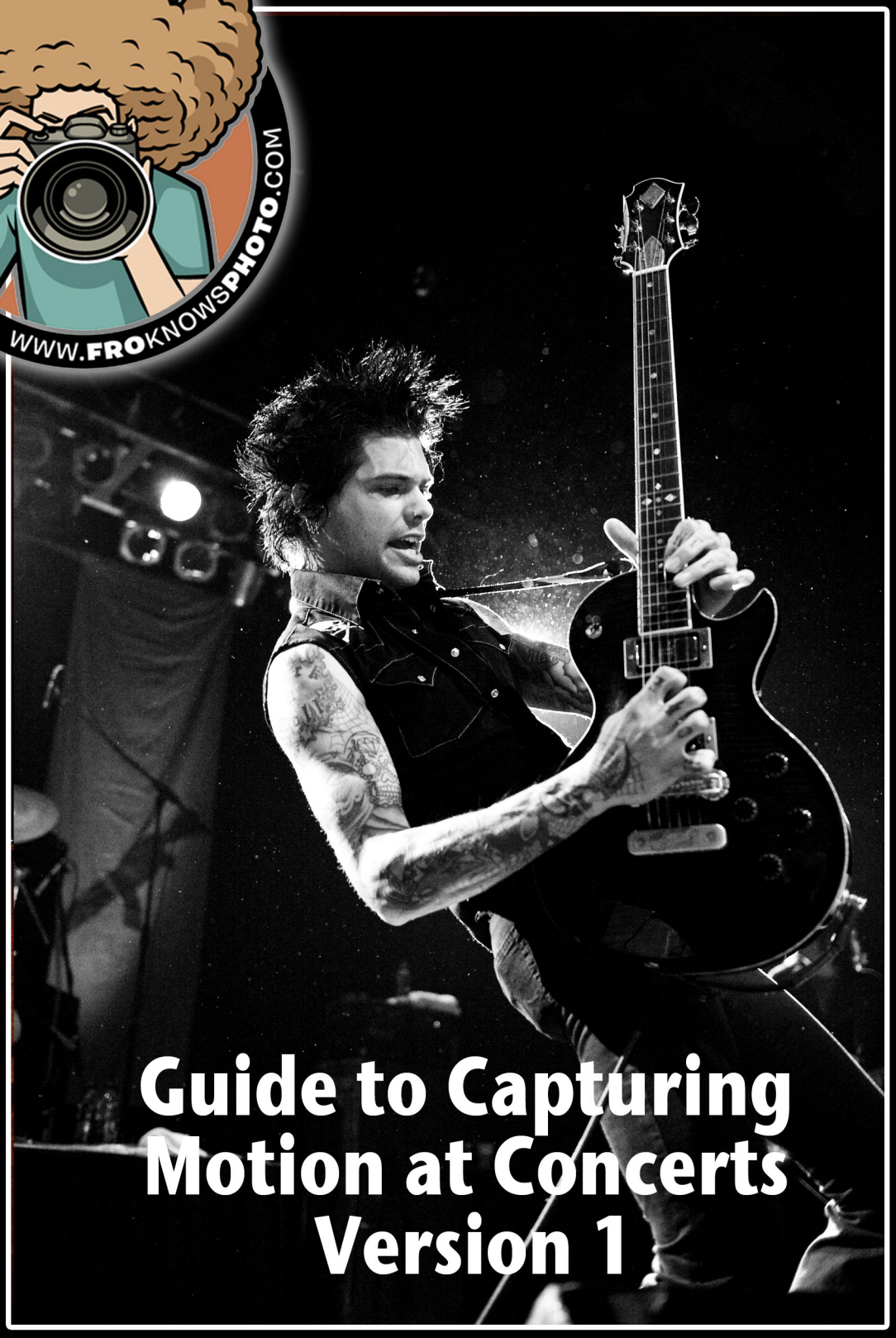

Guide to Capturing Motion at Concerts Version 1

FroKnowsPhoto.com guide to capturing motion at concerts

Version 1

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Table of Contents

Capturing Motion at Concerts 3

Camera Settings 3

File format setting 3

Camera Mode 4

ISO 4

Metering 5

Focus Settings 6

Shutter Speed Settings 6

Tips 7

Cheat Sheet - Print it out fold it up or cut it up and keep it in your bag 8

Recommended Equipment 9

Capturing Motion at Concerts

One of the most important aspects to concert photography is being able to capture motion (freeze action). In this article, I will lay out the basic steps, which will allow you to better freeze motion when shooting a show.

For the purposes of this article, I will assume that you will be shooting the show with a Digital SLR (single lens reflex, meaning what you see through the lens is what you will capture).

Camera Settings

The first thing to be sure of is that your camera is not set to a full automatic mode. Full auto is going to choose every setting for you and most likely not capture motion properly. The problem with full auto is that your settings will change on every picture. One picture may be shot at ISO 1600 where the next image may be shot at 200 because the light meter saw the stage lights and tricked the camera. The camera doesn't know what you are trying to capture, all it knows is that it is trying to give you the proper exposure. You are smarter than the camera, you know what you are trying to capture and that's why it's better to learn your manual settings (M,A,S Nikon M,AV,TV Canon.

Nikon D2H Nikon 17-55 F2.8 12/4/2005
1/125 F2.8 ISO 640 19mm Manual Exposure

File format setting

I always recommend that you set your camera to RAW. The RAW file format takes all of the "raw" data that the image sensor captures and sends it right to your memory card without making edits or compressing your file. This is important as the RAW file gives you more ability to tweak your final images exposure, contrast, vibrancy, clarity etc to create a better all around image. For example: if your captured image comes out underexposed (looks dark) but you captured the subject and motion the way you hoped, you can tweak the RAW file to change your exposure settings after the fact, offering you a better chance at a usable image. I call this

"cheating the system", where you deliberately underexpose the image knowing that you will be able to "bring it back" because of the raw file. I will further discuss the RAW vs. JPEG debate in future articles.

Camera Mode

I recommend that you set your camera to its Aperture Priority setting, allowing you to open your lens to the widest f-stop available. Aperture is directly linked to ISO and shutter speed. When you open up your lens's aperture, or set it to a lower number like 2.8 or 4, you are letting more light in, allowing the camera to utilize a higher shutter speed. The higher the shutter speed, the easier it is to capture motion. For example, if your aperture is f4 and your shutter speed is 250th and you opened up to f2.8, your shutter speed would go to 500th (1 stop change) because it's letting more light in. (Remember what I always say, it's all about the glass. Invest in glass over bodies as good glass will stay with you from camera to camera to camera.)

Nikon D3S Nikon 70-200 VR2 4/18/2010
1/400 F3.2 ISO 5000 95mm Manual Exposure

Shooting at wider F Stops (2.8-4)will allow the background to blow out of focus.

ISO

The ISO is your film speed, and is determined based on how much light is available in your shooting environment. ISO settings will directly affect your shutter speed and aperture settings. The rule of thumb is that as your ISO goes higher, your shutter speed will follow. For example, if you start with an ISO of 1600 and a shutter speed set at 250th and increased your ISO to 3200, your shutter speed would go to 500th (1 stop change).

In most concert situations you are faced with dimly lit stages and rooms, therefore you should set your ISO between 1600-6400 depending on your camera. The reason you selected a higher ISO right off the bat is because you know you are in a darker environment. You also know that a higher ISO will allow you to have a faster shutter speed thus allowing you a better chance of capturing motion. (Higher ISO could also lead to a more grainy image which I will discuss in future articles)

Metering

Many of today's cameras allow you to choose from 3-dimensional meeting to spot metering. 3D metering will survey the entire frame to get an average light reading helping you to determine the proper aperture and shutter speed. 3D is great for everyday general shooting to get you an initial setting. Spot metering uses the center portion of the frame only. This means that a smaller portion of the frame will be used for metering. Usually this will be done inside a very small circle inside the viewfinder. This is a great setting to use when trying to shoot a subject who may be backlight or surrounded by lights that may through off your meter. This setting will give you a reading of exactly what you are trying to meter with less chance of the meter being tricked. As you start to understand light better you will see that all of these meter settings will give you a close reading but with your personal tweaks you will get an even better one.

If you are using a wide-angle lens and 3D metering, it is possible that stage lights will give you a false meter reading as the meter is most likely reading the bright lights. An indication of this might be your main subject coming out

The Image on the left is an example of what your picture would look like if the light meter was reading for the stage lights. You would see that your shutter speed would look abnormally high for example 1/1250. In the second image the meter was reading for the singers face and was taken at 1/400.

If you see your shutter speed bouncing up and down because your meter is reading the lights you have a few options. You can switch to spot metering which will meter only for a small portion of the frame (generally you would want to read for the subject opposed to the lights). Or once you have a solid spot meter setting you can switch to manual and set the shutter speed yourself. Keep in mind, if the lights change you will have to change your shutter speed accordingly.

too dark, since the camera is metering for the bright lights. Switching to spot metering will allow you to meter for just your subject, giving you a better chance of getting a correct reading. Conversely, when you use a telephoto lens, you are gathering light from a smaller area, so either spot metering or 3D metering should work.

Focus Settings

I recommend two different focus settings, depending on certain parameters: continuous or single focus. Continuous focusing is best if the subject is moving around the stage a lot, as this will allow the focus to track the subject. If the subject does not move around a lot, I would use single focus, as it allows you to better lock on to the subject.

Shutter Speed Settings

If you've manually set your ISO and aperture (aperture priority), your shutter speed will be set automatically, however you'll still have to pay attention to where it's set.

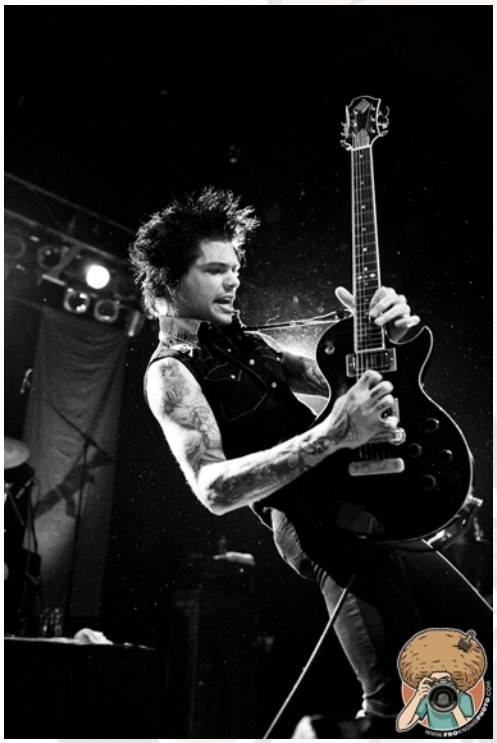
Nikon D2Xs Nikon 50 F1.4 9/13/2007 1/125 F2.5 ISO 1250 75mm Manual Exposure

It becomes easier to focus when your subject hits their peak of action.

There are a few rules tied with shutter speed. One is that your shutter speed should be higher than the focal length of your lens. For example, if your lens is zoomed to 300mm your shutter speed should not drop below 1/320th of a second. If you are using a 50mm your shutter speed should not drop below 1/60th of a second. The reason your shutter speeds have to stay higher than your focal length is because small movements can cause your images to blur as light travels to the image sensor.

There however is a way to cheat the system. If you do not have enough light and your subject is moving quickly, you can underexpose your image. Underexposing an image means that you are not leaving the shutter open long enough based on the lighting situation you are in. This is represented by an image that may look to dark. For example, you are faced with a dimly light stage and a fast moving artist. Your shutter speed says 1/125th and your images are coming out with some motion blur. You are already set to 2.8 and you have maxed out your ISO. What you can do is change your shutter speed to 1/250th or 1/320th which will underexpose the picture but it will also freeze the motion. Being that you are shooting RAW you will be able to bring the image back to a usable image in post processing.

Ultimately, a lot depends on the type of artists you are photographing. If you have an artist who does not move around too much, you can get away with a slower shutter speed in the 1/60th of a second to 1/125th of a second range to freeze the motion. If you are photographing a fast moving subject, you will want to use a lens that allows you to keep your shutter speeds at 1/250th or higher. The faster the shutter speed, the easier it will be to freeze the motion.



Nikon D3 Nikon 24-70 F2.8 11/26/2009
1/320 F2.8 ISO 4000 35mm Manual Exposure

Tips

Here are a few tips for setting a faster shutter speed if you see that your images are coming out blurry:

- Setting your ISO higher will bump your shutter speed higher, allowing you a better chance of capturing motion.

- Lowering your aperture (using a smaller number) will let more light in, speeding up your shutter.

- Setting your ISO higher AND lowering your aperture will get you an even faster shutter speed.

- Underexposing your image to give you a faster shutter speed will help you freeze action. (You will have to bring the image back in post processing of the RAW file)

Hopefully, this guide will provide you with the basic steps needed to help you capture motion. It is going to take a lot of practice to get a feel for what your camera settings should be. Over time, you will start to see how a change in one setting will affect another setting, and you will become more adept at capturing motion in the future.

Cheat Sheet - Print it out fold it up or cut it up and keep it in your bag

File Format
RAW

ISO
Consumer Camera 800-1600 (3200 MAX)
Pro End 800-3200 (6400 MAX)

Mode
Aperture Priority
(A Nikon / AV Canon)

Focus
Continuos - moving subject
Single - stationary subject

Metering
Spot - wide angle lens or the whole show
Matrix - telephoto lens

Raise your ISO = faster SS
Open your aperture = faster SS

Fast Subject / Needs Higher SS 1/250th+
Slower Subject / 1/60th+

Cheat system if needed
raise SS 1-2 stops in M
Example 1/125th becomes 1/250th or 1/500th

Wear Ear Plugs

Don't rest arms on stage vibration could blur images

Don't be a fan

Don't use flash unless needed or approved

Post Processing
Offload to your Mac/PC

Rename Folder
year_month_day_event
(20100607_froknows_ebook)

Import into Lightroom
(drag folder into library)

Select All Files
Library > Rename > Custom Settings > Edit >
Determine how many photos
001 or 0001
Under 999 or over 1k in folder
(20100607_froknows_ebook_001)

Star or Flag your favorites

MAKE BACK UPS !!!!

Notes

Recommended Equipment

I have compiled a list of cameras, lenses and accessories that I feel will help you capture motion better in low light situations. I personally buy all of my equipment at Allens Camera 215.547.2841. Ask for Allen or Rob and ask for the “Fro Price”.

Another great resource for equipment is B and H in NYC and Amazon. The links below will take you right to that specific product.

This site is a FREE site and with your help it will stay alive. If you find the information helpful and you would like to support the site please feel free to make a purchase from any of the links below. Thank you all again for making FroKnowsPhoto.com possible. I greatly appreciate your support, if you have any questions feel free to skype me (JaredPolin) or email me fro@froknowsphoto.com anytime.

Nikon	Canon	Accessories
B+H 35mm F1.8 Amazon35mm F1.8	B+H 50mm F1.8 Amazon 50mm F1.8	Sandisk Memory Cards
50mm F1.8 50mm F1.8	50mm F1.4 50mm F1.4	Card Reader
14-24 F2.8 14-24 F2.8	85mm F1.2 85mm F1.2	Black Rapid Staps
24-70 F2.8 24-70 F2.8	24-70 F2.8 24-70 F2.8	Think Tank Retrospective 30
70-200 F2.8 VR2 70-200 F2.8 VR2	70-200 2.8 IS 2 70-200 2.8 IS 2	Think Tank Pixel Pocket Rocket
10.5 Fisheye F2.8 10.5 Fisheye F2.8	16-35 F2.8 16-35 F2.8	Rocket Air
16mm Fisheye F2.8	15mm 2.8 Fisheye 15mm 2.8 Fisheye	

Nikon	Canon	Accessories
24mm F1.4 24mm F1.4	Tokina 11-16 F2.8 Tokina 11-16 F2.8	
Tokina 11-16 F2.8 Tokina 11-16 F2.8	Sigma 18-50 F2.8	
Sigma 18-50 F2.8 Sigma 18-50 F2.8	Sigma 70-200 F2.8 II	
Sigma 70-200 F2.8 II Sigma 70-200 F2.8 II	Canon Rebel T1i Canon Rebel T1i	
Nikon D300s Nikon D300s	Canon 7d	
Nikon D700 Nikon D700	Canon 5D MK2	
Nikon D3s Nikon D3s	Canon 1D MK4 Canon 1D MK4	