The eMotimo TB-3 pan/tilt head is now available at ElysiaVisuals

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We are very happy and proud to announce that ElysiaVisuals has become an official eMotimo distributor. The prime product of eMotimo is the TB3 that works with your Digital SLR or video camera to create moving time lapse shots like those that are used heavily in Planet Earth and Frozen Planet. Take a 5 minute shot sequence with fast moving clouds, or a 6 hour shot through the night to see the stars fall across the horizon. You can create the types of shots that previously required equipment costing thousands of Euro's.

The eMotimo has parts of it's roots in OpenMoco.org [2]. This is an open source community that has inspired us to start ElysiaVisuals.com. We believe that the eMotimo producs fit perfectly in our motion control product offferings.

TB3, stand for "The Box", 3-Axis. It is the next evolution of the eMotimo Pan and Tilt motion control heads. It has everything the PT has and more. The TB3 is a milled aluminum head with new geometry. It is strong, lightweight, and it puts the pan-axis nearly on-node with most cameras to turn a heavier setup. With future versions of the firmware, you will have access to control an additional powered stepper output to drive and talk to other solutions through a new configurable I/O port.

Please check out our Pan and Tilt section [3] if you are interested in this great stepper motor based pan/tilt solution.

What cameras work well with eMotimo TB3?

- Move-Shoot-Move profiles with most DSLR setups that weigh 8 lbs or less, shooting at 1.0-100 second intervals, at an equivalent focal length of 150mm or less. For faster intervals with big moves per shots (0.4 to 1.0 seconds), lighter rigs, and shorter focal lengths look better.
- Continuous move video profiles for dedicated video cameras or DSLRs in video mode that weigh in at 8 lbs or less. These types of shots are still primarily meant for time lapse.

I push the limits . . . tell me where I will reach them with the TB3?

- Pro-bodies like the Canon 1D or Nikon D3 with dual grips coupled to heavy lenses may have a limited range of tilt motion before the motor stalls. This is because the center of gravity is 1 to 2 inches higher compared to most other DSLR's. Very low tilts or tilts straight up can result in a geometry where the TB3 cannot pull the camera back to level. Larger video cameras may have the same challenges. You can really load up the rig and get good pans, but your range of motion will be limited on the tilt before the motor stalls out.
- In general 5lb rigs and below will get the full range of tilt. That range reduced as the payload is increased. If you have specific needs or questions about usable tilt range, please reach out to us prior to purchasing.
- **We have turned up the motor driver and coupled larger stepper motors on the tilt to really move some heavy loads. We actually have been shipping these stronger motors for a couple months now. User feedback has been great and issues with tilt limits are virtually non-existent. Please let us know if you really need to tilt big with big rigs, and we can give you information on how to "turn up" the motors even more!**

So . . . I like math and reading instructions. What factors affect the shot?

Moment of inertia of the setup, interval of the pictures, focal length of the camera, and amount the camera moves between shots (speed of pan and tilt) and your tripod.

- **Weight and moment of inertia** - Heavy setups with long lenses have higher moments of inertia. Consequently, they take a longer amount of time to start and stop. There is a small amount of settle time that is required when stopping the camera for each shots. This settle time increases for heavier, longer lens setups. A 5 lb. setup with a longer heavier lens may have a larger moment of inertia than a 4 lb. setup with a short lens.
- **Intervals** - If you are shooting with short intervals (low amount of time between shots) the amount of available settle time decreases. eMotimo TB3 will shoot a move-shoot-move profile down to .4 second intervals. This fast interval works cleanly with lighter setups, but as you increase the weight/moment of inertia of the rig you may need to increase the interval to get a clean result.
- **Focal Length** - Long lenses show movement more than lower focal length cameras. Put a 300 mm lens on a stable tripod and tap a leg lightly and you will likely see it. Most of our customers like to shoot wider with time lapse, but if your primary subject is miles out, reach

out to us to let us understand what your needs are. eMotimo TB3 is just one component in a system that needs to be balanced well to really get clean shots at long focal lengths.

- **Size of move between shots** - The software tries to get to position before the next shot is due to fire. If the move is several degrees between shots - you may not be able to get to that position cleanly and fire the next shot in time. In reality, we all know that the final product is video from these stills. If you are moving several degrees per shot, it probably won't be very good looking footage.
- **Tripod** As with any time lapse sequence, stability is very important. During a shot, eMotimo TB3 is trying to get to its next move as quickly as possible and is putting fast, large loads on your tripod. If you don't have something sturdy, your tripod may introduce instability that will require longer intervals. It isn't just the tripod, but the head that matters too! If you can ever get your setup creaking or shifting by pressing on it, or by panning around, your head most likely isn't up for the job. Any creaks or sudden movements will show up in the final footage.
- **Wind** - Wind is a factor when shooting any setup. eMotimo TB3 was build to be portable and lightweight. If you are shooting in high or gusty wind and longer focal lengths, this can show up in the footage.

An extreme example of will not look good with eMotimo TB3:

If you want to load up your pro-body with a battery grip, heavy glass, matte box, with move-shoot-move profile of 30 pictures of a 360 degree panoramas, at 300mm, 1/2 second intervals, in the wind with the neck strap on, on a lightweight tripod, I know the footage is going to be disappointing for many reasons.

What are you doing to help increase the capabilities? The eMotimo lab in constantly evolving its hardware and firmware based on user's feedback. To date we have added:

- smoother synchronous motor moves tuned for the specific shot
- longer intervals and durations for you astrophotgrapher
- attachment points for larger mounting hardware options
- the lead in and lead out frames setting
- wireless remote controls.

In the Beta program right now are several features that will help you to push the limits of what you can do with the TB3. Here are a few possibilities:

- Full three axis moves - this is amost ready and can be downloaded for those wanting to do more!
- The ablitly to connect to Dragonframe software to drive complex SMS moves. If you like keyframes, beziers, ulitmate control - this is for you.
- Power handling in the field. By optimizing our motors on and off time, we balance our accuracy and repeatability with extending your shooting times.

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