

# EOS-M Wildlife Trap Camera

Daniel Fort  
October 23, 2016

The original Canon EOS-M camera came out with mixed reviews and the price dropped dramatically since it was introduced and subsequently superseded by newer models. This makes the original M a logical choice for “crash camera” applications like using it for surveillance or turning it into a wildlife trap camera. The EOS-M has several limitations including no provisions for a wired remote release and the power savings settings allows for a maximum of only 30 minutes before the LCD turns off and the camera goes into a sleep mode.

Magic Lantern is a free software add-on that runs from the SD/CF card and adds a host of new features to Canon EOS cameras that weren't included from the factory by Canon. The EOS-M is one of the cameras supported by Magic Lantern and with the addition of a simple LUA script the camera can be turned into a camera trap triggered by an audio event.

In this package you will find a Magic Lantern build from an experimental “lua\_fix” branch. Magic Lantern installation instructions along with documentation and a forum for users and developers can be found on the project website:

<http://www.magiclantern.fm/>

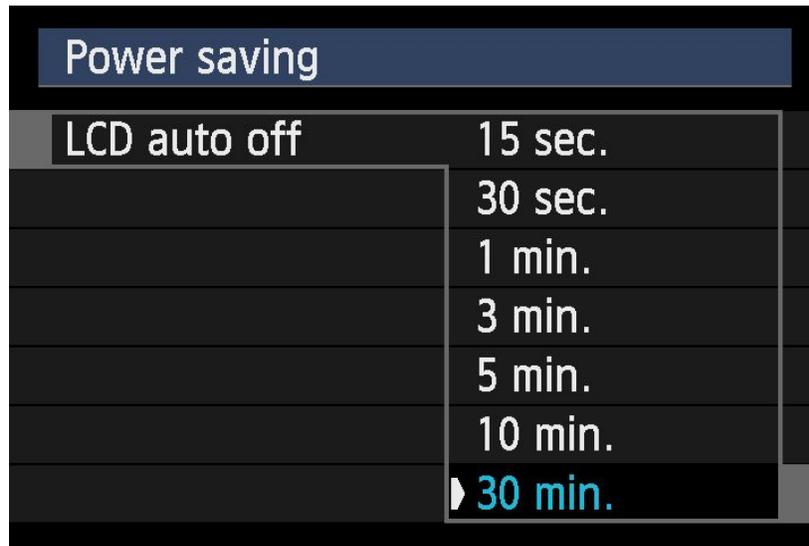
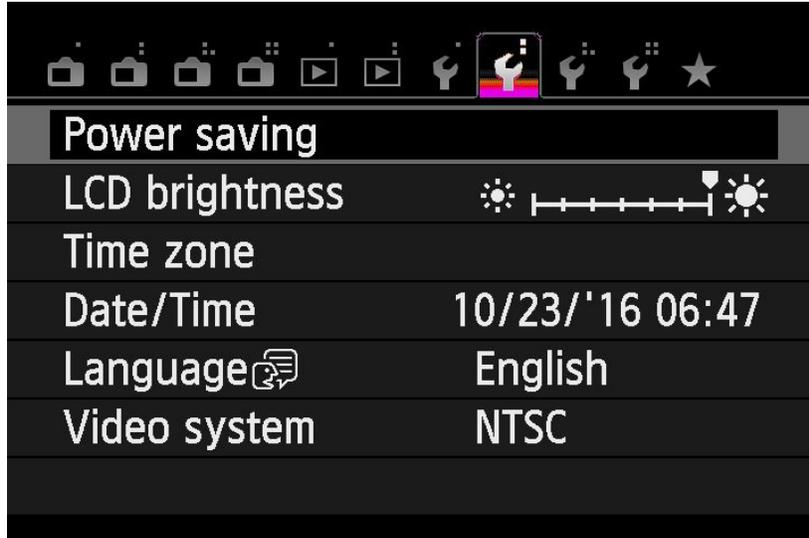
Included in this package is a lua script called alive.lua. There is also a copy in the Magic Lantern installation under the ML/scripts directory. This is a very simple script that triggers a half-shutter event every 20 minutes (1200000 milliseconds) so that when the power savings settings are set to 30 minutes the LCD should stay on indefinitely--or at least until the battery runs out. The original EOS-M battery doesn't have a particularly long life so using the AC adapter or rigging up an external battery is highly recommended for unattended operation.

Here is the contents of alive.lua:

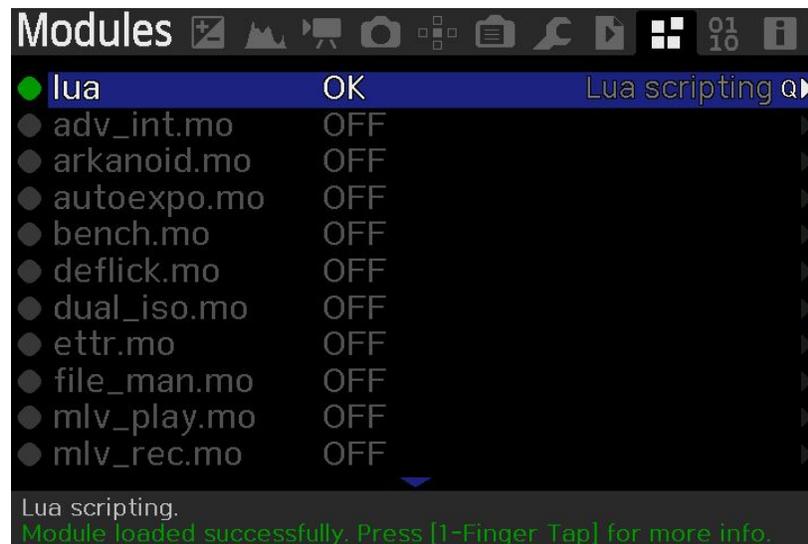
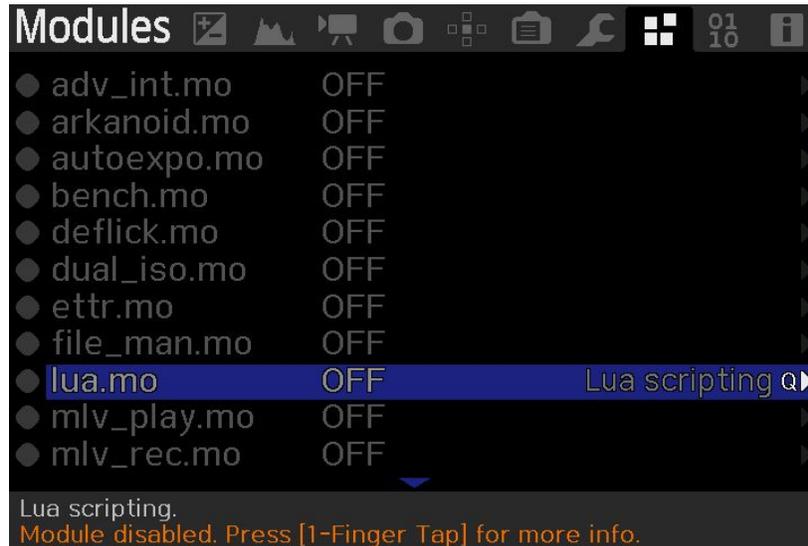
```
-- LV Alive
-- Don't let Live View go to sleep

while true do
    msleep(1200000)
    key.press(KEY.HALFSHUTTER)
    key.press(KEY.UNPRESS_HALFSHUTTER)
end
```

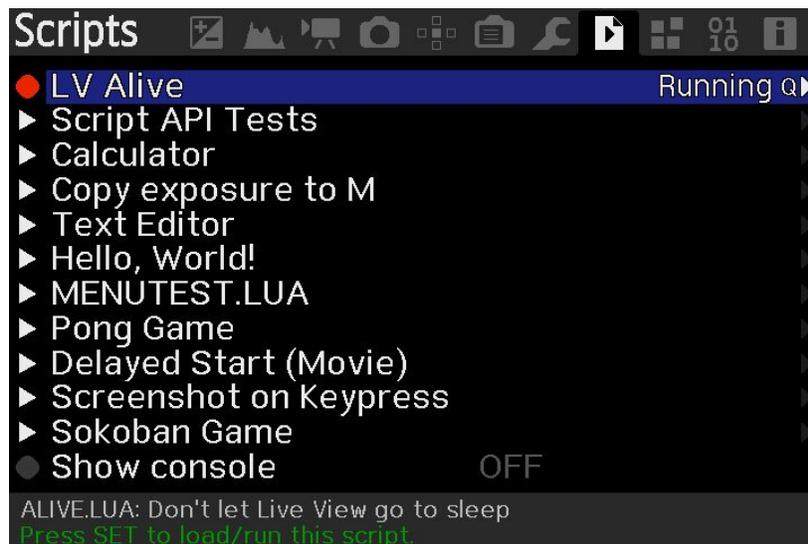
Setting up the camera requires adjusting a few settings in both the Canon and Magic Lantern menus. The Power savings in the Canon menu needs to be set so that the LCD stays on for the maximum amount of time possible. (Also note that the LCD brightness can be turned down for unattended operation.)



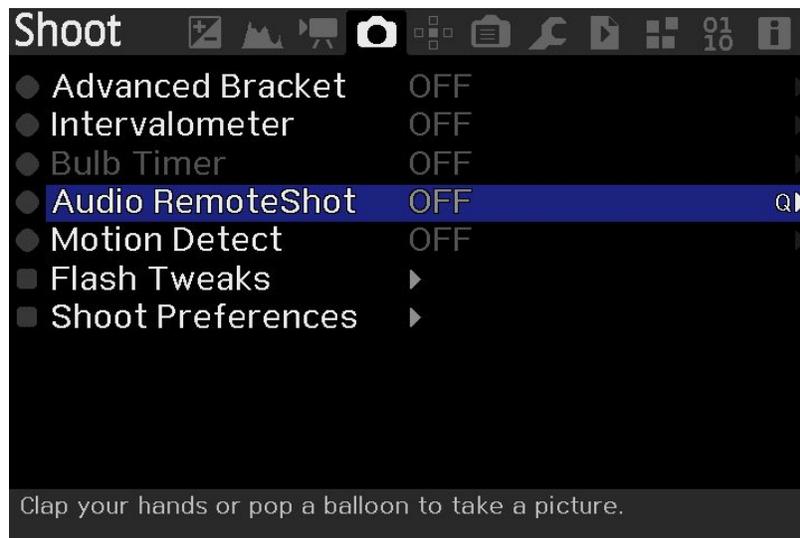
The Magic Lantern menu for the EOS-M can be accessed by either a two finger tap on the screen or holding down the Trash button for about a second. Select the lua.mo from the Modules menu, press the SET button on the camera and restart the camera to activate lua scripting.



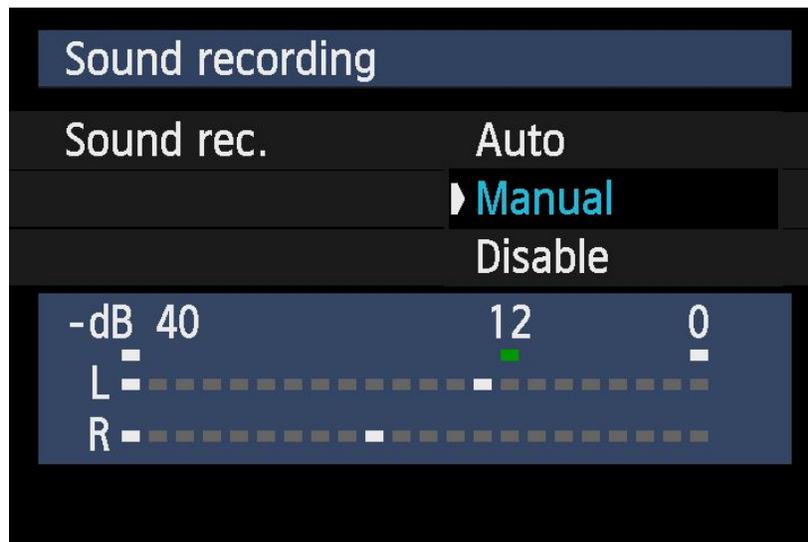
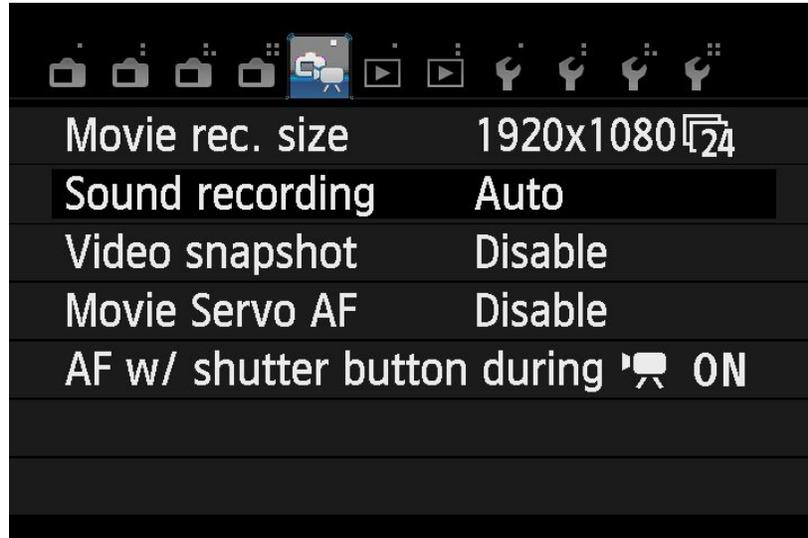
Next go to the Scripts menu and activate the script named LV Alive. This is the alive.lua script. Note that filenames for scripts need to be short because of the camera's operating system.



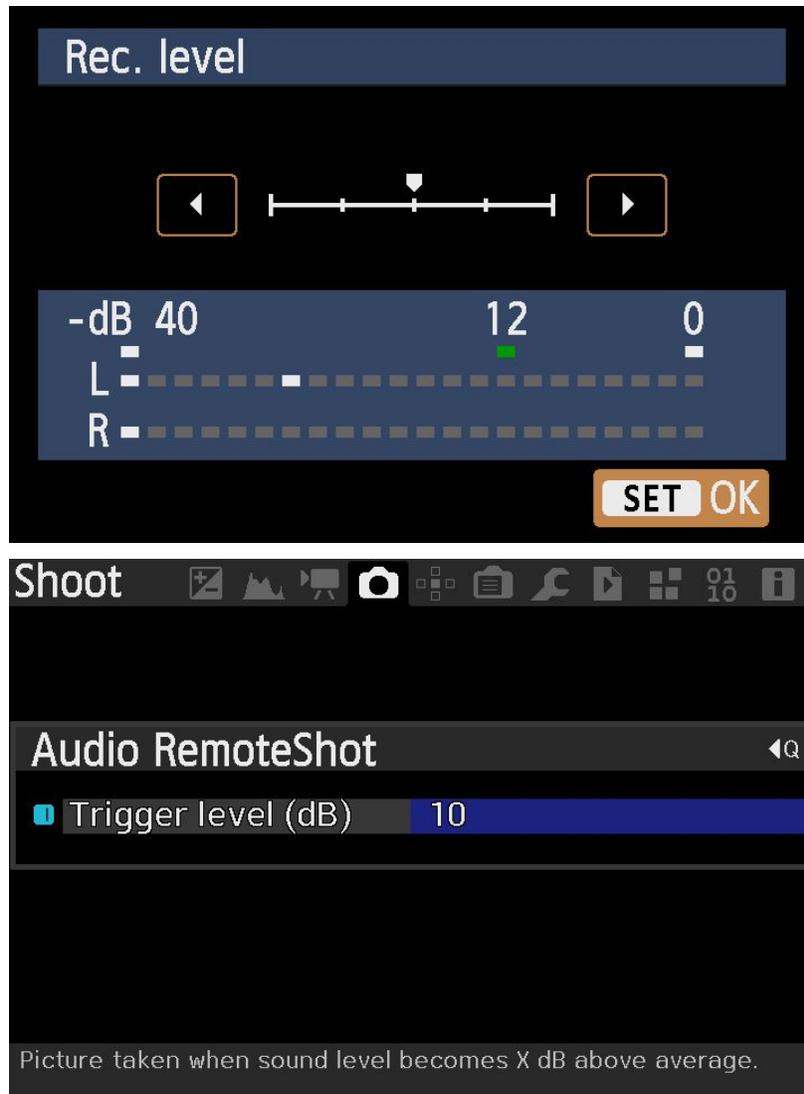
To trigger the camera using either the built in microphone or by plugging into the mic input jack requires turning on Audio RemoteShot on the Magic Lantern Shoot menu.



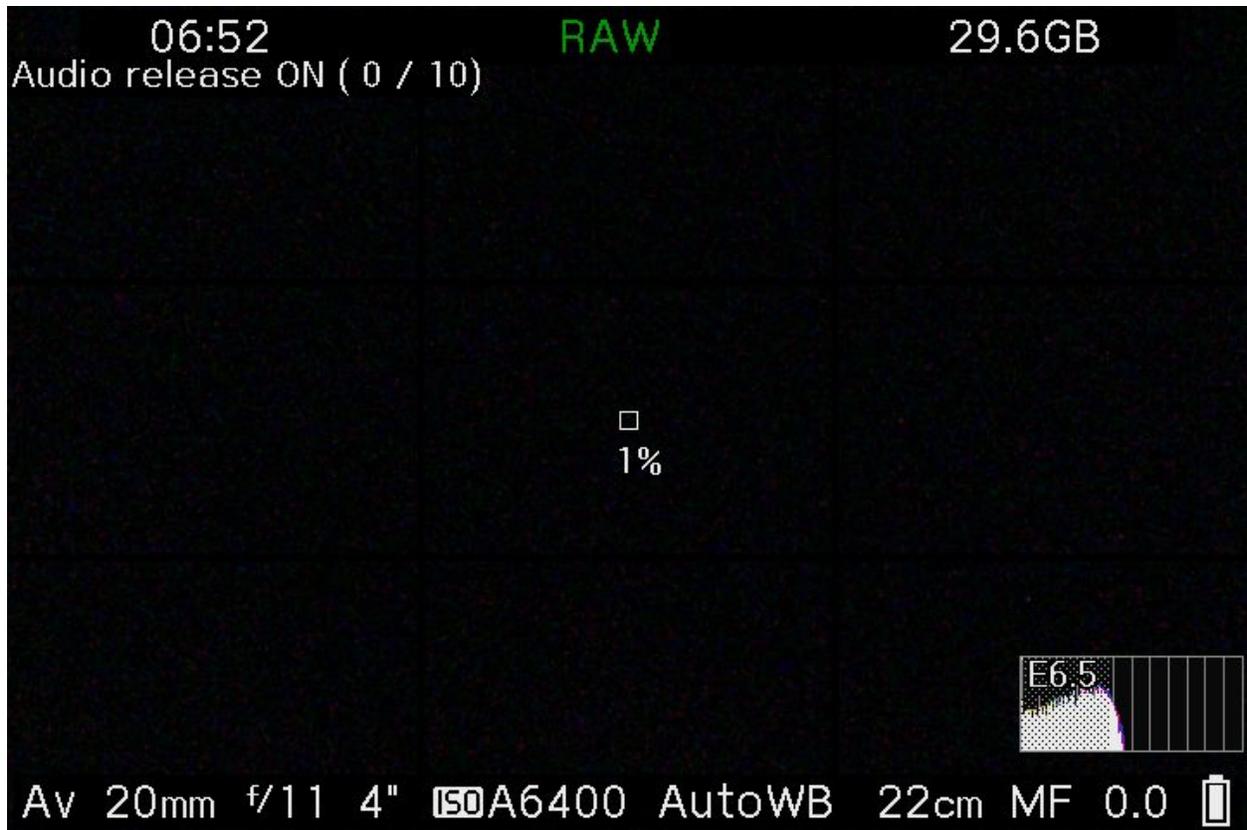
There are some tricks to getting the audio trigger to work properly. The Canon default is to use automatic gain control (AGC) on the audio. When it is quiet the gain goes up so that even a very slight sound will trigger the shutter which probably isn't what you want. In order to access the audio settings you'll need to switch the camera to movie mode.



You can adjust the volume that will trigger the shutter using a combination of the Rec level slider on the Canon menu and the Trigger level (dB) in the Audio RemoteShot sub menu. You can select a value from 1 to 20 dB as the trigger level.



The camera will now fire the shutter when with audio event loud enough to hit the trigger level value. The display on the upper left of the screen updates when the camera detects a sound. It also shows the current sound level and what the trigger level is set to.



Happy camera trapping!