

How to build a Stellacam-Hyperstar Adapter

The Stellacam EX is a truly amazing video camera. Through user selectable parameters it can be set for low sensitivity...suitable for the moon or planets...or by increasing sensitivity to a low of .000005 lux enable real time video viewing of DSO that are FAR beyond what you can see with the same scope visually. At f3.3 this camera will give you the equivalent of a 4 times larger aperture...a 11" becomes a 44" aperture!

I figured if it is that good at f3.3...it would be even more amazing at f1.8...the speed of Starizonas Hyperstar with the Nexstar 11" GPS scope. While the Hyperstar is incredible with the ST237...at first it seems that you can't adapt the Hyperstar to the Stellacam EX for two reasons.

-No adaptor available

-The design of the Hyperstar requires a spacing of .66" between the back part of the threaded Hyperstar and the camera chip.

This is a very limiting spacing.

Being a tinker (and never saying can't be done). I figured that there must be some way to adapt my Stellacam to the Hyperstar. Not only did I figure out how to do it...it is quite easy assuming you have basic skills and a couple of simple tools...namely:

Hacksaw

Small screwdriver (jewelers type)

Power drill (hand or drill press will work)

6/32 tap

The pictures in this folder describe the whole process. I was able to modify the whole thing in about 30 minutes.

HOW TO DO IT

-Buy a standard Tmount adaptor for a Canon FD lens...it must be for this brand and lens...others have different size openings that most likely won't be the right size. It may look like the ones shown on the next picture and should cost approx. 19 US\$ or 15 Euro.



-Disassemble the whole thing...unscrew the one screw in the outer lock ring and remove the lock ring...discard it.



-You will see a thin extension that is machined into the adaptor unit. Use a standard hacksaw to remove this (see the picture of the removed piece).



-To smooth up after using the hacksaw put a piece of emery paper on a board and quickly move the piece back and forth across it until it is sanded smooth. If you have access to a sanding disk, belt sander, etc. this will be even easier.

-Mark points at 1/3 around the perimeter.

-Get a 6/32 tap and the appropriate sized drill.

-Drill the holes and then tap them.

NOTE: MAKE SURE YOU GET THEM AS CLOSE AS YOU CAN TO THE EDGE TO ENSURE A GOOD "BITE" ON THE FLAT PART OF THE ALUMINUM PIECE THEY WILL TIGHTEN AGAINST.

-Insert three 6/32 screws...I used round head screws although you might prefer Allen screws... I didn't because I HATE trying to find those little bitty Allen wrenches in the dark when you drop them.

-Place the ring over the aluminum extrusion and tighten the three screws to hold it in place. There is a bit of slop.. about 1/16" so you can use the three screws to center the chip perfectly for best performance.

-You are done...now just fasten to the Hyperstar and plug the assembly into the GPS11 and you are in business. Be prepared for the most astounding images you have ever seen in real time.



Bob Berta 2-28-2003

Well, in Europe the Mintron 12V1C-EX camera is more widespread than the Stellacam. Actually it is the same camera as the Stellacam, just providing CCIR-output (PAL compliant) versus EIA-output (NTSC compliant). Below please find some pictures of my Mintron camera with an adapter, which was machined by a friend of mine with a nice tool shop according to the instructions of Bob Berta. On the lowest 2 pictures you can see an adapter “C-mount to Baader-quickrelease”. The nice thing about is that it can be screwed onto the Mintron camera without having to remove the Hyperstar-adapter. Thus I can rather quickly switch between the setups...



Many thanks to Bob Berta for his initial article and his agreement to include it in my extended posting.
Best regards

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