chstv
setting a new standard for student television

Live, Remote Broadcasting

Using a rather fast gaming PC laptop (I imagine you could do the same thing with a fairly new MacBook Pro), we have built a mini-control room using the free software program called OBS.

OBS is an amazing piece of software that provides very high quality chromakeying, graphic overlays, video roll-ins and multi-camera switching. We took the basic OBS installation and added its Virtual Camera plugin so that we could add HDMI and SDI camera signals into the program.

On the student end, we put together five Go-Bags that we check out to each of the anchors for a 5-day school week. Two of the bags are "deluxe" bags with additional connectors so that a student can use a DSLR rather than a webcam. Most of the Canon cameras in the T7i range and up allow for Clean HDMI output. I will list the Go-Bag contents below.

DELUXE GO-BAG	STANDARD GO-BAG
• **MacBook Pro (if student does not have his/her own computer)** • **DSLR** • **Tripod** • **Camlink 4K*** • **Lav Mic for DSLR** • **Lume Cube mini panel light w/suction cup** • **HDMI to Full Size USB cable**** • **HDMI to Mini HDMI cable**** • **HDMI to Micro HDMI cable**** • **75' Ethernet Cable** • **Ethernet to USB and USB-C dongle (be sure to use this brand- it works. Others I tried did not work.** • **Carrying Case** **(* to connect DSLR to Computer via HDMI)** **(**takes care of all USB sizes, including the newest Macs)**	• **MacBook Pro (if student does not have his/her own computer)** • **Tripod** • **USB Lavalier Mic** • **Lume Cube mini panel light w/suction cup** • **75' Ethernet Cable** • **Ethernet to USB and USB-C dongle (be sure to use this brand- it works. Others I tried did not work.** • **Carrying Case**

ENGINEERING THE BROADCAST

OBS can stream in HD and record in HD, and essentially it feels like a Tricaster. Rolling in stories is seamless, cutting between camera inputs is very intuitive. I watched a few YouTube videos to learn the ins and outs.

Our workflow is that we have one anchor at home, and he/she is on our WebEx account ($13.50/mo.) I have programmed OBS to capture the anchor's feed on a second monitor in full screen.   I think of that as Camera One.

For Camera Two (and I realize we are very fortunate to have this technology), - we have reporters reporting live from out and about in our town using their iPhones and the Dejero technology. That signal comes into our control room via a server and routed to OBS via an SDI to USB adapter.

Dejero gives us very high quality 1080p video signals from a variety of devices (iPhones, MacBook Pros and through a portable transmitter, HD video cameras). It is an extraordinary technology.

Frankly, though, it would be fun to try the WebEx or Zoom IOS app and have two or three students sending back live audio and video signals to OBS for a "multi-camera, multi-talent." live broadcast.

Part of the fun (challenge) is handling communication between the control room computer (OBS computer) and the talent. If you get to the point where you are wanting to do this setup or your own version, I can share how we are handling IFBs (thank you cell phones)!

The students are using our free Canva for Education account to create the graphic PNG files (with transparency) for live over-the-shoulders and lower thirds and they are using the free Photoshop-like website photopea.com

Any student could engineer the show from their home.

SUPER IMPORTANT: GET THE STUDENTS OFF OF Wi-Fi and instead hard-wired into their routers. This is why each GoBag includes the 75' Cat 6 cable and an adapter w/USB plug.

I am also working with the students on "set design" as they find a place in their house where the lighting is adequate, the space is quiet, and the background is appealing.

The possibilities are endless. If a student installs OBS on his/her computer, you could do full screen weather forecasts with the chromakey feature or create custom virtual sets.

If you decide to pursue this, please let me know. I can point you to the best YouTube setup videos and provide more detail than what is included in this overview.

This document will be a dynamic document. I may add to it and replace this PDF link with the newest version.

-Doug Green/Carlsbad HS