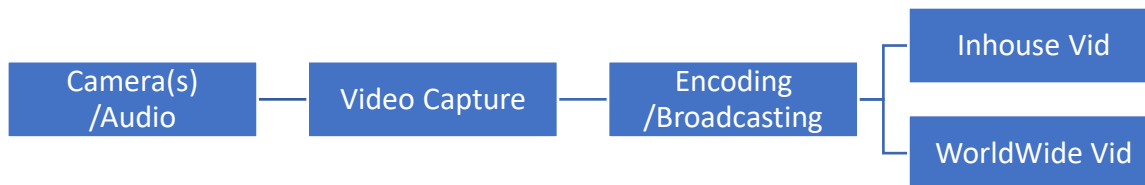# Livestreaming Work Flow

So for all livestreaming there is a basic workflow, as you upgrade equipment, the essential workflow stays the same but the pieces of equipment change. Some pieces of equipment become specialized pieces that only do a singular task and other pieces can perform multiple tasks.

Super simplified Workflow

Camera(s) /Audio → Video Capture → Encoding /Broadcasting → Inhouse Vid / WorldWide Vid

NOTE: These are just suggestions. ALL Prices are Approximate and in USD.

NOTE: Many Streaming Products are presently out of stock or on backorder due to increased demand.

NOTE: As the saying goes "there are many ways to skin a cat", well they are "many, many ways to upgrade your video and streaming capabilities. These again are just a few.

NOTE: For clarification or to talk about these or other options feel free to contact me at louis@churchcoaching.ca

Upgrading your streaming
MOST Basic upgraded Steaming system

1. Home Camcorder or DSLR Camera with a CLEAN HDMI video out
2. Elgato Cam Link 4 (or similar capture device – But Elgato is a good Quality)
   a. https://www.elgato.com/en/gaming/cam-link-4k
   b. https://www.bhphotovideo.com/c/product/1453840-REG/elgato_systems_10gam9901_cam_link_4k_game.html
   c. Approximate Value $130USD
3. Laptop or Computer running OBS or similar software (OBS is a Free Broadcast software that you can then stream to any sight on the internet from)
4. EXTRA's
   a. There will also be a number of converters and cables needed to connect all of the equipment together and to integrate your sound system into the stream.
   b. You may want to run a separate sound board for your online streaming – this is highly recommended if you are involving live music in order to balance the audio since you are using a "raw" audio that is not being dampened by chairs, people, etcetera that are inherent in a live setting.

5.

Upgrading your streaming
BASIC upgraded Steaming system

1. Cameras
   a. Home Camcorder or DSLR Camera with a CLEAN HDMI video out
      i. Such as:
   b. Canon Vixia - $249
      i. https://www.canon.ca/en/product?name=VIXIA_HF_R800&category=/en/products/Video-Cameras---Consumer
      ii. https://www.bhphotovideo.com/c/product/1308395-REG/canon_1960c002_vixia_hf_r800_camcorder.html
   c. Or any level of higher end Camcorder with an HDMI out
2. ATEM Mini or ATEM Mini PRO
   a. ATEM Mini – Approximately $300USD
      i. https://www.blackmagicdesign.com/ca/products/atemmini
      ii. https://www.bhphotovideo.com/c/product/1507214-REG/blackmagic_design_swatemmini_atem_mini_switcher_control.html
   b. ATEM Mini PRO – Approximately $600USD
      i. https://www.blackmagicdesign.com/ca/products/atemmini
      ii. https://www.bhphotovideo.com/c/product/1557461-REG/blackmagic_design_atem_mini_pro_hdmi.html
   c. Difference: Both ATEM Mini's are both Video Capture and Camera Switching devices. They both can have **up to 4 cameras or computers** as inputs for multi camera switching and lower third overlays. THE DIFFERENCE is that the PRO also functions as a Steaming Box so you would not need a separate computer running a broadcast software such as OBS.
3. IF YOU USE THE ATEM Mini (not the PRO) you will need a Laptop or Computer running OBS or similar software (OBS is a Free Broadcast software that you can then stream to any sight on the internet from)
4. EXTRA's
   a. Multiple Cameras – you can add multiple cameras (Max of 4 but Max recommendation of 3) for different angles – to help with consistent White Balance and coloring sticking with the same model or even the same brand can help.
   b. With the PRO, you DON'T need to use computer running OBS or similar broadcasting software, - However you will need a tablet or a laptop/computer of some type to control both ATEM's
   c. You will also likely want/need another laptop/computer or two to connect to the ATEM in order to insert Lower Thirds and other graphics.
   d. There will also be a number of converters and cables needed to connect all of the equipment together and to integrate your sound system into the stream.
   e. You may want to run a separate sound board for your online streaming – this is highly recommended if you are involving live music in order to balance the audio

since you are using a "raw" audio that is not being dampened by chairs, people, etcetera that are inherent in a live setting.

Upgrading your streaming
LOW END PROFESSIONAL upgraded Steaming system

NOTE: all prices are very approximate. All prices are in USD. And availability of any streaming equipment at this time is very spotty at this point.

1. DataVideo BC-200 4K Block Camera
   a. https://www.datavideo.com/eu/product/BC-200
   b. https://www.bhphotovideo.com/c/product/1329310-REG/datavideo_bc_200_4k_3840x2160_qf_hd.html
   c. Approximately $1600USD
2. DataVideo KMU-100 Generates up to eight cutouts out of one or two 4K inputs
   a. https://www.datavideo.com/eu/product/KMU-100
   b. https://www.bhphotovideo.com/c/product/1254814-REG/datavideo_kmu_100_kmu100_4k_multi_cam_production.html
   c. Approximately $3000USD
   d. Controlled through RMC-185 hardware controller
   e. https://www.bhphotovideo.com/c/product/1312835-REG/datavideo_rmc_185_control_unit_for_kmu_100.html
   f. Approximately $950USD
3. Black Magic 1M/E ATEM Production Studio 4K
   a. https://www.blackmagicdesign.com/ca/products/atem
   b. https://www.bhphotovideo.com/c/product/1007191-REG/blackmagic_design_swatempsw1me4k_atem_1_m_e_production.html
   c. Approximately $2500USD
4. AJA HELO streaming and recording box
   a. https://www.aja.com/products/helo?gclid=Cj0KCQjwzZj2BRDVARIsABs3l9Jhghyiwclz3y-5t993RRDv8mpjvmiAH4lVbys-1BexkSLDe16-DfQaAjt1EALw_wcB
   b. https://www.bhphotovideo.com/c/product/1248096-REG/aja_helo_h_264_streamer.html/reviews?origSearch=Aja%20Helo%20Review&currency=CAD%2F%3Fkw%3D&currency=CAD&gclid=Cj0KCQjwzZj2BRDVARIsABs3l9LjC4iL1RkrpB5mTeMeWCaWOGJTot6QzrpgwkGe-RvBxS32pqa6m8AaAh_BEALw_wcB
   c. Approximately $1300USD
   d. This will stream direct to a single location (Youtube or Facebook or your website or etc.) you may want to subscribe to a group like www.restream.io or other cloud software to stream to multiple locations simultaneously (Youtube and Facebook and your website and etc)
5. EXTRA's
   a. Multiple Cameras – you can always add multiple cameras for different angles – to help with consistent White Balance and coloring sticking with the same model or even the same brand can help.

b. You could go with multiple 1080p cameras instead of the BC-200 in conjunction with the KMU-100 – However than you would need to have operators for each camera or have each pre-set and not have any motion or Zoom.
c. The ATEM switcher has multiple models the "1 M/E" is the middle model.
d. With the HELO, you DON'T need to use computer running OBS or similar broadcasting software, - However you will need a tablet or a laptop/computer of some type to control the ATEM and the HELO
e. You will also likely want/need another laptop/computer or two to connect to the ATEM in order to insert Lower Thirds and other graphics.
f. There will also be a number of converters and cables needed to connect all of the equipment together and to integrate your sound system into the stream.
g. You may want to run a separate sound board for your online streaming – this is highly recommended if you are involving live music in order to balance the audio since you are using a "raw" audio that is not being dampened by chairs, people, etcetera that are inherent in a live setting.