

Live Streaming Workshop

Effectively Reaching Outside
the Walls of our Church



TEASER



➤ Everything you shouldn't do (@ church or on Zoom):

- Lighting (dark, shadows, etc)
- Cameras (static shots, head room, under/overexposed, wide angle, color balance, fuzzy, etc)
- Sound (buzz/hum/ring, echo, mute, acapella, etc)

➤ STORY:

- Satan says to Jesus, "Look at what I've done... Shut down all of the churches around the world."
- Jesus says to Satan, "Look at what I've done... Opened up all of the homes around the world as churches."

Considerations for the Home Congregations



CHALLENGES WE FACE

- Lighting, sound & video image
- More technology & skills needed
- Learn new approaches & adapt
- Viewers more demanding

BLESSINGS IF WE'RE READY

- Hearts of people more open today
- Unique time to reach into homes
- New ministries emerge
- Church emphasis on outreach
- Members inviting neighbors home for church & study (modern-day Acts)



Considerations for the Church Facility



- Streamline worship service
- Attention to worship flow
- Technology & media becomes critical (website, social media, video production)
- Sound mix in the sanctuary different from live stream
- New ministries emerge (video, streaming, social media, +)
- Presenter must engage those in sanctuary & at home
- Space for cameras & production



Session #1 -- THE BASICS (10:30 – 12:00)



Equipment & People

- Production Lighting, Sound, Cameras
- Graphics, Switcher, Streaming Devices
- New roles to fill in church
- Why teams & cross-training ?
- Why a separate space ?



Session #2 – ADVANCED TOPICS (12:30 – 2:30)



Maximizing Your Impact on the Community

- Getting Started
- Building your audience & connect
- Attention to service flow
- Internet & Streaming Service
- Live vs Pre-recorded
- Considerations for Live Streaming, Recording and Archiving
- Website vs Social Media
- Benefits of pro. stream service



Session #3 – Q/A (3:00 – 4:00)

Covering Questions that Emerged

- Legal Considerations—
 - children and music
- Zoom—Use more effectively



Live Streaming Workshop

SESSION 1: THE BASICS *Equipment & People*



PRAYER



DISCLAIMERS

- Coverage of the topics will be incomplete
- Mass amount to cover
- Handouts provided to help you follow
- Perspective based on experience & lessons
- It's OK to disagree
- Technology always advancing/changing



Session #1 -- THE BASICS (10:30 – 12:00)***Equipment & People***

- Production Lighting, Sound, Cameras
- Graphics, Switcher, Streaming Devices
- New roles to fill in church
- Why teams & cross-training ?
- Why a separate space ?



Technology & Personnel Requirements**THE BASICS**

Equipment	Explanation	People*
1 Camera + Tripod + Viewfinder + Lens Control	Follow presenter on platform	Camera Operator
Video Switcher	switch between camera & presentation	Director
Production Sound Board	Mix sound for live stream + recording	Sound Operator
Stage Lights	Light stage at proper angles	--
Live Stream Device & Recorder	Generate stream	Production Tech
Computer for Presentation	Present graphics (sanctuary + stream)	Projectionist
Computer to Manage Streams	Manage website, Facebook, YouTube ...	Production Tech

MORE ADVANCED**

Equipment	Explanation	People
More Cameras + Tripods + Viewfinders + Lens Controls	More camera angles	More Camera Operators
Intercom System (or 2-way radios)	Communicate w/in team	--
Computer for Lower Thirds	Display text over image	Production Tech

** Once ministry transitions to advanced, best if production moved to separate room from sanctuary.

Production: Lighting / Sound / Cameras**LIGHTING \$3,000 - \$6,000**

- Angled 45° from stage (no shadows + blinding)
- Evenly lighting platform
- Lighting color for effect
- Back lighting/Barn doors
- 575W x 4 = 20A circuit
- Light board + dimmers
- Incandescent vs LED (power, heat, 3x cost)



Production: Lighting / Sound / Cameras**SOUND**

- Sound mix for live stream different from sanctuary
- Live stream sound more sensitive
- Add ambient mics
- Instruments must be mic'd
- STAFF: Sound operator
- EQUIP: Sound board, compressor, ambient mics



Production Sound Board (\$500 - \$2,000)

[Midas or Mackie or ...]

- 8-16 channels audio input
- Connect to house sound, but independent mix and levels
- Manage sound for recording and live stream, different from sanctuary
- Headphones worn by operator
- Ambient mics and tall stands in sanctuary*

* Optional equipment



Production: Lighting / Sound / Cameras**CAMERAS**

- Cameras + tripod=smooth, eye level, follow pastor
- Remote Control Cameras + PTZ control = static shots, audience, baptism
- Match Cameras: Same brand, white balance, adjust exposure
- HDMI-to-SDI important
- STAFF: Camera Operators



Camera & Tripod +**\$4,500 - \$5,500 each**

[Sony PXW-Z150 4K + zoom control + viewfinder]

- Good for primary shots of presenter while moving
- Best camera control
- Large viewfinder

[Camgear Mark 6 + extend arms]

- Easily follow subject
- Stable/smooth transitions
- Minimize viewer distractions
- STAFF: Camera Operator



Remote Control Camera**\$3,000 - \$5,000 each**

[Sony PTZ Camera + Remote Control]

- Good for secondary shots (audience, baptisms, and wide angle)
- Mount discretely on walls
- Can not follow presenter
- Limited to static shots
- Setup shot before switch to it
- [Remote Control]
- Operate camera remotely



Graphics / Switcher / Streaming Device



GRAPHICS \$1,500 - \$3,000

- STAFF: Projection operator + Lower 3rds operator
- Presentation slides (remote control)
- Lower 3rds for names, titles, songs (advance)
- Helps keep viewer attention
- Options: PowerPoint, ProPresenter, Titler Live Complete by New Blue



Graphics / Switcher / Streaming Device



VIDEO SWITCHER

- STAFF: Director
- Switch between camera images + graphics
- Overlay lower 3rds
- Manage camera operators
- Software Option: computer w/ software + capture card
- Hardware Option: easier + independent of computer



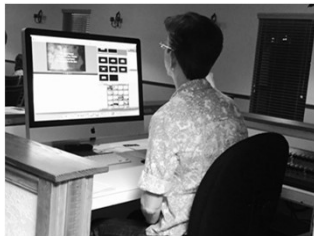
Graphics / Switcher / Streaming Device



VIDEO SWITCHER \$1,500

Software Option:

- OBS software (free)
- vMix software (paid)
- Requires computer w/ capture card
- Requires technical expert
- Mouse/keyboard to switch
- If computer crashes then Live stream is down



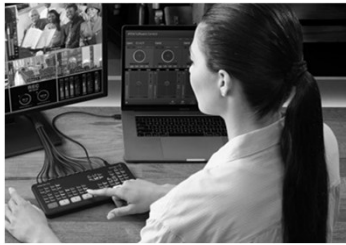
Graphics / Switcher / Streaming Device



VIDEO SWITCHER

- A. AVMatrix VS601 (\$750)
or
B. BMD TV Studio 4K (\$3,000)

- Panel with push buttons
- Easy to use
- No computer involved



Graphics / Switcher / Streaming Device



VIDEO SWITCHER-Option 1

AVMatrix VS601 (\$750)

- 6 HD ins: 4 SDI + 2 HDMI
- 3 Prog outs: 2SDI + 1HDMI
- 1 Aux out: SDI
- HD Multiview: SDI + HDMI
- Audio in (embed): 3.5mm stereo/RCA audio
- No keyers (lower thirds)



Graphics / Switcher / Streaming Device



VIDEO SWITCHER-Option 2

BMD TV Studio 4K (\$3,000)

- 8 x 4K ins: SDI
- Scaler/resync on all inputs
- 2 x Program outs: SDI
- 1 x Aux out: SDI
- 4K Multiview: SDI + HDMI
- Keyers (Chroma / Key+Fill)
- Audio in (embed): XLR



Graphics / Switcher / Streaming Device



STREAMING DEVICE

Software Option:

- Computer w/ software
- Advanced skills required.

Hardware Option:

- Independent of computer
- Simple to use once configured.



Graphics / Switcher / Streaming Device



STREAMING DEVICE #1

BMD Web Presenter (\$500 + computer + card)

- Requires computer + stream software
- Recognized as USB webcam
- Stream 720p resolution



Graphics / Switcher / Streaming Device



STREAMING DEVICE #2

Teradek VidiU Go (\$1,500)

- No computer involved
- Push button to start
- Stream up to 30Mbps, H264, 1080p 60fps
- Portable: Wifi required (no cat5 on this model)
- Bonus: Record w/ MicroSD
- Battery = 60 minute life



Graphics / Switcher / Streaming Device**STREAMING DEVICE #3**

AJA HELO (\$1,300)

- No computer involved
- Push button to start
- Stream up to 20Mbps, H264, 1080p 60fps
- Bonus: Record to SD card and/or fast thumb drive
- Not portable: Cat5 cable required (not wifi capable)



Miscellaneous Supplies**\$1,500**

- SDI & HDMI cables & connectors
- Bi-directional SDI/HDMI Converters
- HDD or thumb drive storage device
- HDMI distribution
- TV monitor for multiviewer



TOTAL COST ESTIMATE – THE BASICS

➤ One or more Camera + Tripod w/ lens controls and viewfinder	\$4,500 - \$5,500 each
➤ Video Switcher	\$ 700 - \$3,000
➤ Production Sound Board	\$ 500 - \$2,000
➤ Stage Lights	\$3,000 - \$6,000
➤ Live Stream Device	\$1,500
➤ Computer (Presentation + Stream)*	\$3,000
➤ Misc. cables, converters, TV	\$1,500
	=====
	\$14,700 - \$22,500

ADVANCED

add more Cameras (operator or remote) +

Staffing Production Crew



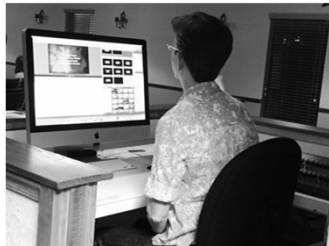
- New roles to fill in church
 - Involved new people
 - Director, production sound, cameras, lower thirds
- Why teams & cross-training
 - Prevent burn out
 - Reduce dependency on a few
 - Allow crew to worship by rotating teams



Why Separate Space ?



- CROWDED IN SOUND BOOTH
 - Space for 2-3 new people
 - Need plenty of counter space



Why Separate Space ?



- CROWDED IN SOUND BOOTH
 - Space for 2-3 new people
 - Need plenty of counter space
- ISOLATED FROM SANCTUARY
 - Hear what is being live streamed/recorded
 - Talk to camera crew



Live Streaming Workshop

SESSION 2: ADVANCED TOPICS *Maximizing Your Impact on the Community*



PRAYER



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Session #2 – ADVANCED TOPICS (12:30 – 2:30)



Maximizing Your Impact on the Community

- Case Study
- How to Get Started
- Build your audience & connect
- Attention to service flow
- Internet & Streaming Service
- Live vs Prerecorded
- Considerations for Live Streaming, Recording and Archiving
- Website vs Social Media
- Benefits of pro. stream service



Case Study *Tempe Church*



Feedback from Viewers is Important



Top chat replay ▼

- | | | | |
|--------------------------------|------------------|--------------------------------|--|
| Carmen Garcia | God bless you... | Simply Sonshine Juliette Sasek | Sound is a little buzzy on our end. |
| Simply Sonshine Juliette Sasek | Gc church! | Chris Albrecht | Is it still buzzy? |
| Scoble Abrahams | Happy Sabbath! | Simply Sonshine Juliette Sasek | Yes, it is. It's a little bit better though. |
| Chris Albrecht | Happy Sabbath! | Simply Sonshine Juliette Sasek | Now we can't hear you. But it's our end. |
| | | Daniel Andean | we can't hear 🗨️ |
| | | Simply Sonshine Juliette Sasek | No sound |

Consumer Camera with No Operator



- Subject not framed properly
- Fixed shot
- Graphics included but washed out
- Overexposed subject



Professional Cameras w/ Operator



- Framed nicely
- Following presenter
- Sharp image
- Quality lighting & proper exposure
- More personal
- Switch to graphics



Consumer Camera w/ Custom Configuration



- Bright graphic on TV
- Presenter close but can't move
- Not optimal image quality, but...
- Good compromise



How to Get Started



- Staff: Recruit—Great ministry for young w/ mentor, new & guests.
- Start: Something is better than nothing. (C-back)
- Growth: Consider the future for decisions today.
- Danger: Establish team & involve them in decisions.
- Space: Cameras & Directing



Building Your Audience & Connecting w/ Them



- Streamline the Service
- Talk to Cameras
- Closeups + Wide Shots
- Free Offers / Gifts
- ???



Attention to Service Flow



- Eliminate dead time
- Organize to the second
- Hold to the schedule
- Train platform participants
- STAFF: Worship Coordinator

Service Flow	Worship Coordinator		Devin S. 882-410
	Platform Elder		Seasia P.
	Lead Deacon		Barry W.
	Audio Tech.		Andrew I.
	Media Tech.		C.J. H.
11:00 AM	Worship Service		Plati
11:00	04:00	WELCOME & Call to Worship	Mark S
		Opening Prayer	
11:04	04:00	Praise and Worship Hymn: Victory in Jesus	Jerry Bit
11:08	07:00	Mission Update	Fusion M
11:15	04:00	Children's Story	Damaris
11:19	02:00	Prayer	Lilyville
11:21	03:00	Offering Call: Carlebach Church Ministries	Scott
11:24	02:00	Scripture: Romans 5:6-8 (NKJV)	Karlje
11:26	04:00	Special Music:	Carter
11:30	20:00	Morning Message: "It Happened on the Tree"	John B
11:50	20:00	Communion Service	Platform
12:10	02:00	Benediction	John B
12:12	03:00	Postlude	Rochelle
Service Flow 1:15			

Various Streaming Platforms



Church Website

- Reach church members
- Important for older generations to watch
- =====
- Will not attract many visitors



Various Streaming Platforms



Social Media Considerations

- Reach those who won't visit your church or website
- Cross-promote between
- Members share w/ friends
- =====
- Must follow strict policies
- 3 strikes and you're out.
- When action taken, nobody to contact for help



Various Streaming Platforms



Social Media Precautions

- Protect your content and channel / page
- Publish without music and other copyright materials
- Only use videos, images and music you own
- Save your content locally



Various Streaming Platforms

YouTube

- Most popular on-demand viewing location today.
- Organize your videos
- Build subscribers
- Use church logo and custom name/path
- Viewers can watch on computer or television
- Can edit video after live

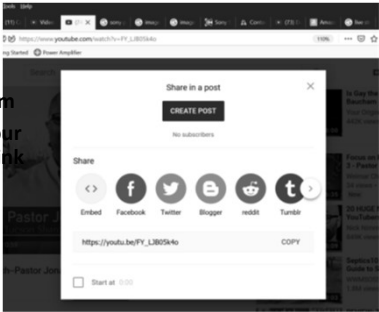
YouTube

YouTube

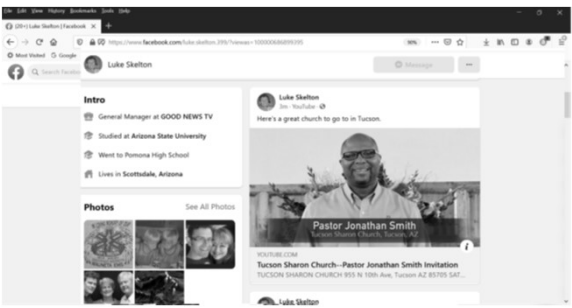
- Click Share

YouTube

- Click Share
- Select Platform
- Post your video link




YouTube



Various Streaming Destinations

Social Media

- Must abide by strict policies
- 3 strikes and you're out.
- When action taken, nobody to contact for help



Various Streaming Platforms



Facebook

- Easiest for members to "Share" posts w/ friends.
- Include link to website.
- Can't edit video, so could have copyright issues.
- Known to remove live streams and entire pages!



Recording / Archiving / Distribution



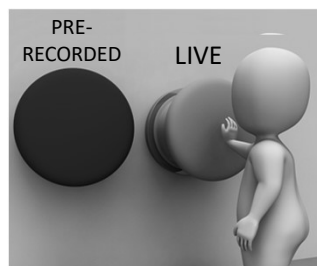
- Record/archive programs locally (not just YouTube)
- Saving on 2 local platforms is optimal
- DVD recorder is helpful for elderly unable to attend
- Using a digital recorder as primary is more reliable than computer (HyperDeck Studio Mini)



Live Streaming –vs– Prerecorded



- Prerecorded is less prone to failure/problems
- Live stream is easier to draw more viewers
- Prerecorded can most easily be streamlined, but requires someone to edit
- Live stream encourages viewers to maintain worship time



Internet Service / Streaming Service



INTERNET SERVICE

- Must be dependable service
- At least double upload speed you will use:
Stream of 2Mbps, needs service of 5Mbps upload
- Beware of wifi
- Speedtest.net / Fast.com

OPTIONS:

- Fiber optic
- Cable provider
- Mobile Data / Hotspot
- Wireless Microwave Link
-
- DSL/phone: not recommended
- Satellite: not recommended

Internet Service / Streaming Service



STREAMING SERVICE

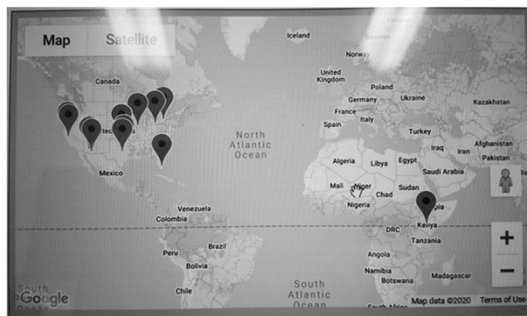
- FREE OPTION is often good but no guarantees
- PAID OPTION includes:
 - multiple destinations (website, YouTube, FB)
 - statistics (# of streams & from where)
 - 1-2Mbps for up to 300 simultaneous streams
 - support

EXAMPLES:

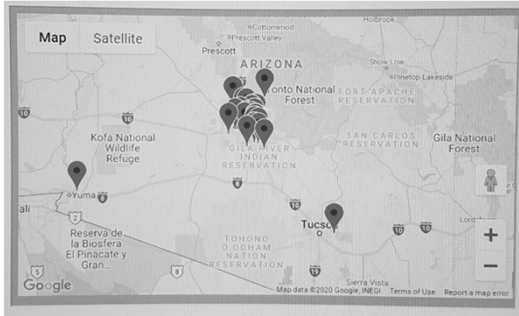
- Social Media: FB, YT, ...
 - Free
 - Control/policies restrictive
- Bilingual Adventist Christian CDN (ask GNTV)
 - \$179/mo

OFFLINE ARCHIVE HIGHLY RECOMMENDED.

Professional Streaming Service



Professional Streaming Service



Professional Streaming Service



Live Streaming Workshop

SESSION 3: Q / A



Session #3 – Q/A (3:00 – 4:00)

Covering Questions that Emerged

- Legal Considerations—
 - children and music
- Zoom—Use more effectively
- How to minimize audio feedback to live stream
 - (distortion?)



Current Conditions

GNTV ACTIVITIES

- Upgraded English channel to HD
- Introduced Kids channel in 5 of 7 communities
- Many serious calls from viewers

SAMPLE CHURCH OUTREACH

- Camelback distributing COVID-19 packages
- Midvale Park members studying the Bible with 6-8 GNTV viewers.
- Yuma Central distributing 10s of 1,000s of STC+GNTV bookmarks