

How to **STREAM MASS & MORE**

Excellence in Technology. Reverence of Theology.

Article by Relatu.org



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INTRODUCTION

In this article (and accompanying video tutorial series) you'll learn how live streaming works and see hands-on, step-by-step examples of how to distribute, plan and conduct your stream (yes, in that order! — you'll learn why later). The accompanying video series will walk through the technical “building blocks” of streaming, starting with only an iPhone, then progressively increasing quality by adding optional items and adjusting settings. It concludes with an example of a high-end setup that you can look to for inspiration if your parish wants to implement a professional quality or long-term streaming setup.

We realize audiovisual (“AV”) production can be stressful — as a producer at Relatu (an event AV and video production company), this author has troubleshooted more buttons and knobs than he can count! Therefore, it's our great hope that after reading this article and/or watching the video series, you'll take with you the knowledge needed to make a quality live stream while leaving behind any worry or confusion. So, without further ado... let's jump into some stress-free AV!

To watch the free hands-on video series that accompanies this article, visit: <https://www.relatu.org/howtostream>

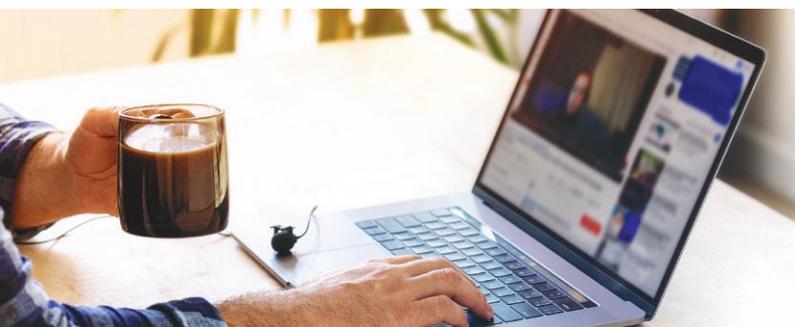
Starting with the End

Live streaming is a lot like figuring out one of those mazes you may have done as a child from a magazine or puzzle book. It's easiest to start from the end result and work backwards. Therefore, we'll define the end results we're trying to accomplish. Then, we'll work backwards one piece of the process at a time until we have everything we need to make our live stream come to life and — more importantly — help bring Jesus to people wherever they may be.

For this article, we'll use live streaming a Catholic Mass as an example. However, the principles and equipment we'll explore can easily be applied to any type of live stream, whether that be a church event, conference, or even a live Q&A with your pastor. You could also easily record content to edit and/or post later by utilizing the same steps (rather than streaming).

Particularly (in the video tutorials) we'll be showing setups for a private Mass with no assembly present for ease of demonstration and due to this being written during the COVID-19 pandemic which has limited many dioceses around the country to private Masses only. However, live streaming a Mass with an assembly is virtually identical in every way (except for moving cameras or cables and perhaps choosing a lens with more “zooming in” capabilities).

So, starting with the end in mind when streaming a Mass: At bare minimum, our live streaming audience should be able to see and hear both the priest and lector. Ideally, the remote audience would also be able to see and hear any music ministers and perhaps the assembly itself if one is present. Nice additions would include other elements such as a countdown timer before the stream starts, adding music lyrics, adding titles for the pastor, call to action slides, etc.



Should You Stream?

It's important before you start this endeavor to remember that being a good disciple requires a realistic assessment of your needs and resources. “Which of you wishing to construct a tower does not first sit down and calculate the cost to see if there is enough for its completion? Otherwise... [he'll find] himself unable to finish the work...” (Luke 14: 28-29).

Ask yourself, “does my parish truly need to live stream... and do we have the human and capital resources to do so?” The Liturgy is sacred: just as we use golden vessels at the altar and beautiful artwork in Church, the live stream itself should be of the highest quality reasonably possible. Just as beautiful religious artwork can be a portal into a deeper relationship with Christ, so too can excellence in streaming technology facilitate a greater reverence of theology. You want your remote viewers to have an experience as close as possible to being there in person... an experience commensurate with the reality of Heaven meeting Earth at the altar! Now hold on there, yes that's a tall order — but let us keep in mind together the “ideals” that propel us forward so that we can do our best to bring Christ to others in the most authentic and effective way possible.

If you find yourself in a situation where your parishioners would greatly benefit by having access to a live-streamed Mass but do not have the resources to produce one yourself, remember that the word “catholic” means “universal.” Consider teaming up with other parishes to produce a stream together or try to participate in something at the Diocesan level. Perhaps even consider simply directing people to an already televised or streamed Mass from another nearby parish or a global Catholic organization.

That said, there is certainly great value and spiritual connection that can come from your parish members being able to see their own priests celebrate Mass. Even if you have limited time or budget, if you feel called to serve Him through live streaming then you can be certain that He'll be grateful for any “loaves and fishes,” you can offer. He will be with you in this process no matter what production level you can achieve. All cameras, mics, and streams aside — it all comes down to bringing Christ to others.



STRATEGY FOR A SUCCESSFUL STREAM

Distribution Strategy

You can save yourself a great deal of technical and creative decisions in advance by deciding three “distribution” questions up front.

First, determine why you’re making the live stream in the first place. Specifically:

“Am I trying to entertain, persuade, or provide information to my audience?”

“Who IS my audience — where do they go to view content, what are their viewing preferences, what things are most valuable to them in terms of both content and how it’s presented?”

“What result do I want my organization to get out of the stream, or what action do I want the audience to take?”

If you can answer those questions in a single “ultra-specific” sentence, you’ll have the parameters in place that you need to make decisions that will truly make an impact. For example, our “single sentence” for the live stream of Mass might look like: “I want to share an authentic experience of the Mass with our parishioners (who have access to and can use technology needed to watch the stream) so that they feel more connected to our parish, grow spiritually, and remain parishioners even if they are unable to attend our Masses in person.”

Second (which is derived directly from the determination of the first) you’ll need to decide “Where will this live stream be viewed?” Some answers might be YouTube, your parish website, or Facebook (or all three!). The answer will depend entirely on your audience and where they like to view content. For example — older parishioners may not have social media accounts and feel more comfortable going to your website, whereas a youth group Mass might be more appropriately streamed to YouTube or perhaps to Instagram or Snapchat.

Third, think about what “marketing” will need to happen in order to help your audience find access to the stream. This step should be started before you move on to the next step (planning the stream). Thinking about this early allows you to find opportunities to “time bunch,” such as taking some photographs of the interior of the church while you’re there doing a location scout or blocking out where people in your stream will be standing.

Typically you will advertise both on the same platform you plan to stream on (such as putting out a boosted Facebook post on your parish page) as well as in other distribution channels you have access to (email newsletter, parish bulletin, even local publications or Catholic speakers who may belong to your parish and have their own network).

While further marketing of your stream is outside the scope of this article, we do want to recommend sending out at least three messages prior to your stream to inform and remind your audience of the upcoming stream during the preceding week. Three seems to be a great number that is not perceived as “too much” while still being noticeable enough to inspire action. Try sending one message out a few

days before, a second the morning of, and a third only an hour before the stream. All such communication should have a way for the potential viewer to easily access the stream by clicking a link that takes them directly to your streaming destination. They should NOT have to do anything more than a single click to access it. For recurring events like a weekly Mass, one or two notifications per week is sufficient.

Planning the Puzzle Pieces

Now that you have a distribution strategy established — knowing who your audience is and what they expect, as well as where the stream will be hosted online and how it's going to be promoted — it's time to start planning for the technical side of streaming.

First, take some time to get a rough idea of what your stream is going to require in terms of equipment and personnel. This will become easier with experience, but even if you have never streamed before you should be able to gather some initial thoughts that will help you in the next step. I'd recommend at minimum getting a copy (or making one) of what the "run of show" will look like. Even if it's an event you've participated in hundreds of times (like a Mass), take time to literally write an outline of everything that happens — it's surprising how often you'll run across something that you may have missed had you not written it out. Pay close attention to defining all the participants that will be on camera (e.g. priest, lector, music ministers) and any cues that may occur (such as the music starting or stopping, a procession beginning or ending, etc).

Next, it's time to conduct a location scout. This is simply the process of going to where the stream will be conducted so that you can plan for what the real-world scenario will look like. You'll want to prepare a list of questions to investigate or ask the venue's facility manager. Depending on the complexity of your stream, you may even be able to test your equipment during the scout. A list of important questions you should ask are included in a PDF download on Part 2 of our video series.

Now that you have a "run of show" (schedule), and have completed your location scout, you should have all the puzzle pieces for a successful stream!

TECHNICAL BUILDING BLOCKS OF STREAMING

We cover technical building blocks of live streaming in detail in our accompanying video series with hands-on examples and demonstrations:

<https://www.relatu.org/howtostream>

However, we'll briefly summarize below.

Please remember, however, this article is not comprehensive; the setups should be taken as suggestions (not rules). Only within the context of your particular circumstances and budget can you find the "best" solution; that said, below you'll find many "good" ways to start.

Stream = Inputs + Processing + Outputs

There are three main components to any live stream.

INPUTS

- Inputs are any sort of signal that you can use in your live stream. Examples include microphones, cameras, titles, and graphics.
- The most basic inputs you need for a live stream are one camera and one microphone — such as those built into a phone. From there, you can build up to any number of additional cameras, mics, and more depending on how many inputs your processing gear can handle.
- Professional inputs can include an enormous variety of microphones, cameras, and graphic generators. For cameras, most churches will want a quality camcorder (typically \$1,500+ with around the \$2,600 budget range being the "best quality for the money" for camcorders). Key features include "servo" zoom (especially if doing a one-camera stream) and SDI output (if your camera is going to be far away from your switcher, because SDI cables can go a couple hundred feet in comparison to only 50ft max for HDMI). For audio, you may have plenty of tools in your church already. However, a single "shotgun" mic or "wireless lav" for the priest can be a great start if you want to keep things separate from your church

audio system. You can connect any number of mics to some sort of audio mixer that can then connect into your phone (if streaming from an app) or laptop (if using a software video switcher). You can also ask your church's audio engineer or try yourself (with permission!) to get an output from the church's sound system (called "aux" or "monitor" outputs).

PROCESSING

- Processing is what we do with the inputs to add creative or technical-refining features and/or prepare them to be streamed. Examples include audio mixers, video switchers, and any type of program or device that allows us to directly access or control one of our inputs.
- If using an app on your phone such as Facebook, your phone will handle processing for you. However, if combining multiple inputs, you'll need some sort of video switching hardware or software. Consider starting with the software called "OBS" which is a free switching program for Mac and Windows. If you want an all-in-one solution for video inputs and processing, consider options like the Mevo or SlingStudio (although make sure to test them thoroughly, as they rely on radio frequencies that may be congested in your area).
- Professional switchers include options like vMix (affordable switching software for Windows computers) or hardware switchers such as the Blackmagic Design ATEM or Production Studio 4K. High end and expensive options include the Newtek TriCaster Mini or TriCaster TC1.

OUTPUTS

- Outputs are simply inputs that have been processed and are actively being sent somewhere. Examples include sending an audio mix to your stream or to the Church's built-in speaker system; for video, sending it to a projector or YouTube. For streaming, your video needs to be "encoded," which is another way of saying "saving" your output in real time in a stream-friendly way.
- Your phone handles this encoding step for you if using an app. Like your phone (but with more features and often much higher quality), most professional software and hardware encoders can send that "saved" feed (called your encoded

"program out") directly over the internet to some sort of Content Delivery Network ("CDN") such as YouTube or Facebook. No matter what encoder you use, make sure you have a good WiFi connection — or, ideally, an ethernet connection to the internet.

- Dedicated encoders include both software encoders (such as the ones built into a switching program like vMix which can also be used as a switcher) or dedicated hardware encoders (such as Blackmagic Design's "Web Presenter" or AJA's "HELO"). However, dedicated encoders are only good in particular niche circumstances; typically, a software switcher/encoder combo is the route most churches would want to take.

There are many more topics covered in our supplemental video series, such as:

- Selecting Your Tripod or Stand
- Streaming with Your Phone + Camera Settings
- Adding Phone Accessories
- Improving Audio for Phone-Only Streams
- Getting Sound from Your Church's System
- Using Your Own Microphones
- Introduction to Audio Mixers and Basic Mixing
- Introduction to Professional Cameras including exposure, white balance, composition, and FPS.
- PTZ Cameras, Switchers, Multicamera, and more!
- Access it at: <https://www.relatu.org/howtostream>

CLOSING

Themes to Keep in Mind

A theme you may have noticed is that we can increase the quality of our production, generally speaking, by "specializing" where possible. In other words, our stream quality typically goes up the more resources we're able to invest in terms of separating the jobs and functions of gear. For example: a wireless mic for the priest and a separate camera being used concurrently will be better than just a phone with a built in microphone. Two operators — one camera and one sound — will be better than one operator trying to do both. While such "specialization" is not always possible, it's a good thing to keep in mind — often one extra volunteer or piece of gear can make a bigger difference than many hours of work or planning.



Another theme you may have recognized is that audio and video are equally important. Audiences would rather watch a phone stream with great audio than a 10 camera production with poor audio!

Streaming in a Post COVID-19 World

You may be reading this article because your church or organization has decided to get up and running with live streaming due to the COVID-19 pandemic. That's completely understandable, and we sincerely hope this has helped you in such a difficult time for our world. That said, all things pass in time. By thinking about your potential long-term live streaming needs in advance, you'll be able to make budgetary and strategic decisions that will positively impact you for years to come.

Next Steps

We hope this article and video series (accessible at <https://www.relatu.org/howtostream>) have been helpful. We hope it has equipped you with the knowledge needed to get up and running with your stream (as well as provide some things to look at for the future). You're going to hit road bumps along the way in setting up your stream, but it'll be okay!

To paraphrase St. Francis De Sales: "Do all things methodically, one at a time, without anxiety, discouragement, or undue haste." If you have any questions or want professional assistance setting up or operating your next stream or event's AV, please reach out to us through our website: <https://www.relatu.org/>

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