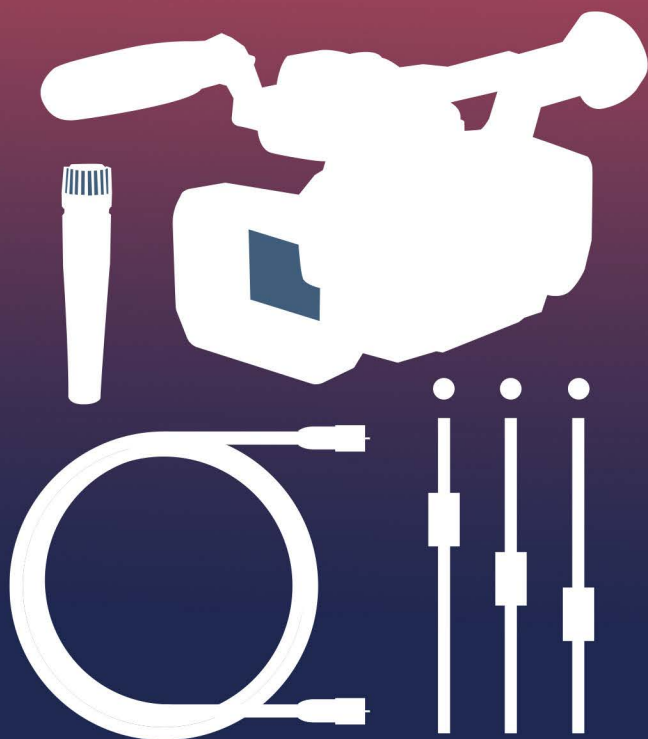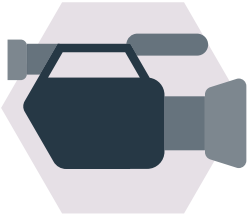# A Comprehensive **Guide** to the **Best Church Streaming Equipment**

# A Comprehensive Guide to the Best Church Streaming Equipment

As technology advances and the digital age continues to expand, churches have to adapt and find new ways to connect with their congregation, both in-person and online. Livestreaming has become an essential tool for churches to share their message, engage with their community, and reach a wider audience. To make the most out of your church's livestream experience, it's crucial to invest in the right equipment. The right gear will provide high-quality video and audio, and make your online services a truly immersive and enriching experience for viewers.

In this guide, we'll walk you through the top livestreaming equipment for churches, including the best cameras, encoders, video transmission cables, audio systems, and livestreaming platforms/software. Let's dive in!

# Top Livestream Cameras for Churches

A great livestream starts with a high-quality camera that captures your church service in stunning detail. With so many options available, it's important to choose a camera that best suits your needs, budget, and technical requirements. In this section, we'll explore some of the top camera choices for churches, including high-quality options, budget-friendly choices, and PTZ (Pan-Tilt Zoom) camera recommendations.

## High-quality camera options

When it comes to high-quality cameras for church livestreams, you'll want to consider features like resolution, low-light performance, and ease-of-use. Here are some top picks in this category:

**Blackmagic Design URSA Mini Pro 4.6K G2**: With 4.6K resolution, this camera offers exceptional image quality. Its 35mm 4.6K HDR image sensor can shoot up to 300 FPS (frames per second), has 15 stops of dynamic range, and built-in optical ND filters. It's a versatile option that can handle both live events and professional filmmaking.

**Panasonic AG-DVX200**: This 4K camcorder delivers stunning images with a single MOS sensor that captures up to 12 stops of dynamic range. Recording 4K to MP4, its built-in Leica lens offers manual control over focus, iris, and zoom, and is a great choice for most modern production setups, including those within churches.

**Sony PXW-Z90V**: This compact 4K camcorder offers great image quality, phase-detection autofocus, and impressive frame-rate flexibility. Its built-in lens and lightweight design make it an ideal choice for churches with limited space or those looking for an easy-to-use camera.

# Budget-friendly camera choices

Investing in livestream equipment doesn't have to break the bank. There are many budget-friendly camera options that still provide excellent video quality and essential features for your church livestream. Here are some popular choices:

**Canon XA11**: This compact, lightweight camcorder delivers Full HD video quality, a 20x optical zoom lens, and dynamic image stabilization. Its user-friendly design makes it a great choice for churches on a budget.

**Panasonic HC-V770**: This affordable camcorder offers Full HD video quality, a 20x optical zoom, and built-in Wi-Fi for easy livestreaming. It's a solid choice for churches looking for a cost-effective camera with good performance.

## PTZ (Pan-Tilt Zoom) camera recommendations

PTZ cameras offer the added benefit of remote control. They allow you to pan, tilt, and zoom to capture different angles while focusing on various parts of your church service. Here are some top PTZ camera recommendations for churches:
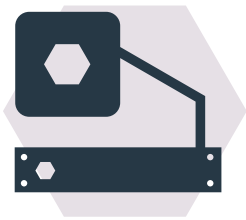
**Sony FR7 Cinema Line PTZ Camera Kit with 28-135mm Zoom Lens**: This is the top of the line PTZ camera that would blend in with any professional live production. With its ability to capture cinema-quality images, remote control capability, and 10-bit 4:2:2 4K resolution via HDMI, SDI, Optical, or Ethernet, this camera packs a huge punch. And it accepts different lenses to fit any use-case!

**PTZOptics 20X-SDI**: This PTZ camera offers 20x zoom range built for close-focus and wide-angle shots, 2D/3D noise cancellation, and simultaneous SDI, HDMI, and IP streaming capabilities. Its excellent low-light performance and smooth motion control make it a popular choice for church livestreams.

**Sony SRG-300SE**: This PTZ camera features Clear Image Zoom technology that can extend 20x optical zoom up to 40x to help create close-up shots in HD. It also includes IP streaming capabilities, making it a versatile and reliable option for churches.

**NewTek NDI PTZ1**: This camera is designed specifically for NDI-based (Network Device Interface) video production and livestreaming. It offers Full HD video quality, a 20x optical zoom, and seamless integration with many popular livestreaming software and platforms.

When choosing the right camera for your church livestream, considering factors such as video quality, zoom capabilities, low-light performance, and ease of use is going to be essential. Whether you opt for a high-quality, budget-friendly, or PTZ camera, investing in the right equipment will significantly enhance your church's online presence and help you create an effective experience for your congregation.



# Reliable Livestream Encoders

Livestream encoders play a crucial role in converting your camera's video data into a suitable format for online streaming. There are two types of encoder: hardware and software. The main difference between the two is that hardware encoders have the sole purpose of encoding videos, while software encoders work through your computer's operating system, meaning they perform multiple tasks while encoding. This difference often results in hardware encoders running more effectively than their software counterparts. That being said, hardware is more expensive as well, making software a great option for beginner to mid-level livestreamers working with a tighter budget. In this section, we'll cover our top choices for both software and hardware encoders, including some of Resi's incredible encoding options as well.

## Software Encoders

Like we mentioned above, software encoders are a great option for entry-level streamers or churches working with smaller budgets. In order to ensure you still get top-of-the-line quality, you'll want to look for software encoders with key features that include compatibility with OS systems, high number of input sources, high bitrate output, and extra capabilities. Here are our top choices:

**OBS Studio**: OBS's free and open source encoding software is a premium choice for churches who want a lot of flexibility from their software, for the lowest price possible. Compatible with all Linux, Mac, Ubuntu 20.4, and Windows systems, this system is a bit complex for beginners, but offers in-depth customization for a variety of settings and plugins, like number of video/audio input sources, bitrate output resolution, and the ability to add in extra features suited for your streams.

**Wirecast**: Known as a higher-end software encoding option, Wirecast offers professional-grade video production with its unlimited multi stream outputs, its unlimited input flexibility, its ability to produce high-quality resolution with lower bitrates, and its expertly designed audio and video editing capabilities. So while the price tag may be a bit high, this encoding software is great for church livestreamers that want it all.

**vMix**: This encoding software from vMix was created to be versatile, which is why they offer a variety of software models and pricing options. Their number of input sources range from 4-1000, they offer up to 2 full screen outputs and 4 virtual outputs, and they have adaptable multi-bitrate streaming so quality levels can be adjusted. The one downside to this option is they are solely compatible with Windows systems, but can be used on Macs via Bootcamp.

**Resi Software Encoding with ProPresenter**: By taking advantage of the power and resilience found in our patented RSP technology, ProPresenter is a cross-platform (compatible with both Windows and Mac) presentation and production encoding software. Once a video has been uploaded to ProPresenter, Resi's cloud technology breaks this source into multiple bitrates and distributes it simultaneously across an array of web destinations, such as your website, Facebook, or Youtube. This capability means you can have the highest quality stream with the lowest bandwidth requirement possible, and do it all from the control of your current computer. Plus, because Resi offers insane streaming reliability that outperforms our competitors, we can guarantee that once your content is encoded, it will deliver to your audience with 100% content integrity and zero packet-loss, every time. With our straightforward and easy-to-use interface, you can get started encoding with just a few simple clicks. After that, Resi's cloud takes over and does all of the work for you, delivering your stream perfectly in up to 1080p, 60fps.

# Hardware encoders

Hardware encoders are dedicated devices designed specifically for encoding video signals. They are known for their reliability, low latency, and high-quality output. Some popular hardware encoders for church livestreams include:
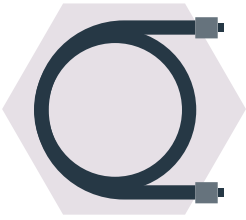
**Teradek VidiU Pro**: This compact and portable hardware encoder supports full HD streaming and offers a range of connectivity options, including HDMI, SDI, and Ethernet.

**Magewell Ultra Stream SDI**: This versatile hardware encoder provides single-channel HD streaming with support for SDI and HDMI inputs. It features a user-friendly web interface and can stream directly to popular platforms like YouTube and Facebook.

**Resi's E1200, E2211, and E4300 Serve-Grade Encoders**: Our list of server-grade encoders include options for streamers of every experience level. Supporting stream outputs of up to 4K, these encoders offer 16 channels of audio, dual and single-channel video inputs, and the most reliable video delivery possible by working in tandem with our patented RSP technology.

**Resi's Ray Encoder**: Looking for an affordable and compact option? Resi's Ray Encoder packs a major power punch into a portable, beginner-friendly format, making it the perfect option for churches looking for a high quality and reliable stream on a budget. Our easy-to-use interface makes the Ray a paramount tool for staff and volunteers needing to learn functionality quickly. And with up to 16 channels of audio and up to 1080p60 video output, the Resi Ray is an all-star when it comes to encoding church livestreams.

Choosing a reliable livestream encoder is vital for ensuring a high-quality and stable online broadcast. Whether you opt for a hardware or software encoder, investing in the right encoding system will greatly improve your church's livestream and help you reach a wider audience.

# Video Transmission Cables

Once you've got your cameras and encoders sorted, you'll need to get the right video transmission cable. Transmission cables transfer uncompressed video data from one device (camera) to another (encoder). There are two types of cable available—HDMI and SDI. By choosing the right cable for your production setup, you can protect your livestream with a strong video signal and safeguard its journey to your audience. In this section, we'll cover our top choices for both SDI and HDMI transmission cables, as well as offer some options for transmission adaptors that can help create a successful stream.

## SDI Cables

As the preferred option for professional-grade productions, SDI cables should include key features like high-quality transmission, low-latency, and long cord lengths with insulation to protect from signal degradation. Some excellent SDI cable options include:

**Canare 12G-SDI UHD 4K Single-Channel BNC Cable (100')**: This Canare offers a coaxial cable designed to lock-in with top-rated equipment. Its 100 foot length and copper center conductor ensure that 4K video can be carried over production sites of any size. And with its highly foamed PE insulation, video signals can stay strong even while traveling over large distances.

**Belden 1694A 010500 CMR Rated 6G-SDI RG6 75 Ohm Digital Coaxial Cable 18AWG (500')**: This Belden SDI cable offers a bare copper conductor and low-loss video transmission that spans up to an exceptional 500 feet in length. With incredible insulation made of high-density polyethylene foam, this coaxial cable keeps your video signals strong and is an incredible choice for church livestreams.

**Pearstone 75' SDI Video Cable (BNC to BNC)**: While slightly shorter in length, this Pearstone cable is the perfect, budget-friendly option for any church livestream. As a coaxial cable with polyethylene insulation and 75 feet of length, live production videos can be transmitted with ease. Plus, with its 75-ohm impedance rating and copper shielding, this cord can pump out some major power.

## HDMI Cables

Known for being the most widely-used cable by consumers, HDMI cables have skyrocketed in popularity. In order to find the right HDMI cable for you, be sure to look for key features like compatibility with other devices, good bandwidth speed, an up-to-date HDMI version, an HDMI certification, and cord length. Our top choices for HDMI cables include:

**Kramer High-Speed HDMI 2.0 Cable (15')**: CL2 certified, this Kramer HDMI cable offers a great 15 feet of length, 18 Gbps of bandwidth, and even includes K-lock pull-resistant connectors on each end. Built with HDMI version 2.0, its modern design is compatible with all HDMI-compatible devices and can support resolutions up to 4096 x 2160 at 60 Hz.

**Rocketfish™ - 4' 8K Ultra High Speed HDMI® 2.1 Certified Cable**: This 4 foot Rocketfish cable has an impressive Ultra High Speed HDMI 2.1 certification and it's no wonder why. Its ability to support resolutions up to a whopping 10K, with its sweet spot resting at 4K x 120HZ, its bandwidth speed of 48 Gbps, and its backward compatibility that can work with all HDMI standards (even older ones) makes this cable the premiere tool for any church livestreamer out there.

**C2G 6ft High Speed HDMI Cable with Ethernet - HDMI 2.0 - 4K 60Hz - M/M**: As an RoHS certified high-speed HDMI cable with ethernet, this C2G option offers one of the greatest bangs for your buck. With 6 feet of length, this cable includes an HDMI 2.0 version, resolution support up to 4K x 60HZ (though also supports 3D video), and is compatible with a massive range of devices, including computers, projectors, entertainment systems, audio or video applications requiring high-speed HDMI, and more.
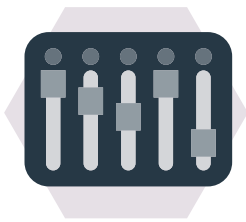
## HDMI/SDI Converters

HDMI and SDI converters allow IT teams to adapt video signals from one format into another. By adapting them, these signals can then be compatible with devices designed for a different format, such as using an SDI cable with an HD monitor. In order to make sure you're getting a converter that's worthwhile, you'll want to look for a few key features, including compatibility, high-resolution support, good scaling capabilities, and multiple input/output sources. And because our ultimate goal for recommending this equipment is to make you as efficient as possible, we're only going to include converters that are bi-directional/cross converters. Here's a list of our top choices:

**Blackmagic Design Mini Converter UpDownCross HD**: As a top tier converter, this mini Blackmagic option includes 2 input sources, including one HDMI and one 3G/HD/SD-SDI, and four output sources, including one HDMI, one loop-through, and two 3G/HD/SD-SDI. Its ability to cross convert between HDMI and SDI formats and support signal resolutions up to 1080p60 make it the perfect choice for church livestreams that require adaptability.

**DECIMATOR MD-HX Miniature HDMI/SDI Cross Converter**: This miniature Decimator converter is a compact powerhouse. With input slots for both HDMI and SDI, and 5 output slots (one HDMI and four 3G-SDI), this bidirectional converter features a built-in scaler and frame-rate converter, and can support resolution up to 1080p60.

**Blackmagic Design Micro Converter BiDirectional SDI/HDMI 3G**: With the ability to convert in both directions with different formats simultaneously, this Blackmagic converter is the dream tool for production sites with a variety of equipment. It can support resolutions up to DCI 2K in SDI and 1080p60 in HDMI and includes one input and output source for both formats, all while at a compact size and budget-friendly price.

# Audio Equipment for Church Livestreams

While many churches believe having the best camera is the most important part of producing an amazing livestream, in actuality, investing in a solid audio system is just as important in order to get the result that you're looking for. In this section, we'll be covering our top picks for microphones, plus tips on where to place them, as well as recommendations for audio mixers that can give you the best sound for your stream.

## Microphone selection

You'll want to make the microphones you use for your church livestream include features like good frequency response, solid bass roll off, a cardioid polar pattern, and a durable design. Here are some great choices of microphones for church livestreaming:

**Shure SM57**: Known as a tried and true stage mic, this dynamic, cardioid pattern microphone offers a broad frequency response that can handle loud volumes without sacrificing audio quality. Its sturdy build, lightweight design, and low price tag make it a great choice for live performances when streaming church services.

**Shure SM7B Vocal Microphone**: Famous for being used in a wide range of productions, including Presidential addresses, TV broadcasts, and even Michael Jackson's Thriller album, the SM7B includes a wide-range frequency response (50 to 20kHz), bass roll off with mid-range emphasis, and strong electromagnetic interference sensitivity. These features make it a top-notch choice for church livestreaming.

**Telefunken M80**: While this microphone may require a slightly higher budget, its supercardioid polar pattern, wide frequency response (50 to 18kHz), and super high max SPL of 135 db make it an incredible choice for vocal, instrumental, and percussion performances.

**Sennheiser MD 421-II**: Raved as one of the most-loved mics in the world, this cardioid-patterned Sennheiser offers amazing feedback rejection with a five-setting bass roll off. Its 30-17kHz frequency response and durable design, which includes a glass composite housing and steel basket, make it an ideal and versatile choice for church livestreaming.

## Microphone placement

When it comes to setting up microphones while streaming a live event, everything from background noise, venue acoustics, and even stage setup can affect where your best placement will end up being. In order for you to get the perfect setup for your own mics, there are going to be a few key rules to follow and some testing required before you're ready to go.

### Rule 1: Quality over quantity
While many may think that setting up a ton of microphones all over the place will serve them well, in actuality, the opposite is true. Having multiple mics in random places can actually enhance background noise that will disrupt the audio of your livestream. By strategically placing a few mics near the elements you actually want louder (vocalists, instruments, etc.), you'll get a much cleaner audio that serves your church livestream flawlessly.

**Rule 2: Avoid feedback**
A good rule of thumb to follow is to place your microphones as close to your audio sources as possible. If your mics end up too far away from what you're trying to amplify, they can end up catching a lot of background sound and causing a lot of feedback noise. By cutting out large distances, you'll get a much better direct sound that will overpower any excess audio that is being picked up.

**Rule 3: Spend time testing**
It can be enticing to rush through location testing for your mics, but don't make that mistake. Spending time by testing out different placements, even if they are only inches apart, can make a world of difference for your audio quality. Being patient and making sure you build a mic setup that's customized to your venue's needs is going to be far more worth it in the long run.
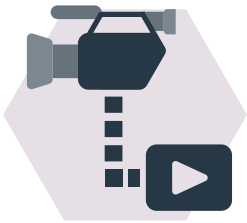
## Audio mixers

An audio mixer is a device that takes in all the different sources of audio from your live event and mixes, balances, and combines them into a single signal. This device is essential for having audio that feels natural and balanced, so you won't want to skip adding it to your setup. Some key features you'll want to look for when purchasing your next mixer include compatibility, mic preamps, special effects, and number of channels. Here are a list of great mixers that can work for any church livestream:

**Behringer X32**: With 40 processing channels, this digital mixer was designed by three of the leading audio equipment producers (Behringer, Klark Teknik, and Midas) to create a mixer that's perfect for large-scale live productions. Its 32 programmable mic preamps, virtual FX rack, and included  X-USB interface card for compatibility make this option a great choice for church livestreamers working with sizable events.

**Yamaha MG10XU**: This 10-channel analog mixer hosts an array of incredible features, despite its compact, portable design. Featuring Discrete Class-A mic preamps that deliver a clear and natural sound, 24 different special effects, 3-band equalizers on all mono-channels, and class-compliant USB compatibility, this Yamaha will help any church livestream produce a polished and professional audio.

**Zoom LiveTrak L-12 Digital Mixer**: The Zoom LiveTrack L-12 features 12 channels, 16 studio-quality effects, 8 combo-jacks with exceptional mic preamps, and 14-in/4-out USB interfaces for MAC, PC, and iOS devices—making it a device that checks every box for what you'd need.

**Behringer FLOW 8 8-input Digital Mixer with Bluetooth**: Looking for a smaller, more budget-friendly option? This Behringer Flow 8 offers 8 channels, 2 programmable mic preamps with 48V phantom power, 4-band EQ and compressor, and 2 studio-grade effects engines. Its built-in dual-mode USB interface adds great compatibility for the device, making it a great choice for churches of any size.

# Livestreaming Platform and Software

The final piece of equipment, though probably the most important for a successful livestream, is going to be your livestreaming platform and software. The system you choose will have the largest impact on the quality of your stream, so making sure you've picked the right one is going to be of the utmost importance. In this section, we'll cover all the features you should look for in both livestreaming software and a livestreaming platform, ensuring you'll get solutions that deliver a perfect broadcast every time.

## Features to look for in a livestreaming platform

**Automated Scheduling:** One feature that you'll want to look for in a streaming platform is automated scheduling. This feature gives you the ability to schedule events and have the platform automatically broadcast your stream at a chosen time. This capability not only makes a live event less stressful, as you know your stream will begin at the right time, but it also makes livestreaming recurring events, such as Sunday services, as easy as a few clicks. Plus, because you'll never need to worry about broadcasting on your own again, you'll have extra mental capacity to focus on what matters most—making great content.

**Video On-Demand:** Having a video on-demand service is an important feature that every worthwhile livestreaming platform will have. With the ability to store, organize, and archive your video content, you can send any new viewers/visitors to your VOD library, where they can watch your recorded streams and get to know your church on a deeper level. Plus, VOD services also give your congregation the ability to rewatch old content that they want to revisit—providing your community with the resources they need, exactly when they need them.

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**Analytics:** Being able to analyze the performance of your church livestreams is a vital component to creating successful video content. That's why we always recommend looking for a livestreaming platform that includes analytics. With real-time data that shows you where your videos are performing well and where they need a few tweaks, your church will be able to fine-tune its livestreams and serve your congregation as effectively as possible. Plus, if your platform offers in-depth metrics in their analytics feature, such as location tracking, your church can get to know its viewers on a deeper level and you can tailor your messaging to fit the needs of your community.

**Accessibility:** A church livestreaming platform that includes features built with accessibility in mind, such as automated subtitles, is an absolute must. Having tools that equip your church to reach every type of viewer or congregation member, no matter their physical or mental capability, is an integral part to creating incredible livestreams that everyone can enjoy. With this feature in your platform toolkit, your church can spread its message and open its doors to a whole new sector of people.

## Features to look for in livestreaming software

**Multi-Campus Capabilities:** If your church has more than one campus, having the ability to do multisite livestreaming is going to be a game changer when it comes to livestreaming software. This feature equips you to broadcast your church livestream to multiple different venues simultaneously. Having this capability will allow every single congregation associated with your church to enjoy your ministry's messaging and experience, no matter their location.

**Sim-Live Capabilities:** Simulated livestreaming is a key feature to look for in a streaming software, as it allows your church to stream previously recorded video content as if it were live. This feature makes livestreaming important content ten times easier, as your production team can edit and enhance any portion of your content. This eliminates any risk of broadcasting errors that occur during a live event and allows your church to perfect its video beforehand, creating the ultimate viewing experience for your audience.

**Monitoring and Customer Support:** When choosing your next livestreaming software, make sure you choose one that offers dedicated monitoring and customer support. Having a service that proactively detects any issues in your livestream helps ensure that any possible problem will be addressed and resolved before without your audience knowing a thing. Plus, by getting software with committed customer service, your stream is guaranteed to get the help it needs if something ever goes wrong.

**Reliability:** Our final must-have in a streaming software has to be reliability. Having a reliable stream is bar none the most important aspect to streaming, as unstable internet connections can easily make or break the success of your livestream. However, by choosing a software that prioritizes reliable service, you can be confident knowing that even if your connection fully drops, your livestream will keep kicking until your internet connection gets back on its feet. With this capability, your viewers will never have to watch a buffering screen again and your livestreams will perform exactly how you intended them to—successfully.

## Resi's livestreaming platform and software

Finding a streaming provider that can equip you with the right platform and software to get your streams up and running is the most crucial step to streaming successfully. Resi Media offers an array of streaming solutions—all designed for varying budget-levels—that transform the effectiveness and quality of a live stream. Our technology equips users with the highest-quality streams possible and the ability to broadcast to any platform of their choosing including Facebook, Youtube, their own website, and more! Plus, the Resi streaming platform is easy to use and provides a long list of key features, including the ones listed above, that help take workflow efficiency to the next level.

## Resi Streaming Plans

### Social Only
Resi's Social Only Plan includes the essentials for any streaming setup. For $99/mo, users get access to incredible features like Automated Scheduling, 1080p Simultaneous Streaming to Facebook and Youtube, and full email and phone support 7 days a week—yes even on weekends! At $1,188 a year, Social Only is the perfect streaming subscription for any organization working with a lower-budget that still wants top-notch quality.

### Starter Lite

Resi's Starter Lite Plan includes the essentials for any setup, plus some extra features and capabilities that make professional streaming a breeze. For $179/mo, users not only get all the same features as our Social Only Plan, but they also get access to Simulated Live streaming, an Embeddable Player with DVR, Audience Analytics, 3 levels of Cloud Transcoding, and up to 7 days of video storage! At $2,148 a year, this streaming subscription offers the best of both worlds for lower and higher streaming budgets!

### Pro

Resi's Pro Plan is our top-of-the-line option and includes every essential feature you could ever need, including every feature built into our Starter Lite Plan, as well as 1TB of monthly bandwidth, Stream URLs, and 6 levels of Cloud Transcoding. For $349/mo, users get access to EVERY feature listed above in Social Only and Starter Lite, plus Stream URLs (DASH and HLS URLs for apps, etc.) and up to 30 days of video storage. At $4,188 a year, this streaming subscription is perfect for organizations looking to ensure they have every tool and capability available when making a flawless stream

### Enterprise/Embed

Looking for a plan that doesn't quite fit the descriptions listed above? No worries! By contacting our **Sales Team**, they can help you design a robust streaming plan form fitted to your church's unique needs. Plus, you can also learn more about our Enterprise and Embed Only Plans, which include an array of slightly different features and capabilities. Either way, no matter what your goals and needs consist of, Resi has the perfect streaming solution waiting for you!

You don't need every piece of equipment we covered in order to produce an incredible church livestream. Simply grab a camera and start filming your services where you can. But once you're ready to move forward and put some budget into equipment, we hope this post comes in handy. If you have any questions about streaming with Resi, or purchasing some of our incredible hardware, be sure to **contact our team** and sign up for a demo to learn more. From there, we can help you discover how to make the most out of your church's livestream experience.

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