

Streaming Music and Messaging in Queue and On Hold

Easy On Hold® is the leading provider of streaming MOH/Queue Music technology and content.

2022



easyon
hold®



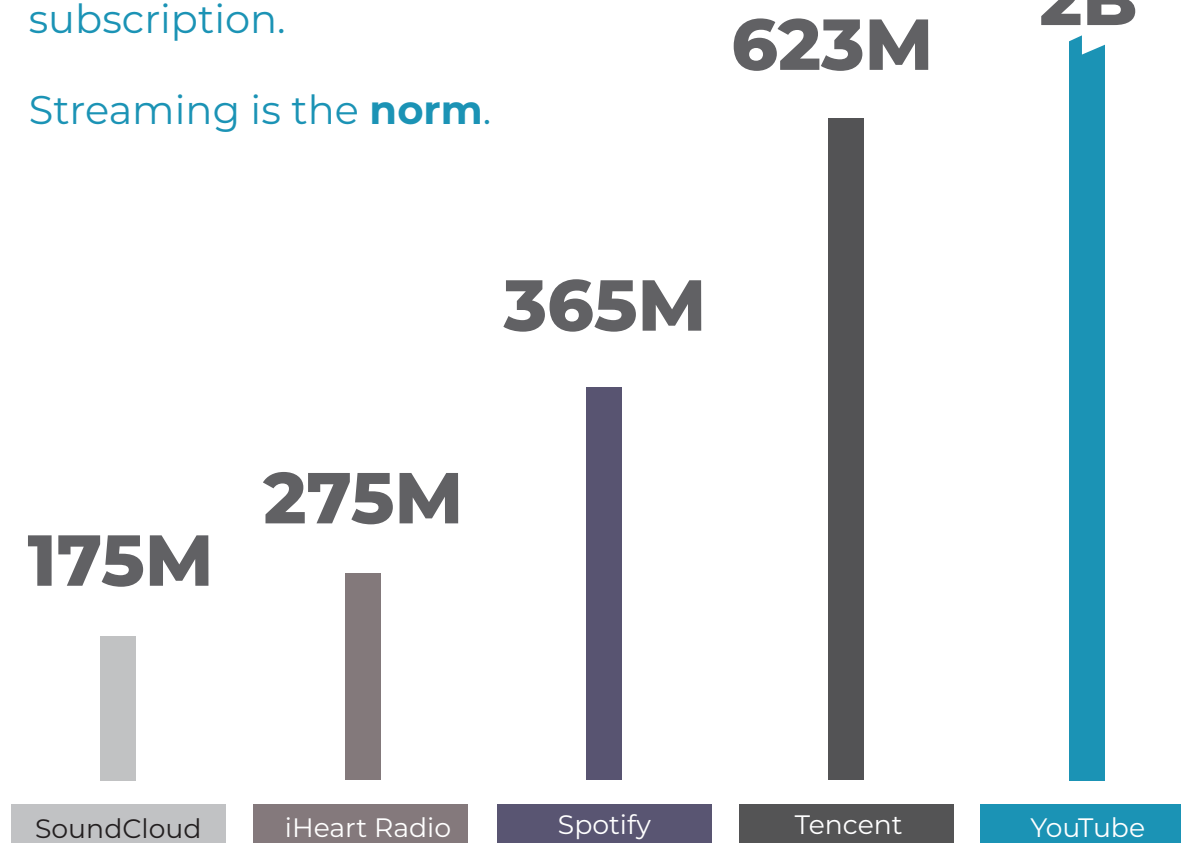
We are a **technology** and **creative marketing** firm with a 24+ year history of making great impressions.

Since inception, Easy On Hold® has focused on innovation in an industry that had become stale. We have replaced repetitive, unimaginative phone-on-hold messages with dynamically generated content.



78% of US homes have at least one streaming subscription.

Streaming is the **norm**.



How did we get here?

Accidental Music

In 1962, when Alfred Levy discovered a problem with the phone lines at his factory, he located a loose wire that was touching a girder on the building. The steel in the building picked up the music being transmitted by a nearby radio station. Callers heard the radio station on the phones. On March 26, 1962, Levy applied for a patent for his on hold electric circuit: the “hold button”. It was awarded in April of 1966.

1990s

The technology of Levy’s day carried into the 1990s in the form of the cassette tape. Once placed in an “on-hold player”, the tape would copy audio to an internal computer chip, advertised as ‘non-volatile memory.’ Callers heard the audio from the chip (tapes would wear out if used 24/7). These machines are still being sold today!

On-Prem PBX Era

Easy On Hold® started business during the cassette tape and audio CD era but experimented with various audio distribution methodologies. These included devices that could transfer CD audio to an internal chip, devices connected by telephone lines and eventually digital audio on memory cartridges and USB flash drives. The InterAlia iPromo system stored internet-delivered audio at the phone system site, playing announcements on a schedule. Unfortunately, the “store and forward” method requires cumbersome proprietary software and periodic “call backs” to re-synchronize player content to new schedules. These methods required the phone system to incorporate MOH audio via analog audio input.

Streaming Era

Newer on-site appliances (IP-PBX) still provide an audio jack for an external device. What if we could come up with a way to feed both digital and analog connections with one system? Easy On Hold® created the first streaming music on hold platform in 2013, a service that adds value to marketers, technicians and callers alike.

Our Brands

Easy On Hold® and **Brandi Music™** are dependable, scalable streaming content services made to improve any business or organization.



Easy On Hold® focuses on custom content callers hear when in queue or on hold.

Mono 128 kbps http(s). mp3 format
Bandwidth Consumption: 0.025GB/hr



Brandi Music™ is a feature-rich business music service (with optional announcements) for background music and phone-on-hold.

Stereo 192 kbps http(s). mp3 format
Bandwidth Consumption: 0.13GB/hr

STRICT SECURITY PROTOCOLS

Streams from Brandi Music and Easy On Hold® are in use in hospital systems, banks, credit unions, universities and many other high-security environments.

SCALABLE FOR LARGE ROLLOUTS

The architecture of our streaming services makes large scale fulfillment practical. Client stream creation takes only minutes. Servers are built with the redundancy and load balancing to handle thousands of streams.

WORLD-CLASS ENGINEERING

Our streaming architecture and 2C-BAS streaming player were designed by engineers distinguished for their innovations in the medical, automotive and audio industries. Such unlikely pairings resulted in a sophisticated, modern approach to how we sought to bring a streaming music and messaging solution to telephony and contact center audiences.

VERIFIABLE TROUBLESHOOTING

The EOH team has access to the data and reporting tools necessary for complete customer satisfaction. Our 2-Channel Business Audio System device, designed and built by Easy On Hold®, maintains meticulous logs, should troubleshooting be needed.

MANAGEABLE & STABLE

The stream is always on. Any number of streams containing unique content may be presented to end-users. URLs do not change over time. Bandwidth does not multiply as listeners are added.

24/7 TECH SUPPORT

Your business doesn't close at 5 p.m., and neither does ours. We realize emergencies happen after hours, so 24/7 technical support by a certified telephony engineer is available.

Failover Design

When an active stream request hits the gateway server, a check is conducted to confirm that the client is valid and the requested stream is up. If yes, the server delivers the specific customer stream. If the stream is not up, the failover server will provide a temporary stream.

Port Scheme

One goal is to keep the end-user port scheme as simple as possible. The following ports and domains are in use:

- Port 53 (DNS lookup)
- Port 80 (HTTP traffic)
- Port 443 (HTTPS traffic)
- Port 123 (NTP or custom NTP)
- Recommended whitelist:
pool.ntp.org
*.easynholdcloud.com

Authentication

The .mp3 streams are encrypted using https (TLS), although streams can be heard by entering the URL in any web browser. At this time no cookies or tokens are employed.

If a system cannot negotiate through the gateway to the client stream, an alternate URL is provided. If there is a restriction to the number of characters allowed in a URL, an alternate URL is provided.

Reporting

Streams offer the opportunity for diagnostics that old analog systems never could. The player device made by Easy On Hold® (2-Channel Business Audio System) reports connectivity, uptime, runtime, temperature, wi-fi signal strength if in use, boot count, etc. Software can be updated remotely. A copy of the previous software is maintained onboard.

Take a look at this Brandi Music™ user interface screenshot. Note how uptime is displayed based on the results of device check-ins every 15 minutes.

Connection History

Show entries

Search:

Name ↕	IP ↕	Date Checked ▾	Connected ↕
{serial:01043, type:gc-sp01, dev:ch1, mac_addr:b8:27:eb:66:bf:82, swversion:2.3.1}	10.0.1.7	3/11/2022 9:16:08 PM	64173
{serial:01043, type:gc-sp01, dev:ch1, mac_addr:b8:27:eb:66:bf:82, swversion:2.3.1}	10.0.1.7	3/11/2022 9:01:08 PM	63273
{serial:01043, type:gc-sp01, dev:ch1, mac_addr:b8:27:eb:66:bf:82, swversion:2.3.1}	10.0.1.7	3/11/2022 8:46:06 PM	62371
{serial:01043, type:gc-sp01, dev:ch1, mac_addr:b8:27:eb:66:bf:82, swversion:2.3.1}	10.0.1.7	3/11/2022 8:31:12 PM	61477
{serial:01043, type:gc-sp01, dev:ch1, mac_addr:b8:27:eb:66:bf:82, swversion:2.3.1}	10.0.1.7	3/11/2022 8:16:12 PM	60577
{serial:01043, type:gc-sp01, dev:ch1, mac_addr:b8:27:eb:66:bf:82, swversion:2.3.1}	10.0.1.7	3/11/2022 8:01:11 PM	59676
{serial:01043, type:gc-sp01, dev:ch1, mac_addr:b8:27:eb:66:bf:82, swversion:2.3.1}	10.0.1.7	3/11/2022 7:46:07 PM	58772
{serial:01043, type:gc-sp01, dev:ch1, mac_addr:b8:27:eb:66:bf:82, swversion:2.3.1}	10.0.1.7	3/11/2022 7:31:07 PM	57872

Easy On Hold® streams provide features and benefits that make your job easier.

Why you'll like
streaming MOH

Why **techs** like streaming.

Messages are changed in the stream, not by handling files. The audio content no longer passes through your hands. In some cases, devices are not required, reducing maintenance.

Streams automate start and stop dates of each topic (individual announcement). No more out-of-date audio files being left on the system.

Like it or not, someone at your company is responsible for the **liability of licensing the content** that is heard on your phones. Easy On Hold® assumes that responsibility.

Bandwidth consumption is just 0.025 GB/hr. for the mono 128kbps stream (less than one employee listening to Pandora®).

Streams provide real data that can be used in implementation and troubleshooting.

Once installed, the **URL does not change.** No further maintenance is required.

Why **marketers** like streaming.

Scheduling automation allows high-value topics to be delivered with pinpoint timing. Relevant information reduces call abandonment and increases customer engagement.

Changes are heard immediately. You'll never wonder when topics will be played, or if they were programmed at all.

Dayparting, meaning "good morning" and "good afternoon" phrases surprise and delight callers. Unexpected positive moments activate the brain's pleasure center.

The predictable "audio loop" makes hold times feel longer than they really are. Instead, **topics are played randomly in the stream.**

Easily manage content at multiple locations using any browser or device.

All of your topics are not of equal importance, so Easy On Hold® streams let you **set priority ratings for each topic.** Your high-value, time-sensitive messages are heard more often.

Easy On Hold® streams are appropriate for a growing number of telephony platforms.

Platform	Streaming Solution	Format
Asterisk	http mp3	http
Avaya 7+ w/AAMS 7.8+	http mp3	HLS/http
Bicom Systems 4.1+	http mp3	http
Broadsoft	Custom SIP Stream	SIP
Cisco CUCM on Prem	RTP EOH 2-C BAS or CUCM Connector	RTP
Voneto	https mp3	https
Cisco UCCE/VVB/CVP	Streaming Queue Music Cloud or Appliance	PCM
Fortinet FortiVoice	https mp3	https
Free PBX	http mp3	http
Freeswitch	http mp3 (mod_shout)	http
Genesys Pure Engage	Custom HLS Stream	HLS
iPitomy	https mp3 (requires tinyurl)	https
Yeastar	https stream (S50, S100, S300)	https
Mitel MiVoice Business	Custom SIP Stream	SIP
OnSIP	https mp3 URL	https
Nextiva	Custom SIP Stream	SIP
Legacy PBX	EOH 2-C BAS Device	https
TPX (Broadsoft)	Custom SIP Stream	SIP
Genesys Pure Connect	https mp3 w/Local Media Server	https
Vodia	RTP CUCM Connector	RTP

HTTP is just the beginning.

Introducing **HLS, SIP, PCM** and **RTP streams** exclusively from Easy On Hold®.

New platforms drive innovation.

The http .mp3 streaming format was made popular by early “internet radio” streaming sites. Initially to PCs (Winamp, etc.), then to internet radio devices and personal media players.

Asterisk, Free PBX and **Freeswitch** utilized the .mp3 streams easily, because of the native mpg-123 codec in Linux.

First, we developed features and conveniences that made sense specifically to I.T. and marketing professionals tasked with managing phone on hold content. We continue to grow our streaming service to meet specifications of a wider range of telephony platforms.

Easy On Hold® is a **Cisco Solutions Partner** offering a streaming music on hold solution for UCCE within the Virtual Voice Browser. For **Cisco CUCM, rtp** streams are delivered using the updated Easy On Hold® 2-Channel Business Audio System. This eliminates the need for additional conversion equipment (such as Barix Instreamer).

Broadsoft can be configured to point calls to a SIP address during hold time. Easy On Hold® has developed a proprietary SIP-based streaming solution.

On-site appliances, such as **iPitomy** and **Fortinet**, allow the introduction of the http URL in the user interface.

The **Avaya 7+** call center solution (with AAMS 7.8+) provides the opportunity to introduce many streams by entering stream URLs in the **Aura** Media Server interface. The result is relevant, custom content directed to specific call groups.

In 2020, Easy On Hold® worked with **Genesys** to develop a unique streaming MOH solution for **Engage**. Today, we are a Genesys Technology Partner, helping contact centers improve customer experiences.

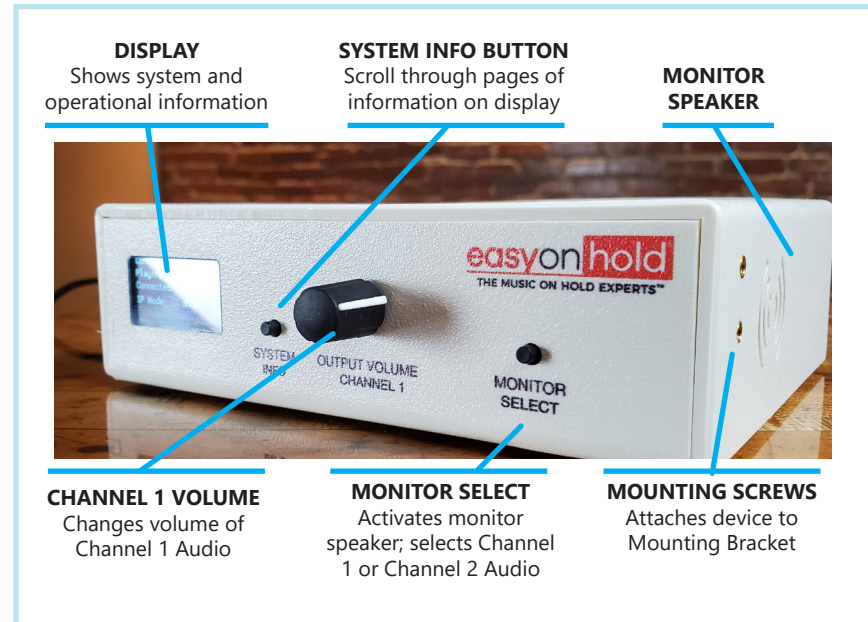
Some IP PBX appliances such as **Allworx, Avaya Office I.P** and others, integrate an analog audio jack. The EOH **2-C BAS** delivers up to two unique streams of custom content.

The news is: you can now stream in http, https, HLS, SIP and **RTP**.

Technician responsibilities shouldn't include loading marketing messages. Marketers shouldn't worry about playing Jingle Bells in January.

2-Channel Business Audio System

The most advanced on-prem streaming solution.



A dual-channel high-quality device for streaming phone on hold and overhead music service.

Reporting Feature

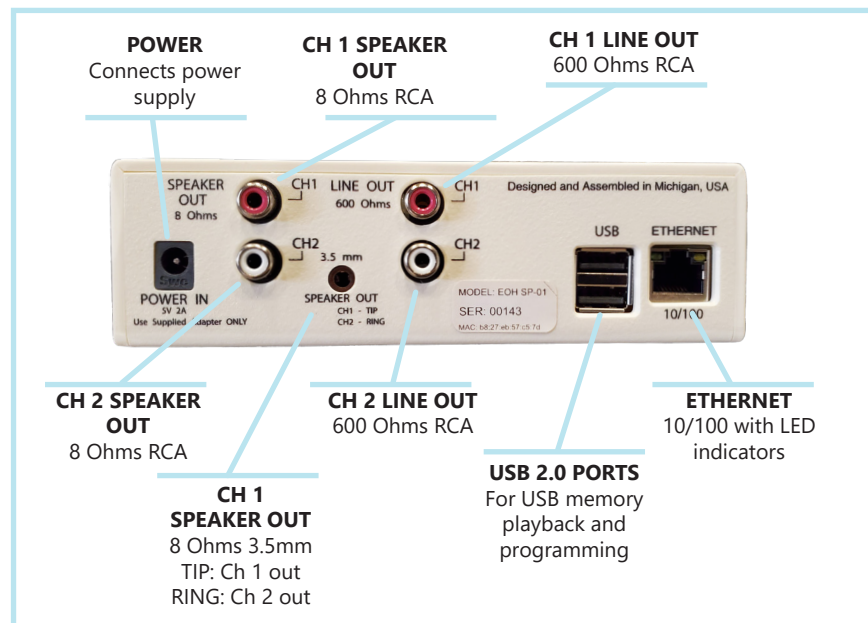
At 15-minute intervals the device confirms public I.P. address, unit serial number, connection type, configuration as DHCP or Static, time and day unit settings last changed.

Static IP Feature

The device can be configured DHCP or STATIC. Configuration is easily changed via USB drive.

Failover Feature

As an internet connected device, the 2-C BAS continuously monitors connectivity. In the event of a loss of internet service, the system will play pre-configured locally-stored audio files. When connectivity is restored, the unit will resume playing the internet stream without the need to reboot the device.



Remote System Upgrades

With the device connected to its stream, new versions of the software can be remotely deployed. The device will automatically reboot to activate the new software, causing an interruption in audio playback of about 30 seconds. Updates are scheduled events and can happen at a time that is convenient to you.

Cisco CUCM rtp Stream

For Cisco CUCM, this device can be configured to provide a stream in 8-Bit rtp on a custom multicast I.P. address. Easy On Hold® will configure the device prior to shipping. Because of this innovative device, you no longer need two separate pieces of equipment to stream into CUCM.

FCC CERTIFICATION

The 2-Channel Business Audio System has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For more information, view the User Guide at: <https://easyonhold.com/knowledgebase/EOH-2C-BAS-User-Guide.pdf>

