



**Make your audio stream**

**SCREAM**

***(while decreasing your streaming costs)***

***For your sound to compete, your stream needs to be reliable.***



### **Introducing StreamS-Modulation Index**

Having played an active role in the professional broadcast industry for over 30 years, Greg Ogonowski was the co-developer of the Orban Optimod line of digital audio processors. His expertise in both audio processing and audio streaming for the last 20 years led to the co-development with Bob Orban of the Orban Optimod-PCn Native audio processor. Greg was also the first to license HE-AAC and new xHE-AAC, for improved audio quality and reliability, changing the course of history for streaming. StreamS HLSdirect™ now brings more coverage to more players, devices, and automotive dashboards, without Flash or MP3.

### **Our Customers**

Major customers include the world's largest content providers, where fully redundant streaming and processing systems were designed and built.

Large scale projects for Major League Baseball, Univision, and Rogers Canada have also been developed, executed, and serviced.



## Stream up to eight stations in a 1RU box

While the obvious benefit of this type hardware is that it saves rack space, it also reduces energy consumption both directly and indirectly as less hardware means less cooling required. It also lowers the per stream cost to the point where dual redundant systems are practical and affordable.

## Software and hardware, or software only, solution options

While both the StreamS and Orban products can run on any Windows machine (Windows 7 or higher), the need for a "specialized OS" becomes more critical when a high number of sources are assigned per appliance. StreamS appliances use Windows 10 OEM LTSB. This is a special version of Windows 10 available only to companies using Windows for their appliances. It lies between Windows 10 and Windows server.



It has all of the background garbage removed and is specialized for the job it is sold to do. If a client chooses to provide his own hardware, care must be taken to set up Windows properly.



## Control streaming costs = increase profits

Since HLSdirect™ uses common ftp protocol, it no longer needs expensive servers that are dedicated to media streaming. This means you can bypass secondary providers like most of today's content delivery networks are, and use inexpensive cloud and network services. This should be an area of substantial decrease in per listener costs. It will also allow the user to work directly with an ad insertion company, again eliminating the middle man.

The StreamS HLS encoder is an ftp encoder and as such does not use the Adobe RTMP format that requires the Flash player which Adobe has announced they will drop support for in 2020. Processing with the old Orban audio cards used to cost nearly \$2,000 US per stream. Now with Orban PCn 1600 software-only processing, the same can be done for under \$1,000 US per stream.



## Your stream will be more reliable and easier to maintain

There is a new technology in the streaming industry that has been used in the video download industry by companies like NetFlix, Hulu, Amazon and others. It's called HLS and its primary benefit is that unlike live streaming where one continuous stream is being sent, HLS sends 6-10 sec packets as time stamped downloads that are then played from the players buffer. This increases reliability especially with mobile devices. When used in audio, it can be deployed in what we call adaptive bit rate which sends out up to four different bit rate streams and has the ability to pick which rate and move up or down bit rate wise in sync, depending on the networks capability. Increased stream reliability means higher listener satisfaction which of course can affect revenue.



StreamS high capacity appliances allow lower cost redundancy with proven failsafe configurations.

StreamS high capacity appliances also open the door for centralized audio processing and encoding which can provide a higher level of control and further lower distribution and redundancy cost.

Both the StreamS and Orban products run as services rather than applications. That means should a reboot ever be necessary, the services come up with the OS and start immediately without human intervention.

StreamS products work in conjunction with the major content delivery networks used by streaming audio broadcasters including ICEcast, SHOUTcast, Adobe, Wowza, Triton Digital, LimeLight, Akamai, and more.



## Access online radio stations streaming with StreamS

*(Click on Station Name)*

[LG73.ca](#) [Planet Pootwaddle](#) [KRFE Radio](#) [JazzGroove](#) [KJAB](#)



## **Modulation Index products and services are backed by the industry experts**

StreamS-Modulation Index is headed by Greg J. Ogonowski. Greg is not only known as one of the top audio processing guru's in radio but also one of the most knowledgeable people in the world of audio streaming. Greg's contribution to the Orban line of audio processors over the years starting with Orbans first digital audio processor, the 8200, is well known in the industry. In 2002 Greg, as the VP for New Product Development, led the development of Orban's PC Products which included the 1100 audio processing card and a new line of streaming encoders that featured the new AAC family of codecs including what we now call HE-AAC which, with its high quality low bit rate performance, opened the door for today's mobile audio.

Those formats have essentially replaced MP3 which required several times the bits (costing more), to compete quality wise with both AAC and HE-AAC and specialized media servers. In 2014 Modulation Index was the first to license the new XHE-AAC encoder. This encoder will eventually replace AAC and HE-AAC and can extend stereo music bit rates to 3G levels. StreamS encoders now include xHE-AAC which will allow our users to move to the future when the players become wide spread. Modulation Index was the first to incorporate xHE-AAC into the HLSdirect transport.

Having worked in conjunction with Fraunhofer Institute for Integrated Circuits (IIS) in the development of HE-AAC, Modulation Index offers the best sounding audio available online.

When a company buys the StreamS encoders and the Bob Orban PCn audio processors, they get the help and advice they need from the top professionals in the audio streaming industry.

### **[Indexcom.com](http://Indexcom.com)**

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