CASE STUDY

High Quality audio for remote learning & music auditions during COVID-19 distancing.

Duquesne University´s Mary Pappert School of Music in Pittsburgh realized next level online lessons, lectures and auditions with Digigram´s professional CODEC technology.

> *On scale of 1 to 10, audio quality is an 11. It's absolutely paramount. We need to hear vibrato; we need to hear the decay of the reverb. That's what you lose on a Zoom call.*
>
> **The IQOYA changes all that - the sound is pristine.**

— **Thomas Kikta** - Chair of Commercial Music, Media and Jazz / Duquesne University in Pittsburgh audio

Thomas Kikta, chair of Commercial Music, Media and Jazz at Duquesne University in Pittsburgh, got word that his campus was shutting down due to Covid-19 on March 12.

Remote learning was to begin 4 days later on March 16, leaving Kikta with only a few days to find the students and facility at the university's Mary Pappert School of Music a solution that would improve upon the unreliable and poor audio quality during meetings via Zoom.

After consultation with the Synthax experts he picked Digigram's flagship CODEC IQOYA SERV/LINK. Originally developed for uninterrupted, high-quality live remote broadcasting via IP networks, the SERV/LINK was simply perfect for next level online eduction.

The flexible 19 inch device provided the music school with pristine realtime audio to continue to conduct ambitious remote lessons, classes and auditions. The ultra-reliable device not only holds a record for bidirectional multi-channel audio connections, but supports all important audio formats, including Dante, MADI and Analog.

> *When it was announced that we were closing the campus, the first complaint I got from faculty was, 'There's no way I can do private lessons on Zoom', They said, 'I can't tell vibrato, it warbles, it goes in and out. I can't tell the tonal quality of the student. I can't demonstrate for them.' There was a litany of complaints.*

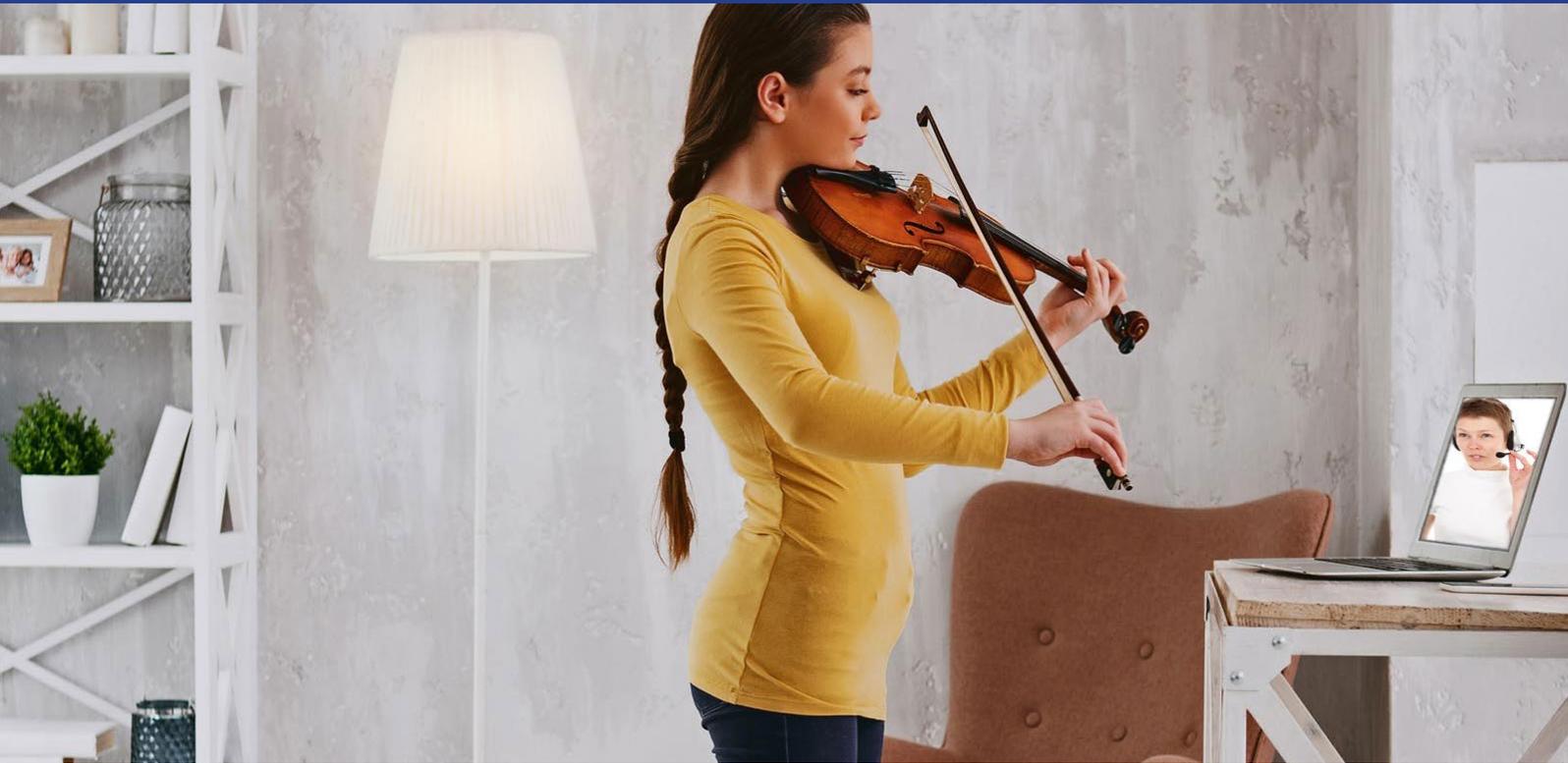— **Thomas Kikta**

IQOYA SERV/LINK

Designed for multi-channel live Radio & TV remote broadcasting.

SERV/LINK handles up to 64 stereo (128 mono) input and output channels in 1RU space. The device provides the unique possibility to simultaneously encode and stream the audio inputs at multiple formats and protocols, decode IP audio streams to the outputs, and transcode IP audio streams (see the chart on the right).

Delivery of audio programs (STL/SSL Links)

Delivery of multiple WEB radios to CDNs

Multiple program delivery to DVB/cable operators

Multiple intercom and commentary channels

up to	up to	up to	up to	up to	up to
128	**128**	**128**	**128**	**32**	**16**
Dante SPOKEN HERE	AES67	RAVENNA	MADI	AES/EBU	Analog
channels	channels	channels	channels	channels	channels

While most of the university's distance learning classes require intelligible audio, for music classes reliable, high-quality audio is key. Thanks to Digigram´s easy-to-use CODEC technology, music school students now log into Zoom to see the video and simply click on the provided IQOYA link, they got sent from their professors, to hear the lecture.

"On scale of 1 to 10, audio quality is an 11. It's absolutely paramount," Kikta said. "We need to hear vibrato; we need to hear the decay of the reverb. That's what you lose on a Zoom call. As the instrument decays, it starts to digitize, and it starts to flutter. If there's a gate on it or a compressor, you hear that. It cuts off your decays."

> *The IQOYA changes all that the sound is pristine.*
>
> *I took a sound wave tone generator, and I ran 20Hz to 20kHz to my sound engineers, and they were watching the meters on their end and I was watching the main control panel, and it stayed stable from 20Hz to 20kHz.*

— **Thomas Kikta**

The next level of Distance Learning:
# Easy-to-use. Uninterrupted. Mobile friendly.

The Mary Pappert School of Music is currently using 24 stereo and 48 mono channels, splitting them up daily depending on what classes, lessons and auditions are on the schedule.

"We literally have to look at the schedule and say, 'OK, how do these channels have to be split up today?" Kikta explained.

"When it comes to lessons, I just worked with a class that had 16 violinists and one professor. They can all play away and she can play back to them and then she can ask them to play back what she just played. They do almost a volley for serve, and she's thrilled how it's working. And while that class is going on, I have a recording workshop going on on other channels."

According to Kikta, a setup video has been key in getting professors and students up and running on the platform.

"I send the setup video to the professor and the professor sends it to the students," Kikta said.
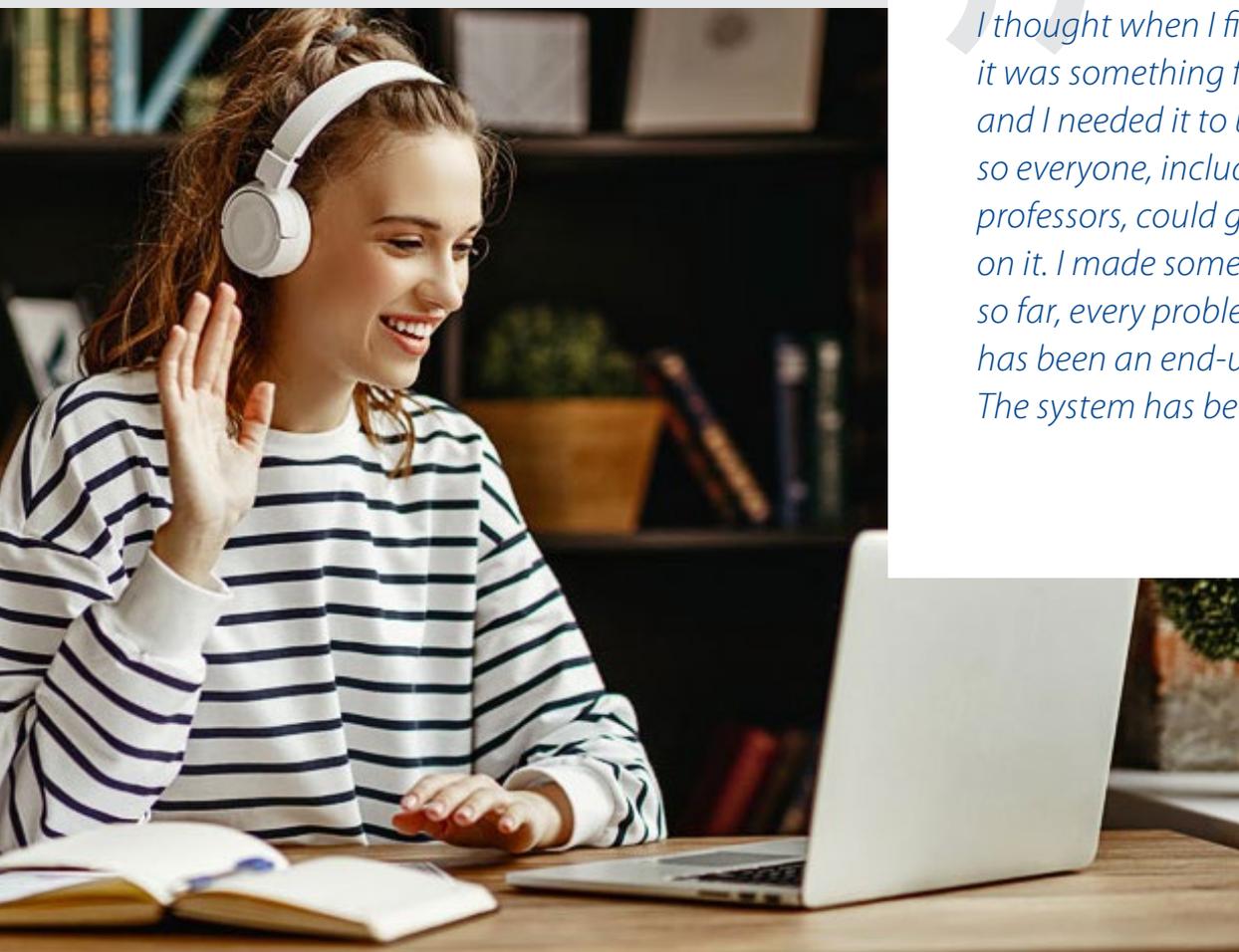
> "
> *I thought when I first saw this that it was something for engineers, and I needed it to be user-friendly so everyone, including our older professors, could get up and running on it. I made some suggestions, and so far, every problem encountered has been an end-user's deficiency. The system has been very stable.*
>
> — **Thomas Kikta**

Refining the Audition Process: Flexibility for any situation.

With in-person classes set to resume on August 24 at half capacity, Kikta stated the new SERV/LINK-based online setup will be critical heading into the 2020-2021 school year.

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A class that normally held 23 people will be down to 12 or 13. "Those that don't come into the classroom will be told to stay in their dorm room, within Covid regulations, and log in via Zoom to see the lecture and use the IQOYA link to listen in.

— **Thomas Kikta**

Lectures and lessons aside, the new IQOYA SERV/LINK will also play a key role during the music school's audition process.

"No one is allowed on the Duquesne University campus that isn't already a part of the 'school family,'" Kikta said. "So, we are going to distribute the IQOYA link and Zoom link to the students and judges. While the students aren't performing in-person, the IQOYA's audio quality offers the judges the opportunity to hear the fine details of the student's playing as if they were."

Using IQOYA for high-quality online eduction and school presentation - beyond Covid.

Looking ahead to the time the pandemic will come to an end, Kikta added, using the IQOYA for remote auditions will help the school reach a broader base of students, including those who live too far away to attend in-person auditions.

"It will help us get the cream of the crop," Kikta said. "Students who normally wouldn't travel all the way from China or Honolulu can now audition via the SERV/LINK."

Similarly, Kikta plans to use the IQOYA's X/LINK IP audio codec, which is designed for live remote broadcasting, and couple it with a link from free web streaming site Caster.fm, to showcase the students' music on the university's website.

"Our goal is to have a 24/7 loop broadcasting recordings from the Mary Pappert School of Music," he said. "When someone comes to our web page, there will be a button that says something like, 'Hear the Students of Duquesne University.' When someone clicks on it, concerts will be streaming from Caster."

Two other channels will broadcast student recitals - making it easy for students who have family and friends out of state to virtually "attend" their performances.

"This will allow grandma, who lives in Washington State, hear her grandson's recital in Pennsylvania," Kikta continued.

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*We plan to broadcast all the student recitals so that friends, families and donors can listen without having to physically come to the university.
The X/LINK will feed our programming up to Caster, so that's another key application we'll be using it for once classes resume.*

— **Thomas Kikta**

Developed for Broadcast - Perfect for modern online education.

All in all it turned out, the latest Digigram Broadcast CODEC technology, designed for the IP age, is simply a game changer for modern online education in times of crisis. Its perfectly reliable, allows even big classes a bidirectional audio connection and the sound quality - which is essential for any lecture - is simply amazing.

For more information on Synthax, visit: https://www.synthax.com/

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