Video Streaming using KHAudio

If the current system setup also contains a Sign Language Studio system, then you might already have most of the infrastructure needed.

In this document we are assuming that you do NOT have any video components yet other than an HD-SDI distribution system to your monitors and a secondary video output using an HDMI adaptor from the sound system to present media.
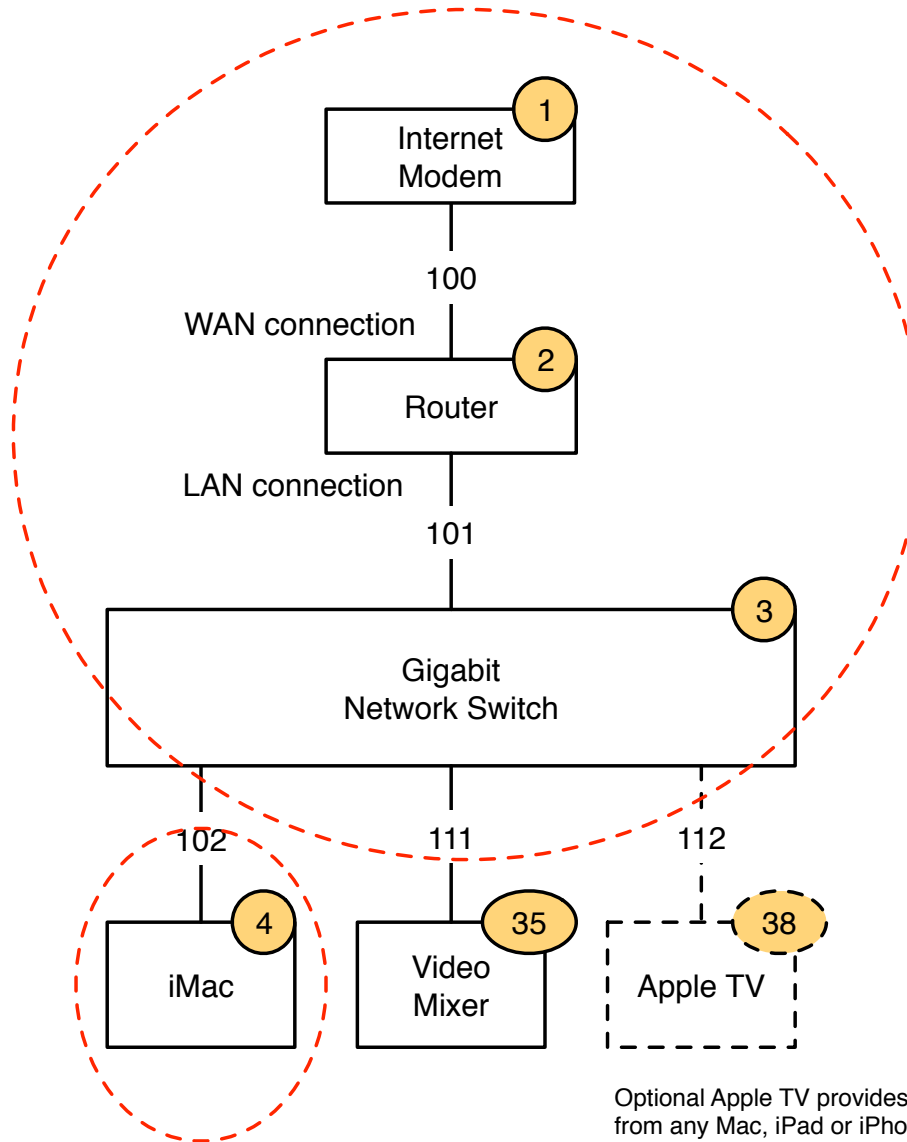
Needed extra components:

Besides these components you might need some HDMI cables, a USB cable connecting the ATEM USB interface to the Mac and an Ethernet cable to connect the ATEM to the network.
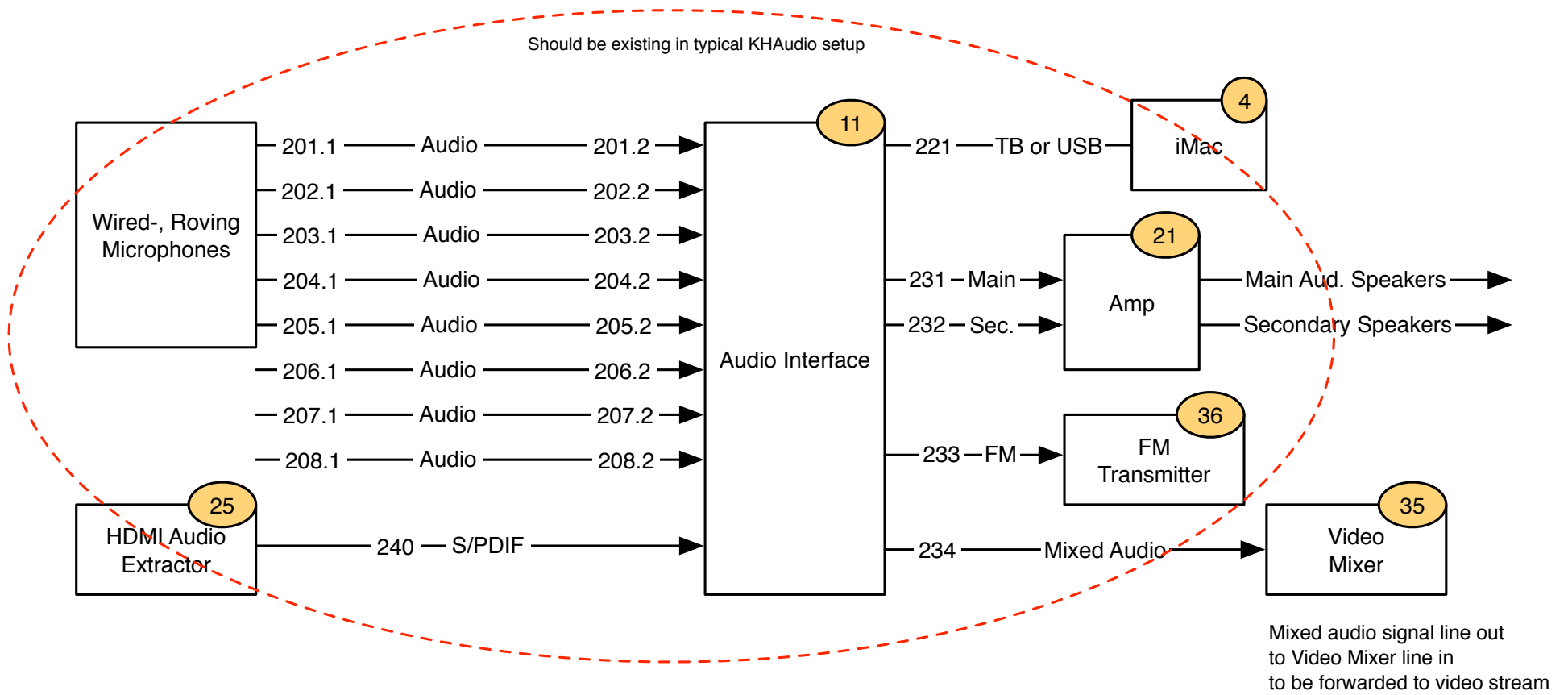
	Amount	Vendor	Link
HD-SDI Cam with Panasonic CCD, Varifocal Lens 2.8-12 mm Optical Zoom	1	Amazon	https://www.amazon.com/CrazyFire-Panasonic-2-8-12mm-Digital-Security/dp/B00L454KHY/ref=sr_1_4?keywords=CrazyFire+HD+1080P+SDI+WDR+CCTV+Mini+Camera&qid=1573165978&sr=8-4
BlackMagic ATEM Mini Video Switcher (Video Mixer)	1	B&H	https://www.bhphotovideo.com/c/product/1507214-REG/blackmagic_design_swatemmini_atem_mini_switcher_control.html?sts=pi&pim=Y
BlackMagic Micro Converter SDI to HDMI + supply	1	B&H	https://www.bhphotovideo.com/c/product/1247784-REG/blackmagic_design_convcmic_sh_micro_converter_sdi_to.html

Networking Wiring

Should be existing in typical KHAudio setup

Internet
Modem   ①

100

WAN connection

Router   ②

LAN connection

101

Gigabit
Network Switch   ③

102   111   112

iMac   ④

Video
Mixer   ㉟

Apple TV   ㉘

Optional Apple TV provides possibility to present
from any Mac, iPad or iPhone

Audio Wiring

Should be existing in typical KHAudio setup

Wired-, Roving Microphones

- 201.1 —— Audio —— 201.2 →
- 202.1 —— Audio —— 202.2 →
- 203.1 —— Audio —— 203.2 →
- 204.1 —— Audio —— 204.2 →
- 205.1 —— Audio —— 205.2 →
- 206.1 —— Audio —— 206.2 →
- 207.1 —— Audio —— 207.2 →
- 208.1 —— Audio —— 208.2 →

Audio Interface (11)

- 221 —— TB or USB —— **iMac** (4)
- 231 — Main → **Amp** (21) —— Main Aud. Speakers →
- 232 — Sec. → —— Secondary Speakers →
- 233 — FM → **FM Transmitter** (36)
- 234 —— Mixed Audio → **Video Mixer** (35)

HDMI Audio Extractor (25)

- 240 — S/PDIF →

Mixed audio signal line out
to Video Mixer line in
to be forwarded to video stream

Video Wiring

Most of the shown components should be existing. Added components are the HD-SDI camera, an HD-SDI to HDMI converter and a video mixer.

This setup will allow KHAudio to automatically cross fade the video feed between **full screen** stage view coming from a professional camera and **full screen media** when such is presented on the monitors for songs and videos. All audio is independently routed through the video mixer as well allowing the tie-in users to get pristine sound and video of what is presented in the KH. Assuming a reasonably modern Mac running KHAudio, no extra computer is needed to forward the stream to the KHConf servers.