Town Hall Chambers – Zoom Operation and Signals Overview, V20 2022-06-15

This is the installation for video/audio control in Chambers. It has been updated for hybrid Zoom meetings support. As of this date minor refinements and upgrades are ongoing.

The control room manages 5 remote PTZ cameras and 3 computer feeds. A Zoom computer is at the left above the audio mixer. It appears on the Ross switcher as 'Zoom 6'. Input 7 is for a guest computer (Powerpoint/video/website presentations). Input 8 is for title keys and graphics.

We feed the Zoom computer our switched program video and a 'minus-one' audio mix that does not have Zoom's return audio. We also use Zoom's **Hide Self View** option for our program video feed. These outbound signals connect to our Zoom computer via a Blackmagic Web Presenter. Zoom's return video is via the laptop's HDMI connector, and audio is via its earphone jack.

We join, but do not host the meeting. A separate host computer is managed by meeting staff. The host computer feeds two 55-inch DTV displays that are positioned so one of these can be seen from any seated position. All meeting officials see the Zoom participants in Gallery View. The Zoom host laptop's audio in Chambers is always muted. People hear everything over the P.A. system. They appear on camera and speak into their respective microphones in the normal manner. What Zoom participants see from Chambers is the same as what cable viewers see.

A Guest laptop Powerpoint presentation is on the left. The Zoom Host laptop is on the right. Here, the presentation slides are being advanced in Chambers while the narrator speaks remotely via Zoom. Optionally, the Zoom presenter (as a co-host) could use **Share My Screen** to show Powerpoint slides, maps, charts, a video presentation or website page remotely.

All meeting members in Chambers remain socially distanced throughout the meetings.

Our current meeting control protocol is:

The meeting chair and Zoom webinar host/manager are always in control.
We simply transmit and record the meetings, gavel-to-gavel.
We normally do not take any actions to start/suspend/stop meetings.
In cases where the chair's intent is to suspend but can't - we may be directed to Click Air-'OFF'.

Implications of Zoom engagement:
In years past, the Council would simply adjourn to the conference room behind Chambers.
Today, that would prevent remote officials from participating in an exec session.
A second private Zoom session in the rear conference room is not practical.
Asking a large audience to step out of Chambers is also not practical.

Meeting Control - for Recess/Exec Session
Normally, the chair will Click the meeting's Air-'OFF' at its end or for recess/exec session.
This removes it from our **C**able, **O**nline Feeds, **Y**ouTube **L**ive and our **R**ecorders (C/O/YL/R).
When Air is 'OFF' (C/O/YL/R) viewers will see/hear PPT slide(s) and background music.
The slides/music will be part of the recordings and subsequent replays.
It provides a video record of the precise recess start, duration, end, and meeting resumption.

At the chair's direction, the Zoom host manager will suspend participants who are not panelists.
Zoom participants will see whatever screen message Zoom provides while they are waiting.
The webinar manager should also record the Zoom meeting for their own records.

Our mics and P.A. system will remain under control of the chair.
This allows remote council/board members and officials
as the webinar's 'panelist' group to remain in meeting.

In a planned update (soon) we will improve the acoustical privacy for panelists. It will be –
Mics remain ON, and P.A. system is either OFF or connected to low-level background music.
The In-room council/board panelists will have program headsets to hear remote Zoom panelists
and talk to them via the mics while the in-room audience hears only masking background music.

This 'recess' private audio communications mode will also be the default audio mode.
It will be active at all times, even when both Air feeds and P.A. Systems are OFF.
It will enable remote officials to talk to in-room officials privately, pre and post meetings.

Following recess/exec sessions, the chair will Click Air-'ON' to resume meetings,
and at the chair's direction, the webinar host manager will re-admit all Zoom participants.

The equipment that supports the meetings is organized in two racks. The video rack supports legacy standard definition video for monitoring cable channels.

We still generate SD-DVDs as well as HD files for long-term archival purposes.

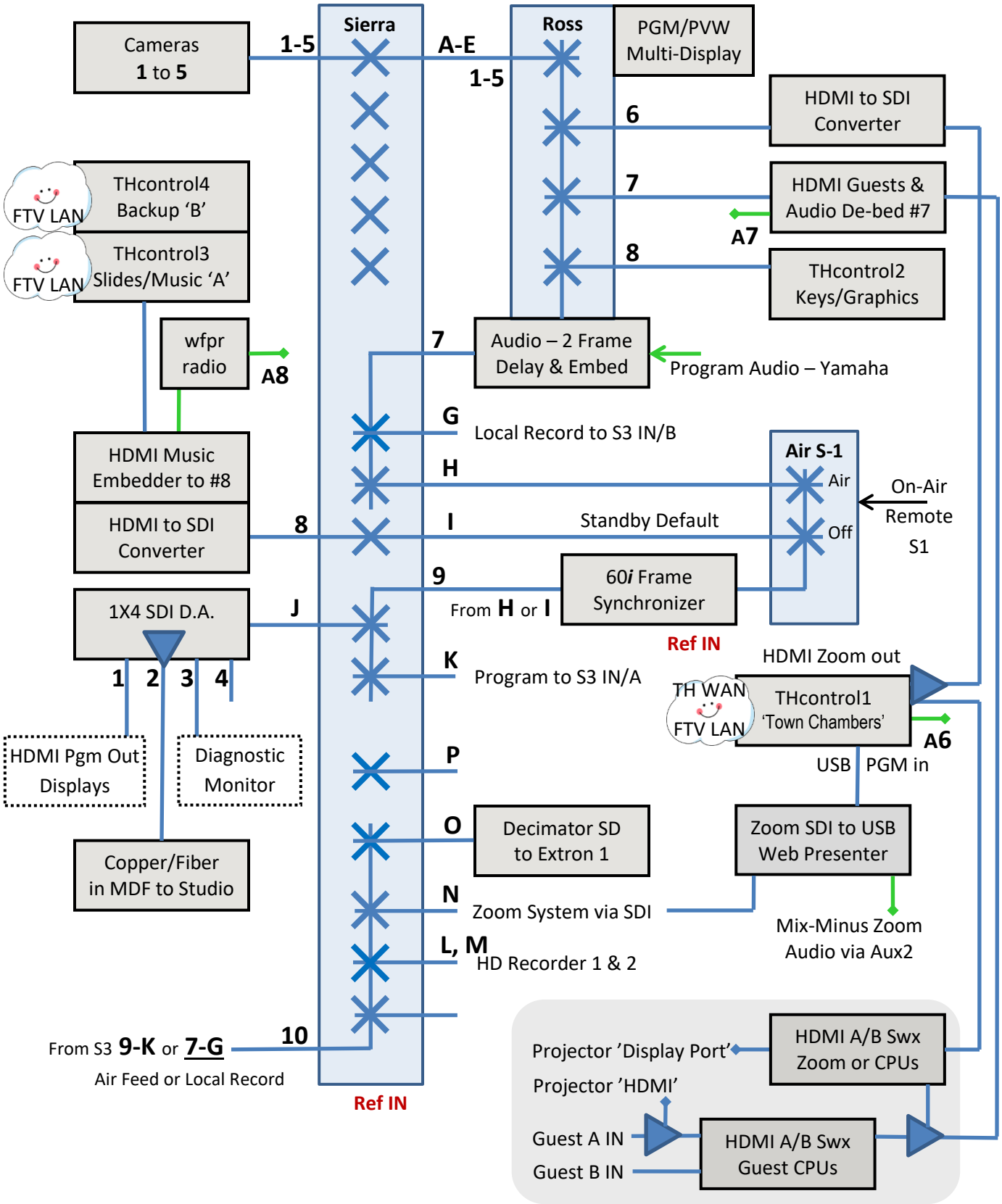
The Extron SD A/V router manages all SD signals.

The HD-SDI systems feed the displays in Chambers as well as connect Town hall to the main studio via an NDI fiber link.

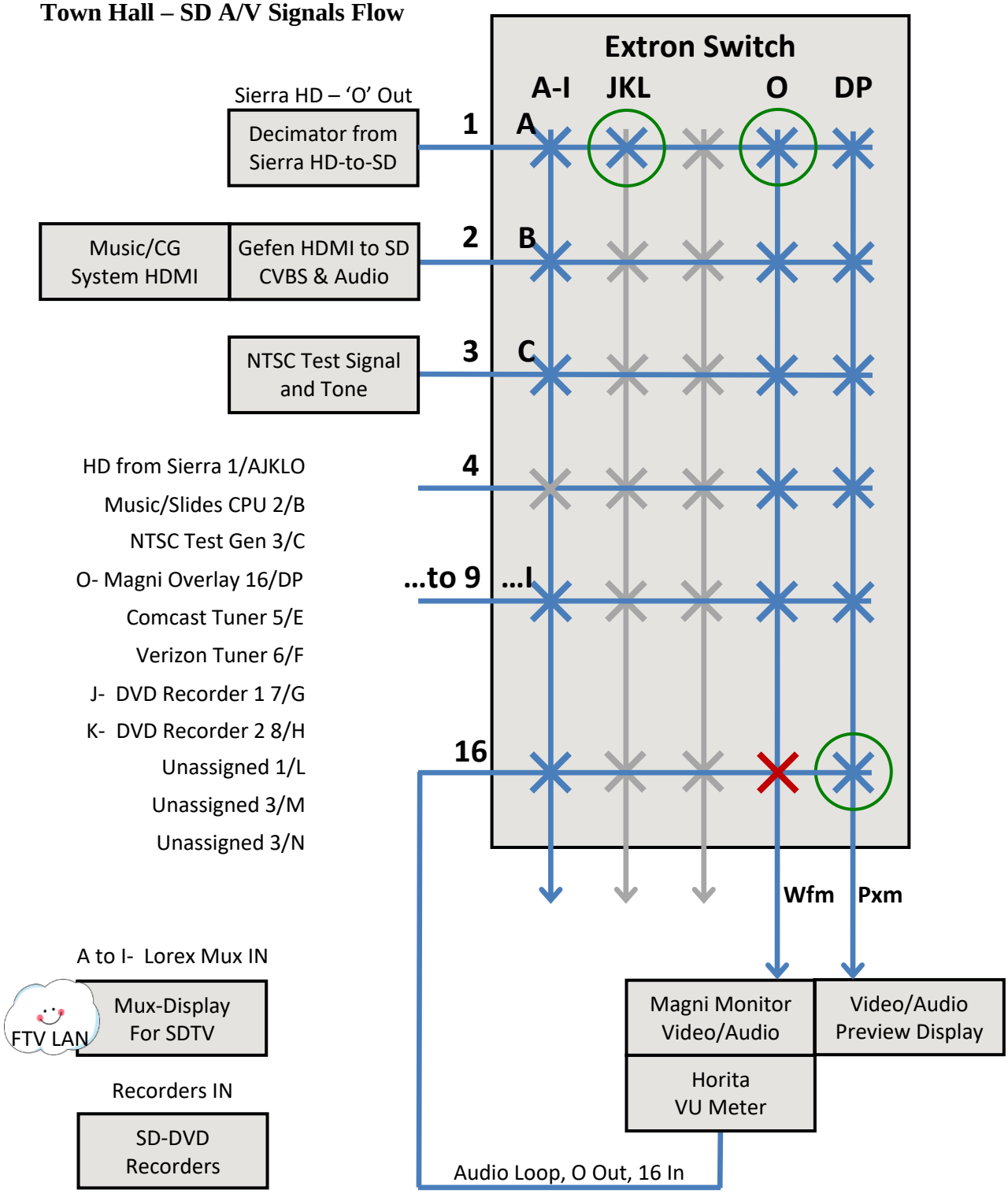
The HD section has two digital recorders and a remote control master On/Off switch that meeting chairs can activate.

All SDI signals are controlled via the Sierra router.

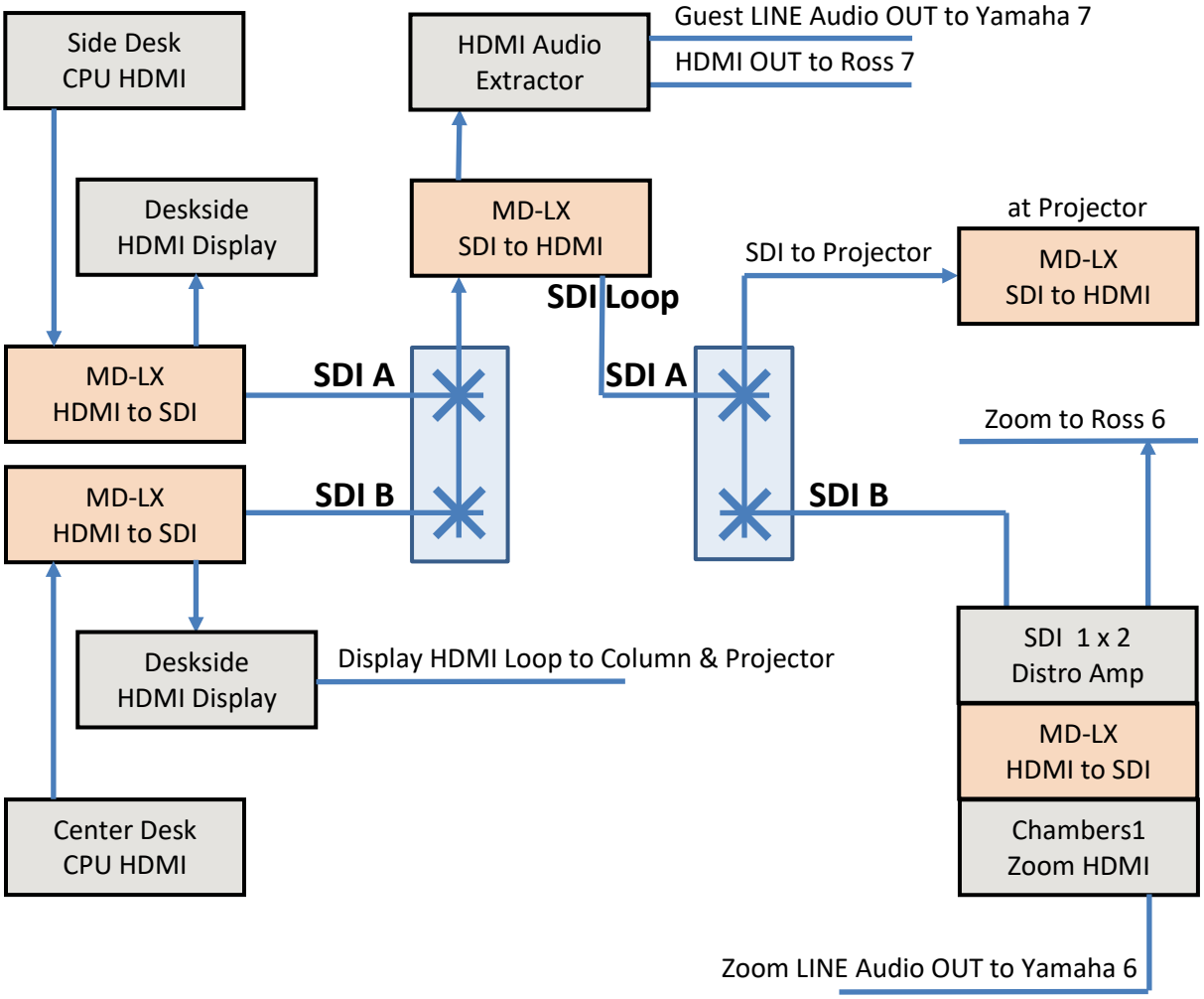
Town Hall – HD Video/SDI Signals Flowchart



Town Hall – SD A/V Signals Flow



Projection Autoswitching System



The Main microphone mixer stack in the smaller audio rack.

The Nady distribution amplifier sends the mixed microphones to the Chambers P.A. system, the Yamaha Program mixer (via the compressor) and to a dedicated microphones level meter.

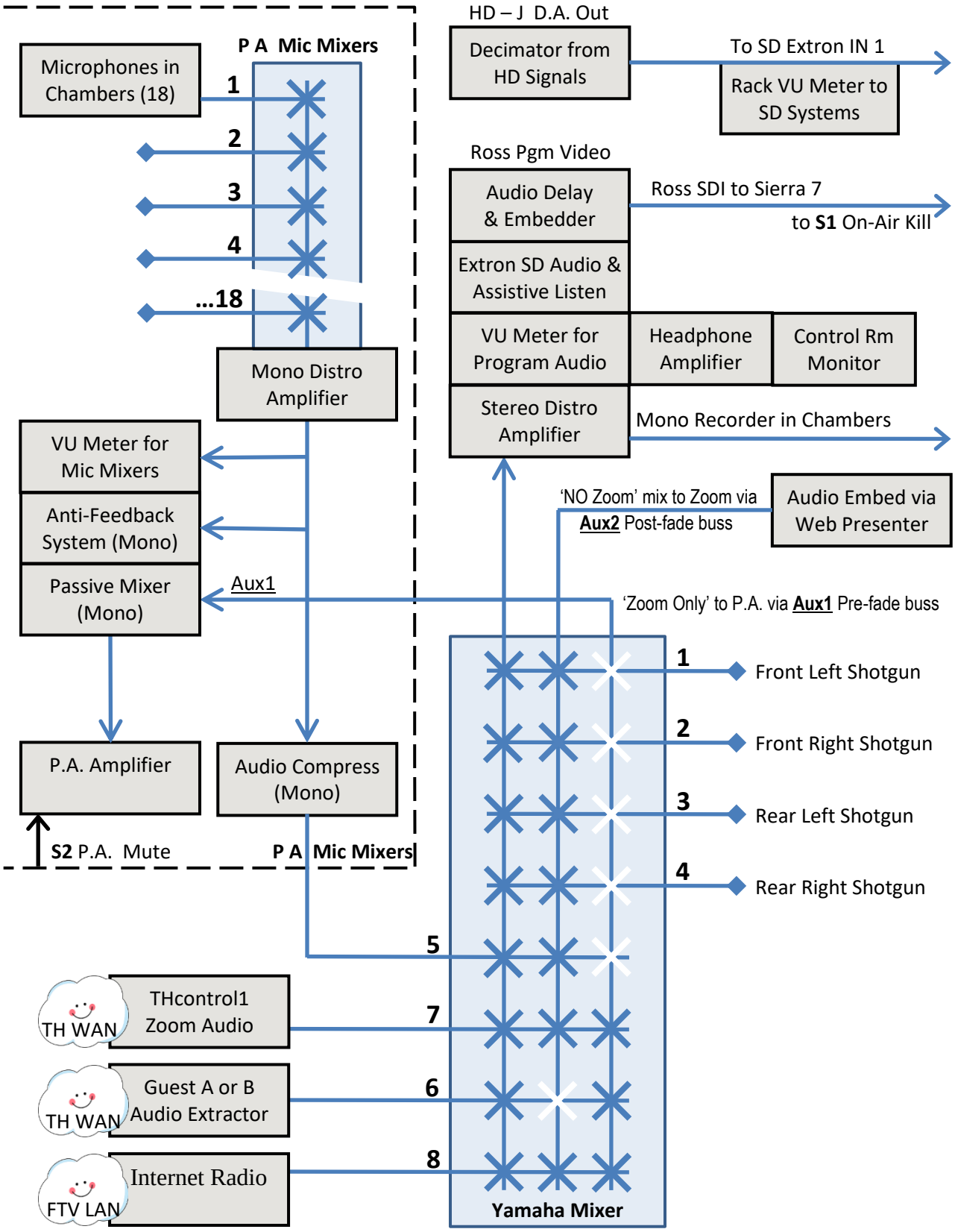
The Main microphone mixer(s) feed all mics into Yamaha fader #5 through the compressor. The audio compressor helps to maintain mic levels into the Yamaha Program mixer.

The three Shure mixers are stacked to support up to 24 mics.

Below (not seen) are the anti-feedback system and P.A. Amplifier.

The Yamaha mixer for program feeds to the recorders and cable channel/stream.
The blue dials indicate the settings for the Aux 1 and Aux 2 sub-mix audio feeds.

Town Hall – Audio Signals Flowchart



Town Chambers – Audio Signals Overview

The equipment in the dotted section to the left is mounted in a side-car rack next to the operator's desk. It is arranged and wired as such so it can be used independently by anyone to access the P.A. system when our cable TV personnel are not present for televising meetings.

Within this P.A. subsystem we mix up to 18 mics. We feed this mix, combined with the audio feed Aux 1 from the TV console into an anti-feedback device that then feeds the P.A. amplifiers. We also separately monitor/meter and then compress the mic mix. The processed mix of desk mics enters our Yamaha TV program console IN#5.

Just above the Ross video switcher there are two large audio meters.
The upper meter measures the Main program output.
The lower meter measures uncompressed microphone levels from the Shure mixer stack.

We also have 4 overhead shotgun microphones, IN#1-to-4 to capture roving presenters who don't think they need a mic to address the meeting. They also pick up spontaneous audience questions when people don't step up to the floor microphone. These mics are not mixed into the P.A. system, so their gains can be raised as needed with no risk of P.A. system feedback.

There are three laptop systems that connect to the TV console as feeds IN#6, 7, 8. These are the Zoom laptop as #6, the Guest laptop for Powerpoint or video playback as #7, and a background music feed #8. The Zoom system logically also appears on the video switcher as 'Camera 6', alongside Cams 1-to-5.

The Yamaha TV audio console diagram sends its signals to three separately mixed outputs:

Main Program audio for broadcast. Mics 1-4 as needed, Main mics, Zoom and other sources.

Aux 1 'Pre-Fader' feed to the house P.A. system.
This mix is Zoom, Guest computer, Music and other computers or non-mic sources.
NOTE: The Main Mics mixer stack is connected directly to the P.A. system.
This enables the P.A. system to be used anytime without a TV operator.

Aux 2 'Post-Fader' Aux2 minus-mix feed to Zoom's input via WebPresenter,
The Aux 2 feed contains all mics and other playback sources, but not Zoom.

In the flow diagram, the blue crosspoints are active. White crosspoints are OFF.

S1 – Is a remote-controlled switch that allows the meeting chairperson to switch the meeting ON or OFF. Some meetings may go into private executive session for several minutes. During that time the default video is laptop IN#8 as a Powerpoint loop and background music.

S2 – Is a remote switch for muting only the P.A. system.

STARTING and CONTROLLING ZOOM for a MEETING

The F-TV control room connects to Zoom meetings as a participant, "Town Chambers".

STARTING A MEETING
Reboot/Restart the Zoom Laptop System.
Do not select "Update & Restart" - just normal Restart.

Once you are at the desktop:
Go to the town website's calendar for meetings.
There is a direct link on the desktop.
In the calendar, click on the meeting entry to load its agenda.
The agenda will have a direct Zoom link to the meeting.

Click the link in the agenda to join the meeting.
Or open the Zoom meeting app and enter the 11-digit number and password.
Join the meeting as "Town Chambers".
The meeting's host manager operates a separate computer in Chambers
for managing the meeting participants.
The meeting host in Chambers will admit you as a participant.

In the lower left of Zoom's Window:
Set the Zoom microphone to UNMUTE and camera ON.
Click on the UP arrow next to the Zoom Camera icon.
Check/Select Input Video from the SDI/USB device - Not the computer's camera.
Select the BlackMagic Web Presenter as the SDI/USB video input device.
Select **Hide My View** from the pop-up menu.
(Note that all other participants can still see our program feed.)

Click the UP arrow next to the Zoom Microphone.
Check/Select Input Audio from the SDI/USB device – Not the microphone array.
Select the BlackMagic Web Presenter as the SDI/USB audio input device.
Fade up MUSIC #8 to test Zoom's Input audio level.
(This should be midrange on Zoom's Audio level control, set to Automatic)

Set the Zoom View to "Speaker" mode.
Set the Zoom Window to full-screen mode.
Turn "Zoom" audio up on the Yamaha mixer.

When the meeting chair is polling Zoom participants
Switch the Zoom Window to "Gallery" View. [Alt] F2
When a specific Zoom participant begins speaking
Switch the Zoom Window to "Speaker" view. [Alt] F1

Info to Zoom Chairs and Hosts:

All PowerPoint presentations, website pages and videos that people wish to present should come from a Guest laptop other than the meeting's Zoom host or a remote presenter's desktop. This is a dedicated source that we integrate into the meeting (and out to the cable channels and GOV live stream as well as to the other Zoom participants) through our control room PROGRAM feed into the Zoom system.

Note also that the Zoom host or any other computer located in Chambers must have the mic and camera turned off. Like Powerpoint presentations, they will be integrated into the Zoom feed by our cameras, mics and systems.

There is an overhead DTV display on the Chambers center column for meeting members to see the proceedings - our cameras, any presentations, and occasional Zoom gallery/speaker views. This is the PROGRAM feed that people will be seeing at home.

The Zoom host records the meeting to the Zoom cloud as a backup .

Pete Fasciano

HDMI Sources & Routing for Control Room Display

THcontrol1@ftr Zoom Client: "Town Chambers"
Screen 1: Control, HDMI A1 IN to Display Upper Left quadrant
Screen 2: Speaker View, Full Screen, Hide My View
HDMI Audio Extracted at Decimator SDI converter to Sierra6 to Ross IN 6

THcontrol2@ftr Title Keys
Screen 1: Control, HDMI A2 IN to Display Upper Right quadrant
Screen 2: Powerpoint Full, Ross IN 8 OPTION: Audio Extracted at Ross 8 IN

THcontrol3@ftr Standby/Music
Screen 1: Control, HDMI A3 IN to Display Lower Left quadrant
Screen 2: Powerpoint Full, Program Standby SwxA, Audio Extracted at SDI convert.

HDMI B switcher below feeds into HDMI A4 Lower Right quadrant
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THcontrol5@ftr Zoom Host in Chambers
Screen 1: Mirror, Gallery/Full, HDMI B3 Upper Left quadrant

THcontrol4@ftr Zoom Backup Client
Screen 1: Control, HDMI B4 IN to Display Upper Right quadrant
Screen 2: Speaker/Full, MCSource2 to Castus 3

Guest Presentations2
Screen 1: Mirror HDMI B1 IN to Display Lower Left quadrant
Ross IN 7 via HDMI A/B AutoswitchB, Audio Extracted at Ross 7

Guest Presentations1
Screen 1: Mirror HDMI B2 IN to Display Lower Right quadrant
Ross IN 7 via HDMI A/B AutoswitchA, Audio Extracted at Ross 7

<table>
<tr><td>THcontrol1
Zoom Client S1control
for "Town Chambers"</td><td colspan="2">THcontrol2
Titles S1control</td></tr>
<tr><td rowspan="2">THcontrol3
Standby/Music S1control</td><td>Thcontrol5
Zoom Host Mirror
From Chambers</td><td>THcontrol4
Zoom Backup
Anydesk-MCsource?</td></tr>
<tr><td>Guest2 Mirror
Side Desk</td><td>Guest1 Mirror
Front Desk</td></tr>
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