The sanctuary sound system

The complete guide · 19 October 2026

> **One document: how to run it, how it is wired, the settings as they were read off the desk, and what to do when something is wrong.**
>
> The cabinet faces you, so the side of the mixer you are looking at is the side with the sockets on it. Most of what you touch is there or on the iPad — the rest is on the two laptops and the interfaces beside them.

1 · Switching on

The power strip at the bottom of the cabinet is the on switch. The mixer has its own switch on its **side panel**, and that is left ON — so the strip is the only thing you touch. One orange light tells you it worked.



The power light. Orange means on.

2 · Running a service

- [ ] Switch on the power strip at the bottom of the cabinet. **The orange light on the mixer comes on.** The mixer's own switch, on its side, stays ON — never touch it.
- [ ] Wake the iPad. The faders appear on their own.
- [ ] Switch on the two laptops and the wireless receivers.
- [ ] **Speak into each microphone in use and watch its meter move** — one at a time, so you know which is which. The wireless ones have their own on switch; the two bimah microphones are live whenever the mixer is.
- [ ] Join the meeting from the **Bimah** laptop first — **it says Bimah on a sticker**, and so does the interface beside it. It is the one that sends the room.
- [ ] Join from the Congregation laptop second. **Its microphone stays muted in Zoom.**
- [ ] Ask somebody at home to speak, and check you hear them in the room.

After the service

Leave the meeting on both laptops. **Switch the wireless microphones off** — that is what saves the batteries. Then the power strip, which takes the mixer and the rest of the cabinet down together. The laptops and the iPad can be left as they are.

3 · What must be true before a service

Six settings. They are already set, and they are the six that stop the system working if anybody changes them. **Check them before a service, not during one.**

1 · The Bimah interface knob is hard at DAW

The MIX knob on the front of the

Bimah

interface — it says so on its sticker — must be turned fully to

DAW

.

Turned the other way it feeds the room's own microphones back into the room instead of the people at home, which sounds almost right and is completely wrong.

Read the knob, not the light.

The light beside it reports something different, and turning the knob will not change its colour.

2 · The Bimah interface light is WHITE, not red

White means the interface is in

DAW mode

, which is what this system needs. Red means it is in

DJ mode

, and the sound does not go where this guide says it goes.

If it is red, the MIX knob will not fix it.

The mode is a setting in the

dspMixFx UR-C

application on that laptop: open it, set Monitor Mode to

DAW

, and the light turns white.

3 · Zoom speaker and microphone are the Steinberg, on both laptops

In Zoom's audio settings on each laptop,

both the microphone and the speaker must be the Steinberg interface

— never the laptop's own microphone or its own speakers.

4 · Original sound and high-fidelity music mode are ON, both laptops

ON, and never turned off.

The Rabbi sings and plays guitar during the service, and Zoom's ordinary processing treats music as background noise and chews it. Original sound is also what stops Zoom riding the level, so what you set at the desk is what keeps going out.

5 · The Bimah laptop joins first, microphone ON

It is the only laptop that sends sound. It goes into the meeting first.

6 · The Congregation laptop joins second, MUTED in Zoom

It sends no sound at all.

It is there for the picture

— it carries the congregation webcam on top of the large screen, so the people at home can see who is in the chapel.

Check the microphone icon actually shows muted before the service starts.

It is a live microphone sitting in the room, and nothing stops it hearing the room through the air. Unmuted, the people at home get everything a second time, slightly late — which is the echo they complain about.



The two interfaces, each with its own sticker. The MIX knob is on the front of each; the light beside it is white in DAW mode.

4 · The microphones

The colour on the screen, the dot on the cable and the dot on the microphone are the same. Anything you pick up tells you where it belongs.

CH	NAME	WHAT IT IS	DOT	48V	STATE
1	**BIMAH BND**	Audio-Technica U851RB	**red dot**	48V	in use
2	**BIMAH MIC**	sE Electronics sE7	**yellow dot**	48V	cable only
3	**RABBI**	wired microphone, purple 15 ft lead	**green dot**	—	cable only
4	**LAV**	receiver output — the earset	**white dot**	—	standby
5	**HH BIMAH**	receiver output A	**blue dot**	—	in use
6	**HH CONGR**	receiver output B	**purple dot**	—	in use
7	**ZOOM RTN**	Bimah interface MAIN OUT	**grey dot**	—	in use

Channels 1 and 2 carry **48 V**. **The boundary microphone on channel 1 needs it to work at all.** Channel 2's is on as well, ready for the microphone that normally sits there. It is on, and there is no reason to touch it.

Channels 2 and 3 are cables with no microphone on them

Channel 2 is the bimah microphone that was taken out of the room. Its cable is tucked in beside the bimah, on the **right**, still carrying its yellow dot — so it is ready the moment a microphone goes back on it. **Channel 3** is the spare lead kept for holidays and for anything extra.

Neither has anything on the far end, so **a channel showing no meter is not a fault if it is one of those two.**

Channel 4, the earset, is different: it is connected and there is a microphone on it. It is simply not used at every service. No meter from it is normal when the earset is switched off.

So the bimah runs on **one microphone** — the boundary microphone on channel 1. A normal service is **four channels**: that one, the two handhelds, and the people at home.

5 · What is plugged into what

CH	SOCKET	SOURCE	CALLED
1	Input 1	Audio-Technica U851RB	BIMAH BND
2	Input 2	*nothing connected* — the cable only, tucked in beside the bimah on the right	BIMAH MIC
3	Input 3	*nothing connected* — the spare lead, kept for holidays	RABBI
4	Input 4	receiver output — the earset — connected, not used every service	LAV
5	Input 5	receiver output A	HH BIMAH
6	Input 6	receiver output B	HH CONGR
7	Input 7	Bimah interface MAIN OUT	ZOOM RTN
•	MAIN L / R	Main L XLR → the room speaker, channel 1	The room
•	BUS 1 — ZOOM SEND	Aux out 1 XLR → Bimah interface input 1	Everyone at home
•	Buses 2 to 6	unpatched	Nothing
•	Congregation laptop	congregation webcam, on top of the large screen	Picture only — no sound path to or from the desk

6 · How sound moves

Into the room. Every microphone goes to the Main output, out of **Main L**, into channel 1 of the room speaker. One cable. The room is mono, so one side carries everything.

Out to the meeting. Every microphone also sends to **Bus 1**, and Bus 1 leaves on **Aux 1** into the Bimah interface, which is what the Bimah laptop puts into Zoom. The send is **post-fader**: pull a microphone down in the room and it goes down for the meeting too, which is what you want when somebody steps away from a live microphone.

Back from the meeting. The Bimah interface's main output returns on **channel 7**, so everybody at home arrives as an ordinary channel you can set the level of — and it goes to the room only.

7 · The one rule

Channel 7 goes to the room and never to the meeting

Channel 7 carries the people at home. Its send to Bus 1 is **OFF** and must stay off. If it is turned up, everybody at home hears their own voice return a second later.

It is set, and nothing in normal use moves it.

8 · Every setting, channel by channel

Where these came from

The settings were read off the mixer on **10 October**. The channel **names and colours** changed on **15 October**, when the earset arrived and the list was renamed so that every channel describes a role or a device rather than a person.

The settings did not move with the names. They belong to the channel number: what channel 4 had on the 10th is what channel 4 has now, whatever it is called. Obai confirmed on 19 October that nothing in the processing has changed since.

Channel 1 · BIMAH BND

Gain	**26.0 dB**
Phantom 48V	ON
Low cut	121 Hz
EQ	Low +2.75 dB @ 3k20 Q2.0, LoMid -5.75 dB @ 266.7 Q2.0, HiMid -2.00 dB @ 432.5 Q2.0
Compressor	**on** — threshold -33.0 dB, ratio 2.5:1, RMS detector, attack 25 ms, release 295 ms, makeup 0.0 dB
Room fader	-0.2
Send to Bus 1 (Zoom)	**+10.0**

Channel 2 · BIMAH MIC **CABLE ONLY · no microphone on it**

Gain	**25.0 dB**
Phantom 48V	ON
Low cut	101 Hz
EQ	HiMid +2.50 dB @ 3k43 Q1.2
Compressor	off
Room fader	-0.2
Send to Bus 1 (Zoom)	**+3.8**

Channel 3 · RABBI **CABLE ONLY · no microphone on it**

Gain	**set on the desk** **set 15 October, value not recorded here — read it off the desk**
Phantom 48V	off
Low cut	101 Hz
EQ	flat
Compressor	off
Room fader	0.0
Send to Bus 1 (Zoom)	**+3.8**

Channel 4 · LAV

STANDBY · connected, not used every service

Gain	**34.0 dB**
Phantom 48V	off
Low cut	101 Hz
EQ	LoMid -3.00 dB @ 295.8 Q2.0, High +2.50 dB @ 2k99 Q1.2
Compressor	off
Room fader	0.0
Send to Bus 1 (Zoom)	**+4.5**

Channel 5 · HH BIMAH

Gain	**20.0 dB**
Phantom 48V	off
Low cut	101 Hz
EQ	LoMid -3.00 dB @ 295.8 Q2.0, High +2.50 dB @ 2k99 Q1.2
Compressor	off
Room fader	2.4
Send to Bus 1 (Zoom)	**+4.3**

Channel 6 · HH CONGR

Gain	**20.0 dB**
Phantom 48V	off
Low cut	101 Hz
EQ	flat
Compressor	**on** — threshold -13.5 dB, ratio 3.0:1, Peak detector, attack 20 ms, release 151 ms, makeup 0.0 dB
Room fader	1.1
Send to Bus 1 (Zoom)	**+7.3**

Channel 7 · ZOOM RTN

Gain	**15.0 dB**
Phantom 48V	off
Low cut	121 Hz
EQ	Low -2.00 dB @ 363.9 Q2.0, LoMid +3.00 dB @ 6k85 Q2.0, HiMid +4.75 dB @ 3k20 Q2.0
Compressor	**on** — threshold -28.0 dB, ratio 3.0:1, RMS detector, attack 10 ms, release 151 ms, makeup 0.0 dB
Room fader	5.8
Send to Bus 1 (Zoom)	**OFF**

9 · When something is wrong

Each one says what to check **first**, and what it is **not** — because chasing the wrong thing is what turns five minutes into an hour.

ZOOM

Nobody at home can hear us

They type that it is silent, or they hear the room very faintly.

CHECK FIRST

The **Bimah** laptop, in this order: is it in the meeting; is Zoom unmuted on it; is its microphone set to the **Bimah interface** and not the laptop's own microphone. Then on the desk, are the microphone faders up.

WHAT IT IS NOT

It is **not** the Congregation laptop. That one is muted on purpose, always.

ZOOM

People at home hear the room twice, or an echo

Only they hear it. The room sounds normal.

CHECK FIRST

Channel 7 must send **nothing** to Bus 1. If that one send has been moved, the meeting hears itself come back.

WHAT IT IS NOT

It is **not** the people in the room talking. But if that send is already off, it **is** the room: an open microphone hearing the callers through the speaker and sending them back. Pull down the microphone nearest the speaker.

ZOOM

People at home are too quiet in the room

You can hear them but you lean in.

CHECK FIRST

Channel 7 **ZOOM RTN**, the grey one. Its fader is the volume of everybody at home.

WHAT IT IS NOT

It is **not** the speaker's own volume knob. Moving that changes everything at once.

ZOOM

A second laptop joined and now there is an echo

It starts the moment somebody else in the building joins the meeting.

CHECK FIRST

Mute that laptop in Zoom, and turn its speakers off. Any extra device in the room that is both listening and playing will loop.

WHAT IT IS NOT

It is **not** a setting on the desk — but the room's microphones **can** hear that laptop's speakers through the air, which is why its speakers go off too.

LAPTOP

The laptop shows no microphone, or the wrong one

Zoom's microphone list has no interface in it.

CHECK FIRST

The USB lead from the interface to the laptop. Unplug and replug it, then pick the interface by name in Zoom's audio settings. **Both ends of that lead are labelled.**

WHAT IT IS NOT

It is **not** the mixer. The mixer cannot put itself into Zoom's list.

LAPTOP

Sound from home plays out of the laptop instead of the room

Thin, small sound coming from the desk rather than the speaker.

CHECK FIRST

Zoom's **speaker** setting on the Bimah laptop must be the interface, not the laptop's own speakers.

WHAT IT IS NOT

It is **not** a fault. It is one dropdown.

ROOM

Nobody in the room can hear the bimah

The microphone is on but the room is silent.

CHECK FIRST

Is the microphone switched on, and is its fader up. **The bimah is the boundary microphone on channel 1, red** — channel 2 is a cable with no microphone on it. Check that channel's **mute** as well.

WHAT IT IS NOT

Usually it is **not** the mixer — but check that channel's mute and its fader before you go hunting at the microphone end.

ROOM

A ringing or squealing builds up

A tone that grows the louder things get.

CHECK FIRST

Pull down the fader of the microphone nearest a speaker, or move the person away from it. Act first, diagnose after.

WHAT IT IS NOT

It is **not** a broken microphone. It is a microphone hearing the speaker it feeds.

ROOM

One microphone is dead, the rest are fine

Its meter does not move at all.

CHECK FIRST

Battery, then switch, then cable. For a wireless, check the receiver shows a signal. **Every cable carries its channel number and a coloured dot.**

If it is the boundary microphone on channel 1 — the mixer is on, everything else works, the cable is in, and that one channel alone is silent — check that **48 V is still on for it**. It makes no sound at all without it.

WHAT IT IS NOT

It is **not** usually a mixer setting. The one exception is 48 V, which can be switched off by accident and silences those two microphones completely.

DESK

The iPad cannot find the mixer

The app sits searching.

CHECK FIRST

The small switch on the mixer must be on **ACCESS POINT**. If it was set to ETHERNET for remote access, the iPad cannot see the mixer until it goes back.

WHAT IT IS NOT

Nothing is lost. The desk keeps every setting whatever that switch is doing.

DESK

Nothing at all, no lights

The cabinet is dark.

CHECK FIRST

The power strip at the bottom of the cabinet, then the wall socket. If both are live and the cabinet is still dark, check the mixer's **own switch on its side panel** — it is left ON and is not part of the normal routine, so it only matters if it has been knocked.

WHAT IT IS NOT

It is **not** the mixer until all three of those are checked.

DESK

Somebody changed something and it sounds wrong

It worked last week and does not now, and nobody is sure what moved.

CHECK FIRST

Load the saved snapshot. It puts every setting back at once and you do not have to work out what changed.

How: move the slide switch on the mixer to **ETHERNET**, plug the network cable between the mixer's **REMOTE** socket and a laptop (through the black USB adapter), and open **X AIR Edit** on that laptop. The snapshot is in there; load it. Then **put the switch back to ACCESS POINT** so the iPad can find the mixer again.

WHAT IT IS NOT

It is **not** something the iPad can do — **the app on the iPad has no snapshot recall**, which is why the network cable and the switch are part of the answer. And nothing is lost in the meantime: the desk keeps running on whatever it has while you do this, so it is never an emergency.

10 · Putting the mixer on the network

A network cable in the mixer, and one switch moved. **This is a cable to a laptop in this building** — it is what lets somebody work on the desk from that laptop, including while sharing their screen with Obai.



The network cable in REMOTE, link light on.

The cable goes in the socket marked **REMOTE**; a small light beside it comes on when the cable is live. The other end goes through the black adapter into a laptop's USB port.


Lenovo
Tab
CapsLk
Shift
Ctrl
Fn



The adapter that gives a laptop a network socket.



The switch and the panel legend.

Before you move that switch

On ETHERNET the mixer stops broadcasting its own network — the one the iPad uses. The iPad will not find the mixer until the switch goes back.

Nothing is broken and nothing is lost. **Put it back on ACCESS POINT and the iPad works again**, every time. Leave it on ACCESS POINT for services.

11 · The cabinet



The cabinet as you sit at it.

Written by Obai Sukar, 19 October 2026. Installed and labelled over September and October 2026, and run live before this guide was written. **The settings in section 8 were read off the desk on 10 October** — check any figure against the desk before you rely on it.