

# AI-03835 Cakewalk DAW UMC1820

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Tags	Recipe
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I have the following in my office, design and build a DAW studio and PA system for Spotify playback and Movie viewing.

**2 Notebook PC**

**Kopul BLT-96**

**Zed12fx (but USB is not working)**

**FBQ3102 (the non HD version, it has a sub out)**

**UMC1820**

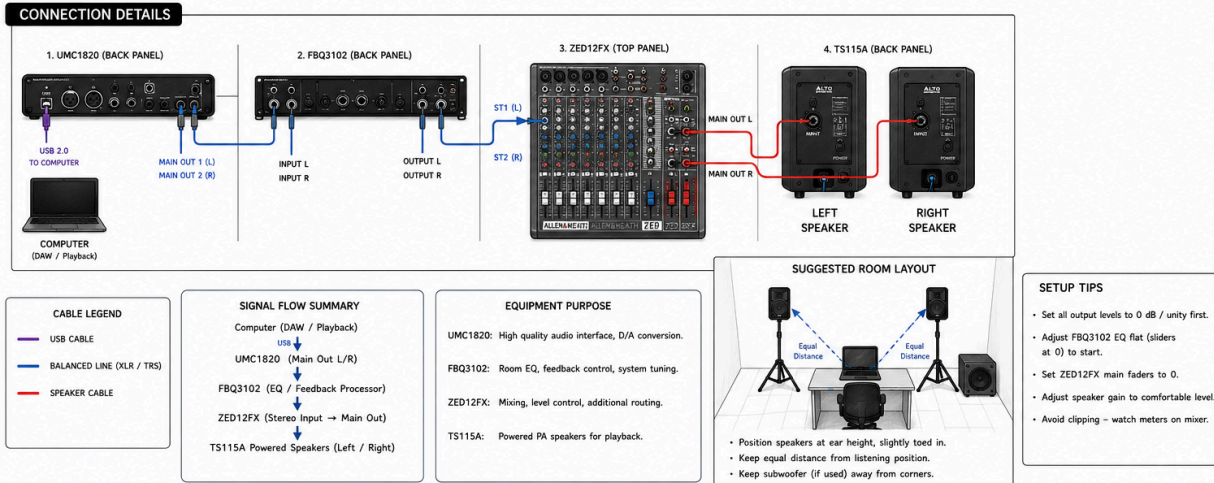
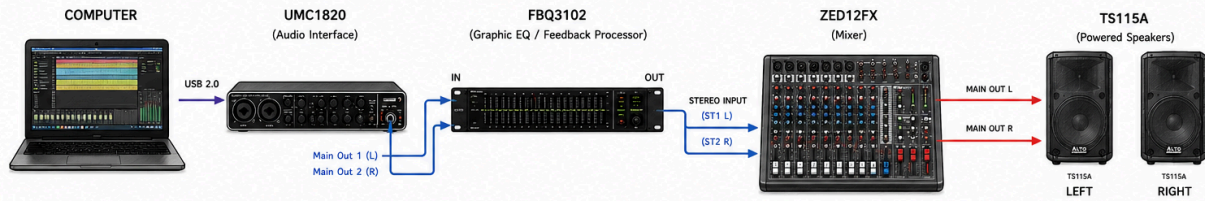
**2 TS115A**

**15" Polk Subwoofer PSA15 Powered**

**Cakewalk Sonar**

## DAW / PA SYSTEM SETUP

Computer → UMC1820 → FBQ3102 → ZED12FX → TS115A



You already have enough gear to build a surprisingly capable **hybrid DAW + PA/media room**. The challenge is that your equipment spans **live sound, studio audio, and consumer entertainment**, so the design should avoid cable chaos, latency, and “why does Netflix sound weird?” problems.

Here is the system I would build from what you own.

## Your Equipment Roles

### Core Audio Brain

- Cakewalk Sonar → recording, EQ, mastering, virtual mixer
- Spotify → music playback
- 2 notebook PCs → one can be **dedicated DAW machine**, one can be **media/general computer**

### Audio Interface

- Behringer UMC1820 → **main audio interface**
  - This becomes the heart of the system.
  - Better than relying on the broken USB in the ZED12FX.

## Mixer

- Allen & Heath ZED12FX → analog mixer, monitor control, live routing
  - Even with dead USB, it is still very useful.

## EQ / PA Processing

- FBQ3102 → room tuning, speaker EQ, feedback control
  - Since yours has **sub out**, we can integrate the sub cleanly.

## Speaker System

- 2 × Alto Professional TS115A → **main left/right speakers**
- Polk Audio PSA15 powered subwoofer → low-end extension for movies/Spotify

## Patch Bay

- Kopul BLT-96 → central cable management
  - This is the secret weapon that makes the setup usable instead of frustrating.

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# Recommended Studio Philosophy

You actually need **3 modes**, not one:

## 1. DAW Production Mode

For Cakewalk mixing, EQ learning, recording.

## 2. Spotify / Movie Playback Mode

Simple, low-latency, good bass.

### 3. Live/PA Mode

For loud playback, microphones, karaoke, instruments, testing mixes.

If you build one system that tries to do all three simultaneously, it becomes a mess.

Instead, make a **switchable signal flow**.

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## Recommended Signal Architecture

Here's the cleanest design:

```
Notebook #1 (DAW PC)
  ↓ USB
  UMC1820
  ↓ outputs 1/2
  Kopul Patchbay
  ↓
  FBQ3102
  ↓
  ZED12FX
  ↓ Main Out L/R
  TS115A Speakers

Subwoofer:
FBQ3102 Sub Out
  ↓
Polk PSA15
```

### Why this order?

#### UMC1820 First

This becomes your digital hub.

Everything computer-related goes here:

- Cakewalk
- Spotify
- Netflix

- Movies
- YouTube
- Windows audio

This prevents latency and routing headaches.

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## **FBQ3102 Before Mixer**

Most people do this backwards.

You want:

**Source → EQ → Mixer → Speakers**

Why?

Because the FBQ3102 becomes:

- room correction
- speaker voicing
- movie tuning
- bass balancing

You can leave the mixer mostly flat.

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## **ZED12FX After EQ**

The mixer becomes:

- volume control
- source switching
- headphone monitoring
- mic input
- emergency manual EQ

Even without USB, it's still useful as a monitor controller.

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# Detailed Wiring

## 1. Main DAW / Media Playback

```
Notebook PC #1
USB
↓
UMC1820

UMC Out 1 → FBQ Left In
UMC Out 2 → FBQ Right In

FBQ Left Out → ZED Stereo Return L
FBQ Right Out → ZED Stereo Return R

ZED Main Out → TS115A Left/Right
```

Use the **stereo return** instead of normal channels if possible.

Why?

Cleaner signal path.

Less gain staging mistakes.

## 2. Subwoofer Integration

Since your FBQ3102 has sub out:

```
FBQ Sub Out
↓
Polk PSA15 LFE/Input
```

Set:

### Polk settings

- Low pass: ~80 Hz
- Phase: try 0°, then 180°
- Gain: start at 25–30%

Do NOT crank it.

Office rooms exaggerate bass badly.

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### 3. Second Laptop

Make Notebook #2 your:

#### “utility machine”

Use it for:

- YouTube tutorials
- Spotify playlists
- reference tracks
- web browser
- Netflix

Route analog output into:

```
Laptop 2 headphone out  
↓  
ZED stereo channel
```

This lets you compare mixes instantly.

Example:

**Mix in Cakewalk → compare to Spotify track → adjust EQ**

Very powerful workflow.

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## Patchbay Design (Important)

Your Kopul BLT-96 can make this setup feel professional.

### Top Row = Outputs

1-2 UMC Main Out

3-4 ZED Aux Send

5-6 ZED Main Out

7-8 FBQ Out

## Bottom Row = Inputs

1-2 FBQ Input

3-4 external processor future

5-6 TS115A

7-8 Polk input

Now you can reroute instantly without crawling behind desks.

Example:

Want:

**DAW → speakers directly**

Patch:

```
UMC → speakers
```

Want:

**DAW → EQ → mixer → PA**

Patch:

```
UMC → FBQ → ZED
```

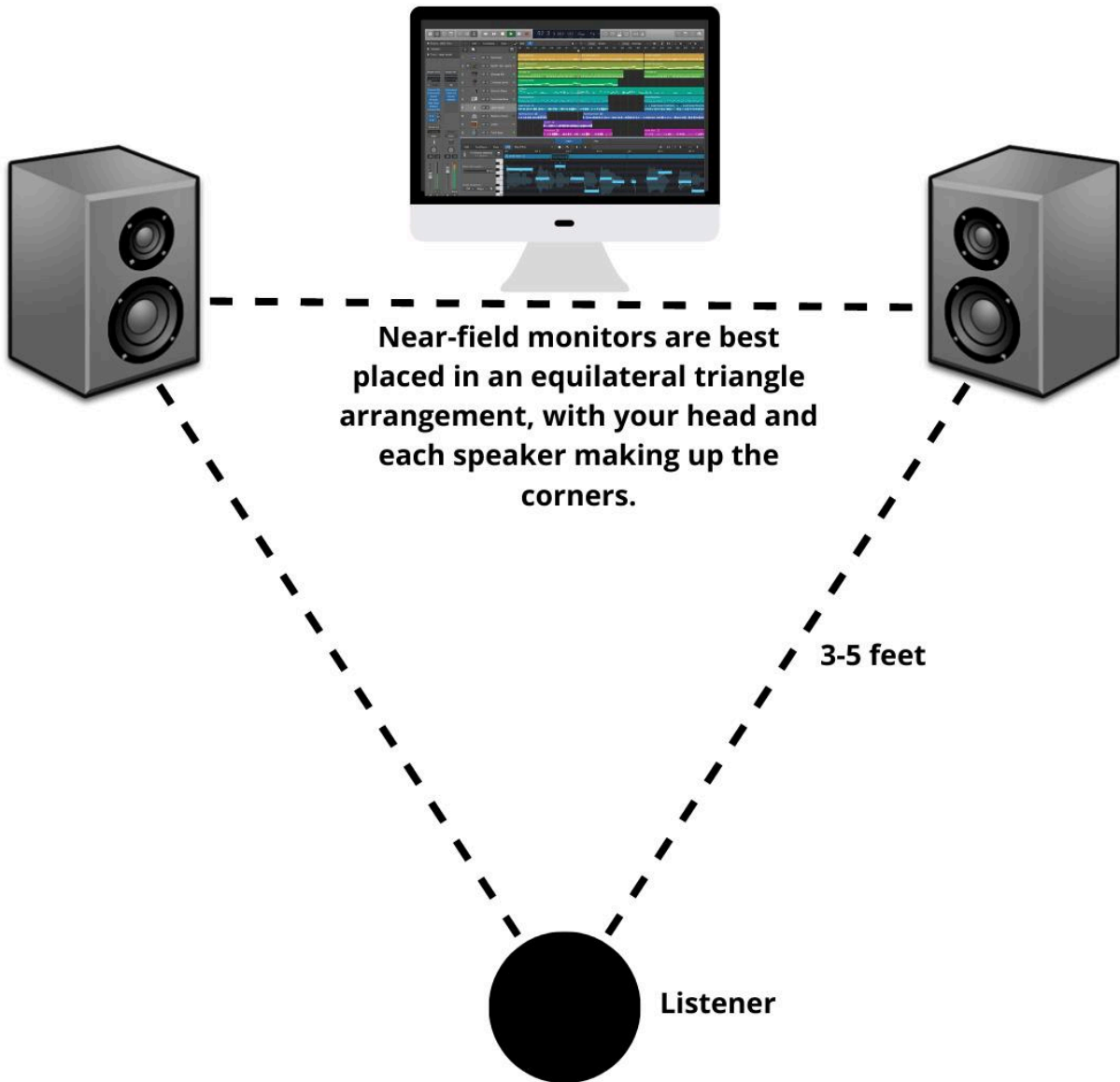
Very flexible.

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## Speaker Placement (Critical)

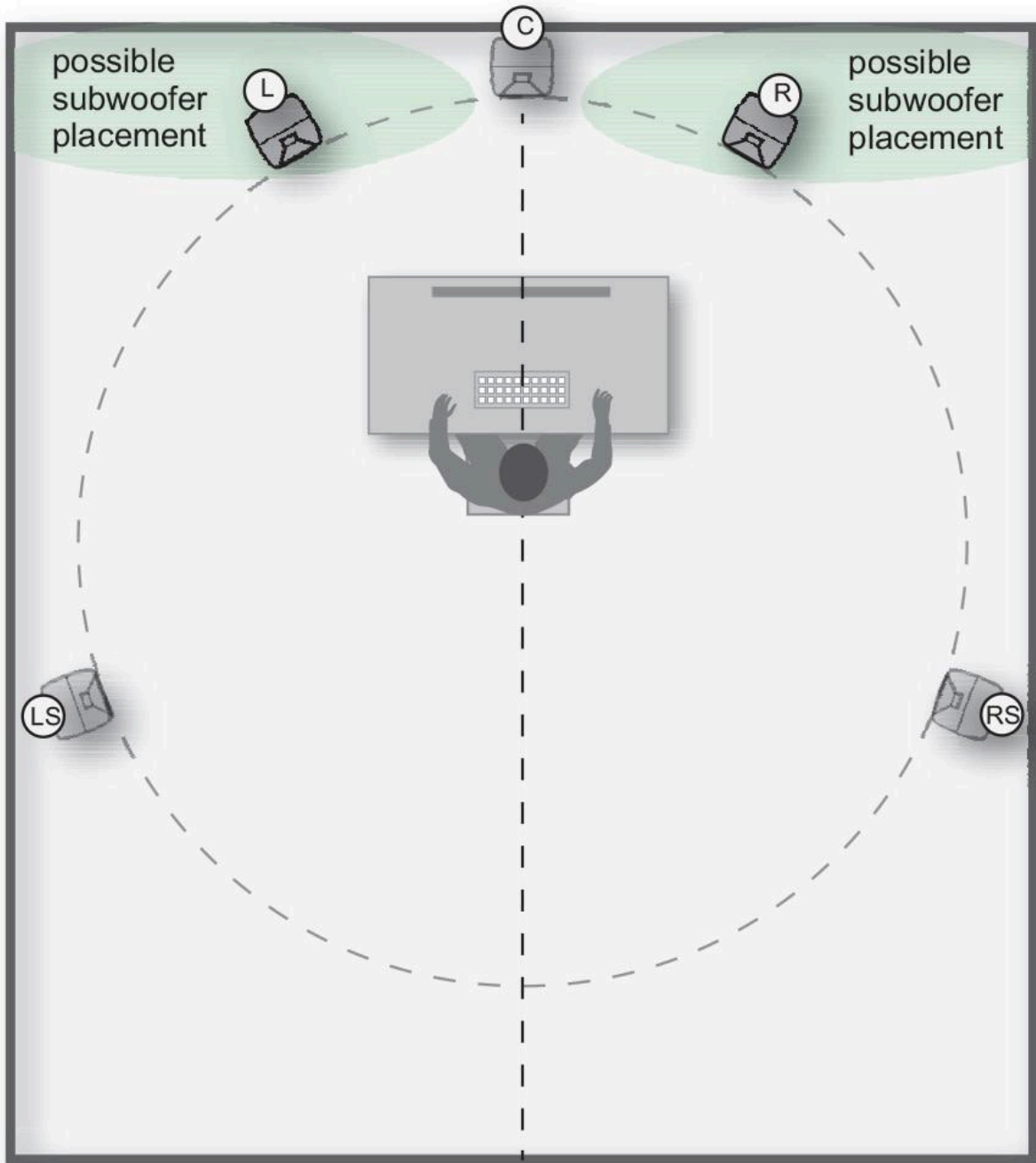
Your TS115A are **PA speakers**, not studio monitors.

This matters.

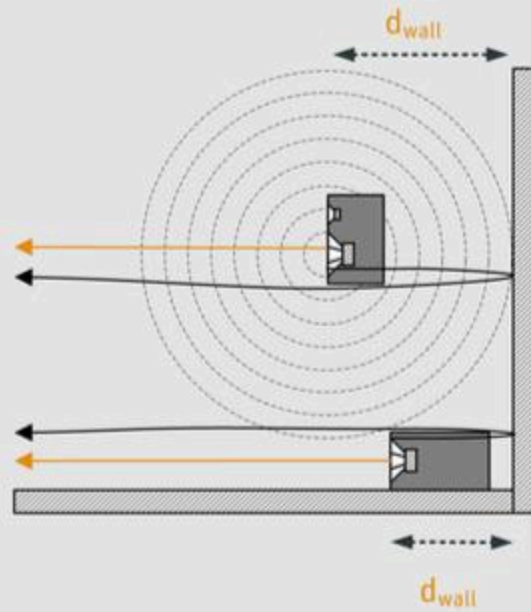








## Distance from the wall



Full Range Loudspeakers

Avoid  $d_{wall} = 0.8 - 2.0$  m

Bass Managed Loudspeakers

Avoid  $d_{wall} = 0.8 - 1.0$  m

Subwoofers

Avoid  $d_{wall} = >0.8$  m





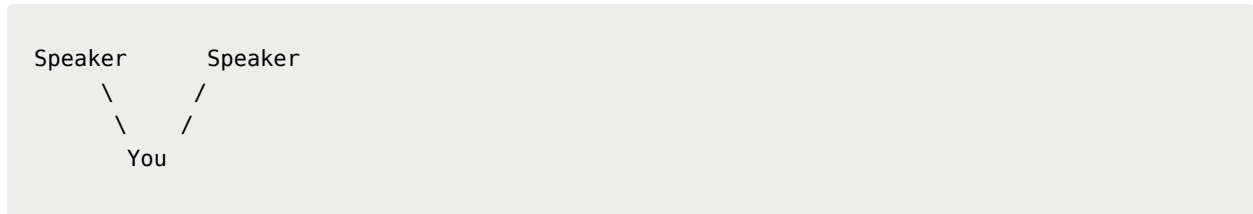
## Positioning

Do NOT place them like concert speakers.

Instead:

### Triangle setup

You = point of triangle



Distance:

- 4–6 ft apart
- tweeters ear level
- slight toe-in

This dramatically improves stereo imaging.

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### Avoid desk corners

Your Polk sub in a corner:

**too boomy**

Try:

- beside desk
  - slightly off-center
  - use the “sub crawl” method
- 

## Gain Staging (Very Important)

Because you have PA gear, clipping is easy.

Keep:

## Windows volume

100%

## Cakewalk master

around **-12 dB to -6 dB peak**

## UMC1820 output

moderate

## ZED main fader

near unity (0)

## TS115A gain

about **10–11 o'clock**

This keeps noise lower.

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# EQ Strategy for Spotify & Movies

You said you want to learn EQ in Cakewalk.

Excellent.

Set the **FBQ3102 FLAT** initially.

Then use:

## Cakewalk EQ plugin

For learning.

Try these gentle moves:

Frequency	Effect
40–60 Hz	sub rumble
80–120 Hz	punch
200–350 Hz	muddiness
500–800 Hz	boxiness

Frequency	Effect
2–4 kHz	clarity
5–8 kHz	presence
10–14 kHz	air

Do not boost more than **2–3 dB** initially.

Cutting often sounds cleaner.

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## Movie Mode Preset

Create one EQ preset in Cakewalk:

### Movies

- +2 dB sub bass
- slight dialogue boost at 2–3 kHz
- mild high-end lift

### Spotify Reference

- flat

### Late Night

- compressed dynamics
  - less subwoofer
- 

## Biggest Weakness in Your Setup

The TS115A.

They are fantastic for:

- loud playback
- PA
- parties

- immersive movies

But weak for:

- critical mixing
- subtle stereo imaging
- micro-detail

Eventually, if budget allows:

Add small studio monitors.

Examples:

- JBL 305P MkII
- Yamaha HS5
- Kali Audio LP-6

Keep the TS115A for fun playback and PA.

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## My recommended “final build”

```
PC #1 (DAW)
  ↓
UMC1820
  ↓
Patchbay
  ↓
FBQ3102
  ↓
ZED12FX
  ↓
TS115A L/R
  ↓
Polk PSA15 sub
```

### PC #2 → ZED input for reference playback

This gives you:

1. DAW studio
2. Spotify room system

3. Movie theater mode
4. Small PA system
5. EQ learning lab
6. Flexible patch routing
7. Minimal latency
8. Easy troubleshooting

Your gear is actually stronger than it first appears—especially because the patchbay and UMC1820 let you organize it like a semi-pro control room rather than a pile of audio devices.