BILL'S HOME TECH
Home & Small Business Tech Solutions

BILL'S COMPLETE MANUALS

Bluetooth & Streaming for Old Stereos

Phones, streaming, records and the TV through the stereo you love — explained in plain English, one step at a time

A plain-English guide to giving a good stereo a second life

Take your time — you can't break it

Written for you by Bill — Bill's Home Tech

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For receivers, amplifiers & shelf systems · facts current November 2026

What's Inside

This is your guide to bringing today's music to yesterday's stereo: phones over Bluetooth, streaming services and internet radio over Wi-Fi, Alexa, records and the TV. Read it in any order and at your own pace — there is no test, and you can't fall behind. Every job comes with slow, numbered steps and what it actually does *for you*. Equipment varies a great deal, so where yours differs, its own manual has the final word.

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PART 1

Getting Started

What you have, what you'd like it to do, how to read the back of an older receiver, and the handful of cables that connect everything.

CHAPTER 1

A Note from Bill

Hello, and welcome. Maybe there's a fine old receiver in the den that hasn't played anything since the CD changer gave out. Maybe a pair of big wooden speakers sounds better than anything you could buy today, but all your music now lives on a phone. Or maybe someone in the family has said, "You should just get rid of that old stereo." Before you do, read this guide.

I'm Bill. I've spent more than 30 years working with technology, and these days I help folks here in Portage County feel at home with theirs. Good stereo equipment from the 1970s, '80s and '90s was built to last, and a lot of it still sounds wonderful. What it's missing is a way to hear the music you have now: streaming services, internet radio, the songs on your phone, and the TV. The good news is that a small, inexpensive box can add all of that, usually without changing anything else.

What this guide will do for you

- Help you read the back of your receiver, so the rows of little jacks make sense.
- Explain the three main ways to add modern music: a **Bluetooth receiver**, a **Wi-Fi network streamer**, or an **Amazon Echo** speaker connected to the stereo.
- Walk you through hooking each one up and playing your first song, one step at a time.
- Show you how to bring a turntable and the TV into the same system.
- Fix the common problems: no sound, a hum or buzz, sound that's far too loud or too quiet.
- Give you honest costs, so you spend what the job needs and no more.

The big promise: you can't break it

Plugging a cable into the wrong jack on a stereo almost never harms anything. The worst usual result is silence, or sound that's too loud or too quiet, and you simply move the plug. There are just two rules I'll repeat throughout: **turn the volume down and switch things off before you plug and unplug**, and **never open the case of old equipment**. Chapter 23 explains why.

WHAT THIS DOES FOR YOU

Why this matters

Keeping a good stereo in use saves money, keeps working equipment out of the landfill, and lets you enjoy the sound you chose years ago with today's music. Many people find they listen to music far more once it's as easy as tapping a phone.

Two companion guides

This guide pairs well with Bill's **TV Cables & Connections** guide, if you're also sorting out the TV, and with the **Bluetooth Pairing** guide in this series if pairing gives you trouble.

And I'm only a phone call away

If anything in this guide leaves you unsure, call me at **(330) 200-8042**. There's no such thing as a silly question, especially about a receiver with forty knobs.

Let's start by figuring out what you have.

— Bill

CHAPTER 2

What You Have & What You Want

Before buying anything, it helps to know what kind of equipment you have and what you'd like it to do. Five minutes here can save you from buying the wrong box.

Receiver, amplifier, or all-in-one?

- **A receiver** has a radio tuner built in (a dial or a display showing FM and AM stations) plus an amplifier that drives the speakers. Most home stereos from the 1970s onward are receivers.
- **An integrated amplifier** drives the speakers but has no radio. It usually sits with a separate tuner, CD player or tape deck.
- **A home theater (A/V) receiver** is a newer, bigger box with many speaker connections and often HDMI jacks for the TV.
- **A "shelf" or "compact" system** is an all-in-one unit, often with a CD player built in and two small speakers.

All of these work with the ideas in this guide, as long as there's at least one spare input jack on the back. Chapter 3 shows you how to find one.

Three ways to add modern music

	Bluetooth receiver	Wi-Fi network streamer	Echo smart speaker
What it is	A small box that your phone pairs with, like a wireless speaker	A small box on your home Wi-Fi that plays from apps and services	An Alexa speaker wired to the stereo (some older models) or linked by Bluetooth
Needs Wi-Fi?	No	Yes	Yes
Range	Same room, roughly	Anywhere your Wi-Fi reaches	Anywhere your Wi-Fi reaches
Phone calls interrupt music?	Often, yes	No	No
Voice control	No	Some models	Yes (Alexa)
Rough cost	About $30–$150	About $100–$550	Uses an Echo you may own

Part 2 covers Bluetooth, Part 3 covers Wi-Fi streamers, and Part 4 covers Echo speakers.

Questions to ask yourself

1. **Who will use it?** If it's a parent who doesn't like apps, Bluetooth is often simplest: pair once, then just press play.
2. **Where is the music?** Songs on a phone or tablet work with anything. Streaming services such as Spotify, Apple Music, Pandora or Amazon Music work best with a Wi-Fi streamer.
3. **Do you want the TV through the stereo too?** See Chapter 18 before you buy.
4. **Do you play records?** See Chapter 17.
5. **Do you want music in more than one room?** That points toward a Wi-Fi streamer.

TIP

Start with the cheapest thing that does the job

For many people, a basic Bluetooth receiver is all they ever need. If you later want more, it can move to a second stereo in the garage or the workshop.

WHAT THIS DOES FOR YOU

What this does for you

Knowing your goal up front means you buy one box that fits, instead of a drawer full of adapters that almost work.

CHAPTER 3

Reading the Back of Your Receiver

Turn the receiver around (unplug it first, and get help if it's heavy) and you'll see rows of small round jacks, usually in red-and-white pairs, plus clips or posts for speaker wire. A flashlight and your reading glasses help. Here's what the labels mean.

The input jacks (where sound comes in)

Label	What it's for
AUX (auxiliary)	A spare line-level input. The best choice for a Bluetooth receiver or streamer.
CD	Line level. Fine to use if you no longer have a CD player connected.
TUNER	On integrated amplifiers, for a separate radio. Line level and fine to use.
TAPE / TAPE PLAY / TAPE IN	Line level. Fine to use, but read the tape monitor warning below.
VIDEO, DVD, TV, VCR	Line level on most receivers. Fine to use.
PHONO	**For a turntable only.** Not for anything else. Chapter 4 explains why.

The output jacks (where sound goes out)

- **TAPE REC / TAPE OUT / REC OUT** sends sound out to a tape recorder. Don't plug a Bluetooth box's output in here; it won't be heard.
- **PRE OUT** on some receivers sends sound to a separate amplifier. Leave it alone unless you know it's in use.
- **SPEAKERS A / B** are the clips or posts for speaker wire. Chapter 19 covers them.
- **Switched and unswitched AC outlets** on some older receivers are small power outlets on the back. A "switched" outlet turns on and off with the receiver.

Red is right

Each input is a pair: **red for the right channel** and **white (sometimes black or gray) for the left**. Your cable will have matching colors. Plug red into red and white into white.

The tape monitor trap

Many older receivers have a button or switch on the front labeled **TAPE MONITOR**, **TAPE** or **MONITOR**. When it's pressed in, the receiver plays only what's on the tape input, no matter what the selector knob says. It's one of the most common reasons an old stereo seems to have "no sound." If nothing plays, check that button first.

TIP

Take a picture before you unplug anything

Use your phone to photograph the back of the receiver before you move a single cable. If you get muddled, the picture shows you exactly how it was.

GOOD TO KNOW

Labels aren't always the same

Every maker used slightly different words. If you see a jack you can't identify, look up your receiver's model number (usually on a label on the back or underneath) together with the word "manual". Many old manuals are posted online by enthusiasts, for free.

WHAT THIS DOES FOR YOU

What this does for you

Once you can read the back panel, you'll know in seconds which spare jack is free, and you'll never plug something into the one place it can't work.

CHAPTER 4

Why Not the Phono Input

This is the single most common mistake people make when connecting something new to an old stereo, so it gets its own chapter. The short version: **only a turntable goes into PHONO**, and only a turntable without its own built-in preamp.

Line level and phono level

Most audio devices — CD players, Bluetooth receivers, streamers, TVs, phones — send out a signal at **line level**, a fairly strong signal that a receiver's AUX, CD or TAPE input expects.

A turntable's cartridge produces a far weaker signal, and records are cut with the bass turned down and the treble turned up. A **phono preamp** (also called a phono stage or RIAA preamp) boosts the signal and puts the tone back the way it should be. A receiver's PHONO input has that preamp built in.

What happens if you use the wrong one

What you plug in	Into PHONO	Into AUX / CD / TAPE
Bluetooth receiver, streamer, CD, TV	Far too loud, harsh and distorted, too much bass	Correct
Turntable with no built-in preamp	Correct (connect the ground wire too)	Very quiet and thin
Turntable with preamp switched ON (LINE)	Too loud and distorted	Correct

Don't worry if you already plugged something into PHONO and heard a terrible noise. Turn the volume down, switch off, move the plug to AUX, and try again. It's very unlikely anything was harmed, though it's kind to your speakers not to play loudly that way.

Turntables with a switch

Audio-Technica explains that most of its turntables have a built-in preamp that you turn on or off with a **PHONO/LINE** switch on the back. Set it to **PHONO** if you're plugging into the receiver's PHONO input; set it to **LINE** if you're plugging into AUX or another line input. Never use LINE *and* the PHONO input together. Chapter 17 has the full turntable story.

HEADS UP

If it sounds awful, check the input first

Loud, crackly, boomy sound from a brand-new Bluetooth box almost always means it's plugged into PHONO. Move it to AUX.

WHAT THIS DOES FOR YOU

What this does for you

Remembering "phono is only for records" avoids the number-one hookup mistake and the worry that something new is broken.

CHAPTER 5

Cables Made Simple: RCA, 3.5 mm & Optical

You'll only ever need a few kinds of cable for this job. Here's how to tell them apart and which to buy.

RCA cables

An **RCA cable** has a round plug with a center pin and a ring around it, usually in a red-and-white pair. This is what nearly every receiver input uses. If your new box has red and white jacks too, an RCA-to-RCA cable is all you need.

3.5 mm to RCA

Many small devices have a single **3.5 mm** jack instead — the same size as a headphone jack. For these, buy a **3.5 mm to RCA** cable (sometimes called a "Y cable" or "1/8 inch to RCA"): one small stereo plug on one end, red and white plugs on the other.

Optical (Toslink)

An **optical** cable carries sound as light. Its plug is square-ish with one flat side, and you'll often see a faint red glow from the jack. TVs, some streamers and CD players have optical outputs. Older receivers almost never have an optical input, so you'll need a small converter (a **DAC**, explained in Chapter 18) to turn it into red-and-white RCA.

HEADS UP

Remove the little cap

New optical cables, and many optical jacks, come with a tiny clear or black plastic cap on the end. Pull it off, or nothing will get through.

Coaxial digital

Some equipment has a single orange or black RCA-style jack marked **COAXIAL** or **DIGITAL OUT**. It carries a digital signal and, like optical, needs a converter before an older receiver can use it. Don't plug it straight into an AUX jack.

How long, and how fancy?

- Buy the shortest cable that reaches comfortably, with a little slack. For line-level cables, a few feet is plenty in most setups.
- Ordinary, inexpensive cables work fine for these connections. Gold plating and premium jackets don't make an audible difference on a short run.
- Many Bluetooth receivers and streamers include a cable in the box. Check before you buy one.

TIP

Push the plugs all the way in

RCA plugs on older receivers can be stiff. A plug that's only half-way in may give sound in one speaker, a hum, or nothing at all. Twist gently as you push.

WHAT THIS DOES FOR YOU

What this does for you

Knowing the three plugs by sight means one trip to the store with the right cable, not three.

PART 2

Bluetooth: The Simple Way

A small Bluetooth receiver turns your stereo into a big wireless speaker for your phone or tablet. What to look for, how to hook it up, and what to do when it misbehaves.

CHAPTER 6

Bluetooth Receivers: What to Look For

A **Bluetooth receiver** (sometimes called a Bluetooth audio adapter) is a small box, often about the size of a deck of cards, that plugs into your stereo's AUX input. Your phone pairs with it just as it would with a wireless speaker. They're sold by many brands, at a wide range of prices. Here's what actually matters.

The outputs it has

- **RCA (red and white) outputs** are the easiest for an older receiver: an RCA-to-RCA cable and you're done.
- **A 3.5 mm output only** works too, with a 3.5 mm to RCA cable (Chapter 5).
- **Optical or coaxial outputs** are useful only if your receiver or a separate converter has a digital input. Some higher-priced receivers include both digital and analog outputs.

Codecs, in plain words

A **codec** is the method used to squeeze music down to fit over Bluetooth. Boxes and phones list names such as **SBC**, **AAC**, **aptX**, **aptX HD**, **aptX Adaptive** and **LDAC**. The phone and the receiver automatically use the best one they *both* support.

- **iPhone and iPad** send Bluetooth music using **AAC** (or the basic SBC). They don't use aptX or LDAC, so paying extra for those features gains an iPhone user nothing.
- **Android phones** vary by maker and model. Many support aptX or LDAC, but only if the receiver supports the same one.
- On a typical living-room stereo, most listeners are perfectly happy with AAC or SBC. Don't let codec names drive the decision.

Range

Bluetooth is made for short distances. Apple, for example, says an iPhone should be within about **33 feet (10 meters)** of an accessory, and walls, metal and your own body cut that down. If you want to carry your phone around the house while the music keeps playing, consider a Wi-Fi streamer instead (Part 3). A receiver with a small external antenna, placed on top of the cabinet rather than behind it, usually does better.

Power

Most Bluetooth receivers run from a USB power adapter. Check whether one comes in the box. Some have a built-in battery, which is handy but means one more thing to recharge.

Auto-on and auto-reconnect

- **Auto-reconnect** means the receiver reconnects to the last phone it used when you turn it on. Very helpful; look for it.
- **Auto-on** (or "always on") means it's ready whenever it has power, with no button to press. If you plug it into a switched outlet on the back of the receiver (Chapter 3), it comes on and goes off with the stereo. Listings describe this differently, so read the details or the reviews.
- **A button you can reach** matters if the box must be pressed to pair. Don't hide it behind a heavy receiver.

Roughly what they cost

As of November 2026, basic receivers with RCA outputs from lesser-known brands sell for around $30 to $40, and higher-end models with better converters and digital outputs for roughly $100 or more. For most people, a well-reviewed model in the lower to middle part of that range is plenty.

HEADS UP

Cheap boxes vary

Inexpensive Bluetooth receivers are made by many little-known brands, and quality varies. Buy from a seller with an easy return policy, and test it the day it arrives.

WHAT THIS DOES FOR YOU

What this does for you

Knowing the few features that matter — the right outputs, auto-reconnect, power and placement — keeps you from paying for codec names your phone can't use.

CHAPTER 7

Hooking Up a Bluetooth Receiver, Step by Step

This takes about fifteen minutes. Decide which input you'll use (AUX is best) and have the right cable from Chapter 5 ready.

Before you start

- The Bluetooth receiver, its cable and its power adapter.
- A flashlight, and your phone to take a picture of the back of the stereo.
- Someone to help move the receiver if it's heavy.

Connecting it

1. Turn the stereo's volume all the way down and switch the stereo **off**.
2. Take a photo of the back of the receiver so you can always put things back.
3. Find a free line-level input: **AUX** is best; **CD**, **TAPE**, **TUNER** or **VIDEO** also work. **Not PHONO** (Chapter 4).
4. Plug the cable into the Bluetooth receiver's output.
5. Plug the other end into the stereo's input you chose: **red into red**, **white into white**. Push the plugs all the way in.
6. Plug the Bluetooth receiver's power adapter into the wall, a power strip, or a switched outlet on the back of the stereo.
7. Set the Bluetooth receiver somewhere it isn't boxed in by metal — on top of a shelf rather than behind the stereo.
8. Switch the stereo on, keep the volume low, and turn the input selector to the input you used. Make sure any **TAPE MONITOR** button is *out* (Chapter 3).

Now you're ready to pair your phone, in the next chapter.

STAY SAFE

Off before you plug

Connecting cables with the stereo on can make a loud pop through the speakers. It's rarely harmful, but it's startling and hard on speakers. Volume down, power off, then plug.

TIP

Label the input

A small piece of masking tape on the front that says "Phone = AUX" saves a lot of explaining for visitors, house-sitters and grandkids.

WHAT THIS DOES FOR YOU

What this does for you

One careful quarter-hour, and the stereo is ready to play anything on your phone for years.

CHAPTER 8

Pairing Your Phone & Playing Music

Pairing is a one-time introduction between your phone and the Bluetooth receiver. After that, they usually find each other on their own.

Put the receiver in pairing mode

Most receivers go into pairing mode automatically the first time they're powered on, often shown by a blinking light. Others need a button held for a few seconds. The little instruction card tells you which; keep it in a drawer near the stereo.

On an iPhone or iPad

1. Open **Settings** and tap **Bluetooth**. Make sure Bluetooth is on.
2. Wait for the receiver's name to appear under **Other Devices**. The name is on the instruction card or the box.
3. Tap the name. After a moment it moves up to **My Devices** and says **Connected**.
4. Open your music app, choose a song and press play. Turn the stereo's volume up slowly.

On an Android phone

1. Open **Settings** and tap **Connected devices** (on Samsung phones, **Connections** > **Bluetooth**).
2. Tap **Pair new device**. On some phones it's under **Connection preferences** > **Bluetooth**.
3. Tap the receiver's name and confirm if asked.
4. Play a song and turn the stereo up slowly.

Getting the volume right

Set your **phone's volume fairly high** — about three-quarters — and use the **stereo's volume knob** for everyday listening. A phone turned way down makes the music thin and noisy; a phone turned all the way up on some boxes can sound harsh. Find the sweet spot once and leave it.

Disconnecting and switching phones

- Most receivers connect to **one phone at a time**. To let someone else play music, disconnect yours first (in Bluetooth settings, tap the receiver's name or the info button and choose **Disconnect**), then they pair theirs.
- If a phone was paired before, simply tap the receiver's name in its Bluetooth list to reconnect.

GOOD TO KNOW

A passcode?

If anything asks for a code, try **0000** or **1234**, or check the instruction card. Most receivers don't ask.

HEADS UP

Phone calls and notification sounds

With Bluetooth, the stereo plays *everything* the phone does: ringtones, text alerts, game sounds. Turning on Do Not Disturb or Focus while you listen keeps the dinner music from being interrupted by a text-message chime at full volume.

WHAT THIS DOES FOR YOU

What this does for you

Any app on your phone — music, radio, podcasts, audiobooks, church services — now plays through the big speakers.

CHAPTER 9

When Bluetooth Misbehaves

Most Bluetooth troubles come down to distance, a phone connected to something else, or a box that needs a restart. Work down this list.

It won't pair, or the name doesn't show up

1. Make sure the receiver has power and its light is on.
2. Put it back in pairing mode (see its instruction card).
3. Bring the phone within a few feet of the receiver.
4. Turn Bluetooth off and on again on the phone.
5. If the receiver was paired with another phone or tablet nearby, turn Bluetooth off on that device so it doesn't grab the connection.
6. Unplug the receiver's power for ten seconds and plug it back in.
7. On the phone, find the receiver in the Bluetooth list, choose **Forget This Device** (iPhone) or **Forget** / **Unpair** (Android), and pair again from the start.

It's connected, but there's no sound

- Is the stereo on the right input, and is **TAPE MONITOR** out?
- Is the phone's own volume up? Is the music actually playing?
- Is the phone sending sound somewhere else, such as earbuds or the car? Check the Bluetooth list.
- Wiggle the RCA plugs at both ends. See Chapter 20 for the full no-sound checklist.

The music cuts in and out

- Move closer. Walls, floors, a refrigerator, or even the phone in a back pocket can block the signal.
- Move the receiver out from behind the stereo and away from Wi-Fi routers and microwave ovens.
- Close apps you aren't using on the phone, and restart the phone if it has been on for weeks.

Sound arrives late when watching videos

Bluetooth adds a small delay. For music it doesn't matter, but lips in a video may not match the words. Many video apps adjust for it automatically. For the TV, a wired connection is better (Chapter 18).

TIP

The ten-second fix

Unplugging the receiver's power, counting to ten and plugging it back in cures a surprising number of Bluetooth problems.

WHAT THIS DOES FOR YOU

What this does for you

A short, calm checklist turns "it's broken" into "oh, it was the earbuds" in a couple of minutes.

PART 3

Wi-Fi Streamers: Music from Anywhere in the House

A small box on your home Wi-Fi lets the stereo play streaming services and internet radio, with your phone as the remote. What they are, how to choose one, and how to set one up.

CHAPTER 10

What a Wi-Fi Streamer Does

A **Wi-Fi streamer** (also called a network streamer or network player) is a small box that connects to your home Wi-Fi on one side and to your stereo's AUX input on the other. Instead of your phone sending the music itself, as with Bluetooth, the phone simply tells the streamer what to play, and the streamer fetches the music straight from the internet.

Why that's better for many people

- **The phone is only the remote.** You can walk out of the room, take a phone call, or let the phone's battery run down, and the music keeps playing.
- **No ringtones on the big speakers.** Calls and text alerts stay on the phone.
- **Range is your whole Wi-Fi**, not just the same room.
- **Several people can control it** from their own phones, as long as they're on your Wi-Fi.
- **Music in more than one room** becomes possible if you add a second streamer or a compatible speaker (Chapter 16).

The words you'll see on the box

Label	What it means
AirPlay 2	Apple's way to send music from an iPhone, iPad or Mac to a speaker on the same Wi-Fi.
Spotify Connect	Play from inside the Spotify app; the streamer fetches the music itself.
TIDAL Connect	The same idea for the TIDAL music service.
Google Cast (Chromecast built-in)	Google's way to send music from many Android and iPhone apps to a speaker.
Alexa	Some streamers can be played by voice through an Amazon Echo, or grouped with Echo speakers.
DLNA / UPnP	An older standard for playing music files stored on a computer or network drive.

Not every streamer supports every one of these. If you have an iPhone, look for **AirPlay 2**. If you use Spotify, look for **Spotify Connect**. Read the box or the maker's website before you buy.

What happened to Chromecast Audio?

Many people remember Google's little **Chromecast Audio** puck that plugged into a stereo. Google stopped making it in early 2019, and Google ended production of its regular Chromecast TV dongles in 2024. Used ones still turn up, but they're no longer sold new, so this guide focuses on boxes you can buy today. The Google Cast technology itself lives on in many speakers and streamers.

GOOD TO KNOW

A streamer needs decent Wi-Fi

If your Wi-Fi is weak in the room where the stereo lives, music may stutter. Some streamers also have an **Ethernet** jack for a wired connection to the router, which is the most reliable choice when the router is close by.

WHAT THIS DOES FOR YOU

What this does for you

Your stereo becomes a full-time music player for the whole house — radio stations from anywhere in the world, every song on your streaming service — and your phone stays free for calls.

CHAPTER 11

Choosing a Streamer: WiiM, Sonos Port & Bluesound Node

Many companies make streamers. Three names come up most often for older stereos. They're described here as examples only; Bill has no arrangement with any of them, and prices change often, so check the maker's own website before you buy.

WiiM

WiiM makes a range of small streamers controlled with the free **WiiM Home** app. The **WiiM Mini** is the entry model, with an analog output (a 3.5 mm jack) and an optical output. WiiM says it works with **AirPlay 2**, **Spotify Connect** (with Spotify Free or Premium), **TIDAL Connect** and **Alexa**. Step-up models (the **Pro**, **Pro Plus** and **Ultra**) add RCA outputs, better converters, and extras such as an analog input or a touchscreen.

Sonos Port

The **Sonos Port** connects a stereo to a Sonos system and is run from the **Sonos** app. It has red-and-white RCA analog outputs and a coaxial digital output, and Sonos includes an RCA cable. It's a natural choice if you already own Sonos speakers elsewhere in the house.

Bluesound Node

Bluesound's **Node** streamers run on the **BluOS** app and are aimed at people who care a great deal about sound quality. A smaller, less expensive **Node Nano** was added to the line in 2024.

Rough prices, as of November 2026

Example	Rough U.S. price	Good fit for
WiiM Mini	Roughly $100	A simple first streamer; iPhone or Spotify users
WiiM Pro / Pro Plus	About $149 to $219	RCA outputs and better sound for a good stereo
Bluesound Node Nano	Roughly $300 and up	Listeners who want a higher-end player
Sonos Port	Around $449	Homes that already use Sonos

These are the usual list prices seen at the maker or large retailers in 2025 and 2026; sales are common, and the maker's website has the final word.

How to decide

1. **Already have Sonos?** The Port keeps everything in one app.
2. **Mostly an iPhone and Spotify or Apple Music?** An inexpensive WiiM is usually plenty.
3. **Does the stereo have only red-and-white inputs?** Make sure the model you pick has an analog output, or buy the matching cable (Chapter 5).
4. **Want the best possible sound from fine speakers?** A higher-priced model with a better converter may be worth it. For a kitchen or garage system, it usually isn't.

HEADS UP

Check for features you need, not features you don't

Listings pile on terms like "hi-res", "32-bit" and "audiophile". The things that really matter are: the right output for your stereo, support for the app you use (AirPlay, Spotify and so on), and an app the person using it is comfortable with.

WHAT THIS DOES FOR YOU

What this does for you

A clear, short list means you spend only what the job needs, and you pick a box that works with the phone and music service you already use.

CHAPTER 12

Setting Up a Wi-Fi Streamer, Step by Step

Every brand's app looks a little different, but setup always follows the same pattern. Allow about half an hour, and have your Wi-Fi name and password written down before you start.

Connect it to the stereo

1. Turn the stereo's volume down and switch it off.
2. Connect the streamer's analog output to a free line-level input such as **AUX** (never PHONO), with the right cable from Chapter 5.
3. Plug in the streamer's power. If it has an Ethernet jack and the router is nearby, you can plug in an Ethernet cable too.
4. Switch the stereo on, keep the volume low, and select the input you used.

Connect it to your Wi-Fi with the app

1. On your phone, install the maker's app from the App Store or Google Play: for example **WiiM Home**, **Sonos** or **BluOS**.
2. Open the app and create an account if it asks. Write the email and password on the cheat-sheet in Chapter 27.
3. Allow the app to use Bluetooth and find local devices if it asks. That's how it finds the new box.
4. Follow the prompts to choose your home Wi-Fi network and type the password.
5. Give the streamer a simple name, such as **Living Room Stereo**. That's the name you'll see in AirPlay, Spotify and Alexa.
6. Let the app install any update it offers. Leave the streamer plugged in until it finishes.
7. Play the test sound or a radio station from the app, and turn the stereo up slowly.

Set the volume sensibly

With a streamer there are two volume controls: the one in the app and the stereo's own knob. A good starting point is to set the app's volume fairly high and use the stereo's knob day to day. Some streamers have a **fixed** output setting that locks the streamer at full level so only the stereo's knob matters. Sonos, for example, offers **Fixed**, **Variable** and **Pass-Through** line-out settings on the Port (Chapter 14).

TIP

Use the 2.4 GHz network if it won't connect

If your router shows two network names, one ending in "5G", and the streamer won't connect, try the other name. A router that has just been replaced is another common cause; the streamer needs to be set up again with the new network name and password.

WHAT THIS DOES FOR YOU

What this does for you

Half an hour of setup, and from then on anyone in the house can play music on the stereo from their own phone, without plugging anything in.

CHAPTER 13

Playing Music: AirPlay, Spotify Connect & Radio

Once a streamer is set up, you rarely need its own app for everyday listening. You play music from the apps you already use, and choose the stereo as the place to send it.

From an iPhone or iPad with AirPlay

1. Make sure the iPhone is on the same Wi-Fi network as the streamer.
2. Start a song in Apple Music, Pandora, or another music app.
3. Tap the **AirPlay** icon (a triangle with circles above it) on the playing screen, or open **Control Center** and tap the AirPlay icon on the music controls.
4. Choose your streamer's name, such as **Living Room Stereo**.

From the Spotify app with Spotify Connect

1. Open Spotify on your phone, tablet or computer, on the same Wi-Fi as the streamer.
2. Play something, then tap the **devices** icon (a small speaker and screen) near the bottom of the playing screen.
3. Choose the streamer. Spotify now plays on the stereo, and your phone just acts as the remote.

WiiM says Spotify Connect works with both Spotify Free and Premium on its streamers. TIDAL Connect works the same way from the TIDAL app.

Internet radio and the maker's app

Most streamer apps include internet radio, so you can play stations from anywhere, including your local AM and FM stations that also stream online. Many also let you save **presets** — favorite stations or playlists — so they're one tap away.

HEADS UP

Same Wi-Fi, or it won't show up

AirPlay and Spotify Connect only see the stereo when your phone is on the **same home Wi-Fi**. If the stereo's name is missing, check that the phone isn't on cellular data or a guest network.

TIP

Make it easy for visitors

Write "Choose Living Room Stereo" on the cheat-sheet in Chapter 27 so family members and house guests on your Wi-Fi know exactly which name to tap.

WHAT THIS DOES FOR YOU

What this does for you

Your favorite music app, your favorite radio station, and the good speakers you already own — all together, with a tap.

CHAPTER 14

Sonos Port & Bluesound Node Tips

If you chose a Sonos Port or a Bluesound Node, here are a few specifics worth knowing.

Sonos Port line-out level

Sonos offers three line-out settings for the Port in the Sonos app:

Setting	What it does
Fixed	The Port sends a full, steady level, and you control the volume with the stereo's knob. Usually the best choice for a stereo receiver.
Variable	The Sonos app controls the volume. Keep the stereo's knob at a moderate setting.
Pass-Through	Sends volume commands to an amplifier that understands them. Sonos warns that if your amplifier doesn't support it, you won't be able to control the volume.

STAY SAFE

Variable can surprise you

If the Port is set to Variable and the stereo's knob is turned up high, a loud song from the app can be very loud indeed. Keep the stereo's knob at a moderate setting, or use Fixed and the knob alone.

Sonos and the stereo's input

The Port can't switch your old receiver's input for you. If the receiver is on the radio or CD input, you'll hear nothing from Sonos until you turn the selector to the input the Port is connected to. A label on the knob helps.

Bluesound Node

- Set up and control it with the free **BluOS** app.
- It's designed to group with other Bluesound players for music in several rooms.
- Like the others, connect its analog output to AUX or another line input, not PHONO.

GOOD TO KNOW

More help with Sonos

Bill's **Sonos** guide in this series covers the Sonos app, rooms, grouping and voice control in detail.

WHAT THIS DOES FOR YOU

What this does for you

The right line-out setting means one knob controls the volume, the way you're used to — no hunting for which control is turned down.

PART 4

Alexa & Music in More Than One Room

Using an Amazon Echo you already own to play through the stereo, and how the different systems let you hear the same music in several rooms.

CHAPTER 15

Playing an Echo Through Your Stereo

If there's an Amazon Echo in the house, you can ask Alexa for music and hear it through the big speakers instead of the little one. How you connect depends on which Echo you have.

Option 1: a cable, if your Echo has an audio jack

Some older Echo models have a small **3.5 mm** audio jack on the back. The Echo Dot (3rd Gen) had an audio output, and the full-size Echo (4th Gen) has a jack that can be set to line out in the Alexa app. **Current Echo Dots don't have an audio-out jack**, so look at the back of yours before buying a cable. If there's a jack:

1. With the stereo off and its volume down, connect a **3.5 mm to RCA** cable from the Echo's jack to the stereo's **AUX** input.
2. Switch the stereo on and select AUX.
3. If your Echo's jack can be either input or output, open the **Alexa** app, choose the Echo under **Devices**, and look for its audio or AUX setting to make sure it's set to output.
4. Say "Alexa, play some jazz" and turn the stereo up slowly.

Option 2: Bluetooth from the Echo to a Bluetooth receiver

An Echo can also send its sound to a Bluetooth receiver on the stereo (Part 2), just as it would to a Bluetooth speaker. This works with Echo models that have no audio jack.

1. Put the Bluetooth receiver on the stereo into pairing mode.
2. Say "**Alexa, pair Bluetooth**", or in the **Alexa** app open **Devices**, choose your Echo, then **Bluetooth Devices** > **Pair a New Device**.
3. Choose the Bluetooth receiver's name when it appears.
4. Ask Alexa for music. It now plays through the stereo. Say "**Alexa, disconnect**" to go back to the Echo's own speaker.

Option 3: a streamer that works with Alexa

Some Wi-Fi streamers, such as WiiM's, can be linked to Alexa so you can play music on the stereo by voice, or include it in a group of Echo speakers. The streamer's app walks you through linking it to your Amazon account.

HEADS UP

Alexa's own replies come through the stereo too

When the Echo is connected to the stereo, Alexa's voice, timers and alarms may play through the big speakers as well. If that's a surprise at full volume, keep the stereo's knob moderate.

GOOD TO KNOW

Echo Input and Echo Link

Amazon once sold the **Echo Input** and **Echo Link**, made especially for connecting to a stereo. If you have one, it may still work; it's set up in the Alexa app like any Echo. If you're shopping today, Options 2 and 3 are the ones to look at.

WHAT THIS DOES FOR YOU

What this does for you

"Alexa, play Frank Sinatra" from across the room, through speakers that do the music justice — and no phone needed at all.

CHAPTER 16

Music in More Than One Room

Once you have music on the stereo, it's natural to want it in the kitchen or on the porch too. Here's how the main systems handle it, in plain words.

The basic rule

Bluetooth is made for one phone and one speaker, so it isn't good at several rooms. For whole-house music you need Wi-Fi equipment that speaks the same "language" as the other speakers.

If your other speakers are…	Pick a stereo streamer that supports…
Apple HomePod or other AirPlay 2 speakers	AirPlay 2
Sonos speakers	Sonos (the Sonos Port), or AirPlay 2 from an iPhone
Amazon Echo speakers	Alexa multi-room grouping (some WiiM models, for example)
Google Nest speakers	Google Cast (Chromecast built-in)
None yet	Any system; choose the app you like best

Playing to several speakers from an iPhone

1. Start music on the iPhone and tap the **AirPlay** icon.
2. Tick the circle next to each speaker or streamer you want, such as **Living Room Stereo** and **Kitchen**.
3. Adjust each one's volume with its own slider.

GOOD TO KNOW

Some inputs can't be shared

Music coming *into* a streamer through its own Bluetooth or line input often can't be passed on to Echo or HomePod speakers in other rooms. Streaming apps and radio usually can.

TIP

Start with one room

Get the stereo working well first. Adding rooms later is easy once you know which system you like.

WHAT THIS DOES FOR YOU

What this does for you

The same music following you from room to room, at a sensible volume in each — handy for parties, holidays, and housework.

PART 5

Records & the TV

Bringing a turntable back into the system, and getting the TV's sound through the stereo's speakers.

CHAPTER 17

Turntables & Phono Preamps

Records are back, and an old receiver with a PHONO input is a fine partner for them. The one thing to get right is the **phono preamp** from Chapter 4: you need exactly one, never zero and never two.

Which setup do you have?

Your turntable	Your receiver	Connect it like this
No built-in preamp	Has PHONO	Into PHONO, plus the ground wire
No built-in preamp	No PHONO	Through a separate phono preamp into AUX
Built-in preamp with PHONO/LINE switch	Has PHONO	Switch to PHONO, plug into PHONO
Built-in preamp with PHONO/LINE switch	No PHONO	Switch to LINE, plug into AUX

Audio-Technica, for example, says to use LINE for AUX, CD or TAPE inputs and PHONO for a receiver's PHONO input, and warns against using both preamps at once. A few models, such as its AT-LP140XP, put out phono level only, and its Bluetooth turntables need the switch set to LINE.

Connecting the ground wire

Many turntables have a thin separate wire with a small fork (a spade) on the end, next to the red and white plugs. That's the **ground wire**. It goes under the screw marked **GND** or **GROUND** on the back of the receiver, near the PHONO jacks.

1. With everything switched off, loosen the GND screw a few turns. Don't remove it.
2. Slide the fork of the ground wire under the screw.
3. Tighten it finger-tight, so the fork can't slip out.
4. Turn on and play a record at low volume. A loud hum usually means the ground wire is loose or missing (Chapter 21).

Buying a separate phono preamp

If your receiver has no PHONO input and your turntable has no preamp, a small separate phono preamp sits between them. As of November 2026, well-known basic models such as the Audio-Technica AT-PEQ3 and Fluance PA10 list for about $100 to $120. Most turntables use a **moving magnet (MM)** cartridge, which these suit; if yours has a **moving coil (MC)** cartridge, it needs a preamp that says it supports MC.

HEADS UP

Older turntables and the stylus

A worn stylus (needle) can damage records and sounds dull. If the turntable has sat unused for years, have the stylus and belt looked at, or replaced, before playing records you treasure.

WHAT THIS DOES FOR YOU

What this does for you

Your record collection and your phone's music, both through the same good speakers, each set up the right way the first time.

CHAPTER 18

TV Sound Through the Stereo

TV speakers are often thin and small, and an old stereo can make dialogue and music far fuller. The catch is that most new TVs don't have red-and-white outputs any more. Here are the ways to connect.

Look at the back of the TV

What you see	What to do
AUDIO OUT (red and white)	Rare on new TVs. If you have it, an RCA cable goes straight to AUX.
Headphone / 3.5 mm audio out	Use a 3.5 mm to RCA cable. The TV's speakers may switch off when it's plugged in.
DIGITAL AUDIO OUT (OPTICAL)	The most common choice. Needs a small converter (a DAC), below.
HDMI ARC / eARC	Made for soundbars and newer receivers. An older stereo can't use it without an HDMI audio extractor.

Using an optical-to-RCA converter (a DAC)

A **DAC** (digital-to-analog converter) is a small box that turns the TV's optical signal into red-and-white sound your receiver understands. Basic ones are inexpensive and powered by USB.

1. With everything off, connect an optical cable from the TV's **DIGITAL AUDIO OUT (OPTICAL)** to the DAC's optical input. Remove the little caps first (Chapter 5).
2. Connect an RCA cable from the DAC's outputs to the receiver's **AUX** or **VIDEO** input.
3. Power the DAC, then turn on the TV and the receiver, and select the input.
4. In the TV's sound settings, find the **digital audio output** or **audio format** setting and choose **PCM**. Sony, for example, advises PCM when the audio system can't decode Dolby Digital or DTS, and on some of its TVs the optical output has to be switched on in the sound settings.
5. If the TV has a choice of speakers, choose the external or optical output so sound comes from the stereo.

HEADS UP

No sound on some shows? Check PCM

If the stereo plays the TV menus but goes silent on some programs, the TV is probably sending Dolby Digital surround that a basic DAC can't decode. Setting the TV to **PCM** almost always fixes it.

Volume: one remote or two?

With an optical connection, the TV remote usually won't change the stereo's volume, because the TV sends a fixed level. You'll use the stereo's knob or its own remote. Some TVs offer a variable optical or headphone output; your TV's manual will say.

Why not Bluetooth for the TV?

Bluetooth adds a delay, so lips may not match words. A wired connection is better for TV. If you must go wireless, some TVs let you adjust audio delay (often called **lip sync** or **AV sync**).

GOOD TO KNOW

More on TV connections

Bill's **TV Cables & Connections** guide explains HDMI, ARC and optical in more detail.

WHAT THIS DOES FOR YOU

What this does for you

Clearer voices and fuller sound for the news, the ball game and movie night, through speakers you already own.

PART 6

Speakers & Fixing Problems

Speaker wire done right, and calm checklists for no sound, hum and buzz, and sound that's too loud, too quiet, or only on one side.

CHAPTER 19

Speaker Wire & Speakers A/B

If your speakers have been connected for years and sound fine, leave them be. This chapter is for when you move the stereo, add speakers, or find a wire has come loose.

Plus and minus

Each speaker has two connections, marked **+** (often red) and **-** (often black). The receiver has matching pairs for left and right. Speaker wire has two strands, and one is marked: a stripe, a ridge you can feel, printing, or a different-colored metal. Use the marked strand for **+** at *both* ends.

Connecting speaker wire

1. Switch the stereo **off** and unplug it.
2. Strip about half an inch of insulation from each strand with a wire stripper, and twist the bare copper strands tight.
3. For spring clips: press the clip, push the bare wire into the hole, and let go. For screw posts: loosen the cap, wrap the wire clockwise around the post or push it through the hole, and tighten.
4. Check that **no stray strand** touches the other connection or the metal case.
5. Repeat at the speaker, matching **+** to **+** and **-** to **-**.
6. Plug in, turn on, and play something at low volume.

STAY SAFE

Stray strands matter

A single loose strand bridging plus and minus can short the amplifier's output. Many receivers protect themselves by shutting off, but some older ones can be damaged. Twist the strands tight and check every connection before turning on.

Which wire to buy

Ordinary copper speaker wire from a hardware or electronics store is fine for home use. Thicker wire (a lower gauge number, such as 14 or 16 gauge) is better for long runs. Expensive specialty cable isn't needed.

Speakers A, B and A+B

Many receivers have two sets of speaker connections and a switch for **A**, **B** or both. If you hear nothing, make sure the switch is set to the pair your speakers are connected to. Playing both pairs at once can strain some receivers, especially with speakers that are hard to drive, so check your receiver's manual before leaving A+B on at high volume.

TIP

Out of phase sounds thin

If the bass sounds weak and voices seem to come from nowhere in particular, one speaker may have its wires reversed. Swap the wires at one speaker only, and listen again.

WHAT THIS DOES FOR YOU

What this does for you

Solid speaker connections mean full, balanced sound — and no mystery crackles from a loose strand.

CHAPTER 20

No Sound at All: The Checklist

Silence is the most common problem, and almost always something simple. Go down this list in order; most people find the answer in the first five steps.

1. **Is everything on?** The stereo, the Bluetooth receiver or streamer, and the phone. Look for lights.
2. **Is the input selector** on the input you plugged into (AUX, CD, TAPE)?
3. **Is TAPE MONITOR** (or MONITOR) *out*? (Chapter 3)
4. **Is the SPEAKERS switch** on A or B, whichever your speakers use? (Chapter 19)
5. **Are headphones plugged** into the front of the receiver? On many receivers, that silences the speakers.
6. **Is MUTE** on? Look for a button or a display message.
7. **Is music actually playing**, and is the phone or app volume up?
8. **Is the phone sending sound somewhere else** — earbuds, the car, another speaker? Check Bluetooth or AirPlay.
9. **Are the cables pushed fully in** at both ends? Wiggle each one gently.
10. **Try another input.** Move the cable to a different line input and select it. If that works, the first input may be worn.
11. **Restart everything**: switch off the stereo, unplug the Bluetooth box or streamer for ten seconds, and start again.

HEADS UP

If the receiver clicks off by itself

If the receiver turns itself off, shows PROTECT, or clicks repeatedly, switch it off and check the speaker wires for a stray strand (Chapter 19). If it keeps happening, stop and get it looked at.

WHAT THIS DOES FOR YOU

What this does for you

A step-by-step list replaces worry with a few minutes of checking — and nine times out of ten, a button or plug you can fix yourself.

CHAPTER 21

Hum, Buzz & Crackle

A low hum or buzz from the speakers is annoying, but it's usually caused by a missing ground connection or a loop in the power and audio wiring. Here's how to track it down.

Hum with a turntable

A loud hum that appears only on PHONO almost always means the turntable's ground wire isn't connected, or has slipped off the GND screw. See Chapter 17.

Hum with a streamer, DAC or TV connection

1. Check that every RCA plug is pushed all the way in. A half-inserted plug is a common cause.
2. Plug the stereo and the new box into the **same power strip or outlet**.
3. Try a different USB power adapter for the Bluetooth box or DAC; some inexpensive adapters are noisy.
4. Move audio cables away from power cords, and don't coil extra power cord behind the stereo.
5. If the hum appears when a TV or cable box is connected, a **ground loop isolator** (a small, inexpensive inline adapter for RCA or 3.5 mm cables) often removes it.

Crackle when you turn a knob

Scratchy noise when you turn the volume knob or switch inputs is common on old equipment, because the contacts inside get dirty with age. It isn't dangerous. Turning the knob or switch back and forth a few times sometimes helps. A proper cleaning means opening the case, which is a job for a repair shop (Chapter 23).

> **STAY SAFE**
>
> **Never cut off a ground prong**
>
> Don't use a "cheater" plug or break the round grounding prong off a power cord to stop hum. It removes an important safety protection. Use the steps above instead.

WHAT THIS DOES FOR YOU

What this does for you

Quiet background between songs, so the music is all you hear.

CHAPTER 22

Too Loud, Too Quiet, or One Side Only

When sound plays but isn't right, the cause is usually a level setting or a single plug.

Far too loud or distorted, even at low volume

- The box is probably plugged into **PHONO**. Move it to AUX (Chapter 4).
- A turntable with its preamp switched to LINE is in PHONO. Switch it to PHONO, or move it to AUX.
- The phone or app volume is at maximum on a box that distorts at full level. Turn the phone down a little and the stereo up.

Very quiet, even with the knob turned up

- The phone or app volume is low. Turn it to about three-quarters.
- A Sonos Port or other streamer is set to variable output and turned down. See Chapter 14.
- A turntable with no preamp is plugged into AUX. Use PHONO or a phono preamp (Chapter 17).
- The TV's headphone output is turned down in the TV's sound settings.

Sound from one speaker only

1. Check the **BALANCE** knob is in the center, and any MONO button is off.
2. Push the red and white plugs fully in at both ends.
3. Swap the red and white plugs at the stereo end. If the silent side moves, the problem is the cable or the source; if it stays, it's the receiver or speaker wire.
4. Check the speaker wire at both ends of the silent side (Chapter 19).
5. A 3.5 mm plug that isn't pushed all the way in often plays only one side. Push it firmly.

> **TIP**
>
> **Change one thing at a time**
>
> Make one change, then listen. If you change three things at once, you won't know which one fixed it.

WHAT THIS DOES FOR YOU

What this does for you

Balanced, comfortable sound — and the confidence that you can put it right yourself next time.

PART 7

Safety, Costs & Scams

Keeping old equipment safe, spending sensibly, and steering clear of fake support and too-good-to-be-true offers.

CHAPTER 23

Safety with Old Equipment

Old stereos are generally safe to use, but they're decades old, so a few sensible habits matter.

Never open the case

Receivers and amplifiers contain parts called **capacitors** that can hold a dangerous electrical charge even after the unit is unplugged. Leave repairs and cleaning inside the case to a qualified repair shop.

Give it room to breathe

- Older receivers get warm. Keep the vents on top and sides clear: don't stack books, records or a new streamer on top of the vents.
- Leave a few inches of space behind and above it inside a cabinet.
- Put the Bluetooth receiver or streamer beside the stereo, not on its vents.

Cords and outlets

- Look over the power cord. If it's cracked, brittle, or frayed, stop using the stereo until the cord is replaced by a repair shop.
- Don't run cords under rugs, where they can overheat or get damaged unseen.
- Use a good power strip rather than chains of extension cords.
- Switched outlets on the back of an old receiver have a limited rating. Use them for small items such as a Bluetooth receiver, not for heaters or big appliances.

Warning signs: switch off and unplug

- A burning or hot-electrical smell, smoke, or sparks.
- Crackling or popping from inside the case that isn't the music.
- A loud hum that suddenly starts and doesn't go away, with the receiver getting very hot.

STAY SAFE

If you see smoke

Switch it off and unplug it at the wall if you can do so safely. If there are flames, leave the room, get everyone out, and call **911**.

Protect your hearing

Old amplifiers can play very loud. Turn the volume down before switching inputs or starting new music, and if your ears ring after listening, it was too loud.

WHAT THIS DOES FOR YOU

What this does for you

A few simple habits let you enjoy decades-old equipment with peace of mind.

CHAPTER 24

What It Costs: Honest Budgets

You can spend as little as the price of a cable or as much as a new stereo. Here are realistic budgets, as of November 2026. Prices vary and sales are common, so treat these as rough guides.

What you want	What to buy	Rough cost
Phone music in one room	Basic Bluetooth receiver + cable	About $30 to $50
Better Bluetooth sound or range	Higher-end Bluetooth receiver	About $100 or more
Streaming services, radio, AirPlay	Entry Wi-Fi streamer (such as WiiM Mini)	Roughly $100
A streamer with RCA outputs	Mid-range streamer (such as WiiM Pro / Pro Plus)	About $149 to $219
Join a Sonos system	Sonos Port	Around $449
Records, receiver has no PHONO	Phono preamp	About $100 to $120
TV sound to the stereo	Optical-to-RCA converter + optical cable	Usually under $40
Cables	RCA, 3.5 mm to RCA, optical	A few dollars to about $15 each

Where the money is well spent

- A box with the right output for your stereo, so you don't need adapters.
- Buying from a seller with an easy return policy, so you can test it at home.
- A Wi-Fi streamer if you'd like to use streaming services or play in several rooms.

Where it usually isn't

- Expensive cables for short runs.
- Codec features your phone can't use (Chapter 6).
- "Hi-res" extras on a kitchen or garage system.

Subscriptions

The box is a one-time purchase, but some music services cost a monthly fee. Internet radio and many free tiers cost nothing. Check what you're already paying for before adding another.

TIP

Compare with a new system

Even a top-end streamer usually costs less than replacing a good receiver and speakers, and you keep the sound you already like.

WHAT THIS DOES FOR YOU

What this does for you

Honest numbers mean you choose the right level for the person using it — and nobody pays for more than they'll use.

CHAPTER 25

Scams, Fake Support & Too-Good Deals

Setting up a new gadget sometimes sends people searching online for help, and scammers know it. A few warnings keep you safe.

Fake "support" numbers

If you search for help with a streamer or a music app, some of the phone numbers that appear may not belong to the company at all. These fake helplines may ask to connect to your computer, charge a "setup fee", or ask for gift cards.

SCAM ALERT

Real companies don't ask for gift cards

No real tech company asks to be paid in gift cards, wire transfers or cryptocurrency. Get support contacts only from the company's own website, typed in yourself, or from the box or the app. If someone on the phone asks for a gift card, hang up.

"Activation fees" and app sign-ups

Bluetooth receivers and streamers don't need paid activation. The maker's app is free from the App Store or Google Play. If a website or pop-up asks you to pay to "activate" your streamer, close it.

Too-good deals and fakes

- Name-brand streamers advertised at a fraction of the usual price on social media are often scams or counterfeits. Buy from the maker or a well-known retailer.
- Be wary of "vintage audio" sellers who want payment by wire transfer or a payment app before you've seen the item.
- If you buy used equipment, test it before you pay, or use a marketplace that offers buyer protection.

SCAM ALERT

If you've already paid or let someone in

If you paid with a gift card, call the number on the back of the card right away. If you paid by credit card, call your bank. If someone connected to your computer, turn it off and get trusted help. You can report it at **ReportFraud.ftc.gov**. Being fooled is nothing to be ashamed of; these people are professionals.

WHAT THIS DOES FOR YOU

What this does for you

Knowing the usual tricks means you get help only from people you can trust, and keep your money where it belongs.

PART 8

When to Call Bill & Your Cheat-Sheet

An honest word about when a hand is worth it, and a one-page summary to keep near the stereo.

CHAPTER 26

When to Call Bill

Most of what's in this guide you can do yourself, at your own pace. But part of being helpful is being honest about when a hand saves you time and worry. Here's my straight advice, with no pressure.

Times it's well worth a call

- **Choosing what to buy** — looking at the back of your stereo together and picking the one box and cable that fit, before you spend anything.
- **Moving a heavy receiver** to get at the back, and hooking everything up neatly.
- **Getting a streamer on the Wi-Fi**, setting up the app and account, and showing you how to play from your phone.
- **Bringing the TV and a turntable into the same system**, with the right settings so everything just works.
- **A hum or a problem you can't track down** after working through Part 6.
- **Setting up a parent's stereo** so it's as simple as possible, with easy written instructions.

What I don't do

I'm a technology helper, not an electronics repair shop. If an old receiver needs work inside the case — cleaning the controls, replacing parts, or fixing a fault — I'll tell you honestly and point you toward a repair shop.

What working with me is like

I work at your pace, explain what I'm doing in plain words, and never talk down to anyone. I'll tell you honestly when something isn't worth your money. I've been doing this kind of work for more than 30 years, and I serve Portage County, Ohio, in person, and folks farther away by remote help.

FROM BILL

How to reach me

Call **(330) 200-8042** or book a time at **billshometech.com/book**. My help is **$49 remote · $99 in your home**. This guide is yours to keep for free; if you'd like a hand, I'm only a phone call away.

GOOD TO KNOW

You may meet Sophie first

When you call or visit billshometech.com, you might be greeted by **Sophie**, my AI receptionist. She can answer quick questions and help you book a time. A real person — me — does the actual help.

Thank you for giving that good old stereo a second life. Start simple, keep the volume low while you plug things in, and enjoy the music.

— Bill

CHAPTER 27

Your Stereo Cheat-Sheet

Keep just this page near the stereo. The whole guide, boiled down.

The essentials

Topic	Remember
Which input?	AUX, CD, TAPE, TUNER or VIDEO. Never PHONO, except for a turntable.
Red and white	Red is right. Red into red, white into white.
Before plugging in	Volume down, power off.
Bluetooth	Pair once in the phone's Bluetooth settings. Phone volume about three-quarters.
Wi-Fi streamer	Phone on the same Wi-Fi. Choose the stereo in AirPlay or Spotify.
Turntable	Exactly one phono preamp. Ground wire on the GND screw.
TV	Optical out to a DAC, then AUX. Set the TV's digital audio to PCM.
Safety	Never open the case. Keep the vents clear.
Help	Bill: (330) 200-8042 · billshometech.com/book

Write it down once

Item	Yours
Stereo input I use	_____
Bluetooth receiver's name	_____
Streamer's name	_____
Streamer app and account email	_____
Wi-Fi network name	_____
Where the instruction cards are	_____

When something's wrong, in order

1. Is everything on, and is the stereo on the right input?
2. Is TAPE MONITOR out, MUTE off, and the SPEAKERS switch on A or B?
3. Is music playing, and is the phone's volume up?
4. Is the phone connected to the stereo, not earbuds or another speaker?

5. Are the plugs pushed in at both ends?
6. Unplug the Bluetooth box or streamer for ten seconds, and try again.
7. Still stuck? Call Bill at (330) 200-8042.