



An Extended Guide · No. 1945

HDMI, DisplayPort or USB-C — Which Port Does Your Monitor Need?

Read the ports on both ends and pick
the one cable that connects them

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★ Read this first — you really can't break anything

Before we start, a promise: you cannot break anything just by reading, looking, or trying a setting. Screens, keyboards, and cables are made to be plugged and unplugged, and almost anything you change can be changed right back. Go at your own pace, skip to the page you need, and if you ever feel stuck, that is exactly what I am here for — there is no such thing as a silly question. The whole secret to connecting a screen is reading the shapes of the sockets on both ends — and once you can do that, the right cable is obvious.

Let's find the one cable that connects your screen

The jumble of ports on the back of a computer puts a lot of folks off. But there are really only a few shapes to know, and this guide helps you read them and pick the single cable you need — no expertise required.

I'm Bill, and I run Bill's Home Tech here in Portage County, Ohio. I've spent 30+ years helping folks get comfortable with the gear in their homes, patiently and in plain language. Think of this as me sitting beside you, naming each socket so it stops being a mystery.

Here's the plan: learn what the common shapes look like, understand the one tricky thing about USB-C, figure out whether you need a plain cable or a small adapter, and — easiest of all — just photograph your ports so you never have to guess.

★ You can't plug anything in wrong and hurt it

These sockets are shaped so a plug only fits where it belongs, and nothing is harmed by trying. If you'd like a second pair of eyes on your ports, snap a photo and text it to me at (330) 200-8042.

The whole guide, on one page

If you remember only these things, you'll pick the right cable with confidence.

- ❑ There are three common video shapes to know: HDMI, DisplayPort, and USB-C. Learn to spot each and you're most of the way there.
- ❑ USB-C is only a plug shape — the same little oval may or may not carry a picture, depending on the computer.
- ❑ If both ends share a shape, you need one simple cable. If they differ, a small adapter bridges them.
- ❑ Very old screens use VGA or DVI, which usually need an active converter, not a plain adapter — the legacy-ports guide covers those.
- ❑ A dock or hub can add ports, but only within what the computer can already do — see the docks-and-hubs guide.
- ❑ The surest shortcut: photograph both ends and match the shapes, or send the photo to someone who can.

✓ One idea to hold onto

You don't have to memorize anything. Learn to recognize three shapes and keep a photo of your ports on your phone, and you'll never buy the wrong cable again.

Why ports feel so confusing

If the back of a computer looks like a wall of mysterious slots, you're in good company. There's a reason it feels that way.

Over the years, the industry has used several different connections for sending a picture to a screen, and old and new ones sit side by side on the same machine. Some look alike at a glance. And the names — HDMI, DisplayPort, USB-C — don't tell you much just by sound.

The good news is that for connecting a monitor, you only care about a small handful of them, and they're easy to tell apart once someone points out the shapes. That's all this guide does: it points out the shapes.

✓ You only need to know a few

Ignore the ports meant for the mouse, the network cable, or headphones. For a screen, you're hunting for just a few specific shapes — the rest you can safely tune out.

HDMI — the most common one

If you've plugged a cable into a modern television, you've almost certainly used HDMI. It's the one most people meet first.

An HDMI socket is a flat, fairly wide slot with two of its corners gently clipped, so the opening looks a little like a long, squashed six-sided shape rather than a plain rectangle. The plug only goes in one way up. Most monitors and most computers that aren't the very thinnest laptops have one.

HDMI carries both the picture and the sound down a single cable, which is part of why it's so popular. If your computer and your screen both have an HDMI socket, a single HDMI cable is usually the simplest connection you can make.

✓ Look for the clipped corners

The quick way to spot HDMI is the two clipped bottom corners of the slot — it's wider than it is tall, and it's not a plain rectangle. When both ends have it, reach for one HDMI cable and you're done.

DisplayPort — common on monitors

DisplayPort looks enough like HDMI to fool people, so let's learn the one detail that tells them apart.

A DisplayPort socket is also a flat, wide slot, but usually only one corner is clipped while the other is square — so it looks slightly lopsided compared with HDMI's two matching clipped corners. It's common on the back of standalone monitors and on desktop computers, a little less so on laptops.

Like HDMI, it carries picture and sound. If both your computer and your screen have DisplayPort, one DisplayPort cable connects them. If one end has HDMI and the other DisplayPort, a small adapter or the right cable bridges the two.

✓ One clipped corner, not two

The giveaway between the two lookalikes: HDMI has both bottom corners clipped and looks symmetrical; DisplayPort has just one corner clipped and looks a touch lopsided. That single detail tells them apart.

USB-C — the small oval

This is the newest of the three and the one that causes the most confusion, so it gets its own careful look here and on the next page.

A USB-C socket is small — a short, rounded oval, roughly the size of a capsule. Its great convenience is that the plug goes in either way up; there's no wrong orientation to fumble with. You'll find it on newer laptops, many of which have little else, and increasingly on monitors.

Here's the catch, which the next page explains fully: USB-C is only the shape of the plug. Unlike HDMI or DisplayPort, which are always about video, a USB-C port might carry a picture, or might only move files and power. The shape alone doesn't tell you.

✓ Small oval, fits either way up

If a port is a little rounded oval about the size of a tic-tac and the plug goes in either way, that's USB-C. Just don't assume it sends a picture — that's the very next page.

The one tricky thing about USB-C

This is the single most common source of monitor-cable frustration, so let's go slowly and get it clear.

With HDMI and DisplayPort, the shape guarantees the job: they're video connections, full stop. USB-C is different. The identical-looking oval can do different jobs on different machines — on one laptop it sends a picture to a screen, on another the very same-looking port only charges the laptop or moves files.

Whether a USB-C port can send a picture depends on what the maker built in behind it. The industry name for a video-capable USB-C port is 'DisplayPort Alt Mode,' but you needn't remember that. What matters is checking: the laptop's manual or the maker's spec page will say which of its USB-C ports handle a display.

! Don't assume a USB-C port carries video

Buying a USB-C-to-monitor cable only to find that port won't send a picture is the most common mix-up I see. Before you count on a USB-C port for a screen, confirm it's video-capable on the maker's page — or send me a photo and the model and I'll tell you.

A word on Thunderbolt and USB4

You may see the names Thunderbolt or USB4 near a USB-C port. Here's the plain-English version of what they mean.

Thunderbolt and USB4 are higher-capability versions that use the same USB-C oval shape. They can carry a picture, data, and power all down one cable, which makes them the most dependable choice for running a screen through a dock. A tiny lightning-bolt symbol next to a USB-C port often marks a Thunderbolt one.

Newer Thunderbolt is designed to work with older Thunderbolt gear, so you generally don't have to match version numbers exactly. If a USB-C port carries a Thunderbolt or USB4 label, you can be confident it will drive a screen — which takes the guesswork out of the USB-C question.

✓ A lightning bolt is a good sign

If you see a small lightning-bolt mark beside a USB-C port, that's Thunderbolt — and it will carry a picture. It's the one USB-C label you can trust at a glance for connecting a screen.

A plain cable, or a cable plus an adapter?

Once you know the shapes on both ends, this decision is easy. There are just two cases.

Same shape on both ends: one cable

If the computer and the screen share a shape — both HDMI, both DisplayPort, or both video-capable USB-C — you need a single cable with that plug on each end. This is the tidiest connection and the one to aim for whenever you can choose the screen.

Different shapes: a small adapter

If the ends differ — say the computer has USB-C and the screen takes HDMI — a small adapter bridges them, or you buy a cable with one shape on each end. One side fits the computer, the other accepts the screen. It's an inexpensive, reliable little part when you pick a matching one.

✓ Fewer parts, fewer problems

A single cable is always the surest choice. If you're still choosing the screen, pick one with a shape your computer already has, and you may skip the adapter altogether.

Two ways people come to this

The cable question comes up two ways: for the person wiring up their own screen, and for an adult child buying the right cable so a parent's setup just works. The shapes are the same; the worries differ.

If you're setting this up for yourself

You're connecting your own screen and want to buy the right cable once. Take it slowly — read the shapes on both ends, and when in doubt, photograph them.

- Learn to spot HDMI, DisplayPort, and USB-C by their shapes.
- If you'll use USB-C, confirm that port carries a picture first.
- Match the two ends — one cable if they're the same, an adapter if not.
- Keep a photo of your ports on your phone for the store.

If you're setting it up for a parent or loved one

You're buying a cable so a parent's new screen works the first time, maybe from a distance. Aim for 'right the first time,' with no return trip.

- Have them photograph both ends, or do it yourself on a visit.
- Match the shapes before you buy — don't guess at USB-C.
- Favor one simple cable over a chain of adapters.
- Label the cable and port so it's easy to reconnect later.

★ Buying a cable for a parent's screen?

This is a common call. Send me a photo of both ends — the computer's ports and the back of the screen — and I'll tell you the exact one cable or adapter to buy, no wrong purchase. Call or text (330) 200-8042.

Older screens: VGA and DVI

If you're connecting an older monitor, you may meet two legacy shapes. They need a little more care than a plain cable.

VGA is an older connection — a blue trapezoid-shaped plug with rows of little pins, often held on with two thumbscrews. **DVI** is another older one, usually a wider white plug, also with pins and thumbscrews. Both were common years ago and still turn up on older screens.

Here's the key point: these older types are a different kind of signal from modern digital ports, so a plain, cheap adapter often won't bridge them. You usually need an active converter — a small powered adapter that actually translates the signal. The legacy-ports guide walks through VGA and DVI in full.

! A plain adapter often won't bridge old to new

Connecting a modern computer to an old VGA or DVI screen usually needs an active converter, not the cheap passive kind. If a bargain adapter gives you a black screen, that's often why — the legacy-ports guide explains the difference.

The shortcut that never fails

If all the names swim together, don't worry. There's a foolproof method that skips the memorizing entirely.

Take a clear, close photo of the side or back of your computer where the ports are, and another of the back of any screen you're considering. Good light helps. Those two photos hold every answer you need — the shapes are right there to match.

With the photos on your phone, a salesperson can point to the matching cable, or you can compare the shapes to the pictures in this guide. And you can always send the photos to me for a quick, free second opinion before you spend a dime.

✓ Keep the photos for next time

Don't delete those port photos after you shop. Keep them on your phone — next time you add a screen or buy a cable, you'll have your answer already in your pocket.

When you're short a port

Thin laptops especially can leave you short of sockets. A dock or hub can help — with one important limit to understand.

A dock or hub plugs into one port on your computer and offers several sockets in return — often extra screen connections, USB slots, and more. For a thin laptop with only a USB-C port or two, a good dock can turn one port into a whole desk's worth of connections.

The important limit: a dock cannot do more than the computer itself can do. If your computer can only drive one external screen, no dock will make it drive two. The docks-and-hubs guide explains this in full, including the special kind of dock that can add a screen beyond the normal limit.

✓ A dock shares, it doesn't multiply

Think of a dock as splitting up what your computer already offers, not adding new power. It's wonderful for turning one port into many — just don't expect it to exceed what your computer can natively do.

Buying the cable without overthinking it

Once you know the two shapes, buying the cable is simple. A few plain pointers keep you from overpaying or buying wrong.

- **Name both ends** when you shop — for example, 'HDMI to HDMI' or 'USB-C to HDMI.' That's the whole specification you need.
- **A reputable, ordinary cable is fine.** You don't need the most expensive one for everyday screens; wild claims and gold-plated hype rarely change what you see.
- **Get a length with a little slack** so the cable reaches without stretching, but not so long it coils in a heap.
- **Keep the receipt** until you've seen a picture, just in case a shape was mismatched.

★ I don't sell cables — so this is honest advice

I earn nothing on any of this, so I've no reason to steer you to a pricey cable. Tell me your two ends and I'll name the plain, sensible cable that does the job. Call or text (330) 200-8042.

Plugged in but no picture?

If the cable's in and the screen is black, don't assume you bought wrong. Work through these in order.

- **Is the monitor on the right input?** Press its 'input' or 'source' button to pick the socket you used — the usual culprit.
- **Is the cable fully seated?** Push both ends in firmly; a slightly loose plug shows nothing.
- **If you used USB-C**, confirm that port actually carries video — some don't, and that's a black screen with a perfectly good cable.
- **If it's an old VGA or DVI screen**, you may need an active converter rather than a plain adapter.
- **Try the computer's 'detect displays'** setting to wake a screen it hasn't noticed.

★ Black screen after all that? That's my job

A stubborn black screen is usually a five-minute fix once you know where to look — often right on your screen for \$49 without a visit. Call or text me at (330) 200-8042.

Does the cable carry sound too?

A small bonus question that trips a few people up: where does the sound go once the picture's on the screen?

HDMI, DisplayPort, and video-capable USB-C can all carry sound as well as the picture down the same cable. So if your monitor has speakers, the sound may start coming from the screen rather than the computer once you plug in.

If you'd rather the sound stayed on the computer's own speakers — many monitor speakers are tinny — you can choose that in the computer's sound settings. The cable's ability to carry sound is a convenience, not something you're stuck with.

✓ Lost your sound after plugging in?

If sound vanished when you connected the screen, it probably jumped to the monitor's speakers. Pop into the sound settings and pick the speakers you want — the computer's or the screen's.

Handling cables kindly

Cables last for years if you treat them gently, and they're safest when they're tidy. A few easy habits do it.

Don't yank a cable out by the wire — take hold of the plug itself and pull straight. Avoid sharp kinks and don't bend a cable hard right where it meets the plug, which is where wires fail. Store a spare loosely coiled, not bound tight.

Once a cable's in place, run it along the back of the desk and down a leg, well clear of any walkway. A cord strung across the floor is an easy thing to trip on, and a screen pulled off the desk doesn't survive.

! Keep cords clear of where feet go

The most common mishap around a desk isn't electrical — it's a trip over a cord. Tuck video and power cables along the back or secure them to a leg, well away from where anyone walks.

Thinking a little ahead

You needn't buy for ten years from now, but a couple of gentle choices today save a cable-drawer full of oddments later.

When you can choose, favor a screen that shares a shape your computer already has — that keeps you to one plain cable now and makes the next connection easy too. And if your laptop uses USB-C, a screen that accepts USB-C can often carry picture and power on a single cable, which is tidy.

Don't over-buy, though. You don't need the fanciest cable or a drawer of adapters 'just in case.' The right cable for the two ends you actually have is all today's job requires.

✓ Match shapes now, thank yourself later

Every time you pick a screen that matches a port you already have, you save an adapter and a headache. It's the simplest bit of future-proofing there is.

Common cable mistakes

A few avoidable slip-ups account for most cable frustration. Now you'll see them coming.

- **Assuming USB-C carries video**, then getting a black screen from a port that only charges or moves files.
- **Mixing up HDMI and DisplayPort** because they look alike — remember, two clipped corners versus one.
- **Using a cheap passive adapter on an old VGA or DVI screen**, which usually needs an active converter.
- **Expecting a dock to drive more screens** than the computer itself can manage.
- **Buying a needlessly expensive cable** on the promise of a better picture that an ordinary one gives just as well.

! The USB-C mix-up fools almost everyone

If there's one mistake to guard against, it's trusting that a USB-C port carries a picture. Confirm it's video-capable before you buy the cable, and you'll dodge the most common cable disappointment there is.

The shapes at a glance

Keep this page handy. If you can match these descriptions to what you see, you can pick the right cable.

- **HDMI:** flat, wide slot with both bottom corners clipped; looks symmetrical; carries picture and sound.
- **DisplayPort:** flat, wide slot with just one corner clipped; looks a touch lopsided; common on monitors.
- **USB-C:** small rounded oval, plugs in either way; may or may not carry video — check first.
- **Thunderbolt / USB4:** USB-C shape with a lightning-bolt mark; reliably carries a picture.
- **VGA / DVI:** older plugs with pins and thumbscrews; usually need an active converter to a modern port.

✓ When in doubt, it's the photo

If you remember nothing else, remember this: a clear photo of both ends answers every cable question. Snap it, match it, or send it to me.

Common Questions

The questions I hear most from folks puzzling over which cable they need, answered plainly.

Q: How do I tell HDMI and DisplayPort apart?

Look at the corners of the slot. HDMI has both bottom corners clipped and looks symmetrical; DisplayPort has only one clipped and looks a little lopsided. That's the quickest giveaway.

Q: My laptop only has USB-C. Can it connect to a monitor?

Often yes, but not always — USB-C is only a plug shape, and not every USB-C port sends a picture. Check your laptop maker's spec page, or look for a lightning-bolt (Thunderbolt) mark, which reliably carries video.

Q: Do I need a cable or an adapter?

If both ends share a shape, one simple cable does it. If the shapes differ, a small adapter — or a cable with a different plug on each end — bridges them. One matching cable is tidiest.

Q: My old monitor uses VGA. Will a cheap adapter work?

Usually not. VGA is an older, different kind of signal, so it typically needs an active converter rather than a plain adapter. The legacy-ports guide covers VGA and DVI in full.

★ Still unsure which cable?

There's no such thing as a silly question here. Send me a photo of both ends and I'll name the exact cable, with nothing to sell you. Call or text (330) 200-8042.

You don't have to do this alone

You just have to remember that a friendly, patient person is one call away.

I hope this guide made choosing the right monitor cable feel a little less daunting and a lot more doable. Keep it in a drawer with your other home papers, come back to a page whenever you need it, and don't worry about memorizing anything.

When you'd rather have a hand, that's exactly what I do. I come to your home, work at your pace, and never make you feel rushed or silly for asking. A first visit is a flat \$99, and for the parts that don't need me on-site I can often help right on your screen for \$49. Every visit comes with a 30-day, come-back-free guarantee. For anything that calls for licensed electrical work, I'll help you line up a trustworthy local pro.

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The Shapes to Know

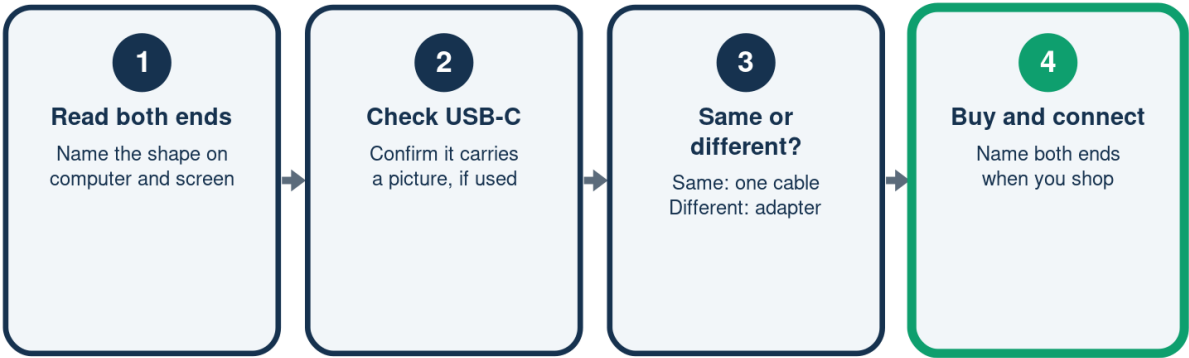
Spot these and you can pick the cable

	What it looks like	Good to know
HDMI	Both corners clipped	Picture + sound
DisplayPort	One corner clipped	Common on monitors
USB-C	Small oval, either way	May not carry video
VGA / DVI	Pins + thumbscrews	Older, needs converter

HDMI looks symmetrical; DisplayPort looks a touch lopsided.

Picking the One Cable

A calm path from ports to the right cable



When shapes match, one plain cable is all you need.

Cable or Adapter?

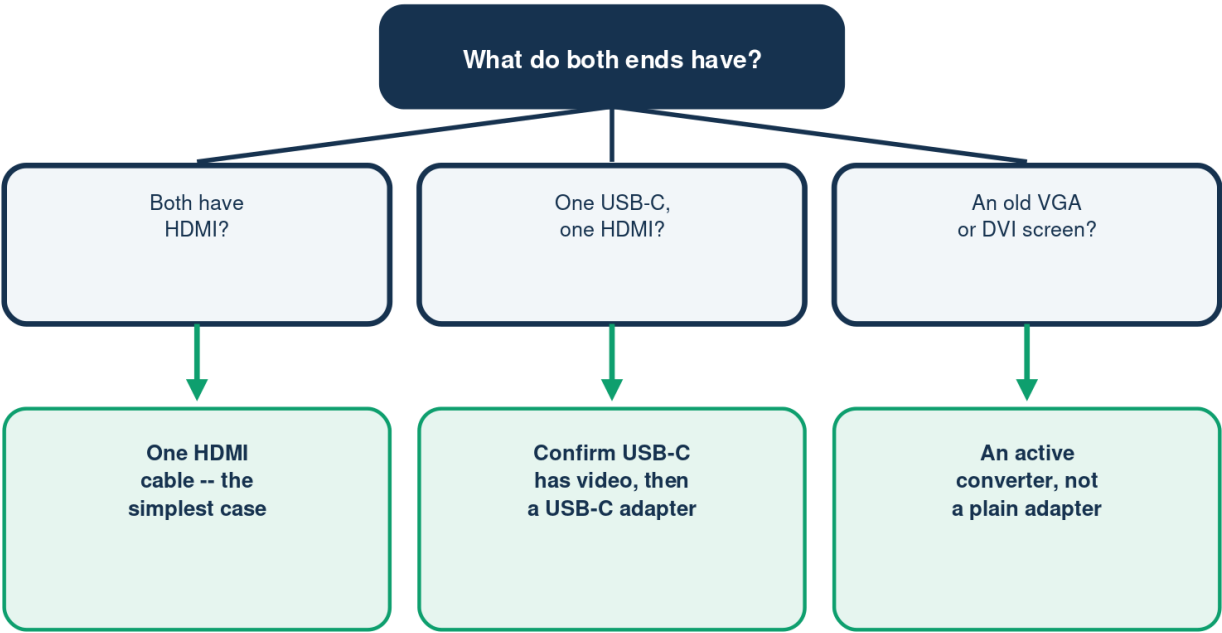
Decided by the two ends

	Your situation	What to get
Ends match	One plain cable	Tidiest choice
Ends differ	A small adapter	One shape each end
Old VGA / DVI	Active converter	Not a cheap adapter

Old-to-new usually needs an active (powered) converter.

Which Port Should I Use?

Let the shapes on both ends point the way



USB-C is only a plug shape -- confirm it carries a picture first.

Illustration - a schematic, not to scale. Your setup may differ.



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A Note From Bill

A quick note from Bill.

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