



An Extended Guide · No. 1966

Old Monitor, New Computer

VGA & DVI adapters
that actually work

Tech Made Simple — Service Made Personal

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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. Connecting an older screen to a newer computer is usually doable — the trick is knowing when a plain plug adapter will work and when you need a powered converter. That's the heart of this guide.

Let's get your old screen talking to your new computer

You've got a perfectly good older monitor and a new computer, but the plugs don't match. Often you can bridge them for a few dollars — as long as you pick the right kind of adapter. This guide shows you which.

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 at your kitchen table, sorting out the plugs with you.

There's one idea that makes all the difference, and we'll take it slowly: some adapters are simple passive plugs, and some are powered converters that do real work. Pick the wrong one for your situation and you get a blank screen; pick the right one and it just works.

★ Before you buy the wrong thing

The wrong adapter is the most common mix-up I see here, and it's easy to avoid. If you'd like me to check what you need before you spend a dollar, text me a photo of both plugs at (330) 200-8042 — free, and I'll tell you exactly what to get.

The whole guide, on one page

If you remember only these things, you'll pick the right adapter the first time.

- ❑ Identify your old screen's plug: VGA is a blue trapezoid full of pins; DVI is a wider white plug.
- ❑ Identify your new computer's plug: usually HDMI, DisplayPort, or USB-C.
- ❑ VGA is analog (old style) and the new plugs are digital — bridging those two needs an ACTIVE (powered) converter, not a plain adapter.
- ❑ DVI and HDMI are both digital, so DVI-to-HDMI is usually a simple, inexpensive passive adapter.
- ❑ Direction can matter: an adapter made to go one way may not work the other, so match it to your exact setup.
- ❑ Sometimes the kind choice is to retire a dim, small, low-resolution old screen rather than nurse it along.

✓ One idea to hold onto

The big question is always the same: are both ends digital, or is one of them analog VGA? All-digital means a cheap passive adapter. Analog-to-digital means a powered, active converter.

First, know what you're looking at

Everything here starts with spotting which plugs you have. They're easy to tell apart once you know the shapes.

- **VGA:** an older plug, often colored blue, shaped like a squashed trapezoid, with three rows of little pins and a screw on each side. Carries only picture, no sound.
- **DVI:** a wider, usually white plug with a grid of square pins and, again, a screw on each side. Also picture only.
- **HDMI:** a slim, flat plug a bit like a wide USB, found on most new computers and TVs. Carries picture and sound.
- **DisplayPort:** a flat plug with one clipped corner, common on newer computers and monitors. Picture and sound.
- **USB-C:** a small, oval plug that fits either way up. On many new laptops this one plug can carry picture too.

✓ When in doubt, take a photo

You don't have to memorize these. Snap a clear photo of the plug on your old screen's cable and the sockets on your new computer, and text them to me. Naming the plugs is half the battle, and I'm glad to do that half.

The one idea that explains it all

This is the key, so let's take it gently. It's the difference between an old way and a new way of sending a picture.

VGA is analog. Think of it like an old record player — the picture is sent as a smoothly changing signal. It was the standard for decades, and it's why a VGA plug is so common on older screens.

HDMI, DisplayPort, and USB-C are digital. Think of them like a music file — the picture is sent as a stream of numbers. DVI is digital too. Nearly everything made in recent years speaks this digital language.

Here's why it matters: a plain adapter just rearranges the pins; it can't translate between the analog and the digital languages. Going from digital (your new computer) to analog VGA (your old screen) needs a device that actually converts one into the other — and that takes a little power.

✓ **Passive rearranges; active translates**

A passive adapter is like a travel plug that just changes the shape of the prongs. An active converter is like a translator who turns one language into another. Analog and digital need a translator.

Active converters vs. passive adapters

This is the distinction that decides whether your setup works. It's worth being sure which one you need.

A **passive adapter** is a simple, cheap plug or short cable that just connects two compatible digital standards. It does no translating, needs no power, and works when both ends already speak digital — like DVI to HDMI.

An **active converter** has a little chip inside that genuinely translates the signal from one kind to another. It's needed whenever you cross between analog and digital — for example, a new digital computer out to an old VGA screen. It often draws a tiny bit of power, sometimes from the port itself and sometimes from a small USB lead.

! A cheap passive plug won't bridge analog and digital

The classic mistake is buying a bargain passive adapter to connect a digital computer to a VGA screen, then getting a blank, black screen. Nothing is broken — it's simply the wrong tool. Crossing analog and digital needs an active (powered) converter. Read the package: it should say active, or 'converter,' and name both your exact plugs.

DVI to HDMI: usually the easy one

If your old screen has the white DVI plug, you're often in luck. This pairing is usually simple and cheap.

Because DVI and HDMI are both digital, going between them is usually just a passive adapter or a DVI-to-HDMI cable — no powered converter needed. The picture passes straight through. One thing to note: DVI carries no sound, so if your old screen has speakers, they won't get audio this way; you'd use separate speakers or the computer's own.

There's one wrinkle: there are a couple of DVI varieties, and a few older DVI plugs also carried an analog signal. For the common digital case, a simple DVI-to-HDMI adapter does the job. If yours turns out to be an unusual DVI, that's exactly the kind of thing a photo lets me sort out for you.

✓ DVI and HDMI are cousins

Both speak digital, so they bridge easily and cheaply. If your old monitor has DVI, you're usually a simple adapter away from your new computer — no powered converter, no fuss.

VGA screens: the powered-converter case

If your old screen has the blue VGA plug, you're crossing from digital to analog, so you need the right tool for the job.

Your new computer sends a digital picture out of its HDMI, DisplayPort, or USB-C socket. Your VGA screen understands only the old analog signal. To connect them, you need an active converter — say, an HDMI-to-VGA or DisplayPort-to-VGA converter — that translates digital into analog. These are inexpensive and widely sold; the key is that they're active converters, not plain adapters.

Most of these converters are powered by the computer port itself, so there's nothing extra to plug in. A few draw a little power from a small USB lead that comes attached — plug it into any USB socket if the picture won't appear. And remember VGA carries no sound, so you'll get audio from the computer or separate speakers, not the old screen.

✓ Buy the converter that names both your plugs

Look for a converter whose package names your new computer's plug on one end and VGA on the other, and says active or 'converter.' That one sentence on the box saves you the blank-screen headache.

Why direction can matter

Here's a subtlety that trips people up: an adapter built to go one way may not work the other way around.

Many converters are made to send the picture in one direction only — say, from an HDMI computer out to a VGA screen. Turn it around to try to go from a VGA source into an HDMI screen and it simply won't work, because the translating chip only works one way.

So when you shop, don't just match the plug shapes — match the direction. Decide which device is the computer (the source of the picture) and which is the screen (where the picture goes), and buy a converter made to go that way. For most folks that's new computer out to old screen, which is the common, easy-to-find direction.

! Same plugs, wrong direction, blank screen

A converter that physically fits both ends can still show nothing if it's built for the opposite direction. Always confirm it's meant to go from your computer out to your screen — not the reverse. If you're unsure, send me a photo and tell me which is which.

If your new computer only has USB-C

Many new laptops have shed the older sockets and offer only the small oval USB-C plug. You can still reach an old screen — with a care or two.

A USB-C port can send a picture out, but only if the computer supports video over that port — it isn't guaranteed by the plug shape alone. Where it does, you can get a USB-C-to-VGA active converter, or a USB-C-to-HDMI adapter feeding into a separate DVI or VGA step. For VGA, the converter still has to be active, because you're still crossing digital to analog.

This is where it pays to check your computer's abilities before buying. Our guide to ports and cables, and the guide to USB-C docks and hubs, explain what a USB-C port can and can't carry — worth a look if your new machine is USB-C only.

✓ USB-C is a shape, not a promise

The same little oval plug carries different things on different computers. Before buying a USB-C-to-VGA converter, confirm your computer can send video out that port. A photo of the laptop and its model gets me the answer.

Two ways people come to this

Connecting an old screen to a new computer comes up two ways: someone doing it for their own desk, and an adult child or helper sorting it for a parent. The plugs are the same; the approach differs a little.

If you're setting this up for yourself

You can see both plugs in front of you — that's your starting point. Name them, decide if you're crossing analog and digital, and buy the matching adapter or converter.

- Identify the old screen's plug (VGA blue trapezoid, or DVI white).
- Identify the new computer's plug (HDMI, DisplayPort, or USB-C).
- All digital means a cheap passive adapter; VGA means an active converter.
- Match the direction: computer out to screen.

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

You're sorting it for Mom or Dad, maybe from a distance, and want it to work the first time without a return trip. Photos are your best friend here.

- Have them photograph both plugs clearly, or do it on a visit.
- Work out whether it's an all-digital hop or an analog VGA crossing.
- Buy an active converter for VGA, naming both exact plugs and the direction.
- Weigh whether a dim, small old screen is even worth keeping (see the next pages).

★ Sorting a screen out for a parent?

Send me photos of both plugs and I'll tell you the exact adapter or converter to buy — active or passive, and which direction — so it works the first time. Call or text me at (330) 200-8042.

Is the old screen even worth keeping?

Before you buy anything, it's worth an honest look at the old monitor. Sometimes nursing it along isn't the kindest choice for your eyes.

An older VGA or DVI screen has served well, but age shows. Many are dim compared to a new screen, lower in resolution so text looks less crisp, and smaller than what's common today. Through a converter, a VGA screen in particular can look a touch soft, because the picture is translated from digital back to the old analog way.

None of that means you must replace it. If the old screen is bright and clear enough for what you do and you're comfortable at it, a few-dollar adapter is a fine, thrifty choice. But if you find yourself squinting at a dim, small, fuzzy picture, the money for an adapter might be better put toward a modern screen that's far kinder to your eyes.

✓ Thrifty is good; squinting is not

Reusing a good old screen is sensible and green. But if it's dim, small, or blurry, no adapter will fix that — and your eyes deserve better. Weigh the adapter against a modest new screen.

Signs it's time to retire the old screen

A few honest signs tell you the adapter isn't the answer — a new screen is. No shame in it; screens don't last forever.

- **It's noticeably dim**, even turned all the way up, so you strain to read it.
- **The text looks fuzzy or small**, and can't be made both large and crisp.
- **The colors have faded** or shifted, or there are dark patches or flicker.
- **It's too small** for comfortable reading at a sensible distance.
- **It needs an awkward, pricey converter** that costs a real fraction of a simple new screen.

If several of these ring true, a modest modern screen will plug straight into your new computer — often with no adapter at all — and be brighter, sharper, and easier on your eyes. Our guide to choosing a monitor for aging eyes walks through picking one without overspending.

★ I'll give you the honest answer

Since I sell no screens and earn no commission, I've no reason to push you either way. Tell me about the old screen and what you do on it, and I'll tell you honestly whether an adapter or a new screen is the better buy. Call (330) 200-8042.

Buying the right adapter, step by step

Once you've decided to connect the old screen, a short, careful shop gets you the right part the first time.

- **1. Name both plugs.** Old screen's end (VGA or DVI) and new computer's end (HDMI, DisplayPort, or USB-C).
- **2. Decide passive or active.** All digital (like DVI to HDMI) means passive; any VGA means an active converter.
- **3. Match the direction.** Computer out to screen — buy one made to go that way.
- **4. Read the package.** It should name both your exact plugs and, for VGA, say active or 'converter.'
- **5. Keep the receipt.** So you can return it painlessly if the picture doesn't appear.

✓ Photograph the plugs and the package

A photo of both your plugs, and of the adapter package before you buy, lets me confirm it's the right one. Two minutes of checking beats a return trip and a blank screen.

Plugging it in and getting a picture

With the right adapter in hand, connecting is quick. Here's the calm order, and what to try if the screen stays dark.

- **1. Power both off** or at least have the screen on and set to the right input before you connect.
- **2. Connect the adapter** to the computer, then the old screen's cable to the adapter. Snug the little side screws on VGA and DVI.
- **3. Plug in the power lead** if the converter has a small USB tail — some need it to wake up.
- **4. Turn on and wait** a moment; the computer should find the screen.
- **5. If it's blank**, check the screen's input setting, reseal the plugs, and make sure an active converter has its power lead connected.

★ Blank screen? That's a two-minute call

Nine times in ten a blank screen is the wrong adapter, a loose plug, the wrong input, or an active converter missing its power. I can often sort it right on the phone or your screen for \$49. Call (330) 200-8042.

Common mistakes people make

A few predictable slip-ups cause almost every blank screen. Now you'll dodge them.

- **A passive adapter for VGA**, expecting it to bridge digital and analog — it can't; you need an active converter.
- **The wrong direction**, buying a converter built to go the opposite way.
- **Forgetting the power lead** on an active converter that needs it.
- **The wrong input selected** on the old screen, so it shows nothing though the cable's fine.
- **Nursing a dim, fuzzy old screen** with a pricey converter when a new screen would cost little more.

! The blank screen that isn't a fault

A black screen after plugging in is almost never a broken adapter or computer. It's usually the wrong type (passive where you needed active), the wrong direction, a missing power lead, or the wrong input. Work through those four before you return anything.

What about sound, and two screens?

A couple of practical extras that come up once the picture's working.

Neither VGA nor DVI carries sound, so when you connect an old screen this way, the picture comes over the adapter but the audio does not. That's fine — you'll hear sound from the computer's own speakers or a separate set of speakers, just as before. It's only worth mentioning so a silent old monitor doesn't surprise you.

If you want the old screen alongside a newer one as a second display, that's often possible, but it depends on your computer's abilities, not just the adapter. Our ports-and-cables guide and the USB-C docks guide cover how many screens a given computer can drive.

✓ Silence is normal, not a fault

If the picture works but the old screen is silent, nothing's wrong — VGA and DVI simply don't carry sound. Use the computer's speakers or your own, and you're all set.

Getting the best picture from an old screen

If you do keep the old screen, a few settings help it look its best through an adapter.

With a VGA screen especially, the picture is translated to the old analog way, so it can look a little soft. Many VGA monitors have an 'auto-adjust' button that sharpens and centers the image — press it once the computer is showing a picture, and it often tidies things up noticeably.

Let the computer pick its best resolution for the old screen rather than forcing a setting. If text looks small, turn up the text size in the computer's settings rather than lowering the resolution, which only makes things blurrier. Our guide to choosing a monitor for aging eyes explains that in more depth.

✓ Try the auto-adjust button

On a VGA screen, that little 'auto' button is the quickest win — it re-centers and sharpens the analog picture in a second. Look for it among the screen's own buttons.

Questions to ask before you buy

A few plain questions get you the right part and save a return trip.

Q: Is either end VGA?

If yes, you're crossing analog and digital, so you need an active (powered) converter, not a plain passive adapter. If both ends are digital, a passive adapter will do.

Q: Which way does the picture travel?

From the computer out to the screen. Buy a converter built for that direction; one made for the reverse won't work even if it fits.

Q: Does the converter need its own power?

Some active converters draw power from the port; others have a small USB lead you must plug in. Check, so you're not left with a blank screen.

Q: Is this old screen worth connecting at all?

If it's dim, small, or fuzzy, weigh the adapter's cost against a modest new screen that plugs straight in and is kinder to your eyes.

✓ There's no silly question

Plugs and adapters are confusing by design — there's nothing foolish about asking which one you need. A photo and a plain question get you a plain answer every time.

Making the most of good old gear

Reusing a sound old screen is thrifty and kind to the planet. A few thoughts on doing it well.

If your old monitor is still bright and clear, there's real sense in keeping it going with a simple adapter — it saves money and keeps a working screen out of the landfill. Many a good VGA or DVI monitor has years left in it for everyday reading and email.

Just go in with eyes open: buy the right converter, expect a VGA picture to be a touch softer than a modern screen, and accept that there's no sound over the old cable. Judged fairly, a good old screen on the right adapter can serve you happily for a long while yet.

✓ Keep the old adapter with the screen

If you connect an old screen, tape the right adapter to its cable or stand so the two stay together. Next time you move or reconnect it, you won't be hunting for the right part.

Living with the connection over time

Once it's working, a little care keeps an adapted old screen steady for the long haul.

- **Snug the side screws** on VGA and DVI plugs; a loose one can make the picture flicker or drop.
- **Don't yank the adapter** by its cable; support the converter so it doesn't hang on the port.
- **Keep an active converter cool**; like any little powered device, it shouldn't be buried where heat builds.
- **Revisit the question** now and then — if the old screen is fading, a new one may finally be the better choice.

✓ A flicker is usually a loose plug

If an adapted screen starts flickering or dropping out, the first suspect is a loose connection — tighten the little screws and reseal the adapter before you assume anything's failed.

Common Questions

The questions I hear most from folks connecting an old screen to a new computer, answered plainly.

Q: Why is my screen blank after I plugged in the adapter?

Usually the adapter's the wrong type or direction. For a VGA screen you need an active (powered) converter, not a passive plug, going from the computer out to the screen. Also check the screen's input setting and any power lead on the converter.

Q: Can't I just use a cheap plug adapter for my VGA monitor?

No. VGA is analog and your new computer is digital, and a plain passive plug can't translate between them. You need an active converter. For an all-digital pairing like DVI to HDMI, a cheap passive adapter is fine.

Q: Why is there no sound from my old monitor?

VGA and DVI don't carry sound — only the picture. That's normal. Use the computer's own speakers or a separate set; the old screen was never going to get audio over those cables.

Q: Should I bother, or just buy a new screen?

If the old screen is bright and clear, an adapter is a thrifty, sensible choice. If it's dim, small, or fuzzy, a modest new screen plugs straight in and is far kinder to your eyes — sometimes that's the better buy.

★ Not sure which adapter — or whether to bother?

Send me a photo of both plugs and tell me about the old screen, and I'll give you an honest answer: the exact part to buy, or whether a new screen is the smarter spend. Call or text me at (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 connecting an old monitor to a new computer 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.

★ Bill's Home Tech — real help, close to home

Call or text me at (330) 200-8042, or visit BillsHomeTech.com. Serving Atwater and all of Portage County. 30+ years of patient, plain-English tech help — and if you're ever not 100% happy with a visit, I'll make it right or refund it. That's a promise. — Bill

Know Your Plugs

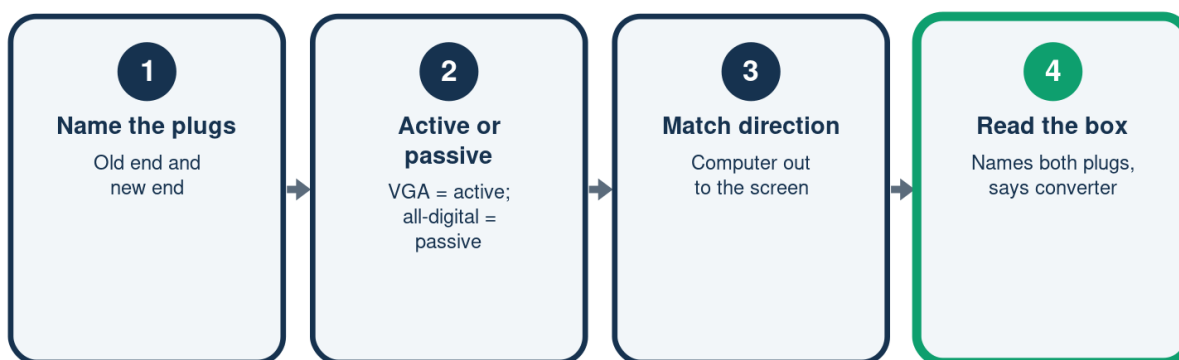
Old-style and new-style connections

	How to spot it	Old or new
VGA	Blue, pins	Old (analog)
DVI	White, wide	Old (digital)
HDMI	Slim, flat	New (digital)
USB-C	Small oval	New (digital)

VGA is the analog one; the rest are digital -- that's the key.

Picking the Right Adapter

Four calm steps to the right part



Any VGA in the mix means a powered, active converter -- not a plug.

Active Converter or Passive Adapter?

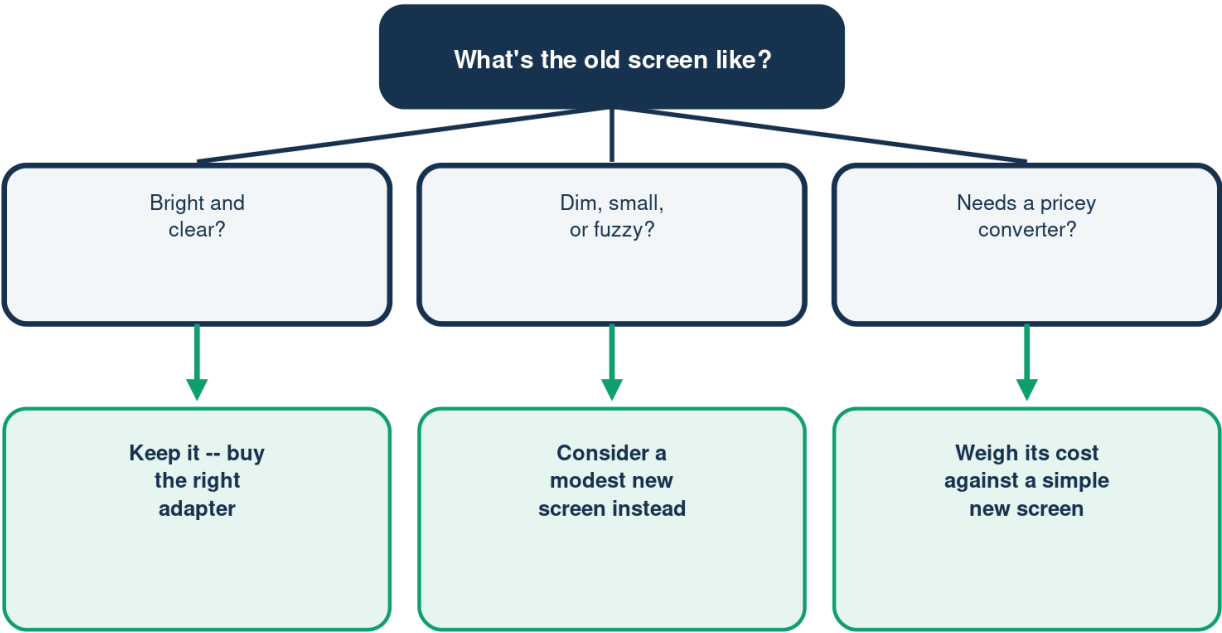
Which one your setup needs

	What it does	Use it for
Passive	Rearranges pins	DVI to HDMI
Active	Translates signal	Any VGA link
The test	Crossing analog?	Then go active

Passive rearranges; active translates. Analog-to-digital needs active.

Adapter, or a New Screen?

An honest look before you buy



No adapter can fix a dim or blurry old screen -- your eyes deserve better.

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



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Prefer help without a visit?

Bill can screen-share and fix many things remotely — a flat \$49, free for Support Plan members.



A Note From Bill

A quick note from Bill.

I write these guides to make home tech a little less frustrating, and I do my best to keep every step accurate and up to date. Still, every home, device, and setup is a bit different, so I can't promise a guide will match yours exactly or fix your particular problem. These guides are for general information only — they're not professional, legal, or financial advice, and they don't replace your device's own manual or the manufacturer's instructions. Please go slow, use your own good judgment, and use everything here at your own risk. If a step involves electrical wiring, a gas appliance, a water heater, plumbing, or climbing a ladder — or if anything just doesn't feel safe — please stop and call a licensed professional (or give me a call at 330-200-8042). Bill's Home Tech and Bill Davis can't be responsible for any damage, data loss, or injury that comes from using these guides. Thanks for reading, and stay safe out there.

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