



An Extended Guide · No. 1983

Travel Adapters & Voltage — Charging Your Devices Abroad

Plug shapes, when you need a
converter, and what to pack

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Let's get you charged up overseas

If you're planning a trip abroad and you're a little worried about whether your phone, your tablet, and your other gadgets will charge safely on the other side — you are asking exactly the right question, and you're in good hands.

I'm Bill, and I run Bill's Home Tech here in Portage County, Ohio. For 30-plus years I've helped folks get comfortable with their gear, in plain language and at a calm pace. Travel charging sounds complicated, but it really comes down to two simple ideas, and once they click, you'll pack with confidence.

Here's the whole thing in a nutshell: the plug on the wall is a different shape in other countries, and the electricity itself can be a different strength. Most of your everyday gadgets handle the different strength on their own — they just need a little piece to fit the new plug shape. A few bigger items do not, and those are the ones to be careful with. We'll sort out which is which.

★ You don't have to figure this out alone

Before any big trip, bring me your devices and their chargers and I'll read the fine print with you, tell you exactly what you need, and send you off sure of yourself. Call or text (330) 200-8042 — happy to help, no charge for a quick question.

The whole guide, on one page

If you remember only these things, you'll charge safely almost anywhere in the world.

- ❑ Two different things change overseas: the **plug shape** and the **voltage** (the strength of the electricity).
- ❑ A plug **adapter** only changes the shape so your plug fits the wall. It does NOT change the electricity.
- ❑ A voltage **converter** actually changes the strength of the electricity to match your device.
- ❑ Most phone, tablet, and laptop chargers are **dual-voltage** — they handle both strengths by themselves and need only a plug adapter.
- ❑ Check the device's **input** line. If it reads a range like 100-240V, you only need a plug adapter.
- ❑ A high-wattage appliance built for one country — like a hair dryer — can be damaged or start a fire on another country's voltage without a proper converter.

✓ The one habit that keeps you safe

Before you pack any gadget, turn it over or look at its charging block and read the little line that starts with the word **Input**. That tiny line tells you whether you need just an adapter, or a converter too. We'll show you where to find it.

Two different things change when you travel

Almost all the confusion about travel charging comes from mixing up two separate things. Let's pull them apart, because they really are separate.

The first thing that changes is the **plug shape** — the physical prongs that go into the wall. Different parts of the world settled on different shapes over the years, so the plug that fits your wall at home simply won't fit the wall in a hotel overseas. That's a shape problem, and it's easily solved.

The second thing that changes is the **voltage** — how strong the electricity is. Think of it like water pressure in a pipe. Here in the United States the wall supplies roughly 120 volts. Much of the rest of the world, including most of Europe, supplies roughly 230 volts — nearly double the pressure. That's an electricity problem, and it matters more.

✓ Keep these two straight and you've got it

Shape is about whether your plug physically fits. Voltage is about whether the electricity is the right strength once it does fit. The next few pages deal with each one in turn.

Why the wall plug is a different shape

Let's take the easy problem first — the one that's just about shape and can't hurt anything.

Around the world, wall outlets come in a handful of different shapes. Some have two round pins, some have three, some have flat blades at angles. There isn't one you need to memorize — the point is simply that your familiar flat American prongs won't slide into most foreign outlets.

The fix is a small, inexpensive piece called a **plug adapter**, sometimes called a travel adapter. You plug your charger into one end of it, and its other end fits the foreign wall. It's a shape translator and nothing more. We'll talk about which kind to buy a little later.

✓ Shape problems can't damage your gadget

Getting the plug shape wrong just means your plug won't fit — it's a nuisance, not a danger. It's the voltage, coming up next, that can actually harm a device. So don't lose sleep over plug shapes; a universal adapter covers nearly all of them.

A plug adapter and a voltage converter are not the same

This is the single most important page in the guide. Mix these two up and you can ruin a device or, worse, start a fire — so let's be very clear.

A **plug adapter** only changes the shape of the plug so it fits a foreign wall. The electricity flows straight through it, completely unchanged. If the wall is 230 volts, 230 volts comes out the other side.

A **voltage converter** (sometimes called a transformer) is a different, usually heavier device that actually changes the strength of the electricity — for example, stepping that 230 volts down to roughly 120 volts so a device built only for American power can run safely.

! Know which one your device needs before you plug in

A plug ADAPTER only changes the plug shape — it does not touch the electricity. A voltage CONVERTER actually changes the electricity's strength. Most phone and laptop chargers are dual-voltage and need only an adapter. But a high-wattage appliance made for one country's voltage — a hair dryer, a curling iron, a travel kettle — can be damaged or even catch fire on another country's voltage without a proper converter. When in doubt, read the device's Input line, which we cover next.

Read the 'Input' line — it tells you everything

Here's the good news: your device will tell you itself whether it can handle foreign voltage. You just have to find the little line and read it.

On the charging block, the power brick, or the underside of the device, look for small print. One line will start with the word **Input**. That is the line that matters. It tells you what range of electricity the device is built to accept.

If the Input line shows a range like **100-240V** (you may also see '50/60Hz' nearby), the device is **dual-voltage** — it happily handles both American and overseas electricity, and all you need is a plug adapter. If instead it shows only a single narrow figure, such as '120V' alone, that device is built for American power only, and overseas it needs a voltage converter — or should stay home.

✓ Can't read the tiny print?

That little line is genuinely hard on the eyes. Use your phone's camera to snap a photo and pinch to zoom in, or bring the charger to me and we'll read it together. I cover reading a charger's fine print in detail in our guide on a charger's labels and ratings.

The good news: most of your gadgets already cope

Before you worry too much, here's a comfort: the devices most people travel with are built to handle the whole world's electricity.

Phone chargers, tablet chargers, and the power bricks for most laptops are almost always **dual-voltage**. Their makers know people travel, so they build the charger to accept anything from roughly 100 to 240 volts. You'll see that 100-240V range printed right on the Input line. For these, a simple plug adapter is all you need — no converter, no worry.

The same is usually true of camera battery chargers, electric toothbrush chargers, and most small rechargeable gadgets. The rule of thumb is that anything that charges a battery through a little block is probably dual-voltage — but always confirm by reading the Input line, because 'probably' isn't 'certainly.'

★ A two-minute check saves a ruined device

Gather every charger you plan to pack and read each Input line before the trip. It takes a couple of minutes and settles the whole question. If you'd like a second pair of eyes, that's a perfect quick visit — call (330) 200-8042.

The gadgets that can actually get you in trouble

A small number of items are the real hazard overseas. They're the ones that make heat or a strong motor, and they're built for one country's voltage only.

The usual culprits are **high-wattage appliances**: hair dryers, curling and flat irons, travel steamers, small kettles, and the like. These draw a lot of power and are often built for American voltage alone. Plug an American-only hair dryer into a 230-volt European outlet with just a plug adapter, and you've sent nearly double the electricity it expects into it.

The result can be an instantly ruined appliance, a burning smell, sparks, or even a fire. A plug adapter does nothing to prevent this, because it doesn't change the electricity at all — the plug fit the wall, but the voltage was wrong. This is why the adapter-versus-converter difference isn't a technicality; it's a safety matter.

! Heat-making appliances are the ones to watch

If an appliance makes heat or runs a strong motor and its label shows only a single voltage like '120V,' do not run it abroad on a plug adapter alone. Either leave it home and use the hotel's, buy an inexpensive dual-voltage travel version, or use a proper voltage converter rated for its wattage. Guessing here can start a fire.

Two kinds of households, two sets of needs

What you need to pack depends a lot on what you're bringing. The ideas are the same, but the shopping list is different.

If you're just charging phones, tablets, and laptops

You're traveling light with the everyday electronics nearly everyone carries. The happy truth is these are almost all dual-voltage, so your needs are simple and cheap.

- Confirm each charger's Input line reads a range like 100-240V.
- Pack one good universal plug adapter — that's usually all you need.
- A small power strip from home lets one adapter charge several devices.
- Bring your own known-good charging cables; see our guide to telling cables apart.

If you're bringing a high-wattage appliance like a hair dryer

You want your own hair dryer, curling iron, or travel kettle along. Now voltage matters, and a plug adapter alone is not enough — this needs real thought before you pack.

- Read the appliance's label: a single '120V' means American-only.
- An American-only heat appliance needs a proper voltage converter, not just an adapter.
- Easier and safer: buy an inexpensive dual-voltage travel model instead.
- Easiest of all: use the hotel's hair dryer and leave yours home.

★ Not sure which of your things are safe to bring?

This is a great quick job before a trip. Lay out everything you want to pack and I'll read each label with you, flag anything risky, and tell you exactly what adapter or converter to buy — so nothing gets ruined far from home. Call (330) 200-8042.

Choosing a plug adapter you'll actually trust

You don't need anything fancy, but a few features make a travel adapter far more useful. Here's what to look for.

A **universal travel adapter** is the sensible choice for most people. It handles the plug shapes used across most of the world in one small unit, so you're covered whether you're headed to Europe, Britain, Asia, or beyond. One good one beats a drawer full of single-country pieces.

Look for one with a couple of USB ports built in — those let you charge a phone or tablet straight from the adapter without even using your wall block. A sturdy build and a snug fit matter; a loose, flimsy adapter that wobbles out of the wall is a daily frustration and sometimes a hazard.

! An adapter is still only an adapter

Even a top-of-the-line universal travel adapter, and even one with USB ports, still only changes the plug shape. It does not change the voltage. A hair dryer plugged into its outlet socket is getting the wall's full foreign voltage. Never let a nice adapter lull you into skipping the converter question for a heat appliance.

When you genuinely need a voltage converter

Converters are heavier, costlier, and fussier than adapters, so you only want one when you truly need it. Here's how to decide and choose.

You need a converter when you want to use an appliance that is built for a single voltage — usually American 120-volt only — in a country with a different voltage. The converter steps the foreign electricity down to the strength your appliance expects. Crucially, it must be rated to handle the appliance's wattage; a high-heat item like a hair dryer needs a high-capacity converter, and a small one will be overwhelmed.

Honestly, for most travelers a converter is more trouble than it's worth. It's heavy in a suitcase, and for a hair dryer or kettle it's almost always simpler to buy a dual-voltage travel version that needs only a plug adapter. Save the converter for a cherished appliance you truly can't replace.

✓ Match the converter to the wattage

If you do buy a converter, make sure its rating comfortably exceeds the wattage printed on your appliance. A converter that's too small for a high-heat device can overheat. When the numbers confuse you, bring the appliance and the converter box to me and we'll check them together.

A simple travel-charging packing list

Here's the short, sensible kit that covers almost every traveler. Lay it out on the bed a day before you pack and check it off.

- **One universal plug adapter** — ideally with a USB port or two built in.
- **Your phone and tablet chargers** — confirmed dual-voltage by their Input line.
- **Your laptop charger** — also confirmed dual-voltage (nearly all are).
- **Your own charging cables** — the ones you know work, kept with their devices.
- **A small power bank** for long travel days, charged before you leave.
- **A converter ONLY** if you're bringing a single-voltage appliance you can't replace.

✓ Keep the charging kit in one pouch

Put all of it in a single zip pouch in your carry-on — never in a checked bag, where loose lithium batteries and power banks aren't allowed anyway. One pouch means you're never digging through a suitcase at a foreign outlet at midnight.

A calm checklist for the week before you go

A few minutes of preparation at home beats any amount of worry at a hotel desk. Here's what I'd do in the days before a trip.

First, gather every charger and appliance you plan to bring and read each Input line. Sort them into two piles: dual-voltage (the 100-240V crowd, which only need a plug adapter) and single-voltage (which need a converter or should stay home). That one sorting tells you your whole shopping list.

Second, buy your universal adapter ahead of time and actually test it with your charger at home, so you know it fits snugly and your phone charges through it. Don't wait until you're abroad to discover a wobbly or faulty adapter. Charge your power bank fully the night before as well.

★ I'll run the checklist with you

If a trip is coming up and you'd feel better having someone double-check your charging kit, that's exactly the kind of quick, reassuring visit I love to do. We'll have you packed and certain in half an hour. Call or text (330) 200-8042.

Plugging in once you've arrived

You've landed, you're tired, and you want your phone charging. Here's how to do it calmly and safely in the room.

Find the wall outlet — often near the desk or beside the bed. Fit your universal adapter to the wall first, make sure it's seated snugly, then plug your charger into the adapter. If your adapter has USB ports, you can skip the wall block entirely for a phone or tablet. Give it a moment and check that the device shows it's charging.

Many hotels provide a hair dryer in the bathroom and sometimes an in-mirror shaver outlet. Using the hotel's hair dryer is the easy, safe way to avoid the whole converter question. If you spot an outlet labeled 'for shavers only,' don't use it for anything else — it's a special low-power outlet, not a general one.

✓ If nothing charges, don't panic

A device that won't charge abroad is usually a loose adapter, a tripped socket switch (common in Britain — there's a little switch by the outlet), or a tired cable. Reseat the adapter, flip any nearby switch to on, and try a cable you trust before assuming anything is broken.

The travel-charging mix-ups I see most

Nearly all travel-charging trouble comes from a few honest mistakes. Know them in advance and you'll sail right past them.

- **Thinking an adapter changes the voltage:** it never does — it only changes the plug shape.
- **Running an American hair dryer abroad on just an adapter:** the classic way to fry an appliance or start a fire.
- **Skipping the Input line:** the label answers the whole question, so always read it before you pack.
- **Buying a converter you don't need:** most gadgets are dual-voltage, so a converter is often dead weight.
- **Using a shaver-only outlet for a charger:** it's a special low-power socket, not a general outlet.

! The hair-dryer mistake is the dangerous one

Of all these, running a single-voltage heat appliance on just a plug adapter is the one that actually causes harm — ruined appliances, burning smells, and fire risk. If you remember one warning from this whole guide, make it that one.

A couple of fine points, explained simply

You may run into two other bits of fine print. Neither is usually a problem, but it's nice to know what they mean.

You might see **50Hz or 60Hz** near the voltage on a label. That's the frequency — how fast the electricity alternates. America uses 60Hz, much of the world uses 50Hz. For your chargers and most gadgets it makes no difference, which is why their labels often say '50/60Hz.' It only matters for a few things with motors or clocks, and most travelers never need to think about it.

You may also hear people worry about damaging a phone by charging it overseas. For a dual-voltage charger — which nearly every phone charger is — there's nothing to fear; it's built for exactly this. The phone sees the same clean power it always does, because the charger has handled the difference.

✓ When the fine print gets confusing

If a label leaves you unsure, that's a perfectly normal place to ask for help rather than guess. Snap a clear photo of the label and text it to me, or bring the item by, and I'll tell you plainly whether it's safe to travel with.

Keeping a whole family's devices charged

If you're traveling with a partner, grandkids, or a bag full of gadgets, one wall outlet and one adapter can quickly feel like not enough. Here's the simple fix.

Bring a small **power strip** or a multi-port USB charger from home. You plug the single power strip into your one universal adapter, and now several devices charge from that one foreign outlet at once. Since your home power strip's own block is almost certainly dual-voltage, this works beautifully and saves you buying several adapters.

A multi-port USB charger is even tidier for phones and tablets — one small block with several USB ports, fed through your adapter, charges the whole family's handhelds overnight. I go deeper on picking one of those in our multi-port charger guide.

✓ One adapter, many devices

This little trick — adapter into power strip, everything into the strip — is the single most useful travel-charging tip I give. It turns one outlet into a charging station and means you only ever need one good adapter per room.

Power banks, batteries, and air travel

A charged power bank is a traveler's best friend on a long day out. There are just a couple of simple rules for flying with one.

A **power bank** is a rechargeable battery you charge up ahead of time and then use to top off your phone when you're away from an outlet. For sightseeing days, a long flight, or a train with no working socket, it's invaluable. Charge it fully the night before you travel.

The flying rule is straightforward: power banks and spare lithium batteries must go in your **carry-on bag, never in checked luggage**. That's an airline safety rule because of the small fire risk from a damaged lithium battery. Keep them in your carry-on, keep them from being crushed, and you're following the rule.

! Watch for a swollen or damaged battery

If a power bank ever looks puffy or swollen, feels hot, or has a split case, stop using it and don't fly with it — a damaged lithium battery is a fire risk. Our guide on a swollen battery explains exactly how to handle and recycle one safely.

Your quick reference, start to finish

The short version you can lean on whenever a trip has you wondering about charging.

- ❑ Two things change abroad: plug shape and voltage.
- ❑ A plug adapter changes only the shape — never the electricity.
- ❑ A voltage converter changes the strength of the electricity.
- ❑ Read the Input line: a range like 100-240V means adapter only.
- ❑ A single figure like 120V means American-only — converter or stay home.
- ❑ Phones, tablets, and laptops are nearly always adapter-only.
- ❑ Hair dryers and heat appliances are the ones that need real care.

★ Keep this guide with your travel documents

You don't have to carry any of this in your head. Tuck these pages in with your passport, and when in doubt before a trip, I'm a phone call away at (330) 200-8042.

Traveling with easy confidence

Let's end the how-to part with the reassurance you deserve: this is a solved problem, and you're now on top of it.

Millions of people travel the world every year and charge their phones without a second thought, because the gadgets we carry are built for it. Once you've read your Input lines, packed one good adapter, and thought twice about any heat appliance, there's genuinely nothing left to worry about. The mystery was only ever the adapter-versus-converter question, and now you've got it.

If something does act up overseas, it's almost always small — a loose adapter, an off switch by the socket, or a tired cable — not a disaster. Breathe, work through it calmly the way we would at your kitchen table, and you'll have your devices charging in a moment.

✓ Confidence travels well

The best thing you can pack is the calm knowledge that you understand your own gear. You've earned that on these pages. Enjoy the trip — your devices will keep right up with you.

Common Questions

The questions I hear most about charging devices abroad, answered plainly.

Q: Do I need an adapter, a converter, or both?

For a phone, tablet, or laptop charger, almost always just a plug adapter — these are dual-voltage. For a single-voltage appliance like an American hair dryer, you'd need a voltage converter too, or better, a dual-voltage travel version. Read the Input line to be sure.

Q: How do I know if my charger is dual-voltage?

Find the small print on the charging block and read the line that starts with 'Input.' If it shows a range like 100-240V, it's dual-voltage and needs only a plug adapter. If it shows a single figure like 120V, it's built for American power only.

Q: Can I use my hair dryer from home overseas?

Only safely if its label shows a dual-voltage range like 100-240V. If it shows only 120V, running it abroad on just a plug adapter can ruin it or start a fire. Use the hotel's dryer, buy a dual-voltage travel model, or use a proper converter rated for its wattage.

Q: Will charging my phone abroad damage it?

No, not with its normal dual-voltage charger, which is what nearly every phone charger is. The charger is built to accept foreign voltage and hand the phone the same clean power it always gets. You only need a plug adapter to fit the wall.

Q: What's the one adapter I should buy?

A single good universal travel adapter, ideally with a USB port or two built in. It handles the plug shapes used across most of the world, so it covers nearly any destination and saves you buying one per country.

★ Got a trip coming up?

Checking a traveler's charging kit is one of my favorite quick visits — ten minutes of reading labels and you leave sure of yourself. Call or text (330) 200-8042 and we'll get you packed right.

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 charging your devices abroad 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. I don't do licensed electrical, gas, or appliance-repair work myself — for that I'll help you line up a trustworthy local pro.

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Adapter or Converter?

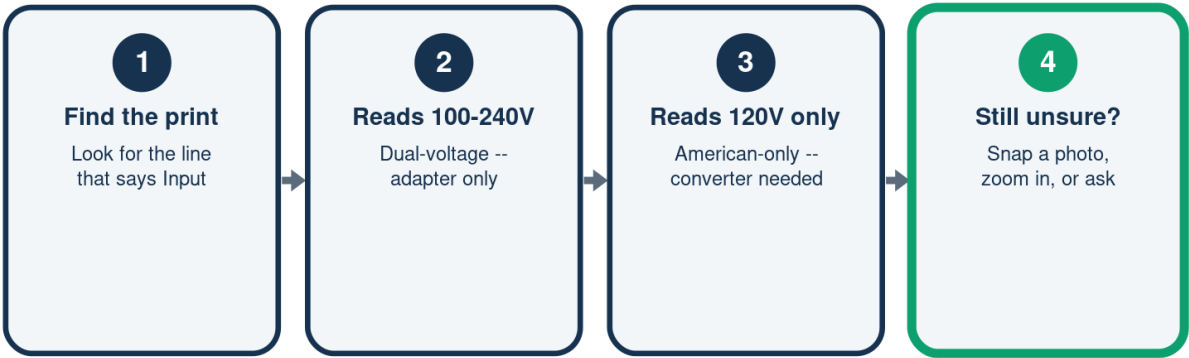
The one distinction that keeps your gadgets safe

	Plug adapter	Voltage converter
Changes	Plug shape only	The electricity
Voltage	Passes through	Steps it down
Size	Small, light	Heavy, bulky
For	Phones, laptops	Heat appliances

An adapter never changes the voltage -- read the Input line.

Read the Label, Pack Right

A quick way to know what each device needs



The Input line answers the whole question before you pack.

What Needs Care Abroad?

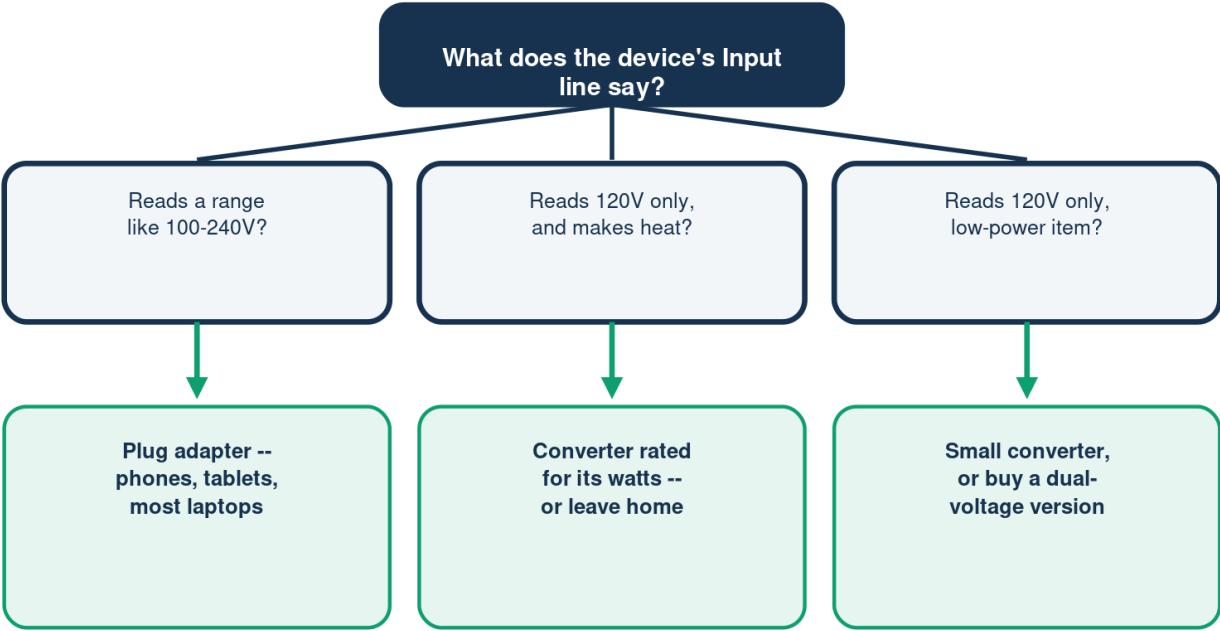
Most gadgets are fine -- a few are not

	Usually fine	Needs real care
Examples	Phone, tablet	Hair dryer, iron
Why	Dual-voltage	Single-voltage
Makes heat?	No	Yes, high watts
You need	Plug adapter	Converter or swap

Heat-making, single-voltage items are the real hazard.

What Do I Need to Pack?

Start with the device's Input line



A plug adapter alone never fixes a single-voltage appliance.

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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