A detailed Practical Guide to running JS8Call on 27 MHz

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This tutorial focuses on a **basic, practical workflow** (receive → call → reply → QSO), while also covering these key settings: **AUTO replies**, **HB ACK**, and **decoding / speed options**, plus the most-used **27 MHz calling frequency (27.245 MHz USB)**.

> **Legal / regulatory note (important):** JS8Call is primarily an amateur-radio application. 11 m / 27 MHz usage rules vary by country and may restrict digital modes and/or equipment. This guide is technical; please ensure your operation is lawful where you are. The JS8Call-improved maintainers explicitly note 11 m isn't included by default partly because legality isn't worldwide, and recommend adding frequencies yourself where it is allowed.

1) The 27 MHz JS8Call frequency and what "27.245 USB" really means

The commonly used 11 m JS8 "watering hole"

A widely cited starting point for JS8 on 11 m is:

- **27.245 MHz USB**

You may also encounter operators slightly off-frequency depending on rigs, clarifiers, or local habits, but as a general "rule" operators will stay closer to 27.245 as possible.

Dial frequency vs. audio offset (General digimode hint)

JS8Call works like WSJT-X-style modes:

- You set the **radio "dial" frequency** (e.g., **27.245 MHz USB**).
- In JS8Call you transmit at an **audio offset** within the SSB passband (shown on the waterfall).
- Your *actual* transmitted RF is effectively **dial frequency + your audio offset**.

Practical takeaway: everyone can share the same dial frequency (27.245 USB) while spreading out across different audio offsets to avoid collisions.

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2) Hardware needed and good practices for clean audio

Radio settings

- **Mode: USB**
- **Power: respect your local rule but if you have no power limit a 25% / 40% of the total output power of the rig is recommended**

Audio interface

Use either a dedicated digital interface (best: isolation, stable levels), or A simple PC sound card line-in/line-out into the radio “DATA/ACC” or mic path, you have to search your own information for this topic due to the different RIGs.

PTT / CAT control (optional but recommended)

- CAT can set frequency and key PTT.
- Otherwise VOX can work, but it’s easier to get accidental TX.

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3) Installation essentials: the 3 things that cause 90% of “*it doesn’t decode*”

3.1 Time sync

JS8Call decoding happens in timed frames (**15-second** windows in normal speed, but we will talk about this later). If your clock is off too much, decodes fail.

- Use NTP/automatic time sync.
- If portable/offline, you can still manually align timing using the waterfall/time drift, but start with proper sync.

you’re not having timing issue simply disregard these informations but consider them for later if needed.

3.2 Audio level + AGC

For reliable decodes:

- Set **AGC fast**
- Adjust RX input so the JS8Call meter is around **30–50 dB.**

3.3 Throubleshooting

If you see signals but decode nothing:

- wrong sideband (USB vs LSB),
- wrong audio device selected,
- too much/too little RX level,
- severe audio clipping.

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4) Getting on 27.245 USB inside JS8Call

JS8Call allows you to operate on frequencies not included in the default list:

- You can **edit the frequency list in settings**, or
- You can **type directly into the band/frequency control** (top-left) to tune to what you want. (RECOMMENDED)

That matches the common real-world 11 m approach: set your rig to **27.245 MHz USB**, then use the waterfall offset to find a clear slot.

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5) Understanding the JS8Call screen (only what you need for practical ops)

You'll use these areas constantly:

- **Waterfall:** click to choose RX/TX offset; find open space.
- **Band Activity (left):** decoded traffic currently being heard.
- **Call Activity (right):** stations/callsigns heard; right-click for quick actions/messages.
- **Message / QSO window:** where conversations appear and where you type.
- **Buttons: CQ**, **HB**, **Tune**, speed/mode controls.

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6) Basic operating workflow on 27 MHz (step-by-step)

Step A — *Listen first!!*

1. Radio: **27.245 MHz USB**
2. JS8Call: confirm correct input device + waterfall movement.
3. Wait 1–2 minutes: decodes come in frame cycles.

Goal: see stations populate **Band Activity** and **Call Activity** and try to understand what's going on.

Step B — Pick a clear audio offset

- Look for an empty slot on the waterfall (no traces).
- Click there to move your RX/TX offset.
- Stay away from the extreme edges of the audio passband.

Step C — Set power correctly

JS8Call guides emphasize conservative power because duty cycle can be high across frames. A rule of thumb included in training material is: when unsure, use **at most ~40%** of your radio's rated power for "full-duty" digital-style operation.

Step D — Make a CQ call

JS8Call is **half-duplex**: if you're transmitting, you're not receiving. So don't "CQ spam".

A common procedure:

- Click **CQ**
- If no response, **wait a few cycles**, then call again.

Step E — Answer someone else's CQ

1. Click the station in **Call Activity**
2. Send a short directed reply
3. Exchange essential informations like call signs, report/SNR, optional location

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7) HB vs CQ vs a normal QSO (and why HB should be discouraged on busy 27 MHz)

What HB is for

JS8Call includes a "Heartbeat Network" concept: stations periodically "ping" and can receive acknowledgements to learn who can hear who.
This helps populate your reachable-stations view ("who is likely reachable").

HB acknowledgements are not QSOs

Even if you get ACKs after sending HB, that is **not** a real QSO and generally should not be logged as such.

Why HB clogs the frequency (especially on 27.245)

On a shared calling frequency like **27.245 USB**, frequent HB + automatic ACK behavior creates extra traffic **that doesn't advance real conversations** and can collide with normal messages.
Community training material explicitly recommends turning **HB+ACK and AUTO features OFF** before nets/traffic and sending heartbeats only occasionally.

Best-practice recommendation:

- Use **CQ** to initiate real QSOs (human-to-human).
- Use **HB sparingly** as an occasional propagation/availability check.
- Avoid "always-on" HB behavior on a busy watering hole, because it increases channel occupancy and reduces successful QSOs.

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8) Auto-replies and common directed commands (INFO?, SNR?, GRID?, HEARING, STATUS…)

JS8Call supports **directed commands** that can receive **automatic replies** when the other station has **AUTO** enabled.

AUTO mode behavior (important)

While **AUTO** is enabled:

- JS8Call can automatically respond to directed queries such as **"SNR?"**, **"INFO?"**, **"GRID?"**.
  When **AUTO** is disabled:
- JS8Call will **buffer** the replies into the message textbox so you can send them manually later.

Examples of directed commands you'll see

Some documents describing JS8Call net/ops usage mention automated replies for:

- **SNR** (signal report)
- **GRID** (grid locator)
- **STATUS**

- **HEARING** (who a station hears)

Practical etiquette on 27 MHz:
Keep AUTO replies on if you're actually participating, but be mindful that aggressive automation (especially combined with HB ACK) can create unnecessary traffic on 27.245.

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9) How to set the key parameters you asked about

9.1 AUTO replies (Enable/Disable)

- Look for **AUTO** toggle in the main UI (often visible as "AUTO" in the upper area/status controls depending on version/build). Training docs show setups where the upper-right area includes **AUTO + MULTI** when configured.
- When enabled, AUTO replies to directed queries like **INFO?/SNR?/GRID?** automatically.

Recommended "base use":

- Keep AUTO **ON** when you're actively operating and want smooth QSOs.
- Turn AUTO **OFF** when you're monitoring only or when the frequency is congested and you don't want to generate automated traffic.

9.2 HB ACK (Heartbeat acknowledgements)

Some guides describe the behavior clearly:

- If **AUTO replies** are enabled and you've enabled **Send Heartbeat Acknowledgements**, your station will **ACK** heartbeats from others.

Recommendation for 27.245:

- Consider **disabling HB ACK** most of the time on the calling frequency to reduce congestion, and only enable it when you intentionally want to participate in HB mapping / propagation testing. This aligns with "do's and don'ts" guidance about HB+ACK on busy operations.

9.3 “Decoding speed” / transmission speeds (NORMAL / FAST / TURBO) + MULTI decode

JS8Call supports multiple speeds: **NORMAL**, **FAST**, **TURBO.**

You can sta**rt a QSO** in **NORMAL** and then “upgrade” to faster speeds if conditions support it, but it is not mandatory.

MULTI decoder: On capable PCs you can enable **MULTI** to decode multiple speeds at once.

Practical recommendation on 27 MHz:

- Use **NORMAL** for initial calls and weak conditions.
- Switch to **FAST/TURBO** only when both sides decode cleanly (to shorten over-the-air time and reduce collisions).
- Enable **MULTI** if your CPU can handle it and you want to monitor mixed-speed activity.

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10) A solid “starter configuration” for 27.245 USB (low drama,

Radio

- 27.245 MHz **USB**
- AGC off/fast
- Moderate power

JS8Call

- Correct audio devices
- Time sync active
- **AUTO ON** when actively operating; otherwise OFF
- **HB ACK OFF** by default on busy calling frequency
- Speed: **NORMAL** initially; optionally enable **MULTI**

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11) Quick troubleshooting checklist

If you **hear** “digital squeals” but **no decodes**:

- Confirm USB (
- Fix time drift / sync
- Reduce RX audio if clipping; aim ~30–50 dB level
- If lots of stations are using different speeds, enable **MULTI** decode
- Try the commonly active dial area (**27.245 USB**) but also check slightly around it (some may sit a bit off)

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12) Directed “auto messages” in detail

In JS8Call you can send messages that are **addressed to a specific station**, and JS8Call supports a set of **standard query commands** that can trigger **automatic replies** when the other station has **AUTO** enabled. This is explicitly described in the JS8Call guide: with **AUTO ON**, the software will automatically respond to directed queries like **“SNR?”, “INFO?”, and “GRID?”**; with **AUTO OFF**, it buffers the reply in the send box so you can transmit it manually later.

A commonly referenced set of default query commands includes at least:

- **SNR?**
- **GRID?**
- **INFO?**
- **STATUS?**
- **HEARING?**
- **AGN?** (ask again / repeat)
- **QUERY CALL [CALLSIGN]?**

Also, in the JS8Call-improved releases notes, auto-replies to several directed commands are given high priority (including **SNR? HEARING? INFO? GRID? STATUS? QUERY MSGS QUERY CALL**), which is a clue that these are “first-class” built-in interactions.

12.2 How to use each common query

SNR? — “How well do you copy me?”

What it does: asks the other station to report the measured signal-to-noise ratio of *your* transmission as received by them.
When to use: right after you establish contact, or when changing speed/power/antenna.
On busy 27.245: use it sparingly; one SNR exchange is enough.

Typical flow

1. You call / they answer.
2. You send: THEIRCALL SNR?
3. They (AUTO) reply with something like: YOURCALL ACK -##

GRID? — “What’s your locator?”

What it does: requests the station’s grid locator if they configured it.
When to use: when you want a quick “QTH-ish” exchange without long text.

INFO? — “Send your short station info”

What it does: asks for the station’s “**INFO**” text often used for name, QTH, rig/ant, operating notes. **AUTO** will return it if enabled.
Best practice: keep your own INFO short e.g., name + general QTH + rig/ant, because long INFO blocks eat frames and collide more easily on 11m.

STATUS? — “What’s your current status?”

What it does: asks for a station’s status line (varies by config; often includes activity state, maybe grid, etc.). It’s explicitly listed among directed commands that can be auto-answered.

HEARING? — “Who are you hearing?”

What it does: asks a station to report which callsigns/stations it is currently copying/hearing.
Why it’s useful: quick propagation sanity-check (“are you only hearing locals?” vs “you’re hearing DX too”).
Why it can be noisy: outputs can be multiple callsigns → more airtime. Use it only when you need it.

AGN? — “Repeat that / again”

What it does: request a repeat. It appears in common command lists.
Tip: prefer AGN? over “please repeat” free-text because it’s short and standardized.

QUERY CALL [CALLSIGN]? — “Do you have info / have you seen this station?”

What it does: a structured query related to a specific call (exact behavior depends on implementation/version), included in standard lists and in auto-reply priority notes.

12.3 AUTO mode: when to keep it ON vs OFF

- **AUTO ON** is great when you’re actively operating and want frictionless exchanges; you’ll automatically answer **SNR?/INFO?/GRID?** etc.
- **AUTO OFF** is better if:
    - you’re only monitoring,
    - you’re on a crowded 27.245 and don’t want to generate traffic automatically,
    - you’re doing a net/structured traffic and want manual control.

Some community references also note AUTO can be enabled/disabled under the **Mode** menu (UI wording may vary by build).

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13) “Addressing” messages on the fly: selecting / deselecting a callsign (and avoiding mis-sends)

13.1 The two most common ways to direct a message

Method A — Select the callsign in Call Activity (recommended in the field)

- In the **Call Activity** pane (usually the right-hand list of stations), **click** a station to set it as your target.
- Many workflows use **right-click** on the callsign → choose a “Directed to …” action / template (Message, Query, Store Message, etc.).

This is the fastest “mouse-driven” way to avoid typing mistakes when signals are weak.

Method B: Type an addressed message manually

You can also type directly in the send box in the “CALLSIGN message” style which the exact formatting depends on your JS8Call version and settings, but for field usability I strongly recommend Method A to reduce errors.

> **Field gotcha:** There are reports of mis-sends when the outgoing text begins with something that looks like a callsign, causing the message to be interpreted as addressed to that call instead of your selected target. So avoid starting your message with a callsign-like word unless you intend it.

13.2 How to deselect / “go back to nobody” so you don’t accidentally keep calling the same station

In real use, people often forget they’re still in “directed-to-X” state and keep transmitting to the wrong station.

Practical habits:

- Before you hit TX again, glance at the UI label that indicates the current directed target
- Click an empty area / reselect your own callsign / choose a general target (depends on the menu) to clear the directed recipient.
- If you intend a general call, use **CQ** and confirm your TX message doesn’t start with an unintended callsign-like token.

Exact “clear selection” UI can vary by version/theme, but the operational principle is the same: **always verify who you’re addressing before transmitting**.

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14) Usability “in the field” on 27.245: how to operate smoothly without creating QRM

14.1 A clean, low-drama pattern for a first contact

On a busy watering hole, short messages win:

1. **CQ** (short)
2. Wait 2–3 cycles (remember: half-duplex)
3. If answered, exchange:
    - calls
    - **SNR?** once
    - optionally **GRID?** or **INFO?**

14.2 Use right-click templates instead of typing under pressure

The quick-reference sheets show a consistent “right-click on callsign in Call Activity → choose Directed to … → pick the action” workflow.
Even if you never use store-and-forward, that same UI pattern is excellent for:

- querying **SNR/INFO/GRID/HEARING/STATUS**
- sending a short directed reply
- avoiding typos when conditions are poor

14.3 Don’t let automation *run the frequency*

This ties back to your HB point:

- If you run **AUTO + HB ACK** continuously, you may generate background traffic whenever you hear others. Some community “do/don’t” material advises turning HB+ACK/AUTO features off before structured operations and using them only as needed.
  On 27.245, that’s especially relevant because it’s a shared calling spot.

Conclusion

Operating **JS8Call on 27 MHz** can be extremely effective when you keep things **simple, disciplined, and channel-friendly**—especially around the common watering hole of **27.245 MHz USB**. Start by perfecting the fundamentals: **accurate PC time**, **clean audio levels**, **USB mode**, and a **clear TX offset** on the waterfall. Use **CQ** to initiate real QSOs, keep exchanges short until you confirm copy quality, and only step up to faster speeds when the link is solid.

Remember that JS8Call’s directed commands (**SNR?**, **INFO?**, **GRID?**, **STATUS?**, **HEARING?**) are powerful tools, but they can also generate unnecessary traffic when **AUTO** is enabled. Use them with restraint, keep your own **INFO** concise, and consider disabling **AUTO** when the frequency is crowded or you’re just monitoring.

Finally, treat **HB** as a **propagation / reachability check**, not as a substitute for calling CQ or making contacts. Overuse of HB—especially with **HB ACK** enabled—can quickly **clog the channel**, reduce successful QSOs, and degrade everyone’s experience on 27.245. A clean band is a more productive band.

73 and good DX,
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