



SCAN ME

Dude's Quick Reference Manual for Yaesu FT-891 - ILLEGAL TO RESELL

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Getting Started

- Hold the [POWER] button for 1 second to turn the radio ON or OFF.
- [LOCK] prevents accidental tuning; hold to enable or disable.
- Connect a 13.8V DC power source at \geq 15A capacity.
- Antenna connects via SO-239 jack on the rear panel.
- Rear panel also includes USB (CAT/audio), EXT SPKR, and ATAS/Tuner port.

Display & Interface

- Frequency, S-meter, mode, and function status shown on main display.
- Use the MULTI knob (press + rotate) for menu interaction.
- Press [F] briefly for FUNC options; hold [F] to access full MENU.
- [A], [B], [C] keys are user-assignable: e.g., NB, PROC, ATT.
- Display settings: FUNC > DIMMER or CONTRAST to adjust screen visibility.

Band & Mode Selection

- Tap [BAND] repeatedly or press MULTI to switch between HF and 6m.
- Press [MODE] to cycle: LSB, USB, CW, AM, FM, DATA-USB.
- Modes are saved per band.
- Filters: FUNC > WIDTH and FUNC > SHIFT adjust DSP bandwidth.

- Use [IPO] (Input Protection Off) to disable preamp and lower noise floor.
- [ATT] applies RF attenuation for strong-signal environments.

VFO & Memory Operations

- [A/B] switches between VFO A and B (dual frequency storage).
- [M/V] toggles between VFO and Memory modes.
- To store a memory: tune in VFO, then FUNC > MW.
- To recall: press [M/V] and rotate MULTI.
- QMB (Quick Memory Bank): Hold [QMB] to store a temporary frequency; tap [QMB] to recall.
- FUNC > MAG: Group memory channels by band for faster recall.

Transmitting & Audio Settings

- FUNC > MIC GAIN: Set between 40–70 depending on voice and mic type.
- FUNC > PROC: Speech processor ON/OFF for more punchy SSB audio.
- FUNC > PROC LEVEL: Adjust compression strength (start at 50).
- FUNC > VOX GAIN / DELAY: Enable and tune voice-activated TX.
- FUNC > PWR: Set output power per mode (AM/SSB/FM/CW).
- FUNC > MONI: Turn on/off sidetone/monitor audio.

CW Operations

- FUNC > KEYER: Choose STRAIGHT, IAMBIC-A, IAMBIC-B.
- FUNC > CW SPEED: Set WPM rate for keyer.
- FUNC > CW WEIGHT: Adjust dot/dash ratio.
- FUNC > BK-IN: Enables semi/full break-in CW (QSK).
- FUNC > PITCH: Set sidetone pitch.
- FUNC > MESSAGE: Record/play up to 5 CW message memories.
- FUNC > ZIN: Use Zero-In tuning to align RX tone with CW signal.

Digital Features

- Connect USB to PC. It will appear as a COM port and USB Audio device.
- FUNC > DATA SHIFT: Offset TX audio center freq.
- FUNC > MIC SEL: Choose DATA input source (USB/ACC).
- FUNC > PTT SELECT: Choose PTT control method (CAT/VOX/DATA)

Receiver Enhancements

- FUNC > DNR: Digital Noise Reduction (Level 1–15, try 4–6).
- FUNC > NB: Noise Blanker for powerline/pulse noise (Level 1–10).
- FUNC > WIDTH: Adjust passband width (narrower for QRM).
- FUNC > SHIFT: Offset passband to dodge adjacent signals.
- FUNC > NOTCH: Manual or automatic notch to suppress carriers.
- FUNC > CONTOUR: DSP curve shaper – boost or cut audio tones.
- FUNC > APF: Audio Peak Filter (for CW focus).

Antenna & Tuner Settings

- Use standard 50-ohm HF/6m antenna into SO-239 jack.
- FUNC > TUNE: Activate ATAS-120A or FC-50 tuner (if installed).
- FUNC > ANT: Select main or rear antenna (if available).
- FUNC > ATAS CTRL: Enable tuning control for supported antenna.
- Keep coax runs short and high quality for best results.

Advanced Functions

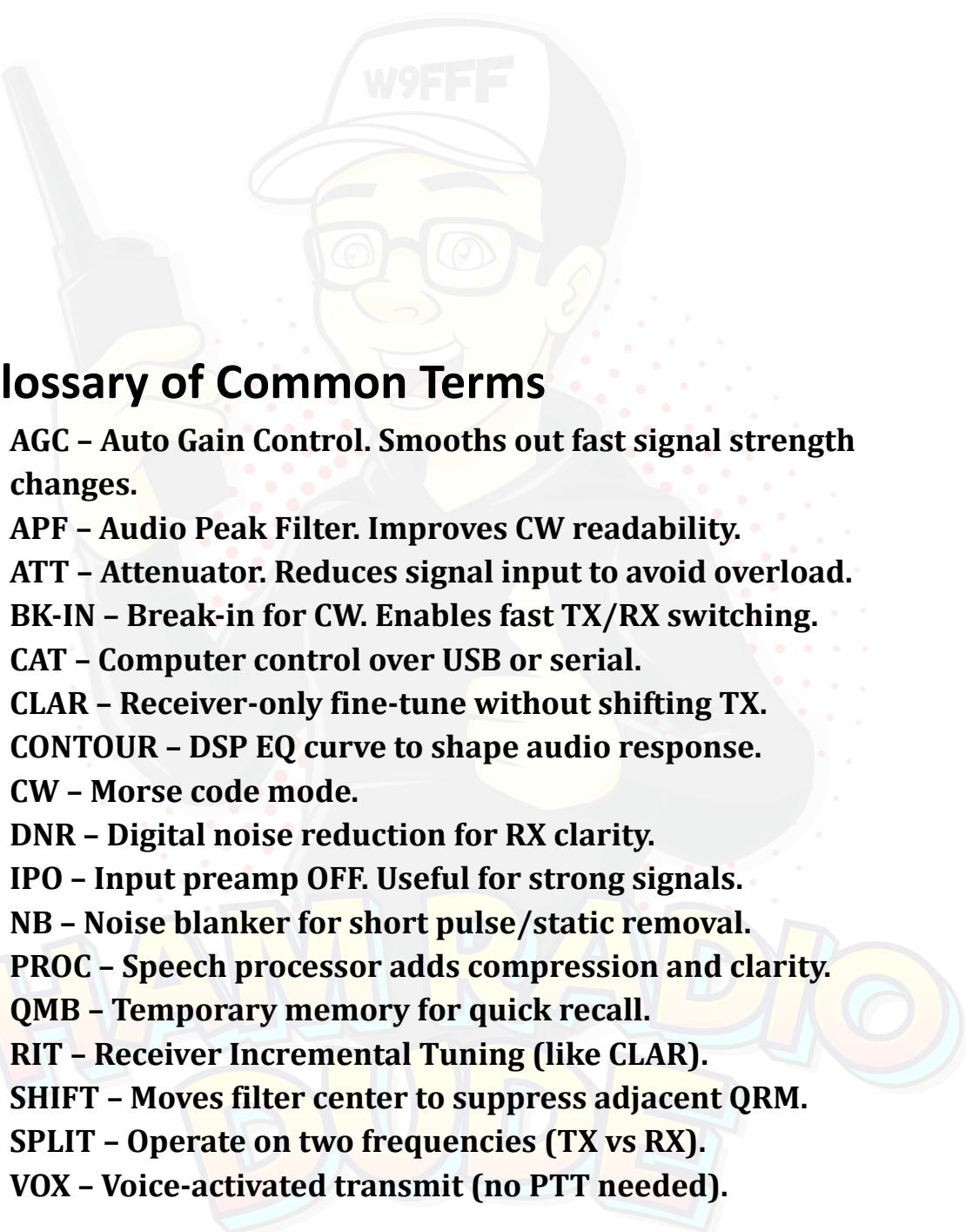
- FUNC > SPLIT: Enable TX on VFO A, RX on VFO B.
- Use SPLIT for DX when station says 'listening up 5 kHz'.
- FUNC > CLAR: Receiver clarifier. Adjust RX without affecting TX.
- FUNC > IPO: Turns off RF amplifier for better reception on strong signals.
- FUNC > ATT: Reduces input RF signal by 6/12/18dB (settable).
- FUNC > SCOPE: View mini band scope (manual sweep).

Connectivity & Expansion

- USB: Single cable supports CAT control and audio.
- Yaesu SCU-17 recommended for extra isolation, but not required.
- CAT settings: FUNC > CAT RATE (set baud for control).
- PTT via CAT, DTR/RTS, or VOX.
- EXT SPKR: 3.5mm mono jack for improved audio.
- ATAS/FC-50 connects via rear mini DIN control port.

Maintenance & Reset

- FUNC > RESET: Choose PARTIAL or FULL (resets all settings).
- Hold [F] on power-up to initiate the reset menu.
- FUNC > FW VER: Shows firmware version (for USB updates).
- Download firmware from yaesu.com and follow included updater instructions.
- Periodically inspect coax, ground points, and cooling vents.



Glossary of Common Terms

- **AGC** – Auto Gain Control. Smooths out fast signal strength changes.
- **APF** – Audio Peak Filter. Improves CW readability.
- **ATT** – Attenuator. Reduces signal input to avoid overload.
- **BK-IN** – Break-in for CW. Enables fast TX/RX switching.
- **CAT** – Computer control over USB or serial.
- **CLAR** – Receiver-only fine-tune without shifting TX.
- **CONTOUR** – DSP EQ curve to shape audio response.
- **CW** – Morse code mode.
- **DNR** – Digital noise reduction for RX clarity.
- **IPO** – Input preamp OFF. Useful for strong signals.
- **NB** – Noise blanker for short pulse/static removal.
- **PROC** – Speech processor adds compression and clarity.
- **QMB** – Temporary memory for quick recall.
- **RIT** – Receiver Incremental Tuning (like CLAR).
- **SHIFT** – Moves filter center to suppress adjacent QRM.
- **SPLIT** – Operate on two frequencies (TX vs RX).
- **VOX** – Voice-activated transmit (no PTT needed).

Real-World Usage Scenarios

- Using QMB: Quickly store and recall a net or POTA calling frequency.
- Cold-weather VOX: Enable VOX to avoid glove fumbling.
- SPLIT for DX: Listen on 14.195, transmit 14.200 as DX requests.
- Cut the QRM: Use SHIFT and WIDTH to dig out a signal next to interference.
- Adjust PROC: Increase voice presence for pileups without distortion.
- CW with BK-IN: Seamlessly hear responses while keying in contests.
- FT8: DATA-USB mode, VOX OFF, 3kHz width, use WSJT-X with CAT/PTT via USB.
- NB for Ignition: Enable NB when mobile to reduce engine noise.
- Use IPO: Turn off RF preamp to reduce overload near broadcast stations.
- ATAS Tune: Press FUNC > TUNE to initiate auto-tune on portable vertical.

Getting On the Air with the Yaesu FT-891

Follow these steps to get on the air quickly and confidently:

- Connect a 13.8V DC power supply rated at 15A or more.
- Attach a properly matched HF antenna (e.g., resonant dipole or mobile whip) to the rear SO-239 connector.
- Press and hold the [POWER] button for one second to turn the radio on.
- Press [BAND] or rotate the MULTI knob to select a desired band (e.g., 20 meters).
- Press [MODE] to set your mode: USB for 20m SSB voice, LSB for 40m and below.
- Connect your mic and listen to the band. Use the MAIN DIAL to fine-tune signals.
- Adjust volume with the AF knob. Turn the RF GAIN down slightly if the noise floor is too loud.
- Use [CLAR] if voices sound slightly off-frequency (helps during signal fading).
- When you're ready to transmit, key the mic and speak clearly. Let go to listen again.
- If you're using a manual antenna tuner, tune before transmitting.

What to Do When...

Common issues you may face with the FT-891 and how to resolve them:

The radio won't turn on

- Check power cable is connected securely to both radio and power source.
- Confirm power supply is providing 13.8V at 15A or higher.
- Inspect fuse in power cable (inline or at back of radio).

No audio from speaker

- Ensure AF (volume) knob is turned up.
- Check if an external speaker is plugged in (EXT SPKR jack overrides internal).
- Press [LOCK] to verify dial is not locked.
- FUNC > MONI must be on if trying to monitor audio input.

You can hear stations but no one hears you

- Make sure you're on a legal band mode (e.g., 20m USB).
- Press [PWR] in FUNC menu to confirm RF output isn't set to 0.
- Confirm microphone is plugged in and [PTT] is working.
- Try calling with louder or higher pitched voice — check MIC GAIN in FUNC menu.
- If using external tuner, ensure it is tuned and not mismatched.

Background static is overwhelming

- FUNC > RF GAIN – reduce slightly to lower noise floor.
- FUNC > DNR – enable and try levels 3–5 for noise cleanup.
- FUNC > NB – turn on to reduce impulse-type noise (like car ignition).
- FUNC > ATT – apply attenuation to strong-band environments.
- Consider turning on IPO to bypass RF preamp in noisy areas.

Dial turns but frequency doesn't change

- Press [LOCK] to unlock the tuning knob.
- Check FUNC > VFO LOCK isn't enabled.

- Ensure you're not in Memory Mode (press [M/V] to return to VFO).

Can't get SWR below 3:1

- Check antenna is cut for the band you're on.
- Ensure coax is fully inserted and no adapters are loose.
- Use an external tuner like FC-50 or LDG Z-100+ if antenna is non-resonant.
- Avoid long or lossy coax runs when portable.

Mic audio sounds muffled or distorted

- FUNC > PROC – turn off speech processor for cleaner voice.
- FUNC > MIC GAIN – reduce if too high (start around 50).
- FUNC > MONI – enable monitor to hear your own audio.
- Use a better quality mic or try adjusting your distance from the mic.

What the FT-891 Can Do

- HF/6m coverage from 160 to 6 meters (no 2m or 70cm).
- All-mode operation: USB, LSB, CW, AM, FM (no C4FM digital voice).
- CAT and audio over USB (for software like WSJT-X or FLDIGI).
- Works with external tuners like Yaesu FC-50 or manual LDG tuners.
- Portable/mobile capable with 100W max TX power.

What the FT-891 Can NOT Do

- No internal sound card for FT8 – requires external software and PC.
- No built-in tuner – tuner is optional external device.
- Not touchscreen, no dual VFO display (single VFO only).
- No built-in speaker EQ, APRS, GPS, or Bluetooth.

END

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