

Brass Tacks

An in-depth look at a radio-related topic



The knobs and buttons on your HF transceiver

In the last issue of *UVARC Shack* ([April 2019](#)), we had so much interest in the Baofeng menu that we thought those with HF rigs (transceivers) might appreciate a little light shed on the controls that often baffle *them*. While some are obvious, many controls are far from easy to understand. Furthermore, it's not feasible to include every setting that appears in all menus on all HF rigs. That being said, let's see if we can identify and explain *some* of them.

Unfortunately, the names of the controls aren't nearly as standardized like they are on the Baofeng (and many other makes of) HTs. So, the names listed on this chart *might* have equivalent labels on your rig, and your rig might have controls whose names are *not* listed here. For that, we apologize in advance! If you have a question about your own control, please ask by emailing uvarcinfo@gmail.com.

Name	Description
AF / AF GAIN	<i>Audio Frequency Gain</i> — adjusts the speaker audio volume
RF PWR	<i>Radio Frequency Power</i> — adjusts maximum transmitter output power
RF / RF GAIN	<i>Radio Frequency Gain</i> — adjusts the amount of receiver pre-amplification; if set too low, you won't hear much, but if it's too high, you might hear more noise than you want
MIC / MIC GAIN	<i>Microphone Gain</i> — adjusts the amount of microphone signal amplification (on some rigs, this also controls the transmitter output power); typical setting between 30% and 40%, and if set too high, can result in your transmission sounding distorted; should be adjusted while watching the ALC, to not raise the ALC meter much
ATT	<i>Attenuator</i> — reduces receiver sensitivity (by 12 dB to 20 dB) in the RF amplifier, which can help weaken adjacent interfering signals, often while leaving the main signal of interest mostly unaffected
SQL / SQUELCH	<i>Squelch</i> — sets the threshold at which all signals except the strongest ones are muted in the receiver audio; should be adjusted at or near the lowest setting for most SSB use
NB	<i>Noise Blanker</i> — enables or adjusts the level at which pulse (such as that from vehicle ignitions and other man-made) noise is heard in the receiver audio, and can be useful for reducing background noise
AGC	<i>Automatic Gain Control</i> — speed at which your audio recovers from a loud to soft volume transition; typically set it to <i>FAST</i> for CW, digital modes, and when you spin the dial looking for contacts; or to SLOW when talking normally on SSB
COMP / PROC	<i>Speech Compressor / Speech Processor</i> — can improve your transmitted audio by increasing your average output power in poor band conditions, but is better turned off in most cases

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Name	Description
RIT / CLAR XIT	The <i>Clarifier</i> is simply Yaesu's term for RIT (<i>Receiver Incremental Tuning</i>) and XIT (<i>Transmitter Incremental Tuning</i>), and can be used for either of those two adjustments, or turned off. RIT keeps your transmit frequency constant while you adjust your receive frequency. This way, when you're talking to a group (like in a net), you can more clearly hear the one ham who's off-frequency while everybody else in the group can hear you without detecting any change in your frequency. XIT performs the reverse function, in that it keeps your receive frequency constant while you adjust your transmit frequency. In both cases, tuning with the big knob will adjust both the transmit and receive frequencies simultaneously, while tuning with the RIT or XIT will adjust only one of them.
MODE	<i>Mode</i> — selects the transmitted signal type (AM / FM / USB / LSB / CW / RTTY / PSK31 / JT65 / JT9 / FT8 / etc.); sometimes the mode is appended by /N, as in CW/N or AM/N, indicating <i>Narrow Bandwidth</i>
PBT / SHIFT / AIP	<i>Passband Tuning / Shift</i> — adjusts the window of frequencies (bandwidth) that are permitted into your receiver, helping to eliminate interfering signals, useful for SSB; <i>Advanced Intercept Point</i> is Kenwood's version of passband tuning
NOTCH	<i>Notch Filter</i> — reduces the strength of nearby interfering CW signals; not very useful in AM, FM, or SSB
LOCK / FLOCK / DLOCK	<i>Lock / Frequency Lock</i> — prevents the large tuning knob from changing the operating frequency
METER	S — <i>Signal Strength</i> — relative strength of the received signal at the current frequency, measured about 6 dB between each graduation below S9 or about 5 dB above S9 PO / RF — <i>Power Output</i> — amount of PEP (peak envelope power) in watts that's presented at the transmitter output ALC — <i>Automatic Level Control</i> — internal signal strength required to maintain linear output transmit power in the presence of a varying input (voice) signal; a good compromise between microphone gain, speech compression, and power output will move this meter very little SWR — <i>Standing Wave Ratio</i> — indication of how closely your antenna system impedance is matched to that of your transceiver, with readings below 2 being acceptable and readings above 4 indicating a large impedance mismatch
TUNER / AUTO THRU	<i>Automatic Antenna Tuner</i> — when enabled, automatically attempts to match the antenna system impedance with that of your transceiver; the THRU setting disables the tuner

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Name	Description
VFO-A	<i>VFO Side A / VFO Side B</i> — selects between VFO (variable frequency oscillator) side A and B and their associated (mode, filters, split, and sometimes other) settings, treating each as a temporary memory location whose parameters can be adjusted on demand
VFO-B	
A / B	
VFO ► M / V ► M	<i>VFO to Memory / Memory to VFO</i> — stores the VFO information in a selected memory location / copies the information from the selected memory location to the VFO (some older rigs use STO for <i>Store</i> and RCL for <i>Recall</i>)
M ► VFO / M ► V	
A ► B / B ► A	<i>VFO Side A to VFO Side B / VFO Side B to VFO Side A</i> — transfers the VFO side A settings to VFO side B / transfers VFO B settings to VFO A
A = B	<i>Equalize VFO Sides</i> — copies the displayed VFO side settings to the non-displayed VFO side, over-writing the non-displayed VFO side
M / V	<i>Memory Mode / VFO Mode</i> — selects between memory mode, which displays the information stored in your rig's memory locations, and VFO mode, which displays the information stored in the VFO
VFO / M	
MR / VFO	
VOX	<i>Voice-Operated Xchange</i> — allows you to transmit by simply speaking into the microphone, instead of pressing a PTT button
ROOF	<i>Roofing Filter</i> — might help reduce distortion caused by a nearby SSB or CW signal that's not in the passband
SPLIT	<i>Split Frequency Operation</i> — operation in which you transmit on one frequency and receive on another, typically 5 kHz to 10 kHz apart
MENU / FUNC	<i>Menu</i> — access to many settings, controls, and options unavailable by knobs and buttons on the front of the transceiver
BAND / HAM	<i>Band Selection</i> — selects the amateur band on which to operate
FAST	<i>Fast Tuning</i> — allows the tuning knob to scan through more frequencies per unit rotation, than otherwise
DSP	<i>Digital Signal Processing</i> — displays the DSP menu or list that exposes and makes available a number of filtering and other options
HOME	<i>Home Frequency</i> — selects the one frequency (often, one per band) that you have stored as the favorite for that band

Some of these controls are obvious to many hams, while others make us scratch our heads. Either way, we hope this little guide will provide a reminder of what each control is for, even though their labels might differ slightly between rig models. If you need more help with your own rig, feel free to ask one of our elmers by posting your question on our club [Facebook group page](#), especially if your manual is written in Greek.