



Chapter 7

TRANSCEIVER CONTROLS

ACMA Foundation Syllabus 4.10

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Transceiver Controls

Modern digital radios can have controls included as functions within the radio. Many newer radios have controls in menus within the radio. So, controls vary from radio to radio and not all possibilities can be shown.

This Chapter is an introduction to several uses of these controls. Knowing what the control does and how it performs is important so you can get the most from your radio,

A good hint is to read the operators manual for your radio but sometimes these are not as explanatory as the operator would like.

The function of many controls can be obvious but still worth understanding their function.

Control positions may vary but the functionality is common to all



Function Buttons

Modern digital transceivers have function buttons allowing for deeper selection of controls. Having function buttons also can reduce the number of controls on the front of the radio. Functions are usually, settings that are not changed in normal operations.

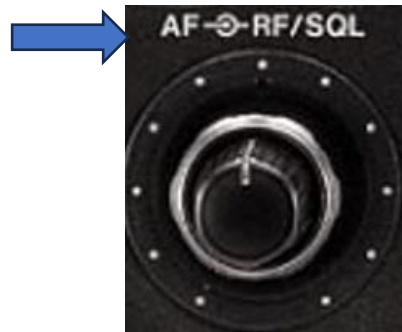
Power On/Off

This switch controls the power to the radio. Depending on the power source, these can vary from 12DC to 230V AC. In older radios, the on off switch isolated the 230-v supply but there were still hazards if you accessed the interior of the radio.



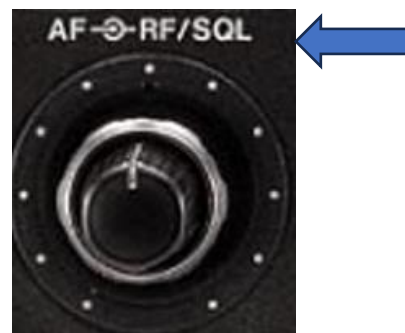
AF volume

AF - Audio Frequency volume is the loudness control for the demodulated signal. (Volume control.)



Squelch – Mutes the background noise. In radio terms, squelch is the process of muting a channel when there is nothing on it. Usually, when you are on an open channel with no signal, you will hear the constant hiss of white noise which can be annoying. The squelch circuit suppresses or mutes this noise and only turns the speaker on when a signal transmission comes through.

If this is set to high, weak signals may not be heard. Always adjust your squelch to hear for weak signals before transmitting.



RF Gain – **RF** - Radio Frequency Gain controls the amplification of the signal before the signal is demodulated.

Use RF Gain to manage background noise, prevent receiver overload on strong signals, or improve signal-to-noise ratio. If the receiver is "deaf" (not hearing weak signals), you increase the RF gain. The downside is that the noise is amplified as well.



Band switch – In this radio, band selection is done by pressing the band button. Selecting a band sets the frequency for both transmit and receive frequencies.

Note – These band switches also have numbers to send DTMF tones, and the numbers could double as function keys.



Frequency control (VFO) – The frequency control adjusts the variable frequency oscillator (VFO) in the transceiver and sweeps across the frequencies in the band you are operating. Some VFOs can switch between fine and course tuning. This is handy if you wish to go quickly from the top to the bottom of a band.



Mode switch – This control allows the operator to select the mode such as CW, SSB, AM or FM. This radio also can interpret RTTY (Radio Teletype) signals.



RIT – RIT is the Receiver Incremental Tuning or Clarifier. This controls the receiver oscillator so if a received signal is drifting off frequency, the operator can use the RIT to follow the received signal.

This is a better option than following the signal with the VFO.



Selectivity (Wide/Narrow) – This is the application of filters to narrow the band onto the incoming signal.



Power output – Some transceivers display the power output level. Modern radios may have this function as a menu setting as power levels are not regularly changed during normal operations, An external meter could be installed to ensure the 10 W limit is not exceeded.



Carrier or Drive control – This control mainly applies to older valve radios. However, when tuning the transceiver, ensure the carrier or drive control does not exceed the limited output power of 10 W.



Microphone gain – This drives the amplification level of the audio frequency fed into the transceiver. Do not over drive this gain as the signal will be distorted and may over modulate the carrier.



Go to Chapter 7 Questions.

Have fun and stay safe.