

coverdrive™



02 – Setup & Band Configuration

Version 1.00 •

Purpose

This HOWTO describes the initial capacitor endstop setup and provides the working framework for adding an operating band. Capacitor endstops establish the safe usable travel of the tuning capacitor. Band setup then establishes the usable tuning positions for an individual amateur band.

Before Starting

- coverdrive should be powered and operating normally.
- The radio connection should be operational and the displayed frequency should follow the radio.
- The stepper motor and variable capacitor should be connected and mechanically operational.
- The antenna should be connected and ready for tuning.
- Use low transmitter power whenever transmitting while locating resonance.

A. Capacitor Setup — ENDSTOPS

The ENDSTOPS procedure establishes the safe operating travel of the variable capacitor. These limits are stored to help protect the capacitor from being driven beyond its intended range.

1. From the coverdrive main screen, select **MENU** → **ENDSTOPS**.
2. Set the radio to the **highest frequency supported by the antenna**. Example: for a loop covering 20–10 metres, set the radio to approximately 28.999 MHz.
3. Use the **rotary encoder** to establish the required movement direction.
4. Use the **PUSH BUTTON** for fast capacitor movement.
5. While moving the capacitor, watch the **SWR** and listen for the peak/increase in received noise that indicates the antenna is approaching resonance.
6. Do **not** drive the capacitor beyond its physical end position.
7. Continue adjusting until the **lowest practical SWR** is obtained.
8. Press **OK** to save the position. This becomes the CAP LOW-END STOP.
9. Move the radio to the **lowest frequency supported by the antenna**. Example: approximately 14.000 MHz for a 20–10 metre loop.
10. Repeat the tuning process, again watching SWR and listening for the resonance indication.
11. When the lowest practical SWR is obtained, save the position. This becomes the **CAP HIGH-END STOP**. coverdrive now has the capacitor's safe operating limits.

IMPORTANT — The capacitor endstops are protection limits for the physical tuning capacitor. They are

separate from the operating limits established for individual amateur bands.

B. Add Band — TODO

The process for setting up an operating band is similar to the capacitor ENDSTOPS procedure. The exact v1.00 operator sequence below is intentionally left as a TODO until the remaining steps are confirmed during normal controller operation.

12. From the coverdrive main screen, select MENU → ADD BAND.
13. **TODO — Confirm which band edge/frequency is set first.**
14. **TODO — Confirm the exact encoder and PUSH BUTTON movement procedure.**
15. **TODO — Confirm what Coverdrive displays while locating resonance.**
16. **TODO — Confirm the button/action used to save the first band edge.**
17. **TODO — Move the radio to the opposite band edge and repeat the resonance procedure.**
18. **TODO — Confirm the button/action used to save the second band edge.**
19. **TODO — Record the message/display shown when ADD BAND completes successfully.**
20. **TODO — Confirm whether any final EXIT, restart, or return-to-main-screen action is required.**

After Setup

After capacitor endstops and an operating band have been configured, normal operation uses the radio frequency as the master reference. coverdrive follows VFO changes automatically. If SWR is already acceptable at the operating frequency, no operator correction is required. If SWR is higher than acceptable, use the separate SAVE POS procedure to refine the resonant position.