

## Pot Lock Mode

In pot lock mode the speed pot directly sets the sending speed, the host is passive in this mode and simply displays the current WPM setting to the user. The host obtains the current WPM by either polling for it using the Get Speed Pot command or through the WK status bytes that are sent to the host whenever the speed pot is moved.

### Setup Speed Pot command vs. Pot Lock Mode.

The Setup Speed Pot command specifies the minimum WPM and the WPM range of the speed pot. It works this way, if you set the minimum to 5 and the range to 30 then the speed pot will swing from 5 WPM to 35 WPM, full counterclockwise to full clockwise. One thing to remember in Pot Lock mode is that if the minimum or range values are changed, the speed pot value will be adjusted accordingly. For example, let's say the speed pot is set at midscale, with WPM min set to 5 WPM and WPM range set to 20 WPM. The speed pot value will be halfway between 5 and 25 which is 15 WPM. If you redefine the limits to be 10 WPM min and a 40 WPM range, the speed pot will now return a value of 30 WPM.  $(40/2 + 10)$ . It's important to remember that if you change the min or range values you MUST reset the speed pot to zero to force WK to update the speed pot to be within the new limits. Follow this procedure when issuing the Set Speed Pot command:

- 1) Issue the Set Up Speed Pot command, setting min WPM and WPM range
- 2) Issue Set WPM to zero (to force an immediate speed pot update)
- 3) Issue Read Speed Pot command to obtain the newly updated speed pot value

This keeps everything in sync nicely. If you decide to leave pot lock mode and issue an arbitrary WPM, there are more things to consider...

## Non-Pot Lock Mode

In this mode the host can arbitrarily set the WPM rate to whatever it wants. If the speed pot is turned, the new speed pot value is returned to the host but no change is made to WK's speed directly. It's up to the host to decide what to do with the speed pot in this mode. The min WPM and WPM range values still govern the value of the returned speed pot value and also the value that the host is allowed to set. If the host tries to set a value outside of the set WPM limits, it will be ignored. The thing to remember in non-pot lock mode is that you have to keep the WPM range in mind when you set the speed.

### Automatic WPM Clamping

In non-pot lock mode if the host uses the Setup Speed Pot command to set a speed range less or greater than the WPM value currently set, WK will automatically move the speed within range. As an illustration, let's say the min WPM was set to 10 WPM, the range set to 30, and the current speed was set to 35. If a Setup Speed Pot command was issued that changed the WPM range to 20, WK would move the current WPM down to 30 to keep it within the range window. That's why it's always important to read the speed pot back after adjusting the WPM window and present the value to the user. In addition, in non-pot lock mode you have to then send the value back to WK to complete the process.

So, the rule for non-pot lock mode is to always call get pot after setting the min or range values and then send that value back to WK with a set speed command. Your app has to be well behaved and not change the speed to something outside the min and range values or you will get into trouble.

## Don't Mix Pot Lock and Non-Pot Lock Modes

One way WK apps get in trouble is to change modes in midstream without considering the range settings. It's best to choose a mode to run the speed pot in and leave it in that mode.

