

### App Note 1051: Programming the 9500D212\_V2 Distronic Interface

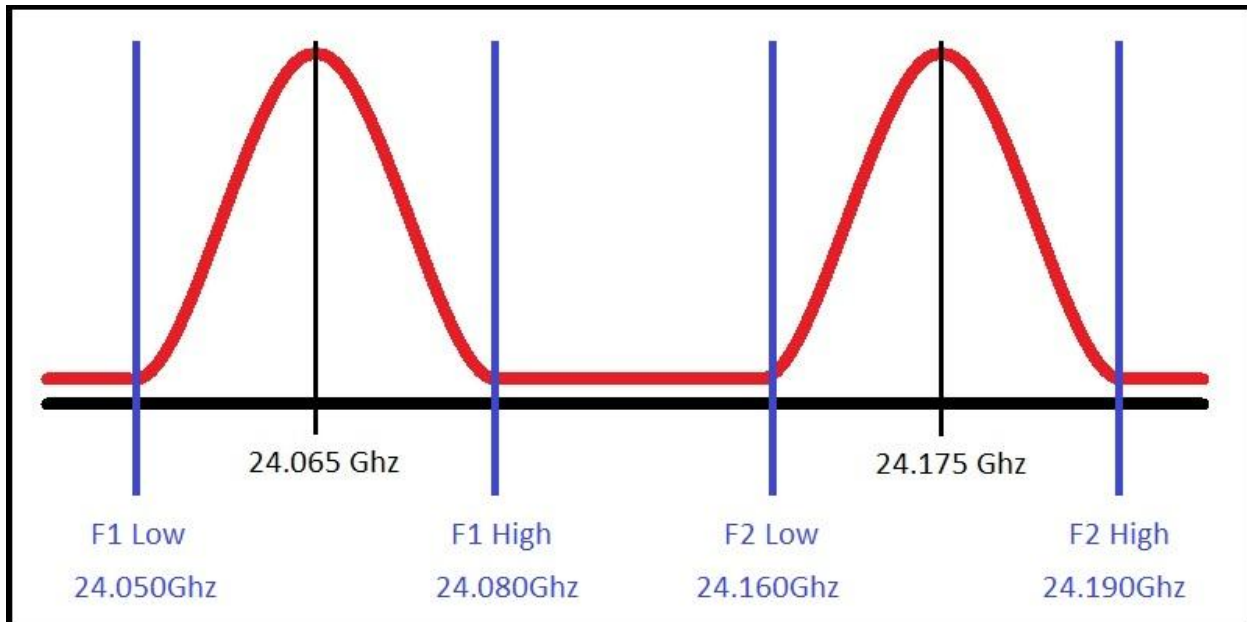
**Introduction:** The new 9500D212 V2 features complete programmability of the interface, allowing the selective filtering of the distronic frequencies to be customized for varying levels of sensitivity. The Distronic system utilizes a series of sensors that operate in the K band of radar frequencies. These frequencies often interfere with radar detector usage by causing frequent false alerts when the detector receiver detects the distronic sensor local frequencies. The 9500D212 V2 interface uses filtering algorithms to decrease sensitivity within the specific frequency bands used by the distronic sensors, allowing the radar detector unit to function without the false alerts. Depending on the vehicle make and model year and country of use, the sensor frequencies however can vary greatly, thus it can be necessary to custom program the range of filtered frequencies.

All distronic systems utilize sensors that are centered at two frequencies. These are typically separated by approximately 0.100Ghz. Refer to the graph below to see a typical plot: this shows a system using distronic sensors that are centered at 24.065 and 24.175. A typical setting for the notch filters of the 9500D212V2 would be to set the range at 0.015Ghz above and below each center frequency. In the below example the proper settings would be:

F1 Low: 24.050Ghz  
F2 Low: 24.160Ghz

F1 High: 24.080Ghz  
F2 High: 24.190Ghz

The center frequencies can be determined by connecting the 9500ci display and reading the emitted frequencies while the vehicle is both stationary and driving. The center frequencies will be the ones displayed most often.



Additionally there is a speed cutoff setting available. The speed cutoff allows the K band filtering to be set conditionally upon reaching a certain threshold speed. This is useful because the range of return signals can vary greatly when in heavy or light traffic: at very low speeds when vehicles are close together the return signals Doppler shift can be far from the center frequency which would require that the notch filter be set wider and cause a greater loss of K band sensitivity. To mitigate this issue the speed cutoff can be set where no K band signals are reported below the speed cutoff threshold and the selected notch filter settings are used above the threshold. The cutoff value can be set between 0mph (filtering always occurs) and 60mph in increments of 5mph. The typical recommend value is 10mph.

**Programming:** All programming is done using the steering wheel controls in the vehicle. The controls used are a combination of buttons that include the 'OK' button on the left side of the steering wheel and a multiple of the 4 way buttons on the right side of the steering wheel. To program things like the frequencies or speed, hold the combination and the instrument cluster display will show the current set value. Continue holding the buttons until the desired value is reached.

**F1 Low:** Set F1 Low by pressing 'OK' on the left side and 'Left' and 'Down' on the right side.



**F1 High:** Set F1 High by pressing 'OK' on the left side and 'Left' and 'Up' on the right side.



**F2 Low:** Set F2 Low by pressing 'OK' on the left side and 'Right' and 'Down' on the right side.



**F2 High:** Set F2 High by pressing 'OK' on the left side and 'Right' and 'Up' on the right side.



**Speed Cutoff:** Set Speed by pressing 'OK' on the left side and 'Up' and 'Down' on the right side.



**Title:** The header title can be changed between "Escort 9500" and "STiR PLUS". This is done by pressing 'OK' on the left side and 'Right' and 'Left' on the right side.



**Reset:** The interface can be reset to factory settings by pressing 'OK' on the left side and 'UP', 'DOWN', 'LEFT', 'RIGHT' on the right side. The factory settings are as follows:

Title: ESCORT 9500  
F1 Low: 24.061  
F2 Low: 24.165

Speed: 10 mph  
F1 High: 24.094  
F2 High 24.225