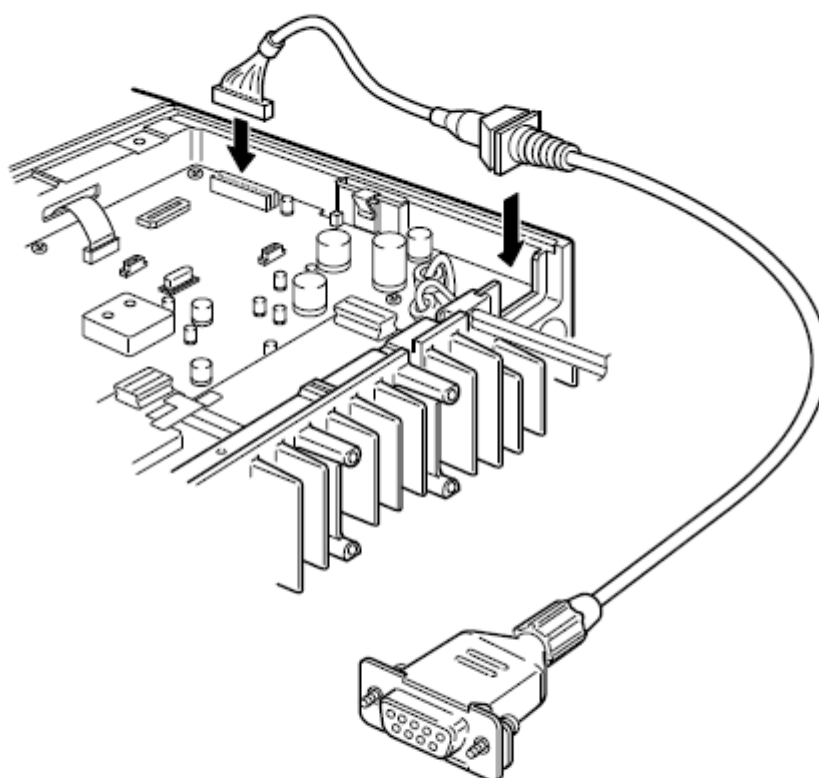
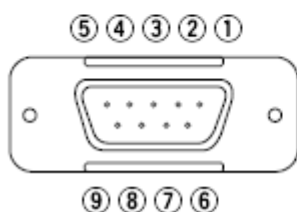


## ■ Optional OPC-617 installation

Install the OPC-617 as shown below.

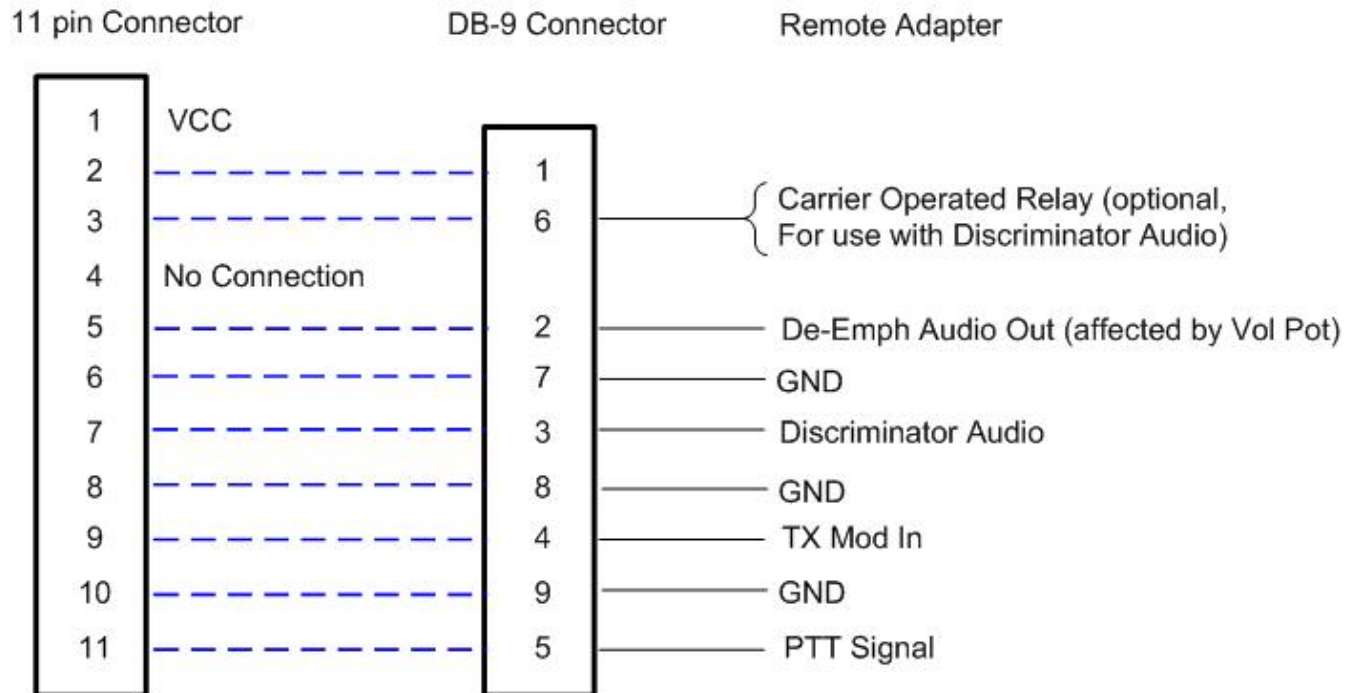


### OPTIONAL CABLE PIN ASSIGNMENT



- |                        |                        |
|------------------------|------------------------|
| ① LCD backlit cont. IN | ⑥ Horn drive cont. OUT |
| ② AF OUT               | ⑦ AF GND               |
| ③ Det. AF OUT          | ⑧ Det. AF GND          |
| ④ Mod. IN              | ⑨ Mod. GND             |
| ⑤ PTT control IN       |                        |

## OPC-617 Connections for the F121/ F221 Radio



### Additional Notes

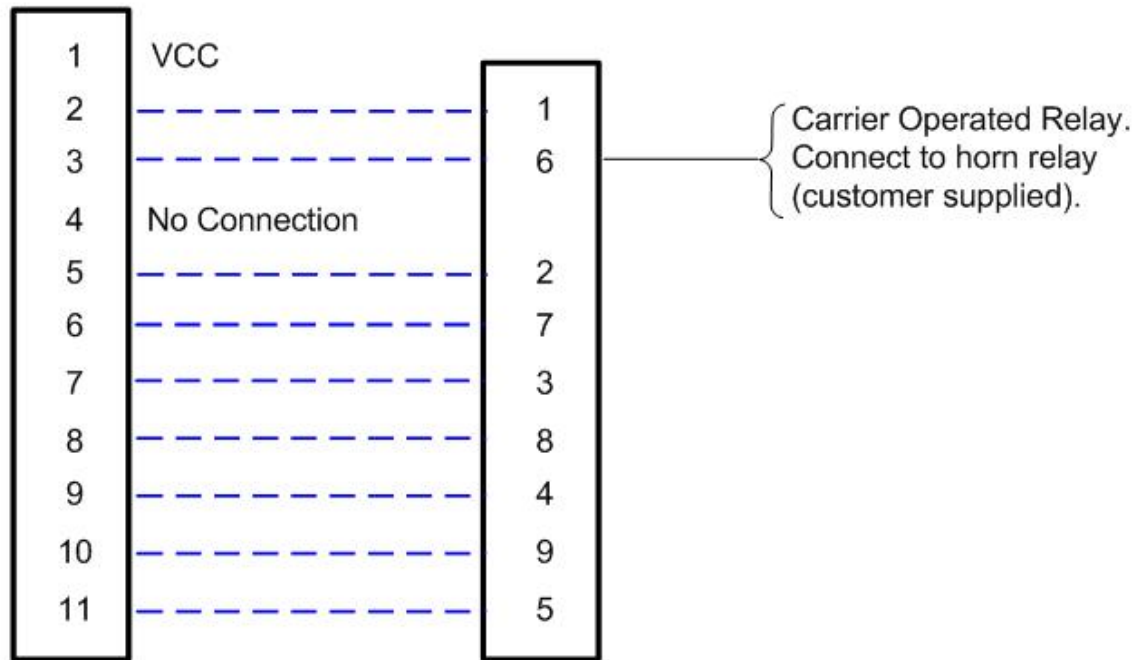
DB-9 Connector Pins	Notes
Pin 2	To find a suitable AF level, turn the Vol Knob OFF Change the AF Min level (in Set Mode) until a suitable level is found.
Pin 4	Solder Bead F for data. Solder Bead D for AF in.
Pin 5	To enable an external PTT: In <b>Common</b> -> <b>Expert</b> , set <b>EPTT/ FTSW</b> to <b>EPTT</b> . If you require a delay after releasing PTT, set a value in the <b>EPTT Delay Timer</b> .
Pin 6	To set Pin 6 as a Carrier Operated Relay: Disable the 2/5-tone function for the selected channel. In <b>Common</b> -> <b>Expert</b> , set <b>RX EXO</b> to <b>ON</b> and the <b>Delay Timer</b> to <b>OFF</b> . This enables COR to react instantly to the signal when it switches on and off.

## F121/ F221, F121S/ F221S OPC-617 Horn Honk Connections

### For 2-Tone and 5-Tone Signaling

11 pin Connector

DB-9 Connector



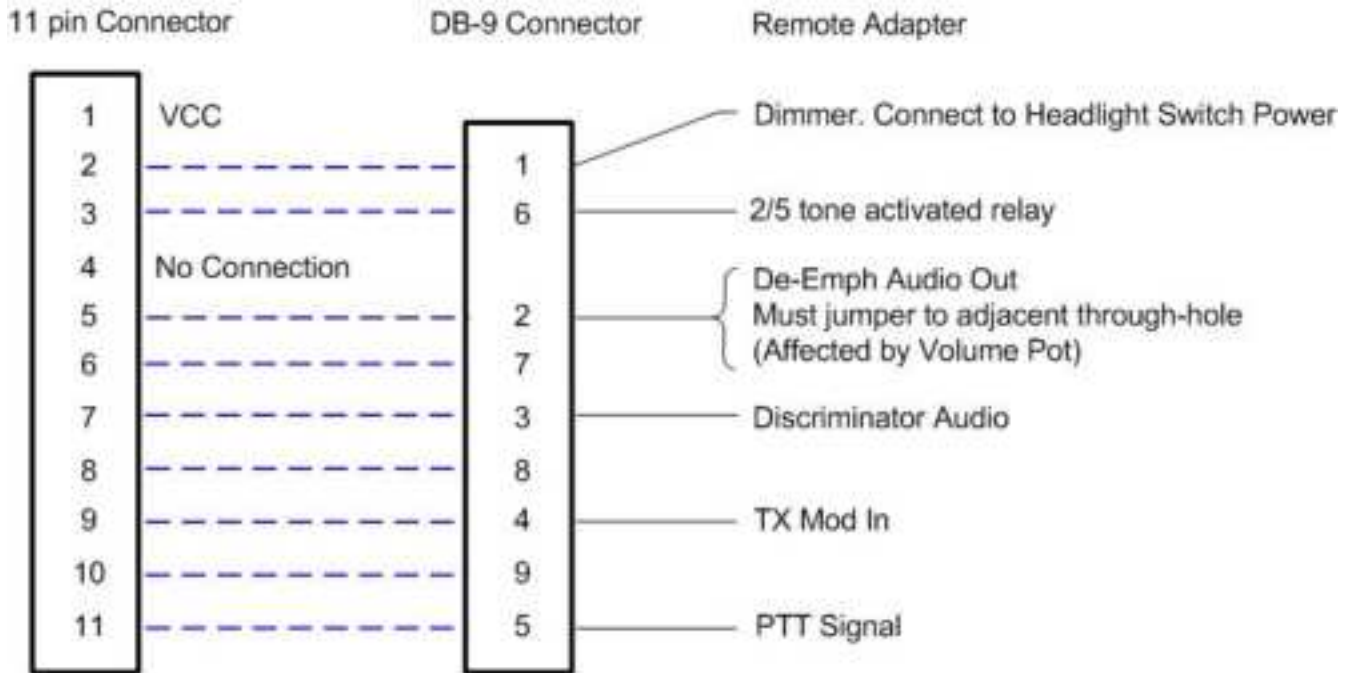
### Programming

For both 2-Tone and 5-Tone:

1. Navigate to **RX Code CH** and set the **EXO** to **ON**.
2. Navigate to **Common -> Expert** and set **RX EXO** to **OFF**.



## OPC-617 Remote Connections for 2-Tone/ 5-Tone For the F521/ F621 Radio

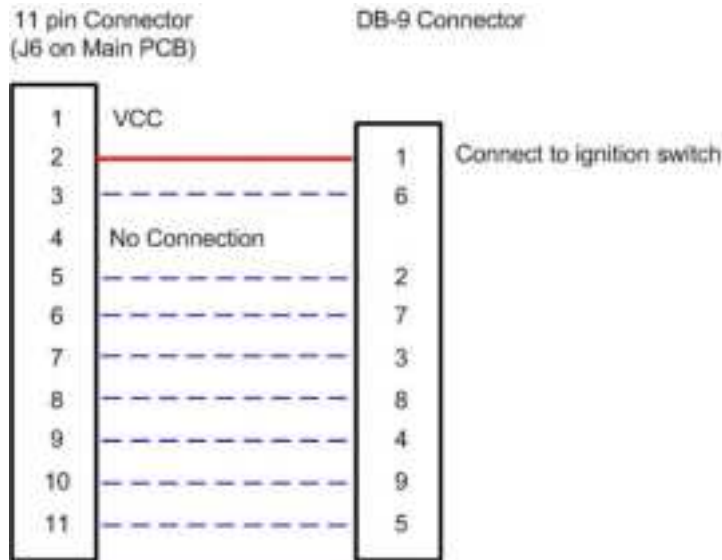


### Additional Notes

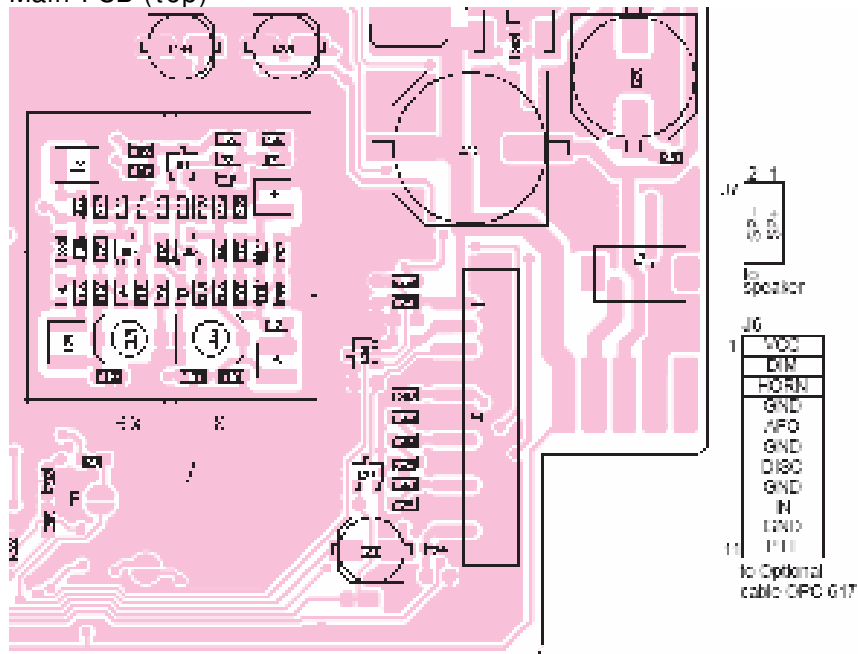
DB-9 Connector Pins	Notes
Pin 2	Program radio as in Pin 6 COR programming. <ul style="list-style-type: none"> <li>1. To find a suitable AF level, turn the Volume Knob off.</li> <li>2. Change the <b>AF Min Level</b> (in <b>Set Mode</b>) until a suitable level is found.</li> </ul>
Pin 4	Solder Bead F for data. Solder Bead D for AF in.
Pin 6	To set Pin 6 as a 2/5 tone operated relay: <ul style="list-style-type: none"> <li>1. Set the 2-Tone or 5-tone <b>RX Code Ch EXO</b> to <b>ON</b>.</li> <li>2. <b>Set Mode</b> -&gt; <b>Horn</b> to <b>ON</b>.</li> <li>3. <b>Common</b> -&gt; <b>EXO</b> setting doesn't matter.</li> <li>4. The <b>Common</b> -&gt; <b>EXO Delay Timer</b> sets how long Pin 6 stays low after signal.</li> </ul>

## OPC-617 Ignition Connections for F121/ F221 Series Radios

To enable the radio to turn on when the ignition switch is turned on, connect the OPC-617 11 pin connector to J6 on the main PCB. Then connect DB-9 pin 1 to the ignition switch. Be sure to connect DB-9 pin 1 to a switched-on high contact on the ignition switch.

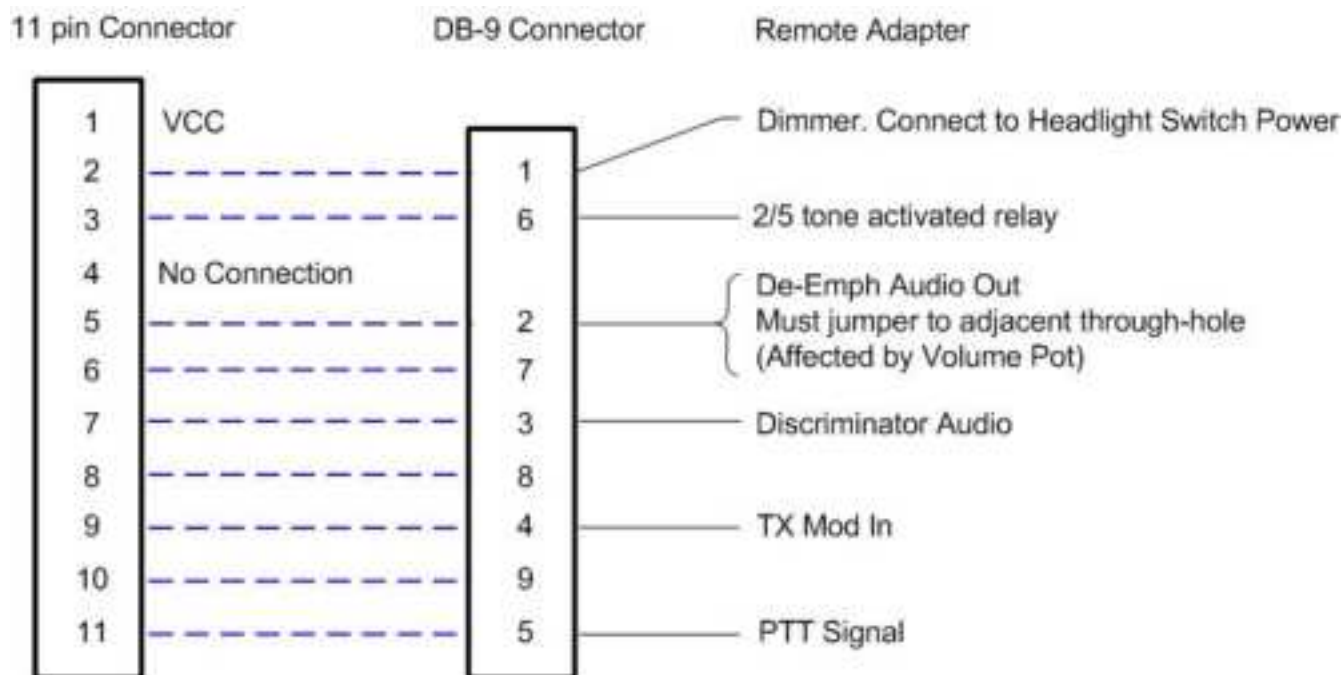


Main PCB (top)



After making connections, enable in the **EXPERT** window by setting the **DIM / IGSW** field to **IGSW**.

## OPC-617 Remote Connections for 2-Tone/ 5-Tone For the F521/ F621 Radio



### Additional Notes

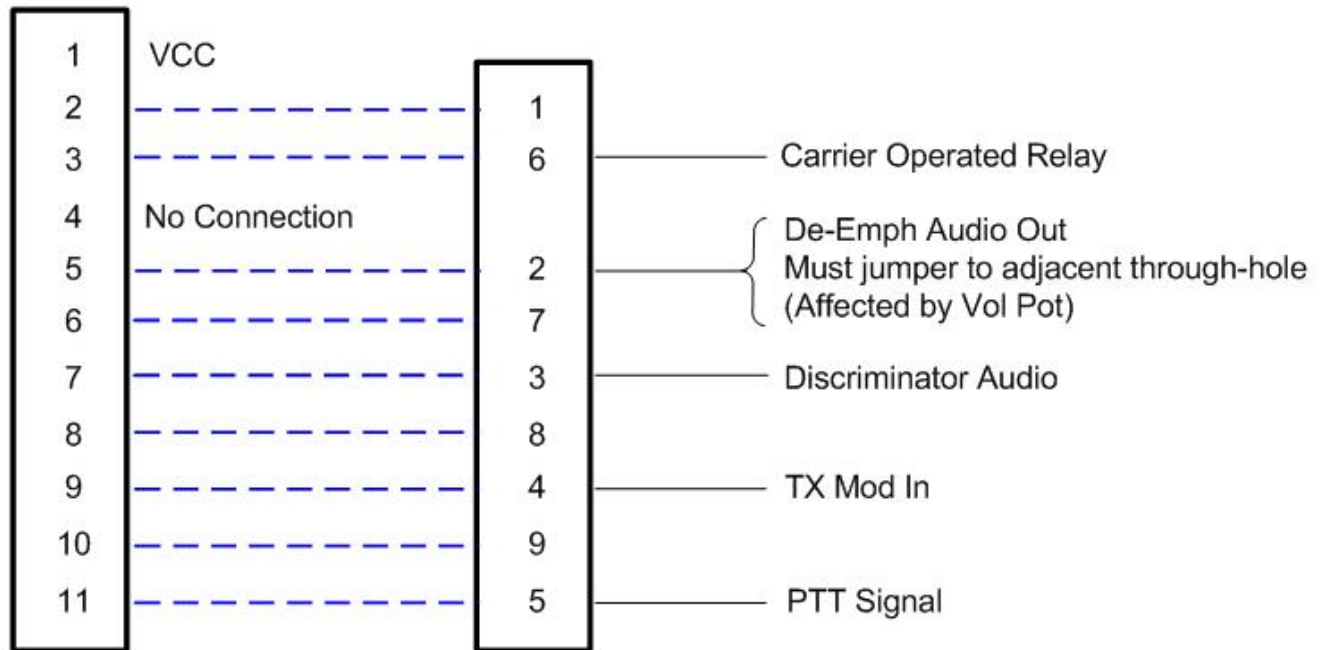
DB-9 Connector Pins	Notes
Pin 2	Program radio as in Pin 6 COR programming. <ul style="list-style-type: none"> <li>1. To find a suitable AF level, turn the Volume Knob off.</li> <li>2. Change the <b>AF Min Level</b> (in <b>Set Mode</b>) until a suitable level is found.</li> </ul>
Pin 4	Solder Bead F for data. Solder Bead D for AF in.
Pin 6	To set Pin 6 as a 2/5 tone operated relay: <ul style="list-style-type: none"> <li>1. Set the 2-Tone or 5-tone <b>RX Code Ch EXO</b> to <b>ON</b>.</li> <li>2. <b>Set Mode</b> -&gt; <b>Horn</b> to <b>ON</b>.</li> <li>3. <b>Common</b> -&gt; <b>EXO</b> set to <b>OFF</b>.</li> <li>4. The <b>Common</b> -&gt; <b>EXO Delay Timer</b> sets how long Pin 6 stays low after signal.</li> </ul>

## OPC-617 Remote Connections for Carrier Operated Relay For the F521/ F621 Radio

11 pin Connector

DB-9 Connector

Remote Adapter

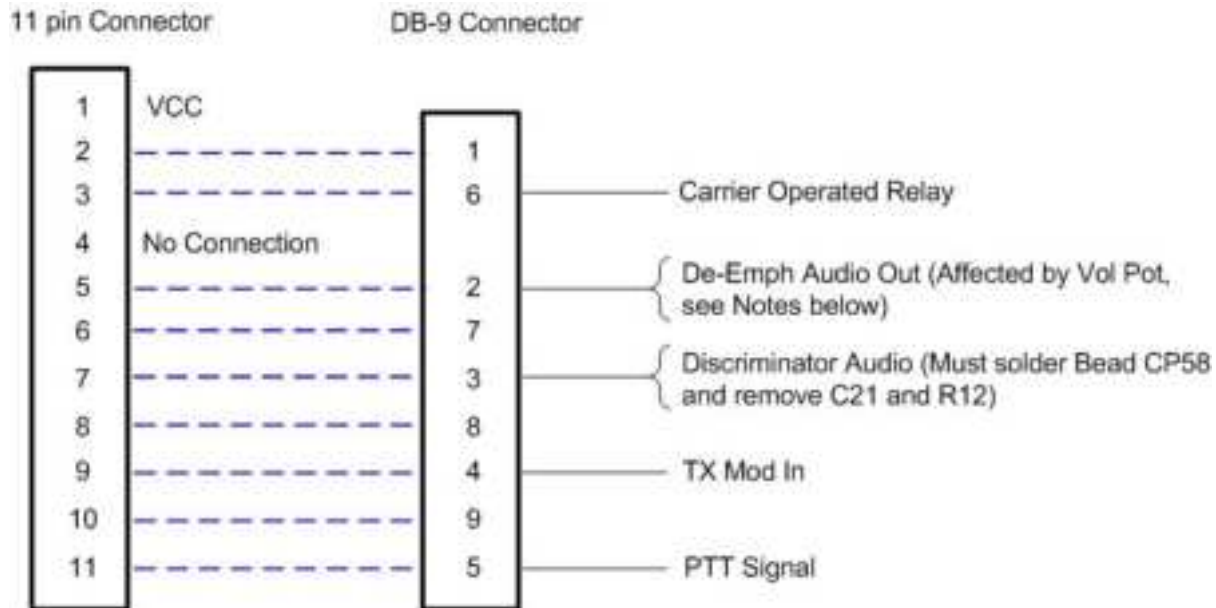


### Additional Notes

DB-9 Connector Pins	Notes
Pin 2	<ol style="list-style-type: none"> <li>1. Program radio as in Pin 6 COR programming (below).</li> <li>2. Assign 1 key as <b>RX Speaker</b> and turn on.</li> <li>3. To find a suitable AF level, turn the Volume Knob off.</li> <li>4. Change the <b>AF Min Level</b> (in <b>Set Mode</b>) until a suitable level is found.</li> </ol>
Pin 4	<p>Solder Bead F for data. Solder Bead D for AF in.</p>
Pin 6	<p>To set Pin 6 as a Carrier Operated Relay:</p> <ol style="list-style-type: none"> <li>1. Set the 2-Tone <b>RX Code Ch EXO</b> to <b>ON</b> or <b>OFF</b>.</li> <li>2. <b>Set Mode</b> -&gt; <b>Horn</b> to ON.</li> <li>3. <b>Common</b> -&gt; To <b>EXO</b> to <b>ON</b>.</li> <li>4. <b>Common</b> -&gt; <b>EXO Delay Timer</b> sets how long Pin 6 stays low after signal.</li> <li>5. Disable 2-Tone in the <b>Memory CH</b>.</li> </ol>



## Remote OPC-617 Connections for the F1721/ F1821 Radio



### Additional Notes

DB-9 Connector Pins	Notes
Pin 2	<ul style="list-style-type: none"> <li>Program radio as in Pin 6 COR programming.</li> <li>Assign a key as <b>RX Speaker</b> in programming. Key must be activated for COR.</li> <li>In <b>Key &amp; Display</b>, set the <b>Amp</b> to <b>OFF</b>.</li> <li>To find a suitable AF level, turn the Volume Knob OFF and change the <b>AF Min Level</b> (in <b>Set Mode</b>) until a suitable level is found.</li> </ul>
Pin 4	<ul style="list-style-type: none"> <li>Solder Bead F for tones and data (generally, a data line or frequencies greater than 300Hz).</li> <li>Solder Bead Sig for signals of 300Hz or less (sub-audible tones or low speed data and low-level voice).</li> </ul>
Pin 6	<p>To set Pin 6 as a 2-Tone or 5-Tone relay:</p> <ol style="list-style-type: none"> <li>Set <b>2Tone/ 5Tone</b> -&gt; <b>RX Code</b> -&gt; <b>EXO</b> to <b>ON</b>.</li> <li>Set the <b>Set mode</b> -&gt; <b>Horn</b> to <b>ON</b>.</li> <li>Set <b>Common</b> -&gt; <b>EXO</b> to <b>OFF</b>.</li> <li>Set <b>Common</b> -&gt; <b>EXO Delay Timer</b> to the desired delay time.</li> </ol> <p>To set Pin 6 as a Carrier Operated Relay:</p> <ol style="list-style-type: none"> <li>Set <b>2Tone</b> -&gt; <b>RX Code</b> -&gt; <b>EXO</b> to <b>OFF</b>.</li> <li>Set the <b>Set mode</b> -&gt; <b>Horn</b> to <b>ON</b>.</li> <li>Set <b>Common</b> -&gt; <b>EXO</b> to <b>ON</b>.</li> <li>The <b>Common</b> -&gt; <b>EXO Delay Timer</b> sets how long Pin 6 stays low after receiving the signal.</li> <li>Disable <b>2Tone</b> in <b>Memory CH</b>.</li> </ol>