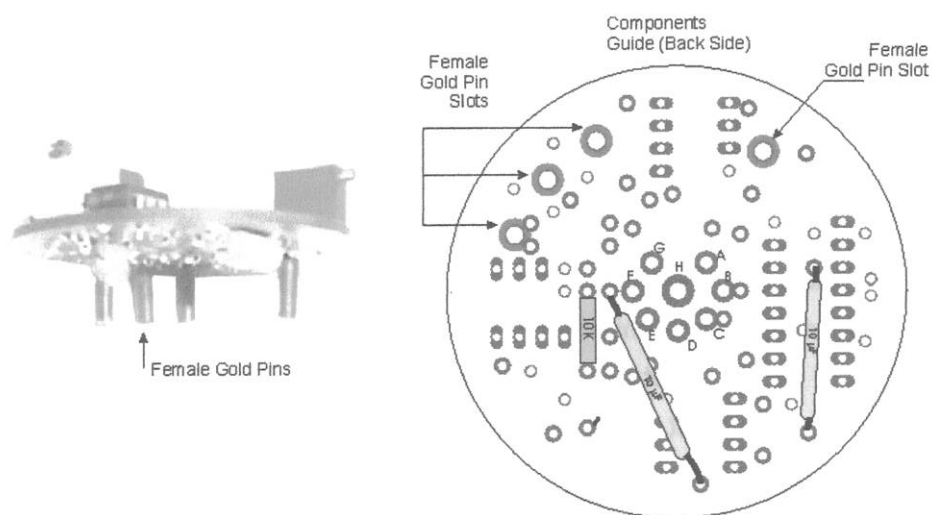


**Figure 4-28: Assembly of components on the front side of the BF-10 board**



**Figure 4-29: Assembly of components on the back side of the BF-10 board**

- 3. Remove any flux or dirt on the board. Spray silicone resin coating on both sides of the board. Let dry.**

**Note**

Use a clean cloth dampened with denatured alcohol to remove any flux left from the solders.

4. Locate pin-to-pin connection of the 2.2 in bare wires to the board (Figure 4-30). Insert the wires into the board with the front end first. Solder the long center wire H. Then solder A, B, C, D, E, F, and G. Make sure that the board is aligned with the Preamp Head.
5. Cut the excess shrink tube to open the sockets of the female gold pins. Visually inspect the assembly for any damage or dirt. The Preamp should now be tested to ensure that it is functioning properly before assembly with the coil.

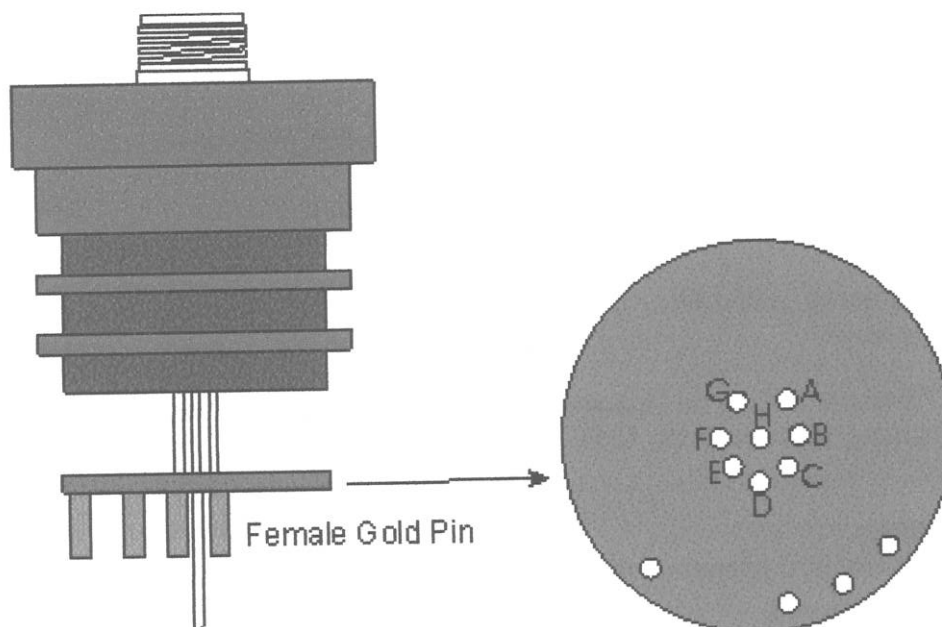


Figure 4-30: Assembly of board into the preamp head

#### 4.2.2.3

### Circuit Diagram

Table 4-4: BF-10 Circuit Diagram Material Reference

Item	Qty	Reference	Part
1	1	AR1	POT- 5K
2	1	AR2	POT- 1M
3	1	A1	IC AD745
4	1	A2	IC LF356
5	1	A3	IC LT1013
6	1	C1	Capacitor 33000pf
7	1	C2	Capacitor 200pf
8	2	C6,C3	Capacitor 10uf

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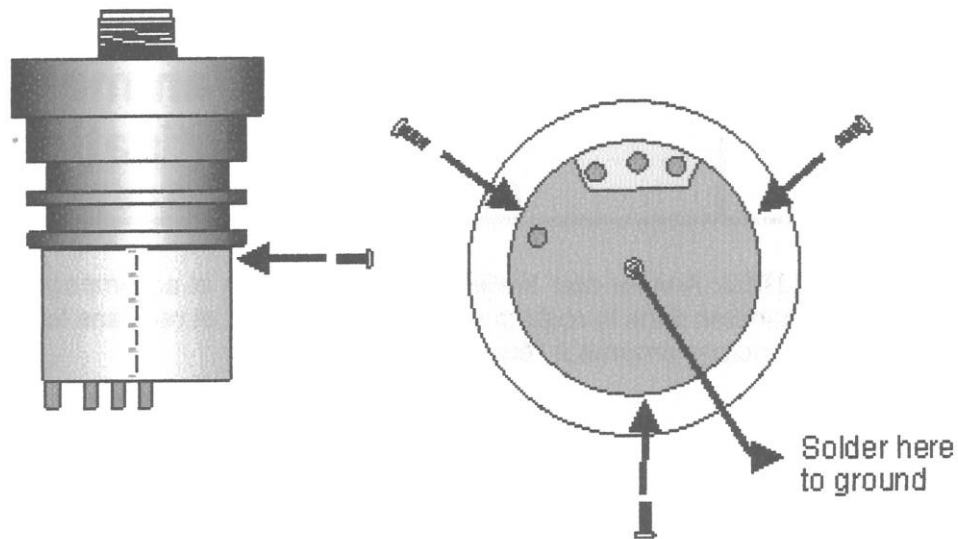


Figure 4-37: Securing the mesh wire cylinder and solder of center bare wire

## 4.2.5 Setting DC Offset

### **i** Note

It is important to perform the DC offset adjustment in a quiet area to avoid inaccurate reading due to surrounding noise or electromagnetic activity.

### 4.2.5.1 Requirements

- Fully Assembled Preamp
- CAB-3 Cable
- BNC Cables
- EMI DC Offset Test Box
- Oscilloscope
- An open BF-10 Coil Assembly

### 4.2.5.2 Procedure

1. Plug Preamp to the coil connector, making sure that connection is good. Attach a CAB-3 cable on the Tajimi for connection with the EMI DC Offset Test Box. See configuration in Figure 4-38.
2. Using BNC cables, connect the Signal and Offset outputs of the EMI DC Offset Test Box to Channel#1 and Channel#2 respectively of the oscilloscope.

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3. Check that the signal display on Channel #1 of the oscilloscope is a 60 Hz distorted waveform. This means that the Preamplifier is working properly.
4. The DC offset of the coil can be read from the straight line waveform on Channel#2 of the oscilloscope. Use the DC Offset pot on the Preamplifier (Figure 4-38) to make the waveform as close to zero as possible. In order to get a relatively accurate reading from the oscilloscope, allow some time for the waveform to stabilize before doing any adjustment.

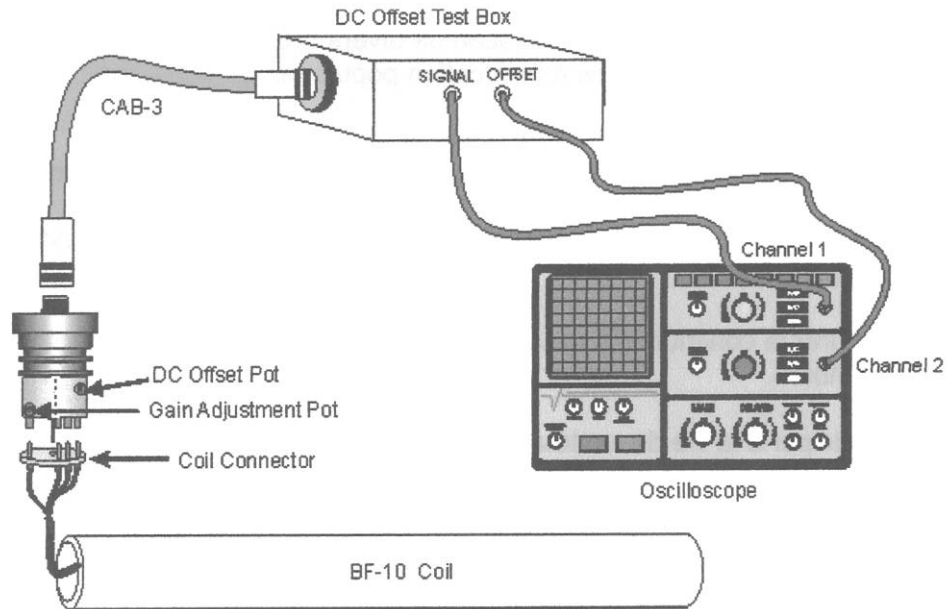
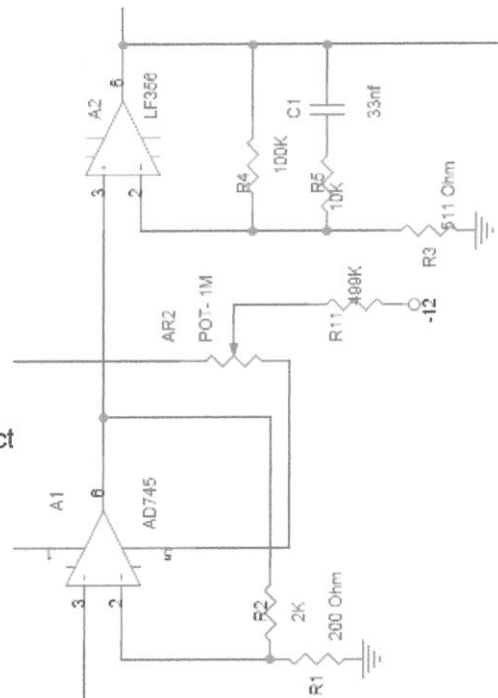


Figure 4-38: Equipment setup for DC offset setting

## 4.2.6 Gain Adjustment

### 4.2.6.1 Requirements

- Completely Assembled Preamplifier
- CAB-3 Cable
- BF Power Supply (BFPS)
- Spectrum Analyzer
- BF-10 Coil Assembly with Coil Connect
- Solenoid with High Frequency Driver



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