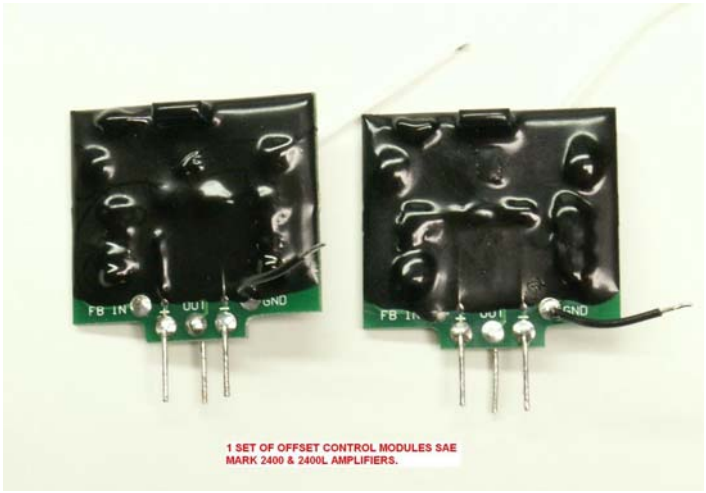
GIBSON ENGINEERING & COMPUTERS Inc.

SAE Mark 2400/2400L Servo Input Offset Control Module AS-910-02001-000

Installation Instructions

This kit contains one (1) set of input servo offset control modules part number AS-910-02001-000. This kit is specific to the audio amplifiers listed above. No more offset potentiometers going bad, poor offset operation until warm up has completed or fading offset adjustments due to age. This offset control module does not require any modifications to the existing design and if desired can be removed, the old components reinstalled, and the amplifier returned back to its original condition without altering any historical value.



Read all installation instructions before attempting actual installation(s). For the best results, a qualified electronic technician should perform this kit installation.

Basic Tools Required:
Quality Grounded Soldering Iron 25-45 Watts
Solder Removal Tool or Solder Wick Pre-Fluxed
Tweezers or Small Needle Nose Pliers
Wire Side Cutter
63/37 Solder Recommended

Note To Technician(s): The PCA in the illustrations is an early version of the Mark 2400 Input/Driver PCB part number 17-0310-A with in-house updates applied. This was done for repair and preservation of the design platform. These modifications/updates are not required to take advantage of this servo offset control module kit.

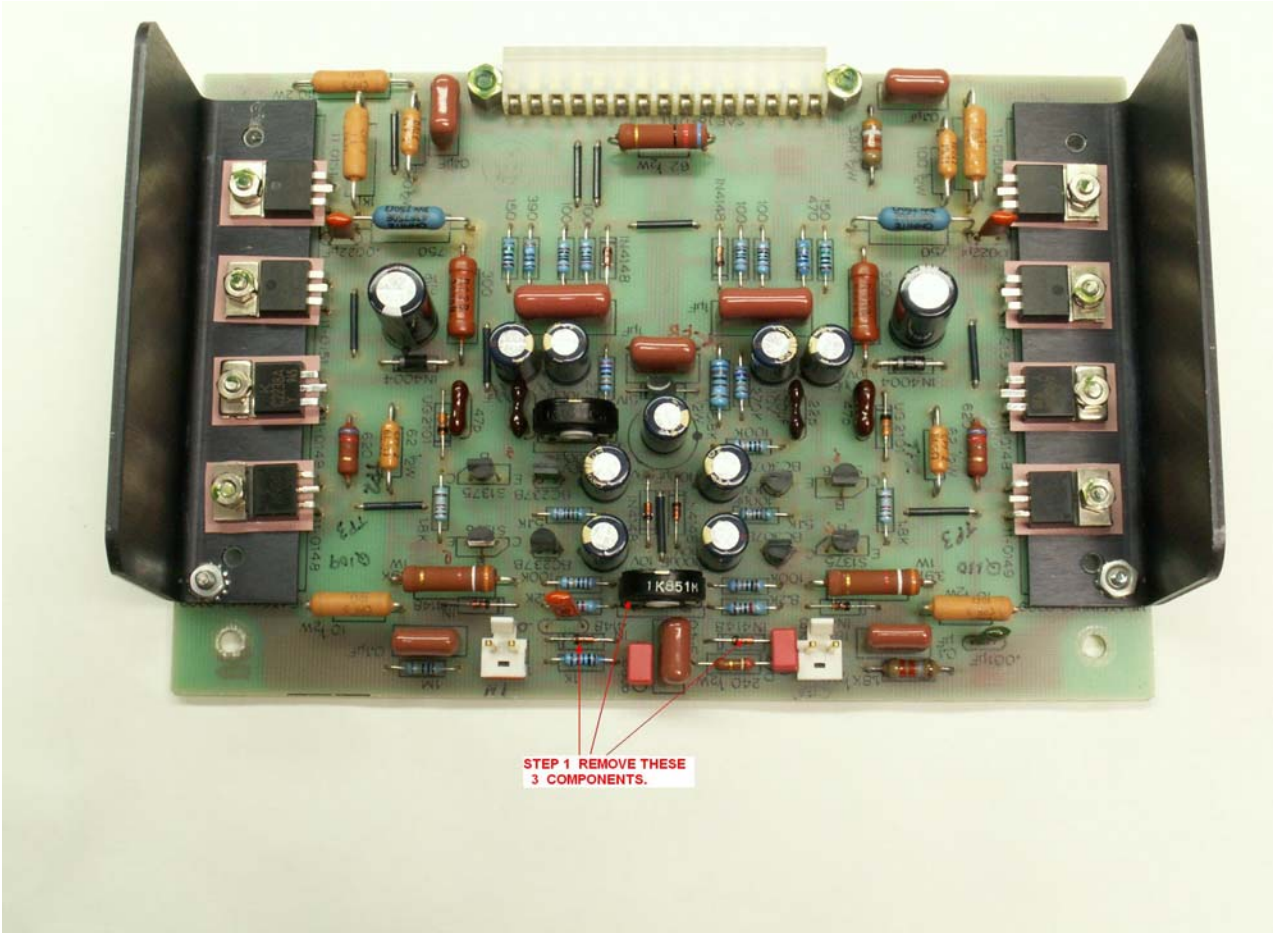
At the time of the writing of this document, no changes in audio quality or performance have been noted with the installation of this servo adaptation.

The servo control module output module employs a protection circuit to clamp output swing to 1.0Vpp to control startup levels and minimized output stage damage if the servo function should fail.

SAE Mark 2400/2400L Servo Input Offset Control Module AS-910-02001-000

Installation Instructions

(continued)



Step 1:

Remove the Input/Driver PCA.

Note: Mark/identify each PCA with it's installed channel location. This is for proper reinstallation in the amplifier chassis to avoid re-alignment of the bias settings. (However, for the best end results the proper quiescent current and bias settings should be verified per the original manufacture's specifications).

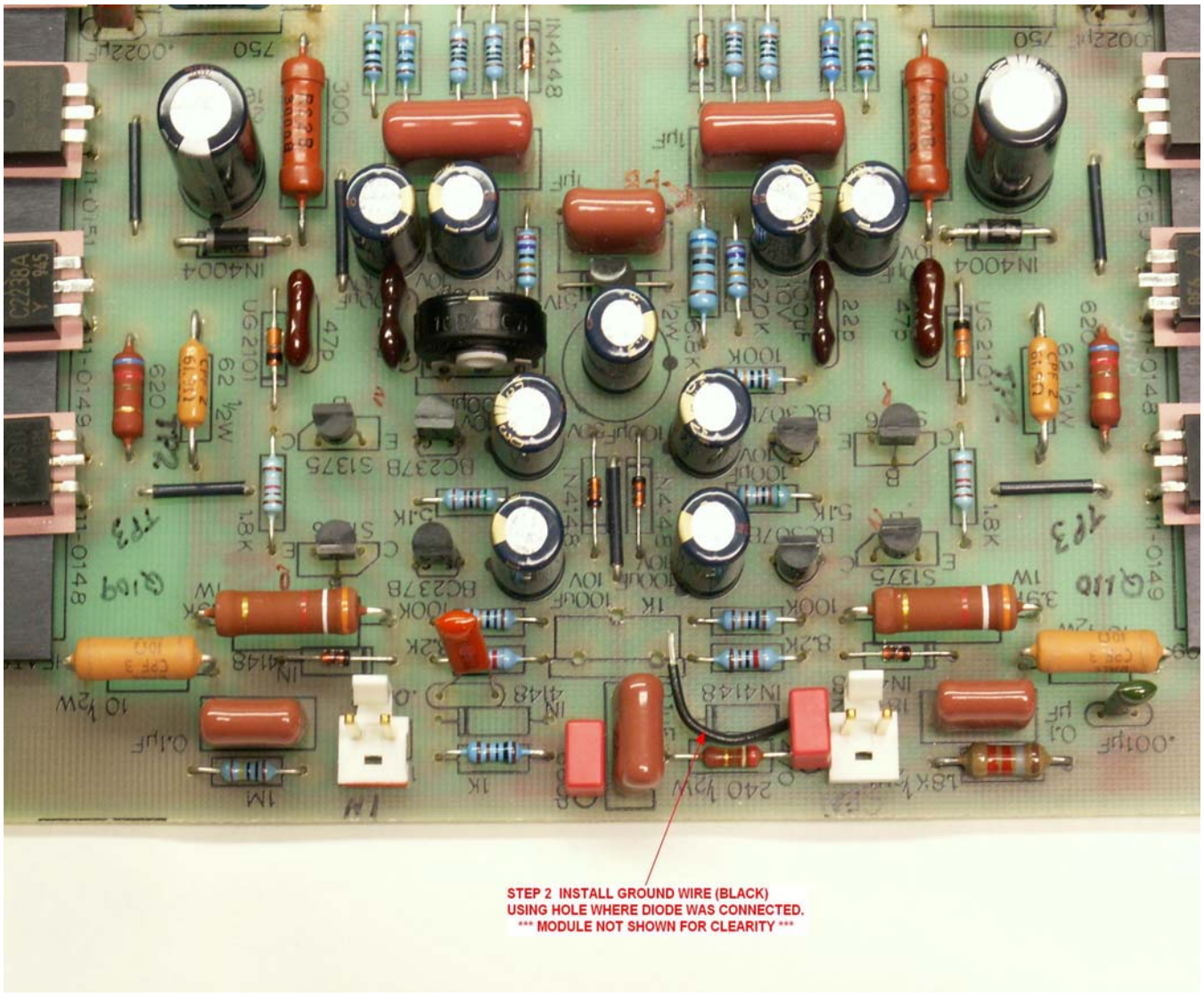
Remove the 2 each 1N4148 diodes (D101 & D103) and the original offset adjustment potentiometer (R109). (Reference Step 1 Illustration)

Do not discard the components removed. Save these components for future reinstallation if required.

SAE Mark 2400/2400L Servo Input Offset Control Module AS-910-02001-000

Installation Instructions

(continued)



Step 2:

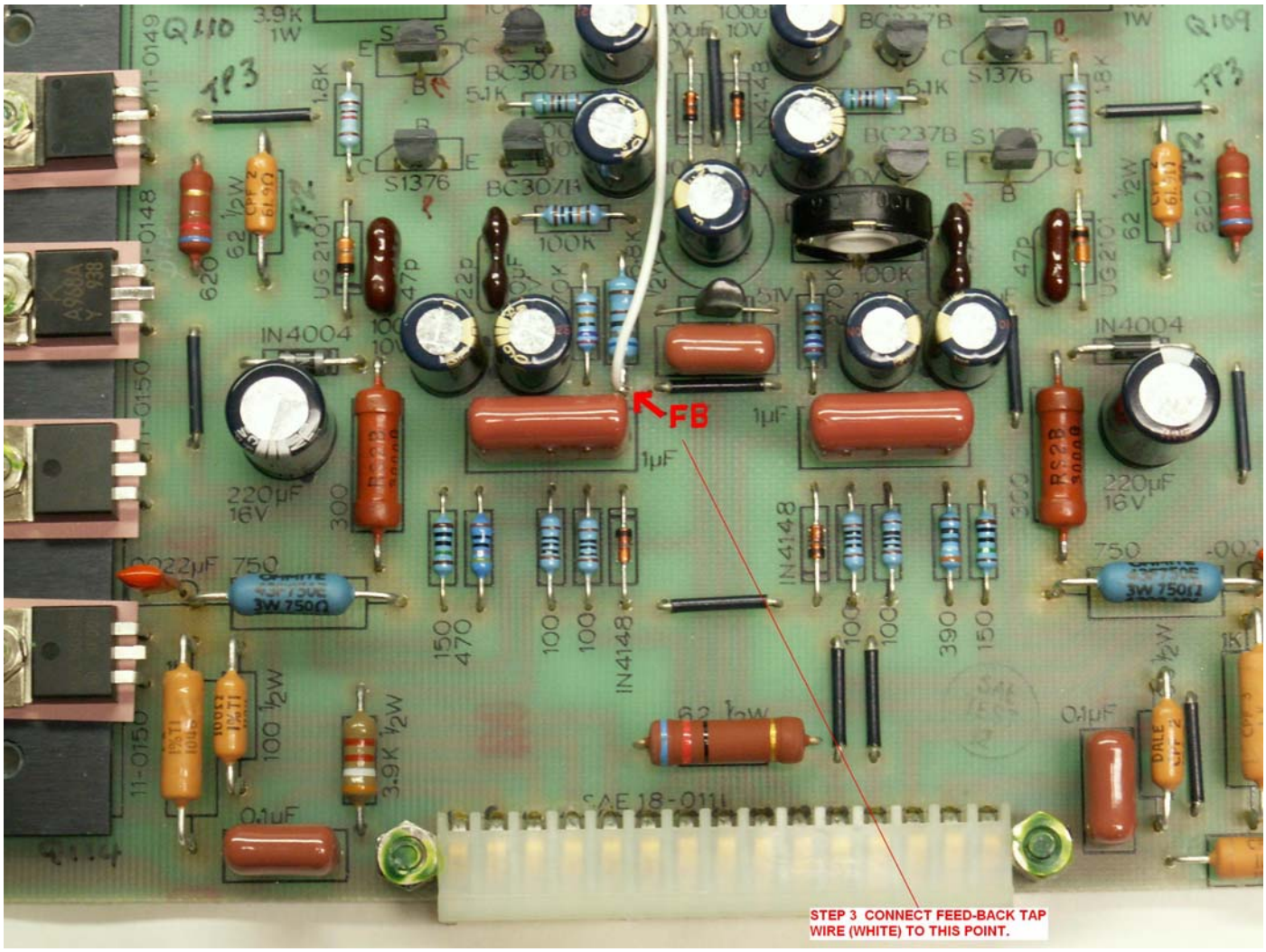
Remove the 2 each offset control modules from the protective anti-static package.

Solder the Black ground wire into the PCA at the hole/pad made available by the diode removal.
Use the diode anode ground point as indicated in the step 2 illustration.
Note: This may require lifting/removal of capacitor 470pf to gain access to the PCB hole/pad.

SAE Mark 2400/2400L Servo Input Offset Control Module AS-910-02001-000

Installation Instructions

(continued)



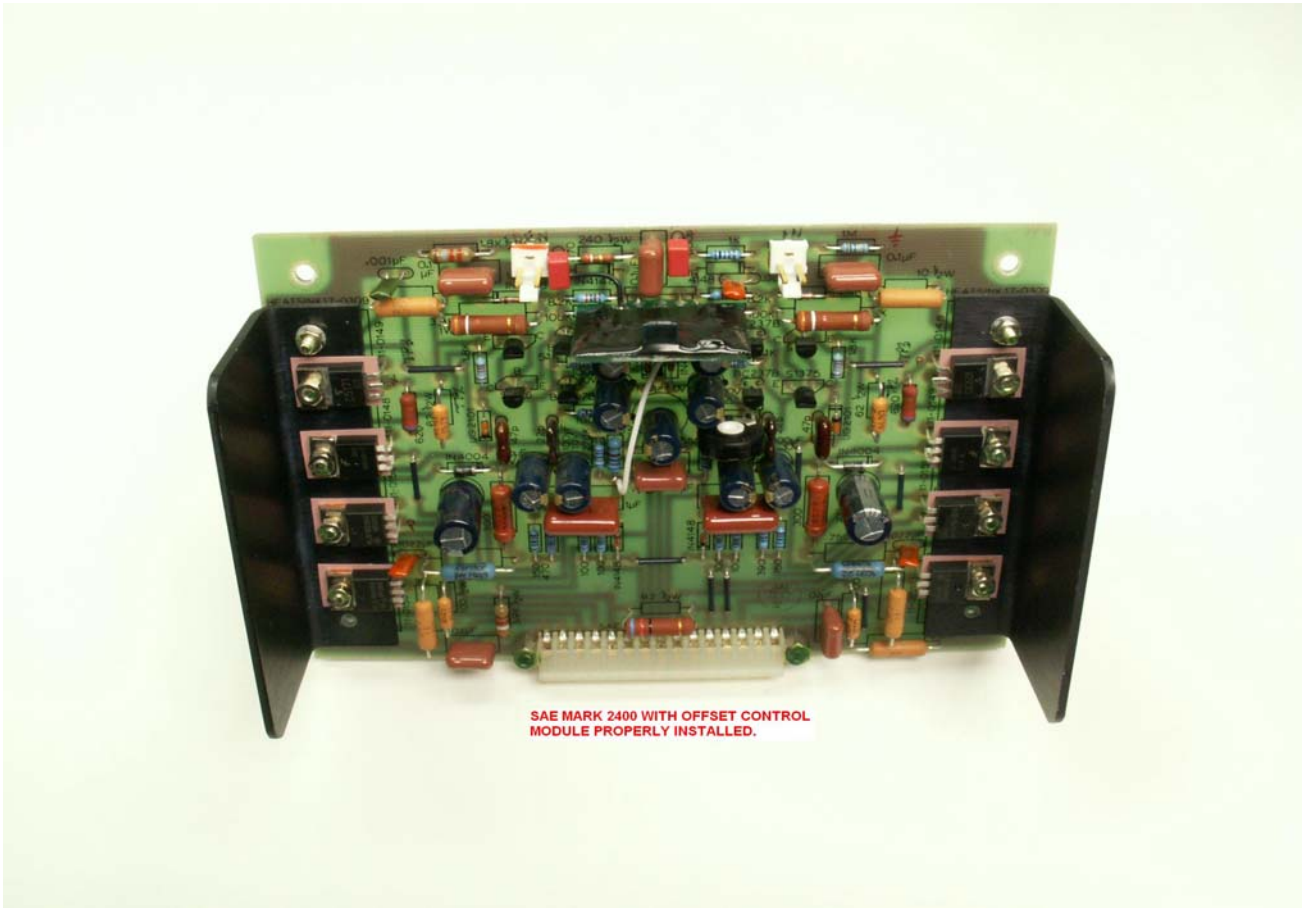
Step 3:

Connect/solder the feedback tap White wire to the 6.8k ohm resistor lead as shown in the step 3 illustration. This is the best point to place this wire for both access and performance.

SAE Mark 2400/2400L Servo Input Offset Control Module AS-910-02001-000

Installation Instructions

(continued)



SAE MARK 2400 WITH OFFSET CONTROL MODULE PROPERLY INSTALLED.

Step 4:

Insert the three (3) bare wire leads of the offset module into the PCA holes/pads vacated by the removal of the original offset adjustment potentiometer (R109). Solder the three (3) leads to secure the module in place and finalize the connections.

Notes: Solder one connection first while adjusting the offset control module position for a flush 90° degree perpendicular fit to the Input/Driver PCA. Pins are key configured for proper electrical connection.

Caution: Be careful not to over heat the lead connections. Doing so will compromise the solder connections at the offset module.

Do not tuck/tack the White wire down to the surface of the PCA. Remember this wire has a high potential audio signal on it. The two diodes and circuits below have base connections to the very sensitive input differential transistor pairs – neatness here will cause problems.

SAE Mark 2400/2400L Servo Input Offset Control Module AS-910-02001-000

Installation Instructions

(continued)

Step 5:

Recheck that your work is proper and of good quality. A mistake made on the Input/Driver PCA may result in damage from too much DC offset.

Step 6:

Reinstall the Servo Offset adapted Input/Driver PCA assembly in the amplifier chassis.

Step 7:

Repeat steps 1 through 6 for the second Input/Driver PCA.

Step 8:

Power up the amplifier and verify proper servo offset control module operation with a good quality digital multi-meter connected to the amplifier output terminals. The offset should settle at approximately 5 seconds and finalize the point of control in a minute. Values have been seen below 1.0 milli-volt DC.

Note: At this point the amplifier covers are still off and no speakers are connected.

Once proper installation and operation have been verified, the amplifier covers should be replaced. The amplifier can now be returned to service.

Enjoy your servo offset control adaptation. No more offset potentiometers going bad, poor offset operation until warm up has completed or fading offset adjustments due to age.

Thank you for purchasing a Gibson Engineering product. Watch for other future adaptation kits to this popular amplifier.

Disclaimers and Warranty: At the time of the writing of this document, no changes in audio quality or performance have been noted with the installation of this servo adaptation. This servo kit should not be used as a means to avoid proper matching of the input differential transistor pairs or rescue original differential transistor pairs that have degraded junctions due to age. This product is a semiconductor component/device intended for professional installation/use and is warranted as such to be free from defects at the time of manufacture for the intended purpose of use. No other warranties are granted or implied.

Gibson Engineering & Computers, Inc.
3575 S. West Temple, Suite 6
Salt Lake City, UT 84115
Tele: 801.261.8181
www.GibsonEng.com

This product assembled and manufactured in the U.S.A.
Dated July 07, 2012 Revision 00