

Converting the Frequency Plan of a TRACER 4x02 System

Introduction

TRACER 4x02 systems are shipped from the factory with the frequency plan programmed as Plan A or Plan B. Each wireless link must contain a Plan A radio on one end and a Plan B on the other. A frequency plan conversion may be performed in the field, but should only be attempted if absolutely necessary and must always be performed by qualified personnel. This document outlines the procedure for changing the frequency plan of a TRACER 4x02 system (TRACER 4102 or TRACER 4202).

Prerequisite Procedures

WARNING

Disconnect all cables attached to the TRACER 4x02 system (including power, data, terminal RS-232, etc.) before performing this procedure.

The current frequency plan configuration is listed on a label located on the rear panel of the unit (near the Antenna connector). Record the current configuration before beginning this procedure.

Tools and Materials Required



Do not attempt to perform the conversion without the proper tools (see list below). Using improper tools will damage the unit.

- 5/16" Torque wrench (8 in-lbs)
- 3/16" nut driver
- Phillips-head screw driver



Electronic equipment can be damaged by static electrical discharge. Before handling equipment, put on an antistatic discharge wrist strap to prevent damage to components. Place equipment in antistatic packing material when transporting or storing. When working on equipment, always place it on an approved antistatic mat that is electrically grounded.

Perform the steps below in the order listed.



Remove all connected mounting brackets before attempting to remove the unit cover.

1. Remove the screws from the chassis cover using a Phillips-head screwdriver (see Figure 1 for TRACER 4102 and Figure 2 for TRACER 4202).

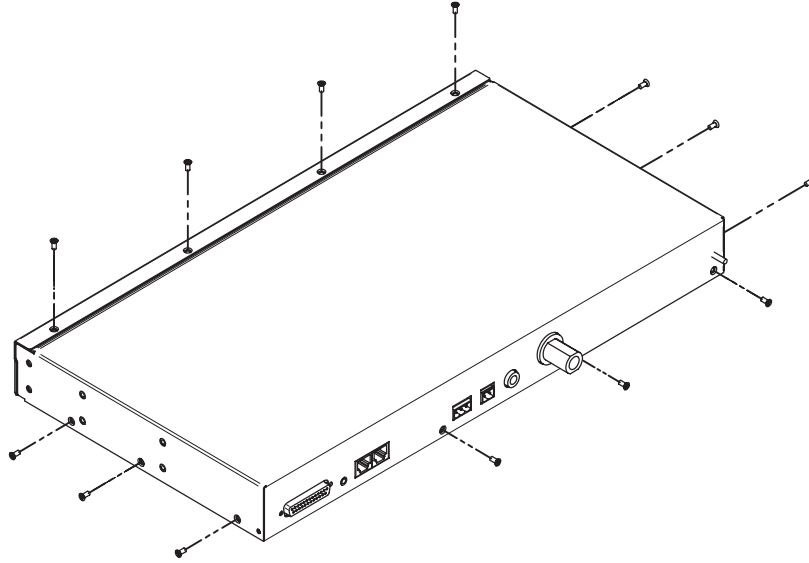


Figure 1. Removing the Cover Screws (TRACER 4102)

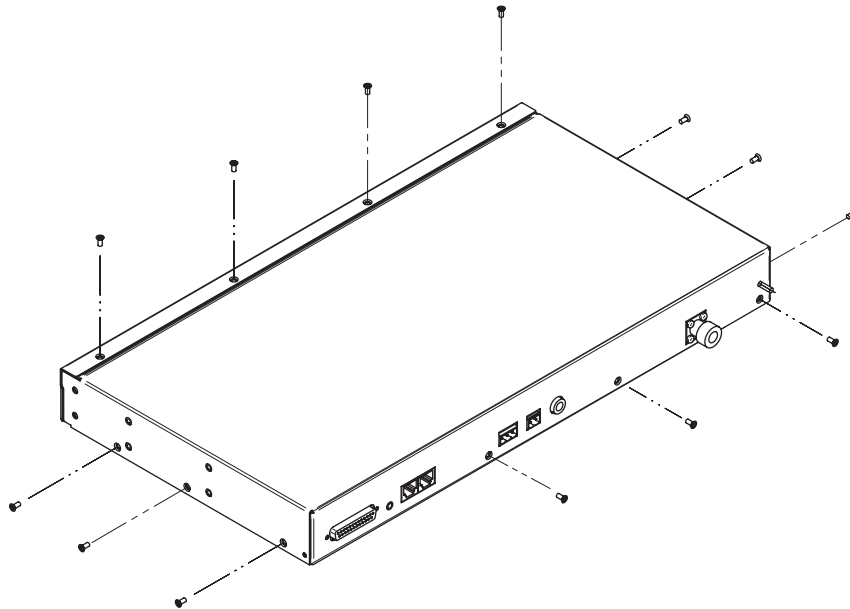


Figure 2. Removing the Cover Screws (TRACER 4202)

- Remove the nuts on either side of the RS-232 connector (on the rear panel of the unit) using the 3/16" nut driver (see Figure 3).

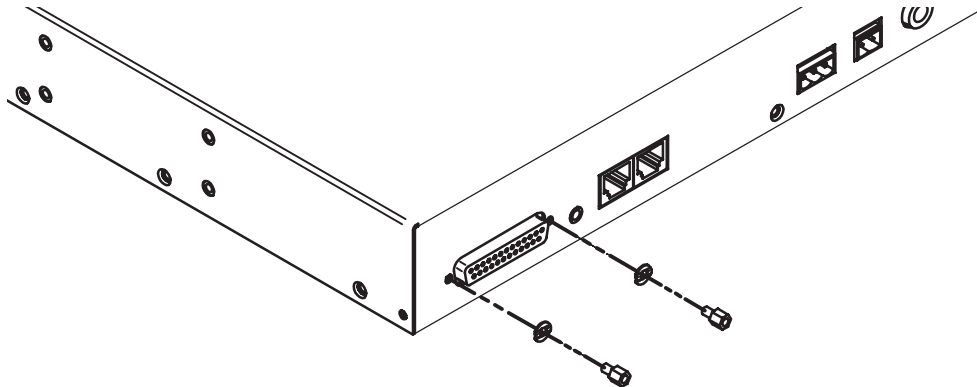


Figure 3. Removing the RS-232 Nuts

- Carefully slide the cover toward the back of the unit until the front edge of the cover is disconnected from the front of the unit. Lift the cover off and set aside.
- Verify the current frequency plan configuration. To verify the plan, check the connections between the J connectors (located on the board and labeled **J1** and **J2**) and the Chan connectors (located on the diplexer). The Chan connectors are labeled **2421** (Chan 1) and **2462** (Chan 2) for most TRACER 4102 systems and **CH1** and **CH2** for most TRACER 4202 systems. The following table outlines the connections for Plan A and B.

TRACER 4x02		
PLAN	CHAN 1	CHAN 2
A	J2	J1
B	J1	J2

Click to see a digital image of the [J connectors](#) or the [Chan connectors](#).

- Using the torque wrench, disconnect both cables from the Chan connectors on the diplexer. Do not attempt to disconnect the J connectors (located on the board) as this will cause damage. Click [here](#) for a digital picture of this step.
- Carefully flex the cables to swap the connections. Be careful with the RF cables, making sure that the minimum bend radius of the cable is greater than 0.75"; bends and loops smaller than a quarter will cause the RF cable to break. Use the wiring guidelines in Figure 4 and Figure 5 on page 4 for help with wire placement. Click [here](#) for a digital picture of this step.



Allowing the RF cables to sit on the processor and radio boards (green) could cause damage to the boards; keep the RF cables off the boards while re-routing them. Click [here](#) for a digital picture of this mistake.

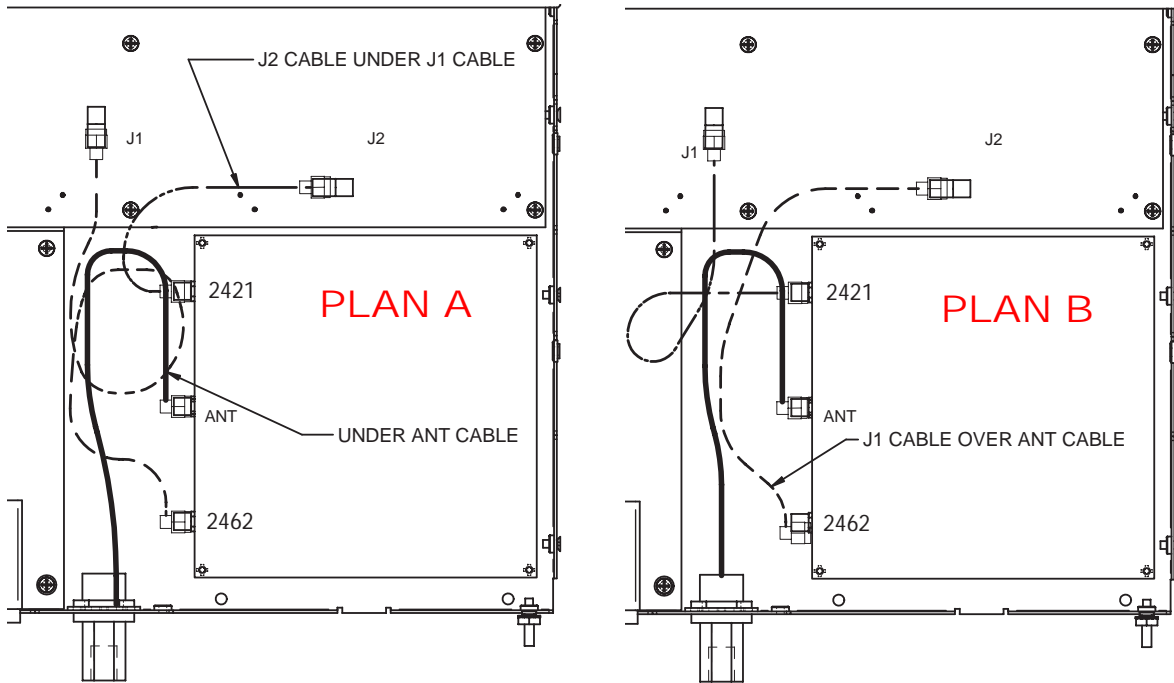


Figure 4. TRACER 4102 Cable Routing Diagrams

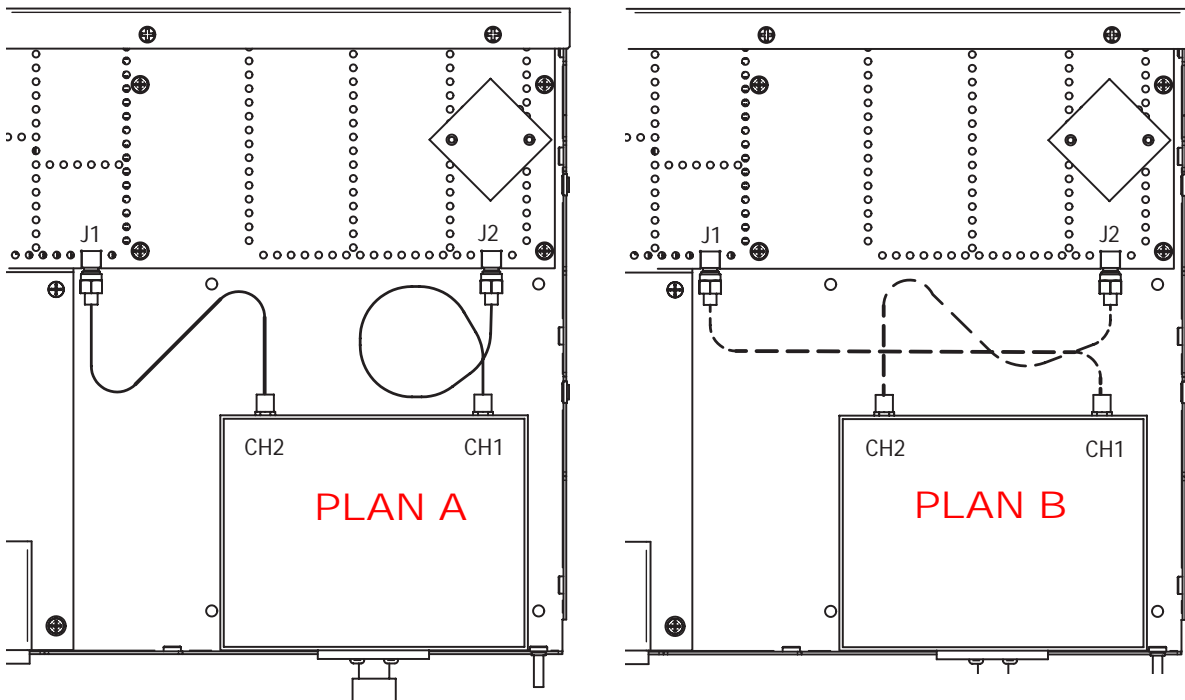
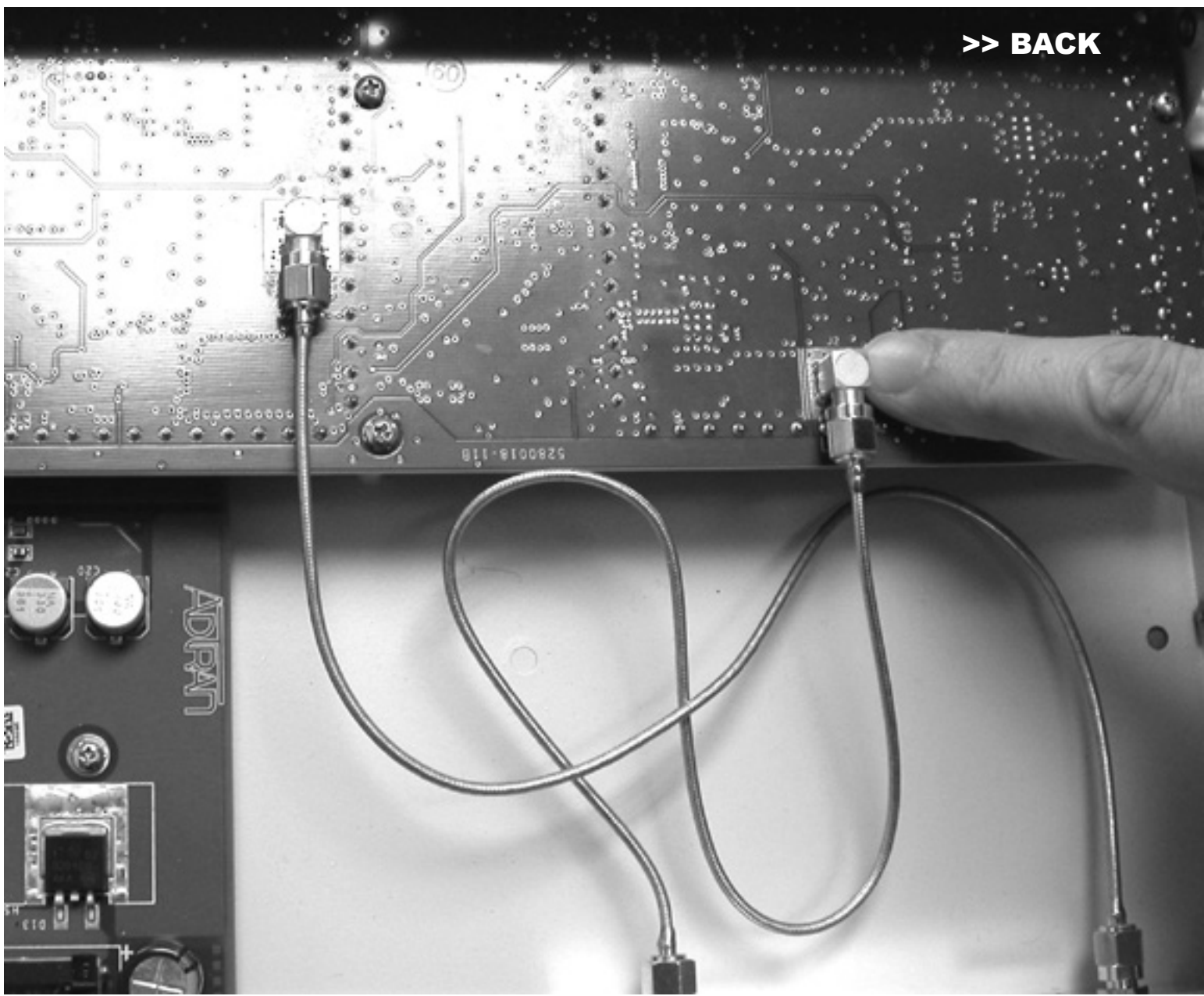


Figure 5. TRACER 4202 Cable Routing Diagrams

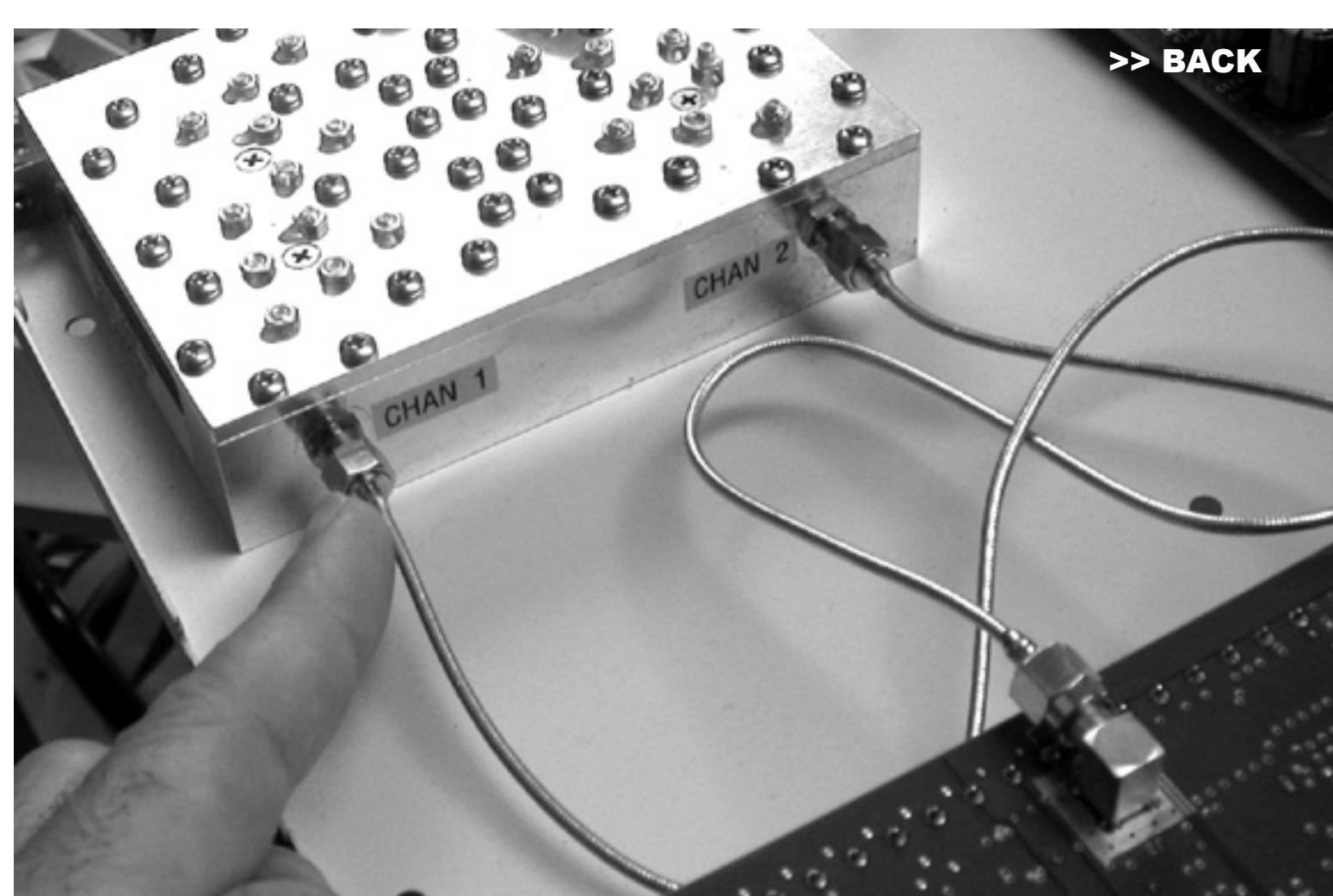
7. Use the torque wrench to reconnect the RF cables to the Chan connectors. Tighten the cables by turning clockwise until you hear a click from the wrench. DO NOT overtighten connectors as this will cause the RF cable to break. The TRACER 4x02 system will not operate properly with broken RF cables.

8. Reinstall the cover and carefully tighten all screws.
9. Change label on back of the unit to reflect the Plan change.

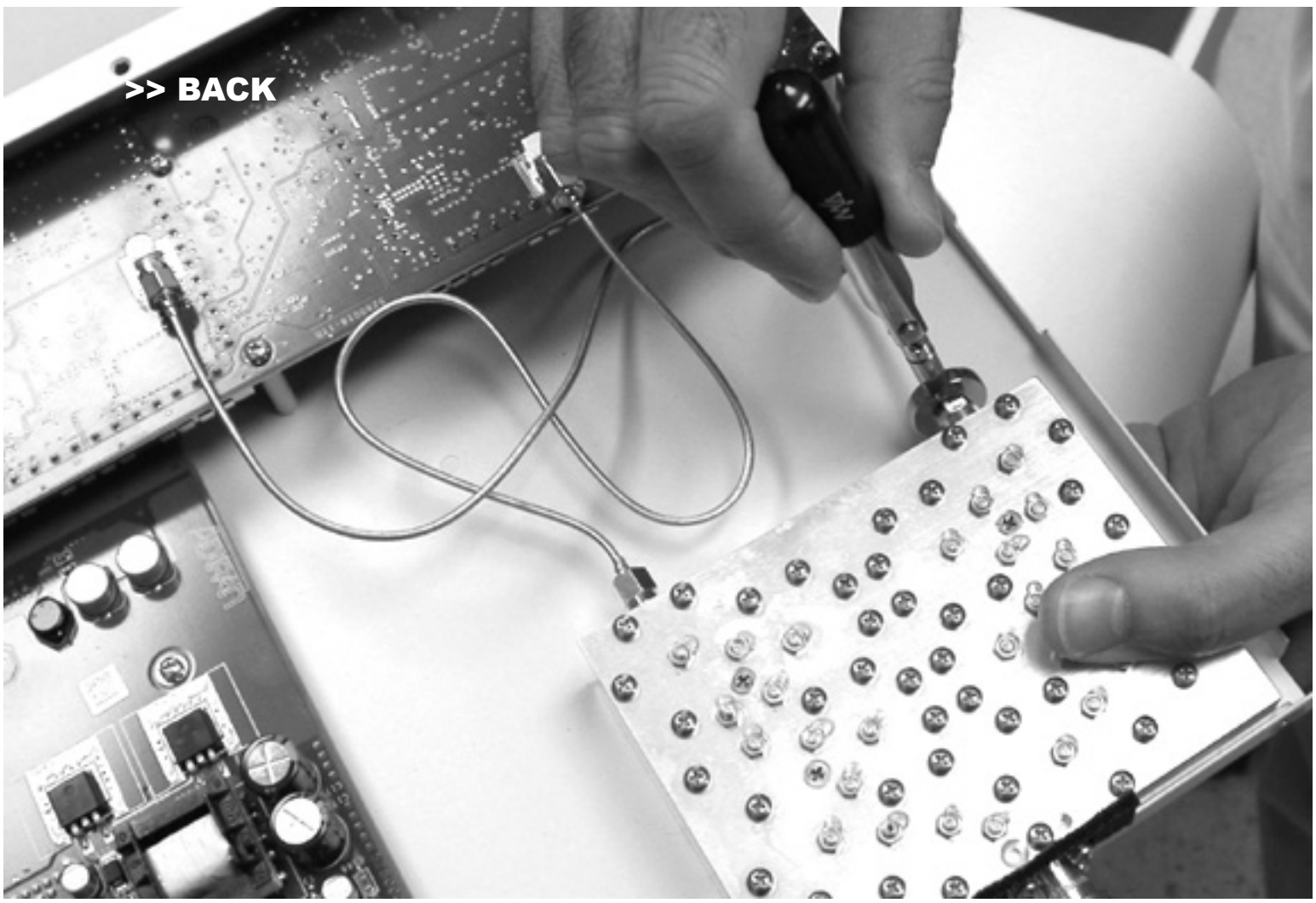
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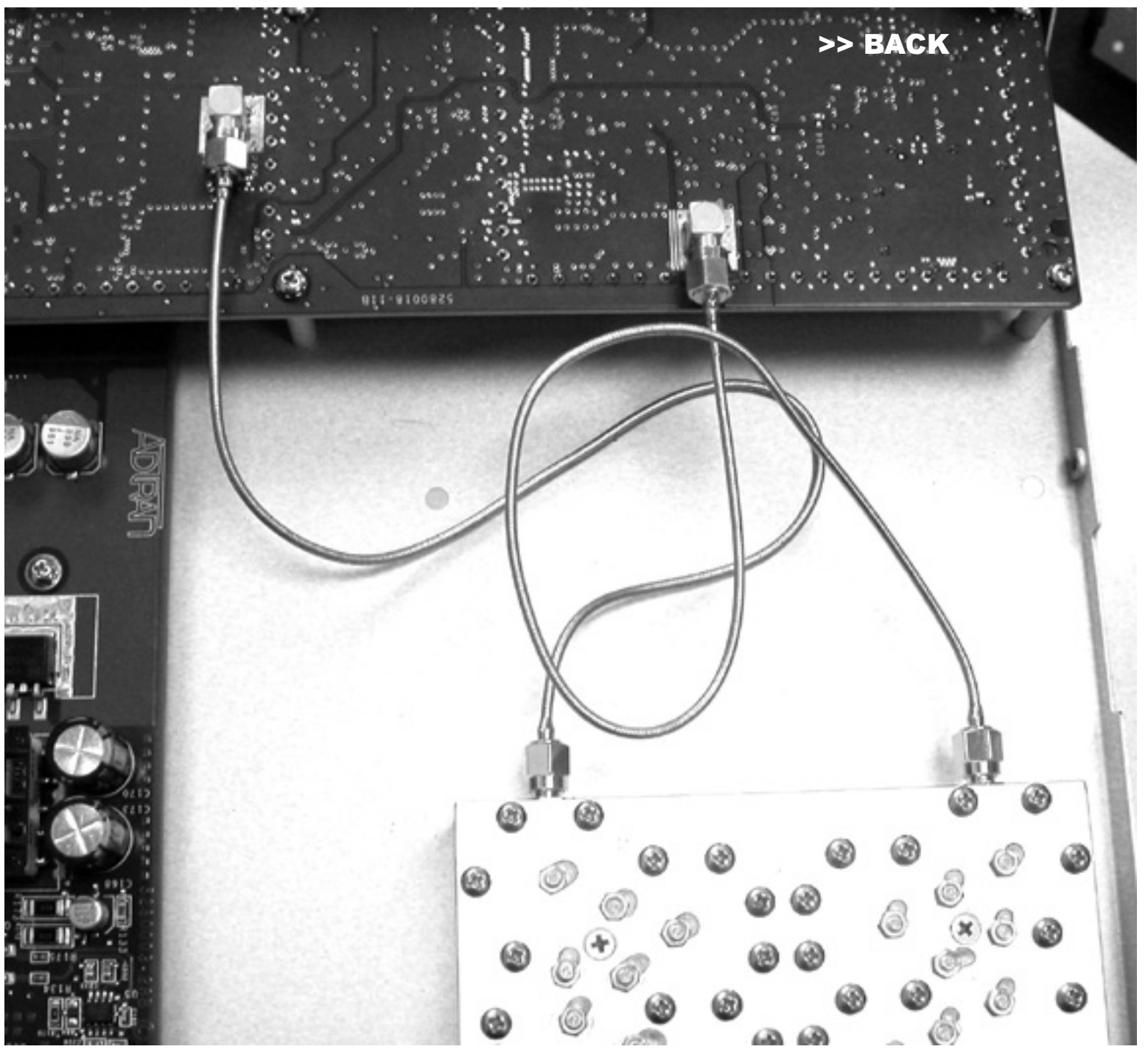
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