

This Information Is Provided By  
***CBTricks.com***

**Clear Channel Ranger SM-2 Scanning Mic Installation Manual**

**Liability of damages to any equipment is the sole responsibility of the user! Downloading, viewing, or using any information provided on these pages automatically accepts the user to the terms of this agreement!**

**Modifications are provided for information purposes only!**

Supporters of CBTricks.com paid for the hosting so you would have this file.

CBTricks.com is a non-commercial personal website was created to help promote the exchange of service, modification, technically oriented information, and historical information aimed at the Citizens Band, GMRS (CB "A" Band), MURS, Amateur Radios and RF Amps.

CBTricks.com is not sponsored by or connected to any Retailer, Radio, Antenna Manufacturer or Amp Manufacturer, or affiliated with any site links shown in the links database. The use of product or company names on my web site is not endorsement of that product or company.

The site is supported with donations from users, friends and selling of the Site Supporters DVD's to cover some of the costs of having this website on the Internet instead of relying on banner ads, pop-up ads, commercial links, etc. Thus I do not accept advertising banners or pop-up/pop-under advertising or other marketing/sales links or gimmicks on my website.

ALL the money from donations is used for CBTricks.com I didn't do all the work to make money (I have a day job). This work was not done for someone else to make money also, for example the ebay CD sellers.

All Trademarks, Logos, and Brand Names are the property of their respective owners.

This information is not provided by, or affiliated in any way with any radio or antenna Manufacturers.

**Thank you for any support you can give.**

For information on how to Support CBTricks.com

<http://www.cbtricks.com/support/>

## SM-2 Kit Parts List

Check to see that you have these parts in your kit:

- 1 - Scanning Mic
- 1 - Scanning Mic Circuit Card
- 1 - 8-Pin Mic Plug Assembly
- 1 - 6-32 X 1/4 Phillips Machine Screw
- 1 - #6 Internal Tooth Lock Washer
- 5 - 5 uH RF chokes
- 1 - shrink insulation tubing

## SM-2 Scanning Mic Installation Instructions

1. Remove all power to the radio. Remove radio cases.
2. Determine whether you have a 4 pin or an 8 pin microphone jack on the front panel of your radio.
3. If you have the 4 pin mic. jack, disconnect the coax and the blue wire from the jack. Remove the jack from the front panel. Install 8-pin connector in the front panel. Solder blue wire to pin-6 of mic jack, coax shield to pin-7, and center conductor to pin-8.

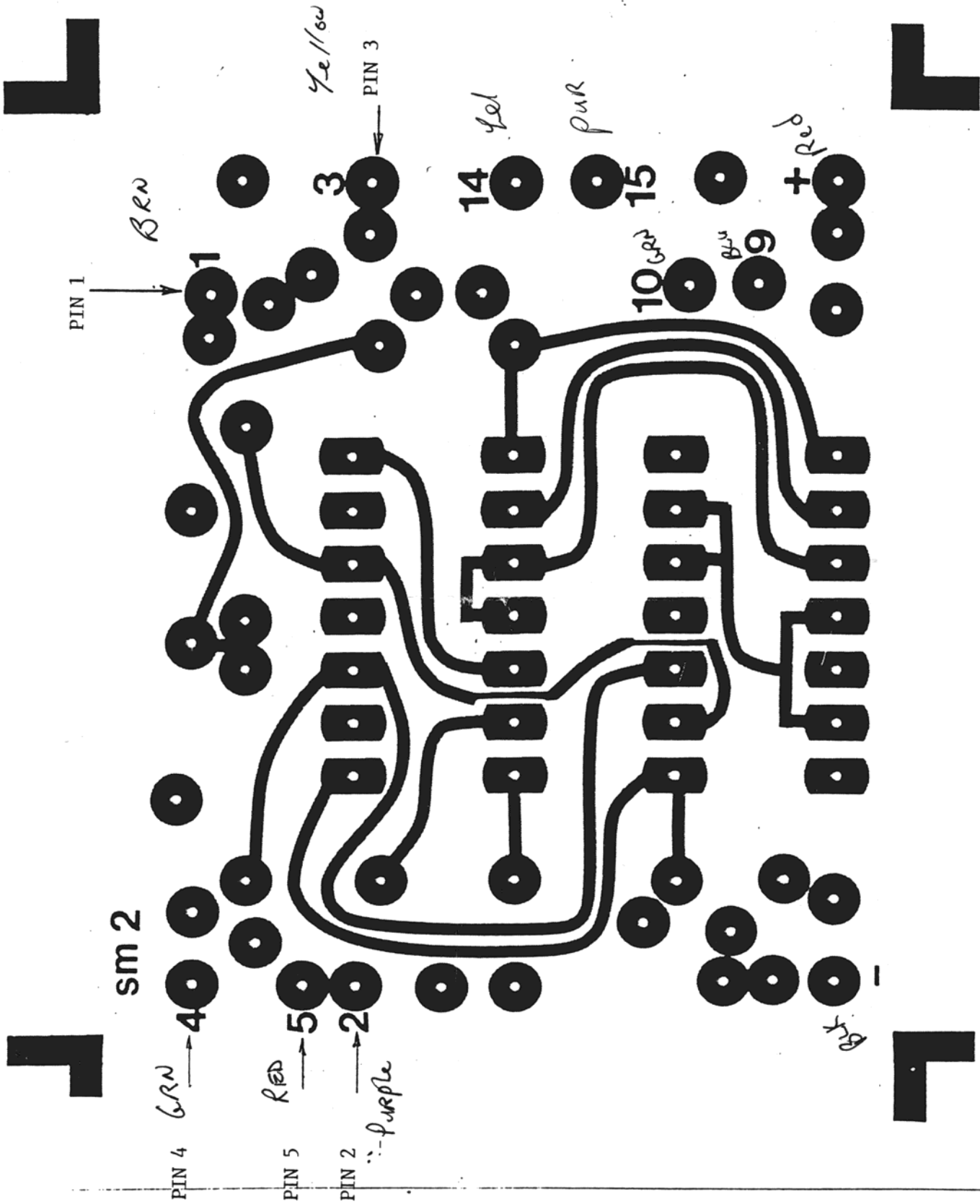
Note: All installations should install the 5 pcs. of the 5 uH chokes. RFI will cause erratic operation without these chokes.

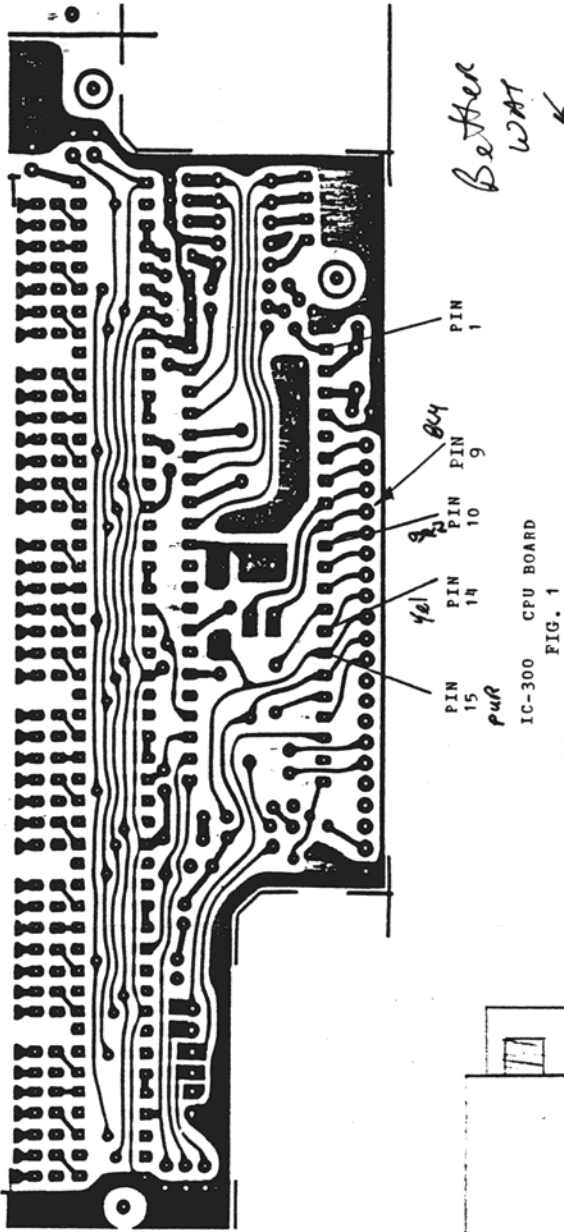
4. If you have the 8 pin mic. jack, install the 5 pcs. of the 5 uH chokes by soldering them to pins 1,2,3,4, and 5. Cut the leads of the chokes so that the body of the choke is next to the solder pins on the connectors. Attach the wires from the PCB to the chokes as noted below. Use a small piece of shrink tubing to insulate these connections to the chokes.
5. Solder the wire on Pin 1 of mic jack to the spot marked 1 on the Scanning mic circuit card.
6. Solder the wire on Pin 2 of mic jack to the spot marked 2 on the Scanning mic circuit card.
7. Solder the wire on Pin 3 of mic jack to the spot marked 3 on the Scanning mic circuit card.
8. Solder the wire on Pin 4 of mic jack to the spot marked 4 on the Scanning mic circuit card.
9. Solder the wire on Pin 5 of mic jack to the spot marked 5 on the Scanning mic circuit card.
10. Locate blue wire on Scanning mic circuit card and solder to pin 9 of IC-300. (See Fig. 1)
11. Locate green wire on Scanning mic circuit card and solder to pin 10 of IC-300. (See Fig. 1)
12. Locate yellow wire on Scanning mic circuit card and solder to pin 14 of IC-300. (See Fig. 1)
13. Locate purple wire on Scanning mic circuit card and solder to pin 15 of IC-300. (See Fig. 1)
14. Solder red wire on Scanning mic circuit card, to a +12vdc source. (See Fig.3 Spot marked "A")
15. Solder black wire on Scanning mic circuit card, to ground. (See Fig.3 Spot marked "B")
16. Drill or punch a 5/32 inch hole approximately 2 1/4 in. back from the rear of the radio's plastic nosepiece, and 3/8 in. down on the right side of the radio if you have the radio's front toward you, and upside down. (See Fig. 2)
17. Using the 6-32 X 1/4 Phillips machine screw and the #6 internal tooth lock washer attach Scanning mic circuit card "L" bracket to the side of the radio.

SEE FIG 3.

## SM-2 Operating Instructions

1. To change the frequency of your Ranger radio, push the up or the down button on the top of your scanning mic and the frequency will change in 100Hz increments. After 2 - 3 seconds the SM-2 will automatically switch the scanning increments to 1KHz.
2. The fast button at the top of the microphone's push to talk switch will cause the radio's display to change, at approximately twice the normal speed.





Better  
WAT

for  
10 Kc →  
100 Kc

# 7 = BLUE  
# 8 = PURPLE  
# 10 = GREEN  
# 14 = YELLOW

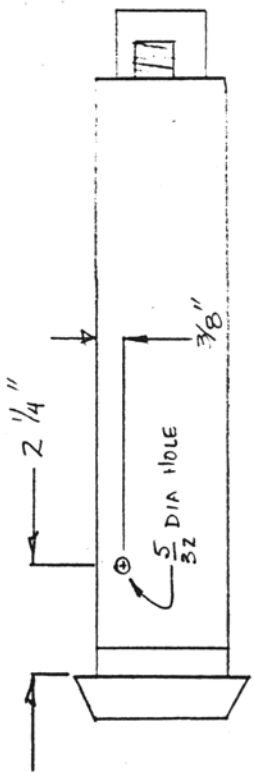


Figure 2

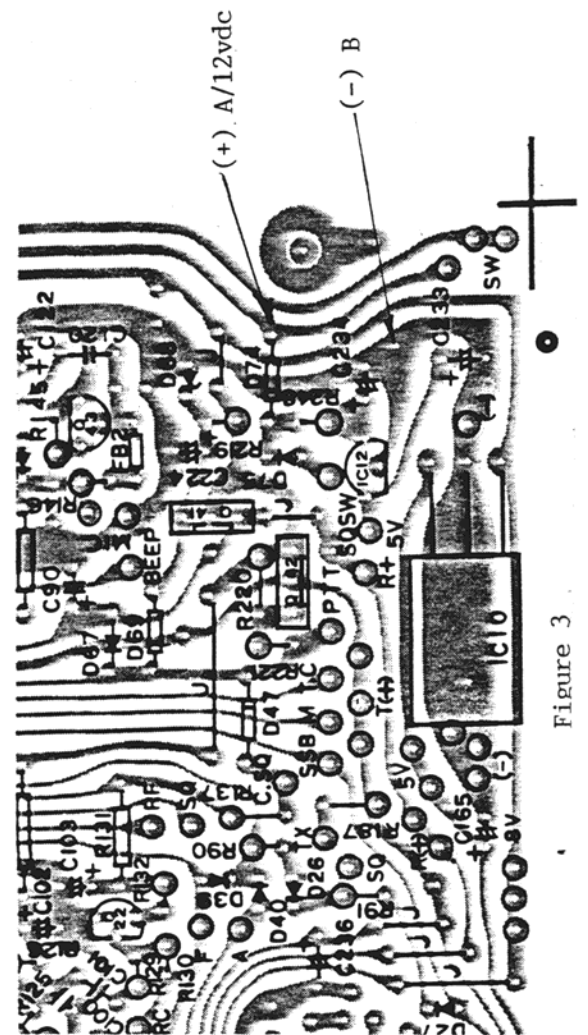


Figure 3

## ADDENDUM

### SM-2 RFI malfunction

If you are experiencing a malfunctioning of the scanning portion of the microphone, you will need to install the 100 uH chokes supplied in the kit. The malfunctioning of the scanning will occur when a high RF field is present. The RFI can leak directly into the microphone cord causing the scan circuit to either scan up or down without depressing the scan buttons on the microphone. To eliminate the problem, install the 100 uH supplied with the kit at the microphone plug. These should be soldered onto pins 1 thru 5. Keep the leads short and finish them off by insulating each one with shrink tubing.

