

# Modifying the ICOM IC R-7000 Radio for use in Radio Astronomy



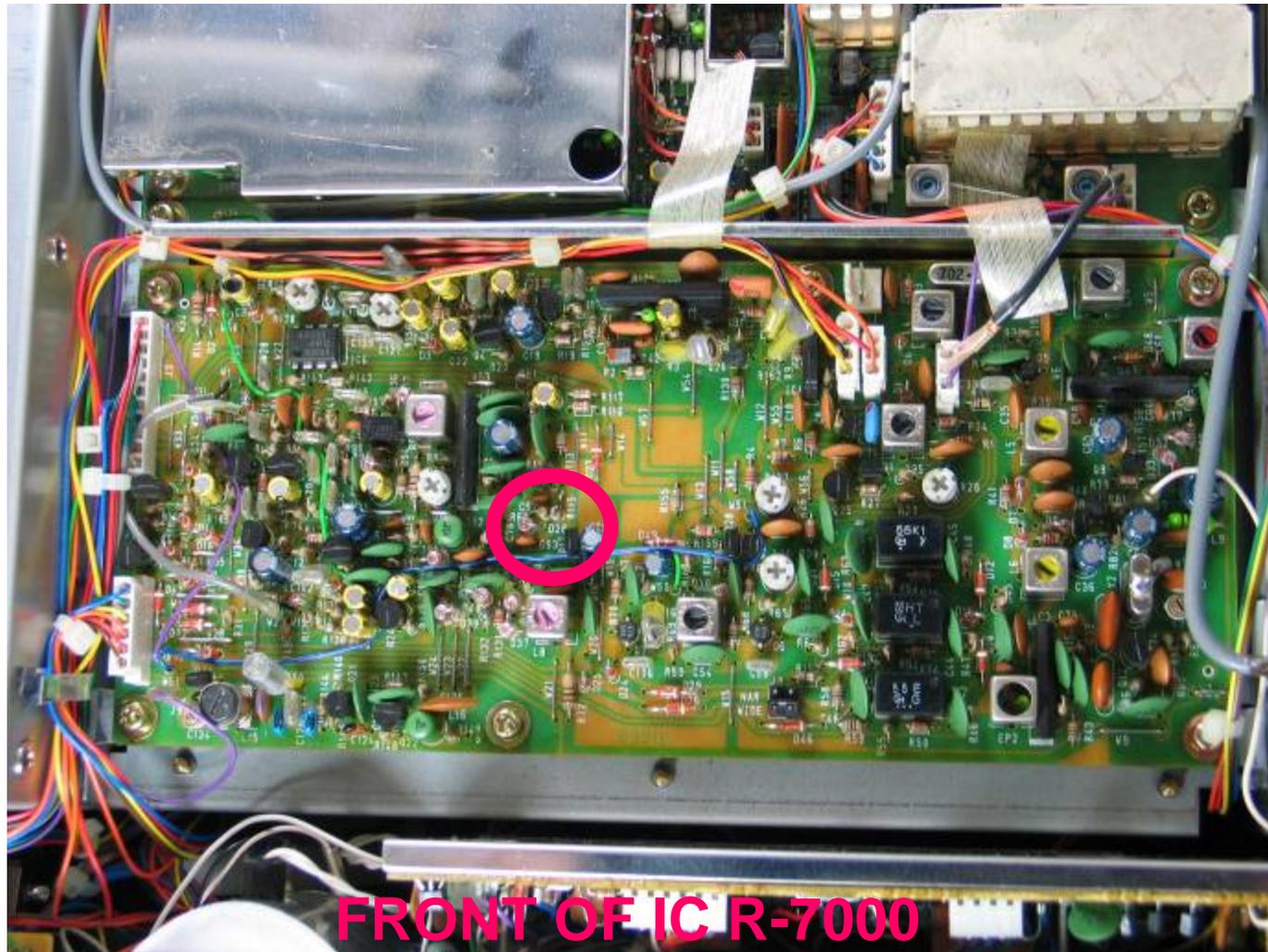
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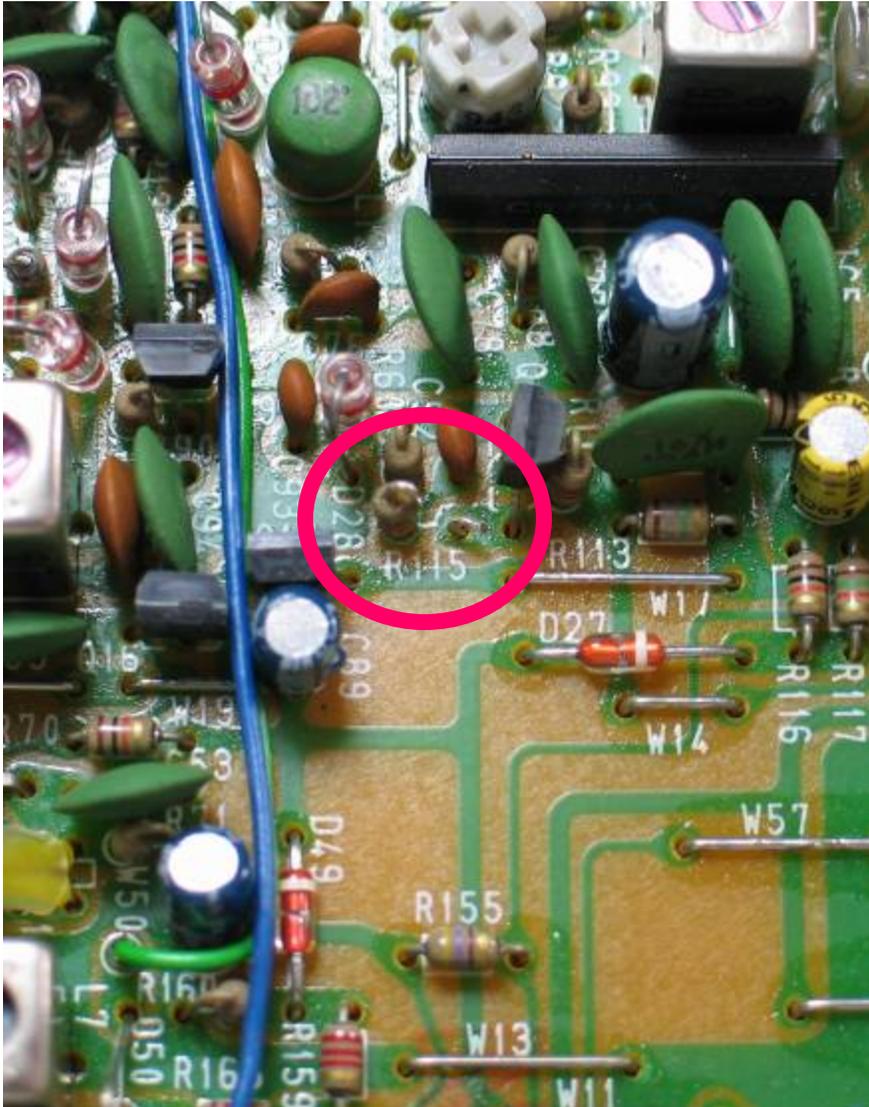
# Disabling the AGC on the IC R-7000

- This modification was originally proposed by Randy Stegemeyer:  
(<http://www.signalone.com/radioastronomy/telescope/>)
- The AGC on the ICOM IC R-7000 receiver can be disabled by cutting the top lead of R-115 on the IF board. This resistor is in the base lead to transistor Q18, which is the AGC amplifier. With this resistor opened, no voltage from the AGC rectifier diode D28 can reach Q18 so it never attempts to lower the gain of the receiver.
- After you take the top cover off, and facing the front of the receiver, R-115 is located about 5 inches from the left side of the receiver, and about 4 inches from the front. It is plainly marked and is standing on end.

# Remove top cover and locate R115



# Cut top leg of R115



- Scrape the lacquer off the top leg of R115 using a hobby knife.
- Tin the top leg after scraping using solder.
- Cut the top wire midway.
- Form the separated wire segments into small loops.

# Solder wires for AGC switch



- Solder a twisted pair of wires to the small resistor lead loops. Route neatly to back of radio.

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# Add miniature SPST switch



- Terminate the two wires with a subminiature SPST toggle switch. Place switch through ventilation holes on back of IC R-7000

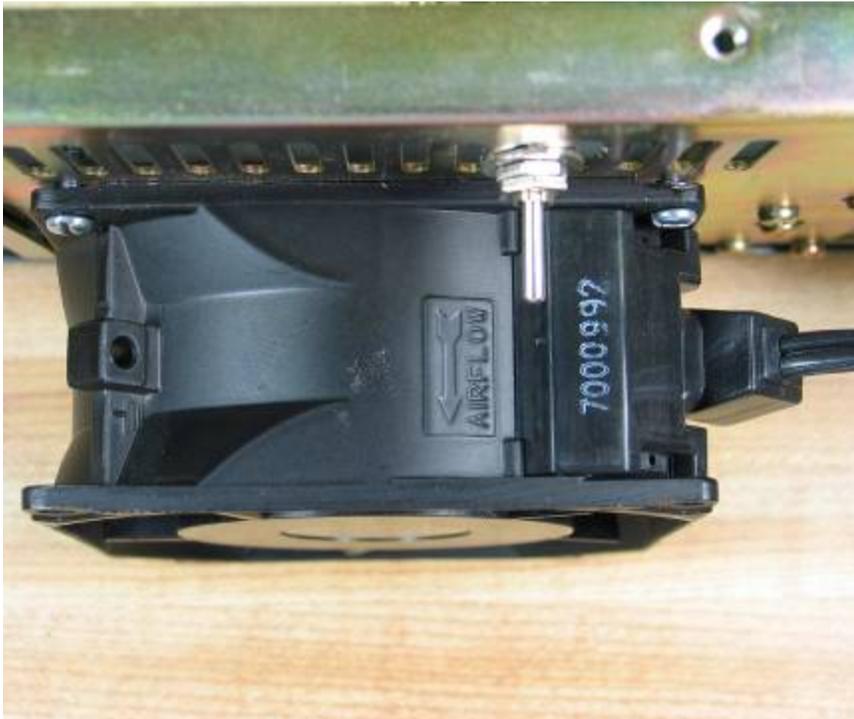
# Remove screws to place fan



- Remove these two screws. Store them for the future.

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# Adding Fan



- Purchase a **high-quality**, low noise 3" x 3" 110VAC fan.
- Identify the direction of airflow. Orient the fan to pull air out of the IC R-7000.
- Mount the fan using two 4-40 x ½ machine screws on the holes from which you removed the original screws.
- Place dust filters on the air intake holes (bottom of radio).

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# The back of the modified IC R-7000

