

# HAM RADIO RFI CHEAT SHEET



RFI Solutions from KHz to GHz



Available at Ham Radio Outlet

## My Station Causes RFI – What do I do?

All RFI problems have a SOURCE, a PATH, and a VICTIM. Stop RFI by shutting down the SOURCE, choking off the PATH, or protecting the VICTIM. In most cases of mobile/home/portable ham radio operation, the transmitter is the SOURCE, the PATH is a “receiving” antenna disguised as the AC/DC wiring, phone lines, or cables entering the VICTIM, and the VICTIM(s) are electronic devices that amplify the received signal and create the disturbance in the form of sounds, buzzes, non-operation or scrambled video.

### RFI Solution Kits

## #1: Clean up the SOURCE OF RFI and Choke the PATH

#### Transceiver RFI KITS

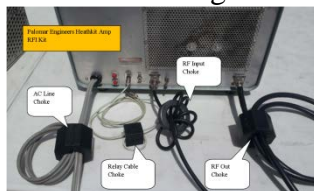
Choke RFI into AC/DC lines,  
Coax, interconnecting lines



RFI-XCVR-DELUXE

#### Amplifier RFI Kits

Choke RFI into AC/DC lines, coax,  
interconnecting lines



RFI-LA-GAC

#### Multi Ring+Snap On Combo

Choke RFI into AC/DC lines,  
coax, interconnecting lines

Multi Ring + Snap On Combo Pack—Mix 31



Ring: F240-31(6) 1.4” ID  
Snap On: 3/8”(6), 1/2”(5)  
RFI Range 1-300 MHz

FSCP-31-22

Antenna RFI Kits – feed line chokes to stop coax braid radiation - configured as baluns (balanced output) or ununs (unbalanced output)

#### Jumper Choke



JC-1-1500

#### Dipole Balun-5KW



CB-1-5000EB

#### Coax Choke-5KW



CU-1-5000SO

#### Dipole Balun-1.5KW



BULLET-1B-1500

#### Tube-3KW+Static Bleeder



MC-1-3000GB

## #2: Protect the VICTIM OF RFI (shack, home, neighbor)

Home Theater System RFI Kit – audio, video, speaker, sub-woofer RFI protection

Computer RFI Kits – laptops, desktops, DSL/Routers, network boxes, CAT5 cables, wireless devices

Garage Door Opener Kit – AC power and sensor protection

Generic RFI Kit for electronic projects and small RFI problems including LED and garden lighting

AC/DC Power Line Chokes – kitchen, household appliances, Heating/air conditioning, sprinkler systems

Ferrite Snap On's – Mix 31 (1-300 MHz), Mix 61 (200-2000MHz), Mix 75 (150 KHz-10 MHz)

# HAM RADIO RFI CHEAT SHEET



RFI Solutions from KHz to GHz



Available at Ham Radio Outlet

## My Station is a VICTIM of RFI – What do I do?

**CAUSE:** RFI, or a high noise level, to ham radio receivers can be caused by broadband signal hash or “birdies” from consumer electronic devices including computers, routers, DSL/cable modems, plasma flat screen TV’s, HVAC control circuits, switching power supplies (wall warts), battery chargers, and other low power “transmitters” coupling their RFI into your AC power line, speaker cables and RF cables. Common mode noise can also be picked up on coax feed lines, rotor/antenna control lines and equipment interconnect cables.

### #1: Clean up the SOURCE, choke the PATH, protect the VICTIM

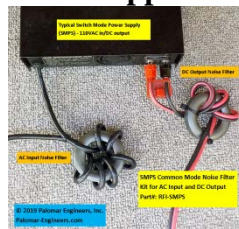
Determine the primary interfering frequency of the source and [select a ferrite mix](#) that is effective at the fundamental interfering frequency. Select a ferrite form (Snap On, Slip On, or toroid ring) with a diameter that will allow one or more turns thru the center. Remember that the choking resistance increases with the SQUARE of the number of turns. If 1 turn = x, 2 turns = 4X, 3 turns = 9X, etc. Higher resistance = Less RFI!

#### Wall Wart Noise Filter



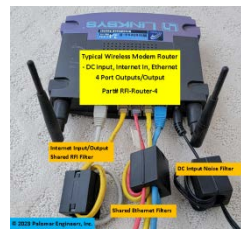
RFI-WW-10

#### Switch Mode Power Supplies



RFI-SMPS

#### Computer/Router Noise



RFI-COMPUTER

#### Home Theater System/HDTV Filters



RFI-HTS

### Common Mode Coax Noise Filters – neighborhood noise suppression picked up on coax braid



CMNF-500-50 (500 watts PEP)



CMNF-1500 (1.5KW PEP)



CMNF-5000 (5KW PEP)

Individual Ferrites – [Toroids](#), [Slip On](#), and [Snap On](#) – for 1/8" wire to 3" cables available in convenient 10, 25 and 100 packs and combination packs of various mixes and sizes for general RFI troubleshooting.

**Got a tough RFI problem and need a quick solution? Call RFI Hotline at 760-747-3343 or check out the RFI tutorials on our website at [Palomar-Engineers.com](http://Palomar-Engineers.com)**