



Radio Interference

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Terms

RFI -- Radio Frequency Interference

TVI -- Television Interference

EMI -- Electromagnetic Interference

EMC -- Electromagnetic Compatibility

Caveat



Every RFI problem is unique. Don't expect to find the exact solution to your problem in this course, in the *ARRL RFI Book*, or in any other book or reference work. These items will provide a starting point and a little insight into solving the problem. It is your own ingenuity, intuition, and determination that will ultimately come up with your solution.

Forms

Outgoing – You caused it

- Radiated
- Conducted



Incoming – You caught it

- Radiated
- Conducted



You Caused It



Possible Sources

Outgoing Radiated

Overmodulation

Input overload

What can you do?

Outgoing Radiated

Use low power

Monitor modulation

Low pass filter on antenna

Possible Sources

Outgoing Conducted

Unfiltered power supply

RF in power lines

RF in connecting cables

What can you do?

Outgoing Conducted

Powerline filter

Independent ground

Ferrite beads

Philosophy



Keep cool

Initial report is probably incomplete

Call for help

Diagnose then fix

Differential diagnosis



You Caught It



Possible Sources
Incoming Radiated

- Atmospheric noise**
- Powerline insulators**
- Electric fences**
- Unauthorized radiators**
- BPL**

What can you do?

Incoming Radiated

Reduce IF Bandwidth

Reduce RF Gain

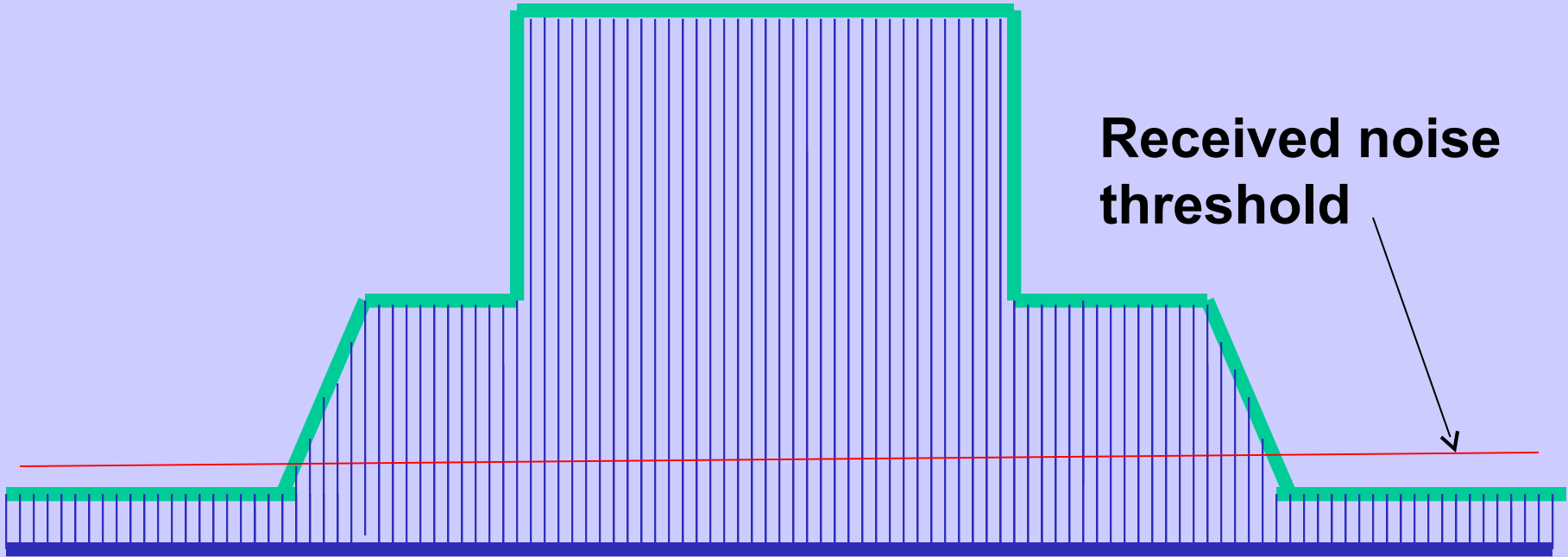
Keep a log

Tune the bands

Find the direction

IF Bandwidth

Strong SSB Signal

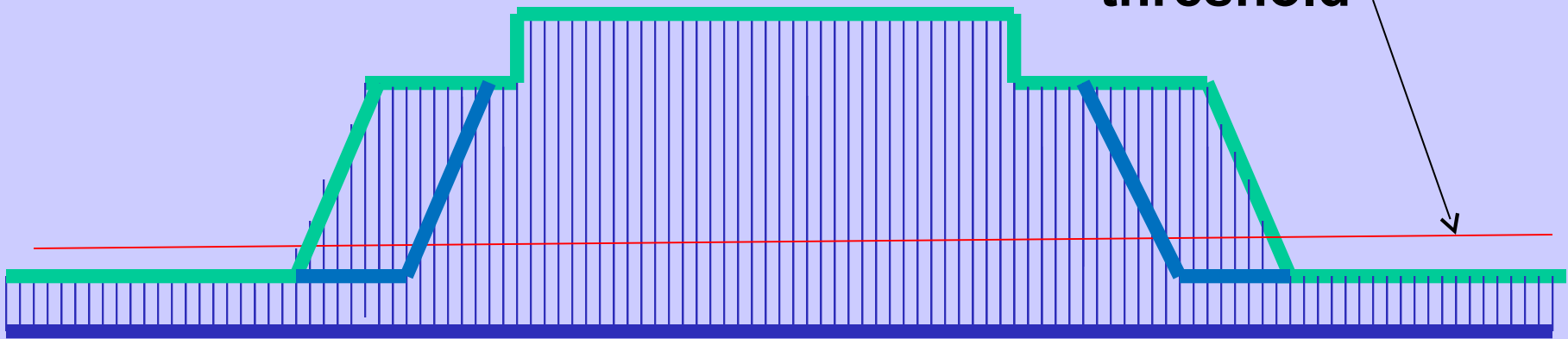


Received noise threshold

IF Bandwidth

Weak SSB Signal

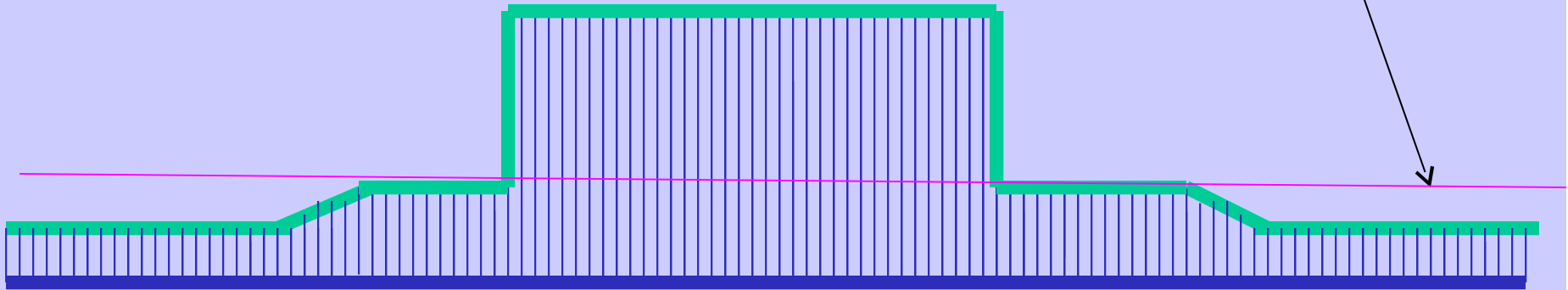
Received noise threshold



IF Bandwidth

Strong SSB Signal

Received noise threshold



Possible Sources

Incoming Conducted

Powerline insulators

Electric fences

Thermostats

What can you do?

Incoming Conducted

Powerline filter

Independent ground

Isolated power plug

Tools & Tricks

AM radio

Filtered power box

You

Look for the obvious

Caveat

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