COMMUNICATIONS SERIES · COM-10

COM-10 — Direction Finding & RF Geolocation

Signal Strength, Bearing, and the Fix

Find a lost radio, clear interference off your own net, and train your team on real equipment.

BOTTOM LINE UP FRONT

COM-10 teaches direction finding — signal strength, bearing, and triangulation — for three sanctioned purposes: recovering a lost or beaconing radio, clearing interference off your own net, and running an ARDF-style training exercise. It is not a course in locating or targeting another operator's transmissions, and it is the analytical counterpart to COM-04 (EMCON), not a replacement for it.

WHY THIS MATTERS

A team that can only avoid being found can't recover what it's lost.

COM-04 teaches a station to reduce its own signal signature. COM-10 teaches the other half of that skill set: using signal strength, bearing, and triangulation to find a working transmitter — your own team's beaconing handheld, a source of interference on your own net, or a hidden training target in a fox hunt. Every technique in this course is scoped to your own people, your own net, and sanctioned exercises.

> *A single bearing tells you a direction. Two or more, plotted together, tell you a location.*

FROM BEARING TO FIX

Term	Meaning
Bearing	A single compass direction from one station toward a signal.
Cut	Where two stations' bearing lines cross on a map — a general area.
Fix	Where three or more bearing lines cross — a tighter location estimate.
Actual fix	The real-world result once terrain, propagation, and equipment error are accounted for — rarely exact, but usable.

COURSE LESSONS

#	Lesson	What it covers
01	Course Intro & Legal/Ethical Framing	What this course is for, what it isn't, and its core vocabulary.
02	DF Fundamentals: Strength vs. Bearing	Why a strength meter can't find a transmitter — hunt the null, not the peak.
03	VHF/UHF DF: Equipment & Technique	Building a DF kit and stepping attenuation as you close in.
04	HF DF: Equipment & Technique	Why skywave propagation makes HF a different, harder problem.
05	Triangulation & Fix-Taking	Plotting bearings into a cut and a fix, with realistic accuracy expectations.
06	Practical Application (Capstone)	Three scenarios: a lost handheld, net interference, and a fox hunt.

DOCTRINAL SOURCES

Source	Publisher	Relevance
MCRP 3-40.3B, Radio Operator's Handbook	U.S. Marine Corps	RDF fundamentals, cut/fix/CEP definitions, field-expedient directional antennas.
Communications Monitoring & Direction Finding (sparks31)	sparks31 (independent)	Practical monitoring-antenna references and directional-antenna technique for VHF/UHF work.