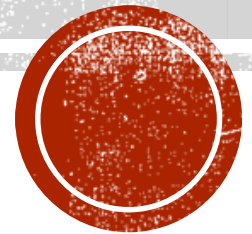


PORTABLE HAM RADIO

What I take, and what I endure, as I travel around the globe
Batteries, antennas and other accessories as well
NOT just a QRP thing!



Control OP: **k7daa**

LSB

LSB

PSK

FL1

Slow

Full

PWR

Normal

Decoder

CW

DATA

Mode

Sub Mode

Data Mode

Filter

AGC

QSK

Tx Mtr

CW Method

11/13/2019 7:47:29 PM

Uptime: 3d 3h 45m

K3

TOT: 180 seconds.

3.818.000

3.867.400

CWT

FL1

FL2

FL3

1.35 kHz

2.3 kHz

24 WPM

250

FC Shift

Filter Width

CW Speed

RF Gain

TX

A > B

Spot

ATT

Notch

BND-

DLPB

M-Tune

Split

Test

NR

VOX

Norm

CWT

A / B

CLR

Pre

NB

BND+

XFIL

MD+

0.5 k

0.1 k

Delay: 0.13s

Mute

KAT500

TUNE

AUTO

MANUAL

BYPASS

DIPOLE

VERT

HEXBEAM

Fault

PWR

KPA500

OPER

STBY

CLEAR

SPKR

PWR

PowerOut

0 W

VSWR

0

Current

0 A

Voltage

72.3 V

Band

80m

YEASU

BEARING

GO

STOP

READY

355

360

330

300

270

240

210

180

150

120

90

60

30

W

E

S

N

Chats

Welcome to the K7DAA remote! Using a K3s transceiver, a KPA500 amplifier, with 3 antennas: an offset-fed dipole, a Butternut HF6V vertical, and a DX Engineering HexxBeam. Note that you have antenna rotator control on the hex beam from 20 through 10 meters. The KAT500 will normally select the right antenna for each band. Please hit "M-Tune" and let the KAT500 find the lowest SWR before you transmit. It will auto-cancel a few seconds after it finds the best match. No antennas for 160, 60, or 6 meters.

(A) k7daa

Send

ASK

Help

MACROS

CQ

TU

SNIN

CALL

F5

F6

F7

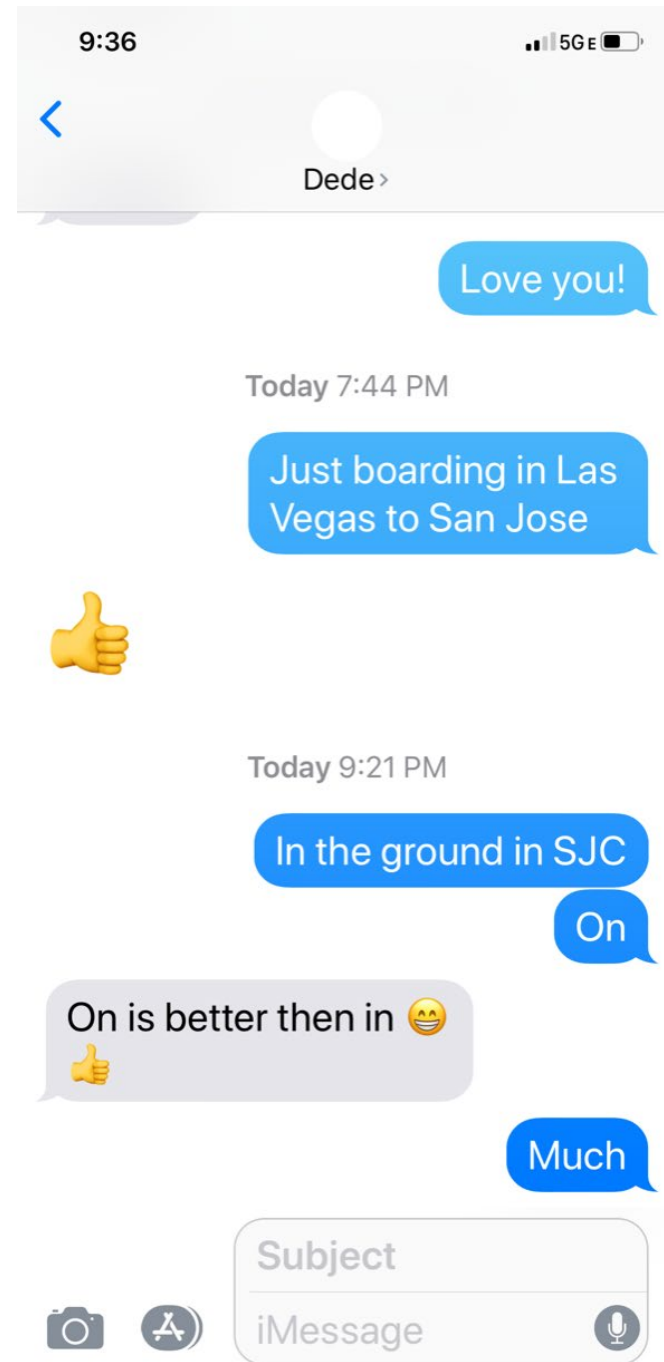
F8

LET'S GET ONE THING CLEAR: ~~CHINA~~

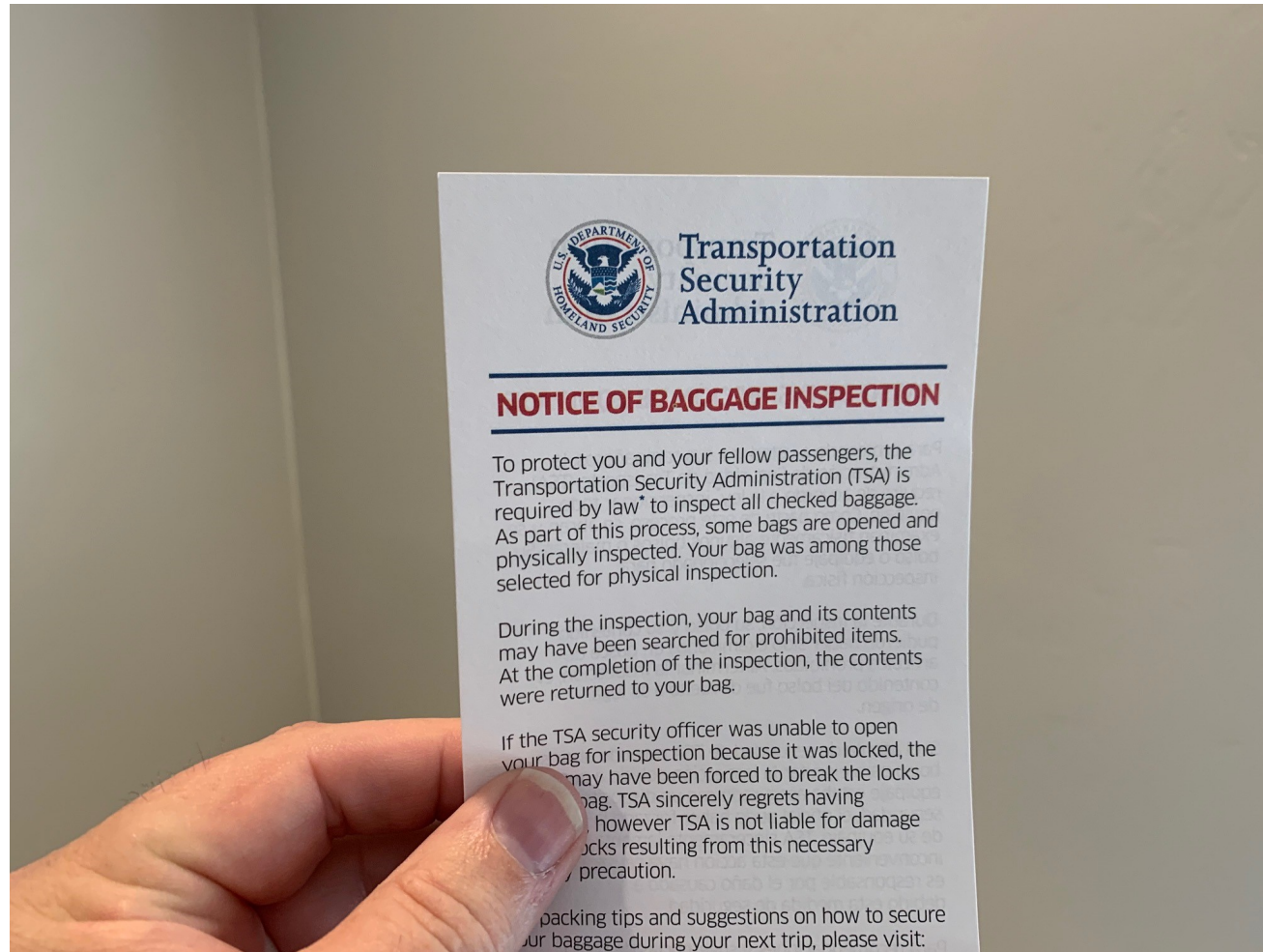
- Never take any radio, transceiver or even a receiver, into China!
- IF you are lucky, all they will do is confiscate it—never to see it again
- If you are unlucky, your family may need to start sending your mail to a new address in a Chinese prison!
- “China” does not mean either Taiwan or Hong Kong, where personal freedoms and rights exist...for now
- Mobile phones, smart phones, iPads and laptops are OK



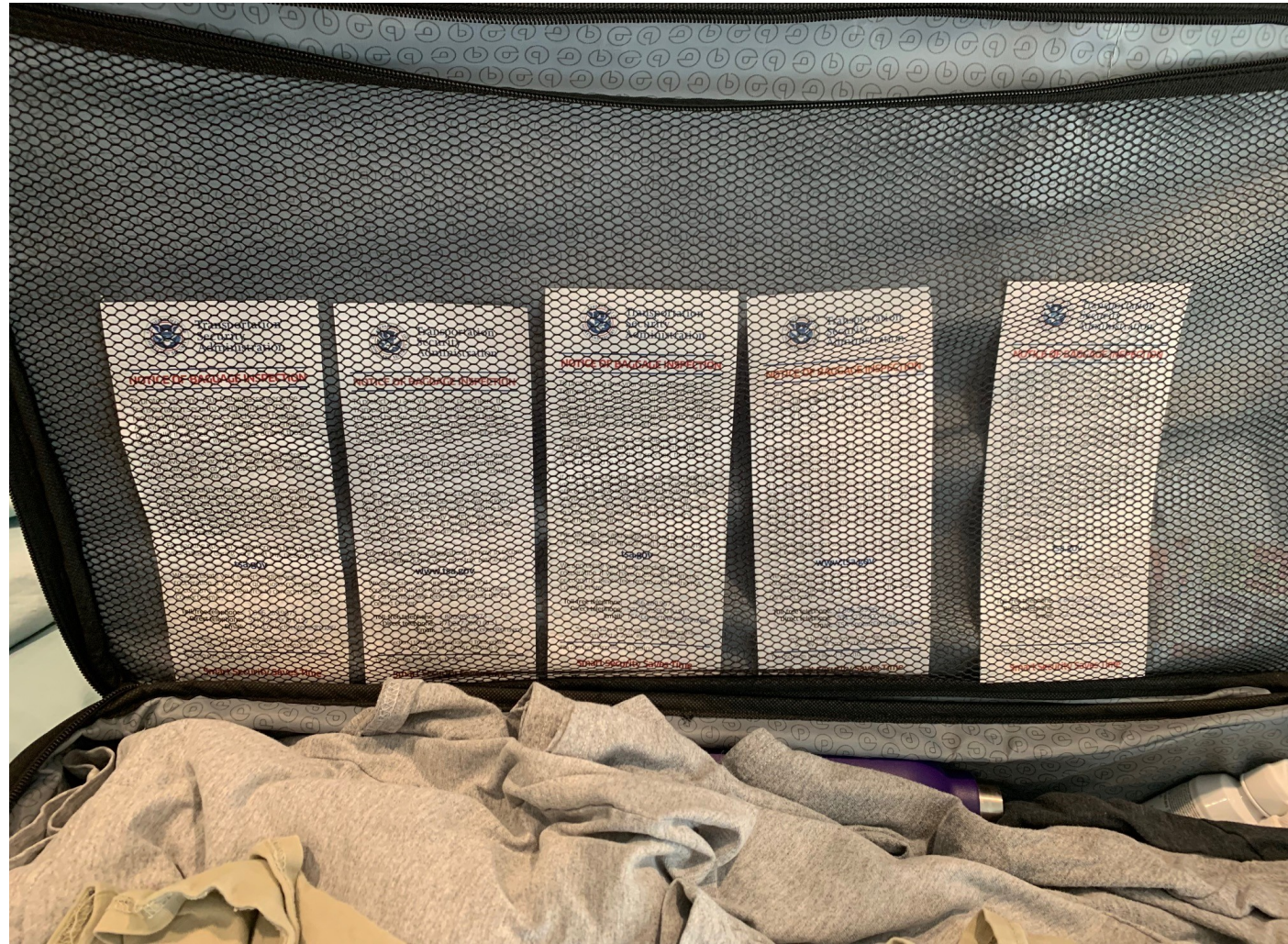
COMMUNICATIONS CAN BE A CHALLENGE



IF YOU FLY MUCH WITH HAM GEAR, YOU'LL GET TO TALK TO FRIENDLY TSA AGENTS OFTEN



I CAN SHOW A LITTLE HUMOR AND ATTITUDE—JUST A LITTLE



THE TSA IS FASCINATED WITH ANYTHING OUT OF THE ORDINARY

- And by definition, we hams are out of the ordinary!
- Radios, coils, antennas and batteries are their favorites
- Don't break the special rules about lithium batteries
- They don't know LiPo or LiFePO_4 from Lithium Ion
- Alkaline, Nicad, NiMH, lead acid are all OK

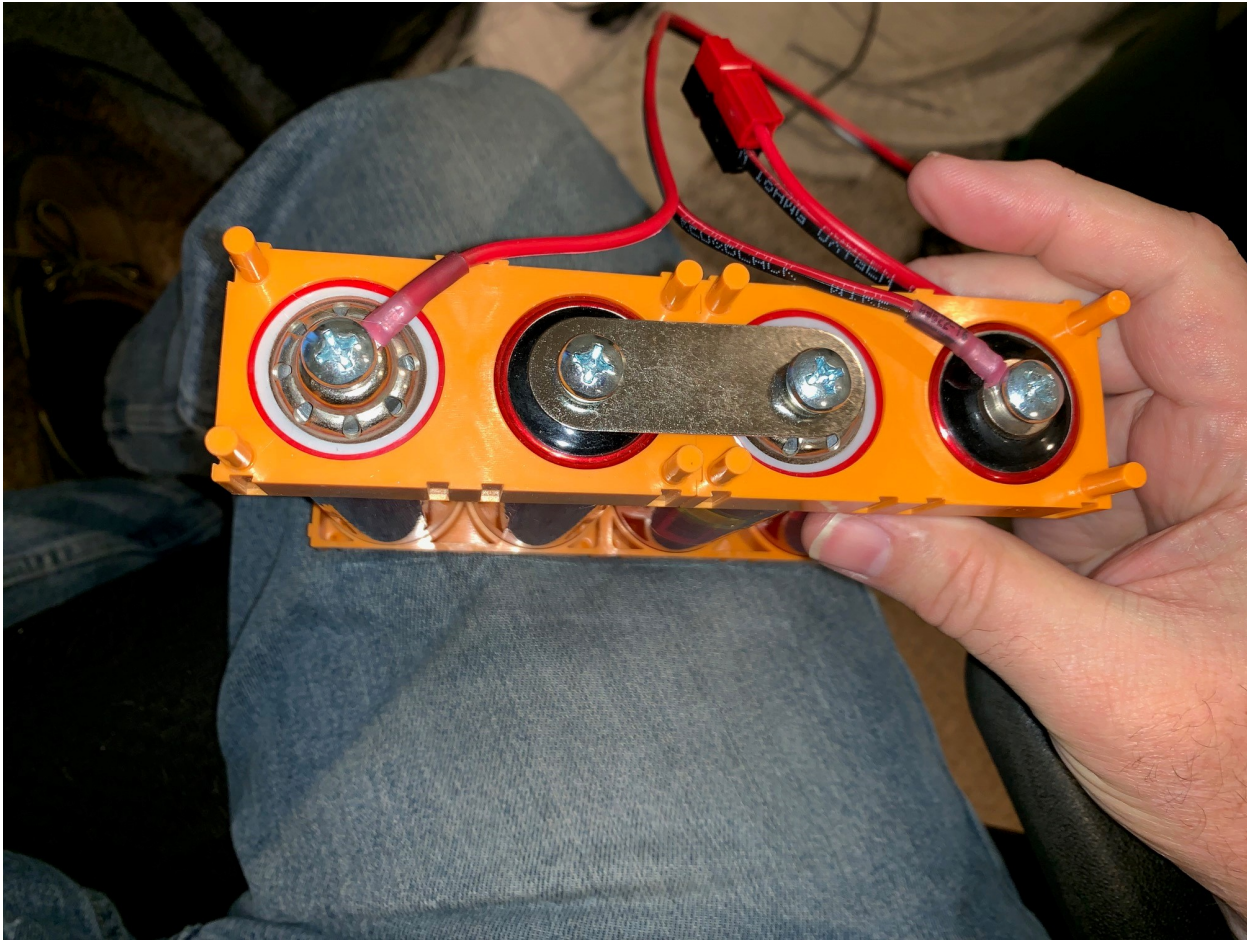


EXCUSE ME SIR, IS THAT A BOMB?

- Batteries, antenna coils, ANY homebrew-looking circuitry are “bombs” to the TSA
- This is my homebrew 4 cell 8 amp hour LiFePO₄ battery, ideal for QRP to 100 watt portable transceivers



MORE PICS OF MY "BOMB"



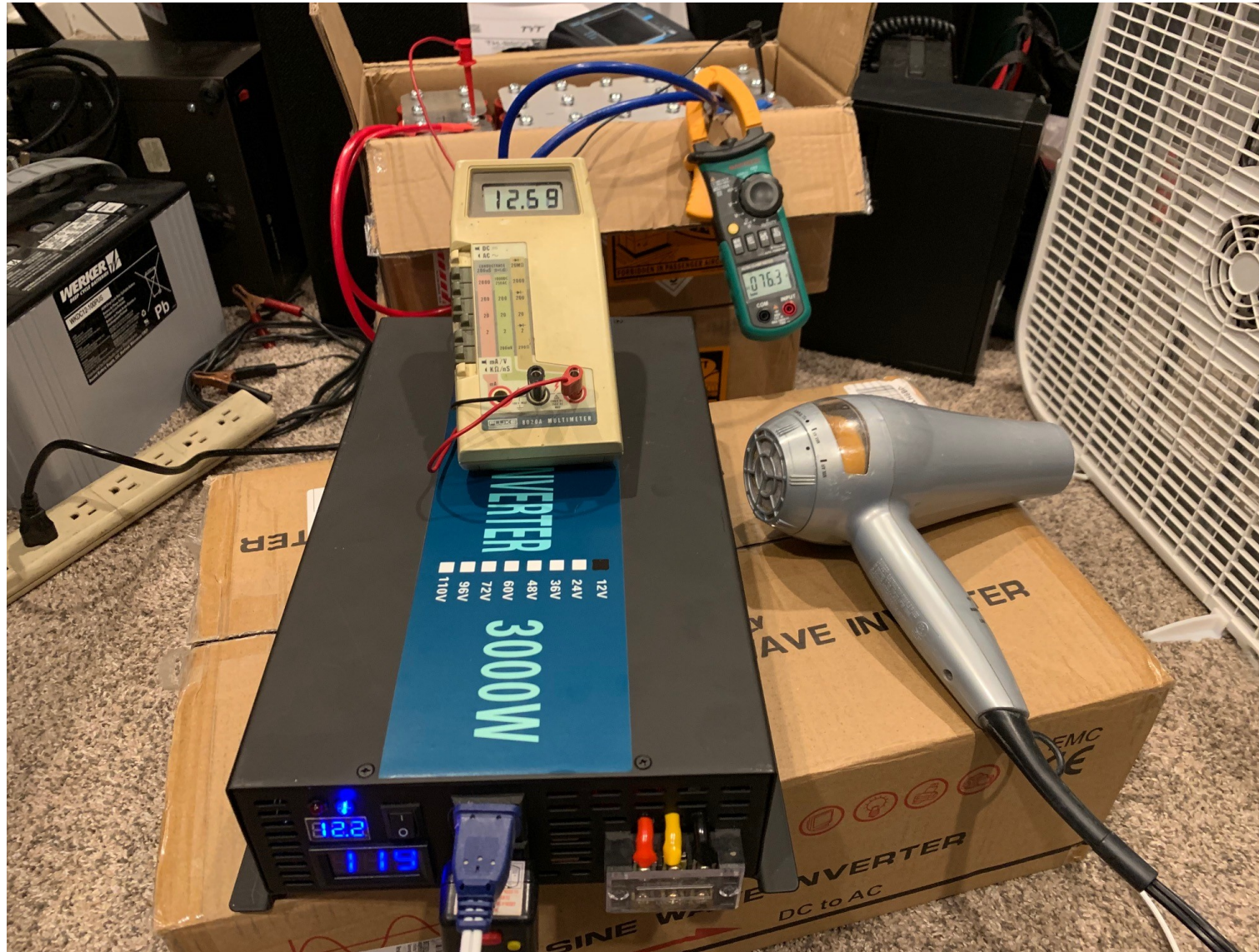
HEY, LET'S BUILD A BIGGER BOMB!

- OK, this isn't "portable" but its great for Field Day!
- Using 38120 LiFePO_4 cells in 4S-8 parallel config at 8 AH each = about 64 AH
- Cells are 3.2 volts instead of 3.7 volts like Lithium Ion
- DIY version is \$400 for 40 cells, \$45 for plates and box, and \$90 for 150A battery protector board, so total is about \$535
- You may also need a specialized charger
- YouTube: @jehugarcia



LOTS AND LOTS OF YUMMY INSTANT CURRENT!

- Run a 100 watt transceiver for a week or more!
- Very little voltage sag, even with high current draw
- Reduces or eliminates the need for a voltage booster



**AT \$249, ADD THIS BOOSTER TO YOUR LEAD-
ACID BATTERY COST**



ANTENNAS ARE A SPECIAL CHALLENGE



- Operating from a hotel window that only opens a few inches or that has a screen in place
- NOISE! My number one problem in hotels.
- Putting the antenna up inside the room makes a very inefficient system
- Dropping a wire outside down the building using a needle and very thin wire



HOW ABOUT A COLLAPSIBLE MAGNETIC LOOP?



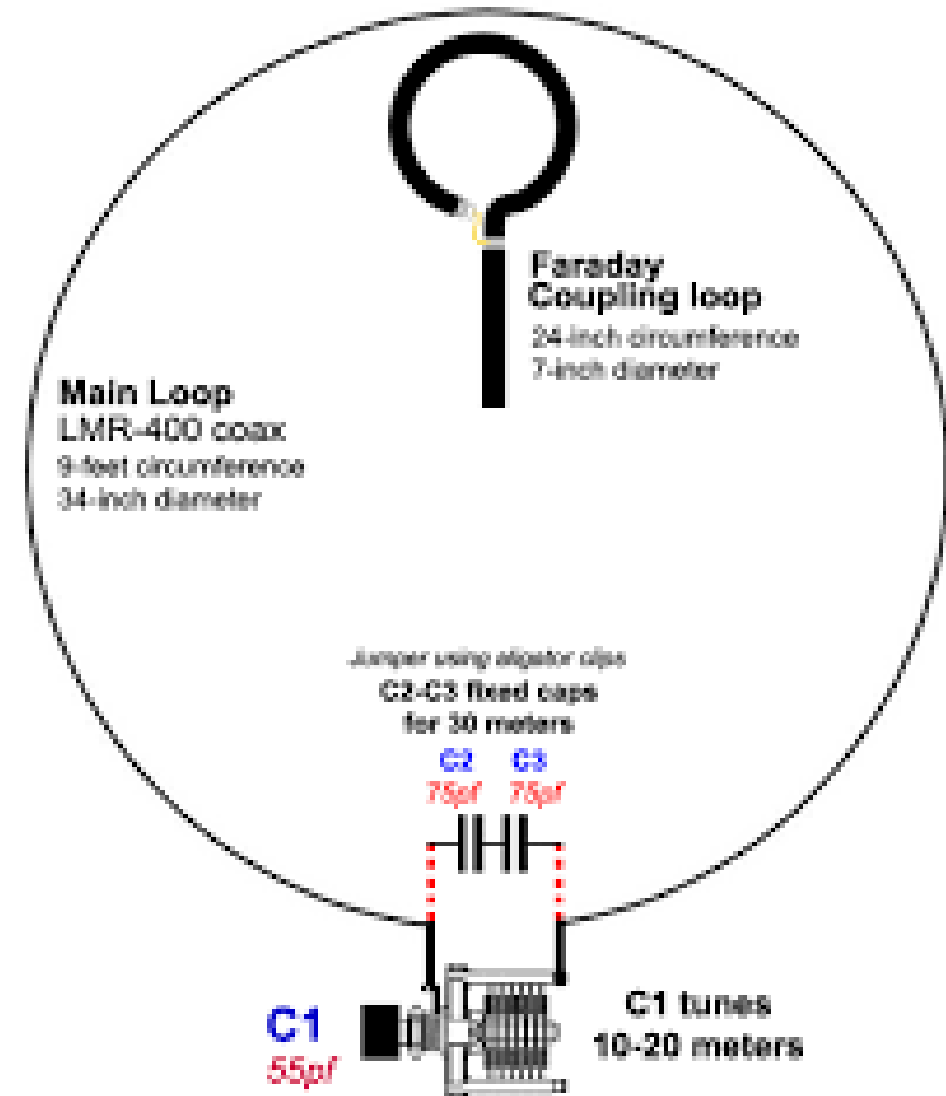
MAG LOOPS ARE NOT NEW TO THE MILITARY

- Easy to make
- Copper or aluminum pipe, or coax (LMR-400 preferred)
- Capacitor can be hard to source, but a piece of coax makes a good capacitor as well
- Remote tuning with a motor is nice, but unnecessary for portable use
- Think about your loop as needing to take hundreds of amps of current to avoid thin wires or spot solder joints



MAG LOOP DESIGN & CHALLENGES

- Most loops restricted to 40-10 meters
- Most bands above 40 not active at night
- Hold near a window, but best radiation is with loop perpendicular to the glass
- Ready-made designs cost about \$450: MFJ or <http://www.alexloop.com>
- Homebrew easily under \$50 depending on your capacitor design—use coax for the capacitor as a quick, single-frequency sanity test
- Very high-Q, so requires constant retuning as you change frequencies 15-25 kHz within a band
- Power restricted to about 20 watts for Alex



BUT THEY DO WORK REALLY WELL!



DEMO TIME! Q & A AND HANDS-ON!

- Thank You and 73
- Slides will be on: <http://www.k7daa.com>

