

W9JOZ

Volume 9, Issue 4

April 2019

Next Meeting is April 18th

Dues are due and still \$12.00

Weekly 2 meter Net

We are having the Saturday Night Net at 8:00 pm on the 145.410 repeater.

Hope you can check in and join us for some good conversation.

We could use some more check-ins on the net.

**Thanks
John W3ML**



Meetings are at the Henry F. Schricker Library on the third Thursday of each month, with the exception of December.

The library is located on west Culver Road, two blocks west of Highway 35.



Are you on the air?

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March Events

Fox Hunts start April 14th See webpage for details

Birthdays

5th - N9QYK, Paul

7th - WB9CAO, Levi

25th - KQ9A, Lenny

30th - W9SWP, Scott

**Starke County Amateur Radio Club Weekly 2 Meter Net will
be on each Saturday at 8:00 p.m. Central time.**

DAY OF WEEK: Saturday 8:00 p.m. Central time

HOST: KN9OX Repeater

FREQUENCY: 145.410 - 600

PL TONE: 131.8

News Items Listed

See all the For Sale Items at

www.w9joz.org/forsale.htm

There are a lot of them there.

A Freebie from QRZ.Com

To celebrate their 25 years of existence on the internet, providing a reliable amateur radio database to the Ham community, QRZ.Com is offering two 25th Anniversary designs of their **Good on QRZ** sticker.



The sticker of your choice is FREE to anyone who sends a **business sized**, self-addressed, stamped envelope to QRZ.

If no selection is made they will assume "dealer's choice" and pick one for you.

If you would like additional stickers they will do so for \$1 per additional sticker. The stickers are 3.5x4 inches in size. Most business envelopes are OK. They prefer the self-sealing kind.

Please address to:
QRZ Stickers
24 W. Camelback Rd. #A488
Phoenix, AZ 85013



The Ultimate Receive Antenna?

The Elephant Cage

By Steve Mollman-KD9HL

If you can't hear them; you can't work them! 80 and 160 Meter fans in particular spend a lot of time dreaming of a better receive antennas. Some that come to mind include beverages, K9AY loops, magnetic loops, flag pennants, four squares, etc. The US military during the 1960's, built a system that would outperform just about anything ever on the commercial market. With the official name of "AN/FLR-9 Receiving Antenna" these monsters were operated by the Air Force at eight sites around the world.

- USASA Field Station Augsburg (Gablingen Kaserne), Germany

- Chicksands, England
- Clark AB, Philippines
- Joint Base Elmendorf-Richardson, Alaska, USA (formerly designated as Elmendorf AFB)
- Karamursel, Turkey
- Ramasun Station, Udon Thani Province, Thailand
- Misawa AB, Japan,
- San Vito dei Normanni Air Station, Italy (near Brindisi, Italy)

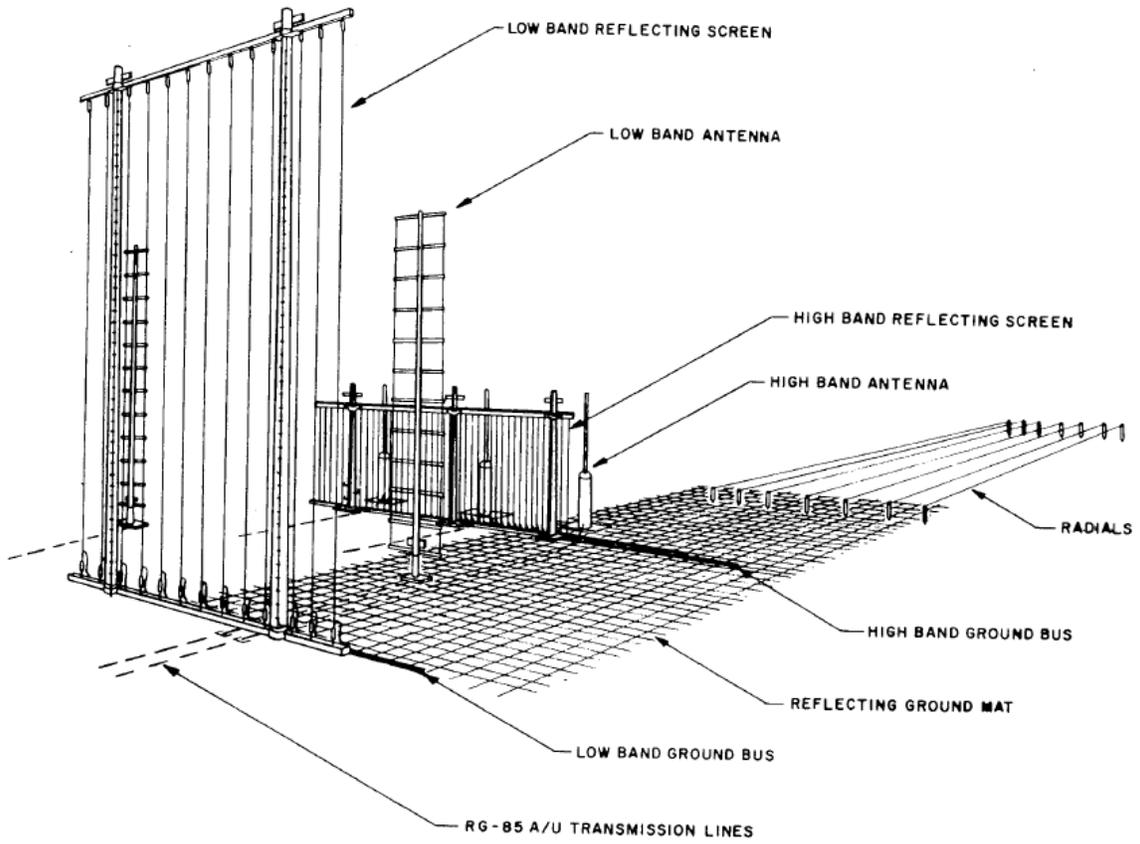


Known as a Wullenweber antenna but nicknamed the “Elephant Cage”, the type was originally developed by the German navy communication research command and Telefunken during the early years of World War II for communications with their U-Boat fleet. It is also known as a Circularly Disposed Antenna Array (CDAA).

The *AN/FLR-9 Operation and Service Manual* describes the array as follows:

“The antenna array is composed of three concentric rings of antenna elements. Each ring of elements receives RF signals for an assigned portion of the 1.5 to 30-MHz radio spectrum. The outer ring normally covers the 2 to 6-MHz range (band A), but also provides reduced coverage down to 1.5 MHz. The center ring covers the 6 to 18-MHz range (band B) and the inner ring covers the 18 to 30-MHz range (band C). Band A contains 48 sleeve monopole elements spaced 78.4 feet apart (7.5 degrees). Band B contains 96 sleeve monopole elements spaced 37.5 feet (11.43 m) apart (3.75 degrees). Band C contains 48 antenna elements mounted on wooden structures placed in a circle around the central building. Bands A and B elements are vertically polarized. Band C elements consist of two horizontally polarized dipole antenna sub-elements electrically tied together, and positioned one above the other.

The array is centered on a ground screen 1,443 feet (439.8 m) in diameter. This arrangement permits accurate direction finding of signals from up to 4000 nautical miles (7408 km) away.”



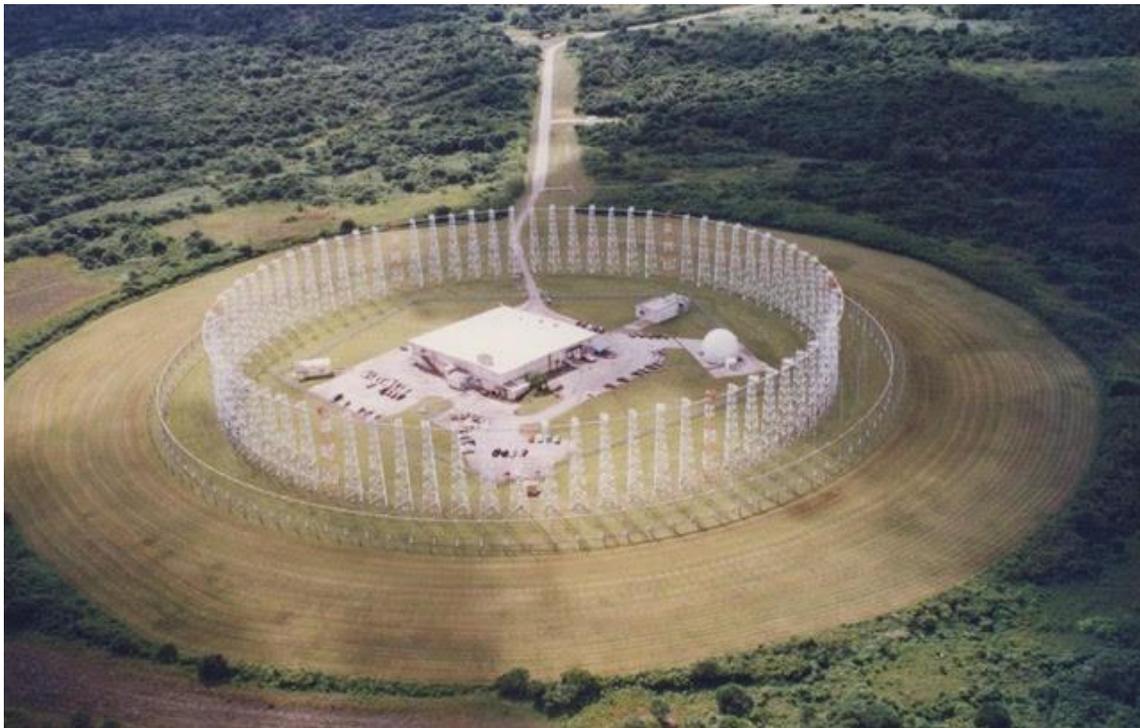
The “Elephant Cage” at Chicksands, England

The network, officially known as the “World Wide High Frequency Direction Finding System”, code named “Iron Horse”, could locate HF communications almost anywhere on the planet. Because of the exceptionally large size of its outer reflecting screen (1056 vertical steel wires supported by 96 120-foot towers), the AN/FLR-9 was commonly referred to by the nickname “Elephant Cage.”

For direction finding, “fixes” on points of interest were obtained by requesting a line of bearing from other direction finding antennas in other locations around the world. This would give a triangulation fix on a potential target and that target could then be plotted with the coordinates.

The antenna array covered 35 acres of ground and was composed of A, B and C band elements that covered the high frequency (HF) range of signals that targets of interest transmitted on.

The array is often confused with the smaller US Navy AN/FRD-10, which also used the Wullenweber model.



US Navy's AN/FRD-10 on Guam

The AN/FLR-9 at the former Clark AB in the Philippines was converted into a 35,000-seat fabric-covered amphitheater. Early in May 2002, dismantling of the AN/FLR-9 at San Vito began, and it was completely gone by the end of that month. Demolition of the AN/FLR-9 at Misawa was in October 2014. A decommissioning ceremony for the last active FLR-9, at Joint Base Elmendorf-Richardson, was held on May 25, 2016.

The nickname “Elephant’s Cage”? One source states “*I was the Engineering Field Officer, stationed at Fuchu, Japan, responsible for construction of the FLR-9s at Clark and at Misawa in 1964. My NCO, stationed at Misawa, was C/MSgt. Joseph E. Rabig. The work those days was very hush, hush. As the structure went up there was much speculation at Misawa about what the purpose was. Joe came up with the explanation that it was an 'Elephant Cage.'* He maintained that was

their purpose and justified the explanation by pointing out: 'They work pretty well, don't they. You don't see any elephants running around loose do you?' I guess the name stuck.'

When is DX Engineering going to put these in their catalog?



Handy Hint

Testing Baluns

By Steve Mollman-KD9HL

A straightforward way to test a **4:1 balun** is as follows: Disconnect the output side of the balun from your antenna or ladder line. Use a NON INDUCTIVE) 200 ohm resistor (For example a carbon composition type- don't use a wire wound resistor) and connect it directly across the output terminals of the balun. Using an Antenna Analyzer or SWR Meter, you should find low SWR (1.2:1 or below) across the entire operating range (1.8 to 30 MHz) of the balun. If the SWR does not read low across the entire operating range, there is a problem with the balun.

If you're testing a **1:1 balun**, connect a non-inductive 50 ohm load across the output terminals of the balun for the test.



Model 1171t

Balun Designs®-Coax to Open Wire Feed Line Model



W2AU Type

What is a Balun? A **balun** (for **balanced to unbalanced**) is an electrical device that converts between an unbalanced signal (coax) to a balanced signal (ladder line, dipole or other type of antenna). A balun can take many forms and may include devices that also transform impedances but need not do so.

◀73's and good DX ▶

If you have a presentation for the meeting, please let me know.

If you have something for the newsletter, please send it to me before the 20th of the month.

See you at a meeting.

73

John, W3ML

