

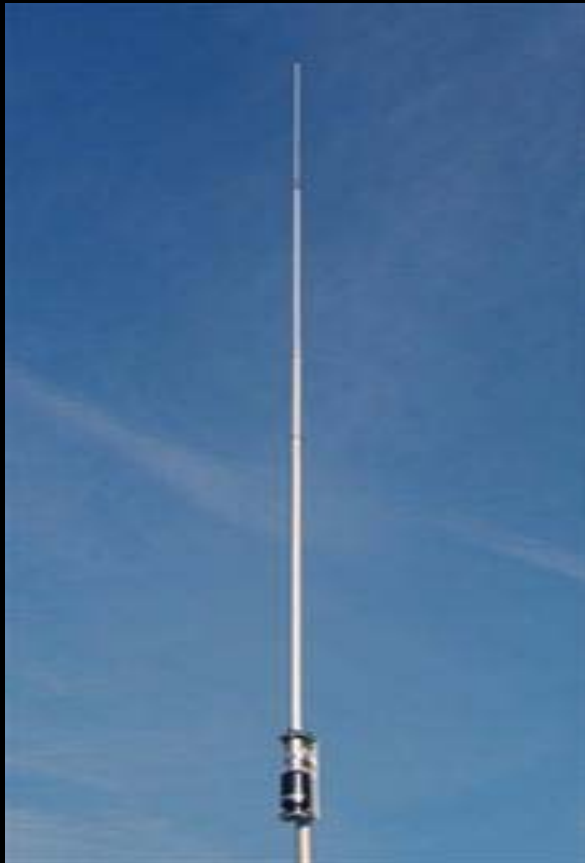


PATOKA VALLEY

MATEUR RADIO CLUB



The PVARC meeting will
begin at 7 PM



Ruggedize the COMET CHA-250B A Concept of KC9NKI

**How to Ruggedize the CHA-250B
to Prevent Bending**

&

**A Virtual Tour of the KC9NKI
Amateur Radio Shack**

The Comet CHA-250B



Description: Broadband vertical **requiring NO GROUND RADIALS**. Easy to assemble, requires no tuning or adjustment.

Type: End-fed with matching transformer

TX 3.5 – 57 MHz

VSWR: 1.6:1 or less

Impedance: 50 Ω

Weight: 7 lbs 1 oz

Mast: 1" to 2"

RX 2.0 – 90 MHz

Max Power: 250W

Length: 23' 5"

Connector: SO-239

Wind Speed: 67 Mph

The Comet CHA-250B



The CHA-250B is a GREAT antenna for installations where:

- **Space is limited**
- **Incognito operation**
- **Need a multi-band backup antenna**

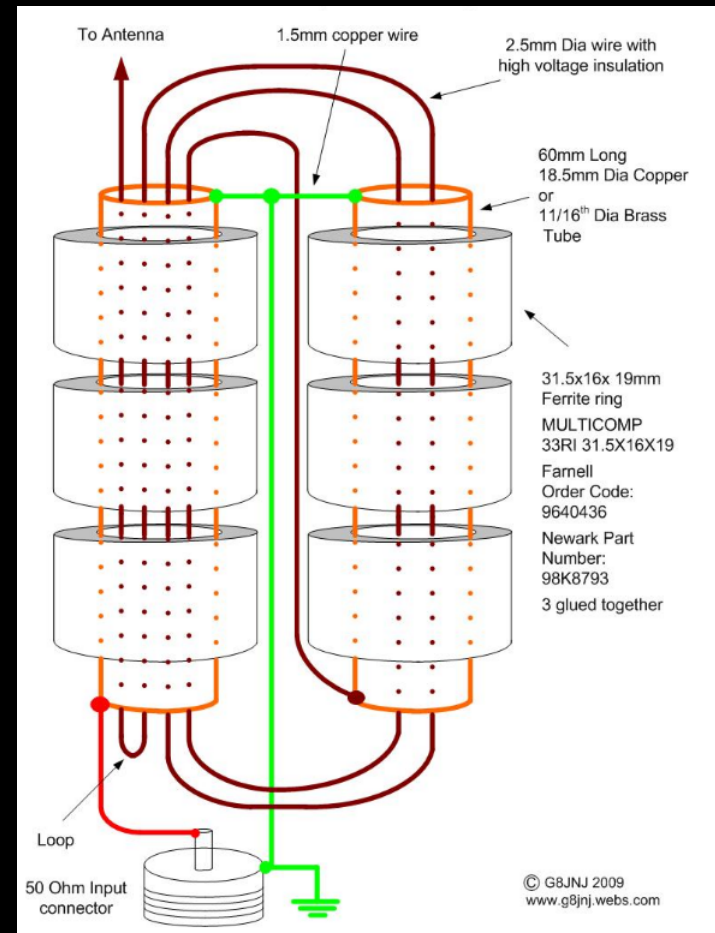
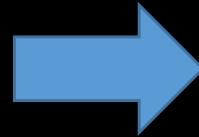
The Comet CHA-250B



The MAGIC behind the CHA-250B: the transformer matching section

- The transformer has a heat sink to dissipate heat.
- Some RF is turned into heat rather than transmitted
- That is a compromise needed to achieve a compact, low-SWR, wide-band antenna

The Comet CHA-250B



The two separate transformer sections add loss at different frequencies (low and high)

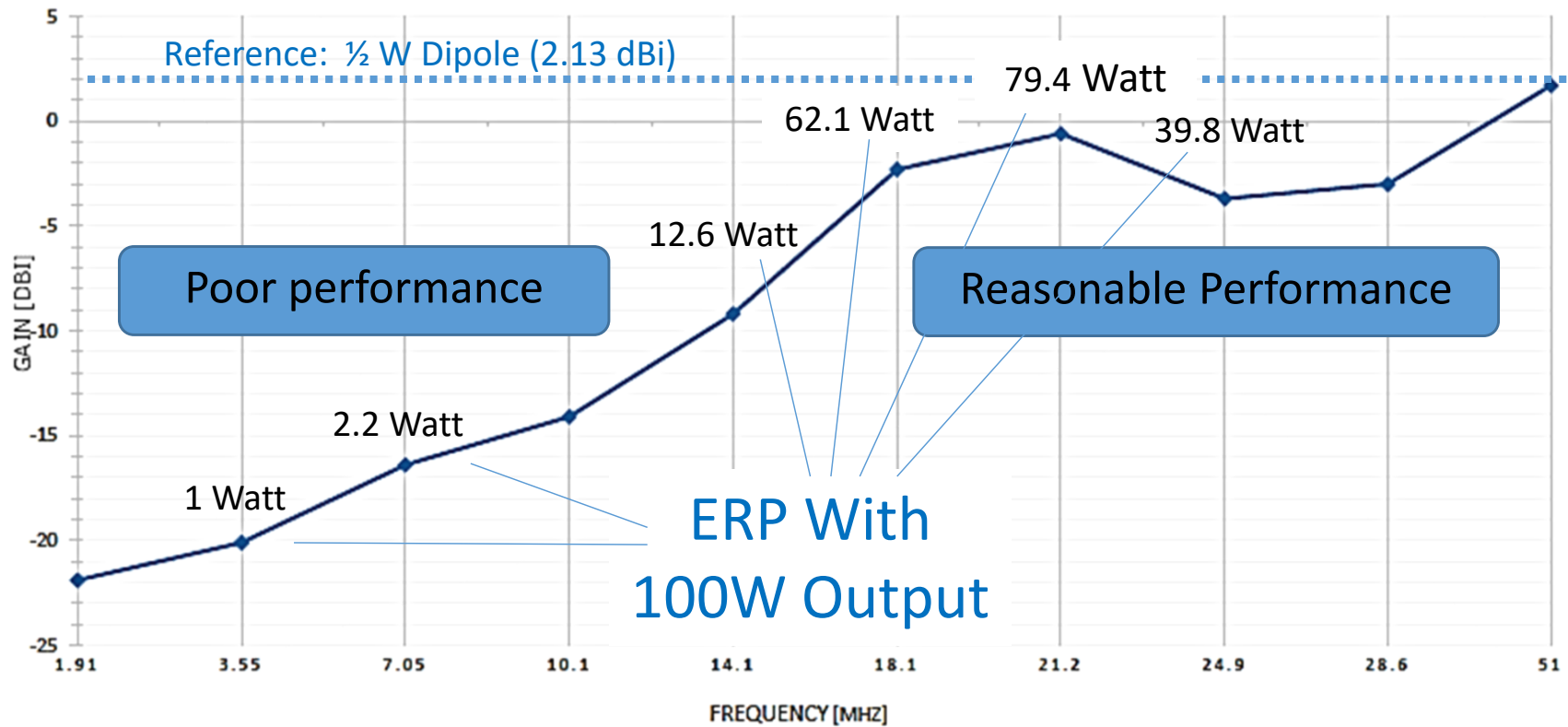
The CHA-250B performs well as a compact, multi-band HF antenna.

Comet recommends if you have the space to install a full size antenna to do so to achieve better performance

CHA-250B Gain

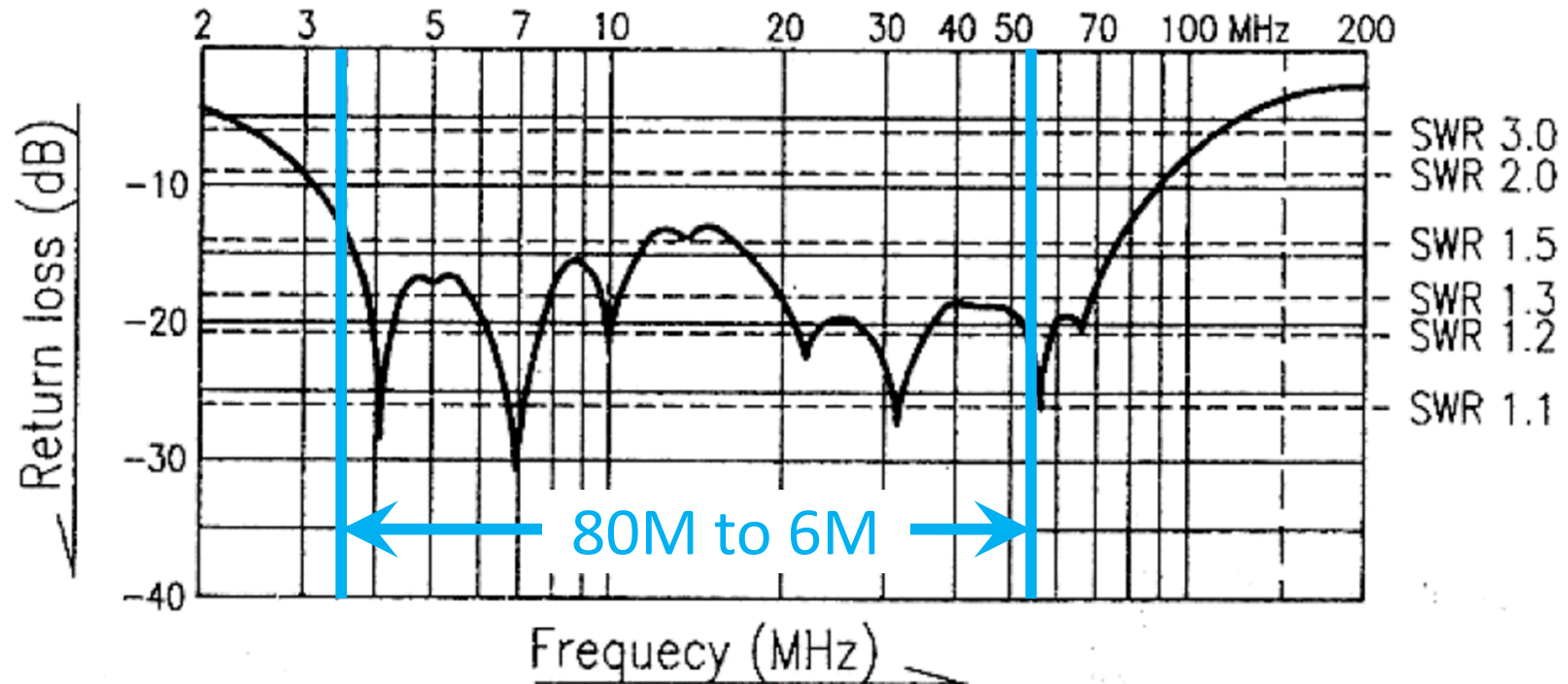
Comet CHA-250B Gain

Comet CHA-250B Gain



CHA-250B SWR

Comet CHA-250B SWR



No external tuner needed!

CHA-250B Assembly



The CHA-250B is quite easy to assemble:

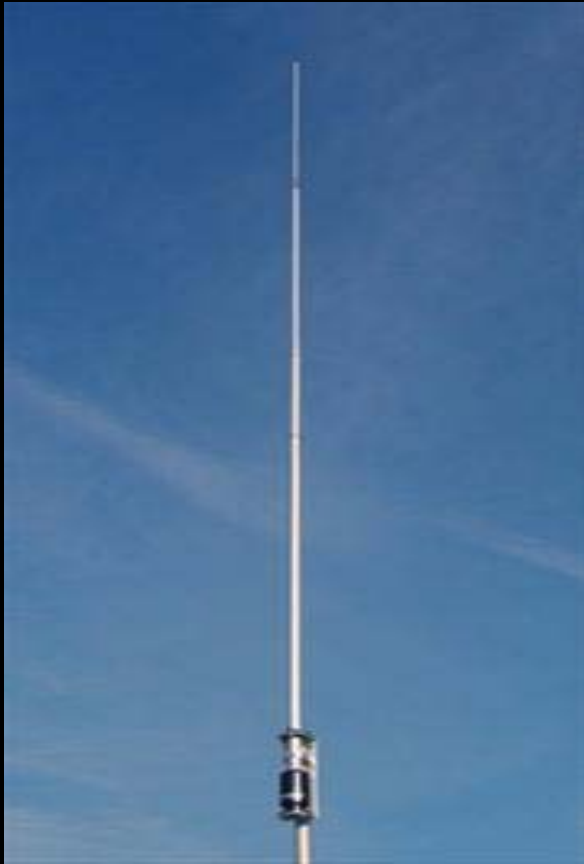
- **The five sections slide together and are held in place by screws**

CHA-250B Installation



A guy assembly is available to slide over Element #3

CHA-250B Installation



- For maximum performance antenna must be installed at least 35 feet above ground
- Due to the length, assistance is needed for installation
- Doing so prevents injury or death

**The CHA-250B
has a Design Weakness**

Comet CHA-250B Wind Rating



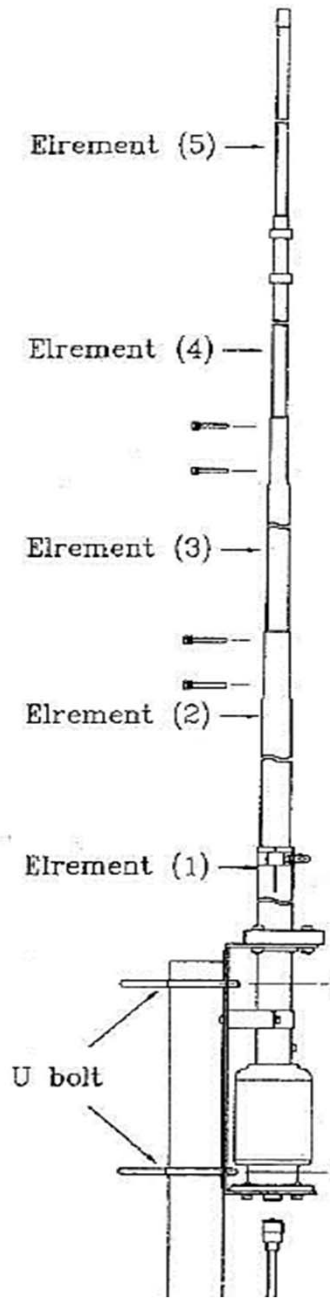
Bent CHA250-B Element

The CHA-250B is only rated to survive 67 Mph winds

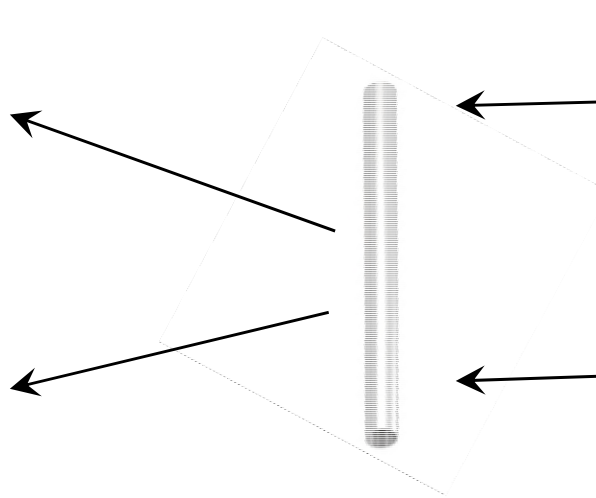
- There have been NUMEROUS reports of bent CHA250B
- Locally both KC9NKI and KD9KNB had their CHA250B bent
- *KC9NKI's antenna was bent three times!*

**KC9NKI Decided to Put an End
to the CHA-250B being Bent**

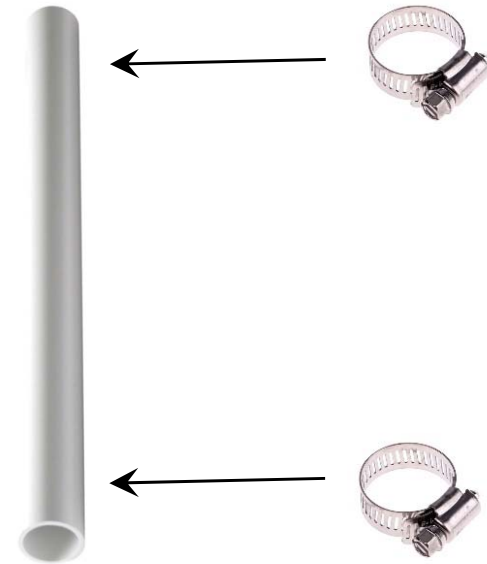
Order a replacement Element #4 *then*



CHA-250B



1/4"
Aluminum
Dowel
Placed
inside
Element #4



PVC
Sleeve
Placed
Over
Element
#4

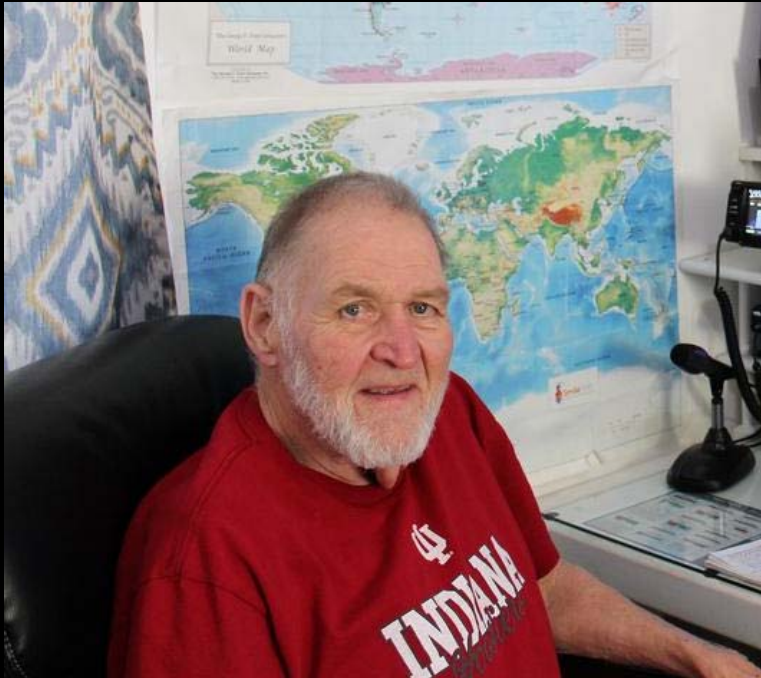
Hose
Clamps
Hold in
Place

KC9NKI MODIFICATIONS
TO CHA-250B

**Since the antenna upgrade
the antenna has performed well
and has not been bent**

KC9NKI

KC9NKI Biography



- Got started in ham radio in 2008
- 2016 upgraded to General
- 2020 upgraded to Extra

Amateur Radio is a great hobby. I'm a member of Dubois County E.M.A., AARL, and Patoka Valley Amateur Radio Club.

KC9NKI's Station



KC9NKI's Equipment



KC9NKI's Antennas



Comet CHA-250B
80M – 6M

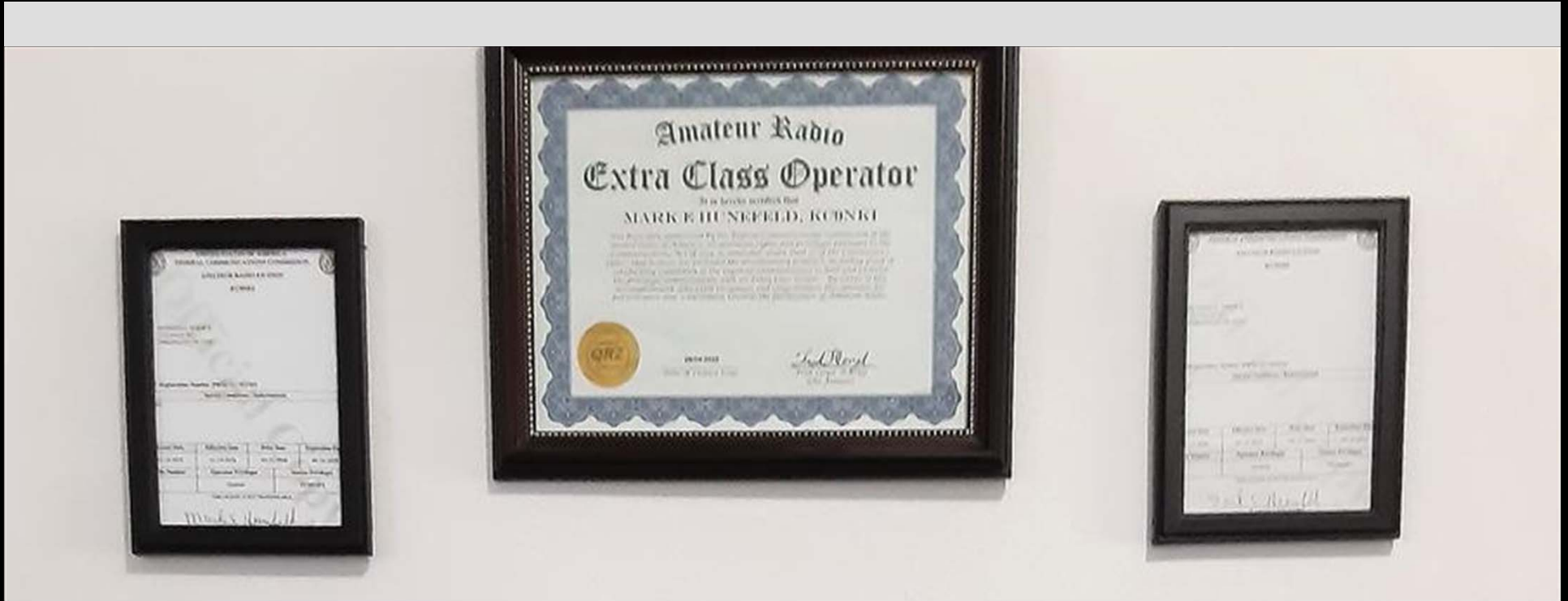


Comet GP-9
2M/440

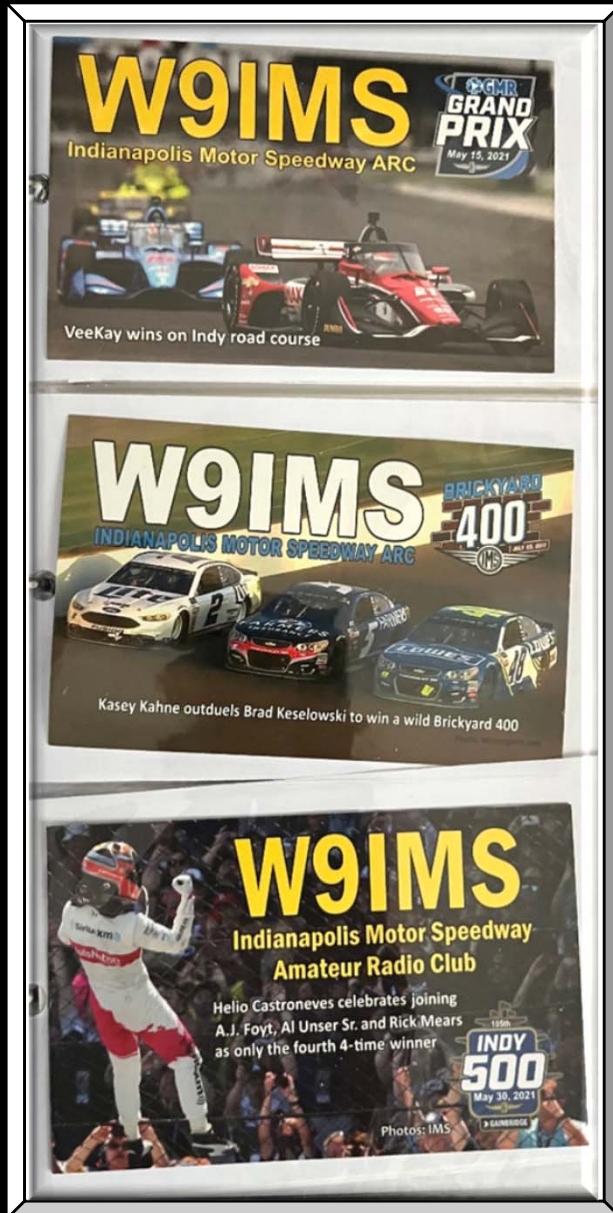
KC9NKI's Achievements



KC9NKI's Achievements



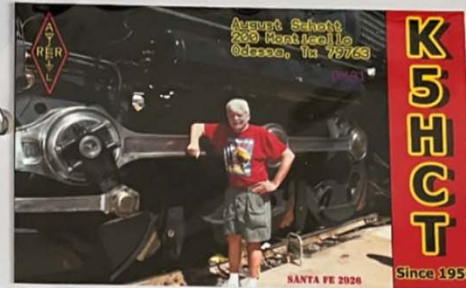
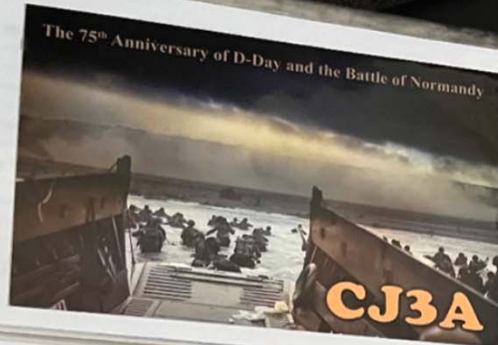
KC9NKI's QSL Cards



KC9NKI's QSL Cards



KC9NKI's QSL Cards



At the core of the Big Apple

THE RADIO CLUB OF
JUNIOR HIGH SCHOOL 22, N.Y.C., INC.
P.O. BOX 1052
NEW YORK, N.Y. 10002
PHONE (516) 674-4072
F A X (516) 674-9600
crew@wh2kj.org

WB2JKJ

RADIO **KC9NKI** PSE QSL TXN

DATE	UTC	RST	FREQUENCY	MODE	OPERATOR
1-17-17	1131	5-9	7.238	SSB	Joe + Crew

NEW YORK COUNTY 10-X # 54570 GRID TN-16



Youngstown State University
Amateur Radio Club

K8YSU

CONFIRMING QSO WITH	DAY	DATE	YEAR	UTC	MHZ	RST	MODE	QSL
KC9NKI	13	2	2018	19:34	7.26	59	SSB	TXN

YSU Amateur Radio Club
One University Plaza
Youngstown, OH 44555
U.S.A.

Mahoning County
EN91

The QSL MAN® - W4MPY

KE2MA
FRANK Nicosia
110 EATON RA.
Rochester, N.Y.
FTDX 1200

CONF QSO WITH	DATE
KC9NKI	1-28-18

UTC	FREQ	RST	MODE
15:10	7.278	5X9	LSB

RIG FT 450 MARS

PSE QSL TXN 73 7 L OPR



UPDATE.....Comet has updated the CHA-250B design.....

- **Comet acknowledged the weakness in their design**
- **Element #4 now has a large fiberglass sheath on it to keep it from bending.**
- **Element #5 is reinforced by thicker tube walls.**

Thank You

