ARASWF News Letter

Vol. MMXXVI No. 7 - The Journal of the Amateur Radio Association of Southwest Florida
July 1st, 2026

The July 1st Meeting will be held at
PERKINS ON PINE RIDGE
3585 Pine Ridge Rd, Naples, FL 34109. Time is 6 pm

Link to balloon site **http://sites.google.com/view/blueoceanadventures** **updated site, new location.**
The 146.670 repeater has Echo link reinstalled. **New repeater 145.300 -136.5 145.150 -141.3**
Club Nets are held on the 146.670 -136.5 or the 147.030 +136.5 repeaters.
ARESCC Nets will be when called for.
ARASWF Information Net is Tuesday at 7:30 pm. ***please volunteer*** ***Net coordinator:***
And are in need of Net Control operators, ***Foster Kawaler K4FEK***
Sunday's Backwoods Net on 147.030 Mhz +136.5 at 7:30pm ***efraim1@juno.com***
Allstar node 41860. See http://stats.allstarlink.org/nodeinfo.cgi?node=41860

Amateur License Exams
Monthly, 1st Tuesday, 5:30 pm
Doors open at 5 pm
appointment required
text, phone, or email
for information and location
Mark Harms
239 331-9616
AC4ZM@ARASWF.ORG

Club Meetings for June, July, and August will be held at Perkins on Pine Ridge the first Wednesday at 6pm

Meetings now held at
Naples Aviation Pilot's Lounge
250 Aviation Dr. South
Naples, FL. 34104

CLUB OFFICERS

President	AC4ZM	Mark	Director	K4FEK	Foster
VP		OPEN	Director		OPEN
Finance	KBOJL	Rob	Director	WA2FHX	Dennis
Secretary		OPEN	Director	N4YE	John
VE Testing	AC4ZM	Mark	Web Master	NC2H	Craig

New member alert from passing an Amateur License Test

In Person **Online computer testing**

Looking for a VP, Secretary, and Director !

We have tested 4 people for 2026

NEW 145.300 -136.5 K1NEW Repeater on the " BES Building " Give it a try – often.
NEW 145.150 -141.3 CCSO Repeater on the "SAR tower near US-29 & US 41

Thank you from the President
AC4ZM Mark

ANTENNAS

A few General Questions from the Pool

T3A03 (C) What antenna polarization is normally used for long-distance CW and SSB contacts on the VHF and UHF bands?

A. Right-hand circular
B. Left-hand circular
C. Horizontal
D. Vertical

T3A09 (B) Which of the following results from the fact that signals propagated by the ionosphere are elliptically polarized?

A. Digital modes are unusable
B. Either vertically or horizontally polarized antennas may be used for transmission or reception
C. FM voice is unusable
D. Both the transmitting and receiving antennas must be of the same polarization

T4A05 (A) Where should an RF power meter be installed?

A. In the feed line, between the transmitter and antenna
B. At the power supply output
C. In parallel with the push-to-talk line and the antenna
D. In the power supply cable, as close as possible to the radio

T7C02 (B) Which of the following is used to determine if an antenna is resonant at the desired operating frequency?

A. A VTVM
B. An antenna analyzer
C. A Q meter
D. A frequency counter

T7C04 (C) What reading on an SWR meter indicates a perfect impedance match between the antenna and the feed line?

A. 50:50
B. Zero
C. 1:1
D. Full Scale

T8B09 (B) What causes spin fading of satellite signals?

A. Circular polarized noise interference radiated from the sun
B. Rotation of the satellite and its antennas
C. Doppler shift of the received signal
D. Interfering signals within the satellite uplink band

T8C02 (B) Which of these items would be useful for a hidden transmitter hunt?

A. Calibrated SWR meter
B. A directional antenna
C. A directional wattmeter
D. All these choices are correct

If anyone is aware of other members who are not well or in the hospital please notify
AC4ZM Mark so we can reach out to them.
Also if anyone whould like to donate their equipmet to the club :

Text or phone (239)-331-9616
Email AC4ZM@hotmail.com South of the orange tree !

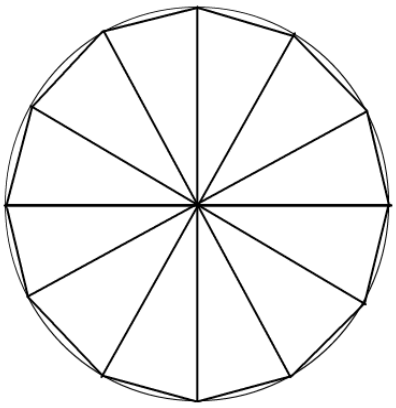
VE, ARASWF, Board, and ARESCC Meeting Dates (2026-2027)

VE Testing 5:00 pm Doors open By Appointment Tuesday	ARASWF Club Meeting 6:00 pm – 8:00 pm Veterans Community Park Off Immokalee Road Wednesday	Board Meeting 12:00 noon – 1:00 pm Perkins Restaurant Pine Ridge Road Wednesday	ARESCC Meeting 3:00 pm – 4:30 pm Naples Airport 250 Aviation Drive S Thursday
Year 2026			
05/05/26	05/06/26	05/20/26	05/28/26
06/02/26	06/03/26 Perkins	06/17/26	06/25/26
07/07/26	07/01/26 Perkins	07/22/26	07/30/26
08/04/26	08/05/26 Perkins	08/19/26	08/27/26
09/01/26	09/02/26	09/23/26	09/24/26
10/06/26	10/07/26	10/21/26	10/29/26
11/03/26	11/04/26	11/18/26	11/19/26
12/01/26	12/02/2026 (Restaurant)	12/16/26	12/17/26
Year 2027			
01/05/27	01/06/27	01/20/27	01/28/27
02/02/27	02/03/27	02/17/27	02/25/27
03/02/27	03/03/27	03/24/26	03/25/27
04/06/26	04/07/26	04/21/26	04/29/26
05/04/26	05/05/26	05/19/26	05/27/26

The ratio of a circle circumference to it diameter is Pi

$$Pi \approx n * \sin\left(\frac{180^{\circ}}{n}\right)$$

n = number of sides in a polygon thats fits in a circle



AMATEUR RADIO
FD 26
A NATIONAL RESOURCE

Join in on the club's fun activities and radio practices.

DISC CONE Antenna Design

In 1945, electrical engineer Armig G. Kandoian achieved a major milestone by receiving U.S. Patent 2,368,663 for his invention of the discone antenna. Developed while working at the Federal Telephone and Radio Corporation, this innovation solved critical communication challenges for aircraft.

In 1953, the researcher J.J. Nail formulated geometric relationships for the discone antenna. These relations defined the exact dimensions of the antenna to achieve optimal, wide-bandwidth performance (low voltage standing wave ratio) across very high frequencies.

In 1993 D. W. Cooke studied a specific variant of the discone antenna, specifically focusing on a design constructed with radial wires.

A typical 2D representation of the discone antenna is shown in Fig. 1 with its geometric characteristics:

D is the disk diameter (t is its radius)
d is the small (upper) diameter of the frustum cone
C is the large (lower) diameter of the frustum cone
s is the slant height
a is the flare-angle (θ)
g is the spacing (gap) between disk and cone.

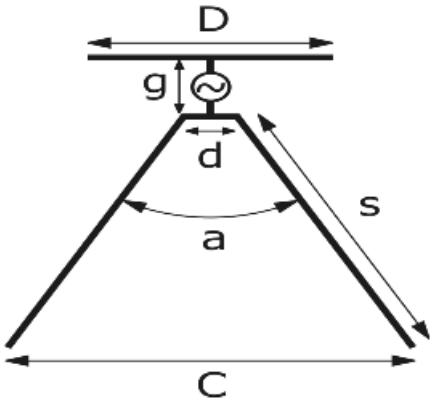


Fig. 1: Discone Antenna

Nails's relations are:
≈ means approximately equal
c = speed of light 300 x 10^6 m/s
f = feequency in MHz
λ = wavelength c/f in meters (m)
λ is the wavelength at the lowest "operating frequency" f,
S = u (λ/4), D = v C, g = w d
and the parameters are:
u = 1, v = 0.7, w = 0.3

Rappaport proposed slightly different parameters:
u = 1.15, v = 0.75, w = 0.5

while Cooke gave different u value:
u ≈ 1.33

J. J. Nail's seminal 1953 paper established the fundamental geometric rules of thumb for discone antennas. It remains an essential reference for building wideband, omnidirectional vertical antennas.
The core design parameters from his article require a few simple measurements:

1. **Lowest Operating Frequency (f):**
   Used to determine the electrical quarter-wavelength (λ/4).
2. **Disc Diameter (D):**
   Typically set to ≈ (λ/4) at the lowest frequency, or roughly 0.7 times the cone's slant length.
3. **Cone Slant Length (S):**
   Typically set to ≈ (λ/4) at the lowest operating frequency.
4. **Flare Angle: (θ) :**
   The angle between the cone and the vertical axis. The optimal angle for the widest impedance match is usually 25 to 30 degrees.
5. **Gap Spacing:**
   A small physical gap must be maintained between the disc and the cone where the coaxial cable connects (center conductor to the top disc, shield to the bottom cone).

Circular sectors for a = 60°, 90°, 120°