

The QUA-RAE



Non-Deliverable QSL Card Remains in "QSL Limbo" for 50 Years

George Hitz, W1DA, of Sudbury, Massachusetts, can finally account for one of his QSL cards--one he sent in 1956. While a newly licensed teenager living in DeLand, Florida, Hitz, then KN4DPI, fired up his Johnson Viking Adventurer transmitter and made contact with Dave, KN6MSI, on 40 meters.

Like a good operator, Hitz sent off a QSL card, addressed only to "Amateur Radio--KN6NMI, Chief Op Dave, Address Unknown, Riverdale,

Calif." This turned out to be David Leaven, later WI6J, who became a Silent Key in 2003. "I was 14, and like me, Dave was a new ham, and he wasn't in the call book," Hitz told ARRL. "I hoped there would be someone at the Riverdale post office that would know who Dave was, and it would get to him." But Hitz made one mistake: he addressed the card to Riverdale instead of to Dave's actual QTH, Riverside. That simple error left the card sit-

ting in QSL limbo from 1956 until now.

"In 1956, I was just a Novice operator with a primitive station and even more primitive operating skills," Hitz explained. "Back then, with my radio built from a kit and my BC-348 World War II Army Air Corps surplus receiver and a 60-foot long wire antenna that was 15 feet high, California, was like a whole other country. And I needed that California QSL!"

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Volume 5, Issue 5

May 2006

Club Repeaters

- *Erie*
146.610-
PL 186.2
- *Waterford*
146.820-
PL 186.2

Club Website:

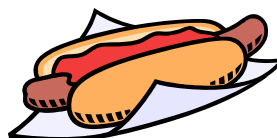
www.raerie.org

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Club Meeting This Saturday!!! **NEW**

Please note that this month's Radio Association of Erie Meeting will be held on **Saturday May 6th at 11 am at the clubhouse.** We'll have Hot Dogs for lunch and make sure not to miss the trunk of junk swap-meet. Hope to see you there!



Officers and Contacts — 2006

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Dianne Miller, K3LD
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May 2006 Calendar of Events

Saturday May 6th - 

**RAE Monthly Meeting-
11 am**

Location: RAE Clubhouse
on Wagner Rd which is off of Bargain RD off RT 99

Tuesday May 23rd -

Board of Directors Meeting (Tentative) - 7 pm

Location: Location: RAE Clubhouse on Wagner Rd
which is off of Bargain RD off RT 99



PL Change on 146.61 Repeater

Please note the PL on the 146.610-repeater is now 186.2 hz. The reason for the tone change was to meet the regional PL tone standard set by the Western PA Repeater Council.



We'll Miss You Bob!

For many years, Bob N3FAW has been an active part of the RAE. Bob has served as treasurer, membership chair, board member, and capital fund trustee over the past 20 + years. The RAE this month must bid farewell to Bob. Bob and his XYL Betty will be moving to sunny San Jose, California to be closer to the children. The club would like to thank Bob for all that he has done over the past 20 + years for the club. The RAE wishes Bob and Betty the best on their new adventures in California.



Next Public Service Event:

MS WALK—Sunday May 21st

To help out, please contact Bob N3LBI

April 2006 Meeting Minutes

Radio Association of Erie
General Membership Meeting Minutes
April 6, 2006

The Meeting was called to order at 7:04 pm by KE3V.

Board Members Present: KE3V, N3NKV, KD3D,
N3LBI, WB3DOM, N3ZNP
Not Present: K3LD, KC2HVX

Visitor: Mark N3PBQ

New Calls: None
Silent Keys: None
Upgrades: None

Secretary's Report: N3NKV asked for a motion to approve the minutes of the March 2005 meeting as printed in the February QUARAE. N3LBI made a motion to approve the minutes as printed and seconded by KB3JZL. Motion Carried.

Treasurer's Report: KD3D provided the Treasurer's Report.

Board of Directors Meeting Report: N3NKV gave a synopsis of the Board of Directors Meeting. Topics discussed: purchase of web space and domain name for club website from brinkster.com ; Club Goals; Tri-Bander Repair; Saturday meeting in May; Greeter; Purchase of Equipment from the K3IVG Estate; moving the 61 repeater to a better location; Discussion of whether the club would be interested in taking over responsibility for the VA Hospital station if the Radio Forum were to disband.

Membership: KE3V reported that the present membership is 105 members.

Repeater: N3SRD reported that there is a problem with the software on the 61 controller. The repeater seems to be hanging. The link between 61 and 82 went down Sunday. The beam at the North East voter needs to be turned back toward Erie. N3APP has a board built that will allow the controller to be reset remotely instead of at the site. The board has not been installed in the computer as of yet.

Skywarn: N3SRD mentioned that Skywarn training would be held on April 12th at 6:30 pm at Hamot Auditorium.

RACES: WX3E reported that Laura DiPasqua would like to start up a team of Hams to be specifically assigned to operate at the Red Cross during a disaster or when shelters are opened.

Dave also mentioned that he met recently with officials from the EMA office and that the county will be designating a 1974 Haz Mat Cube Van for RACES. The county will own the vehicle, pay for insurance, and be responsible for gasoline. The vehicles mileage has less than 25,000 miles. It is getting some body work done at the present time. More details have to be finalized.

Public Service: N3LBI mentioned that the first public service event for the year is the March of Dimes Walk on April 30th at the Peninsula.

QUARAE: N3NKV mentioned that he needed articles.

Website: N3NKV mentioned that the website updates are mostly complete with just a few odds and ends left. N3NKV mentioned that since October we have been running on free web space at Surferie which Penn State Erie quit paying for. N3NKV made a motion that the club purchase web space from brinkster.com at a cost of \$190.80 for two years plus 7.95 per year to have the raerie.org domain name. The motion was seconded by K3GJK. Motion Carried Unanimously

Tribander: N3LBI mentioned that Jerry W2FD got the broken element fixed for the tribander. He mentioned that we should try to avoid putting it back up on the telephone pole or on the roof to avoid leaks. WB3IGK may have a lead on a 30-40 foot tower in his neighborhood. N3SRD mentioned that we should sell the Glen Martin tripod.

New Business:

Change of Time for Meeting: KE3V mentioned that the May meeting would be held at the Club house on Saturday May 6th at 11 am.

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Skywarn Training 2006



Ripley Hamfest—Sunday May 7th

**Bring Your Ham Radio, Computer Gear, and
Electronics leftovers to Ripley and make a few bucks!**

Sunday May 7th, 2006

7:30 am to 11 am

Ripley Fire Hall , Ripley, NY -3000 feet south of the
only traffic light in Ripley at Rts 20 & 76

- Cash Prizes
- Food and Beverages will be available
 - Admission: \$3.00
 - Tables: \$3.00 each
- Talk-In on 146.58 simplex

For more Information

Call or E-mail:

N3MLX Joe Lis 814-825-5565 -- n3mlx@adelphia.net

N2LXD Fred Krause 716-736-4688-- emily2@cecomet.net

Online at: <http://ripleyhamfest2006.bravehost.com>

General Membership Meeting Minutes Continued

The meeting would be held first with hot dogs for lunch and "trunk of junk".

VA Station: WB3DOM mentioned that the Radio Forum is close to non-existence and he wanted to know if anything happened to the Radio Forum would the RAE be interested in taking over the station. The station consists of a Kenwood TS-430 and a Radio Shack Two Meter Mobile. KE3V mentioned that WB3DOM meet with the Forum members and get their approval.

KE3V also mentioned that W3QPP has all of the materials for anyone who maybe interested in reactivating the Erie chapter of QCWA.

N3BXL mentioned that Astronaut Mike Fincke KE5AIT would be speaking at Cathedral Prep on Thursday May 4th

50/50 Winner: N3LBI \$11.00

Motion to adjourn at 8:00 made by W2FD Seconded by N3SRD

Respectfully Submitted,
John Lis Radio Association of Erie Secretary

"QSL LIMBO" Continued from Pg 1

Hitz had put a return address on his card, but for reasons perhaps best known to the US Postal Service, it finally was returned to his former Florida address in early April. It turned up in the mailbox of Mack McCormick, a nonham now living in Hitz's childhood home.

"The card apparently has been in the 'Twilight Zone' for 50 years," McCormick said. "It's not wrinkled or anything." McCormick offered to return the card to Hitz, but Hitz declined. "What would I do with it?" he said. "I understand the guy who found it is going to frame it and place it on his coffee table!"

The story of the long-lost QSL card received worldwide attention. "The press has run wild with this," Hitz said. "I heard this story has been in newspapers in India, Iceland, Ireland--all over the world, over 100 countries! It's almost like I could have DXCC from all the countries that have reported it."

Antennas—a series by Jerry W2FD

Isotropic Radiator

An isotropic radiator is a “hypothetical” antenna that radiates the same power density in all directions.

For a total radiated power of P the power per unit area radiated by an isotropic radiator on a sphere of radius R is $P/4(\pi)R^2$, where $\pi = 3.14159265$ (approximately), and $4(\pi)R^2$ is the surface area of a sphere.

Directivity

The directivity (or directive gain) of an antenna is a description of the directional properties or distribution of radiated power from an antenna with respect to angle.

There are a number of ways of defining directivity but we shall choose the simplest as the ratio of power density for an given antenna at a large distance R and in a given direction from the antenna to the power density of an isotropic radiator at the same point when they both radiate the same total power. Directivity is often expressed in $\text{dB} = 10 \log_{10}(P_2/P_1)$, where P_2/P_1 is the ratio of powers. When a statement is made about the directivity of an antenna, it also may mean the peak value of the directivity pattern. Thus, if someone says, “the directivity of an antenna is 10 dB” they are referring to the peak value wherever that may occur.

Gain

The pattern shape for the gain of an antenna is the same as the directivity pattern shape but the value of the gain is decreased from the directivity by the ratio of total power radiated to total power input or efficiency of the antenna under consideration. Thus, if an antenna had losses within it so that only 50% of the input power is radiated, the gain pattern would be the same shape as the directivity pattern but would be multiplied by 0.5 or the antenna would have 3 dB less gain than directivity everywhere in the pattern. It should be noted that mismatch loss is not generally considered to be an antenna loss and the antenna is not penalized for

being mismatched. However, mismatch loss must be taken into account when the total system loss or gain is considered.

The peak values of gain and directivity may be expressed in **dB** or **dB_i**—both imply that the value is relative to an isotropic radiator. Sometimes the peak values are referenced to the peak gain or directivity of a lossless $\frac{1}{2}$ wavelength dipole (2.15 dB) in which case **dB_d** is used.

Antenna Input Impedance

Antenna input impedance is the ratio of voltage to current at the input terminals of an antenna.

In general, antenna input impedance can be thought of as a series (or parallel) combination of impedances which describes the antenna at any given frequency. The impedance is composed of resistance and capacitance or inductance and may be generally represented by the complex impedance $Z_A = R_A + jX_A = R_R + R_L + jX_A$ where R_R is the “radiation resistance” of the antenna corresponding to the power radiated, j is the square root of (-1), R_L is a resistance corresponding to the losses in the antenna and its surroundings and X_A is the antenna reactance corresponding to stored energy in the area close to the antenna structure. An antenna is “matched” at a point on a transmission line feeding the antenna when the impedance seen at that point looking toward the antenna is purely resistive and equal to the characteristic impedance of the transmission line.

Mismatch Loss

If an RF device (such as an antenna) is fed with a transmission line and the device input impedance is not equal to the characteristic impedance (50 or 75 ohms, for example) of the transmission line, an impedance mismatch occurs at the junction of the transmission line and the device. This impedance mismatch causes a reflection of the voltage, current and power incident from the transmission line and a standing wave then exists on the transmission line.

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Antennas continued

The power reflected P_R is proportional to the power incident and the square of the voltage (or current) reflection coefficient magnitude. $P_R = P_F R_M^2$ where P_F is the forward power and R_M is the magnitude of the reflection coefficient. The power transmitted to the device is then $P_T = P_F (1 - R_M^2)$. The SWR (standing wave ratio) on the transmission line is given by: $SWR = (1 + R_M)/(1 - R_M)$. For example: If the impedance looking into the device were pure resistive and equal to 16.67 or 150 ohms for a 50 ohm transmission line, the magnitude of the reflection coefficient, R_M is 0.5, the SWR is 3 to 1, the reflected power is $\frac{1}{4}$ of the forward power and the transmitted power is $\frac{3}{4}$ of the forward power. The ratio of the transmitted power to the forward power is called the “mismatch efficiency” (a factor in the overall antenna system efficiency) and can be expressed in dB as:

$$\text{Mismatch efficiency (dB)} = 10 \log_{10}(P_T/P_F) = -1.25 \text{ dB}$$

One would commonly say that the “mismatch loss” caused by the reflection is 1.25 dB. Such a reduction in transmitted power would not be so significant if that were the only consideration. We cannot say that the forward power provided by a transmitter is the same independent of the load at the transmitter output connector unless the transmitter is specifically designed to operate that way.

Solid-state transmitters of the 100-watt class are generally designed with fixed matching transformers, which convert the (50 ohm) impedance at the antenna terminal to an impedance that the “finals” would like to see, typically on the order of a few ohms. For a pure resistive

load and a 3 to 1 SWR, the impedance at the antenna connector could be as high as 3 times or as low as $\frac{1}{3}$ times the characteristic impedance of the transmission line and may cause the same ratio change in the impedance seen by the finals. The forward power delivered by the transmitter will be decreased from what it was for a matched load and special VSWR monitoring circuits may be activated to reduce the drive to protect the finals from high voltages or currents. Solid-state transceivers generally are designed to operate into a 50-ohm load and manufacturers suggest that you do not operate the equipment into a load SWR of more than 1.5 or 2:1.

The old “tube type” transmitters may have a design final load impedance of 1500 to 2500 ohms and the impedance transformation is normally obtained with a tunable pi-network circuit, which can be used to transform a wide range of impedances (particularly if the impedances are pure resistive). In this respect, the tube transmitters are a bit more forgiving since the finals always require tuning for a given load impedance.

It would be nice to use antennas that always had low SWR but if you decide to use an antenna such as a G5RV or dipole over a wide band or many bands, you will generally need a tuner (either internal or external) to match the antenna and reduce the SWR as seen by the transceiver. Thus, the ham who doesn't like antenna tuners because he thinks they are too lossy may be forced to design antennas for his operating frequencies or else use a tuner.

Next—the Dipole.



Trivia Question

Do You Know who Designed the RAE Club Logo?

Find out the Answer on Page 8

Radio Association of Erie
P.O. Box 844
Erie, Pa 16512

Swap and Shop

Citizen Dot Matrix GSX140 printer great for continuous pin feed labels or packet on line printer. Extra ribbons too. \$10,

Channel Master Rotator for light weight antenna, digital readout remote control. \$15

Roof Tripod, 5 ft. \$5.00.

Bob N3FAW 866-3027 . or
email bobn3faw@verizon.net

Oil Tank for Sale-
Do you have a hunting camp or cottage and you heat with oil? The RAE has an extra 275 gallon fuel oil tank that they would like to get rid of. Price: Best offer

For More information contact
Neil Shea N3ZNP at 474-2346
Or via e-mail at
twosheas@velocity.net

**Do You have extra things you want to get rid of ?
Bring them to Trunk of Junk Only this month at the RAE Club Meeting!**



Trivia Question Answer:

The Logo was designed Bob Schwimmer's son, Chuck in 1989. The logo was created back when graphic design was still done by hand.