



THE NEWSLETTER OF STARS (SOUTH TOWNS AMATEUR RADIO SOCIETY)

APRIL 1, 2014

VOL 47 Issue 8

AMATEUR MOBILE OPERATORS AT RISK

Motor vehicles were invented over one hundred years ago. In the following years, governments developed laws and regulations applicable to them. Likewise, a few decades later, radio was discovered. Again, after a slight pause, laws and regulations concerning radio appeared.



Once both motor vehicles and radios were part of our society, it followed that some laws would be developed that would affect both entities. So it was, that several decades ago, New York State Vehicle and Traffic Law Title 3, Article 12, Section 397 was created. It reads:

§ 397. Equipping motor vehicles with radio receiving sets capable of receiving signals on the frequencies allocated for police use. A person, not a police officer or peace officer, acting pursuant to his special duties, who equips a motor vehicle with a radio receiving set capable of receiving signals on the frequencies allocated for police use or knowingly uses a motor vehicle so equipped or who in any way knowingly interferes with the transmission of radio messages by the police without having first secured a permit so to do from the person authorized to issue such a permit by the local governing body or board of the city, town or village in which such person resides, or where such person resides outside of a city or village in a county having a county police department by the board of supervisors of such county, is guilty of a misdemeanor, punishable by a fine not exceeding one thousand dollars, or imprisonment not exceeding six months, or both. Nothing in this section contained shall be construed to apply to any person who holds a valid amateur radio operator's license issued by the federal communications commission and who operates a duly licensed portable mobile transmitter and in connection therewith a receiver or receiving set on frequencies exclusively allocated by the federal communications commission to duly licensed radio amateurs.

Originally, mobile amateur radios were crystal controlled. If you wanted a specific frequency, you bought a crystal cut specifically for that frequency. All well and good! Mobile amateurs

(Continued on page 6)

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CLUB OFFICERS

President Ken Pokigo, KC2AYK

Vice President John Leitten, KA2RFT

Secretary Mettieirene Wagner, KD2DFQ

Financial Sec'y Judy Levan, N2TEZ

Treasurer John Czuba, W2IV

Director (1 yr.) Conrad Barrick, KC2WRY

Director (2 yr.) Jon Hall, KC2QKB

Clubhouse Chair Pat Groom, KC2VWG

Telstar Editor Tomm Dean, KA2NXY

Webmaster (vacant — can you help??)

BLUE AND UNDERLINED

When you see something in *TELSTAR* in blue letters and underlined, that means it is an Internet link. Hold the "Control" key and click on the link to open.

Try it! sample link (control + click)

MONTHLY MEETING TO FEATURE ATCS PART 2

Last year, we were fortunate enough to have **Robert** W. Korthals, KC2QHY, address our group. His topic was ATCS, the Automatic Train Control System that keeps our nation's trains running safely and without conflict.

When he spoke, he described what ACTS was, and what it could do to assist railroad movement. This year, he will speak on how it works.

Join us on Thursday, April 3rd, for his second presentation on ATCS.

WE DID NOT GOOF

Despite our sincerest intention to provide members with an opportunity to report errors and mistakes in the last issue of *TELSTAR*, no members brought any items to our attention.

If ewe sea sum thing that is knot correct, lettuce no at:

wb2elw@verizon.net

STARS MEETINGS

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★ STARS meetings are usually at 7:00 PM on the
 ★ first Thursday of each month, at the Hamburg
 ★ Memorial Youth Center, 200 Prospect Avenue
 ★ (near Hawkins Avenue) in Hamburg.

The April meeting will be **April 3rd**, at 7:00 PM, at the Hamburg Memorial Youth Center.

All are welcome,

The STARS board usually meets at 7:00 PM on the fourth Thursday of each month at the Nike Base Radio Clubhouse, just west of the Hamburg Town Arena, 2982 Lakeview Road, Hamburg.

The April board meeting will take place on April
 24th, at the Nike Base Radio Clubhouse.

All members are welcome.

CLUB NETS

Saturdays 10:00 AM 3.925 MHz +/- QRM

Sundays 9:30 AM 28.380 MHz

Sundays 10:30 AM 147.09 MHz (repeater)

4th Saturdays 9:00 AM Tim Hortons Cafe

342 Buffalo St, Hamburg

ATTENTION ALL STARS MEMBERS!

Please attend the monthly meeting on Thursday, April 3rd, at the Hamburg Memorial Youth Center.

There will be a significant and very exciting announcement made that should delight all STARS members.

BE THERE!



Makers... The Future of Ham Radio

May 16-18 2014

hamvention.org



Upcoming training is listed in the table below. For more information, and to register for a training session, use this link:

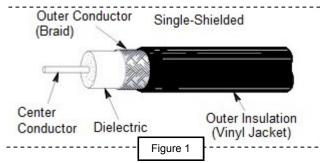
http://www.erh.noaa.gov/buf/skywarnt.htm

DATE	TIME	COUNTY	LOCATION	SPONSOR/CONTACT	
Monday April 7th, 2014	6:30 p.m.	Erie	Cheektowaga Erie Co. Fire Training Ctr 3359 Broadway	Erie County	
Thursday April 10th, 2014	7:00 p.m.	Allegany	TBA	Allegany County Emergency Management	
Wednesday April 23, 2014	7:00 p.m.	Cattaraugus	Little Valley Cattaraugus County Bldg 303 Court Street	Cattaraugus Co. Office of Emergency Mgmt. Chris Baker — CJBaker@cattco.org Sign up at: www.cattco.org/fire-training	
Tuesday April 29th, 2014	7:00 p.m.	Erie	Buffalo Buffalo State College Classroom Bldg, 4th Floor Buffalo State Geography Department		
Wednesday May 21, 2014	7:30 p.m.	Erie	Tonawanda Tonawanda City Hall	ARATS	



In this month's column we will review various types of transmission lines and how they will fit into the design of your antenna system.

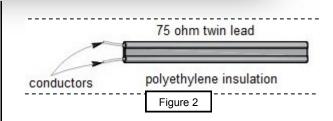
There are basically 2 types of transmission lines, coaxial cable (one side grounded), and balanced (ungrounded) lines. Both coaxial and balanced lines come in different impedances and dielectrics. We've talked about impedance, but what is a dielectric? Simply stated, the dielectric is what separates one wire from another. In coaxial cable it separates the shield from the center conductor and in balanced lines, it separates one wire from another. The dielectric is very important, especially in coaxial lines because it is what determines the efficiency of the cable which ultimately determines how much of the power from your transmitter actually arrives at the antenna. The dielectric is also important in balanced lines, but not to the extent that it is in coaxial lines. The vast majority of amateurs using coaxial cable in the HF spectrum use one of 3 types of 52 ohm cable. They use small (RG8X), medium (RG58), or large (RG8 or a variant of RG8). In Figure 1 you can see the typical construction of coaxial cable.



Let's review the types of balanced transmission lines:

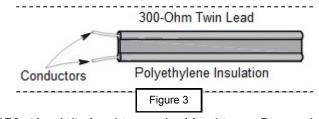
75 Ohm Twin lead - Figure 2

I have not seen or heard of this line in years. I don't think anyone uses it any more.



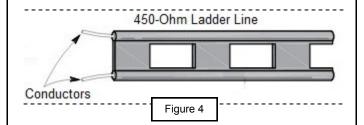
300 Ohm TV Twinlead - Figure 3

This line is not used as much as it was in the past. It can handle medium power, perhaps as much as 500 watts but I would not recommend it in high SWR situations.



450 Ohm Window Line or Ladder Line - Figure 4

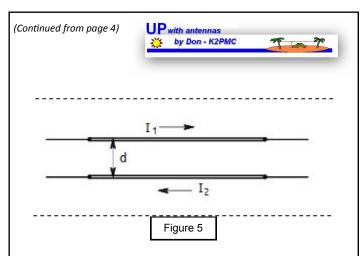
This is the balanced line of choice used by many amateurs today. It can handle high power if the SWR is not too high.



Open Wire Line - Figure 5

It is similar to Window Line except it utilizes air as the dielectric. It can be made in any impedance desired and is available commercially, usually in 600 ohm impedance. The impedance is determined by the spacing between the 2 wires. It can handle high power and high SWR.

(Continued on page 5)



Open wire line can be constructed using bare or insulated wire. The effect of the insulation on the impedance is insignificant.

Of the various types of balanced transmission lines, I prefer open wire line for various reasons which I will not go into. And, of the various impedances available, I prefer 600 ohm open wire line.

The transmission line greatly affects the performance of your antenna. By that I mean, there are inherent losses in the transmission line which will be exacerbated by the mismatch at the feed point. These losses can be considerable and can negatively affect the power that ultimately reaches your antenna.

In next month's column we will compare the advantages and disadvantages of coaxial cable and balanced line. These are the factors that will be important to you in the design of your antenna system.

73,



Don

K2PMC

(Editor's note: If you have questions or comments regarding anything from "Up with Antennas", feel free to email Don Niles at: k2pmc@arrl.net.)

ADSB PRESENTED

The March meeting included a presentation by **Ken Pokigo**, **KC2AYK**, on ADSB systems for aircraft. Basically, the systems utilize GPS technology to provide data to air traffic controllers concerning a plane's location. The system is due to replace radar by the year 2020.

With such technology, anyone will be able to utilize that same information on their home computers. A proper receiving antenna (home built) would be required.

A demonstration was set up for the meeting.

(For more information, see QST 2014.)





PHOTOS IN THIS COLUMN PROVIDED BY
LINDA JABLONSKI, KC2YMM

(Continued from page 1)

AMATEURS AT RISK

did NOT have radio sets "capable of receiving frequencies allocated for police use", as the crystals limited reception to "exclusively allocated" amateur frequencies.

However, over the decades since the law was written, amateur equipment has evolved. Specifically, crystal control of frequencies gave way to the synthesized radios now in use. Today, most amateur mobile radio sets have receivers that are tunable over entire bands of frequencies, including those allocated for police use! That many Icom, Yaesu, Kenwood or other modern radios allows users to tune in police frequencies, puts these radios in direct conflict with the law cited above. These radios include Icom models IC-2200, IC -2300, IC-V8000, IC-2820; Kenwood models TM-V71A, TM-D710GA, TM-281A; Yaesu models FT-1900, FT-2900, FT-7900, FT-8800; as well as many other previous models from all companies. All of these models (and many others) are capable of receiving signals on frequencies allocated for police use.

Over the years, not many amateurs have reported problems regarding the conflict of most modern mobile radio sets with the law. However, things are changing, and fast!

These changes are related to the recent promotion of **Dan Jones** to the rank of Major within the New York State Police. **Major Jones** has been put in command of the Traffic Safety Unit. That unit is specifically charged with enforcement of all traffic regulations in NYS.

Why the difference? **Major Jones** is, and has been, an active amateur radio operator (WA2WNI) for many years. As such, he is very familiar with the equipment amateurs use. He is also familiar with the provisions of NYS Vehicle & Traffic Law, section 397.

Major Jones is designing a program to ensure that amateurs obey the law. Designated "*Operation Ham Stake*", it will target directed searches of the vehi-

cles used by amateur radio operators. **Jones** has researched all amateur mobile gear, specifically with regard to receiving frequency ranges, and prepared a guide for Troopers to readily identify those models capable of receiving police frequencies.

Operation Ham Stake has begun. Until all the kinks have been worked out, the program is currently limited to the NYS Thruway. Also, to minimize distractions to traffic, activity is limited to cars in the rest stops along the Thruway. The modus operandi will be to identify cars operated by amateurs by the antennas mounted on the vehicles. Those cars will be approached, searched for amateur equipment, and a determination will be made whether or not the radio is in violation of Section 397.

So, what can amateurs do to limit their vulnerability, since most of their radios will be found in violation?
Some simple practices will be useful.

First, avoid the Thruway rest stops. Make sure your vehicle is filled before entering the Thruway. Also, should you need fuel, instead of using the rest stops, exit the Thruway, fuel at any station, and then return to the Thruway.

Second, make sure your bladder is emptied before entering the Thruway. This should limit your need for rest rooms. If necessary, carry a bottle with you, so you can void without using a rest stop.

What about the YLs and XYLs who are amateurs? Obviously, enter the Thruway only with an empty bladder. If necessary, there are some products which may assist for those situations where you cannot wait. Travel Mate, SheWee, Travel John and Little John (with female adapter) are products which will allow women to void with minimal disruption.

Third, amateurs should consider removing their antennas prior to travel on the Thruway. Remember, Troopers are relying on the antennas to identify amateur operators.

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AMATEURS AT RISK

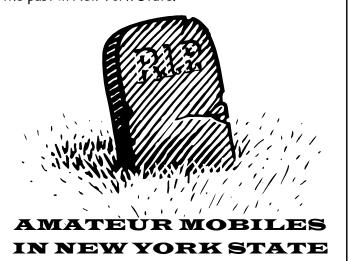
Finally, amateurs should pressure legislators to update Section 397 to remove the threat to mobile amateur radio. Today, it is difficult to find an amateur radio that will not receive other frequencies, including those used by police. Also, as originally written, Section 397 assumes that reception of police frequencies implies interference with those frequencies; nothing could be further from the truth!

Ironically, strict enforcement of Section 397 threatens one of the primary amateur activities sponsored by the State Police As currently written, most of the participants in the annual Pumpkin Patrol are amateurs in violation of Section 397.

In addition to the Pumpkin Patrol, other services provided by local ARES/RACES units are now in question as to their legitimacy. These include all events where amateurs provide mobile communications for event operations. Events such as the Tour de Cure and Ride for Roswell could be affected.

It is highly doubtful that there are enough old-fashioned crystal controlled amateur radios could be found for today's NYS amateurs. It is also very doubtful that the big three manufacturers would design specific frequency limited editions for the NYS community.

Perhaps amateur mobile radios will become a thing of the past in New York State.



HAMFESTS

fest

Location: VFW Memorial Post 6778

4306 Route 31 Palmyra, NY 14522

Sponsor: Drumlins ARC

Website: www.DrumlinsARC.us

04/12/2014 Cuyahoga Falls ARC's

60th Annual Hamfest

Location: Emidio & Sons Party Center

48 East Bath Road

Cuyahoga Falls, OH 44221

Sponsor: Cuyahoga Falls Amateur Radio Club
Website: www.cfarc.org/hamfest2014.php

04/27/2014 Two Rivers ARC Ham-

<u>fest</u>

Location: Boston (McKeesport), PA

Sponsor: Two Rivers ARC
Website: www.trarc.net

(control + click on name for full information)

REPORTERS WANTED

Is there an area of amateur radio you would like to see addressed in *TELSTAR?* We are seeking reporters to write columns on a regular basis.

If you have an affinity for and knowledge of particular subject areas within amateur radio, your services are requested as a regular columnist.

Topics could include contesting, digital modes, emergency service, equipment review, satellite communications, regulation/legal issues, or any of a number of other areas.

Interested? Contact us at: wb2elw@verizon.net.

EXAM SITES

04/05/2014 Jamestown

Sponsor: CARS

Location: Prendergast Library

509 Cherry Street 2nd fl conf rm

Time: 2:00 PM (Walk-ins allowed)

04/05/2014 North Tonawanda

Sponsor: ARA of the Tonawandas

Location: North Tonawanda Fire Headquarters

495 Zimmerman Street - Basement

Time: 9:30 AM (Walk-ins allowed)

04/09/2014 Niagara Falls

Sponsor: Niagara Radio Club, Inc. Location: Venture Forthe, Inc.

3900 Packard Road

Time: 6:30 PM (Walk-ins allowed)

04/12/2014 Wellsboro PA

Sponsor: Tioga County ARC
Location: Senior Citizens Center

Queen Street

Time: 8:30 AM (Walk-ins allowed)

04/15/2014 Meadville PA

Sponsor: Crawford ARS

Location: St Brigid Church Social Hall

383 Arch Street

Time: 6:30 PM (No walk-ins)

04/19/2014 <u>Erie PA</u>

Sponsor: Wattsburg Wireless Association
Location: Greene Twnshp Mun Bldg Rm 114

9333 Tate Road

(use district justice entrance)

Time: 9:00 AM (Walk-ins allowed)

(control-click on City for more info)

04/19/2014 Rochester NY



Sponsor: Rochester ARA

Location: RIT Gleason Engineering Bldg Rm 3139

1 Lomb Memorial Drive

Time: 10:00 AM (Walk-ins allowed)

04/27/2014 Geneseo

Sponsor: Genesee Valley ARA

Location: Livingston County Government Center

2 Court Street Rm 205

Time: 5:30 PM (Walk-ins allowed)

VE SESSION RESULTS

STARS conducted an examination session on March 15, 2014. Three passed the technician exam. One continued with the general exam and also passed that.

Michael Josker KD2FZX Technician
Earl Kipler Sr. KD2FZV General
Saad Mirza KD2FYW Technician

Volunteer Examiners included Jim Starr, N2TFA, Ed Jablonski, KC2YMN; Linda Jablonski, KC2YMM; and Tomm Dean, KA2NXY. John Leitten, KA2RFT served as "on call" back-up.

TESTING NEEDS

- Legal photo ID (a driver's license is excellent!)
- Current license and/or CSCE documents, if any, and a non-returnable photocopy of each
- Federal Registration Number (FRN); if none, then Social Security Number (SSN)
- \$15 in cash, check or money order
- Two #2 pencils with erasers, and a pen

(more info)

CONTEST CALENDAR

Start and Finish Contest Title Sponsor's Website



(Control + click to activate a link)





SPECIAL EVENT STATIONS

Full information at: http://www.arrl.org/special-event-stations

04/01/2014 OzarkCon 04/01/2014 SUN n FUN International Fly-In & Expo 2014 Preparedness Summit 04/02/2014 04/04/2014 Platoon 382 Hall Dedication Ceremony 04/05/2014 819 Steam Locomotive 04/05/2014 Mustang Island On The Air The Dent County Raiders - Missouri QSO Party 04/05/2014 04/11/2014 Georgia QSO Party 04/12/2014 102nd Titanic Special Event Station 04/12/2014 74th Anniv. of Bletchley Park (UK) Timely Decrypt of German Enigma Radio Message 04/12/2014 Anniversary of the Sinking of the Titanic 04/12/2014 Annual Calico Fort Arts and Craft Festival 04/12/2014 Bayou Teche Black Bear Festival 04/12/2014 General Hardee's Retreat 04/12/2014 USS Midway Decommissioning 1992 04/19/2014 Grays Harbor ARC Birthday Event 04/19/2014 Old Greenville Black Powder Rendezvous Special Event Station 04/19/2014 Our 2nd annual Earth Day event. Powered only by the sun 04/19/2014 Schweitzer Engineering Laboratories 30th Anniversary SPARC 45th Anniversary 04/19/2014 04/25/2014 Earth Day from Earth, TX 04/25/2014 Jackson, MO Bicentennial Special Event Station 04/26/2014 Boy Scouts of America Lincoln Trail Hike 04/26/2014 Cape Cod Mini Maker Faire - Radio Demo Commemorating the Life & Heroic Actions of RR Engineer John Luther (Casey) Jones 04/26/2014

USEFUL INTERNET LINKS

(control + click to use link)

ARRL MAIN SITE: http://www.arrl.org/home

ARRL ATLANTIC DIV.: http://www.atldiv.org

Two Modern Popes Now Saints

04/27/2014

CONTESTS: http://www.arrl.org/contest-calendar

http://www.hornucopia.com/contestcal/perpetualcal.php

HAMFESTS: http://www.arrl.org/hamfests-and-conventions-calendar

STARS REFLECTOR: http://groups.yahoo.com/group/STARS-WB2ELW/

TELSTAR EDITOR: wb2elw@verizon.net

TELSTAR APF	RIL 2014 PAGE 11
TECH A class	MEMBERS HH
REN	CLOS Members
EXTRA The extra	SONY A surplus 24
WE	

TOPIC	

Congratulations

Speaker for March mtg

EXTRA CREDIT

So, you think you know all about amateur radio. Well, here's an actual question that appears on the Extra examinations. It was recently covered in the Extra class underway at the Nike Base Radio Clubhouse.