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Quartermaster	Lee Hodges KC8ITI	(989) 4863771
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	Pat Mullet KC8RTW	(989) 8286657
Swap Committee	Pat Russell W8PMR	(989) 8322924
	Chuck Cribley WA8LQD	(989) 4889409
	Keith Johnson KB8SOE	(989) 4884337
	Pat Mullet KC8RTW	(989) 8286657
	Keith Johnson KB8SOE	(989) 4884337
	Pat Mullet KC8RTW	(989) 8286657

LIFE Members

Don W8WOJ, Lee KC8ITI, Dennis N8ERF, Larry N8CGP, Denny WD8BPT, John WB8RCR

Midland County Public Service Net, Thursdays at 9 PM

W8KEA Repeater — 147.000 MHz+ PL 103.5 • W8QN Repeater — 443.325 MHz+ PL 103.5

W8KEA Digipeater — 145.090 MHz

Salvation Army Bldg, 330 Waldo Ave.

Talkin 147.000+

November 2017

Static Discharge

Al Bailey, KA9WCS

Winter is coming! Time to do the last minute checks and rechecks on the outside connections and antennas. As it is always better to do this in warmer weather than the colder variety. Speaking of the colder weather, our next meeting will be at the Law Enforcement Center at 7:00PM. This will be in conjunction with the Midland County Emergency Manager, Jenifier Boyer. The topic is Winter Weather Spotter training, presented by the Detroit National Weather Service.

Please note we will NOT be meeting at the Salvation Army Center for our next meeting in November. A shortened version of the regular club meeting will be held after the training.

The Law Enforcement Center is at 2727 Rodd Street Midland.

Al Bailey
KA9WCS
Al Bailey
KA9WCS

MARC MEETING October 5th, 2017

Linda Hodges, KC8MUD

The meeting was called to order by Al KA9WCS at 7:35 pm with 33 members and guests present. A sign-in sheet was passed around and introductions were made.

Any corrections or additions to the minutes should be brought to the attention of the secretary Linda KC8MUD.

Presentation- Contesting is a Blast- Steve WA8Y- Steve talked about how much fun contesting can be and how contesting can help develop important skills.

Next meeting Al KA9WCS- The next meeting is on November 2nd at 7:00 pm at the LEC for Winter Weather Spotter training. Short business meeting to follow.

Announcements- Al KA9WCS Topics mentioned included HamCom, the

Swap, field day, and the Christmas dinner. Also mentioned was the EXEC meeting.

Balloon Launch- Dennis N8ERF- Dennis told about having school group release balloons with notes attached. He also mentioned some technical difficulties with their high altitude balloon launch.

Treasurer's report- Larry N8CGP- Thank-you to all who have renewed their membership.

Also Larry will send a check to the Salvation Army for the use of the building for this year's swap.

Net Control:

October 12th Steve W8AY

October 19th John W8QN

October 26th Lee KC8ITI

Open to the Floor:

SAL VAL -Jim KD8HIH- Jim says

we need to let the Salvation Army room coordinator know if we are not going to use the room for our meeting night.

Hurricane traffic-John W8QN- Please be respectful of those frequencies designated for emergency use only.

A motion to adjourn made by Larry N8CGPI, Seconded by Cindy WD8BDM.

The meeting ended at 8:30 pm.

Respectfully submitted,
Linda KC8MUD
MARC Secretary

RACES@ / ARES

**AL Bailey
KA9WCS**

This month we will not have a RACES / ARES meeting, as the Winter Weather spotter training will be at the Law Enforcement Center at 7:00 Pm. Plan on coming to the Law Enforcement Center for this presentation by a representative from Detroit National Weather Service. This will also be the Radio Club presentation this month. Feel free to bring a friend and introduce them to all of us. No need to bring your hand held radio to this session.

Al Bailey
KA9WCS

SUBMISSIONS FOR NEWSLETTER

Contact Paul Tolly, KE8GEM at ke8gem@arrl.net if you want to submit anything for the newsletter.

I need your items by the 15th of the month. Anything received after that may not make it into the newsletter for that month.

If you prefer to download the MARC newsletter from our web site, or have trouble with delivery via USPS.

MARC MERCHANDISE

TShirt	S XL	\$10
	2X 3X	\$12
LongSleeve Tee	S XL	\$12
	2X 3X	\$15
Crew Sweatshirt	S XL	\$18
2X	3X	\$20
Hoodie	S XL	\$24
	2X 3X	\$26
Zipper Hoodie	S 3X	\$30
Winter Coat	S XL	\$42
2X	3X	\$45
Spring Jacket	S XL	\$32
	2X 3X	\$35
Hat		\$10

All garments are royal blue with white print and embroidered name and number. Extended sizes available. Please call Bill Lee at B&C Sportswear with questions @ (989) 8394537.

Amateur Radio is a Contact Sport!

I want to improve my contesting performance and realize that while I have a LONG way to go as a contesting operator, my antenna farm is equally in need of some love ...

To that end, I started off with my last article describing an antenna that I hope to hang yet this fall, it is all ready to go, just needing a free weekend and some site planning ... That antenna is a simple 2-wire antenna, a 40M half square antenna. The basic antenna consists of two wires: 34.75' and 104.25' (total 139'). The shorter of the two wires is connected to the shield of the coax, while the longer wire (1/2 wave phasing line with a 1/4 wave radiator) is connected to the center coax conductor. The half square antenna is typically top fed, in other words, the mount is suspended ~40' high with the coax ideally running off at a 90-degree angle. The short radiator hangs straight down, the 70' phasing line runs straight out suspended at ~40' with the final 1/4wave radiator also hanging straight down. In my case, I built an antenna mount with an integrated common mode choke that will decouple the coax from the antenna hopefully reducing receive noise and stray RF in the shack!

But first, how does this antenna perform (theoretically). Before cutting any wire or PVC, I decided to model this antenna to see what I might expect. My goal is to get a 40M gain antenna oriented toward Europe (roughly 45 Degrees) with some directivity with respect to front to side and reasonable SWR across the 40M band (7.000 MHz - 7.300 MHz) but if a compromise is needed, definitely bias for the CW end of the band (7.000MHz - 7.125MHz). My model into EZNEC looked like Figures 1 & 2.

Wires

Wire

Create

Edit

Other

☐ Coord Entry Mode

☐ Preserve Connections

☒ Show Wire Insulation

Wires													
	No.	End 1				End 2				Diameter	Segs	Insulation	
		X (ft)	Y (ft)	Z (ft)	Conn	X (ft)	Y (ft)	Z (ft)	Conn			(in)	
	1	0	0	10.25		0	0	45	W2E1	#13	200	2.26	0.02
	2	0	0	45	W1E2	69.5	0	45	W3E1	#13	200	2.26	0.02
▶	3	69.5	0	45	W2E2	69.5	0	10.25		#13	200	2.26	0.02
*													

Figure 1. EZNEC screen for wire definition of my 40M half square

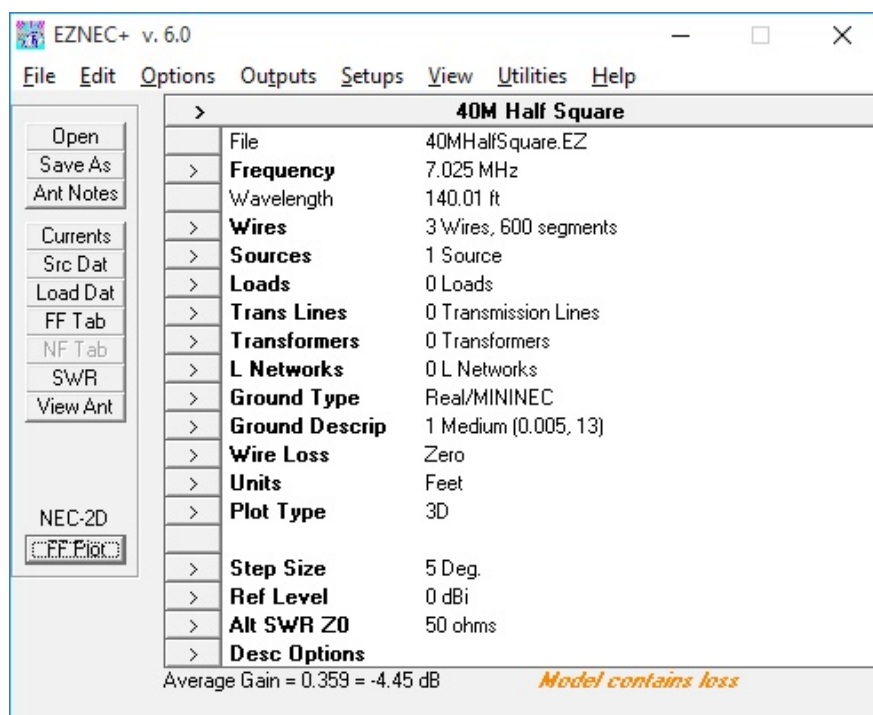


Figure 2. EZNEC control screen for generating SWR and far field models

Contesting Corner - Continued from page 3

(From Figure 2) When run, this produced acceptable results with respect to SWR, Gain, and Directivity in a simple to construct (and inexpensive) wire antenna. Figure 3 is the SWR prediction plot for the antenna, figures 4, 5, and 6 are the Elevation, Azimuth, and 3-D Far field plots for this antenna.

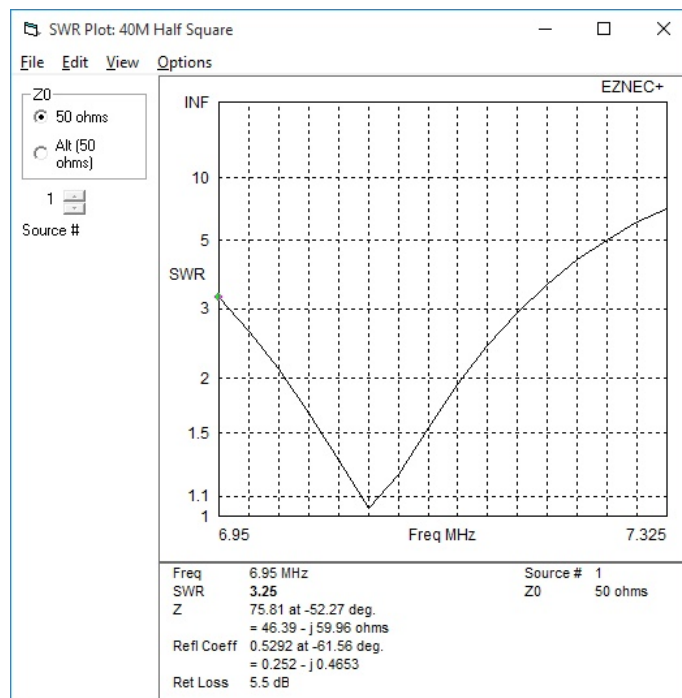


Figure 3. SWR prediction for 40M half square

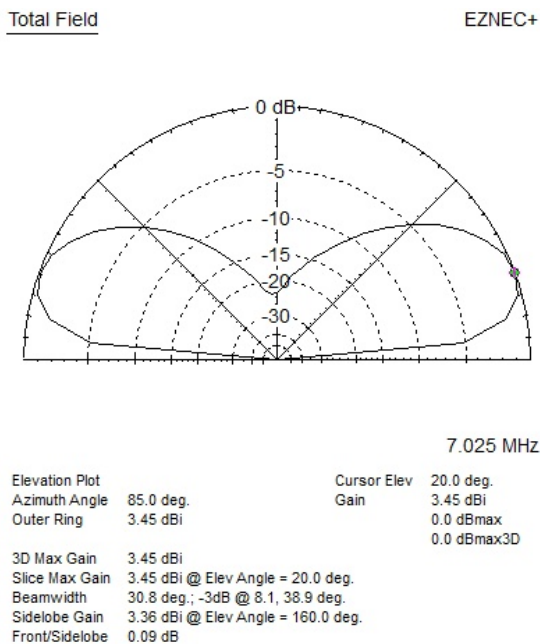


Figure 4. Elevation Slice for 40M half square

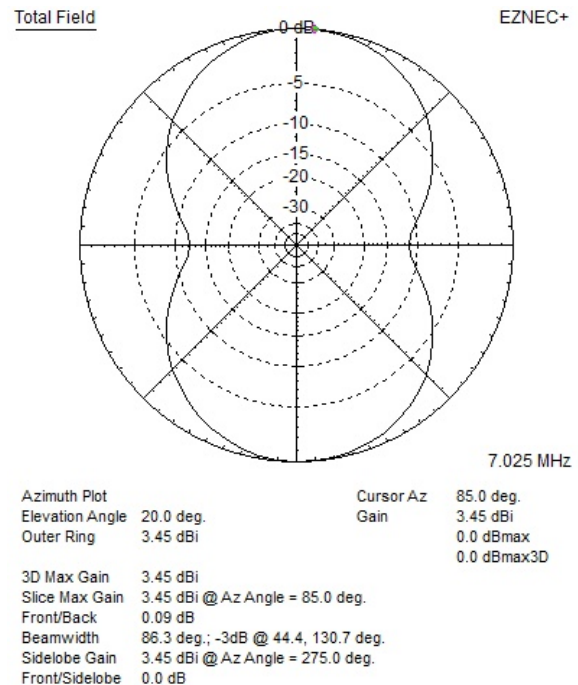


Figure 5. Azimuth Slice for 40M half square

-- Continued on page 5

While all antennas represent some form of compromise, this one theoretically does a nice job of balancing: Beam Width, Cost, Front to side rejection, Gain, simplicity (construction and installation), SWR, and Take Off angle. With a gain of 3.45dBi roughly broadside to the two vertical radiators, my antenna will have to run roughly along a line from South East to North West. The take off angle with maximum gain is 20 degrees, better than a low dipole, but not quite the 12degrees often cited as an optimal measure. Still this looks like a good alternative. So let's proceed! My next stop was Home Depot to purchase an assortment of 1/2" PVC fittings to build an antenna mount. I wanted something to mount my CMC on and to hold my SO239 coax connector. This is where my tinkerer came out, after standing and staring at the PVC rack for 20 - 30 minutes, I selected \$6 - \$7 worth of PVC fittings and caps for assembly into my antenna fixture.

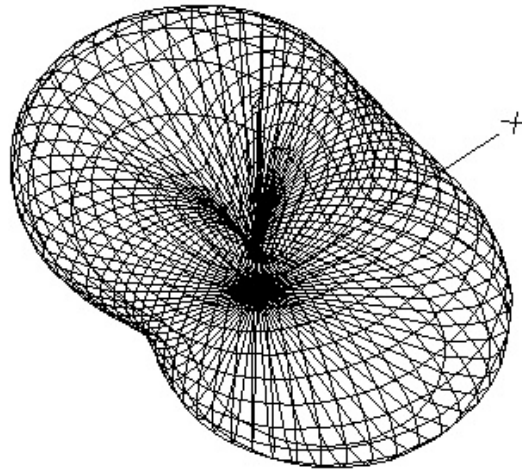


Figure 6. 3-D Far field plot for 40M half square

Next step, measure the wire. I am very fortunate in that I own a 150' tape measurer and have enough space in my back yard to allow me room to cut my two pieces of wire. Once done, I set about to make my CMC, 14 turns of enameled magnetic wire around a FT240-31 toroid. I then went about building a PVC frame using my parts. The result is shown in 7. My CMC was built using data from Jim Brown - K9YC and Steve Hung G3TXQ. For this choke, I used a 31Mix FT240 toroid bifilar wound using enameled copper wire. To get the desired choking impedance, I wound 14 turns terminating one end to the SO239 and the other ends used to connect to the antenna, see figure 7.



Figure 7: 40M Half-Square antenna mount with integrated Common Mode Choke

-- Continued on page 6

**When all else fails...
...Amateur Radio!**

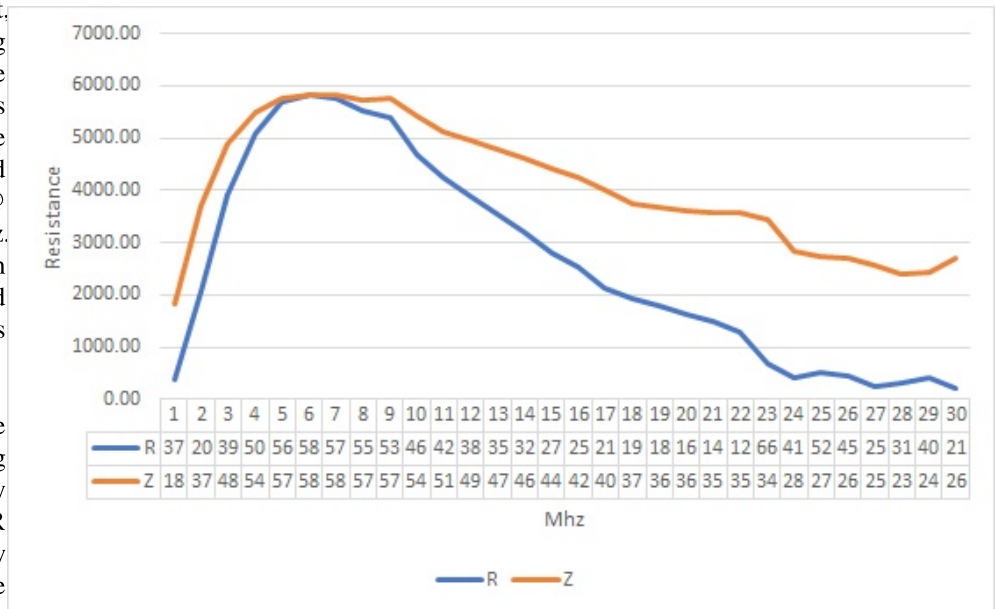


**AMATEUR
RADIO**



Prior to assembly of the antenna mount, I used my VNA to measure the choking impedance for the 40-Meter band. The idea choking impedance for a choke is greater than 5000 Ohms over the entire 40-Meter band. The measured resistance of the choke is 5,700 ohms @ 7MHz and 5,500 ohms at 8MHz. (NOTE:40M: 7MHz - 7.3MHz). Graph 1 shows both the resistance and impedance graph for the choke as measured by the VNA.

Once the wires were attached to the antenna support, it was temporarily hung and SWR was measured, it closely approximated the predicted SWR calculated in the EZNEC model! Now all I have to do is wait for that free weekend to hang my new antenna...



Graph 1

Till next time, 73 es God Bless,
Art / KOACP

WHERE TO FIND OLD MAGAZINES

At the last club meeting we had a discussion about all of the the radio and electronics magazines that have gone by the wayside. Some of the club members recounted having collections of these resources in years past and some members admitted that they still have collections somewhere. The good news is a lot of these magazines have been scanned and are available online. Two of the sites I've found that are very useful are:

<http://www.americanradiohistory.com>
<https://archive.org>

American Radio History contains the following collections:

Communications World White's Radio Log Modern Electronics S9
ElectronicsIllustrated PracticalTelevision RadioConstructor WirelessWorld
The Marconigraph Electronics Now Electronic Age Byte
Electronics Catalogs from Allied, Lafayette, Olsen and other Hobbyist Special Editions
Plus many others.

Archive contains the 73 magazine collection and lots of individual radio, electronics and computer issues along with many radio, computer and electronics related books.

If you visit these sites I hope you enjoy your trip down memory lane and find something useful. By the way the magazines and books at these sites are downloadable files so you can rebuild your personal collection. I've downloaded a lot of these collections to CD and DVD which takes up a lot less shelf space. In fact I've recycled a lot of paper by having scanned copies as archives.

Lee-KC8ITI



Michigan Section News for October 2017

Greetings to the Hams of Michigan,

The Inaugural 2017 Great Lakes HamCon (2017 Great Lakes Division Convention) is in the books! We hosted the ARRL Great Lakes Division Convention and welcomed over a thousand guests to our incredible venue at Michigan International Speedway. We welcomed Rick Roderick, K5UR, ARRL President and Yvette Vinci, KC1AIM and Kim McNeill, KB1WUX from the Marketing/Circulation Department at ARRL HQ who operated the ARRL display and answered countless questions.

This event was the culmination of over a year's work on behalf of dedicated staff and volunteers from our 21 clubs that came together to produce this event.

We had a day and a half of forums in the great meeting rooms along pit road as well as a one-day Tech class and subsequent VE test session. Our ARRL Banquet was held in the prestigious Champion's Club atop the grandstands where Great Lakes Division Awards were presented to deserving individuals.

As with all new events of this kind, our list of commercial vendors was smaller than we would have liked. For a first-time event, most chose to take a wait and see approach, and they missed a good one! Our vendors reported fantastic sales numbers and while we thank them for seeing the 'vision' and coming to GLHamCon, we also thank our shoppers for making the event worthwhile for our vendors.

There were some areas that did not go as planned or happen how we thought they would, and as a result, we have a laundry list of things that can be made better for next year's event. Your GLHamCon team appreciates your understanding and patience.

With over 1000 paid attendees, we are absolutely rating the event as a success! Our thanks go to our NASCAR and Michigan International Speedway friends, the ARRL, our partner clubs who believed in us and most of all, the amateurs of the ARRL Great Lakes Division and beyond. Stay tuned for GLHamCon Ver. 2.0!

Texas, Florida, Puerto Rico and Caribbean relief updates.

Many thanks go to our fellow hams in Texas and Florida (and others from afar) for their quality assistance to their neighbors and

communities by providing communications and personnel where needed. In addition, those that volunteered to deploy to Puerto Rico and the US Virgin Islands to help ease the devastation there have done a great service to their nation. As ARRL President Rick Roderick, K5UR stated at the recent ARRL Banquet at Great Lakes HamCon, this is our finest hour! We can all be very proud of the amateur radio community's response to the call for help.

All the latest updates on the Puerto Rico and Caribbean can be found here: www.arrl.org/pr-carib

Hospitality Acknowledgements

Thanks to these organizations and clubs for their outstanding hospitality shown to the MI ARRL staff:

Oct 29, 2017 USECA Swap, Madison Hgts, MI – WB8R

Nov 10, 2017 Central MI ARC Meeting, Mason, MI – WB8R

Dec 3, 2017 L'Anse Creuse Swap, Madison Hgts – WB8R

Michigan Amateur Radio Public Service Corps (ARPSC) Activities for September 2017

Station Activity Reports (SAR) September 2017: WB8WKQ 279, WB8TQZ 130, K8ED 90, K8RDN 72, N5MKY 67, WD8USA 49, WD8MWD 42, K8BKM 39, KC8NFN 29, WB8RCR 12, N8UN 12. Total SAR reported: 821

Public Service Honor Roll (PSHR) for September 2017: WB8RCR 232, KC8YVF 207, WB8WKQ 190, WD8USA 170, WD8MWD 150, WB8TQZ 110, K8ED 105, N5MKY 105, NE8B 95, KC8NFN 84, KE8BYC 37, KE8HJA 5.

Brass Pounder's League (BPL): None

Net traffic for September 2017: The Michigan Net 103, Southeastern Michigan Traffic Net 91, Michigan Traffic Net 75, Michigan Amateur Communications System 73, Great Lakes Emergency and Traffic Net 43,

Upper Peninsula Net 40, Michigan Digital Traffic Net 7, Northern Lower Eastern Upper Peninsula Net 4, Saginaw County ARES Net 3, Michigan VHF Traffic Net 2, District 5 Hospital Net 2, District 3 ARPSC Net 2, Red Cross Net of Greater Grand Rapids 1, Bay Area Regional Traffic System, Genesee County ARPSC Traffic and Training Net, Michigan Amateur Radio Public Service Corps, District 8 Emergency Net, Luce County ARES Net, Michigan ARES D-Star net.

Total net traffic reported: 446

September 2017 Volunteer Hours Dollar Value:

ARPSC: \$ 268,298

NTS: \$28,311

Total Volunteer Dollar Value for September 2017: \$296,609

A hearty thanks to the hundreds of volunteers across the State of Michigan who work hard to hone their skills month after month to make sure they are ready for any situation that may arise. Our ARPSC and NTS programs are an integral part of AuxComm, which in turn is part of the Michigan State Police Homeland Security Division.

73 until next month,

Larry, WB8R

Area Nets

SVARA; Mn, 147.24 MHz, 2100 ET
Gladwin; Tu, 147.18 MHz, 2000 ET
BARTS; Tu, 145.31 MHz, 2100 ET
Canadian Lks, Wed, 146.8, 2100 ET
Edmore, Th, 146.8, 2000 ET
MARC; Th, 147.00 MHz, 2100 ET
District 3 ARPSC; Su, 145.31 MHz, 1830ET
Mi VHF Trffc Net; MWF, 145.15 MHz, 0900 ET
TMMTN; MonSat, 147.30 MHz, 2130 ET
MACS; SunSat, 3953 kHz 1100 ET
MIARPSC; Su, 3932 kHz, 17:00 ET
UPN; SunSat, 3920 KHz, 17:00 ET
MITN; SunSat, 3952 kHz, 1800 ET
QMN; SunFri, 3563 kHz, 1830 & 2200 ET
WSSBN, 3932 kHz, 1900 ET
UPARES; Fr, 3932 kHz, 1930 ET
GLETN; SunSat, 3932 kHz, 2030 ET
SEMTN; SunSat, 145.33, 2215 ET
MiDTN 1900 local Tu, Th, Sat 3.583
+waterfall, Oivia 8/500



2017 Winter Spotter Training Class

FREE AVAILABLE TO PUBLIC!

Thursday, Nov 2nd at 7:00 PM

LEARN

- Basics of winter storm development
- How to measure ice accumulation and snowfall
- Reporting Information
- Basic winter weather safety

Midland Law Enforcement Center

Main Conference Room

2727 Rodd Street

Midland, MI 48640

The Midland County Emergency Management Office, in partnership with the National Weather Service (NWS) and the Midland Amateur Radio Club (MARC) is sponsoring this year's class. This will be 90 min training. There is no charge and open to anyone 12 years or older. No registration is needed.



MARC Vital Statistics

MEMBERSHIPS EXPIRING IN OCTOBER 2017

KD8MRB

MEMBERSHIPS EXPIRING IN NOVEMBER 2017

KA8ORL	KA9WCS	KD8QXK	KE8FIX	KE8FIY	KE8FIZ
	KE8FJA	KE8FJB	KE8FJD		

MEMBERSHIPS EXPIRING IN DECEMBER 2017

NONE

MEMBERS IN GOOD STANDING

AC8QF	K2VMH	K6VWE	K8AVJ	K8RI	K8VB
K8VFO	KA8EZT	KA8ORL	KA9WCS	KB8AWE	KB8PGW
KB8SOE	KC8IHB	KC8ITI	KC8MUD	KC8RTW	KD8HID
KD8IWB	KD8MMH	KD8MRB	KD8QAM	KD8QXK	KD8QXL
KE8DON	KE8EOX	KE8FIX	KE8FIY	KE8FIZ	KE8FJA
KE8FJB	KE8FJD	KE8GEM	N8CGP	N8ERF	N8FUZ
N8JBW	N8LBF	N8WTQ	NX8A	W8DOD	W8PMR
W8QN	W8WOJ	W8ZSX	W8ZSX	WA8Y	WB8RCR
	WB8WNF		WD8BPT		

TOTAL 50

BIRTHDAYS CELEBRATED IN OCTOBER 2017

W8WOJ 10/3	W8ZSX 10/5	N8LTR 10/10	N8WTQ 10/10
WD4PIJ 10/13	KA0KPP 10/16	KC8TQU 10/19	WB8IDY 10/23
KB8PGW 10/25	N8OVT 10/27	KC0CJC 10/31	

BIRTHDAYS CELEBRATED IN NOVEMBER 2017

WN8QGV 11/4	K6VWE 11/13	N8UPP 11/14	KC8GQK 11/19
KD8FQF 11/21	KB8UIH 11/27	N8NVL 11/28	

ANNIVERSARIES CELEBRATED IN OCTOBER 2017

KG8YG and Rachel 10/01	KD8CUX and ??? 10/04
KB8MCI and Cyndi 10/06	K8MWD and N8LMS 10/07
WB8RCR and Eileen 10/12	WB8IDY and Audrey 10/19
KB8SOE and Darcie 10/19	KC8GQK and Tersa 10/20
KB8LQM and KC8IHB 10/23	NQ8T and Barbara 10/23

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ANNIVERSARIES CELEBRATED IN NOVEMBER 2017

N8DHF and KB8QWO 11/17	KE8GEM and Maryann 11/22
KC8KOC and Jennifer 11/23	

- Information is from data received 7/15/2017

- Any corrections or questions contact Larry, N8CGP



Pat Mullet
Newsletter Editor
171 E. Orchard Ave.
Shepherd, MI 48883

If you desire to join the Midland Amateur Radio Club, the dues are \$20 per year for an individual membership. A family membership is available for an additional \$5 per year which covers all of the individual's family members. Family members must reside at the same address as the primary member to be eligible for the family member rate. The membership dues help to cover the operating expenses of the Club, and its radio systems. Membership includes Autopatch privileges on the W8KEA repeater (147. 000+), voting privileges at MARC meetings, and a monthly newsletter. Please supply the following information:

Name: _____ Callsign: _____ License Class _____
Address _____
City _____ State _____
Zip _____
Home Phone (_____) _____ Work Phone (_____) _____
E-mail address _____
Spouse: _____ Callsign: _____ License Class _____
Birthday: (mm/dd) ____ Anniversary: (mm/dd) ____
Desired newsletter format: Paper copy via USPS _____ or via e-mail _____
Are you an ARRL Member? Y/N _____
Do you want an ARES Application? _____ Y/N _____

We request this information so we can communicate with you regarding MARC business, and periodically send you newsletters and congratulatory birthday & anniversary greetings. We do not sell this information nor will we knowingly publicize private information without your permission. Information that is publicly available may be distributed to Club members for various purposes, including membership lists, without prior notification.

You may give this completed form to the MARC treasurer, or you may mail it to:

MARC, PO Box 1049, Midland, MI 48641-1049