

QRZ NEWS A MONTHLY PUBLICATION OF SOUTHERN PENNSYLVANIA AMATEUR RADIO CLUB, INC PO BOX 1033 - LANCASTER, PA 17608-1033 (Founded June 1960) AN AFFILIATED SPECIAL SERVICE CLUB OF THE ARRL, INC. "Public Service through Communication" Website: WWW. K3IR.org Email address: k3ir@arrl.net Repeaters: 145.230 - 449.975 - Packet 145.030 - ATV 923.250, FN10se Club site 1715 Breneman Road, Rapho Twp. (Manheim P.O. 17545 no delivery)

September 2014

President's Message

My wife and I are spending most of September in China so I am writing this message a little early so as not to delay the publication of the SPARC newsletter.

Many of you know that my second career is in the Challenge Course Industry. This job, actually jobs – I work for several different organizations doing many different tasks, involves everything from simple games to activities called initiatives which require a group to solve a problem, to high adventures and zip lines.

On a recent Tuesday I was at a Camp near Quarryville helping participants get geared up for a trip down the zip line. To access the zip line at Black Rock you need to either climb a rock wall or a pole with large staples driven into it. I looked at a boy, probably 12 or 13, and noticed the right leg loop on his harness hanging loose. I thought he had failed to get his right leg into the leg loop so I went over to help him. After I had him remove the harness so we could get both legs through the proper parts of the harness I realized he had no right leg, not even a stub. So, I got him back into the harness, tightened the parts that had parts in them as tight as I could and sent him to the pole. Now you have to know, there was no sign of a wheelchair, crutches, or even a cane. He had come to the zip line from the main camp over not so stable terrain. So, this lad hopped over to the base of the pole, the belayer attached him to

the safety rope, and he proceeded to climb the 35 feet to the zip line platform using his arms, left leg and right hip. Not only could he climb nearly as fast as I can, I really believe he could hop as fast as I could walk! It was really amazing see to what he could do, and see his positive attitude, in spite of a challenge that would keep others grounded.

So, this word to all you old guys out there, all you not so old guys, and all you YLs who have ever complained about your aches and pains, I don't want to hear it. (even though I must admit with embarrassment that I sometimes complain myself) All of you out there who complain about how lazy kids are today, I don't want to hear it. All of you who have ever said "life isn't fair" think about the hand this young man was dealt and look at how he chose to use that hand.

I knew the day was going to be rainy so I wore my "No Rain, No Rainbows" T-shirt. A lot of people commented on it. The point being that

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we should never let the weather ruin our day.

This kid was an inspiration to me. If he can do what he could do on one leg, and I might add, never complain, how much should we be able to do?

73, Harry WA3FFK

Coming Events

SPARC membership meeting 7:00Pm Tuesday 23 September 2014 at the club site, 1751 Breneman Rd., Rapho Twp., (Manheim P.O. 17545 for GPS) The program for the evening will be a IRLP demo by Jim Hartranft, KB3ZGE.

Thursday, 23 October 2014. The Columbia Halloween Parade is an annual SPARC activity that is both a public service and a lot of fun.

Communicators rally at the <u>Susquehanna Fire</u> <u>& Rescue Company No. 4</u>, Tenth and Manor Streets, Columbia about 5:30PM. Volunteers needed. Contact Dave Payne, <u>N3LOM</u>, for details. This is an HT simplex event. You will need a flashlight.

SPARC membership meeting 7:00Pm Tuesday 28 October 2014 at the <u>Grundy</u> <u>Astronomical Observatory</u> at the Baker campus of Franklin & Marshall College.

Mr. Ed Cook will demonstrate the two instruments installed at the location. On the floor is the historic 11 inch Clark-Repsold refractor, installed in 1886, and a 16 inch Boller & Chivens reflector.

These telescopes operate from their enclosed laboratory which is equipped with a retractable roof. Here we will share the commonalities of our two avocations with discussions about moon bounce, solar propagation effects, and the artificial amateur radio satellites. The telescopes at Grundy are capable of resolving all of our solar system planets, and the distant galaxies including nebula. Grundy is equipped with a classroom and lavatories.

Grundy is located behind the athletic fields at Harrisburg Pike and President Ave.

If you need to use your GPS to locate Grundy. Either of these addresses are adjacent to the driveway that leads to the entrance to the observatory:

815 Wilson Dr. Lancaster, Pa. 17603 or 1401Clayton Rd. Lancaster Pa. 17603Any problems contact Jerry Wilson, 717-672-6261

Monthly Breakfast

The second Saturday at 0800 of every month is a SPARC breakfast at Gus's Keystone Restaurant, 1050 W. Main St, Mt Joy, PA. Contact <u>Gerry Wagner, KB3SSZ</u>, for more details. Everyone interested in Amateur Radio is invited to attend. See <u>http://guskeystone.com/</u> for restaurant details.

Other Events

Saturday, 4 October 2014 The Pennsylvania Amateur Radio Conference (PARC) See the full details on page 10 of this newsletter.

Editor's Notes

Fall officially begins September 22, 2014 at 10:29PM eastern time. The Fall equinox is when the Sun stands directly over the equator on its way to the Southern Hemisphere. If you're standing at the North Pole you'll still see the Sun along the horizon, but not much longer.

The summer sporadic E season ended in August and the Fall tropospheric propagation season is underway. VHF and UHF propagation out to almost 1000 miles can be very good. Sometimes the higher bands can be better than lower. If 2m is enhanced, check 432 and 1296. You may get a surprise.

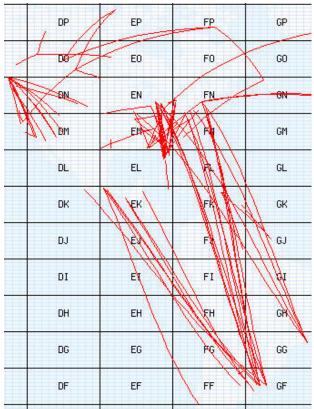
Keep those articles for publication coming. This newsletter is only as good as the submitted material.

73, George, W3FEY

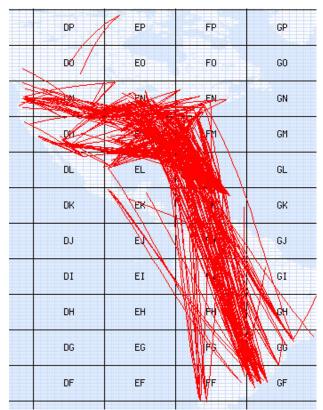
Six Meter DX Report

10 September 2014

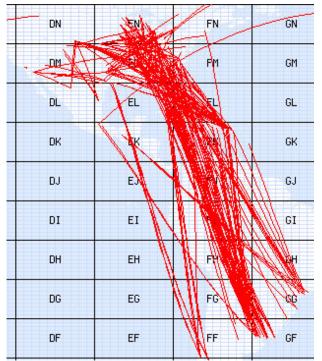
Six meters has entered into the Fall TEP season. Although there are not the almost daily openings that characterize the summer E season, there is still considerable action if you are at the radio at the right time. Most of the TEP openings occur from 22:00z--01:00z. They are characterized by deep QSB. From here they generally run roughly north-south to fairly well defined areas of South America. I've attached screen shots of the ON4KST maps for August 31, September 7 and September 8 to show what areas of South America where the openings to the US occur.



ON4KST 6m prop Aug. 31, 2014 Americas only



ON4KST 6m prop Sep. 7, 2014 Americas only



ON4KST 6m prop Sep. 8, 2014 Americas only

I've missed most of the openings but did work PY1RO on August 31st. The TEP openings sometimes also extend into the South Pacific but the lack of land and six meter operators limits the contacts there. In recent years the North and South Cook islands (E51) have been active and worked about an hour or two after the South American stations. I've heard that Warwick E51WL in the North Cook Islands suffered damage to his station in a recent storm and is temporarily QRT. If that is correct that will really curtail contacts with that DXCC.

As we approach the Fall equinox there is always the possibility of a TEP-F2 link to ZL or VK. It happens just often enough to make it worthwhile to keep the radio tuned to 50.110MHz.

There was a report of a large solar flare today so that may spice things up for a few days. Keep listening.

73, Chris W3CMP

Ed Note: Larger versions of the ON4KST maps are located at the end of this newsletter.

ARES/RACES



As part of the SPARC commitment to emergency communications, the SPARC repeater system is maintained as available for linking with other area repeaters.

Lancaster County RACES VHF Net is held on the first Tuesday of the month at 2030 hours local time on the 145.310 MHz repeater in Rawlinsville.

The Lancaster County primary ARES/RACES repeater is on 145.310 MHz with minus offset and 118.8 PL.

Pennsylvania RACES HF Nets are held at 3993.5 kHz LSB on all Sundays except holidays.

The statewide net is on the first Sunday of the month at 0800 hours local time.

The Central Area (including Lancaster County) net is at 08:30 local time.

EPA NBEMS Net, Tuesday, 7:30pm local EST,

3.5920mhz Mode: Olivia 8/500 1khz, Net Mgr: WA3WSJ@arrl.net

SPARC Nets

SPARC holds nets every Tuesday at 2100 local time on 145.230 MHz minus offset and PL of 118.8. The <u>449.975MHz</u> repeater is linked to the 2m repeater for the net.

Club Officers

President Harry Bauder – <u>WA3FFK</u> Vice-President Kevin Lampo – <u>K3LLC</u> Secretary - Dave Sarraf. – <u>N3NDJ</u> Treasurer - Mike Hess– <u>KB3YWG</u> Repeater Trustee - Dave Payne - <u>N3LOM</u>

Nearby Nets of Local Interest

If you need information on access tones etc, the referenced web sites below will usually provide the information needed. For more information, see <u>http://arcc-inc.org/arc-fdbas.html</u>

Monday Ephrata Area Repeater Society Net 9:00 PM on 145.450MHz.

Monday Keystone VHF Club

Combined Club & ARES/RACES Net 8:30PM on 146.970MHz.

Monday South Mountain Radio Amateurs SMRA Club Net 9:00PM on <u>145.430MHz</u>

SSB net 9:00PM on 146.210MHz. May be slightly delayed by SMRA club net.

Tuesday <u>Digital Net</u> 8:00 PM on the York 146.970MHz Repeater -- This is a busy digital data training net for beginners and advanced users. The primary mode used is MT63-2k. Other experimental modes are also used.

Wednesday <u>Red Rose Repeater Association</u> <u>Net</u> 9:00 PM on 147.015MHz

Wednesday <u>QCWA Net</u> 9:00PM on 146.97MHz.

Thursday Lancaster Radio Transmitting Society Net 9:00 PM on 145.390MHz

Friday Lebanon County Digital Roundup Net 8:PM on the EARS 145.450MHz (tone 100.0Hz) repeater.

I cover all types of digital/data modes, training on computer/radio interfacing and message handling.

The primary focus is with Fldigi and Flmsg and lots of SSTV, using MMSSTV. The nets are

always very informal and have sometimes lasted for 2 or more hours to cover all the evening's interest.

73, Bob Sanborn/AB3GF

Sunday Info Net

On the N3TUQ 900MHz repeater: 8:30PM Output: 927.5875MHz Input: 902.5875MHz (-25MHz) PL 114.8Hz.

The N3TUQ 900MHz repeater is located on the LVSRA tower on Cornwall Mountain.

Net control: Bob Howard, KB3QAQ

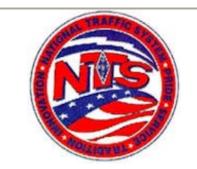
For more information visit http://www.n3tug.com/repeater.aspx

PACKRAT MONDAY NIGHT NETS

Visit the Mt Airy VHF Radio Club at: <u>http://packratvhf.com/airtimes.htm</u> for the latest information on VHF/UHF nets.

NTS Eastern Area Phone net

3.917 at 4:00 PM daily for traffic going to EPA, MDC, WPA and Maryland. We have a callup, pass any traffic, after that a round of comments. Traffic manager is WA3QPX. Net could use more checkins from EPA as we normally only get one checkin from EPA and sometimes none. This is where the Fone traffic for EPA net normally comes from. Any questions I will be on 3.917 at 4:00 PM. 73, Paul, WA3QPX



Two EPA Nets Now Accessible via Echolink

Posted By: egroups_n3sw egroups_n3sw Mon Aug 27, 2012 11:40 pm <>The EPA AA3RG and Echolink Traffic Net (EAETN) has been accessible since its inception via Echolink at node AA3RG-R (#149493). See the group Calendar for more information. [*Thursday 8:00PM*] <>Now the Capital Area Traffic Net (CATN) is also accessible via Echolink at node N3TWT-R (#743026). See the group Calendar for more information. All (*licensed hams*) are welcome to join in on these nets. 73 -Scott N3SW EPA STM-

<>AA3C note: To visit our group on the web, go to NTS-EPA Group web site: http://groups.yahoo.com/group/nts-epa/ Both nets will utilize the 146.640(tx-) MHz. Transmit access tone: 82.5 Hz. AA3RG Repeater. <u>http://www.aa3rg.org/</u>

QRZ News Publication

QRZ News is published monthly. The deadline for submission of items for publication is 11 days before the regular membership meeting on the fourth Tuesday of each month. If material is not copy and paste ready for publication, more lead time is required.

We operate on an exchange basis with other not for profit publications. Articles printed in QRZ News may be reprinted in a not for profit publication provided proper credit is given. QRZ News is archived at http://www.k3ir.org/

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True Story of Hiram Percy Maxim Reported by James L. Ibaugh, AA3C Life Member of ARRL, ARRL T.S., R.I. Information sources: ARRL and Wikipedia - the free InternetEncyclopedia, <u>http://www.forgottenweapons.com</u> **Biography: Alice Clink; "Hiram Percy Maxim".** Wikimedia Commons, free media repository, Encyclopedia Britannica, and many others.

Hiram Percy Maxim (September 2, 1869 – February 17, 1936)

Hiram Percy Maxim was an American radio pioneer, inventor, and founder of the American Radio Relay League (ARRL).

U.S. Patents granted to

Hiram Percy Maxim.

U.S. Patent# & Patent Name. 594,805 - Motor vehicle. 757,941 - Vehicle running gear. 772,571 - Electric motor vehicle. 845,106 - Motor road vehicle. 916,885 Firearms Silencers. Issued3/30/1909.

Issueu3/30/1909.

Note that there were <u>no radio or</u> <u>wireless patents issued to Hiram Percy</u> <u>Maxim.</u>

Silencer_to_AutoMuffler.

H.P.Maxim was awarded the US Patent #916,885 - Firearm Silencer – Issued on 3/30/1909.

Invented and developed by Hiram Percy Maxim, the Maxim Silencer was the first commercially manufactured firearm sound suppressor.

In Hiram's lab notebooks, it is said, the first idea was recorded that if the Maxim Silencer quiets down a gun blast noise, might a scaled up silencer quiet down the noise from an auto engines exhaust pipe. He made one, in ~1910, and it worked. Hiram then found that the first muffler was patented in USA in May 11th 1897 by M.O. & M. T. Reeves. U.S. Patent name "Exhaust muffler for engines".

"Some times good ideas come too late," Hiram Percy was reported to have said. His less than successful automobile engine design, he described, that he was staggered at the amount of time required to build one small engine, "which shook and trembled and rattled and clattered, spat oil, fire, smoke, and the smell, and to a person who disliked machinery naturally, and who had been brought up to the fine elegance and perfection of fine horse carriages, it was revolting.'' complained Hiram.

There was a false story that Hiram Percy Maxim invented the Maxim Machine gun, it was all a mistaken identity since Hiram Percy Maxim's father, Sir Hiram Stevens Maxim was the patented inventor of the Maxim Machine gun. Just in time for World War One. Our Hiram Percy Maxim was a MIT mechanical engineering graduate, class of 1886, of the Massachusetts Inst. of Technology (then a two-year course).

Hiram (W1AW) was the nephew of Hudson Maxim, an inventor of explosives and ballistic propellants; stands to reason he would try that for a while. Beginning in 1892 our Hiram worked at the American Projectile Company of Lynn, Massachusetts.

Hiram Percy Maxim - Circa 1914



CLICK HERE FOR 8 PAGE PDF MAXIM SILENCER SHEET

Sir Hiram Stevens Maxim's 1895 Machine Gun as described in text of this Linked URL. Sold before WW1.

The British, American and German military bought large numbers of Maxim Machine Guns and they all were used in the trench warfare of WW1.

Shown at right is the water cooled model. This is the model the U.S. Army used in WW1. 1914-1919.





Hiram's Other Accomplishments

<>H.P.Maxim founded the Amateur Cinema League in New York in 1926; he was elected president. The Amateur Cinema League published a monthly journal, Movie Makers.

<>H.P.Maxim wrote an amusing account of his youth in the book "A Genius in the Family": Sir Hiram Stevens Maxim Through a Small Son's Eyes. This book was adapted to the movie screen as "So Goes My Love". [Publisher-New York: Harper, 1936.]

<>H.P. Maxim recounted his days as an automobile pioneer in his book "Horseless Carriage Days". [Publisher-New York: Harper, 1936.]

<>H.P.Maxim also wrote the book "Life's Place in the Cosmos", an overview of contemporary science that surmised life existed outside of earth. [Publisher-New York: D. Appleton, 1933]

<>H.P.Maxim also wrote the book "A Virgin Paradise", later made into a movie.

[AA3C's research:]

Hiram Percy Maxim was returning to his home in Hartford, Connecticut, in February, 1936, from a trip to California to visit the Lick Observatory. He fell ill and was taken

from the train to a hospital in La Junta, Colorado, where he died the following day, February 17, 1936. Hiram P. Maxim was buried in the Rose Hill Cemetery in Hagerstown, Maryland, in the Hamilton family plot belonging to his wife's family. Frank Drake is now 84 (in 2014), born 1930. Frank was only 6 years old in 1936 when Hiram Percy Maxim died. Frank Drake didn't start work in Radio Astronomy until about 1959. Upon finishing graduate school in 1958 Drake got a position in late 1958 at the newly founded National Radio Astronomy Observatory (NRAO) in Green Bank, West Virginia. It was here in 1960 that the first SETI search took place. Named Project Ozma by Drake, the search was a two week observation of the stars Tau Ceti and Epsilon Eridani.

The story that Hiram Percy Maxim died on the return trip from the Lick Observatory and a meeting to consult with Dr. Frank Drake, was completely bogus. Frank Drake was in first grade in 1936. Their paths could not have crossed in any way.

H.P.Maxim's book "<u>Life's Place in the</u> <u>Cosmos</u>"(published in 1933), surmising life existed outside of earth, may have been the reason for the visit to and any possible meeting at the campus of the Lick Observatory on Mt. Hamilton, CA.

Present at the Creation

"ARRL Founding President Hiram Percy Maxim was in his 40s (1909) when he became fascinated with radio through his 11-year-old son. Neither of them could have known that it would lead to the formation of the organization we still have today."

Quote from: David Sumner, K1ZZ -- ARRL Chief Executive Officer.

> 73's de AA3C – Jim AA3C@ARRL.NET AA3C@AMSAT.ORG

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The RCA Selectron Tube

Think back to 1950 when electronic computers were powered by thousands of electron tubes. The air conditioning load to keep them operating was huge. The transistor had only recently been invented and large scale integration was in the distant future.

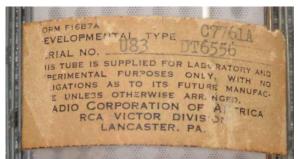
A computer must have memory to store its start up instructions, programs, and data in process. This was a big problem in the late forties and fifties. The process to get a computer started was not fun for a long time after that.

RCA Labs in Princeton made developmental memory tubes which they called Selectrons. Production tubes were made in Lancaster, PA.



Selectron Ser. No. U83 W3OLV collection

This is a sample of a 256bit Selectron made in Lancaster, PA. Tubes with up to 4096 bits of storage were made.



Ser. No. U83 Label

W3OLV collection

Floyd also has lab sample tube 155 which does not have a printed label.



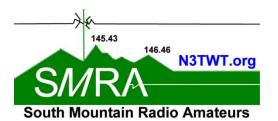
Ser. No. 155

W3OLV collection

For more information on the Selectron see the web site of tube collector Charles Osborne. http://www.rcaselectron.com/index1.html .

Happy Gigabyte RAM to you. Computers have come a long way since 1943 when <u>ENIAC</u> was designed at the University of Pennsylvania's Moore School of Engineering to do ballistic calculations. The <u>UofP Radio Club</u> was founded in 1909. Were any hams on the ENIAC team?

George, W3FEY Photos by W3FEY



Pennsylvania Amateur Radio Conference (PARC) September Newsletter #1

As our conference of 4 October 14 draws closer, we want to tell you that we will devote 5 minutes to meeting the candidates, in attendance, for ARRL Offices to be elected this Fall. We will pose the same 1-2 questions to each candidate.

We will have talk-in available that morning from 1045-1155 on the 145.43 repeater with 67 Hz tone.

We learned there are better directions from I-81. Go North on Allen Road to Newville RD, RT 641. Turn right and go 1.2 miles and pass a large cemetery on your left. Turn left on Mc Clures Gap RD and go 3.2 miles and Whispering Pines will be on your left.

Don't forget the idea we mentioned about giving "PARC Scholarships" to deserving hams. What a terrific idea...being a really super Elmer and brightening the day of perhaps some news hams or veterans that have **earned special merit.** If this appeals to you, please EMAIL: W3HMS@aol.com.

SMRA of Carlisle, PA will host this conference at the Whispering Pines Banquet Hall, just north of Carlisle, PA from 1200-1600 on Saturday, 4 Oct 2014. Directions can be found at; <u>http://www.whisperingpinesbanquethall.com/</u> Registration and payment can be by PayPal or credit card. Save your ticket to present at the door.

Register at http://n3twt.org/events/parc. The fee includes soft drinks, and cookies available throughout the event. DRESS: business -casual dress is highly recommended. Glenn, K3SWZ, will be available to check QSL cards.

The fee schedule on the date is as follows:

15 Sep.....\$15 30 Sep.....\$17 Door on 4 Oct\$19

Agenda: Building High Quality VHF and UHF Antennas, Live demo of the latest HF Flex Radio software defined (SDR) transceiver, Working the World on the low power HF WSJT-X data mode, Photo visit to an outstanding contest station and Automating Your HF/VHF Station logging and control of radios.

All: Please pass the word on this conference. For logistics questions, please contact Don Evans, KB3VAX, at EMAIL:kb3vax@yahoo.com

73, KB3VAX and W3HMS, 9 Sep 14 (#5)

50 MHz history	map 2014-08-31																
MENU 🗆	BQ	CQ	DQ	EQ	FQ	GQ	HQ	IQ	JQ	КQ	LQ	MQ	NQ	QQ	PQ	QQ	RQ
AP	BP	CP	DP /	EP	FP	GP	HP	IP	JP	KP	LP	MP	NP	OP	PP	QP	RP
AO	BO	C0 /	00	EO	FO	GO	HO	10	AND I	ко	LO	мо	NO	00	PO	QO	RO
AN	BN	CN		EN	FN	- 0N	HN			KN	LN	MN	NN	ON	PN	QN	RN
AM	BM	см	BM	EB		GM	HM	IM		HE	LM	m	NM	OM	PM	QM	RM
AL	BL	CL	DL	EL	K	GL	HL	n	// p	КL	LL	ML	NL	OL	PL	QL	RL
AK	ВК	ск	DK	/EK	FR	GK	нк	ІК	јк	кк	LK	МК	NK	ок	РК	ак	RK
AJ	BJ	CJ	IJ	EX	F	e)	HJ	IJ	IJ	ĸJ	LJ	MJ	NJ	0J	PJ	Q	RJ
AI	BI	CI	DI	ET	FI	24	ні	И	JI	кI	LI	MI	NI	OI	PI	QI	RI
АН	ВН	СН	DH	ЕН	FH	GH	нн	тн 🖊	JH	кн	LH	мн	NH	он	PH	ОН	RH
AG	BG	CG	DG	EG	PG	66	HG	IG	JG	KG	LG	MG	NG	06	PG	QG	RG
AF	BF	CF	DF	EF	FF	GF	HF	IF	JF	KF	LF	MF	NF	OF	PF	QF	RF
AE	BE	CE	DE	EE	FE	GE	HE	IE	JE	KE	LE	ME	NE	OE	PE	QE	RE
AD Free of use if	BD credit is given	CD - ON4KST	00	ED	FD	GD	HD	ID	JD	KD	LD	MD	ND	00	PD	QD	RD

ON4KST Six Meter Propagation chart for Aug. 31, 2014

-		2 chat (by ON4		version - Mozil	la Firetox												
50 MHz history	map 2014-09-07																
MENU	BQ	CQ	DQ	EQ	FQ	GQ	HQ	IQ	JQ	KQ	LQ	MQ	NQ	QQ	PQ	QQ	RQ
AP	BP	CP	DP	EP	FP	GP	HP	IP	JP	KP	LP	MP	NP	OP	PP	QP	RP
AD	во	co	00	EO	FO	GO	HO	10	JO	ко	LO	мо	NO	00	PO	QO	RO
AN	BN	CN 🍝		Carl	EN-	GN	HN	IN	N.C.	KN	LN	MN	NN	ON	PN	QN	RN
AM	BM	СМ			1.50	GM	HM	11	ML	H KEL	LM	1921	NM	OM	PM	QM	RM
AL	BL	CL	DL	EL		GL	HL	μ	1	КL	u	ML	NL	0L		ar	RL
АК	BK	ск	DK	EM		GK	нк	ІК	јк	кк	LK	МК	NK	ок	РК	QK	RK
AJ	BJ	CJ	IJ	E		eJ	н	IJ	u.	кJ	LJ	MJ	NJ	lo l	PJ	ę.	RJ
AI	BI	CI	DI	EI		GI	н	п	JI	кі	LI	MI	NI	01	PI	QI	RI
AH	вн	СН	DH	ЕН	W.H.	GH	HH	ин 🗸	JH	кн	LH	МН	NH	он /	РН	14	RH
AG	BG	CG	DG	EG	P4	ec	HG	IG	JG	KG	LG	MG	NG	OG	PG	QG	RG
AF	BF	CF	DF	EF	The second	GF	HF	IF	JF	KF	LF	MF	NF	OF	PF	QF	RF
AE	BE	CE	DE	EE	FE	GE	HE	IE	JE	KE	LE	ME	NE	OE	PE	QE	RE
AD Free of use if	BD credit is given	CD - ON4KST	DD	ED	FD	GD	HD	ID	JD	KD	LD	MD	ND	00	PD	QD	RD

ON4KST Six Meter Propagation chart for Sep. 7, 2014

-	-	-		version - Mozil	la Firefox												-
	st.org /chat/do	m_map_hist_in	dex.php														
MENU	map 2014-09-08 BQ	CQ	DQ	EQ	FQ	GQ	HQ	IQ	JQ	KQ	LQ	MQ	NQ	QQ	PQ	QQ	RQ
AP	BP	СР	DP	EP	FP	GP	HP	IP	JP	KP	LP	MP	NP	OP	PP	QP	RP
AD	BO	CO	DO	EO	FO	60	но	10	30	ко	LO	MO	NO	00	PO	QO	RO
AN	BN	CN -	DN	- MA	FN	GN	HN	IN	IL	KN	LN	191	NN	ON	PN	QN	RN
AM	BM	СМ	00		FM	GM	HM	IM	н	км	LM	MM	NM	OH	A PM	QM	RM
AL	BL	CL	DL	EL	FL	GL	HL	n	л.	ĸ	u	ML	NL	a	HAR	OF	RL
AK	ВК	СК	DK	K	A MARIA	GK	нк	ІК	јк	KR	LK	MK	NK	OK	РК	QK	RK
AJ	BJ	CJ	DJ	EJ	NW N	ei	ну	14	IJ	КЛ	LJ	MJ	NJ	0.	19	ພ	RJ
AI	BI	CI	DI	EI		GI	ні	п	JI	κı	LI	MI	NI	6	PI	191	RI
AH	BH	СН	DH	ЕН	F#	Чн	нн	ин	JH	h.	LH	МН	NH	он	РН	N at	RH
AG	BG	CG	DG	EG	FG	aç.	HG	IG	JG	RN .	LG	MG	NG	0G	PG	QG	RG
AF	BF	CF	DF	EF	FF	GF	HF	IF	JF	KF	LF	MF	NF	OF	PF	QF	RF
AE	BE	CE	DE	EE	FE	GE	HE	IE	JE	KE	LE	ME	NE	OE	PE	QE	RE
AD Free of use if	BD credit is given	CD - ON4KST	DD	ED	FD	GD	HD	ID	JD	KD	LD	MD	ND	00	PD	QD	RD

ON4KST Six Meter Propagation chart for Sep. 8, 2014