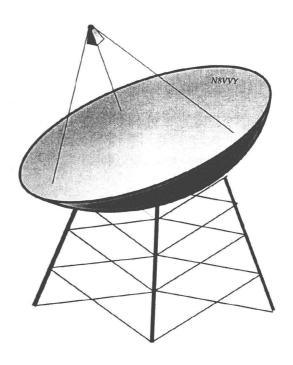
ANOMALOUS PROPAGATION

Newsletter: The Midwest VHF / UHF Society

Editors:

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Annual Society membership is \$ 12.00. Please make checks payable to Gerd Schrick



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www.mvus.org

Mar 2011

Upcoming Meeting Fri 25th of Feb. (6:30PM)

New Meeting Place, Earlier Time

MCL Cafeteria on 4485 Far Hills Av (Rt. 48) in Kettering.

Going South from Dayton drive past the Town and Country Shopping Center on your left.

At the next light turn right, then left into a small shopping center. MCL is at the end on the right.

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Upcoming Events

Southestern VHF Society Conference April 28-30, 2011 Holiday Inn Civic Center, Huntsville, Alabama www.svhfs.org

Dayton **Hamvention** 20,21,22 May

New Roster this month on pages 9 & 10.... Save for your records!

DE N8ZM

Ah, Spring! It was 70F today. Let's see how long it lasts.

Hamvention plans are coming together. I am always looking for volunteers to help staff the MVUS booth and welcome everyone from the VHF/UHF/Microwave community who attends Dayton. So please let me know if you are willing to spend an hour or two supporting the club. The forum speakers are top-notch this year and I strongly recommend you include attending in your schedule for the weekend. We are also working on getting permission to once again have some microwave beacons on the roof at HARA, but I don't have the details from Mike yet on the frequencies. Stay tuned.

As mentioned in recent Anom Prop's, there will again be a balloon launch, and I am looking for someone to help setup a slow scan TV receiver display of the images from the balloon. I don't have all of the tech details yet, but it apparently doesn't take much more than a receiver and a laptop. My vision is to have it in my spaces in the flea market (OK, they aren't really mine, but they do belong to an MVUS member, N8ASB). Since it will only need to run for a few hours on Friday afternoon, the equipment can be powered from a car battery easily. Let me know if you can help with this project.

Plans are also being made to have a few of the Noise Sources for sale at the MVUS booth. These have been designed to work with a standard NF meter, such as the HP -8970 models, and from 12 VDC as well, for field use. And they will come calibrated for ENR so you won't need to get an ENR cal from some high priced cal lab! If our expectations are met, these noise sources will be useful up through 10 GHz. We haven't set the final price yet, but it will be UNDER \$100, assembled and calibrated for ENR. How cool is that?

Mike, N8QHV, has been making very good progress on the 900 MHz radio conversions, and there has been a lot of interest shown as evidenced by several members telling him "I'll take one, or two or more!" We believe we have all the pieces to put together a repeater for this band, so that project will follow along shortly. The biggest challenge for us may be finding enough radios to convert!

The linear translator is still not running on 2.4 GHz due to antenna problems, but by the time you read this, Gerd and I will have checked that out and hopefully will have it repaired and ready to go back on the air. Translator operation is a bit different from a repeater, as it simply takes what it hears on one band and translates it up to a new band without the need for detection and regeneration. So whatever goes in on, say, 430 MHz comes out on 2.4 GHz looking just like it went in. So an FM signal and an SSB signal can both be present in the pass band and both will come out essentially unmodified. The only real limitations are the noise floor and dynamic range of the receiver and the linearity and added noise of the output amplifier. So get your gear ready to play with this thing!

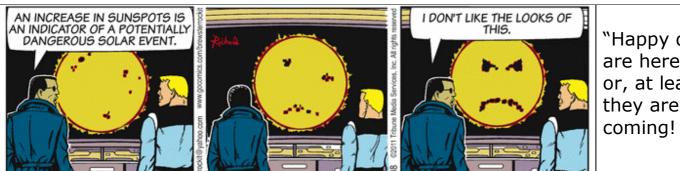
Don't forget to get your MVUS dues caught up, and if you would like to receive Anom Prop electronically, please send me you name and e-mail address and I will see that you are added to the list. This helps keep the dues low. MVUS dues are among the lowest of any radio club I know of, and this newsletter always contains some great information on a wide range of topics. Well, after you get past the insane ramblings of the guy who writes President's Message.

This and That 3-11

Elephant Parking. In Florida owners of elephants must submit the same fees required for cars when they tie [Roman Leuthner] their animal to a parking meter.

Heating Cost. The high cost of heating has 60% of Germans save on heating. 43% of them shut off unused rooms of their living quarters. 20% lower the thermostat and wears warmer clothing but there there are those (12%) that keep the house nice and warm and spend the money required. [www.infofact.de]

Spotless Days. The sun experienced 780 spotless days during the unusually long solar minimum that just ended. New computer simulations imply that the sun's long quiet spell resulted from changing flows of hot plasma within it. [NASA /SOHO]



"Happy days are here again, or, at least,

Information Age. We drown in information but we are dying of thirst for knowledge.

[Rolf, DK2ZF]

EME Hoax. A notice from the hams at the Arecibo Radio Telescope was posted on the German Amsat Bulletin board. Some joker had changed the date from 2010 to 2011 on last years announcement. It was quickly noticed and little harm was done! The above comment by Rolf, DK2ZF, referred to it! [Gerd, WB8IFM]

Twitter. A common knock against Social Networks like Twitter is that they are this century's version of CB radio. To which my response is: This is an insult! CB radio was awesome! It gave truckers a voice and news where Smokey was hiding. It gave the rest of us Convey and BJ and the Bear. What was not to like? [James Poniewozik in Time]

The Cell Phone. This device, also known as "mobile phone" in large parts of the world is quite prevelant today. Did you know when people loose their credit card it takes an average of 24 hours to notice it. However, if their cell phone gets lost it takes just 10 minutes and they find out! [Editor Frankfurter Allgemeine]

Cleopatra. In one of the busiest afterlives in history she has gone on to become an asteroid, a video game, a cliché, a cigarette, a slot machine, a strip club, a synonym for Elisabeth Taylor. [Stacy Schiff]

POT. How about that? The good "Plain Old Telephone"! ---I have always wished that my computer would be as easy to use as my telephone. My wish has come true. I no longer know how to use my telephone."

[Bjarne Stroustrup, Danish computer scientist]

Exceptions. They are not always the proof of the old rule; they can also be the harbinger of a new one." [Marie von Ebner-Eschenbach, Austrian writer]

Play Ball (From the ARRP Bulletin)

Astro Turf. If a horse won't eat it, I don't want to play on it.

[Dick Allen]

Thinking! How the hell are you gonna think and hit the ball at the same time?

[Yogi Berra]

Baby Ruth. Who is this Baby Ruth? And what does she do?

[Georg Bernhard Shaw]

Affordable 3D Printing

By Stephen W. Frey*

3D Printing is the direct production of real objects from digital 3D models by an additive process. The technologies used in the 3D printers I describe below were invented in the 1980's. The founding patents have run out.

3D Systems, Stereolithography

The first machine for doing this that I saw was the Stereolithography machine by 3D Systems that the University of Dayton had in 1990. I later saw Sinclair Community College's Stereolithography machine too. These use a vat of liquid polymer that is hardened into solid plastic where it is exposed to a UV laser beam. Under the control of a computer the beam traces out the object layer by layer on the surface of the polymer. As each layer was done the platform holding the object is lowered one layer so liquid polymer would cover the object for the next layer. At the end of the build the platform raised the object up out of the polymer vat. The result was a plastic version of the object. The price tag on these machines is in the \$200,000 area.

Z-Corp

Later I saw the Z-Corp 3D Printers based on using an HP ink jet print head to spray a binder (glue) on a layer of dust. The dust could be a number of different materials including a starch based one. The printer lays down a layer of dust. Then the print head scans over it and everywhere the computer determines that material needs to be in the object the head prints the pattern of binder on the dust. So the dust is stuck together where it needs to be. The next layer of dust is deposited and the next layer of the object is printed. At the end of the build the dust is blown into the dust tank and the printed object is left behind. These printers were in the \$30,000 area and later versions were available for under \$20,000.

Stratasys

Another techology that was developed was based on building the object layer by layer by controlled extrusion of a molten thermoplastic. Primarily ABS plastic. This was developed by Stratasys which is the parent company of Dimension which sells the UPrint series of 3D printers. I saw a similar machine at Sinclair Community College back about the year 2000. The Stratasys low price model currently starts at \$14,900.

RepRap / MakerBot Cupcake

In 2006 the RepRap open source project which is aimed at producing a self replicating 3D printer got started. The first version of the RepRap was released in 2008 and it could manufacture about 50% of its own parts. The MakerBot CupCake (www.makerbot.com) came about as an offshoot of the RepRap

project in 2009. The MakerBot uses ABS thermoplastic similar to the UPrint machine. The CupCake was sold as a kit that you assemble for the much lower price of \$750.00. It came with most of what you need to make it work and the software for running it was a free download.

I heard about the MakerBot early in 2010 and saw one at the Mars Society Convention here in Dayton in August. A friend of mine who is a senior working on his Mechanical Engineering Degree at Rose Holman in Indiana decided to buy one to make parts for his school projects. He had good results and that moved me more towards getting one for myself.

I decided to order one in November. MakerBot introduced a new model, the "Thing-O-Matic", at the same time and I decided to order it. Price was a bit higher at \$1225.00 but that was still acceptable. The lead time was seven weeks and mine arrived on schedule the first week of January 2011. I finally got around to building it near the end of January and have been tweaking it and making things since.

The picture shows my present set-up. In part 2 (next month) I will describe the unit in detail and report on software and some of the work I have already done.



1 lb roll of 3mm(1/8") plastic, sturdy wood frame with printing mechanism inside, laptop to control printing

*Stephen W. Frey SWFTEC/COD SWFTEC@aol.com 937-256-9698

Jan 27, 1926 The Birth of Television

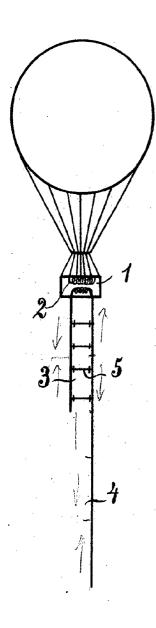
On this date, 85 years ago, John Baird, a Scottish inventor, gave the first public demonstration of a true television system in London.

His invention, a pictorial-transmission machine he called a "televisor" used rotating disks to scan moving objects into electronic impulses. This info was then transmitted by a cable to a screen where it showed up as a pattern of light and dark images. The idea had been patented by a German scientist* back in 1884 but had never gotten past the crudest of shadowy images. Baird was the first to achieve easily discernible images. The first home television receiver was demonstrated in New York in January of 1928, and by May a station began occasional broadcasts to a handful of homes that General Electric had given the machines to. A machine, that for better or worse, has certainly changed the world!

Thank to: NE Dayton SuddenValues

*That Scientist was Paul Nipkow, in his days there was no "wireless". That part had to wait till the 1920s when many inventors started experimenting based on Nipkow's idea . But the big improvement came with the use of Braun's invention of the cathode ray tube (1884 patent) and Zworykin's invention (1923) of the Ikonoscope for the camera. Ed.

Patent (1909) of the Zeppelin Antenna. Courtesy of Rainer, WG2L





PATENTSCHRIFT

— № 225204 —

KLASSE **21** a. GRUPPE 71.

DR. HANS BEGGEROW IN BERLIN.

Luftleitergebilde für Luftschiffe.

Patentiert im Deutschen Reiche vom 19. September 1909 ab.

Die Erfindung betrifft ein Luftleitergebilde für Luftfahrzeuge. Bei den bisherigen Anordnungen wurden die Flächen des Ballons und der Gondel zur Anbringung bzw. unmittelbar als elektrisches Gegengewicht des Luftleiters, benutzt. Dies war in Rücksicht auf die Explosionsgefahr eine bedenkliche Maßnahme, da die elektrischen Hochspannungen unmittelbar an Stellen, wo eine Knallgasbildung eintreten konnte, vorhanden waren. Anordnun-

treten konnte, vorhanden waren. Anordnungen, welche diese Schwierigkeit beseitigten, waren mit anderen Unzuträglichkeiten verbunden. Es mußten z.B. die Apparate in ziemlichem Abstand außerhalb und unter15 halb der Gondel schwebend angebracht wer-

15 halb der Gondel schwebend angebracht wer den.

Die vorliegende Erfindung beseitigt diesen Übelstand und gestattet, die Apparate in der Gondel zu behalten, ohne das Luftschiff hohen Spannungen auszusetzen. Gemäß der Erfindung besteht das Luftleitergebilde aus zwei herabhängenden Drähten von ungleicher Länge, welche in der Nähe des Luftfahrzeuges ein Lechersches System bilden.

Statt einfacher Drähte können natürlich auch Drahtbündel oder sogenannte »Harfen« Verwendung finden.

Auf diese Weise werden die Spannungsbäuche recht weit von der Gondel entfernt, so daß die Hülle des Luftfahrzeuges den elektrischen Vorgängen vollkommen fern bleibt.

Auf dem schematisch dargestellten Ausführungsbeispiel ist i die Gondel des Luftfahrzeuges, 2 die Erregerspule, 3 der kürzere und 4 der längere Draht des Lecherschen Systems, 5 zwischen den Drähten angeordnete isolierende Abstandstücke.

PATENT-ANSPRUCH:

Luftleitergebilde für Luftschiffe, gekennzeichnet durch zwei herabhängende Drähte von ungleicher Länge, die in der Nähe des Luftschiffes ein Lechersches System bilden.

Living Dangerously

With the recent Japanese Earthquake (3-11-11, 8.9 magnitude on the Richter Scale and a 10 foot high Tsunami)) and the resulting blow up of the seaside nuclear reactors, how about the threats from outer space? Ed.

On March 11, 2011 there were 1204 potentially hazardous asteroids.

Recent & Upcoming Earth-asteroid encounters:

Asteroid	Date(UT)	Miss Distance	Mag.	Size
2011 EC	Mar 6	9.2 LD		34 m
2011 EO11	Mar 6	1.8 LD		15 m
2011 EY11	Mar 7	0.3 LD		9 m
<u>2011 EM40</u>	Mar 7	0.7 LD		12 m
2011 EL40	Mar 8	3.4 LD		23 m
2011 EC12	Mar 8	3.3 LD		30 m
2000 PN9	Mar 10	45.5 LD		2.6 km
2011 EU20	Mar 11	1.6 LD		16 m
2011 BE38	Apr 10	48 LD		1.0 km
2002 DB4	Apr 15	62.5 LD		2.2 km
2008 UC202	Apr 27	8.9 LD		10 m
2009 UK20	May 2	8.6 LD		23 m
2008 FU6	May 5	75.5 LD		1.2 km
2003 YT1	May 5	65.3 LD		2.5 km
2002 JC	Jun 1	57.5 LD		1.6 km
2009 BD	Jun 2	0.9 LD		9 m
2002 JB9	Jun 11	71.5 LD		3.2 km
2001 VH75	Jun 12	42.2 LD		1.1 km
2004 LO2	Jun 15	9.9 LD		48 m

Notes: LD means "Lunar Distance." 1 LD = 384,401 km, the distance between Earth and the Moon. 1 LD also equals 0.00256 AU. MAG is the visual magnitude of the asteroid on the date of closest approach.

SETI (Search for Extra Terrestrial Intelligence)

Largely using radio telescopes and optical telescopes, SETI scientists seek to determine whether humankind is alone in the universe. Since Congress terminated NASA's SETI funding in 1993, The SETI League and other scientific groups have privatized the research. Amateur and professional scientists interested in participating in the search for intelligent alien life, and citizens wishing to help support it, should email join_at_setileague_dot_org, check the SETI League Web site at http://www.setileague.org/, send a fax to +1 (201) 641-1771, or contact The SETI League, Inc. membership hotline at +1 (800) TAU-SETI. Be sure to provide us with a postal address to which we will mail further information. The SETI League, Inc. is a membership-supported, non-profit [501(c)(3)], educational and scientific corporation dedicated to the scientific Search for Extra-Terrestrial Intelligence.

The 33 cm Project - Part 1

By Mike Schulsinger, N8QHV

Roughly a year ago I suggested a club project involving the conversion of second-hand 900 MHz commercial transceivers for use in the 33 cm ham band. It met with some enthusiasm among the MVUS members, so I hit the internet to see what others were doing. Some were converting Motorola mobiles, bases and handhelds, some were reprogramming Kenwood radios and still others were working with E.F. Johnson gear. The Johnson mobiles seemed to be the least expensive, but did require modification and reprogramming. Since I had more time than money, I started searching the internet for E.F. Johnson Tiger mobiles, model 242-8655.

The 8655 is a 160 channel transceiver capable of simplex (up to 20 watts) and repeater (up to 30 watts) operation. Each channel can be programmed for analog, digital or inverted digital Channel Guard squelch on transmit, receive or both.

Originally designed for a 39 MHz repeater split at 896-901 and 935-940 MHz, a replacement microprocessor available from Pete, N2MCI reduces the split to 25 MHz at 902-903 and 927-928 MHz. Pete includes a

replacement for surface-mount capacitor C917 to move the VCO reliably into the ham band.

While the covers are off, a couple of other hardware modifications should also be considered. JU1 should have a jumper installed, and adjoining surface mount resistor R317 should be removed. This disables an undesirable microphone hanger feature useful for trunking systems. Capacitor C50 (100 uF) should be replaced with a 0.047 to 0.22 Farad unit to address a known memory loss issue on the 5 volt line.

The next step is to acquire programming software, which is found on the internet. A Part 2 of the complication is that the program was written in the early '90s for MS-DOS and computers with serial ports. I've been told that it doesn't like Windows DOS mode. I found a 386 machine that meets all requirements in my

junk pile (OK, my junk house!). An 8600 series programming cable is available for around \$45 on the internet, but I built my own with \$10 in parts and about a week of labor filing down an RJ45 plug to fit the slightly narrower 8655 microphone jack!

Two Yahoo 900 MHz groups have lists of 33 cm repeaters. A few use the ARRL bandplan, but most now go with the 902/927 split due to the availability of equipment. I made a list of known 902/927 repeaters east of the Mississippi, and will program that list into any 8655 I modify.

I currently have eight 8655s in various stages of modification, and hope to have an 8655 ready to demo at the next meeting – if I can track down an antenna! Four of these radios are spoken for, but the rest should be available to MVUS members at a reasonable price.

Part 2 of this project, sometime after Hamvention, will be one or more repeaters for the Dayton-Springfield area. A possible Part 3 would be an MVUS member request for 900 MHz link equipment.

MVUS Roster 2011

CALL	FNAME LNAME	STREET	CITY	ST	ZIP	PHONE	DUES	<i>N.L.</i>	Email
WD0BWQ	David E. Brandon	301 S. Hackett Rd.	Waterloo	IA	50701-1661	319-292-8724	5/1/2010		Brandondavide@mcksi.com
W0EKZ	Robert Maxton	1262 E.90th Ave N.	Belle Plaine	KS	67013	316-488-3801	12/1/200		
AB0HP	Larry Ballen	31993 Knollwood	Macon	MO	63552	660-395-4956	6/1/2009		
WB0SCD	Jim Brude	31 Quayl Brace Ct.	Amelia	OH	45102	513-753-5183	6/1/2008		wb0scd@amsat.org
N0UU	Lawrence Stoskopf	4408 E Country	Salina	KS	67401	785-823-9498	8/1/2011		Stoskopf@tri.net
W0VZK	William G Buckner	PO Box 721	Marshall	MO	65340	660-886-3408	6/1/2011		W0VZK@ARRL.net
K1DS	Rick Rosen	206 Kimberton Dr.	Blue Bell	PA	19422	610-270-8884			rick1ds@hotmail.com
K1GGI	Ed Moxon	67 Seymour Rd	Harwich	MA	02645	508-432-8980	3/1/2011		K1GGI@comcast.net
N1GX	Adam Mac Donald	616 Gardenia Ct	Rosamond	CA	93560		12/1/200		CalvinF15@SBCglobal.net
K2EVW	Richard Subin	427 DeHarts Store Rd.	Medows of Dan	VA	24120	540-593-2151	12/1/201		rsubin@swva.net
W2RG	Rich Griffiths	11 North Str.	Fairhaven	MA	02719	513-791-8023	12/1/201		W2RG@verizon.net
K2VEE	Ed Kulesa	2095 South Linda Dr.	Bellbrook	OH	45305	937-848-2256	12/1/201		k2vee@arrl.net
N3BYN	Gary Johney	1885 Poplar Ridge	Pasadena	MD	21122	410-437-4285	12/1/201		GJohnCY@comcast.net
VE3GYQ	David B Toth	13233 Sarka Rd	Spencerville	OH	45887	419-235-6991	6/1/2010		
W3HMS	John A Jaminet	912 Robert St.	Mechanicsburg	PA	17055-3451	717-697-3633	6/1/2011		w3hms@aol.com
W3HYM	David Newman Jr	PO Box 459	Indian Head	MD	20640	301-743-6711	12/1/200		
KP4AQI	Al Torres	4850 Hollywreath Ct.	Dayton	OH	45424	937-236-2534	2/1/2011		atorres@coax.net
AB4CR	Jack Nyiri	6815 Fluttering Leaf	Odenton	MD	21113	410-874-8805	12/1/201		JPNyiri@comcast.net
WA4FJC	Gordon Batey	886 Quicks Mill Rd	Staunton	VA	24401	540-248-2732	3/1/2011		GPBatey@compuserve.com
WB4GCS	Jim Sanford	10 Sugar Run Rd.	Eighty Four	PA	15330-2550		12/1/201		WB4GCS@AMSAT.org
K4RF	Steve Adams	P.O.Box 1255	Cornelia	GA	30531	404-869-0565	12/1/201		
K4TG	Jerry Shouse	1050 Hickory Hill Dr.	Lawrenceburg	KY	40342	502-839-4041	12/1/201		K4TG@K4TG.com
KA4VCA	Michael Spanos	116 Port South Lane	Alabaster	AL	35007	205-663-4457	12/1/201		
WP4YJ	Robert Sambolin	2151 Orchid Dr	W Lafayette	IN	47906	765-463-6360	12/1/200		
WA5LBQ	Bill Koch	307 Brookhaven Ln.	Pittsburg	PA	15241	412-257-3885	12/1/201		
WA5VJB	NTMS Kent Britain	1626 Vineyard Rd.	Grand Praire	TX	75052				
AA6LK	Lyle D Kraft	4067 Heather Lane	Auburn	CA	95603		3/1/2011		AA6LK@cwnet.com
KI6SZ	Don Kessler	3872 Rexford Rd	Beavercreek	OH	45430	937-429-8857	12/1/201		KI6SZ@sbcglobal.net
	Dave Moninger	3663 Hickory Ridge	Georgetown	IN	47122	812-366-3912	6/1/2010		
AC7IT	Robert J Super	2004 N Hodges Ln	Greenacres	WA	99016	509-928-1983	8/1/2009		AC7IT@Yahoo.com
W3/DJ7LC	Horst Zodrow	530 Fairhill Dr.	Churchville	PA	18966-1457	215-355-2458	9/1/2011		
WR8A	Ed Garner	3100 Oakmont	Kettering	OH	45429	937-293-2876	12/1/201		edwr8a@cs.com
KA8ABR	Michael P. Murphy	8300 Schoolgate Dr	Dayton	OH	45424	937-235-1820	12/1/201		murph@erinet.com
N8ASB	Daun Yeagley II	1353 Gurneyville	Wilmington	OH	45177	937-382-8262	10/1/201		daun@yeagley.net
W8ATH	Bob Brubaker	5930 W Britton Rd.	W. Salem	OH	44287	216-745-2218	12/1/201		
KI8CA	Peter Morris	11096 Congress Run	Glouster	OH	45732-9711	740-767-3629	12/1/200		
WB8DNO	Joe Hopster	3706 Glendale	Cincinnati	OH	45241	513-733-1590	12/1/201		jhops25245@aol.com
WD8DPA	Mark Travaglini	POB 341	Northville	MI	48167		12/1/201		
KA8EDE	Bruce Lundy	1156 St.Rt.380	Xenia	OH	45385	937-376-5716	12/1/201		belundy@earthlink.net
K8GKH	Greg Jump	6151 Cantata Ct	Dayton	OH	45449	937-433-0513	9/1/2012		Greg.Jump@Gmail.com
K8HHP	Bob Schank	35 Clarence St.	Belleville	MI	48111	734-697-7057	6/1/2011		
WA8HNS	Mike Gray	5029 NW St Rt 41	Washington CH	OH	43160		8/1/2011		MikeG41@roadrunner.com
KA8HUZ	Tom Reed	743 Deer Run Tr.	Lebanon	OH	45036	513-933-0471	6/1/2009		reed@go-concepts.com
ND8I	Bruce N Raymond	3494 Fairwood Dr.	Beavercreek	ОН	45432	937-429-5362	4/1/2011		bruceraymond@ameritech.net

Tuesday, March 22, 2011

Page 1 of 2

CALL	FNAME	LNAME	STREET	CITY	ST	ZIP	PHONE	DUES	<i>N.L.</i>	Email
NE8I	Lloyd	Ellsworth	P.O.Box 221	Maple City	MI	49664-0221	248-225-3847	2/1/2011		ne8i@arrl.net
WB8IFM	Gerd	Schrick EM79WS	4741 Harlou Dr.	Dayton	OH	45432	937-253-3993	12/1/201		schrick@copper.net
W8JAQ	John	Schwall	163 Lee Dr.	Monroe	OH	45050-1606	513-539-7675	12/1/201		w8jag@infinet.com
W8KHP	Allen	Vinegar	2043 Treetop Ln	Hebron	KY	41048		12/1/201		tokens@myranch.com
KC8KHR		Weaver	1711 E.Third St.	Dayton	OH	45403-1824	937-219-8250	5/1/2011		,
WB8KMX		Prvor	829 Kammer Ave	Dayton	OH	45417	937-263-1608	12/1/201		
W8MM		Valentine	10280 Alliance Rd	Cincinnati	OH	45242	513-984-8900	4/1/2009		
W8NJR	Terry	Netzley	5920 Horseshoe Bend	Ludlow Falls	OH	45339	937-698-6426			w8njr@aol.com
WA8OGS	Joseph		9168 Brehm Rd.	Cincinnati	OH	45252	513-385-4198	12/1/200		burkej@one.net
N8OIF		Raybould	1094 Fountain Ln Apt	Columbus	OH	43213-3211	614-868-5955	2/1/2011		
N8OU		Berker	Box 125/43 E.Front	New Holland	OH	43145	740-495-5200	5/1/2010		
N8QHV	Michael	Schulsinger	1002 Woodlawn Av.	Springfield	OH	45504	937-206-4240	12/1/201		maschulsinger@yahoo.com
N8QOD		Muchnij	1214 Cottingwood Ct.	Bellbrook	OH	45305	937-848-8527	12/1/201		muchniji@saic.com
WA8RJF		Emanuele	7156 Kory Court	Concord	OH	44077-2221	440-357-1356	12/1/200		,,
W8RKO	,	Suhar	1108 E.Rahn Rd.	Dayton	OH	45429-6110	937-433-4332	12/1/201		W8RKO@ARRL.net
KD8SI	Leo	Schaaf	2648 Aragon Av N.	Kettering	ОH	45420	937-294-8425	6/1/2011		
KB8SRQ	Jon	Thuermer	1976 Burnham Ln.	Kettering	OH	45429	937-298-3199	10/1/200		
K8TKQ		Mathews	73 Landrum Rd.	Baimbridge	OH	45612		6/1/2010		k8tgk@gsl.net
KB8U	Russell	Dwarshuis	427 Barber Av	Ann Arbor	MI	48103-2721		8/1/2010		
K8UD	Steven S.	Cov	705 Watervliet Ave	Dayton	OH	45420	937-426-6085	2/1/2010		k8ud@arrl.net
W8ULC		Dakin	4519 N Rt 123	Franklin	OH	45005	937-704-0835	12/1/200		RedW8ULC@Clearwire.net
N8UR	John	Ackerman	15 Grandon Rd	Oakwood	OH	45419	937-445-2966	6/1/2008		n8ur@tapr.org
N8UVM	Robert	Peoples Jr.	66460 Sam Russel	Dundas	OH	45634	740-596-2364	12/1/201		N8UVM@AMSAT.org
KB8VAO	Steve	Gocala	4232 Tippecanoe Rd	Youngstown	OH	44511		6/1/2011		KB8VAO@AMSAT.org
KC8VEB	Bruce	Lerner	734 Suntree Dr	Westerville	ОH	43081	614-985-4818	1/6/2011		bdl7431@sbcglobal.net
N8VES	Sam	Anderson	2143 Otello Ave	Dayton	OH	45414-4513	937-278-1029	12/1/201		N8VES@yahoo.com
WB8VSU	James	Bacher	5849 Terrace Park Dr	Dayton	OH	45429-6049	937-865-2020	6/1/2011		•
N8VZW	John	Human	4080 Danern Dr.	Beavercreek	OH	45430	937-429-0234	6/1/2008		jbhuman@fuse.net
WA8WZG	Tom	Whitted EN81OM	4641 Port Clinton E	Port Clinton	OH	43452-3805	419-732-2168	12/1/201		wa8wzg@wa8wzg.com
K8YMI	Bob	Halley	114 Red Bird Lane	Terrace Park	OH	45174		8/1/2011		0
WB8YOB	Alan L	Smith	6303 King Arthur	Swartz Creek	MI	48473		2/1/2012		
N8ZM	Thomas	Holmes	1055 Wilderness Bluff	Tipp City	OH	45371	937-667-5990	12/1/201		THolmes@woh.rr.com
KB8ZR	Mark	Tessneer	2970 Indian Ripple	Beavercreek	OH	45440-3641	937-426-1355	12/1/200		kb8zr@amsat.org
KA8ZSB	John	Hepner	9500 Huffman Rd.	Farmersville	OH	45325-9225	937-835-3149	12/1/201		HepnerJ@core.com
K9ATR	Milton	Gibson	5707 S Bridgeton Ln	South Bend	IN	46614	574-291-0886	12/1/201		
K9AYA	Bill	Eaton	1600 Boyle Rd.	Hamilton	OH	45013-1066	513-893-0933	8/1/2011		bill@rp-l.com
K9EA	Dan	Michnay	9406 Notestine Rd	Ft Wayne	IN	46835-9449		3/1/2012		K9EA@arrl.net
WG9F	Rod	Owen	13809 Schwipps Rd	Milan	IN	47031	812-623-3072	12/1/200		roderick.owen@ae.ge.com
W9FT	Ron	Henselman	1409 N.11th Ave	Melrose Park	IL	60160-3523	708-345-6981	12/1/201		-
W9NBS	Tom	Stauffer	961 Silvercreek Dr.	Centerville	OH	45458	937-435-1870	12/1/201		
WB9SNR	Jim	Mitzlaff	1727 N.Chestnut	Arlington Hgts	IL	60004-3703	847-506-0805	12/1/201		wb9snr@att.net
W9SZ	Zack	Widup	1003 E Washington	Urbana	IL	61801	217-384-2288	6/1/2011		W9SZ.Zack@gmail.com
W9XA	Kermit	Carlson	1150 McKee	Batavia	IL	60510	630-879-0983	12/1/201		-
DB6NT	Michael	Kuhne	Birkenweg 15	D-95119		GERMANY	9288-8232	12/1/201		kuhne.db6nt@t-online.de
7L3DNX	Takumi	Takeno	3-7-3-504-Simosinjo	Nakahara-ku	21	1-0042Japn	81-44-751-07	6/1/2010		naf01266@nifty.com

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