ASTERISK ALLSTAR FOR DRUMLINS

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WHAT I PLAN TO COVER

- What is Allstar: history, VoIP (Voice over Internet Protocol), comparison to other voip's

- Allstar on Drumlins Repeaters

- How to use it

- Features

- How to build your own node

- Demo 432.1 MHz, CTCSS 88.5 Hz

Echolink

- Not open source
- Low audio quality
- Easy to use
- Large base
- Stable but stale
- Mostly computer or phone originated

IRLP

- Not open source requires board purchase
- Good audio quality
- Small user base
- Only radio originated
- Limited capability and connectability

ALLSTAR DETAILS...

- Based on Asterisk – a free, open source Linux based PBX phone system
  - Two "flavors" hamvoip.org and allstarlink.org
- Adapted to connect radio systems
- App runs on Linux called "app_rpt" that handles Allstar connections between repeaters, simplex nodes and computers
- Low cost low power consumption -Raspberry Pi version 2 or 3
- Downloadable installations on web
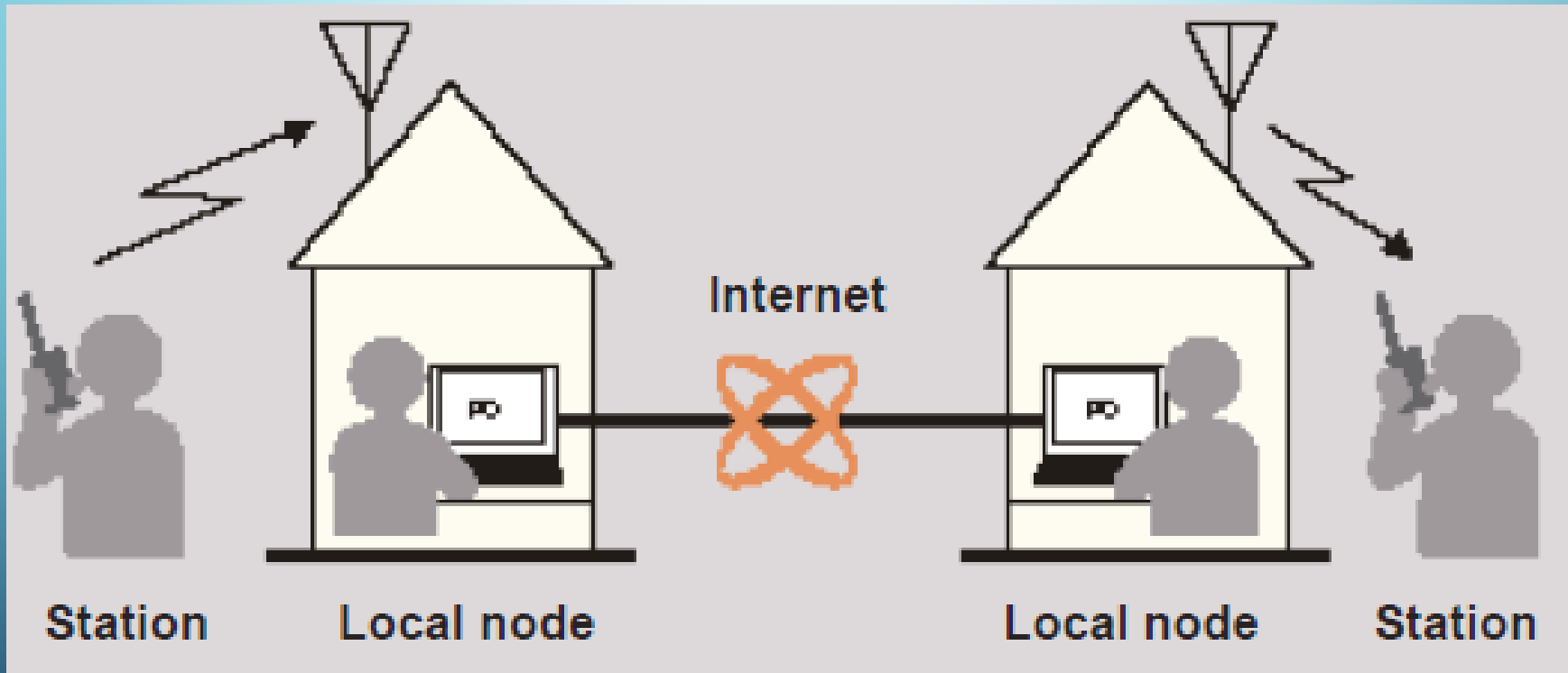- Install the OS, configure, tweak, and operate

MORE…

- More than 17,800 users and 13,600 nodes
- Forms a network of repeaters, remote base stations and hot spots accessible to each other via VoIP
- Choice of codecs
- Connections from Echolink, other VoIP clients and telephone calls are supported
- Requires some Linux knowledge to set up
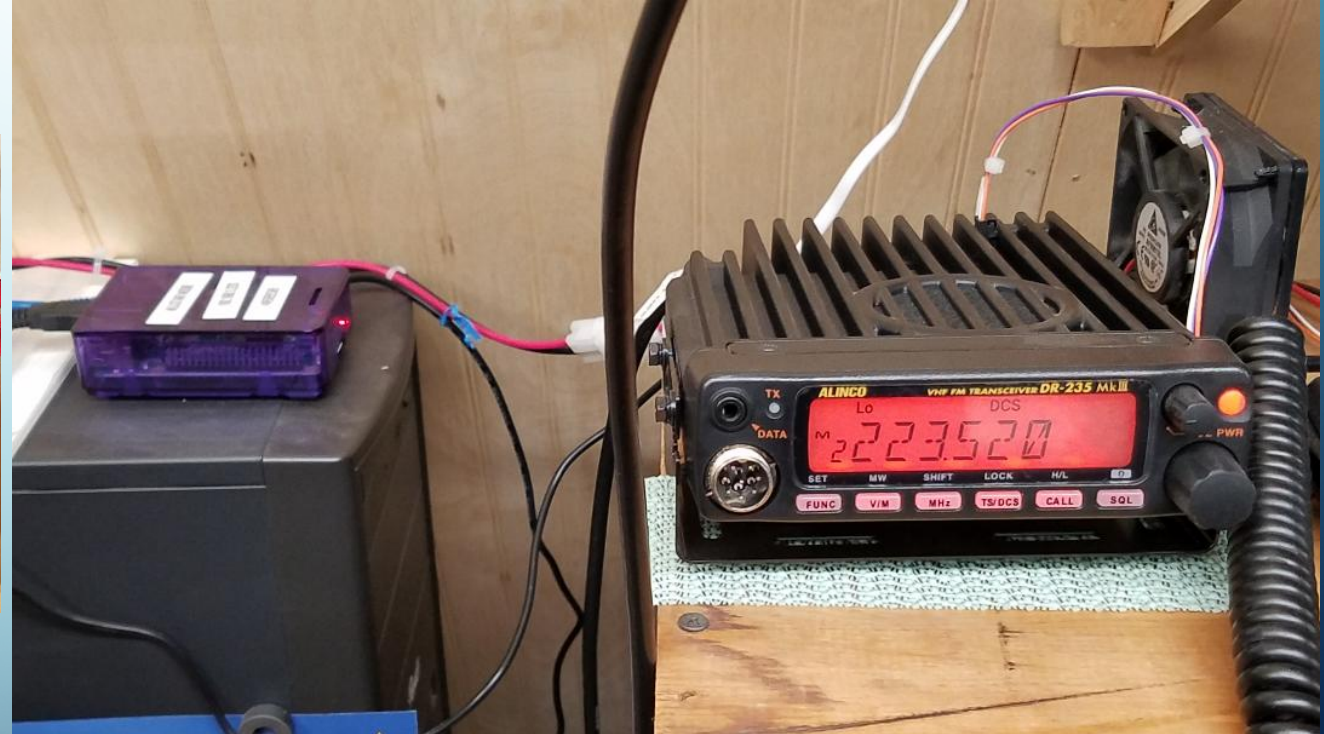- Lots of internet help and support available including youtube videos

FEATURES…

- Full repeater controller
- VoIP full duplex linking with excellent audio
- Frequency agile remote base station
- Simplex (half-duplex) station
- Autopatch/Echolink/APRS
- Real time status reporting
- Allows hams to experiment – bridges to DMR talkgroups, Dstar reflectors
- Scales from small to huge
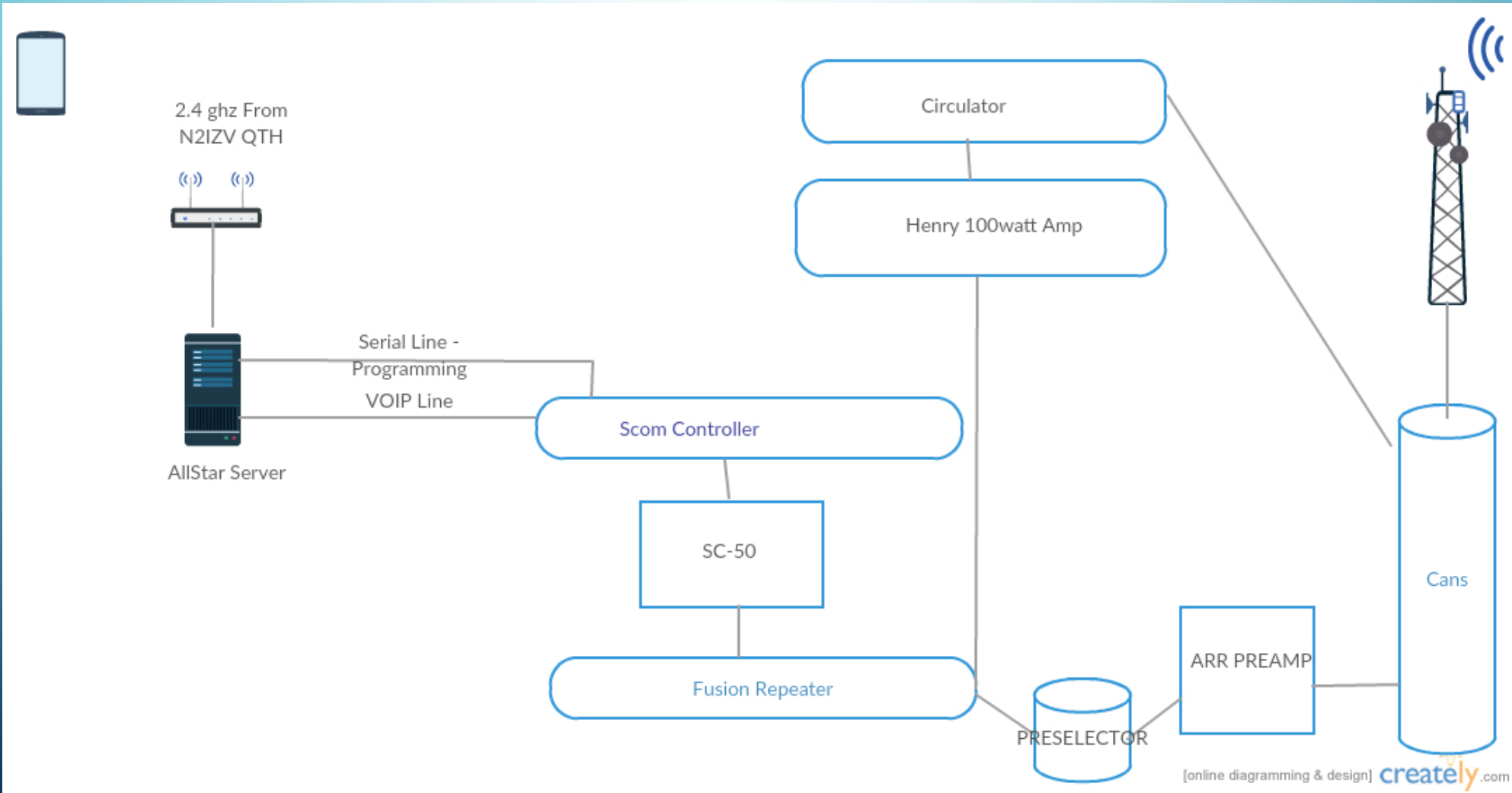- Endless capability and connectability

ALLSTAR CONNECTION

TWO OF MY NODES: MAXTRAC/ALINCO

146.745-SYSTEM LAYOUT (CREDIT:N2MKT)

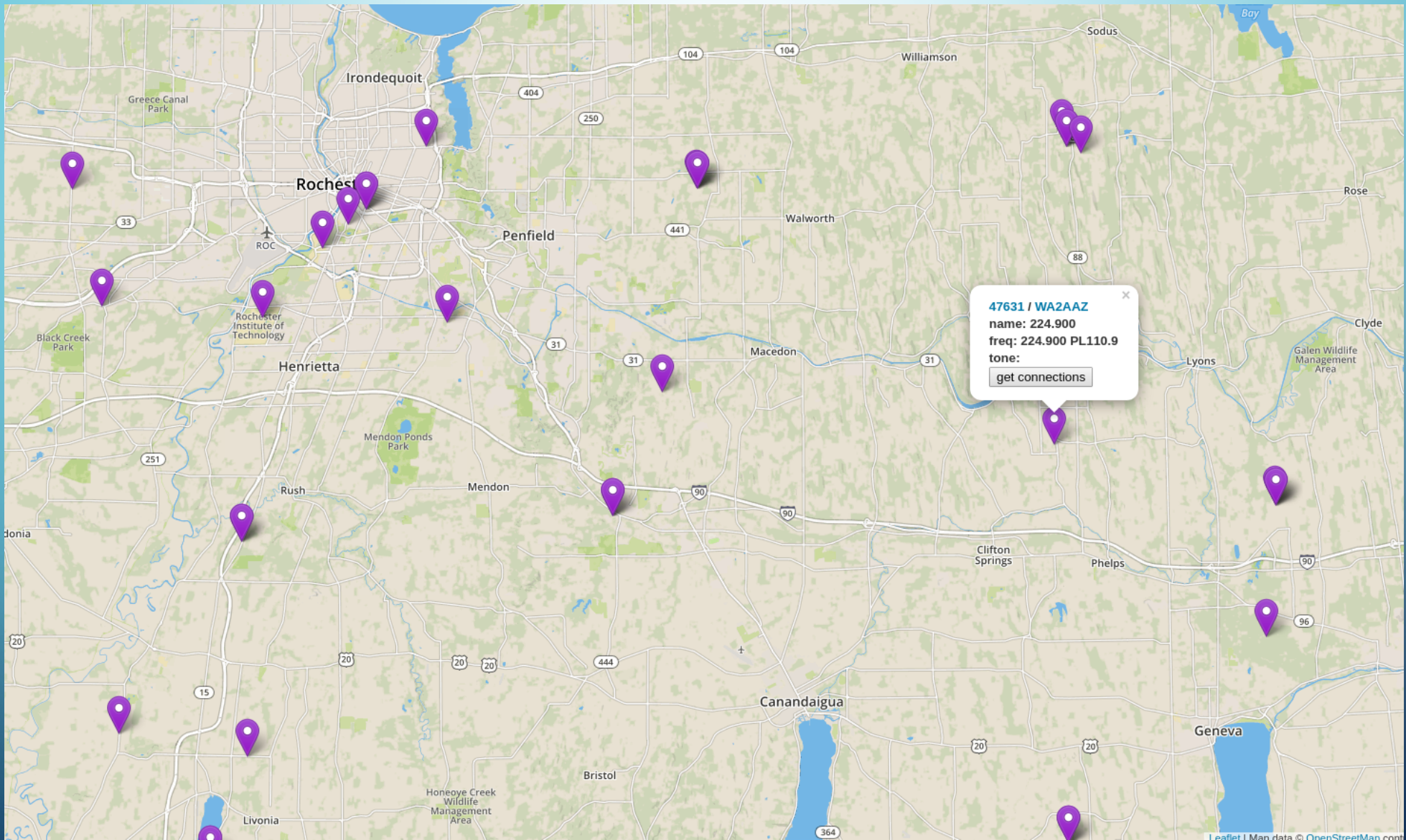# 146.745 HOW TO ACCESS (CREDIT: N2MKT)

- If you want the Scom to do something- macro will end with asterisk *

- (ex 5002*) RACES NET Tonight

- Scom is the male voice .

- If we want the Asterisk Server to do something- macro will start with asterisk *

- (ex *86)   There are no active watches..

- Asterisk is the female voice Allison.

146.745- THE FEATURES

- To connect to an ALLSTAR NODE *3xxxx   TO DISCONNECT *1xxxx   Allstar nodes start with a 2 or 4 (ex.*341512)

  To connect to EchoLink Node   *33xxxxxx (must be 6 digits) To disconnect *13xxxxxx

  * 55 -To connect to Newsline   To disconnect *56

  * 86 -To get Wayne County weather alert

  *87- Weather Underground -Newark Bell Rd (Temp, DRirection,Humidity etc)

  *88- WX Forecast for Wayne County for the week. (long Message)

  *551 -Connect 745 to 443.250

  *552- Disconnect 745 to 443.250

  *93 -To get Enable Parrot mode

  *94-To get Disable Parrot mode

  *81-To get the time Allison's voice

  *6-Autopatch up   (*6-then telephone number)

  *0-Autopatch down

DRUMLINS ALLSTAR REPEATERS

- 444.750 MHz – Allstar Node 43376

- 146.685 MHz– Allstar Node 43375

- 146.745 MHz– Allstar Node 41524

- 443.250 MHz– Allstar Node 41512

- 224.900 MHz– Allstar Node 47631

47631 / WA2AAZ
name: 224.900
freq: 224.900 PL110.9
tone:
get connections

East Coast Reflector

WB2JPQ - Supermon 6.2+ AllStar Monitor
Marilla, New York, USA

IRLP Reflector 9050

Hubs   Groups   IRLP Status   Reflector Status   Reflector Web   Reflector Block   HamVoIP   QRZ

Display Configuration   [CPU: 86°F, 30°C   @ 09:29]

[Weather conditions for Marilla, New York, USA 14102: 28°F, -2°C / Cloudy]

WX ALERT - [Special Weather Statement]

Node	Node Information	Received	Link	Direction	Connected	Mode
	Node 27339 => WB2JPQ East Coast Reflector [ILS] Marilla, NY, USA Bubble Chart IsNodes Listen Live					
27339	Idle					
45192	WB2JPQ East Coast Hub2 [ILS] West Melbourne, FL, USA	000:02:11	ESTABLISHED	OUT	57:14:11	Transceive
46712	W5COW SE New Mexico	000:11:35	ESTABLISHED	IN	05:10:11	Transceive
43263	WR2ROC 146.790 Rochester/NY/US	000:28:19	ESTABLISHED	IN	57:14:11	Transceive
500960	AB3RI 445.9500 Simplex New Castle, DE	000:32:18	ESTABLISHED	IN	37:43:01	Transceive
2576	WB2JPQ Nano-node AE [ILS] Eden, NY, USA	000:40:03	ESTABLISHED	IN	57:14:08	Transceive
45813	N4QCA 145.130 The Shoals, Alabama (NW Ala.)	000:47:15	ESTABLISHED	IN	57:14:06	Transceive
3202958	K5MPH-L [EchoLink 202958] (67.10.80.51)	000:53:19	ESTABLISHED	IN	40:24:34	Transceive
453430	W2PUT 927.525 - Mobile	001:33:44	ESTABLISHED	IN	01:47:46	Transceive
28320	KB2FAF 147.030 Solon, Cortland County, NY	009:58:15	ESTABLISHED	IN	57:14:00	Transceive
50597	K3KDX 146.450 Parkton, MD	013:48:53	ESTABLISHED	IN	23:49:01	Transceive
45333	W4HKL 444.675 + Repeater Maynardville, TN	016:25:10	ESTABLISHED	IN	57:14:09	Transceive
40247	WA4ADT 446.100 Memphis, TN	020:39:44	ESTABLISHED	IN	24:40:31	Transceive
40263	G7ILP Bicester	021:36:34	ESTABLISHED	IN	46:17:58	Transceive
49946	KC3FSX Johnstown HUB Johnstown, PA - USA	034:13:00	ESTABLISHED	IN	57:14:09	Transceive
491362	KA1CNF Radioless Node Walworth, NY	037:55:53	ESTABLISHED	IN	37:55:53	Transceive
28341	WB2JPQ ECR ACID Hub4 [ILS] Eden, NY, USA	Never	ESTABLISHED	IN	57:14:18	Transceive
28458	K2MST 443.150 Armory Square, Syracuse, NY	Never	ESTABLISHED	IN	09:53:43	Transceive
29132	N2LYJ /W2ERD 927.525 Upstate New York	Never	ESTABLISHED	IN	44:15:31	Transceive
29712	AC2HK 445.550 Newfield, NY	Never	ESTABLISHED	IN	57:14:07	Transceive
40276	K4SIP Tampa DC HUB 4 Tampa, FL	Never	ESTABLISHED	IN	24:22:22	Transceive
41893	WA2WWK 439.8175 Portable USA	Never	ESTABLISHED	IN	57:14:10	Transceive
43847	W7VTX Seattle	Never	ESTABLISHED	IN	57:13:51	Transceive
44024	KJ4QAL DMR BM TG31281 St Petersburg, FL	Never	ESTABLISHED	IN	06:29:57	Transceive
44032	KA1MXL Warwick Rhode Island PROVIDENCE RHODE ISLAND	Never	ESTABLISHED	IN	57:14:00	Transceive
45510	KL7RG 145.550 Haines, AK	Never	ESTABLISHED	IN	22:40:08	Transceive
46533	KU6V san jose california	Never	ESTABLISHED	IN	20:22:02	Transceive
47228	K2ZS 445.750 Simplex Chili NY USA	Never	ESTABLISHED	IN	57:14:10	Transceive
47637	N6PTS San jose, CA	Never	ESTABLISHED	IN	00:56:20	Transceive
48573	KB2CHM 443.100 Churchville, New York	Never	ESTABLISHED	IN	57:14:07	Transceive

Allstar Link [surrounding node 491360] status of 10/31/19 13:30:21 GMT

Node 27225

Connections

Click here for the Bubble Chart

Node	Mode	Callsign	Channel	CTCSS	Location
27025	Transceive	K9CWM	Great Lakes Hub 1	No radio	Pleasant Lake, IN
28258	Transceive	WA2WWK	927.4750	131.8	Amherst/NY
29014	Transceive	WA3DSP	PHL LOCAL HUB		Richboro
29272	Transceive	K8BMC	147.405 Simp 110.9	110.9	Sandusky, OH
29299	Transceive	KB5ELT	441.300 +	100.0	Houston Texas
29766	Transceive	KN2R			N. Fort Myers, SW Florida
40561	N/A	N/A	N/A	N/A	N/A
40760	Transceive	K8VMC	446.1375 RPI 2 sys	186.2	Brunswick Ohio 44212
41521	Transceive	MB7ILV	145.2125 MHZ	94.8	Bootle, Liverpool. UK
41750	Transceive	N3AQJ	446.825- PL 110.9	110.9	Fairfield, CT FN31jd
41791	Transceive	N3AQJ	224.100 – PL 77.0	77.0	Fairfield, CT FN31jd
41918	N/A	N/A	N/A	N/A	N/A
43542	Transceive	KD3WT	446.875 –	131.8	Overbrook Pa.
44037	Transceive	KA1HCX	432.100	88.5	Trumbull, CT
44286	Transceive	W2PAX	223.410	88.5	Naples, FL
45619	Transceive	WU1N	147.555	100.0	Mason Ohio
46199	Transceive	KD6KCA	Radioless Node2 KCA1		Alviso, Ca.
46285	Transceive	N5API	442.100+	97.4	Winfield, KS
46969	Transceive	W2MGF 441.2000	441.2000 (SIMPLEX)	DCS 225	BRONX NY
47446	Transceive	KB3CI			Grosse Ile Michigan
47836	Transceive	VE3BZ	434.900	88.5	Victoria Harbour, ON
48050	Transceive	KB3IV	432.200	88.5	Warrington, Pa
48141	Transceive	WW3N	445.55	67.0	Port Republic, MD
491360	Transceive	KA1CNF	447.000	114.8	West Walworth, NY
49311	Transceive	KA2ING	Low power Hotspot		Phillipsburg, NJ
50291	Transceive	KB3CI			Grosse Ile Michigan

Frequency	Offset	Tone Up / Down	Location	County	Call	Use
53.4700	-1 MHz	82.5 / 82.5	Clyde	Seneca	KA2NDW	OPEN
53.6100	-1.0 MHz	127.3 / 127.3	Sherman	Chautauqua	WB2EDV	OPEN
145.4700	-0.6 MHz	82.5 / 82.5	Clyde	Seneca	KA2NDW	OPEN
146.6550	-0.6 MHz	110.9 / 110.9	S. Bristol, Mees Observatory	Ontario	WR2ROC	OPEN
146.6850	-0.6 MHz	71.9 / 71.9	Arcadia, Brantling Ski	Wayne	WA2EMO	OPEN
146.7450	-0.6 MHz	71.9 / 71.9	Newark, Water Tower	Wayne	WA2AAZ	OPEN
146.7900	-0.6 MHz	110.9 / 110.9	Rochester, Highland Hospital	Monroe	WR2ROC	OPEN
147.0300	+0.6 MHz	71.9 / 71.9	Cortland	Cortland	KB2FAF	OPEN
147.1800	+0.6 MHz	71.9	Cortland	Cortland	K2IWR	OPEN
147.2250	+0.6 MHz	71.9 / 71.9	Cortland	Cortland	KB2FAF	OPEN
147.2550	+0.6 MHz	107.2 / 107.2	Lancaster	Erie	W2SO	OPEN
147.3150	+0.6 MHz	110.9 / 110.9	Rochester, URMC	New York	WR2ROC	OPEN
223.8400	-1.6 MHz	141.3	Todt Hill, Staten Island	Richmond	W2RJR	OPEN
224.4700	-1.6 MHz	82.5	Clyde	Albany	KA2NDW	OPEN
442.0750	+5 MHz	110.9 / 110.9	Rochester, RIT	Monroe	K2GXT	OPEN
442.2250	+5.05 MHz	82.5 / 82.5	Waterloo	Seneca	W2ACC	OPEN
442.8500	+5 MHz	71.9	Cortland	Cortland	KB2FAF	OPEN
443.1000	+5 MHz	110.9 / 110.9	Churchville	Ulster	KB2CHM	OPEN
443.2500	+5 MHz	110.9 / 110.9	Newark	Wayne	N2MKT	OPEN
444.7000	+5 MHz	114.8 / 114.8	Farmingville, NY	Suffolk	WR2UHF	OPEN
444.7500	+5 MHz	110.9 / 110.9	Arcadia, Brantling Ski	Wayne	WA2EMO	OPEN
445.9750	-5 MHz	118.8	Carle Place	Nassau	N2YXZ	OPEN
446.8250	-5 MHz	141.3 / 141.3	Brooklyn, Downtown	Kings	K2RMX	OPEN
927.3125	-25 MHz	D606 / D606	West Islip	Suffolk	W2YMM	OPEN
927.3250	-25 MHz	88.5 / 88.5	Buffalo	Erie	N2LYJ	OPEN

HARDWARE AND SOFTWARE

- Computer – Raspberry Pi – Canakit, amazon, $45

- Radio with data interface or mod one

- A URI or modified sound card fob to connect to usb port on Raspberry pi Rim module $50, usb sound fob ~$5

- Software from allstarlink.org

- Misc.: power supply, cables, antenna

DEMONSTRATION

- HT set to 432.1 MHz PL tone of 88.5 Hz

- "yellow box" portable node

- Using hotspot for internet connection

- List of commands

- Connect to a node

- Technobygeorge.com – parts to assembled kits
- hamvoip.org – software plus lots of how to's
- web-tpa.allstarlink.org
- www.crompton.com
- www.k2ets.com/asterisk.html
- wiki.allstarlink.org/wiki/Beginners_Guide
- Hamprojects.info/dinah
- www.repeater-builder.com/products/usb-rim-lite.html
- stats.allstarlink.org
- https://dvswitch.groups.io/g/Mobile/wiki/AllStarLink-setup-for-DVSwitch-Mobile