



July 11, 2016



# Meeting Agenda

- Welcome-Visitors and Members
  - Introductions
- Old Business
  - Field Day 2016 – Report 1/2
- New Business/ Announcements/ Calendar
  - ADS-B and an SDR Dongle
  - Announcements
  - Calendar for 2016
- Next Meeting – August 1<sup>st</sup> 2016



# FIELD DAY - June 25-26





# FIELD DAY - June 25-26





# FIELD DAY - June 25-26

## CW Station





# FIELD DAY - June 25-26

## Digi/SSB Stations





# FIELD DAY - June 25-26

## 6M/SSB Station





# FIELD DAY - June 25-26

## BBQ







# FIELD DAY - June 25-26

## Cleanup





# Field Day Test Session





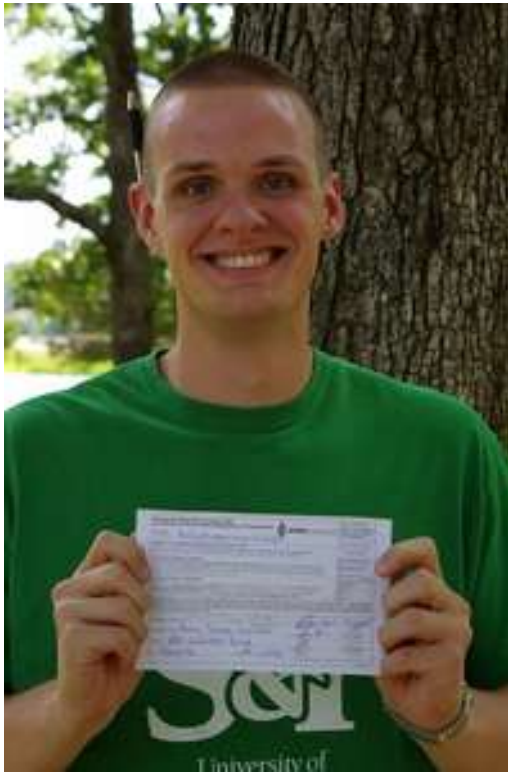
# Field Day Test Session

VE Team hard at  
work...





# Field Day Test Session Recognition



Avery Welker  
New Technician!



Ian Ahner  
New Technician!



# Field Day Test Session Recognition



Nathan Brown  
New Technician!



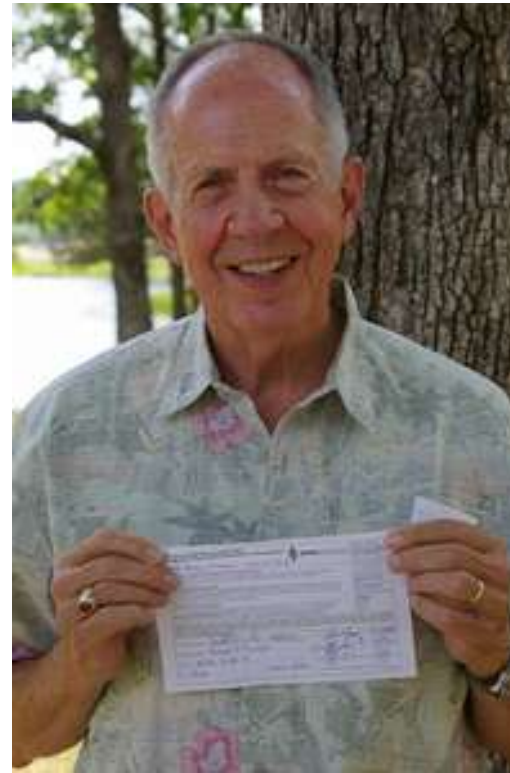
David Klopner (N9RFS)  
Upgrade to General!



# Field Day Test Session Recognition



**Jim Crowley (KB0PSI)**  
Upgrade to Extra!



**Ronald Russell (KE0GLL)**  
Upgrade to General!



# ADS-B

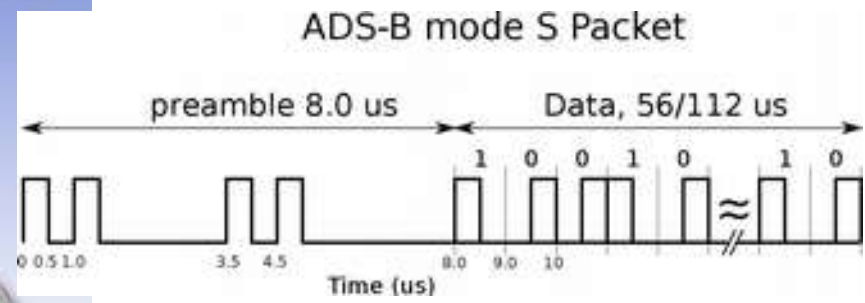
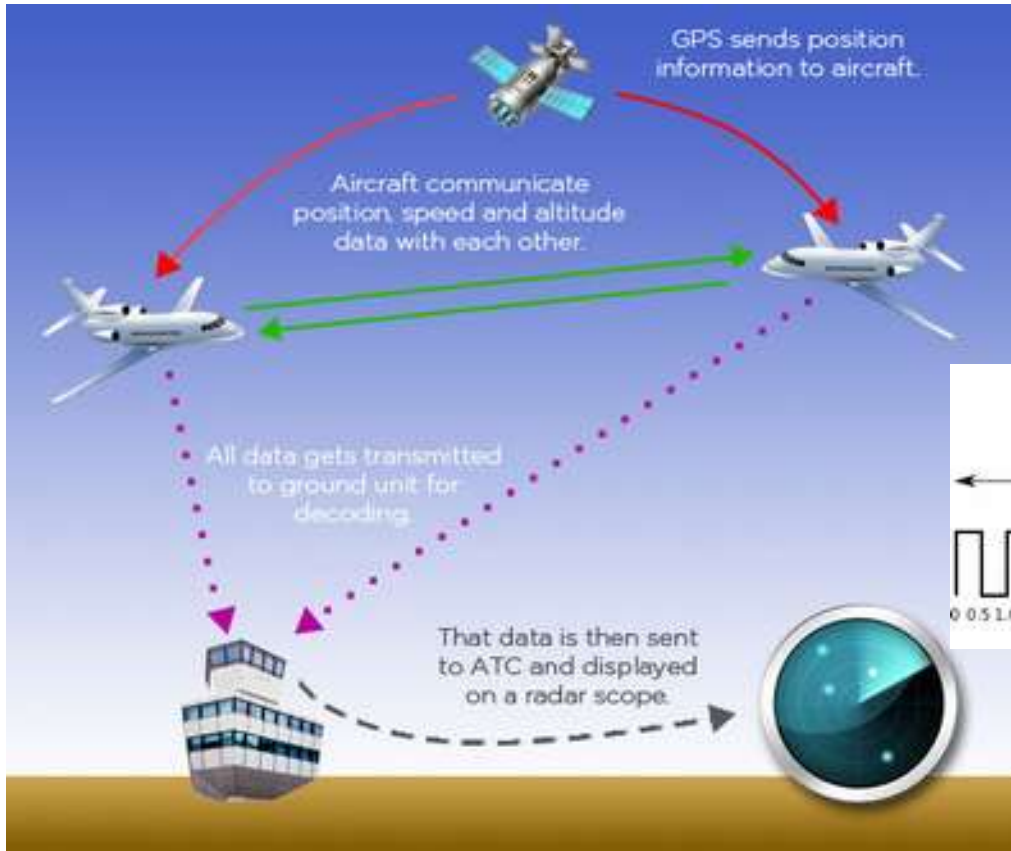
- What is it?
- Hardware / Software Requirements
- Examples
- Why?





# ADS-B

## What is it?

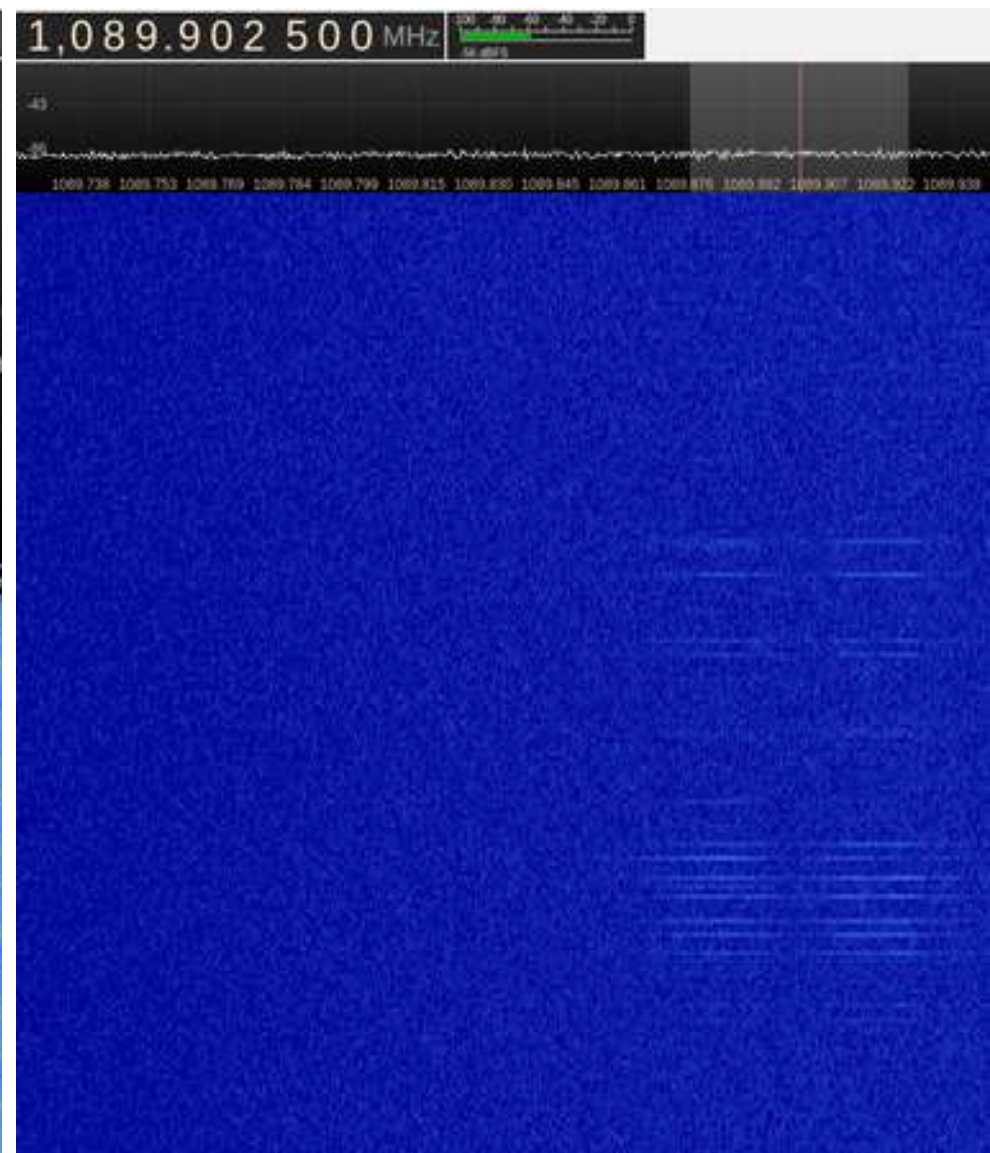
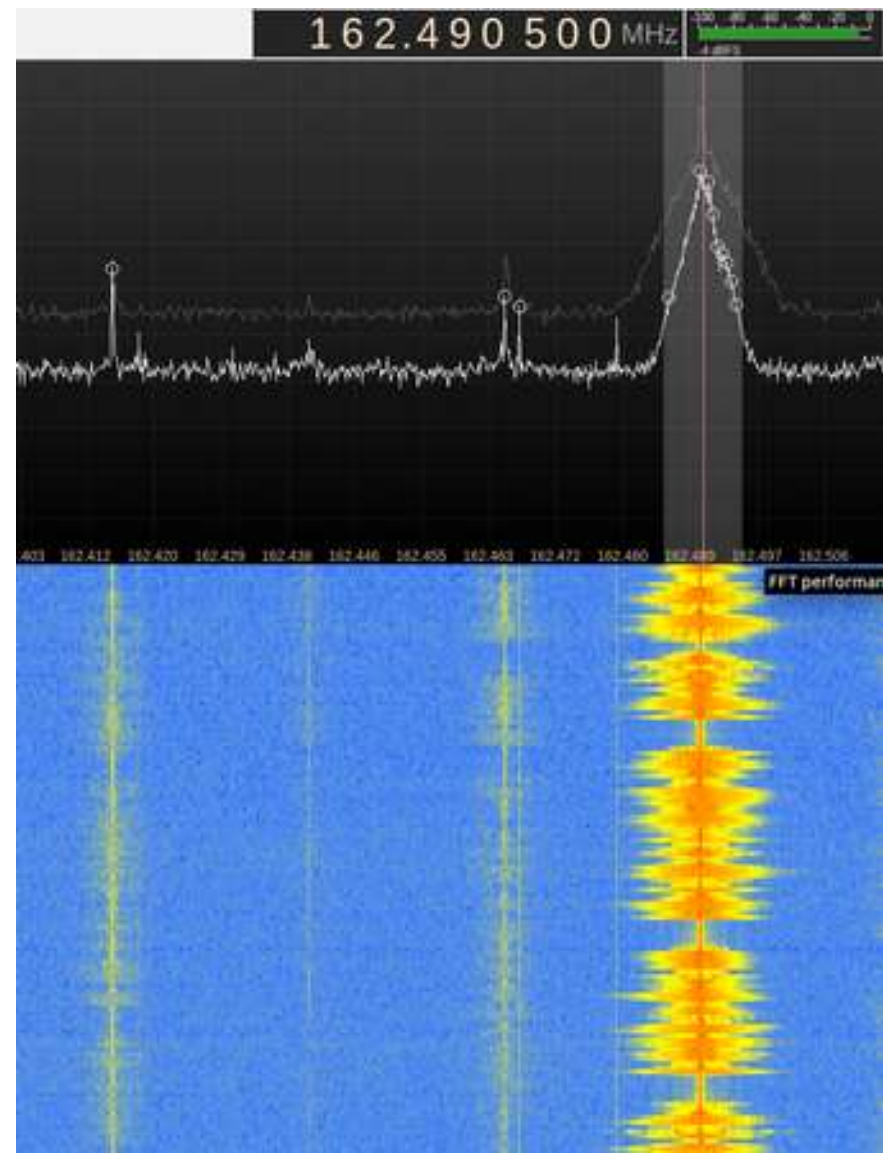






# ADS-B

## FM vs PPM





# ADS-B

## Requirements

- Linux PC (Raspberry Pi) – \$35
- PiAware or dump1090 – FREE!
- RTL SDR USB Dongle – \$25
- Antenna – Homemade





# ADS-B

## 5 Minute Traffic

Google Chrome

DUMP1090

127.0.0.1:10900

Gregarius + Settings

Map

Local Time UTC Time

Reset Map | Settings |

**DAL856** *Y121 (FlightAware FlightTrack)*

Altitude: 39000 ft Squawk: 7715  
Speed: 438 kt ICAO (hex): A070A0  
Track: 82° (E)  
Lat/Long: 37.554821, -92.676729

Hex	Mode	Sqwk	Flight	Alt	Spd	Hdg	Lat	Long	Sig	Hsgs	Flt
A80559	S	C	SMA351	29000	448	099	38.064	-92.873	5	58	0
A56A7C	S	C							4	2	77
FF7413	A		7413						11	12	47
A18E46	S	C		39000					4	34	0
A1073F	S	C		29000					5	7	79
A44544	S	C	UAL1563	35000	427	041	37.841	-92.724	5	61	41
FF4666	A		4666						28	45	2
AD6C80	S	C							5	1	182
AC4587	S	C		9400					15	110	1
AA2ABC	S	C		26025					4	7	218
ABE09F	S	C	SMA1878	35000	430	057	37.969	-92.306	8	246	1
AD8ECB	S	C		11900					3	5	90
ACBF99	S	4C	2152	20000					5	629	42
A89890	S	4C	0535	35950					6	1705	0
A34007	S	C							6	8	156
A97040	S	4C	7715 DAL856	39000	438	081	37.555	-91.677	5	647	10
A11E87	S	C		28975					5	58	114
A02EA4	S	4C	4145	31000					5	622	30
A14000	S	4C	1200 N1808L	12000	92	204	37.994	-92.641	4	109	10
FF4740	A		4740	3800					19	178	111
AA1DF3	S	C		9900					7	543	60
AA147A	S	C	FDX534	30000	467	326	38.069	-91.735	5	506	210
A68249	S	C	VRD719	38050	458	241	36.995	-92.585	6	484	222
ADFCC9	S	4C	4637	27075					5	567	229



# ADS-B

“Live” Demo



# ADS-B

## Internet Lookup

**United Parcel Service 918**  
[Track inbound flight](#)  
 UPS918 - "UPS" ([all flights](#)) [uam.com](#)

Louisville Int'l (KSGF)      Ontario Int'l (KONT)

**03:38PM EDT**      **04:23PM PDT**  
 Scheduled: 03:27PM EDT      Scheduled: 04:18PM PDT  
 7-day average: 03:47PM EDT      7-day average: 04:32PM PDT

[Other flights between these airports](#)

41 min      3 hr 45 min

Duration: 3 hours 45 minutes  
 Sunday, July 10, 2016

**Status:** En Route / On Time (149 sm down, 1,445 sm up) - [track log & graph](#)

**Aircraft:** Boeing 767-300 (twin-jet) (B764 - uam008)

**Speed:** 487 kts (planned: 452 kts) ([graph](#))

**Altitude:** 34,000 feet (planned: 34,000 feet) ([graph](#))

**Distance:** Direct: 1,794 sm      Planned: 1,823 sm

**Route:** APAL03 APAL03 PVV V1H BUM GUP INW DRK PSP SETER0 ([track](#))

Share this alert with a friend:  
 friend@example.com      [Create alert](#)

**ACTIVITY LOG**

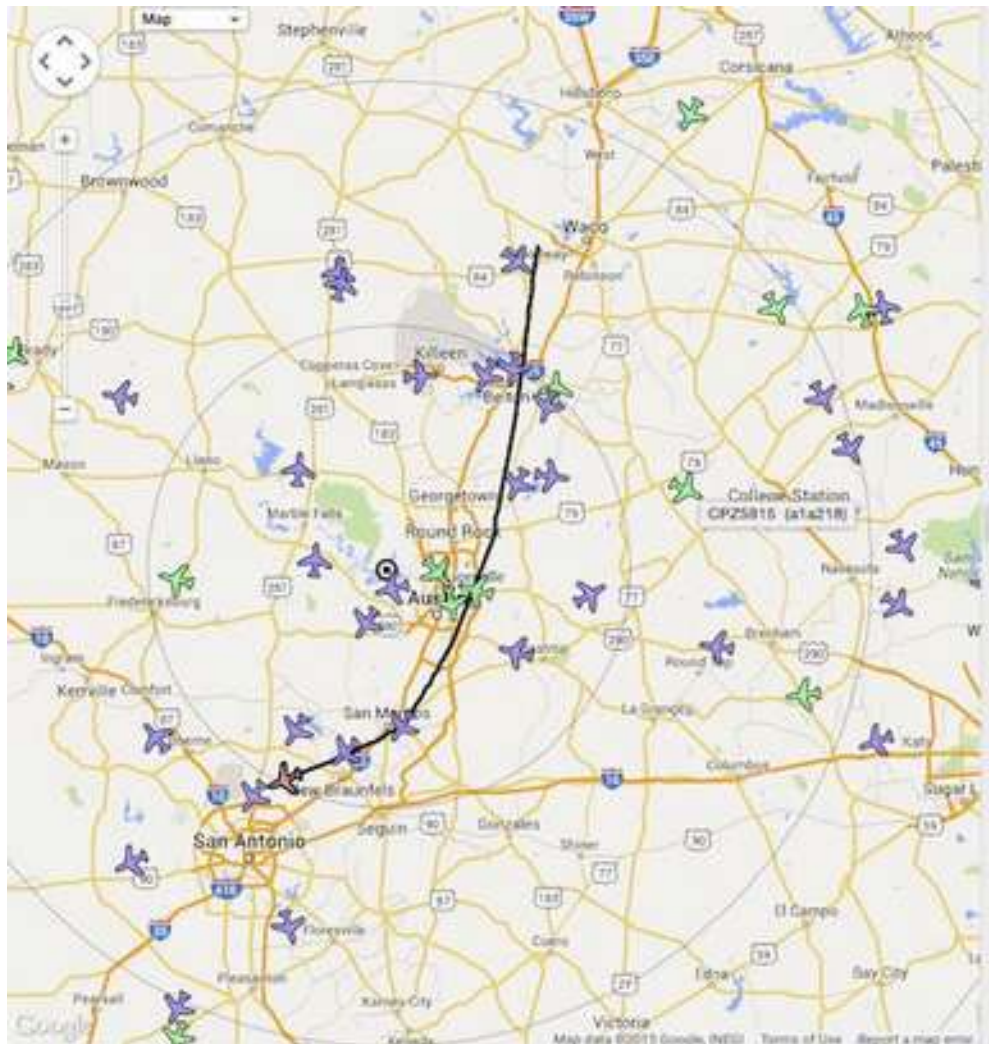
Want a full history search for UPS918 dating back to 1970? [Buy here](#). Get it within one hour.

Date	Aircraft	Origin	Destination	Departure	Arrival	Duration
10-Jul-2016	B763	Louisville Int'l (KSGF)	Ontario Int'l (KONT)	03:38PM EDT	04:23PM PDT	En Route
09-Jul-2016	B763	Louisville Int'l (KSGF)	Ontario Int'l (KONT)	04:00AM EDT	04:42AM PDT	3:42
07-Jul-2016	A306	Louisville Int'l (KSGF)	Ontario Int'l (KONT)	04:01AM EDT	04:48AM PDT	3:47
06-Jul-2016	B763	Louisville Int'l (KSGF)	Ontario Int'l (KONT)	04:12AM EDT	04:51AM PDT	3:39
05-Jul-2016	B763	Louisville Int'l (KSGF)	Ontario Int'l (KONT)	03:45AM EDT	04:28AM PDT	3:43
01-Jul-2016	B763	Louisville Int'l (KSGF)	Ontario Int'l (KONT)	04:07AM EDT	04:53AM PDT	3:45
30-Jun-2016	B763	Louisville Int'l (KSGF)	Ontario Int'l (KONT)	04:10AM EDT	04:56AM PDT	3:48
28-Jun-2016	B763	Louisville Int'l (KSGF)	Ontario Int'l (KONT)	04:06AM EDT	04:32AM PDT	3:25
28-Jun-2016	B763	Louisville Int'l (KSGF)	Ontario Int'l (KONT)	04:07AM EDT	04:46AM PDT	3:38



# ADS-B

## Fun and Multilateration (MLAT)



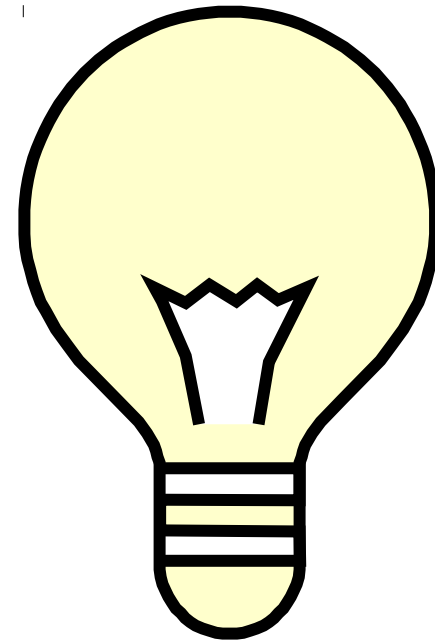
Altitude: 7625 ft  
 Speed: 271 kt  
 Track: 246° (SW)  
 Lat/Long: MLAT: 29.6926, -98.351494  
 Distance from Site: 49.1 NM

SIDR	Flight	Height	Altitude	Speed	Track	Time	Seen
AD324	890008	4507	21300	240	243	14232	0
88864		3993	35990	465	300	13385	1
ee978	AAL393	2457	34000	447	143	14305	1
ad8d6	212	2114	21000	445	70	14000	1
44428	CP93315	2087	34000	397	117	14000	0
ad276	4927	4797	3020	148	170	13744	0
ee994	86914	2533	3450	321	140	13734	0
AD30b	3337777	4796	3400	271	246	4762	0
88884	3337777	3453	34000	497	208	5084	1
88884	4434	3482	34000	386	122	7181	48
AD248	4387	3647	27470	437	86	7812	0
AD884	8374	4042	40000	487	8	7114	0
88873	888383	3047	34000	430	114	6963	0
ad23a		4100	4450	0	0	6063	31
AD31f		3644	4000	378	227	4733	0
AD48b	8382	4548	34000	275	258	4345	1
ee148		7348	27000	433	18	4282	1
88884	3337777	7343	33000	468	213	4181	0
wh246	87288	7455	3025	195	3	5975	0
AD240		3341	12000	178	214	5973	0
ee982	8813	4077	33970	487	317	5649	1
AD4Fb		4948	32000	443	213	5778	0
AD888	88948	7086	37000	343	87	5683	0
88479	3337777	2514	4079	303	400	5367	0
ad217		4000	13000	0	0	5171	0
AD81E	88408	3808	33870	300	188	5048	0
AD88C	888338	4244	25220	425	145	5023	0
AD2Fb	3337777	4063	28190	304	8	4810	1
AD547		7427	30070	470	243	4874	1
88884	83208	4756	36970	340	190	4899	0
wh410	1483	7283	33250	438	289	4324	0
ad2e7		3424	30000	0	0	4211	0
AD15F	2483	4087	37000	468	4	4121	0
AD84X	4337	1138	24990	432	151	3961	0
ee142	AA120	3147	10420	0	0	3796	30
ad23a		4143	14420	0	0	3680	1
88389	4928	2346	24160	486	180	3627	0
AD88b		3747	34000	588	345	3583	0
ad23a		4000	12720	0	0	3443	1
AD6d4	881144	4737	37320	467	280	3420	0
wh349	AA8117	7384	30250	439	342	3414	0
AD884	8000000	7380	40120	468	8	3310	0
ee140		4010	14000	0	0	3281	4
ee142		4024	17000	0	0	3121	1
AD243	888338	3878	34420	438	207	3088	0



# Announcements

- New Business
- Announcements
- Ideas





# Calendar/ Events/ Ideas 2016

January

February Test Session – Saturday 27th

March Spotter Training – Thursday 3rd (6:30pm - 8:30pm)  
100 Acre Wood – 18–19th

April Joint meeting w/ LARC (in Waynesville)

May Test Session – Saturday 7th

June Hellbender?, Field Day (Test Session at ~2:30)

July

August Test Session – Saturday 27<sup>th</sup>

September Fox Hunt?, Berryman Adventure Race

October Repeater work day - Hancock

November Ozark Trails 100

December Club Elections, Test Session – Saturday 3<sup>rd</sup>





# Summer Break!



Next meeting: August 1<sup>st</sup>



# Meeting Notes

*Russel (W0OWE) brought up a request from the National Weather Service in Springfield: They wanted to be able to bring up the remote link from their location. The members present, at the meeting, denied this request and decided that only a select few control operators should have repeater control codes.*

*Peter (K6RFT) brought up a request to hand out the membership roster (name, address, phone, email) to club members. This was discussed and approved.*