



# Simi Settlers' Amateur Radio Club

# Short Circuit

May 2019

May 1, 2019

## Static & Sparks

### Inside this Issue

- 1 May Program  
Static & Sparks
- 2 Nets of Interest  
ACS Corner
- Events
- 3 Raffle Prize!  
Future Programs
- 4 A Low-Cost Dipole Antenna  
System for Motor Homes by  
Mike Tweedy - KV6I
- 8 April General Meeting  
Minutes
- 9 Simi North Mesh Update - Bill  
- AB6BW
- 10 Simi Settlers' Leadership
- 11 Membership Form

General Meeting  
Time: 7:00pm  
Location: Simi Valley Senior  
Center  
3900 Avenida Simi  
Simi Valley, CA 93063

### May Program

Thursday, May 9 7:00 PM

### Eric Oberg - KE6MLF

### BitX SSB QRP Radio

The µBITX is a general coverage HF SSB/CW transceiver *kit* with features you NEED for operating ease, convenience and versatility. It works from 3 MHz to 30 MHz, with up to 10 watts on SSB and CW with a very sensitive receiver. It features digital tuning, dual VFOs, RIT, CW Keyer and more. The µBITX is a general coverage HF SSB/CW transceiver kit with features you demand for operating ease, convenience and versatility. It features digital tuning, dual VFOs, RIT, CW Keyer and more..

Come hear about how you can have fun building, experimenting and using this inexpensive little rig.

### Bill Woods - AB6BW

I've been meshing around a bit in the last few weeks - learning how to load and reload the AREDN firmware into Ubiquity and Mikrotik radios, build and rebuild Cat5e cables, and get TeamTalk working on the Ventura County Mesh. Much thanks to Orv for his long suffering patience. For those of you thinking of becoming MESH ACTIVE, one of the most important keys is to have a clear line of site to another mesh node that is aimed in your direction. My 5G Nanostation is at about 38 feet and skims over and between roof tops and trees to reach the Simi North Mesh node on the hillside above the end of Sycamore.

The SSARC Board has begun compiling a club calendar to aid us planning events and staying on top of various "business" items. One of the things that is quickly becoming apparent is that our income (dues, drawing ticket sales, donations) isn't keeping pace with our expenditures. No - we're not bankrupt - yet - but it's time to begin preparing for our future. We will be discussing this at the May 9 SSARC Club Meeting. -

continued on Page 3

### Dinner with the Speaker

**Where? Macaroni Grill**

**NE corner of Alamo & Tapo Cyn**

**When? 5:15 pm**

**Join Bill and other club**

**members for dinner before the club meeting.**

## Nets of Interest

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<b>LSB Net</b> 8pm 3.908 MHz  <b>SSARC 2 Meter Net*</b> 8:30 pm SMRA-ERN Repeater 146.805 -0.6MHz PL100.0 or 445.580 - 5.0MHz PL100.0	<b>Condor Connection</b> 7pm (Plays Newslines) Frazier Mountain 224.720-1.6 MHz PL156.7	<b>LSB Net</b> 8pm 3.908 MHz  <b>ACS Area 1</b> Simi Valley SMRA-ERN 7:05pm Repeater 146.805 -0.6MHz PL100.0 or 445.580 -5.0MHz PL100.0  <b>ATN-CA Net</b> 7:30pm <a href="http://atn-tv.org/netnight.htm">http://atn-tv.org/netnight.htm</a>	<b>Channel Islands chapter 10-10 International</b> 28.34 MHz at 10AM and 6PM  <b>Mesh IRC Net.</b> 6-10 PM  <b>Mesh VOIP Net</b> 8pm 2.4/5.8 GHz Mesh	<b>LSB Net</b> 8pm 3.908 MHz		<b>SSARC SSB HF Net</b> 8:30am <b>7.240</b> (+ or - QRM/N) 40 meter  <b>CW-QRP</b> 9am 7.032 MHz  <b>Quad Squad net</b> 1PM on 21.365 MHz's

Additional information on local nets can be found on the CVARC web site at: <http://www.cvarc.org>

## Sunday Night Net Control Operators

Thanks to our fine Net Control Operator: Brian KM6MIN.

## ACS/ARES Corner

We are always looking for ACS members that would like to become Net Controllers. You will receive hands on training at the Simi Valley PD (where we normally conduct the Weekly Net). It is both fun and at times challenging. You will gain valuable experience in running a controlled Net as well as becoming more than just familiar with the equipment in the Radio Room at the PD. If you would like to volunteer for this, let me know - [ke6wez@gmail.com](mailto:ke6wez@gmail.com)

If anyone is interested in how to setup your own packet station, RMS Winlink station, or a Mesh Node, let me know and we can get you started in the proper direction.

**NOTE:** Please be advised that we hold the Tue. countywide net at 19:30 (7:30PM) on the Sulphur Mountain WD6EBY repeater 145.200, minus 600 KHz offset, CTCSS of 127.3. Until further notice, this will be our standard frequency for countywide communications.



- Steve King KE6WEZ ([ke6wez@gmail.com](mailto:ke6wez@gmail.com))

## Upcoming ACS/ARES Events:

1. Saturday 4 May - ALS ride. Check with E Group web site for more information.
2. Saturday - 4 May 2019 - Simi Valley Street Fair. This is held at the Simi Valley Mall parking area. There are no EmPrep displays or booths this year. The street Fair is fantastic with many great vendors and booths.
3. Monday - 6 May 2019 - District Meeting. County EOC.
4. Saturday - 18 May 2019 - Red Cross Ride For The Red. Contact Stewart - KG6BOV at [kg6bov@arrl.net](mailto:kg6bov@arrl.net) for info or to volunteer.
5. Saturday 25 May - Thousand Oaks Safety Expo
6. Sunday - 26 May 2019 - Mountain to the Beach Marathon. Contact Kat - K6VQN at [k6vqn@arrl.net](mailto:k6vqn@arrl.net) to volunteer. Still need a few volunteers to man up all the stations.
7. Sunday - 2 June 2019 - Love Run. Contact Zak - N6PK at [n6pk@arrl.net](mailto:n6pk@arrl.net) to volunteer.
8. Tuesday - 4 June, 2019 - OPERATIONAL READINESS TESTING (ORT) NIGHT.
- 9.

## Events

### Thursday, May 2, 2019, 6:00pm SSARC Pizza Night

Toppers Pizza, 2408 Erringer Rd , Simi Valley

### Saturday, May 4, 2019, all day - Simi Valley Street Fair

Simi Valley Town Center (Near Macy's)

### Thursday, May 9, 2019, 7:00pm SSARC General Meeting

Simi Valley Senior Center, 3900 Avenida Simi, Simi Valley, CA 93063

### Thursday, May 23, 2019, 7:00pm SSARC Board Meeting

Simi Valley Senior Center, 3900 Avenida Simi, Simi Valley, CA 93063

### Saturday, May 25, 2019, 11:00 am - 2:00 pm - SSARC Spring Picnic

Jim & Lea Veronica - 442 Peter Pl - Simi Valley - 93065

We expected this to be earlier in May but ran into a conflict with the annual SV Emergency Preparedness Street Fair. Many of our members will be involved with the ACS/ARES booth at the fair. We have moved the date to May 25. The picnic will be hosted by SSARC at Jimmy and Lea Veronicas' home. Hamburgers, hot dogs, soft drinks and condiments will be provided by the club. Feel free to bring your favorite sides and appetizers for all to share. Jim and Linda Parker will be taking signups at Pizza Night and our meeting on May 11. If you can't get to a signup sheet please send an email to Jim/Linda at [kj6ljx@gmail.com](mailto:kj6ljx@gmail.com) so we can be sure of having enough food.

***We will have a "White Elephant" table where you can sell (ham) stuff with at least half the proceeds being donated to SSARC.***

### Thursday, June 13, 2019, 7:00pm SSARC General Meeting - Board Member Elections

Simi Valley Senior Center, 3900 Avenida Simi, Simi Valley, CA 93063

## Raffle Prize!

Jim Hutchinson KI6MZ, our new raffle coordinator, has several great prizes lined up. Bring \$\$\$ !!

## Future Programs

- June 13; Lea Veronica - "Living aboard a Sail boat with a Ham (operator). (I wonder who.???... Ed
- July 11; Stewart Sheldon - "New Antenna Design"
- August 8, Orv Beach - Mesh Network Update
- September 12, John Kitchens - NS6X - ARRL Santa Barbara Section Mgr.

## Static and Sparks - continued from Page 1

Our new Bylaws specify that we need a simple majority of paid-up members to change the club dues so we will present the Board's recommendation and then discuss where we go in open forum at the meeting. Note that the small increase we are discussing will not of itself be sufficient. We will also be discussing ways to reduce our expenditures and also increase membership. Please come prepared to provide positive help as we deal with this issue. It is time to renew our memberships as our club year runs from July 1st to the end of June.

Also, we will be electing our new board at the June meeting. All members are encouraged to make nominations for the board. Please submit nominations to one or more of the current board before the May 23rd board meeting so we can prepare a slate to be presented via email before the June meeting as well as at the June meeting. All nominated persons will be given a chance to accept or reject their nomination.

73

Bill - AB6BW



# A Low-Cost Dipole Antenna System for Motor Homes

By Mike Tweedy, KV6I

A couple of years ago, I bought a previously owned 32-foot Class-A motor home for camping since my XYL and I love to go camping. The only problem was I wasn't sure how to install a HF antenna system since my earlier (and much smaller) Class-C motor home had an aluminum roof where I mounted a vertical antenna on top where the roof acted as a counterpoise element for the antenna. The "newer" motor home that I had now bought had a non-metallic roof where I was unable to utilize the previous type of antenna configuration so I tried to determine whether I would be successful in using an elevated dipole type of antenna instead.

It turns out that MFJ Enterprises offers a small dipole-type antenna system utilizing a mini-dipole mount and a pair of matching hamstick-type antennas for about \$53 (e.g. MFJ-2220). As for a mast, you can join together several 5-foot 1.25" O.D. steel mast sections or use cheaper PVC pipe which I chose to use. For my project I bought two 10-ft. lengths of 1-1/2" Schedule 40 PVC pipe (SKU# 70011N) from Home Depot for less than \$7 each. I took one of the 10-ft. lengths and sawed it in half to make two 5-ft. sections. I then used a 1-1/2" PVC coupler to glue together one of the 5-ft. sections to the remaining 10-ft. section to create a 15-ft. mast. I used a series of PVC pipe reducers to neck down the end of



Figure 1 - Top End of Mast Construction

diameter of a 1-1/2" PVC pipe is nearly 2" in diameter. The key feature of the Flag Pole Buddy system is a slotted upper mast mount that allows you to slide the antenna mast into the diagonal slot and then rotate it vertically to lock the upper section of the mast in place (see Fig. 2). The bottom end of the mast can then be lowered into a cup mount that attaches to the bottom half of the ladder (see Fig. 3). The Flag Pole Buddy is



the mast to terminate with a short section of 3/4" PVC pipe that the dipole mount assembly can clamp to (see Fig. 1). If you cannot find the required type of PVC pipe reducers at your local plumbing store, they can be purchased directly online from McMaster-Carr ([www.mcmaster.com](http://www.mcmaster.com)).

To install the antenna and mast assembly to the motor home, you need some way to easily attach it to a support structure such as the ladder that most motor homes or RVs have at the rear of the vehicle. Since I am not as young and limber as I used to be to climb the ladder and mechanically attach it to the ladder itself, I was looking for quick and easy way to install it from the ground with minimal hassle. It turns out that Flag Pole Buddy ([www.flagpolebuddy.com](http://www.flagpolebuddy.com)) makes a system that allows you to quickly mount the antenna and mast assembly to the ladder in only a few minutes. They offer two sizes of mast mounts; a 1-1/2" diameter and a 2" diameter. For my project I chose to use the larger 2" size (P/N 106020-M) since the outer

also offered at a discount price of less than \$60 from the DX Store ([www.dxstore.com/rv\\_ladder\\_antenna\\_mount.html](http://www.dxstore.com/rv_ladder_antenna_mount.html)) under P/N 106201 for the 2" diameter mount that I used.

When threading the antenna elements to the mount assembly, I found it helpful to apply a little wax to the Hamstick threads to allow easy assembly and removal without binding. The total height of the antenna with the 15-ft. mast is about 20 feet since the bottom cup mount is about 5 feet off the ground. This height may be adequate for the 10 and 15 meter operation but ideally the antenna should be placed a bit higher for 20 meters.



**Figure 3 - Bottom Mast Mount**

To accomplish this, I made a 5-ft. extender pole using the remaining 5 foot length of the 1-1/2" diameter pipe to push the antenna assembly to about 25 feet high which is about the max limit the Flag Pole Buddy system can handle. As shown in Fig. 4, the extender pole is terminated with a short section of 2.0" PVC pipe approximately a foot long designed to provide a slip-fit engagement to the bottom end of the 15-ft. mast while maintaining rigidity of the entire structure when elevated in place. If you prefer to tighten the clearance fit even further, you can wrap several layers of adhesive-backed Teflon tape (McMaster Carr P/N 76475A34) to the mast prior to inserting into the extender pole cup to make a more snug fit but without risk of binding.

For coax, I chose readily available and inexpensive RG-58 cable which has relatively low loss on HF bands for a short 50-ft. length.

Because coax cable is considered an unbalanced feedline compared to a balanced feedline such as ladder line or twin-lead, there may be undesirable RF common-mode currents flowing on the shield side of the coax. To ameliorate this condition it is frequently recommended to create a coax balun choke using several loops of the coax close to the antenna feedpoint. Since I didn't want to make the antenna any more top-heavy than normal, I chose the alternate method of installing ferrite snap-on chokes to the coax near the antenna feedpoint. A kit of five snap-on RF chokes can be purchased for about \$15 from Palomar Engineers ([www.palomar-engineers.com](http://www.palomar-engineers.com)) as P/N SNO-1/4 -5. A picture of the ferrite choke string installed and taped in place on the coax is shown in Fig. 5.



**Figure 2 - Detail of Upper Slotted Mount**



**Figure 4 - Mast Extender**

The Hamsticks I chose to use for checkout and testing were for the 20m band since that is the HF band I generally work the most. After mounting the mast and antenna to the desired 25-ft. height, I used an antenna analyzer such as a MFJ-259C or Comet CAA500 unit to tune the antenna for minimum SWR. After loosening the setscrew and adjusting the antenna length by either extending or retracting the elements before tightening, I was able to achieve a reasonable SWR of 1.7:1. This can easily be tolerated by most modern day HF rigs but as an added precaution I also used an LDG



Figure 5 - Ferrite Chokes Installed on Coax

AT-100Pro antenna tuner with my Yaesu FT-100D radio as part of my mobile setup (See Fig. 6). A picture taken of the fully assembled mini-dipole antenna raised to the maximum 25 ft. high is shown in Fig. 7.

Every Wednesday at



Figure 6 - Motor home Rig w/ Optional Tuner

noon, I normally operate my base station at home and participate in the Northrop Grumman Family Net on 14.270 MHz which is an open net for active and retired Northrop Grumman employees of which I am one. On 4/10/19, I operated from my motor home parked in my driveway which admittedly was not the best location considering I was parked between a pair of 2-story houses. I was successful, however, in joining the HF net and received an S-5 signal report from the K3NEM net control operator in Linthicum, Maryland which I consider quite acceptable under the circumstances. For comparison purposes, I do generally get a signal report of S-7 or better when operating from my home QTH but in those instances I am aided by using a 500 watt linear amplifier and a roof-mounted Inverted-Vee antenna extending some 20 feet above my two-story house.



For traveling in my motor home, I found I could easily stow the longer 15-ft. section of the mast underneath the RV by sliding it between the gas tank mounting straps and over the rear axle and securing it in place with a pair of heavy-duty bungee cords. A picture of the stowed configuration is shown in Figures 8 and 9. Similarly, the 5 ft. extender pole and the two dipole elements can easily be stored inside the motor home.



Figure 8 - Secured Mast Assembly for Travel



Figure 9 - Stowed Mast Location under RV

Wishing everyone Happy Camping and good DX hunting!  
73's de Mike KV6I

## White Elephant Sale

Bring your surplus stuff to sale on the white elephant table at our spring picnic on Saturday May 25. The rules are simple. Negotiate your sale and donate 50% to SSARC.



**Simi Settlers Amateur Radio Club  
General Membership Meeting, April 11, 2019**

(Secretary's Note: I was absent from the April meeting. I put the following report together from notes taken by our Webmaster, Jim Parker, KJ6LXJ. Thank you, Jim!)

Call to Order: The meeting was called to order at approximately 7:00 pm by President, Bill Woods, AB6BW. Bill welcomed everyone to the meeting, held at the Simi Valley Senior Center. There was a recitation of The Pledge of Allegiance. 9 Officers and Board Members/Advisors were present. The total attendance was 24 with 2 visitors.

Treasurers Report: Glenn Daly, WA6GNB, reported our account balance. The report as given was approved by a motion, MSP.

Meeting minutes: The minutes of the March 14 meeting were approved as published in the Newsletter.

Announcements: Rick Galbraith reported that Larry Pyle, AD6ST, who has been in the hospital, is doing better, much improved. There were positive comments about the last Pizza night, saying attendance was good.

Field Day: Vern Potter, W6NCT, spoke about Field Day and said we will not have an organized Saturday night dinner arranged this year.

Program: President Bill Woods, AB6BW, gave a demonstration of his home station running FT8, by remote control operation. He then made a slide presentation showing the software features of the program he uses for the FT8 mode.

Break: A break was taken, with refreshments provided by Bill Everett, KI6KSV.

Member Drawing: The progressive Membership drawing was held. The winning name member was not present to win the \$10 prize. The prize amount will therefore increase to \$20.00 for our May 9, 2019 meeting. Members must be present to win, and the prize grows by \$10 each month it is unclaimed.

May Meeting: Our next meeting will be on Thursday, May 9, 2019, with a scheduled presentation by Eric Oberg, KE6MLF, about the Bit-X SSB QRP radio.

Adjournment: The meeting was adjourned shortly before 9pm.

Submitted by: Secretary, John Percival, WI6O



## Simi North Mesh Update - Bill - AB6BW

Orv (W6BI) recruited me as his ground guy during the recent upgrade of the 5 GHz Mesh Node at Simi North. Orv changed out the Nanostation M5 for a Rocket M5 with a sector antenna. As you can see from the picture of Orv on the tower, he chose a nice calm day with only slight wind and no cloud cover. My main responsibility was to call 911 if Orv got blown off the tower and into the adjacent property. You can see the sector antenna propped against the equipment cabinet in the "before" shot and then gracing the top of the mast in the "after" shot. The upgrade increased the coverage from 45 degrees with the Nanostation to 120 degrees. It is aimed SSW so it should provide better coverage to the SW section of Simi. My QTH is SE of the site and I show a very significant improvement.

Thanks Orv.



## Letter From The Editor

Please submit articles, pictures, etc. on things of interest to our SSARC community for publication to me at [ab6bw1@gmail.com](mailto:ab6bw1@gmail.com). Such items may discuss your recent antenna project, shack modifications, new operating modes, anecdotes from portable field operations, and so forth. A picture with a caption works. A few sentences strung together works. A few paragraphs, a few pages with detailed illustrations.... It's all good. I look forward (with a wee bit of trepidation) to your submissions. **Submission Deadline is Sunday night before 1<sup>st</sup> Thursday!**

73, Bill (AB6BW)

Simi Settlers' Amateur Radio Club Web Page: <http://www.simisetters.org/index.htm>

Simi Settlers' ARC Yahoo Group: <http://groups.yahoo.com/group/SimiSettlersARC>

Mail: P.O. Box 2125 Simi Valley, CA 93062-2125

Simi Settlers' Leadership				
<b>President</b>	Bill Woods	AB6BW	(818) 694-9019 cell	<a href="mailto:ab6bw1@gmail.com">ab6bw1@gmail.com</a>
<b>Vice President</b>	Jim Veronica	WA6NXX	(818) 389-3453	<a href="mailto:james4424422@gmail.com">james4424422@gmail.com</a>
<b>Secretary</b>	John Percival	WI6O		<a href="mailto:percivaljohns@cs.com">percivaljohns@cs.com</a>
<b>Treasurer</b>	Glenn Daly	WA6GNB		<a href="mailto:gmb.2112@yahoo.com">gmb.2112@yahoo.com</a>
Committee Chairpersons				
<b>Webmaster</b>	Jim Parker	KJ6LXJ	(805) 368-6745 cell	<a href="mailto:kj6lxj@gmail.com">kj6lxj@gmail.com</a>
<b>Newsletter</b>	Bill Woods	AB6BW	(818) 694-9019 cell	<a href="mailto:ab6bw1@gmail.com">ab6bw1@gmail.com</a>
<b>Membership</b>	Jim Parker	KJ6LXJ	(805) 368-6745 cell	<a href="mailto:kj6lxj@gmail.com">kj6lxj@gmail.com</a>
<b>PIO</b>	Linda Parker		(805) 558-1731 cell	<a href="mailto:kj6lxj@gmail.com">kj6lxj@gmail.com</a>
<b>Raffle Prizes</b>	Jim Hutchinson	KI6MZ		<a href="mailto:jhutch17@adelphia.net">jhutch17@adelphia.net</a>
<b>Historian</b>	Mike Tweedy	KV6I		<a href="mailto:mtweedy@roadrunner.com">mtweedy@roadrunner.com</a>
<b>Net Coordinator</b>	Brian Hernandez	KM6MIN	(805) 813-7595	<a href="mailto:behxxvii@yahoo.com">behxxvii@yahoo.com</a>
<b>Food Services</b>	Bill Everett	KI6KSV		<a href="mailto:ki6ksv@gmail.com">ki6ksv@gmail.com</a>
<b>Room Coordinator</b>	Linda Parker		(805) 558-1731 cell	<a href="mailto:kj6lxj@gmail.com">kj6lxj@gmail.com</a>
Elmers and Members at Large				
<b>Past-President</b>	Mike Hasenfratz	WA6FXT	(805) 405-8696	<a href="mailto:mikeh@tothe.net">mikeh@tothe.net</a>
<b>Past-Treasurer</b>	Norbert Rehaut	W9YPM(SK)		
<b>Advisor</b>	Bill Everett	KI6KSV		<a href="mailto:ki6ksv@gmail.com">ki6ksv@gmail.com</a>
<b>Advisor</b>	Jim Hutchinson	KI6MZ		<a href="mailto:jhutch17@adelphia.net">jhutch17@adelphia.net</a>
<b>Advisor</b>	Brad Rife	KI6KSY		<a href="mailto:speedy@earthlink.net">speedy@earthlink.net</a>

**Simi Settlers Amateur Radio Club**

P.O. Box 2125 Simi Valley, Ca 93062-2125 --- (www.simisetters.org)

**Membership Application**



**Type of Application:**

New Member   
Renewal

**Type of Membership:**

Individual (\$18/yr)   
Family (\$20/yr)

Name: \_\_\_\_\_ Day & Month of Birth: \_\_\_\_\_  
(Omit year)

Call: \_\_\_\_\_ Class: \_\_\_\_\_ ARRL: Yes  No

Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: (\_\_\_\_) \_\_\_\_\_ Alt. Phone: (\_\_\_\_) \_\_\_\_\_

E-Mail Address: \_\_\_\_\_

**Additional Family Members:**

Name: \_\_\_\_\_ Day & Month of Birth: \_\_\_\_\_  
(Omit year)

Call: \_\_\_\_\_ Class: \_\_\_\_\_ ARRL: Yes  No

Name: \_\_\_\_\_ Day & Month of Birth: \_\_\_\_\_  
(Omit year)

Call: \_\_\_\_\_ Class: \_\_\_\_\_ ARRL: Yes  No

Name: \_\_\_\_\_ Day & Month of Birth: \_\_\_\_\_  
(Omit year)

Call: \_\_\_\_\_ Class: \_\_\_\_\_ ARRL: Yes  No

Badges requested: Yes  No  How many? \_\_\_\_\_ X \$18.00 = \$ \_\_\_\_\_

Name (s) Call(s): \_\_\_\_\_

Shirts requested: Yes  No  How many? \_\_\_\_\_ X \$35.00 = \$ \_\_\_\_\_

Name (s) Call(s) Size(s) (Sm, Med, L, XL, etc): \_\_\_\_\_

Jackets Requested: Yes  No  How many? \_\_\_\_\_ X \$88.00 = \$ \_\_\_\_\_

Name (s) Call(s) Size(s) (Sm, Med, L, XL, etc): \_\_\_\_\_

**OFFICE USE ONLY**

Application type: New  Renewal  Membership type: Individual  Family

Date Received: \_\_\_\_\_ Amount Received: \_\_\_\_\_ Database completed: \_\_\_\_\_

Badges and Shirts ordered: \_\_\_\_\_