

Pleasant Valley Amateur Radio Club Update February 21, 2021

Hello All,

I have some PVARC project updates I would like to share with you.

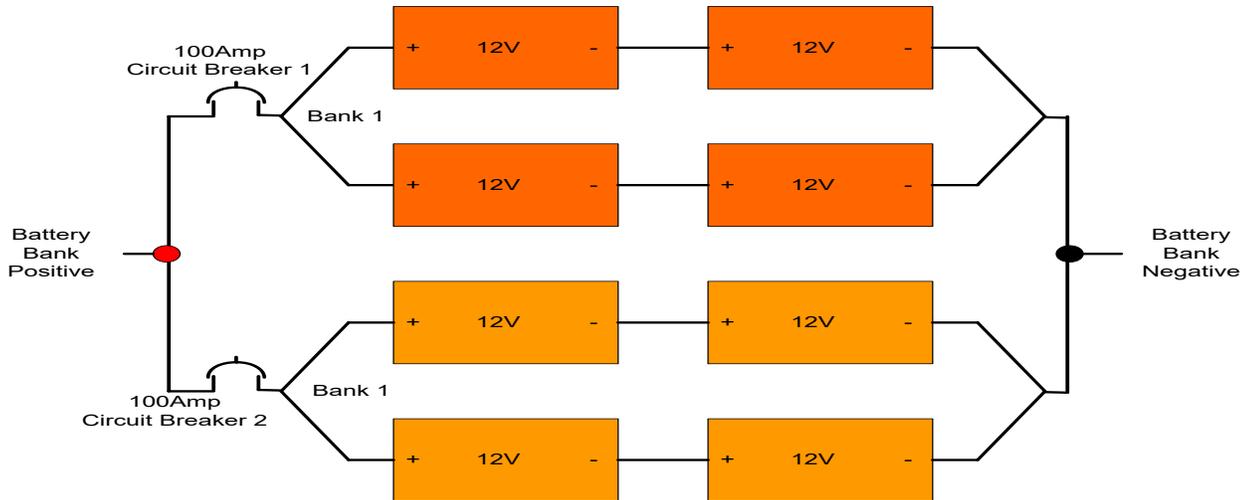
Sulphur Mtn

I am happy to report that on Wednesday February 17, 2021 the eight (8) new AGM batteries were installed for a total battery potential of 1,040 amps. This is twice the battery capacity of the expired 6 volt Golf cart battery system.

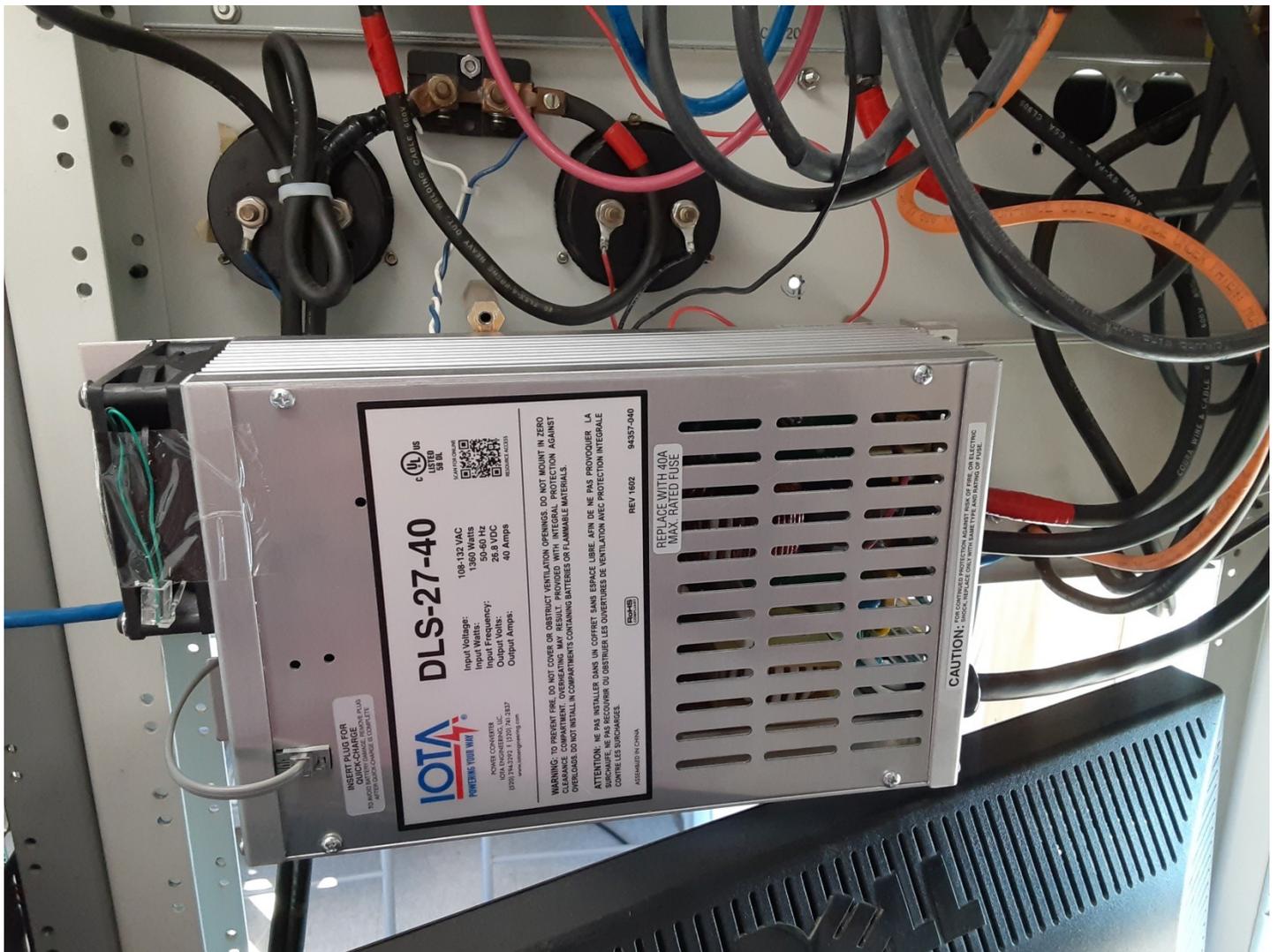


Great care was taken in how the battery bank was interconnected. The goal was to have equal lengths of appropriate gauge wire to provide a balanced charge/discharge of the batteries. That being said it does sometimes come to a tradeoff of cost, physical space available and practicality. If you notice in the photo the group summing of the negative lead slightly favoring one bank.

Sulphur Mtn is a 24 volt power system utilizing a Samlex 60amp 24v to 12 volt DC-DC converter.



The original 24 volt 25 amp power supply/charger was also upgraded to a 45 amp unit. This new higher current power unit will allow discharged batteries a faster recovery time. The new provided unit has provides a charging profile specifically tailored for AGM batteries. Teamed with the site 30 amp solar system provides a daytime charging potential of 75 amps.



So why is there such a high amount the potential amp's. Good question. If there was no load on the batteries the battery bank was discharged to 50%, with the power supply alone the batteries would take 11.5 hours to charge. The additional daytime 30 amp potential from the solar system the batteries would be fully charged in just 7 hours. These battery recovery charge times are an important consideration during sustained power outages or Power Safety Power Outages. If there were a major power outage and the sky was smoke filled so the solar system could not charge, Sulphur Mtn should maintain operational for 3-4 days. Enough time to get to the site with a generator or a fan to blow away the smoke.

I want to thank the Ojai Valley Amateur Radio Club for their generosity in donating the funds for these batteries. I would also like to thank John Cuthbert AC6BR and his Son-In-Law Damon Brink for their hard work in physically moving the new batteries, removing the old batteries and interconnecting the battery banks. Thank you all.

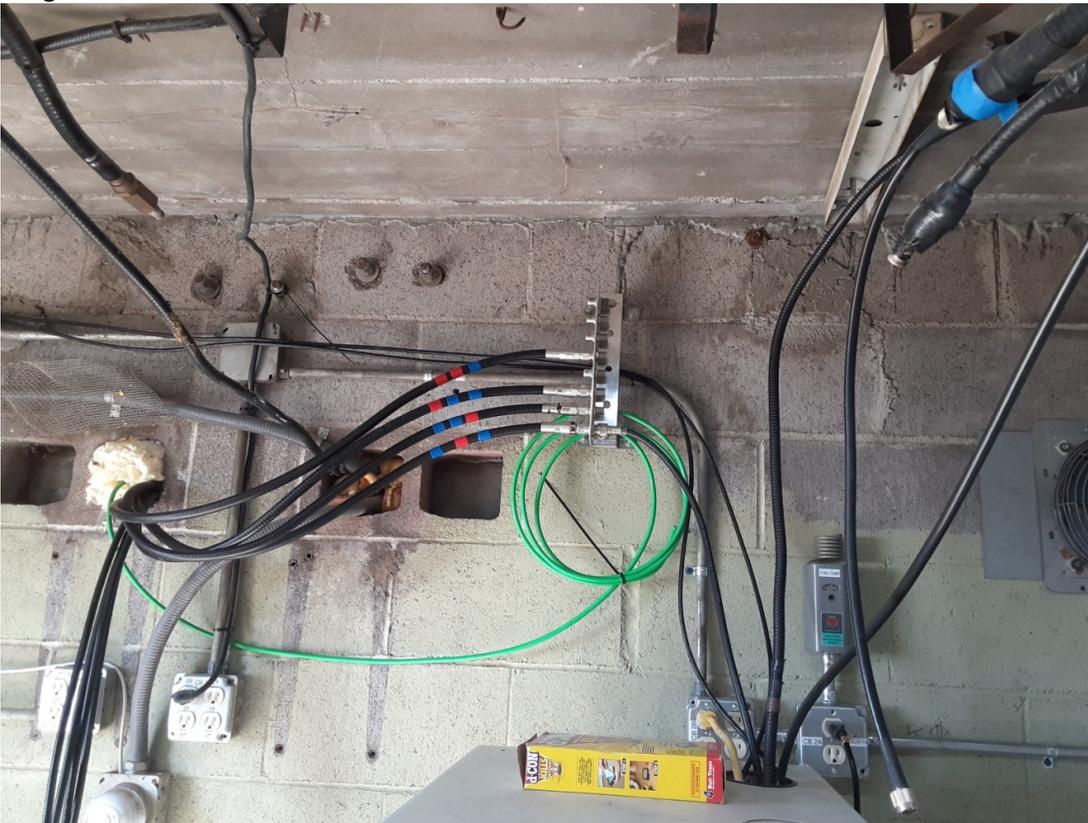
South Mtn

Today Saturday February 20, 2021 Eric Satterlee KG6WXC and I traveled to the new South Mtn site to perform the remainder of the prep work for the upcoming repeater installation. The day started out a bit windy on the hilltop and was very cool in the shade. It wasn't until early afternoon that the day warmed up.

Several tasks were completed. First after careful consideration we relocating the antenna feed line termination bracket higher on the wall. After learning how to properly install a Hilti anchor into a concrete block the anchors were set and the termination block was set. The simplest things can sometimes be the most frustrating.

With the termination mounted we started trimming the LDF4-50 feed lines and attaching the Commscope Positive Stop "N" Male connectors. This too proved to be very frustrating. These connectors were proving difficult to install but we were finally successful and connected the four cables to the termination block.

We ran out of time to shorten and install new connectors for the $\frac{3}{4}$ superflex cables. This actually turned out for the best as talking to experts later in the day; they too have had poor success with these superflex connectors. Until we can figure this out I will leave the factory built cables long and dress them to the desired lengths at a later date. It was also discussed replacing these superflex cables with RG214 cables which I am very much considering. Next trip I will connect the ground cable.



In preparation of the permanent system being installed Eric and I removed the temporary UHF repeater system and all of the temporary network equipment.

I want to thank Eric KG6WXC for picking me up at my house and driving us and all of today's equipment and tools to the hilltop and back home again safely.

Saturday March 6, 2021

The new repeater system is scheduled be installed on Saturday March 6, 2021. I look forward to moving this system this out of my garage and start another project. As the path from the vehicle parking area to the building is sketchy, the safest approach is to remove the majority of the equipment from the rack and reinstall it all once the rack is safely installed in the building. Moving the rack and its contents will take a team of at least six to seven people with strong backs. I expect this instillation to take a good part of the day. I will start planning and recruiting personnel on Monday February 22nd. I plan for most folks to be able to leave the site once all equipment is in the building. For me and a couple of other lucky individuals this will be an all day project.

This new system will provide the following services:

- UHF Repeater 447.480 MHz Input and output PL 141.3 Hz
- VHF Repeater 147.060 MHz Input and output PL 127.3 Hz
- 420 MHz Link to Camarillo Hills
- 420 MHz Link to Chatsworth Peak
- 420 MHz Link to Sulphur Mtn
- 420 MHz Link to Santa Ynez Peak
- RIOP (Radio over IP) on demand Link to the Bozo Repeater and backup connection to 145.16 Santa Ynez Peak
- WinLink Server (Win10) with access available from the Mesh, 220 MHz packet and the Internet
 - Keith W6KME has agreed to be the WinLink system manager
- Mesh resource server (Debian)
 - Orv W6BI and Eric KG6WXC have agreed to be the Debian system managers

Saturday March 19, 2021

This visit will complete the upgrade and reconfiguration project of the Sulphur Mtn repeater system. Thou It has taken much longer than I anticipated, I am very pleased with the final results.

The plan for the day is:

- Install a compatible new model repeater controller and align the system audio
- Tune and install new band pass cavities for the UHF repeater receiver and for the South Mtn 420 Link receiver
- Install the new 420 MHz Link package to interconnect the new South Mtn repeater
- Evaluate the removal and addition of antennas on the tower. This antenna work will be a summer project.
- Update the firmware for the MorningStar MPPT-60 Solar Charge Controller

I want to thank all those who have supported the Pleasant Valley Amateur Radio Club. If there are any questions or concern please free to contact me.

Thank you all for your time

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