

SHACKNEWS

HIGHVELD AMATEUR RADIO CLUB

PO Box 1111, Bedfordview, 2008


June 2005

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Sunday morning BULLETINS - 145.7875 MHz &  Hz @ ±08h45.

COMMUNICATION IS THE NAME OF THE GAME

Meeting. A most interesting technical discussion took place on various subjects near to the radio amateurs heart e.g. how to test a SWR bridge and “**how good is your SWR bridge**” to name one of them. These types of discussion sessions seem to be very popular and will form the centre of meetings for a while. Also please remember to bring along any interesting and oddball portable radios to the meeting – if you have one.

SSC The last get together took place at the QTH of Tom, ZR6SWL, which is situated in Klipriver. A good turn out of members was present and thanks to Tom and Cathy for the excellent catering. We saw how Tom does his bit in the shack as well as his salt mine activities. Next meeting at Norman’s QTH. Details on P4



Tom's shack- ZR6SWL



A corner of Ton's shack – ZS6ANA

Can the lead-acid battery compete in modern times? Part 2

Unlike nickel-cadmium, the lead-acid does not like deep cycling. A full discharge causes extra strain and each cycle robs the battery of a small amount of capacity. This wear-down characteristic also applies to other battery chemistries in varying degrees. To prevent the battery from being stressed through repetitive deep discharge, a larger battery is recommended.

Depending on the depth of discharge and operating temperature, the sealed lead-acid provides 200 to 300 discharge/charge cycles. The primary reason for its relatively short cycle life is grid corrosion of the positive electrode, depletion of the active material and expansion of the positive plates. These changes are most prevalent at higher operating temperatures. Cycling does not prevent or reverse the trend.

The optimum operating temperature for the lead-acid battery is 25°C (77°F). As a guideline, every 8°C (15°F) rise in temperature will cut the battery life in half. VRLA, which would last for 10 years at 25°C (77°F), will only be good for 5 years if operated at 33°C (95°F). Theoretically the same battery would endure a little more than one year at a desert temperature of 42°C (107°F).

Among modern rechargeable batteries, the lead-acid battery family has the lowest energy density, making it unsuitable for handheld devices that demand compact size. In addition, performance at low temperatures is poor.

The sealed lead-acid battery is rated at a 5-hour discharge or 0.2C. Some batteries are rated at a slow 20-hour discharge. Longer discharge times produce higher capacity readings. The lead-acid performs well on high load currents. During these pulses, discharge rates well in excess of 1C can be drawn.

In terms of disposal, the lead-acid is less harmful than nickel-cadmium but the high lead content and the electrolyte make the lead-acid environmentally unfriendly.

Advantages

Inexpensive and simple to manufacture.

Mature, reliable and well-understood technology - when used correctly, lead-acid is durable and provides dependable service.

The self-discharge is among the lowest of rechargeable battery systems.

Low maintenance requirements - no memory; no electrolyte to fill on sealed version.

Capable of high discharge rates.

Limitations

Low energy density - poor weight-to-energy ratio limits use to stationary and wheeled applications.

Cannot be stored in a discharged condition - the cell voltage should never drop below 2.10V.

Allows only a limited number of full discharge cycles - well suited for standby applications that require only occasional deep discharges.
Lead content and electrolyte make the battery environmentally unfriendly.
Transportation restrictions on flooded lead acid - there are environmental concerns regarding spillage. Thermal runaway can occur with improper charging

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REASONS WHY ALCOHOL IS GOOD FOR THE HUMAN SPECIES -1

"Sometimes when I reflect back on all the wine I drink I feel shamed. Then I look into the glass and think about the workers in the vineyards and all of their hopes and dreams. If I didn't drink this wine, they might be out of work and their dreams would be shattered. Then I say to myself, "It is better that I drink this wine and let their dreams come true than be selfish and worry about my liver."

~ Jack Handy

WARNING: The consumption of alcohol may create the illusion that you are tougher, smarter, faster and better looking than most people.

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Guess who at 12 years old?

