

Rathbone Energy

About Your Digital Battery Problems and an Alternative Investment

I have a lot to explain to you. Information that you should know as you prepare short term and long term budgets. Also please check out our V-Mount article and why we think V-Mount is a much better option. We have gold to V adaptors.

About Your Digital Battery Problems:

We have been rebuilding the AB battery packs since 1989.

Important: The more digital components that are added to any battery, the higher the frequency of failure.

Of course, between the belief in high end marketing / propaganda campaigns and the fact that the end user or broadcast engineer knows nothing about battery pack behavior in the first place, except what the supplier tells them, the end user is very pleased with these batteries. And then there is the groupie group you find in forums for those with no work. You know, We rubbed shoulders once, they know my name, be my face book friend, etc.

From a battery assembler and rebuilder point of view and a company that has opened thousands of these batteries, that is us, our opinion is that this brand would be our last option.

When opening the dead or defective Digital battery packs of this video supplier we discover a multitude of different reasons for reduced performance or failure.

Test: After rebuilding these batteries but before enclosing them in the complete enclosure we run full test on Anton Bauer 2702 units with the enclosed DDM.

The second window display of the AB 2702 with DDM provides the most important information about the battery on each channel and most users do not understand how to use the smart charger or the meaning of the charge method, explained below, primarily because they do NOT read the manuals.

When you press the channel select button on the AB 2702 with DDM, you hold the display button down for about 4 seconds. The second window appears and the reading in the lower right hand corner should read the MOST IMPORTANT information about your battery: It should display the preferred charging method for that chemical which is the method that is going to produce the best final capacity reading for that particular digital battery.

Nickel Cadmium: Negative delta V for optimum performance.

Nickel Metal Hydride: dt/DT (Delta Time)

Lithium Ion: Imin, (Current Voltage charge method)

If that lower right hand reading in the second display window shows:

TCO: Temperature Cutoff Method

VCO; Voltage Cut Off Method

CCO: Current Cut Off Method

Then the battery digital components are not properly communicating, (optimum communication), what the charger wants to hear. Or, there is a pinched wire, solder joint break, circuit board damage, component damage, corrosion or other reason causing the communication break down. Therefore the charger drops to a back up charge routine. Read the owner's manual of the battery and the charger for exact detail. Their chargers with the LED read outs do not offer this information.

Each drop in the back up charge option is going to give less than the preferred final capacity to the battery.

The more often this happens the sooner you will see a drop in performance in the battery and the sooner the battery insert or battery will need to be replaced. This is also cause for unbalanced cells.

Some of these problems we did repair here. Others we could not because of the cost factor involved.

On many occasions we also find broken weld tabs. The original cells were still fine but because of engineering design considerations from the designers, the weld tabs are under unnecessary stress. Either way, the case is open and the client is out the money so we go forward with the rebuild.

HOLD: If the display reads "HOLD" try cleaning the button contacts of the battery. Hold can also mean a problem with a temperature sensor and that is something not to ignore and can be dangerous! Also, read our PDF regarding "Hold" issues

To address your particular Dionic, Hytron, and ProPac issues:

1. **We will NO longer rebuild** the Anton Bauer product line including the Dionic 90 and 160 Lithium Ion Batteries. Instead Upgrade to Rathbone Broadcast and Film Lithium Ion Gold Mount Series Batteries which are equal to or exceed to Anton Bauer batteries at a substantial savings. Email: sales@rathboneenergy.com or call: 865-484-1783
 - a. Or by use of adaptor plates or replacement mounting brackets **upgrade to V-Mount technology**. Read the V-Mount article for excellent reasons.
2. **We are a battery assembler** in business since 1989. It has been our detailed experience with these particular batteries that after all our checks are carefully finished and the new insert installed, still, a large percentage of these batteries, **estimated at >60%, do NOT pass** the Auto-Cal or Test mode of Anton Bauer 2702 chargers with the internal Dynamic Discharge Module (DDM) **because** they came in with internal circuit board damage that can only be discovered after a new insert is installed.
3. **We loose** all our time consuming labor, (\$\$\$), and we must contact the client for another shell, and we cover the labor to place the insert in a second or third shell.
4. **We are** a custom assembler.
 - a. **If we are welding** dry cell lead acid, nickel cadmium or nickel metal hydride battery cells together and we miss a hit with the welder a battery

cell gets a hole blown in it, the weld tips are blown (\$\$), someone gets the poop scared out of them and their nerves are shot for the rest of that day. But, they get back on the horse the next day.

- b. **If we miss a hit** on a lithium ion battery cell someone gets hurt. These cells need to be welded together in an automated assembly line. If something goes wrong the assembly line absorbs the damage. I do not have automated assembly lines yet, much \$\$\$.
 - c. **This is the second of two reasons** my lithium ion battery packs are assembled for me in China, (until I find an alternate country with the proper equipment), using only the best LG Chem, Panasonic, and Sanyo lithium ion battery cells and the 2.5 cent components instead of the .01 cent components.
 - d. **The first reason was** my years of attempts in the USA to get tooling done for battery cases for a reasonable fee and continued to get quotations of > \$30,000.00 per tool. So, like all the others had already done years earlier, we went off shore.
 - e. Our [Rathbone Energy Lithium Ion batteries](#) are built differently:
 - 1. **We have streamlined** the internal circuitry of our batteries and they to have built in protection circuitry to ensure the highest degree of safety operation. They are STILL Lithium Ion.
 - 2. **By streamlining** our batteries circuits we remove unnecessary components that might be used to force someone's battery to only work with one brand charger.
 - 3. **Unnecessary components** that have nothing to do with the safety of the battery only increase the chance that the battery will fail prematurely because of unnecessary components being damaged when a battery is jolted or dropped.
5. **We have been contacted** by several guys running these Battery Recelling / Rebuilding / Refill fly by's wanting to purchase inserts through us.
- a. **These guys make a lot of money!** They are paying +/- .70 per cell for Chinese cells used in the inserts built for them by an assembler where we, as an assembler, would be paying +/- \$6.20 per cell.
 - b. **Some buy in bulk** from VAR's who have left-over stock reduced in price for fast movement. Cells that are old, many times defunct models, and have been sitting on the shelf for long periods, (even years) of time.
 - d. **Manufacturers engineering** specification sheets show a possible battery cell shelf life of up to ten years IF the cells are properly stored.
 - e. **Understand that even though** you will get performance out of a properly stored two year old cell, you will not get peak or optimum performance. And most battery packs are never properly stored.
 - f. **March 2009: I was contacted** by a station that had 35 dead Dionic 90 batteries that new, were shelved, never taken from the box, and according to the Chief Engineer, were dead. He replaced them with 28 new and fresh Rathbone Lithium Ion Batteries.
4. **We will NO longer rebuild your Dionic 90 Gold Mount batteries.**

5. **We will use ONLY the very best cells available and usually greatly exceeding OEM standards.**
6. **We purchase ONLY** LG Chem, Panasonic, and Sanyo cells. Available in good, better, and best options, we purchase only the higher durability of those cells and then the highest amperage of the higher durability.
7. **The damage these fly-by guys** do to the fine art of rebuilding / recelling batteries is ugly. On a regular basis we hear feedback that goes something like: "Yea, we had some of our batteries rebuilt / recelled once, real cheap, and after that they were C __ p. We won't do that again. The life cycles only lasted a short time and the performance per cycle was reduced. "
8. **These type vendors** place a bad name on a great alternative to new packs in other industries.
9. **Our specifications** meet and exceed OEM specifications and the warranty. In this industry you really do get what you pay for.
10. **Lately we have noticed** some cheaper off the shelf OEM alternative batteries that are made in China with Chinese cells. We would never recommend them.
11. **Note: When you buy new laptops** buy ALL of your additional OEM laptop batteries at the time of purchase. Stay away from aftermarket or recell of laptop batteries for all the same reasons and more not listed.
12. **Stay away from Power Tool** battery rebuilds for the same reasons.

I always sold a premium rebuild and never anything less. In 2008, shortly after another fly by refill company came on stage, I started getting calls from clients who either could not understand or just thought that dangling a dollar in front of me would get a premium rebuild for less than half price. So, on the same page of each rebuild web page I set up two choices. My premium rebuild and what they get for that price and then an economy rebuild (crap) and what they get for that refill price.

Since then only two rebuild clients sent in batteries for the economy rebuild. This year I have had a few clients not wanting Li-ON, go for the "refill. Each client has already called back with defective refilled batteries that lasted an average of 3-6 months with a constant degrading performance ration. EACH CONFESSES, "Ron, just like you had already told me would happen..."

So, I am not yelling here and you can pass this along:

DO NOT DO A "REFILL".

THEY USE CONSUMER GRADE CHINESE CELLS MANUFACTURED IN CHINESE FACTORIES UNDER CHINESE MANAGEMENT, NO MATTER WHAT "AMERICAN" OR "SOUTH AFRICAN" NAME IS ON THE LABEL!

THEY DO NOT PLASTIC WELD THE CASES.

THE WORK IS TERRIBLE, LIKE ON MY AMATEUR PAGE.

THEY DO NOT TEST THE BATTERIES ON ANTON BAUER 2702'S WITH DDM.

THEY HAVE NO CLUE WHAT THEY ARE OR HOW THEY WORK.

THEY ARE NOT A TRUE BATTERY ASSEMBLER.

THEIR PRIMARY FOCUS IS ON A MARKET I DROPPED IN 1994 BECAUSE OF THE CRAP PUT OUT BY THE FACTORIES AND AFTERMARKET COMPANIES. LAPTOP BATTERIES.

THAT IS JUST A FEW REASONS OF A LOT MORE.

Sometime after the first of the year I am moving the existing Li-ON price structure to dealer pricing with a minimum \$3,000.00 per order minimum to help me quicker get to my minimums.

We are a battery insert and pack assembler for many industries since 1989.

Volume battery assemblers such as us are considered value added assemblers.

My company is different because I have never required a minimum \$5,000.00 battery cell or insert order but am now leaning that way because of the economy.

We are the only value added assembler in the United States that actually does rebuilding of battery packs.

Thank you for thinking of me.

Sincerely,

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www.rathbonebroadcastbatteries.com (Strictly Broadcast Batteries)

www.rathboneenergy.com (Detailed Product Information for infinite industries)

www.rathboneenergy.biz (On-Line Broadcast Store with On-line Specials)

There's a better way - rathboneenergy.com - when cell quality is paramount.