

Rathbone Energy, Inc.

Our Position on Nickel Cadmium Battery Cells

First the Nickel Cadmium Batteries: I have listed a recycle contact for you just below. As you budget and do your 3 year and 5 year battery plans please consider this Important Information regarding rebuilding or recelling **Any nickel cadmium** battery including ProPac, TrimPac, ComPac, 30/13, Power Strap, and Proformer:

Rathbone Energy is an Environmentally Conscious Company striving to stay Green. Nickel Cadmium battery cells are environmentally unfriendly. You cannot use nickel cadmium battery cells and qualify as "Green"

With Our Own line of Rathbone Lithium Ion Broadcast Battery packs, Rathbone Energy has phased out new assembly and rebuilding with **nickel cadmium** battery cells, no longer supporting the rebuild or recell of Original Equipment Manufacturer (OEM), **nickel cadmium** battery products.

Being "the only Battery Assembler" Worldwide that supports rebuilding battery packs, we understand that this will create the image of a hardship on those invested in nickel cadmium but this is a change that must/will happen to your inventory and we offer what we feel is the best solution upgrading your battery inventory to a higher level at the very best possible savings to you.

Thanks to International Environmental Concerns and the good laws of other countries, our battery cell manufacturers have already started to phase nickel cadmium from their manufacturing lines. Panasonic did so four years ago and Sanyo is following now in 2009. Starting in 2009, you can no longer sell nickel cadmium products in Europe and they have new laws regarding the disposal of nickel cadmium battery cells manufactured / assembled after 01/01/2009 that land on their soil.

A contact for recycling all your nickel cadmium battery packs. Write, referenced by Ron Rathbone on your letter head to them. I may get some credit somewhere down the road.

Since we no longer rebuild or do new assembly with nickel cadmium battery cells below is a contact for recycling all your nickel cadmium, nickel metal hydride, and lithium ion battery packs. We are NOT affiliated with any recycle contact. For those with minimal quantities of nickel cadmium battery packs they can be dropped off at any Home Depot, Lowes, Sears, etc.

Gary Casola
Metal Conversion Technologies, LLC
1 East Porter St.
P.O. Box 1026
Cartersville, GA 30120
678-721-0022 Phone
678-721-0266 FAX
gary@metalconversion.com

Below is information to remember and consider as you budget your money.

- 1) GE/GATES Sintered Positive Electrode Rapid Charge, High Capacity Battery cells with 900-1200 discharge cycles, and Panasonic equivalents, that in my professional opinion, delivered superior heat handling characteristics of all nickel cadmium battery cells, built my high quality reputation in the broadcast industry. Sintered Positive Electrode nickel cadmium battery cells are no longer manufactured by Sanyo. Panasonic stopped manufacturing nickel cadmium going on 4 years ago. Any stock found in Panasonic is too old to get close to 100% capacity.
 - a) The Sanyo sintered positive electrode N3000CR I used in the TrimPacs and the KR5000DEL I had to change to in rebuilding ProPacs were my best available nickel

- cadmium options in 2007 and 2008, and came to me direct from Sanyo. Sanyo has now dropped nickel cadmium.
- b) I have relationships with other Sanyo value added distributors. **No Value Added Distributor** does rebuilding except me, all have 5000 piece minimum orders. At the 1st of the 4th quarter of each year end the battery cell manufacturers and value added distributors like me begin unloading any battery cell model still on their shelves without incoming replacement inventory. More unpopular battery cell models may sit in their warehouses for long periods of time for many, but not me. Value added Distributors then begin to re-stock their shelves in mid 1st quarter of the next year.
 - c) Rebuilders call value added distributors like me or distributors who buy from value added distributors like me and say, "I need battery inserts to fit this bla bla. What is the best price you can give me?" No idea of cell quality, age, or testing, just ability to hopefully attach a wiring harness to an insert as long as it gives a voltage and glue the package back together.
- 2) From Rathbone Energy, The "Best Available" battery cell for your ProPac was No longer the Gates/GE Sintered Positive Electrode or Panasonic equivalent battery cells we used to be able to purchase. Today it was a Sanyo KR5000DEL Paste Negative Cell at 500 discharge cycles and not close to the durability of the already mentioned Gates and Panasonic battery cells. I never had a complaint from the performance of the GE/gates or Panasonic cells. Not so with Press Negative cells even though I would tell everyone up front.
- a) You can get Sintered Positive Electrode in Chinese battery cells but they are terrible. I do not do Chinese.
 - b) Where Panasonic, Saft, and Sanyo continue to reduce inventory actually stocked in the US, their Chinese and third world counter parts are very aggressive on stocking of inventory in the US and very aggressive on price. However, the quality is terrible. Most assemblers and distributors have been supplying the lower quality battery cells for some time. We will not.
 - c) You can find amateur recell companies that buy battery pack inserts from distributors or have a small cap welder they fumble around with but their battery cells are horrible, Chinese, third world, consumer grade, name brand is BS, etc.
 - i) At this point I would NOT waste my money on Nickel Cadmium even if through the OEM, new!
 - ii) How long did that battery sit on a distributor shelf before being bought by you?
 - iii) Who is the true manufacturer of the battery cell?
 - iv) Considering the new discharge cycles I would also not spend money on nickel metal hydride.
 - v) Nickel cadmium-500 Discharge Cycles, Nickel Metal Hydride-500 discharge cycles, and New LG Chem, Panasonic, and Sanyo, "Best" Lithium Ion-500 Discharge Cycles. That is why we are focusing on our Rathbone Lithium Ion Broadcast Batteries. We can retrofit belts with adaptor plates for our Lithium Ion Batteries.
 - d) Lithium Ion assembly in a factory is an insurance nightmare. Workers Comp Insurance, building insurance and inability to hire technicians to work here properly with lithium ion without training them myself. Electronics was pulled out of most American high school, technical institutes, and colleges several years ago by state board of regions. GWB's "edjukayshun"
 - e) Here in the US many small battery assemblers are attempting to set up poor assembly lines to assemble lithium ion battery cells into battery packs. People, employees get hurt, battery packs are poor quality, and bad things happen in the hands of the clients. A perfect example of this is a small company between Atlanta and Cartersville Georgia that has gone in and out of business several times over the last 20 years. They build crap for a few months then disappear. A couple of years later they appear again, build crap for a few months and then disappear again.
 - i) Many times these assemblers have attempted to purchase Sanyo, Panasonic, or LG Chem direct. They refused to sell the lithium ion direct. The assemblers go through other countries, buy other lithium ion cells at better pricing, and continue to build

lithium ion battery packs without proper inspection by trained factory battery cell lithium ion specialist.

- f) As for the lithium ion Dionic's we did rebuild before starting our quality line of lithium ion battery packs: After installing our new assembly inserts in old Dionic cases and then testing on Anton Bauer 2702's with DDM, we experience greater than a 65% failure rate on the chargers because the dead or dying batteries came in with other issues that you cannot detect until installing a new insert. Thus we did the labor at least twice for the price of one. The Dionic 90 and Hytron 50, ouch. I am pasting below reasons why I think we are better. Thus the "Upgrade your Anton Bauer... to Rathbone".

Lithium Ion "High Load" issues:

- 3) The Best available Nickel Cadmium Press Negative battery cells and Nickel Metal Hydride Foam Paste Negative battery cells, under "high load" even a constant 48WH, or heat, will deteriorate as fast as the Best Available Lithium Ion cells. Constant High Load, Heat, and Very High Impulse discharge will definitely eat away at the "ideal world" discharge specifications of any brand battery cell pack. My web sites have the specification sheets for LG Chem, Panasonic, and Sanyo Brand Lithium Ion, Nickel Cadmium, Nickel Metal Hydride, and Lithium Ion battery cells.
- 4) **Consider "Best Available" LG Chem – South Korea, Panasonic-Japan, Sanyo-Japan, "BEST Available"), NO CHINESE BATTERY CELLS:**
- a) **Nickel Cadmium-Sintered Positive Electrode: 1200 Discharge Cycles** –Quality models are gone, No Longer Available, Not green, and are being banned in many countries. Of the chemicals listed this one has the broadest temperature range.
- b) **The next three chemical compounds are more narrow in discharge cycles, durability, impulse-high discharge, and temperature range**
- c) **Nickel Cadmium-Press Negative: 500 Discharge Cycles – Poor Durability**, Not green, and are being banned in many countries.
- d) **Nickel Metal Hydride-Foam Paste: 500 Discharge Cycles** - Equivalent to Nickel Cadmium Press Negative in Quality and Temperature Range.
- e) **Lithium Ion: 500 Discharge Cycles** and 60% of the broadcast market has already gone to lithium ion.
- f) **Lithium Ion Phosphate: Still has a lot of work to be all they market.**
- 5) Rathbone lithium ion battery cell options such as our Rathbone Broadcast Lithium Ion battery packs have a discharge cycle life expectancy of 500 discharge cycles and Rathbone packs are built flat to help dissipate heat. But, with any and ALL battery cells, high heat and high load more quickly degrade the battery cells reducing their life. It is a cost of doing business. When I have nickel cadmium or nickel metal hydride batteries come back under warranty inspection I almost always discover serious venting of the cells. This is caused by multiple and long term high load and high discharge rates. It is NOT warranty and the cost to evaluate what they already know is \$75.00. My average active and passive labor and equipment usage per warranty inspection is an extensive 92 hours.
- 6) Actually, with a 95WH or more battery you should get about 300 discharge cycles before seeing noticeable degradation. Of course, manufacturing specifications from every manufacturer considers a battery good until they reach 50% capacity. My standard is that 60 % would be normal.
- 7) I suggest using a T adaptor plate such as our Rathbone **RBMB-TDVP90** T Shape Dual V Mount Adaptor or **RBMB-TDGP90** T Shape Dual G Mount Adaptor allowing your system to pull from two lithium ion batteries at the same time or elect our more robust brief case style lithium ion batteries delivering up to 600WH, all found at www.rathbonebroadcastbatteries.com
- 8) We have many standardized adaptors for another market that can be adapted to Your market. Therefore assisting those with expensive equipment powered by nickel cadmium and not ready to invest into new equipment just because they can no longer get a nickel cadmium battery pack to properly interface with their equipment. Refer us to your OEM and Distributors with trained staff so we may enlighten them to alternative solutions.
- 9) Rathbone Lithium Ion Broadcast Batteries were originally designed with a circuit which would cause another company's Smart Chargers to recognize and charge our batteries. However, the

factory we use immediately came back and told me that a number of their competitors were in scraps with the above company over this and they would not install that circuit. Of course, since that is the case, neither will I. I can do better anyway.

a) Because of this All Rathbone Lithium Ion Gold Mount Style Broadcast Battery Chargers are sold at my cost plus incoming freight and a very, very minor markup to cover paperwork, or they are promotionally given in package deals of Rathbone Lithium Ion Broadcast Batteries, Gold Mount Style.

b) Sony, being the stand up company they are, does not trademark their V mount technology so every aftermarket vendor of V mount Lithium Ion Batteries and Chargers can simply duplicate the circuitry of Sony V Mount batteries and chargers. The question then becomes duplication quality. Unlike aftermarket battery distribution companies, Rathbone Energy the battery assembler, uses only the best components inside of our lithium ion broadcast battery packs and chargers.

Rathbone Lithium Ion Broadcast Batteries:

- Excellent Battery protection circuitry are built-in to safeguard against over-discharge, over-charge and over-current.
- We have streamlined the internal operation and performance circuitry of these batteries and they have built in protection circuitry to ensure the highest degree of safety operation available.
- Rathbone is a battery assembler since 1989, are competent, and we use proper weld tabs, insulators, and spacers.
- By streamlining these batteries we remove unnecessary components that might be used to force someone's battery to only work with one brand charger.
- 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. I will not mention any company name here.
- All batteries are equipped with:
- LED indicators for monitoring the capacity.
- Camera Light Power Tap
- You will also notice the lighter reflective color of the case and the flat nature of the battery pack design which allows less rows of cells that in return allow better heat dissipation of the internal battery cells. The case for the batteries and chargers are generic but are exactly what I wanted for my battery and charger guts.
- LG Chem, Panasonic, and Sanyo "BEST Available" lithium ion battery cells offer +/- 500 charge - discharge cycles and a consistent discharge performance curve throughout the cycle life allowing more run time per cycle. Low end third world and Chinese cells offer < 200 charge - discharge cycles but also supply a quick and constant degrading discharge curve, performance, and it is not unusual to see battery cell leakage which is a danger to the battery, the equipment, and most importantly, the users.
- Individual battery packs are assembled from the same battery cell lot numbers. (Lot-same manufacturing run)
- As with our rebuilding and assembly lines, only fresh cells.
- Your battery packs are custom built under strict quality control using new, fresh premium LG Chem, Panasonic, and Sanyo, balanced battery cells from the same respective manufactured battery cell lots. Battery cells do not have an infinite shelf storage life. Therefore, we do not build up a bulk of battery packs to be left sitting on shelves.

In 1993 Rathbone Energy called all other battery assemblers and distributors to the table by developing the FIRST and ONLY FULL DISCLOSURE WEB SITE educating the end users and giving extreme detail on battery cell specifications and battery pack design,

Our quality and price is Great. You are getting below box house pricing on the Best LG Chem, Panasonic, and Sanyo battery cells, they move fast, so there is a short lead time on orders. Do not wait, place your order today by through our Rathbone Broadcast Battery Store, www.rathboneenergy.biz or email sales@rathboneenergy.com (Primary) or call 800-223-1775.

[Buy American and The Other Side of the Coin, You just have to get angry with USA greed.](#)

For 19 years we have supplied only the very best nickel cadmium, nickel metal hydride, and now lithium ion battery cells for new assembly and for rebuilding. Today we have to compromise on nickel cadmium battery cells and offer the "Best Available" battery cell in nickel cadmium.

Whether a Professional, Freelance, or Network buyer, once they understand the difference between Rathbone Premium Lithium Ion Broadcast Batteries, overpriced segregated batteries with what we consider bad design, and box house low end batteries with Chinese cells, they choose Rathbone. A Professional wants a better value but also understands that

when your livelihood depends on your batteries you don't settle for second best or worse in product quality, knowledge, or by use of low grade and "Brand Name" cells and short cuts.

Note: amateur recellers that come and go purchase pre-built battery inserts, on price, in bulk from any battery assembler that will meet the price, or they use a very low end cap welder to get by and they do NOT know batteries, and if a particular brand, do not test their recells with AB 2702's with DDM.

Thank you for thinking of me.

Sincerely,

Ron L. Rathbone

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www.rathbonebroadcastbatteries.com (Strictly Broadcast Batteries and Equipment)

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

www.batteriesandcircuits.com (Our attempt at a Broadcast Blog)

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

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