



PATENT REGISTRATION NO. : 10-1189122 'APPARATUS AND METHOD FOR RECYCLING AND CHARGING SIMULTANEOUSLY A BATTERY'

PATENT REGISTRATION NO. : 10-1521604 'APPARATUS FOR RECYCLING AND CHARGING A BATTERY USING OF HIGH FREQUENCY CROSS PULSE GENERATOR'

INTRODUCTION of PRIME Battery Regeneration

EN-RV3G1610

The World Exclusive Technology

*The Revolutionary Battery Regeneration Technology
with the reciprocal high-frequency pulse waves!*

Prevention of pollution, Recycling, Renewable Energy, CO² Emission Rights Business

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Made-in-KOREA

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PRIME Battery Regenerators

INTRODUCTION

Repowertek Inc.(www.regenerator.co.kr) is the leading developer and manufacturer of the PRIME Lead-acid Battery Regenerators in KOREA, and Modootronix Inc. is the sales & marketing company as the affiliated company of Repowertek Inc. We have developed the most innovative battery restoration systems, and we are very happy to introduce our most advanced battery regenerators and dischargers through this opportunity.

We are very much interested in supplying our products to your territory. We also are very interested in developing business with your company and, to the end we feel our respective companies may be able to generate something to our mutual advantage.

We expect that our products will be very salable items in your market because our innovative products are the New Renewable Energy Product by Green Technology. The new renewable energy products in developing companies can benefit from payments as part of the Clean Development Mechanism of the Kyoto Protocol. Growth in renewable is inevitably supported through governments policy and these trends reflect strong growth and investment across all market sectors including battery renewal business.

For our PRIME battery regenerators, we dare say that they will be the best quality and performance in the world since we are very proud of the incredible restoring performance and function with the simple operation and optimized charging pattern. Some competitor's products are using conventional transformer type with low-frequency pulse or SMPS Switching Noise Pulse Type (Direct Current with High charging voltages), however, batteries seriously harmed by these products. They have some limitation on the quality charging and desulfation. Please try to compare with our PRIME regenerators, and then you will be very satisfied with the restoration performance and charging quality, function and extended life time. PRIME regenerators will be really wonderful innovative products !!!

All our employees will continue our efforts to meet consumers' demands with high and reliable quality of products. All of our products are manufacturing in KOREA. We are very welcoming of your joining to be one of distributor or dealer in your territory.

**It is very good for eco-friendly energy & cost saving business,
and there will be no other product as much as our saving results
against investing amount. I am sure that your government will also be
very encouraged and recommended this renewable energy business
for saving much money and energy.**

The Revolutionary Technology in Battery Regeneration & Charge

If you plan to replace your battery...



Save Money! Restore Battery!

by **PRIME** Battery Regeneration System
with the world exclusive technology



Extend battery's life spans to 2~3 times longer and delay

by **PRIME** Battery Regeneration System
with the revolutionary technology



PRIME is the most advanced and optimized
lead-acid battery regeneration system
with the world exclusive technology

PRIME Battery Regenerators

Summary

We have developed on the new products (All new innovation technology as the 3rd Generation products from 2016 : Brand Name = "PRIME") to expand the regeneration business in franchise.

It will be the total franchise for battery regeneration like a mixed concept of Printer Ink & Toner refill shop and office copy machine maintenance.

We believe that most towns will open the battery regeneration workshops at everywhere all over the world in near future.

We dare say that we can be the one in the world who has the total franchise solution for battery regeneration.

Of course, the other business fields will be also applied.

As the result of comparing with our PRIME products so far, we found that PRIME series are all much superior to other existing regenerators.

We are very proud of our new revolutionary creations, it is very sure that we can be leading for the battery regeneration markets in the world sooner or later.

We will complete the total franchise solutions with these new developments.

Our new product ranges will create the perfect solution for your regeneration centers in any town.

1G ZEUS as the 1st Generation since Oct. 2010

2G PRIME as the 2nd Generation since Jan. 2014

3G PRIME as the 3rd Generation since Jan. 2016

Through three generations of product developments over five years, we finally completed PRIME masterpieces for battery regeneration.

PRIME Lead-Acid Battery Regenerator and Discharger

(Made-in-KOREA) www.regenerator.co.kr

The Revolutionary Technology in Battery Regeneration & Charge!



DID YOU KNOW THAT ?

1. SMPS and High-frequency pulse based Chargers or Regenerators ;

1. “Do not support the real high-frequency pulse to the battery at all. These are faked SMPS noise pulse only – NO PULSE”.
2. “Using all higher voltages with DC, but the regeneration results are similar if compares with a Power Supply by higher voltage charging”.
3. “Can make severe cell damages due to the forced higher voltage with direct current (DC)”.

2. SCR transformer and low-frequency pulse based Chargers or Regenerators ;

1. “Power consumption will be 5~10 times higher than SMPS (Switching Mode Power Supply) type. And Heavy Weight (200~300kgs)”.
2. “Can make severe cell damages due to the forced higher voltage with strong low-frequency pulsation”.
3. “Its strong desulfation process makes the limited battery life span”.

We define that all other regenerators are no more than ‘Equalization Chargers’.

The higher voltage with Direct Current (DC) seem like regenerated, however, the specific gravity will be forcibly raised by forced higher voltage for a long time. Of course, it can make severe cell damages, and at some near point would be unsustainable and unrecoverable.

“PRIME machines are all technically solved on the above limitations”.

What is the PRIME Battery Regenerator?

=> It is the most innovative machine to restore used lead-acid batteries.

1. Can restore all types of lead-acid batteries if any cell was not physically damaged.
2. Can remove sulfate crystal on the plates entirely by the optimized real High-frequency pulse.
3. Can regenerate up to 90~120% capacity comparing with new battery's capacity.
4. Can extend battery's life spans up to 2~3 times longer and delay the battery's aging process.
5. Can save much costs by battery regenerations. (No more any saved recycle item than this regeneration)
6. Can restore batteries without any cell damage through optimized high-frequency pulse algorithm.
7. Optimized charging and regeneration algorithm data allows the most efficient way of recharging.
8. A full automatizing user interface (No better and easier interface than PRIME machines)
9. Multiple-purpose machines : Regenerator, Charger, Discharger, Power Supply and Condition Tester.
10. The premium quality and performance with multiple functions, but the lowest prices. (Small Profits and Quick Returns)

'PRIME' series have the highest quality & restoration performance, while the lowest prices!

What is different between Charger, Power Supply and PRIME Regenerator ?

* **Charger** : It cannot improve the capacity and life span of battery. Even though charger made a full charge, but capacity is not more improved.

* **Power Supply (General)** : It supports DC only. It can make an equalization charging, however, it makes cell damages by higher voltage charging. With an equalization charging, it makes all cells equalization, but it is limited to remove the sulfate crystals. This is similar as our Power Supply Mode. But the obvious difference is that all other Power Supply devices do not have real high-frequency pulse at all. (Including all kinds of rejuvenation chargers, pulse chargers and regenerator named chargers – You can check it by Oscilloscope ; Measuring through two battery terminals (+ & -) while regenerating)

* **PRIME POWER SUPPLY MODE** is very different technology than all others.

* **PRIME Battery Regenerator** : With the world exclusive high-frequency pulse and restoration algorithm, it can restore inside cells by melting sulfate crystals on the plates and grids, and it can improve its capacity and life span as almost similar as new battery condition. PRIME Battery regenerators were developed by the World Exclusive Technology, and these make the remarkable micro-bubble featured de-sulfation effects by the real high-frequency pulsations. And these can make the highest charging performance for used-batteries. PRIME technology is the revolutionary invention for battery life extension and cost savings!

PRIME Lead-Acid Battery Regenerators

The World Exclusive Technology with the real high-frequency pulse desulphation and the highest charging performance. PRIME technology is the revolutionary invention for battery life extension and cost savings!

Needless to say, PRIME machines are a decent battery regeneration and charge system. Through our new invention of PRIME battery regeneration system, all paradigm of the battery regeneration can be changed by PRIME regenerators from now on. The resulting shift to PRIME regenerators and chargers are going to be as game-changing as shifting from typewriters to the gains in computers. PRIME can make the greatest revolution in battery chargers and regenerators all over the world. We hope our special technology will make a great advance for chargers in near future.

All kinds of used lead acid battery can be perfectly de-sulfated and restored if all cells were not physically damaged. If the specific gravity is low with a full charge it is because of the sulfate being deposited on the plates/grids instead of being in solution. Changing the electrolyte, or adding more acid won't help because of the sulfate crystals already built up on the plates. There is no way to clean the plates except possibly by using a battery pulse desulfator and high efficient restorer such as the PRIME Regenerator.

APPLICATION : Electric - Forklift, Golf Cart, Wheelchair, Lift & Building Cleaner, Automotive Vehicle, Heavy Equipment, Military, Agricultural Machine, Boat, Train, Telecom Tower / UPS, Solar and others

PRIME is the most innovative battery regenerator to renew sulfated old batteries. It has adopted the intelligent micom control system with optimized high-frequency pulse system which is proprietary developed by the cutting-edge technology of REPOWERTEK. Say "good bye" to inefficient, oversized SCR transformer type with low-frequency pulse regenerators as well as simple over-voltage based fake high-frequency pulse regenerators.

With the most advanced technology, from now on, PRIME can lead all battery regeneration markets in the world.

Why most people distrust Battery Regeneration System?

➔ **Because all existing regenerators have the technical limitation to improve Lead-acid batteries (except PRIME).**

Most regenerators for Lead-acid Batteries are based on SCR Low-frequency with forced higher voltage charging method or SMPS Direct Current with forced higher voltage charging method. They are no more than Equalization Chargers (Power Supply) only. These regeneration methods can make the results in permanent cell damages.

If the restoration will be ineffective
with the PRIME Series.



Terms and conditions apply

Exception : already damaged batteries,
before regeneration process.



EXCEPTION 1. : No accept on the below refund claims as act of God – physically dead conditions.

Most failure batteries are caused by some reasons as below;

1. Battery corrosion and oxidation (as a state of disposal)
2. Cell-cut, Cell-shortcd, fall of active materials inside cells (as a state of disposal).
3. Reduction of electrolytes and sulfuric-acid (as a state of disposal).
4. Other problems in the battery itself.

* These batteries were already physically damaged (as a state of disposal) - No claim conditions.
(There is no machine or way existed to restore these damages)

* If most batteries are restored, however, some batteries are not improved
(The failures were absolutely caused by the above reasons as a state of disposal)
So, all failures of disposal state batteries are not a condition of refund claim.

If all sulfated batteries are not restored, it is a refund or a replacement condition.

(Over the past three years, we have never received any one claim demand from customers. This fact is a clear proof of the highest quality and performance.)

EXCEPTION 2. : No accept on the below troubles caused by customer fault ;

1. Trouble caused by the misusing, wrong repair or convert.
 2. Trouble caused by the using in wrong electric capacity.
 3. Trouble caused by the dropping and so on in moving after installation.
 4. Trouble caused by the using of not allowed expendables or options.
 5. Trouble caused by the repair of others without Repowertek Inc. technicians.
- ※ The restoration success of Car (SLI) batteries are very low due to the structural thin and weaken plates and grids in the cells. So, the car batteries can be easily corroded and oxidized.

- ※ *If batteries are dismantled from cars within a couple of months, the regenerable rate would be much higher. But, most regeneration tests were done by users with very long time unused batteries. The regenerators must regenerate capacity lowered (sulfated) batteries without any other physical damage. But, physically damaged batteries such as corrosion or cell-cut or cell-short as the states of disposal, it is impossible to restore any battery with even any almighty super regenerator.*

With a lower battery, but it can be used for a while during charging time which the charge will be supplied by a car generator during switching on the ignition. But, when the ignition turns off, the battery's using time will be very limited in a few minutes. You will get nothing for your trouble if you would try to revive such poor batteries. These batteries have no salability at all. That's why we do not recommend regenerating a-long-time unused Car batteries.

After regeneration, if the battery is not improved, you should check as below ;

Why the capacity of batteries are not improved ?



MF Battery : Drilling for 6 cells

After regeneration, if battery capacity is not improved, you can check the battery condition by this method. In case of MF/VRLA battery, you can drill all cells as a left picture. And then, you can check the color of electrolyte as below picture. If any cell includes impurities in the electrolyte, it is a corrosion state to be a disposal soon.



Checking Gravity

Dark Color – Corrosion States
(Before checking gravity,
need to shake the battery STRONGLY
for mixing the density of electrolyte)

If any battery cannot be improved, the reason is that cells were oxidized and corroded as you can see the above pictures(color of electrolytes). There will be NO way to regenerate the above corrosion batteries as a disposal state.

Before starting this business...

1. What is the principle of Battery Regeneration?

To restore battery, each cell's sulphation that has generated while repeatedly charging and discharging should become sulfuric solution again (what is called "desulphation").

For desulphation, very safe and proper current should be provided to battery during the regeneration. Also, to properly activate chemical reaction during the regeneration/charge, constant voltage and very safe pulse wave that combines each of the battery type and charging pattern should be provided to the battery and thus electrical and physical damage of the battery can be prevented by providing safe voltage and current.

The principle of the PRIME regenerator is similar to that of ultrasonic cleaner that cleans fine pollutants of glasses. The generator removes sulphation to raise the gravity of electrolyte and activates sulfation to restore battery life time and capacity like new battery condition.

2. Why the battery must regenerate on ?

When sulfate crystal accumulates, a lead-acid battery generates the sulfate on the grid inside the cell. This hinders the current and an electron transferred to lower the cell functions. As a result, the battery capacity decreases gradually.

The PRIME battery regenerators are high-tech machines that can restore batteries to be wasted due to capacity lowers by sulphation into a new battery's capacity.

Recycling all of the lead-acid batteries by the PRIME battery regenerator would extend the battery life time up to twice to three times.

PRIME products will be "NECESSARY" item for all lead-acid batteries from now on.

3. What if the inside of a battery sulfates?

- 1. Not able to store and supply the current enough*
- 2. Overheats battery cells*
- 3. Short circuit and physical damage*
- 4. Decreases battery life time*

If the gravity of the battery sulfation lows when the battery is fully charged, the sulfate does not dissolve, but sticks to the grid firmly like tartar. Thus, changing electrolyte or supplementing sulfuric acid wouldn't help.

Using a high efficiency battery regenerator like the PRIME battery regenerator cleans the grid of the battery to extend the battery life and to increase the battery capacity.

4. Does the regenerator restore all of the disposal batteries?

Battery dies permanently when the battery cell is cut or shortens by grid corrosion, short-circuit, hardening, etc. Otherwise, the battery becomes old, which increases internal battery temperature, drops off active materials of the grid, decreases sulfuric acid by nonconductor, faulty battery charge and electrolyte overflow decreases the weight by the increase of internal temperature and evaporates electrolyte. These cause the battery to corrode and oxidize to a state of disposal. It leads the battery to lose its functions. As a result, the battery cannot work anymore.

These batteries and other batteries that have not been used for long after dismantled cannot be restored because they oxidized and corroded too much.

5. When is the best time to regenerate batteries?

The best regeneration time of used battery that the total battery capacity should be remained for 70%~50% after a full charge. 40~50% at least after a full charge.

Generally, battery cannot be used up to 0%. If the battery charging state is lower than 50% (For Car battery) ~ 30% (For Deep Cycle), the plates can be severely damaged and pastes of plate's activation material can be broken away from the plates. In this case, please note that the regeneration will be almost impossible.

The PRIME regenerator removes sulfation to raise the gravity of electrolyte and activates sulfation to restore battery life span and capacity like new battery conditions.

6. Why has the battery regeneration not populated yet?

1) The regeneration technology of the regenerator is very low now.

A lot of battery regenerators have developed and launched in the market. However, a regenerator that satisfies customers is still very rare. Thus, it is common that the customers do not trust the regenerator and its business.

The PRIME battery regenerators are developed by the most advanced technology, and PRIME gives the highest performance and customer satisfaction.

2) Many customers think that the regenerator should restore all disposal batteries.

Suppose that a battery has not maintained for long. Then, the inside electrolyte of all cells were gradually dried. Grids/electrodes should also be oxidized and corroded. Once severely oxidized and corroded, the battery is dying or is already dead. Thus, the battery cannot be restored any more or cannot be well restored.

If any cell of the battery is seriously damaged (as cell-cut or cell-short), the battery cannot be restored.

If electrolyte or inside of a cap of the battery is brown-colored (over-discharged) or black-colored (over-charged), the battery is almost physically dead and thus it is not possible to restore it.

However, still a lot of customer complain and distrust the regenerator that it does not restore the physically dead batteries.

3) No experience in restored batteries with no previous example of a battery that is restored by the regenerator.

If a lead-acid battery is restored by the battery regenerator, its capacity increases like the one of a new battery and its life extends twice to three times. UPS battery can be restored soon after dismantled and thus can be replaced with the replacement target battery. Regeneration (Equalization) maintenance of deep cycle batteries of a forklift or a golf cart once or twice a year regularly saves time and improves the battery life. However, there is no precedent for and no experience in it, which results in hesitating to try to experiment it.

However, all battery should have the regeneration process, and those restored batteries can drastically cut the cost.

4) Issues of rights of and interests in disposal batteries with existing garbage companies

A dismantled lead-acid battery after usage disposes as garbage unconditionally. Then, a registered garbage company collects it. However, 50-55% of the battery consists of lead, which enables you to make about US\$0.70~0.90/kg.

It has been customary for very long that garbage companies remove garbage almost free and gets compensated instead. Thus, it is a business with rights and interests. Considering that, it is profitable to the garbage companies to dispose garbage and to receive compensation instead of restoring the batteries. Also, garbage handling staff prefers the current system to hire a garbage company instead of restoring the battery with its complicated procedure because the company handles the garbage including replacing and removing garbage. This is why the unprecedented battery regeneration is avoided.

However, it is assured that the time would come when all the batteries should be restored for big cost saving in the near future.

7. How to maximize the battery regeneration business?

1. Franchise system – Battery regeneration centers (workshops)

- * Minimum machine required: One regenerator can restore almost all types of lead-acid batteries. (RPT-S500/S600/E400)*
- * Diffusing Franchise system by region – Differentiating the scale of the franchise by basic, silver, gold, etc.*

2. Maintenance – Telecom Tower UPS and other UPS, forklifts, garbage trucks, golf carts, national railroad administration, mines, solar heat, computing centers, banks, military units, national institutions, ships, heavy-duty vehicles, etc.

- * Restoring service when maintaining regularly – extends lifetime of and increases capacity of a battery*
- * Total maintenance contract including maintenance and new battery supply*

3. Rental – New Battery Rental Sales - Please note that all other regenerators can make very severe cell damages because the machines are all DC supply with higher voltage forced regeneration type. When the other machine regenerates, the battery condition seems to be recovered. But, the battery was materially damaged and it makes a shorter life in substance. **PRIME regenerators are not harmful from the battery regeneration, and it does not give the physical damages comparing with any conventional charger. On the other hand, all other regenerators are giving very**

*harmful damage to the cells due to the Direct Current with forced higher voltage supply. PRIME does not give the cell damage with the higher voltage due to the integral equation by positive and negative high-frequency pulse waves (**World exclusive technology**). So, PRIME regeneration is very safe from repeated battery regeneration processes. It means that all rental batteries with PRIME can have 2~3 times than generally buying batteries. So you can get the margin through 2~3 times extended life spans through the regenerated batteries. And the batteries will be regenerated and replaced during a specified rental period. (According to your business volume, you can control all battery supply markets in your territory from all battery manufacturers). In near future, most users will prefer to rent all batteries rather than buying. This will be a Win-Win business for both seller and users.*

** Merit of Rental : Lower Price, Maintenance of stable battery capacity and quality by 2~3 replacements during a rental contract.*

PRIME Battery Regenerator adopted an intelligent smart control system which was developed by the cutting-edge technology of REPOWERTEK.

Say good bye to inefficient, oversized Low-frequency pulse transformer type and faked SMPS higher voltage type regenerators.

8. Paradigm of Battery Regeneration

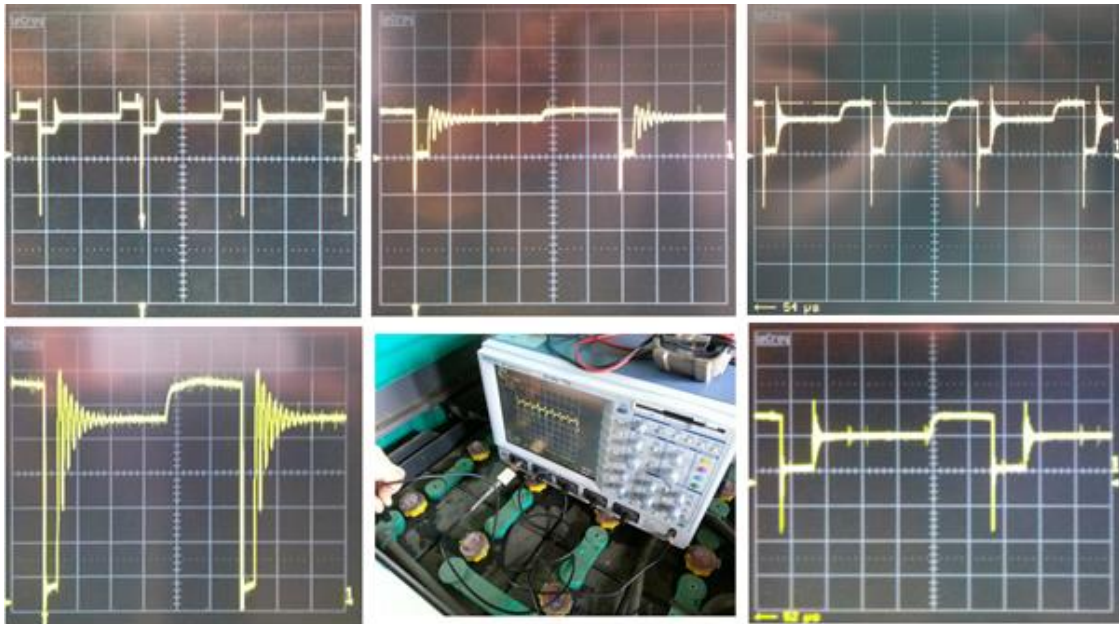
PRIME battery regeneration technology is a new green technology that revivifies sulphation on the grid of a dead battery by unique electronic and high frequency pulse technology and that activates internal sulfation and regenerates chemical response actively to restore charge/discharge capacity of the battery.

*The PRIME battery regeneration technology is a **green growth technology** that extends the battery life twice to three times. It is a breakthrough that contributes to cost saving as well as global warming, energy scarcity and environment pollution.*

*Thus, it is a necessary technology in the world and will become **a new paradigm of battery recycling and regeneration and maintenance industry** through standardizing national technology in the near future.*

***The PRIME battery regenerators** are the new innovative green renewable energy products that are absolutely competitive over price and effectiveness. Thus, it is possible that the business becomes a world-wide one. Recently the world has become more interested in new renewable energy, how to measure climate change and how to reduce carbon emission. Under the circumstance, it is expected that launching the products would impact greatly world batteries market in the future.*

We will develop a variety of products including bulk dischargers and rapid discharger as well as the regenerator to become a pioneer and the best in the industry.



High-Frequency Pulse Figures by PRIME Battery Regenerators

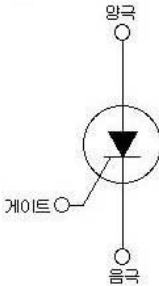
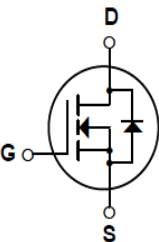
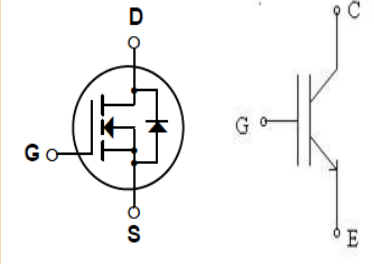
Summary of Technology

Why PRIME's technology is very different from the other company's technology ?

SMPS makes desired voltages by high-frequency switching after changing Alternating Current (AC) into Direct Current (DC). In this, if generated electricity was supplied to a battery, due to resisting load in a battery itself, it would have a high possibility that a component in SMPS (FET) would be damaged. Thus, since output shock from SMPS should be relieved, by using a condenser and a choke coil, resisting load inside of a battery would be minimized. Therefore, actually supplied thing from SMPS to a battery can be Direct Current (DC) rather than High-Frequency Pulse. SMPS can actually make High-Frequency Pulse, however ironically, SMPS of other competitors prevent to output High-Frequency Pulse due to the damage of their regenerators.

Because of this technical limitation, there was no company can solve the problem providing real High-Frequency Pulse to a battery from regenerator directly. That is a reason that regenerators using High-Frequency Pulse could not be boosted and commercialized so far. All the other competitors insist that their technology is based on High-Frequency Pulse, but they can show some signals through screen of Oscilloscope by connecting two Probes coming from the transformer of SMPS. However, that can be wrong measurement and pulse which doesn't enter into a battery gives any help to the regeneration. Definitely, real High-Frequency Pulse should be confirmed by connecting probes to battery terminals. Since High-Frequency Pulse is too much weak, it can't provide any help for regenerating. Due to those limitations, since direct connection to the battery terminals with Oscilloscope can be showing as direct current (DC) only, so other companies never show it to customers. PRIME regenerators are the only regenerator which can make the superior regeneration by supplying real High-Frequency Pulse included current at the same time.

1. Technical Principle based on RPT-S500 and RPT-S600

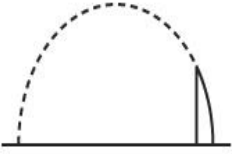

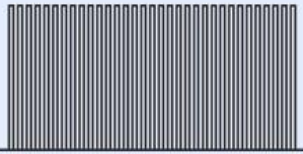
SCR(M Co.)	FET(P Co.)	FET + IGBT (Repowertek) - PRIME
		
Silicon Controlled Rectifier	FET (Field Effect Transistor)	FET (Field Effect Transistor) + IGBT (Insulated Gate Bipolar Transistor)
Low Frequency	High Frequency Noise	High Frequency + Current
Big current diode	Switching control	Switching control
Actually, it is hard to control the current, but it can control by a complicated circuit system	Control Board	Control by Micom
SCR control, Time division	PWM control	PWM control
Complicated circuit system	Complicated circuit system	Simple circuit system

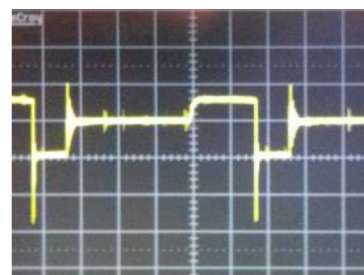
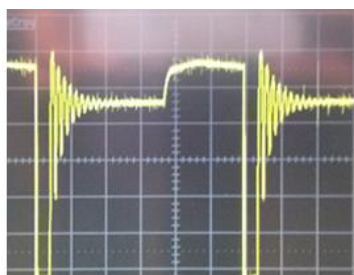
**It is the motto of Repowertek Inc.
to try to do our best and to become the best.**

“We strive for Integrity and Perfection”
Highest Technology, Highest Performance, Highest Quality & Design

2. Technical Performance (High-Frequency Pulse) based on S500/S600

Technical Performance (High Frequency Pulse) based on RPT-S500

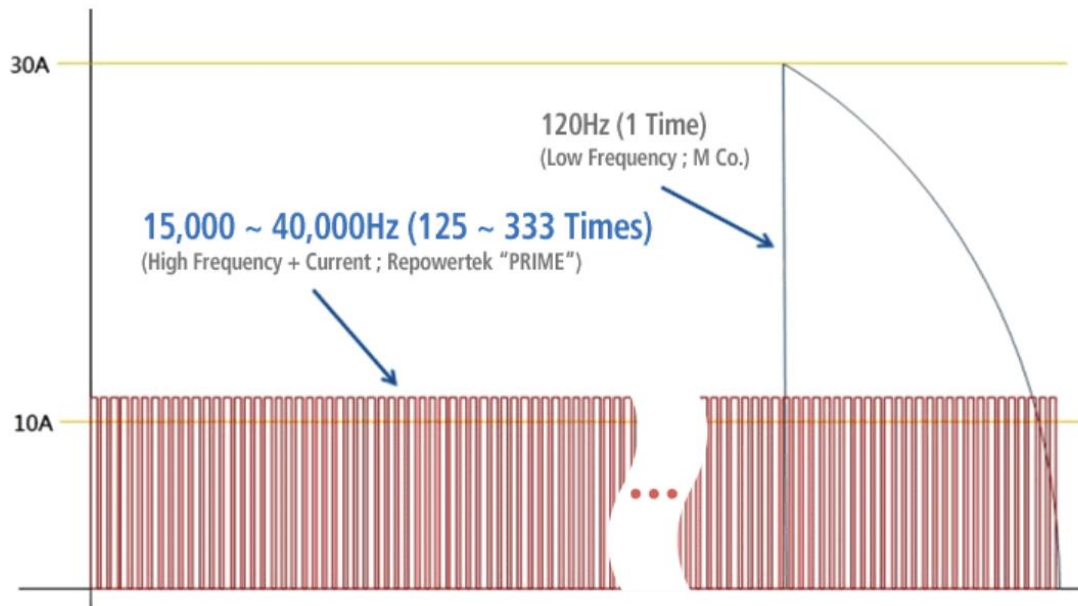
	Low Frequency Pulse	SMPS Pulse Noise (No Actual High-Frequency Pulse)	High Frequency Pulse + Current (PRIME)
Frequency Wave		 No Pulse - Weak SMPS pulse noise	
Pulse Frequency	Fixed Strong Pulse 60Hz, 120Hz, 180Hz (Strong Low-Frequency Pulse)	Intermittent Weak SMPS Pulse Noise (No Actual High-Frequency Pulse)	Variable Pulse 10 ~ 40KHz (Current Inclusive Pulse)
Demerits	<ul style="list-style-type: none"> - Different current from single or three phases - Different applications by countries - Longer regeneration time (including charging time) - More cell damage & explosion - 3 ~ 10 time bigger current than void current - High cost 	<ul style="list-style-type: none"> - High Frequency, but weaker pulse only - No current in pulse - Some complicated circuit system - Some longer regeneration time - Over 50V, due to some higher voltages - higher cell damage case 	No demerit than other systems
Merits	Big current charging	Lower cell damage and explosion cases than low frequency type	<ul style="list-style-type: none"> - Constant current amount - Fast regeneration time - No cell damages (Output current is similar as DC) - Current included Frequency - Almost none of cell damage and explosion cases



High-Frequency Pulse Figures by PRIME Battery Regenerators

3. Technical Performance (Power Consumption) based on RPT-S500/S600

Technical Performance (Power Consumption) based on RPT-S500



- DC Current Tester measures a value of RMS(Root Mean Square) to check the DC component. (Measured by the Area)
- In case of Low-frequency Pulse Type : if the regenerator sets up 10A for a battery charge current, it needs 15A (average) and 30~50A (peak) real current. So, it can be damaged to the battery and input power consumption will be very high. (It is hard to use for even one 12V battery at home).
 - Input Power Consumption : $220V \times 15A = 3,300W$ (Real Power Consumption)
 - Output Power Consumption : $15V \times 10A = 150W$ (Working Power Consumption)
 - * $3,300W - 150W = 3,150W$ (Loss Power Consumption by equipment itself and regeneration)
- PRIME(High-frequency Pulse Type) is similar as DC current, therefore, the power consumption is almost similar between Input and Output power consumption.
 - General Multi Power Plug is 10A = 12V x max. 6 batteries.
 - Input Power Consumption : $220V \times 1.2A = 260W$ (Real Power Consumption)
 - Output Power Consumption : $15V \times 10A = 150W$ (Working Power Consumption)
 - * $260W - 150W = 110W$ (Loss Power Consumption by equipment itself and regeneration)

We have several users in 50 countries and they are very satisfied with the restoration performance and our after sales service.

Introduction of PRIME Products

1. RPT-C200 & 2. RPT-C300

1

PRIME Regenerator & Discharger RPT-C200

6-in-1 Regenerator / Charger / Power Supply /
Discharger / I R Check / CCA Check

*Excellent regeneration system
durability and stability with
high desulfation performance*

Main Features for RPT-C200

- Nominal DC 6 ~ 12V Battery (Universal Application)
- 40Ah ~ 300Ah Capacity (Max. Output Current 15A)
- Digital Discharger (Max. 420W)
- I R / CCA Checking Function
- High Restoration Efficiency

All kinds of Lead-Acid batteries

- Deep Cycle - Stand-by - Storage - SLI

Dimensions : 170mm(H) X 345mm(W) X 380mm(D)

Voltage & Frequency : AC 80 ~ 120V, 210 ~ 250V / 50 ~ 60Hz

Multi-functional !



RPT-C200

I R : Internal Resistance CCA : Cold Cranking Ampere (For CAR battery only)

2

PRIME Regenerator & Discharger RPT-C300

6-in-1 Regenerator / Charger / Power Supply /
Discharger / I R Check / CCA Check

*The optimized regeneration
software algorithm to make the
maximum restoration effect*

Main Features for RPT-C300

- Nominal DC 6 ~ 12V Battery (Universal Application)
- 40Ah ~ 300Ah Capacity (Max. Output Current 25A)
- Digital Discharger (Max. 420W)
- I R / CCA Checking Function
- High Restoration Efficiency

All kinds of Lead-Acid batteries

- Stand-by - Deep Cycle - Storage - SLI

Dimensions : 170mm(H) X 345mm(W) X 380mm(D)

Voltage & Frequency : AC 80 ~ 120V, 210 ~ 250V / 50 ~ 60Hz

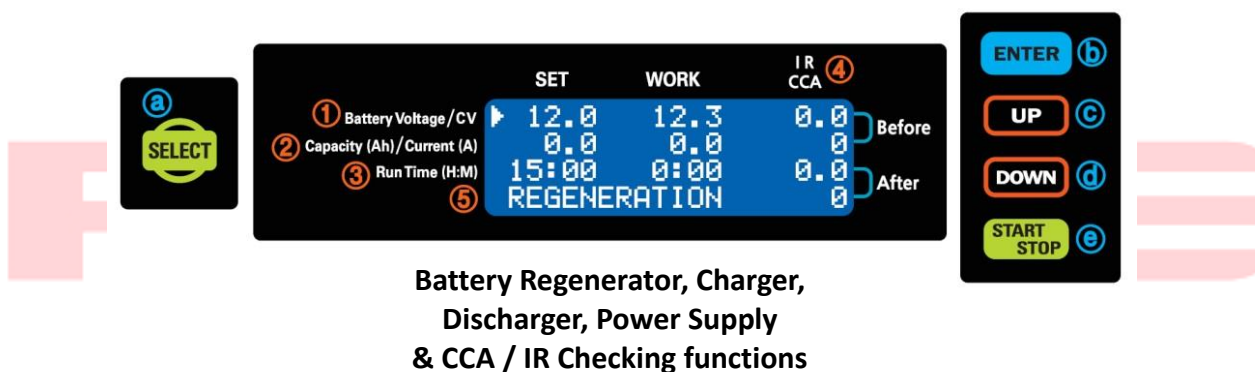


RPT-C300

Max. Output Current 25A

■ Product Specifications

Product Name	PRIME Battery Regenerator & Discharger
Model No.	RPT-C200
Size / Weight	W 345mm X D 370mm X H 170mm (Without Cable) / 9 kg
Power consumption	Stand-by Approx. 20W ~ Max. Approx. 200W
Input Power	AC 80 ~ 120V, 210 ~ 250V / 50~60Hz
Battery Voltage	Standard DC 6V, 8V, 12V Battery
Battery Capacity	All kinds Lead-Acid Battery 20Ah ~ 300Ah
Max. Output	240W (DC 6V : 10A and DC 8V, 12V : 15A)
Regeneration Method	Charge Current Inclusive High Frequency Pulse (Exclusive)
Max. Discharge Current	Max. 30A
Discharge Capacity	Approx. 420 Watts



Note : Upgraded to '6-in-1' from Jan. 2016.
Maximum Limited Output Current : RPT-C200 : 15A RPT-C300 : 25A

3. RPT-S500 (3-in-1, DC 2~96V – Regenerator)

PRIME Regenerator RPT-S500

3-in-1 Regenerator / Charger / Expert Mode

*The most advanced & optimized
real high-frequency pulse
Battery Regeneration*

- DC 2~96V (Universal Application)
- Up to 3,000Ah Capacity (Max. 60A)
- 8" Touch Screen Control
- Very Easy to Operate
- High Restoration Efficiency

Dimensions : 1010mm(H) X 400mm(W) X 480mm(D)
Voltage & Frequency : AC 90~130V, 210~250V / 50~60Hz



All kinds of
Lead-Acid batteries

- SLI
- Deep Cycle
- Stand by
- Storage



RPT-S500



Current Limitation

- 2V ~48V : 60A
- 50V~96V : 30A

■ Product Specifications

Product Name	PRIME Battery Regenerator
Model No.	RPT-S500
Size / Weight	W 400mm X D 480mm X H 1010mm (Without Cable) / 50 kg
Power consumption	Stand-by Approx. 20W ~ Max. Approx. 2.5KW
Input Power	AC 90 ~ 130V, 210 ~ 250V / 50~60Hz
Battery Voltage	Standard DC 2V~ 96V Battery (DC 2V, 6V, 8V, 12V, 24V, 36V, 48V, 60V, 72V, 80V, 84V and 96V Battery)
Battery Capacity	All kinds Lead-Acid Battery 20Ah ~ 3000Ah
Max. Output	3.0KW
Regeneration Method	Charge Current Inclusive High Frequency Pulse (Exclusive)

※ RPT-S500/S600 was renovated to 3.6KW Power and Systems from Jan. 2016 (3G PRIME)



8 inch TFT
Touch Screen

Renewable Energy by Green Technology

All New HF Pulse Innovation!

PRIME Battery Regenerator adopted the most innovative High-Frequency Pulse technology which is proprietary developed by the cutting-edge technology of REPOWERTEK.

Industrial UPS, Telecom UPS, Forklift, Golf Cart, Electric Wheelchair, Train, Military Equipment, Agricultural Machinery, Electric Lift & Car, Automotive, Boat, Solar & Wind Power and relevant Renewable Energy Industries.



PRIME Battery Regenerators



4. RPT-S600 (3-in-1, DC 2~96V – Regenerator, Compact Size)

Same Specification with RPT-S500. The height & Weight are different ONLY.

The highest battery restoration performance
with micro bubble desulfation & charge process

All kinds of lead-acid batteries can be restored

RPT-S600U (Universal) : DC 2V ~ 96V / 40Ah ~ 3,000Ah

RPT-S600F (Forklift) : DC 24V ~ 80V / 40Ah ~ 1,500Ah

Same Specification of RPT-S500, but a Compact Size
(For Portable Maintenance Usage)



Specification



Size

W 400mm X D 480mm X H 550mm

Weight

Approx. 37Kg

Voltage & Frequency

AC 186 ~ 240V / 50 ~ 60 Hz

Battery Voltage (Adjustable)

RPT-S600U : DC 2V ~ 96V

RPT-S600F : DC 24V ~ 80V

Battery Capacity (Adjustable)

RPT-S600U : 40Ah ~ 3,000Ah

RPT-S600F : 40Ah ~ 1,500Ah

(for All kinds Lead-Acid Batteries)

Output Current

Max. 60A

Regeneration / Charge Method

High Frequency PULSE

RPT-S600 - Maximum 3.5KW Power Consumption
 - Maximum input AC : 16A
 (Recommend using house plug and cable : 20A)



※ RPT-S500/S600 was renovated to 3.6KW Power and Systems from Jan. 2016 (3G PRIME)

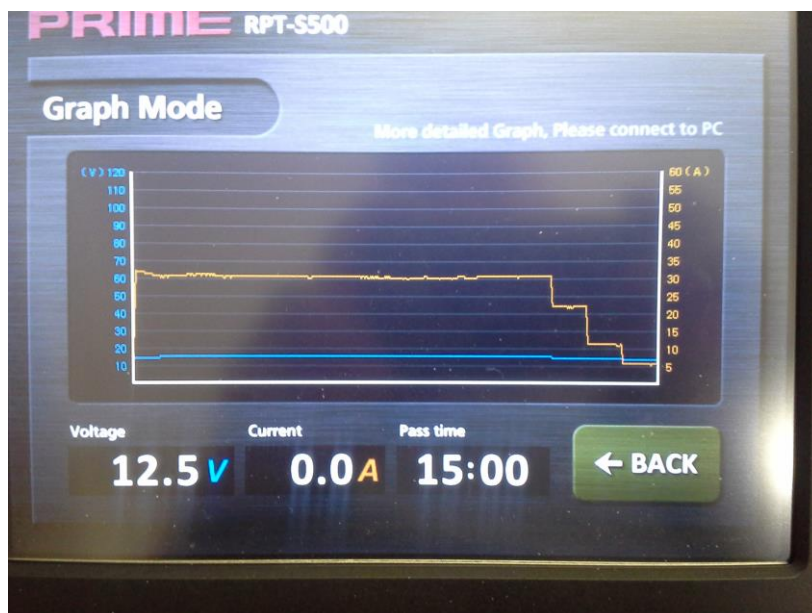


We are manufacturing quality goods at low prices, but we continue to follow domestic production in Korea.
- 100% Made-in-KOREA products -

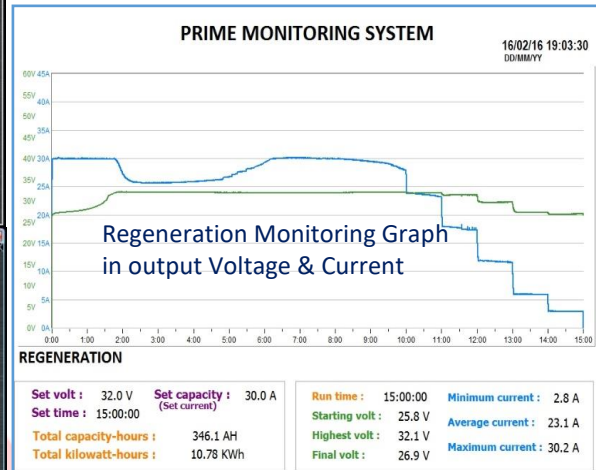
*PRIME standard durability parts !
PRIME exterior design and finish !
PRIME regeneration performance !
PRIME electronic mechanism !
PRIME software modulation !
PRIME optimized high-frequency pulse !
PRIME circuit protection system !*

*PRIME's meaning : State of highest perfection
Highest Quality at Low Prices!*

From 2016, all PRIME products support the Battery monitoring as follows ;
All PRIME regenerators and PRIME discharger can be communicated with a Computer connecting by the USB Serial Port. USB Drive should be installed for the USB Serial Port, before connecting with the regenerator and computer. When you press this 'PRINT' Button, the graph will be printed on the right sheet image.

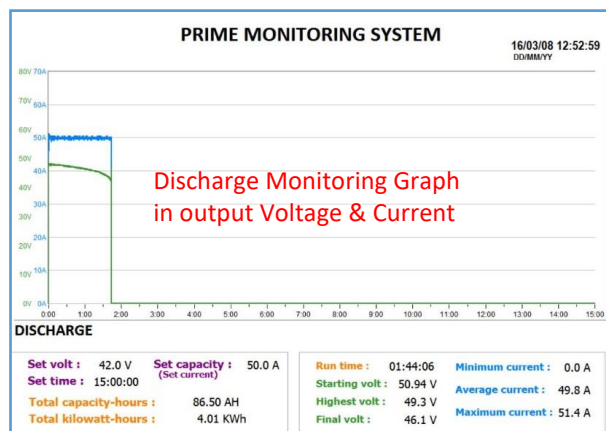


PRIME Battery Monitoring Software



All PRIME Products (Production in 2016) can be used for the above Battery monitoring S/W. Please download BMS Software. All PRIME machines support the monitoring print out by USB connection with PC ('USB AM-AM Cable with double-shielded' will be included in a package).

Please download BMS S/W at <http://www.repowertek.com/bbs/zboard.php?id=download>.



PRIME Battery Regenerators

3 PRIME Regenerator RPT-S500

3-in-1 Regenerator / Charger / Power Supply

*The most advanced & optimized
real high-frequency pulse
Battery Regeneration*

Best of Best !

Main Features for RPT-S500

- Nominal DC 2 ~ 96V Battery (Universal Application)
- 40Ah ~ 3,000Ah Capacity (Max. Output Current 60A)
- 8" Touch Screen Control
- Very Easy to Operate
- High Restoration Efficiency
- Forklift, Telecom, Traction and so on

All kinds of Lead-Acid batteries

- Deep Cycle - Stand-by - Storage - SLI

Dimensions : 1010mm(H) X 400mm(W) X 480mm(D)

Voltage & Frequency : AC 210V ~ 250V / 50 ~ 60Hz



4 PRIME Regenerator RPT-S600

3-in-1 Regenerator / Charger / Power Supply

*The highest battery restoration
performance with micro bubble
desulphation & charge process*

Main Features for RPT-S600

- Nominal DC 2 ~ 96V Battery (Universal Application)
- 40Ah ~ 3,000Ah Capacity (Max. Output Current 60A)
- 8" Touch Screen Control
- Very Easy to Operate
- High Restoration Efficiency
- Telecom, Forklift, Traction and so on

All kinds of Lead-Acid batteries

- Stand-by - Deep Cycle - Storage - SLI

Dimensions : 550mm(H) X 400mm(W) X 480mm(D)

Voltage & Frequency : AC 210V ~ 250V / 50 ~ 60Hz



5. RPT-T300 & 6. RPT-D10K Discharger

5 PRIME Condition Tester (Regenerator & Discharger) RPT-T300

7-in-1 Regenerator / Charge / Discharger / Power Supply /
Condition Tester / I R Check / CCA Check

All-in-One Battery Condition Tester
Regeneration + Charge + Discharge
+ Power Supply + Condition Test
+ IR Check + CCA Check

Main Features for RPT-T300

- Nominal DC 6 ~ 12V Battery (Universal Application)
- Battery Condition Test (Identification Function)
- 40Ah ~ 300Ah Capacity (Max. Output Current 25A)
- Digital Discharger (Max. 420W)
- I R / CCA Checking Function
- High Restoration Efficiency

All kinds of Lead-Acid batteries

- Deep Cycle - Stand-by - Storage - SLI

Dimensions : 170mm(H) X 345mm(W) X 380mm(D)

Voltage & Frequency : AC 80 ~ 120V, 210 ~ 250V / 50 ~ 60Hz



RPT-T300

Bad or Good Battery
Identification Function

6 PRIME Discharger RPT-D10K

High-frequency IGBT,
Constant-current control
Digital Discharger

Applicable for all kinds of batteries

Main Features for RPT-D10K

- Nominal DC 12 ~ 96V Battery (Universal Application)
- Max. Discharge Current : 200A (Capacity : 10Kw)
- High-frequency IGBT, Constant-current digital discharger
- High efficiency in the field of industrial batteries
- Modern refined design & easily portable
- Intelligent electronic protection systems
- Microprocessor built into the easy discharge setting
- LCD digital display (Cut-off Voltage, Current, Run Time)

Dimensions : 740mm(H) X 402mm(W) X 512mm(D)

Voltage & Frequency : AC 210 ~ 240V / 50 ~ 60Hz



RPT-D10K

Exact Test !



Battery Cable (70S/mm) Included

RPT-D10K Discharger (10KW, Max. 200A)

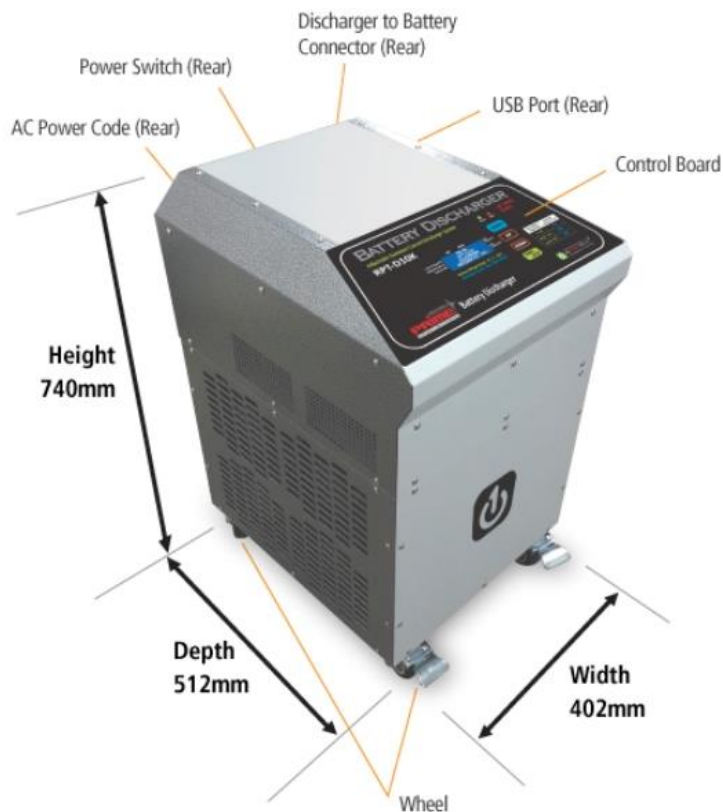
Digital Discharger

For medium & large capacity batteries



RPT-D10K

Available for all kinds of DC 12V ~ 96V batteries



Size

W 402mm X D 512mm X H 740mm

Weight

Approx. 40Kg

Voltage & Frequency

AC 210 ~ 240V / 50 ~ 60 Hz

Battery Voltage

DC 12V ~ 96V

Discharge Method

High Frequency IGBT control

Discharge Capacity

Max. 10Kw

Nominal Battery Voltage Range	Limited Max. Discharge Current
DC 12V	50A
DC 24V ~ 48V	200A
DC 50V ~ 96V	100A

PRIME Products

PRIME Battery Regenerators & Dischargers

- 1) **PRIME RPT-C200 Regenerator & Discharger** (6-in-1, 6V~12V, 40Ah~300Ah) : Regenerator (up to 300Ah) + Charger + Power Supply + Discharger (Max. 420 Watts, 30A) + CCA Checking (For CAR battery only) + Internal Resistance Checking. Regeneration and Charge Current : Max. 15A. It is for all kinds of 6V, 8V & 12V lead-acid batteries.
- 2) **RPT-C300** : Same with RPT-C200, but max. Output current : 25A , 600 watts SMPS
- 3) **RPT-T300** : Same with RPT-C300, but including Battery Condition Tester as 7-in-1.
- 4) **PRIME RPT-S500 Regenerator** (3-in-1, 2V~96V, 40Ah~3,000Ah, 3.6KW) : Regenerator (up to 3,000Ah) + Pulse Charger (up to 3,000Ah) + Expert Mode(Power Supply). Regeneration and Charge Current : Max. 2V~48V:60A, & 50V~96V:30A
* **RPT-S500F (2-in-1, 24V~80V, up to 1,500Ah, For Forklift batteries)**
- 5) **PRIME RPT-S600 Regenerator** = Same as RPT-S500, but the height & weight are smaller (for Maintenance Purpose)
* **RPT-S600F (2-in-1, 24V~80V, up to 1,500Ah, For Forklift batteries)**
- 6) **PRIME RPT-D10K Discharger** (Max. 10KW) 12V : 50A, 24~50V : 200A, 50~96V : 100A

✂ **Power Supply (Manual) Mode :**

All PRIME machines have this function = A manual free setting mode.

It can do the Regeneration or Charging by setting of Voltage, Capacity & Time manually.

We recommended that the expert person can do this operation only.

✂

Truly UNIVERSAL Battery Regenerators !



Exclusive High Frequency Pulse Figure (Forklift)
of PRIME Battery Regenerator

PRODUCTS :

PRIME Battery Regenerator, Discharger and Tester

RPT-S500 Universal Battery Regenerator : 2V~96V all-in-one voltage, 3.6KW SMPS, Max. 60A output current, 8 inch Touch Screen Monitor, Single Phase. This system easily de-sulfates all kinds of lead-acid batteries up to 3,000Ah such as Forklift, Telecom UPS, Golf Carts and automotive /solar/UPS batteries with sizes of 2-volt, 4-volt, 6-volt, 8-volt, 10-volt, 12-volt, 24-volt, 36-volt, 48-volt, 60-volt, 72-volt, 80-volt, 84-volt or 96-volt batteries. You can also connect batteries in series, such as max. 8 batteries of 12 volts each, which equals a 96-volt bank of batteries or max. 24 batteries of 2 volts, which equals a 48-volt bank of UPS and Forklift batteries as well. And more (Maximum Power Consumption : 3.6KW, Single Phase, Maximum Input AC Current : 30A, 210~240VAC Direct cable connection to the main circuit breaker)

RPT-S500 (3-in-1) : Product size : 1010mm(H) x 400mm(W) x 480mm(D)

1. Regenerator (2V~96V all adjustable voltages-in-one, 40Ah~ **3,000Ah capacity**) at 'REGENERATION' mode
2. Charger (2V~96V all adjustable voltages-in-one, Up to 3,000Ah capacity) at 'CHARGE' mode
3. Expert Mode (2V~96V free setting mode of Voltage, Current & Time for special & sleeping batteries, same as a POWER SUPPLY Mode)
 - * Mainly used for **Forklift, TELECOM UPS, Golf Cart & other Deep Cycle batteries**
 - * Maximum Limited Output Current : 2V~48V = 60A and 50V~96V = 30A
 - * A serial connection up to 12V x 8 (or 2V x 24) batteries at the same time.

Packaging : 1100 x 520 x 680 mm 59.5 kgs 76.7 kgs (By measurement)

1. RPT-S500 (U) : Universal 2V~96V 40Ah~3000Ah (3-in-1) – Optimized up to 1,000Ah
2. RPT-S500 (F) : Forklift 24V~80V up to 1500Ah (2-in-1) – Optimized up to 1,000Ah

RPT-S600 is all same specifications with RPT-S500, except its housing size and weight only. Portable Compact Type for Maintenance Usage.

550mm(H) x 400mm(W) x 480mm(D) **Discharger is NOT included.**

1. RPT-S600 (U) : Universal 2V~96V 40Ah~3000Ah (3-in-1) – Optimized up to 1,000Ah
2. RPT-S600 (F) : Forklift 24V~80V up to 1500Ah (2-in-1) – Optimized up to 1,000Ah

Packaging : 650 x 520 x 680 mm 46.5 kgs

※ RPT-D10K Discharger is the essential equipment with RPT-S500, RPT-S600 & RPT-E400.

RPT-E400 (3-in-1) Universal Battery Regenerator : 6V~48V all-in-one voltage, 1.8KW SMPS, Max. 30A / 48V output current, 210~240VAC Single Phase. This system easily de-sulfates all kinds of lead-acid batteries up to 1,000Ah (Optimized up to 400Ah/48V) such as Reach Type Forklift, Telecom UPS, Golf Carts and automotive /solar/UPS batteries with sizes of 6-volt, 8-volt, 10-volt, 12-volt, 24-volt, 36-volt or 48-volt batteries. You can also connect batteries in series, such as max. 4 batteries of 12 volts each or 8 batteries of 6 volts which equals a 48-volt bank of batteries or max. 24 batteries of 2 volts, which equals a 48-volt bank of UPS and Forklift batteries as well. And more

(Sales to be available in 2017)

RPT-C200 : 6V~12V Regenerator Mode(Max. 15A), Charge Mode, Power Supply Mode, Discharge Mode(Max. 30A) and Internal Resistance & CCA (For Car battery) Checking (**6-in-1**) as newly upgraded. **For 6V~12V all kinds of Lead-Acid Batteries**, the regeneration performance will be much superior to any other products. You can resell **RPT-C200** to Battery wholesale, retail shops and Car repair shops as a battery physician. This item will be very good for battery sellers due to the superior restoration effectiveness for feeble new batteries which lost chemical activation and over-discharged. *Packaging : 520 x 430 x 280 mm 11.5 kgs*

1. Battery Regenerator at 'REGENERATION' mode FOR 6V~12V, 40Ah~ 300Ah
2. Battery Charger at 'CHARGE' mode FOR 6V~12V, 40Ah~ 300Ah
3. Battery Power Supply at 'POWER SUPPLY' mode (6V~12V manual setting mode of Voltage, Current & Time for special & sleeping batteries)
4. Battery Discharger (420 Watts) at 'DISCHARGE' mode
5. IR(Internal Resistance) Checking - before & after 2 ways
6. CCA(Clod Cranking Ampere for Car Battery ONLY) Checking - before & after 2 ways
 - * Mainly used for all types of batteries, but **mostly applied up to 300Ah of 12V Solar, UPS, Deep Cycle & Automotive batteries.**
 - * Maximum Output Current : 6V~12V = **15A**
 - * A serial connection up to 6V x 2 (12V) batteries at the same time.

*** SPECIAL FEATURES :**

- The most advanced battery regenerator (Regenerator Mode)
- The highest efficient battery charger (Charge Mode)
- Perfect desulfation performance by high-frequency pulse and charge algorithm
- Special Battery Regenerative Power Supply (Power Supply Mode)
- Lower Current Charging for Non-used battery (Sleeping Battery) for a long time (Power Supply Mode)
- Stable Digital Discharger (Discharge Mode ; Max. 30A)
- Measurements for Voltage, Internal Resistance and CCA (Car battery ONLY)
- A full automation and easy to use
- Operation LED (Twinkling of one blue LED to see the operation at a long distance)
- Monitoring graph for output Voltage & Current situation in real time - Can be communicated with a Computer connecting by the USB Serial Port. USB Drive should be installed for the USB Serial Port, before connecting with the regenerator and computer. When you press this 'PRINT' Button, the graph will be printed on the above sheet image. ('USB AM-AM Cable with double-shielded' will be included in a package)

RPT-C300 (6-in-1) : All functions and features are same with **RPT-C200**.

Only one difference is '**Maximum Output Current : 6V~12V = 25A**'

RPT-T300 (7-in-1) : Battery Condition Tester. All functions and features are same with **RPT-C300**. Only one difference is '**Battery Test Mode**' included. RPT-T300 is a down-grade version of RPTi-1000) '**Maximum Output Current : 6V~12V = 25A**', The discharger supports up to 420 watts.

PRIME Battery Condition Tester and Regeneration System (RPT-T300)

Battery condition tester whether to be regenerated or wasted.

- ⇒ It takes 1~10 minutes for 12V battery condition test by RPT-T300
- ⇒ **GOOD or BAD** batteries will be tested & identified by RPT-T300.
(Please note that Battery Condition Test of RPT-T300 is not an absolute-identification method. It will be an assistance mode to assort GOOD or BAD batteries in a short time. The Condition Test and IR & CCA will be for the reference only.)
 - * **GOOD** : "Not physically damaged" and "Capacity between 40%~100% will be recovered".
 - * **BAD** : "Disposal state" and "Capacity less than 30% - Not to be recovered".

Multi-functional Modes (7-in-1, 6V~12V, 40Ah~300Ah)

1. Battery Regenerator at '**REGENERATION**' mode
2. Battery Charger at '**CHARGE**' mode
3. Power Supply at '**POWER SUPPLY**' mode
(Manual setting mode of Voltage, Current & Time for special & sleeping batteries)
4. Battery Discharger (420 Watts) at '**DISCHARGE**' mode
5. Battery Condition Tester at '**CONDITION TEST**' mode (For 12V Battery)
6. **IR** (Internal Resistance) Checking - before & after 2 ways
7. **CCA** (Clod Cranking Ampere for Car Battery ONLY) Checking - before & after 2 ways
 - * Maximum Limited Output Current : 6V~12V = **25A**
 - * A serial connection up to 6V x 2 or 2V x 6 (12V) batteries at the same time. (up to 300Ah)

RPT-T300 is not an analyzer, but a **battery condition tester** with **Regenerator & Charger & Power Supply & Discharger & IR** (For all batteries) & **CCA** (For Car battery only) **Checkers** – 5 modes and 2 checker functions are all combined for **6V~12V** batteries. At '**CONDITION TEST**' mode, it can test the battery conditions (12V, up to 300Ah) within a few minute.

You can see it as 'CELL CUT', 'CELL SHORT' or 'CELL CORROSION' on the screen with a beep sound. For 12V battery, it is composed of 2 volts x 6 cells. It is hard to know about shorted circuit /cell cut/cell corrosion state and any damaged cells prior to a restoration process. In this reason, the other competitors must check on these damaged cases after finishing a process only. So, we have developed on **RPT-T300**. It can find the short of electrodes and damaged cells within 1~10 minutes before restoration procedure. Automatic battery condition test function (whether to be restored or not - by 'CONDITION TEST' mode). By using it, most batteries will be assorted for targeting ones to be regenerated with our new **RPT-T300** if they do not have any cell cut or short and internal cell's damage (corrosion). **RPT-T300** has a full automated function to regenerate by setting of Voltage and Total capacity. Such unique function cannot be found from any other existing products in the market and we are the first to put into commercial use.

RPT-T300 will be very useful for Battery wholesale & retail shops and Car repair shops as a battery physician. This item will be very good for all battery sellers due to the superior restoration effectiveness for feeble new batteries which lost chemical activation and over-discharged (Dormant batteries).

If the battery is tested as a good battery to be regenerated, then you can see "**OK TEST FINISH**" on the screen with a beep sound as well. With **RPT-T300**, you can regenerate all kinds of lead-acid batteries including 6V~12V VRLA AGM & GEL, Car, Deep Cycle, Solar and so on. The discharger supports up to 420 watts.

"OK TEST FINISH" – It is not a meaning of all good battery condition to be regenerated. It means that the battery was over 30% capacity sustained by T300's condition test. Even if "OK" passed batteries, but some old batteries will not be recovered enough due to friable plates (40%~80% capacity will be reconditioned only).

★ Why used lead-acid batteries need a 'PRIME Battery Condition Tester'?

Many used batteries have not good conditions, therefore, most used batteries should be tested on the inside cell conditions (2V x 6 cells = one 12V battery). With any battery tester, it is impossible to check that any 2V cell was already damaged among 6 cells (12V). If any 2V cell was already damaged among 6 cells, the whole 12V battery should be discarded. Without RPT-T300, nobody knows until finishing a regeneration process whether the battery was already damaged or not. So, you will waste much time, labor cost and electricity uselessly. If you have PRIME RPT-T300, you can test all used 12V battery conditions prior to any process whether the battery condition is good to be regenerated or bad to be wasted. – This is the only way to save time, labor cost, electricity cost and so on.

★ Why RPT-T300 will be the necessary equipment?

1. To test Used Batteries - There is no any digital tester or machine in the market to check used 12V battery conditions whether to be regenerated or not. RPT-T300 will be the exclusive condition tester.

2. To save a lot of time and cost - A large majority of scrap or long time unused batteries should be tested, otherwise, much time & labor costs will be uselessly wasted. → RPT-T300 will be a necessary equipment for all 12V battery users and sellers.

3. To avoid any lower performance - If any cell is inferior (Cell damages – Disposal state of Corrosion, Short of plates and Cell-Cut, impurity or lack of electrolyte(MF & VRLA), Fall of active materials and etc.), a whole 12V battery should be discarded. So, all batteries should be tested and identified by RPT-T300 prior to any process.

4. To make the best charging performance - If a battery is doing any regeneration or charge process with having any damaged cell, the battery will be insufficiently charged or regenerated due to the lower damaged cell. So, all batteries should be tested and checked by RPT-T300 prior to any process.

5. To make the highest performance of all simultaneous regenerations - When any process with multiple batteries, if any one lower cell (2V) is mixed with other good batteries (e.g. 12V x 4~8 batteries simultaneously), the whole performance is restricted and lowered by one bad battery. So, all batteries should be tested and picked out all bad batteries by RPT-T300 prior to any process.

6. Simple and fast Identification - All Cell-cut and Cell-shortened batteries will be identified by RPT-T300 within 1 minute each.

7. High-Tech Identification technology algorithm - Cell-corrosion batteries (tested by less than 30% capacity) will be identified by RPT-T300 within 10 minute each.

* In order to see the depth of the data, please install the S/W, and connect to your PC through USB port. You can see all detailed processing data through monitor or print out. Please download s/w and manual at <http://www.repowertek.com/eng/support/support.htm> → Download

* The regeneration time with any PRIME regenerator takes 15 hours including a full charge. But any battery was already nearly full charged, the operation of PRIME will be automatically stopped earlier, regardless of its setting time (15 hours).

*** PRIME regeneration methods are not adding any sulfuric-acid and chemical additive in any cell at all.**

RPT-D10K Discharger : 220VAC, 10KW, Digital Constant Discharging mixed technology with IGBT and Resistor and high-frequency pulse, Maximum Limited Discharge Current Rates : 12V-50A, 24V~48V : 200A, 50V~96V : 100A. It supports a monitoring data sheet to be printed, after connecting by a USB between Discharger and PC. *Net Weight 42.10kgs Gross Weight : 64.10kgs(DHL) 670 x 520 x 920 mm* RPT-D10K can be communicated with a Computer connecting by the USB Serial Port. USB Drive should be installed for the USB Serial Port, before connecting with the regenerator and computer. When you press this 'PRINT' Button, the graph will be printed on the above sheet image.

RPT-D20K is not available yet.

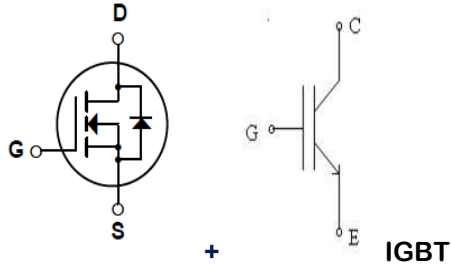
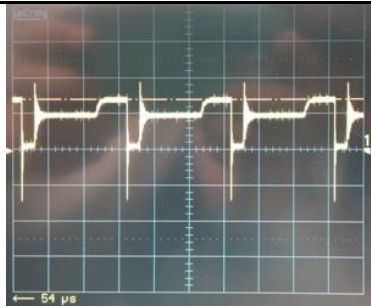
- PRIME Series have the most advanced Battery Regeneration Technology (Optimized High-Frequency Pulse desulfation process and regeneration Curve algorithm) with a quite different technical base from the others.

Extend battery's life spans to 2~3 times longer and delay by PRIME Battery Regeneration System with the revolutionary technology



PRIME is the most advanced and optimized
lead-acid battery regeneration system
with the world exclusive technology

Features (for Industrial Batteries)	PRIME RPT-S500/S600
Supporting Battery Voltage	Adjustable DC2V~96V (Universal Usage)
Supporting Battery Capacity	Up to 3,000Ah (Optimized up to 1, 000Ah) For All kinds of Lead-Acid Batteries (Universal Usage)
Simultaneous Restoration	Up to 8 x 12V batteries 12 / 24 cells x 2V UPS batteries in a serial connection, All kinds of forklift & Telecom bank battery set
Operating Mechanism & Charging curve algorithm	SMPS Type by High Frequency Pulse with 8inch Touch Screen Micom Control System (Automatic control for output current amperes by charging curve ; constant voltage and current)
Restoration Result (Charging efficacy)	Very High (World Exclusive Technology & Revolutionary Innovation)
Operation Monitor	8" Touch Screen TFT -LCD
Operation	Very easy to operate by a full automation. (Operation of PRIME Series is easy for all users even beginner; Charging/Regenerating mode, Voltage & Ampere of battery and pattern type will be only selected for operating)
Expert Mode (Power Supply)	Included
Regeneration Time (Based on 500Ah)	15 hours including charging
Restorable Battery Cell	All kinds of lead-acid battery Optimized for each type of Battery
Product Weight	(RPT-S500) – 51.5kgs / 38.5kgs - (RPT-S600)
Power	AC 210V~240V 50/60Hz Single Phase (Movable)
Power Consumption	Very Low Maximum 3.6KW (60A)
Features (for Industrial Batteries)	Repowertek (Korea) PRIME RPT-S500/S600

Type	 FET + IGBT
Control	Switching Control Micom Control PWM Control
Pulse	 Optimized High Frequency Pulse including Current
Pulse Frequency	Variable Pulse 10~40KHz (Current Inclusive Pulse)
Bubble figure in Electrolyte when Regeneration/Charge	Micro-bubble figure
Merits	1. World exclusive technology – Revolutionary Invention! 2. The most advanced real battery regenerator 3. The highest restoration performance 4. Digital 8 inch Touch Screen Interface 5. Elegant exterior design with achromatic colors 6. Variable regeneration methods by Power Supply Mode 7. Highest technology basis advanced circuit system 8. Lowest defects by quality parts and stable system 9. Reducing regeneration time against all others 10. Optimized real high-frequency pulse desulfation 11. No explosion with Micro-bubble desulfation process
Customer Service	Easy to approach the customer with PRIME Regenerator
Maintenance	Quick and very easy (The latest revolutionary technology)
Remark	The first technology for exclusive high-frequency pulse crossing positive and negative pulsations

Warranty : Two Years(1+1) limited warranty would be supported. If you have any trouble with PRIME products, we will send instruction manuals with pictures for disassemble & assemble guide case by case.

After Service Commitment : If you have any defective matter with PRIME products, you should inform us of its symptom with pictures or video earlier to return. If we determine that it should be repaired or replaced, then you should disassemble a board to be dispatched via an express mail service. Or, we will send some parts via DHL for replacement by your technician. The free warranty will be covered for all defective matters without any defects by misuse. Of course, we will pay for all return international freight cost for replacement or repair during warranty period.



Truly UNIVERSAL Battery Regenerators !

** PRIME regeneration method is not adding any sulfuric-acid and chemicals in any cell at all.*

PRIME

PRIME Technology

1. What are the differences with regular chargers?

The main cause of damage done on battery is caused by the sulfate which is attracted to battery electrodes. Conventional chargers simply charges voltage of the battery, which does not take account of battery type and attributes. As a consequence, it results in significantly reduced charging efficiency and stability of the battery due to damages. Also, conventional transformer type chargers are much less energy efficient, heavier and bigger.

Therefore, in comparison with other regular chargers, our products provide more suited restoration processes through optimized charge algorithms. This is the main difference from regular chargers, which only provides simple, fixed voltage & current when charging. Without considering the battery condition or type, there is high possibility to potentially damage the battery from overcharging. In order to resolve it, there will be a staff required to manually check for voltage of the battery when charging, which will lead to poor efficiency.

In case of PRIME Regenerator, we have reached the highest regeneration efficiency by applying Micom Smart Control System and Optimal Pulse Regeneration Algorithm Data that

includes most of the battery types used in the world. As a result, PRIME successfully minimizes damages done on the battery while restoration process using High-frequency Pulse. Batteries can be restored back to original performance level through charging and regenerating with their useful life extended by up to two or three times as long.

2. Summary of Features

- **Smart Control System by MICOM**
 1. Control minute electric current & voltage depending on the type of battery
 2. Restoring and recharging for large capacity batteries
 3. Minimizes damage to electrodes and restrain accumulation of sulfate on electrodes
 4. Lowest power consumption
- **Optimized HF Pulse regeneration and charging algorithm**
 1. Utilizes special pattern information on various battery kinds and characteristics with High-frequency Pulse
 2. Prevents electrical/physical damage when restoring and charging batteries
 3. Prolongs battery lifecycle
- **Wide Application Range**
 1. Can regenerate and charge high-capacity batteries
 2. Can restore and charge GEL and AGM VRLA type batteries
 3. Can restore and charge up to 96V of multiple batteries simultaneously
- **Safety**
 1. Maintains low battery temperature during restoring (Input over-voltage protection)
 2. Stable current / voltage supply (Control input voltage variation function)
 3. Prevents potential hazard caused by high battery temperature

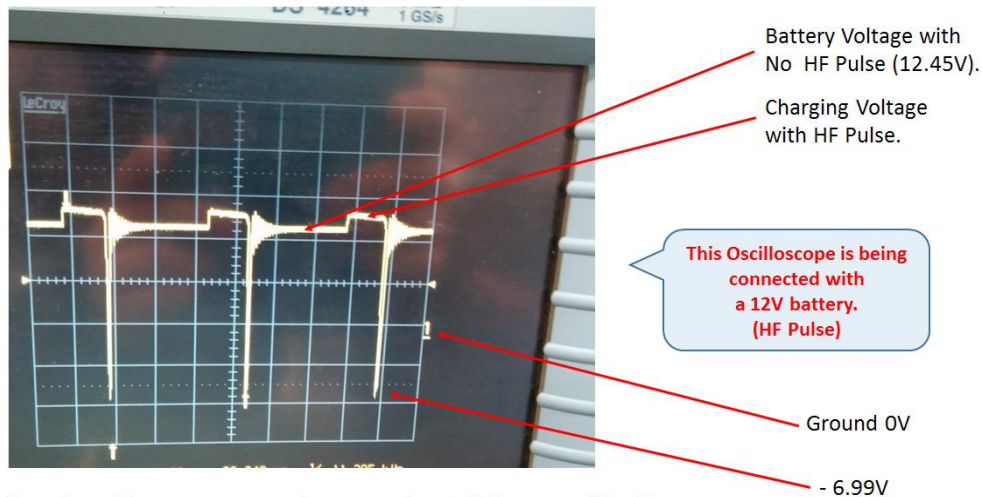
3. PRIME Technology

- ◆ Adoption of MICOM Smart Control System enables PRIME regenerators to provide variable input / output voltage and current for batteries. It enables to control minute electric current & voltage at optimal high-frequency pulse ways when restoring and charging batteries of different kinds. This makes it is possible to restore and charge large capacity batteries while significantly reducing weight, size and cost compared to the conventional transformer types. To cater for the different voltage needs of different countries, it covers variable input voltage and power.
- ◆ With our proprietary know-how and technology, we achieved the highest charging efficiency by integrating optimal High-frequency Pulse regeneration and charging algorithm classified by battery types and attributes used worldwide. It can restore batteries back to its original performance level through charging and regenerating without any electrical and physical damages done to the battery. It also extends the functional life of the battery by up to two ~ three times as longer.
- ◆ Through the use of Smart Control System and Pulse Regeneration Charging Algorithm, PRIME Regenerator minimizes damages done to battery with its ability to automatically control minute current and voltage inputs / outputs to prevent over-voltage. It is an innovative pulse power technology for restoring and charging at the same time, which is what makes us more competitive than anyone else in the market.
- ◆ When charging or restoring, if the battery temperature is too high, it could lead to damage and possible explosion. This is a very serious matter when restoring and charging battery. With PRIME

Regenerator, there is no risk of damage or explosion as it maintains temperature level within acceptable range through various algorithm of High-frequency Pulse regeneration and charging.

- ◆ PRIME Regenerator prevents temperature rise, which is caused by unnecessary conversion of current to heat while charging. The power consumption of PRIME will be 10~20% only compared to other oversized SCR transformer type regenerators.

PRIME's Pulse Figure coming from 12V Battery Terminals



To make a fair measurement, they must show a full screen of Oscilloscope to be shown all measuring values as above picture.

※ Oscilloscope should be connected with Battery's terminals.

4. Technology Differentiation from other products

1. Different from other products that are designed to restore by hardware, the regenerator is designed to restore via software by micro-computer algorithm. Thus, its circuit is simple to reduce its failure rate.
2. The software regeneration enables it to restore any of battery including the new one by modifying and complementing the method fast.
3. Using Touch Screen of RPT-S500/S600, and using push buttons, RPT-C200/RPT-C300/RPT-T300/E400 provides easy to use by user-friendly design.
4. It has a Power Supply mode that enables it to restore any of battery including a new one and to manipulate quick charge and low current charge at random.
5. New technology pattern by type/function of the battery is built in it to control the method of Pulse by battery type.
6. Its high frequency pulse with the current restores up to 50% faster than existing other regenerators
7. Weight is much less than SCR regenerator with low frequency. Thus, it's portable.
8. The most effective in minimizing damage to electrodes and in restraining sulphation electrodes by using high frequency pulse.
9. Built-in software algorithm that searches for optimum frequency to fit the battery capacity by using a microcomputer.

10. Output power supply that uses Switching Mode Power Supply (SMPS) enables it to consume power very small compared to low frequency method.
11. High frequency pulse enables it to control electric/physical damage of the battery.
12. Able to use as a battery regenerator and charger with large capacity (Recommend to restore up to 1,000 Ah, Able to restore up to 3,000 Ah).
13. Able to restore and charge all kinds of lead-acid batteries including GEL and AGM type ones.
14. Able to restore and charge all kinds of forklifts and golf carts up to 48V~96V at once and up to 12V batteries x 8 batteries (with RPT-S500/S600) and 4 batteries (with RPT-E400) at the same time.
15. Safe supply of voltage/current (able to control deviation of input voltage 80V – 240V) when equal to and below 300Ah only. Over 300Ah = Alternative 110/220V.
16. Less battery heat release by restoring via pulse compared to other products.
17. No risk of explosion because the pulse regeneration with micro bubbles.
18. Chargers and other regenerators make big bubbles (What we call “battery solution boils”). But PRIME shows smaller or micro-bubble figures.
19. The regeneration principle is to remove sulphation similar to that of ultrasonic cleaner that cleans pollutants of glasses.
20. Built-in system to prevent lightning, counter voltage and internal heating with over current protection circuit.
21. Monitoring and remote control via a computer.

5. Features of PRIME Regenerator

1. **Designed to the pulse regeneration algorithm in a MICOM, and it can be a smart control. Automatic restoration & charging patterns according to battery types & conditions.**
 - * Optimized high-frequency restoring and charging. Depending on each different type of battery, it automatically controls voltage and current. (Can be restored and charged for various input voltage and current types of batteries - Fine tuning of voltage and current)
 - * PRIME Regenerators are designed by a Micro Computer with optimized regeneration algorithm software, therefore, the circuit systems are simple and failure rate seldom occurs. On the other hands, most competitor's products are designed by hardware systems.
2. **Acceptable Battery Voltages : Each unit supports up to DC2V ~ DC96V (RPT-500/S600), and DC6V ~ DC12V (RPT-C200 / RPT-C300 / RPT-T300)**
 - * i.e. Same conditioned 12V batteries, PRIME can charge and restore batteries with serial connections up to 8 batteries (12V x 8 pcs. = 96V) at the same time.
 - * Forklift/Telecom Batteries 2V x 24 cells = 48V bank at the same time.
3. **Supported large capacity of battery : Each unit restores up to 3,000Ah battery.**
 - i.e. 2V battery with a large capacity, PRIME supports max. up to 3,000Ah capacity (optimized up to 1,000Ah), it can restore larger volume batteries such as Forklifts', Golf Carts' and UPS batteries.

4. Compact Design & Performance (RPT-C200 / RPT-C300 / RPT-T300 / RPT-E400)

Despite compact size and improved mobility, it handles larger volume batteries with much better restoring and charging quality.

5. Easy & Convenient User Interface Screens

Using Touch Screen with RPT-S500/S600 and Push Button Control with RPTC200/C300/T300 and RPT-E400. All products' user Interface would be very easy and convenient.

6. Power Supply Mode in All PRIME Regenerators

Power Supply Mode for manual set up : It can adjust and control freely such as quick or low-current charge, and new battery type setting. – Power Supply Mode supports Equalization Charge, Quick Charge, Low Current Charge and Special Regeneration for Sleeping Battery, etc.

7. Removal of pollutants (sulfate) & simultaneous charge functions

When using the battery for a long time, accumulation of sulfate causes battery lead (Acid) to rust. This lowers the efficiency of recharge as well as battery Life. Therefore, even rechargeable batteries would not be recharged as much as before. PRIME removes the sulfate within the battery using high-frequency pulse waves, which restores the original battery capacity and performance.

8. Programmed to prevent future sulfate rusting.

Sulfate is removed during the PRIME regeneration process. It also prevents future accumulation of sulfate on the lead, keeping the restored state longer.

9. Extends battery life by up to twice as long.

Conventional charging methods can not remove sulfate within the battery. Therefore, expected battery life is around 3 years. However, with PRIMES's restoration capability, battery life can be extended to more than five to seven years.

10. PRIME equalizes the performance all cells in the battery by improving performance of the inferior cells.

In case of battery with multiple cells, the performance of an inferior cell is severely lowered with the lapse of time. PRIME is able to identify these inferior cells by an internal program, and improves the performance which equalizes the performance of the battery as a whole.

11. Can restore various types of batteries (Pb, GEL, AGM types and so on)

12. Safety

- * Keeps temperature level low ; With the optimal High-frequency Pulse, prevents from the surge in temperature occurred by unnecessary conversion of current to heat while regenerating or charging.
- * Minimize the damage done to battery with stable current and voltage supply through Smart Control System in MICOM.
- * Prevents build-up of sulfate from minimizing damage to electrodes by optimized high-frequency pulse.
- * Minimize evaporation of distilled water by keeping low temperature level during charging process.
- * Reduce the power consumption by at least 70~90% compared to conventional transformer type regenerators.

Think Recycle Energy & Cost !

**Regenerate
Used Batteries**
to extend battery life
to over 2~3 times longer



Innovative Regenerator
For all types of Lead-Acid Batteries



★ Why should buy the PRIME Battery Regenerators?

※ Exclusive Advantages – All New Innovation!

1. Exclusive technology - The most advanced and optimized real high-frequency pulse regeneration technology.
2. Exclusive smart control system and high-frequency pulse regeneration/charge curve patterns in a high-grade Micom.
3. Exclusive regeneration software algorithm - Maximum restoration effect and Minimal cell damage.
4. Exclusive highest technology basis advanced circuit system design.
5. Exclusive bubble figure - The highest battery restoration performance with micro bubble desulfation process.
6. Exclusive regeneration performance - What could be better than PRIME? We are confident that there's nothing better!
7. Exclusive Expert Mode for manual setting regeneration and charge – Variable regeneration/charge methods as a special power supply.
8. Exclusive easy control and easy user interface by 8 inch TFT Touch Screen (RPT-S500/S600) or Push Button control set up (RPT-C200/C300/T300/E400).
9. Exclusive full automatic regeneration process and fastest desulfation & charge time (15 hours including a full charge).
10. Exclusive Graph output and printing by USB connection with PC (Microscopic analysis of regeneration process – for all PRIME products).
11. Exclusive elegant and modern exterior housing design with achromatic colors.

※ Special Advantages – All New Innovation!

1. Universal compatibility - All kinds of Lead-acid batteries from 2V to 96V and 40Ah~3000Ah. (RPT-S500/S600)
 2. A full automatic operation by very simple set up (The easiest user interface).
 3. Excellent system durability and stability - Lowest defects by good quality parts and stable system.
 4. Lowest power consumption (e.g. 12V 100Ah = about total 2 Kw only for 15 hours power consumption).
 5. Adoption of various electrical safety protection system.
 6. No battery explosion with the advanced circuit system and micro-bubble desulfation process.
 7. Sustaining lower temperature in the battery by automatic output voltage & current control.
 8. Satisfactory customer service and quick after service.
 9. Portable light weights and easy to carry.
 10. Using anywhere with AC220V single phase or AC110V single phase. (50~60 Hz)
- We are proud that Repowertek Inc. in Korea is the most advanced developer and manufacturer for the battery regeneration systems.
 - We have a full line up of battery regenerators and dischargers to make the regeneration centers in franchise.

★ What are the special differences between PRIME and other regenerators?

1) PRIME can generate the real high-frequency (HF) pulsation exclusively – Revolutionary Regeneration Technology.

(On the other hands, all **Low frequency pulse** methods **have very strong pulsation power with forced high-voltage**, therefore, all these types make severe cell damage. In addition, all other **High-frequency pulse** methods **do not have pulse waves practically** due to the limitation of the electrical technology. (Recommended to check the HF pulse waves at the battery terminals by an Oscilloscope tester while charging or regenerating.) So, all other machines are only supported for Direct Current (DC) and High-voltage forced charge only. All of these types make severe cell damage as well. We daresay that these regeneration machines are no more than Equalization Chargers.)

2) PRIME can show the micro bubble figure for charging and desulfation exclusively.

(Micro Bubble formation is the ultimate **evidence of the most effective desulfation by high-frequency pulsation** without cell damage. All other chargers/regenerators do not have any similar bubble figure at all. All of them have big bubble figures only. PRIME's Micro-bubbles minimize any explosion case from sulphureted hydrogen generation as the toxic gas. This minimized gas generation will be very good for the health environmentally.)

3) PRIME can generate reciprocal negative (discharge) pulse waves over 15,000 times per second exclusively.

(PRIME does not give the cell damage with the high-voltage due to the integral equation by positive and negative high-frequency pulse waves (Pulse repetition: over 15,000 times per second). The principle of the PRIME regenerator is **similar to that of ultrasonic cleaner that cleans fine pollutants of glasses**. The PRIME regenerator removes sulfation to raise the gravity of electrolyte and activates sulfation to restore battery life span and capacity like new battery conditions.)

4) PRIME can support the special regeneration algorithm exclusively – All new innovation & renovation.

(With High-frequency pulse, Micro-bubble formation, Easy user interface, Power supply manual mode, Innovative Circuit systems, Regeneration & Charge curve patterns, Monitoring graph and so on, PRIME regenerators have the special s/w algorithm, and **no any other company made the similar algorithm** from PRIME products)

5) PRIME can do a multiple regeneration process without cell damage exclusively.

(As the result of our lab testing, we made the new technology that **PRIME regenerations can be repeated with the battery many times without any physical cell damage** like conventional chargers. So, PRIME machines can make the repetitive regeneration processes whenever its battery capacity will be lowered by sulfation. Thus, it can **extend 2~3 times of the battery life span longer and delay**, and also it can make a sustained higher capacity as well through repeated regeneration process once every 6~12 months like a charger. Of course, comparing with all other regenerators, PRIME regenerator can make the superior restoration result even if PRIME makes a single regeneration only.)

Sales & Marketing

The overview of franchise chain.

We are not doing any activity for the franchise chain in any country, but we are supplying machines only. We do not receive any royalty, while we do not establish or invest any franchise company at anywhere because we do not know the market and situation there. The franchise should be made by you who know very well about your market situation. All of business plan is our recommendation only for our potential partners so that they can understand on the concept of franchise marketing easily. You should make everything by yourself considering your market situation if you would like to establish the franchise chain. It is to make new jobs for many people and you can get a lot of joy with PRIME Battery Regenerators.

There is no exception to use the lead-acid battery domestically/internationally. Also, most of the batteries are not reused. Thus, as a part of green energy, recycling, new and renewable energy and carbon reduction, potential demands of the product is very high through all industries including passenger cars, UPS, Solar, golf carts and forklifts.

Sales plan can be divided like the below;

- 1. Sales of the PRIME regenerators** – A company that uses many batteries may purchase the regenerator.
- 2. Supply to battery manufacturer and dealers** – Supplies the regenerator to all the battery dealers as a necessity of maintenance.
- 3. Maintenance Service** – Service team provides regular regeneration service under monthly or yearly maintenance contract.
- 4. Used Battery Sales** – Sells used products at the market after restoring disposal batteries at a regeneration factory.
- 5. Franchise** – Restoring and battery replacement service of all the lead-acid batteries of passenger cars, trucks, buses, electric motorcycles, golf carts, electric cars, agricultural machinery, electric wheelchairs and home UPS.

Only our franchise can cover all of the areas. However, considering that the franchise requires great cost and a lot of time, it is the best to run general business along with the franchise. We plan to inform world buyers of the below to progress each of the businesses for service support and the product sales.

We have the most superior regeneration technology in the world. Repowertek is going to change the whole paradigm on the battery use, maintenance and regeneration from now.

*The innovation of energy renewal by PRIME Series
establishes Battery Regeneration Workshops
as a Franchise business.*

PRIME WORKSHOP FOR BATTERY REGENERATION

1. Business Overview

“PRIME battery regenerator” is a machine to restore almost non-usable batteries whose life is over or disposal batteries whose capacity lacks like new. This is a business to resell the batteries at 20%-50% discount from the new battery’s price after restoring the battery with the regenerator or to provide battery regeneration service with the regenerator. We would like to recommend the “PRIME battery regeneration shops” in Franchise business, a new concept that combines lease and rentals.

2. Business Scope

- 1) Long-term/short-term battery maintenance and sales contract: Forklifts, golf carts, company UPS & Telecom UPS and so on
- 2) Lease and rental contact and maintenance contract: Transportation companies of buses/trucks, distribution companies, banks/telecommunications companies, etc.
- 3) Battery regeneration service: Regeneration fee by price list applies after regenerating all kinds of batteries
- 4) Roadside shop: Car battery replacement sales such as truck, bus, agricultural equipment
- 5) Online/off-line market sales of the regenerated batteries

3. Business Direction

We recruit local distributors (regeneration centers) and regeneration shops in the nation. The local distributors (regeneration centers) act as a hub of the regeneration shops. The local distributors recruit, manage and train the regeneration shops in its region. The regeneration shops proceed the business in the business scope mentioned the above for profit. Their business is run in a way to combine ink refill stores and maintenance service of office equipment by benchmarking.

4. Locations of Main Regeneration Shops

- 1) Places with a lot of traffic and spacious parking lot – Similar condition to gas stations in suburbs
- 2) Places with good ventilation, cheap rent and a lot of traffic
- 3) Warehouse area (Places where forklifts are use a lot)
- 4) Golf club area
- 5) Bus/truck terminal and the area around the last stop of a bus/truck
- 6) Highway service area
- 7) Ports with a lot of ships
- 8) Rural area where a lot of agricultural machinery is used and many solar houses are located

*** Commercial and residential areas are not recommended due to expensive rental cost.**

5. Marketability * The Best Battery Regeneration Shop Franchise in The World

1. Demands: Passenger cars, trucks/buses, forklifts, heavy equipment, UPS, agricultural machinery, the disabled wheelchairs, ships, auto bikes, electric cars, solar houses, storage batteries for wind generators, etc.
2. Marketability: The demand of restorable batteries a year is over million batteries. Thus, marketability of the battery regeneration shops that saves cost a lot and that protects environment is high.
3. Competitors: There are many cheap and high price products. However, we can secure the market with our competitive and excellent products
4. Development: Expand business by developing a highest efficient battery charger including forklift batteries
5. Marketing: Promotion and popularizing sales via our independent marketing plan
6. Promotion: Franchise promotion and product promotion by exclusive foreign selling agencies
7. Sales: Maximizing retail sales through online/off-line media promotion

6. Profitability (Estimation)

- A. Forklift Battery 1 set : Average Regeneration Cost - \$500~1,000
 - B. Golf Cart Battery 1 set : Average Regeneration Cost - \$200~300
 - C. Wheel Chair Battery 1 set : Average Regeneration Cost - \$40~60
 - D. UPS Battery 1 piece : Average Regeneration Cost - \$30~50
 - E. Automotive Battery 1 piece : Average Regeneration Cost - \$20~40
 - F. Truck & Bus Battery 1 piece : Average Regeneration Cost - \$30~50
- * Cell replacement, Welding, Logistics and other services are optional

*** Business Method and How-to-Make a profit
through battery regeneration center (Franchise – by one shop);**

1. Replacement and sale of all car batteries - Based on 5~10 batteries per Day.
(@\$20~40 - with a collecting of existing used battery in the car)
 - * To sustain the franchise, promote to anyone who knows products and services.
 - * Call service to change a battery for the discharged battery
(Its charge will be determined by a call center prior to visiting)
2. Industrial Battery Restore Services - Based on 5~10 batteries per Day (Electric wheelchairs, UPS, solar, lifts, plant and all lead batteries) - Cost charges by restoration rate chart by regenerated battery capacity and condition.
3. Maintenance contract - such as office copiers and monthly maintenance and restoration services contract (Telecom towers, labs, factory and warehouse forklifts, etc.)
4. Rental, Lease - PRIME products can be rented or leased with users.
5. Forklift Battery Regeneration Service - Franchise sends forklift batteries to the Regeneration Hub Center in order to maintain change cells or restoration.
 - Commission based sales.
6. Renewed battery Sales by On-line, Off-line markets.
7. Franchisees link - Export batteries after regeneration (Car : CCA & Deep Cycle : RC 70% or more compared to new, 12.6V or above).

★ APPLICABLE BUSINESS FIELDS with PRiME battery regenerators

- (1) **Electric Forklift** and **Traction Equipment**, **Electric Wheel Chair** and **Golf Cart** and **Clean Car**
- (2) **Communications** – UPS, Telecom Tower and other communication equipment
- (3) **Automotive Vehicle** - Passenger Car, Utility Car, Bus, Truck, and other motive equipment
- (4) **Agricultural Machinery** - Tractor and other equipment
- (5) **Military Equipment** - Tank, Armored Car, Military vehicles and other equipment
- (6) **Ship & Train** - All kinds of ships & battery equipped boats and trains
- (7) **Solar & Wind Power System** - Solar & Wind Turbine Plants ; All kinds of storage batteries
- (8) **Battery Shops** – New battery shops for inferior & sleeping batteries (supply as a Battery Physician)

★ APPLICABLE SALES & MARKETING FIELDS with PRiME battery regenerators

1. Electric Forklift Rental and Maintenance Company including Importers and Suppliers of Used Electric Forklifts.
2. Telecom UPS Maintenance Company and general UPS Company.

3. Electric Lift, Electric Car, Electric Golf Cart, Electric Wheelchair with lead-acid batteries.
4. Military Equipment (Vehicles, Tanks and other battery used equipment) – Government who in charge of Government's cost saving and reduction including Military.
5. All kind of Vehicle battery related company (Car Repair Shop Chain, Truck, Bus) including Importers and Suppliers for All kinds of Used Car, Vehicle.
6. Boat and Ships, Train Maintenance Company
7. Solar and Wind Power System, Renewable Energy Related Supplier
8. Wholesale and Retail sales company/shops for new lead-acid batteries (including Lead-Acid Battery Suppliers and Manufacturers)

★ Why battery suppliers need PRIME regeneration equipment?

1. As a physician for lead-acid batteries – PRIME can make the most active electromotive force inside battery through the exclusive high-frequency pulsation when any battery's chemical activation energy is lowered.

2. As the Universal Regenerator – If a serviceman regenerates lead-acid batteries once~twice for the after service, all battery capacity will be improved and all cells will be equalized well. Customers will be very satisfied with improved capacity and higher power, and they can make a full satisfaction with the battery brand and service through PRIME. For all kinds of lead-acid batteries (RPT-T300/C300/C200 = all functions are combined). PRIME can extend 2~3 times of the battery life span longer and delay, and also it can make a sustained higher capacity as well through repeated regeneration process once every 6~12 months.

(It seems that the battery manufacturer can be a rapid decrease for the sales quantity of the battery though a prolong life spans of batteries as mentioned. If the battery capacity will be improved with PRIME machines, the reputation of a battery brand will be much improved as well. The supplier can be weighing what will be the alternative choices.)

3. As the Universal Charger & Discharger – Comparing with all other existing chargers in the world, we believe that PRIME will be much advanced charger incomparably. The digital discharger makes a constant discharging performance and result with a monitoring graph through PC.

4. As the battery identification – It can test the damaged battery conditions (12V, up to 300Ah) within a few minute. You can see it as 'CELL CUT', 'CELL SHORT' or 'CELL CORROSION' on the screen with a beep sound. (RPT-T300) Thus, most batteries will be assorted for targeting ones whether to be regenerated or wasted.

5. As the highest efficient charger (universal) – Before the delivery of new battery to your customers, use Regeneration Mode of PRIME. A new battery – automatically fully charged and completed by a lower current 0.3A (RPT-T300/C300/C200) ~ 1.5A (RPT-S500/S600) with high-

frequency pulsation. A fully charged battery will be automatically finished earlier regardless of setting time. PRIME can make the highest efficient chemical activation & electromotive force inside battery. Over 120% charging state can be made. (by a discharging test up to a cut-off voltage).

6. As the special battery Waker – If stored lead-acid batteries are all NEW & unused for 1~3 years, we call it as “sleeping (dormant) battery”. PRIME machines can show the greatest performance to revive most of sleeping batteries. (Over 100% capacity can be recovered). New, long time unused sleeping batteries – You can rejuvenate these batteries well through ‘Power Supply Mode’ & ‘Regeneration Mode’.

7. As the quick battery charger – PRIME can make a quick charging – PRIME charging/regenerating does not make battery’s heating. So, the battery will not be heated during the charging process. PRIME makes a quick charging by 6~7 hours rate. You can compare with all other chargers.

PRIME products will be a ‘MUST HAVE’ equipment for all battery suppliers to make the highest efficient full charging for all batteries as well as to recover all sleeping batteries as a battery physician.

If you are working with the lead-acid batteries, PRIME regenerators will be the only necessity equipment for all lead-acid battery regeneration and maintenance companies. PRIME will be your final battery rejuvenating solution if you have been disappointed with all other regenerator named products so far. You must have PRIME regenerators if you really want to extend battery life spans to over twice than your present regeneration methods (unless physically inexecutable battery states).

We know very well that most people do not trust Battery regeneration machines. Yes! It is true that all regenerators have the similar technology of supplying Direct Current (DC) with forced High-Voltage to batteries, which can result in permanent cell damages for aged batteries. (Low-frequency pulse regeneration methods gives severe cell damages, so it rather gives a rapid shortening of battery life span. High-frequency pulse regeneration methods are entirely faked – No real HF pulse operated and measured by Oscilloscope through the battery terminals).

PRIME Regeneration Technology overcomes the limitation of all existing regeneration methods as the world exclusive technology. Through our new invention of PRIME battery regeneration system, all paradigm of the battery regeneration and maintenance can be changed by PRIME regenerators from now on. The resulting shift to PRIME regenerators and chargers are going to be as game-changing as shifting from typewriters to the gains in computers. PRIME can make the greatest revolution in battery chargers and regenerators all over the world. We hope our special technology will make a great advance for chargers in near future as well.



Solar & Wind Power Batteries

Telecom / UPS Batteries

Electric Forklift & Golf Cart Batteries

Used Batteries

RPT-S600
Battery Regenerator

Dimensions : 560mm(D) X 400mm(W) X 480mm(H)
Voltage & Frequency : AC 200-250V / 50-60Hz
Battery Voltage : DC 2V-90V (Adjustable)
Battery Capacity : All kinds of Lead-Acid Battery 40Ah-3,000Ah
Output Current (Pulse) : ~ 60A (Max. per hour)

RPT-S500
Battery Regenerator

Dimensions : 1010mm(D) X 400mm(W) X 480mm(H)
Voltage & Frequency : AC 200-250V / 50-60Hz
Battery Voltage : DC 2V-90V (Adjustable)
Battery Capacity : All kinds of Lead-Acid Battery 40Ah-3,000Ah
Output Current (Pulse) : ~ 60A (Max. per hour)

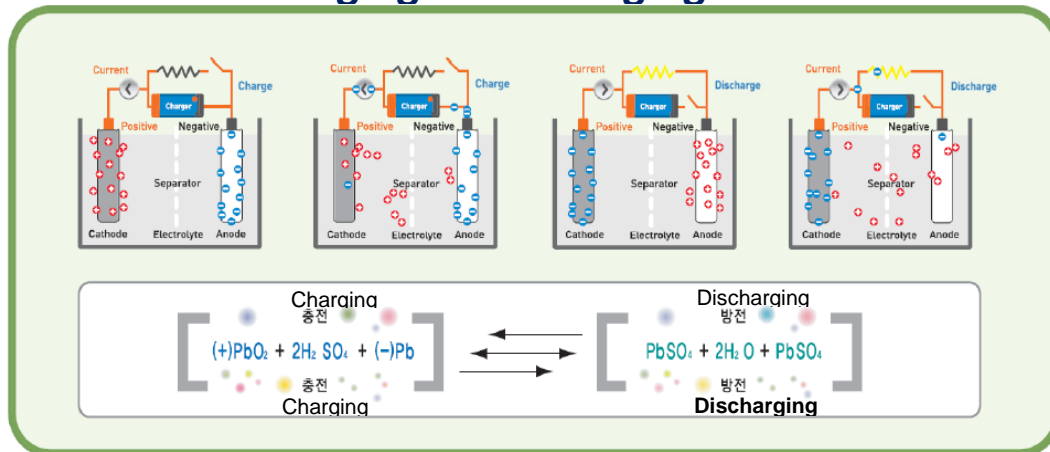


Renewable Energy by Green Technology
REPOWERTEK INC.
www.regenerator.co.kr Made in Korea

➤ Required Accessories for Battery Regeneration (Optional)

Battery Checker (Analyzer)	 DHC DSR02 (without Printer)	DHC Digital Battery Checker (For 12V Battery Only) It can measure changed state between restoring state of the battery and the initial state of the battery. It is the essential instrument for measuring 12V battery. Measurement : Voltage, CCA, Internal Resistance, SOH, SOC
Battery Quality Diagnostic Tester (Analyzer)	 IBEX-PRO (without Printer)	Watson Digital Battery Quality Diagnostic Tester (For VRLA Battery, UPS Battery) It can measure changed state between restoring state of the battery and the initial state of the battery. It is the essential instrument for measuring 0.1V ~ 60V battery. Measurement : Voltage, Internal Resistance
Digital Clamp Meter	 KETECH MS2115B	KETECH MS2115B True RMS Clamp Meter It can check the voltage of the battery and the amount of current which is being entered into battery with the high-frequency pulse from regenerator & discharger. It is essential instrument for checking the output current with high-frequency pulse (RMS = Root Mean Square) Measurement : AC / DC Voltage and AC / DC Current with pulse
Infrared Thermometer	 59 Mini	FLUKE Infrared Thermometer It is used for measuring inside and outside temperature of the battery as not-contact infrared thermometer. It is essential instrument for restoring batteries. Measurement : Temperature
Optical Hydrometer		ATC Optical Hydrometer It is an instrument to measure the gravity of the liquid electrolyte in the battery. Precise optical measurement is possible and it is essential instrument for restoring forklift battery. Measurement : Gravity
Syringe Type Hydrometer		Syringe Type Hydrometer It is manual type hydrometer to check battery gravity within short time. Accuracy is inferior to that of optical hydrometer and can be used for mixing the electrolyte inside of the battery.
Serial Connection Clip		Serial Connection Clip (Max. 30A) Battery cable is needed to connect many batteries as serial at once. ex) 5 serial connection clip is needed when restoring 6ea 12V 60Ah battery.

Charging & Discharging Process



Lead-sulfate is created when a battery is discharged. Then, when charged, in principle all lead-sulfate changes back to its component materials --- lead, lead dioxide and sulfuric acid. However, as batteries age, hard lead-sulfate crystallizes on the surface of the electrode plates. This non-conductive material films the surface of the electrode plate causing a reduction in surface area needed for electrochemical reaction of the battery. It also reduces the batteries' component materials needed for the reaction. Heavily sulfated batteries, which do not hold charges, are often replaced prematurely and unnecessarily.



Chemical Response To Lead-Acid Battery's Discharge – Electrolyte is made of dilute sulfuric acid ($\text{H}_2\text{SO}_4 + \text{H}_2\text{O}$). Only sulfuric acid responds to chemical reactions. Thus, the electrolyte becomes more like water. It lowers the gravity and voltage of the electrolyte as the battery discharges. If continued discharged, active materials become lead sulfation (PbSO_4). As a result, the battery discharges fully not to generate electricity any more. Over-discharge below certain voltage damages the battery internally to shorten its life. Thus, a battery of a passenger car should be discharged down to 10.5V (1.75/Cell) in general.

Chemical Response To Lead-Acid Battery's Charge – Water of the electrolyte becomes back to dilute sulfuric acid ($\text{H}_2\text{SO}_4 + \text{H}_2\text{O}$). Then, the gravity and the voltage of the electrolyte rise to its specified specification. When fully charged, the gravity and the voltage of the electrolyte does not rise anymore and water electrolysis accelerates, which generates hydrogen (H_2) and oxygen (O_2) gas a lot.

In particular, the gases generate actively at the end of the charge and at high-rate discharge. Hydrogen can burst and oxygen helps combustion. Thus, there should be no inflammables and fire around the battery when charged.

※ If not used a discharged battery, its grid becomes sulfation and an active material on the grid change into white crystal sulphation (that cannot be restored by charge). It makes charging it more difficult as time goes by.

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Thanks.

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with the PRIME Series.



Terms and conditions apply
Exception : already damaged batteries,
before regeneration process



RPT-C300 (6-In-1) Battery Regenerator & Discharger

Voltage & Frequency : AC 80-120V, 210-250V / 50-60Hz
Battery Voltage : DC 6V, 8V, 12V (Adjustable)
Battery Capacity : All kinds of Lead-Acid Battery 40Ah-300Ah
Output Current (Pulse) : ~ 25A (Max. per hour)
Discharge Capacity : Approx. 420Whrs



RPT-T300 (7-In-1) Battery Condition Tester (Regenerator + Discharger)

Voltage & Frequency : AC 80-120V, 210-250V / 50-60Hz
Battery Voltage : DC 6V, 8V, 12V (Adjustable)
Battery Capacity : All kinds of Lead-Acid Battery 40Ah-300Ah
Output Current (Pulse) : ~ 25A (Max. per hour)
Discharge Capacity : Approx. 420Whrs



RPT-S600 (3-In-1) Battery Regenerator

Voltage & Frequency : AC 210-250V / 50-60Hz
Battery Voltage : DC 2V-96V (Adjustable)
Battery Capacity : All kinds of Lead-Acid Battery 40Ah-3,000Ah
Output Current (Pulse) : ~ 60A (Max. per hour)



RPT-D10K Battery Discharger

Voltage & Frequency : AC 210-240V / 50-60Hz
Battery Voltage : DC 12V-96V (Adjustable)
Discharge Current : Max. 200A
Discharge Capacity : Approx. 100kw
All kinds of Batteries can be discharged

Applications

Solar & Wind Power



Telecom Tower UPS



Electric Forklift



Electric Golf Cart



Electric Scrubber



Electric Scissor Lift



Train, Camping Trailer & Ships



Military Tanks & Armored Cars



Electric Wheelchairs & Scooters



Automobiles



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