



# **DCX21600**

## **OPERATION MANUAL**

*WARNING: THE CHARGING AND DISCHARGING OF RC HOBBY BATTERIES CAN BE DANGEROUS. FAILURE TO FOLLOW THE INSTRUCTIONS AND WARNINGS IN THIS MANUAL MAY RESULT IN PROPERTY DAMAGE AND/OR LOSS OF LIFE.*

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# INTRODUCTION

Congratulations on purchasing Hitec's DCX2 1600 Dual Port Charger / Discharger / Power Supply. The DCX2 1600 features independent circuits allowing you to charge two batteries simultaneously, regardless of chemistry or capacity. The DCX2 1600 also features integrated balancing for up to eight-cell Lithium-Polymer (LiPo), Lithium Iron Phosphate (LiFe) and Lithium-Ion (Li-ion), as well as the latest high voltage Lithium-Polymer (LiHV) batteries.

Although simple to use, the DCX2 1600 does require some basic knowledge for successful and safe operation. The operating instructions included here are designed to ensure that you quickly become familiar with its functions. It is important that you read through this manual in its entirety. Read attentively and completely the Operating Instructions, Warning and Safety Notes BEFORE attempting to use your new charger for the first time.

**Please read this entire operating manual before using the DCX2 1600 Charger. If you are unsure of its proper operation after reading the manual, please seek advice from an experienced hobbyist or someone familiar with proper battery charging procedures.**



**Warning** **THE CHARGING AND DISCHARGING OF RC HOBBY BATTERIES CAN BE DANGEROUS. FAILURE TO FOLLOW THESE EXPLICIT WARNINGS CAN RESULT IN PROPERTY DAMAGE AND/OR LOSS OF LIFE.**

-  **NEVER LEAVE YOUR CHARGER UNATTENDED WHILE IN OPERATION.**
-  **NEVER CHARGE ON OR AROUND COMBUSTIBLE MATERIALS.**
-  **NEVER CHARGE A DAMAGED BATTERY PACK.**
-  **LOW COST, NO-NAME BATTERY PACKS POSE THE MOST DANGER. WE RECOMMEND YOU ONLY USE BATTERY PACKS THAT ARE SOLD AND WARRANTIED BY A REPUTABLE COMPANY.**
-  **IT IS HIGHLY RECOMMENDED THAT YOU UTILIZE A SAFETY DEVICE SUCH AS A STEEL CASE OR LiPo SACK™ WHILE CHARGING LITHIUM CHEMISTRY BATTERIES.**
-  **IT IS HIGHLY RECOMMENDED THAT YOU KEEP AN OPERABLE "CLASS A" FIRE EXTINGUISHER IN THE CHARGING AREA.**

**FAILURE TO FOLLOW THESE WARNINGS CAN BE CONSIDERED NEGLIGENCE BY THE OPERATOR AND MAY NEGATE ANY CLAIMS FOR DAMAGES INCURRED.**

## WARNINGS & SAFETY

Hitec Group USA, Inc. (Hitec RCD USA) will not be held responsible for any damages or injuries that may occur by persons who fail to follow these warnings or who fail to properly follow the instructions in this manual.



**Warning**



**Tip**



**Note**



**Caution**

**Warning:** Be sure to read this section for your own safety.

**Tip:** This section will help you maximize the performance of your charger.

**Note:** This section will provide more detailed explanations.

**Caution:** Be sure to read this section to prevent accidents and damage to your charger.

These warnings and safety notes are of the utmost importance. You must follow these instructions for maximum safety. Failure to do so can damage the charger and the battery and in the worst cases, may cause a fire.



**Warning**

**NEVER LEAVE THE CHARGER UNATTENDED WHILE IT IS CONNECTED TO ITS POWER SOURCE. IF ANY MALFUNCTION IS FOUND, TERMINATE THE PROCESS AT ONCE AND REFER TO THE OPERATION MANUAL.**



**The allowable DC input voltage is 9–49V DC.**



**Keep the charger away from dust, damp, rain, heat, direct sunlight and excessive vibration.**



**If the charger is dropped or suffers any type of impact, it should be inspected by an authorized service station before using it again.**



**This charger and the battery should be put on a heat-resistant, non-flammable and non-conductive surface.**



**Never place a charger on a car seat, carpet or similar surface. Keep all flammable volatile materials away from the operating area.**



**Make sure you know the specifications of the battery to be charged or discharged to ensure it meets the requirements of this charger. If the program is set up incorrectly, the battery and charger can be damaged.**



**Fire or explosion can occur due to overcharging.**



**Never attempt to charge or discharge the following types of batteries:**

- A battery fitted with an integral charge circuit or a protection circuit.
- A battery pack which consists of different types of cells (including different manufacturer's cells).
- A battery that is non-rechargeable (these pose an explosion hazard).

- A faulty or damaged battery.
- Batteries installed in a device or which are electrically linked to other components.
- Batteries that are not expressly stated by the manufacturer to be suitable for the currents the charger delivers during the charge process.

#### PLEASE CHECK THE FOLLOWING POINTS BEFORE YOU BEGIN CHARGING:

- Did you select the appropriate program suitable for the type of battery you are charging?
- Did you set up the adequate current for charging or discharging?
- Have you checked the battery voltage? Lithium battery packs can be wired in parallel and in series, i.e. a 2-cell pack can be 3.7V (in parallel) or 7.4V (in series).
- Have you checked that all connections are firm and secure?
- Make sure there are no intermittent contacts at any point in the circuit.

#### Standard Battery Parameters

|                               | LiPo                   | Li-ion                 | LiFe                   | LiHV                   | NiMH                 | NiCd                 | Pb                     |
|-------------------------------|------------------------|------------------------|------------------------|------------------------|----------------------|----------------------|------------------------|
| <b>Nominal Voltage</b>        | 3.7V/cell              | 3.6V/cell              | 3.3V/cell              | 3.8V/cell              | 1.2V/cell            | 1.2V/cell            | 2.0V/cell              |
| <b>Max Charge Voltage</b>     | 4.15–4.25V<br>per cell | 4.05–4.25V<br>per cell | 3.58–3.70V<br>per cell | 4.25–4.50V<br>per cell | —                    | —                    | 2.30–2.75V<br>per cell |
| <b>Storage Voltage</b>        | 3.75–3.90V<br>per cell | 3.70–3.85V<br>per cell | 3.25–3.40V<br>per cell | 3.85–3.95V<br>per cell | —                    | —                    | —                      |
| <b>Fast Charge Current</b>    | ≤ 1C                   | ≤ 1C                   | ≤ 1C                   | ≤ 1C                   | ≤ 1C                 | ≤ 1C                 | ≤ 0.4C                 |
| <b>Min. Discharge Voltage</b> | 3.0–3.4V<br>per cell   | 2.9–3.3V<br>per cell   | 2.6–3.0V<br>per cell   | 3.1–3.5V<br>per cell   | 0.6–1.0V<br>per cell | 0.6–1.0V<br>per cell | 1.8–2.0V<br>per cell   |



Warning

**WHEN ADJUSTING YOUR DCX2 1600 CHARGING PARAMETERS, BE SURE YOU SELECT THE PROPER BATTERY TYPE AND CELL VOLTAGE FOR THE TYPE OF CELL YOU ARE CHARGING. CHARGING BATTERIES WITH THE WRONG SETTINGS MAY CAUSE THE CELLS TO BURST, CATCH FIRE OR EXPLODE.**

## Charging

Before charging your batteries, it is critical that you determine the maximum allowable charge rate for your batteries. The DCX2 1600 is capable of charging at high rates that may not be suitable or safe for your particular batteries. For example, Lithium cells are typically safe to charge at 1C, or the total mAh ÷ 1000. A 1200mAh battery would have a 1C charge rate of 1.2 amps. A 4200mAh battery would have a 1C charge rate of 4.2 amps. Some manufacturers are offering Lithium cells that can be charged at greater than 1C but this should ALWAYS be verified before charging a Lithium battery at rates higher than 1C. Voltage is just as critical as the charging amperage rate and this is determined by the number of cells in series, or “S”. For example, a 3S LiPo is rated at 11.1 volts (“S” multiplied by a single LiPo cell with a nominal voltage of 3.7 volts DC. 3 cells x 3.7 volts each equals 11.1 volts DC).

Connect the battery's main leads to the charger output: Red is positive and black is negative. Keep in mind that the gauge or thickness of your charging leads from the DCX2 1600 to your battery must be of an acceptable current rating to handle the applied charge current. For maximum safety and charging effectiveness, always match or exceed the main battery lead rating when assembling or selecting your charging leads. If you charge a battery at a high current rate (amperage) with a charging lead not rated for the chosen amperage, the wire could get hot, catch fire, short out and/or potentially destroy your battery and the charger. When in doubt, always use a thicker wire with a lower AWG number. It is common to see charging leads constructed of 14AWG, 16AWG or 18AWG wire.

Always refer to recommendations from your battery manufacturer for your specific battery type and size before initiating a charge or discharge process.

**Do not attempt to disassemble or modify ANY battery packs.**

## Discharging

The DCX2 1600 discharging functions are for two specific purposes:

- Refreshing the capacity of a Nickel-based battery that has lost capacity over time (NiMH or NiCd).
- Reducing the voltage of a Lithium battery for safe storage.



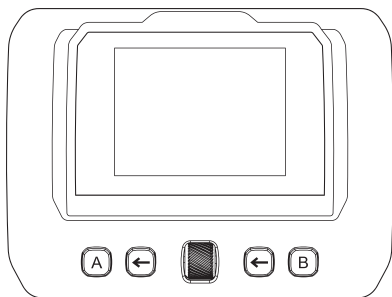
Warning

**LITHIUM CHEMISTRY BATTERY PACKS SHOULD ONLY BE DISCHARGED TO THEIR MINIMUM SAFE VOLTAGE, NO LOWER. DEEP DISCHARGING A LITHIUM CELL WILL DO PERMANENT DAMAGE. REFER TO THE STANDARD BATTERY PARAMETERS TABLE ON PAGE 5 OF THIS MANUAL FOR MINIMUM DISCHARGE VOLTAGES.**

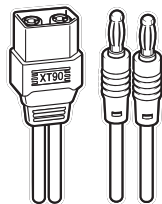
## LiPo & LiHV Charge/Discharge Cycling

Lithium batteries are known to reach full capacity after a break-in period of about 10 charge/discharge cycles. We do not recommend you use the DCX2 1600 charger to do this; normal use and recharging will achieve the same results. If you wish to perform a Lithium break-in on the bench with the DCX2 1600, discharging to minimum acceptable voltages and performing a balance charge at 1C maximum rate is recommended. If you choose to break in your Lithium batteries under normal use, charging at only 1C for the first ten cycles will help ensure full performance and service life from your Lithium cells.

## PACKAGE CONTENTS



DCX2 1600 Multicharger



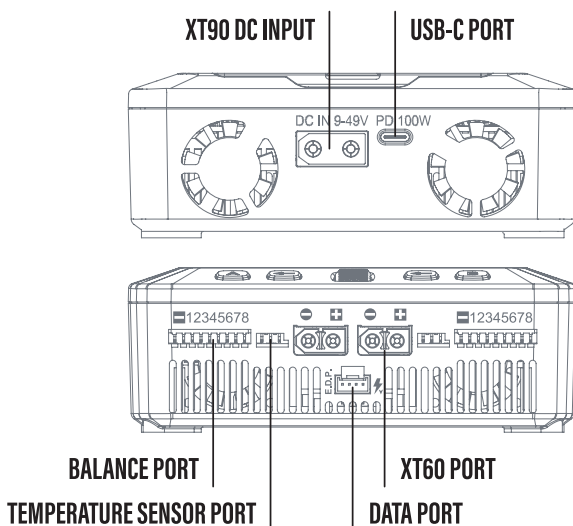
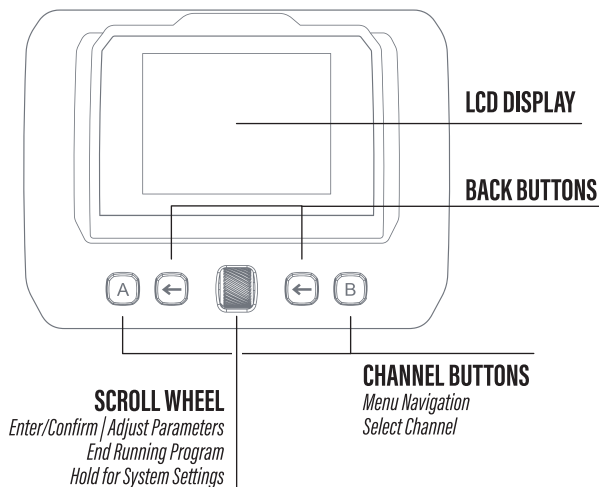
XT90 DC Cord w/ 4mm Bullets

## OPTIONAL PARTS



**Additional Accessories Available**

## CHARGER LAYOUT



| Item                    | Option                                                        | Specification                                                              |
|-------------------------|---------------------------------------------------------------|----------------------------------------------------------------------------|
| Input Voltage           | DC                                                            | 9.0–49.0V                                                                  |
| Input Current           | DC                                                            | Single Channel: 32A MAX ( $\pm 10\%$ )   Dual Channels: 55A ( $\pm 10\%$ ) |
| Charge Power            | DC                                                            | Single Channel: 1100W ( $\pm 10\%$ )   Dual Channels: 1600W ( $\pm 10\%$ ) |
| Discharge Power         | Main Port    Balance Port                                     | 45W ( $\pm 10\%$ )    20W MAX (LiPo/8S)                                    |
| External Discharge      | Current (Channel A Only)                                      | 0.5–40.0A                                                                  |
| Reverse Discharge Power | 2–8S: LiPo/LiFe/Li-ion/LiHV<br>8–20S: NiMH/NiCd   Pb: 3/6/12S | 1100W ( $\pm 10\%$ )                                                       |
| Charge Current          | 1S: LiPo/LiFe/Li-ion/LiHV/NiMH/NiCd                           | 0.1–0.5A ( $\pm 0.1A$ )   0.6–10.0A ( $\pm 10\%$ )                         |
|                         | 2–8S: LiPo/LiFe/Li-ion/LiHV<br>2–20S: NiMH/NiCd               | 0.1–0.5A ( $\pm 0.1A$ )   0.6–32.0A ( $\pm 10\%$ )                         |
|                         | Pb                                                            | 0.1–0.5A ( $\pm 0.1A$ )   0.6–15.0A ( $\pm 10\%$ )                         |
| Discharge Current       | —                                                             | 0.1A ( $\pm 0.05A$ )   0.2–4.0A ( $\pm 10\%$ )                             |
| Balance Current         | LiPo/LiFe/Li-ion/LiHV                                         | 2.1A MAX                                                                   |
| Parallel Current        | 2–8S: LiPo/LiFe/Li-ion/LiHV                                   | 33–50A                                                                     |
| Battery Type            | LiPo/LiFe/Li-ion/LiHV                                         | 1–8S                                                                       |
|                         | NiMH/NiCd                                                     | 1–20S                                                                      |
|                         | Pb                                                            | 3/6/12S                                                                    |
| DC Power                | Voltage    Current    Power                                   | 5.0–36.0V (Default 12V)    0.3–32.0A    1100W                              |
| Working Modes           | LiPo/LiFe/Li-ion/LiHV                                         | Charge, Balance, Discharge, Parallel, Reverse, Storage                     |
|                         | NiMH/NiCd                                                     | Charge, Re-Peak, C-D Cycle, D-C Cycle, Discharge, Reverse                  |
|                         | Pb                                                            | Normal, AGM Charge, Cold, Discharge, Reverse                               |
| Ext. Temp. Sensor       | —                                                             | 40–65°C (Default 50°C)                                                     |
| USB-C Output            | —                                                             | PD3.0 100W   5/9/12/15V @3A; 20V @ 5A                                      |
| Working    Storage      | —                                                             | 32°F–104°F / 5%–75% Humidity    14°F–158°F / 5%–75% Humidity               |
| Size                    | L x W x H                                                     | 5.16 x 3.86 x 1.83 in                                                      |
| Net Weight              | —                                                             | 1.168 lbs.                                                                 |

## CHARGER FEATURES

### **Dual Independent Charging Channels:**

The DCX2 1600 features two independent channels, allowing you to charge batteries with different chemistries, capacities and cell counts simultaneously. Each channel has its own settings and operating status.

### **High-Power DC Charging:**

The DCX2 1600 delivers up to 1100W on a single channel or 1600W across both channels, with charging current up to 32A per channel for supported battery configurations. Available charging power depends on the DC source, input settings and battery voltage.

### **Multiple Battery Chemistries:**

The charger supports 1–8S LiPo, LiFe, Li-ion and LiHV batteries, 1–20S NiMH and NiCd batteries, and 3S, 6S and 12S Pb batteries. Always select the correct chemistry and cell count before starting a program.

### **Lithium Balance Charging:**

Balance Charge monitors individual cell voltages and balances the cells during charging. Connect both the battery's main lead and balance lead. Balance Charge is recommended for routine charging of supported multi-cell lithium batteries.

### **Lithium Charge Mode:**

Charge mode charges a lithium battery without balancing its cells. A connected balance lead allows individual cell voltages to be monitored. Use Balance Charge when cell balancing is required.

### **Lithium Storage Mode:**

Storage mode charges or discharges a lithium battery to the preset storage voltage for the selected chemistry. Use this mode to prepare batteries for storage, following the battery manufacturer's recommendations.

### **Adjustable Terminal Voltage:**

The Condition setting allows the charge endpoint to be adjusted for supported battery types and programs. Use the default setting unless the battery manufacturer specifies otherwise. Incorrect voltage settings can damage the battery or cause a fire.

### **NiMH/NiCd Charging Programs:**

Supported programs include Charge, Discharge, Re-Peak and charge/discharge cycling. Re-Peak checks the battery's charge termination again, while cycling alternates charging and discharging. Select settings appropriate to the battery manufacturer's recommendations.

### **Pb Charging Programs:**

Dedicated Normal, AGM Charge and Cold Charge programs accommodate supported lead-acid batteries. Select the program appropriate to the battery type and operating conditions.

**Parallel Charging:**

Parallel Charging combines both charging outputs to charge one supported 2–8S lithium battery at 33–50A. A dedicated parallel charging cable is required. See page 22 for connection instructions.

**Reverse Discharge:**

Reverse Discharge transfers energy from a source battery to a battery connected to the other channel. Configure the discharge settings for the source battery and the charge settings for the receiving battery. See page 23 for operating requirements.

**External Discharge:**

With a compatible external discharger, Channel A supports discharge current up to 40A. The external discharger is sold separately. See page 24 for setup instructions.

**DC Power Supply:**

Either charging channel can provide adjustable DC output for compatible equipment. Output settings range from 5–36V and 0.3–32A, with power up to 1100W. Available output depends on the connected DC source and the charger's power allocation. See page 21 for instructions.

**Battery Meter:**

The Battery Meter displays battery voltage and internal resistance. Connect the balance lead when checking individual lithium-cell readings. Select Channel A or B to view the connected battery.

**Safety Timer and Capacity Limit:**

Set a maximum program duration and capacity limit to help prevent a program from continuing beyond the selected limits. Adjust these settings to suit the battery and operating program.

**Temperature Protection:**

An external temperature sensor allows a temperature cutoff to be set from 40–65°C, with a default of 50°C. Connect the sensor and position it appropriately to monitor battery temperature.

**Bluetooth App Control:**

Built-in Bluetooth enables charger control through Hitec's LinkPowerX app. The app also supports firmware updates. See page 25 for additional information.

**USB-C Power Output:**

The USB-C port supplies up to 100W to compatible mobile devices. Actual output depends on the connected device and cable. See page 26 for additional information.

## PROGRAM FLOW CHART

**Note:** The Flow Chart shows one port (Port A) as the example. The Flow Chart for Port B is identical.



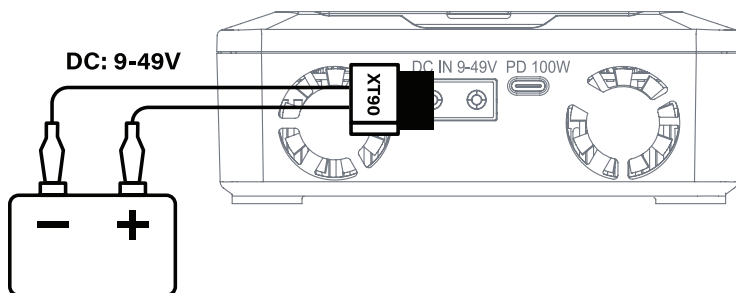
**BEFORE YOU BEGIN CONNECTING YOUR BATTERY, MAKE SURE YOU HAVE READ AND UNDERSTOOD ALL OF THE WARNINGS AND SAFETY INFORMATION CONTAINED IN THIS MANUAL.**



## POWER & BATTERY CONNECTIONS

### 1. Connect to a power source.

The DCX2 1600 can connect to a suitable 9–49V DC power source.

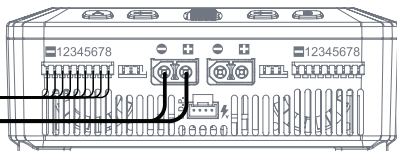


## 2. Connecting the battery

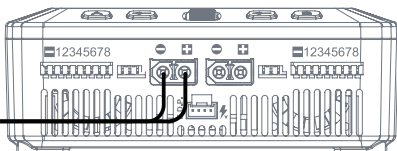
1. LiPo Battery Connection with Balance Connector.
2. Select Port A or B where the battery is connected. Press the scroll wheel to configure the charging parameters:  
Battery Type | # of Cells | Voltage | Current
3. Use the scroll wheel to change between cell voltage and resistance.
4. Select START and press the scroll wheel.
5. Press the scroll wheel to stop.

*For safety reasons, it is highly recommended to charge Lithium batteries (LiPo, Li-ion, LiFe and LiHV) using Balance CHG mode unless the battery comes without a balance connector. The balance wire attached to the battery must be connected to the charger with the black wire aligned with the negative (-) marking. Ensure correct polarity!*

**LiPo Battery**



**NiMH Battery**



# CHARGER OPERATION

## Initial Setup of the Charger

After connecting the battery, you are now ready to setup the charger to charge your specific type of battery. When the charger is first powered on, the last program selected will be displayed. If this is not the battery you plan on working with, then you will need to make changes to the operation programming based on the following instruction.



Warning

**BEFORE SELECTING AN OPERATION, IT IS CRITICAL THAT YOU KNOW THE TYPE OF BATTERY YOU ARE WORKING WITH AND WHAT THE MANUFACTURER RECOMMENDATIONS ARE FOR CHARGING OR DISCHARGING. FAILURE TO FOLLOW THE MANUFACTURER'S RECOMMENDATIONS CAN RESULT IN DAMAGE TO THE BATTERY AND CREATE AN EXPLOSION HAZARD.**

## Available Operations

Depending on battery type, different operations will be available. This chart shows which operations are available for the different types of batteries the DCX2 1600 is capable of working with.

| Battery Type                   | Operation   | Operation Description                                                                                                   |
|--------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------|
| LiPo<br>Li-ion<br>LiFe<br>LiHV | Balance CHG | This mode is to balance charge the lithium battery based on the charging rate. It can balance each cell of the battery. |
|                                | Charge      | This mode is to charge the lithium battery based on the charging rate selected.                                         |
|                                | Storage     | This mode is to store the battery via charging or discharging its voltage to a specific storage value.                  |
|                                | Discharge   | This mode is to discharge the lithium battery based on the discharging rate selected.                                   |
|                                | Parallel    | This mode is to parallel charge the battery with a higher charge rate of up to 50.0A.                                   |
|                                | Reverse     | Reverse discharge mode allows transferring energy from an idle battery to another.                                      |



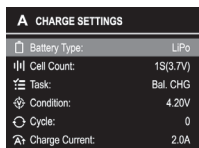
Warning

**BEFORE YOU BEGIN CHARGING YOUR BATTERY, MAKE SURE YOU HAVE READ AND UNDERSTOOD ALL OF THE WARNINGS AND SAFETY INFORMATION CONTAINED IN THIS ENTIRE MANUAL.**

| Battery Type                | Operation   | Operation Description                                                                                                                                                                                                |
|-----------------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>NiMH<br/>NiCd</b>        | Charge      | This mode is to charge the NiMH/NiCd battery based on the charging rate selected.                                                                                                                                    |
|                             | Discharge   | This mode is to discharge the NiMH/NiCd battery based on the discharging rate selected.                                                                                                                              |
|                             | Re-Peak     | In re-peak charge mode, the charger can peak charge the battery twice in a row automatically. This is good for confirming the battery is fully charged, and for checking how well the battery receives fast charges. |
|                             | Cycle_C_D   | 0 to 3 cyclic and continuous process of charge>discharge is operable for refreshing and restoring the performance of NiMH/NiCd batteries.                                                                            |
|                             | Cycle_D_C   | 0 to 3 cyclic and continuous process of discharge>charge is operable for refreshing and restoring the performance of NiMH/NiCd batteries.                                                                            |
|                             | Reverse     | Reverse discharge mode allows transferring energy from an idle battery to another.                                                                                                                                   |
| <b>Lead<br/>Acid<br/>Pb</b> | Normal      | This mode is to charge the Pb battery based on the charging rate selected.                                                                                                                                           |
|                             | AGM Charge  | This mode is to charge the AGM battery based on the charging rate selected.                                                                                                                                          |
|                             | Cold Charge | This mode is to charge the Pb battery under a low temperature based on the charging rate selected.                                                                                                                   |
|                             | Discharge   | This mode is to discharge the Pb battery based on the discharging rate selected.                                                                                                                                     |
|                             | Reverse     | Reverse discharge mode allows transferring energy from an idle battery to another.                                                                                                                                   |

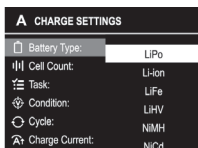
# LITHIUM PROGRAM (LIPO/LIFE/LI-ION/LIHV)

From the main menu, press the scroll button to enter the Charger's settings.



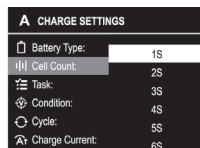
## Enter Charger Settings

Press the scroll wheel to enter Charger Settings.



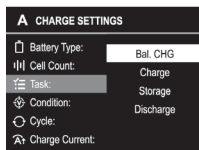
## Select Battery Type

Use the scroll wheel to enter the Battery Type menu, then select your battery type.



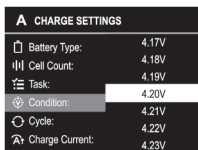
## Select Battery Cell

Use the scroll wheel to enter the Battery Cell menu, then select your battery cell(s).



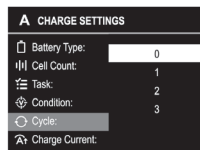
## Select Task

Use the scroll wheel to enter the Task menu, then select your working mode.



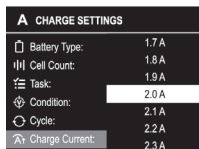
## Set Cut-Off Condition

Use the scroll wheel to enter the Condition menu, then select your cut-off voltage.



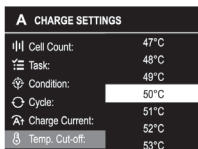
## Select Cycle Count

Use the scroll wheel to enter the Cycle menu, then select your cycle count (0-3).



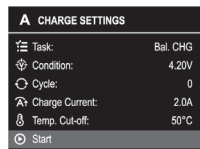
## Select Charge Current

Use the scroll wheel to enter the Charge Current menu, then select your working current value.



## Select Temp. Cut-Off

Use the scroll wheel to enter the Temp. Cut-Off menu, then set your temperature protection thresholds.



## Start

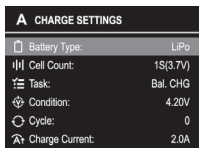
Use the scroll wheel to start your created program.

## Stop

Use the scroll wheel to stop your created program.

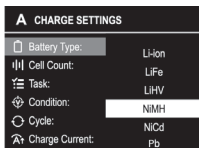
# NiMH/NiCd PROGRAM

From the main menu, press the scroll button to enter the Charger's settings.



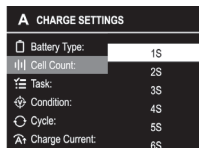
## Enter Charger Settings

Press the scroll wheel to enter Charger Settings.



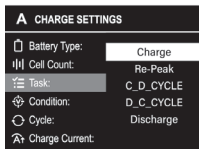
## Select Battery Type

Use the scroll wheel to enter the Battery Type menu, then select your battery type.



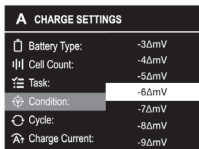
## Select Battery Cell

Use the scroll wheel to enter the Battery Cell menu, then select your battery cell(s).



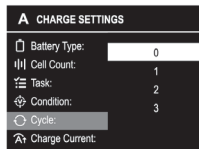
## Select Task

Use the scroll wheel to enter the Task menu, then select your working mode.



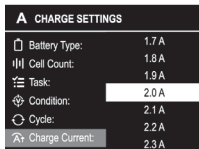
## Set Delta-Peak

Use the scroll wheel to enter the Condition menu, then select your delta-peak sensitivity.



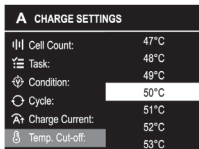
## Select Cycle Count

Use the scroll wheel to enter the Cycle menu, then select your cycle count (0-3).



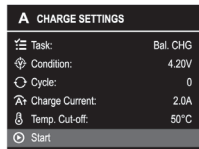
## Select Charge Current

Use the scroll wheel to enter the Charge Current menu, then select your working current value.



## Select Temp. Cut-Off

Use the scroll wheel to enter the Temp. Cut-Off menu, then set your temperature protection thresholds.



## Start

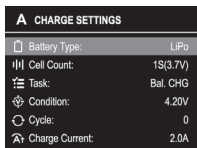
Use the scroll wheel to start your created program.

## Stop

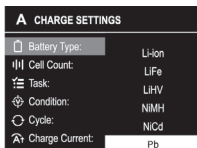
Use the scroll wheel to stop your created program.

# Pb LEAD-ACID PROGRAM

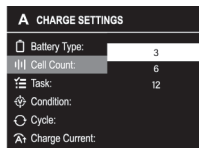
From the main menu, press the scroll button to enter the Charger's settings.



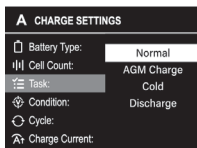
**Enter Charger Settings**  
Press the scroll wheel to enter Charger Settings.



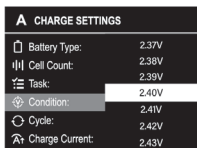
**Select Battery Type**  
Use the scroll wheel to enter the Battery Type menu, then select your battery type.



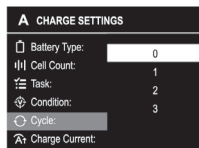
**Select Battery Cell**  
Use the scroll wheel to enter the Battery Cell menu, then select your battery cell(s).



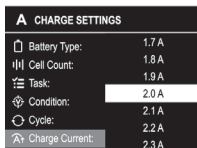
**Select Task**  
Use the scroll wheel to enter the Task menu, then select your working mode.



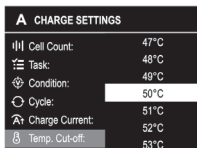
**Set Cut-Off Condition**  
Use the scroll wheel to enter the Condition menu, then select your cut-off voltage.



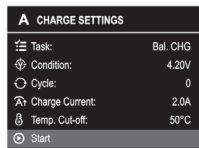
**Select Cycle Count**  
Use the scroll wheel to enter the Cycle menu, then select your cycle count (0-3).



**Select Charge Current**  
Use the scroll wheel to enter the Charge Current menu, then select your working current value.



**Select Temp. Cut-Off**  
Use the scroll wheel to enter the Temp. Cut-Off menu, then set your temperature protection thresholds.



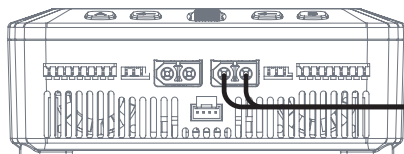
**Start**  
Use the scroll wheel to start your created program.

**Stop**  
Use the scroll wheel to stop your created program.

## DC POWER SUPPLY

The DCX2 1600 supports DC power output via DC input.

1. On the main interface, hold the scroll button for a few seconds to enter the system setting.
2. Select the option of DC Power, then adjust the output voltage and current.
3. Press the scroll wheel to activate the power function after setting up.
4. Connect your desired DC equipment.



**Tire Warmer**



**NOTE**

**ON THE DC POWER INTERFACE, PRESS THE PORT BUTTON TO TOGGLE BETWEEN DIFFERENT PORTS.**



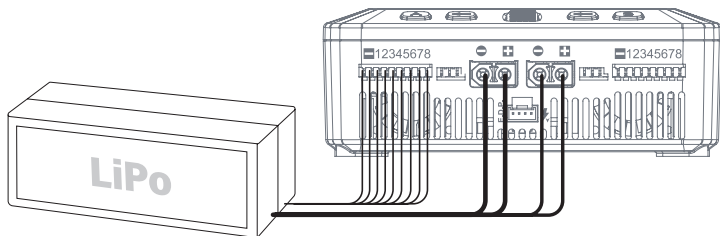
**WARNING**

**PLEASE MAKE SURE THERE IS NOTHING CONNECTED TO THE PORT BEFORE SELECTING THIS SETTING.**

## PARALLEL CHARGING

The DCX2 1600 offers a Parallel Charging mode to deliver higher charging current. Use the dedicated parallel charging cable to correctly connect the battery's main lead and balance lead.

1. Connect the battery's balance lead to Channel A.
2. Choose the correct battery type (LiPo / LiFe / Li-ion / LiHV).
3. In the task menu, select the "Parallel Charge" program.
4. Set the charging current (adjustable range: 33–50A).
5. Once all settings are complete, select start and press scroll wheel to begin.

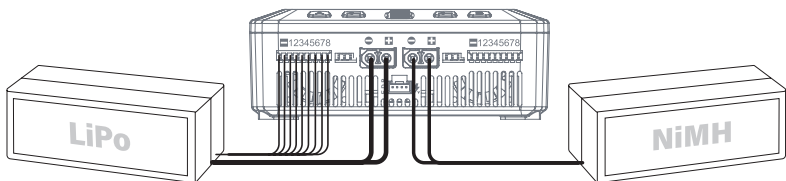


**WARNING!**

**HIGH CHARGE RATES CAN DAMAGE BATTERIES - USE ONLY WITH HIGH QUALITY PACKS, IN GOOD CONDITION. USER DISCRETION IS ADVISED.**

## REVERSE DISCHARGE

With the Reverse Discharge mode, the DCX2 1600 allows you to transfer energy from one battery to another, reducing energy waste.



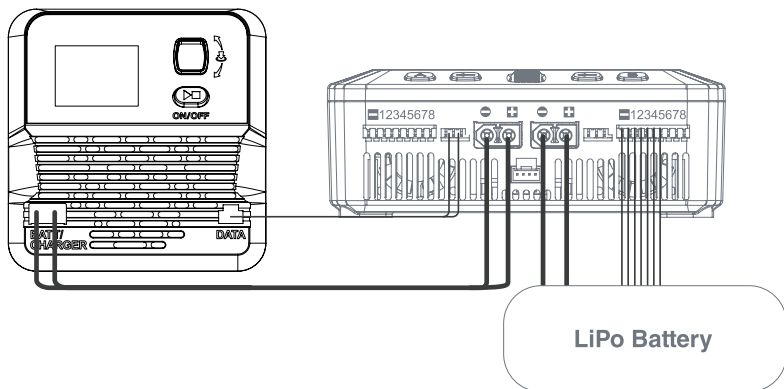
1. Select the correct battery type.
2. Select the number of cells (optional).  
*If the balance lead is connected, the system can automatically detect the cell count.  
You may also set it manually. If no balance lead is connected, manual input is required.*
3. From the task menu, select "Reverse Discharge."
4. Configure Discharge Parameters.  
*Cut-Off Voltage / Discharge Current / Cut-Off Temperature*
5. Press "Continue at (other port)" to configure Charge Parameters.  
*Battery Type / Number of Cells / Target Voltage / Charge Current / Cut-Off Temperature*
6. Select Start and press scroll wheel to begin process.  
Press the PORT button to scroll between informational screens.

### NOTES

- DC input must be <40V to enable reverse discharge function.
- Cannot operate simultaneously with DC power output.
- Minimum discharge power requirement: >20W (system will not activate below this threshold).

## EXTERNAL DISCHARGE

The DCX2 1600 supports external discharge, reaching up to 40A when connected to the AD380/AD350 discharger.



1. Once the power supply is connected, the DCX2 1600 powers up and enters the main interface automatically.
2. Connect the AD380/AD350 discharger to your DCX2 1600.
3. Connect the battery to Port A on the DCX2 1600.
4. Select the battery type, number of cells, discharge program, cut-off voltage and discharge current.
5. Start the program once the settings are configured.

*Note:*

*The AD380/AD350 discharger is not included and must be purchased separately.*

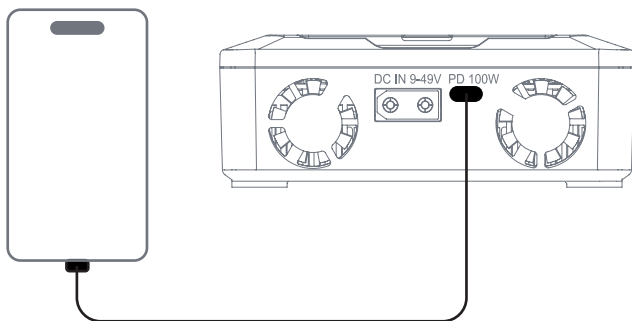
*External discharge is available only on port A.*

## APP CONTROL WITH LINKPOWERX

The DCX2 1600 comes equipped with a built-in Bluetooth 5.0 module, enabling users to easily control the charger via Hitec's LinkPowerX app. Firmware upgrades are also supported through the LinkPowerX app.

## USB-C OUTPUT

In addition to charging RC batteries, the DCX2 1600 can also charge mobile devices through the USB-C Port with a power of up to 100W.



## SYSTEM SETTINGS

Long press the scroll wheel to enter System Settings.

| Menu            | Option             | Specification                                                                                                                                 |
|-----------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Task Parameters | Safety Timer       | Customize a period for program protection.                                                                                                    |
|                 | Max. Capacity      | Customize the protection of capacity.                                                                                                         |
|                 | Trickle Charge     | Enable / disable trickle charge.                                                                                                              |
|                 | Keep Voltage       | Enable / disable holding voltage.<br>If the difference is > 0.02V between cells, a small current will be applied to keep the battery voltage. |
|                 | Float              | Enable / disable float charge.                                                                                                                |
|                 | Back               | Back to the previous interface.                                                                                                               |
| Preferences     | Language           | Select your desired system language.                                                                                                          |
|                 | Max. Input Power   | The maximum charge power the charger can draw.                                                                                                |
|                 | Min. Input Voltage | Set the minimum voltage for input protection.                                                                                                 |
|                 | LCD Backlight      | Adjust the brightness of the screen.                                                                                                          |
|                 | Screen Timeout     | Adjust the timer for dimming the screen.                                                                                                      |
|                 | Keypress Beep      | Adjust / turn off the volume of the keypress beep.                                                                                            |
|                 | Notify Beep        | Adjust / turn off the volume of the notify beep.                                                                                              |
|                 | Completion Tone    | Choose how to notify you when the program completes.                                                                                          |
|                 | Warning            | Enable / disable boot warning.                                                                                                                |
|                 | Back               | Back to the previous interface.                                                                                                               |
| DC Power        | —                  | See Page 21 for full instructions.                                                                                                            |
| Battery Meter   | —                  | Measure the battery voltage and internal resistance<br>(Choose between A/B ports by pressing the Port button).                                |
| User Guide      | —                  | Scan the QR code to access the user manual.                                                                                                   |
| Factory Reset   | —                  | Restore to the factory settings.                                                                                                              |
| System Info.    | —                  | Check the current system status.                                                                                                              |
| Regulatory      | —                  | Check regulatory information.                                                                                                                 |
| Back            | —                  | Back to the previous interface.                                                                                                               |

## WARNING & ERROR MESSAGES

| Error Message                                                | Explanation                                                                           |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Input Volt Too Low!                                          | Input voltage is too low.                                                             |
| Input Volt Too High!                                         | Input voltage is too high.                                                            |
| Connection Break!                                            | The battery connection has been interrupted.                                          |
| Cell Count Error!                                            | The detected cell count is incorrect.                                                 |
| Battery Type                                                 | The selected battery type is incorrect.                                               |
| Capacity Limit!                                              | Charge/discharge capacity exceeds the maximum limit set in the system settings.       |
| Time Limit!                                                  | Charge/discharge time exceeds the Safety Timer limit set in the system settings.      |
| Int. Temp. Too High!                                         | The charger's internal temperature is too high.                                       |
| Parallel charge and DC power can't operate together!         | Parallel charging and DC power output cannot operate simultaneously.                  |
| Overload Protection!                                         | The charger is overloaded.                                                            |
| Reversed Polarity!                                           | The battery polarity is reversed.                                                     |
| Fully Charged!                                               | The battery is already fully charged.                                                 |
| Output Overload!                                             | The output is overloaded.                                                             |
| Balance Port Error!                                          | An error has been detected at the balance port.                                       |
| Cell Volt Diff!                                              | The voltage difference between cells is too high.                                     |
| The Allocable Power has Reached its Maximum.                 | The maximum available power has been allocated.                                       |
| Discharger idle current high. Fan may be on!                 | Discharger idle current is high; the fan may remain on.                               |
| No Current!                                                  | No current is detected at the discharge terminal.                                     |
| Offline!                                                     | The discharger is offline.                                                            |
| Ensure the Correct Discharger!                               | Verify that the correct discharger is connected.                                      |
| Port Voltage Exceeds Set Voltage!                            | DC power supply output voltage exceeds the set value.                                 |
| No Available Power Output!                                   | No power output is currently available.                                               |
| Reverse Dchg and DC Power can't run together!                | Reverse discharge and DC power output cannot operate simultaneously.                  |
| Input volt. > 40V! Mismatch with reverse discharge settings! | DC input voltage exceeds 40V and is incompatible with Reverse Discharge Mode.         |
| Reverse discharge power < 20W                                | Reverse discharge power is below 20W and is incompatible with Reverse Discharge Mode. |
| PD active, limited reverse discharge power!                  | PD is active; reverse discharge power is limited.                                     |

## DECLARATION OF CONFORMITY

DCX2 1600 satisfies all relevant and mandatory CE directives and FCC Part 15 Subpart B.

| Test Standards           | Title                                                                                                                                                                                                                                                        | Result  |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| EN 60335-1               | Household and similar electrical appliances – Safety – Part 1: General requirements                                                                                                                                                                          | Conform |
| EN 60335-2-29            | Household and similar electrical appliances – Safety – Part 2-29: Particular requirements for battery chargers                                                                                                                                               | Conform |
| EN 55014-1               | Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Part 1: Emission                                                                                                                               | Conform |
| EN 55014-2               | Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Part 2: Immunity – Product family standard                                                                                                     | Conform |
| EN 61000-3-2             | Electromagnetic compatibility (EMC) – Part 3-2: Limits for harmonic current emissions (equipment input current up to and including 16 A per phase)                                                                                                           | Conform |
| EN 61000-3-3             | Electromagnetic compatibility (EMC) – Part 3-3: Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated current $\leq 16$ A                                                            | Conform |
| EN 301489-1 EN 301489-17 | Electromagnetic compatibility and Radio Spectrum Matters (ERM) – Electromagnetic Compatibility (EMC) standard for radio equipment and services – Part 1: Common technical requirements; Part 17: Specific conditions for Broadband Data Transmission Systems | Conform |
| EN 50663: 2017           | Generic standard for assessment of low-power electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (10 MHz–300 GHz)                                                                                          | Conform |
| FCC Part 15 Subpart B    | Title 47 Telecommunication   PART 15 - RADIO FREQUENCY DEVICES Subpart B - Unintentional Radiators                                                                                                                                                           | Conform |

## REGULATORY/COMPLIANCE INFORMATION

**FCC Note** - This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications or change to this equipment. Such modifications or change could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

To maintain compliance with FCC's RF exposure guidelines, this equipment should be installed and operated with a minimum distance of 20cm between the radiator and your body.

Hitec's DCX2 1600 complies with FCC Part 15 Subpart B: 2019.

## WARRANTY, SERVICE & REPAIR

### LIABILITY EXCLUSION

This charger is designed and approved exclusively for use with the types of batteries stated in this Operation Manual. Hitec RCD USA accepts no liability of any kind if the charger is used for any purpose other than that stated. We are unable to ensure that you follow the instructions supplied with the charger, and we have no control over the methods you employ for using, operating and maintaining the device. For this reason, we are obliged to deny all liability for loss, damage or costs which are incurred due to any misuse or operation of our products. Unless otherwise prescribed by law, our obligation to pay compensation, regardless of the legal argument employed, is limited to the invoice value of Hitec RCD USA products which were immediately and directly involved in the event in which the damage occurred.

## ONE YEAR LIMITED WARRANTY

For a period of one year from the date of purchase, HITEC RCD USA shall REPAIR OR REPLACE, at our option, defective equipment covered by this warranty. Otherwise, the purchaser and/or consumer is responsible for any charges for the repair or replacement of the charger. This warranty does not cover cosmetic damages and damages due to acts of God, accident, misuse, abuse, negligence, improper installation, or damages caused by alterations by unauthorized persons or entities. This warranty only applies to the original purchaser of this product and for products purchased and used in the United States of America, Canada and Mexico. Plastic cases are not covered by this warranty.

THIS WARRANTY IS IN LIEU OF ANY AND ALL OTHER WARRANTIES, WHETHER FOR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND WHETHER EXPRESS OR IMPLIED. REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY. HITEC RCD USA SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY RELATING TO THIS PRODUCT, EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW. ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ON THIS PRODUCT IS LIMITED TO THE DURATION OF THIS WARRANTY, REPAIR AND SERVICE.



Note

**THE DCX2 1600 CHARGER WARRANTY IS VOID IF SOLD AND/OR OPERATED OUTSIDE THE UNITED STATES.**

**SERVICE AND REPAIR INFORMATION** - To have your Hitec charger serviced:

1. Visit the Hitec website at **[www.hitecrcd.com](http://www.hitecrcd.com)** and download the service request form.
2. Fill out the service request form completely and include a copy of your original receipt showing the purchase date.
3. Package your product in its original packaging or use a suspension-type packaging (foam peanuts or crumpled newspaper). Hitec RCD USA shall not be responsible for goods damaged in transit.
4. Ship prepaid (COD or postage-due returns will not be accepted) via a traceable common courier (UPS, insured parcel post, FedEx, etc.) to:

**Hitec RCD USA / Customer Service Center, 9760 Birch Canyon Pl., San Diego, CA.**



This symbol indicates that when this type of electronic device reaches the end of its service life, it cannot be disposed of with normal household waste and must be recycled. To find a recycling center near you, refer to the internet or your local phone directory for electronic waste recycling centers.

## STATE OF CALIFORNIA PROPOSITION 65 WARNING:

This product contains chemicals known to the State of California to cause cancer. Use caution when handling this product and avoid exposure to any electronic components or internal assemblies.

This manual is subject to change without notice.  
Please refer to the Hitec RCD USA website for the latest version.  
**[www.hitecrcd.com](http://www.hitecrcd.com)**

Made in China (BC)  
CE UK CA FCC RoHS



## **DCX2 1600 OPERATION MANUAL**

Hitec RCD USA | 9760 Birch Canyon Pl., San Diego, CA. 92126  
(858) 748-6948 | [www.HitecRCD.com](http://www.HitecRCD.com)