



CMA Testing and Certification Laboratories

廠商會檢定中心

TEST REPORT

Report No. : AR0033947(4) Date : 03 Jul 2013

Application No. : LR015608(9)

Client : Kid Galaxy Inc
150 Dow Street,
Unit 425B Manchester, nh03101

Sample Description : One(1) item of submitted sample stated to be Hammer Head
of Model No. 10190
Sample registration no. : RR021280-001
Radio Frequency : 49.860MHz Receiver
Rating : 6 x 1.5V AA size batteries
No. of submitted sample : Five (5) piece (s)

Date Received : 20 May 2013

Test Period : 23 May 2013 to 18 Jun 2013

Test Requested : FCC Part 15 Certification.

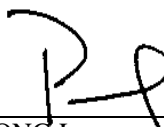
Test Method : 47 CFR Part 15 (10-1-10 Edition)
ANSI C63.4 – 2009

Test Result : See attached sheet(s) from page 2 to 22.

Conclusion : The submitted sample was found to comply with requirement of FCC Part 15
Subpart B.

For and on behalf of
CMA Industrial Development Foundation Limited

Authorized Signature : _____


Mr. WONG Lap-pong, Andrew
Assistant Manager
Electrical Division

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FCC ID: QEA-HAMMER49R



**CMA Testing
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1 General Information

1.1 General Description

The equipment under test (EUT) is a receiver for Hammer Head RC. It operates at 49.860MHz and the oscillation of radio control is generated by a LRC circuit. The EUT is powered by 6 x 1.5V AA size batteries. When it switched on and received radio control signal, it will take corresponding action.

The brief circuit description is listed as follows:

- SW1, Q14, C23, R21, C4, C9, ZD2 and its associated circuit act as power circuit.
- R1, C22, C21, D8, D7, R26, R22, Q15, Q16, R31, R24, ZD1, R20 and its associated circuit act as low voltage protect circuit.
- L1, L2, L3, C2, C1, Q1, C3, R2, C12, C13, R11, C11, R4 and its associated circuit act as super regeneration band pass filter and amplifier circuit.
- C5, C6, C7, R5, R19, C14, R13, R12, C15, C16 and its associated circuit act as pre-amplified
- U1, R6 and its associated circuit act as decoder circuit
- R7, R8, R9, R10, Q2, Q3, Q4, Q5, Q6, Q7 and its associated circuit act as car front / back circuit
- R15, R16, U2, C17, C8, C10 and its associated circuit act as car right / left circuit



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1.2 Location of the test site

FCC Registered Test Site Number: 552221

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2009. A Semi-Anechoic Chamber Testing Site is set up for investigation and located at:

Ground Floor, Yan Hing Centre,
9 – 13 Wong Chuk Yeung Street,
Fo Tan, Shatin,
New Territories,
Hong Kong.

Conducted emissions measurements are investigated and also taken pursuant to the procedures of ANSI C63.4 – 2009. A shielded room is located at :

Ground Floor, Yan Hing Centre,
9 – 13 Wong Chuk Yeung Street,
Fo Tan, Shatin,
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Hong Kong.



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1.3 List of measuring equipment

Equipment	Manufacturer	Model No.	Serial No.	Calibration Due Date
EMI Test Receiver	R&S	ESCS 30	100001	15 Aug 2013
Broadband Antenna	Schaffner	CBL6112B	2692	16 Jan 2014
Loop Antenna	EMCO	6502	00056620	15 Sep 2013
Coaxial Cable	Schaffner	RG 213/U	N/A	15 Aug 2014
Coaxial Cable	Schaffner	RG 214/U	N/A	15 Aug 2014

1.4 Measurement Uncertainty

The reported uncertainty is based on a standard uncertainty multiplied by a coverage factor $k=2$, providing a level of confidence of approximately 95%.

Radiated emissions

Frequency	Uncertainty (U_{lab})
30MHz ~ 200MHz (Horizontal)	4.83dB
30MHz ~ 200MHz (Vertical)	4.84dB
200MHz ~1000MHz (Horizontal)	4.66dB
200MHz ~1000MHz (Vertical)	4.65dB

Conducted emissions

Frequency	Uncertainty (U_{lab})
150kHz~30MHz	3.02dB



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2 Description of the radiated emission test

2.1 Test Procedure

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2009.

The equipment under test (EUT) was placed on a non-conductive turntable with dimensions of 1.5m x 1m and 0.8m high above the ground. 3m from the EUT, a broadband antenna mounting on the mast received the signal strength. The turntable was rotated to maximize the emission level. The antenna was then moving along the mast from 1m up to 4m until no more higher value was found. Both horizontal and vertical polarization of the antenna were placed and investigated.

For below 30MHz, a loop antenna with its vertical plane is placed 3m from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. And the centre of the loop shall be 1 m above the ground.

A signal generator was used to radiate an unmodulated continuous wave (CW) signal to the EUT (super-regenerative receiver) at its operating frequency in order to “cohere” the characteristic broadband emissions from the receiver.

2.2 Test Result

The frequencies from 30MHz to 1000MHz were investigated, and emissions more 20dB below limit were not reported. Thus, those highest emissions were presented in next page (section 2.3).

The emissions meeting the requirement of section 15.109 are based on measurements employing the CISPR quasi-peak detector below 1000MHz and average detector for frequencies above 1000MHz.

It was found that the EUT meet the FCC requirement.



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2.3 Radiated Emission Measurement Data

Radiated emission

pursuant to

the requirement of FCC Part 15 subpart B

Environmental conditions:

Parameter	Recorded value	
Ambient temperature:	26	° C
Relative humidity:	67	%

Detector: Quasi-peak

RBW: 120kHz

VBW: 300kHz

Frequency (MHz)	Polarity (H/V)	Reading at 3m (dBμV)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
48.993	H	21.5	12.5	34.0	40.0	- 6.0
49.073	V	20.9	12.5	33.4	40.0	- 6.6
52.553	H	19.2	10.2	29.4	40.0	- 10.6
52.561	V	18.7	10.2	28.9	40.0	- 11.1
55.043	H	13.5	10.2	23.7	40.0	- 16.3
55.057	V	13.1	10.2	23.3	40.0	- 16.7
95.115	V	20.2	10.1	30.3	43.5	- 13.2
95.326	H	26.5	10.1	36.6	43.5	- 6.9
101.172	H	15.7	12.4	28.1	43.5	- 15.4
103.661	H	15.1	12.4	27.5	43.5	- 16.0



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3 Description of the Line-conducted Test

3.1 Test Procedure

Conducted emissions measurements are investigated and also taken pursuant to the procedures of ANSI C63.4 – 2009. The EUT was setup as described in the procedures, and both lines were measured.

3.2 Test Result

No measurement is required as the EUT is a battery-operated product.

3.3 Graph and Table of Conducted Emission Measurement Data

Not Applicable



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4 Photograph

4.1 Photographs of the Test Setup for Radiated Emission and Conducted Emission

For electronic filing, the photos are saved with filename TSup1.jpg to TSup2.jpg.

4.2 Photographs of the External and Internal Configurations of the EUT

For electronic filing, the photos are saved with filename ExPho1.jpg to ExPho2.jpg and InPho1.jpg to InPho3.jpg.



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5 Supplementary document

The following document were submitted by applicant, and for electronic filing, the document are saved with the following filenames:

Document	Filename
ID Label/Location	LabelSmp.jpg
Block Diagram	BlkDia.pdf
Schematic Diagram	Schem.pdf
Users Manual	UserMan.pdf
Operational Description	OpDes.pdf

5.1 Bandwidth

Not Applicable

5.2 Duty cycle

Not Applicable

5.3 Transmission time

Not Applicable



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A3.	Photos of Internal Configurations	2	pages
A4.	ID Label/Location	2	pages
A5.	Block Diagram	1	page
A6.	Schematics Diagram	1	page
A7.	User Manual	2	pages
A8.	Operation Description	1	page



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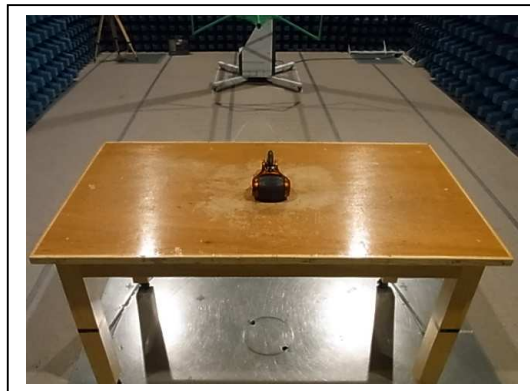
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A1. Photos of the set-up of Radiated Emissions



(Front view)



(Back view)

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Mr. LEUNG Shu-kan, Ken

Reviewed by: 
Mr. WONG Lap-pong, Andrew

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A2. Photos of External Configurations



External Configuration 1



External Configuration 2

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Reviewed by: 
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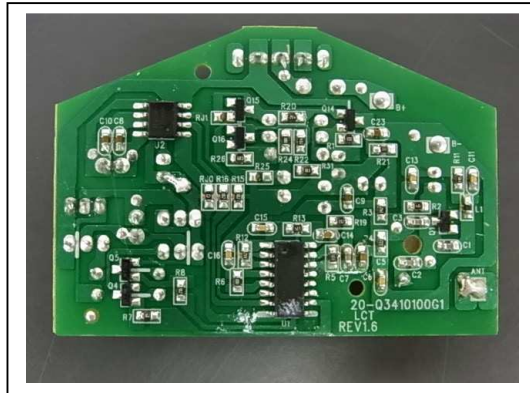
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A3. Photos of Internal Configurations



Internal Configuration 1



Internal Configuration 2

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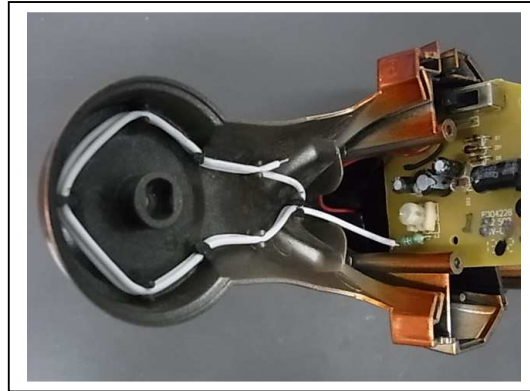
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A3. Photos of Internal Configurations



Internal Configuration 3

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A4. ID Label / Location



ID Label 1



ID Label 2

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Reviewed by:

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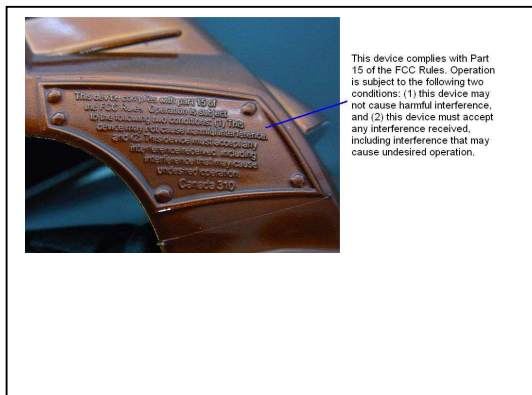
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A4. ID Label / Location



ID Label 3

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Reviewed by: 
Mr. WONG Lap-pong, Andrew



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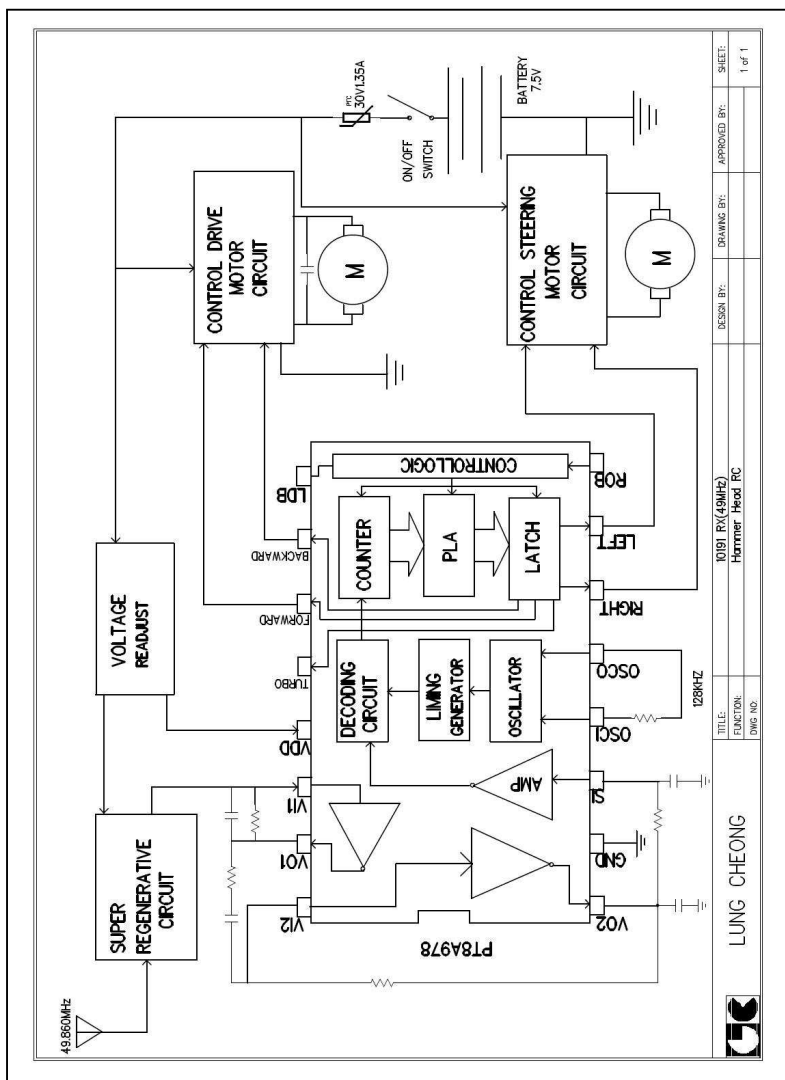
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A5. Block Diagram



Tested by: *Ken*
Mr. LEUNG Shu-kan, Ken

Reviewed by: *Andrew*
Mr. WONG Lap-pong, Andrew



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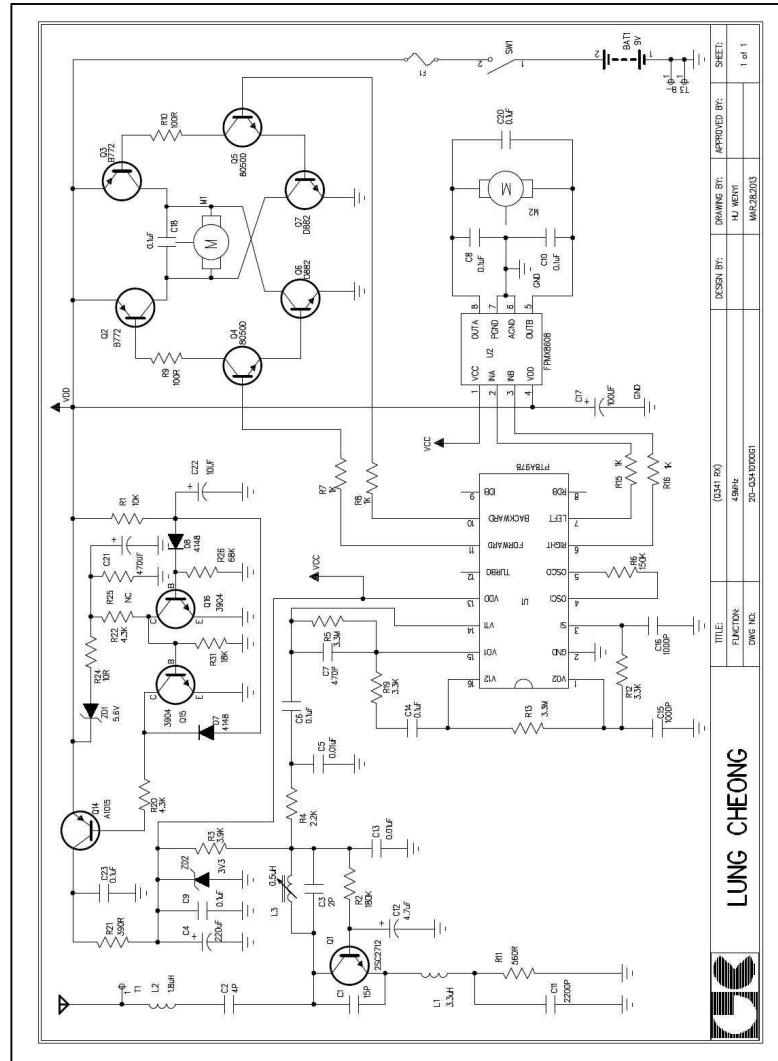
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A6. Schematic Diagram



LUNG CHEONG



Tested by: *Ken*
Mr. LEUNG Shu-kan, Ken

Reviewed by: *Andrew*
Mr. WONG Lap-pong, Andrew



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A7. User Manual

AMAZING FLIP AND REVERSE ACTION!

World of WHEELS Hammerhead R/C

BATTERIES REQUIRED: 6 X "AA" cells, 1 X 9V cell (sold separately)
WARNING: Always use under direct adult supervision. For use by ages 5 and up.
Please read instruction booklet carefully before operating CyberCycle.
Please keep instruction booklet and display box for future reference.
Ask Questions?
Email our Customer Service Dept.: customerservice@idgalaxy.com
Call our Customer Service Dept.: Kid Galaxy Customer Service, Toll Free 1-800-816-1135

PACKAGE CONTENTS

Hammerhead Transmitter Instructions

PRODUCT DESCRIPTION

on/off switch rear wheel steers
power drum style wheel
front Hammerhead battery cap
antenna power on/off
throttle joystick Transmitter steering joystick

BATTERY INSTALL/REPLACEMENT

Hammerhead is equipped with low battery auto shutoff feature. Replace the batteries when Hammerhead shuts down.

1. Unscrew battery cover on front drive hub with Phillips screwdriver.
2. Install six (6) AA 1.5v batteries with polarity as shown in battery box.
3. Replace battery cover, tighten screw securely.

1. Unscrew battery cover on rear controller with Phillips screwdriver.
2. Install 9 V battery with polarity as shown in battery box.
3. Replace battery cover and fasten in place with screwdriver.

Hammerhead Transmitter

Tested by: Mr. LEUNG Shu-kan, Ken

Reviewed by: Mr. WONG Lap-pong, Andrew

FCC ID: QEA-HAMMER49R

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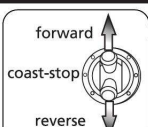
廠商會檢定中心 **TEST REPORT**

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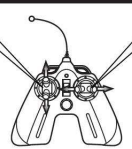
Date : 03 Jul 2013

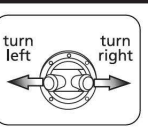
A7. User Manual

DRIVING YOUR HAMMERHEAD



throttle joystick





steering joystick

Basic Operation

- 1) Turn power switches on both the cycle and the transmitter
- 2) Make steering and throttle inputs slowly at first
- 3) Hammerhead works best on non-smooth surfaces (asphalt, carpet, concrete)
- 4) Reversing direction causes the Hammerhead to "flip" direction

WARNING!

- 1) Run time for Hammerhead is approx. 30-45 minutes.
- 2) Only operate your vehicle on sidewalks and playgrounds but NOT on roads where traffic is present.
- 3) Avoid using your vehicle outside when it is raining, snowing, thundering or in strong winds or other poor weather conditions. **PLEASE READ THIS CAREFULLY BEFORE USING.**
 - When you are running your Hammerhead, always keep it in your sight. Keep your Hammerhead away from roads or other areas where you might collide with people, pets or cars.
 - When you are running the Hammerhead, always keep it in your sight. Avoid driving your Hammerhead under parked cars, etc.
 - Keep your fingers, hair, face and clothing away from the spinning front or rear wheels.
 - It is recommended that children should be under adult supervision when they are playing with the Hammerhead.
 - Do not play on a wet surface.
 - Keep away from fire or hot and/or humid environments.
 - Do not disassemble the product.
 - Do not place any objects on the spinning wheels.
 - Do not start your Hammerhead when the front and rear wheels are unable to turn freely.
 - Not recommended for children under 5 years old.

The improper use of the controller batteries may cause excessive heat, battery leakage, explosion and damage or lead to injury. Please read the instructions below.

- For best results, use type AA alkaline batteries.
- Do not mix alkaline, standard (carbon-zinc), or rechargeable (nickle-cadmium batteries).
- Do not mix old and new batteries.
- Install only new batteries of the same type in your product.
- Turn off power when installing or replacing batteries.
- Failure to install batteries in the correct polarity, as indicated in the battery compartment, may shorten the life of the batteries or cause batteries to leak.
- Do not dispose of batteries in fire.
- Remove the batteries when the product is not in use.
- Batteries should be recycled or disposed of as per state and local guidelines.

Other cautions when using the Hammerhead and its controller/transmitter:

- When other radio controlled products with the same frequency are used nearby, this may cause interference and your Hammerhead may not work properly.
- Do not bend, tear, strongly hit or drop the vehicle, transmitter, antenna shaft, or antenna wire.

FCC REQUIREMENT

Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: 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 the receiver.
- Consult the dealer or an experienced radio/TV technician for help.
- Connect the equipment into an outlet in a circuit different from that to which the receiver is connected.

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.


- Carrier frequency, Field strength
- Operation is subject to the following two conditions: (a) this device may not cause interference, and b) this device must accept any interference, including interference that may cause undesired operation of the device.
- This device complies with RSS-310 of Industry Canada. Operation is subject to the condition that this device does not cause harmful interference.

KID GALAXY INC. LIMITED WARRANTY

Kid Galaxy's products are covered under a 60 day limited warranty against manufacturer's defects. If a product is deemed defective and falls within the 60 day period, Kid Galaxy will repair or replace it at no charge. We require a copy of the original sales receipt to validate the purchase. Product must have been purchased within the US or Canada to be eligible.

Toll Free Hot Line: 800-816-1135


www.kidgalaxy.com
Kid Galaxy, Inc.
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Tower 2, Suite 425B
Manchester, NH 03101



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WARNING:
CHOKING HAZARD - Small parts
Not for children under 3 years.

Tested by: 
Mr. LEUNG Shu-kan, Ken

Reviewed by: 
Mr. WONG Lap-pong, Andrew



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A8. Operation Description

Kid Galaxy Hammer Head RC RX OPERATION PRINCIPLE

The Kid Galaxy Hammer Head RC operates at 49.860MHz, encode signals were received from antenna then passed into the super regeneration band pass filter circuit for wave-check; After Pre-amplification then passed into the decoder of the IC, the controlling signals corresponding to TX will be demodulated out to control the car's functions of frontward; backward. turn left, turn right.

Circuits' composition:

Power circuit, super regeneration band pass filter and amplifier circuit, pre-amplified circuit, decoder circuit, motor front/back circuit.

1. Power circuit:

SW1, Q14, C23, R21, C4, C9, ZD2, R3

2. Low voltage protect circuit

R1, C22, C21, D8, D7, R26, R22, Q15, Q16, R31, R24, ZD1, R20

3. super regeneration band pass filter and amplifier circuit:

L1, L2, L3, C2, C1, Q1, C3, R2, C12, C13, R11, C11, R4

4. pre-amplified circuit:

C5, C6, C7, R5, R19, C14, R13, R12, C15, C16.

4. decoder circuit:

U1, R6

5. car front/back circuit:

R7, R8, R9, R10, Q2, Q3, Q4, Q5, Q6, Q7

6. car right/left circuit:

R15, R16, U2, C17, C8, C10.

***** End of Report *****

Tested by:

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