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# Product Definition

Rev	Remark	Date	Apply for
1.0		2024/12/30	

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## 1. Electrical Spec.

### 1. Content

1-1 Action model name:RCX10002/37MVB

Customer model name:Motor 4HD-1

1-2 AM(with HD radio)/FM(with RDS/HD radio)

/AUX IN/USB1/USB2/BT/Sirius XM control box

1-3 Amplifier output:4\*25W

### 2. Feature

2. 1 AM/FM(with RDS)

2. 1. 1 AM Frequency: Worldwide AM Band support 520kHz~1710kHz

2. 1. 2 FM Frequency: Worldwide FM Band support 76.0MHz~108.0MHz

2. 1. 3 Radio Band: AM1, AM2, FM1, FM2, FM3. Total 5 Radio Band

2. 1. 4 Preset Station: 30 Preset Station (6 preset station per Radio Band)

2. 1. 5 Auto Seek/Manual Seek: Yes

2. 1. 6 Local/Distant: Yes

2. 1. 7 Selected Region & Frequency Range:

Region	AM	Interval	FM	Interval
USA	530~1710kHz	10kHz	87.5~107.9MHz	200kHz
EUROPE	522~1602kHz	9kHz	87.5~108.0MHz	50kHz
AUSTRALIA	522~1620kHz	9kHz	87.5~108.0MHz	100kHz
JAPAN	522~1620kHz	9kHz	76.0~90.0MHz	100kHz
RUSSIA	522~1620kHz	9kHz	87.5~108.0MHz	50kHz

2. 1. 8 Power Antenna: Max. output 12Vdc @ 500mA

2. 1. 9 Radio Antenna: Mouse-tail antenna hole¢9.4mm

**Action Intelligent Co.,LTD****Product Definition****Model No.****RCX10002/37MVB****Pages****4 of 23****Revision****1.0****2.1.10 FM Section & AM Section:**

FM Section	Usable Sensitivity	≤ 15 dBuV
	Selectivity	Over 75dB (+400kHz)
	Signal to Noise Ratio	60 dB (Stereo), 60dB (Mono)
	Harmonic Distortion @ 1 kHz	0.8% (Stereo), 0.5% (Mono)
	Separation	32 dB @ 1kHz
	Frequency Response (-6dB)	30Hz - 15,000Hz
AM Section	Usable Sensitivity (S/N: 20dB)	≤ 28 dBuV
	Selectivity	Over 35dB (+10kHz)
	Signal to Noise Ratio	45 dB
	Harmonic Distortion @ 1 kHz	1%
	Frequency Response (-6dB)	50Hz - 1,800Hz

**2.2 AUX IN****2.2.1 AUX Input: 600mV Normal****2.2.2 AUX Input I/O: 3.5mm Jack Pigtail**

AUX IN Section	Signal to Noise Ratio	60 dB
	SEPARATION @600mV INPUT	40 dB
	Harmonic Distortion @ 1 kHz	1%
	Frequency Response (-3dB)	20Hz - 20,000Hz

**2.3 USB1/USB2****2.3.1 USB Standard: USB 2.0 Full/High Speed****2.3.2 File System: FAT16/32****2.3.3 Audio Decoder: MP3/WMA/PCM****2.3.4 Apple device 5V/2.1A charging.****2.3.5 Apple device media review and playback.****2.4 Bluetooth**

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2.4.1 Bluetooth Standard: Ver5.0/Ver4.2/Ver 2.1+EDR

2.4.2 Profile: A2DP/AV RCP/HFP/HSP/OPP/HID/SPP

2.4.3 Audio Decoder: MP3/WMA/PCM

**2.5 Sirius XM**

Sirius XM Section	Signal to Noise Ratio	60 dB
	SEPARATION	40 dB
	Harmonic Distortion @ 1 kHz	1%
	Frequency Response (-3dB)	20Hz - 10,000Hz

**2.6 AUDIO**

2.6.1 Output Power (@ 14.4V @ 4 Ohm @ 20% THD): 4x25W RMS

2.6.2 Output Power (@ 14.4V @ 4 Ohm) 4x40W Max. Power

2.6.3 Speaker Impedance: 4 - 8 Ohm

2.6.4 Audio Control: VOL/BASS/MID/TRE/BAL/FAD

**2.7 GENERAL**

2.7.1 Radio Body Dimension (W/H/D): 3.96" (100.58mm) x 1.99" (50.55mm) x 4.13" (104.90mm)

2.7.2 12H/24H Clock: Yes

2.7.3 Non-Volatile Memory: Yes

2.7.4 Support Color Display: Yes, software locked to Black &amp; White (Warm White)

2.7.5 Power Antenna Output: Max. 12Vdc @ 500mA

2.7.6 Remote Amplifier Turn ON: Max. 12Vdc @ 500mA

2.7.7 Reverse Battery Protection Built-in: Yes (5 min.)

2.7.8 Operation Voltage: 14.4Vdc (9.0Vdc ~ 16.0Vdc)

2.7.9 High Operation Voltage: 18.0Vdc (1hr)

2.7.10 Overstress Operation Voltage: 24.0Vdc (5 min.)

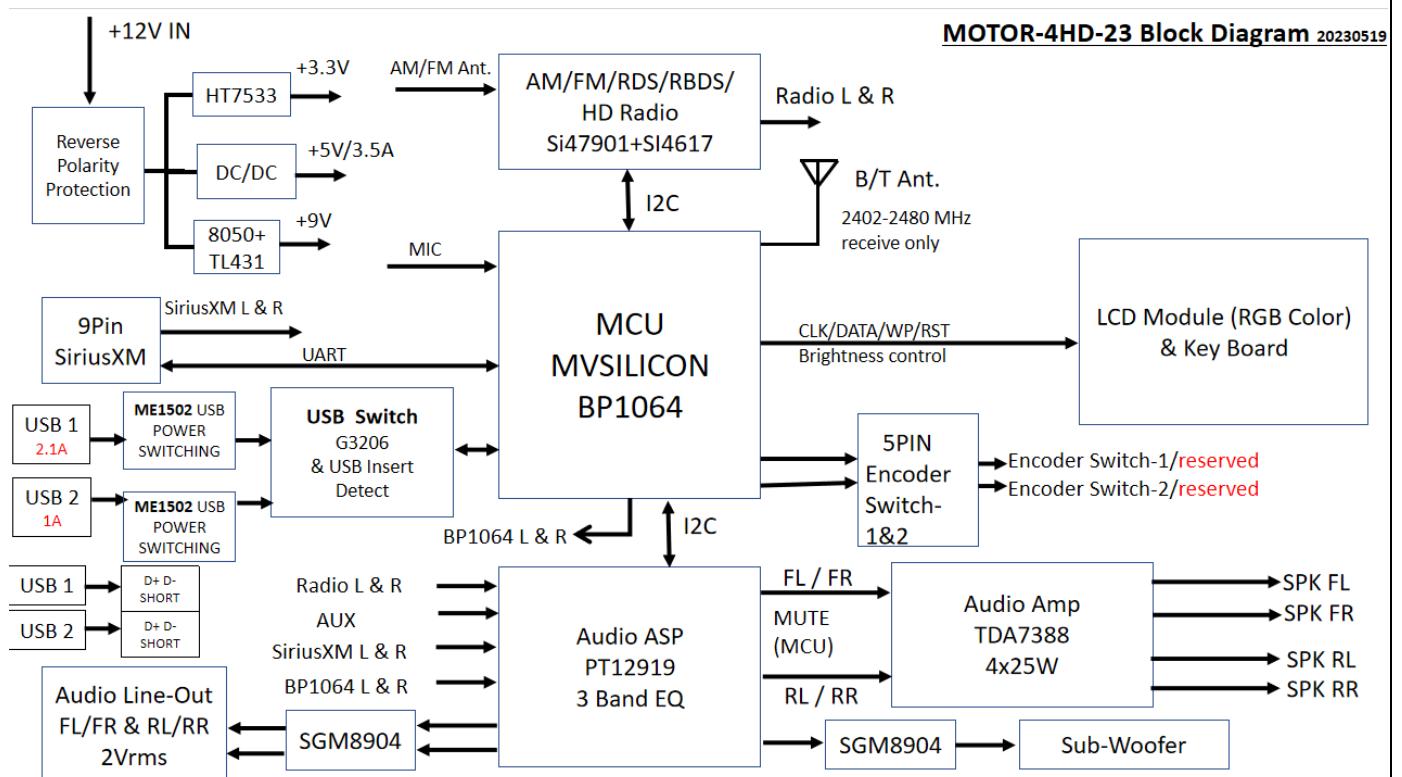
2.7.11 Operation Temperature: -10°C ~ +60°C

2.7.12 Power Consumption: Max. 15A

2.7.13 Dark Current: <3.5mA

2.7.14 Product Certification: FCC-SDOC

### 3. Block Diagram



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#### 4. I/O

+12V	
Ignition/ACC	
Ground	
Power Antenna	16Pin On-Board Connector
Remote/Amp Turn ON Lead	
Front Speaker L/R	
Rear Speaker L/R	
AM/FM Antenna Input	AM/FM Jack Pigtail
AUXInput/Line out(front) / Line out(rear)	AUX Line out Jack Pigtail
Display Connector	12Pin Connector
Encoder Switch Connector	RJ11 On-Board Connector (Left & Right)
USB	2 USB Type A FEMALE
Sirius XM	10 pin DIN

#### 5. Wire Harness

Main Wiring Harness	16Pin to 13Pin ISO Connector with Auto Blade Fuse	
Power Wiring Harness	Yellow	+12V
	Blue	Power Antenna
	Red	Ignition/ACC
	Black	Ground
	Blue/White	Amplifier Turn ON
	Purple	Rear Right +
	Purple/Black	Rear Right -
	Grey	Front Right +



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Speaker Wiring Harness	Grey/Black	Front Right -
	White	Front Left +
	White/Black	Front Left -
	Green	Rear Left +
	Green/Black	Rear Left -
AM/FM Antenna	AM/FM Jack Pigtail	
	Centre	AM/FM Antenna Signal
	Shell	GND
Encoder Switch Connector	RJ11 On-Board Connector (Left & Right)	
	PIN1	GND
	PIN2	Vo11
	PIN3	Vo12
	PIN4	GND
KEY Wiring Connector	12Pin to 12Pin Wiring Connector	
	PIN1	GND
	PIN2	KEY
	PIN3	KEY+5V
	PIN4	LED+5V
	PIN5	NC
	PIN6	LCD_CE
	PIN7	LCD_SCL
	PIN8	LCD_SDA
	PIN9	NC
	PIN10	GND
	PIN11	GND
	PIN12	GND

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## Compliance with FCC Rules

This device complies with Part 15 of the FCC rules. Operation is subjected 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.

Changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

The distance between user and products should be no less than 20cm.

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.

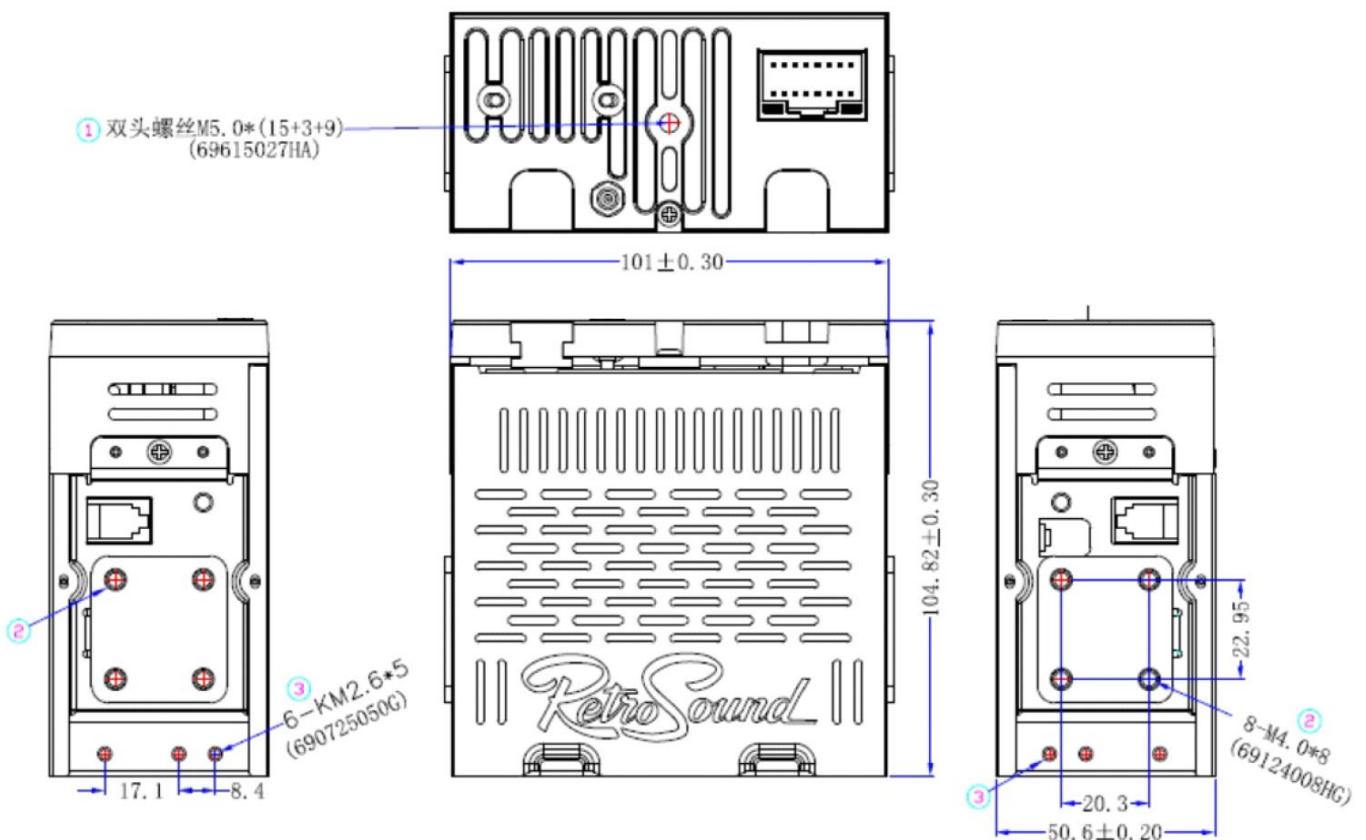
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## 2. Structure Spec.

### 1. ID



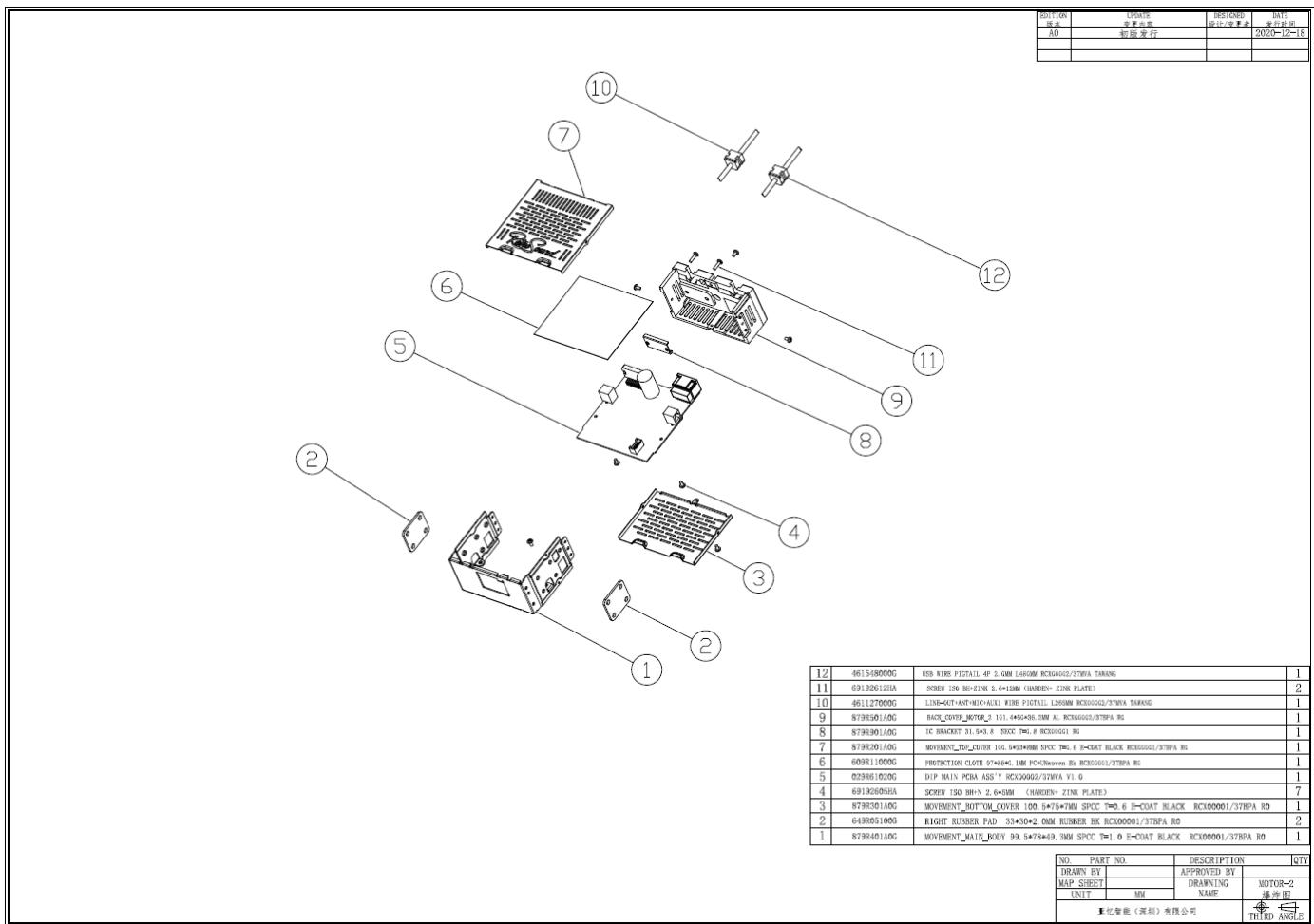
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**2. External dimension diagram****Assembly focus:**

- 1) The M5 screw (69615027HA) in the accessory package marked as 1 in the picture needs to be locked
- 2) The M4 screw (69124008HG) in the accessory package labeled as 2 in the picture needs to be locked

3) The M2.6 screw (69072500G) in the accessory package marked as 3 in the picture needs to be tested and locked

### 3. Explosion diagram



#### 4. Appearance standards

##### (1) Definition of appearance category

The surface appearance of the product is divided into four categories: "A", "B", "C" and "D", and the acceptance criteria are determined by the specified surface category. .

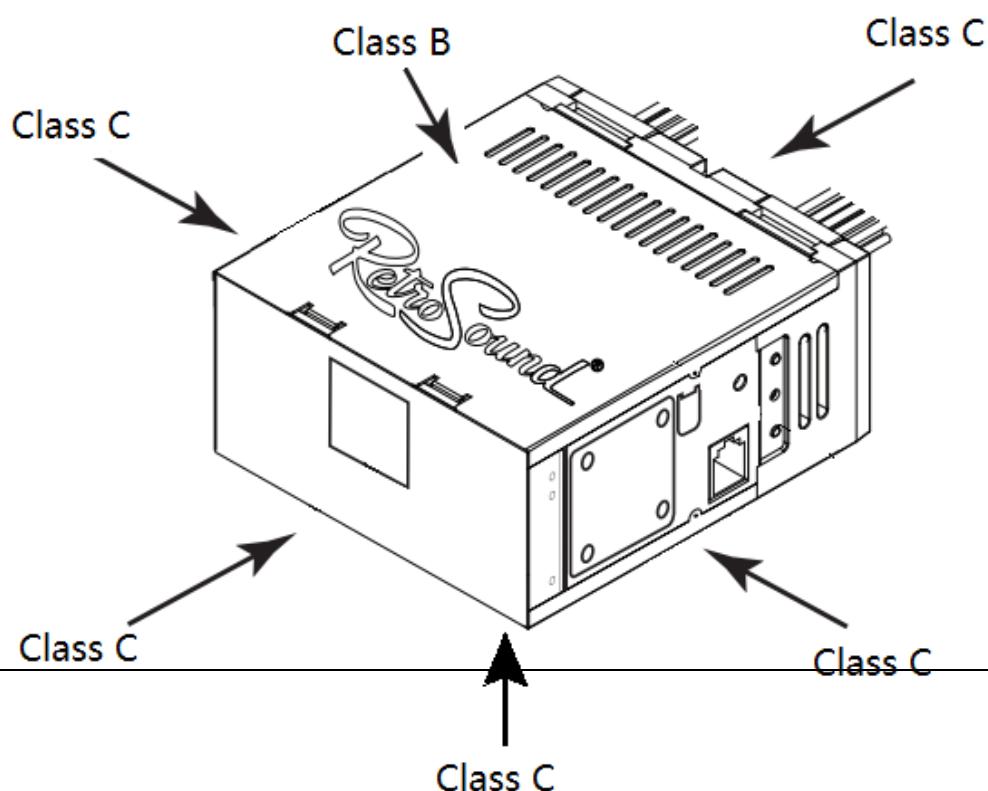
Zone A (A-level surface): The main exposed surface that can be directly observed at close range during use.

B zone (B-level surface): a secondary exposed surface that cannot be directly observed during use.

C-zone (C-level surface): a surface that is not visible during use.

D-zone (D-level surface): Non appearance surface, but must comply with protection and functional requirements. .

##### (2) Classification of appearance categories



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### (3) Inspection Criteria for Printing

1. Distance: The distance between the human eye and the surface of the object being measured is:
  - A. B-side 18 inches (460mm).
  - C. D-face 24 inches (610mm).
2. Time: The maximum observation time for sides A and B is 2 seconds per square inch, and 20 seconds per side (usually 5 seconds for single-sided observation). The inspection time can be extended or shortened according to the complexity of the components.
- C. The maximum observation time for D is 1 second per square inch (usually 5 seconds for single-sided observation).
3. Position: The inspector holds the workpiece horizontally at 30 degrees and rotates it 30 degrees left/right along the vertical axis. For components with multiple faces, each face needs to be inspected separately.
4. Brightness: Fluorescent lamps (daylight type) require 600~800 Lux for display surface illumination.
5. Cotton gloves or finger cots should be worn during homework.

### (4) Standards

#### 4.1 Surface scratch standard

##### 4.1.1 Abrasion or Bruise Marks

There should be no noticeable wear/abrasion on the A side.

The acceptance conditions for wear/abrasion on surfaces B and C are based on the acceptance/limit samples.

D surface wear/abrasion is acceptable.

##### 4.1.2 Burr

1: Burrs should be within the specification drawing range or less than 10% of

the material thickness.

2: Bare hand operation is not acceptable for burrs that may harm the hands.

#### 4.1.3 Dent Mark :

A side	B side	C side	D side
0	0.5mm x 1mm $\leq$ 2	1mm x 1mm $\leq$ 3	N/A

#### 4.1.4 Scratches :

Item	A side	B side	C side	D side
Number	$\leq$ 1	$\leq$ 2	$\leq$ 3	N/A
Length	$\leq$ 5 mm	$\leq$ 10 mm	$\leq$ 15 mm	N/A
Wide	$\leq$ 0.05 mm	$\leq$ 0.3 mm	$\leq$ 0.5 mm	N/A

The distance between scratches must be greater than 20mm

### 4.2 Electroplating and spraying standards

#### 4.2.1 Electroplating and spraying inspection standards

All coatings must meet the color requirements defined by the sample.

#### 4.2.2 All coatings must undergo adhesion testing according to the following methods

Tape testing:

- Stick a 3M tape tightly onto the surface; New tape must be used for each test.
- Tear off one end of the tape at a 30 degree angle.
- Quickly peel off the tape.
- Observe whether there are paint particles and peeling on the tape and surface.
- If the coating on the surface of the component is damaged, the adhesion test

result

is judged as NG.

#### 4.3 Granular acceptable

##### 4.3.1 Less than 0.4mm is acceptable

##### 4.3.2 $\leq$ 0.7mm @ 3 pcs, distance $>$ 15mm



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### 3. Packaging Spec.

#### 1. LABEL SPECIFICATION FOR UNIT, GB, CARTON

##### 1. SERIAL NUMBER BARCODE LABEL 45\*10MM (P/N: 60-25-07900G)



Blank Label : 602507900G (45x10mm)  
Format : Code 39  
Position : Unit & GB

##### 3. CARTON PO LABEL 65\*30MM (P/N: 60-25-01900G)



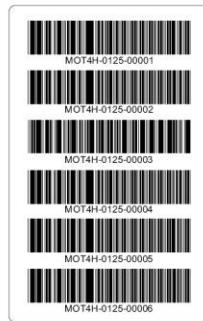
Format : PO Number  
Position : Carton (x2pcs)  
Label size : 65 x 30mm

##### 6. INSTRUCTION LABEL 30\*10MM (P/N: 90-9R-00700G)



Position : Unit  
Label size : 30 x 10mm

##### 2. CARTON S/N BARCODE LABEL 95\*60MM (P/N: 60-25-01600G)



Blank Label : 602501600G (95x60mm)  
Format : Code 39  
Position : Carton (x2pcs)

##### 4. QC PASSED LABEL 13\*9MM (P/N: 90-9R-00100G)



Position : Unit  
Label size : 13 x 9mm

##### 7. SiriusXM LABEL 30\*8MM (P/N: 90-9R-00400G)



Position : Unit  
Label size : 30 x 8mm

##### 5. FCC ID LABEL 45\*8MM (P/N: 90-9R-00600G)



Position : Unit  
Label size : 45 x 8mm

##### 8. HD RADIO NOTICE LABEL 80\*12MM (P/N: 90-9R-01100G)



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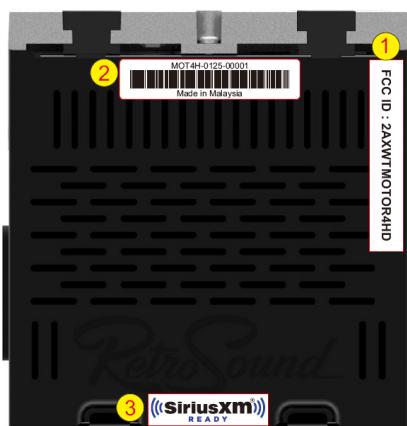
Position : Unit  
Label size : 80 x 12mm

\* P/S: - All graphics are simulated and  
are for illustrative purposes only.  
- All specifications are tentative  
and subject to change without  
notice.

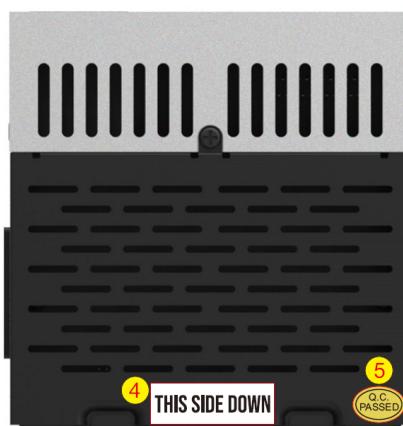
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## 2. LABEL LOCATION FOR PRODUCT

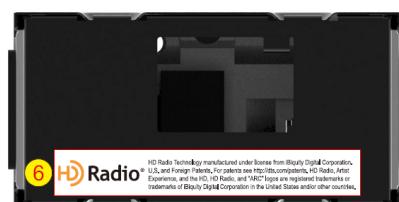
### TOP VIEW



### BOTTOM VIEW



### FRONT VIEW



### BACK VIEW



Rubber Plug  
(P/N: 64-9R-05300G)

注：警告卡纸用硅胶塞卡在螺丝孔



1. FCC ID LABEL 45\*8MM  
(P/N: 90-9R-00600G)

FCC ID : 2AXWMTMOTOR4HD

2. SERIAL NUMBER BARCODE LABEL 45\*10MM  
(P/N: 60-25-07900G)

MOT4H-0125-00001  
Made in Malaysia

3. SiriusXM Label 30\*8MM  
(P/N: 90-9R-00400G)

SiriusXM READY

4. INSTRUCTION LABEL 30\*10MM  
(P/N: 90-9R-00700G)

THIS SIDE DOWN

5. QC PASSED LABEL 13\*9MM  
(P/N: 90-9R-00100G)

Q.C. PASSED

6. HD RADIO NOTICE LABEL 80\*12MM  
(P/N: 90-9R-01100G)

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7. BACKSTRAP WARNING SHEET 53\*36MM  
(P/N: 91-9R-20000G)

WARNING:

Secure the unit to your vehicle using the supplied Backstrap to support the unit's weight properly. Failure to attach the Backstrap will damage the Control Shafts and void your warranty.

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### 3. GIFT BOX SPECIFICATION

#### GIFT BOX SPECIFICATION

(P/N: 93-9R-10200G)



#### SPECIFICATION:

**MATERIAL** : 270G DUPLEX + E FLUTE  
**PRINTING** : 4 COLOR PRINTING(CMYK)  
**FINISHING** : WITH STRONG GLUING + MATTE LAMINATION

259 mm

**EXTERNAL DIMENSIONS : 259 x 165 x 82mm**

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## 4. CARTON SPECIFICATION

### CARTON SPECIFICATION

(P/N: 94-9R-10200G)



#### SPECIFICATION :-

1. MATERIAL : A=A(140/110/90/110/140)
2. PRINTING : 1 COLOR PROCESS PRINTING - BLACK
3. QUALITY : NO DOUBLE IMAGE PRINTING, INK CONSISTENCY & NO OVERLAPING.
4. REMARK : COMPLETED 6 SETS/CTN
5. TOLERANCE : ±3MM

1. BLANK LABEL  
60\*95MM

2. BLANK LABEL  
65\*30MM



External Dimension: 520 (L) x 176(W) x 283(H)mm



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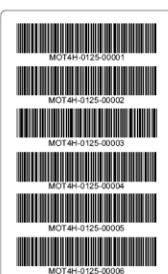
### 5. LABEL LOCATION IN GIFT BOX & CARTON

#### 1. SERIAL NUMBER BARCODE LABEL 45\*10MM (P/N: 60-25-07900G)



Position: GB

#### 2. CARTON S/N BARCODE LABEL 95\*60MM (P/N: 60-25-01600G)



Position: Carton Main View (x2pcs)

#### 3. CARTON PO LABEL 65\*30MM (P/N: 60-25-01900G)



Position: Carton Side View (x2pcs)



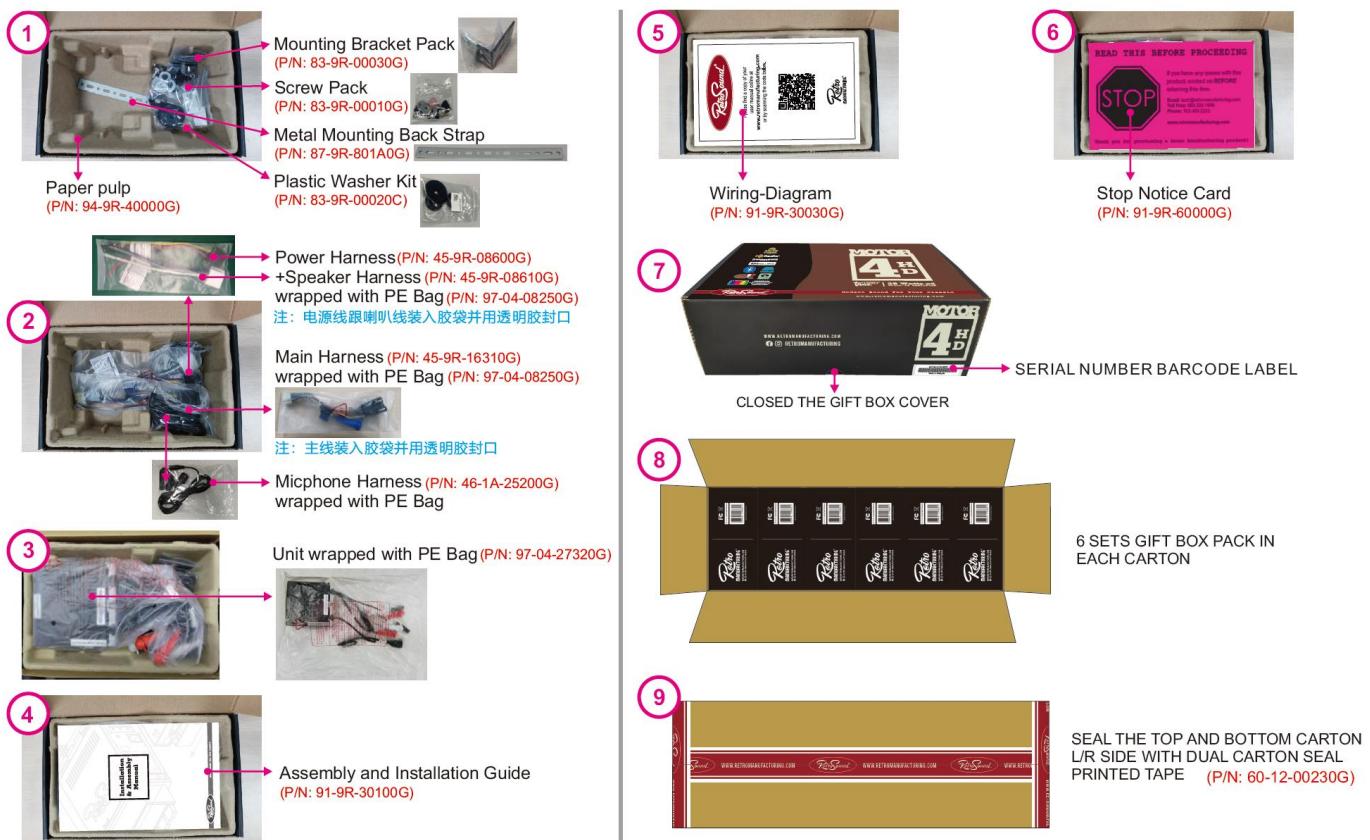
GIFT BOX (P/N: 93-9R-10200G)



CARTON (P/N: 94-9R-10200G)

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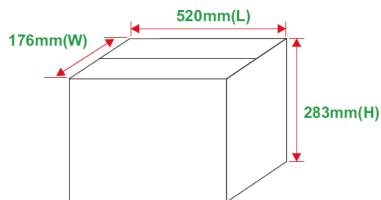
## 6. PACKING METHOD



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## 7. CUSTOMER LOADING CAPACITY

## Customer Loading Capacity



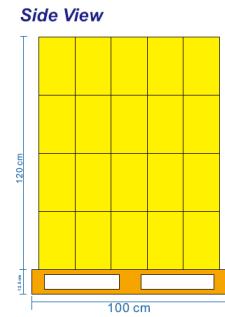
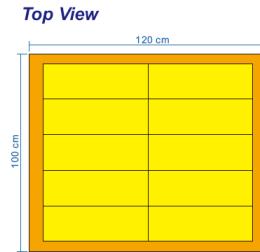
Carton Quantity = 6 sets

Carton Dimension (external) = 520(L) x 176(W) x 283(H)mm

N.W = 13.9 LBS/ 6.3 KGS

G.W = 15.0 LBS/ 6.8 KGS

## Pallet Size:



Pallet size: 1200\*1000\*125mm

Quantity Per layers: 10 Cartons

Stacking Layer: 4 Layers

20' Container Loading Quantity

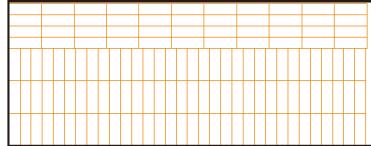
= (9x10x4) cartons x 6 sets = 2160 sets

40' Container Loading Quantity

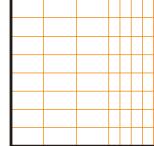
= (20x10x4) cartons x 6 sets = 4800 sets

## 20' Container

Top View



Front View



Stacking Layer: 8 Layers

## 20' Container (without pallets)

## Loading Quantity:

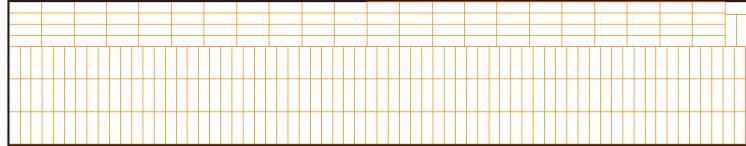
$$= (L32 \times W3 \times H8) + (L11 \times W4 \times H8)$$

= 1,120 cartons x 6 sets

= 6,720 sets

## 40' Container

Top View



Front View



## 40' Container (without pallets)

## Loading Quantity:

$$= (L66 \times W3 \times H8) + (L22 \times W4 \times H8) + 16$$

= 2,304 cartons x 6 sets

= 13,824 sets

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END