



BEBCARE MOTION

A smart digital video baby monitor for the active tot



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Thank you for purchasing our Bebcare Motion digital video baby monitor. Your unit has been manufactured and checked under the strictest possible quality control to ensure that each monitor leaves the factory in perfect condition. In the unlikely event you find any defects or have any problem, please contact our dealer or service center.

Please read this manual carefully to obtain maximum performance and extended service life from the unit.

Features

- 4.3-inch ultra-clear "True Colour" screen
- 2.4GHz interference free digital communication
- Night vision with IR LED
- Lens with 60° field of view
- Horizontal 330° Vertical 110° lens movement by motorized mount
- Baby's room temperature indication with Hi/Lo alarm
- Night light and lullaby function
- Talk back function
- Automatic tracking of baby movement
- Baby movement detection alarm
- 300m (1,000 ft) operating range between camera and parent unit
- Automatically reduce radiation to minimum level under standby mode
- Expandable up to four cameras
- Optional movement sensor mat to monitor baby's breathing

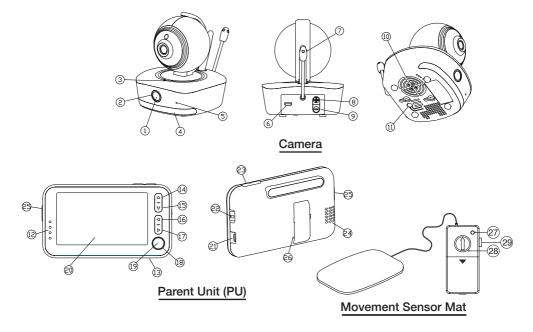
WARNING

The Bebcard Motion should not be regarded as a medical device. Premature babies or those considered to be at risk should be under the supervision of your doctor or health personnel.

Direct supervision of your baby at a regular interval by a responsible adult is strongly recommended in addition to using this baby monitor.



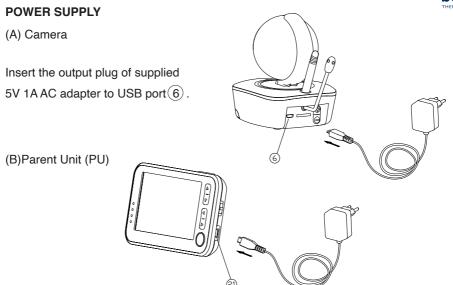




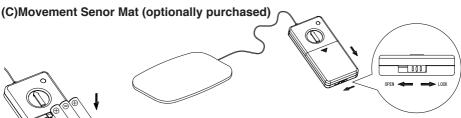
- 1 Power ON/OFF button
- (2) Power ON indicator
- (3) Transmit indicator
- (4) Night light
- (5) Microphone
- (6) USB socket
- (7) Temperature sensor
- (8) Night light intensity up button
- (9) Night light intensity down button
- (10) Speaker
- (11) Pairing button
- (12) LED level meter
- (13) Microphone
- (14) Camera tilt up button (up button in menu mode)
- (15) Camera tilt down button (down button in menu mode)

- (16) Camera pan left button (left button in menu mode)
- (17) Camera pan right button (right button in menu mode)
- (18) Power ON/Charging indicator
- (19) Talk back button
 (OK button in menu mode)
- 20 TFT colour screen
- (21) USB socket
- 22 Power ON/OFF/Vibration switch
- 23 Volume up/down button
- (24) Speaker
- (25) Menu button
- (26) Pairing button
- (27) Movement indicator
- (28) Movement sensitivity adjustment knob
- (29) Alarm hold button





A Li polymer battery is already incorporated in the unit. To charge up the battery, connect the output plug of supplied 5V 1A AC adapter to USB port (21). With the unit being switched off, the power indicator (18) will light up red. Once the battery is fully charged up (normally it takes around 4 hours), the power indicator (18) will go off or turn steady green (if unit is switched on). Now the unit is ready for operation. Either you can disconnect the AC adapter or keep connecting will cause no damage to the battery. In the latter case, when the battery is being consumed and voltage falls to a certain level, the AC adapter will automatically start charging up the battery again.



Set the lock lever to open position, slide open the battery door in direction as shown. Install 3 pcs AA (UM-3) alkaline batteries, observe correct polarities. Slide back battery door and set the lever back to lock position. The battery life can last for 90 days when using battery such as Duracell.

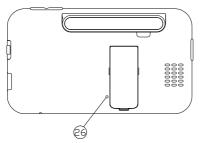
PAIRING



This process is the match the PU with camera and movement sensor mat so that they can communicate with each other while no other devices (even baby monitor of identical model) can interfere with you or receiving your signal.

The PU and camera are already paired when they are shipped out from factory. However, it is necessary to perform pairing again when an extra camera is added to work with PU.

- 1. Switch on PU using the power on/off switch (22) and camera by long press power button (1).
- 2. Turn on PU screen 20 by short press any one button 14, 15, 16, 17, 18, 23 or 25.
- 3. Using a pointed object, short press the pairing button 26 of PU and the screen will show:





4. Use ▲ ▼ (14)(15) button to select "Add camera" (in case you need to delete a camera already paired, select "Delete camera"), then press OK button (19).

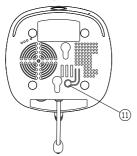
Add camera		
CAM 1 CAM 2 CAM 3 CAM 4	Paired	

5. Use $\blacktriangle \blacktriangledown (14)(5)$ button to select a number assigned to the camera being paired (or the camera to be deleted), then press OK button (19).

Camera 1 . . . Please press pair key on camera 29 seconds



6. Now short press pairing button (1) at bottom of camera, wait for around 5 sec and two beep sound will be heard which indicate pairing become successful and the screen (2) will show the image as captured by camera lens (if not successful, short press pairing button (11) again or repeat step 4-6 when the time elapsed exceed 30 sec):



	Add cam	nera	
CAM 1 CAM 2 CAM 3 CAM 4		Pair ok	

- Repeat above steps for other cameras. Note if you pair a new camera but selecting a number that is already paired, the new camera will override the originally paired camera.
- The pairing between camera and movement sensor mat should be performed after the successful pairing between camera and PU or otherwise the system will not operate properly.
- 9. Press and hold the pairing button 11 at bottom of camera while switching on the unit by long press of power button 1 until the transmit indicator 3 starts flashing.
- 10. Now press and hold the alarm hold button (29) while switch on the movement sensor mat by turning the knob (28) clockwise, wait for the movement indicator to start flashing, two beep sound will be heard in camera, indicating pairing is successful.
- 11. Switch off both camera and movement sensor mat, switch them on again for normal operation.
- 12. The mat is now ready for use, probably you will hear the breathing alarm in PU (if the movement monitoring function is set to ON) after 20 sec in case nothing is placed on the mat. Slight tap the mat few times and the alarm will stop, this show the system is working properly.
 - N.B. When it is no longer necessary to monitor the baby's breathing as he grows older, the movement sensor mat is required to unpair from camera to avoid unnecessary alarms. To achieve this perform pairing process between camera and PU by repeating above steps 1- 6 but leave out steps 9-10.

OPERATION



Camera

- Place the camera onto a stable table top or installed on wall but out of reach of baby (preferably 1m away).
- 2. Switch on camera by long press of power button 1, the power indicator 3 will light up green.
- 3. Adjust the microphone sensitivity (set on PU side) such that the camera will be triggered to transmit baby's voice whenever the microphone (5) picks up a sound at your desirable loudness level. Once the camera starts to transmit, the transmit indicator (3) will light up blue. When the baby becomes silent and microphone (5) does not pick up any sound, the camera will stop transmitting and go into standby mode. At the same time, transmit indicator (3) will go off. Under such mode, the radiation is reduced to minimum level.
- 4. The night light (4) can be set to OFF, ON or VOX (on when detecting sound) using the PU. The light intensity can be adjusted using + buttons (8)(9).
- 5. This camera is incorporated with lullaby function which can be remotely turned on or off using PU. There are 6 different factory preset song/sound. The volume of music heard in speaker (10) can be adjusted by PU
- 6. When there is sufficient light intensity, the screen ② will show a colourful image.

 Once the environment getting dark, the IR LED in camera will automatically turn on to illuminate the surroundings and the screen ② will show a black white image.
- 7. Using the buttons ▲▼ ◀ ▶ (14) (15) (16) (17) on PU, parents can be pan (330°) or tilt (110°) the camera lens to capture the different view of baby.
- 8. When baby grows up to become a toddler, parents can activate the motion tracking function in PU and the camera lens will automatically track the movement of toddle.



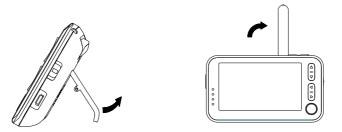
Parent unit

- 2. The image captured by the camera lens should be shown on screen ② while the sound picked up by microphone ⑤ should be heard from speaker ②4. In case the screen ② shows the text "No signal or Out of Range ", it means the units are not properly paired (refer to PAIRING SECTION).
- 3. Adjust the volume of speaker ②4 to obtain a comfortable listening level using the

 ¶) ¶) volume up/down button ②3, a corresponding bar graph will be shown on screen ②0. In case the parents prefer to keep the environment quiet, just press the volume down button ¶) until the icon ¶× shows up and the speaker ②4 become muted. To resume the speaker sound output, press the volume up button ¶) again.
- 4. Use ▲▼◀► 14, 15, 16, 17 button to control the pan/tilt of camera lens. Note only one button should be pressed each time.
- 5. The parent can talk back to baby anytime they prefer by using the talk back function :
 - a. Press and hold the talk back button (19), will show up on screen (20).
 - b. Speak towards the microphone (13).
 - c. Your voice will be heard from speaker 10 in camera .
 - d. Adjust the volume of speaker using the Setting menu.
 - e. Release the talk back button (19) to listen to baby.



For easy viewing, the PU can be placed on table top by pulling out the lever support at the back. Besides, to achieve a better reception and longer communication range, rotate the antenna to a vertical position.



7. Short press menu button 25 to call up the main menu on screen 20, use the

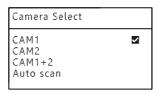
▼ ▼ ▶ button 14,15,16 and 17 to select the functions to be set, then short press OK button 19 to confirm.



After performing the setting, short press menu button to upper menu or exit from menu mode.



This function is to select the camera to be viewed. If PU is paired to more than one camera, parent can select to view two cameras on screen at the same time or view each camera sequentially under auto scan mode.



Use $\blacktriangle \blacktriangledown$ button 1415 to select the camera no. to be viewed. Short press OK button 9 to confirm.



Under split screen mode (CAM 1+2 or CAM 3+4), only the sound from either one camera can be heard (as indicated by a flashing CAM No.), short press OK button (19) can switch to listen to the other camera.

Note: Auto motion tracking function is not available under split screen mode.

Under auto scan mode, the screen ② will show the image of each camera in turn for a period of 8 sec. After 32 sec, if no camera detects any sound, the screen ② will be off (subjected to screen always on mode is not selected) until any one of the camera detects a sound, PU will stay to view that camera until the sound goes off.

The viewing of camera has following priority:

CAM 1 > CAM 2 > CAM 3 > CAM 4

This means while PU is viewing CAM 3, if CAM 1 detects a sound, PU will immediately switch to view CAM 1 until the sound is off, then it will switch back to view CAM 3.

To enable parent not to miss the activity of other camera, when PU is viewing a camera and another camera of lower priority detects a sound, its camera no. will be shown flashing on screen ②. If parents prefer to view this camera, by short press OK button ①, PU can toggle to view between these two cameras



This function is to select between VOX on or screen on mode



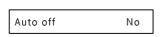
Use $\blacktriangle \blacktriangledown \blacktriangleleft \blacktriangleright$ button 14151617 to select, then short press OK button 19 to confirm.

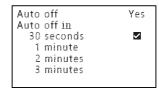
Under VOX on mode, the screen ② will be turned on automatically whenever the camera detects baby cry and shut down automatically after a delay of 5 - 25 sec (as selected by parents) once the baby stop making sound. This way the PU will consume less battery power and the radiation from camera is reduced to a minimum level.





Under screen on mode, the screen ② will always stay on or auto shut off after a period of time (30 sec/1 minute/2 minutes/3 minutes) as selected by parents. Please note the battery running time will become less.





Under screen off mode, only the baby voice will be heard while the screen remains off all the time. In case parent would like to see the image of baby, short press any one of button (4) (15) (16) (17) (18) (23) and (25) can activate the camera and screen (20) will show the baby image for 10 sec.



This function is to set the feeding alarm ON or OFF and select the feeding time interval. Use $\blacktriangle \blacktriangledown \blacktriangleleft \blacktriangleright$ button 14 15 16 17 to select, then short press OK button 19 to confirm.



Once the feeding alarm is activated, a count down timer will be shown on screen 20



When it is time to feed, an alarm will be heard which can be muted by short press anyone of button (4) (5) (6) (7) (8) (23) & (25).

To initiate alarm, enter menu & select & icon then set feeding alarm to ON again.





This function is to select the lullaby/nature sound to be played in camera and its volume

Use $\triangle \nabla \blacktriangleleft \triangleright$ button (14)(15)(16)(17) to select, then short press OK button (19) to confirm.





The lullaby will be played sequentially (when \rightleftharpoons is selected) or repeat itself (when \rightleftharpoons is selected). Note the lullaby/nature sound will be played for 20 min and stop automatically if no baby sound is detected. In case baby starts crying, the music will be played for another 20 min.



This function is to select between screen magnification x 1 or x 2

Use OK button (19) to select. If x 2 is selected, Qx2 will show up on screen.



This function is to set the night light in camera to ON, OFF or VOX mode

Use ▲▼ button (14)(15) to select, then short press OK button (19) to confirm.



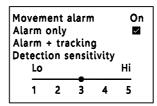
Under VOX mode, the night light will be on once the camera detects baby's cry and go off when the environment become silence.



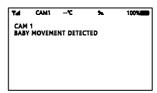


This function is to set the movement alarm ON or OFF.

Use $\triangle \nabla \blacktriangleleft \triangleright$ button (4)(5)(6)(7) to select, then short press OK button (19) to confirm.



When set to ON, the icon 5 will show up in screen 20. Under "Alarm only "mode, whenever the camera detects baby movement, the screen 20 will be turned on (even baby remains silent) and a beep tone being heard. The screen will be off automatically if baby stops making movement.



Under "Alarm + tracking" mode, in addition to providing the movement alarm, the camera will auto track the movement of baby. The camera lens needs to face directly towards the baby location. Once the baby starts moving, the camera will automatically follow the same direction.

Note in case there are several moving objects within the view as captured by camera lens, this tracking function may not operate accurately.

(N.B. This function does not operate under split screen mode)

Parents can select the movement detection sensitivity according to their preference. Higher value means the camera is more sensitive to movement.



This function is to set the various parameters

Use ▲▼◀▶ button (14)(15)(16)(17) to select, short press OK button (19) to confirm.



Display
Temperature
PU alarm and indicators brightness
Cam mic sensitivity & volume
Cam indicators brightness
Night vision changeover
Movement sensor mat

Display

Brightness	2
Flip	0°

Brightness

Select from one of the 5 levels of screen brightness.

(N.B. It is not possible to adjust the brightness when there is no image displayed on screen).

Flip

Select normal or 180° inverted image depending on how the camera is installed.

(N.B. It is not possible to adjust the flip when there is no image displayed on screen).

Temperature

Unit	°C
Alarm	Off
High limit	35°C
Low limit	5°C

Once the temperature alarm is set to ON, PU will provide an alert (both visual and audio) in case the camera detects baby's room temperature become higher or lower than the preset limits.

The selectable range for high limit is +15° to + 48° C and low limit is - 9° to + 25°C. In case you have made a illogical entry (e.g. you have selected 20°C as high limit and 22°C as low limit), the unit will not accept your entry and will automatically correct it to a setting 2° higher or lower, depending you have set the high or low limit first.

Please note the setting of temperature limits are same for all cameras



PU alarm and indicator brightness

This function is to set the alarm sound and key tone ON or OFF and adjust indicator brightness

Use **▲▼ ♦** button (14)(15)

16(17) to select, then short

press OK button 19 to confirm.

					\neg
Alarm S	ounc	ł		Off	١
Key ton	e			Off	
Power indicator brightness					
Lo				<u>Hi</u>	
1	2	3	4	5	
Level meter indicator brightness				;	
Lo				Hi	
1	2	3	4	5	

N.B. When brightness is set to level 1, the indicator is totally off.

Cam Mic sensitivity and Volum

Mic sensitivity

Mic sensitivity 1
Talk back volume 3

Select from one of the 5 levels of sensitivity, higher value means the camera microphone 5 is more sensitive to sound.

Talk back volume

This control the speaker ① volume when parents talk back to baby, it is independent from the music volume which is adjusted within the menu of lullaby function.

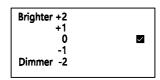
Cam indicators brightness

This function is to adjust the indicators light brightness to avoid affecting baby's sleep

Use $\blacktriangle \blacktriangledown \blacktriangleleft \blacktriangleright$ button 14151617 to select, then short press OK button 19 to confirm.

N.B. When brightness is set to level 1, the indicator is totally off

Night vision changeover



The screen image will change to black white colour when the camera environment becomes dark. This setting controls at what light intensity the changeover to black white image will occur. Brighter means the changeover will take place at more bright environment.



Movement sensor Mat

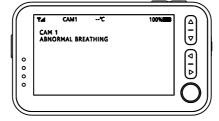


This is to set the monitoring function of movement sensor mat to ON or OFF.

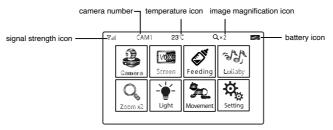
Use ▲▼button (14) (15) to select, then short press OK button (19) to confirm.

When set to ON, the unit will provide an alarm in case the movement sensor mat does not detect any activity of baby in 20 sec (including breathing movement) and the screen

will show following:



- 7. Whenever baby is making sound and camera becomes activated, the visual level meter will light up. The louder the baby's voice, the more segments will light up. This feature is useful in case the parents prefer to turn down the speaker volume to keep the environment quiet while still able to monitor the activity of baby.
- 8. There are 5 icons displayed at the top of screen:



Within the operating range when **signal strength icon** shows full 4 bars, a colourful and smooth image can be seen on screen ②. However, as the distance between the camera and PU increases, the signal strength icon show less no. of bar and the image become less smooth. Further increase in distance will cause the image to become still and until a

point where the screen ② will show the text "No signal or Out of Range". Such text will be shown on the screen ② at regular intervals. At the same time, the visual level meter ① starts flashing and an audible alarm will be heard to alert the parents.





Whenever the parent unit falls back within the operating range, the audible alarm will stop and the visual level meter (12) stops flashing.

The camera number shows PU is viewing which camera

The **temperature icon** indicates the current temperature of baby's room.

In case the temperature falls outside the preset high and low limits, an audible alarm will be heard and the screen 20 will show :





The image magnification icon Qx2 will show up when x 2 is being selected.

The **battery icon** shows the status of PU battery, once the battery level falls below 20%, this icon will start flashing and an audible alarm will be heard, urging the parents to charge up the battery.

During charging process, the segments within battery icon will flash in turn and the power on indicator (18) will remain red until the battery is fully charged up, then it will turn green.

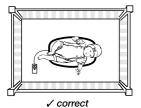
9. Under VOX mode or screen on mode, when the camera is under standby and screen ② is dark, parents are still able to see the image of baby while he is asleep (i.e. when the baby is not making any sound). Short press any one of button ① 1.0 (1.0)

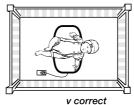
10. When PU is sounding an audible alarm, it can be muted by short press anyone of button 4,5,6,17,18, 23 and 25 but the text on screen 20 will keep showing until the condition is rectified.

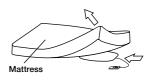


Movement sensor mat

1. Place the movement sensor mat underneath the mattress, lengthwise direction and directly under where your baby sleeps. For optimum performance, there should be no bedclothes tucked between the sensor mat and the mattress. Besides, if the mattress support is too soft (such as box spring or underpadding), a hard board is required to be placed underneath the mat to provide a firm surface for it. The size of the board should be larger than the sensor mat.







2. With the baby placed in crib, switch on sensor mat by turning the movement sensitivity knob 28 in clockwise direction. Adjust the position of knob 28 such that the movement indicator 27 will blink in pace with the breathing movement of baby.

Slip the control box underneath the mattress to keep out of reach of baby and place it as far away from the senor mat as possible.

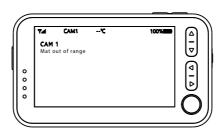
According to the change in weight as baby grows, it may be necessary to adjust the sensitivity setting of knob 28 again. In case the sensitivity setting is not appropriate, the movement indicator 27 will always stay ON or OFF and false alarm may occur.

N.B. Before attempting to adjust the knob (28), wait for at least 15 -20 min until the baby has settled down or fallen asleep.

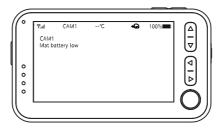
3. For environment with continuous vibration from the floor, the sensor mat may has false detection and delay or prevent the alarm from sounding. Under such circumstance, move the crib to the corner of the room or near a solid supporting wall. Moreover, keep the crib away from strong draft and air current



4. Besure the BU and sensor mat is within the same room or apart from each other not more than a distance of 10m, otherwise they may lost connection with each other and breathing movement of baby cannot be monitored.

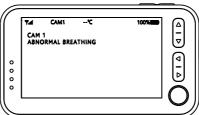


When battery of sensor mat is running low, PU will provide an alarm and the screen will show following, urging parent to replace with new battery:



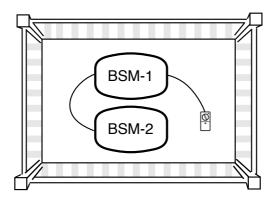
Once battery become completely flat, the screen will show the text "Mat out of range"

5. Once the sensor mat cannot detect any activity of baby (including breathing movement) for over 20 sec., PU will provide on audible alarm to alert parent and the screen will show following:





- 6. When parents need to take baby out from crib for feeding or other purpose, to avoid breathing alert alarm, short press the alarm hold button 29. This button can be pressed before or after taking out the baby, but such action must be performed within 20 sec, or otherwise the alarm would still sound. To stop alarm in PU, short press hold button 29 again. Upon placing back the baby into crib, the sensor mat will automatically resume monitoring the baby movement after 20 seconds.
- 7. When the baby's movement increases as he grows older, he may move away from the sensor mat and cause false alarm. Additional movement sensor mat can be connected to increase the coverage.



N.B. In case there are two cameras or more operating in the system, besure each camera and its corresponding sensor mat are far away from each other and placed in separate rooms to avoid interfering each other and creating false alarm.



PRECAUTIONS

- Disconnect the AC adapter from the wall outlet when the monitor is not to be operated.
- The Bebcare Motion is best performed within a temperature range of 0°C to +50°C.
- Do not open the cabinet, no serviceable parts inside.
- The Bebcare Motion should not be exposed to dripping, splashing and that no objects filled with liquids, such as vases shall be placed on it.
- Batteries shall not be exposed to excessive heat such as sunshine, fire or the like.
- The MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable
- Only use the AC adapter as list in the user manual.

STANDARD ACCESSORIES INCLUDED IN PACKAGING

- a. Baby unit
- b. Parent unit
- c. 5V AC adapters x 2
- d. User manual











TROUBLE SHOOTING GUIDE

Problem	Possible Causes	Solution
No audio or video signal is transmitted	- Camera mic sensitivity is too low - AC adapter improperly connected in camera	- Adjust mic sensitivity higher using setting menu in PU . - Check connection
Always transmission	- Mic sensitivity or movement sensitivity is too high - Screen On mode is activated without auto off	- Adjust mic sensitivity or movement sensitivity lower - Set to auto off or VOX on
Out-of-range alarm always on	- Camera is switched off or No power supply - Distance between camera and PU exceed operating range - Pairing is lost or not performed properly	- Switch on camera or check AC adaptor - Move camera and PU closer to each other - Perform paring again.
Image on screen not smooth or become still or become black white	- Reaches the operating range limit - Light intensity too low in baby's room, camera operates under night vision mode using infrared LED as source of illumination Interference from other electronic devices such as WiFi router	Move parent unit closer to camera Increase light intensity of baby's room or adjust night vision changeover in setting menu of PU Move the source of interference away from baby monitor
Frequently showing low battery in PU	- Battery has run down. - Screen on mode is activated without auto off - Rechargeable battery is damaged.	- Recharge battery using AC adaptor Set to auto off or VOX on mode - Replace with new battery.
Speaker has no sound in PU	- Speaker is muted.	- Press volume up button to resume output from speaker.
Too short communication range	-Too many partitions between camera and PU	- Re-locate camera and PU
No audio under split screen mode	- PU is listening to other camera	- Press OK button to switch listening to your preferred camera

SPECIFICATION



Power supply:
 Tx 5V DC 1A external supply

Rx 3.7V 1400mAh Li polymer battery

Communication protocol : Digital FHSS technique with FSK modulation

• Operating frequency: 2410.000MHz ~ 2473.000MHz (total 19 Channels)

• Operating distance: 300 m in open space

• Tx and Rx need pairing with identical code to prevent interference

• Operating temperature : -10°C to +50°C

Camera

• RF power output : 17dbm (50m W)

VOX sensitivity (@ 0.6m): level 1 50-55db /level 2 55-60db/ level 3 60-65db /level 4

65-70db/level 5 70-75db

Night vision changeover: level +2 5 Lux/ level +1 4 Lux/level 0 2 Lux/level -1 1

Lux/level -2 0.5 Lux

Operating current (IR Off): 420m A
 Operating current (IR On): 640m A

Parent unit

• RF power output : 17dbm (50m W)

· Audio power output (Max) : 500mW

• Audio frequency response : 400Hz - 3KHz

Standby current: 70m A
Operating current: 340m A
Charging current: 300m A
Battery standby time: 20.0 hours

Movement sensor mat

RF power output (max): 0.01mW
Standby current: 450uA
Operating current: 15mA
Battery operating time: 3 months
Low battery alert: 2.7V

Power supply: 3 x AA (UM-3) alkaline battery