



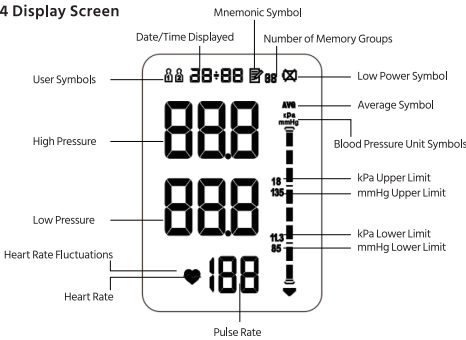
Blood Pressure Monitor with Arm Cuff User Manual



REF 44444

Version number: V1.3
The latest revision date: 02-2023
EN\$MBPA12023022210WHH/000000000/0000000

1.4 Display Screen



1.5 Functional Description

- 1) Measurement: Oscillographic measurement ;
- 2) The results showed: high pressure / low pressure / pulse ;
- 3) Unit Conversion: blood pressure units kPa / mmHg conversion (the default unit is mmHg);
- 4) Memory Group: Two sets of memory, each 99 measurement results of memory ;
- 5) Clock function: Set of year, month, day, hour, minute ;
- 6) Low power testing: any working-state detecting low power, LCD displays " " symbol prompts low power ;
- 7) Blood pressure classification indicator: blood pressure classification indicates blood pressure health, see Appendix Table II ;
- 8) Error: See Appendix Table III ;
- 9) Over pressure protection function: pressure over 295mmHg (20ms) is automatically and quickly exhaust ;
- 10) Auto power off function: No action for 2 minutes will initiate the automatic shutdown .

Thank you for choosing the SevaCare blood pressure monitor. Before using this blood pressure monitor, please read the user manual carefully and use it accordingly. Please keep the user manual for reference at any time.

Product Brief Introduction:
The full name of this product is Blood Pressure Monitor with Arm Cuff. It consists of the main unit and the arm cuff, suitable for human blood pressure and pulse measurement.
The blood pressure monitor adopts the intelligent pressure method, which can adjust your blood pressure to a suitable value automatically according to your own blood pressure value. It can effectively reduce the discomfort caused by incorrect pressure, shorten the measurement time, and prolong the service life of the arm cuff at the same time.

This blood pressure monitor has the memory function of 99 groups of measuring data of two people, and can save the data independently. It can display the average reading of the latest 3 groups of measurement results.

This blood pressure monitor has the function of blood pressure classification, which is convenient for you to judge whether your blood pressure is normal or abnormal.
This blood pressure monitor has a voice broadcast function (optional). During measurement and recall of the memory, there will be voice operation tips.

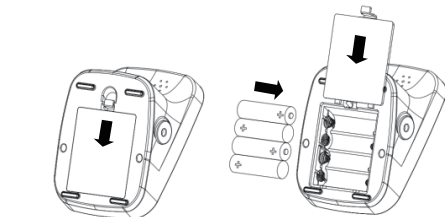
Safety Precautions

Warnings and graphic symbols in the user manual are aimed at enabling users to use the product safely and correctly, to avoid any damages to users and others. Specific meanings are as follows:

Symbol Descriptions		
	Warning: To remind you that misuse of the product may cause personnel damage, measurement failure and article damage. (Article damage includes damage to housing, property, pets and livestock.)	
	Enforcement: To represent compulsive behavior, namely matters that must be observed when using the product.	
	Prohibition: To stand for prohibited contents, namely matters not allowed when using the product.	
	Prohibition of Disassembly	
	Caution of Electric Current	
	Caution of Fire	
	Medical Device	Up Toward
	Unique Device Identifier	Keep Away from Sunlight

2. Installation of Batteries

- 2.1 Use of Batteries**
- 1) Remove the battery cover in the direction of the arrow;
 - 2) Install four AA batteries, paying attention to positive and negative orientation.
 - 3) Close the battery cover.



- Note**
- Icon " " indicates the battery is about to run out. Please replace with four new AA batteries of all matching type.
 - Please turn off the machine before battery replacement.
 - If you remove the batteries in the boot state, the timer is stopped.
 - After replacing the batteries, you may need to reset the time. For details, refer to "3.2 Setting the Time" or "4.4 Setting the Time" section.
 - Methods of disposal of used batteries should be handled according to local regulations on environmental protection.
 - Note: battery life varies depending on usage and settings.
 - Battery life: With new batteries, the unit can complete at least 180 times of measurement, and the batteries can complete at least 300 times of charge and discharge.

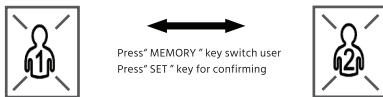
	Bf Type Applied Part
	Refer To Operation Manual
	Date of Manufacture
	Catalog Number
	Serial Number
	Separate Collection
	Keep Dry
	Use-by Date
IP21	
First characteristic numeral 2: Against ingress of solid foreign objects: ≥12.5mm diameter Second characteristic numeral 1: Against ingress of water with harmful effects: vertically dripping	
	● Arrhythmia, diabetes, poor blood circulation or stroke patients, please use the product under the guidance of a doctor ● It is very dangerous for the patients to make self-judgment and self-treatment according to the measurement results. Please follow the guidance of the doctor, self-judgment is likely to deteriorate the patient's condition. ● There may be a risk, such as arm numbness or pain, that may be caused by over inflation of the air bag. ● Avoid the application of the Arm Cuff over a wound, as this can cause further injury. ● For the sake of safety, please keep the product away from children. ● The application of the cuff and its pressurization on any limb where intra-vascular access or therapy, or an arterio-venous (A-V) shunt is present because of temporary interference with blood flow and could result in injury to the patient; ● The information that pressurization of the cuff can temporarily cause loss of function of simultaneously used monitoring the blood pressure monitor on the same limb ● The need to check that operation of the blood pressure monitor does not result in prolonged impairment of the circulation of the blood of the patient. ● Excessive length cables and hoses can be a strangulation hazard, and should be kept out of reach of children.
	● Infants and children who can not express their thoughts are prohibited to use the product, because they will be the cause of the accident or dispute. ● Do not use it for purposes other than blood pressure measurement. It can be a cause of accident or dispute. ● Please do not use chemical reagents such as thinner, alcohol, gasoline to clean this product. ● Do not beat the product heavily or drop it from any height. ● Please be sure to use only the included arm cuff of this product, otherwise it can cause inaccurate results ● Do not use a mobile phone near the machine. There is a risk of interference, causing the machine to malfunction.
	● Do not disassemble, repair, or reconstruct the blood pressure monitor nor the arm cuff, otherwise it can cause device malfunction.

3. Initial Setting

This device can automatically memorize 2x99 groups of measured value in memory and can calculate the average value of the latest three groups of measuring results. It will store correct user and measuring time if they are set correctly, otherwise the user and measuring time cannot be memorized. Please conduct initial setting before the first measurement if you want to use memory and average value function. Initial setting includes settings of user, time, volume and blood pressure unit.

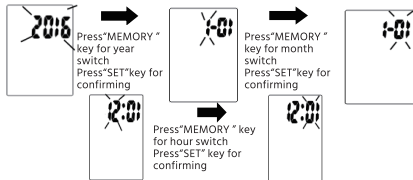
3.1 User Setting

In the shutdown state, long press SET key until the user symbol " " on screen starts flashing. Press the MEMORY key to switch " " or " " for choosing user, then press SET key for confirming. Switch to year setting mode at the same time, or choose the system defaults user " ".



3.2 Time Setting

Once 3.1 User Setting is complete, press SET key under user mode and it switches to year setting mode. Once the screen displays "2016" and flashes, press MEMORY key, and the value increment can switch between 2016-2035, when the year to be set appears, press SET key to confirm and it switches to "month" and "day" setting mode at the same time. The value that stands for month is now in flashing state, press MEMORY key, value increment can switch between 1-12, when the month to be set appears, press SET key to confirm, the value that stands for day is now in flashing state, it is the time to set day. Press MEMORY key, value increment can switch between 01-31, press SET key to confirm and it switches to "hour" and "minute" setting mode at the same time. The value that stands for hour is in flashing state now, press SET key, value increment switches between 0 to 23. When the hour to be set appears, press SET key to confirm, the value that stands for minute is now in flashing state, it is the time to set minute. Press the MEMORY key; value increment can switch between 00-59, when minute to be set appears, press SET key to confirm and it switches to "sound" setting mode at the same time, namely "SP" setting mode.



Note: Holding down the MEMORY key will increase the value quickly.

	● Do not force a bending of the arm cuff or the air tube. Otherwise, the blood flow will be affected and the patient can be injured. ● When removing the air tube, please do so at the main device Air Tube Interface. ● Do not apply pressure to the product before the arm cuff is twined around the arm. ● As dry battery leakage can damage the product, please pay attention to the following points: ● If you plan to not use the product for a long time (more than 3 months), please remove the batteries. ● If the batteries show Low Power, replace all batteries with a new set immediately. ● Do not intermix old and new batteries. ● Install the batteries in the correct positive and negative orientations. ● Do not intermix different types of batteries. ● Do not modify this equipment. ● The blood pressure monitor is not allowed to be serviced or maintained while in use with the patient.
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1. Product Introduction

1.1 Intended use

The blood pressure monitor is used for measuring blood pressure and pulse rate. The monitor can be used in hospitals, homes, schools and medical centers. It is suitable for adults. Not intended for infants, neonates, or during pregnancy.

1.2 Contraindications

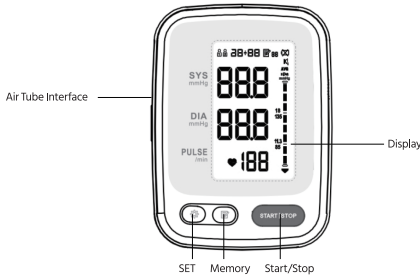
The product can not be used for patients with arrhythmia.

This product can not be used for infants, neonates or during pregnancy.

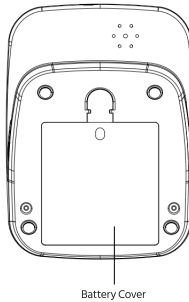
The product is only intended for adults.

Infants and people who can not express themselves should not use this product.

1.3 Machine Diagram



Rear



- 5) The bottom of the cuff should be located above the elbow in upper arm. The bottom of the cuff should be 2cm-3cm from the elbow.

- 6) Please properly fasten the cuff. There should be no gap between the arm and the cuff.

5. Measure Blood Pressure

5.1 The Correct Measurement Method

- Either the left arm or right arm are suitable to use for measurement. Be sure to apply the cuff to bare arms or use with thin clothing only. Please measure at a temperature-suitable room.
- 1) Take the measurement comfortably and naturally, with your feet flat on the floor, legs uncrossed
 - 2) Rest your elbow and arm on the table
 - 3) The cuff height should be inline with the heart
 - 4) The palm should be facing upward. Relax the body.

Attention

- If you wear thick clothes, do not roll up your sleeves. Remove the garment before measurement.
- In order to accurately measure, please pay attention to the correct winding cuff (Refer to "4 Usage of NIBP Cuff")

- Do not press your arms on the air tube, or you may restrict the flow of air to the cuff.
- Please be still for blood pressure measurement. If measuring daily, use the same arm for accurate comparison.
- The location of the cuff will cause changes of measurement results
- Do not touch the machine, cuff, or air tube during measurement
- Do not move or speak during measurement. The body should be in a state of relaxation
- Please be quiet and still for 4-5 minutes before measurement.
- Relax your body and muscles
- Do not speak or move when you are measuring.
- Please wait 2-3 minutes before measuring again.
- Do not use mobile phones and other mobile devices in the vicinity of the machine.

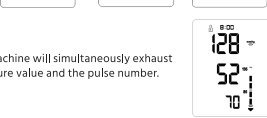
5.2 Operation steps of blood pressure measurement

The machine has 2 values of BP units, which are mmHg and kPa. Please refer to 3.4 BP Unit Setting for the specific method of setting value. Take the mmHg value as an example in the following explanation.

1) Press the "START / STOP" key. The machine will automatically return to zero and the arm cuff will automatically start filling with air. The pump will inflate the cuff and the screen will display the pressure changes in the cuff. In the process of inflation, the blood pressure monitor also detects the pulse. Please stay still and do not speak during the entire measurement process.



2) When the air in the cuff reaches a stable pressure, the pump will stop inflating. The arm cuff will gradually decrease in pressure and readings will be displayed on the screen as the heart icon flashes.



3) After the measurement is complete, the machine will simultaneously exhaust air pressure and will display your blood pressure value and the pulse number.

Note: the machine will automatically save the blood pressure value and the pulse rate.

Interrupt Measurement:

If you need to interrupt the measurement for any reason (for example, you feel uncomfortable), at any time, press the "START / STOP" key, and the machine will automatically reduce the air pressure, interrupting the measurement.

Important Tips:

For the same user, the interval between the two measurements is at least 2-3 minutes. Between the two measurements, the time gap allows the artery to be restored to the state before the measurement of blood pressure.

In the measurement process, if the body is moving, it will cause an inaccurate measurement result, or fail to provide a measurement result, and it will display an error message. In this case, please repeat the measurement process, and keep quiet and still until the end of the measurement.

If Irregular Heartbeat (IHB) brought by common arrhythmias is detected in the procedure of blood pressure measurement, a signal of "♥" will be displayed. Under this condition, the blood pressure monitor can continue functioning, but the results may not be accurate. It is suggested that you consult with your physician for accurate assessment.

5.3 Answers to the Questions During Measurement

Anomalies	Cause	Correction
High (low) anomaly blood pressure measurements	Improper Arm cuff attachment Speaking or movement of the arm during measurement Sleeves are rolled up too tight	wrap the cuff properly (refer to the part 5) Keep quiet and still then measure again Remove thick clothing and measure again
No inflation	The cuff is leaking The air tube is not connected well with the cuff	Change a new cuff Please connect correctly
Cuff leak in a short time	The cuff wrap is too loose	Please wrap the cuff correctly
Not working after pressing start button		Please reconnect power and measure again
During measurement suddenly power off	When not use for a long time, the temperature variation may make the battery power exhausted	Install new batteries
No display after pressing start button	The battery power is exhausted Incorrect polarity of batteries	Install new batteries Install the batteries properly
Other anomalies		Please press the start button and check again, or install new batteries. If still can't measure please contact customer service

6. Memory function

6.1 Memory data viewing

This blood pressure storing 2x99 set memory value, each measurement it will automatically stored. When it stored 2x99 set memory value, the old value will be covered by the new one. It can show the latest 3 times average value.

▲ Note ▲

● In order to make a note of measurement correctly, before measurement, please make sure set the right user and time. Under one user, it has stored 99 set data, when you save the 100th set date, the earliest one date will be deleted.

6.1.1 Read memory record

Short press the MEMORY key it will show the latest 3 times average value. It will appear "AVG" in the top-right corner;

▲ Note ▲

● When the number of memory value less than 3 set, like there are 2 set memory value, the memory button will show this 2 set average value, if there is 1 set memory value, the memory button will show this 1 set average value, that is this 1 set measure value.

6.1.2 Read the result

Press the MEMORY key in average mode, you can read the latest 1 time measurement value, repeat press the MEMORY key to cyclic switch in the previous measurements.

6.2 Delete the memory value

Long press the MEMORY key in the memory mode, all memory values will be deleted.

Appendix 1. Product Specifications

Name	Arm type Blood Pressure Monitor		
Model	44444		
Display	Segment LCD Display		
Prevent into the liquid level	Can't prevent into the liquid with normal sealing .		
Measurement	Upper Arm		
Measurement Range	NIBP	20-280 mmHg	
	PR	40-199 times/min	
Accuracy	NIBP	±3mm Hg(±0.4kPa)	
	PR	±5%	
Power	4 AA alkaline batteries, DC6.0V		
Electrical parameters	Working Voltage	4.2-6V	
	Low electrical parameters	4.4V±0.1V showing low power, <4.2V±0.1V power offer	
	Blood pressure test current	(No pump valve working condition)	
	Shutdown current	<100uA	
Size	130.9*96.1*63.1mm		
N.W.	237g		
Working Condition	Temperature	+5℃~ 40 ℃	If stored or used outside the specified temperature and humidity range, the device will not work properly.
	Humidity	15%RH ~ 80%RH	
	Atmospheric	86kPa ~105kPa	

▲ Warning ▲

● This operation deletes all memory values, users need to operate carefully.

7. Care and Maintenance

* Be sure to keep the notes and other correct usage in the user manual, Failure to obey the regulations, the company doesn't take responsibility of the quality.

7.1 Care methods

■ Keep the blood pressure clean frequently
■ Using a soft dry cloth towel clean this blood pressure monitor, if it is very filthy you can wet the towel with water or neutral detergent, wring out it and wipe the monitor.

▲ Note ▲

◆ Please prevent water or other liquid seep into the blood pressure monitor.

▲ Suggestion ▲

Don't clean the body and cuff with naphtha, thinner or gasoline etc.

Don't wet the cuff or attempt to clean the cuff with water

7.2 Storage method

▲ Advice ▲

Do not place the unit in the following places:

- Easy splashing
- Direct sunlight, high temperatures, humidity, dust, full of corrosive gas places
- Some slant, vibrative, shock place.
- Some place storing chemicals or corrosive gas.

▲ Advice ▲

Please remove the batteries from the unit when not in use for a long period of time. (more than three months)

8. Manufacturer's Declaration of the EUT

Statement:

- The Arm type Blood Pressure Monitor or user should use the product in the electromagnetic environment specified in the following table, otherwise it may cause abnormal operation of the product.
- The internal structure of the Arm type Blood Pressure Monitor adds magnetic rings, magnetic beads, and conductive cloth to spray conductive paint to avoid electromagnetic interference, so as to prevent adverse events to patients and operators due to electromagnetic interference.
- Arm type Blood Pressure Monitor is a table-top equipment, it suitable for medical unit and home use.
- Warning: Use of this Arm type Blood Pressure Monitor adjacent to or stacked with other equipment should be avoided because it could result in improper observed to verify that they are operating normally.
- Warning: Use of accessories, transducers and cables other than those specified or provided by the manufacturer of this equipment could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.
- Warning: Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30cm (12 inches) to any part of the Arm type blood pressure monitor, including cables specified by the manufacturer. Otherwise, degradation of the performance of this arm type blood pressure monitor could result

Guidance and manufacturer's declaration – electromagnetic emission – for all EQUIPMENT AND SYSTEMS

1	Guidance and manufacturer's declaration – electromagnetic emission	
2	The Arm type Blood Pressure Monitor is intended for use in the electromagnetic environment specified below. The customer or the user of Arm type Blood Pressure Monitor should assure that it is used in such an environment.	
3	Emissions test	Compliance
4	RF emissions CISPR 11	Group 1
5	RF emissions CISPR 11	Class B
6	Harmonic emissions IEC 61000-3-2	Pass
7	Voltage fluctuations / flicker emissions IEC 61000-3-3	Pass

Guidance and manufacturer's declaration – electromagnetic immunity – for all EQUIPMENT AND SYSTEMS

Guidance and manufacturer's declaration – electromagnetic immunity		
The arm type blood pressure monitor is intended for use in the electromagnetic environments specified below. The user of the arm type blood pressure monitor should assure that it is used in such an environment.		
Immunity test	EN 60601 test level	Compliance level
Electrostatic discharge (ESD) IEC 61000-4-2	± 8 kV contact ± 15 kV air	± 8 kV contact ± 15kV air
Electrostatic transient / burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/output lines	± 2 kV for power supply lines
Surge IEC 61000-4-5	± 1 kV differential mode ± 2 kV common mode	±1kV differential mode
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	< 5 % UT (≥95 % dip in UT) for 0.5 cycle 40 % UT (60 % dip in UT) for 5 cycles 70 % UT (30 % dip in UT) for 25 cycles	< 5 % UT (≥95 % dip in UT) for 0.5 cycle 40 % UT (60 % dip in UT) for 5 cycles 70 % UT (30 % dip in UT) for 25 cycles
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	< 5 % UT (≥95 % dip in UT) for 5 sec 30 A/m	< 5 % UT (≥95 % dip in UT) for 5 sec 30A/m
NOTE UT is the a.c. mains voltage prior to application of the test level.		

Guidance and manufacturer's declaration – electromagnetic immunity – for EQUIPMENT and SYSTEM that are not LIFE-SUPPORTING

Guidance and manufacturer's declaration – electromagnetic immunity			
The arm type blood pressure monitor is intended for use in the electromagnetic environment specified below. The customer or the user of the arm type blood pressure monitor should assure that it is used in such an environment.			
Immunity test	EN 60601 test level	Compliance level	
Conducted RF IEC 61000-4-6	3 V 0.15 MHz -80 MHz 6 V in ISM and amateur radio bands between 0.15 MHz and 80 MHz 80 % AM at 1 kHz	3 V 0.15 MHz -80 MHz 6 V in ISM and amateur radio bands between 0.15 MHz and 80 MHz 80 % AM at 1 kHz	
Radiated RF EM fields IEC 61000-4-3	10 V/m 80 MHz -2.7 GHz 80 % AM at 1 kHz	10 V/m 80 MHz -2.7 GHz 80 % AM at 1 kHz	

Table 9 - Test specifications for enclosure port immunity to RF wireless communications equipment

Test frequency (MHz)	Band ^{a)} (MHz)	Service ^{a)}	Modulation ^{b)}	Maximum power (W)	Distance (m)	Immunity TEST LEVEL (V/m)
385	380-390	TETRA 400	Pulse modulation ^{b)} 18 Hz	1.8	0.3	27
450	430-470	GMR5 460, FR5 460	FM(± 5 kHz deviation	2	0.3	28
710	704-787	LTE Band 13, 17	Pulse modulation ^{b)} 217 Hz	0.2	0.3	9
745			Pulse modulation ^{b)} 18 Hz	2	0.3	28
780						
810						
870	800-960	GSM 800/900, TETRA 800, IDEN 820, CDMA 850, LTE Band 5	Pulse modulation ^{b)} 217 Hz	2	0.3	28
930		GSM 1800, CDMA 1900, GSM 1900, DECT, LTE Band 1, 3	Pulse modulation ^{b)} 217 Hz	2	0.3	28
1720		4, 25 UMTS				
1845	1700-1990					
1970						
2450	2400-2570	Bluetooth, WLAN, 802.11b/g/n, RFID 2450, LTE Band 7	Pulse modulation ^{b)} 217 Hz	2	0.3	28
5240	5100-5800	WLAN 802.11 a/n	Pulse modulation ^{b)} 217 Hz	0.2	0.3	9
5500						
5785						

NOTE: If necessary to achieve the immunity test level, the distance between the transmitting antenna and the me equipment or me system may be reduced to 1 m. The 1 m test distance is permitted by IEC 61000-4-3.

a) For some services, only the uplink frequencies are included.

b) The carrier shall be modulated using a 50 % duty cycle square wave signal.

c) As an alternative to FM modulation, 50 % pulse modulation at 18 Hz may be used because while it does not represent actual modulation, it would be worst case.

II . Blood pressure classification instructions

Table 1 Blood pressure classification instructions

LCD	High pressure	Low pressure
Serious	≥180	≥110
Moderate	160~179	100~109
Mild	140~159	90~99
little higher	130~139	85~89
Normal	120~129	80~84
Most suitable	≤119	≤79

III . LCD Error message and the cause of error correspondence table

Table 1 LCD Error message and the cause of error correspondence table

LCD Error message	The Cause of Error
"E0 1"	Due to the arm or body movement, the high pressure value can not be measured. Please tie the cuff and measure it once.
"E0 2"	Due to the arm or body movement, the low pressure value can not be measured. Please tie the cuff and measure it once.
"E0 3"	The test result is abnormal, please measure again.
"E0 4"	The air leakage rate is too fast or the pulse signal is too weak. Please check the cuff and hose attachment and measure again.

Services

1. One year free warranty period will be provided after sales.
2. Our company cannot provide the free warranty service due to the malfunction caused by personal reasons, details as follow:
 - 1) The malfunction caused by disassembly and or modification of the product.
 - 2) The product inner malfunction caused by dropping while picking up or operating.
 - 3) The malfunction caused by improper use or lack of reasonable care.
 - 4) The malfunction caused by operating improperly, not following the user's manual.
 - 5) The malfunction caused by natural disasters, such as flooding, fire, etc.
 - 6) The malfunction caused by an unauthorized improper repair.
3. Please present your valid invoice when in need of warranty service.
4. When performing warranty service, if needed, you may need to provide information on product components to circuit diagrams to our qualified technical support staff.

Need Help? We're here for you!

Contact us: www.monoprice.com/contactus

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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.
Modifying the equipment without Monoprice's authorization may result in the equipment no longer complying with FCC requirements for Class B digital devices. In that event, your right to use the equipment may be limited by FCC regulations, and you may be required to correct any interference to radio or television communications at your own expense. 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.