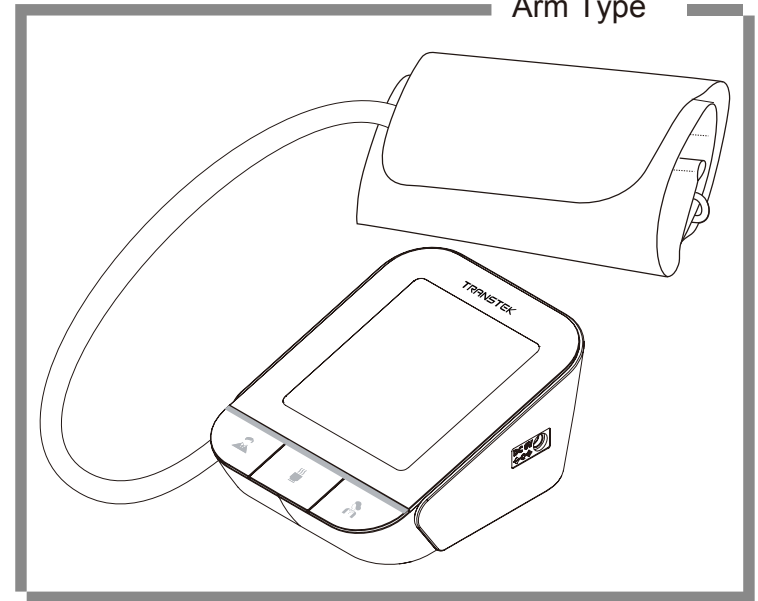


# User Manual

Blood Pressure Monitor LS802-E

Arm Type



- Thank you very much for selecting TRANSTEK Blood Pressure Monitor LS802-E.
- To use the monitor correctly and safely, please read the manual thoroughly.
- please keep well this manual in order to reference in future.

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**Thank you for selecting TRANSTEK arm type blood pressure Monitor (LS802-E). The monitor features blood pressure measurement, pulse rate measurement and auto-save the result. The design provides you with many years of reliable service. Reading taken by the LS802-E are equivalent to those obtained by a trained observer using the cuff and stethoscope auscultation method. This manual contains important safety and care information, and provides step by step instruction for using the product. Read the manual thoroughly before using the product.**

- Features:**
- 93.5\*79mm Bright LCD display with blue backlight
  - Maximum 60 records per user
  - Charging measuring technology

**♥ Safety information**

The below signs might be in the user manual, labeling or other component. they are the requirement of standard and using.

	Caution:Consult accompanying documents		Type B applied part
CE 0123	CE Mark: conforms to essential requirements of the Medical Device Directive 93/42/EEC.		DISPOSAL: Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.
	Manufacturer		Direct current
SN	Specifies serial number		Authorized Representative in the European Community

**CAUTION**

This device is intended for adult use only.

This device is intended for no-invasive measuring and monitoring of arterial blood pressure. It is not intended for use on extremities other than the wrist or for functions other than obtaining a blood pressure measurement.

Do not confuse self-monitoring with self-diagnosis. This unit allows you to monitor your blood pressure.Do not begin or end medical treatment based solely physician for treatment advice.

If you are taking medication,consult your physician to determine the most appropriate time to measure your blood pressure. Never change a prescribed medication without consulting your physician.

This unit is not suitable for continuous monitoring during medical emergencies or operations.

If the cuff pressure exceeds 40 kPa (300 mmHg),the unit will automatically deflate. Should the cuff not deflate when pressures exceeds 40 kPa (300 mmHg),detach the cuff from the wrist and press the homologous button to stop inflation.

To avoid measurement errors, carefully read this manual before using the product.

The equipment is not AP/APG equipment and not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.

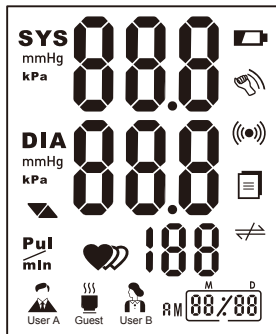
The operator shall not touch output of AC adapter and the patient simultaneously.

To avoid measurement errors,Please avoid the condition of strong electromagnetic field radiated interference signal or electrical fast transient/burst signal when using the AC adaptor.

The user must check that the equipment functions safely and see that it is in proper working condition before being used.

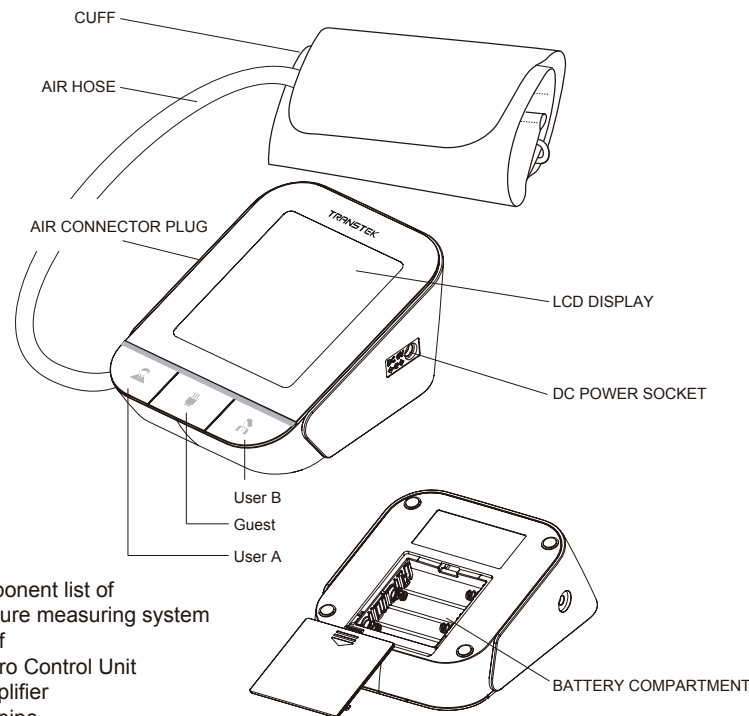
The manufacturer does not require such preventive inspections by other persons.

### ♥ LCD display signal



SYMBOL	DESCRIPTION	EXPLANATION
<b>SYS</b>	Systolic blood pressure	High pressure result
<b>DIA</b>	Diastolic blood pressure	Low pressure result
<b>Pul/min</b>	Pulse	Pulse/minute
	User A	provide measurement for user A, and then save the measure date automatically
	Guest	provide measurement for guests, but not save the measurement data.
	User B	provide measurement for user B, and then save the measure date automatically
	Data storage	to remind the users that the measurement dates don't upload to bridge in time
	Wireless transmitter	the blood monitor and Bridge in communication
	Network connection	the bridge not connect the network
	Shocking remaining	Shocking will result in inaccurate
	Low battery	Batteries are low and need to be replaced
mmHg kPa	Unit	Measurement Unit of the blood pressure
RM 08/08	date (hour:minute)	Currently time
	Deflating	CUFF air is exhausting of deflating

### ♥ Monitor components



Component list of pressure measuring system

- 1.Cuff
- 2.Micro Control Unit
- 3.Amplifier
- 4.Air pipe
- 5.Pump
- 6.Valve

### ♥ List

1.Blood Pressure Monitor (LS802-E)



3. 4\*AA alkaline batteries



2.Cuff (Type B applied part) (AC2232-01)

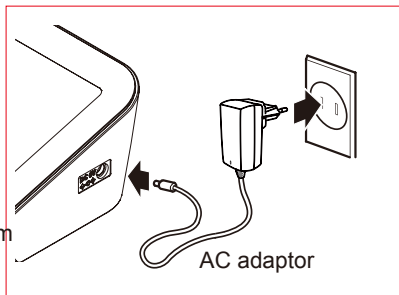


4.User manual

## ♥ The Choice of Battery

1. Battery powered mode:  
6VDC 4\*AA alkaline batteries
2. AC adaptor powered mode:  
100-240V~, 50-60HZ, 400mA  
(Can be supplied by AC adaptor model  
UE08WCP-060100SPA only!)

Please unplug the adaptor to depart from  
the using utility power.

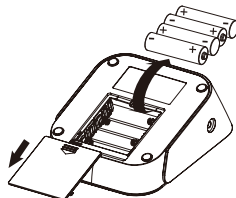


### CAUTION

In order to get the best effect and protect you monitor, please use  
the right battery and special power adapter.

## ♥ The installment and replacement of battery

1. Slide off the battery cover.
2. Install the batteries by matching  
the correct polarity, as shown.
3. Replace the cover.



Replace the batteries whenever the below happen

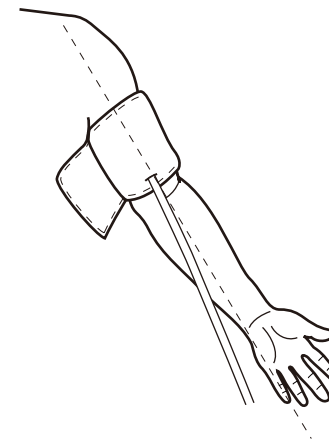
- The shows
- The display dims
- The display does not light up

### CAUTION

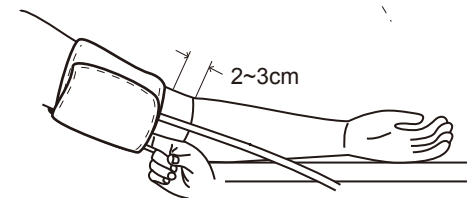
- Remove batteries if the device is not likely to be used for some time.
- The old battery is harmful to the environment, so please disposal with other daily trash.
- Remove the old battery from the device and follow your local recycling guidelines.

## ♥ Tie the cuff

1. Tie the cuff on your upper arm,  
the position the tube off-center  
toward the inner side of arm in  
line with the little finger.

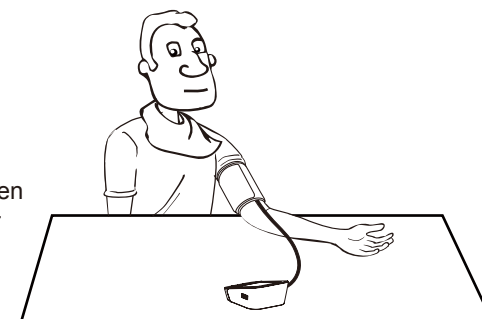


2. The cuff should be snug but not  
too tight. You should be able to  
insert one finger between the  
cuff and your arm.






3. Sit comfortably with your left  
arm resting on a flat surface.

- Resting for 5 minutes before  
measuring.
- Wait at least 3 minutes between  
measurements. This allows your  
blood circulation to recover.
- For a meaningful comparison,  
try to measure under similar  
conditions. For example, take daily  
measurements at approximately  
the same time, on the same arm,  
or as directed by a physician.




## ♥ Start the Measurement

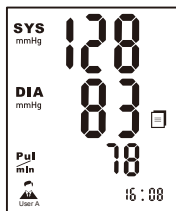
Press the  (User A) to turn on the monitor and it will finish the whole measurement automatically, and then save the measure date for User A. The same to the  (User B).


Press the  (Guests) to turn on the monitor and it will finish the whole measurement automatically for Guests, but not save the measurement data.

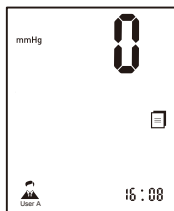
In this manual, the measurement of user A  as an example.

1. Press the  to turn on the monitor.

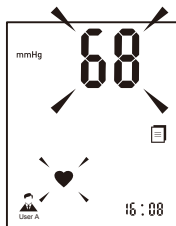
LCD display



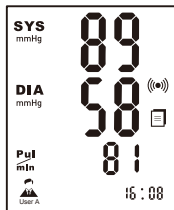
Adjust the zero automatically.  
If the measure date don't  
upload to the bridge in time,  
the icon  will display.




Inflating and measuring automatically.




Display and save the results will  
transmit to the bridge through the  
wireless.



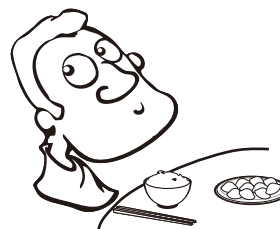
2. Press the  to power off, otherwise it will turn off automatically within one minute.

Tips:

- A.when finish the whole measurement, press another button, the blood monitor will begin measure again.
- B.If the blood monitor not connect with bridge, the icon of  will display.  
Maximum 60 records are both for user A and user B.

## ♥ Tips for measurement

It can cause incorrectness if the measurement are taken in the following circumstances.



Immediate measurement  
after dinner or drinking



Immediate measurement  
after tea, coffee, smoking



Immediate measurement  
after taking a bath



When talking or moving your fingers



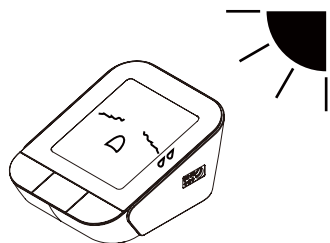
In a very cold enviroment



When you want to discharge urine

### ♥ Maintenance

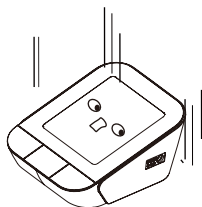
In order to get the best performance, please follow the below instructions.



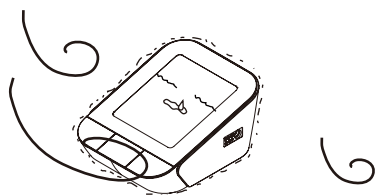
Put in a dry place and avoid the sunshine



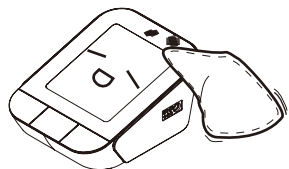
Avoid touching water, clean it with a dry cloth in case.



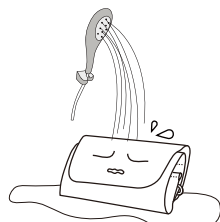
Avoid the intense shaking and collision



Avoid the dusty and unstable-temperature environment



Using the wet clothing to remove the dirt

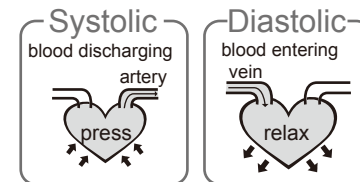


Avoid washing the cuff

Instructions for correct replacement of interchangeable or detachable parts specified by MANUFACTURER as replaceable by SERVICE PERSONNEL.

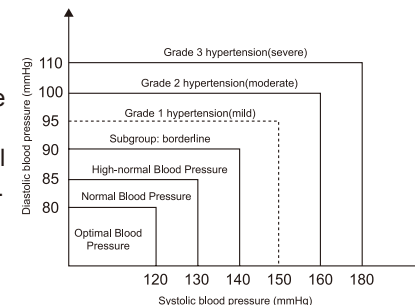
### ♥ What are systolic pressure and diastolic pressure?

When ventricles contract and pump blood out of the heart, blood pressure reaches its maximum value, the highest pressure in the cycle is known as systolic pressure. When the heart relaxes between heartbeats, the lowest blood pressure is diastolic pressure.



### ♥ What is the standard blood pressure classification?

Below illustrates the blood pressure classification made by World Health Organization (WHO) and International Society of Hypertension(ISH) in 1999.



Level	Optimal	Normal	High-normal	Mild	Moderate	Severe
Blood Pressure (mmHg)						
SYS	<120	120~129	130~139	140~159	160~179	≥180
DIA	<80	80~84	85~89	90~99	100~109	>110

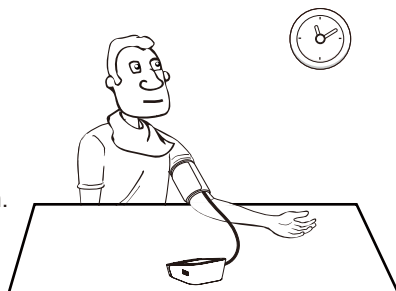
### CAUTION

Only a physician can tell you your normal blood pressure range and the point at which you are at risk. Consult your physician to obtain these values.

If the measurements taken with these products fall outside the range, consulty.

### ♥ Why my blood pressure is varies even in one day?

1. Individual blood pressure varies every in one day, it also affected by the way you tie your cuff and the your measurement position, so please take the measurement at the same condition.
- 2.The varies of the pressure is greater if the person take medicine.
- 3.Waiting at least 4-5 minutes for another measurement.



### ♥ Why the blood pressure I get from the hospital is different from home?

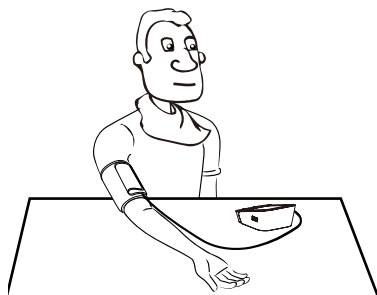
The blood pressure is different even during 24 hour because of the weather,emotion, exercise etc, specially the “white coat” in hospital which makes the results are higher than the ones at home.

The attention need to pay when you measure you blood pressure at home:


- If the cuff is tied properly.
- If the cuff is too tight or too loose.
- If the cuff is tied on the upper arm.
- If you feel anxious pressured.
- You had better take deep breath 2-3 times before beginning.
- Advice:adjust yourself for 4-5 minutes until you calm down.

### ♥ The result is different that you measuring on the different arm.

It is ok for both arms, but there will be some different results for different arm, so suggest you measure the same arm every time.



This section includes a list of error messages and frequently asked questions for problems you may encounter with your blood pressure monitor. If the products not operating as you think it should, check here before arranging for servicing.

PROBLEM	SYMPTOM	CHECK THIS	REMEDY
<b>No power</b>	Display is dim or will not light up.	Batteries are exhausted.	Replace with new batteries
		Batteries are inserted incorrectly.	Insert the batteries correctly
<b>Low batteries</b>	 Show on the display	Batteries are low.	Replace with new batteries
<b>Error massage</b>	E 1 shows	The cuff is not secure.	Refasten the cuff and then measure again.
	E 2 shows	The cuff is very tight	Refasten the cuff and then measure again.
	E 3 shows	The pressure of the cuff is excess.	Relax for a moment and then measure again.
	E 10 or E 11 shows	The monitor detected motion while measuring.	movement can affect the measurement.Relax for a moment and then measure again.
	E 20 or E 21 shows	Measure incorrectly.	Relax for a moment and then measure again.
	Eexx,shows on the display.	A calibration error occurred.	Retake the measurement. If the problem persists, contact the retailer or our customer service department for further assistance.Refer to the warranty for contact information and return instructions.

<b>Power supply</b>	Battery powered mode: 6VDC 4*AA alkaline batteries AC adaptor powered mode: 100-240V~, 50-60HZ,400mA (Can be supplied by AC adaptor model UE08WCP-060100SPA only!)
<b>Display moder</b>	Digital LCD V.A.93.5*79mm
<b>Measurement mode</b>	Oscillographic testing mode
<b>Measurement range</b>	Pressure: 0~40kpa(0~300mmHg) pulse value:(40~199)times/minute
<b>Accuracy</b>	Pressure: 5°C~40°C within±0.5kpa(4mmHg) pulse value:±5%
<b>Normal working condition</b>	Temperature:5°C~40°C Relative humidity ≤80%RH
<b>Storage &amp; transportation condition</b>	Temperature:-20°C~60°C Relative humidity:10%~93%RH
<b>Measurement perimeter of the upper arm</b>	About 22cm~42cm
<b>Weight</b>	Approx.424g(Excluding the dry cells)
<b>External dimensions</b>	Approx.138*110*60mm
<b>Attachment</b>	4*AA alkaline batteries,user manual
<b>Mode of operation</b>	Continuous operation
<b>Degree of protection</b>	Type B applied part
<b>Protection against ingress of water</b>	IPX-0

## ♥ The matched components

1. Please use the TRANSTEK authorized adapter.
- 2.Storage bag.



Adapter  
Type: UE08WCP-060100SPA  
Input: 100~240V, 50~60HZ,400mA  
Output: 6V = 1A

## ♥ Contact Information

For more information about our products, please visit [www.transtek.cn](http://www.transtek.cn). you can get customer service, usual problems and customer download, transtek will serve you anytime.

**Manufactured by:** ZHONGSHAN TRANSTEK ELECTRONICS CO.,LTD

**Company:** ZHONGSHAN TRANSTEK ELECTRONICS CO.,LTD

**Address:** JinanRoad,Jinbiao,Minzhong,Zhongshan,Guangdong,China

**Authorized European Representative:**

**Company:** MDSS - Medical Device Safety Service GmbH

**Address:** Schiffgraben 41,30175 Hannover, Germany

## ♥ Complied European Standards list

Risk management is the application of medical devices	EN/ISO 14971:2007
Graphical symbols for labeling medical devices	EN 980: 2008
Medical equipment manufacturers to provide information	EN 1041: 2008
Medical electrical equipment Part 1-1: General Requirements for Safety Collateral Standard: Safety requirements for medical electrical systems	EN 60601-1:1990+A1+A2+A13
Non-invasive blood pressure Part 1: General requirements	EN 1060-1:2001/A1:2002
Non-invasive blood pressure Part 3: Supplementary requirements for electromechanical blood pressure measuring system	EN 1060-3:1997/A1:2005
Automatic Blood Pressure Monitor overall system Interventional accuracy of the testing process	EN 1060-4: 2004
Medical electrical equipment Part 1-2: Basic safety and essential performance of the general requirements Collateral Standard: Electromagnetic compatibility requirements and tests	EN 60601-1-2:2001+A1: 2006



Table 1 Guidance and manufacture's declaration – electromagnetic emissions-  
for all EQUIPMENT and SYSTEMS


Guidance and manufacture's declaration – electromagnetic emission		
The LS802-E is intended for use in the electromagnetic environment specified below. The customer or the user of the LS802-E should assure that it is used in such and environment.		
Emission test	Compliance	Electromagnetic environment – guidance
RF emissions CISPR 11	Group 1	The LS802-E uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emission CISPR 11	Class B	The LS802-E is suitable for use in all establishments other than domestic and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Not applicable	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Not applicable	

Table 2 Guidance and manufacture's declaration – electromagnetic immunity –  
for all ME EQUIPMENT and ME SYSTEMS

Guidance and manufacture's declaration – electromagnetic immunity			
The LS802-E is intended for use in the electromagnetic environment specified below. The customer or the user of LS802-E should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8 kV air	Floors should be wood, concrete or ceramic tile. If floor are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/burst IEC 61000-4-4	±2 kV for power supply lines	±2kV for power supply lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV line(s) to line(s)	±1 kV differential mode	Mains power quality should be that of a typical commercial or hospital environment.
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	<5% UT (>95% dip in UT) for 0.5 cycle	Mains power quality should be that of a typical commercial or hospital environment. If the user of the LS802-E requires continued operation during power mains interruptions, it is recommended that the LS802-E be powered from an uninterruptible power supply or a battery.
	40% UT (60% dip in UT) for 5 cycles	40% UT (60% dip in UT) for 5 cycles	
	70% UT (30% dip in UT) for 25 cycles	70% UT (30% dip in UT) for 25 cycles	
Power frequency (50Hz) magnetic field IEC 61000-4-8	<5% UT (>95% dip in UT) for 5 sec	<5% UT (>95% dip in UT) for 5 sec	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
	3A/m	3A/m	

NOTE UT is the a.c. mains voltage prior to application of the test level.

Table 4 Guidance and manufacture's declaration – electromagnetic immunity – for ME EQUIPMENT and ME SYSTEMS that are not LIFE-SUPPORTING

Guidance and manufacture's declaration – electromagnetic immunity			
The LS802-E is intended for use in the electromagnetic environment specified below. The customer or the user should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Conducted RF IEC 61000-4-6	3 V <sub>rms</sub> 150 kHz to 80 MHz	3 V <sub>rms</sub>	<p>Portable and mobile RF communications equipment should be used no closer to any part of the YS-6100, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p>Portable and mobile RF communications equipment should be used no closer to any part of the including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p><b>Recommended separation distance</b></p> $d = 1.167 \sqrt{P}$ $d = 1.167 \sqrt{P} \quad 80 \text{ MHz to } 800 \text{ MHz}$ $d = 2.333 \sqrt{P} \quad 800 \text{ MHz to } 2.5 \text{ GHz}$ <p>where <math>P</math> is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and <math>d</math> is the recommended separation distance in metres (m).</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,<sup>a</sup> should be less than the compliance level in each frequency range.</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p> 
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m	

NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

- a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the ELE007839V1 is used exceeds the applicable RF compliance level above, the ELE007839V1 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the ELE007839V1.
- b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

Table 6 Recommended separation distances between portable and mobile RF communications equipment and the EQUIPMENT or SYSTEM – for ME EQUIPMENT or ME SYSTEM that are not LIFE-SUPPORTING

Recommended separation distances between portable and mobile RF communications equipment and the ELE007839V1 Fitness Equipment.			
The LS802-E is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the LS802-E can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the LS802-E as recommended below, according to the maximum output power of the communications equipment.			
Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d = 1.167 \sqrt{P}$	80 MHz to 800 MHz $d = 1.167 \sqrt{P}$	800 MHz to 2,5 GHz $d = 2.333 \sqrt{P}$
0,01	0.167	0.167	0.233
0,1	0.369	0.369	0.738
1	1.167	1.167	2.333
10	3.690	3.690	7.388
100	11.67	11.67	23.330
For transmitters rated at a maximum output power not listed above, the recommended separation distance $d$ in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where $P$ is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer. NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies. NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			

Caution: The user is cautioned that 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 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.