Vastopia

SPECTRUM SERIES 1

4K SMART LED TV

Safety and Reference

Please carefully read this manual before operating your Vastopia Spectrum Series 1 television and keep it for your future reference.

Models:
GL-550TV GL-650TV

www.vastopia.com

Federal Communications Commission (FCC) Statement

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.

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.

Warning: Changes or modifications made to this device not expressly approved by GUANGZHOU GOLD&LUCKY ELECTRONICS TECHNOLOGY CO.,LTD. may void the FCC authorization to operate this device.

Note: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

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

NOT FOLLOWING ALL INSTRUCTIONS IN THIS USER MANUAL WILL VOID MANUFACTURER'S ORIGINAL PRODUCT WARRANTY:

I. SAFETY & PRECAUTION i

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TV Model:_____

Date of Purchase:_____

I. SAFETY & PRECAUTION

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. This apparatus with CLASS II construction.
6. Do not use this apparatus near water. The apparatus shall not be exposed to dripping or splashing of liquids, and no objects filled with liquid, such as vases, shall be placed on the apparatus.
7. Clean only with dry cloth.
8. Do not install this apparatus in windtight places such as the wall-unit.
9. Do not block any ventilation openings.
10. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
11. Do not defeat the safety purpose of the polarized or grounding-type plug.
12. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
13. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
14. Only use attachments/accessories specified by the manufacturer. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the car/apparatus combination to avoid injury from tip-over. Unplug this apparatus during lightning storms or when unused for long periods of time.
15. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, Iiquid has been spilled on the equipment/parts, objects have fallen into the apparatus, TV/equipment has been exposed to rain or moisture, does not operate normally, or has been dropped causing internal/external damage to its parts.

II. WARNING

To reduce the risk of electric shock, do not remove cover or back panel. There are no user serviceable parts inside. Refer to qualified service personnel.

CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.
Batteries shall not be exposed to excessive heat such as sunshine, fire, or the like.
Used batteries should not be thrown into the garbage can, please leave them
at an appropriate depot.

CAUTION

Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

CAUTION

These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

Attention:

Motionless picture might cause permanent damage to the display.

- Be sure not to display motionless picture on the LED TV for more than 2 hours, because it would cause picture remnants to appear, which is called "screen burns". To avoid such picture remnants, please decrease the “contrast” and “brightness” of the display when displaying motionless picture.
- While watching TV program in 4:3 size mode for a long time, there would be traces on the edge of the screen's left, right and center parts because of different transmission of the light on the screen. Similar impact on the screen will occur when playing DVD or connecting games control. Products damaged by these reasons cannot be guaranteed for maintenance.
- It might cause picture remnants to display electronic games and motionless picture of PC more than a period of time. To avoid such effect, please decrease the “contrast” and “brightness” when displaying motionless picture.

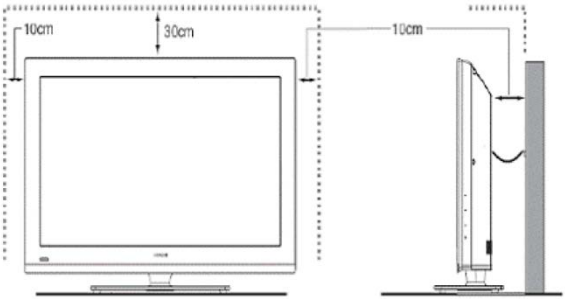
III. IMPORTANT INFORMATION

If a television is not positioned in a sufficiently stable location, it can be potentially hazardous due to falling. Many injuries, particularly to children, can be avoided by taking simple precautions such as:

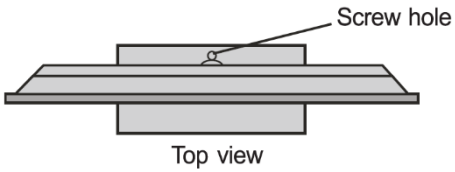
- Using cabinets or stands recommended by the manufacturer of the television or television stands.
- Only using furniture that can safely support the television.
- Ensuring the television is not overhanging the edge of the supporting furniture.
- Not placing the television on tall furniture (for example, cupboards or bookcases) without anchoring both the furniture and the television to a suitable support.
- Not standing the televisions on cloth or other materials placed between the television and supporting furniture.
- Educating children about the dangers of climbing on furniture to reach the television or its controls.
- Each USB terminal should be loaded with 0.5A under normal operation.
- Do not attach candle to accessible opening area, to avoid flammable foreign material from entering the TV.
- Allow minimum distances around the apparatus for sufficient ventilation.
- The ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, tablecloths, curtains, etc.
- No naked flame sources, such as lighted candles, should be placed on the apparatus.
- Attention should be drawn to the environmental aspects of battery disposal.
- The use of apparatus in tropical and/or moderate climates.
- To avoid damage, put the TV in the environment of moderate temperature and be careful not to place it beside an air conditioner outlet or a stove.
- Use both hands when carrying TV to exert balanced and stable force from its exterior.

IV. POSITIONING TV SET

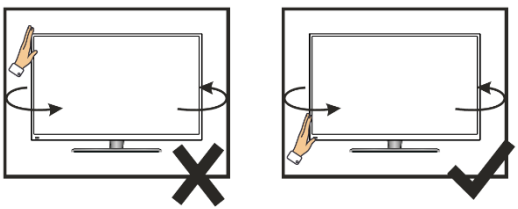
- Place the TV on a firm and fiat surface, leaving s space of at least 10cm around the set and 30cm from the top of tile set to the wall or cabinet. Ensure the TV is positioned close to the wall to avoid it from falling when pushed.



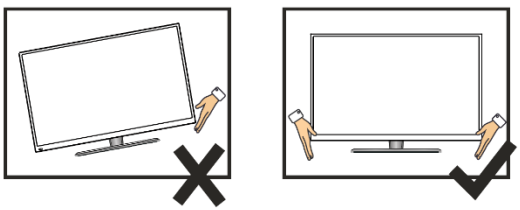
- To avoid the TV overturning, when installed, screw through screw hole on the base for fixing TV on the desk.



- When turning the TV set, hold the bottom side. Do not hold the top side of the TV.



- When lifting the TV set, lift the TV set by two hands. Do not use one hand to handle it.



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1. Connection and Preparation of TV

1.1. Accessories

1.1.1. User Manual x 1

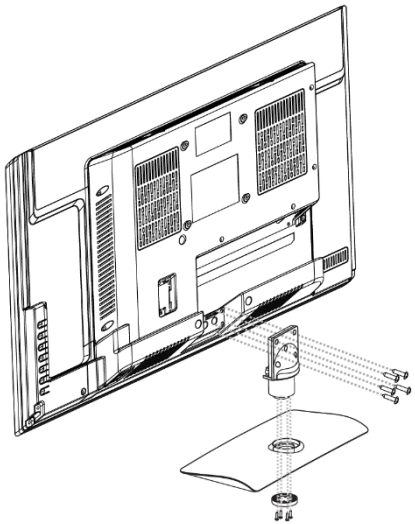
1.1.2. Remote Control x 1

1.1.3. Battery (AAA) x 2 (Optional)

1.1.4. Stand x 1 (Included screws x4)

1.1.5. Wall Mount Kit x 1 (Not included)

1.2. Installation of Stand



Note: The pattern for Reference only

1.2.1. Place the TV with the front panel facing downwards on the soft cloth or soft pads on a desk.

1.2.2. Please put the PVC sticker on the turning axle first.

1.2.3. Insert the stand into the bottom socket of the TV.

1.2.4. Insert the screws into the sockets and lighten them.

1.3 Installation of Wall Mount Kit (Optional)

1.3.1. The Wall Mount Kit can help install the TV on the wall. For more information about wall mounting, please refer to the instructions provided along with the wall mount kit.

1.3.2. When wall mounting the product, contacting qualified personnel is highly recommended to avoid an injury or damaging the TV set.

1.3.3. If users choose to install the TV on their own, the manufacturer(s) will not be held responsible or liable for any possible damages caused either to the product or to persons.

1.4. Keys and Interfaces

1.4.1. Board Picture

Pictures are for reference only, specific to the TV model.

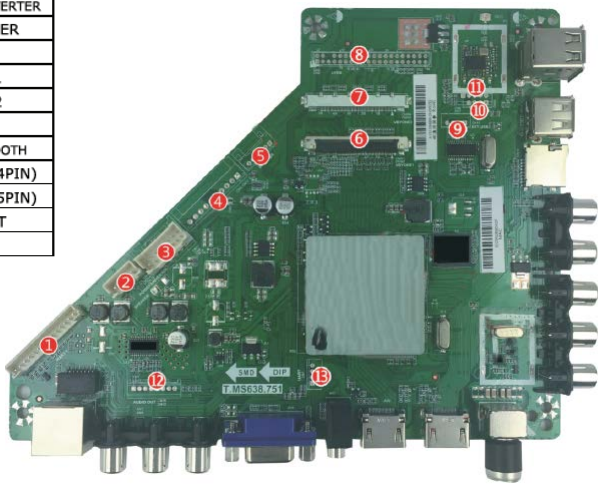
The optional connectors and functions are marked with "*".

以下图片仅供参考，请以【结构图】或【实物】为准。

可选的接口或者功能都以"*"标示。

189mm(L)*150mm(W)*1.6mm(H)（H 为 PCB）

No.	Position	Description
1	CNK2	IR&KEY
2	CNA1	SPEAKER
3	CN11	POWER&INVERTER
4	*CN9	MAIN POWER
5	*CN5	INVERTER
6	CNW1/*CNW2	V-BY-ONE1
7	*CNW3/*CNW4	V-BY-ONE2
8	*CN3	LVDS
9	*CN15	EXT-BLUETOOTH
10	*CN25	EXT-WIFI(4PIN)
11	*CN6	EXT-WIFI(5PIN)
12	*CN16	AUDIO OUT
13	*CN1	UART



Notes 1: To ensure the normal use of the product, connect external WIFI antenna with the antenna connector; otherwise, the WIFI may not work properly. Consult the WIFI antenna supplier to ensure normal use of the WIFI function.

备注 1：本产品需要在天线插座上外接 WIFI 天线方可正常使用，否则可能会出现 WIFI 功能无法正常使用或其他异常。客户整机所用天线需要天线供应商配合整机做适配调试，以确保 WIFI 功能的正常使用。

Note 2: This product meets GB8898-2011 requirements of the insulation resistance between the tuner and PGND. Please do not connect RF with metal IO sheet or the GND of the main board when assembling this TV set for use.

1.4.2. TV Features

MAIN CHIPSET	MSD6A638JSM-ST		
OS	Android 4.4		
OSD LANGUAGE **OSD**	Asia	Chinese, *English	
PANEL	Panel Type	TFT LCD	
	Interface	Single/Dual LVDS/V-by-one	
	Max Resolution	3840*2160	
VIDEO INPUT	TV(Details in 3.1)	ATV(PAL)/DTV(DTMB)	
	PC-RGB	Format	Up to 1920×1080@60Hz
	CVBS	Video System	PAL/NTSC
		Video level	1.0 Vp-p±10%
	Component	480i, 480p, 720p, 1080i, 1080p	
	HDMI	480i, 480p, 720p, 1080i, 1080p, 2160P	
		*CEC, *ARC(HDMI 1)	
		HDCP Version	1.4
AUDIO INPUT	PC Audio	Earphone Input	0.2 ~ 2.0 V_{RMS}
	CVBS	L/R RCA input	0.2 – 2.0V_{RMS}
	Component		
AUDIO OUTPUT	Frequency response	100Hz-15KHz @±3dB(1KHz 0dB reference signal)	
	Max Output power	2×8W(8Ω) THD+N<10%@1KHz (Power Supply:12V,Audio Input: 0.5V_{RMS})	
POWER TO PANEL	12V		
WLAN	Max. data rate	150Mbps	
	Operating Frequency	2.4GHz	
	Communications Standard	IEEE 802.11b/g/n	
RJ45 NETWORK	10/100M auto-identification and DHCP		
Management	Standby Power Consumption < 0.2W(Board Only)		
USB FUNCTION	software upgrade, multimedia play		
Button Types	Ground Key Interface		
Special Requirements	Add 1 Mylar+ 4 Space Supports		

Note: 1. Licenses involved in specifications above are supposed to be obtained by customers themselves.

2. When 3.3V panel Irush ≥ 1000mA, Inormal ≥ 600mA, please contact CVTE engineers to confirm 3.3V panel power supply component selection.

3. Max current of USB2.0: 500mA. Large impact current of USB device (exceeds 500mA) may lead to board working abnormally.

4. The normal operating current of 5V panel ≤ 1500mA.

1.5. TV Specifications（TV 制式）

1.5.1. TV System

ATV (PAL)	Receiving Range	48.25MHz ~ 863.25MHz
	Input impedance	75Ω
	Video System	PAL
	Sound System	BG, DK, I
	Max Storage Channels	99CH
DTV (DTMB)	Receiving Range	VHF (52.5MHz ~ 219MHz)
		UHF (474MHz ~ 866MHz)
	Input Impedance	75Ω
	Channel Bandwidth	8MHz
	Modulation	TDS-OFDM
	Video System	MPEG-2,MPEG-4,H.264
	Sound System	MPEG-1 layer 1/2,MPEG-2 layer 2
	Basic Functions	EPG, Subtitle
	Max Storage Channels	≥400CH(dynamic)

1.5.2. TV Hardware Configuration

CPU	ARM Cortex A53 Dual Core CPU (64 bit)
GPU	Dual-Core Mali-720MP2
CPU Frequency	1.2G Hz
GPU Frequency	450M Hz
DDR SIZE	768M Byte
eMMC Flash	4G Byte
Notes	

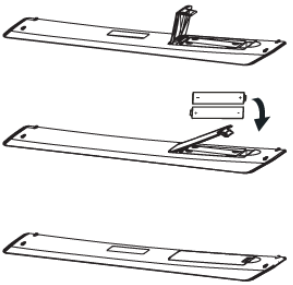
1.5.3. Critical Materials of TV Parts

NAME		TYPE	BRAND	BACKUP	BACKUP
TUNER		R842	Rafael	R840	Rafael
AMPLIFIER		TPA3110LD2PWPR	TI	TPA3110D2PWPR	TI
eMMC FLASH		THGBMBG5D1KBAIL	Toshiba	--	--
SPXO	MAIN CHIP	24MHz-±20PPM-20PF-HC-49S-SMD	JWT	24MHz-±20PPM-20PF-HC-49S-SMD-LM	LM
	TUNER	24MHz-±20PPM-20PF-HC-49S-SMD	JWT	24MHz-±20PPM-20PF-HC-49S-SMD-LM	LM
WIFI MODULE		WIFI-2-R04USA5	Changhong	BL-R8188EU1(ETV)	BL

1.5.4. Multimedia Playback Format

Media	File Ext.	Codec		Remark
		Video	Audio	
MOVIE	.mpg/.mpeg/.vob/.dat	MPEG-1/MPEG-2	MP3 AAC AC3* PCM MP2	1080P@30fps / 40 Mbps
	.avi	MPEG-1/MPEG-2		1080P@30fps / 40 Mbps
		MJPEG		1280x720@30fps / 40Mbps
		MPEG-4		1080p@30fps / 40Mbps
		H.263		1080p@30fps / 40Mbps
		H.264		1080p@60fps / 62.5Mbps
		Xvid		1080p@30fps / 40Mbps
	.ts/.trp/ .tp	MPEG-2		1080P@30fps / 40 Mbps
		H.264		1080p@60fps / 62.5Mbps
		HEVC/H.265		4K2K 10bit@30fps / 100Mbps
		AVS		1080P@60fps / 60Mbps
		MVC		1080P@30fps / 60Mbps
	.mp4	MPEG-4		1080p@30fps / 40Mbps
		H.263		1080p@30fps / 40Mbps
		H.264		1080p@60fps / 62.5Mbps
		HEVC/H.265		4K2K 10bit@30fps / 100Mbps
		AVS		1080P@60fps / 60Mbps
		MJPEG		1280x720@30fps / 40Mbps
	.mkv	H.263		1080p@30fps / 40Mbps
		H.264		1080p@60fps / 62.5Mbps
		MPEG-4		1080p@30fps / 40Mbps
		MJPEG		1280x720@30fps / 40Mbps
		VP8		1920x1080@30fps / 20Mbps
		HEVC/H.265		4K2K 10bit@30fps / 100Mbps

1.6. Installation of Batteries



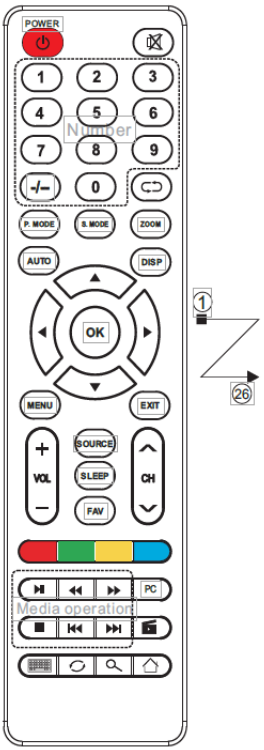
1. Open the back lid of the remote control.
2. Install two 7#(AAA) 1.5V batteries. Ensure the correct polarity of the batteries.
3. Cover the back lid.

Please take out the batteries from the remote control during a prolonged period of no use.

If the remote control does not work properly, please do the following to troubleshoot:

- Check the TV is turned on.
- Check the polarity of the batteries are correct.
- Check the batteries are not drained
- Check the power supply is normal or the power cord is correctly connected.
- Check there are no special fluorescent light or neon light around.

1.7. Remote Control Key Functions



(Model:M91)

1:Power button	Boot-up or enter standby state
2:Mute button	Set silent mode
3:Number button	0-9 number key and _/_key channel selection
4:Return button	Look back to previous program
5:PMODE	Switch image mode
6:SMODE	Switch sound mode
7:ZOOM	Image amplification and narrow
8:AUTO	PC input automatic adjustment
9:DISP	Display current information
10:Move button	OSD menu move around
11:ENTER	Determine the function in operation
12:MENU	Enter main menu setting
13:EXIT	Out of operation
14:VOL-/+ button	Volume plus and minus
15:SOURCE	Switch input source
16:SLEEP	Sleep state and sleep time chosen
17:FAV	Select Favourites channel
18:CH-/+ button	Channel plus or minus
19:Color button	Edit Channel/Extended function
20: ⏯⏮⏭⏹⏮⏭	Multimedia playback operation keys
21:PC	PC input Shortcuts
22:	Movie Shortcuts
23:	Soft Keyboard
24:	Repeat
25:	Search Resource
26:	Android Home

2. Basic Operation

2.1. Setting of Standby Mode

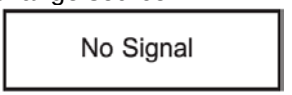
- Connect the power cord to the AC input source. Insert the power cord into the appropriate socket on the TV set.
- Press ⏻ button to turn on the unit.
- Press ⏻ button again to return the display to standby mode. The power indicator turns red.
- Be sure not to set your TV in standby mode for a long period of time.

2.2. Selection of Input Mode

- Press the ⏎ input/Source button to select a signal source.

ATV → DTV → CVBS1 → CVBS2 → YPbPr → PC → HDMI1 → HDMI2 → ATV

When selecting the signal source, the screen will display the information. When there is no signal from the selected source, the warning message will be displayed as per illustration. Either change the channel in TV mode or press ⏎ Input/Source button to change source.



2.3. Menu Option Adjustment

After you have installed the batteries into the remote control, you will need to set some preferences on the LED TV, using the menu system.

- The buttons for menu option adjustment include: **Menu**, ▲,▼, ◀, ▶ ⏎/✣ buttons.

- Press the **Menu** button to open the OSD Menu, then press ▲,▼ button to select the pages. The pages are displayed in the following sequence (circular display): → PICTURE → SOUND → TUNER → ADJUST → FUNCTION

Note: "CHANNEL" is only for TV.

1. Press the **Menu** button to display the menu system.
2. Press ▲, ▼ button to select the menu pages.
3. Press ◀, ▶ button Enter adjusting entries Press ▲, ▼ button to select an item.
4. Press ◀ , ▶ button to select or adjust a setting
5. If you do not make a selection within 15 seconds, the menu will close automatically.
6. Press the **Menu/EXIT** button to return or exit OSD menu.

2.4. Android

2.4.1. Applications

※ Add application operation

1. Press the **Home** button,and then press ◄ or ► button to the "**application**"page.
2. Press the ⏎/✣ button,and then press ◄ or ► button to the "**Add**" item.
3. In the storage device, select the application you want and install.

※ Please connect to the network.

※ The system application suffix . APK.

2.4.2. Media

※ Media operation

1. Press the **Home** button,and then press ◄or ►button to the "**MEDIA**" page.
2. Press the ⏎/✣ button, and then press ▲or ▼button to the "**Photo / Music/Video**" Mitem.
3. According to media type, Press the ⏎/✣ to select the file to play.

2.4.3. System Setting

※ Adjustment of the **Setting**

1. Press the **Home** button, and then press ◄or ►button to the "**Setting**" page.
2. Press the ⏎/✣ button,and then press ▲ or ▼ button to the "**Application Manage/Net Settings/City /Date Time Settings/Language input Settings/Time /Advanced Function/System Backup Or Update**" Mitem.
3. Depending on the type settings, press ⏎/✣ to select enter.

※ For details, please follow the on-screen prompts operation.

3. Technical Specification

Product Model		
Screen Size	See fuselage stickers	
Aspect Ratio	16:9	
Power Supply	AC 100-240V~ , 50/60 Hz	
Power Consumption	50W~108W	
ATV	Receiving range	49MHz – 863MHz
	System	PAL B/G D/K I, SECAM B/G D/K
CONNECTION	Wi-Fi	802.11 b/g/n, Built-in module
	Ethernet	10Mbps, 100Mbps Base-T
Android Configuration	Android Version	4.4.x
	DDR SIZE	256Mbx2 Byte
	eMMC Flash	4Gb Byte
Audio Output Power (Internal)	8Wx2/10Wx2	
Input Terminal	✦ Antenna Input (D Type) x 1 ✦ VGA (D-Sub 15 Pin Type) x 1 ✦ HDMI Connector x 2 ✦ Y Pb Pr Input Terminals x 1 ✦ Video Input RCA Terminals x 2 ✦ EAR Phone x 1,PC Audio x1 (Phone ack for VGA) ✦ USB x 3 ✦ LAN(Ethernet) Rj45 x 1 ✦ Coax(Digital Audio Out) x 1	
Output Terminal	1 set of CVBS output RCA Terminals/Earphone out	
Outline Size (LxWxH)(mm) (without stand) (with stand)		
Working Temperature	0℃~40℃	
Working Humidity	20％ ~ 80％ Non-condensing	

Note: The specifications shown above may change without notice for quality improvement.

4. SUPPORTED SIGNAL MODES

A. VGA Mode

Resolution	Horizontal Frequency (KHz)	Vertical Frequency (Hz)
640 x 480	31.50	60.00
800 x 600	35.16	56.25
	37.90	60.00
1024 x 768	48.40	60.00
1280 x 800	63.40	60.00
1366 x 768	47.70	60.00
1920 x 1080	66.64	60.00

Note: You're suggested to use the VGA connecting cord of not more than 5 meters to ensure the appropriate picture quality.

B. YPbPr Mode

Resolution	Horizontal Frequency (KHz)	Vertical Frequency (Hz)
480i	15.734	59.94
480p(720x480)	31.468	59.94
576i	15.625	50.00
576p(720x576)	31.25	50.00
720p(1280x720)	37.50	50.00
	45.00	60.00
1080i	28.13	50.00
	33.75	60.00
1080P(1920x1080)	67.50	60.00
	56.25	50.00

C. HDMI Mode

Resolution	Horizontal Frequency (KHz)	Vertical Frequency (Hz)
480p	31.468	59.94
576p	31.25	50.00
720P	45.00	60.00
1080i	33.75	60.00
1080P(1920x1080)	67.50	60.00

- When the signal received by the Display exceeds the allowed range, a warning message will appear on the screen.
- You can confirm the input signal format on-screen.

5. SIMPLE TROUBLESHOOTING

If the display fails or the performance changes dramatically, check the Display in accordance with the following instructions. Remember to check the peripherals to pinpoint the source of the failure.

Symptom	Solution
Power cannot be turned on. (Power indicator does not light.)	-Check that both ends of the power cable are plugged into the socket appropriately and the wall socket is operational.
No Input Signal message appears.	-Check that the signal line is connected properly. -Check that the power of the relevant peripherals is turned on. -Check that the Input option that has been selected matches with the input signal.
The remote control does not function properly.	-Check the batteries are not drained. (Use new batteries.) -Check that the remote control is within the operating range. -Check that the remote control is pointed to the remote control window on the display. -Check that there are no obstacles between the remote control and the remote control window.
Flashing spots or stripes appear on the screen.	-Check that there are no emission (Car, HV cable or Neon lamp) or other possible interference sources.
Image color or quality deteriorates.	-Check that all the video settings are adjusted appropriately, such as brightness, contrast, colour etc. -For more information about video settings, refer to OSD Functions in Chapter 2.
Screen position and size are incorrect.	-Check that the screen position and size is adjusted appropriately.
Image or colour is incorrect.	-Check that the signal line is connected properly. -When connecting to a PC, you can change the resolution of the PC to acquire the correct image. The discrepancy of the PC output signal may affect the display of the image.
Display warning message.	-Check that the input signal line is properly fxed. -Select the correct input signal. -For more information, refer to Supported Signal Modes in Chapter 4.

6. REORDERING PARTS

To reorder replacement remotes and user manuals, go to Vastopia LLC's official website, www.vastopia.com:

TV Part	Part Number (P/N)
Vastopia Spectrum Series 1 Remote Control	VSP20171125RM
Vastopia Spectrum Series 1 User Manual "4K SMART LED TV: Safety and Reference"	VSP20171125UG

P/N: VSP20171125UG

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