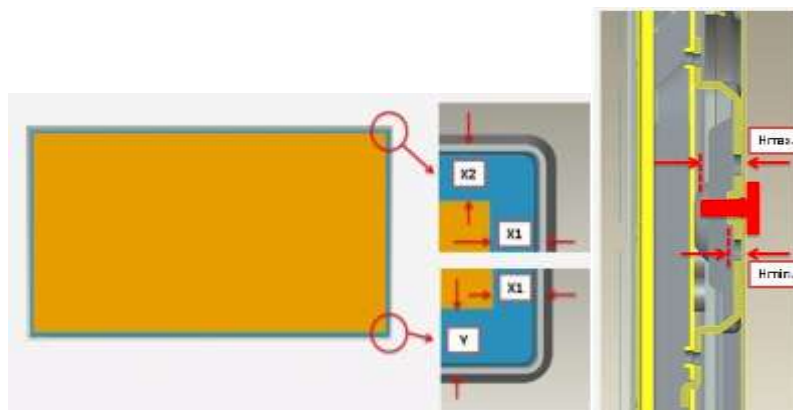| PRODUCT SPECIFICATION	Date:04.01.2017

VESTEL

ST49U01

49" SOC BASED

16/7 – Full HD

DIGITAL SIGNAGE DISPLAY

SPECIFICATIONS

	ST49U01
Panel	
Mainboard Model	System-On-Chip Model: 17MB120DS
H-Freq	67.5 kHz
Max. Pixel Freq.	74.25 MHz
V-Freq	60 Hz
Size	49"
Backlight Type	EDGE TYPE LED
Panel Technology	IPS
Panel Type	16/7 Panel
Front Type	Ultra Narrow Bezel
Orientation	Horizontal
Resolution	1920 x 1080 (16:9) - FHD
Active Area	1054 mm (H) x 593 mm (V)
Brightness (Typ.)	400 cd/m2
Contrast Ratio (Typ.)	1200
Panel life time (Min. / Typ.)	30000 / 50000 Hr
Viewing Angle	178°
Response Time	6 ms
Color Value	8 Bit, 16.7 M Colors
Areas of Usage	Indoor
Monitor Connectivity	
RGB Input	Dsub 15 PIN VGA CON., YPbPr
RGB Output	N/A
VIDEO Input	2xHDMI2.0, DP1.2a, DVI, 1xUSB3.0, 1xUSB2.0
VIDEO Output	DP1.2a
AUDIO Input	LINE IN JACK
AUDIO Output	LINE OUT JACK
External Control	RS232(DSUB 9P), RJ12, Ethernet
External Sensor	N/A
Mechanical Features	
Size	1100 mm(L) x 636 mm(H) x 66 mm(D)
Shipping Size	1195 mm(L) x 145 mm(W) x 775 mm(H)
Weight	15.9 KG
Shipping Weight	17.9 KG
Vesa Mounting Size	200 mm(H)x 200 mm(V)
Bezel Width(Bottom-Side-Top)	17 mm / 10 mm / 10 mm
Working Conditions	
Temperature Conditions	+40°C / 0°C
Humidity	90%
Features	

Main Features		Open Content Management Support, Scheduler, USB-Autoplay, Auto-Launch, HDMI-CEC, HDMI-Hotplug, Auto-switch on Failover, Panel Lock
Mechanical Features		Mechanical Buttons, IR Extender Support
Speaker		2 x 10 W
Power		
Power Supply		110 VAC - 240 VAC
Power Consumption(Deep StandBy)		≤0.5W
Power Consumption(On Full Load)		91W
Accessory		
Standard		QSG, Warranty Card, IB, Power Cord, Remote Control, RC Battery, Mounting Kit
Certification		
Safety Approval		☑
CB		☑
S-MARK		☑
EMC Approval		☑
CE		☑
Reliability Approval		☑

Bezel Dimensions	*X1 = X2 (mm)*	7,8
	Y (mm)	15,1
Edge Radius		
Vesa Boss (Hmax/Hmin/Type)		15 mm / 5 mm / M6

VIEW
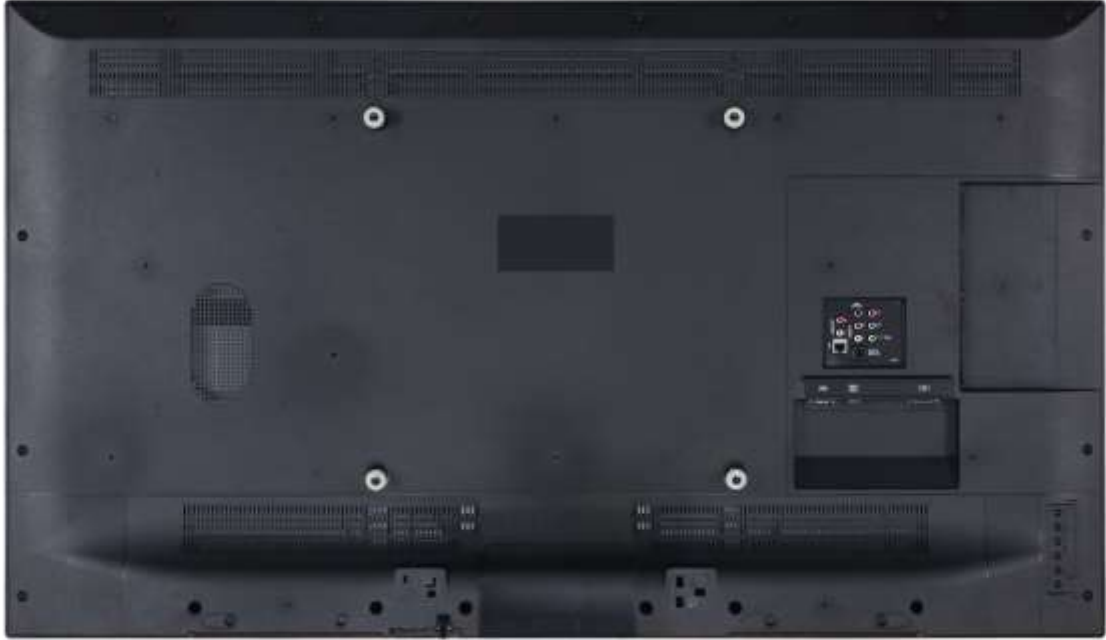
DESIGN

REMOTE CONTROLLER

Symbol	TV Function	DVB Function	MM Function	SYS CODE: 01 Code (RC5)
⏻	Stand By	Stand By	Stand By	0C
RED			ZOOM	37
GREEN			REPEAT	36
YELLOW			ROOT	32
BLUE			TITLE	34
T.TEXT	TTEXT Mode On / Off / Mix			3C
INTERNET	internet	internet	internet	2E
PR. GUIDE		Guide (Electronic Programming Guide)		2F
1/..@	Direct Programme	DTV spelling	1	01
2/ABC	Direct Programme	DTV spelling	2	02
3/DEF	Direct Programme	DTV spelling	3	03
4/GHI	Direct Programme	DTV spelling	4	04
5/JKL	Direct Programme	DTV spelling	5	05
6/MNO	Direct Programme	DTV spelling	6	06
7/PQRS	Direct Programme	DTV spelling	7	07
8/TUV	Direct Programme	DTV spelling	8	08
9/WXYZ	Direct Programme	DTV spelling	9	09
SWAP	Previous Programme/Swap	Previous Programme/Swap		22
0	0	0	0	00
BACK	Back (Return) / TXT index	Back (Return)		0A
V-	Volume Decrease	Volume Decrease	Volume Decrease	11
V +	Volume Increase	Volume Increase	Volume Increase	10
🔇	Mute	Mute	Mute	0D
P-	Programme/Channel -	Programme/Channel -		21
P+	Programme/Channel +	Programme/Channel +		20
i	Info / TXT Reveal	IDTV Info	TIME	12
SOURCE	Source	Source	Source	38
▲	Cursor Up			14
◄	Cursor Left			15
OK	OK (Select)/ TXT HOLD	OK (Select)		35
►	Cursor Right / TXT subpage			16
MENU	Menu	Menu		30
▼	Cursor Down / TXT page down			13
Q MENU	Quick Menu	Quick Menu	Quick Menu	2B
EXIT	EXIT	EXIT	EXIT	25
LANG.	Language	Language	Language	0F
SUBTIT.		Subtitle	Subtitle	1F
SCREEN	Screen Mod (4:3 / 16:9)	Screen Mod (4:3 / 16:9)	Screen Mod (4:3 / 16:9)	0B
MY BUTTON 1 / DISPLAY	My Button	My Button	Display	3B
MY BUTTON 2 / SEARCH MODE	My Button 2	My Button 2	Search Mode	1A
CHANNELS	TV - AV / TV Channel List / DVB-T-C	TV - AV / TV Channel List / DVB-T-C		26
RECORD		Record On/Off	Record On/Off	33
PLAY ►		PLAY	PLAY	19
STOP ■		STOP	STOP	18
PAUSE ‖		PAUSE	PAUSE	31
search back ◄◄		Search Back	Search Back	1B
search forward ►►		Search Forward	Search Forward	1C
MULTIMEDIA (Angel)	Media Browser	Media Browser	Angle	39

DESCRIPTION	SPECIFICATION
Carrier Frequency	System clock : 429KHz Carrier : 36 KHz
Operating Vaoltage	Loaded Voltage 2,6V – 3,4V
Initial Current, whenpressed.	Max. : 30 mA
Stable Current, while pressing.	Max. :15 mA
In idle mode, leakage current.	Max. : 10 uA
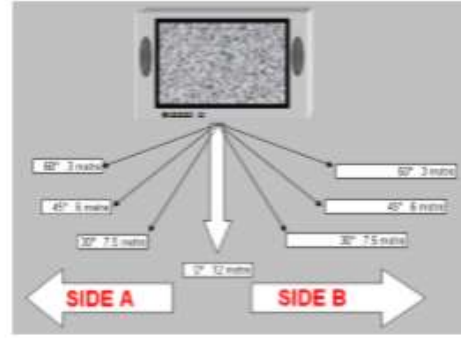
DIMMENSIONS	
Width	
Length	
Depth	
Weight	

Min. Emit Power :	70µw/cm²

	CONDITION	SPECIFICATION
DROP TEST	Drop the sample with batteries from a height of 80 cm to the ground which is covered with a flat wooden board of 30 mm thickness, the test is performed at 6 faces.	1) No functional failure is allowed 2) No mechanical crack on the product is allowed

	CONDITION	SPECIFICATION
KEYS OPERATING LIFE	Activate the key at the centre with a load of 200 gr at 2 or 3 cycles/sec. Test is done for 50.000 cycles	It must satisfy the specification. Check all products.

	CONDITION	SPECIFICATION
BATTERY LID LIFE	Open and close the battery lid 100 times in or 3 cycles/sec	Don't close by the weight of the door.

☒	Weee logo should be added.
CE	CE logo should be added.

|	
♺	Recycling logo should be added on Remote Control package

There should be rib on 5 key button for blind people.

There should be a label that describes Company Name, system code and batch number.

TESTING STANDARDS

The measurement should be executed in a stable, windless and dark room 60min after lighting the back light at the given temperature for stabilization of the back light. This should be measured in the center of screen. Environment condition: Ta = 25 ± 2 °C.
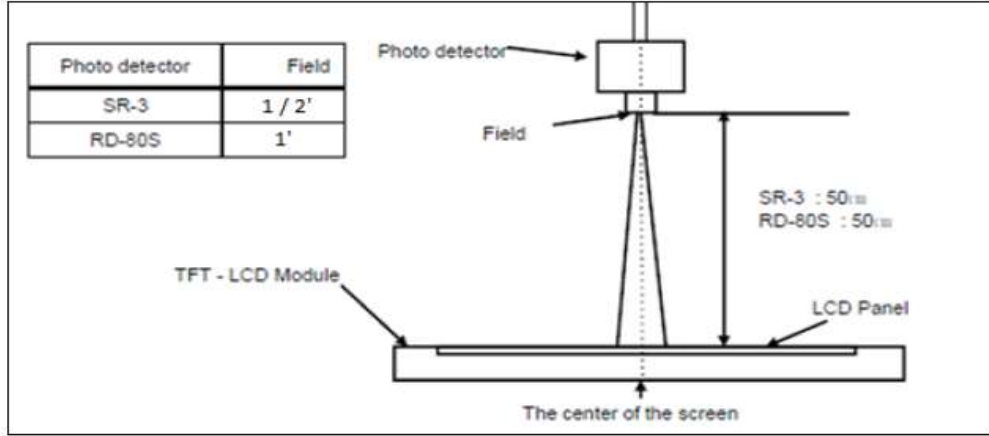
Definition of Test Points:
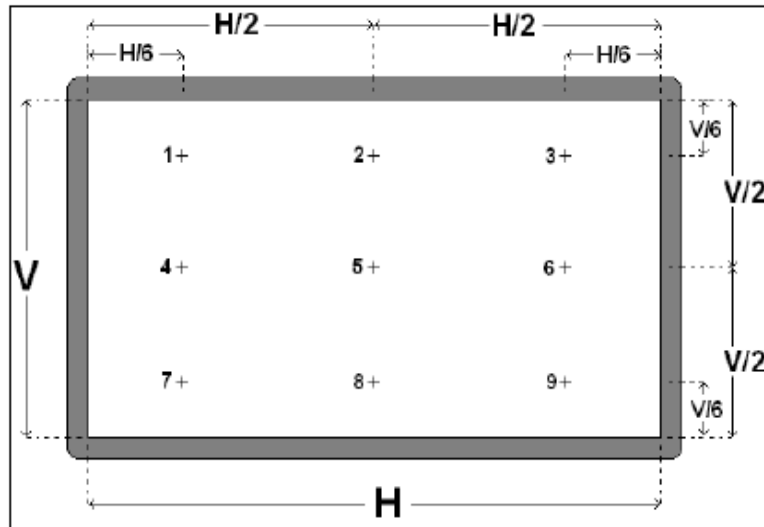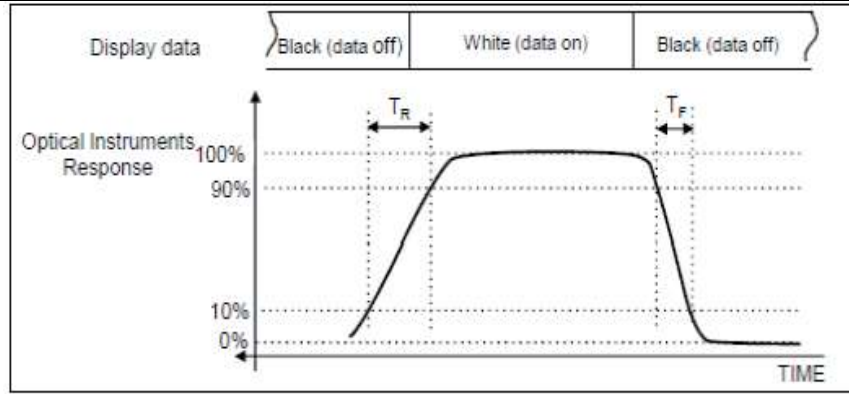

Note (1)   Definition of Contrast Ratio (C/R):

Ratio of gray max (Gmax) & gray min (Gmin) at the center point (5) the panel

$$\frac{C}{R} = \frac{Gmax}{Gmin}$$

Gmax: Luminance with all pixels white

Gmin: Luminance with all pixels black

Note (2)   Definition of Response Time: $T_R + T_F$

Note (3)   Definition of 9 points brightness uniformity:

$$Buni = 100 * \frac{(Bmax - Bmin)}{Bmax}$$

(Test pattern: Full White)

Bmax: Maximum brightness

Bmin: Minimum brightness

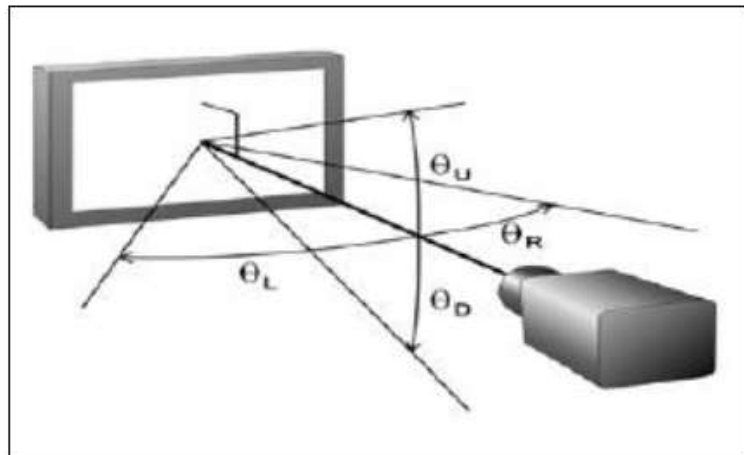**Note (4)**   Definition of Luminance of White:

Luminance of white at center point 5

Note (5)   Definition of White Color Chromaticity:

Color coordinates of White at center point 5

Note (6)   Definition of Viewing Angle

Viewing angle range (C/R > 10)

Safety   **IEC 60950-1: 2005+A1:2009**

                  EN 60950-1: 2006+A11: 2009+A12:2011

EMC

Immunity Tests	
Specification	**Description**
EN 55024:2010	Immunity
EN 61000-4-2:2009	Electrostatic Discharge (ESD)
EN 61000-4-3:2006+A2:2010	Radiated, radio-frequency, electromagnetic field immunity
EN 61000-4-4:2004+A1:2010	Electrical Fast Transient/Burst Immunity
EN 61000-4-5:2006	Surge
EN 61000-4-6:2009	Conducted Disturbances Induced by Radio-Frequency Fields
EN 61000-4-11:2004	Voltage Dips and Short Interruptions

Emission Test	
Specification	**Description**
EN 55022:2010/AC:2011 – Class B	Disturbance Voltage at the Mains Terminals (Conducted Emission)
EN 55022:2010/AC:2011 – Class B	Disturbance Voltage at the Telecommunication Terminals (Conducted Emission)
EN 55022:2010/AC:2011 – Class B	Field Strength (Radiated Emission) (1GHz-6GHz)
EN 55022:2010/AC:2011 – Class B	Field Strength (Radiated Emission) (30MHz-1GHz)
EN 61000-3-2:2006+A1:2009+A2:2009	Harmonics
EN 61000-3-3:2008	Flicker

Note EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN61000-4-8 and EN 61000-4-11 are basic standards referred from EN 55024.

According to EN 55024, EN 61000-4-8 Power Frequency Magnetic Field test is not performed since the EUT is not sensitive power frequency magnetic field.

EN 301489 – 1 V1.9.2	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements
EN 301489 – 17 V2.2.1	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment; Part 17: Specific conditions for Broadband Data Transmission Systems

Reliability Test Standards

Low Temperature Test

Products must be boot up without any delay more than one minute. No abnormality on operation. There mustn't come out any electrical and functional problems.

Test Condition :

Temperature: -15 °C , Humidity: 50% , Duration: 24 hours , Mode of Operation: Power Off

High Temperature Test

After the test, product should work properly as electrical and mechanically.
No software crash, No hang up, No lock up.

Test Condition :

Temperature: 50 °C , Humidity: 90% , Duration: 72 hours , Mode of Operation: 3D Mark 2011

Life Test

After the test Product should work properly as electrically and mechanically.

No software crash, No hang up, No lock up.

Test Condition :

Temperature: 35 °C , Humidity: 50% , Duration: 150 hours , Mode of Operation: 3D Mark 2011

Drop Test

Product should work properly and there mustn't be any crack at the cabin or any cosmetic problem. In addition, there mustn't be any major problem at the product packaging and snow boxes.
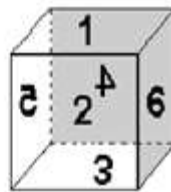
The test is performed on the packed digital products sample under following conditions;

Drop Order :
1- Face 3of the package
2- 2-3-5 corner of package
3- 2-5   edge of package
4- 3-5   edge of package
5- 2-3   edge of package
6- Face 1 of the package
7- Face 5 of the package
8- Face 6 of the package
9- Face 2 of the package
10- Face 4 of the package

Total: 10 drops

Test Condition :

Dropping height: Face 3 (Bottom surface): 55cm, Other surfaces: 40cm

Temperature: 25 ± 2 °C , Humidity: $45\% \pm 10$

Vibration Test

Product should work properly and there mustn't be any crack at the cabin, at the solder points of chassis, at the pins of components. In addition, there mustn't be any major problem at the product packaging and snow boxes.

Direction of Vibration	Frequency of Vibration	Power Spectral Density	Sweep Time	Total Duration	Acceleration
Z	10Hz – 500Hz	$0.002G^2$/Hz	10min	60min	1Grms($9.81m/s^2$)