

2 Product Specifications

2-1 LE23R41B Specifications

Item	Description	
LCD Panel	TFT-LCD panel, RGB vertical stripe, normally white, 23-Inch viewable, 0.4425 (H) x 0.264(V)mm pixel pitch	
Scanning Frequency	Horizontal : 30 kHz ~ 61 kHz (Automatic) Vertical : 60 Hz ~ 75 Hz (Automatic)	
Display Colors	16.7 Million colors	
Maximum Resolution	Horizontal : 1366 Pixels Vertical : 768 Pixels	
Input Video Signal	Analog 0.7 Vp-p \pm 5% positive at 75 Ω , internally terminated	
Input Sync Signal	Type : Seperate H/V Level : TTL level	
Maximum Pixel Clock rate	80 MHz	
Active Display Horizontal/Vertical	556.4 mm / 339.8 mm	
AC power voltage & Frequency	AC 220 ~ 240V, 50 ~ 60 Hz	
Power Consumption	140 W	
Dimensions(W x D x H) Set	583.0 X 90.0 X 443.0 mm (21.18 x 3.54 x 7.44 inches) Body 583.0 X 206.0 X 484.7 mm (21.18 x 8.11 x 19.08 inches) With stand	
Weight Set(After installation Stand)	15.0 kg (33.07 lbs)	
Environmental Considerations	Operating Temperature : 50 °F ~ 104 °F (10 °C ~ 40 °C) Operating Humidity : 10 % ~ 80 % Storage Temperature : -4 °F ~ 113 °F (-20 °C ~ 45 °C) Storage Humidity : 5 % ~ 95 %	
TV System	Tunning	Frequency Synthesize
	System	PAL, SECAM
	Sound	MONO, STEREO, NICAM
Antena Input	75 Ω	
Sound Characteristic	– MAX Internal speaker Out : Right => 3 W, Left => 3 W	
	– BASS Control Range : -8 dB ~ + 8dB – TREBLE Control Range : -8 dB ~ +8 dB – Headphone Out : 10 mW MAX – Output Frequency : RF : 80 Hz ~ 15 kHz A/V : 80 Hz ~ 20 kHz	

2 Product Specifications

2-2 LE26R41B Specifications

Item	Description	
LCD Panel	TFT-LCD panel, RGB vertical stripe, normally white, 26-Inch viewable, 0.4425 (H) x 0.264(V)mm pixel pitch	
Scanning Frequency	Horizontal : 30 kHz ~ 61 kHz (Automatic) Vertical : 60 Hz ~ 75 Hz (Automatic)	
Display Colors	16.7 Million colors	
Maximum Resolution	Horizontal : 1366 Pixels Vertical : 768 Pixels	
Input Video Signal	Analog 0.7 Vp-p \pm 5% positive at 75 Ω , internally terminated	
Input Sync Signal	Type : Seperate H/V Level : TTL level	
Maximum Pixel Clock rate	80 MHz	
Active Display Horizontal/Vertical	556.4 mm / 339.8 mm	
AC power voltage & Frequency	AC 220 ~ 240V, 50 ~ 60 Hz	
Power Consumption	150 W	
Dimensions(W x D x H) Set	662.0 x 94.0 x 497.8 mm (26.06 x 3.70 x 19.598 inches) Body 662.0 x 206.0 x 539.0 mm (26.06 x 8.11 x 21.22 inches) With stand	
Weight Set(After installation Stand)	15.0 kg (33.07 lbs)	
Environmental Considerations	Operating Temperature : 50 °F ~ 104 °F (10 °C ~ 40 °C) Operating Humidity : 10 % ~ 80 % Storage Temperature : -4 °F ~ 113 °F (-20 °C ~ 45 °C) Storage Humidity : 5 % ~ 95 %	
TV System	Tunning	Frequency Synthesize
	System	PAL, SECAM
	Sound	MONO, STEREO, NICAM
Antena Input	75 Ω	
Sound Characteristic	– MAX Internal speaker Out : Right => 5 W, Left => 5 W	
	– BASS Control Range : -8 dB ~ + 8dB – TREBLE Control Range : -8 dB ~ +8 dB – Headphone Out : 10 mW MAX – Output Frequency : RF : 80 Hz ~ 15 kHz A/V : 80 Hz ~ 20 kHz	

2-3 LE32R41B Specifications

Item	Description	
LCD Panel	TFT-LCD panel, RGB vertical stripe, normally white, 32-Inch viewable, 0.537(H) x 0.537(V) mm pixel pitch	
Scanning Frequency	Horizontal : 30 kHz ~ 61 kHz (Automatic) Vertical : 60 Hz ~ 75 Hz (Automatic)	
Display Colors	16.7 Million colors	
Maximum Resolution	Horizontal : 1366 Pixels Vertical : 768 Pixels	
Input Video Signal	Analog 0.7 Vp-p \pm 5% positive at 75 Ω , internally terminated	
Input Sync Signal	Type : Separate H/V Level : TTL level	
Maximum Pixel Clock rate	80 MHz	
Active Display Horizontal/Vertical	697.7 mm / 392.4 mm	
AC power voltage & Frequency	AC 220 ~ 240V, 50 ~ 60 Hz	
Power Consumption	160 W	
Dimensions(W x D x H) Set	797.0 x 99.0 x 592.0 mm (31.38 x 3.898 x 23.31 inches) Body 797.0 x 249.0 x 650.7 mm (31.38 x 9.80 x 25.62 inches) With Stand	
Weight Set(After installation Stand)	15.0 kg (33.07 lbs)	
Environmental Considerations	Operating Temperature : 50 °F ~ 104 °F (10 °C ~ 40 °C) Operating Humidity : 10 % ~ 80 % Storage Temperature : -4 °F ~ 113 °F (-20 °C ~ 45 °C) Storage Humidity : 5 % ~ 95 %	
TV System	Tuning	Frequency Synthesize
	System	PAL, SECAM
	Sound	MONO, STEREO, NICAM
Antenna Input	75 Ω	
Sound Characteristic	– MAX Internal speaker Out : Right => 10 W, Left => 10 W	
	– BASS Control Range : -8 dB ~ + 8dB – TREBLE Control Range : -8 dB ~ +8 dB – Headphone Out : 10 mW MAX – Output Frequency : RF : 80 Hz ~ 15 kHz A/V : 80 Hz ~ 20 kHz	

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2-4 LE40R41B Specifications

Item	Description	
LCD Panel	TFT-LCD panel, RGB vertical stripe, normally white, 40-Inch viewable, 0.4425 (H) x 0.264(V)mm pixel pitch	
Scanning Frequency	Horizontal : 30 kHz ~ 61 kHz (Automatic) Vertical : 60 Hz ~ 75 Hz (Automatic)	
Display Colors	16.7 Million colors	
Maximum Resolution	Horizontal : 1366 Pixels Vertical : 768 Pixels	
Input Video Signal	Analog 0.7 Vp-p \pm 5% positive at 75 Ω , internally terminated	
Input Sync Signal	Type : Seperate H/V Level : TTL level	
Maximum Pixel Clock rate	80 MHz	
Active Display Horizontal/Vertical	556.4 mm / 339.8 mm	
AC power voltage & Frequency	AC 220 ~ 240V, 50 ~ 60 Hz	
Power Consumption	240 W	
Dimensions(W x D x H) Set	989.0 x 333.1 x 762.6 mm ((38.94 x 13.11 x 30.02 inches) Body 989.0 x 110.0 x 702.6 mm (38.94 x 4.33 x 27.66 inches) With stand	
Weight Set(After installation Stand)	27.2 kg (59.96 lbs)	
Environmental Considerations	Operating Temperature : 50 °F ~ 104 °F (10 °C ~ 40 °C) Operating Humidity : 10 % ~ 80 % Storage Temperature : -4 °F ~ 113 °F (-20 °C ~ 45 °C) Storage Humidity : 5 % ~ 95 %	
TV System	Tunning	Frequency Synthesize
	System	PAL, SECAM
	Sound	MONO, STEREO, NICAM
Antena Input	75 Ω	
Sound Characteristic	– MAX Internal speaker Out : Right => 10 W, Left => 10 W	
	– BASS Control Range : -8 dB ~ + 8dB – TREBLE Control Range : -8 dB ~ +8 dB – Headphone Out : 10 mW MAX – Output Frequency : RF : 80 Hz ~ 15 kHz A/V : 80 Hz ~ 20 kHz	

2-5 Pin Assignments

2-5-1 HDMI

Type A pin	Singnal Name	Wire
1	TMDS Data2+	TMDS Signal wire
2	TMDS Data2 Shield	TMDS Shield
3	TMDS Data2-	TMDS Signal wire
4	TMDS Data1+	TMDS Signal wire
5	TMDS Data2 Shield	TMDS Shield
6	TMDS Data1-	TMDS Signal wire
7	TMDS Data0+	TMDS Signal wire
8	TMDS Data0 Shield	TMDS Shield
9	TMDS Data0-	TMDS Signal wire
10	TMDS Clock+	TMDS Signal wire
11	TMDS Clock Shield	TMDS Clock Shield
12	TMDS Clock-	TMDS Shield
13	CEC	Control
14	Reserved (in cable but N.C on device)	Control
15	SCL	Control
16	SDA	Control
17	DDC/CEC Ground	Control
18	+5V Power	5 Volts Power wire
19	Hot Plug Delect	Control

2 Product Specifications

2-5-2 Component 1

RCA Green	Y
	GND
RCA Blue	Pb (Cb)
	GND
RCA Red	Pr (Cr)
	GND
RCA White	Audio L
	GND
RCA Red	Audio R
	GND

2-5-3 S-Video

Pin	Separate
1	GND
2	Y
3	C
4	GND
5	GND

2-5-4 A/V

RCA Yellow	CVBS
RCA White	Audio L
	GND
RCA Red	Audio R
	GND

2-5-5 SCART 1

Pin	Separate	Pin	Separate
1	SC1 RED OUT	12	N/C
2	SC1 RED IN	13	GND
3	SC1 LEFT OUT	14	GND
4	GND	15	SC1 RED
5	GND	16	GND
6	SC1 LEFT IN	17	SC1 FAST BLANKING
7	SC1 BLUE	18	GND
8	SC1 SWITCHING	19	SC1 CVBS OUT
9	GND	20	SC1 CVBS IN
10	N/C	21	GND
11	SC1 GREEN		

2-5-6 SCART 2

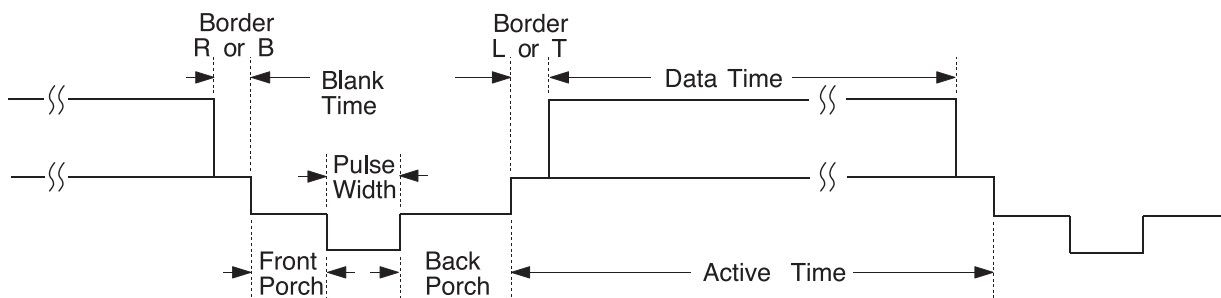
Pin	Separate	Pin	Separate
1	SC2 RED OUT	12	N/C
2	SC2 RED IN	13	GND
3	SC2 LEFT OUT	14	GND
4	GND	15	N/C
5	GND	16	N/C
6	SC2 LEFT IN	17	GND
7	N/C	18	GND
8	SC2 SWITCHING	19	SC2 CVBS OUT
9	GND	20	SC2 CVBS IN
10	N/C	21	GND
11	N/C		

2-6 Timing Chart

This section of the service manual describes the timing that the computer industry recognizes as standard for computer-generated video signals.

2-6-1 LCD Panel Mode1 mode

Timing No.		
Originator	VESA	VESA
Mode Name	1280/60Hz	1366/60Hz
Resolution (HxV)	1280x768	1366x768
HORIZONTAL		
Frequency	47.700kHz	47.712kHz
Total time	20.964 μ s	20.959 μ s
Active time	15.973 μ s	15.906 μ s
Blank time	4.992 μ s	5.053 μ s
Border(L / R)	0.000 μ s	0.000 μ s
Data time	15.964 μ s	15.906 μ s
Front porch	0.799 μ s	0.749 μ s
Sync. width	1.697 μ s	1.702 μ s
Back porch	2.496 μ s	2.994 μ s
Sync. polarity	Negative	Positive
VERTICAL		
Frequency	60.000Hz	60.015Hz
Total time	16.667ms	16.662ms
Active time	16.101ms	16.097ms
Blank time	0.566ms	0.566ms
Border(T / B)	0.000ms	0.000ms
Data time	16.101ms	16.097ms
Front porch	20.964ms	0.063ms
Sync. width	62.893ms	0.105ms
Back porch	482.180	0.377ms
Sync polarity	Positive	Positive
Dot Clock	80.136MHz	85.500MHz
Sync. Type	Separate	Separate
Scan Type	N/I	N/I



2-6-1 Supported Modes (1)

Timing No.	2	3	11	17
Originator	IBM	IBM	VESA	VESA
Mode Name	VGA2	VGA3	640/72Hz	640/75Hz
Resolution (HxV)	720x400	640x480	640x480	640x480
HORIZONTAL				
Frequency	31.469kHz	31.469kHz	37.861kHz	37.500kHz
Total time	31.777μs	31.778μs	26.413μs	26.667μs
Active time	26.058μs	26.058μs	20.825μs	20.317μs
Blank time	5.720μs	5.720μs	5.588μs	6.350μs
Border(L / R)	0.318μs	0.318μs	0.254μs	0.000μs
Data time	25.422μs	25.422μs	20.317μs	20.317μs
Front porch	0.318μs	0.318μs	0.508μs	0.508μs
Sync. width	3.813μs	3.813μs	1.270μs	2.032μs
Back porch	1.589μs	1.589μs	3.810μs	3.810μs
Sync. polarity	Negative	Negative	Negative	Negative
VERTICAL				
Frequency	70.087Hz	59.940Hz	72.809Hz	75.000Hz
Total time	14.268ms	16.683ms	13.735ms	13.333ms
Active time	13.155ms	15.761ms	13.100ms	12.800ms
Blank time	1.113ms	0.922ms	0.635ms	0.533ms
Border(T / B)	0.222ms	0.254ms	0.211ms	0.000ms
Data time	12.711ms	15.253ms	12.678ms	12.800ms
Front porch	0.191ms	0.064ms	0.026ms	0.027ms
Sync. width	0.064ms	0.064ms	0.079ms	0.080ms
Back porch	0.858ms	0.794ms	0.528ms	0.427ms
Sync polarity	Positive	Negative	Negative	Negative
Dot Clock	28.322MHz	25.175MHz	31.500MHz	31.500MHz
Sync. Type	Separate	Separate	Separate	Separate
Scan Type	N/I	N/I	N/I	N/I

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2-6-1 Supported Modes (2)

Timing No. Originator Mode Name Resolution (HxV)	13 VESA 800/60Hz 800x600	14 VESA 800/72Hz 800x600	18 VESA 800/75Hz 800x600
HORIZONTAL Frequency Total time Activetime Blank time Border(L / R) Data time Front porch Sync. width Back porch Sync. polarity	37.879kHz 26.400μs 20.000μs 6.400 μs 0.000 μs 20.000μs 1.000 μs 3.200 μs 2.200 μs Positive	48.077kHz 20.800μs 16.000μs 4.800 μs 0.000 μs 16.000μs 1.120 μs 2.400 μs 1.280 μs Positive	46.875kHz 21.333 μs 16.162 μs 5.171 μs 0.000 μs 16.162 μs 0.323 μs 1.616 μs 3.232 μs Positive
VERTICAL Frequency Total time Active time Blank time Border(T / B) Data time Front porch Sync. width Back porch Sync polarity	60.317Hz 16.579ms 15.840ms 0.739ms 0.000ms 15.840ms 0.026ms 0.106ms 0.607ms Positive	72.188Hz 13.853ms 12.480ms 1.373ms 0.000ms 12.480ms 0.770ms 0.125ms 0.478ms Positive	75.000Hz 13.333ms 12.800ms 0.533ms 0.000ms 12.800ms 0.021ms 0.064ms 0.448ms Positive
Dot Clock	40.000MHz	50.000MHz	49.500MHz
Sync. Type	Separate	Separate	Separate
Scan Type	N/I	N/I	N/I

2-6-1 Supported Modes (3)

Timing No.	15	16	19	
Originator	VESA	VESA	VESA	VESA
Mode Name	1024/60Hz	1024/70Hz	1024/75Hz	1360/60Hz
Resolution (HxV)	1024x768	1024x768	1024x768	1360x768
HORIZONTAL				
Frequency	48.363kHz	56.476kHz	60.023kHz	47.712kHz
Total time	20.677 μ s	17.707 μ s	16.660 μ s	20.959 μ s
Activetime	15.754 μ s	13.653 μ s	13.003 μ s	15.906 μ s
Blank time	4.923 μ s	4.053 μ s	3.777 μ s	5.053 μ s
Border(L / R)	0.000 μ s	0.000 μ s	0.000 μ s	0.000 μ s
Data time	15.754 μ s	13.653 μ s	13.003 μ s	15.906 μ s
Front porch	0.369 μ s	0.320 μ s	0.323 μ s	0.749 μ s
Sync. width	2.092 μ s	1.813 μ s	1.219 μ s	1.702 μ s
Back porch	2.462 μ s	1.920 μ s	2.235 μ s	2.994 μ s
Sync. polarity	Negative	Negative	Positive	Positive
VERTICAL				
Frequency	60.004Hz	70.069Hz	75.029Hz	60.015Hz
Total time	16.666ms	14.272ms	13.328ms	16.662ms
Active time	15.880ms	13.599ms	12.795ms	16.097ms
Blank time	0.786ms	0.672ms	0.533ms	0.566ms
Border(T / B)	0.000ms	0.000ms	0.000ms	0.000ms
Data time	15.880ms	13.599ms	12.795ms	16.097ms
Front porch	0.062ms	0.053ms	0.017ms	0.063ms
Sync. width	0.124ms	0.106ms	0.050ms	0.105ms
Back porch	0.600ms	0.513ms	0.466ms	0.377ms
Sync polarity	Negative	Negative	Positive	Positive
Dot Clock	65.000MHz	75.000MHz	78.750MHz	85.500MHz
Sync. Type	Separate	Separate	Separate	Separate
Scan Type	N/I	N/I	N/I	N/I

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