

Product Specifications

DLP™ LED Display Cube



Combination model name:

Model: 70HEF78

Information in this document is subject to change without notice.

**Mitsubishi Electric Corporation
Kyoto Works**

Date: December 05, 2012

70HEF78 models Specifications

(1) Combination model name

Combination model name	Unit model name			Features
	Engine	Cabinet	Screen	
70HEF78U	VS-WE78U	S-70HE75CAF	SC-70HE75UF	LED light source Front maintenance Black stripe screen
70HEF78L	VS-WE78U	S-70HE75CAF	SC-70HE75LF	LED light source Front maintenance Fine cross screen

(2) Image panel and light source

Type	DLP™ technology (0.96" DLP™ 1 chip) DarkChip3™ , BrilliantColor™
Resolution	1920 x 1080 pixels
Light source	LED (RGB)
Light source average lifetime	100,000hours @ ADV.ECO mode 80,000hours @ Other modes

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(3) Electric specification

Power consumption Thermal dissipation (with 1 input board typ.)	Mode	Power consumption	Thermal dissipation
	BRIGHT	258W	221.9kcal/h (881BTU/h)
	NORMAL	174W	149.6kcal/h (594BTU/h)
	ECO	124W	106.6kcal/h (423BTU/h)
	ADV.ECO	96W	82.6kcal/h (328BTU/h)
Voltage range		AC 100 – 240V +/-10% , 50/ 60Hz +/-1Hz	
Operating current (100/240V)		3.7/1.6 Amp.	
Inrush current (100/240V)		30/60 Amp.	
Control signal input		RS-232C: D-Sub 9 pins	
		LAN: RJ45 x1 (10BASE-T/100BASE-TX)	
		D-Sub 9 pins x 2 (input, output) Mitsubishi original control link	
		Wire remote: F3.5Jack	
		IR Receiver	
Input board slot		Input board slot for optional input board x 3	
Input signal specification		Refer to (10) Optional input board specification	
Overlay function		Up to 6 windows per each screen (with VC-B70V2). Up to 3 windows per each screen (with other boards).	

(4) Optical specification (Typical value)

Screen model name		SC-70HE75UF	SC-70HE75LF
Brightness	BRIGHT Mode	810cd/m ²	410cd/m ²
	NORMAL Mode	600cd/m ²	300cd/m ²
	ECO Mode	410cd/m ²	200cd/m ²
	ADV.ECO mode	120 cd/m ²	60 cd/m ²
Viewing angle	Horizontal	1/2 gain: +/- 35° 1/10 gain: +/- 57°	1/2 gain: +/- 35° 1/10 gain: +/- 57°
	Vertical	1/2 gain +/- 10° 1/10 gain: +/- 28°	1/2 gain: +/- 33° 1/10 gain: +/- 55°
Screen size		70" Diagonal size (1548mm x 870.5mm)	
Light output		1000ANSI Lumen @BRIGHT Mode	
Contrast ratio		1500:1	
Brightness uniformity		95% at 90% image height	
Geometry distortion		0.2%	
Mullion size (*)		Horizontal: 1.0mm – 3.0mm Vertical: 1.0mm – 2.5mm	
Color gamut		180% EBU	
Lateral color shift Red – Green Blue – Green		0.5pixel	

(*) Depending on configuration and environment.

3.0mm (Horizontal), 2.5mm (Vertical) recommended for large walls to allow for expansion due to heat and humidity.

(5) Mechanical specification (Approximate value)

Dimensions	Width	1551mm / 61.1"		
	Height	1147mm / 45.2"		
	Depth	962mm / 37.9"		
Weight		112kg / 247lbs		
Audio noise		31dBA (typ.) (at 1m distance from screen center)		
Packing dimensions		Engine unit	Cabinet unit	Screen unit
	Width	910mm / 35.8"	1615mm / 63.6"	1710mm / 67.3"
	Height	500mm / 19.7"	1328mm / 52.3"	1055mm / 41.5"
	Depth	530mm / 20.9"	1000mm / 39.4"	180mm / 7.1"
Packing Weight		37kg / 82lbs	95kg / 209lbs	27kg / 60lbs
Accessories		Engine unit: User's manual, Control cable Cabinet unit: User's manual Parts for connecting cubes Brackets for engine fixation Bolts for engine fixation, Joint hole seal		

(6) Environment

Temperature and humidity Condition at operation	10°C – 30°C (50°F – 86°F), 20% – 80% non condensing
Temperature and humidity Condition at storage	-20°C – 50°C (-4°F – 122°F), 20% – 80% non condensing

(7) Safety approval

Safety approval	UL60950-1, CSAC22.2No.60950-1, EN60950-1 K60950-1, AS60950-1, GB4943
EMC	FCC Part15 Subpart B Class A ICES-003 Issue No.4 Class A EN55022 Class A, EN55024 EN61000-3-2, EN61000-3-3 K00022 Class A, K00024 AS/NZS CISPR 22 Class A GB9254 Class A, GB17625.1 VCCI Class A, JIS C 61000-3-2

(8) Parts reliability (Average lifetime)

Cooling fan	100,000hours
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(9) Options

Remote control unit	R-XL50TX
Analog RGB input board	VC-B70G2
Digital RGB input board	VC-B70D2
Video input board	VC-B70V2
Daisy chain board	VC-B70DC
SDI input board	VC-B70SD1
LED unit	S-WE78LE
Power cord (North America)	JC-PC3MA
Power cord (Europe)	JC-PC3ME
Power cord (China)	JC-PC3MC
Power cord (Japan)	JC-PC3MJ
Motorized adjustment tool	S-A70E
Motor units for screen/mirror	S-MA70E

(10) Optional input board specification

Analog RGB input board: VC-B70G2

Signal input terminal (Analog RGB)		5BNC x1 HD Dsub15 x1
RGB Input scanning frequency	Signal resolution	VGA (640 x 480) – WUXGA (1920 x 1200) (Refer to attached “Supported signals list”)
	Horizontal	31.5kHz – 92kHz
	Vertical	49Hz – 85Hz
Pixel clock rate		25MHz – 162MHz
Functions		Scaling: shrink and zoom. Frame rate conversion.

Digital RGB input board: VC-B70D2

Signal input terminal (Digital RGB)		DVI-D (with HDCP) x2
RGB Input scanning frequency	Signal resolution	VGA (640 x 480) – WUXGA (1920 x 1200) (Refer to attached “Supported signals list”)
	Horizontal	31.5kHz – 92kHz
	Vertical	49Hz – 85Hz
Pixel clock rate		25MHz – 162MHz
Signal format		TMDS
Functions		Scaling: shrink and zoom. Frame rate conversion.

Video input board: VC-B70V2

Signal input terminal (Analog Video)		3BNC x2
Video input signals		NTSC, NTSC4.43 PAL, PAL-M, PAL-N, PAL-60, SECAM
Functions		Scaling: shrink and zoom. Frame rate conversion.

Daisy chain board: VC-B70DC

Signal input terminal		Analog RGB: HD Dsub15 x1 Digital RGB: DVI-D (with HDCP) x1 Analog Video: 3BNC x1
Signal output terminal		Digital RGB: DVI-D x1 (Daisy chain use only. Can not output HDCP signals.)
RGB Input scanning frequency	Signal resolution	VGA (640 x 480) – WUXGA (1920 x 1200) (Refer to attached “Supported signals list”)
	Horizontal	31.5kHz – 92kHz
	Vertical	49Hz – 85Hz
Video input signals		NTSC, NTSC4.43 PAL, PAL-M, PAL-N, PAL-60, SECAM
Pixel clock rate		25MHz – 162MHz
Functions		Scaling: shrink and zoom. Frame rate conversion. Daisy chain function (Up to 16 cubes)

SDI input board: VC-B70SD1

Signal input terminal		BNC x 1
Signal output terminal		BNC x 1 (for through output)
Input signals		3G-SDI (SMPTE424M): 1080p@50/59.94/60Hz HD-SDI (SMPTE292M): 1080i@50/59.94/60Hz 720p@50/59.94/60Hz SD-SDI (SMPTE259M-C): 480i@59.94Hz, 576i@50Hz
Gen lock input		Terminal: BNC x 1 Format: NTSC/PAL Black burst
Functions		Scaling: shrink and zoom. Frame rate conversion. Through output: (Up to 16 cubes @ HD-SDI, SD-SDI Up to 9 cubes @ 3G-SDI)

Supported signals list

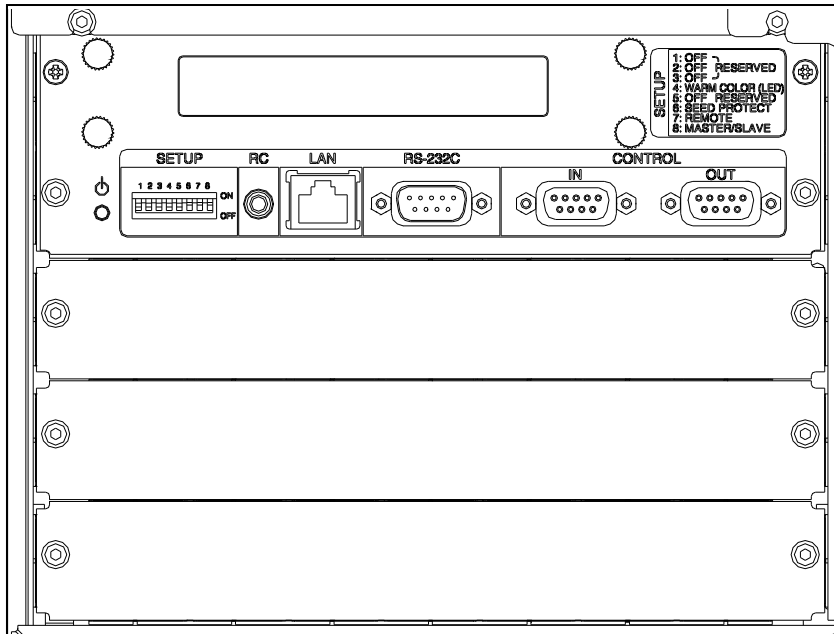
RGB signals

Signal	Resolution	Refresh rate (Hz)	Line rate (kHz)
VESA	1920 x 1200	60.0	74.0
	1920 x 1080	60.0	67.5
	1680 x 1050	60.0	65.3
	1600 x 1200	60.0	75.0
	1440 x 900	59.9	55.9
	1400 x 1050	59.9	64.7
		60.0	65.3
		74.9	82.3
	1366 x 768	59.8	47.7
	1360 x 768	60.0	47.7
	1280 x 1024	60.0	64.0
		75.0	80.0
		85.0	91.1
	1280 x 960	60.0	60.0
	1280 x 800	59.8	49.7
	1280 x 768	59.9	47.8
	1280 x 720	60.0	45.0
	1152 x 864	75.0	67.5
	1024 x 768	60.0	48.4
		70.1	56.5
		75.0	60.0
		85.0	68.7
	848 x 480	60.0	31.0
	800 x 600	56.3	35.2
		60.3	37.9
		72.2	48.1
		75.0	46.9
		85.1	53.7
	720 x 400	85.0	37.9
	640 x 480	59.9	31.5
		72.8	37.9
75.0		37.5	
85.0		43.3	
640 x 400	85.1	37.9	
640 x 350	85.1	37.9	
PC	1400 x 1050	60.0	64.0
	1280 x 1024	60.0	63.4
	1280 x 960	75.0	75.0
	1152 x 864	70.0	63.9
		85.1	77.5
640 x 400	70.1	31.5	
	84.1	37.9	
Mac	1152 x 870	75.0	68.6
	1024 x 768	74.9	60.2
	832 x 624	74.5	49.7
	640 x 480	66.7	35.0
Unix	1280 x 1024	59.9	64.6
		71.2	75.1
		72.0	78.1
		76.1	81.1
HDTV	1920 x 1080	50.0	28.1
		59.9	33.7
	1280 x 720	50.0	37.5
		59.9	45.0

Y/Cb/Cr (Y/Pb/Pr) signals

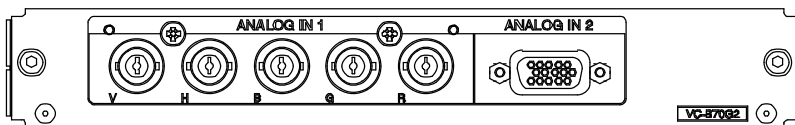
Signal	Resolution	Refresh rate (Hz)	Line rate (kHz)
1125p/1080p	1920 x 1080	50.0	56.3
		59.9	67.4
1125i/1080i	1920 x 1080	50.0	28.1
		59.9	33.7
750p/720p	1280 x 720	50.0	37.5
		59.9	45.0
625p/576p	720 x 576	50.0	31.3
525p/480p	720 x 480	59.9	31.5

Terminal panel

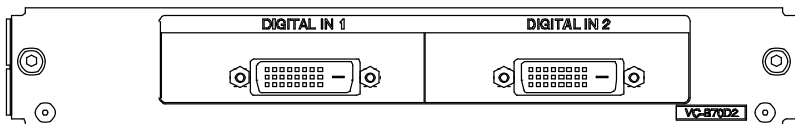


Optional input board appearance

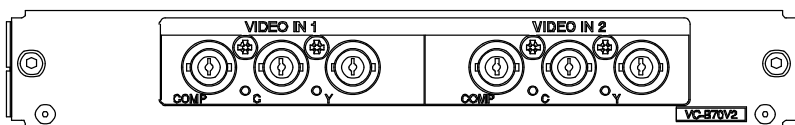
VC-B70G2



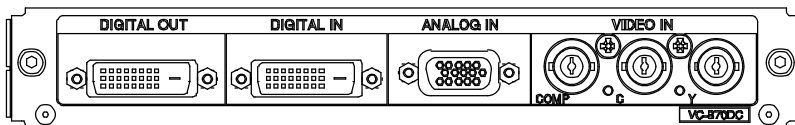
VC-B70D2



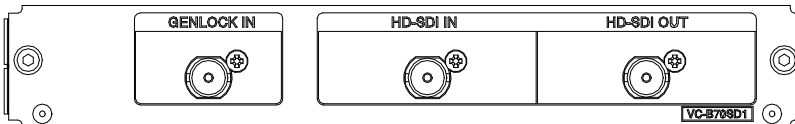
VC-B70V2



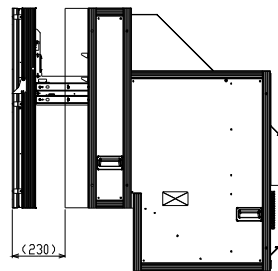
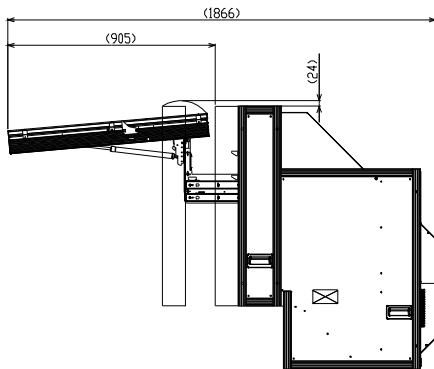
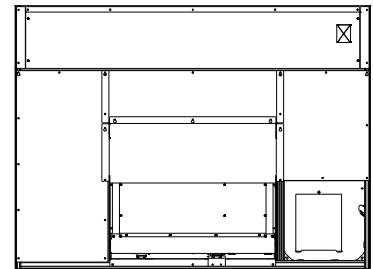
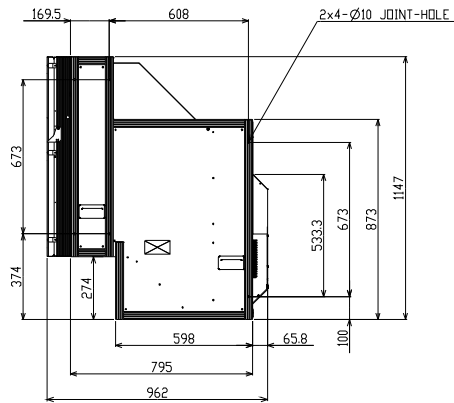
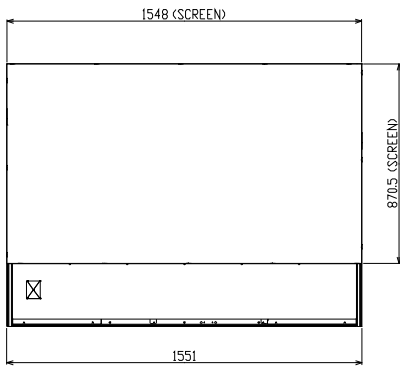
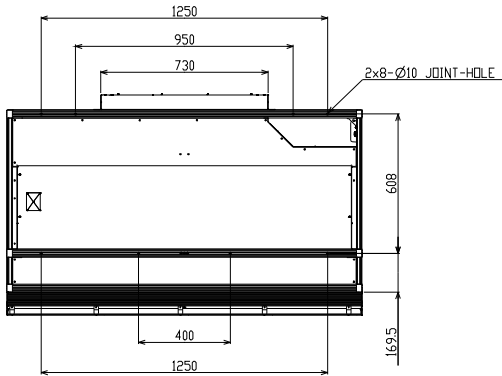
VC-B70DC



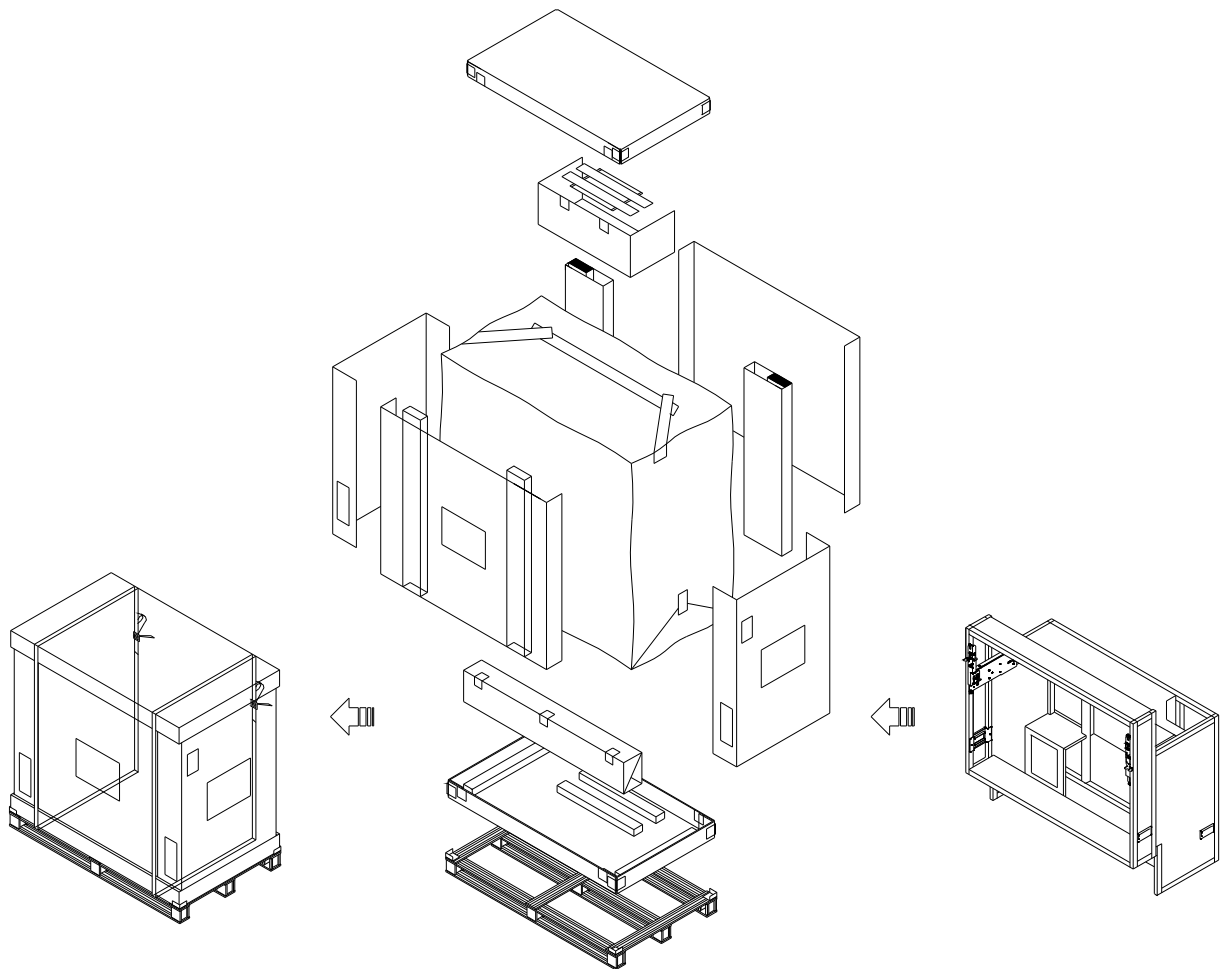
VC-B70SD1



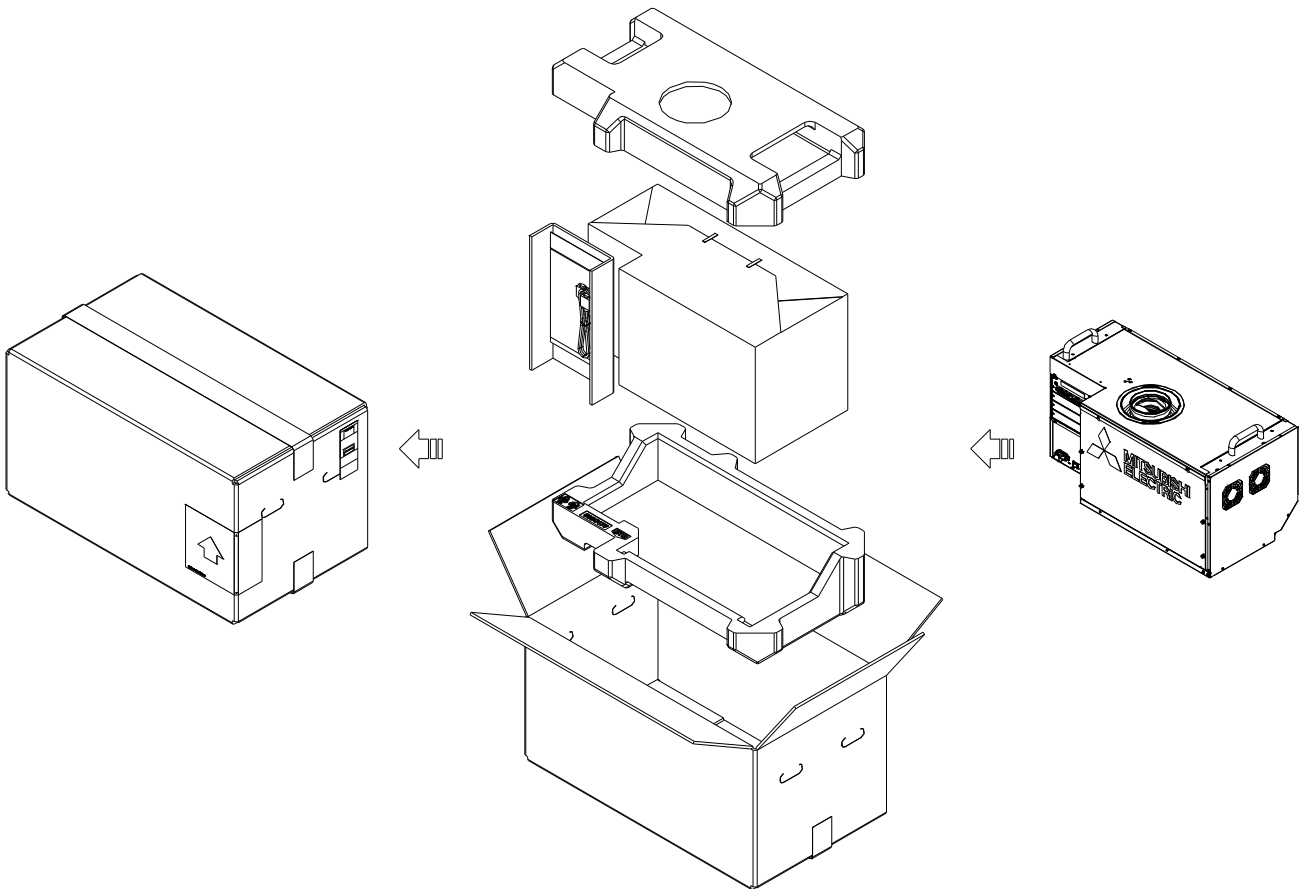
External dimensions



Packing specification
[Cabinet unit:S-70HE75CAF]



[Engine unit:VS-WE78U]



[Screen unit:SC-70HE75UF/LF]

