



SERVICE MANUAL

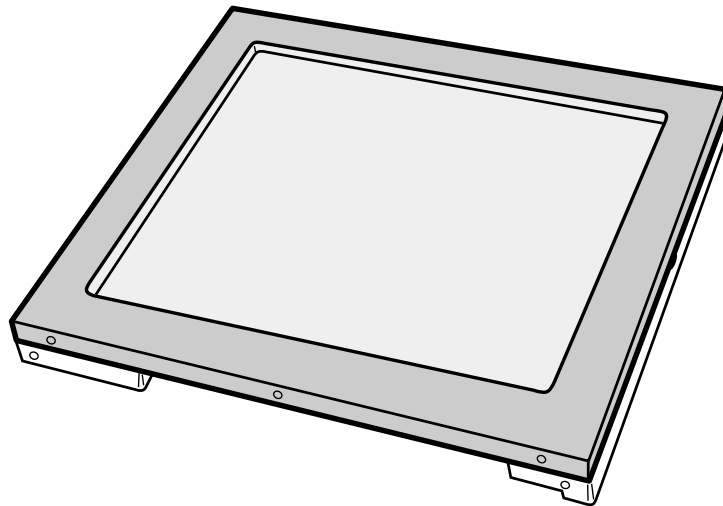
INDUSTRIAL LCD MONITOR

LMU-TK15A3 (GENERAL)

LMU-TK15A3TC (With Touch Screen)
(GENERAL)

LMU-TK15A3TS (With Touch Screen)
(GENERAL)

PRODUCT CODE NO.	
LMU-TK15A3	1 938 102 77
LMU-TK15A3TC	1 938 102 78
LMU-TK15A3TS	1 938 102 83



REFERENCE No. SM920018

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**Refer to the separate volume User's Manual and CD-ROM
that included for instruction.**

PRECAUTIONS

Placement precautions

Avoid placing the unit in humid or dusty places, or where it will be exposed to excessive heat (direct sunlight, heaters, etc.)

Do not step on or set anything on the AC cord.

DAMAGE TO THE AC CORD IS A SAFETY RISK AND CAN CAUSE A FIRE.

Do not connect the unit to the same AC as outlet with appliances that generate large amounts of interference (such as heaters with thermostats, appliances with motors, etc.). It is best to use a completely separate electrical outlet.

Keep the unit away from water. If water accidentally enters the unit, unplug the AC power cord immediately. **DO NOT PLUG IN THE UNIT AGAIN.**

Handling precautions

Avoid bending, kinking or damaging the AC power cord.

Never insert or remove the power cord with wet hands. Also, be sure to hold cord by the plug when removing it from the outlet.

Do not remove any parts that are held in place with screws. (The unit does not contain any user serviceable items.)

Maintain standard room temperature (5°C to 35°C, or 41°F to 95°F) during use. Do not subject the unit to shock or vibration. Do not move the unit while it is in use.

A rapid increase in room temperature in cool weather can cause condensation to form inside the unit. If this occurs, wait at least 15 minutes after turning the unit on before attempting to operate it.

1. MAIN SPECIFICATION

LMU-TK15A3

LCD

Liquid Crystal Panel	TFT
Display Size	15.0"
Pixel Configuration	1,024 x 768
Pixel Pitch	0.297 x 0.297 mm
Brightness	250 cd/m ²
Response Time	40 ms
Contrast	350 : 1 typ.
Angle of Visibility	Up 50, Down 55, Right 60, Left 60 degrees (contrast ratio of less than 10)

Video

Vertical signal	56 - 75Hz
Horizontal signal	31.4 - 60.2kHz
Video Signal	Analog RGB 75ohm 0.7Vp-p
No. of Colors	16.77 million
OSD Language	English, German, French, Spanish
Plug & Play	VESA DDC1, DDC2B
Power Management	VESA DPMS

Physical

Dimensions	384 (W) x 308 (H) x 46 (D) mm	
Weight	3.7kg	
Operating Conditions	Operating Temperature:	5°C to 40°C
	Humidity:	30% to 85% RH (no condensation)
Power Supply/AC Adapter	Model Name:	GI40-US1225
	Input:	115-240VAC 1.0A-0.55A, 50-60Hz
	Output:	DC 12V 2.5A
Power Consumption	28W (5W in Energy Saving mode)	

Note : To improve this LCD monitor's performance level, its specifications and appearance are subject to change without notice.

LMU-TK15A3TC/LMU-TK15A3TS

LCD

Liquid Crystal Panel	TFT
Display Size	15.0"
Pixel Configuration	1,024 x 768
Pixel Pitch	0.297 x 0.297 mm
Brightness	250 cd/m ²
Response Time	40 ms
Contrast	350 : 1 typ.
Angle of Visibility	Up 50, Down 55, Right 60, Left 60 degrees (contrast ratio of less than 10)

Video

Vertical signal	56 - 75Hz
Horizontal signal	31.4 - 60.2kHz
Video Signal	Analog RGB 75ohm 0.7Vp-p
No. of Colors	16.77 million
OSD Language	English, German, French, Spanish
Plug & Play	VESA DDC1, DDC2B
Power Management	VESA DPMS

Touch Screen

Type	Capacitive (LMU-TK15A3TC)	Surface Wave (LMU-TK15A3TS)
Electrical Resolution	10bit (1,024 x 1,024)	0.86 x 0.86 mm
Communication	Bi-directional asynchronous RS-232C serial communication	

Physical

Dimensions	385 (W) x 309 (H) x 54 (D) mm	
Weight	4.2kg	
Operating Conditions	Operating Temperature:	5°C to 40°C
	Humidity:	30% to 85% RH (no condensation)
Power Supply/AC Adapter	Model Name:	GI40-US1225
	Input:	115-240VAC 1.0A-0.55A, 50-60Hz
	Output:	DC 12V 2.5A
Power Consumption	30W (5W in Energy Saving mode)	

Note : To improve this LCD monitor's performance level, its specifications and appearance are subject to change without notice.

2. TROUBLESHOOTING

Check the following for troubles of LCD monitor.

No.	Symptom	Check Points	Treatments	Class
1	No Picture with Back light OFF			
	1	Is the Power "ON" to a LCD Monitor ?	Check AC outlet, AC cord, DC Jack and Power switch for a LCD monitor	A
	2	Is the Power "ON" to a Computer ?	Check the Power for a Computer	A
	3	Is a signal cable connected securely ?	Check the connection of a signal cable	A
	4	Is a computer standing by ?	Be out of standing by condition, by operating to a computer	A
	5	Disconnected a signal cable ? or Bent a terminal pin ?	Ensure the connection of a signal cable	B
	6	Is an AC Adapter defective?	Replace an AC Adapter with the new one	C
	7	Is the wire harness between main PCB and LCD module secured firmly ?	Check the connection of wire harness	C
	8	Is the wire harness between LCD module and DC/DC Comnv. secured firmly ?	Check the connection of wire harness	C
	9	Is the wire harness between DC IN PCB and DC/DC Conv. PCB secured firmly ?	Check the connection of wire harness	C
	10	Is the wire harness between main PCB and DC IN PCB secured firmly ?	Check the connection of wire harness	C
	11	Is the LCD module defective ?	Replace a LCD module with the new one	C
	12	Is the Inverter block on LCD module defective ?	Replace a LCD module with the new one	C
	13	Is the DC/DC Conv. PCB defective ?	Replace a DC/DC Conv. PCB with the new one	C
	14	Is the display circuit on main PCB defective ?	Replace the main PCB with the new one	C
15	Is the Power Supply circuit on main PCB defective ?	Replace the main PCB with the new one	C	
2	No Picture with Back light ON			
	1	Is a screen saver programming running ?	Press any key or touch the mouse, to end the screen saver program	A
	2	Is the computer's signal timing not agreeable to the LCD's specification ?	Adjust the computer's signal timing, if possible	B
	3	Is the Image Processing circuit on main PCB defective ?	Replace the main PCB with the new one	C
3	White/Grey on whole screen(Nothing on screen)			
	1	Is the wire harness between main PCB and LCD module secured firmly ?	Ensure the connection of wire harness	C
	2	Is the LCD module defective ?	Replace a LCD module with the new one	C
	3	Is the Image Processing block circuit on main PCB defective ?	Replace the main PCB with the new one	C

A It is possible to treated by end-user

B It might be possible to treat by end-user in some case.

C It must be treated by Professional Technical Staff

No.	Symptom	Check Points	Treatments	Class
4	Dark screen			
	1	Is the wire harness between inverter and a LCD module secured firmly ?	Ensure the connection of a wire harness	C
	2	Is the wire harness between one of inverters and main PCB secured firmly ?	Ensure the connection of a wire harness	C
	3	Is the display circuit on main PCB defective ?	Replace the main PCB with the new one	C
5	Screen's display range is incorrect			
	1	Is the adjustment for screen performed correctly ?	Adjust the screen correctly	A
	2	Is the output level on image from a computer not agreeable to LCD's specification ?	Check the specification of a computer	B
	3	Is the size of screen set correctly ?	Set the size of screen again(refer to User's Manual for computer)	A
6	Screen is distorted			
	1	Is the adjustment for screen performed correctly ?	Adjust the screen correctly	A
	2	Is a signal cable connected securely ?	Check the connection of a signal cable	A
	3	Is a sigil cable extended ?	Don't extend a signal cable	A
	4	Is the output level on image from a computer not agreeable to LCD's specification ?	Check the specification of a computer	B
	5	Is the Image Processing circuit on main PCB defective ?	Replace the main PCB with the new one	C
7	Part of colors (R/G/B) is not displayed. Black line appears in vertically			
	1	Is a signal cable connected securely ?	Check the connection of a signal cable	A
	2	Is the connection between main PCB and a LCD module securely ?	Ensure the connector of wire harness	C
	3	Is the Image Processing circuit on main PCB defective ?	Replace the main PCB with the new one	C

A It is possible to treated by end-user

B It might be possible to treat by end-user in some case.

C It must be treated by Professional Technical Staff

3. MAINTENANCE

3-1 LMU-TK15A3

Disassembling the major components

- (1) Cabinet
 1. Unscrew to secure the cabinet (8-position)
 2. Pull the cabinet upward to remove it
- (2) LCD Panel
 1. Unscrew to secure the LCD panel (4-position)
 2. Pull the LCD panel up, and pull two connectors out from inverter unit
 3. Disconnect two cables from the Main PCB
- (3) Main PCB
 1. Pull the RGB signal cable out
 2. Unscrew to secure the Main PCB (5-position)
 3. Disconnect the cables on the Main PCB (6-position)
 - / Two connectors from the LCD module
 - / One connector from the VR PCB
 - / One connector from the DC-IN PCB
 - / One connector from the Inverter PCB
 - / One connector from the CN PCB
 4. Unscrew to secure the bracket for RGB Connector (2-position)
- (4) VR PCB
 1. Unscrew to secure the VR PCB (2-position)
 2. Disconnect the cable from the Main PCB
- (5) DC-IN PCB
 1. Unscrew to secure the DC-IN PCB (2-position)
 2. Disconnect two cables, one is from power switch and another one is from the Main PCB
- (6) CN PCB
 1. Unscrew to secure the bracket for CN PCB (2-position)
 2. Disconnect the cable from the Main PCB
- (7) DC-AC Inverter
 1. Unscrew to secure the DC-AC Inverter (4-position)
 2. Disconnect the cable from the Main PCB

3-2 LMU-TK15A3TC

Disassembling the major components

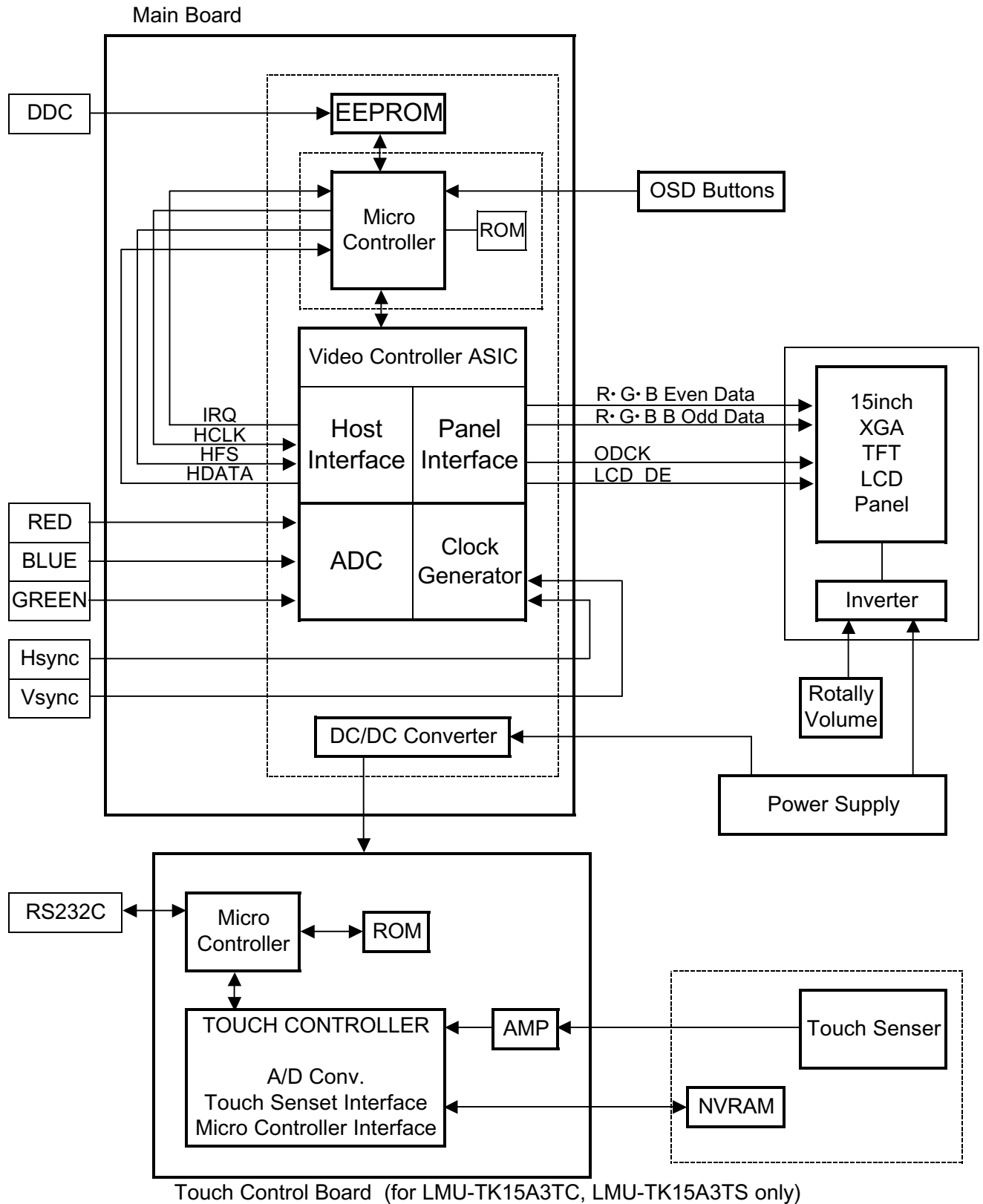
- (1) Cabinet
 1. Unscrew to secure the cabinet (8-position)
 2. Pull the cabinet upward to remove it
- (2) LCD Panel
 1. Unscrew to secure the LCD panel (4-position)
 2. Pull the LCD panel up, and pull two connectors out from inverter unit
 3. Disconnect two cables from the Main PCB
- (3) Main PCB
 1. Pull the RGB signal cable out
 2. Unscrew to secure the Main PCB (5-position)
 3. Disconnect the cables on the Main PCB (6-position)
 - / Two connectors from the LCD module
 - / One connector from the VR PCB
 - / One connector from the DC-IN PCB
 - / One connector from the Inverter PCB
 - / One connector from the CN PCB
 4. Unscrew to secure the bracket for RGB Connector (2-position)
- (4) VR PCB
 1. Unscrew to secure the VR PCB (2-position)
 2. Disconnect the cable from the Main PCB
- (5) DC-IN PCB
 1. Unscrew to secure the DC-IN PCB (2-position)
 2. Disconnect two cables, one is from power switch and another one is from the Main PCB
- (6) CN PCB
 1. Unscrew to secure the bracket for CN PCB (2-position)
 2. Disconnect the cable from the Main PCB
- (7) DC-AC Inverter
 1. Unscrew to secure the DC-AC Inverter (4-position)
 3. Disconnect the cable from the Main PCB
- (8) Touch Controller
 1. Unscrew to secure the Touch Controller (2-position)
 2. Disconnect two cables from Touch Controller

3-3 LMU-TK15A3TS

Disassembling the major components

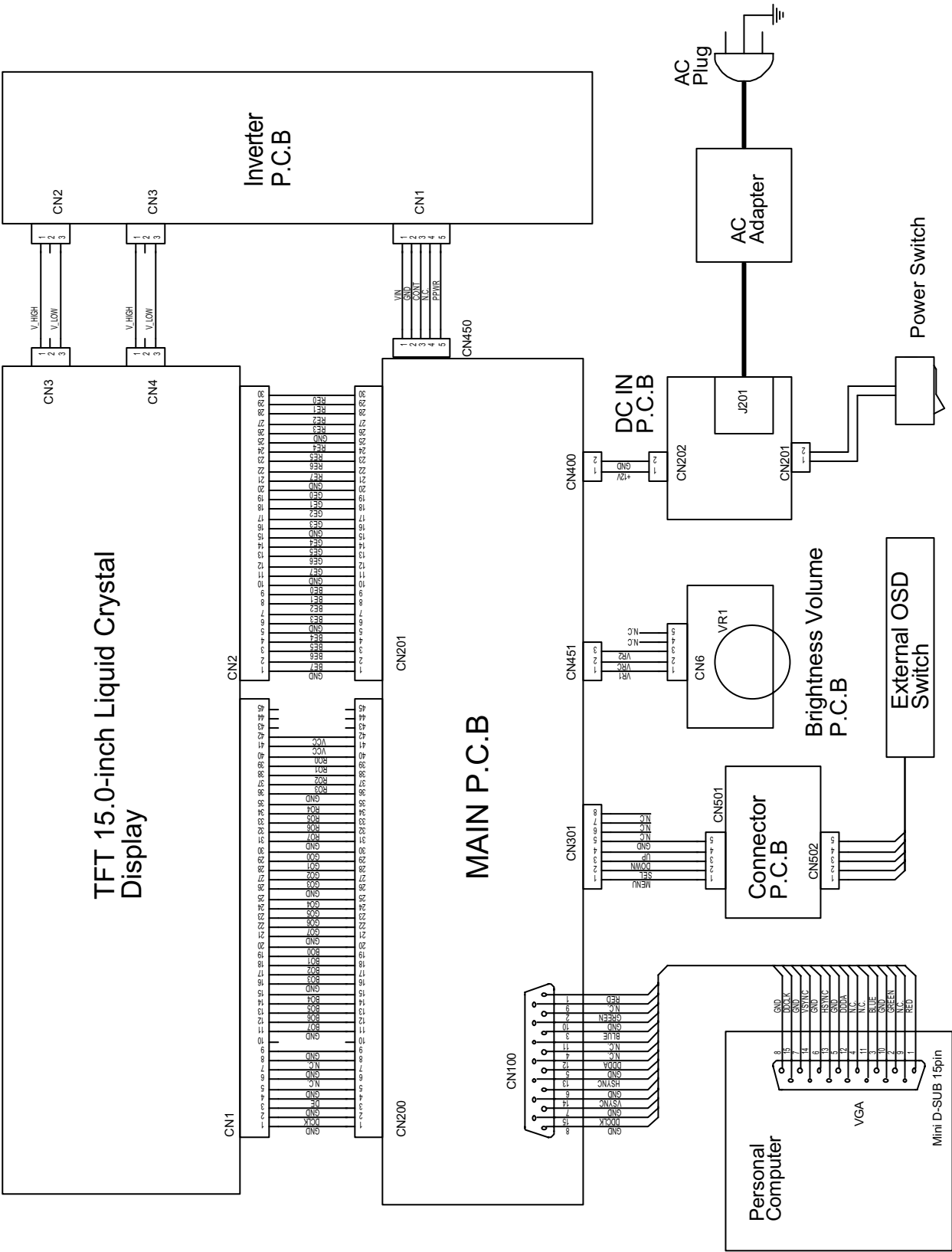
- (1) Cabinet
 1. Unscrew to secure the cabinet (8-position)
 2. Pull the cabinet upward to remove it
- (2) LCD Panel
 1. Unscrew to secure the LCD panel (4-position)
 2. Pull the LCD panel up, and pull two connectors out from inverter unit
 3. Disconnect two cables from the Main PCB
- (3) Main PCB
 1. Pull the RGB signal cable out
 2. Unscrew to secure the Main PCB (5-position)
 3. Disconnect the cables on the Main PCB (6-position)
 - / Two connectors from the LCD module
 - / One connector from the VR PCB
 - / One connector from the DC-IN PCB
 - / One connector from the Inverter PCB
 - / One connector from the CN PCB
 4. Unscrew to secure the bracket for RGB Connector (2-position)
- (4) VR PCB
 1. Unscrew to secure the VR PCB (2-position)
 2. Disconnect the cable from the Main PCB
- (5) DC-IN PCB
 1. Unscrew to secure the DC-IN PCB (2-position)
 2. Disconnect two cables, one is from power switch and another one is from the Main PCB
- (6) CN PCB
 1. Unscrew to secure the bracket for CN PCB (2-position)
 2. Disconnect the cable from the Main PCB
- (7) DC-AC Inverter
 1. Unscrew to secure the DC-AC Inverter (4-position)
 2. Disconnect the cable from the Main PCB
- (8) Touch Controller
 1. Unscrew to secure the Touch Controller (4-position)
 2. Disconnect three cables from Touch Controller

4. BLOCK DIAGRAM

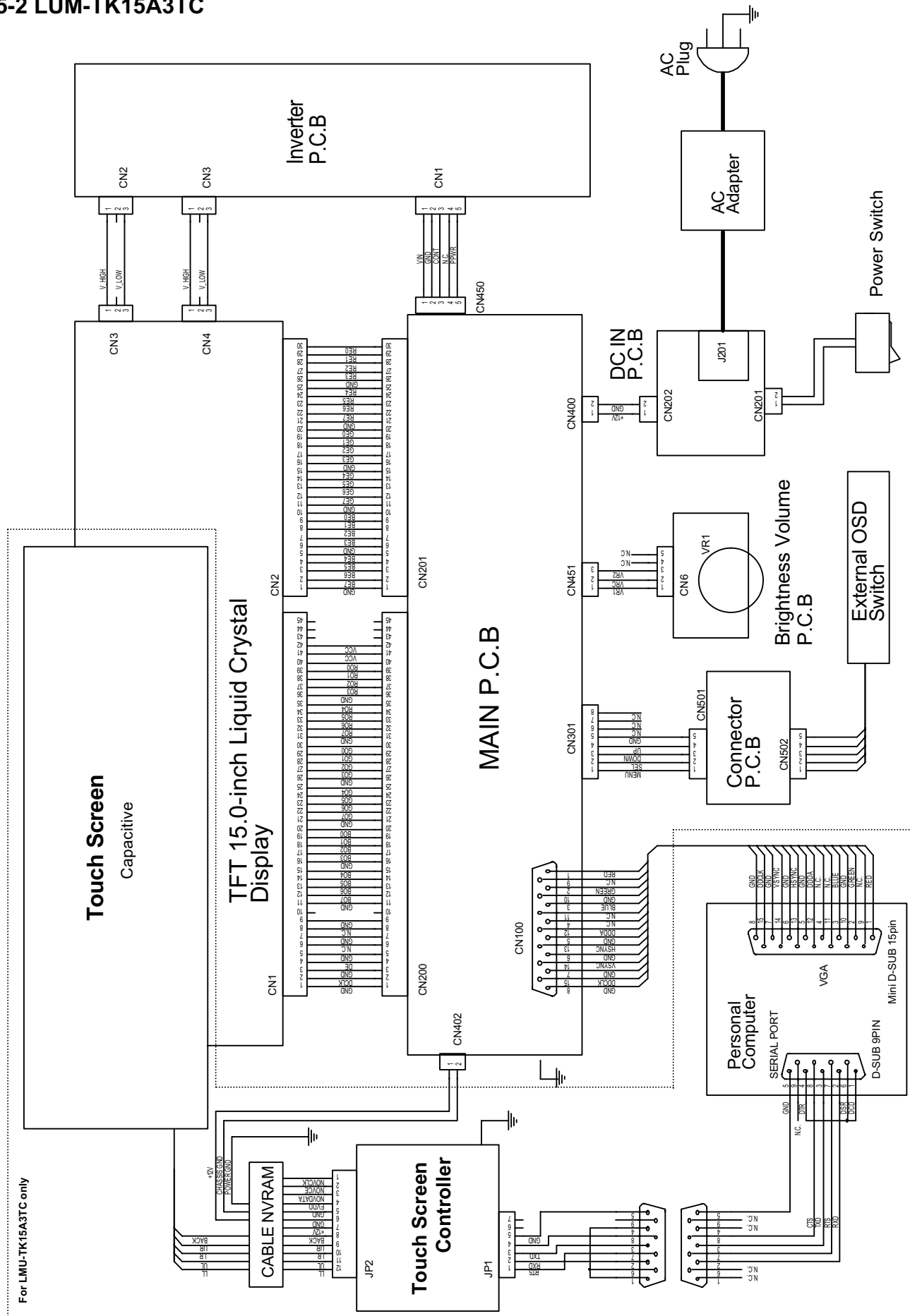


5. CONNECTION DIAGRAM

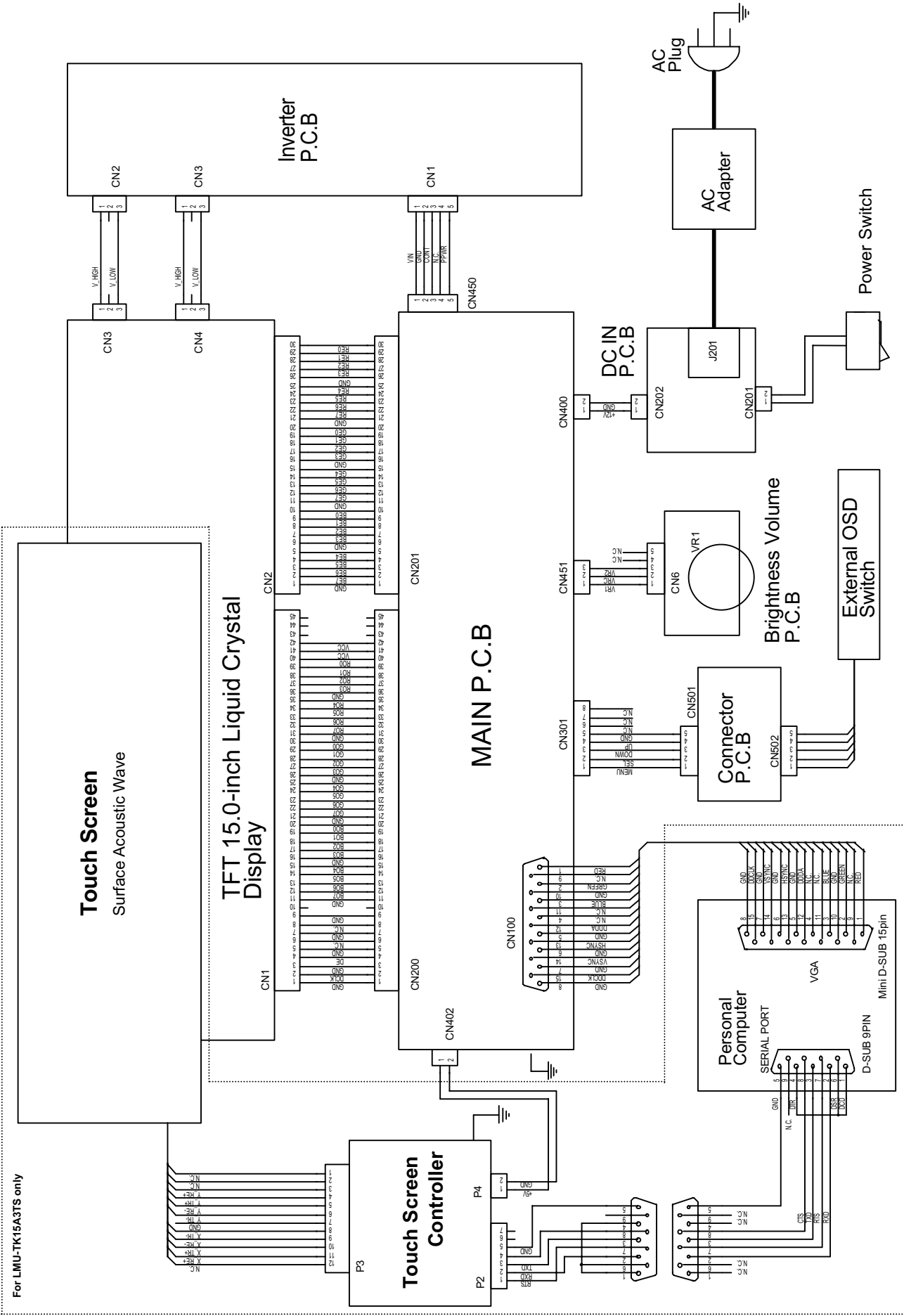
5-1 LUM-TK15A3



5-2 LUM-TK15A3TC



5-3 LUM-TK15A3TS



6. TABLE OF SIGNAL NAME

MAIN Board

Symbol	Signal Name	Location	Notes
RED	RED/Analog Video Signal	CN100-1	
GREEN	GREEN/Analog Video Signal	CN100-2	
BLUE	BLUE/Analog Video Signal	CN100-3	
DDDA	DDC Data	CN100-12	
HSYNC	Horizontal Synchronizing Signal	CN100-13	
VSYNC	Vertical Synchronizing Signal	CN100-14	
DDCK	DDC Data Clock	CN100-15	
RO0	Red Data - Odd	CN200-40	
RO1	Red Data - Odd	CN200-39	
RO2	Red Data - Odd	CN200-38	
RO3	Red Data - Odd	CN200-37	
RO4	Red Data - Odd	CN200-35	
RO5	Red Data - Odd	CN200-34	
RO6	Red Data - Odd	CN200-33	
RO7	Red Data - Odd	CN200-32	
GO0	Green Data - Odd	CN200-30	
GO1	Green Data - Odd	CN200-29	
GO2	Green Data - Odd	CN200-28	
GO3	Green Data - Odd	CN200-27	
GO4	Green Data - Odd	CN200-25	
GO5	Green Data - Odd	CN200-24	
GO6	Green Data - Odd	CN200-23	
GO7	Green Data - Odd	CN200-22	
BO0	Blue Data - Odd	CN200-20	
BO1	Blue Data - Odd	CN200-19	
BO2	Blue Data - Odd	CN200-18	
BO3	Blue Data - Odd	CN200-17	
BO4	Blue Data - Odd	CN200-15	
BO5	Blue Data - Odd	CN200-14	
BO6	Blue Data - Odd	CN200-13	
BO7	Blue Data - Odd	CN200-12	
RE0	Red Data - Even	CN201-30	
RE1	Red Data - Even	CN201-29	
RE2	Red Data - Even	CN201-28	
RE3	Red Data - Even	CN201-27	
RE4	Red Data - Even	CN201-25	
RE5	Red Data - Even	CN201-24	
RE6	Red Data - Even	CN201-23	
RE7	Red Data - Even	CN201-22	
GE0	Green Data - Even	CN201-20	
GE1	Green Data - Even	CN201-19	
GE2	Green Data - Even	CN201-18	
GE3	Green Data - Even	CN201-17	
GE4	Green Data - Even	CN201-15	
GE5	Green Data - Even	CN201-14	
GE6	Green Data - Even	CN201-13	
GE7	Green Data - Even	CN201-12	
BE0	Blue Data - Even	CN201-10	
BE1	Blue Data - Even	CN201-9	
BE2	Blue Data - Even	CN201-8	
BE3	Blue Data - Even	CN201-7	
BE4	Blue Data - Even	CN201-5	
BE5	Blue Data - Even	CN201-4	
BE6	Blue Data - Even	CN201-3	
BE7	Blue Data - Even	CN201-2	
ODCK	Data Clock Signal	CN200-2	
LCD_DE	Data enable Signal	CN200-2	
VCC	Power Supply	CN200-41,42	
LCD_DE	Data enable Signal	CN200-4	
VR1,2	Brightness Volume	CN451-1,3	
VRC	Brightness Volume	CN451-2	
MENU	MENU Key	CN301-1	
SELECT	SELECT Key	CN301-2	
DOWN	DOWN Key	CN301-3	
UP	UP Key	CN301-4	
VIN	Inverter Power	CN450-1	
CONT	Controlled Voltage	CN450-3	
PPWR	Panel Power	CN450-5	H/L:Light ON/OFF

Touch Controller Board

(For LMU-TK15A3TC only)

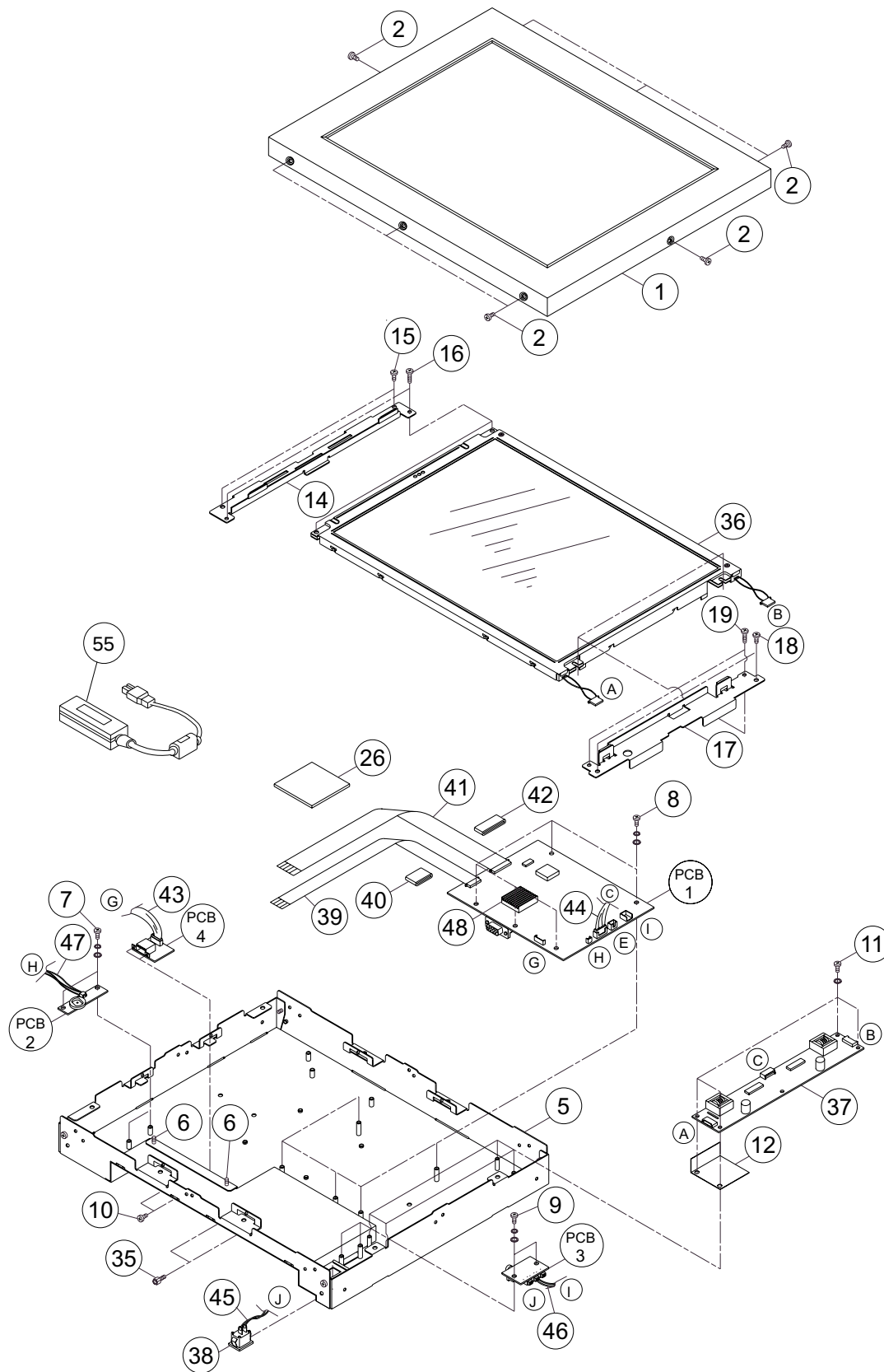
Symbol	Signal Name	Location	Notes
RTS	Request To Send	JP1-1	
RXD	Receive Data	JP1-2	
TXD	Transmit Data	JP1-3	
CTS	Clear To Send	JP1-4	
DCD	Data Carrier Detect	N.C.	
DTR	Data Terminal Ready	N.C.	
GND	Signal ground	N.C.	
DSR	Data Set Ready	N.C.	
GND	Chassis Ground	N.C.	
UR	Upper Right Corner	JP2-9	
LR	Lower Right Corner	JP2-10	
UL	Upper Left Corner	JP2-11	
LL	Lower Left Corner	JP2-12	

(For LMU-TK15A3TS only)

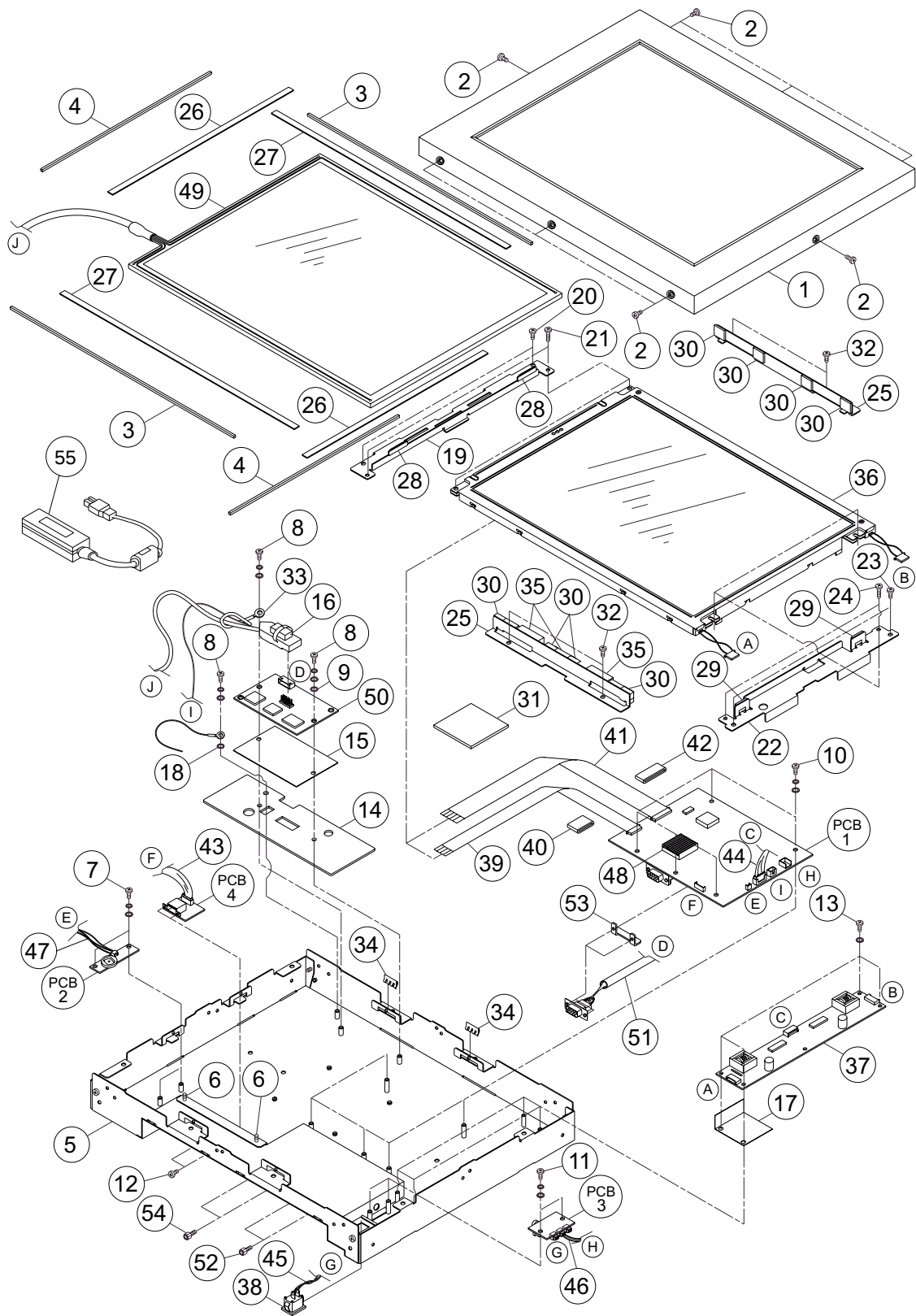
Symbol	Signal Name	Location	Notes
RTS	Request To Send	P2-1	
RXD	Receive Data	P2-2	
TXD	Transmit Data	P2-3	
Y_RE+	Y Receive+	P3-3	
Y_TR+	Y Transmit+	P3-4	
Y_RE-	Y Receive-	P3-5	
Y_TR-	Y Transmit-	P3-6	
X_TR-	X Transmit-	P3-8	
X_RE-	X Receive-	P3-9	
X_TR+	X Transmit+	P3-10	
X_RE+	X Receive+	P3-11	

7. EXPLODED VIEW AND PARTS LIST

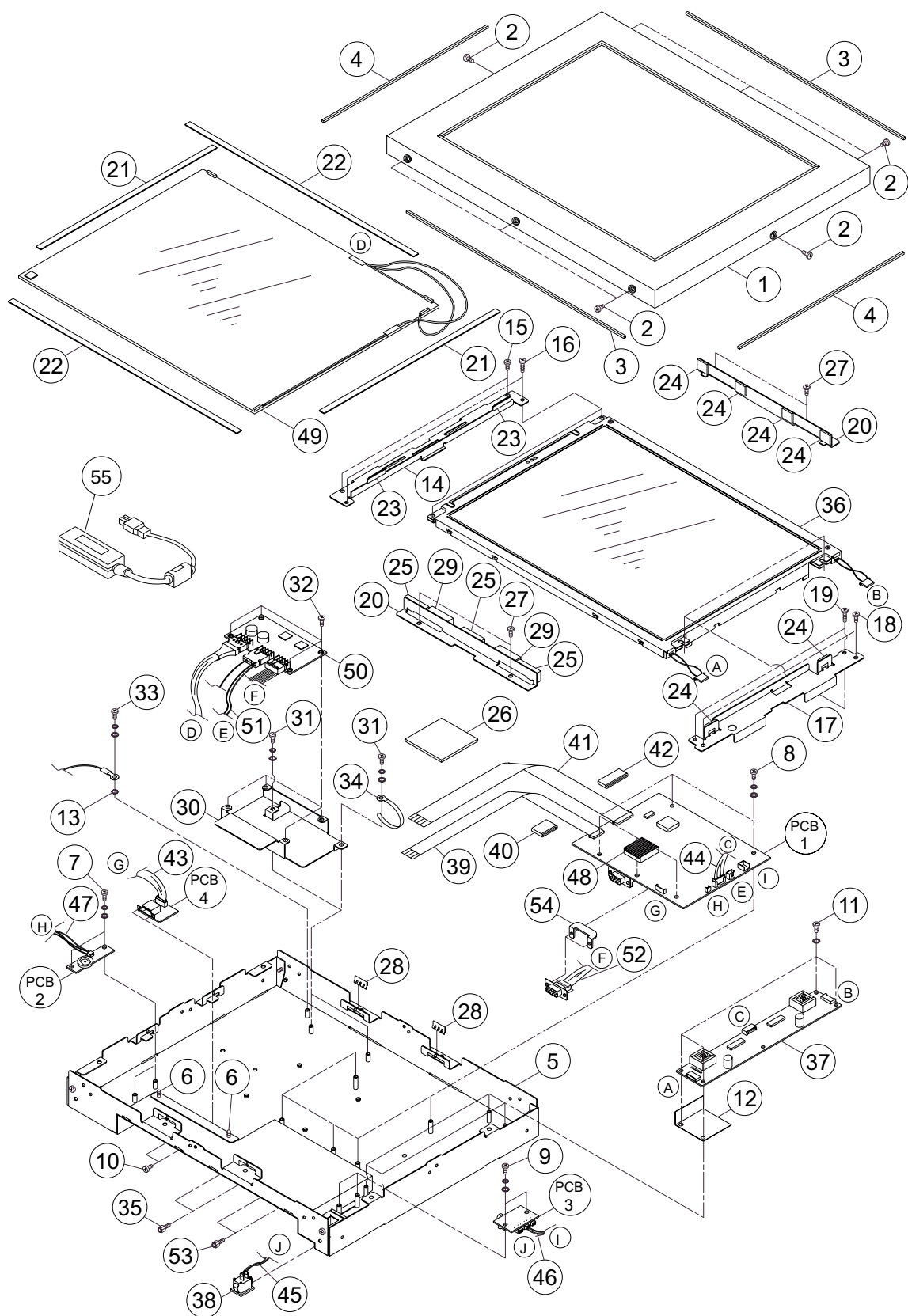
7-1-1 Exploded view (LMU-TK15A3)



7-1-2 Exploded view (LMU-TK15A3TC)



7-1-3 Exploded view (LMU-TK15A3TS)



7-2 PARTS LIST

7-2-1 LMU-TK15A3

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol $\triangle$ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with $\triangle$ use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

Ref. No.	PART No.	DESCRIPTION	Q'ty
OUTER			
	661 022 4492 632 758 4209	INNER CARTON LABEL, BAR CODE	1 1
INDIVIDUAL			
	632 861 5414 632 889 7827 632 889 7834 661 000 9587 632 862 2696 632 298 2376 632 607 4824 632 567 2588	PAD, TOP ACCESSORY CASE PAD PAD, CORNER POLYETHYLENE BAG, 400X550 POLYETHYLENE BAG CONTROL BOX POLYETHYLENE BAG, L180X270 POLYETHYLENE BAG, 200X300 RGB CABLE	1 1 1 8 1 1 2 1
ACCESSORY			
55	661 022 4102 661 001 3164	INSTRUCTION MANUAL, ENGLIS REMOTE CONTROLLER ASS'Y	1 1
CABINET			
1 2	632 892 6589 411 027 2401 661 033 8861 632 892 0983	TOP LID SCR S-TPG BIN 3X5 RATING LABEL LABEL, CONNECTOR	1 8 1 1
CHASSIS			
5 7 6 8 9 10 11 14 16	661 022 4515 411 183 0907 411 001 8504 411 047 0104 411 047 0104 411 030 6403 411 044 7700 661 022 4522 411 031 3104	CHASSIS ASSY, BOTTOM SCR PAN+SW+W 2.5X6 PCB VR-CHASSIS SCR BIN 3X4 CHASSIS-BRACKET SCR PAN+SW+W 3X8 MAIN PCB-CHASSIS SCR PAN+SW+W 3X8 DC-IN-CHASSIS SCR BIN 2X5 OSD CN-CHASSIS SCR PAN+SW 2X6 INVERTER-CHASSIS BRACKET, LCD-LS LCD SCR BIN 3X10 LCD	1 2 2 5 2 2 4 1 2
15 17 19 18 12 26 35	411 001 1802 661 022 4539 411 031 3104 411 001 1802 632 890 7427 661 007 8439 661 001 2570	SCR S-TPG BIN 3X5 BRACKET, LCD-CHASSIS BRACKET, LCD-RS LCD SCR BIN 3X10 LCD SCR S-TPG BIN 3X5 BRACKET INSULATOR, INVERTER INVERTER CUSHION, RUBBER, LCD LCD SPECIAL SCREW, CN100	2 1 2 2 1 1 2
CHASSIS ELECTRICAL			
36 37 $\triangle$ 38 39 40 41 42 43 44 45 46 47 48 $\triangle$	661 010 5524 661 010 6088 632 880 5488 661 011 6865 632 877 9321 661 010 2264 632 892 0778 661 010 2271 632 892 0785 632 889 8909 632 846 2667 661 035 8487 632 889 8893 661 023 1186 661 002 5006 632 873 0926	LCD POWER UNIT, DC-AC INVERTER AC ADAPTOR RGB CABLE, 1.5M SEESAW SWITCH FFC, MAIN-LCD 30P CORE, FFC FFC, MAIN-LCD 45P CORE, FFC WIRE HARNESS, MAIN-CN WIRE HARNESS, MAIN-INVERTE WIRE HARNESS, DC-PWR WIRE HARNESS, MAIN-DC IN WIRE HARNESS, 3P-370MM, MAIN-VR HEAT SINK AC CORD	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
MAIN P.C.B. ASSEMBLY			
PCB1	661 038 9146	PCB-ML ASSY, MAIN	1
VR P.C.B. ASSEMBLY			
PCB2	632 843 3469	PW BOARD ASS'Y, VR	1
DC-IN P.C.B. ASSEMBLY			
PCB3	632 889 3188	PW BOARD ASS'Y, DC-IN	1
CN P.C.B. ASSEMBLY			
PCB4	661 023 0264	PW BOARD ASS'Y, CN	1

- NOTES: 1. Part orders must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.
3. Regular type resistor and capacitor are omitted. Check the schematic diagram for these values.

7-2-2 LMU-TK15A3TC

PRODUCT SAFETY NOTICE

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Ref. No.	PART No.	DESCRIPTION	Q'ty	Ref. No.	PART No.	DESCRIPTION	Q'ty
OUTER				23	411 001 1802	SCR S-TPG BIN 3X5 BRACKET-CHASSIS	2
	661 022 4492 632 758 4209	INNER CARTON LABEL, BAR CODE	1 1	24	411 031 3104	SCR BIN 3X10 LCD-BRACKET	2
INDIVIDUAL				25	661 022 4577	BRACKET, TOUCH CHASSIS	2
	632 861 5414 632 889 7827 632 889 7834 661 000 9587 632 862 2696 632 298 2376	PAD, TOP ACCESSORY CASE PAD PAD, CORNER POLYETHYLENE BAG, 400X550 POLYETHYLENE BAG CONTROL BOX POLYETHYLENE BAG, L180X270 POLYETHYLENE BAG, 200X300 RGB CABLE	1 1 1 8 1 1	26	661 022 4584	SPACER, TOUCH-8S LCD	2
	632 607 4824 632 567 2588	POLYETHYLENE BAG, L180X270 POLYETHYLENE BAG, 200X300 RGB CABLE	2 1	27	661 022 4591	SPACER, TOUCH-8L LCD	2
ACCESSORY				28	661 022 4607	SPACER, T1 BRACKET	2
	661 022 4102 632 867 2325 661 001 3164	INSTRUCTION MANUAL, ENGLISH CD-ROM DISK, TOUCHWARE REMOTE CONTROLLER ASS'Y	1 1 1	29	661 022 4614	SPACER, T3 BRACKET	2
55				30	661 022 4621	SPACER, T4 BRACKET	8
CABINET				31	661 007 8439	CUSHION, RUBBER, LCD LCD	1
1	632 858 6219	TOP LID	1	32	411 001 1802	SCR S-TPG BIN 3X5	4
2	411 027 2401	SCR S-TPG BIN 3X5	8	33	632 250 0167	WIRE FIXTURE	2
3	661 036 3931	CUSHION, TAPE A TOP LID	2	34	661 004 8456	PLATE SPRING, EMI	2
4	661 036 3955	CUSHION, TAPE B TOP LID	2	35	632 863 1247	GASKET	2
	661 033 8861 661 004 5967	RATING LABEL LABEL, CONNECTOR	1 1	CHASSIS ELECTRICAL			
CHASSIS				36	661 010 5524	LCD	1
5	661 010 0222	CHASSIS ASSY, BOTTOM	1	37	661 010 6088	POWER UNIT, DC-AC INVERTER	1
6	411 001 8504	SCR BIN 3X4 CHASS BOTT-BRACKET	2		632 880 5488	AC ADAPTOR	1
7	411 183 0907	SCR PAN+SW+W 2.5X6 PCB VR-CHASSIS BOTT	2		661 011 6865	RGB CABLE, 1.5M	1
8	411 047 0104	SCR PAN+SW+W 3X8 CONT PCB-CHASSIS	3	38	632 877 9321	SEESAW SWITCH	1
9	411 090 4104	WASHER Y 3X8X0.5 SCR PAN+SW+W 3X8	1	39	661 010 2264	FFC, MAIN-LCD 30P	1
10	411 047 0104	MAIN PCB-CHASSIS SCR PAN+SW+W 3X8	5	40	632 892 0778	CORE, FFC	1
11	411 047 0104	DC IN PCB-CHASSIS SCR BIN 2X5	2	41	661 010 2271	FFC, MAIN-LCD 45P	1
12	411 030 6403	OSD CN-CHASSIS SCR PAN+SW 2X6	2	42	632 892 0785	CORE, FFC	1
13	411 044 7700	HEAT SINK, CONTROL	4	43	632 889 8909	WIRE HARNESS, MAIN-CN	1
14	632 872 9760	INSULATOR	1	44	632 846 2667	WIRE HARNESS, MAIN-INVERTER	1
15	632 868 7367	CUSHION, CONTROL	1	45	661 035 8487	WIRE HARNESS, DC-PWR	1
16	661 036 3986	INSULATOR, INVERTER	1	46	632 889 8893	WIRE HARNESS, MAIN-DC IN	1
17	632 890 7427	WASHER OUT TW 3	1	47	661 023 1186	WIRE HARNESS, 3P-370MM MAIN-VR	1
18	411 008 0402	BRACKET, LCD-LST LCD	1	48	661 002 5006	HEAT SINK	1
19	661 022 4553	SCR S-TPG BIN 3X5 BRACKET-CHASSIS	2		632 873 0926	AC CORD	1
20	411 001 1802	SCR BIN 3X10 LCD	2	49	632 865 2136	TOUCH SENSOR	1
21	411 031 3104	BRACKET, LCD-RST LCD	1	50	632 891 1066	SERIAL CONTROLLER, 14-112V	1
22	661 022 4560	BRACKET, LCD-RST LCD	1	51	632 861 4868	CABLE, RS232C	1
MAIN P.C.B. ASSEMBLY				52	661 001 2570	SPECIAL SCREW, CABLE	2
PCB1	661 038 8538	PCB-ML ASSY, MAIN	1	53	632 889 5083	BRACKET, SERIAL, CABLE R232	1
VR P.C.B. ASSEMBLY				54	632 866 8397	SERIAL CABLE, 1.8M	1
PCB2	632 843 3469	PW BOARD ASS'Y, VR	1	DC-IN P.C.B. ASSEMBLY			
PCB3	632 889 3188	PW BOARD ASS'Y, DC-IN	1	CN P.C.B. ASSEMBLY			
PCB4	661 023 0264	PW BOARD ASS'Y, CN	1				

- NOTES: 1. Part orders must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.
3. Regular type resistor and capacitor are omitted. Check the schematic diagram for these values.

7-2-3 LMU-TK15A3TS

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol $\triangle$ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with $\triangle$ use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

Ref. No.	PART No.	DESCRIPTION	Q'ty	Ref. No.	PART No.	DESCRIPTION	Q'ty
INDIVIDUAL				24	661 029 3047	SPACER,T2 BRACKET	6
	661 022 4492	INNER CARTON	1	25	661 029 3054	SPACER,T5 BRACKET	3
	632 758 4209	LABEL, BAR CODE	1	26	661 007 8439	CUSHION, RUBBER, LCD	1
	632 861 5414	PAD, TOP	1	27	411 001 1802	LCD	4
	632 889 7827	ACCESSORY CASE	1	28	661 004 8456	SCR S-TPG BIN 3X5 BRACKET-CHASSIS	2
	632 889 7834	PAD	1	29	632 863 1247	PLATE SPRING, EMI CHASSIS	2
	661 000 9587	PAD, CORNER	8	30	661 001 8633	GASKET BRACKET	2
	632 862 2696	POLYETHYLENE BAG, 400X550	1	31	411 047 0104	BRACKET, ERO CONTROL PCB	1
	632 298 2376	POLYETHYLENE BAG	1	32	411 001 1802	SCR PAN+SW+W 3X8 SCR S-TPG BIN 3X5	2
	632 607 4824	POLYETHYLENE BAG,L180X270	2	33	411 047 0104	CONTROL PCB-BRACKET	4
	632 567 2588	POLYETHYLENE BAG, 200X300 RGB CABLE	1	34	632 250 0167	SCR PAN+SW+W 3X8	1
ACCESSORY				35	632 250 2802	WIRE FIXTURE	1
55	661 022 4102	INSTRUCTION MANUAL,ENGLIS	1		661 001 2570	WIRE BAND	1
	661 001 3164	REMOTE CONTROLLER ASS'Y	1			SPECIAL SCREW,CN100	2
CABINET				CHASSIS ELECTRICAL			
1	632 858 6219	TOP LID	1	36	661 010 5524	LCD	1
2	411 027 2401	SCR S-TPG BIN 3X5	8	37	661 010 6088	POWER UNIT,DC-AC INVERTER	1
3	661 001 8589	CUSHION, PE-L	2		632 880 5488	AC ADAPTOR	1
4	661 001 8596	TOP LID	2		661 011 6865	RGB CABLE,1.5M	1
		CUSHION, PE-S	2	38	632 877 9321	SEESAW SWITCH	1
	661 033 8861	TOP LID	1	39	661 010 2264	FFC,MAIN-LCD 30P	1
	661 004 5967	RATING LABEL	1	40	632 892 0778	CORE,FFC	1
		LABEL, CONNECTOR	1	41	661 010 2271	FFC,MAIN-LCD 45P	1
CHASSIS				42	632 892 0785	CORE,FFC	1
5	661 010 0222	CHASSIS ASSY,BOTTOM	1	43	632 889 8909	WIRE HARNESS, MAIN-CN	1
6	411 001 8504	SCR BIN 3X4	2	44	632 846 2667	WIRE HARNESS,MAIN-INVERTE	1
7	411 183 0907	CHASSIS-BRACKET	2	45	661 035 8487	WIRE HARNESS, DC-PWR	1
8	411 047 0104	SCR PAN+SW+W 2.5X6	5	46	632 889 8893	WIRE HARNESS, MAIN-DC IN	1
9	411 047 0104	PCB VR-CHASSIS	2	47	661 023 1186	WIRE HARNESS,3P-370MM	1
10	411 030 6403	MAIN-CHASSIS	2			MAIN-VR	1
11	411 044 7700	SCR PAN+SW+W 3X8	4	48	661 002 5006	HEAT SINK	1
12	632 890 7427	DC-IN-CHASSIS	1		632 873 0926	AC CORD	1
13	411 008 0402	SCR BIN 2X5	1		661 002 6348	TOUCH PANEL	1
14	661 022 4553	OSD CN-CHASSIS	1		661 002 7543	CONTROLLER	1
15	411 001 1802	SCR PAN+SW 2X6	2		661 004 2119	WIRE HARNESS, PWR	1
16	411 031 3104	INVERTER-CHASSIS	2		661 002 6157	WIRE HARNESS, SERIAL	1
17	661 022 4560	INSULATOR, INVERTER	1		661 036 1203	WIRE HARNESS, SERIAL	1
18	411 001 1802	WASHER OUT TW 3	1	53	661 001 2570	SPECIAL SCREW	2
19	411 031 3104	BRACKET,LCD-LST	2			CABLE	1
20	661 022 4577	LCD	2	54	632 889 5083	BRACKET, SERIAL	1
21	661 029 3023	BRACKET,TOUCH	2		632 866 8397	CABLE RS232C	1
22	661 029 3030	CHASSIS	2			SERIAL CABLE, 1.8M	1
23	661 022 4607	SPACER,TOUCH-12S	2	MAIN P.C.B. ASSEMBLY			
		LCD	2	PCB1	661 038 9153	PCB-ML ASSY,MAIN	1
		SPACER,TOUCH-12L	2	VR P.C.B. ASSEMBLY			
		SPACER,T1	2	PCB2	632 843 3469	PW BOARD ASS'Y, VR	1
		BRACKET	2	DC-IN P.C.B. ASSEMBLY			
				PCB3	632 889 3188	PW BOARD ASS'Y, DC-IN	1
				CN P.C.B. ASSEMBLY			
				PCB4	661 023 0264	PW BOARD ASS'Y, CN	1

- NOTES: 1. Part orders must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.
3. Regular type resistor and capacitor are omitted. Check the schematic diagram for these values.

8. APPENDIX

Version of Firmware

The Version of Firmware is displayed on screen.

Turn the Power Switch to OFF . While pressing of the [ENTER] button, turn the Power Switch to ON .