

TOSHIBA

Toshiba 15DL72 Service Manual

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FILE NO. 050-200224

SERVICE MANUAL **TOSHIBA**

LCD TV

15DL72

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Summary of Contents for Toshiba 15DL72

[Page 1: Service Manual](#)

FILE NO. 050-200224 SERVICE MANUAL LCD TV 15DL72 DOCUMENT CREATED IN JAPAN, Oct., 2002...

[Page 2: Product Safety Notice](#)

SAFETY PRECAUTION WARNING: Service should not be attempted by anyone unfamiliar with the necessary precautions on this TV. The following are the necessary precautions to be observed before servicing this chassis. 1. An isolation Transformer should be connected in the power line between the TV and the AC line before any service is performed on the TV.

[Page 3: Safety Notice](#)

SAFETY NOTICE 3. If the panel's surface gets dirty, wipe it with cotton or a soft cloth. If it is still dirty, try breathing on the Handling the LCD Module surface to create a light condensate and wipe it again. If the surface is very dirty, we recommend a CRT Safety Precaution cleaning agent.

[Page 4](#) 6. CMOS-LSI circuits are used in the module, so guard 9. Do not disassemble the LCD module. Disassembly can against damage from electrostatic discharge. Be sure cause malfunctions. to wear a wrist or ankle ground when handling the module. 7. Do not expose the module to direct sunlight or strong 10.

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[Page 7: Removal](#)

SECTION 1 ADJUSTMENT PROCEDURES AND PART REPLACEMENT 1. REMOVAL Note: • A "snapping" sound will be heard when the claw is 1-1. Front Panel released. 1. Remove five screws (1). • Take care not to scratch the LCD. • Caution should be taken to avoid injury from edges on Screws (1) metal areas when removing the LCD panel.

[Page 8: Inverter Pc Board](#)

3. Turn the LCD (2) on its back and remove two screws 3. Remove the connectors (4) from the four locations and (4). remove the wire from the three locations of claw B. 4. Slide the back lights (5) on the top and bottom out to Connector (4) the left side and remove the LCD (2).

[Page 9: Sensor Pc Board](#)

1-4. Sensor PC Board 1-5. Handle 1. Remove one screw (1) and remove the connector (2) 1. Remove two screws (1), then remove the handle (2). from the one location, then remove the sensor PC Screws (1) board (3). Screws (1) Handle (2) GND lead wire Connector (2)

[Page 10: Wall Hanging Plate](#)

1-7. Wall Hanging Plate 1-9. Side Cover 1. Remove three screws (1), then remove the wall 1. Remove the left and right side covers. hanging plate (2). Side cover (right) Screws (1) Wall Hanging Plate (2) Side cover (left) Fig. 1-1-15 Fig.

[Page 11: 1-11.Front Net, Speaker](#)

3. Remove the connectors (4) from the five locations, 1-12.Switch PC Board then remove the main PC board (5). 1. Remove the cushion (1). 2. Remove the connector (2). Connector (4) 3. Remove one screw (3), then remove the switch PC Main PC board (5) board (4).

[Page 12: Gnd Lead Wire Connection Diagram](#)

2. GND LEAD WIRE CONNECTION DIAGRAM When assembling, refer to the diagram below for the GND lead wire connection. GND lead wire Sensor PC board Hinge Hinge Main PC board Front net Fig. 1-2-1...

[Page 13: Location Of Main Parts](#)

3. LOCATION OF MAIN PARTS U004 Inverter PC board U003 Sensor PC board U002 Switch PC board U001 Main PC board Fig. 1-3-1...

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4. TROUBLESHOOTING 4-1. No Power (No Video & No Sound) 12Vcc = 12V ? (IC801 Pin 5) IC801 CHECK/REPLACE CHECK/REPLACE 5Vcc = 5V ? Pin 1 = 12V ? IC803, L804, D802 F801, L801, ADAPTER IC801 CHECK/REPLACE CHECK/REPLACE 3.3Vcc = 3.3V ? Pin 4 = LOW ? IC801 IC804...

[Page 15: No Video](#)

4-2. No Video 4-2-1. No Video (Sound O.K) OSD DISPLAY O.K ? LCD PANEL CHECK/REPLACE CHECK/REPLACE IC201 PDA [0..23] LAMP ON ? IC201 IC701, INVERTER SIGNAL O.K ? IC101 IC301 CHECK/REPLACE CHECK/REPLACE Pin 62, 63 OSC O.K ? OUTPUT O.K ? X101, IC101 IC201, IC301 CHECK/REPLACE...

[Page 16: No Sound \(Video O.k\)](#)

4-3. No Sound (Video O.K) IC601 Pin 27, 28 OUTPUT O.K ? IC601 Pin 66, 65 IC681 Pin 4, 6 CHECK/REPLACE CHECK/REPLACE 11, 12, 13 = 5V ? OUTPUT O.K ? SPEAKER, WIRE IC601, L601, L602 IC681 IC601 CHECK/REPLACE CHECK/REPLACE Pin 7 = 12V ? Pin 39 = 8V ? IC681, R681...

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2. BLOCK DIAGRAMS 2-1. Power Block Diagram F801 DC12V INVERTOR,SOUND AMP IC702 5V REG. IC801 POWER FET_SW 12VCC IC702 8V REG. 8VCC IC803 5V REG. 5VCC IC804 3.3V REG. 3.3VCC Fig. 2-2-1...

[Page 19: Inverter Block Diagram](#)

2-2. Inverter Block Diagram INVERTOR PCB IC701 CN801 MICROPROCESSOR CN701 REMOTE PCB STANDBY LED POWER LED MAIN_SW KEY_IN1 Fig. 2-2-2...

[Page 20: Pin Assignments \(Microprocessor\) Ic701: Ks88C6348](#)

2-2-1. Pin Assignments (microprocessor) IC701: KS88C6348 Name Signal In/Out Logic Remark IR-Input Active Low IR-IN Input Remote Control Signal Input MAIN-SWITCH INPUT Input Active High MASTER SW ON/OFF INPUT MAIN_SW DVD IDENT Input Active Low DVD_ID DVD JACK IDENT Input Active High SCART_ID Scart Ident...

[Page 21: Main Block Diagram](#)

2-3. Main Block Diagram SDRAM CAPTION CAPTION-RGB F/B FRAME MEMORY Z86129 RCA-DVD MA[0..10] MD[0..31] RCA-A1 RCA-A1 R[0..7] TX0+/TX0- Audio Video1 G[0..7] TX1+/TX1- Y[0..7] LVDS RCA-V1 B[0..7] TX2+/TX2- C[0..7] RCA-V1 DVD-YPbPr DS90C385 IMAGE SCALER CLOCK TX3+/TX3- SVHS-C VIDEO MX88L284 SVHS DECODER SYNC TXC+/TXC- SVHS-Y...

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3. CIRCUIT DIAGRAMS 3-1. Power Supply Circuit Diagram JA801 F801 HEC3800-01-0 10 A TSC 5A C801 IC801 IC802 D801 L801 C802 220uF/16V(DIP) 12Vcc MC78M08C_DPA K 8Vcc FDS4435 C EC10DS1 ZJR5101-102 100nF S10-G11 R801 C803 100nF C805 C804 100nF C806 47uF/16V 10uF/16V R802...

[Page 23: Microprocessor Circuit Diagram](#)

3-2. Microprocessor Circuit Diagram OPTION BOARD CN701 IC701 B3B-PH-K R701 1K IR_SIG KEY BOARD KS88C6348 C702 C701 10uF/16V SPPH210100 IR IN BLON VIDEO_SEL R704 2.7K RED/GREEN STANDBY R705 R706 100 GREEN MAIN_SW LED-G R708 2.7K R707 R709 2.2K 1.3K DVD_ID LED-R CNC702 R702...

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3-3. Input Jack Circuit Diagram EF-1T2012-330J T L502 AV1_A_R R501 5Vcc SVHS_I D C501 R502 100nF D501 JA501 470K UDZS4.7B L503 JA502 FI-A2012-331KJ T L501 YKC21-5856 N EF-1T2012-330J T SVHS_Y EF-1T2012-330J T R503 L504 AV1_A_L L505 C502 C503 R505 IC501 N2012ZA400T0 6 R504 C504...

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3-4. VPC3230 Circuit Diagram TTX_H_SYNC TTX_H_SYNC TTX_V_SYNC TTX_V_SYNC L101 C101 C102 C103 C104 PDA21 5Vcc FI-A2012-331KJ T 47uF/16V 220nF 1.5nF 390pF PDA22 PDA19 PDA20 C105 PDA[8..15] 2.2nF Q101 BC848 C106 C107 C108 TTX_CVB S 47nF 68nF R101 X101

C109 20.25MHz L102 R107...

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3-5. TTX&Caption Circuit Diagram TTX_FB EXT_FB TTX_R EXT_R RX13 R-OUT TTX_35 TTX_33 TTX_G G-OUT EXT_G TTX_32 TTX_B RX10 EXT_B B-OUT RX11 RX12 SC L TTX_H_SYNC TTX_V_SYNC Vin/INTRO LZ 1 47pF 5Vcc F I-A2012-331KJT 10uF/16V 1 0 0nF 1 0 0nF TTX_CVBS...

[Page 27: Mxic Circuit Diagram](#)

3-6. MXIC Circuit Diagram R202 R204 CBA3216GA301N4 CBA3216GA301N4 MD[0..31] C202 30pF R206 CB2012GA301 R219 CBA3216GA201N 4 MA[0..10] LDTG LVSYN C LHSYN C C228 C229 C230 56pF 56pF 56pF R207 GNDP GOUT1 CBA3216GA301N 4 GNDP MD15 MD15 GOUT0 RA[0..7] MD14 MD14 LDTG MD13...

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3-7. Frame Buffer Circuit Diagram MD[0.. 31] 3.3Vcc c 3.3V cc C2 51 C2 52 C253 C2 54 C255 C256 C2 57 C258 C259 C2 60 C261 C2 62 C263 C264 10uF/16V 1 0 0nF 1 0 0nF 1 0 0nF 100nF 1 0 0nF 1 0 0nF...

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3-8. Panel Interface Circuit Diagram 3.3V cc 3.3V cc L301 3.3V cc IC3 02 F I-A 2 012-331KJT F D S 4435C L302 4 7 u H/2A4 P A N E L_VCC C3 01 C303 R3 02 C3 02 L303 10uF/16V 1 0 0nF L304...

[Page 30: Sound Circuit Diagram](#)

3-9. Sound Circuit Diagram 5Vcc L601 C602 C603 AV_RESET FI-A2012-331KJ T 100nF 100pF C601 R602 R601 R603 10uF/16 V R604 C604 100nF MAIN_AUDIO_R R605 C605 STANDBYQ DACA_L MAIN_AUDIO_L C606 ADR_SEL VREF2 RF/SCART_S D_CTR_OUT0 DACM_R SIF_IN D_CTR_OUT1 DACM_L C607 R606 100pF DACM_SUB...

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3-10.Wow Control Circuit Diagram WOW_L_OUT WOW_R_OUT C653 C654 1 0 0nF 1 0 0nF MODE1 R651 WOW_SEL C651 C6 52 1 0 0nF 1 0 0nF MODE2 R652 MODE3 R653 MODE2 C655 1 0 0nF FFL3 MODE2 C6 56 MODE3 1 0 0nF C657 1 0 0nF...

[Page 32: 3-11.Sound Amplifier Circuit Diagram](#)

3-11. Sound Amplifier Circuit Diagram R681 0.82/2W C6 82 C6 81 1 0 0nF 2200u F/16V IC681 TDA1517 C683 C684 1uF/ 50V 1000 u F/16V R6 82 MAIN_AUDIO_L OUT_L R6 83 C685 JA681 8.2 K 330pF R684 YKB21-5101A C686 PHONEJACK STEREO 2 JACK 220uF/ 16V(DIP) R6 86...

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[Page 36](#) MXIC Circuit (Page 2-17) MX88L284 PIN VOLTAGE PIN VOLTAGE PIN VOLTAGE PIN VOLTAGE PIN VOLTAGE 3.3V 53 0V 105 3.3V 157 0V 3.3V 54 0V 106 0V 158 0V 2.4V 55 0V 107 3.2V 159 2.8V 2.4V 56 0V 108 0V 160 2.8V 2.4V 57 0V...

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[Page 49: Parts List](#)

SECTION 3 PARTS LIST SAFETY PRECAUTION The parts identified by ! () mark are critical for safety. Replace only with part number specified. The mounting position of replacement is to be identical with originals. The substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire or other hazards.

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4. EXPLODED VIEWS 4-1. Packing Assembly A702 Y106 P802 A702 A702 A703 M001 Y101A Y101B A702 A702 A701 Fig. 3-4-1...

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4-2. Chassis Assembly A303 A401 B218 PN03 B213 B212 A350 PN01 PN03 B212 U003 B212 B212 U004 A201 B205 A202 A204 A503 A302 B216 B215 A205 B216 A351 A302 B212 B215 W661 A301 B217 U001 B212 A351 A501 U002 A502 B212 A203 B214...

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15DL72 / 1 5. PARTS LIST Location No. Parts No. Description A201 72790313 FRONT COVER
A202 72790324 TOP COVER (USA) A203 72624045 BOTTOM COVER A204 72790321 LEFT SIDE
COVER(USA) A205 72624049 RIGHT SIDE COVER A206 72741033 PLATE A301 72621141
FRONT-NET ASSY, A-UA0812...

[Page 53](#) 15DL72 / 2 Location No. Parts No. Description IC681 72790245 IC-AUDIO,AMP ,
TDA1517 IC701 72790246 IC-MICOM,OTP, S3P863AXZZ-AQBA IC702 72790247 IC-REGULATOR ,
MC78L05AD IC703 72790248 IC-EEPROM , 24C16 IC704 72790249 IC-RESET , KIA7042 IC801
72790241 IC-FET,SW , FDS4435 IC802 72790250 IC-REGULATOR , MC78M08C...

[Page 54](#) 15DL72 / 3 Location No. Parts No. Description L801 72790259 FILTER , ZJR5101-102
L802 72790260 FERRITE BEAD, HH-1M3216-121J L803 72790260 FERRITE BEAD,
HH-1M3216-121J L804 72790264 POWER INDUCTOR-SMD, 47UH/2A4 72790261 INDUCTOR-SMD
, FI-A2012-331KJT P802 72790335 AC ADAPTER USA JP6004 P803 72790337...

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18.432MHZ/15PF/SMD X701 72790254 X-TAL , 12MHZ/56PF/SMD 72790254 X-TAL ,
12MHZ/56PF/SMD Y101A 72790348 OWNER'S MANUAL(A) Y101B 72790349 OWNER'S
MANUAL(B) Y106 72790333 REMOCON (USA) CT-842...

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JAPAN...