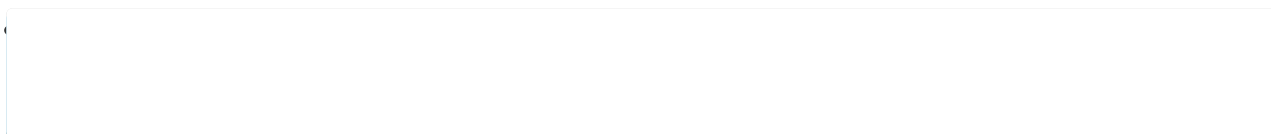


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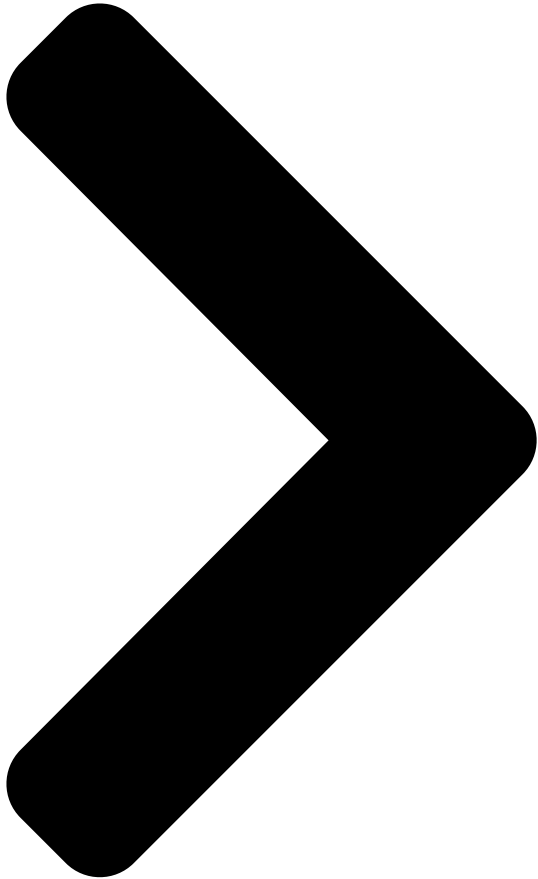
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FILE NO. 050-200306

SERVICE MANUAL
TOSHIBA
COLOR TELEVISION

13A23

DOCUMENT CREATED IN JAPAN, Apr., 2003

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[CRT TV Toshiba 13A25 Specifications](#)

13" diagonal blackstripe ii color tv (2 pages)

[CRT TV Toshiba 13A25 Service Manual](#)

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[CRT TV Toshiba 13A22 Owner's Manual](#)

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[Page 2: Servicing Notices On Checking](#)

SERVICING NOTICES ON CHECKING 1. KEEP THE NOTICES 6. AVOID AN X-RAY As for the places which need special attentions, Safety is secured against an X-ray by consider- they are indicated with the labels or seals on the ing about the cathode-ray tube and the high cabinet, chassis and parts.

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TABLE OF CONTENTS SERVICING NOTICES ON CHECKINGA1-1 A1-1 HOW TO ORDER PARTSIMPORTANTA1-1 TABLE OF CONTENTSA2-1 A3-1~A3-5 GENERAL SPECIFICATIONSDISASSEMBLY INSTRUCTIONS 1. REMOVAL OF ANODE CAPB1-1 2. REMOVAL AND INSTALLATION OF FLAT PACKAGE ICB2-1, B2-2 SERVICE MODE LIST

[Page 4: General Specifications](#)

GENERAL SPECIFICATIONS CRT Size / Visual Size 13 inch / 335.4mmV System CRT Type Normal Deflection degree Magnetic Field BV/BH +0.45G/0.18G Color System NTSC Speaker 1Speaker Position Bottom Size 3 Inch Impedance Sound Output 1.0 W 10%(Typical) 0.8 W NTSC3.58+4.43 /PAL60Hz Tuning Broadcasting System System M...

[Page 5](#) GENERAL SPECIFICATIONS On Screen Menu Display Menu Type Character Picture Contrast Brightness Color Tint Sharpness Audio Bass Treble Balance BBE On/Off Stable Sound On/Off CH Set Up TV/CABLE(CATV) Auto CH Memory Add/ Delete Language V-chip Lock On Timer CH Label Favorite CH Color Stream DVD/DTV Control Level...

[Page 6](#) GENERAL SPECIFICATIONS G-10 Remote Unit RC-EH Control Glow in Dark Remocon Format Toshiba Custom Code 40-BF h Power Source Voltage(D.C) UM size x pcs UM-4 x 2 pcs Total Keys Keys Keys Power CH Up CH Down Volume Up Volume Down...

[Page 7](#) GENERAL SPECIFICATIONS G-11 Features Auto Degauss Auto Shut Off Canal+ CATV Anti-theft Rental Memory(Last CH) Memory(Last Volume) V-Chip Type USA,ORION Type Auto Search CH Allocation Channel Lock Just Clock Function Game Position CH Label VM Circuit Full OSD Premiere Comb Filter Lines Auto CH Memory Hotel Lock...

[Page 8](#) GENERAL SPECIFICATIONS G-13 Interface Switch Front Power System Select Main Power SW Sub Power Channel Up/Reset Channel Down/Enter Volume Up/Set Up Volume Down/Set Down MENU=Volume Up+Volume Down Rear AC/DC TV/CATV Selector Degauss Main Power SW Indicator Power Stand-by On Timer Terminals Front Video Input...

[Page 9: Disassembly Instructions](#)

DISASSEMBLY INSTRUCTIONS 3. After one side is removed, pull in the opposite direction to 1. REMOVAL OF ANODE CAP remove the other. Read the following NOTED items before starting work. NOTE After turning the power off there might still be a potential Take care not to damage the Rubber Cap.

[Page 10: Removal And Installation Of Flat Package Ic](#)

DISASSEMBLY INSTRUCTIONS When IC starts moving back and forth easily after REMOVAL AND INSTALLATION OF desoldering completely, pickup the corner of the IC using a FLAT PACKAGE IC tweezers and remove the IC by moving with the IC desoldering machine. (Refer to Fig. 2-3.) REMOVAL NOTE Put the Masking Tape (cotton tape) around the Flat...

[Page 11](#) DISASSEMBLY INSTRUCTIONS INSTALLATION When bridge-soldering between terminals and/or the soldering amount are not enough, resolder using a Thin-tip Take care of the polarity of new IC and then install the new Soldering Iron. (Refer to Fig. 2-8.) IC fitting on the printed circuit pattern. Then solder each lead on the diagonal positions of IC temporarily.

[Page 12: Service Mode List](#)

SERVICE MODE LIST This unit provided with the following SERVICE MODES so you can repair, examine and adjust easily. To enter the Service Mode, press both set key and remote control key for more than 1 second. Set Key Remocon Key Operations Releasing of V-CHIP PASSWORD and LOCK PASSWORD.

[Page 13: Electrical Adjustments](#)

ELECTRICAL ADJUSTMENTS 1. ADJUSTMENT PROCEDURE 2. BASIC ADJUSTMENTS Read and perform these adjustments when repairing the 2-1: CUT OFF circuits or replacing electrical parts or PCB assemblies. Adjust the unit to the following settings. CAUTION R.DRIVE=10, B.DRIVE=10, R.BIAS=64, G.BIAS=64, • Use an isolation transformer when performing any service B.BIAS=64, BRI.CENT=120, CONT.MAX=40.

[Page 14](#) ELECTRICAL ADJUSTMENTS 2-6: VERTICAL SIZE Receive the monoscope pattern. Using the remote control, set the brightness and contrast to normal position. Activate the adjustment mode display of Fig. 1-1 and press the channel button (06) on the remote control to select "V".

[Page 15: Purity And Convergence](#)

ELECTRICAL ADJUSTMENTS 3. PURITY AND CONVERGENCE 3-3: STATIC CONVERGENCE
ADJUSTMENTS NOTE Adjust after performing adjustments in section 3-2. NOTE Receive the crosshatch pattern from the color bar Turn the unit on and let it warm up for at least 30 generator.

[Page 16](#) ELECTRICAL ADJUSTMENTS 4. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION) S101 CRT PCB CP806 TP022 TU001 CP803A TP023 FB401 CP802B CP801 DEGAUSS COIL T502 CP502 S501B CD501 AC IN S501A CD101B SPEAKER CD101A MAIN PCB...

[Page 17: Block Diagram](#)

BLOCK DIAGRAM TU001 EAR PHONE JACK 11 12 J1001 CH. DOWN IC1001 AN7511 VOL. DOWN SPEAKER SOUND AMP SP1001 CH. UP VOL. UP RGB Proc.2 Q801 OSD SW CONTRAST BRIGHTNESS RED OUT RGB OUTPUT Stage POWER DRIVE Chroma Q802 Proc. CUT OFF ACC/C-BPF OS101 GREEN OUT...

[Page 18: Printed Circuit Boards Main/Crt](#)

PRINTED CIRCUIT BOARDS MAIN/CRT (INSERTED PARTS) SOLDER SIDE D408 C406 R403 C435 CP601 W003 D410 CP803A S101A W002 D405 W008 R410 C403 W007 C448_1 FB401 C434 C440 C401 R421 R408 W001 W062 Q402 L401 W011 R542 HS402 HS501 W830 R446 D509 R448 R503...

[Page 19](#) PRINTED CIRCUIT MAIN (CHIP MOUNTED PARTS) SOLDER SIDE R703 R702 R704 R128 R101 C112 R610 R609 C627 C626 R627 C1004_2 R108 R105 C609 C104 C102 R129 R104 C501_2 R420 R003 R004 C001...

[Page 20](#) MICON/CHROMA/TUNER SCHEMATIC DIAGRAM (MAIN PCB) H.CTL Q607 R621 KTC3198 220 1/4W R618 FROM/TO DEFLECTION/CRT R608 C118 CLAMP 1K 1/4W R110 P.CON+B C101 6.3V V_OUT R109 10K 1/4W 0.01 F 1/4W C630 V_FEEDBACK AT+5V ABCL R124_1 H_OUT X-RAY C629 1 CNVSS 41 NC R.OUT 0.01...

[Page 21](#) TV POWER SCHEMATIC DIAGRAM (MAIN PCB) 4A 125V CAUTION :FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE 4A 125V (F501) TO SOUND/AV FUSE. ATTENTION :POUR UNE PROTECTION CONTINUE LES RISQUES D'INCEIE N'UTILISER QUE DES FUSIBLE DE MEME R517_1 TYPE 4A 125V (F501).

[Page 22](#) DEFLECTION/CRT SCHEMATIC DIAGRAM (MAIN PCB) CP802A B2013H02-5P CP802B B2013H02-5P CD802 FROM MICON/CHROMA/TUNER CLAMP CLAMP CLAMP CLAMP CLAMP G.OUT G.OUT G.OUT G.OUT R.OUT R.OUT R.OUT R.OUT R.OUT B.OUT B.OUT B.OUT B.OUT B.OUT V-OUT IC IC401 AN5522 CP803A B2013H02-4P CP803B B2013H02-4P CD803 HEATER HEATER...

[Page 23](#) SOUND/AV SCHEMATIC DIAGRAM (MAIN PCB) RCA JACK WHITE TO MICON/CHROMA/TUNER J703 (FRONT) AV1-09D-4 ACCESSORY R703 W811 AUDIO 2 AUDIO_IN A_IN R704 V_IN VIDEO 2 UM-4 VIDEO_IN BT001 R03(AB)E_2P_G RCA JACK YELLOW J702 UM-4 AV1-09D-3 TM101 BT002 RC-EH020 R03(AB)E_2P_G EAR PHONE JACK J1001 MSJ-035-12A_PC R1007...

[Page 24: Micon/Chroma/Tuner](#)

WAVEFORMS MICON/CHROMA/TUNER 5 1V 20 μ s/div 9 20V 20 μ s/div 1 0.5V 2ms/div 6 1V 20 μ s/div 20V 20 μ s/div 10 2V 20 μ s/div 200V 20 μ s/div 3 200mV 20 μ s/div 1V 20 μ s/div DEFLECTION/CRT 10V 5ms/div 0.5V 5ms/div 8 0.5V 5ms/div NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

[Page 25: Sound/Av](#)

WAVEFORMS SOUND/AV 0.5V 1ms/div 10V 5ms/div 50V 20 μ s/div 1V 1ms/div 200mV 500 μ s/div 15 50V 20 μ s/div 16 50V 20 μ s/div 20 500mV 20 μ s/div NOTE: The following waveforms were

measured at the point of the corresponding balloon number in the schematic diagram.

[Page 26: Mechanical Exploded View](#)

MECHANICAL EXPLODED VIEW PCB110 (CRT PCB ASS'Y) PCB010 (MAIN PCB ASS'Y)

[Page 27: Mechanical Replacement Parts List](#)

MECHANICAL REPLACEMENT PARTS LIST Location No. TSB P/N Reference No. Description
AE000533 A3M105G720 CABINET,FRONT ASSY AD302171 701WPJC052 CABINET,FRONT
AD302172 713WPAA052 GLASS,LED AD302173 713WPAA053 GUIDE,REMOCON AD302174
735WPBA322 BUTTON,FRAME AE000534 A3M105G740 CABINET,BACK ASSY AD302176
722549A158 SHEET,RATING AD300132 7230006818 SHEET,CAUTION AD302177 735WPAA505
SPEAKER HOLDER BZ710009 741WUA0019 SPRING,EARTH...

[Page 28: Electrical Replacement Parts List](#)

ELECTRICAL REPLACEMENT PARTS LIST Location No. TSB P/N Reference No. Description
RESISTORS ! R401 BZ210089 R4X5T6273F R,METAL 27K OHM 1/6W ! R408 BZ210092
R4X5T6103F R,METAL 10K OHM 1/6W ! R409 BZ210089 R4X5T6273F R,METAL 27K OHM 1/6W !
R429 AD301700 R635814R7J R,FUSE 4.7 OHM 1W R447...

[Page 29](#) ELECTRICAL REPLACEMENT PARTS LIST Location No. USA-TOSHIBA Reference No.
Description IC101 AD302159 I56F07091A OEC7091A IC199 AD302160 A3M105A015 IC (FOR
USA) S-24C02BDP-1A IC199 AE000082 A3M106A015 IC (FOR CANADA) S-24C02BDP-1A ! IC401
BZ611053 I01TD55220 AN5522 IC501 BZ410088 0002E00610 PHOTO COUPLER LTV-817M-VB
IC1001...

[Page 30](#) ELECTRICAL REPLACEMENT PARTS LIST Location No. TSB P/N Reference No.
Description MISCELLANEOUS TM101 AD301335 076N0EH020 TRANSMITTER RC-EH020 TU001
AD302169 0163100002 RF UNIT ENG36A01G ! V801 BZ614141 098Q1404B2 CRT W/DY
A34AGT13X98(L) X601 AD302003 100CT3R505 CRYSTAL HC-49/C RESISTOR RC....CARBON
RESISTOR CAPACITORS CC....

[Page 31](#) TOSHIBA CORPORATION 1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001,
JAPAN...