

TOSHIBA

Toshiba 14AF41 Service Manual

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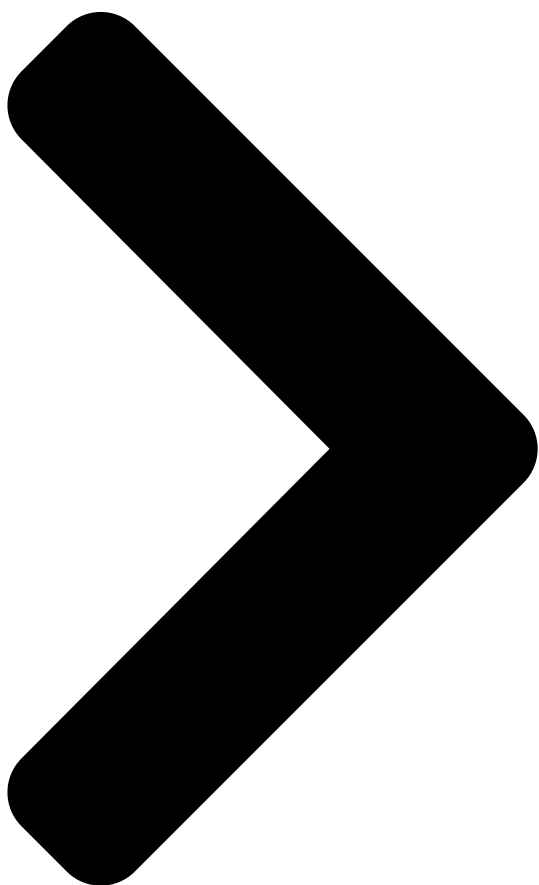
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FILE NO. 050-200106

SERVICE MANUAL
TOSHIBA
COLOR TELEVISION

14AF41

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Related Manuals for Toshiba 14AF41

[CRT TV Toshiba 14AF41 Owner's Manual](#)

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Summary of Contents for Toshiba 14AF41

[Page 1](#) FILE NO. 050-200106 SERVICE MANUAL COLOR TELEVISION 14AF41...

[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.

[Page 3: General Specifications](#)

GENERAL SPECIFICATIONS CRT Size / Visual Size 14 inch / 357mmV System CRT Type Flat Deflection degree Magnetic Field BV/BH +0.45G/0.18G Color System NTSC Speaker 2 Speaker Position Front Side Size 1.6 x 2.8 Inch Impedance Sound Output 2.5+2.5 W 10%(Typical) 2.0+2.0 W NTSC3.58+4.43 /PAL60Hz...

[Page 4](#) GENERAL SPECIFICATIONS On Screen Menu Display Menu Type Icon Picture Contrast Brightness Color Tint Sharpness Sound Bass Treble Balance Stable Sound On/Off Set Up TV/CATV Auto CH Memory Add/ Delete Option Language CH Label Favorite CH V-Chip Color Stream DVD/DTV Control Level Volume Brightness...

[Page 5](#) GENERAL SPECIFICATIONS G-10 Remote Unit RC-DU Control Glow in Dark Remocon Format Toshiba Custom Code TV:40-BFh 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/- C.C.(TV/Caption/Text)

[Page 6](#) G-11 Features Auto Degauss Auto Shut Off Canal+ CATV Anti-theft Rental Memory(Last CH) Memory(Last Volume) V-Chip Type USA,Toshiba Type Auto Search CH Allocation Channel Lock Just Clock Function Game Position CH Label VM Circuit Full OSD Premiere Comb Filter Lines...

[Page 7](#) GENERAL SPECIFICATIONS G-13 Interface Switch Front Power System Select Main Power SW Sub Power Channel Up Channel Down Volume Up Volume Down Rear AC/DC TV/CATV Selector Degauss Main Power SW Indicator Power Yes(RED) Stand-by On Timer Terminals Front Video Input = VIDEO3 Audio Input = VIDEO3 RCA x 2 Other Terminal...

[Page 8: Removal Of Anode Cap](#)

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 9: Removal And Installation Of Flat Package Ic](#)

DISASSEMBLY INSTRUCTIONS REMOVAL AND INSTALLATION OF When IC starts moving back and forth easily after desoldering completely, pickup the corner of the IC using FLAT PACKAGE IC a 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 10](#) DISASSEMBLY INSTRUCTIONS INSTALLATION When bridge-soldering between terminals and/or the soldering amount are not enough, resolder using a Thin- Take care of the polarity of new IC and then install the tip Soldering Iron. (Refer to Fig. 2-8.) new IC fitting on the printed circuit pattern. Then solder each lead on the diagonal positions of IC temporarily.

[Page 11: 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.

[Page 12: Electrical Adjustments](#)

ELECTRICAL ADJUSTMENTS BEFORE MAKING ELECTRICAL 2. BASIC ADJUSTMENTS ADJUSTMENTS 2-1: CONSTANT VOLTAGE Read and perform these adjustments when repairing the Set condition is AV MODE without signal. circuits or replacing electrical parts or PCB assemblies. Connect the digital voltmeter to TP002. Adjust the VR502 until the digital voltmeter is 115 CAUTION •...

[Page 13](#) ELECTRICAL ADJUSTMENTS 2-7: HORIZONTAL SIZE 2-12: CORNER CORR TOP NOTE: Adjust after performing adjustments in section 2-6. Receive the crosshatch signal from the Pattern Generator. Receive the monoscope pattern. Using the remote control, set the brightness and Using the remote control, set the brightness and contrast to normal position.

[Page 14](#) ELECTRICAL ADJUSTMENTS 2-16: SEPARATION 1, 2 2-19: SUB TINT/SUB COLOR Receive the stereo signal (L=2KHz, R=400Hz). Receive the color bar pattern. (RF Input) Connect the AC voltmeter to AUDIO OUT JACK though Connect the oscilloscope to TP806. stereo filter

(L=400Hz, R=2KHz). Activate the adjustment mode display of Fig.

[Page 15: Purity And Convergence Adjustments](#)

ELECTRICAL ADJUSTMENTS 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. minutes before performing the following adjustments.

[Page 16: Major Components Location Guide](#)

MAJOR COMPONENTS LOCATION GUIDE VR502 T501 TP002 TP001 FB401 J702 FOCUS VOLUME
SCREEN VOLUME MAIN PCB J801 TP804 TP806 CRT PCB...

[Page 17: Block Diagram](#)

BLOCK DIAGRAM SPEAKER SPEAKER SP351 SP352 TU001 RESET IC MICON IC IC103 PST600C
IC101 OEC7054A HEAD PHONE JACK IC 503 KIA7805API AT+5V MEMORY IC SOUND AMP IC
IC199 IC353 S-24C08ADPA-01 AN5276 IC 502 YUV IN KIA7809API P.CON+9V CHROMA IC IC201
TB1253N 24 25 43 44 18 19...

[Page 18](#) PRINTED CIRCUIT BOARDS COMB (INSERTED PARTS) (CHIP MOUNTED PARTS)
SOLDER SIDE SOLDER SIDE SOLDER SIDE TP804 R804 CP1501 Q810 L1505 D801 C1532 R1510
Q1504 R809 R813 R1517 R810 W810 L1503 R1516 R1509 W002 C1521 L1502 W809 C1520
Q1502 Q1503 IC1501 CP804 C813 R1505...

[Page 19](#) PRINTED CIRCUIT BOARDS MAIN (INSERTED PARTS) SOLDER SIDE CD801 CP801A
C430 W143 CP101 C413 C427 Q404 J702 J701 R441 J703 J704 J705 CD701A C428 W110 C715
C747 L703 W033 HS401 W845 C745 C739 TP003 C743 C002 C738 C744 IC701 L401 C740
C004...

[Page 20](#) PRINTED CIRCUIT BOARDS MAIN (CHIP MOUNTED PARTS) SOLDER SIDE C120 Q705
Q704 R104 R322 R110 Q506 C336 1 R916 R319 W860 R510 R125 C334 C967 C928 R324 R119
R108 R121 C330_1 C333 C966 C926 R504 R327 R525 R905 Q101 R904 IC902 Q104 Q102
R140...

[Page 21](#) MICON/TUNER SCHEMATIC DIAGRAM (MAIN PCB) OS101 TU001 TECC1040PG32D
ACCESORY PIC-28143SY-2 BT001 R03(AB)E_20 T TM101 C007_1 BT002 SBKMOP006A
R03(AB)E_20 T 0.01 F TP001 FROM/TO CHROMA/IF H-BUFFER C003 Q102 R.OUT 2SC2412K RED
LED ON TIMER/POWER ON V-BUFFER Q101 D109 2SC2412K R139 MICON IC OSD_R
SLR-342VCT32 IC101 OEC7054A...

[Page 22: Chroma/If Schematic Diagram](#)

CHROMA/IF SCHEMATIC DIAGRAM (MAIN PCB) FROM/TO AV S810Y C.OUT 6.01 S802Y S810X
R639 0.23 SWITCHING Y.OUT FROM/TO MICON/TUNER Q605 TUNER_VIDEO W842 DTC114EKA
R214 SYNC_OUT W840 AUDIO BUFFER C213 Q201 OSD_B 2SC2412K TO AV OSD_G R608 C615
270 1/4W OSD_R CD701B CH243001 OSD_BLK C212...

[Page 23: Deflection Schematic Diagram](#)

DEFLECTION SCHEMATIC DIAGRAM (MAIN PCB) V.OUTPUT IC IC401 AN5522 THERMAL
PROTECTION PUMP UP 25.0 12.0 25.0 R407 5.6K 1/4W BUFFER Q401 C411 BUFFER 2SA1015Y
Q403 R414 500V R401 2SA1015Y FROM/TO DY 27K +-1% R417 33K CP401 V801 L401 B06B-
DVS A36LTN194X81 R423 ELC16B501EN 1 2W...

[Page 24: Power Schematic Diagram](#)

POWER SCHEMATIC DIAGRAM (MAIN PCB) 6.3A 125V CAUTION: FOR CONTINUED PROTECTION
AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE 6.3A 125V(F501)
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES D'INCEIE N'UTILISER QUE DES
FUSIBLE DE MEME TYPE 6.3A 125V(F501) D516 RELAY DRIVE Q504...

[Page 25](#) SOUND SCHEMATIC DIAGRAM (MAIN PCB) FROM AV R314 AUDIO_R 1.5K R324 C334
AUDIO_L 1.8K 0.033 B C331_1 R326 0.022 C332 100 1/4W R328 0.47 1.8K TONE 136K AMP1 I2C
BUS INTERFACE SIMAMP1 VOLAMP1 6.5K 6.5K 6.5K VOLAMP2 CONTROL SIMAMP2 6.5K LOGIC
TONE 136K...

[Page 26](#) AV SCHEMATIC DIAGRAM (MAIN PCB) FROM CHROMA/IF CD701A CH243001
YUV_IN(REAR) J704 JPJ4311-011852 A/V_OUT(REAR) J705 JPJ4312-01-432 FROM POWER L703
P.CON+9V 47uH GND SIGNAL LINE1(REAR) C713 R751 J701 P.CON+5V_W/B JPJ4312-01-432
C714 R752 C715 R755 C705 BUFFER Q709 KANP 2SA1037AK LINE2(REAR) J703 JPJ4312-01-432
FROM/TO CHROMA/IF C785 TUNER_AUDIO_L C784...

[Page 27: Crt Schematic Diagram](#)

CRT SCHEMATIC DIAGRAM (CRT PCB) TP804 R828 2.7K 1/4W RED AMP Q801 123.5 R813
2SC2621 D801 1SS133 RED AMP Q810 R801 2SC1740SP 100 1/4W R810 C813 1.8K 0.0022
R816 W809 W810 220 1/4W TP805 124.5 R829 6.15 296.7 2.7K 1/4W GREEN AMP 128.3 Q802...

[Page 28](#) DIGITAL COMB FILTER SCHEMATIC DIAGRAM (COMB PCB) BUFFER C1525_1 L1506
R1511 Q1504 2SC2412K C1511 22uH 0305 0.47 L1503 L1504 100uH 0305 820uH C1506
FROM/TO AV 0.01 B CP1501 6035B-06Z002-T VIDEO L1505 150uH 0305 BUFFER Q1502
2SA1037AK C1501 W802 BUFFER Q1503 0.1 B 2SC2412K BUFFER...

[Page 29](#) WAVEFORMS MICON/TUNER 1 1V 0.1 s/div 1V 20 s/div 11 0.5V 20 s/div 2 1V 1 s/div 7
1V 20 s/div 12 1V 2 s/div 0.5V 10ms/div 3 1V 50 s/div 13 1V 20 s/div 4 1V 0.1ms/div 9 1V 50
s/div 14 2V 20 s/div CHROMA/IF 10 2V 20 s/div...

[Page 30](#) WAVEFORMS DEFLECTION 16 2V 5ms/div 21 200V 50 s/div 26 5V 2ms/div SOUND 27
5V 2ms/div 22 2V 5ms/div 17 20V 5ms/div 18 10V 10ms/div 23 2V 5ms/div 28 200mV 20 s/div
19 20V 20 s/div 24 2V 5ms/div 29 200mV 20 s/div 20 2V 20 s/div 25 2V 5ms/div 30 2V 20 s/div...

[Page 31](#) WAVEFORMS 31 1V 50 s/div 39 50V 20 s/div 32 2V 5ms/div 33 2V 5ms/div 37 50V 20
s/div 38 50V 20 s/div NOTE: The following waveforms were measured at the point of the
corresponding balloon number in the schematic diagram.

[Page 32: Mechanical Exploded View](#)

MECHANICAL EXPLODED VIEW J801 PCB110 (CRT PCB) PCB060 (VM COIL PCB) L503 FB401 V801
TU001 PCB010 SP352 (MAIN PCB) PCB330 (COMB PCB) SP351...

[Page 33: Mechanical Replacement Parts List](#)

MECHANICAL REPLACEMENT PARTS LIST Location No. TSB P/N Reference No. Description
AD300823 A3J702I720 CABINET,FRONT ASSY BZ710039 8995034000 CORD CLIP UL CO.
AD300626 701WPJB281 CABINET,FRONT AD300627 713WPA0116 GUIDE,REMOCON AD300628
713WPA0117 GLASS,LED AD300629 735WPAA189 BUTTON,BASE AD300630 735WPBA102
BUTTON,FRAME AD300714 702WPAA168 CABINET,BACK ASS'Y AD300632 722549A016
SHEET,RATING...

[Page 34: Electrical Replacement Parts List](#)

ELECTRICAL REPLACEMENT PARTS LIST Location No. TSB P/N Reference No. Description
RESISTORS ! R001 BZ210008 R3X181273J R,METAL OXIDE 27K OHM 1W ! R410 AD300420
R5X2CE332J R,CEMENT 3.3K OHM 7W ! R411 AD300032 R6558AR39J R,FUSE 0.39 OHM 2W
R416 AD300040 R3X18A2R2J R,METAL OXIDE 2.2 OHM 2W ! R418...

[Page 35](#) ELECTRICAL REPLACEMENT PARTS LIST Location No. TSB P/N Reference No.
Description DIODES ! D406 AD300071 D97U01101B DIODE,ZENER MTZJ11B T-77 ! D407
BZ410063 D2WTAU02A0 DIODE,SILICON AU02A-EIC ! D408 AD300074 D2BFRS4FS0
DIODE,SILICON RS-4FS ! D409 AD300073 D2BFRU4AM0 DIODE,SILICON RU-4AM ! D411
BZ410063 D2WTAU02A0 DIODE,SILICON AU02A-EIC...

[Page 36](#) ELECTRICAL REPLACEMENT PARTS LIST Location No. TSB P/N Reference No.
Description TRANSISTORS ! Q508 AD300611 TAA01273Y TRANSISTOR,SILICON KTA1273_Y
Q509 BZ510071 TNAAB05003 COMPOUND TRANSISTOR KRC102RTK ! Q510 BZ510031
TD3T007340 TRANSISTOR,SILICON 2SD734(E,F)-AA Q604 BZ510024 TNYTJ03001 COMPOUND
TRANSISTOR DTC114TSTP Q701 BZ510002 T8YJ2412K0 TRANSISTOR,SILICON 2SC2412KT146
R,S Q704 BZ510002...

[Page 37](#) ELECTRICAL REPLACEMENT PARTS LIST Location No. TSB P/N Reference No.
Description MISCELLANEOUS B501 BZ310045 024AT03481 CORE,BEADS BL02RN1-R62T2 B502
BZ310015 024AT03482 CORE,BEADS BL02RN2-R62T4 B504 BZ310016 024AT03655 CORE
BEADS BL01RN1-A63T6 B505 BZ310015 024AT03482 CORE,BEADS BL02RN2-R62T4 CD351

AD300620 06CH14396A CORD CONNECTOR CH14396A ! CD501 BZ614053 120R614909 CORD
AC...

[Page 38](#) TOSHIBA AMERICA CONSUMER PRODUCTS,INC. 1-1, SHIBAURA 1-CHOME, MINATO-
KU, TOKYO 105-8001, JAPAN...