

Toshiba 14CS2R Service Manual

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FILE NO. 060-200334

# SERVICE MANUAL Color Pelevision

S3E Chassis



Feb., 2004

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# Summary of Contents for Toshiba 14CS2R

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## Page 2: Table Of Contents

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3 SET-UP ADJUSTMENT	4 SERVICE MODE	
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## Page 3: Chapter 1 General Adjustments

CHAPTER 1 GENERAL ADJUSTMENTS SAFETY INSTRUCTIONS WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAU- TION" AND "PRODUCT SAFETY NOTICE" INSTRUCTIONS BELOW. X-RAY RADIATION PRECAUTION 1. Excessive high voltage can produce potentially hazard- 2. The only source of X-RAY RADIATION in this TV receiver ous X-RAY RADIATION.

#### Page 4: Set-Up Adjustment

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAU- TION" AND "PRODUCT SAFETY NOTICE" ON PAGE 3 OF THIS MANUAL. SET-UP ADJUSTMENT I The following adjustments should be made when a complete realignment is required or a new picture tube is installed. Perform the adjustments in order as follows : 1.

**Page 5** I CIRCUMFERENCE CONVERGENCE ADJUSTMENT CONVERGENCE ADJUSTMENTS NOTE: Before attempting any convergence adjustments, the 1. Loosen the clamping screw of deflection yoke slightly to receiver should be operated for at least fifteen min- allow the yoke to tilt. utes. 2. Temporarily put a wedge as shown in figure 1. (Do not remove cover paper on adhesive part of the wedge.) I CENTER CONVERGENCE ADJUSTMENT 3.

#### Page 6: Service Mode

SERVICE MODE 1. ENTERING TO SERVICE MODE 1) Press o button once on 2) Press o button again to 3) While pressing the o button, Remote Control. keep pressing. press MENU button on TV set. Item Data (Service mode display) 2.

<u>Page 7</u> 4. SELECTING THE ADJUSTING ITEMS 1) Every pressing of CHANNEL s button in the service mode changes the adjustment items in the order of table-2. (t button for reverse order) Refer to table-2 for preset data of adjustment mode. (See SETTING & ADJUSTING DATA on page 13) 5.

**Page 8** 8. SELF DIAGNOSTIC FUNCTION 1) Press "9" button on Remote Control during display of adjustment menu in the service mode. The diagnosis will begin to check if interface among IC's are executed properly. 2) During diagnosis, the following displays are shown. Indicated color of mode now selected : Green and Red Indicated color of other modes : White...

#### Page 9: Design Mode

DESIGN MODE 1. ENTERING TO DESIGN MODE 3) Press MENU button on TV. 1) Select the Service mode. 2) While pressing o (or CALL) button on Remote and press MENU button on TV. ITEM Press DATA Press (Design mode) (Adjustment mode) When QA02 is initialized, items "OPT0"...

#### Page 10: Electrical Adjustments

ELECTRICAL ADJUSTMENTS ITEM ADJUSTMENT PROCEDURE FOCUS VR ADJ 1. Enter the service mode, then select any register item. 2. Press the TV/VIDEO button on the Remote until the black cross-bar pattern ap- pears on the screen. 3. Adjust the FOCUS control (on T461) for well defined scanning lines on the picture screen.

Page 11 ITEM ADJUSTMENT PROCEDURE WHITE BALANCE 1. Set Contrast to 40, and brightness to +20 by picture control. ADJUSTMENT 2. Set the TV in service mode, and get the inside W/B adjusting signal with VIDEO button. • CUTOFF ADJUSTMENT 3. Select RCUT, GCUT and BCUT with CHANNEL s, t buttons, to set individual (RCUT) values to Initial reference data, and to set GDRV and BDRV to Initial reference (GCUT)

## Page 12: Circuit Check

CIRCUIT CHECK HIGH VOLTAGE CHECK CAUTION: There is no HIGH VOLTAGE ADJUSTMENT on this chassis. Checking should be done following the steps below. 1. Connect an accurate high voltage meter to the second anode of the picture tube. 2. Turn on the receiver. Set the BRIGHTNESS and CONTRAST controls to minimum (zero beam current). 3.

## Page 13: Chapter 2 Specific Informations

CHAPTER 2 SPECIFIC INFORMATIONS SETTING & ADJUSTING DATA SAFETY INSTRUCTIONS 14" HIGH VOLTAGE AT ZERO BEAM: 23.6 kV MAX HIGH VOLTAGE: 25.1 kV AC VOLTAGE 220~240 V Table-1 SERVICE MODE ADJUSTING ITEMS AND DATAS IN THE SERVICE MODE: Item Adjustment Reference data Data ←...

## Page 14: Location Of Controls

LOCATION OF CONTROLS Front Remote Names of Parts TV Set Remote Controller Power on/standby Main power on/off Direct select Power CHs/t Channel up/down, indicator Item select Infrared ; -/+ Volume up/down, sensor Menu select, Level adjust t c s Channel select -/-- Digit select...

## Page 15: Programming Channel Memory

PROGRAMMING CHANNEL MEMORY • For easy Channel selection, the chosen Position should have the same number as Channel stored there. For this operation, you may use the "SEARCH" and "SKIP" functions. Example : Presetting Channel 12 to Position 12 Channel Prese Manual Search and Changing the assigned position Auto search memory (ASM)

<u>Page 16</u> • Under some reception conditions, fine tuning may be necessary to improve the picture quality. In such cases, adjust the manual fine tuning (MFT). • If the signal frequency is unstable due to environmental conditions, use auto fine tuning. Skip Function Auto fine tuning (AFT) If you set "SKIP ON"...

## Page 17: Chassis And Cabinet Replacement Parts List

• The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description. • The PC board assembly with mark is no longer available after the end of the production. Model : 14CS2R Capacitors ..... CD Ceramic Disk : Plastic Film : Electrolytic Resistors ....

 Page 18
 Location Location Parts No. Description Parts No. Description C565 24109103

 CERAMIC CHIP, 50V B 0.01UF K CC01 24109103 CERAMIC CHIP, 50V B 0.01UF K C566 24794471

 ELECTROLYTIC, 16V 470UF M CC02 24109103 CERAMIC CHIP, 50V B 0.01UF K C567 24109103

 CERAMIC CHIP, 50V B 0.01UF K CC08 24105330...

Page 19 Location Location Parts No. Description Parts No. Description R190 24011101 CHIP, METAL FILM, 1/20W 100 OHM J R880 24366562 CARBON FILM, 1/6W 5.6K OHM J R191 24011330 CHIP, 1/20W 33 OHM J R881 24011102 CHIP, METAL FILM, 1/20W 1K OHM J R192 24011330 CHIP, 1/20W 33 OHM J...

Page 20 Location Location Parts No. Description Parts No. Description RS02 24011471 CHIP, METAL FILM, 1/20W 470 OHM J Q431 23205209 TRANSISTOR, NPN R1=2.2K R2=47K, RS04 24011223 CHIP, METAL FILM, 1/20W 22K OHM J SRC1205S (SOT-23) RS06 24000445 CHIP JUMPER, 1608TYPE Q610 23000867 IC, AN5274 RV02...

Page 21 Location Location Parts No. Description Parts No. Description D887 23357164 DIODE, D1NL20U GR884 24322688 OXIDE METAL FILM, 1W 0.68 OHM J D901 23316231 DIODE, 1SS355 JR001 24000445 CHIP JUMPER, 1608TYPE D904 23316231 DIODE, 1SS355 JR002 24000445 CHIP JUMPER, 1608TYPE D905 23316231 DIODE, 1SS355 JR003...

Page 22 Location Location Parts No. Description Parts No. Description A525 23037312 SCREW, BTBW3X12SZN A701 23067297 CARTON, BOX 14S2R A702A 23946580 PACKING, TOP A702B 23946581 PACKING, BOTTOM A704 23945049 LAMIFILM BAG - 22 -...

## Page 23: Pc Boards Bottom View

MAIN BOARD PD1544-1 BOTTOM (FOIL) SIDE RA75 Q116 GJ08 M804 B102 Q112 Q101 R103 G104 Q111 L104 L105 QB60 Q108 GJ10 R158 Q115 BT01 H001 RT28 JR002 C179 LV01 R111 LC01 C170 L102 R112 RA74 RA76 CV23 R137 R147 R181 TP12 ZC01 R129...

#### Page 24: Terminal View Of Transistors

CRT/D BOARD PD1544-2 TERMINAL VIEW OF TRANSISTORS BOTTOM (FOIL) SIDE P501 Q901 Q903 MCL-437F 23547430A 2SD2253 2SC3852 2SC752GTM 2SC752 2SA1788 (old) 2SD1763A 2SC2482 2SA562TM R914 TP-47G 2SC5243 2SC1569 2SC2655 2SA1015 R925 2SC4544 2SC4721P 2SC1815 R921 2SA1788 2SC2878 2SA1306 2SC1740S C971 2SA1186A 2SC2120 2SA9335...

Page 25 SCHEMATIC DIAGRAM MODEL : 14CS2R WARNING: BEFORE SERVICING THIS

CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON THE MANUAL FOR THIS MODEL. CAUTION: The international hazard symbols "\*" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list.

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# Page 27: Specifications

SPECIFICATIONS MODEL 14CS2R Rated voltage ~ 220 - 240V 50Hz Power consumption (at ~ 220V 50Hz) Dimensions 478.0(W) X 390.0(D) X 363.0(H) mm (Width x Depth x Height) Mass 10.7 kg Picture Tube Type 14 (372.5mm) Overall picture tube measured diagonally (335.4mm) Viewable picture tube measured diagonally...

# Page 28: Circuit Block Diagram

TOSHIBA CORPORATION 1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN...

Page 29 SCHEMATIC DIAGRAM MODEL : 14CS2R WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON THE MANUAL FOR THIS MODEL. CAUTION: The international hazard symbols "\*" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list.

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Page 31 1452/1453/2052/2053 2152/2153 SERIES MAIN...

Page 39 1452/1453/2052/2053 2152/2153 SERIES MAIN...

Page 40 1452/1453/2052/2053 2152/2153 SERIES POWER/DEF...

Page 48 1452/1453/2052/2053 2152/2153 SERIES POWER/DEF...