

TOSHIBA

Toshiba 21CZ3R Service Manual

1
Table Of Contents
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51

•

[Table of Contents](#)

•

Bookmarks

Quick Links

[1 Set-Up Adjustment](#)

[2 Service Mode](#)

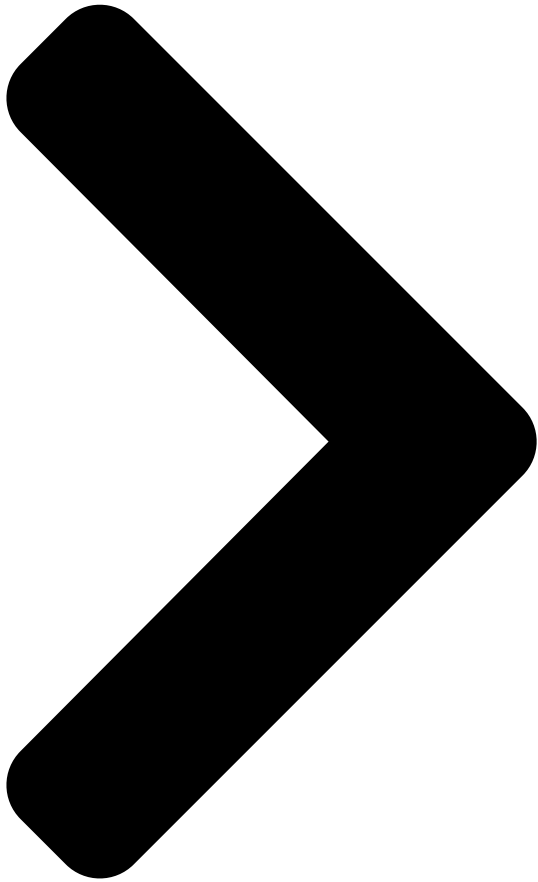
[3 Circuit Check](#)

[4 Chassis and Cabinet Replacement Parts List](#)

[5 Pc Boards Bottom View](#)

[6 Circuit Block Diagram](#)

[Download this manual](#)



SERVICE MANUAL

TOSHIBA
Color Television

Color Television

The above models are classified as green product (s) (*1), as indicated by the underlined serial number (s).
This Service Manual describes replacement parts for green product (s). When repairing any green product (s), use the

parts described in this manual and lead-free solder (*2).

For (*1) and (*2), see the next page.

© TOSHIBA SINGAPORE PTE LTD

FILE NO. 060-200559

TOSHIBA
21CZ3R

21CZ5R

Published in Singapore, September 2005 GREEN

S5E series

[Table of Contents](#)

[Next Page](#)

1
2
3
4
5

Related Manuals for Toshiba 21CZ3R

[TV Toshiba S5E Series Service Manual](#)

(51 pages)

[TV Toshiba 21CJ1R Service Manual](#)

Color television (32 pages)

[TV Toshiba 21CJ1R Schematic Diagram](#)

(12 pages)

[TV Toshiba 21SZ5TM Service Manual](#)

(32 pages)

[TV Toshiba 21CSZ2R1 Service Manual](#)

(28 pages)

[TV Toshiba S5ES Series Service Manual](#)

(46 pages)

[TV Toshiba 21CS2TR Service Manual](#)

S3e chassis (52 pages)

[TV Toshiba 21CSZ7DR Service Manual](#)

S3es chassis (56 pages)

[TV Toshiba 21CSZ2R Service Manual](#)

(70 pages)

[TV Toshiba 21N21E2 Service Manual](#)

Colour television (39 pages)

[TV Toshiba 21N21N Service Manual](#)

Colour television (36 pages)

[TV Toshiba 21G3XHE Service Manual](#)

Colour television (32 pages)

[TV Toshiba 21T01F2 Service Manual](#)

(61 pages)

[TV Toshiba 21V53G Manual](#)

(21 pages)

[TV Toshiba 21N21 Owner's Manual](#)

(30 pages)

[TV Toshiba 2152 DB Service Manual](#)

(6 pages)

Summary of Contents for Toshiba 21CZ3R

[Page 1: Service Manual](#)

This Service Manual describes replacement parts for green product (s). When repairing any green product (s), use the parts described in this manual and lead-free solder (*2). For (*1) and (*2), see the next page. © TOSHIBA SINGAPORE PTE LTD Published in Singapore, September 2005 GREEN...

[Page 2: Table Of Contents](#)

In line with this, Toshiba proactively promotes Green Procurement, and seeks to purchase and use products, parts and materials that have low environmental impacts.

[Page 3: Chapter 1 General Adjustments](#)

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

[Page 4: Set-Up Adjustment](#)

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 3 OF THIS MANUAL. SET-UP ADJUSTMENT R 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](#) CONVERGENCE ADJUSTMENTS R CIRCUMFERENCE CONVERGENCE ADJUSTMENT 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 allow the yoke to tilt. minutes. 2. Temporarily put a wedge as shown in figure 1. (Do not remove cover paper on adhesive part of the wedge.) R 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.

[Page 7](#) 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. <SELF CHECK>...

[Page 9: Design Mode](#)

DESIGN MODE 1. ENTERING TO DESIGN MODE 1) Select the Service mode. 2) While pressing o(or CALL) button on the 3) Press MENU button on TV. (See page 6) remote controller and press MENU button on TV. ITEM Press DATA Press (Design mode) (Adjustment mode)

[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 a button on the remote controller until the black cross-bar pattern appears 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 a button. 3. Select RCUT, GCUT and BCUT with CH s/t buttons, to set individual values to •...

[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 21" HIGH VOLTAGE AT ZERO BEAM: 30.0 kV MAX HIGH VOLTAGE: 32.0 kV AC VOLTAGE 110-240 V Table-1 SERVICE MODE ADJUSTING ITEMS AND DATAS IN THE SERVICE MODE: Adjustment Reference data Data Item ←...

[Page 14: Names And Functions Of Controls](#)

NAMES AND FUNCTIONS OF CONTROLS TV Front and Remote control For 21CZ5R For 21CZ3R *1 For 21CZ5R, when there is a DVD input, "DVD" mark will display instead of A1. Remote Control Main power on/off Power on/standby Power indicator (red) Sound Mute, press again or ;...

[Page 15: Programming Channel Memory](#)

PROGRAMMING CHANNEL MEMORY Preset the channels automatically Press MENU and then ; - /+ to highlight the " TUNING" icon. (ASM function) Use remote control for this operation. The buttons on the TV TUN I NG with similar name may also be use. [—...

[Page 16](#) To skip a position number Auto fine tuning (AFT) After presetting the channels, you may skip unnecessary If the signal frequency is unstable due to environmental position numbers so that only the channels you want to watch conditions, use auto fine tuning. are selected using CH s/t.

[Page 17: Procedures To Set Hotel Mode](#)

PROCEDURES TO SET HOTEL MODE 1. Set the Channel Programs which you want the Customer to watch. Use ASM (see page 15) or SEARCH (see page 15) to select the programs. Choice the position you want the programs to be stored in TUNING menu. Save the programs by MEMORY operation in TUNING menu (see page 15).

[Page 18: 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: 21CZ3R/21CZ5R Capacitors ..CD Ceramic Disk Plastic Film Electrolytic Resistors

[Page 19](#) Location Parts No. Description Location Parts No. Description C523 76203100 ELECTORLYTIC 16V 10UF M 7L 3A C909 76700220 ELECTROLYTIC 250V 22UF M C524 76203470 ELECTROLYTIC 16V 47UF M 7L 3A C910 76766100 ELECTROLYTIC 50V 10UF M C526 76109102 CERAMIC CHIP 50V B 1000PF K C912 76763221 ELECTROLYTIC 16V 220UF M...

[Page 20](#) Location Parts No. Description Location Parts No. Description R106 76011332 CHIP 1/20W 3.3K OHM J R430 76366103 CARBON FILM 1/6W 10K OHM J R107 76011330 CHIP 1/20W 33 OHM J R431 76531120 FUSIBLE 1/2W 12 OHM J R108 76011272 CHIP 1/20W 2.7K OHM J R432 76011472 CHIP 1/20W 4.7K OHM J...

[Page 21](#) Location Parts No. Description Location Parts No. Description R914 76366561 CARBON FILM 1/6W 560 OHM J RV05 #2 76011750 CHIP 1/20W 75 OHM J R915 76366121 CARBON FILM 1/6W 120 OHM J RV06 #2 76011750 CHIP 1/20W 75 OHM J R916 76366181 CARBON FILM 1/6W 180 OHM J...

[Page 22](#) Location Parts No. Description Location Parts No. Description D231 #2 23357741 DIODE ZENER MA8051-L Q903 23205475 TRANSISTOR 2SC4544(F) D301 23357372 DIODE EU2JGF-41U2 Q904 23205376 TRANSISTOR 2SC5343-Y (BULK) D302 23357372 DIODE EU2JGF-41U2 Q905 23205475 TRANSISTOR 2SC4544 (F) D303 23357917 DIODE SC570A Q906 23205376 TRANSISTOR 2SC5343-Y (BULK)

[Page 23](#) Location Parts No. Description PICTURE TUBE z V901 23324236 PICTURE TUBE LPD 21" PF AK A51QDJ420X 23324239 PICTURE TUBE SDI 21" PF AK A51QGA993X 23324226 PICTURE TUBE MTPDT PF AK TUBE A51LYZ395X TUNER H001 23321514 TUNER ENV59DA7G3 ASIA HYPER FS D-J ACCESSORIES A701 23015192...

[Page 24: Pc Boards Bottom View](#)

MAIN BOARD PD2229 BOTTOM (FOIL) SIDE P107 C173 G103 B102 L109 R178 H001 P499 QB61 L888 QV15 DB30 CV28 C118 L103 QB43 CS23 Q113 RC02 GJ25 C166 C167 R126 C180 R168 M804 C103 R173 QB30 Q111 ZC01 C172 R179 C137 R177 R137 R166...

[Page 25](#) CRT/D BOARD PD0607 BOTTOM (FOIL) SIDE - 26 -...

[Page 26: Terminal View Of Transistors](#)

TERMINAL VIEW OF TRANSISTORS 1 2SD2253 2 2SA1186A 3 2SA1020 4 2SA1015 6 2SA1788 (old) 2SA1306 2SC2482 2SA1320 (F) 2SC5243 2SA1788 2SC2655 2SA2980 2SC5859 2SA1837 2SC4721P 2SA562TM 2SA1930 2SC5343 2SA9335 2SC1569 2SC5344 2SC1740S 2SC3852 2SC752GTM 2SC1815 2SC4544 2SC2120 2SC4793 2SC2878 2SC5171 2SC752 2SD1763A...

[Page 27](#) SPECIFIC INFORMATIONS SCHEMATIC DIAGRAM MODEL : 21CZ3R/21CZ5R 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.

[Page 29: Circuit Block Diagram](#)

NTSC4.43, PAL 60Hz signal Sound system 5.5/6.0/6.5 MHz Color system
PAL/SECAM/NTSC4.43/NTSC3.58 2.5 W x 2 Sound output Terminals For 21CZ3R Input [a(1), a(2)]: Video, Audio (monaural) Output [>(MONITOR)]: Video, Audio (monaural) For 21CZ5R Input [a(1)/DVD]: Video/Y, P /, P, Audio L/MONO, Audio R...

[Page 30](#) - 31 -...

[Page 31](#) SPECIFIC INFORMATIONS SCHEMATIC DIAGRAM MODEL : 21CZ3R/21CZ5R 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.

[Page 33](#) SCHEMATIC DIAGRAM MODEL : 21CZ3R/21CZ5R U902 MAIN B P107 5B-EH-A
TLC0011 PLUG 5P G219 TLC0012 TLC0013 TLC0014 TLC0015 SHORT +5V-2 D102 KETSU MULIT ONLY H 0 0 1 RA42 2.2k R113 QA02 TLC011 AT24C08 TLC012 AT24D08-10PC C150 DA14 DA13 RA62...

[Page 34](#) SCHEMATIC DIAGRAM MODEL : 21CZ3R/21CZ5R U902 MAIN B P107 5B-EH-A
TLC0011 PLUG 5P G219 TLC0012 TLC0013 TLC0014 TLC0015 SHORT D102 KETSU RA42 2.2k QA02 AT24C08 AT24D08-10PC DA14 DA13 RA62 RA41 OPEN OPEN TLC001 TLC002 RA43 3.3k TLC003 RA61 DA11 OPEN...

[Page 35: Monitor Out](#)

+5V-2 MULIT ONLY H 0 0 1 R113 TLC011 TLC012 C150 R116 Z130 RA62 D150 PRE AMP 10 PIN MULTI LA05 TLC019 TLC013 TLC014 TLC015 TLC016 TLC017 TLC018 TLC020 5PIN MULTI/THAI R114 C106 35V4.7u RA61 4PIN TAIWAN R102 R101 CC01 C108 CC02 R110...

[Page 36](#) Q108 TP15 B-Y1 R-Y1 CV10 RV12 RV11 10V470u 1/6P180 +5V-2 RV13 QV10
KTA1266Y PV01 8P H12X19 JACK RS02 CS02 16V10 Monitor L GR01 TLA0020 VIDEO TLA0019 RS03 1000p BACK AV TLA0017 AUDIO (L) QS01 CS04 CS03 TLA0016 KETSU KTC2875B TLA0018 AUDIO (R) CS11 Monitor R...

[Page 37](#) AV-Mono / AV-Stereo Model & Component Video / Non Component Video Model CZ4 / CZ5 Model CZ3 Model Location R402 KETSU KETSU R403 KETSU R404 R623 KETSU 2.2K KETSU R624 RS08 KETSU RS09 KETSU KETSU RS11 RS12 KETSU RV05 KETSU RV06 KETSU KETSU...

[Page 38](#) OPEN C630 L661 R662 25V470u TLA0004 1/2R220 TLA0005 TLA0006 25V470u L662 TLA0007 P661 R663 TLA0008 C616 JACK TLA0009 1/2R220 LZ02 GJ17 TLA0036 C672 C674 C671 KETSU KETSU KETSU C673 G889 SOUND VCC SOUND GND POWER MUTE GJ110 GJ111 SHORT KETSU GJ80 GJ81 KETSU...

[Page 39](#) Q622 B4700p C631 2.2u C689 C669 C688 R624 0.01 R630 C682 0.01 R631 1.5k 0.47u C632 KETSU C657 C679 R680 16V22u GJ24 4.7u 2.2M R623 KETSU C635 2.2u C680 50V100 R633 R634 1.5k C636 KETSU RESET +12V SOUND Vcc SOUND GND POWER MUTE +32V POWER...

[Page 40](#) QV15 MM1111XF C677 OPEN Z130 C657 C678 16V22u TLC029 OPEN C675 C676

CS23 TLC030 TLC031 OPEN OPEN CS25 SAW FILTER 16V 10u 16V 10u CS24 CS26 C684 OPEN
OPEN (R1) TSF6380Y (5 PINS) B2200p RS07 SHORT (R2) OFWK6269 (10 PINS) (R3) F816KPL (5
PINS) RESET RESET...

[Page 41](#) Q622 KETSU 2SC4116 KTC2875B QS02 KETSU GJ20 SHORT KETSU GJ29 SHORT
KETSU PV01 S/N: 23023415 GJ03 GJ04 GJ05 GJ06 S/N: 23023416 PV02 S/N: 23023397 S/N:
23023258 Audio filter for AV-Mono & AV-Stereo Model CZ3 Model CZ4/ CZ5 Model Location
Russia Non Russia Russia Non Russia...

[Page 42](#) SCHEMATIC DIAGRAM MODEL : 21CZ3R/21CZ5R U902 MAIN - SEL04011 TLA0038
P610 *P801 - POWER CORD TLA0037 TLA0010 P496 P497 P498 P499 CLAMP ASIA / EAST
EUROPE 250V 2.5A P611 CLAMP HONG KONG 250V 13A MIDDEL EAST 250V 6A / 127V 7.5A
AUSTRALIA 250V 7.5A...

[Page 43](#) SCHEMATIC DIAGRAM MODEL : 21CZ3R/21CZ5R U902 MAIN - SEL04011 *P801 -
POWER CORD ASIA / EAST EUROPE 250V 2.5A 250V 13A HONG KONG 250V 6A / 127V 7.5A
MIDDEL EAST 250V 7.5A AUSTRALIA 125V 7A TAIWAN GJ36 F801 G106 T4AL/250V...

[Page 44](#) TLA0038 P610 TLA0037 TLA0010 P496 P497 P498 P499 CLAMP P611 CLAMP R156
1W15K G107 TEM2011AW T801 TRF3164AT or TFR3164AF T801Z or TFR3164AC R814 KETSU
GJ42 R813 KETSU G108 TEM2011AW GJ43 F470A FUSE HOLDE OPEN D801 OPEN RBV-406M-LF-A
or TS4B05G-A1 C805 or D3SB60 AC250V4700 D801A...

[Page 45](#) R156 W15K HEAT SINK Q301A Q301 AN5522 or LA78040 Q301B Q301C R471 R475
D304 KETSU Q470 2SA1586-Y C316 TLA0001 R314 KETSU R819 KETSU R476 Q471 TLA0002
2SC4116-Y R315 R477 KETSU R803 TLA0003 R478 R301 C308 R480 1/6W16k D301 35V100u
C473 GR303 EU2A Q819...

[Page 46](#) R483 PUT NEAR 100k TO Q100 C479 Q422A Q422 270p HEATSINK KIA7805API
Q422B C483 KETSU C485 C484 63V0.10 63V0.10 R462 HEAT SINK Q421A Q421 2SC3852
2SD1944 C471 R421 KETSU D421 RD10ESAB2 RD10B GD421 SHORT C498 R498 50V0.01u
QA61 KTC4075Y-RTK TO CPT ANODE...

[Page 47](#) C802Z C802 AC250V0.22 AC275V0.22u MA08 C814 AC250V1000 GJ105 OPEN GJ104
OPEN L811 TEM2014 C818 2KV270pF 2KV470pF...

[Page 48](#) TPW3543AM or TRF3202AC C810 C883 L886 R888 400V560u or TRF3202AF
500V560 D885 TEM2011 TLA181 1/2W0.22 or TRF3202AR C806 RL2Z AC250V4700 TLA0090
L810 C810Z TEM2014 GJ53 OPEN 270u R810Z C889Z C889 10W3.3 C862 25V3300 TLA182
25V470 GJ54 OPEN 2KV330pF OPEN OPEN R810 L806 TLN3481GH/AD/AH...

[Page 49](#) TLA0063 D441 RD9.1ESAB3 R432 R433 GD433 RD9.1C 4.7K 1.8K SHORT R448 1/2W
R22J TLA0069 D432 TLA0064 1SS355-TE17 C317 1SS355 C449 D408 C431 500V470p TLA0070
16V470u EU2A 50V4.7uF D431 TLA0065 R333 RD10ESAB2 1/2RF6.8 RD10B TLA0072 TLA0071
C312 TLA0073 GD430 D302 R333Z 35V1000u SHORT EU2A...

[Page 50](#) TLA0067 TO CRT-D BOARD C445 T461 100V0.1u FBT4213AS TFB4213AS R474
KETSU C464 D467 KETSU KETSU ON4409 (23314375) 56 Ohm 233999) (RA) 33989) (RB) 2994B)
6503213B) 6503274B) 4AM LF-1 6820303B) POWER (2/3)

[Page 51](#) SCHEMATIC DIAGRAM MODEL : 21CZ3R/21CZ5R CRT DRIVE (3/3)

This manual is also suitable for:

[21cz5r21cz5e21cz5es21cz5t](#)