



# TOSHIBA

## Toshiba MV13K1 Service Manual

Color television/ video cassette recorder



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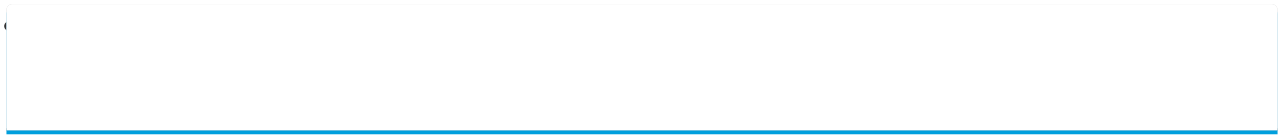
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## MV13K1

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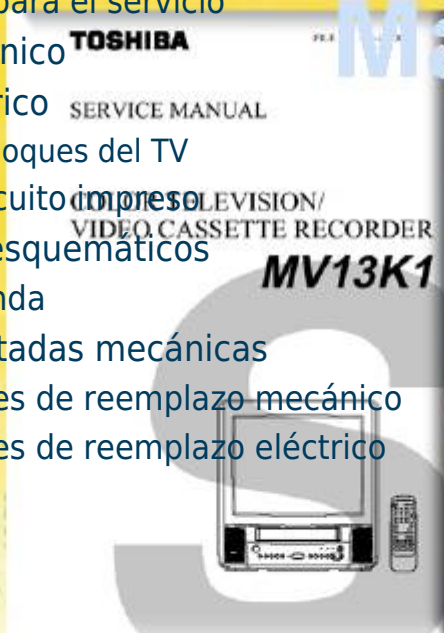
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## Summary of Contents for Toshiba MV13K1

[Page 1](#) Televisores a Color con Videograbadora Especificaciones generales. Instrucciones para el desensamble. MV13K1 Guía de abreviaturas. Lista de modos de servicio Revisiones preventivas e intervalos de servicio Notas para el reemplazo del IC de memoria Herramientas e implementos de servicio Preparación para el servicio Ajuste mecánico...

[Page 2](#) FILE NO. 140-200001 SERVICE MANUAL COLOR TELEVISION/ VIDEO CASSETTE RECORDER MV13K1...

### [Page 3: 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 4: General Specifications](#)

GENERAL SPECIFICATIONS G-1.Outline of the Product inch( 335.4 mmV):Measured diagonally Color CRT degree deflection -Speed 1/2" Video Cassette Recorder/Player VHS-C Player G-2.VCR Format VHS Standard NTSC SECAM PAL-M PAL-N VHS Hi-Fi Audio System G-3.Video Recording System :Rotary,slant azimuth two head helical scan system Luminance Component :FM recording Chrominance Component...

[Page 5](#) GENERAL SPECIFICATIONS G-16.Antenna Input Impedance VHF/UHF 75 ohm unbalanced G-17.Tuner and Receiving channel 1Tuner System 2Tuner System BS Tuner Tuner : Contactless Electric tuner Oscar(W/O HYPER) Oscar(W/ HYPER) France CATV) Others channel coverage 2 ~ 69 , 4A , A-5 ~ A-1 , A ~ I , J ~ W , W+1 ~ W+84 Tuning System Frequency syn.

[Page 6](#) GENERAL SPECIFICATIONS G-25.Power Source AC 50Hz AC 60Hz EXT DC Jack G-26.Power Consumption: 75 W at AC 60 Hz(Approx.) - W at DC (at TV and VCR ON) Stand by: 6 W at AC 60 Hz(Approx.) Per Year: --- kWh / Year G-27.Dimensions(Approx.) 362 mm(W) 369 mm(D)

[Page 7](#) GENERAL SPECIFICATIONS G-37.Timer back up Time More than 1/12 Minutes (at Power Off Mode) G-38.Terminals VHF/UHF Antenna Input Din Type F-Type France Type Front Video Input<RCA ø8.3> Front Audio Input<RCA ø8.3> Rear Video Input<RCA ø8.3> Rear Audio Input<RCA ø8.3> Rear Video Output<RCA ø8.3> Rear Audio Output<RCA ø8.3>...

[Page 8](#) GENERAL SPECIFICATIONS G-42.Speaker Position Front Side Bottom Size 1.5 x 2.5 inches Imp. 8 ohm x Output 1.25 W (Typical) G-43.EXT Speaker G-44.Carton Master Carton: Need No Need Content: ---- Material: ---- / ---- Corrugated Carton Dimensions: ---- mm(W) ---- mm(D) ---- mm(H) Description of Origin Gift Box...

[Page 9](#) GENERAL SPECIFICATIONS G-47.Switch Front Power Channel Up Volume Up Play Channel Down Volume Down Pause/Still F.FWD/Cue Rew/Rev System Select Eject/Stop Rec/OTR One Touch Playback Main Power SW Input Select Rear Color On/Off (SECAM only) Degauss Main Power SW AC/DC G-48.Magnetic Field BV : +0.45G BV :...

### [Page 10: Removal Of Mechanical Parts And P.c. Boards](#)

DISASSEMBLY INSTRUCTIONS 1. REMOVAL OF MECHANICAL PARTS 1-3: TV/VCR BLOCK (Refer to Fig. 1-3) Remove the 2 screws 1. AND P.C. BOARDS Disconnect the following connectors: 1-1: BACK CABINET (Refer to Fig. 1-1) (CP355, CP353, CP401, CP502 and CP351). Remove the 4 screws 1. Unlock the support 2.

[Page 11](#) DISASSEMBLY INSTRUCTIONS 1-5: DECK SHIELD PLATE (Refer to Fig. 1-5) 1-7: JACK PLATE AND SYSCON PCB (Refer to Fig. 1-7) Remove the 2 screws 1. Remove the screw 1. Remove the screw 2. Remove the Syscon PCB in the direction of arrow (A). Remove the screw 2.

### [Page 12: Removal Of Deck Parts](#)

DISASSEMBLY INSTRUCTIONS 2. REMOVAL OF DECK PARTS NOTE When you install the Tape Guide L, install as shown in the 2-1: TOP BRACKET (Refer to Fig. 2-1) circle of Fig. 2-3-B. (Refer to Fig. 2-3-B) Remove the 2 screws 1. Slide the 2 supports 2 and remove the Top Bracket.

[Page 13](#) DISASSEMBLY INSTRUCTIONS 2-6: LINK ASS'Y (Refer to Fig. 2-6) 2-9: TENSION ASS'Y (Refer to Fig. 2-9-A) Set the Link Ass'y to the Eject position. Move the Inclined S Ass'y to the back side. Unlock the support 1 and remove the S Reel Stopper. Remove the (A) side of the Link Ass'y first, then remove the (B) side.

[Page 14](#) DISASSEMBLY INSTRUCTIONS 2-11: S REEL/T REEL ASS'Y (Refer to Fig. 2-11) NOTE Remove the Idler Ass'y. Do not touch the Pinch Roller. (Use gloves.) Remove the S Reel and T Reel Ass'y. When you install the Pinch Roller Ass'y, install as Remove the 2 Polyslider Washers 1.

[Page 15](#) DISASSEMBLY INSTRUCTIONS 2-15: AHC ASS'Y/CYLINDER UNIT ASS'Y (Refer to Fig. 2-15) Middle Gear Unlock the support 1 and remove the AHC Ass'y. E-Ring Remove the 3 screws 2. Remove the Cylinder Unit Ass'y. Main Cam NOTE Pinch Roller Cam When you install the Cylinder Unit Ass'y, tighten the screws from (1) to (3) in order while pulling the Ass'y Joint Gear Link Lever Spacer...

[Page 16](#) DISASSEMBLY INSTRUCTIONS 2-19: LOADING GEAR S/T ASS'Y (Refer to Fig. 2-19-A) 2-20: INCLINED S/T ASS'Y (Refer to Fig. 2-20) Remove the E-Ring 1 and remove the Main Loading Unlock the support 1 and remove the P4 Cover. Gear. Remove the S-S Brake Spring. Unlock the support 2 and remove the Loading Gear Remove the Capstan Brake Spring.

### [Page 17: Removal Of Anode Cap](#)

DISASSEMBLY INSTRUCTIONS 3. REMOVAL OF ANODE CAP 3. After one side is removed, pull in the opposite direction to 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 18: Key To Abbreviations](#)

KEY TO ABBREVIATIONS Audio/Control H.SW Head Switch Automatic Color Control Hertz Audio Erase Integrated Circuit Automatic Frequency Control Intermediate Frequency Automatic Fine Tuning Indicator AFT DET Automatic Fine Tuning Detect Inverter Automatic Gain Control Killer Amplifier Left Antenna Light Emitting Diode A.PB Audio Playback LIMIT AMP...

[Page 19](#) KEY TO ABBREVIATIONS SYNC Synchronization SYNC SEP Sync Separator, Separation Transistor TRAC Tracking TRICK PB Trick Playback Test Point UNREG Unregulated Volt Voltage Controlled Oscillator Video Intermediate Frequency Vertical Pulse, Voltage Display V.PB Video Playback Variable Resistor V.REC Video Recording Visual Search Fast Forward Visual Search Rewind Voltage Super Source...

### [Page 20: Service Mode List](#)

SERVICE MODE LIST This unit provided with the following SERVICE MODES so you can repair, examine and adjust easily. To enter SERVICE MODE, unplug AC cord till lost actual clock time. Then press and hold Vol (-) button of main unit and remocon key simultaneously.

### [Page 21: Preventive Checks And Service Intervals](#)

PREVENTIVE CHECKS AND SERVICE INTERVALS The following standard table depends on environmental conditions and usage. Unless maintenance is properly carried out, the following service intervals may be quite shortened as harmful effects may be had on other parts. Also, long term storage or misuse may cause transformation and aging of rubber parts. Time 1,000 1,500...

### [Page 22: Audio Control Head](#)

PREVENTIVE CHECKS AND SERVICE INTERVALS CLEANING NOTE 2. TAPE RUNNING SYSTEM After cleaning the heads with isopropyl alcohol, do not When cleaning the tape transport system, use the run a tape until the heads dry completely. If the heads gauze moistened with isopropyl alcohol. are not completely dry and alcohol gets on the tape, 3.

### [Page 23: Note For The Replacing Of Memory Ic](#)

NOTE FOR THE REPLACING OF MEMORY IC If a service repair is undertaken where it has been required to change the MEMORY IC, the following steps should be taken to ensure correct data settings while making reference to TABLE 1. NOTE: Initial Data setting will not be possible if clock has been set.

### [Page 24: Servicing Fixtures And Tools](#)

SERVICING FIXTURES AND TOOLS Alignment Tape Back tension cassette gauge Torque cassette gauge Taper nut driver (KT-300NR) ST-N5 ST-NF 70909103 70909199 70909228 VTR cleaning kit VTR lubrication kit Grease JG002B Adapter JG002E Dial Torque Gauge (10~90gf•cm) JG002F (60~600gf•cm) JG022 Master Plane JG024A Reel Disk Height JG153 X Value Adjustment JG154 Cable...



## [Page 25: Preparation For Servicing](#)

PREPARATION FOR SERVICING How to use the Servicing Fixture Unplug the connector CP351, CP355, CP502 and CP353, then remove the TV/VCR Block from the set. Unplug the connector CP810, CP820 and CP850, then remove the Main PCB from the VCR Block. Connect as shown in the below figure using the Service Fixture.

## [Page 26: Confirmation And Adjustment](#)

MECHANICAL ADJUSTMENTS 1. CONFIRMATION AND ADJUSTMENT 1-2: CONFIRMATION AND ADJUSTMENT OF TENSION POST POSITION Read the following NOTES before starting work. Set to the PLAY mode. • Place an object which weighs between 450g~500g on Adjust the Tension Adjust until the edge of the Tension the Cassette Tape to keep it steady when you want to Arm is positioning within 0.5mm range from the make the tape run without the Cassette Holder.

## [Page 27: Confirmation And Adjustment Of Tape Running Mechanism](#)

MECHANICAL ADJUSTMENTS 1-4: CONFIRMATION OF VSR TORQUE 2. CONFIRMATION AND ADJUSTMENT OF TAPE RUNNING MECHANISM Operate within 4~5 seconds after the reel disk begins to turn. Tape Running Mechanism is adjusted precisely at the Install the Torque Gauge (JG002F) and Adapter (JG002B) factory.

[Page 28](#) MECHANICAL ADJUSTMENTS 2-2: CONFIRMATION AND ADJUSTMENT OF AUDIO/ 2-3: TAPE RUNNING ADJUSTMENT CONTROL HEAD (X VALUE ADJUSTMENT) When the Tape Running Mechanism does not work well, Confirm and adjust the height of the Reel Disk. adjust the following items. (Refer to item 1-1) Confirm and adjust the position of the Tension Post.

## [Page 29: Mechanism Adjustment Parts Location Guide](#)

MECHANICAL ADJUSTMENTS 3. MECHANISM ADJUSTMENT PARTS LOCATION GUIDE 1. Tension Adjust P4 Post 2. Tension Arm T Brake Spring 3. Guide Roller T Reel Ass'y 4. P1 Post Idler Ass'y 5. Audio/Control Head S-S Brake Spring 6. X value adjustment driver hole S Reel...

## [Page 30: Adjustment Procedure](#)

ELECTRICAL ADJUSTMENTS 1. ADJUSTMENT PROCEDURE Read and perform these adjustments when repairing the CH-2 circuits or replacing electrical parts or PCB assemblies. CAUTION When replacing IC's or transistors, use only specified 6.5H silicon grease. (To prevent the damage to IC's and transistors.) CH-1 Fig.

[Page 31](#) ELECTRICAL ADJUSTMENTS 2-5: CUT OFF 2-9: SUB COLOR (TV) Receive the color bar pattern. (RF Input) Place the set with Aging Test for more than 15 minutes. Set condition is AV MODE without signal. Connect the synchro scope to TP801. Using the remote control, set the brightness and Using the remote control, set the brightness, contrast, contrast to normal position.

[Page 32](#) ELECTRICAL ADJUSTMENTS 2-15: VERTICAL LINEARITY 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 (1) on the remote control. The Fig. 2-6 appears on the display. Press the channel button (5) on the remote control.

## [Page 33: Electrical Adjustment Parts Location Guide](#)

ELECTRICAL ADJUSTMENTS 3. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (VCR SECTION) TP1001 TP1002 TP4001 CP603 TU601 L610 TP601 TP4201 J4201 SYSCON PCB...

[Page 34](#) ELECTRICAL ADJUSTMENTS (TV SECTION) J801 TP803 TP801 CRT PCB VR502 TP401 T501 FOCUS VOLUME FB401 SCREEN VOLUME MAIN PCB...

## [Page 35: Purity And Convergence Adjustments](#)

ELECTRICAL ADJUSTMENTS 4. PURITY AND CONVERGENCE 4-3: STATIC CONVERGENCE ADJUSTMENTS NOTE Adjust after performing adjustments in section 4-2. NOTE Receive the crosshatch pattern from the color bar Turn the unit on and let it warm up for at least 30 generator.

### [Page 36: Tv Block Diagram](#)

TV BLOCK DIAGRAM V. OUTPUT IC401 LA7840 THERMAL PROTECTION PUMP Q405 Q406 H. DRIVE H. OUTPUT X604 3.579545MHz CHROMA/IF FB401 IC604 LA76814BM Q608 BUFFER CLMP J801 VIDEO Y/C VIDEO CLMP PPC1 TINT PFC2 Y/C AUDIO PHASE V801 AHIFTER Y/C/AUDIO/ HEAD AMP/ 1/256 IN/OUT TU\_AUDIO...

### [Page 37: Y/C/Audio/Head Amp/In/Out Block Diagram](#)

Y/C/AUDIO/HEAD AMP/IN/OUT BLOCK DIAGRAM Q4010 BUFFER Y/C/A/H.AMP IC4001 LA71170M-MPB 63 61 CP4001 SP CH1 (R) SP COM C COMB SP CH2 (L) Y\_DELAY 3 EP/LP CH1 (R) 2 EP/LP COM COMB BEFORE PB BGA 1 EP/LP-CH2 (L) COMP BEFORE Q4012 AFTER 320FH PB BGA...

[Page 38](#) MICON/POWER BLOCK DIAGRAM TIMER SYSCON MICON SW1001 IC1001 OEC7041A SYSTEM RESET TAB SW IC1002 RESET-L 3 OUT PST600H POWER FAIL(DC) AT+5.6V POWER\_FAIL\_L P. CON 5V MSSEN-A X-OUT(12MHz) Q1023 MS\_SEN A J701 X1001 Q1009 12MHz AUDIO L X\_RAY\_SW X-IN(12MHz) FRONT\_AUDIO XC-OUT(32KHz) MSSEN-B X1002 FRONT\_VIDEO...

### [Page 39: Printed Circuit Boards](#)

PRINTED CIRCUIT BOARDS MAIN/CRT SOLDER SIDE W014 CP820 W006 W047 W005 HS503 R423 C520 CP810 CP804 W012 C511\_1 W822 W010 W009 C414 W817 C537 IC503 IC504 W027 D517 W823 R519 D519 W816 R520 C519 W825 R460 ICP503 C523\_2 C527 C422\_1 C438 D508 C516...

[Page 40](#) PRINTED CIRCUIT BOARDS JACK/LED SOLDER SIDE R754 R761 W001 R793 W811 R350 R351 W002 J701\_1 CD351\_1 DECK SOLDER SIDE CP101 CP102 Q101 Q102...

[Page 41](#) PRINTED CIRCUIT BOARDS SYSCON (INSERTED PARTS) SOLDER SIDE TP1002 W133 CP1002 TP4001 RISK OF FIRE - REPLACE AS MARKED. CC001 C661 CP351 R4201 IC601 R4025 W037 Q620 D622 W032 W003 W002 W855 W091 W047 W831 C4023 W146 L4006 W813 W007 W144 W043 W042...

[Page 42](#) PRINTED CIRCUIT BOARDS SYSCON (CHIP MOUNTED PARTS) SOLDER SIDE C4206 R4232 Q607 Q1006 Q4204 R1065 Q4210 Q1010 C1088 Q1008 R1064 Q1014 R1039 Q1012 R1038 Q4205 C657 R605 Q1017 Q1018 R603 C1007 Q4206 C604 C1025 Q1002 R606 R1046 C658 R1066 R617 C622 C1074 Q1004...

### [Page 43: Y/C/Audio/Head Amp Schematic Diagram](#)

Y/C/AUDIO/HEAD AMP SCHEMATIC DIAGRAM (SYSCON PCB) C4095 100P CH L4014 C4082 C4097 FROM POWER 68uH 18P CH 0.1 B P.CON+5V W813 C4079 R4005 Y/C\_AUDIO C4055 R4067 0.1 B 1.5K 120 1/4W L4006 6.3V C4078 C4001 FROM/TO I/O 100uH 6.3V 0.027 B FRONT\_VIDEO C4056 0.1 B...

[Page 44](#) TP1001 MICON SCHEMATIC DIAGRAM (SYSCON PCB) SERVICE FROM/TO POWER D1011 SB10-03A3 AT+5.6V C1082 R1032 D1006 SB10-03A3 P.CON+5V 0.01 B P.CON+12V POWER\_FAIL[DC] C1041 VCR\_POWER\_H C1060 0.1 B R1059 CAP\_HI\_H 150P CH 4.7K INVERTER C1061 CAP\_VCO R1029 Q1016 (S/S) 2SC2412K 150P CH C1055 4.7K 1/4W -0.7...

### [Page 45: Power Schematic Diagram](#)

POWER SCHEMATIC DIAGRAM (SYSCON PCB) TO Y/C/A/H.AMP P.CON+5V D1010 C1004 25.1 P.CON 5V DRIVER DRIVER 1N4005E Q1019 Q1011 2SB1134R FROM/TO MICON 2SD2396 R1035 25.1 P.CON+5V DRIVER 1.8K CAP\_VCO Q1010 DTA114EKA 23.6 AT+5.6V 12.1 FEED BACK R1065 P.CON+12V CAP\_HI\_H FROM TV POWER Q1012 Q1008 MOTOR\_GND...

### [Page 46: In/Out Schematic Diagram](#)

IN/OUT SCHEMATIC DIAGRAM (SYSCON PCB) R1092 100 1/4W Vout OS1001 GP1U281Q R1080 R1088 R1091 R1096 1.5K R1084 R1086 R1089 R1090 R1095 FROM/TO SOUND AMP 5.6K 2.7K 1.5K W878 SOUND\_GND W880 SOUND+ W879 SP\_OUT REC LED SW T-REC LED SW Q4205 Q4206 TV POWER SW DTC114EKA...

[Page 47](#) CHROMA/IF SCHEMATIC DIAGRAM (SYSCON PCB) L607 C669 C671 FROM/TO MICON 220P CH 100uH 0.1 B X\_RAY VCR\_POWER\_H TV\_POWER\_H R675 OSD\_R 1K 1/4W R656 OSD\_G BUFFER OSD\_B BUFFER Q602 Q608 OSD\_BLK 2SA1037AK TU\_VIDEO 2SA1037AK L613 AFT\_M

47uH FROM/TO Y/C/A/H.AMP TRICK-PB-H C675 R621 C668 TU\_VIDEO...

### [Page 48: Sound Amp Schematic Diagram](#)

SOUND AMP SCHEMATIC DIAGRAM (SYSCON PCB) CD353 FROM/TO I/O CH12414A SPEAKER CP353 B2B-EH-A SP\_OUT SP\_OUT SOUND\_GND SOUND+ (S802) SP351 SOUND\_GND 810-47-171 FROM MICON R359 TV\_A\_MUTE TV\_POWER\_H FROM CHROMA/IF SOUND+B AUDIO\_OUT SOUND\_GND (S803) CC001 CC002 W832 FROM/TO POWER W827 R353 FROM/TO TV POWER CD604...

### [Page 49: Tv Power Schematic Diagram](#)

TV POWER SCHEMATIC DIAGRAM (MAIN PCB) TV.POWER\_H P.CON+125V 5A 125V 2.5A 250V 4A 125V 2A 125V 127.0 127.5 R534 CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, 127.0 +B 100V DRIVE 100V DRIVE REPLACE ONLY WITH THE SAME TYPE FUSE 5A 125V 0.82 Q503 Q502...

### [Page 50: Deflection Schematic Diagram](#)

DEFLECTION SCHEMATIC DIAGRAM (MAIN PCB) V.OUTPUT IC401 LA7840 THERMAL PUMP UP PROTECTION 14.2 23.5 22.8 C412 500V 390P CP401 B05B-DVS C409 TO DY 0.0022 M R404 R413 R416 5.6K FROM/TO CHROMA/IF CP820 (CD820) 8283 1112\_00\_000 SOUND\_GND SOUND+B CC004 HS401 TP-1S-05 VCR POWER H 763WSA0004 TV POWER H...

### [Page 51: Crt Schematic Diagram](#)

CRT SCHEMATIC DIAGRAM (MAIN PCB) 132.9 104.1 132.8 132.5 TP801 R802 FROM CHROMA/IF J801 CP850 (CD850) HPS3200-010501 12K 2W 8283\_0512\_00\_000 CUT OFF R807 W803 132.5 G.OUT 2.7K 1/4W RED AMP R.OUT Q804 B.OUT 2SC4217 R811 4.7K TP802 R805 12K 2W 132.1 GREEN AMP Q805...

[Page 52](#) JACK/LED SCHEMATIC DIAGRAM (JACK/LED PCB) J351 HTJ-035-28A R350 R351 33 1/2W 33 1/2W FROM/TO I/O CD351\_1 (CP351) CH27081A FRONT VIDEO IN FRONT A IN L GND/SOUND\_GND W805 SOUND\_OUT L SP\_OUT L POWER/PLAY R761 270 1/4W D792 SLZ-936C-07-S-T1 VIDEO AUDIO L FROM I/O...

### [Page 53: Deck Schematic Diagram](#)

DECK SCHEMATIC DIAGRAM LOADING MOTOR M101 S105 BOT SENSOR Q101 S106 RPT-38PB113 S101 S102 S103 S104 FROM/TO MICON CP101 52044-0445 LDM+ LDM- FROM/TO MICON CP102 173979-2 EOT SENSOR Q102 RPT-38PB113 PCB550 VE8851 CAUTION: SINCE THESE PARTS MARKED BY ATTENTION: LES PIECES REPARÉES PAR UN ETANT NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME NOTE:...

### [Page 54: Interconnection Diagram](#)

INTERCONNECTION DIAGRAM J351 JACK/LED PCB PCB030 TE9A16 J701 HALL MAIN ROTOR SENSOR COIL MAGNET FG SENSOR TM101 HALL HALL SWITCH LOGIC CP1004 MOTOR\_GND I LIMIT SP351 SPEAKER CP353 SP\_OUT SOUND\_GND CAPSTAN DD UNIT CD353 CAP.M F/R DECK MECHA ASS'Y VCC(5V) M2001 HEAD AUDIO CONTROL ASS'Y...

[Page 55](#) WAVEFORMS Y/C/AUDIO/HEAD AMP TV POWER 1 5.0V 0.1ms/div 50.0V 20µs/div 11 PB 0.5V 0.5ms/div DEFLECTION 2 2.0V 20µs/div 7 50.0V 20µs/div 12 PB 100mV 1ms/div DEFLECTION 3 0.5V 5ms/div 10.0V 5ms/div 13 PB 50mV 0.5ms/div TV POWER 4 200mV 20µs/div 9 20.0V 0.1ms/div 14 PB 0.5V 20µs/div...

[Page 56](#) WAVEFORMS 16 REC 21 PB 26 POWER ON 100mV 20µs/div 1.0V 0.5ms/div 0.5V 10ms/div 17 POWER ON 22 PB 27 POWER ON 0.5V 1ms/div 1.0V 5ms/div 20.0V 20µs/div 18 POWER ON 23 PB 28 POWER ON 50mV 1ms/div 1.0V 5ms/div 5.0V 5ms/div MICON IN/OUT...

### [Page 57: Sound Amp](#)

WAVEFORMS CHROMA/IF SOUND AMP 31 POWER ON 36 POWER ON 0.5V 1ms/div 200mV 1ms/div 32 POWER ON 50mV 1ms/div 33 POWER ON 0.5V 20µs/div 34 POWER ON 200mV 20µs/div 35 POWER ON 10.5V 20µs/div NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

### [Page 58: Mechanical Exploded View](#)

MECHANICAL EXPLODED VIEW J801 PCB110 (CRT PCB) L503 V801 FB401 PCB070 (MAIN PCB) PCB030 (JACK/LED PCB) SP351...

### [Page 59](#) MECHANICAL EXPLODED VIEW TU601 PCB010 (SYSCON PCB)

### [Page 60: Chassis Exploded View \(Top View\)](#)

CHASSIS EXPLODED VIEW (TOP VIEW) M2003 UN4001 H5001 H5002 M101 PCB550 (DECK PCB ASS'Y) NOTE: Applying positions AA and BA for the grease or CLASS MARK oil are displayed for this section. GREASE Check if the correct grease or oil is applied for each position.

### [Page 61: Chassis Exploded View \(Bottom View\)](#)

CHASSIS EXPLODED VIEW (BOTTOM VIEW) M2001 NOTE: Applying positions AA and BA for the grease or CLASS MARK oil are displayed for this section. GREASE Check if the correct grease or oil is applied for each position.

### [Page 62: Mechanical Replacement Parts List](#)

MECHANICAL REPLACEMENT PARTS LIST Location No. TSB P/N Reference No. Description  
BZ610008 A55008A720 CABINET,FRONT ASS'Y BZ710133 701WPJ0900 CABINET,FRONT  
BZ710135 712WPJ0659 FLAP BZ710010 743WKA0032 SPRING,FLAP BZ710008 738WPA0014  
BUTTON,BASE BZ710012 761WPA0151 HOLDER,M/PCB BZ710139 771WPAA010 PLATE,JACK  
BZ710134 702WPA0632 CABINET,BACK BZ710009 741WUA0019 SPRING,EARTH BZ710037  
82A97A4077 WASHER 9.7x14xT0.7...

### [Page 63: Chassis Replacement Parts List](#)

CHASSIS REPLACEMENT PARTS LIST Location No. TSB P/N Reference No. Description BZ610010  
A55008A420A DECK ASSY A55008A420A BZ710073 85OA500022 AHC ASS'Y BZ710081  
85OP200270 BELT,CAPSTAN BZ710132 85OP900710 LEVER,REC BZ710094 85OP500083  
BASE,AC HEAD BZ710112 85OP800324 SPRING,AC HEAD BZ710059 85OA000360 MAIN  
CHASSIS ASS'Y BZ710062 85OA200081 CLUTCH ASS'Y X BZ710060...

[Page 64](#) CHASSIS REPLACEMENT PARTS LIST Location No. TSB P/N Reference No. Description  
BZ710048 8107126A04 SCREW,TAP TITE(S) PAN 2.6x10 BZ710049 8107226804 SCREW,TAP  
TITE(S) BIND 2.6x8 BZ710017 8107226604 SCREW,TAP TITE(S) BIND 2.6x6 BZ710050  
8109126604 SCREW,TAP TITE(B) PAN 2.6x6 BZ710052 810A126804 SCREW/WASHER(A) M2.6x8  
BZ710053 810B126404 SCREW/WASHER(B) M2.6x4...

### [Page 65: Electrical Replacement Parts List](#)

ELECTRICAL REPLACEMENT PARTS LIST Location No. TSB P/N Reference No. Description  
RESISTORS ! R439 BZ210015 R4X5T4223F R,METAL 22K OHM 1/4W ! R440 BZ210016  
R4X5T4822F R,METAL 8.2K OHM 1/4W ! R441 BZ210013 R4X5T4104F R,METAL 100K OHM 1/4W  
! R442 BZ210014 R4X5T4153F R,METAL 15K OHM 1/4W ! R444...

[Page 66](#) ELECTRICAL REPLACEMENT PARTS LIST Location No. TSB P/N Reference No.  
Description DIODES ! D512 BZ410010 D28T21DQN9 DIODE,SCHOTTKY 21DQ09N-TA2B1 ! D515  
BZ410019 D97U03001B DIODE,ZENER MTZJ30B T-77 D516 BZ410006 D1VT001330  
DIODE,SILICON 1SS133T-77 D517 BZ410006 D1VT001330 DIODE,SILICON 1SS133T-77 D518  
BZ410006 D1VT001330 DIODE,SILICON 1SS133T-77 ! D519 BZ410010 D28T21DQN9...

[Page 67](#) ELECTRICAL REPLACEMENT PARTS LIST Location No. TSB P/N Reference No.  
Description TRANSISTORS Q1005 BZ410002 0002G00540 PHOTO COUPLER GP1S566 BZ410027  
0002M00570 PHOTO COUPLER SG-260 Q1006 BZ510002 T8YJ2412K0 TRANSISTOR,SILICON  
2SC2412KT146 R,S Q1008 BZ510021 TNYJC05001 COMPOUND TRANSISTOR DTC124EKAT146  
Q1009 BZ410003 0002G00550 PHOTO COUPLER GP1S94L Q1010 BZ510025...

[Page 68](#) ELECTRICAL REPLACEMENT PARTS LIST Location No. TSB P/N Reference No.  
Description SWITCHES SW1006 BZ612001 0504201T31 SWITCH,TACT SKHVBED010 SW1007  
BZ612001 0504201T31 SWITCH,TACT SKHVBED010 SW1008 BZ612001 0504201T31  
SWITCH,TACT SKHVBED010 SW1009 BZ612001 0504201T31 SWITCH,TACT SKHVBED010  
SW1010 BZ612001 0504201T31 SWITCH,TACT SKHVBED010 SW1011 BZ612001 0504201T31  
SWITCH,TACT SKHVBED010 SW1012...

[Page 69](#) ELECTRICAL REPLACEMENT PARTS LIST Location No. TSB P/N Reference No.  
Description MISCELLANEOUS ! SP351 BZ614029 070C533008 SPEAKER 810-47-171 ! TH501  
BZ410024 DF20C3R0Q0 DEGAUSS ELEMENT PTH451C3R0Q11 TM101 BZ614041 076R0DA050  
TRANSMITTER R25-1352 ! TU601 BZ610001 0145K00050 TUNER UHF-VHF TECC1040PG31A !  
V801 BZ614037 098Q140496 CRT W/DY A34AGT13\*07...

[Page 70](#) TOSHIBA VIDEO PRODUCTS PTE. LTD. 438B ALEXANDRA ROAD, BLOCK B #06-01  
ALEXANDRA TECHNOPARK SINGAPORE 119968...

This manual is also suitable for:

[Mv13k3c](#)