SANYO

Sanyo LED-22XR10F Service Manual

Led-lcd tv

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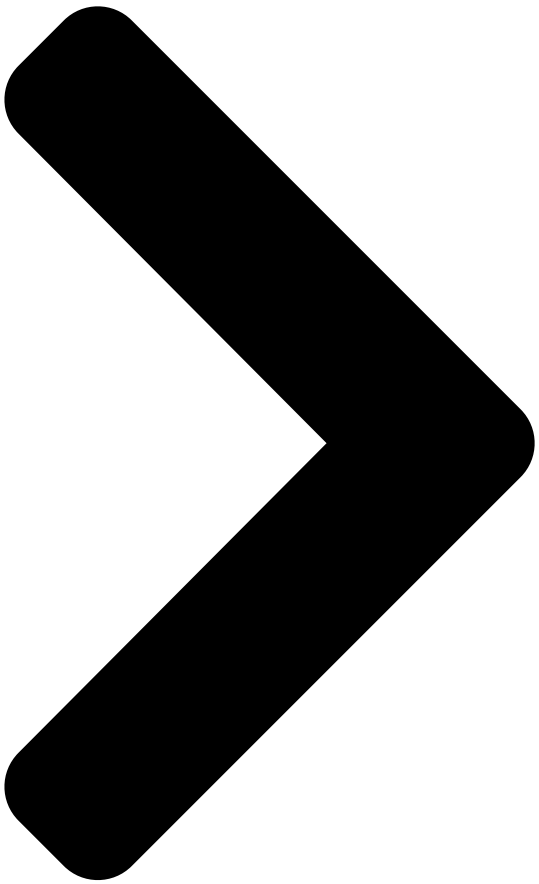
See also: Instruction Manual



FILE NO.

SERVICE MANUAL

PRODUCT CODE No.

PRODUCT CODE No.

LED-LCD TV

1 682 349 47: PAL-BG(CCIR)

NTSC(AV)

SA

REFERENCE No.:SM0915111

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Led-lcd tv (38 pages)

TV Sanyo LED-32XR10FH Service Manual

Led-lcd (48 pages)

TV Sanyo LED-42XR10FH Service Manual

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TV Sanyo LED-46XR123D Instruction Manual

Led-lcd tv with 3d function (37 pages)

TV Sanyo LE22S630P Instruction Manual

Tv lcd led (15 pages)

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TV Sanyo LCD-42XF4 Service Manual

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Lcd television (57 pages)

Summary of Contents for Sanyo LED-22XR10F

Page 1: Service Manual

FILE NO. SERVICE MANUAL PRODUCT CODE No. PRODUCT CODE No. LED-LCD TV 1 682 349 47: PAL-BG(CCIR) NTSC(AV) REFERENCE No.:SM0915111...

Page 2: Table Of Contents

CONTENTS Safety precautions..... Alignment instructions ..... Method of software upgrading instructions..... Working principle analysis of the unit..... Block diagram..... IC block diagram and

instruction..... Wiring diagram ..... Troubleshooting guide ..... Schematic diagram..... APPENDIX-A: Main assembly list APPENDIX-B: Exploded View Installing the Stand or wall-mount bracket Wall mounting instructions...

Page 3: Safety Precautions

Attention: This service manual is only for service personnel to take reference with. Before servicing please read the following points carefully. Safety precautions 1. Instructions Be sure to switch off the power supply before replacing or welding any components or inserting/plugging in connection wire Anti static measures to be taken (throughout the entire production process!): a) Do not touch here and there by hand at will;...

Page 4 would be unable to work and no way to get it repaired. If the connection wires, connections or components fixed by the thermotropic glue need to disengage when service, please soak the thermotropic glue into the alcohol and then pull them out in case of dagmage.

Page 5: Alignment Instructions

Alignment instructions 1. Safety Instructions Be sure to switch off the power supply before replacing or welding any components or inserting/plugging in connection wire Anti static measures to be taken (throughout the entire production process!): a) Do not touch here and there by hand at will; b) Be sure to use anti static electric iron;...

Page 6 3.2 Alignment flow chart shown as Fig. 1 Check if DDC, HDCP KEY, FLASH have been burned? Combination alignment for general assembly White balance alignment Connect to central signal source, check if TV functions are normal-omitted channel, analog parameters control, etc.? Check if the output of earphones and speakers are normal? Input composite AV signal, check if AV functions are normal? Input HD signal (mode) check if YPbPr functions are normal? Input VGA signal, check if display and other functions are normal -...

Page 7 Alignment instructions 4.1 Unit adjustment 4.1.1 According to the wiring diagram “9219KH7201JL”, connect power board, main board, IR board correctly, then switch on main power and press key “standby” to turn on the TV set, check if the display is normal.

Page 8 Factory menu item: Software Update, for software upgrade, please refer to software upgrade instruction in detail; Factory menu item: Other Setting->MST DEBUG, default setting is “OFF”, the item can not be kept, that is the setting is always “OFF” after power on again; ON: it is convenient for debug;...

Page 9 □272□278□; Adjust items “R-OFFSET, G-OFFSET, B-OFFSET” to set chromatic coordinates of 4 scale as□272□278□; During adjustment , make sure that chromatic coordinates errors of bright scale and dark scale are both (X=272±10 Y=278±10); Move cursor to item “COPY ALL” again to copy data of white balance to other channels except DTV channel;...

Page 10 4.4.2 Driver and communication setup 4.4.2.1 Special driver must be installed for communication ports of PC and CA210, detailed processes are described as below: a) Power on CA210, connect data line normally, a prompting dialog will display as Fig.4 for the first time of setup;...

Page 11 Fig. 5 d) Interface shown as Fig. 6 will display, select item “Install from disk”; Fig. 6 Select directory of driver and file “MLTCA200.INF” to begin setup, ignore the prompt “continue or not...” if it displays during setup process, please refer to Fig. 7;...

Page 12 Fig. 7 f) CA210 SDK driver must be installed besides above setup, please refer to Fig. 8; Fig. 8 g) File “ISScript8.msi” must be installed also, press button “Next” to begin setup, please refer to Fig. 9;...

Page 13 Fig. 9 4.4.2.2 Install driver for communication ports of PC and TV Connective line is shown as Fig. 10 Fig. 10 Select file “Setup.exe” in the software package, Fig. 11 will display, then press button “Next” to complete setup;...

Page 14 Fig. 11 4.4.2.3 VG848 RS232 communication setup: a) VG848 physical communication protocol setup Baud rate□9600bps Data bits:8 bits Parity: None Stop bit:1 bit

Please refer to detailed setup as follow: (1) Press the [FUNC] key, [5] key and [SET] key. Select Function : 5 (0-E) Config Edit □2□RS232 communication setup are shown as Fig.

Page 15 Fig. 12 b) Communication connection RS232 connective line must have dual female terminals (2#, 3# of one terminal should be exchanged commonly), only communication pin 2#, 3# and 5# need to be used; 4.4.2.4 Connect VG848 signal output terminal to TV signal input terminal There are several signal input terminals, such as AV, YPbPr, VGA and HDMI, connect them according to needs, if there are several input terminals of AV, YPbPr, VGA or HDMI, only need to connect the first terminal respectively;...

Page 16 4.4.3 Signal connection Signal from adjusted channel to VG848 must be connected normally, if there are several channels for one kind of signal, the first channel must be connected, for example, AV has three channels AV1, AV2 and AV3, YPbPr has two channels YPbPr1 and YPbPr2, so AV1 and YPbPr1 must be connected; 4.4.4 Adjusting interface are shown as Fig.

Page 17 Chromatic coordinates and precision setup Color temperature combination, color temperature Administrator selection, password setup channel selection, adjusting Save all setup speed setup, bright & dark area setup Fig. 14 Interface of auto white balance parameters setup Serial communication port selection...

Page 18 Functions checkup 5.1 Analog & digital TV functions Input central signal to RF port, enter into menu “CHANNEL”, then search channels automatically, check if there is any omitted channel, check if the output of speakers and the picture are normal. 5.2 Composite video of AV port Input composite video signal to AV port, check if the picture and the sound are normal;...

Page 19 Insert USB memory containing files of picture, audio and video, check if the picture, the sound and other functions are normal; 5.7 MUSIC port (only for SANYO model) Input audio signal to side music port from audio output device, check if the sound is normal;...

Page 20: Method Of Software Upgrading Instructions

Method of software upgrading instructions Factory software burned instructions listed as Table 4 Table 4 Factory software burned instructions Loc. Burned before Part No. Part Type Software function Burning method Use ALL-100 with write-protect, refer N103 5272564002 FLASH IC_EN25Q64-104HIP to Note 1 in detai N106 5272404005 HDCP KEY...

Page 21 Fig. 16 Successful connection of device MX25L64 d) Press menu “Read”, select burning file, such as “MERGE.bin”, please refer to Fig. 17; Fig. 17 Burning file e) Press menu “Auto”, tick options “All chip”, “program” and relative option switches, please refer to Fig.

Page 22 Burning process has two steps: Erase and Program; First, the step “Erasing..., Flash Status: 03” will last for some time, or it is failed if it is passed by quickly, please confirm procedure 2□and begin burning process again; Then the following step is “Programming...□Flash Status:00”; A prompt “Pass”...

Page 23: Working Principle Analysis Of The Unit

Working principle analysis of the unit Signal Flow 1□ PAL/SECAM signal flow Send PAL/SECAM analog RF signal received from antenna to TUNER FT21XX which is controlled by main chip MSD209GL through I C BUS; CVBS video signal and SIF audio differential signal will be outputted after demodulation;...

Page 24 Video route: digital video signal is sent into main chip MSD209GL for decoding and video processing after demultiplexing, then LVDS signal will be outputted to drive display panel; Audio route: digital audio signal will be sent into main chip MSD209GL for decoding and audio processing after demultiplexing, then dual-sound-track analog audio signal (stereo) is sent to earphone amplifier BH3547F to be amplified after the processes of preamplification, acoustic effect processing and volume control by main chip MSD209GL, then one is sent to earphone jack, the other is sent to audio...

Page 25: Block Diagram

Block diagram...

Page 26: Ic Block Diagram And Instruction

IC Block Diagram and Instruction 1、 MSD209GL-LF GENERAL DESCRIPTION The MSD209GL is a highly integrated controller IC for LCD/PDP DTV applications with resolutions up to full-HD(1920 x 1080). It is configured with an integrated triple-ADC/PLL, a multi-standard TV video and audio decoder, a motion adaptive video de-interlacer, a scaling engine, the MStarACE-3 color engine, an advanced 2D graphics engine, a transport processor, a high-definition (HD) MPEG video decoder, a high-definition (HD) H.264 video decoder, a RealVideo decoder, a JPEG video decoder, a MPEG-4...

Page 27 Supports additional audio/video/PCR filters Supports TS DMA channel for time-shift Supports AES encryption/decryption MPEG-2 A/V Decoder ISO/IEC 13818-2 MPEG-2 video MP@HL Automatic frame rate conversion Supports resolution in HDTV (1080i, 720p) and SDTV Supports MPEG-1, MPEG-2 (Layer I/II), Dolby Digital (AC-3), and AAC audio decoding Optionally Supports Dolby Digital Plus (E-AC-3) decoding, and Dolby Digital Compatible Output (DDCO) for HE-AAC to DD transcoding MPEG-4 Video Decoder...

Page 28 Multi-Standard TV Sound Processor Supports BTSC/A2/EIA-J demodulation in NTSC and A2/NICAM/FM/AM demodulation in PAL Supports MTS Mode Mono/Stereo/SAP in BTSC/EIA-J and Mono/Stereo/Dual in A2/NICAM L/R audio line-in x5 and SIF audio input L/R speaker and 2 additional L/R audio line-out Built-in audio sampling rate conversion (SRC) Built-in audio ADC Built-in audio DAC's...

Page 29 Automatic picture enhancement: Dynamic brilliant and fresh color Dynamic Blue Stretch Intensified contrast and details Dynamic Vivid Skin Dynamic sharpened Luma/Chroma edges Enhanced depth of field perception Accurate and independent color control Supports sRGB and xvYCC color processing Supports HDMI 1.3 deep color format Supports linear/nonlinear color mapping for wider gamut panels 10-bit internal data processing Programmable 12-bit RGB gamma CLUT...

Page 30 2、 MSB1210-LF Integrated DVBT receiver Compliant with DVBT(ETSI ET 300 744) Supports 2K, 4K, 8K and 1/4, 1/8, 1/16, 1/32 guard interval (GI) and hierarchical,non-hierarchical modes Nordig Unified 1.0.3, D-Book, E-Book,IEC62002 (MBRAI) compliant Dual 11-bit ADCs: accept IF, low IF, zero-IF inputs in 5, 6, 7, 8MHz channel bandwidths All digital demodulation and timing recovery loops CCI and ACI rejection capability Independent ADC controls (for IF and RF)

Page 31 Miscellaneous Embedded 8-bit MCU Clock generation from a single 20.48/ 28.8MHz crystal Supports I2C interface with bypass mode Operating voltage: 3.3V and 1.2V 48-pin LQFP package 3、 FT2112 FT 2112 are newly developed low-cost Half-NIM modules designed for both digital (DVB-T/C) and analog TV reception in compliance with the European ATV standards for analogue, as well as with the terrestrial standard ETS 300 744 and cable standard ETS 300429 for digital.

Page 32 4、 TAS5711 • Audio Input/Output –20-W Into an 8-Ω Load From an 18-V Supply –Wide PVDD Range, From 8 V to 26 V –Efficient Class-D Operation Eliminates Need for Heatsinks –One Serial Audio Input (Two Audio Channels) –2.1 Mode (2 SE + 1 BTL) –2.0 Mode (2 BTL) –Single-Filter PBTL Mode Support –I2C Address Selection Pin (Chip Select) –Supports 8-kHz to 48-kHz Sample Rate (LJ/RJ/I2S) •...

Page 34: Wiring Diagram

WIRING DIAGRAM Panel Speaker Power Board Speaker IR / Light sensor Power Data Board Key Board Power Switch IR / Light sencor Board...

Page 35: Troubleshooting Guide

Troubleshooting guide 1、 No Backlight...

Page 36 2、 No Picture, but backlight is normal.

Page 37 3、 No sound, but picture is normal. Check if voltage of N406- 2#/3#/34#/35#/ 40#/41#/44#/45# is +12V? Check +12V of power board and its related Check if circuits. N407-15# /20- 22# has input signal? Check peripheral circuits of power Check if amplifier.

Page 38: Schematic Diagram

+3.3V N105 AT24LC32A/SN E2PWP- R155 R154 E2PWP- G101 R153 R152 12MHz R128 C172

+3.3V-S R127 R125 R130 100n C152 C151 N 1 0 4 R131 GND-D N102 K 4 T 1 G 1 6 4 Q E - H C F 7 APX810-29SAG-7 RESET +3.3V...

Page 39 R223 R224 V201 6.8K 2SA1576UB RF_AGC C228 R227 R226 100K GND-D R225 V202 RFAGC-SEL- 001:D5 BC847AW R222 GND-D TSDATA TSDATA 001:E4 TSVALID TSVALID 001:E3 TSSYNC TSSYNC 001:E3 TSCLK TSCLK 001:E3 C208 R202 100n 001:B4 ATV-SIF+ R201 C209 R203 100n GND_1 TS_CLK 001:B4 ATV-SIF-...

Page 40 N302 CM1213-08MS X308 UBA-100/W X304 RCA-286A-01 +5V-HDMI1 R373 USB-D+ 001:D5 R301 C302 R339 R374 GND-D USB-D- +5V-USB 001:D5 CVBS1-RIN 001:B2 HDMI1-RX2+ 001:B5 FU301 SMD1206P075TF 001:B2 HDMI1-RX2- +5V-PU C301 R340 C339 001:B2 HDMI1-RX1+ C340 100u 001:B2 HDMI1-RX1- 100n R302 N314 C303 R341 GND-D IP4223CZ6...

Page 41 X405 +3.3V-S PHB-2x20-2.0 X402 X404 L401 TJC10S-03A TJC10-04A X401 STPB3216-380PT R403 +3.3V-S +3.3V TJC3S-13AW +5V-S +3.3V +5V-PU VDD-P R401 R402 C406 220u V401 BL_SW- 001:E4 VDD-P C401 R404 R415 R423 R425 BC847AW 100n 5.6K 4.7K 4.7K R422 001:C1 UART-RX 001:C5;003:A3;003:G5 RXO0- 001:E4 R424 GND-D...

Page 42 Power...

Page 43 Backlight...

Page 44 IR&Key...

Page 45 APPENDIX-A: Main assembly 9222KH5110 LED-22XR10F MAIN COMPONENT AND IT'S NO. NAME N101 5270209002 MSD209GL-LF N201 5271210001 MSB1210-LF N103 5272564002 EN25Q64-104HIP N406 Data processing board 5275711001 TAS5711 XI6KH01301A0 N104 5270164002 K4T1G164QE-HCF7 TUNER201 5524050028 FT2112 IR board XI6KH0130910 Key board XI6KQ0020510 Power board...

Page 46: Appendix-B: Exploded View

APPENDIX-B: Exploded view (LED-22XR10F)

Page 47 PART LIST OF EXPLODED VIEW REF.No. DESCRIPION Front cabinet assembly Display panel Main board assembly GND reed Main frame assembly Power board assembly Back cover assembly Adjustable clasp Power cord Power cord clip Pedestal assembly Standing pole assembly Bracket of power cord clip Touching key board assembly Rotor assembly Speaker assembly...

Page 48 PART LIST LED-22XR10F ver. REF.No. PARTS No. DESCRIPION Q'TY REMARK XI6622510020 Front cabinet assembly Display panel XI5203228202 1 CLAA215FA04-000 XI6KH01301A0 Main board assembly GND reed XI592302860A Main frame assembly XI615328300C Power board assembly XI6HE0432010 Back cover assembly XI672272L020 Adjustable clasp...

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