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LDGSUPH 6870C-0584A V16 55UHD TM120_v0.6

LDGSUPH Tcon Board 6870C-0584A V16 55UHD TM120_v0.6 Instruction Manual

For 43-inch, 49-inch, and 55-inch TVs (Philips, Vizio, Sony, LG Compatible)

1. Introduction

This manual provides essential information for the installation, operation, maintenance, and troubleshooting of the LDGSUPH Tcon Board model 6870C-0584A V16 55UHD TM120_v0.6. This Tcon (Timing Controller) board is a critical component responsible for processing video signals and transmitting them to the TV panel, ensuring proper image display. It is designed for compatibility with various 43-inch, 49-inch, and 55-inch TV models from brands such as Philips, Vizio, Sony, and LG.
Please review this manual thoroughly before attempting any installation or repair to ensure safe and correct usage.

2. Safety Information

- **Power Disconnection:** Always disconnect the TV from the main power supply before beginning any installation or repair work.
- **Static Electricity:** Electronic components are sensitive to static electricity. Use an anti-static wrist strap or discharge static electricity by touching a grounded metal object before handling the Tcon board.
- **Professional Installation:** Installation of internal TV components should ideally be performed by a qualified technician. Incorrect installation can damage the TV or cause personal injury.
- **Handle with Care:** Avoid touching the integrated circuits (ICs) and connectors directly. Hold the board by its edges.
- **Compatibility Verification:** Before installation, verify that the Tcon board model 6870C-0584A V16 55UHD TM120_v0.6 is compatible with your specific TV model. Refer to your TV's service manual or the original Tcon board for matching part numbers.

3. Package Contents

The package includes the following items:

- 1 x LDGSUPH Tcon Board 6870C-0584A V16 55UHD TM120_v0.6
- Associated connection cables (as supplied)

4. Product Overview

The LDGSUPH Tcon Board 6870C-0584A V16 55UHD TM120_v0.6 is engineered with advanced features to ensure optimal display performance:

- **High-Speed Signal Processing Chip:** Features a custom high-speed signal processing chip designed to quickly analyze 4K/8K signals, reducing ghosting and delay. This ensures a smooth, lag-free visual experience, adapting to high-definition video and gaming requirements.
- **Stable Power Supply Module:** Incorporates a multi-loop power design paired with high-precision capacitors. This configuration ensures stable power output, preventing malfunctions caused by voltage fluctuations, extending TV lifespan, and reducing maintenance issues.
- **Compatible Interface Layout:** Designed with a standard interface layout, including mainstream connections like HDMI 2.1. This allows for direct installation without modifications, ensuring compatibility with existing devices and providing stable, convenient connections.
- **Low Power Consumption and Heat Dissipation Structure:** Optimized heat dissipation structure and a low-power design reduce the core temperature by 15%-20%. This prevents performance degradation due to high temperatures, balancing high performance with energy efficiency and stability.
- **System Compatibility:** Built-in factory-certified drivers ensure compatibility with the native TV system and pre-installed applications. No additional configuration is needed to restore smart functions, offering a like-new experience.

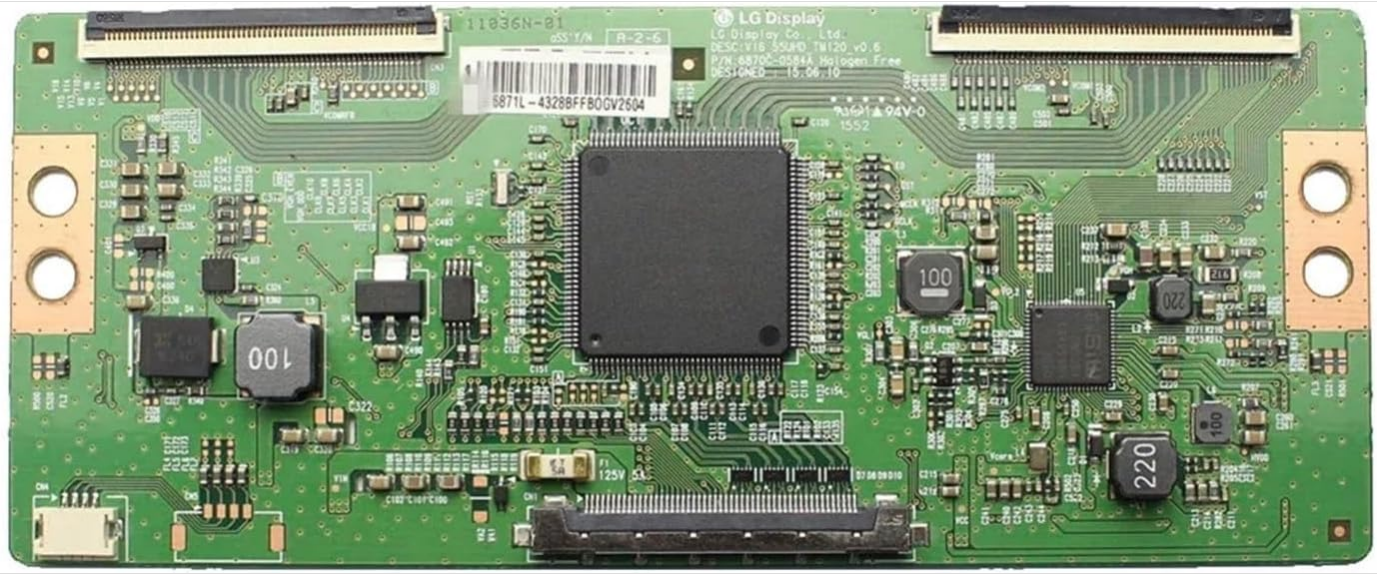


Figure 1: Top-down view of the Tcon Board, showing the main processing chip and various components.



Figure 2: Angled view of the Tcon Board, highlighting its compact design and connector layout.

5. Setup and Installation

This section outlines the general steps for replacing a Tcon board. Specific procedures may vary depending on your TV model. Always refer to your TV's service manual for detailed instructions.

1. **Prepare the Work Area:** Ensure a clean, well-lit, and static-free environment. Lay the TV screen-down on a soft, clean surface to prevent scratches.
2. **Disconnect Power:** Unplug the TV from the wall outlet and disconnect all external devices.
3. **Remove Back Panel:** Carefully remove the screws securing the TV's back panel. Gently detach the back panel, being mindful of any connected cables.
4. **Locate the Old Tcon Board:** The Tcon board is typically located at the top or bottom center of the TV panel, often covered by a metal shield. It connects to the main board via a ribbon cable and to the LCD panel via two or more flat flexible cables (FFCs).
5. **Disconnect Cables:** Carefully unlatch and disconnect the FFCs and any other cables connected to the old Tcon board. Use

a plastic pry tool if necessary to avoid damaging the connectors.

6. **Remove Old Tcon Board:** Unscrew and remove the old Tcon board from its mounting points.
7. **Install New Tcon Board:** Place the new LDGSUPH Tcon Board 6870C-0584A V16 55UHD TM120_v0.6 into position and secure it with the screws.
8. **Reconnect Cables:** Carefully reconnect all FFCs and other cables to the new Tcon board. Ensure the FFCs are inserted straight and fully into their respective connectors, then secure the latches.



Figure 3: Detail of a flexible flat cable (FFC) connector. Ensure proper alignment and secure latching during installation.



Figure 4: Another view of an FFC connector, showing the gold contacts that must be clean and properly seated.

9. **Reassemble TV:** Carefully reattach the TV's back panel and secure it with all screws.
10. **Initial Test:** Reconnect the TV to power and turn it on. Check for proper image display. If the image is distorted or absent, power off immediately and recheck all connections.

6. Operating Instructions

Once correctly installed, the Tcon board operates automatically as an integral part of your TV's display system. There are no user-adjustable settings on the Tcon board itself. Its function is to receive video signals from the main board and convert them into a format suitable for the LCD panel.
Upon successful installation and power-up, the TV should display an image as expected. If the image is not displayed correctly, refer to the Troubleshooting section.

7. Maintenance

The Tcon board is a sealed electronic component and requires minimal maintenance. To ensure its longevity and optimal

performance:

- **Keep Dry:** Avoid exposing the TV or the Tcon board to moisture or liquids.
- **Dust Prevention:** Keep the interior of your TV free from excessive dust accumulation, which can impede heat dissipation. If cleaning is necessary, use compressed air or a soft, dry brush with the TV powered off and unplugged.
- **Avoid Physical Shock:** Protect the TV from physical impacts or vibrations that could damage internal components.

8. Troubleshooting

If you encounter issues after installing the Tcon board, consider the following troubleshooting steps:

Problem	Possible Cause	Solution
No picture, but TV has sound and backlight	Loose or improperly connected FFCs; faulty Tcon board; faulty main board.	Power off and unplug TV. Recheck all FFCs and cables to the Tcon board. Ensure they are fully seated and latched. If problem persists, the Tcon board or main board may be faulty.
Distorted, flickering, or incorrect colors	Loose FFCs; faulty Tcon board; faulty LCD panel.	Power off and unplug TV. Recheck FFC connections. If problem persists, the Tcon board or LCD panel may be faulty.
Half screen display or lines on screen	One or more FFCs are loose or damaged; faulty Tcon board.	Power off and unplug TV. Carefully inspect and reseat FFCs, especially those connecting to the affected side of the screen.
TV does not power on	Not related to Tcon board; faulty power supply board or main board.	The Tcon board typically does not prevent the TV from powering on. Check power connections, power supply board, and main board.

If these steps do not resolve the issue, professional assistance may be required.

9. Specifications

Key specifications for the LDGSUPH Tcon Board 6870C-0584A V16 55UHD TM120_v0.6:

- **Model Number:** 6870C-0584A V16 55UHD TM120_v0.6
- **Compatibility:** 43-inch, 49-inch, 55-inch TVs (Philips, Vizio, Sony, LG compatible)
- **Package Dimensions:** 0.39 x 0.39 x 0.39 inches
- **Item Weight:** 1.76 ounces
- **Manufacturer:** ohy0420
- **ASIN:** B0GL7NN165
- **Date First Available:** February 3, 2026



Figure 5: Close-up view showing the 'LG Display' branding and part number '6870C-0584A' on the Tcon board.

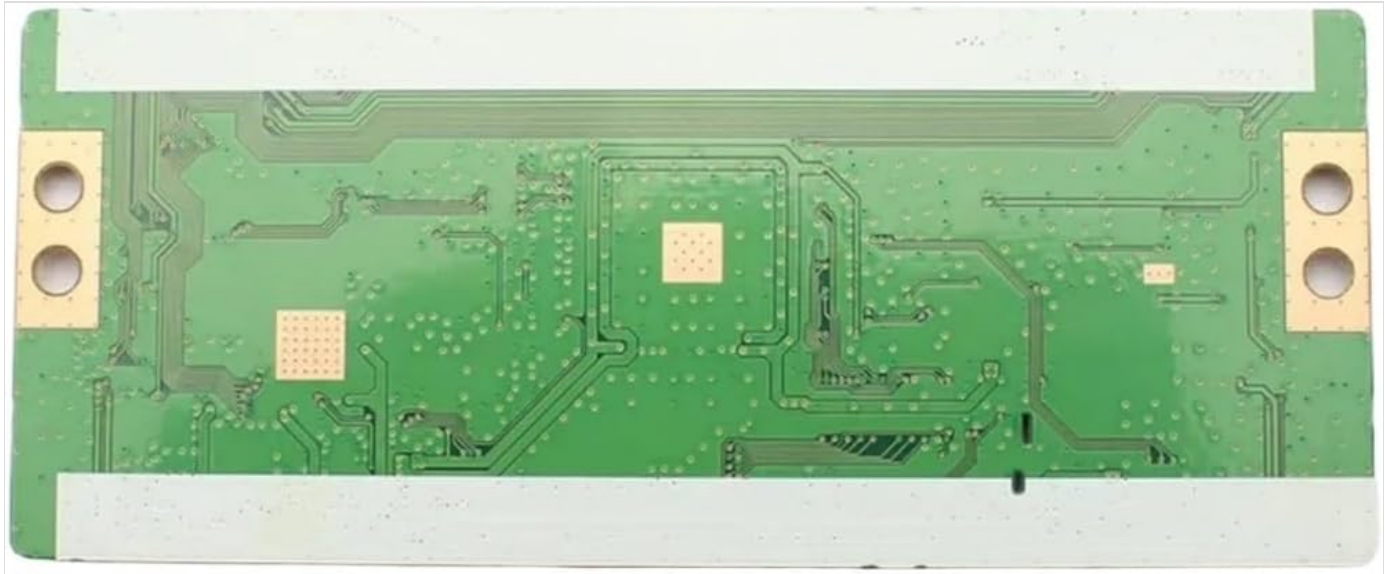


Figure 6: Back view of the Tcon Board, showing the solder points and overall circuit layout on the reverse side.

10. Warranty and Support

For warranty information and technical support, please refer to the documentation provided with your purchase or contact the seller directly. Keep your purchase receipt as proof of purchase.

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