



MAX9501 Evaluation Kit

Evaluates: MAX9501

General Description

The MAX9501 evaluation kit (EV kit) is a fully assembled and tested surface-mount circuit board that contains a MAX9501 IC. The MAX9501 is a triple video-reconstruction filter and buffer for high-definition television (HDTV) applications. The filter's passband is 30MHz. The MAX9501 includes a +6dB output buffer capable of driving a 2V_{p-p} video signal into a standard 150Ω load.

The video input and output signals on the EV kit are DC-coupled. The MAX9501 video input terminals are terminated at 75Ω, and the output terminals are 75Ω back terminated. The EV kit operates from a dual ±5V power supply. For single-power-supply applications, use the MAX9500 EV kit.

Component List

DESIGNATION	QTY	DESCRIPTION
C1, C2	2	10μF ±20%, 6.3V X5R ceramic capacitors (0805) TDK C2012X5R0J106M
C3–C8	6	0.1μF ±10%, 25V X7R ceramic capacitors (0603) TDK C1608X7R1E104K
R1–R6	6	75Ω ±1% resistors (0805)
U1	1	MAX9501EEE (16-pin QSOP)
YIN, YOUT, PBIN, PBOU, PRIN, PROUT	6	75Ω BNC PC board mount connectors
—	1	MAX9501 EV kit PC board

Component Supplier

SUPPLIER	PHONE	WEBSITE
TDK	847-803-6100	www.component.tdk.com

Note: Indicate that you are using the MAX9501 EV kit when contacting this supplier.

Features

- ◆ Dual ±5V Supply Operation
- ◆ Output Buffer Drives a 150Ω Standard Video Load with a +6dB Gain
- ◆ High-Definition Television 30MHz Filter
- ◆ DC-Coupled Input/Output
- ◆ Standard 75Ω Input/Output Terminations
- ◆ Surface-Mount Components
- ◆ Fully Assembled and Tested

Ordering Information

PART	TEMP RANGE	IC PACKAGE
MAX9501EVKIT	0°C to +70°C*	16-QSOP

*This limited temperature range is for the EV kit PC board only. The MAX9501 IC temperature range is -40°C to +85°C.

Quick Start

Recommended Equipment:

- ±5V, 1A DC power supply (VCC and VEE)
- Video signal generator (e.g., Tektronix TG-2000)
- Video measurement equipment (e.g., Tektronix VM5000 or equivalent)

The MAX9501 EV kit is fully assembled and tested. Follow these steps to verify board operation. **Do not turn on the power supply until all connections are completed:**

- 1) Connect the output of the video signal generator to the YIN BNC connector on the MAX9501 EV kit.
- 2) Connect the YOUT BNC connector on the EV kit to the input of the video measurement equipment.
- 3) Connect the power-supply ground to the GND pad on the EV kit.
- 4) Connect the +5V supply to the VCC pad on the EV kit.
- 5) Connect the -5V supply to the VEE pad on the EV kit.
- 6) Set the video signal generator for the desired video input signal.
- 7) Turn on the power supply, and enable the video signal generator.
- 8) Analyze the video output signal with the video measurement equipment.

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Detailed Description

The MAX9501 evaluation kit (EV kit) is a fully assembled and tested surface-mount circuit board that contains a MAX9501 IC. The MAX9501 is a triple video-reconstruction filter and buffer for HDTV and anti-aliasing applications. All three channels have identical characteristics.

The MAX9501 filter's passband is 30MHz. The device includes a +6dB output buffer capable of driving 2V_{p-p} video signal into a standard 150Ω load. All the input and output signals on the MAX9501 EV kit are DC-coupled. The EV kit's input terminals are 75Ω terminated. The MAX9501 video output terminals are each back terminated at 75Ω.

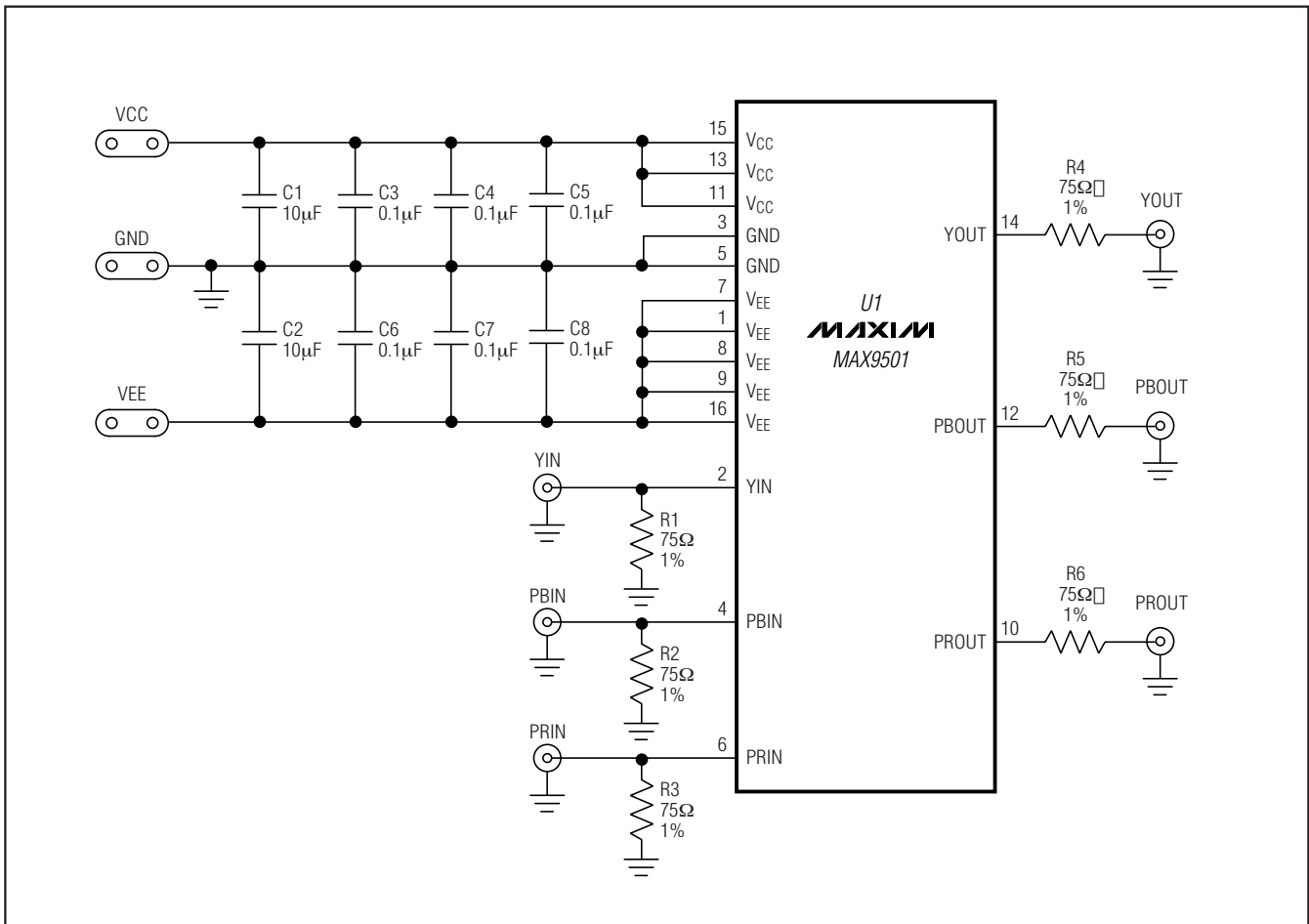


Figure 1. MAX9501 EV Kit Schematic

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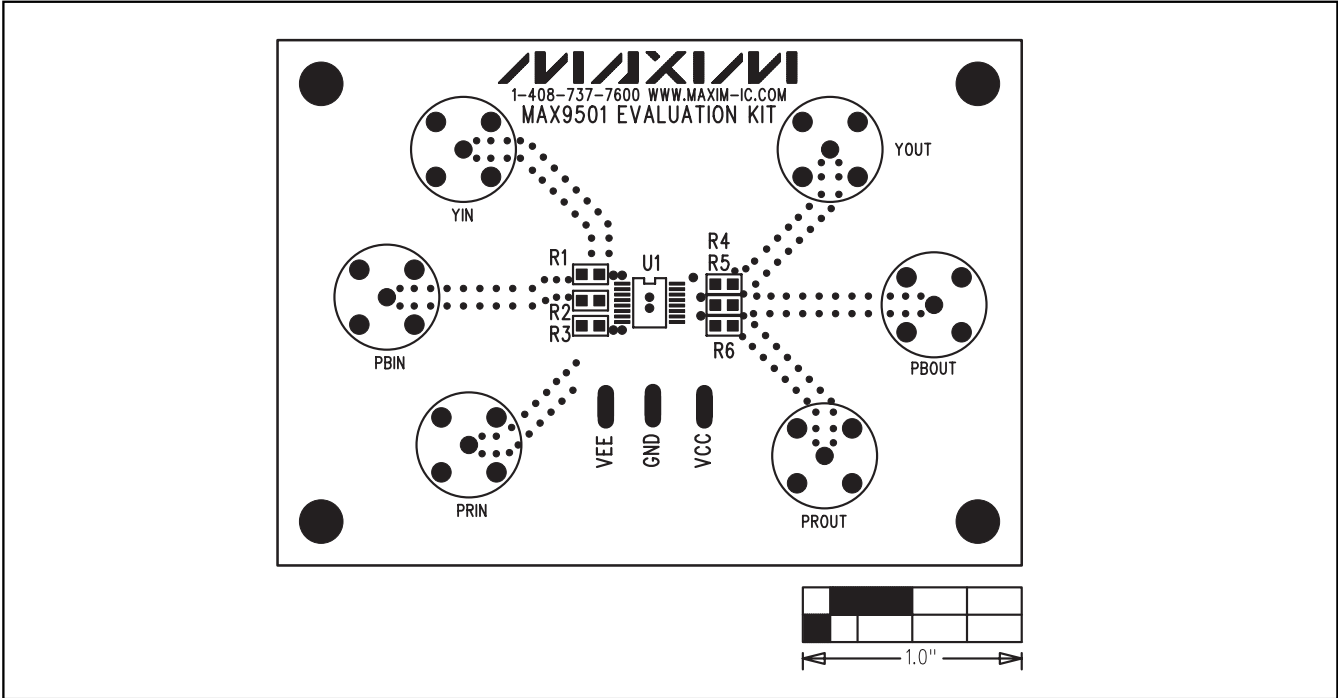


Figure 2. MAX9501 EV Kit Component Placement Guide—Component Side

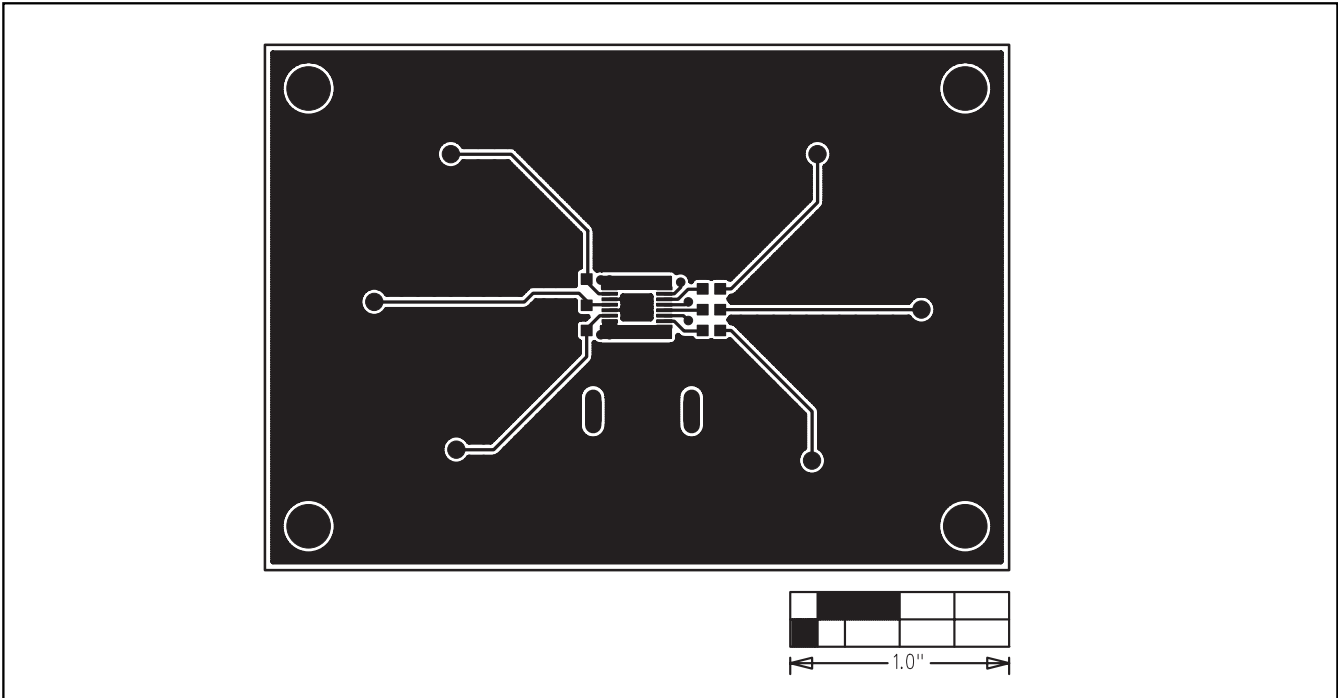


Figure 3. MAX9501 EV Kit PC Board Layout—Component Side

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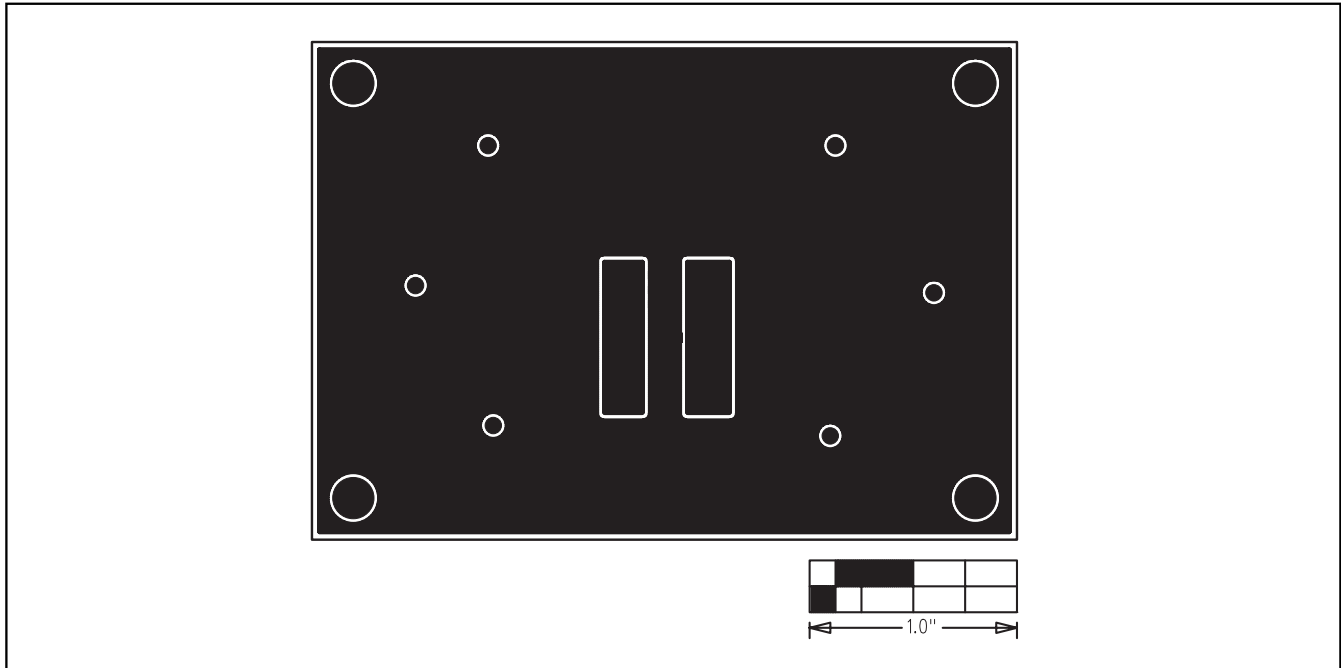


Figure 4. MAX9501 EV Kit PC Board Layout—Solder Side

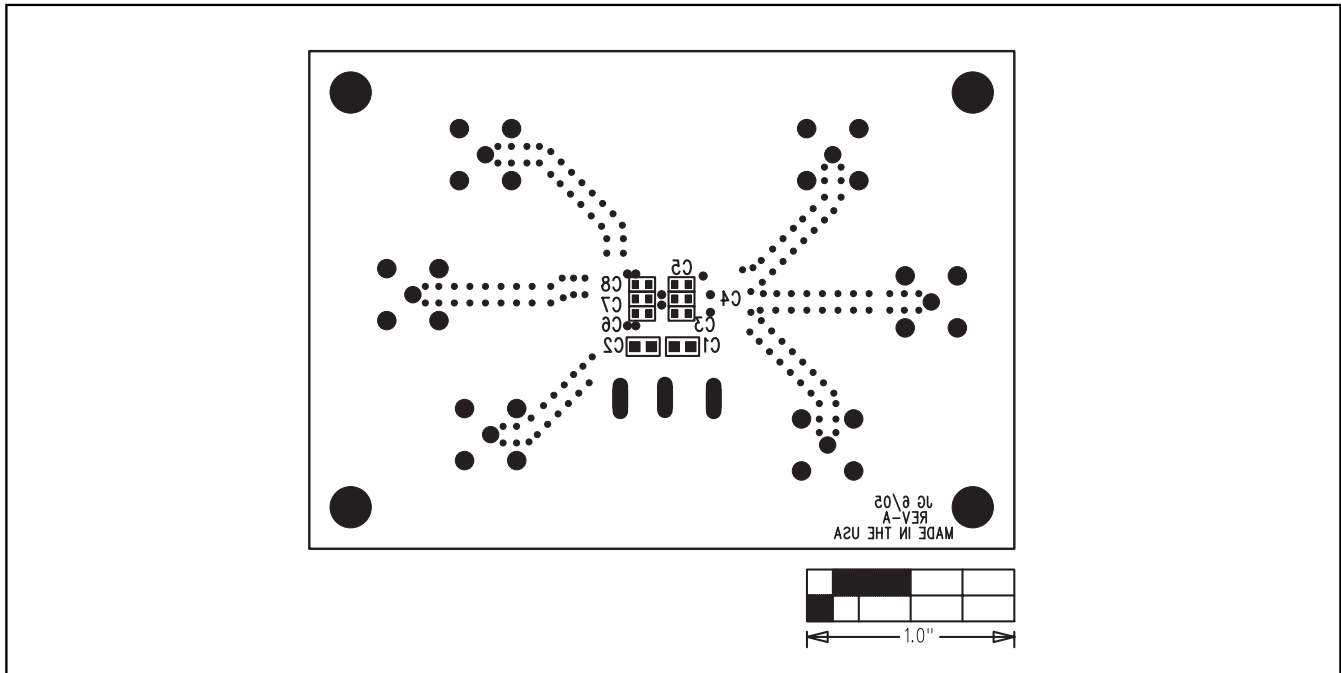


Figure 5. MAX9501 EV Kit Component Placement Guide—Solder Side

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