

MAXIM

MAX7443 Evaluation Kit

General Description

The MAX7443 evaluation kit (EV kit) evaluates the MAX7443, a low-cost triple-channel video reconstruction filter for composite and S-video applications. The EV kit operates from a single +5V supply. The MAX7443 EV kit can also be used to evaluate the MAX7444, a similar device with a high-frequency boost option.

Component List

DESIGNATION	QTY	DESCRIPTION
C1	1	1 μ F \pm 20%, 6.3V X5R ceramic capacitor (0603) Taiyo Yuden JMK107BJ105MA
C2, C6, C7	3	0.1 μ F \pm 10%, 16V X7R ceramic capacitors (0603) Taiyo Yuden EMK107BJ104KA TDK C1608X7R1C104KT
C3, C4, C5	3	220 μ F \pm 20%, 6.3V aluminum electrolytic capacitors (6.3mm x 6.0mm) Sanyo 6CV220AX
JU1, JU2, JU3	3	3-pin headers
JU4, JU5	2	2-pin headers
R1–R5	5	75 Ω \pm 1% resistors (0603)
R6, R7	2	200 Ω \pm 1% resistors (0603)
R8, R9	2	162 Ω \pm 1% resistors (0603)
TB1	1	Two-circuit terminal block
U1	1	MAX7443ETA (8-pin thin QFN 3mm x 3mm)
YIN, CIN, YOUT, CVOUT, COUT	5	BNC PC board mount connectors
None	5	Shunts
None	1	MAX7443 PC board

Features

- ◆ +5V Single Supply
- ◆ Compatible with Standard Video Test Equipment
- ◆ Surface-Mount Construction
- ◆ Fully Assembled and Tested

Ordering Information

PART	TEMP RANGE	IC PACKAGE
MAX7443EVKIT	0°C to +70°C	8 Thin QFN

Note: To evaluate the other device in the family, the MAX7444, request a free MAX7444ETA sample with the MAX7443EVKIT.

Quick Start

Recommended equipment:

- Single 5.0VDC power supply
- Video signal generator (e.g., Tektronix TG 2000)
- Video measurement equipment (e.g., Tektronix VM 700A)

The MAX7443 EV kit is a fully assembled and tested surface-mount board. Utilize the following steps to verify the board operation. **Do not turn on the power supply until all connections are completed:**

- 1) Verify that there are shunts installed on JU1 and JU3 (pins 1 and 2) and JU2 (pins 2 and 3).
- 2) Verify that there are shunts across jumpers JU4 and JU5.
- 3) Connect the luma output from the video signal generator to the YIN BNC connector on the EV kit.
- 4) Connect the chroma output from the video signal generator to the CIN BNC connector on the EV kit.
- 5) Connect the input of the video measurement equipment to the YOUT, COUT, or CVOUT BNC connectors on the EV kit.

Component Suppliers

SUPPLIER	PHONE	FAX	WEBSITE
Sanyo	619-661-6322	619-661-1055	www.sanyo.com
Taiyo Yuden	800-348-2496	847-925-0899	www.t-yuden.com
TDK	847-803-6100	847-390-4405	www.component.tdk.com

Note: Please indicate that you are using the MAX7443/MAX7444 when contacting these suppliers.

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- 6) Connect the 5.0V supply to the terminal block labeled VCC. Connect the terminal labeled GND to the ground of the power supply.
- 7) Set the signal generator for the desired video signal, such as multiburst.
- 8) Turn on the 5.0VDC power supply.
- 9) Analyze any of the output signals with the VM700 video measurement.

Detailed Description

Jumper Selection

The MAX7443 EV kit provides options for evaluation with a video signal generator output or a current output video DAC (encoder). Table 1 lists the jumper settings

for selecting the input from either a video generator or a DAC (encoder). When interfacing to a video DAC or encoder output, the 200Ω termination resistor is provided on the board and selected by changing jumpers JU1 and JU3. A typical DAC termination resistor is 200Ω. If the full-scale DAC output current is different than ≈5mA, change the 200Ω resistor accordingly to get 1V at the input of the MAX7443.

The MAX7443 EV kit incorporates jumper JU2 to control the gain setting. Table 2 lists the JU2 functions.

Evaluating MAX7444

The MAX7443 EV kit can be also used to evaluate the MAX7444. To evaluate the MAX7444, replace the MAX7443ETA with a MAX7444ETA.

Table 1. Jumpers JU1, JU3, JU4, and JU5 Functions

JU1 SHUNT LOCATION	JU3 SHUNT LOCATION	INPUT TERMINATION (Ω)
Pins 1 and 2 (default)	Pins 1 and 2 (default)	75
Pins 2 and 3	Pins 2 and 3	200
All other combinations		Undefined

Note: To emulate a 200Ω DAC source resistor when driving from a 75Ω generator, remove jumpers JU4 and JU5. The 162Ω resistor added to the standard 75Ω termination equals approximately 200Ω.

Table 2. JU2 Functions

JU2 SHUNT LOCATION	GSET PIN	GAIN (dB)
Pins 1 and 2	Connected to VCC	9.5
Pins 2 and 3	Connected to GND	6
Not installed	Not connected	12

MAX7443 Evaluation Kit

Evaluates: MAX7443/MAX7444

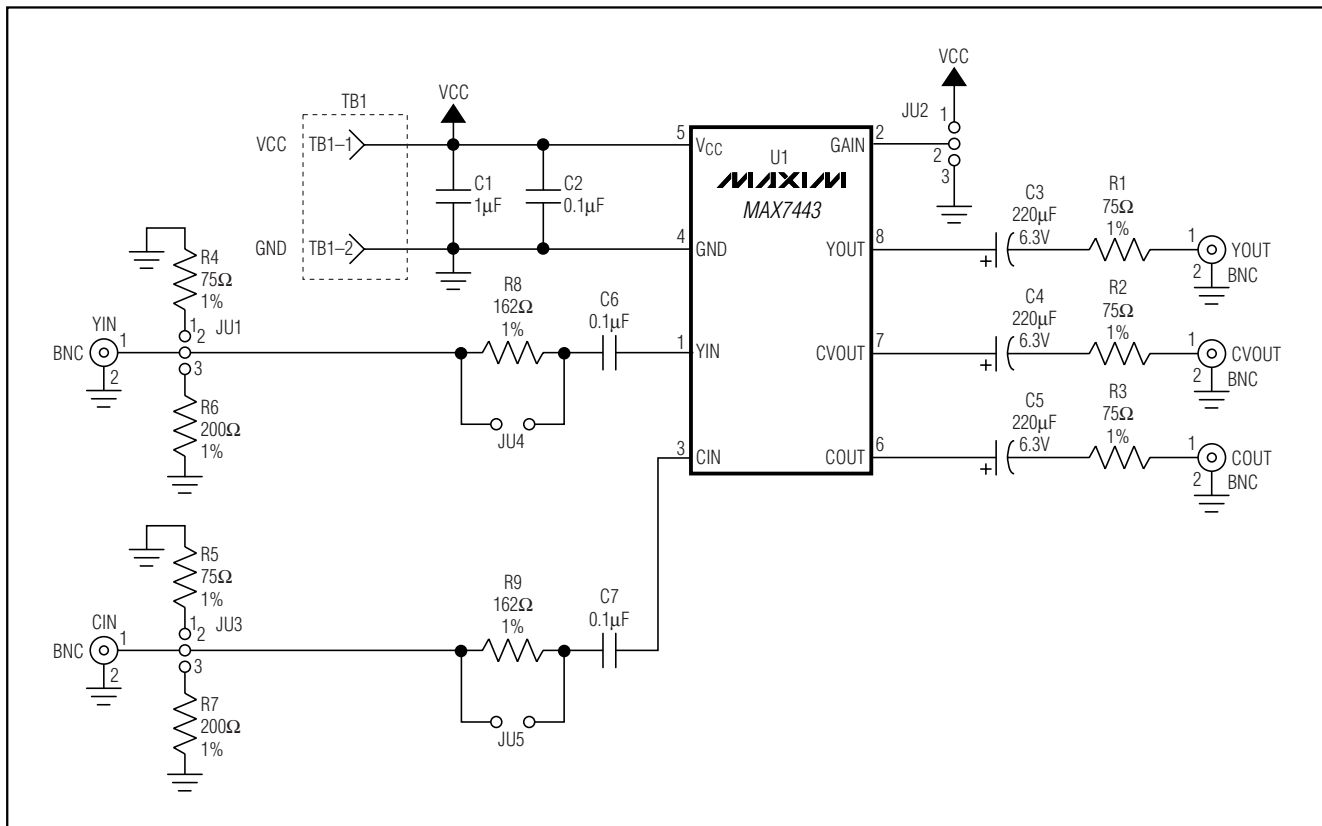


Figure 1. MAX7443 EV Kit Schematic

MAX7443 Evaluation Kit

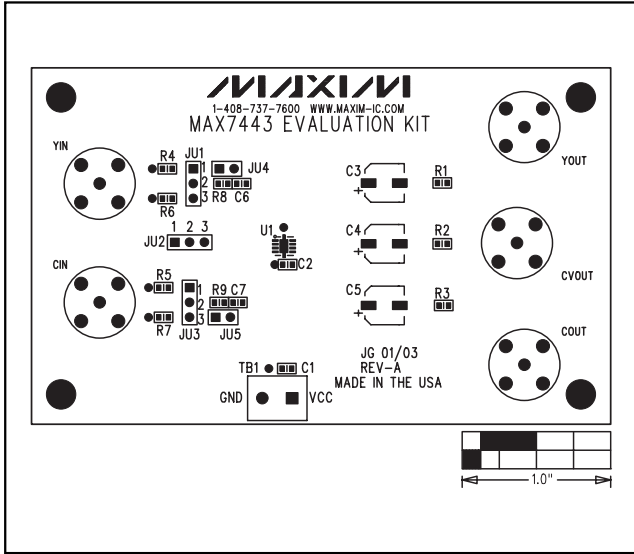


Figure 2. MAX7443 EV Kit Component Placement Guide—Top Silkscreen

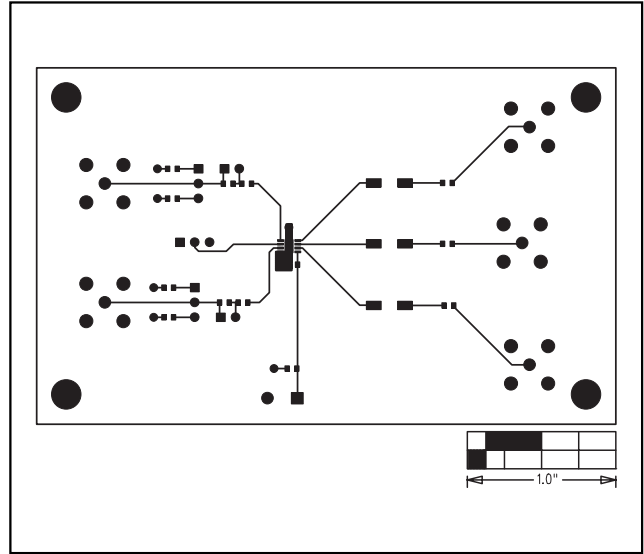


Figure 3. MAX7443 EV Kit PC Board Layout—Component Side

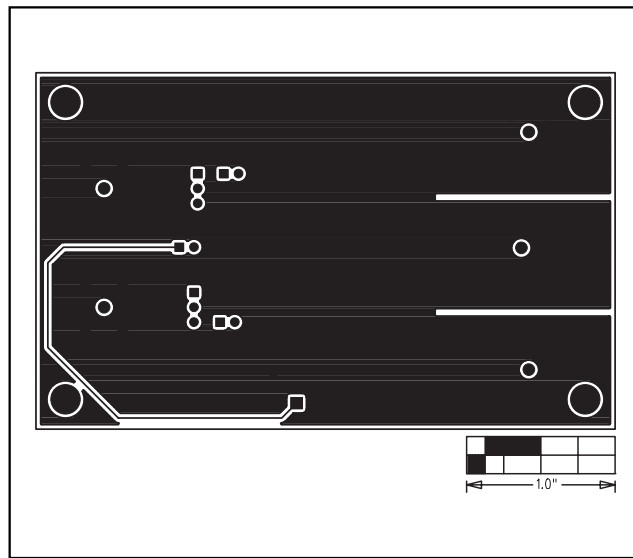


Figure 4. MAX7443 EV Kit PC Board Layout—Solder Side

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