CN12 NTSC/PAL Camera

Technical Reference Guide

PCB Rev 1.0

www.soc-robotics.com

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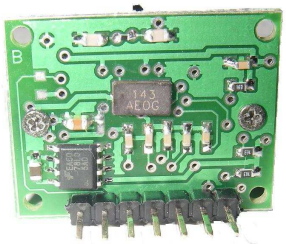
1935A–08/00/5M

Table of Contents

1.0 Introduction

Features:

- NTSC Camera Module
- Completely standalone
- Direct connection to display
- Video chip is Omnivision OV7910
- Programmed via I2C
- Outputs composite analog video stream
- Extensive I2C parameter setup
- 8-10VDCV operation
- Dimensions: 1.10x0.84 inch



Hardware

The CN12 is a self contained NTSC camera the outputs a composite video signal. The CN12 requires an 8-10VDC input and outputs a composite video signal with a nominal 75ohm load. The CN12 replaces the previous CN10 unit.

Software

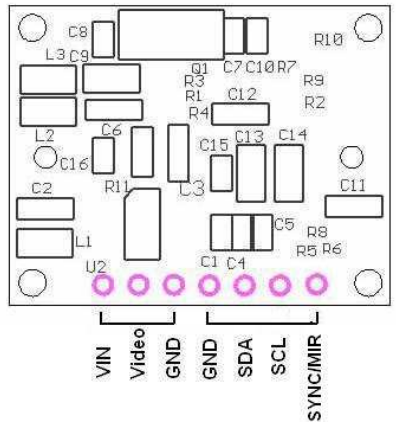
The CN12 is a standalone NTSC video camera that outputs composite video and does not require any setup. If camera configuration parameters must be changed then an I2C interface is available that allows commands to be sent to the camera module. A detailed description of supported commands is provided in the Omnivision OV7910 Datasheet.

2.0 CN12 Detailed Description

2.1 Introduction

The CN12 is a standalone NTSC camera module consisting of a NTSC CMOS camera chip, lens holder and lens. The CN12 outputs a composite color video signal with a 75ohm source load. The video chip is the Omnivision OV7910. An I2C interface can be used to communicate with the OV7910 camera chip to change default configuration options.

CN12 Back Component Layout



2.2 CMOS Video Composite Output

The CN12 outputs an NTSC composite video output that can be directly connected to a video display device.

2.3 I2C Interface

The CN12 has an I2C communication interface that can be used to change camera configuration parameters. See the OV7910 Datasheet for detailed technical information regarding system configuration parameters.

2.3 SYNC/MIR Signal

The CN12 has signal pin that outputs the Vertical and Horizontal Sync Signal or if pulled high with a 10K resistor changes the video signal to a mirror image.

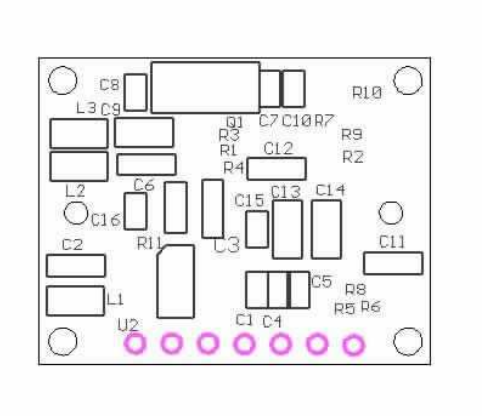
3.0 Software and Applications

The CN12 runs a default output on power up. An I2C communication interface can be used to change system configuration parameters. See the OV7910 Technical Reference Manual for a full description of the configuration parameters.

Electrical and Mechanical Description

Component Layout

Components are mounted on both sides of the board.



Electrical Specifications

Electrical

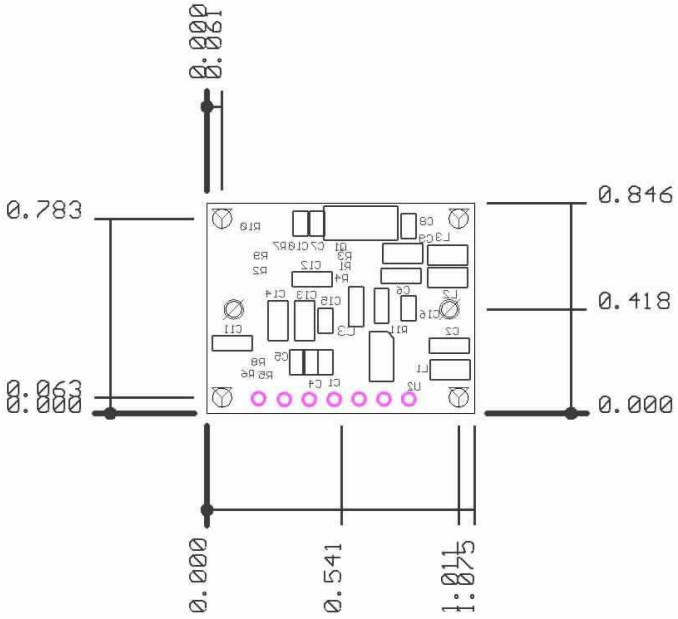
Logic Power: 8-10VDCVDC

Mechanical

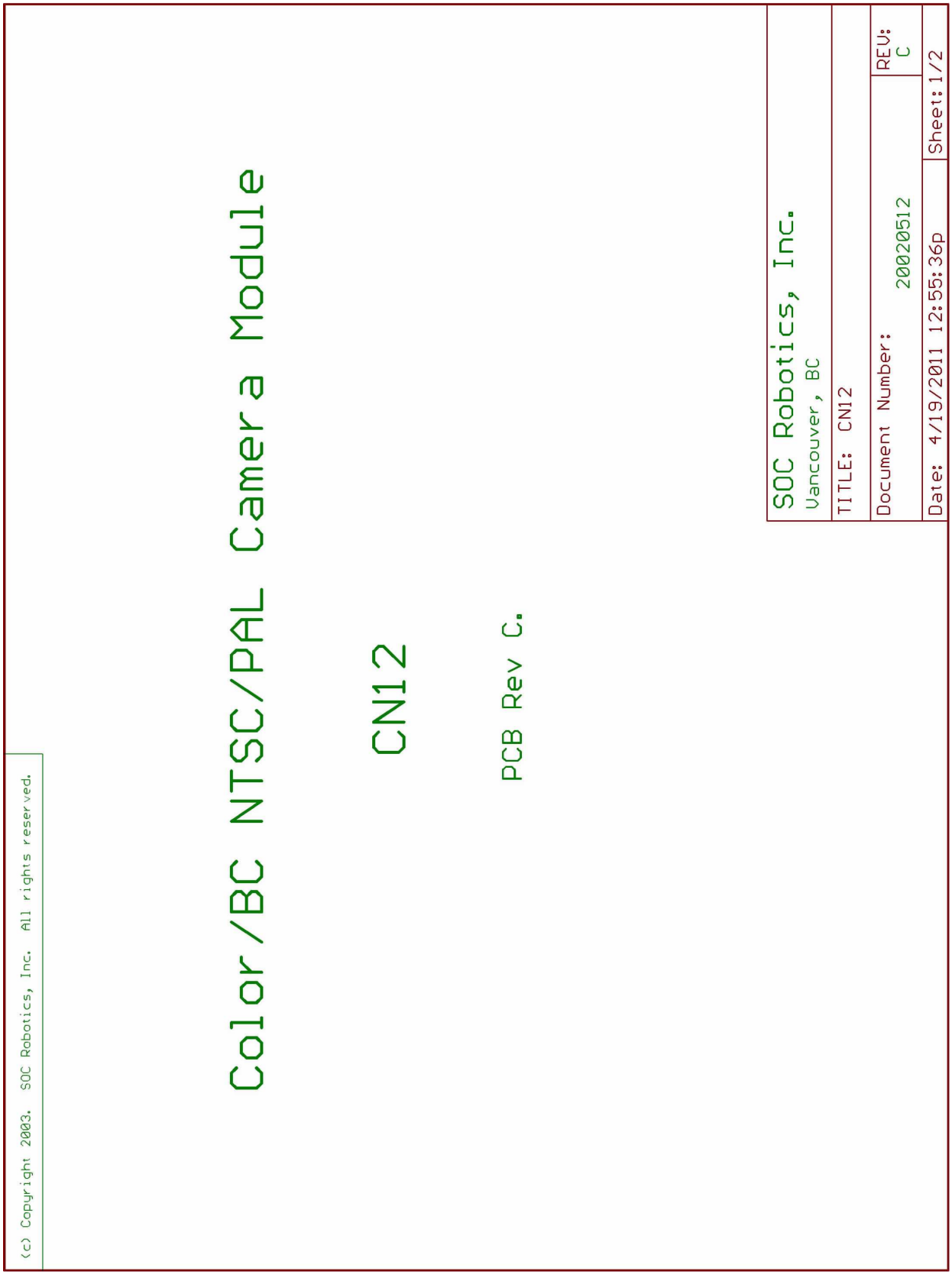
Dimensions: 1.10 x 0.85 in
Weight: 20 grams

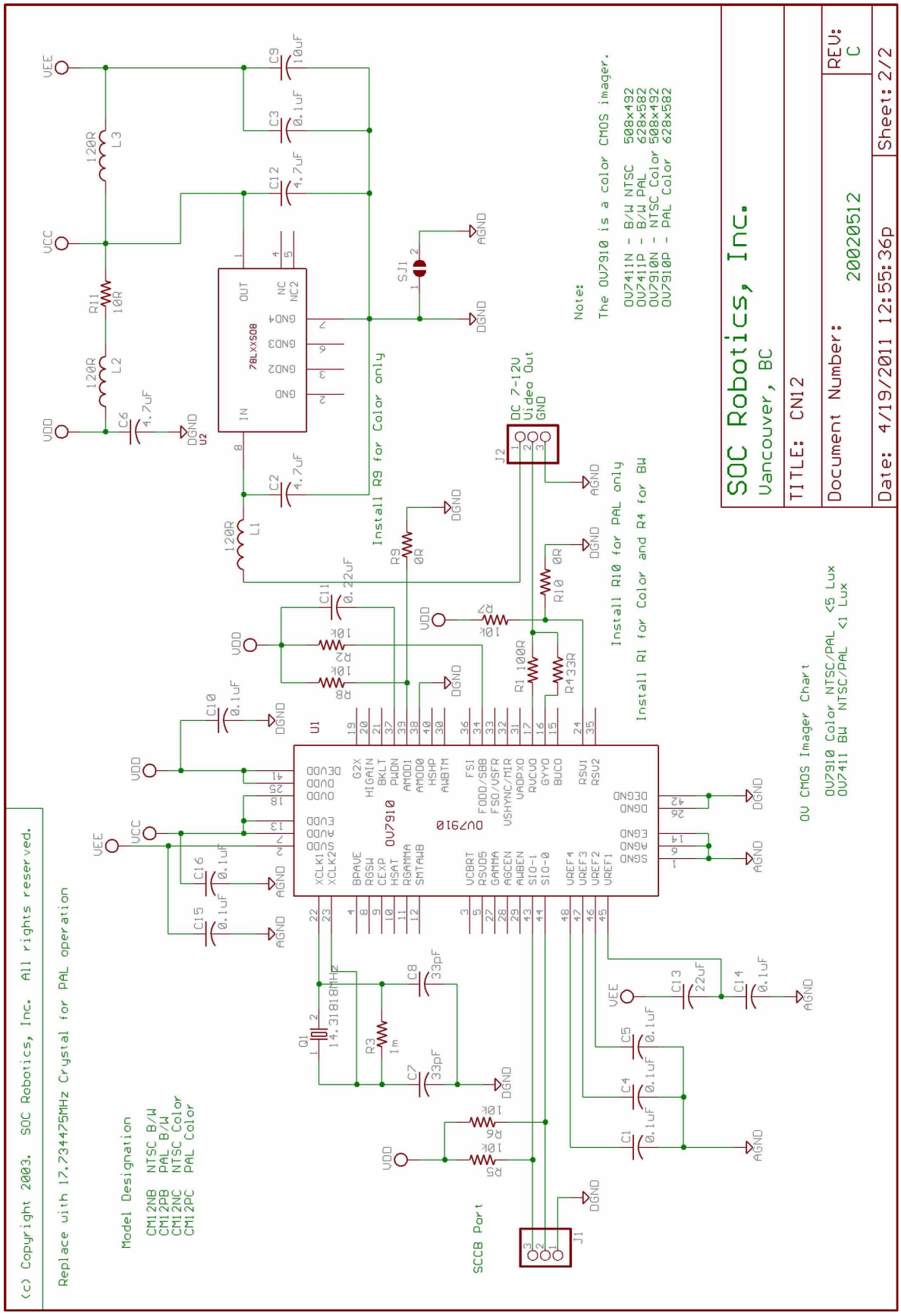
Mechanical Dimensions

Board dimensions are stated in inches.



CN12 Circuit Schematic

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Vancouver, BC
TITLE: CN12
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Note:
The OV7910 is a color CMOS imager.
OV7411N - B/W NTSC 508x492
OV7411P - B/W PAL 628x582
OV7910N - NTSC Color 508x492
OV7910P - PAL Color 628x582
Install R9 for Color only
Install R10 for PAL only
Install R1 for Color and R4 for BW
OV CMOS Imager Chart
OV7910 Color NTSC/PAL <5 Lux
OV7411 BW NTSC/PAL <1 Lux
Model Designation
CM12NB NTSC B/W
CM12PB PAL B/W
CM12NC NTSC Color
CM12PC PAL Color
Replace with 17.734475MHz Crystal for PAL operation
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SCCB Port
DC 7-12V
Video Out
GND
OV7910
U1
U2
J1
J2
Q1
14.31818MHz
78LXX08

Notes: