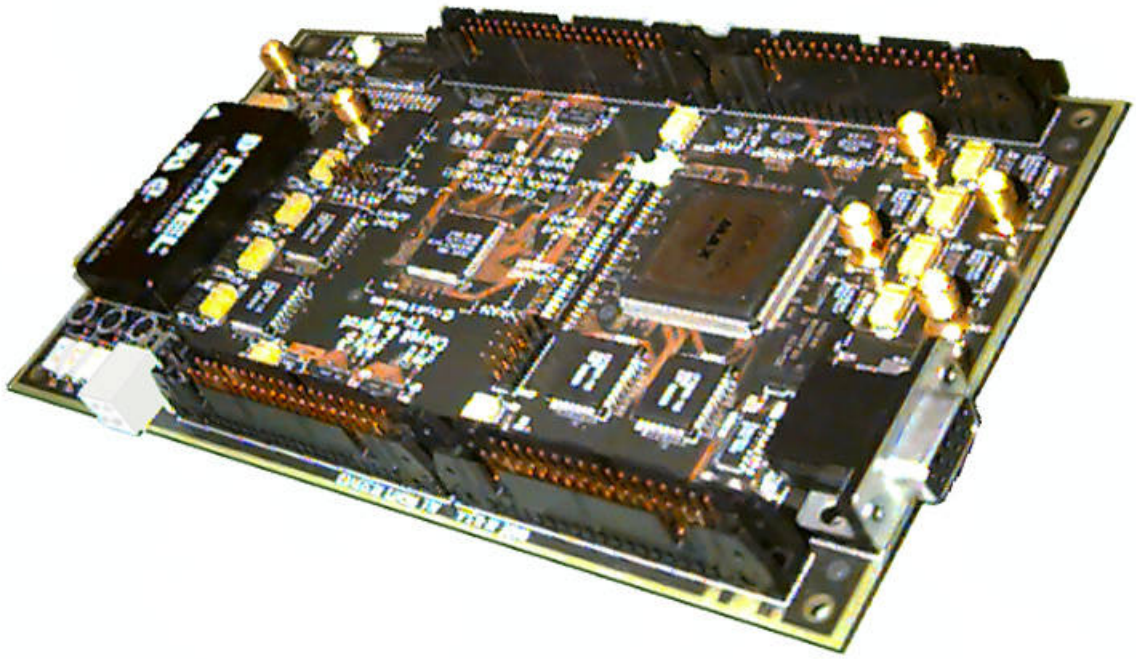
Coryell & Wiprud EV– 4114

GC4114 Evaluation Board (4 Channel All Digital Transmitter)



EV–4114 Key Features

- 32 Predefined GC4114 Register Settings
- RS–232 Control & Status of GC4114 Registers
- Four 14 bit, 300 KSPS A/D Converters
- 12 bit, 50 MSPS D/A Converter
- Built-in CW, QPSK, & Pseudonoise Sources
- DSP Serial Port Input Interface
- TMS320C40 Comm Port Input Interface
- Digital QPSK (I, Q, Clock) Input Interface
- FM Modulator
- 50 MSPS Digital Input (GC4114 Sum In)
- 50 MSPS Digital Output Interface
- Internal 50 MHz, Sum In, or Ext. Clock Sources
- Multiple EV–4114s Can Be Daisy-Chained
- Custom Tailored Signals & Filters Are Available

EV–4114 Overview

The Coryell & Wiprud EV–4114 is designed to accelerate the evaluation of Graychip's GC4114 Quad Transmitter Chip. The GC4114 can be exercised using a simple test setup consisting of the EV–4114, a spectrum analyzer, and a power supply. One of 32 sets of GC4114 register configurations and one of several signal types can be selected by dip-switches.

Further testing may be accomplished using the high speed RS–232 port to program the GC4114 and a variety of analog and digital signal input ports. There are 4 analog inputs driving 14 bit, 300 KSPS, analog to digital converters. The EV–4114 can be driven digitally by almost any DSP chip using either serial ports, or a TMS320C40 style comm port. A symbol-serial I–Q Interface is provided for QPSK generation and a digital FM modulator can be driven by one of the A/Ds. Pseudonoise, Pseudorandom QPSK, and CW signals can be generated internally. Output signals may be monitored using either a 12 bit, 50 MSPS, digital to analog converter, or a 16 bit digital output. Multiple EV–4114s can be daisy-chained together using the 16 bit digital input and 16 bit digital output to generate 8, 12, or more channels. Clocks are generated from the digital input, and external source, or from an on-board 50 MHz oscillator.

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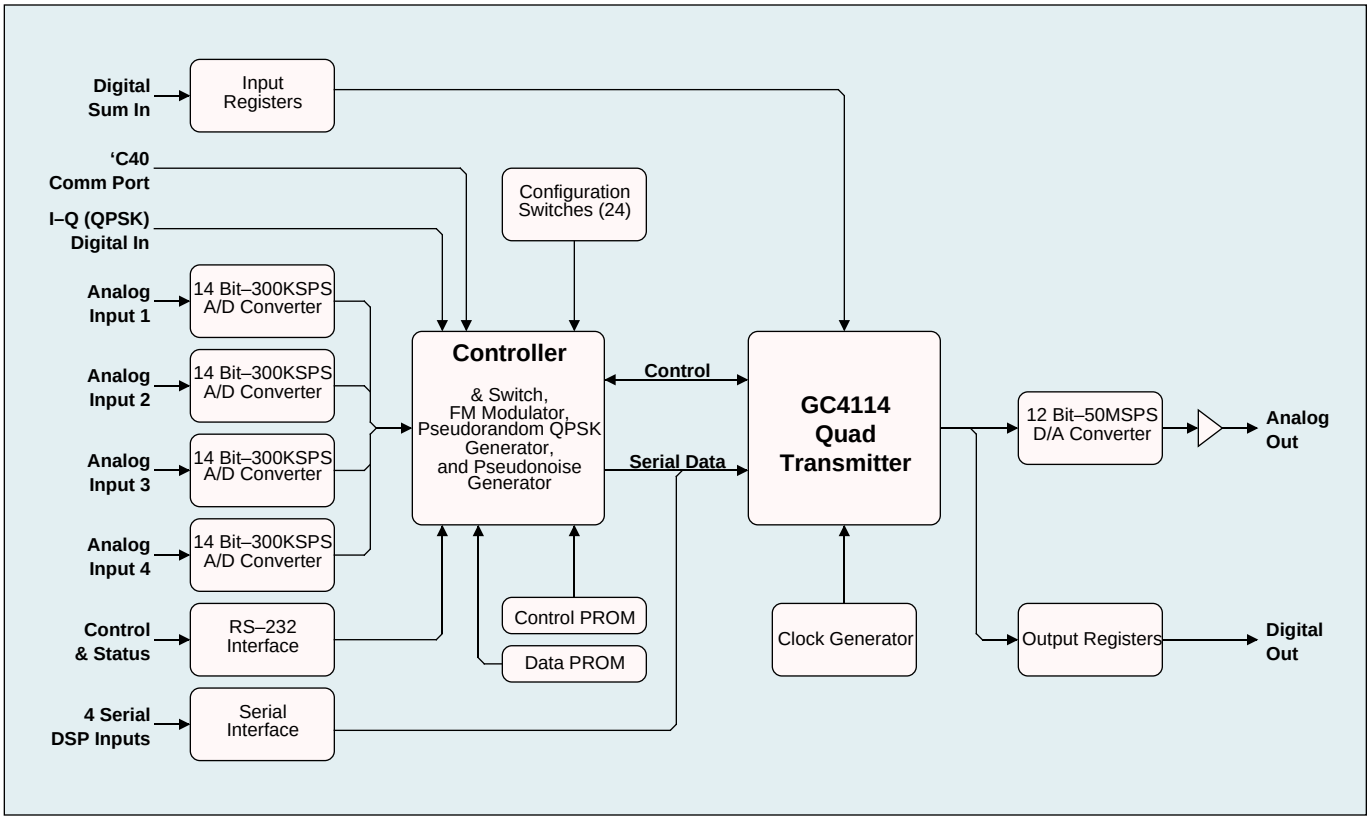
EV–4114 Block Diagram



EV–4114 Dip-Switches

24 dip-switches are provided to control the EV–4114 and the GC4114 without requiring the RS–232 port. The switches are defined as follows:

Switch 1:	Baud Rate 0	Switch 13:	Pseudonoise On
Switch 2:	Baud Rate 1	Switch 14:	Pseudorand. QPSK On
Switch 3:	Reserved	Switch 15:	FM Modulator On
Switch 4:	Configuration Select 0	Switch 16:	Reserved
Switch 5:	Configuration Select 1	Switch 17:	FM Modulation Index 0
Switch 6:	Configuration Select 2	Switch 18:	FM Modulation Index 1
Switch 7:	Configuration Select 3	Switch 19:	FM Modulation Index 2
Switch 8:	Configuration Select 4	Switch 20:	Reserved
Switch 9:	DSP Serial Input On	Switch 21:	Digital Output On
Switch 10:	FM Modulator On	Switch 22:	Reserved
Switch 11:	C40 Comm Port On	Switch 23:	PLL Frequency Select
Switch 12:	I–Q QPSK Mod. On	Switch 24:	PLL Bypass

EV–4114 Connectors & Jumpers

The EV–4114 connectors and jumpers are summarized below:

JPower:	Power (5V @ 4A)
JRS232:	RS–232 Port
JAD1:	Analog Input 1
JAD2:	Analog Input 2
JAD3:	Analog Input 3
JAD4:	Analog Input 4
JClk:	External Clock Input
JIn:	16 Bit Digital In (Sum In)
JDSP:	Comm Port & IQ (QPSK) In
JExt:	DSP Serial In
JDA:	Analog Out
JOut:	16 bit Digital Out
JBClk:	Clock Source Select
JBFS:	PLL Adjust

For More Information

Please contact us for a copy of the complete EV-4114 datasheet.

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