

**DUAL3006 Dual Codec Daughtercard
for the
Texas Instruments
TMS320C6X11/6713/6416T/5510
Digital Signal Processing (DSP) Starter Kits**

(Rev D)

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Hardware

The DUAL3006 daughtercard is designed to operate on the Texas Instruments TMS320C6211, TMS320C6711, TMS320C6713, TMS320C6416T, and TMS320C5510 DSP Starter Kits (DSK). It attaches to the DSK using the Peripheral Interface connector, J3. If desired, a ½" stand-off can be used to affix it to the DSK. When populated with only a single codec, that codec will be operated from McBSP1.

Operation with dual codecs not possible on TMS320C6211 DSKs. Operation on TMS320C6211/6711 DSKs requires that jumper JP1 be installed on the DSK in order to make the McBSP's available on J3.

General Precautions

Proper electrostatic discharge (ESD) precautions should be used at all times when handling the DUAL3006 daughtercard. Failure to do so may result in damage to the circuitry.

Audio Connections

The audio connectors on the DUAL3006 daughtercard are design to accept standard 3.5mm (1/8") stereo mini-plugs carrying line level signals. When inserting plugs into the audio connectors, use your finger to maintain pressure on the rear of the connector housing. Failure to do so may result in damage to the connector or circuit board. The PCM3006 codec used on the DUAL3006 daughtercard has a maximum input range of +/-1V_P.

Clock Operation

Both PCM3006 codecs operate as slave devices, with the DSP serial port McBSP1 providing all required serial communications signals to both codecs and McBSP0. The DSP serial port McBSP1 does this by using its Sample Rate Generator (SRG) hardware with a master clock input from the daughtercard. As shipped, the DUAL3006 daughtercard is configured to operate using its 12.288MHz onboard oscillator, resulting in a fixed 48KHz sample rate. To use variable sample rates, the DSP's TIMER1 can be used to supply the master clock for the daughtercard. To use TIMER1, the jumper block J6 (not supplied) must be installed as follows;

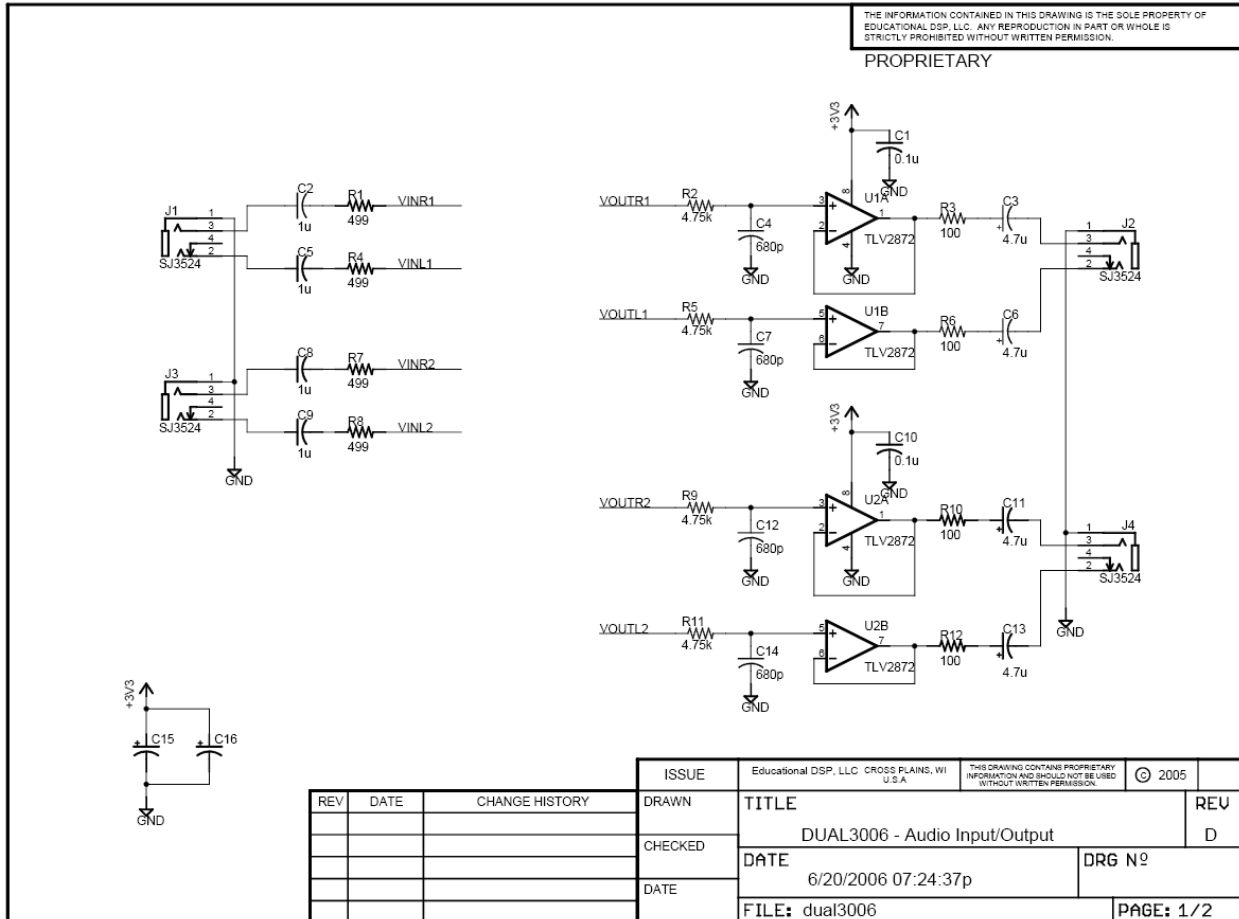
- Cut the trace on the board between J6-2 and J6-3.
- Solder a standard 0.050" spacing 3-position header strip at J6.
- Install a shunt between J6-1 and J6-2. This will connect the DSK's TIMER1 output as the PCM3006 master clock.
- To return to a fixed 48 KHz sampling rate, place the shunt between J6-2 and J6-3.

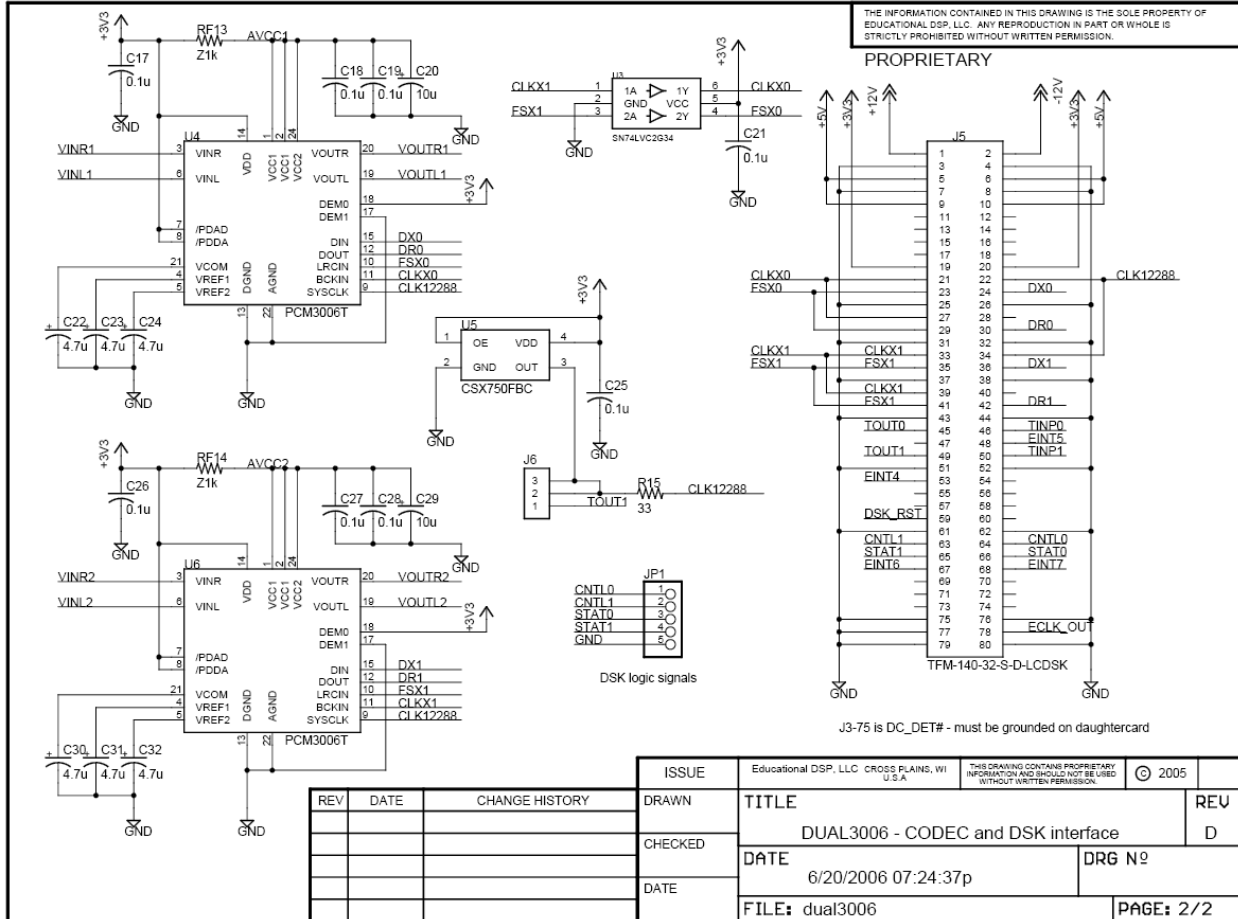
The range of sample rates over which the PCM3006 will operate is discussed in the PCM3006 datasheet available from Texas Instruments.

Digital I/O Connections

Connections to the DSK digital I/O signals (DC_STAT0, DC_STAT1, DC_CNTL0, DC_CNTL1) is available at JP1 on the daughtercard. These signals can be used as general purpose digital inputs/outputs. The address for accessing these signal is DSK-dependent, refer to the appropriate DSK Technical Reference Manual for this information.

Schematic Diagram





Component Layout

