OEM Hardware Installation Guide

ACQ1001Q-OEM, ACQ1002R/S-OEM
Single/Dual-Site D-TACQ ELF/FMC Carrier

1 Overview

This document is an addendum to the ACQ1001/ACQ1002 Installation Guide available from the D-TACQ website.

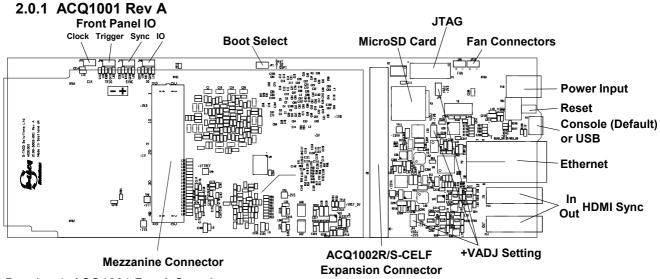This provides additional information about ACQ1001-based products.
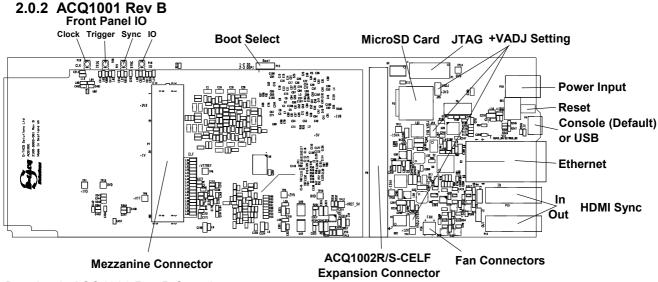
WARNING!

The ACQ1001 and related cards are complex electronic sub-assemblies. Special care should be taken in handling. The cards are susceptible to damage by ESD and improper power connections.

- Ensure ESD precautions (chassis, body grounding) are taken before opening cards from packaging.
- Ensure proper ESD precautions are taken during installation and handling.
- Please be extremely careful to ensure correct card alignment when plugging in cards to avoid pin damage.

2 Board Overview

Drawings showing the main features of the ACQ1001 are provided below.

2.0.1 ACQ1001 Rev A

Drawing 1: ACQ1001 Rev A Overview

2.0.2 ACQ1001 Rev B

Drawing 2: ACQ1001 Rev B Overview

2.1 Front Panel IO

ACQ1001 Rev A uses 2.54mm/0.1" pitch headers for these connections. Polarity is shown in the above drawing.

ACQ1001 Rev B uses Hirose U.FL-R-SMT-1(10) micro coaxial connectors, centre positive. Compatible U.FL cables are available from various component suppliers.

2.2 Boot Select

Factory-fitted setting boots ACQ1001 from the onboard Flash memory. D-TACQ does not recommend changing this to boot from SD card as any incorrect configuration information could damage the board.

2.3 Fan Connectors

These 2.54mm/0.1" headers allow 12V DC fans to be connected to improve airflow and heat dissipation. Polarity is shown on the PCB.

2.4 +VADJ Setting

Factory setting is 1.8V. D-TACQ does not recommend changing this as this is customer-specific and the wrong setting may damage a mezzanine card.

2.5 Power Supplies

Power supply test points are located and marked around the board.

2.6 Console/USB Connector

Factory-fitted option is to use the ACQ1001's USB connector for boot serial console access.

This may be reconfigured for use as a USB 2.0 OTG connector with the following consequences.

- Loss of access to the boot serial console.
- Loss of USB functionality on the ACQ1002R/S-CELF extension board.

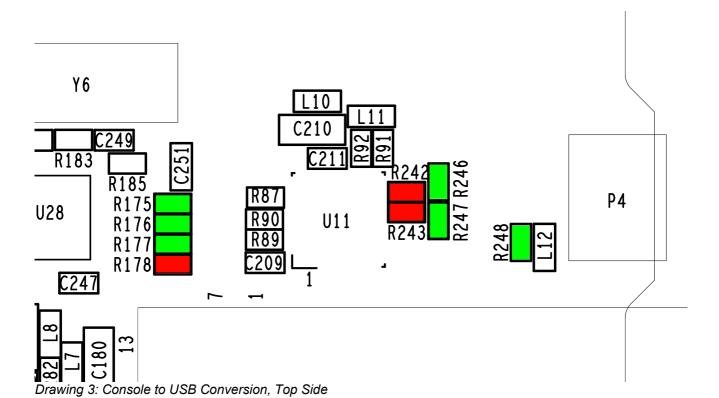The USB port is capable of providing up to 500mA of current.

A rework instruction is provided below in Drawing 3 and Drawing 4. Please note modifications are performed at the customer's own risk – D-TACQ are not responsible for failures resulting from customer modifications.
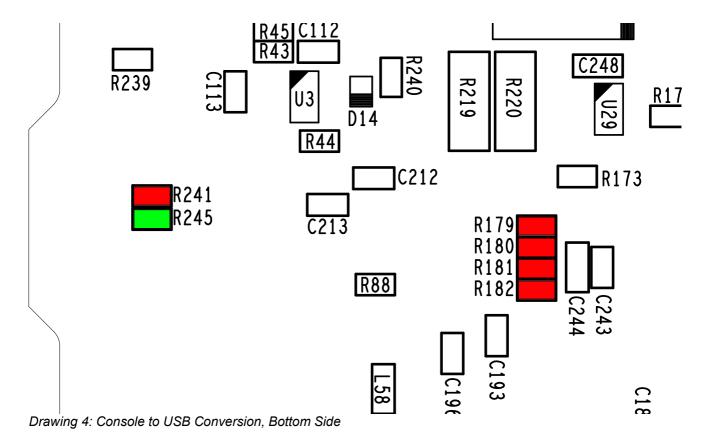
All parts are 0402 0Ω 1% resistors.

Remove components highlighted in **RED** below (R179, R180, R181, R182, R241, R242, R243).

Fit components highlighted in **GREEN** below (R175, R176, R177, R178, R245, R246, R247, R248).

Follow the instructions in reverse to be able to use the console again.

Drawing 3: Console to USB Conversion, Top Side

Drawing 4: Console to USB Conversion, Bottom Side

2.7 ACQ1002R/S-CELF Expansion Connector

If repositioning of the expansion board (biscuit) is required, extreme care must be taken to prevent mis-plugging. The biscuit, ACQ1001 and ACQ1002R/S are marked with alignment arrows. Ensure these arrows line up before powering the boards otherwise damage may occur.

3 Changelog

Date	Rev	Section	Changes
Nov 13, 2014	1		Initial Version