

GPICAD

3ATI General Purpose Intelligent Cockpit AMTFT Display (GPICAD)



The GPICAD is a **small**, **modular** and **lightweight** general purpose intelligent cockpit display. Separate boards inside the enclosure guarantee easy adaptation to custom requirements. The boards are stacked and firmly mounted inside the enclosure. The GPICAD is developed for several kinds of airborne certifiable applications, such as:

- > **Crew information display**
- > **Positioning information display**
- > **General Monitoring Information display**
- > **Replacement for obsolete cockpit equipment**
- > **Standby equipment**

The GPICAD has ARINC-429 interfaces to communicate with other equipment in the aircraft, plus discrete inputs and outputs for interfacing with the aircraft control and relay panels. Analog I/O and other interfaces like MIL-STD1553 and ARINC-825 can also be implemented.

The GPICAD is built around the powerful MPC5554 processor and has an extended temperature Active Matrix TFT display, 2.8inch QVGA 320x240 pixel resolution with graphics controller in FPGA. This guarantees long availability and better environmental specifications as well as the option for customization according to specific custom requirements.

The MPC5554 and FPGA offer a maximum of flexibility for all kinds of applications.

Features:

- > 3ATI enclosure
- > Modular concept for easy adaption to custom requirements
- > Active Matrix TFT display, 2.8" QVGA 320x240 pixel resolution with LED backlight
- > MPC5554 processor with on-chip 2MByte Flash and 64kByte SRAM memory
- > 1MByte SRAM memory (max 8MByte) and 256kbit NVRAM memory
- > FPGA with Graphics Controller, ARINC controller, PWM controller and Incremental Encoder. Features a hardware based Software Error Detection (SED)
- > Two soft key buttons
- > Light intensity sensor for automatically dimming of display backlight
- > Rotary knob incremental encoder
- > Six discrete inputs and two discrete outputs
- > Four ARINC-429 inputs and four ARINC-429 outputs
- > Four program pins
- > External panel lighting input
- > 28Vdc power supply input

Functionalities

- * BITE functionality, that is implemented to detect 95% of the failures. PBIT, CBIT and IBIT are implemented
- * Low power consumption at 28Vdc
- * Closed enclosure
- * No fans and wires are used

Product Characteristics

Physical

- * 3ATI
 - * Dimensions:76x76x140 (preliminary)
 - * Weight:750 grams (preliminary)
- ### Power
- * 28Vdc, 30W (preliminary)
 - * Operating Temperature -20 to +70 degrees Celcius (Storage -30 to +80)
 - * without heating
 - * without fans

Software support

- * OS-less ANSI C source

Qualification and Certification

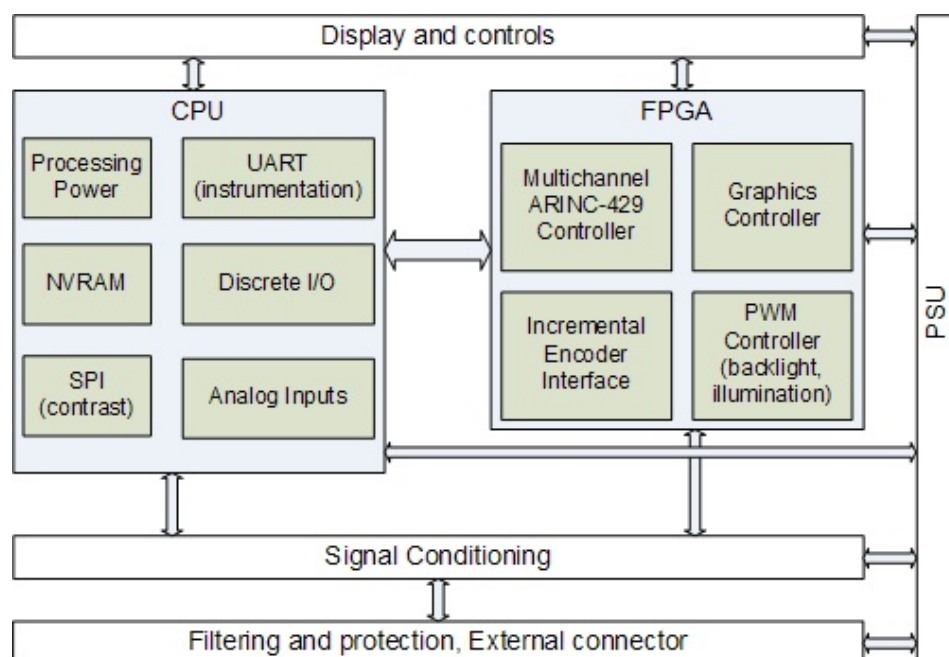
- * The GPICAD can be qualified according RTCA DO-160E/ EUROCAE ED-14
- * The GPICAD is certifiable according to the RTCA DO-254/EUROCAE ED80
- * The GPICAD is certifiable according to the RTCA DO-178B/EUROCAE ED12

Modular concept

- * Display and controls module: AMTFT module, two softkey buttons and rotary knob
- * FPGA module: multi-channel ARINC-429 controller, Graphics Controller including dual ported video memory, Incremental Encoder and PWM Controller
- * CPU module: MPC5554 processor with on-chip Flash memory for program storage and execution, SRAM memory for data storage, NVRAM for fault code storage
- * Signal Conditioning module: adapt external signals to signal levels compliant with CPU and FPGA module
- * Filtering and Protection module: filtering and protection module for all signals, from external connector
- * PSU module: generates the local power supplies from the external aircraft power supply (28Vdc)

Ordering information

- * **GPICAD/T01** contact us for more details on the GPICAD and its possibilities.



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