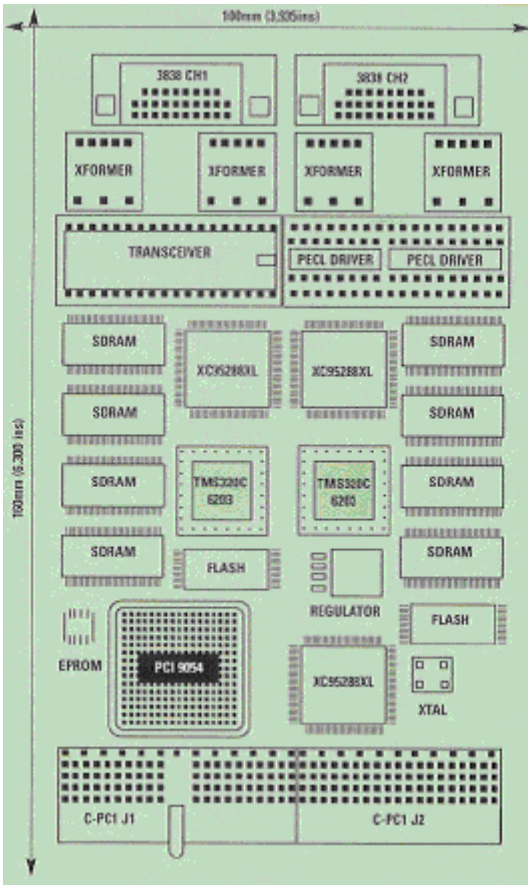
ATT CPCI 3838/3910

Compact PCI Card
EFABus Interface

The CPCI-3838/3910 is a Compact PCI card implementation of a full function EFABus Interface. This card is implemented using low cost commercial and industrial components, and is intended for workshop and laboratory use. However, it is 100% functionally and software compatible with the Mil-CPCI-3838/3910 card, so an upgrade path to a fully flight capable card is still possible.

	Speed	Internal Program Memory	Internal Data Memory	Screening
TMS320C6202	250MHz/2000MIPS	256K Bytes	128K Bytes	Commercial/Industry
TMS320C6203	300MHz/2400MIPS	384K Bytes	512K Bytes	Commercial/Industry
SMJ320C6204	200MHz/1600MIPS	64K Bytes	64K Bytes	Military 883C

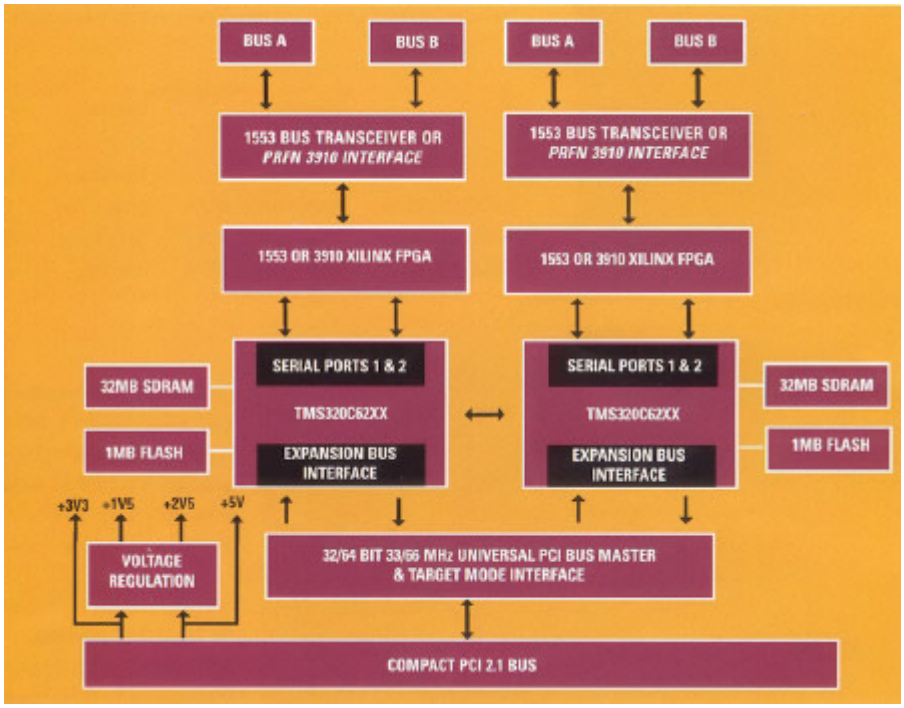


The card contains two identical processor sections, each of which may drive either a Mil-Std-1553B/Stanag 3838 or a Stanag 3910/PrEN 3910 bus (using external FOFE's). It is therefore possible to supply the card in several configurations, including a dual low speed only (1553/3838) card, a dual high speed only (3910) card, or a single low speed and a single high speed card. The two identical processor sections each use a Texas Instruments TMS320C62XX processor. This family of processors can run at speeds of up to 300Mhz, providing a peak performance of 2400MIPS. The following processor options are planned. Connection between the processors and the host is performed over a PCI 2.1 compatible bus.

The PCI interface supports universal mode 5V or 3V3 signalling at 33Mhz/32bits. PCI Target mode access are made via the processors expansion bus, which enables the host to access all the data memory of either processor. Either processor can also arbitrate to become the PCI bus master, which allows it to take control of the PCI bus, and transfer data at the maximum PCI rate of 132 MB/sec. The circuitry required to generate and receive the desired bus protocols is contained within Xilinx CPLD devices, which are FLASH based devices that can be re-programmed to suit a users exact requirements. Each processor has an additional 32M Bytes of high speed SDRAM fitted. This memory is fully visible to the host processor via the PCI bus, providing a maximum of 64M Bytes of on-card storage. Additionally, up to 1Meg Bytes of FLASH EPROM is available to each processor. This contains the boot code and application firmware for the processor.

Upgrade Path

To support the current trend towards Commercial Of The Shelf (COTS) solutions in military designs, an upgrade path to the Mil-CPCI-3838/3910 card is available. The Mil-CPCI-3838/3910 card is constructed using components that are available in commercial, industrial and military grade versions. This includes a military specification temperature range of -55 to +125 degrees C, full Mil-Spec-883C screening, and 'Space' grade radiation specifications of 60K Rad(Si). Therefore development of systems using inexpensive commercial cards in a workshop environment is possible, followed by a low risk switch to the full Mil-Spec, but functionally identical card for production.



Software Support

- Factory programmed to users specifications. Supported protocols include Mil-Std-1553A & B, MacAir, Stanag 3838 & 3910, High Speed DDL, EFABus and EFABus Express. Upgradable firmware available by EMAIL or Internet download. Standard firmware supports concurrent Bus Controller, 31 Remote Terminals and Bus Monitor on both channels simultaneously.
- On-board and Texas DSP Processors fully support TI Code Composer Studio, C and ADA development system via JTAG debugging ports. Compatible with TI XDS510 type emulators. ATT Avionics developed Mil-Std-1553 and Stanag 3838/3910 firmware licence available for users wishing to develop fully embedded solutions.
- Windows NT kernel mode device driver. Windows NT user API supplied as source code and as a 32 bit DLL.
- Supported by ATT-DAS Windows user software for advanced setup and bus analysis.

ATT Avionics Ltd

Thorne House, Eastville, Yeovil, Somerset. BA21 4JD Telephone: 01935 **411298** Facsimile: 01935 **411307**