

PMC-G6-DIGI PMC-G6CC-DIGI

DIGIBUS GAM T101



The **PMC-G6-DIGI** interface board supports a full implementation of the French military communication bus **DIGIBUS**.

It fully complies with the **DIGIBUS GAM-T101** standard.

The **PMC-G6-DIGI** board implements a redundant bus. It can be used in ground application such as test benches and maintenance tools or involved in embedded airborne systems.

The **PMC-G6-DIGI** replaces the obsolete **PMC-DIGICOOOL** board.

PMC-G6CC-DIGI is the conduction cooled version of the board for embedded systems.

- ◆ Full implementation of a redundant **DIGIBUS** communication bus (**GAM T101**)
- ◆ Support simultaneously the 3 main functions of **DIGIBUS**:
 - Bus controller
 - Remote terminal
 - Monitor (spy)
- ◆ **IRIG-B** Datation 1 μ s resolution
- ◆ **PCI 32-bit** bus interface
- ◆ **Softwares**: C Library for Linux , Windows, Vx Works
- ◆ **Conduction cooled PMC-Format** available

Functions:

The **PMC-G6-DIGI** board can support simultaneously the 3 main functions of Digibus:

Bus controller: the board rules the traffic on the bus by emitting data on the "procedure" communication line.

Remote terminal: the board can act as one or several remote terminal listening the commands on procedure communication line and emitting or receiving the data of the data communication line.

Monitor (spy): the board acquires and records the complete data traffic on the bus.

Input-output are available on front connector or Pn4 connector of PMC standard

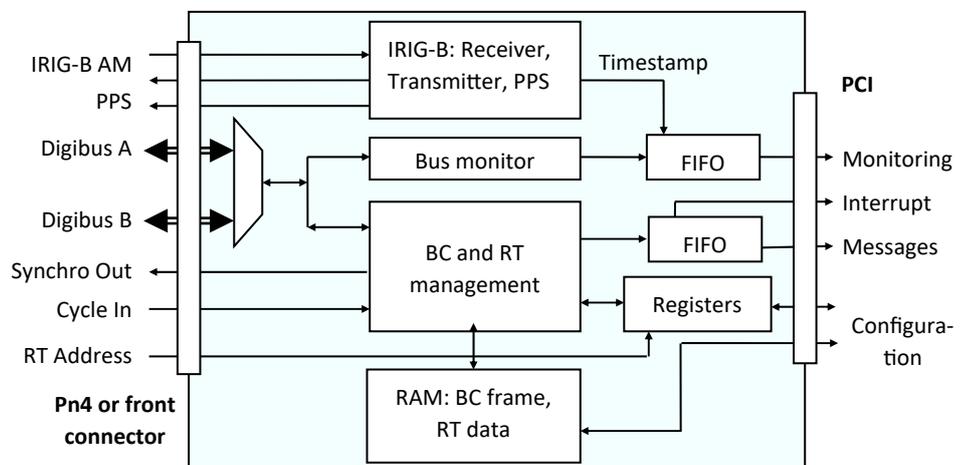
Available versions:

Air cooled version with front panel connector.

Conduction cooled version with no front connector: input-output use the Pn4 connector of the PMC standard.

A simplified version of the board restricted to the monitor function is available.

Board organization:



APPLICATIONS

Test benches
Embedded computers

FUNCTIONS	
Bus Controller	User application describes the bus traffic by tables, copied into the board memory. Traffic timing can be based on internal clock or external events.
Remote Terminal	User software declares which terminals are managed by the board and which commands are processed by each terminal. Up to 31 terminals can be implemented by the board.
Monitor	Every message on the redundant bus is captured, time stamped and saved in processor main memory. Status bits define data characteristics: parity error, acknowledge, presence of "V" bit etc.
Message trigger	The board can be configured for detection of a given command pattern which generates a hardware signal (synchro trigger). This useful feature allows synchronization of external acquisition equipment with the bus
Time stamping	The PMC-G6-DIGI board can receive an IRIG B compliant synchronization signal. Its internal date is then synchronized with the external world. The PMC-G6-DIGI board can also generate an IRIG B signal and acts as a master for other IRIG B compatible equipment.
Error generation	It is possible to generate traffic with Digibus standard violations: parity errors, missing V bit or acknowledge.
Error detection	Each message comes with a full description of its characteristics: parity, acknowledge, V bit etc.
General purpose I/O	3 digital inputs and 3 digital outputs are available for user's specific needs.
RT Address	6 inputs (five bits + parity) are available to fix the address of a RT managed by the board
Other possibilities	The board includes a micro controller not used in the functions described above but which can be factory programmed for specific real time needs.
INPUT/OUTPUT (ALL TTL)	
Outputs	Top synchro: triggered on a given message 3 general purpose outputs
Input	Top cycle: triggers a new cycle in controller operation 3 general purpose inputs + 6 inputs for the terminal address.
IRIG B	
	Supports B122 format: 1 kHz Amplitude Modulation 1 time input. 1 time output. 1 PPS (heartbeat) output.
DIGIBUS	
	GAM-T-101 compliant (redundant bus mode, no sub-bus, short stub only)
FORMAT	
	PCI interface conforms to PCI standard 2.1 (32 bits, 33 MHz with 3.3 or 5 V signalling). PMC "Conduction cooled" (CCPMC) uses primary and secondary thermal interfaces.
MTBF	
	MIL HDBK 217 FN2, Method 1 case 1 24265 hours, 50°C
POWER SUPPLY	
	+3.3 V, +5 V, +12 V, 3.3W over temperature range
CONNECTORS	
	PMC/Pn4: Digibus, IRIG B, 12 TTL signals. Front panel (PMC-G6-DIGI model only) : Honda HDR-E50 supports Digibus, IRIG_B, TTL signals (cable should use Honda Connectors HDR-E50 M S G1
ENVIRONMENT	
Operating Temperature	- 20°C to + 70°C
Non operating	- 40°C to + 85°C
Vibrations	10-75 Hz increasing 6 dB/octave 75 Hz - 250 Hz W0 = 0.04 g/Hz 250 Kz - 2000 Hz decreasing -3 dN/octave

SOFTWARE	
Driver	Windows Seven, LINUX (please ask for supported distribution list), VxWorks 6.4 Kernel mode (VxWorks driver may need user adaptations depending on target system).
User support library	Application interface in C and sample user applications in C source code are provided.
Other operating systems	Contact us

*Specifications given for 25°C

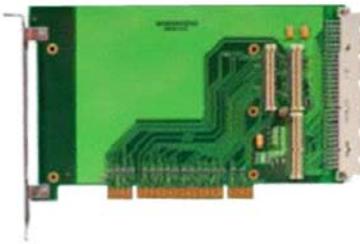
ACCESSORIES

Bus terminating load
Ref WF630Stub case
Ref WF631

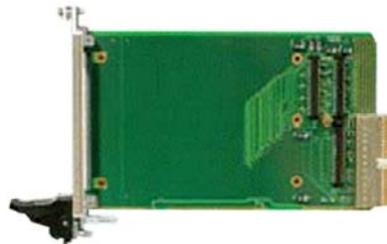
- Single bus cable (WF-609): it is a female SUBD9 adapter for a single bus
- Redundant bus Cable(WF-611): it is a female SUBD9 adapter for a redundant bus.

A PMC-G6-DIGI board can be installed into a PCI , PCI Express or 3U compact PCI slot with a carrier:

PMC-PORT-PCI



PMC-PORT-CPCI



PCI-PORT-PCIE



ORDERING INFORMATION

PMC-G6-DIGI	All functions air cooled
PMC-G6-DIGI-S	Monitor only version air cooled
PMC-G6CC-DIGI	All functions conduction cooled
PMC-G6CC-DIGI-S	Monitor only conduction cooled

ACCESSORIES

WF-609	SubD 9 adapter cable for bus A.
WF-611	SubD 9 adapter cable for bus A and B (redundant bus).
PMC-PORT-PCI	Carrier PCI/PMC.
PMC-PORT-CPCI	Carrier cPCI/PMC.
PCI-PORT-PCIE	Carrier PCI Express/PMC
WF630	Bus terminating load (75Ω)
WF631	Stub case
WF632/XXX	One bus cable (XXX centimetres)

Specifications are subject to change. Please, verify the latest specifications prior order.
Non-contractual pictures

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