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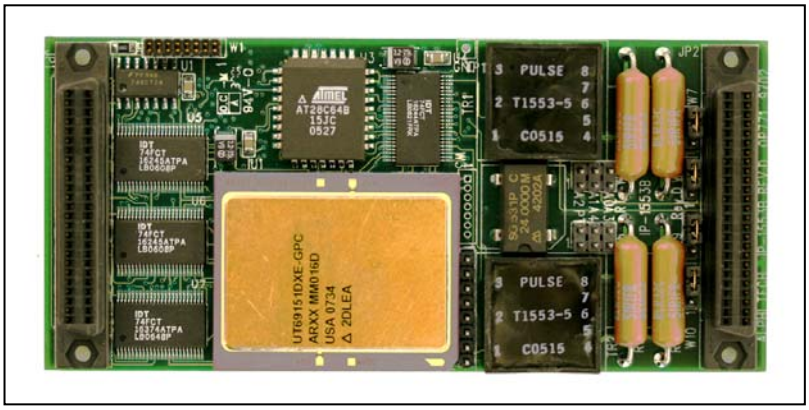
Find the *Alphi Technology IP-1553B* at our website: *Click HERE*

IP-1553-B

IP Module

IP UTMC LXE/DXE 1553 Controller

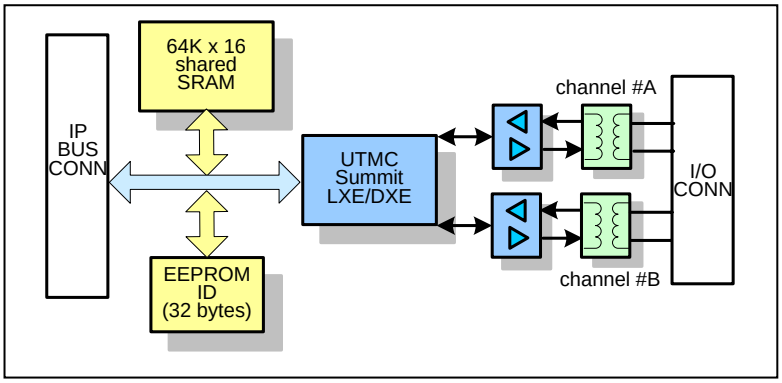
Features



- 1 controller of dual redundant (A/B channel) 1553 communications
- Programmable bus controller, remote terminal, or monitor terminal modes
- MIL-STD-1553 A and B compliant, Notice 2 RT
- Long or short stub support
- Low power consumption
- On-chip transceivers
- On-board isolation transformers
- Single +5 VDC supply
- EEPROM (32 bytes) for identification
- Simultaneous RT/M mode
- RT address and operational modes program or jumper selectable
- 8 or 32 MHz clock
- 2 interrupts and 2 slave DMA IP bus lines
- VITA 4 compliant

Block Diagram Overview

The IP-1553-UTMC uses UTMC's Sµmmit LXE/DXE version, UT69151DXE-GPC 1553 communication device as its 1553 bus controller, or remote terminal, or monitor terminal. A single controller has two redundant channels and built in transceivers. The controller accesses 64Kx16 word of external dual port memory and has internal transceivers for both channel A and B. The IP board has on-board transformers.



Available Software Drivers:

- C library dll's
- Linux drivers
- Window XP drivers
- VxWorks drivers

Applications:

This is a perfect solution for a wide array of 1553 communication applications such as:

- Test equipment supporting evaluation, simulation, monitoring, and analysis,
- Operational equipment such as avionics, space satellite systems, aircraft onboard systems, commercial systems, etc.
- Applications that require dual functionality of the terminal for monitoring and remote operation at the same time

1553 Compliance/Characteristics:

- Data Rate – 1 MHz
- Word Length – 20 bits
- Data Bits/Word – 16 bits
- Message Length – maximum of 32 data words
- Transmission Technique – half-duplex
- Operation – asynchronous
- Transmission encoding – Manchester II, bi-phase
- Protocol – command/response
- Bus Control – single or multiple
- Fault tolerance – typically dual redundant, second bus in "hot backup" status
- Message formats – controller to terminal, terminal to controller, terminal to terminal, broadcast, system control
- Number of remote terminals – maximum 31

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- Terminal Types – remote terminal, bus controller, bus monitor
- Transmission Media – twisted shielded pair
- Coupling – transformer and direct

UTMC/Summit/LXE/DXE Features:

- The UT69151DXE-GPC has integrated transceivers
- RT mode internal command illegalization
- 16-bit read/write time-tag with user-defined resolution
- Sub-address data buffering
- Simultaneous RT/MT mode of operation
- BC architecture designed with:
  - Minor frame timing
  - Efficient command block flow statements
  - Status word polling
  - Programmable retries
- Programmable interrupt architecture
- Autonomous operation in all three modes
- Supports IEEE Standard 1149.1 (JTAG)

Industry Pack Specifications:

- Meets ANSI/VITA 4-1995
- 8/32 MHz synchronous operation
- Supports ID, 128 byte I/O, interrupt. & 8 Mbyte memory spaces
- 2 Interrupts per module
- Two passive DMA channels are possible.
- Hardware self timed per IP module
- Triggered via system reset and software control
- Jumper or software time-out function
- 5, +/-12 volt reset-able fuse per IP

Mechanical: Environmental:

- Size – VITA 4 compliant
  1.8" x 3.9" or 46 mm x 99 mm
- Power – 1.0 watt
- Vibration – 0.5G, 20-2000 Hz rand
- Shock – 20G, 11 msec, ½ sine
- Weight – tbd
- MTBF – >250,000 hours

Operating Environment:

- Operating temperature
  Commercial: 0 to +70 ºC
  Optional: -25 ºC to +80 ºC
- Non-operating: -40 ºC to +85 ºC
- Airflow requirement – 5 CFM
- Humidity – 5 to 90% (non-cond)
- Altitude – 0 to 10,000 feet

Terminal Electrical Input Characteristics:

Requirements	Transformer coupled	Direct Coupled
Input level[1]	0.866-14.0V	1.2-20.0V
No response[1]	0.0-0.2V	0.0-0.28V
Zero crossing stability	+/-150.0 nSec	+/_ 150.0 nSec
Rise/fall times	0 nsec – Sine	0 nsec – Sine
Noise rejection[2]	140 mV WGN	200 mV WGN
Common mode rejection[3]	+/- 10.0V peak	+/- 10.0V peak
IInput impedance[4]	1000 ohms	2000 ohms

Notes on measurement conditions:

1. p-p, I-I
2. BER 1 per 10^7
3. Line-ground DC-2 MHz
4. 75 KHz-1MHz

Terminal Electrical Output Characteristics:

Requirements	Transformer coupled	Direct Coupled
Output level[1]	18.0-27.0V	6.0-9.0V
Zero crossing stability	25.0 nsec	25.0 nsec
Rise/fall[2]	100-300 nsec	100-300 nsec
Max distortion[3]	+/-900.0 mV	+/- 300.0 mV
Max output noise[4]	14.0 mV	5.0 mV
Max residual voltage[3]	+/-250.0 mV	+/-90.0 mV

Notes on measurement conditions:

1. p-p, I-I
2. 10%-90%
3. peak, I-I
4. rms, I-I

Ordering Information:

Part Number : IP-1553	MIL-1553, BC/RT/M, UTMC SUMMIT Industry Pack module
Part Number : IP-1553-I	same as above with -20 to +85 temperature rating

Optional Accessories

Part Number :	EngKit-IP1553	Transition module, 2 T's, 2 Terminators, 2 1 meter cables
Part Number :	CBL-1553-1	Standard-standard 2 meter 1553 cable
Part Number :	CBL-1553-2	Standard-mini 2 meter 1553 cable
Part Number :	CBL-1553-3	Mini-mini 2 meter 1553 cable

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