HIGH TEMPERATURE 1553 PROTOCOL HT1553P

FEATURES

- Tested -55 to +225°C, Operation to 300°C
- Interfaces with HT83C51 and HT320 DSP
- 20 MHz Operation
- Supports Dual Redundant MIL-STD-1553 Communication
- Single 5V Supply
- Available in 132 Pin-Grid-Array
- Supports Remote Terminal Operation

APPLICATIONS

- Down-Hole Oil Well
- Avionics
- Turbine Engine Control
- Process Control
- Nuclear Reactor
- Electric Power Conversion

GENERAL DESCRIPTION

The HT1553P is a high temperature MIL-STD-1553 remote terminal protocol controller. Fabricated with Honeywell's dielectrically isolated high temperature (HTMOS™) process, it is designed specifically for severe high temperature applications.

The 1553P is composed of four sections: transceiver interface, message processor, built-in-test controller, and host interface. The transceiver interface consists of 2 decoders and 1 encoder and converts between the Manchester II bi-phase data required on the serial bus, and the digital data format required by the host. The host interface section controls the transfer of data between the host and internal registers, and DMA between the 1553P and the host memory. The message processor controls the serial bus message transfers, including error detection and protocol control. The built-in-test section detects if the remote terminal address assignment is valid and determines if a fault with the chip has occurred using built-in-scan techniques.

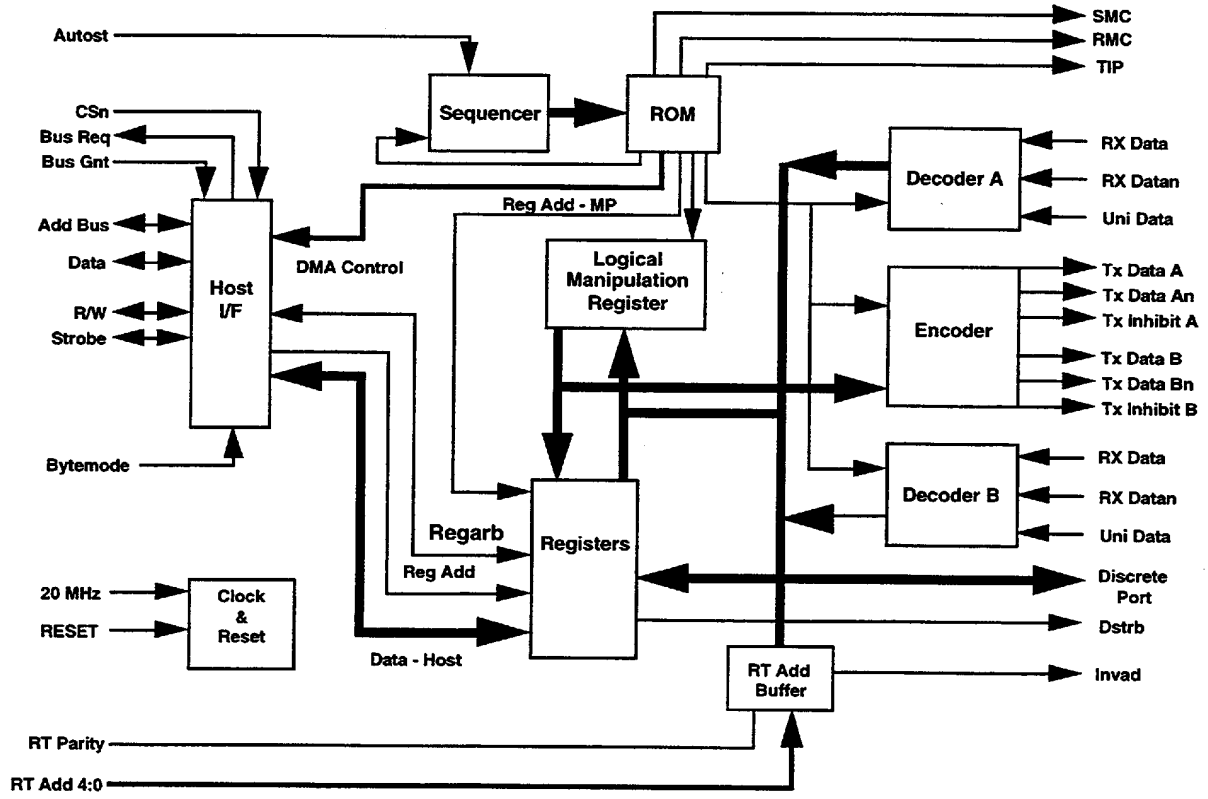
The 1553P will operate at a clock frequency of 20MHz, and will support a data rate of 1Mbit/second in both bi-phase and uni-phase mode of operation. It will interface to a variety of host processors, especially the High Temperature HT83C51 and the High Temperature HT320 DSP. The 1553P will support dual redundant bus operation, and will indirectly support multi-redundant bus systems (greater than 2 busses) via an external host processor.

Initial offerings will be available in a 1.4 x 1.4 inch 132-pin grid array with 0.1 inch pin spacing. All parts are burned in at elevated temperatures to eliminate infant mortality. The HT1553P is a high reliability precision part designed specifically for applications with an extremely wide operating temperature range.

PINOUT ASSIGNMENT

Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
A1	DDAT6	B9	TXINHB	D3	GND	H1	ADD1	L13	DSTROBn	N7	D4
A2	VDD	B10	TXDB	D12	RTADD1	H2	ADD0	L14	SBGNTn	N8	D5
A3	DDAT2	B11	RTPAR	D13	RMCn	H3	VDD	M1	ADD6	N9	D8
A4	DDAT0	B12	RTADD4	D14	TXDA	H12	GND	M2	ADD8	N10	D10
A5	VDD	B13	NC	E1	GND	H13	RSTn	M3	NC	N11	D12
A6	NC	B14	VDD	E2	DDAT12	H14	CLK20M	M4	GND	N12	D13
A7	TIP	C1	VDD	E3	DDAT11	J1	ADD2	M5	ADD15	N13	NC
A8	RXDB	C2	DDAT8	E12	GND	J2	ADD3	M6	VDD	N14	CSn
A9	RXDBn	C3	NC	E13	TXDAn	J3	GND	M7	GND	P1	ADD10
A10	GND	C4	DDAT5	E14	VDD	J12	VDD	M8	VDD	P2	ADD11
A11	INVAD	C5	GND	F1	DDAT14	J13	BYTEMODE	M9	GND	P3	VDD
A12	VDD	C6	GND	F2	DDAT13	J14	NC	M10	GND	P4	ADD14
A13	RTADD3	C7	VDD	F3	VDD	K1	VDD	M11	D14	P5	GND
A14	RTADD2	C8	GND	F12	GND	K2	ADD5	M12	NC	P6	D2
B1	DDAT7	C9	VDD	F13	TXINHA	K3	GND	M13	RWn	P7	D3
B2	NC	C10	TXDBn	F14	RXDAn	K12	BGNTn	M14	VDD	P8	D6
B3	DDAT4	C11	GND	G1	DDAT15	K13	BREQn	N1	VDD	P9	D7
B4	DDAT3	C12	NC	G2	INTn	K14	GND	N2	NC	P10	VDD
B5	DDAT1	C13	RTADD0	G3	GND	L1	ADD4	N3	ADD12	P11	D9
B6	DDSTRB	C14	SMCn	G12	VDD	L2	ADD7	N4	ADD13	P12	D11
B7	AUTOSTn	D1	DDAT10	G13	UNIDA	L3	ADD9	N5	D0	P13	VDD
B8	UNIDB	D2	DDAT9	G14	RXDA	L12	GND	N6	D1	P14	D15

FUNCTIONAL BLOCK DIAGRAM



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