

Features

- Fully software compatible with Holt's existing hardware solutions: MAMBA™ and HI-6130/31 families
- Two product variants: BC/RT/MT or RT/MT
- IP is based on fully validated IC solution
- Concurrent multi-terminal operation
- 16-bit host bus interface
- Built-in self-test feature
- Fully programmable Bus Controller with 28 op code instruction set
- Independent time-tag counters for all terminals with 32-bit option for Bus Controller and 48-bit option for Monitor Terminal
- Simple Monitor Terminal (SMT) Mode records commands and data separately, with 16-bit or 48-bit time tag
- 32-deep Interrupt buffer
- MIL-STD-1760 Boot mode to initialize RT with Busy Bit set without host intervention

Benefits

- Holt is a well-established supplier of the MIL-STD-1553 physical layer
- Short lead times – Always in stock!

For further information on these and other Holt products contact:

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ISO 9001:2008 Registered

General Description

The Holt MIL-STD-1553 IP solution provides a complete single- or multi-function protocol interface between a host processor and MIL-STD-1553B bus. Any combination of BC, RT or MT functions can be operated concurrently. The enabled terminals communicate with the MIL-STD-1553 buses through a shared dual bus transceiver and external transformer, also available from Holt. All RT devices are MIL-STD-1760 compliant, responding to valid messages with status word Busy Bit set within 150ms following power-on.

The Holt Multi-Core IP product includes a Verilog IP core, test bench, and supporting documentation, allowing designers to instantiate the core in a variety of FPGA implementations.

Bus Controller

The Bus Controller (BC) is a message-sequencing device for control in MIL-STD-1553B applications. Programmed using a set of 28 instruction op codes, the BC greatly reduces the host's processing workload. The BC can optionally use a 16- or a 32-bit time base, clocked from a choice of six internally generated clocks, or an external time base clock. Special BC op codes manage all 32-bit time base functions.

The programmable Bus Controller autonomously supports multi-frame message scheduling, message retry schemes, storage of message data, asynchronous message insertion and status /error reporting to the host processor.

Monitor Terminal

Bus Monitor Terminal (MT) functionality passively records MIL-STD-1553 bus activity. Message commands, terminal responses and message data are stored in internal RAM. When operating in SMT mode, the MT records commands and data separately. The SMT can utilize 16- or 48-bit time tags with a range of clocking options.

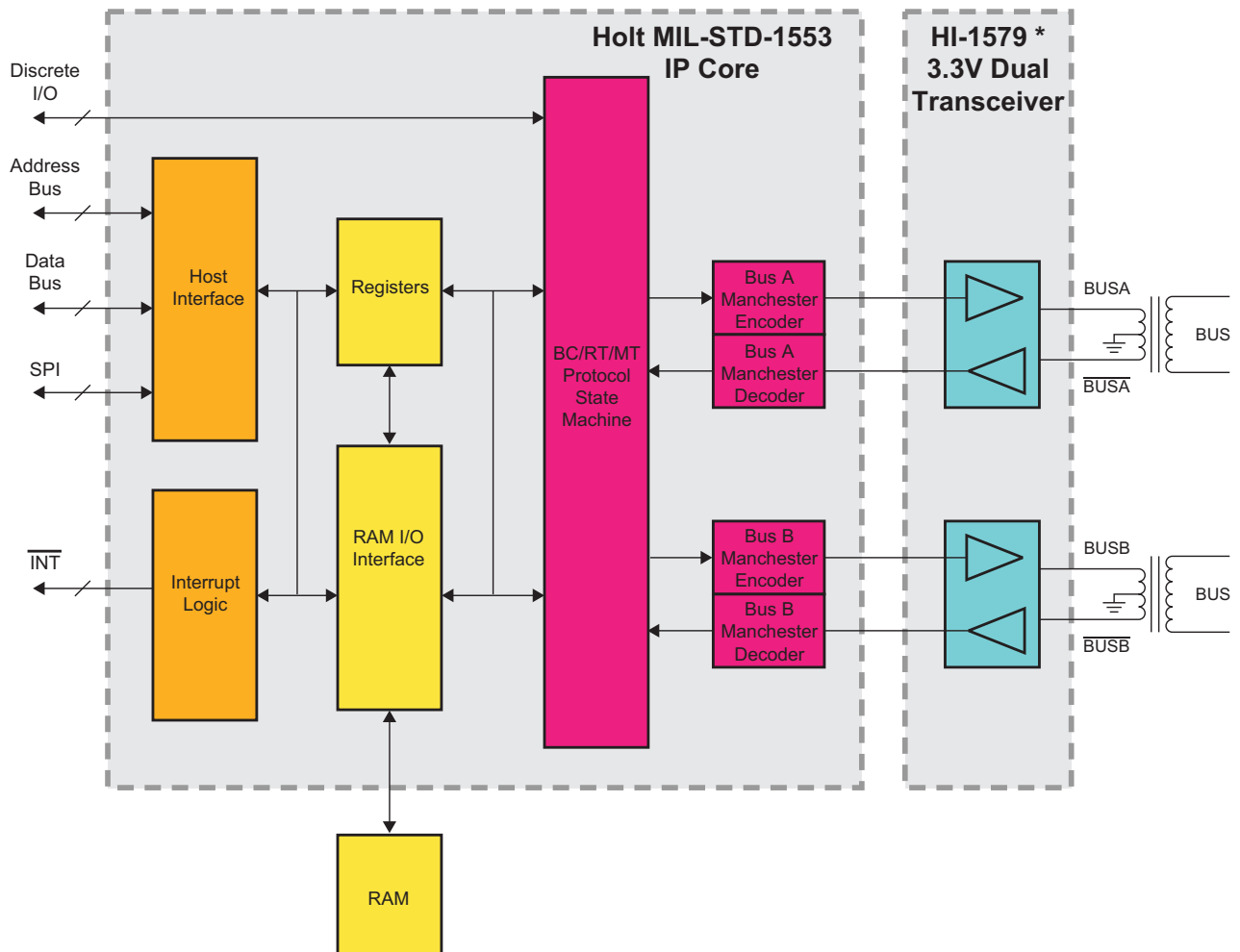
Remote Terminal

The RT is software compatible with Holt's popular HI-6130/31 Remote Terminal, which has been fully validated. RAM buffer options include single, double and 2 circular buffer choices.

Built-In Self Test

The self-test capability includes a RAM test, a continuous online loop test, Bus A to Bus B loopback test, as well as the capability to test the transmitter timeout function.

MIL-STD-1553/1760 Protocol IP Core



* Holt also offers a single-package dual transceiver/transformer combination, HI-2579
See MIL-STD-1553 Selector Guide and HI-2579 datasheet for details

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