

MIL-STD-1553 BUS CONTROLLER REMOTE TERMINAL AND BUS MONITOR

FEATURES

- COMPLETE BC, RTU, OR MT OPERATION
- 16 MHz SINGLE CHIP BUS-65600 REPLACEMENT
- CMOS-SOS TECHNOLOGY
- MONOBRID[®] PLUG-IN, FLAT-PACK, AND PGA PACKAGES
- IMPLEMENTS ALL DUAL REDUNDANT MODE CODES
- SELECTIVE MODE CODE ILLEGALIZATION AVAILABLE
- BC CHECKS STATUS WORD FOR CORRECT ADDRESS AND SET FLAGS
- DMA HANDSHAKING FOR SUBSYSTEM MESSAGE TRANSFERS
- CONTINUOUS ON-LINE AND INITIATED BUILT-IN-TEST

DESCRIPTION

The BUS-65610 is a 16 MHz single chip dual redundant MIL-STD-1553 Bus Controller (BC), Remote Terminal Unit (RTU) and Bus Monitor (MT). Packaged in a hybrid plug-in, flatpack or Pin Grid Array (PGA), the BUS-65610 performs all the functions required to interface a MIL-STD-1553 dual redundant serial data bus transceiver, such as DDC's BUS-63125, and a subsystem parallel three-state data bus.

Using a single DDC custom monolithic SOS IC, the BUS-65610 features pin-for-pin and functional BUS-65600 compatibility, user initiated self-test, and low power consumption.

Compatible with most microprocessors, the BUS-65610 provides a 16 bit three-state parallel data bus and uses direct memory access (DMA type) handshak-

ing for subsystem transfers. All message transfer timing, DMA and control lines are provided internally, thereby reducing the subsystem overhead associated with message transfers.

The BUS-65610 implements all dual redundant MIL-STD-1553 mode codes. In addition, any mode code may (optionally) be illegalized through the use of an external PROM. Complete error detection is provided by the BUS-65610 for BC and RTU operation. Error detection includes: response time-out, inter-message gaps, sync, parity, Manchester, word count, and bit count. The BUS-65610 is fully compliant with MIL-STD-1553, is available screened to MIL-STD-883C, and operates over the full military temperature range of -55°C to +125°C - making it an excellent choice for MIL-STD-1553 applications.

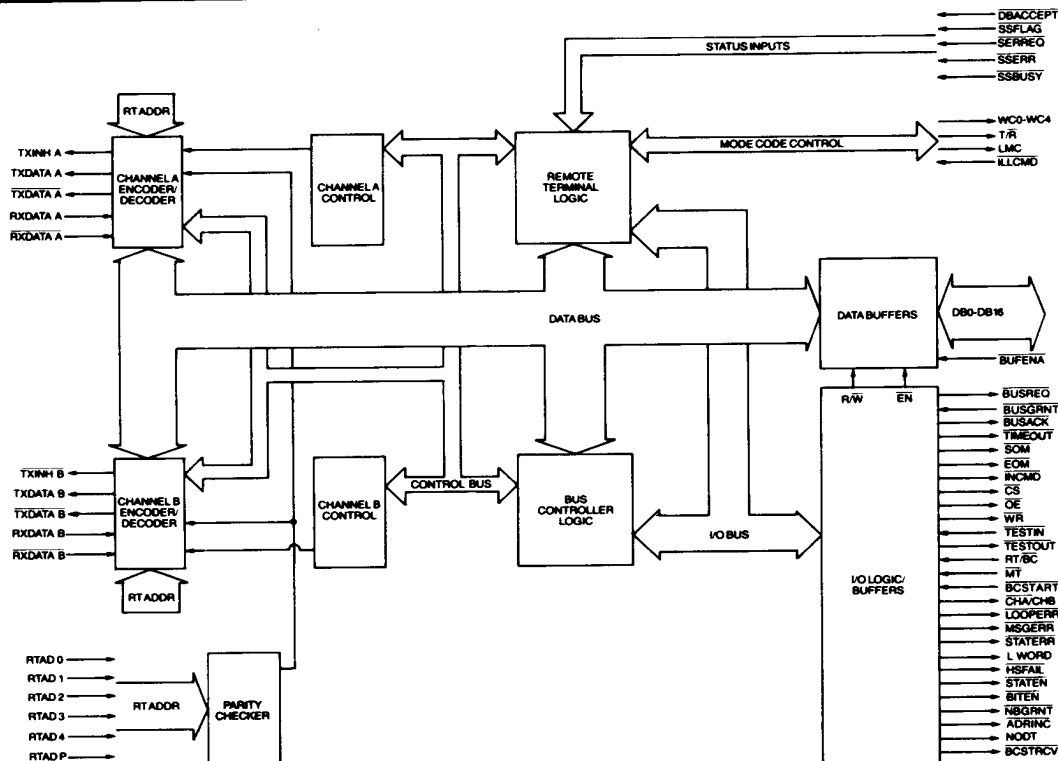


FIGURE 1. BUS-65610 BLOCK DIAGRAM

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TABLE 3. BUS-65612 PIN FUNCTIONS (PGA)

PIN NO.	FUNCTION	PIN NO.	FUNCTION
A01	TIM2	C05	ARX
A02	A NBRQ	C06	TESTENA
A03	PCLK	C07	VSS
A04	ARX	C08	RTAD1
A05	BRX	C09	VDD
A06	PARENA	C10	BRO
A07	RTADPAR	C11	NW
A08	RTAD3	C12	LMC
A09	RTAD0	C13	SA3 MC3
A10	CLKRST	D01	DB10
A11	ND	D02	DB12
A12	VW	D03	DB15
A13	VA	D11	RTFAIL
B01	VDD	D12	SA2 MC2 B8
B02	LOOPERR	D13	SA0 MC0 B6
B03	RTPARERR	E01	DB08
B04	TEST1	E02	DB09
B05	BRX	E03	DB11
B06	BROENA	E11	SA1 MC1 B7
B07	RTAD4	E12	WC4 CWC4 B5
B08	RTAD2	E13	WC3 CWC3 B4
B09	CLK	F01	DB05
B10	TIM1	F02	DB06
B11	MC	F03	DB07
B12	CMD	F11	WC2 CWC1 B3
B13	SA4 MC4	F12	WC1 CWC1 B2
C01	DB13	F13	WC0 CWC0 B1
C02	DB14	G01	DB02
C03	TD	G02	DB04
C04	B NR BQ	G03	DB03

TABLE 3. BUS-65612 PIN FUNCTIONS (PGA) (Continued)

PIN NO.	FUNCTION	PIN NO.	FUNCTION
K03	ATX	N01	VSS
K11	BUFENA2	N02	TS0
K12	BUSGRNT	N03	LWORD
K13	ILLCMD	N04	OE
L01	BTX	N05	CS
L02	CYCENA	N06	INCMD
L03	MT	N07	ERROR
L04	TEST2	N08	ADRINC
L05	R/W	N09	BUSACK
L06	SOM	N10	BUSREQ
L07	EOM	N11	T/R
L08	CMDTRF	N12	GBR
L09	BITEN	N13	VSS
L10	STATEN	G11	WCMUXENA
L11	CSTINH	G12	VDD
L12	WRMASK	G13	SAMUXENA
L13	RESET	H01	DB01
M01	ATX	H02	DB00
M02	TS1	H03	TIMEOUT
M03	HSFAIL	H11	SVCQRST
M04	STATSET	H12	SEL2
M05	WR	H13	SSFLAG
M06	INCMD	J01	TACT
M07	ME	J02	CHB/A
M08	DTSTR	J03	ATXINH
M09	TIMERR	J11	RTFLAG
M10	DBACC	J12	ADBC
M11	NBGRNT	J13	SSBUSY
M12	RT/BC	K01	BTXINH
M13	BUFENA1	K02	BTX

ORDERING INFORMATION

BUS-65610-883B

Reliability Grade:

883B = Fully compliant with MIL-STD-883.

B = Screened to MIL-STD-883 without QCI testing (BUS-65610 and BUS-65611 only).

Blank = Standard DDC procedures (BUS-65612 only).

Packaging:

- 0 = Plug-in
- 1 = Flatpack
- 2 = PGA (Pin Grid Array)

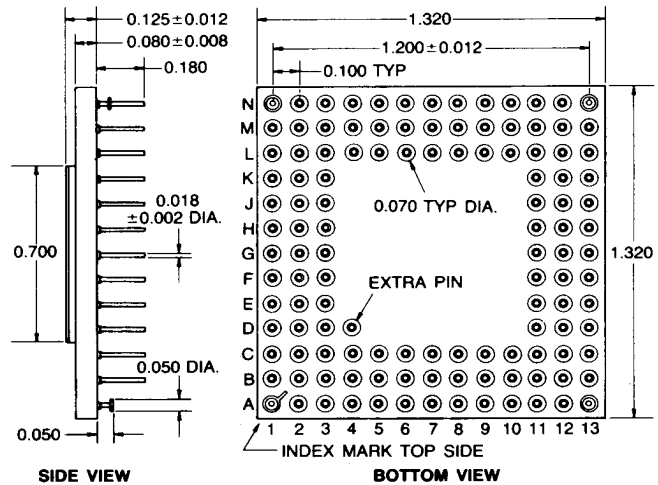


FIGURE 4. BUS-65612 MECHANICAL OUTLINE (PGA)

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