

TC-636 PROCESSOR BACKPLANE FUNCTIONAL DESCRIPTION

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The TC-636 Processor Backplane is a card suitable for mounting in a three rack unit (5.25") card frame that provides interconnection and termination between the TC-3550 Processor and additional serial as well as analog and digital I/O. Six 28/56 pin .125" card edge connectors are used for the processor and I/O modules.

Active circuitry is provided to buffer multiplexed data for up to eight Triad digital decoder/driver cards and up to two digital input cards. Five VDC power for the active circuits is protected by a 3/4 amp Pico fuse with a LED tally.

Ten four pin Molex .1 "KK" series connections are provided on the TC-636 for the following:

- 8: Mux data/strobes to TC-124, TC-316, or TC-3161 Digital Output cards
- 2: Mux strobes/data from one or more TC-326 Digital Input cards

Edge connectors and headers for:

- [1] TC-3550 Processor
 - 8 pin header for RS-422/232/TTL data port
 - 26 pin header for multiplexed digital input and output cards
 - 20 pin header with address, data, and control for CPU buss expansion
- [2] TC-3505 RAM/EPROM memory expansion module or
TC-3518 8 channel serial I/O controller with 26 pin header to buffer boards
8 pin header for +/- 12 VDC and auxiliary I/O (card dependent)
- [3] TC-336 D/A Output <or> TC-346 A/D Input with 26 pin header
- [4] TC-336 D/A Output <or> TC-346 A/D Input with 26 pin header
- [5] TC-336 D/A Output <or> TC-346 A/D Input with 26 pin header
- [6] TC-336 D/A Output <or> TC-346 A/D Input with 26 pin header

The analog headers are configured to mate with a DB-25 connector through an IDC ribbon cable, such that pins 1-16 are the sequential channels, 17-20 are +10 VDC reference for the input cards, and the remaining pins analog ground.

The backplane is less than 8.25" wide, so that two may be mounted in a 19" rack mount card frame, or a single backplane may be combined with TC-613 and/or TC-616 Digital Output Backplanes.

Power is terminated on a eight position Phoenix screw terminal block. The digital and analog grounds become common at the backplane power terminals, and any common reference should be avoided at any other point in order to reduce noise or ground loops between the analog and digital power and signal commons.

Physical Dimensions:

7.75" x 4.375" printed circuit board

Power Requirements:

+5VDC @ 3A, +12 VDC @ 100MA, +/-15VDC @ 500MA (fully loaded)

Related Documents:

SC-7.12 Pin assignments and cable information
TC636.ASM Assembly diagram

PIN ASSIGNMENTS

DO1-DO8 - 4 PIN MOLEX DATA OUT CONNECTOR

1	GND
2	VCC
3	DATA TTL OUT
4	STROBE TTL OUT

DI1-DI2 - 4 PIN MOLEX DATA IN CONNECTOR

1	GND
2	VCC
3	DATA TTL IN
4	STROBE TTL IN

P1 - 26 PIN HEADER DIGITAL/PARALLEL I/O

1	CA1	2	CB1
3	PA0	4	PB0
5	PA1	6	PB1
7	PA2	8	PB2
9	PA3	10	PB3
11	PA4	12	PB4
13	PA5	14	PB5
15	PA6	16	PB6
17	PA7	18	PB7
19	CA2	20	CB2
21	CA2B	22	N/C
23	N/C	24	GND
25	N/C	26	GND

P2 - 26 PIN HEADER SERIAL I/O (IF TC-3518 USED)

1	TX1	2	TX2
3	RX1	4	RX2
5	HS1	6	HS2
7	TX3	8	TX4
9	RX3	10	RX4
11	HS3	12	HS4
13	TX5	14	TX6
15	RX5	16	RX6
17	HS5	18	HS6
19	TX7	20	TX8
21	RX7	22	RX8
23	HS7	24	GND
25	N/C	26	GND

P3-P6 - 26 PIN ANALOG I/O HEADER

1	AIO1	2	AIO14
3	AIO2	4	AIO15
5	AIO3	6	AIO16
7	AIO4	8	AGND
9	AIO5	10	AGND
11	AIO6	12	AGND
13	AIO7	14	AGND
15	AIO8	16	AGND
17	AIO9	18	AGND
19	AIO10	20	AGND
21	AIO11	22	AGND
23	AIO12	24	AGND
25	AIO13	26	

P7 - 8 PIN MOLEX AUX CONNECTOR

1	* DEPENDS ON CARD INSTALLED
2	*
3	*
4	*
5	*
6	-12VDC
7	+12VDC
8	GND

P8 - 8 PIN MOLEX DATA CONNECTOR

1	DNB OUT
2	TXD+
3	TXD-
4	RXD+
5	RXD-
6	INP1 IN
7	INP2 IN
8	GND

P9 - 20 PIN BUFFERED BUSS EXPANSION

1	D0	2	RES-
3	D1	4	A0
5	D2	6	A1
7	D3	8	A2
9	D4	10	A3
11	D5	12	R/W-
13	D6	14	O2
15	D7	16	IRQ-
17	B4- SEL	18	A4
19	VCC	20	GND

POWER TERMINAL STRIP

1	+5 VDC (VCC)
2	DIGITAL COMMON
3	+15 VDC
4	-15 VDC
5	ANALOG COMMON
6	+12 VDC
7	-12 VDC
8	ANALOG COMMON

Note: On systems using ELPAC or modular power supplies, jumper pin 3 to pin 6 (+15 becomes +12), and pin 4 and 7 (-15 becomes -12).