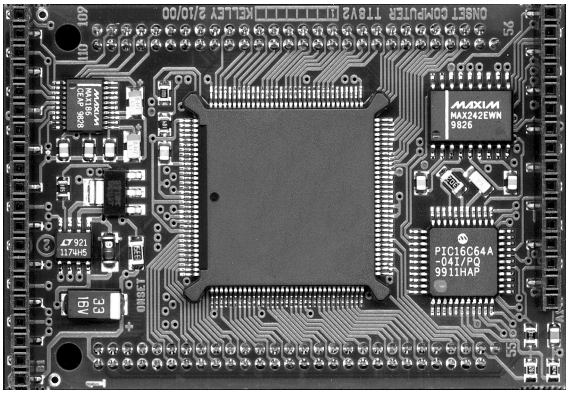

Tattletale Model 8
OPERATION MANUAL ADDENDUM

for the

TT8-V2

and the

TT8-1M-V2

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D-5055-A

INTRODUCTION

This manual is an addendum to the Tattletale Model 8 Installation and Operation Manual that describes the differences between standard Model 8 and the newest member of the Tattletale family, the TT8V2 and TT8-1M-V2, which is the first version to include pin and socket connections for all the 110 bus connections. It also describes the new prototype board designed to mate with the TT8-V2's new pin ans sockets.

Since the first TT8 was built we have had requests for a pin and socket version of the TT8. This was mostly because elastomerics were unfamiliar to many of our customers and they were concerned about the ruggedness and reliability.

Although the SquishyBus elastomeric connectors have proven themselves reliable over the years, customers continue to say they feel more comfortable with pin and sockets. More recently we have had issues with the SquishyBus connector's cost and availability. Recently gold foil elastomeric connectors have become less popular and therefore more difficult to obtain, with fewer vendors supplying them.

There were two primary design goals in creating the TT8-V2. The first was to eliminate the SquishyBus elastomeric connectors in favor of stackable pin and socket connectors. The second was to make this modification with as little impact on the TT8 form factor, layout and electrical design as possible. Since the beginning the TT8 has proven itself to be extremely rugged and reliable. Many customers have used the TT8 as the heart and soul of many complex and critical pieces of instrumentation, from medical equipment to unmanned aircraft control to instrumentation launched into space. In speaking to these customers it was clear that this would be important minimize the effort needed to new version into their existing equipment, and to minimize risks that may be introduced through component or layout changes.

Both goals were met. The TT8-V2 uses the same shcematic layout and physical component layout as the previous versions. The board outline remains exactly the same. The pin and socket connectors were placed into the same area as the squishybus pads.

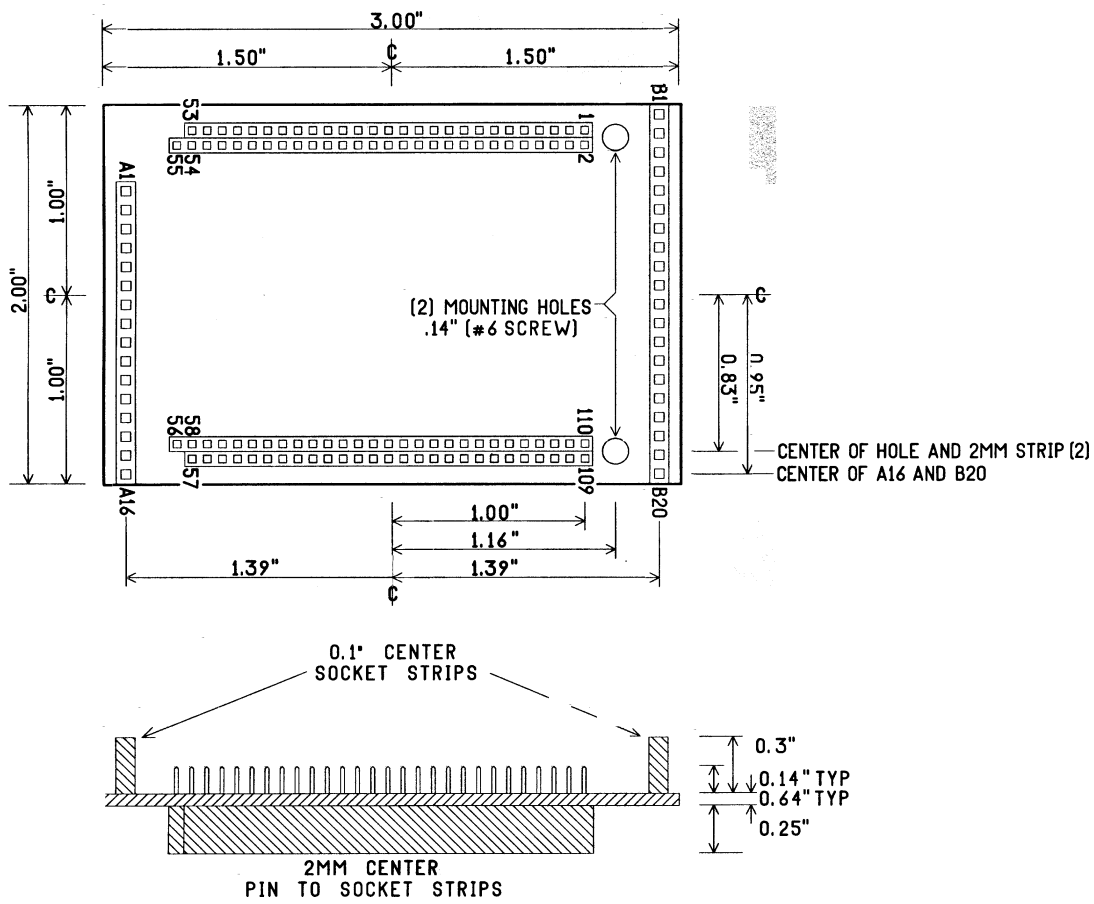
Needless to say we will continue to support the TT8 and the TT8-1M, but we strongly recommending that the TT8-V2 and TT8-1M-V2 be used for all new designs.

BOARD DIMENSIONS

The drawing below gives the dimensions for the TT8-V2 board and the connector positions relative to the board centerlines. Onset Computer Corp has files in electronic format that you can use to help with your playout. Call for details.

ONSET COMPUTER
D-4943-A
LOCATION OF MOUNTING HOLES AND PINS FOR TT8V2

CONNECTORS A AND B ARE 0.1" CENTERS FOR 0.025" SQUARE PINS
CONNECTORS FOR PINS 1 THROUGH 110 ARE 2MM CENTERS FOR 0.020" SQUARE PINS
DIMENSIONS OF PIN LOCATIONS ARE TO PIN CENTERS

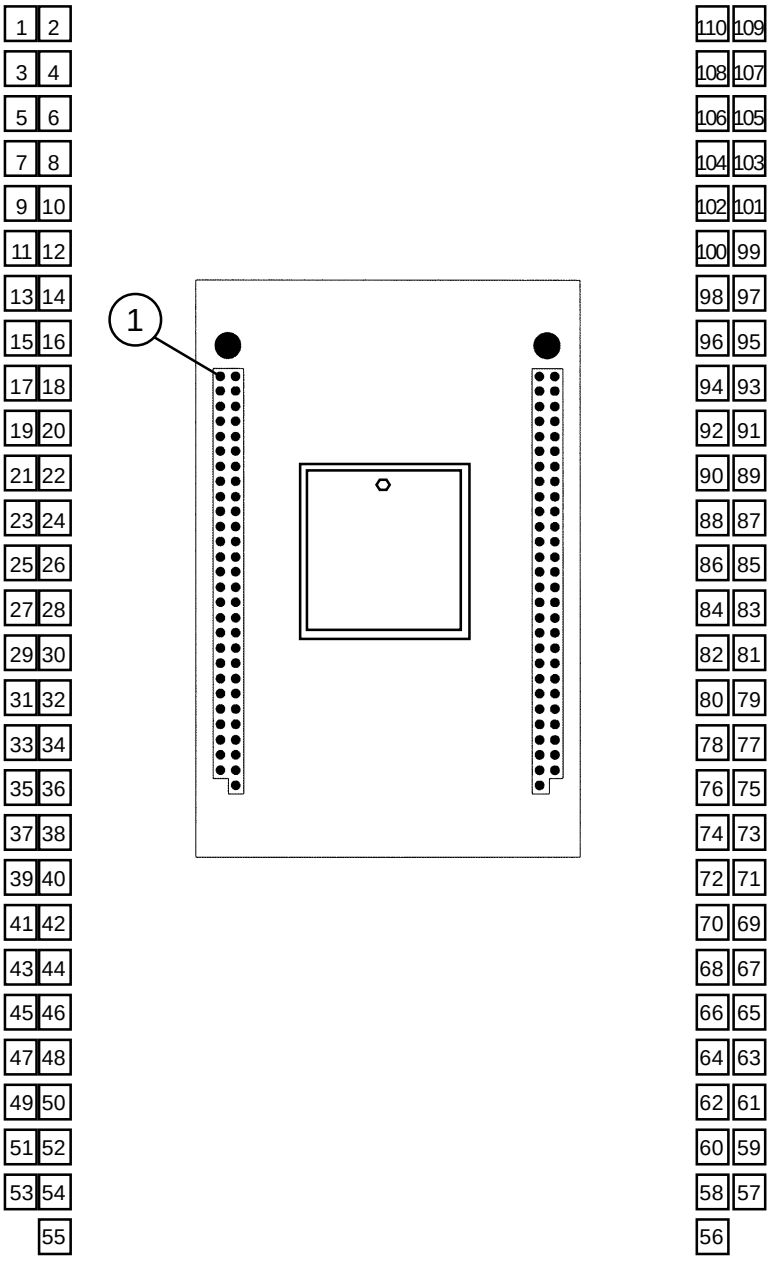


STACKING CONNECTORS

The connectors used are Samtec SQT-127-03-G-S and SQT-128-03-G-S stacking connectors. There are four conectors used for the 110 SquishyBus connections , two each of the 1x27 and 1x28. The I/O-8 connectors were kept for backward compatibility and are described in the Tattletale Model 8 Installation and Operation Manual.

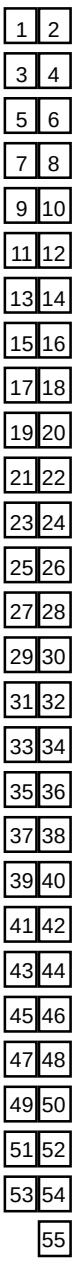
PIN NUMBERING

The pin numbering follows a regular pattern, but it may be a bit confusing. When the board is oriented as below and the CPU is facing you PIN 1 is in the upper left corner. On the left side connector pin numbers increase as you go left to right and down. On the right connector pin numbers increase as you go right to left and up. Just remember that the odd numbered pins are always to the outside of the board, and the even numbered pins are on the inside.



PIN DESIGNATIONS

The figure below shows the pins with a short description of the pin's signal. For a more complete description of each pin's function refer to the Tattletale Model 8 Installation and Operation Manual or the Motorola manuals..

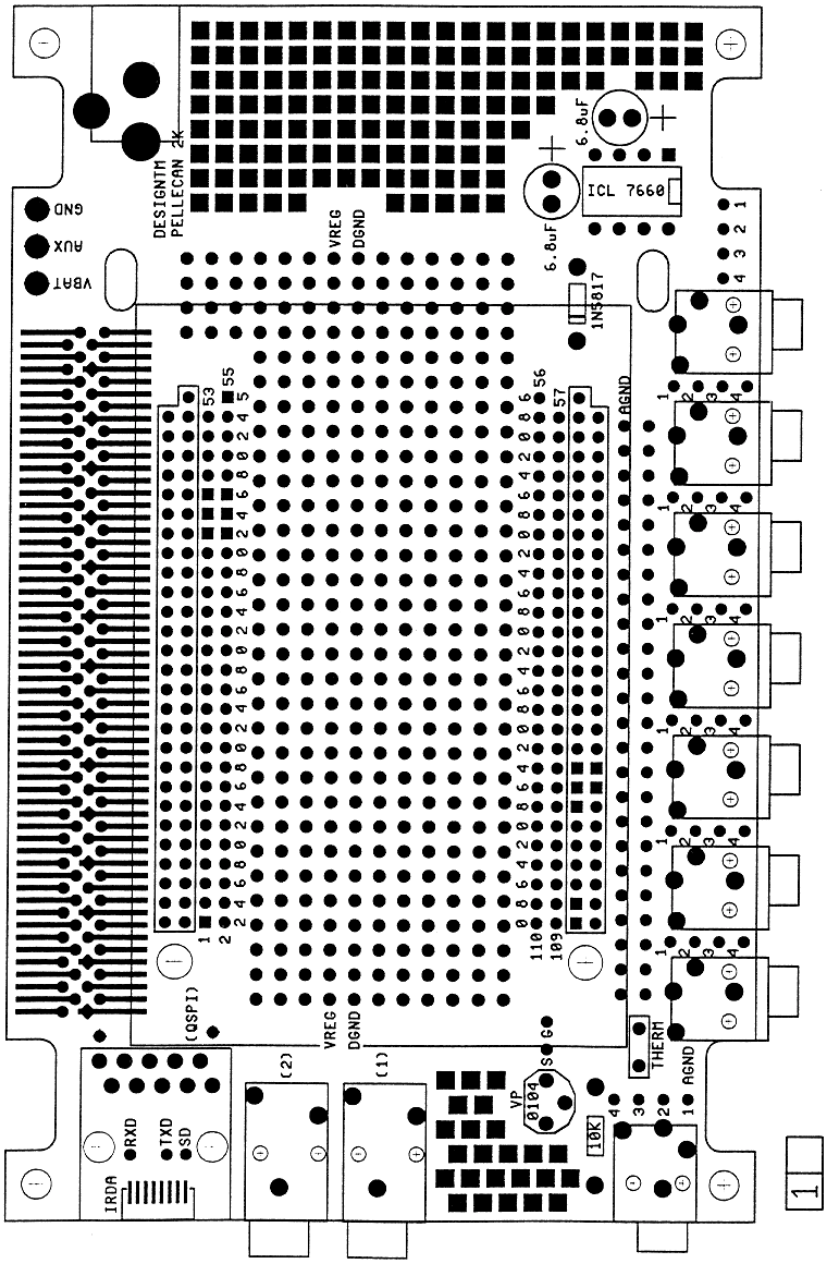


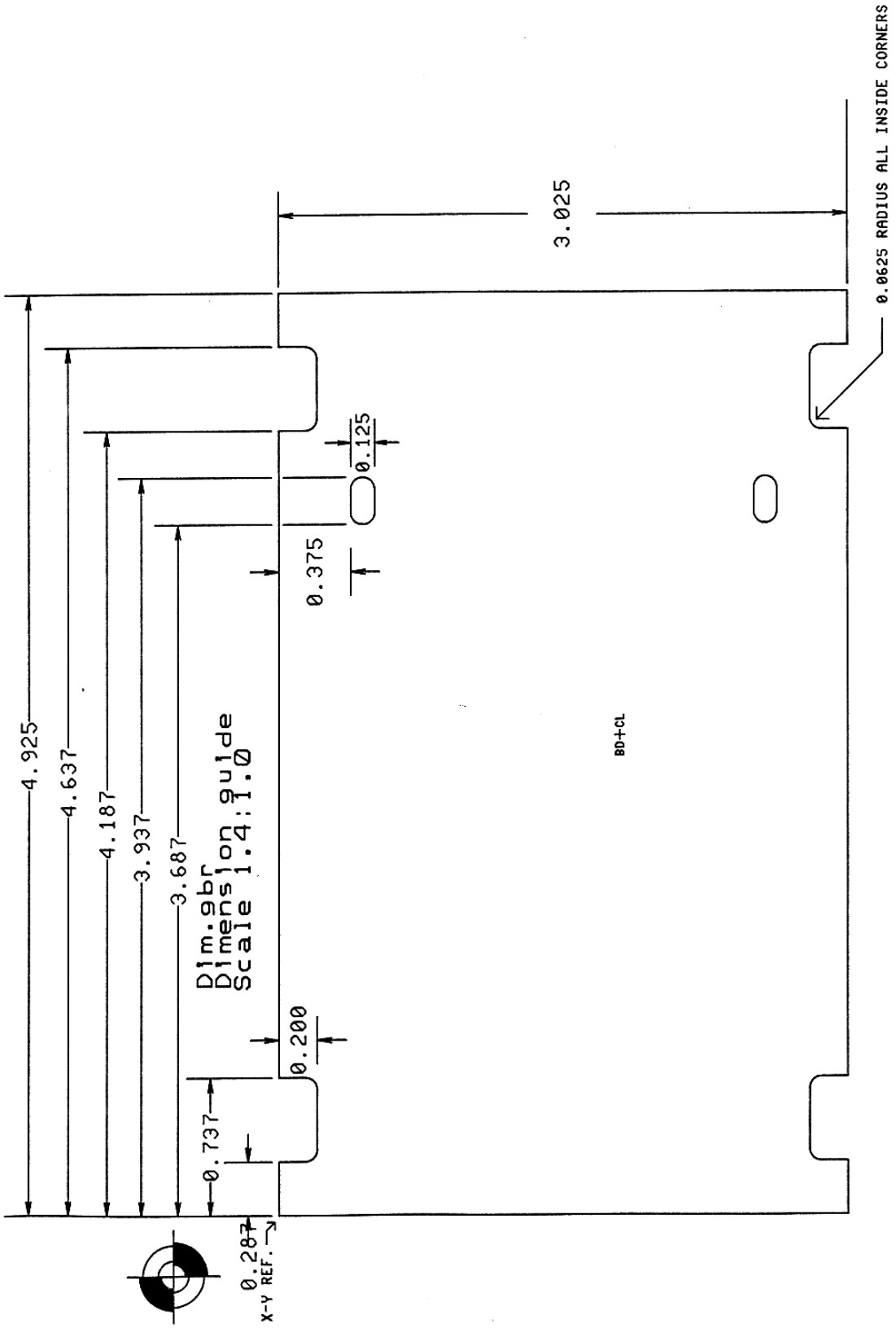
1	VBAT	Unregulated Supply
2	CLKEN	Clock enable
3	–HEY	Interrupt on change pin
4	–MCLR	Master Clear
5	TP12	TPU channel 12
6	TP11	TPU channel 11
7	TP10	TPU channel 10
8	TP9	TPU channel 9
9	TP8	TPU channel 8
10	TP7	TPU channel 7
11	TP6	TPU channel 6
12	TP5	TPU channel 5
13	TP4	TPU channel 4
14	TP3	TPU channel 3
15	TP2	TPU channel 2
16	TP1	TPU channel 1
17	TP0	TPU channel 0
18	TXD2	TPU UART transmit
19	RXD2	TPU UART receive
20	TP15	TPU channel 15
21	T2CLK	TPU clock in
22	A1	CPU Address Line
23	A2	CPU Address Line
24	A3	CPU Address Line
25	A4	CPU Address Line
26	A5	CPU Address Line
27	A6	CPU Address Line
28	A7	CPU Address Line
29	A8	CPU Address Line
30	A9	CPU Address Line
31	A10	CPU Address Line
32	A11	CPU Address Line
33	A12	CPU Address Line
34	A13	CPU Address Line
35	A14	CPU Address Line
36	A15	CPU Address Line
37	A16	CPU Address Line
38	A17	CPU Address Line
39	A18	CPU Address Line
40	A19	CPU Address Line
41	MISO	Master-In Slave-Out (QSPI)
42	MOSI	Master-Out Slave-In (QSPI)
43	SCK	QSPI serial clock
44	PCS0	QSPI chip select
45	PCS1	QSPI chip select
46	PCS2	QSPI chip select
47	PCS3	QSPI chip select
48	DSI	Development serial in
49	DSO	Development serial out
50	RXD1	SCI receive data
51	TXD1	SCI transmit data
52	DSCLK	Development serial clock
53	–FRZ	Freeze
54	–RESET	Reset
55	DGND	Digital Ground

110	VREG	Positive supply
109	VREF	A/D reference voltage
108	AVSS	A/D negative reference
107	AD0	A/D channel 0
106	AD1	A/D channel 1
105	AD2	A/D channel 2
104	AD3	A/D channel 3
103	AD4	A/D channel 4
102	AD5	A/D channel 5
101	AD6	A/D channel 6
100	AD7	A/D channel 7
99	REFADJ	A/D Reference Adjust
98	AGND	The analog ground
97	SEL5V	Clock mode select
96	RSR2	RS-232 receive (jack 2)
95	RST2	RS-232 transmit (jack 2)
94	RSR1	RS-232 receive (jack 1)
93	RST1	RS-232 transmit (jack 1)
92	ECLK	Outputs 1/8 SYSCLK or -CS3
91	–CS2	Chip select
90	–CS1	Chip select
89	–CS0	Chip select
88	D0	CPU Data Line (D0)
87	D1	CPU Data Line (D1)
86	D2	CPU Data Line (D2)
85	D3	CPU Data Line (D3)
84	D4	CPU Data Line (D4)
83	D5	CPU Data Line (D5)
82	D6	CPU Data Line (D6)
81	D7	CPU Data Line (D7)
80	D8	CPU Data Line (D8)
79	D9	CPU Data Line (D9)
78	D10	CPU Data Line (D10)
77	D11	CPU Data Line (D11)
76	D12	CPU Data Line (D12)
75	D13	CPU Data Line (D13)
74	D14	CPU Data Line (D14)
73	D15	CPU Data Line (D15)
72	A0	CPU Address Line (A0)
71	E4	Port E
70	E3	Port E
69	E2	Port E
68	E1	Port E
67	E0	Port E
66	E5	Port E
65	E6	Port E
64	E7	Port E
63	R/-W	Read/Write
62	–IRQ2	Interrupt request (level 2)
61	–IRQ3	Interrupt request (level 3)
60	–IRQ4	Interrupt request (level 4)
59	–PICIRQ	Interrupt request
58	40KHZ	40KHz clock out
57	RSDIS	RS-232 driver disable
56	CLKOUT	

THE PR8-V2 BREADBOARD

The PR8-V2 breadboard was designed to provide all the connections available on the original PR8 and support more additional expansion features than before, but in a smaller size. The board is designed to fit inside a standard SERPAC enclosure style A-27.




0.0625 RADIUS ALL INSIDE CORNERS
3.025
0.125
0.375
4.925
4.637
4.187
3.937
3.687
Dim.gbr
Dimension guide
Scale 1.4:1.0
BD+CL
0.200
0.737
0.287
X-Y REF.