RTA-3000
8255 TERMINAL BOARD
USER'S MANUAL

INTRODUCTION

THE RTA-3000 UNIVERSAL 8255 TERMINAL BOARD PROVIDE CONVENIENT AND RELIABLE SIGNAL WIRING FOR RTX-02A, RTX-02A(V2), RTX-02D AND RTX-02E BOARDS WHICH HAVE 26-PIN FLAT-CABLE, 40-PIN FLAT-CABLE, 50-PIN FLAT-CABLE CONNECTORS.

DUE TO THE RTA-3000 SPECIAL PCB LAYOUT, THE USER CAN INSTALL PASSIVE COMPONENTS TO CONSTRUCT YOUR OWN SIGNAL-CONDITIONING CIRCUITS. USERS CAN EASILY CONSTRUCT A LOW-PASS FILTER, ATTENUATOR, OR CURRENT-TO-VOLTAGE CONVERTER BY ADDING RESISTORS AND CAPACITORS ONTO THE BOARD'S CIRCUIT PADS.

FEATURES

* MAX. EXPANSION I/O LINES UP TO 72 I/O LINES.

* RESERVED SPACE FOR SIGNAL-CONDITIONING CIRCUITS SUCH AS LOW-PASS FILTER, VOLTAGE ATTENUATOR AND CURRENET-TO-VOLTAGE CONVERSION.

* CLEAR SCREW-TERMINAL BLOCK'S LABEL: POWER BLOCK, TIME/COUNTER BLOCK, AND 8255 I/O LINES BLOCK.

PACKING

* THE RTA-3000 FOR RTX-02A : 40-PIN FLAT CABLE x 2.

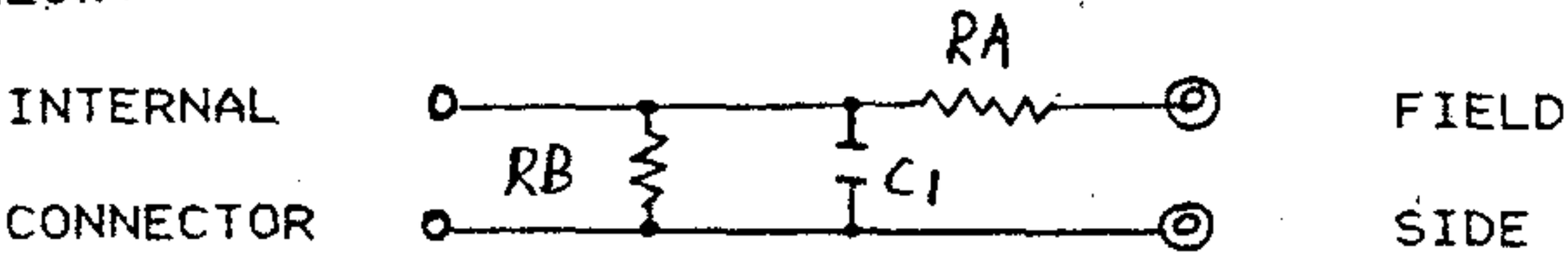
* THE RTA-3000 FOR RTX-02A(V2) : 40-PIN FLAT CABLE x 1
  AND 50-PIN FLAT CABLE x 1.

* THE RTA-3000 FOR RTX-02D : 26-PIN CABLE x 1.

* THE RTA-3000 FOR RTX-02E : 26-PIN CABLE x 2.

APPLICATIONS

* FIELD WIRING FOR ANALOG AND DIGITAL I/O CHANNELS OF RTA-3000.
* SIGNAL-CONDITIONING CIRCUITS CAN BE IMPLEMENTED AS FOLLOW:



a) STRAIGHT-THROUGH CONNECTION (FACTORY SETTING):
   Ra = 0 ohm
   Rb = none
   C1 = none

b) 1.6 KHz (3 dB) LOW PASS FILTER:
   Ra = 10 K ohm
   Rb = none
   C1 = 0.001 uF

$$3dB = \frac{1}{2\ RaC1}$$

c) 10:1 VOLTAGE ATTENUATOR:
   Ra = 9 K ohm
   Rb = 1 K ohm
   C1 = none

$$ATTENUATION = \frac{Rb}{Ra + Rb}$$

d) 4-20 mA TO 1-5 Vdc SIGNAL CONVERTER:
   Ra = 0 ohm
   Rb = 250 ohm (0.1% PRECISION RESISTOR)
   C1 = none

PIN ASSIGNMENT

a) RTX-02A PIN ASSIGNMENT

CN1 (1st 8255 & T/C)				CN2 (2nd 8255)			
PIN 1	GND	PIN 21	PC6	PIN 1	GND	PIN 21	PC7
2	GND	22	PC7	2	GND	22	PC6
3	NC	23	PC4	3	NC	23	PC5
4	PA3	24	PC5	4	NC	24	PC4
5	PA1	25	PC1	5	NC	25	PC0
6	PA2	26	PC0	6	NC	26	PC1
7	CLK0	27	PB7	7	NC	27	PC2

8	PA0	28	PC2	8	NC	28	PB7
9	GATE0	29	PB6	9	NC	29	PC3
10	OUT0	30	PC3	10	NC	30	PB6
11	OUT2	31	PB5	11	NC	31	PB0
12	CLK2	32	PB0	12	NC	32	PB5
13	CLK1	33	PB4	13	PA0	33	PB1
14	GATE2	34	PB1	14	PA1	34	PB4
15	OUT1	35	PB3	15	PA2	35	PB2
16	GATE1	36	PB2	16	PA3	36	PB3
17	PA5	37	+5V	17	PA4	37	+5V
18	PA4	38	-5V	18	PA5	38	-5V
19	PA7	39	+12V	19	PA6	39	+12V
20	PA6	40	-12V	20	PA7	40	-12V

b) RTX-02A (V2) PIN ASSIGNMENT

CN21 (1st 8255 & T/C)				CN22(2nd 8255 THIRD 8255)			
PIN 1	GND	PIN 21	1B0	PIN 1	2A0	PIN 26	GND
2	GND	22	1B1	2	2A1	27	3A0
3	GND	23	1B2	3	2A2	28	3A1
4	CLK0	24	1B3	4	2A3	29	3A2
5	GATE0	25	1B4	5	2A4	30	3A3
6	OUT0	26	1B5	6	2A5	31	3A4
7	CLK1	27	1B6	7	2A6	32	3A5
8	GATE1	28	1B7	8	2A7	33	3A6
9	OUT1	29	1C0	9	2B0	34	3A7
10	CLK2	30	1C1	10	2B1	35	3B0
11	GATE2	31	1C2	11	2B2	36	3B1
12	OUT2	32	1C3	12	2B3	37	3B2
13	1A0	33	1C4	13	2B4	38	3B3
14	1A1	34	1C5	14	2B5	39	3B4
15	1A2	35	1C6	15	2B6	40	3B5
16	1A3	36	1C7	16	2B7	41	3B6
17	1A4	37	+5V	17	2C0	42	3B7
18	1A5	38	-5V	18	2C1	43	3C0
19	1A6	39	+12V	19	2C2	44	3C1
20	1A7	40	-12V	20	2C3	45	3C2
				21	2C4	46	3C3
				22	2C5	47	3C4
				23	2C6	48	3C5
				24	2C7	49	3C6
				25	GND	50	3C7

c) RTX-02D & RTX-02E PIN ASSIGNMENT

1PPI & 2PPI

PIN 1	1A0	PIN 14	1B5
2	1A1	15	1B6
3	1A2	16	1B7
4	1A3	17	1C0
5	1A4	18	1C1
6	1A5	19	1C2
7	1A6	20	1C3
8	1A7	21	1C4
9	1B0	22	1C5
10	1B1	23	1C6
11	1B2	24	1C7
12	1B3	25	GND
13	1B4		