

**RTA-16H(III)
16 BIT 2S/2P CARD
USER'S MANUAL**

CHAPTER 1. INTRODUCTION

1) OVERVIEW

THE RTA-16H(III) 16 BIT 2S/2P CARD IS A FLEXIBLE AND POWERFUL MULTIFUNCTION ENHANCEMENT PRODUCT FOR THE IBM PERSONAL COMPUTER 286, 386, 486 & 586. IT IS ALSO A POWERFUL DATA I/O ACCESSORY, STANDARD FEATURES INCLUDE THE TWO RS-232C ASYNCHRONOUS SERIAL COMMUNICATION AND ONE ENHANCED PRINTER PORT. IN THE STANDARD SERIAL PORTS, IT CAN BE CHANGE UART CHIP (16C550) TO HIGH SPEED UART (16C650, 16C850) AND CHANGE CHIP WITHOUT REPAIR ANY CIRCUIT, AND GET THE BETTER DATA INPUT/OUTPUT, JUST ONLY CHANGE UART (16C550) TO UART (16C650, 16C850).

IN STANDARD PRINTER PORTS, IT PROVIDES TWO PARALLEL PORT INTERFACE BETWEEN PC AND PERIPHERALS. THESE INTERFACE CAN BE CONFIGURED INTO STANDARD PRINTER MODE, PS/2 BIDIRECTIONAL MODE AND ENHANCED PARALLEL MODE (EPP). (EPP IS IMPLEMENTED ACCORDING TO THE IEEE P1284 INDUSTRIAL STANDARD, IN WHICH A HIGH SPEED BI-DIRECTIONAL SIGNALLING METHOD IS DOCUMENTED.)

2) FEATURES

- * TWO STANDARD ASYNCHRONOUS SERIAL PORTS.
- * SERIAL ADDRESS SELECTABLE: 16 SETS ADDRESS SELECTABLE, INCLUDE STANDARD COM1 - COM4 AND 12 SETS SPECIAL ADDRESS.
- * SERIAL INTERRUPT SELECTABLE: IRQ 3,4,5,7,9,10,11,12,15.
- * SERIAL OPERATION CLOCK: SINGLE. (OR DUAL FOR 16C650, 16C850)
- * TWO ENHANCED PRINTER PORTS.
- * PRINTER ADDRESS SELECTABLE: 10 SETS ADDRESS SELECTABLE, INCLUDE STANDARD LPT1 -LPT3 AND 7 STES SPECIAL ADDRESS.
- * PRINTER INTERRUPT SELECTABLE: IRQ 3,4,5,7,9,10,11,12,15.

3) PACKING

- * RTA-16H ADAPTER x 1.
- * 10 PINS TO 9 PINS (MALE) FLAT CABLE x 1.
- * 26 PINS TO 25 PINS (FEMALE) FLAT CABLE x 1.
- * COMPLETE USER'S MANUAL x 1.
- * DRIVER DISKETTE. (WHEN 16C650 & 16C850 CHIP USE ONLY).

CHAPTER 2. HARDWARE SETTING

1) LABEL ASSIGNMENT

JP5, 6 -- SERIAL PORT ADDRESS SETS SELECT
CH#1 -- 1ST SERIAL PORT CONNECTOR
CH#2 -- 2ND SERIAL PORT CONNECTOR
JC1, JC2 -- 1ST, 2ND SERIAL CHANNELS SELECT
CH1-IRQ -- 1ST SERIAL INTERRUPT LABEL
CH2-IRQ -- 2ND SERIAL INTERRUPT LABEL
JP1, 2, 3 -- ENHANCED PRINTER ADDRESS SETS SELECT
JEP1, 2 -- 1ST, 2ND EPP OR BIDIRECTION MODE SELECT
P2, P3 -- 1ST, 2ND ENHANCED PRINTER PORT CONNECTOR
P2IRQ -- 1ST ENHANCED PRINTER INTERRUPT SELECT
P3IRQ -- 2ND ENHANCED PRINTER INTERRUPT SELECT
CLK1, CLK2 -- FUTURE CLOCK SELECT FOR UART 16650

2) SERIAL ADDRESS & INTERRUPT SETTING

2.1) SERIAL ADDRESS SETTING (S--SHORT, O--OPEN)

SERIAL PORT ASSIGNMENT:

JP5	JP6	ADDRESS DESCRIPTION
S	S	CM1(3F8), CM2(2F8), CM3(3E8), CM4(2E8)
S	O	CM1(7F8), CM2(6F8), CM3(7E8), CM4(6E8)
O	S	CM1(7B8), CM2(6B8), CM3(7A8), CM4(6A8)
O	O	CM1(7B0), CM2(6B0), CM3(7A0), CM4(6A0)

2.2) SERIAL INTERRUPT SETTING

(IRQ) 3 --- INTERRUPT 3 (COM2 DEFAULT)
(IRQ) 4 --- INTERRUPT 4 (COM1 DEFAULT)
(IRQ) 5 --- INTERRUPT 5
(IRQ) 7 --- INTERRUPT 7
(IRQ) 9 --- INTERRUPT 9
(IRQ) 10 --- INTERRUPT 10
(IRQ) 11 --- INTERRUPT 11
(IRQ) 12 --- INTERRUPT 12
(IRQ) 15 --- INTERRUPT 15

2.3) CH#1 AND CH#2 CONNECTOR AND PINOUTS

SIGNAL NAME	CONNECTOR	DB9P	PIN #
CD (IN)			1
RX (IN)			2
TX (OUT)			3
DTR (OUT)			4
SG			5
DSR (IN)			6
RTS (OUT)			7
CTS (IN)			8
RI (IN)			9

3) PRINTER ADDRESS & INTERRUPT SETTING

3.1) PRINTER ADDRESS SETTING (S--SHORT, O--OPEN)

JP1	JP2	JP3	ADDRESS DESCRIPTION	
			P2 (ADD.)	P3 (ADD.)
S	S	S	&H378	&H278
O	S	S	&H3BC	&H278
S	O	S	&H3BC	&H378
O	O	S	&H268	&H278
S	S	O	&H268	&H22C
O	S	O	&H73C	&H76C
S	O	O	&H3AC	&H7AC
O	O	O	&H3AC	&H23C

3.2) PRINTER ADDRESS FUNCTION DESCRIPTION

ITEM LABEL	ADDRESS	FUNCTION
LPT1	&H3BC	SPP, BIDIRECTION
LPT2	&H378	SPP, BIDIRECTION, EPP
LPT3	&H278	SPP, BIDIRECTION, EPP
LPT4	&H268	SPP, BIDIRECTION, EPP
LPT5	&H73C	SPP, BIDIRECTION
LPT6	&H76C	SPP, BIDIRECTION
LPT7	&H7AC	SPP, BIDIRECTION
LPT8	&H3AC	SPP, BIDIRECTION
LPT9	&H23C	SPP, BIDIRECTION
LPT10	&H22C	SPP, BIDIRECTION

3.3) ENHANCED PRINTER INTERRUPT SETTING

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(IRQ) 3 --- INTERRUPT 3
(IRQ) 4 --- INTERRUPT 4
(IRQ) 5 --- INTERRUPT 5 ( DEFAULT FOR &H278 USE)
(IRQ) 7 --- INTERRUPT 7 ( DEFAULT FOR &H378 USE)
(IRQ) 9 --- INTERRUPT 9
(IRQ) 10 --- INTERRUPT 10
(IRQ) 11 --- INTERRUPT 11
(IRQ) 12 --- INTERRUPT 12
(IRQ) 15 --- INTERRUPT 15

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3.4) ENHANCED FUNCTION SETTING -- JEP1

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JEP1 -- 1&2 SHORT FOR 1ST EPP FUNCTION
        2&3 SHORT FOR 1ST BIDIRECTION FUNCTION
JEP2 -- 1&2 SHORT FOR 2ND EPP FUNCTION
        2&3 SHORT FOR 2ND BIDIRECTION FUNCTION

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3.5) P2 AND P3 PRINTER PORT PINS ASSIGNMENT

LINE NAME	P2,P3 CONNECTOR PIN#	IBM MATRIX PRINTER
-STROBE	1	1
D0	2	2
D1	3	3
D2	4	4
D3	5	5
D4	6	6
D5	7	7
D6	8	8
D7	9	9
-ACK	10	10
BUSY	11	11
PE	12	12
SLCT	13	13
-AUTOFD	14	14
-ERROR	15	32
-INIT	16	31
-SLCT IN	17	36
GROUND	18-25	(16,19-30,33)