

OCTAPORT I/O CARD

INSTALLATION PROCEDURE

Applicable to installation of P/N: 801957 (8-Ports & clocks)
801976 (4-Ports & clocks)
801995 (8-Ports & no clocks)
802014 (4-Ports & no clocks)

Address Select

<u>System I/O Card</u>	<u>Card Address</u>	<u>Interrupt Jumper</u>	<u>A7</u>	<u>A6</u>	<u>A5</u>	<u>A4</u>
1st I/O card in system (801957 or 801976)	B0	C1	OUT	IN	OUT	OUT
(A6 in foil on card)						
2nd I/O card in system (801995 or 802014)	C0	C2	OUT	OUT	IN	IN

REFER TO PAGE 3 FOR 2ND I/O CARD CONVERSION, INSTALLATION PROCEDURE ADDENDUM

4-Port or 8-Port

4-Port versions 801976 or 802014 have jumpers at P4, P5, P6, and P7, also that 8-Port version 801957 or 801995 don't have these jumpers.

Baud Rate

The baud rate is set at manufacture at 9600 and is changed by cut and jumper. To change a baud rate, locate the hex pad corresponding to the number of the port in question (just above B10 through B13). Cut the trace just above the hex pad. Jumper the hex pad to the desired baud rate (either side of A7).

50 = 60HZ

In a 50HZ AC power system cut 50HZ trace between A2-A3. In a 60HZ system insure that the two 50HZ hex pads are connected.

Card Placement

The Octaport card may be placed into any S100 bus card slot.

400512 Rev C
23 Feb 1982

Octaport I/O Interface Card P/N 802337 -
Octaport I/O Interface Cable Assembly P/N 804551

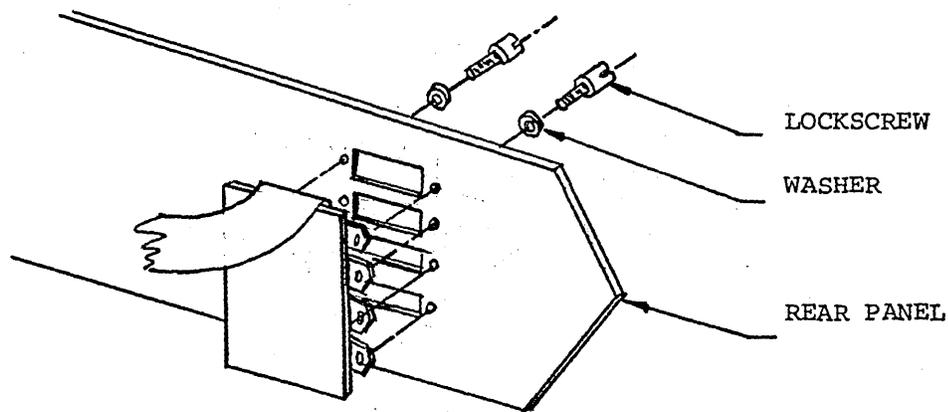
Connection from the Octaport card to the outside world is via one or more Interface Cards or Interface Cable Assemblies or a mixture of the two. Each will interface 4 ports, the Interface Card requiring 4 rear panel holes. The choice of Interface Card, Interface Cable Assembly, or mixture depends on the rear panel version level (number of holes available) and the number of ports being installed.

Both interfaces connect via a 20 pin ribbon cable to the Octaport Card. The first Ribbon Cable is plugged into J1 and the second into J2.

The Interface Card is installed through the rear panel and held in place with 8 speednuts and 8 lock screws. Install lockwasher over threaded portion of lock screw before installing lock screws. Nuts in package may be discarded.

Octaport System Integration

System software for the Octaport card is self generating by answering the questions posed by the program DYNASYS.



ADDENDUM TO
OCTAPORT I/O CARD

INSTALLATION PROCEDURE

PURPOSE

The purpose of this addendum is to modify the Octaport I/O Card Installation procedure for installing the second card in a system. The second card does not require clocks or interrupt control logic. Since these cards are now being manufactured without IC sockets, it has not been clear how to disable the clocks and interrupt control.

ADDENDUM

ADD:

When installing the second Octaport in a system disable the clock and interrupt control logic by:

List per items 1 thru 8

1. Make these changes to Octaport (801957) or Quadraport (801976)
2. Cut (solder side) interrupt Jumper C1.
3. Jumper (either side) interrupt Jumper C2.
4. Cut (component side) address Jumper A6
5. Jumper (either side) address Jumpers A4 and A5.
6. Cut trace (solder side) at IC C1 P1.
7. Jumper (solder side) C1 P1 to C1 P16.
8. Cut trace running between C2 P3 and C2 P4 (component side).

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SCHEMATIC

OCTAPORT INTERFACE ASSEMBLY

PORT #/POSITION	PIN #	SIGNAL NAME	20 PIN RIBBON CONNECTOR PIN #
PORT 0 OR 4/ TOP CONNECTOR	1	*SFTY GND	-
	2	RXD	1
	3	TXD	6
	4	RTS'	7
	5	CTS'	3
	7	GND	9, 10, 19, 20
	PORT 1 OR 5/ 2ND FROM TOP CONNECTOR	1	*SFTY GND
2		RXD	2
3		TXD	5
4		RTS'	8
5		CTS'	4
7		GND	9, 10, 19, 20
PORT 2 OR 6/ 3RD FROM TOP CONNECTOR		1	*SFTY GND
	2	RXD	15
	3	TXD	18
	4	RTS'	17
	5	CTS'	16
	7	GND	9, 10, 19, 20
	PORT 3 OR 7/ BOTTOM CONNECTOR	1	*SFTY GND
2		RXD	12
3		TXD	13
4		RTS'	14
5		CTS'	11
7		GND	9, 10, 19, 20

* Safety ground is an external connection to PC card.

PRODUCT DESCRIPTION (Preliminary)

4/2/80 REV

OCTAPORT CARD

The Octaport Card is an eight port serial Input-Output card with interrupt control and timers. The Octaport provides the I/O and control required in a multi-user system or whenever many serial RS232 level I/O channels are required.

DESCRIPTION

I/O PORT

Mode: Full duplex synchronous or asynchronous.
Levels: (Data & Control): RS232.
Control: 2 each; 1 input and 1 output.
Baud Rate: 110 thru 9600 standard, 19,200 baud optional; jumper selectable.
Interrupt: V13, V14, or V15 for any data available.

TIMERS

Number: 2
Interval: 1-sec and 1/60-sec.
Source: S100 bus pin 55 RTC.
Indication: Board status bit for each timer and V16 for either.

BOARD STATUS

Ports: 2 each.
Function: 1 port to indicate data available for each I/O port.
1 port to indicate status of timers and reset timers.

INTERRUPT CONTROLLER

Dedicated:* I/O receive data available dedicated to V13, V14, or V15; jumper selectable. V16 dedicated to timers.
General: V10, V11, V12, and V17 are generated in response to appropriate S100 bus signal.

*Dedicated interrupts may be jumpered to corresponding S100 pins if desired.

Product Description (Preliminary)
Octaport Card

INTERFACE CARD P/N 802337

Interface is via an Interface Card containing four DB25 connectors connected to the Octaport through a 20-pin ribbon cable (two are required for eight ports).

CARD CONFIGURATIONS

P/N	DESCRIPTION	INSTALL FOR
801957	Octaport Card with eight I/O Ports, Timers, Status Ports, Interrupt Controller and two each Interface Cards.	I/O expansion beyond the CPU I/O ports; includes Interrupt Controller and Timers.
801976	Octaport Card with four I/O Ports, Timers, Status Ports, Interrupt Controller and One Interface Card.	I/O expansion beyond the CPU I/O ports; includes Interrupt Controller and Timers.
801995	Octaport Card with eight I/O Ports and Data Available Status Port only and two each Interface Cards.	I/O expansion beyond one or more Octaport Cards; no Interrupt Controller or Timers.
802014	Octaport Card with four I/O Ports and Data Available Status Port only and one Interface Card.	I/O expansion beyond one or more Octaport Cards; no Interrupt Controller or Timers.

ADDRESSING

The Octaport Card occupies an address space of 16 conventional ports, yet 18 ports are required to implement the desired functions. The extra ports are obtained by taking advantage of the Z80 I/O instructions which control the upper eight addresses during input-output.

For instance, LD A,2
IN OBOH

will input from port B0 (low order address of B0) with 02 on the high order address lines.

The Octaport decodes address bits A8 and A9 as well as A7 thru A0. A0, 1 or 2 on the high order address bits is recognized as follows:

<u>Address Bits A9-A8</u>	<u>Function</u>
0	USART Data-Control
1	USART Receive Data Available Status
2	Timers Status and Reset

Product Description (Preliminary)
Octaport Card

The card, as manufactured, has a base address of 80H. This can be cut and jumper changed to any of 00H, 10H, 20H, thru F0H as desired. The Dynabyte master plan calls for the first card in a system to be based at 80H; the second at C0H.

The table that follows displays the address space occupied by an Octaport based at 80H. The table may be extended to any base by substituting the desired base for B.

<u>Address</u> <u>High Order-Low Order</u>	<u>Description</u>
0-B0	IN/OUTPUT PORT 0 USART DATA
0-B1	IN/OUTPUT PORT 0 STATUS/COMMAND
0-B2	IN/OUTPUT PORT 1 USART DATA
0-B3	IN/OUTPUT PORT 1 STATUS/COMMAND
0-B4	IN/OUTPUT PORT 2 USART DATA
0-B5	IN/OUTPUT PORT 2 STATUS/COMMAND
0-B6	IN/OUTPUT PORT 3 USART DATA
0-B7	IN/OUTPUT PORT 3 STATUS/COMMAND
0-B8	IN/OUTPUT PORT 4 USART DATA
0-B9	IN/OUTPUT PORT 4 STATUS/COMMAND
0-BA	IN/OUTPUT PORT 5 USART DATA
0-BB	IN/OUTPUT PORT 5 STATUS/COMMAND
0-BC	IN/OUTPUT PORT 6 USART DATA
0-BD	IN/OUTPUT PORT 6 STATUS/COMMAND
0-BE	IN/OUTPUT PORT 7 USART DATA
0-BF	IN/OUTPUT PORT 7 STATUS/COMMAND
1-Bx	INPUT - Receive Data Available Status Bit n (n=0-7) = 1 for Port n data available OUTPUT - Not defined.
2-Bx	INPUT - Bit 7: 1/60 sec timer ready. (Active High) Bit 6: 1 sec timer ready. Bit 5-0: Not defined

- NOTE: (1) x = any hex digit.
- (2) USART is Intel 8251. (See Intel Manual for Status and Command description.)
- *(3) Timers run continuously; only ready bits are set and reset.

Product Description (Preliminary)
Octaport Card

INTERRUPTS

The following Interrupts have been defined in a multi-user MP/M environment.

Function	Interrupt	Call Address	S100 Bus Pin
System	RST 0	0H	4
*Hard Disk	RST 1	8H	5
*Floppy Disk	RST 2	10H	6
I/O Card 1	RST 3	18H	7
I/O Card 2	RST 4	20H	8
**-----	RST 5	28H	9
Clocks	RST 6	30H	10
System	RST 7	38H	11

* Hard and Floppy Disk interrupts may be combined on RST2 for some systems with RST1 reserved for special applications.

** RST5 is not defined but reserved.