

Alpha488 (IEA11)

Interface Card

Hardware Guide

Part #: 419-0920

Revision 1.0, 7/96



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Hardware Installation

The following paragraphs explain configuration and physical installation of the interface card. Software installation and setup are covered in a separate section. After running the ECU, please make note of the following: the I/O Base Address, the interrupt channel, and the DMA channel.

The Alpha488 has two DIP switches (S1 and S2), one 22 pin header (IRQ), and two 14-pin headers (DACK and DRQ). The DIP switch settings, along with the arrangement of the jumpers on the headers, set the hardware configuration.

Default Settings

Notice that S2 and IRQ set the interrupt response level, S1 controls the I/O base address, and DACK and DRQ select the DMA channel.

Alpha488 I/O Base Address Selection

The I/O base address sets the addresses used by the computer to communicate with the IEEE 488 interface hardware on the board. The address is normally specified in hexadecimal and can be 02E1, 22E1, 42E1, or 62E1. The registers of the NEC μ PD7210 IEEE 488 controller chip and other auxiliary registers are then located at fixed offsets from the base address.

The factory default I/O base address is 02E1. To use a different base address, set S1 according to Figure 1.

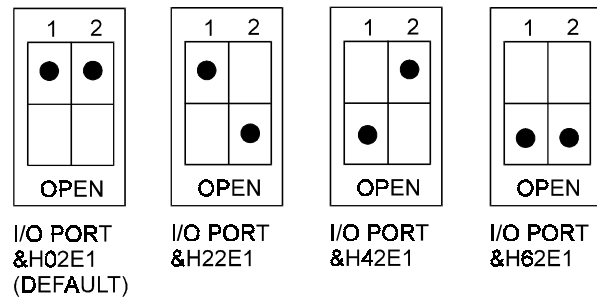


Figure 1. Alpha488 I/O Base Address Settings

Interrupt Selection

The main board interrupt may be set to IRQ level 3 through 7, 10, 11, 12, 14, or 15. When the Alpha488 requires service, the IRQ jumper determines which interrupt level is triggered. When an interrupt occurs, the interrupting device must be reset by writing to an I/O address which is different for each interrupt level. The switch settings determine the I/O address to which the board's interrupt rearm circuitry responds. The IRQ jumper and switch settings must both indicate the same interrupt level for correct operation with interrupts. Figure 2 shows the settings for selected interrupts.

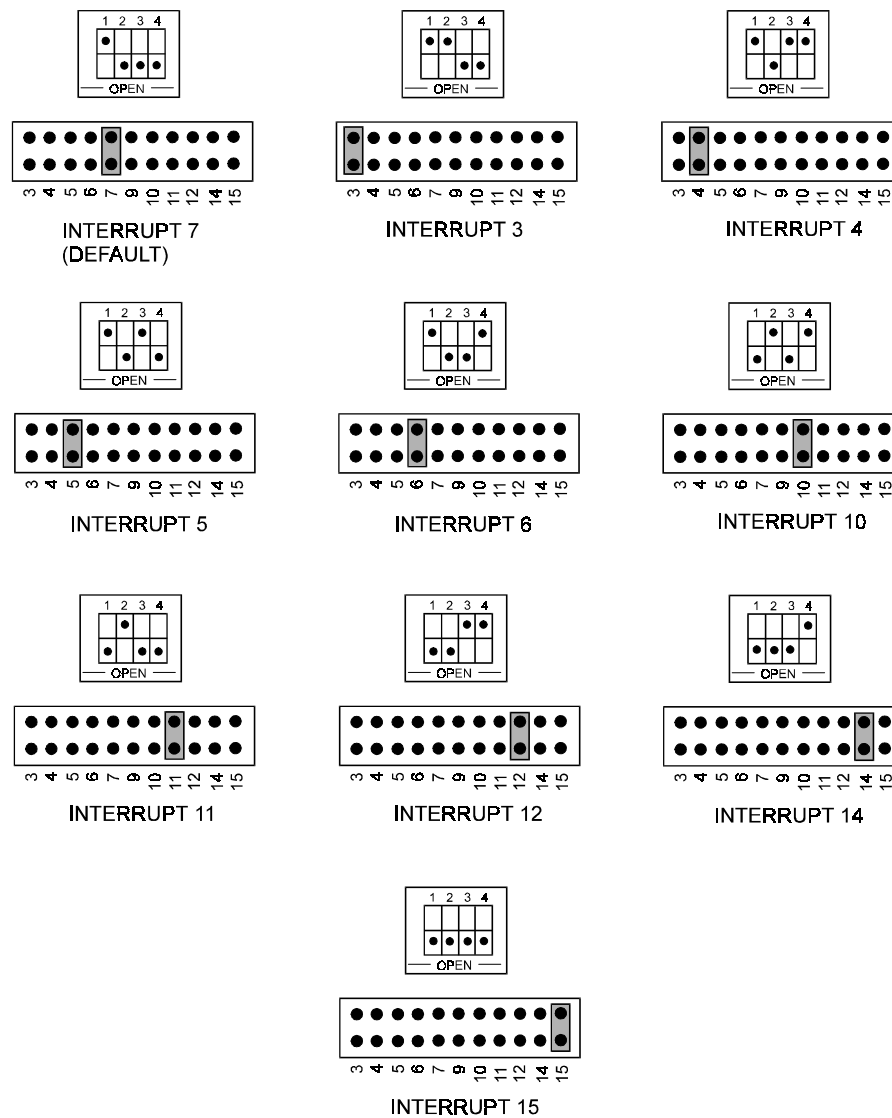


Figure 2. Alpha488 Interrupt Selection

DMA Channel Selection

The Alpha488 has seven DMA channels. Channels 0-3 (8-bit), 5, 6, and 7 (16-bit) are available. Both the DRQ and DACK jumpers must be set to the desired DMA channel for proper operation. Configure the board according to which DMA channel is available. Figure 3 shows settings for selecting the DMA channels.

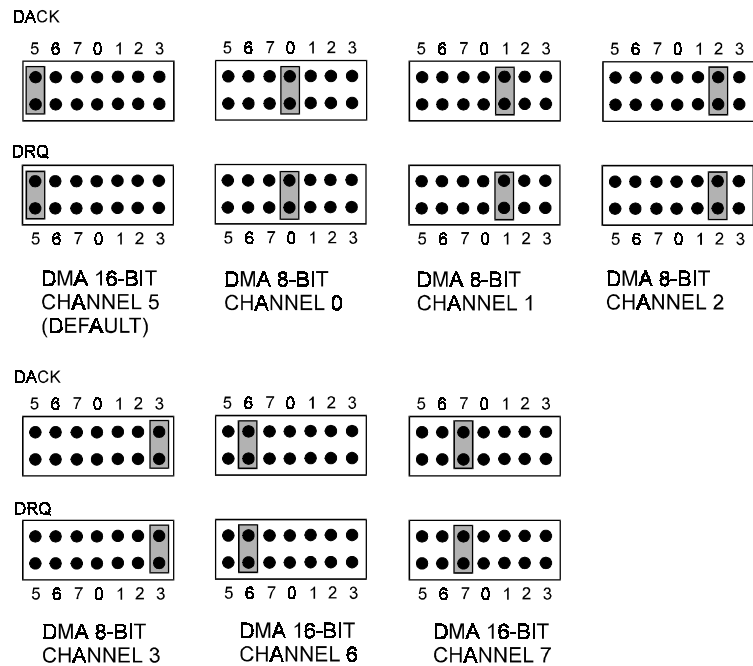


Figure 3. Alpha488 DMA Selection