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## Technical Note

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# Configuring Allen-Bradley Cards

This Technical Note addresses legacy devices. For new installations, the 1782-U2-DHP cable with Kepware's Allen-Bradley DF1 driver is recommended.

Refer to the associated Knowledge Base article:

<https://www.kepware.com/support/knowledge-base/default.asp?solution=/ui/selfservice/pkb/PublicKnowledgeSolution/d?&id=5014000000I7udCsY>

## 1. Hardware Setup

This note covers the following topics:

- Hardware Configuration of 5136-SD-ISA (SST) card
- Hardware configuration of memory and interrupt on 1784 KTX
- Configuring the 1784-KT (ISA Bus) Communication Interface Card for DH+
- Check Device Manager
- Install and Connect KTXD to Network

## 2. Hardware Configuration of 5136-SD-ISA (SST) Card

● **Important:** Users must ground themselves by touching a grounded object (such as the chassis of the computer) before handling the card.

### 2.1 I/O Port Configuration

The 5136-SD-ISA card uses I/O ports. The default address is 250. DIP switches are available on the card to configure a unique I/O port address in case another device is already using that address. The I/O space required is 8 bytes. The setting of 250 selects ports 250-257.

The table below displays some of the DIP switch settings options that may be selected for the port addresses. *If another address is required, refer to the SST card's 5136-SD-ISA User's Guide.*

PORT ADDRESS IN HEX	SW1	SW2	SW3	SW4	SW5	SW6	REMARKS
200	ON	ON	ON	ON	ON	ON	Game Port
208	ON	ON	ON	ON	ON	OFF	
210	ON	ON	ON	ON	OFF	ON	
218	ON	ON	ON	ON	OFF	OFF	
220	ON	ON	ON	OFF	ON	ON	
228	ON	ON	ON	OFF	ON	OFF	
230	ON	ON	ON	OFF	OFF	ON	
238	ON	ON	ON	OFF	OFF	OFF	
240	ON	ON	OFF	ON	ON	ON	
248	ON	ON	OFF	ON	ON	OFF	
250	ON	ON	OFF	ON	OFF	ON	DEFAULT
258	ON	ON	OFF	ON	OFF	OFF	

## 2.2 Transmit Jumper

The 5136-SD-ISA card uses jumper JB2 to enable or disable transmission from the card. Position "DISA" disables transmission; position "ENB" enables it. Set the jumper to "ENB" to enable message transmission through the DH+ network.

- **Note:** Install the card on an ISA slot in the computer.

## 3. Hardware Configuration of Memory and Interrupt on 1784 KTXD Card

Users must select a unique memory address and Interrupt Request Level (IRQ). The valid memory address range is C800-D700. The valid interrupt levels are 3, 4, 5, and 7. To make sure that the value chosen for the interrupt is unique, users should check the Device Manager.

### 3.1 Memory Configuration

The Allen Bradley 1784-KTX (D) card has two channels for communication. When planning to use channel 1, users must turn the knobs (sw3 and sw4) under Channel 1 to reflect the selected memory address. For example, if address D000 is chosen, then the sw3 should point to "D" and sw4 should point to "0." Similarly, when planning to use channel 2, users must turn the knobs (sw1 and sw2) to reflect the selected memory address.

## 3.2 Interrupt Configuration

When using interrupts, users should choose an interrupt level. As mentioned above, valid interrupt levels are 3, 4, 5 and 7. The KTX (D) card comes with two jumpers. Each jumper is used for selecting the interrupt level for each of the channels. The jumper should be placed corresponding to the chosen channel number, horizontally across the two pins next to the selected interrupt level. For example, if using channel 1 with interrupt level 3 selected, users should place one of the jumpers horizontally across pin 3 under channel number 1. If not using interrupts, the jumper should be placed vertically, connecting pins of two different interrupt levels (such as 3 and 5).

## 4. Configuring the 1784-KT (ISA Bus) Communication Interface Card for DH+

● **Important:** Before handling the card, users must ground themselves by touching a grounded object (such as the chassis of the computer).

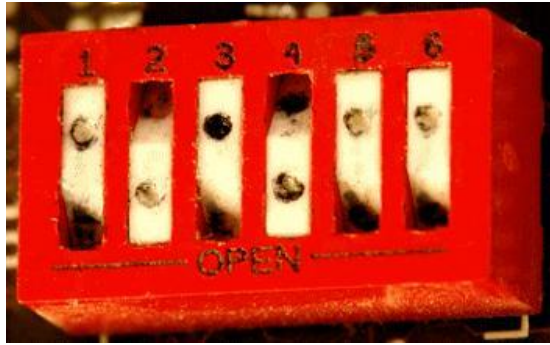
### 4.1 Requirements for the 1784-KT (ISA Bus) card:

- The 1784-KT card's DIP switch configuration must match the driver's KT communications address settings.
- The selected address must not conflict with any other address used by the computer.
- If planning to use multiple 1784-KT cards, each one must be assigned a unique address.

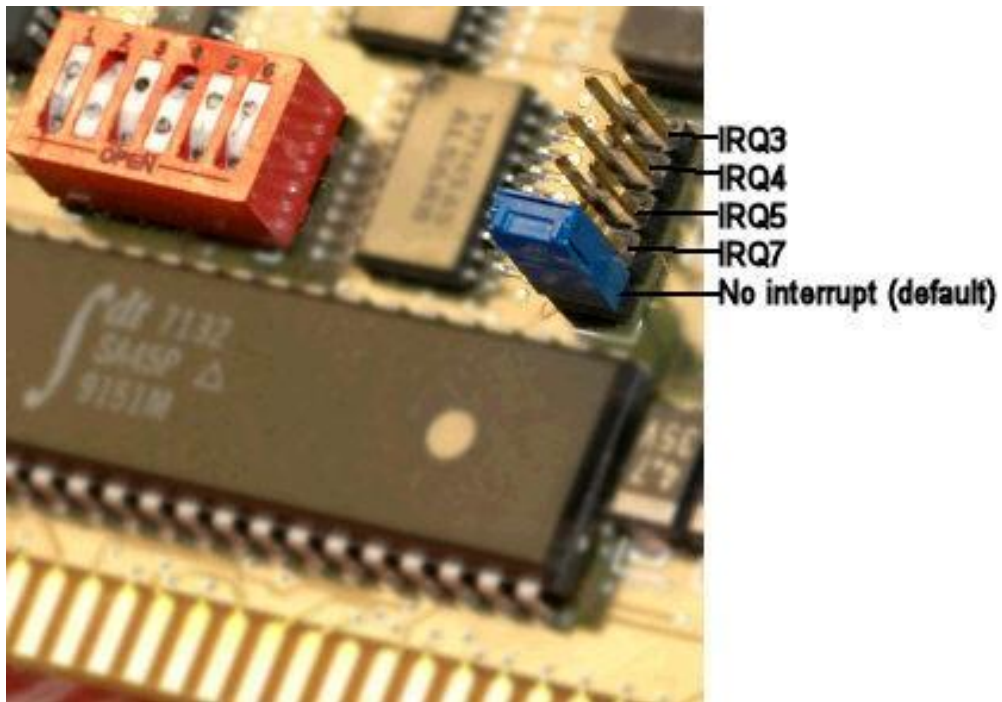
### 4.2 1784-KT Card DIP Switch Configuration for DH+

MEMORY ADDRESS IN HEX		SW1	SW2	SW3	SW4	SW5	SW6
Use these addresses only if an EGA or VGA display adapter is not installed.	A0000	OPEN	OPEN	OPEN	CLOSED	OPEN	CLOSED
	A4000	CLOSED	OPEN	OPEN	CLOSED	OPEN	CLOSED
	A8000	OPEN	CLOSED	OPEN	CLOSED	OPEN	CLOSED
	AC000	CLOSED	CLOSED	OPEN	CLOSED	OPEN	CLOSED
Use these addresses only if an MDA display adapter is not installed.	B0000	OPEN	OPEN	CLOSED	CLOSED	OPEN	CLOSED
	B4000	CLOSED	OPEN	CLOSED	CLOSED	OPEN	CLOSED
	B8000	OPEN	CLOSED	CLOSED	CLOSED	OPEN	CLOSED
Use these addresses only if the Dxxxx addresses do not work (since one of the Cxxxx addresses may be used by the AT BIOS).	C0000	OPEN	OPEN	OPEN	OPEN	CLOSED	CLOSED
	C4000	CLOSED	OPEN	OPEN	OPEN	CLOSED	CLOSED
	C8000	OPEN	CLOSED	OPEN	OPEN	CLOSED	CLOSED
	CC000	CLOSED	CLOSED	OPEN	OPEN	CLOSED	CLOSED
These addresses will yield the best results. The default address is shown in bold.	D0000	OPEN	OPEN	CLOSED	OPEN	CLOSED	CLOSED
	D4000	CLOSED	OPEN	CLOSED	OPEN	CLOSED	CLOSED
	D8000	OPEN	CLOSED	CLOSED	OPEN	CLOSED	CLOSED

### 4.3 DIP Switches on 1784-KT Card (D4000 Default Shown)



1. Configure the 1784-KT card DIP switches by pressing each switch in at the top or in at the bottom. Descriptions of the settings are as follows:
  - **Open:** Pressed in at the top.
  - **Closed:** Pressed in at the bottom.
2. Select an interrupt by placing the jumper on the two pins for the setting that has been chosen. Settings include IRQ3, IRQ4, IRQ5, IRQ7, or no interrupt. The default setting is no interrupt.

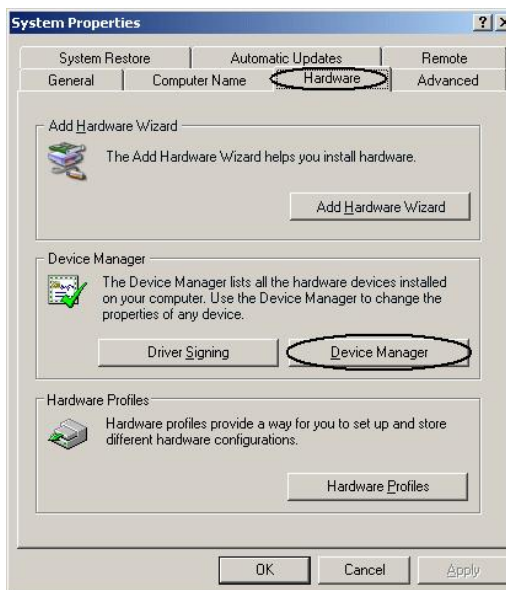


3. Carefully slide the 1784-KT card into the I/O expansion slot, and then press firmly until the card is seated in the slot.
4. Install the retaining screw into the retaining bracket.

## 5. Check Device Manager

### 5.1 Windows XP

1. Right-click on the **My Computer** icon on the desktop and then select **Properties**. Alternatively, press the **Windows** button on the keyboard at the same time as the **Pause/Break** button.
2. Click on the **Hardware** tab and then select **Device Manager**.
3. Click on **View** in the toolbar and then select **Resources by Type**.
4. Expand **Interrupt Request (IRQ)** if it is not already expanded by right-clicking the plus sign. All interrupt levels being used by other devices should be visible. If the device is using an interrupt, pick a level that is not already being used by any other device. For example, if the device allows an interrupt level of 3, 5, 7 and 9, and the list suggests that the levels 3 and 7 are already being used, then users should select either interrupt level 5 or interrupt level 9. Choosing levels 3 and 7 would produce a resource conflict error, which might cause the device to act erroneously.



## 6. Install and Connect KTX(D) to the Network

### 6.1 Installing the KTX(D) Card

1. Shut down the computer.
2. Touch something conductive connected to the ground line of AC power (such as the chassis of the computer while it is plugged to the AC power) to be grounded.
3. Properly insert the card on an available ISA slot.

### 6.2 Connecting the Card to the Network

The KTX(D) has two channels. Channel 1 can only connect to DH+, whereas Channel 2 can have connections to either a DH+ or DH-485 network. Use two different DH+ network connections or one DH+ network connection and one DH-485 network connection to the KTX (D) card.