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DaqBook and DaqBoard and DaqBoard/2000 Connection 4

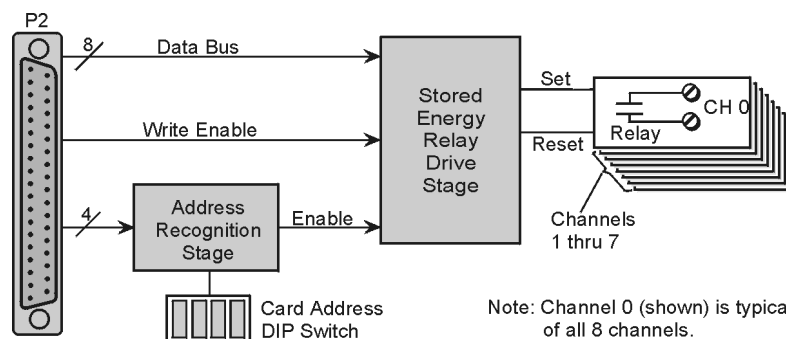
DaqBook and DaqBoard Configuration 4

Software Setup 4**DBK25 – Specifications 4****Reference Notes:**

- Refer to [Chapter 2, Power Management](#), in regard to calculating system power requirements.
- [Chapter 3, System Connections and Pinouts](#), includes pinouts for P1, P2, P3, and P4. Refer to the pinouts that are applicable to your system, as needed.
- DBK25 users may be interested in the **DBK208** module. DBK208 is a *Carrier Board for Opto-22 Compatible Solid-State-Relays*. Refer to the DBK208 document module for additional information.

Overview

DBK25 provides 8 normally-open relay contacts for isolated switching of AC or DC loads or signals via the LogBook's P2 digital port or via the Daq device's or adapter's P2 digital port. The P2 port operating in the expanded-I/O mode can address up to 32 DBK25s (256 relays max). The DigiBook/72 with 3 P2 ports can address 96 DBK25s for up to 768 relay contacts. The relays are 2-coil sub-miniature latching relays and do not require continuous current to stay closed. Such bi-stable relays can act as an 8-bit non-volatile write-only memory byte.



DBK25 Block Diagram

The steady-state power drain of the DBK25 is very low, less than 1 mA at 5 VDC. It is practical, even operating on a battery, to have hundreds of relay contacts. The stored-energy operation of the DBK25 does limit the practical on/off speed (or the ability to generate 50% duty cycles) to about 10 Hz. The relay's operating time is less than 15 ms.

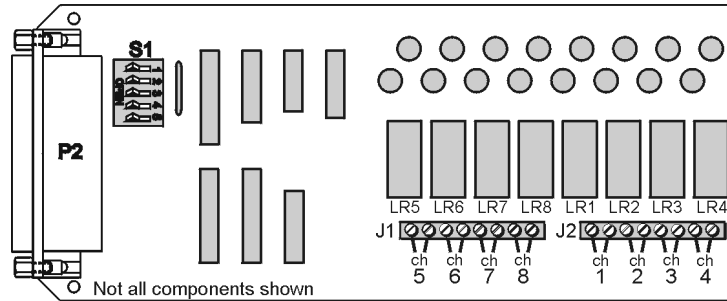
Hardware Setup

Card Connection

There are 16 screw terminals on the DBK25 to connect to 8 separate pairs of output contacts:

- J1 for channels 5 through 8
- J2 for channels 1 through 4

The board contains holes for use of wire ties.



DBK25 Board Layout

Card Configuration

You must set DIP switch S1 to a 5-bit address to correspond to the desired card address. (S1 is located next to the DB37 connector.) The following table lists the switch settings for 32 system card numbers. The XI/O addresses can be used in custom programming to access specific cards.

System Card #	XI/O Address	S1 Position OPEN = OFF					System Card #	XI/O Address	S1 Position OPEN = OFF				
		1	2	3	4	5			1	2	3	4	5
0	H60	OFF	OFF	OFF	OFF	OFF	16	H70	OFF	OFF	OFF	OFF	ON
1	H61	ON	OFF	OFF	OFF	OFF	17	H71	ON	OFF	OFF	OFF	ON
2	H62	OFF	ON	OFF	OFF	OFF	18	H72	OFF	ON	OFF	OFF	ON
3	H63	ON	ON	OFF	OFF	OFF	19	H73	ON	ON	OFF	OFF	ON
4	H64	OFF	OFF	ON	OFF	OFF	20	H74	OFF	OFF	ON	OFF	ON
5	H65	ON	OFF	ON	OFF	OFF	21	H75	ON	OFF	ON	OFF	ON
6	H66	OFF	ON	ON	OFF	OFF	22	H76	OFF	ON	ON	OFF	ON
7	H67	ON	ON	ON	OFF	OFF	23	H77	ON	ON	ON	OFF	ON
8	H68	OFF	OFF	OFF	ON	OFF	24	H78	OFF	OFF	OFF	ON	ON
9	H69	ON	OFF	OFF	ON	OFF	25	H79	ON	OFF	OFF	ON	ON
10	H6A	OFF	ON	OFF	ON	OFF	26	H7A	OFF	ON	OFF	ON	ON
11	H6B	ON	ON	OFF	ON	OFF	27	H7B	ON	ON	OFF	ON	ON
12	H6C	OFF	OFF	ON	ON	OFF	28	H7C	OFF	OFF	ON	ON	ON
13	H6D	ON	OFF	ON	ON	OFF	29	H7D	ON	OFF	ON	ON	ON
14	H6E	OFF	ON	ON	ON	OFF	30	H7E	OFF	ON	ON	ON	ON
15	H6F	ON	ON	ON	ON	OFF	31	H7F	ON	ON	ON	ON	ON

The full-page table on the following page shows all possible relay settings and their associated binary and hex values.

DaqBook and DaqBoard and DaqBoard/2000 Connection

Use a 37 pin accessory cable to connect DBK25 to the P2 connector of an appropriate P4 adapter. These adapters are discussed in the DBK200 document modules.



**P2 expansion cables must be kept short for proper operation.
Do not exceed 14' per attached DBK card.**

DaqBook and DaqBoard Configuration

No hardware configuration setups internal to the DaqBook or DaqBoard are needed for expanded TTL I/O.

Software Setup



Reference Notes:

- **DaqView Users** - Refer to [Chapter 4, DBK Setup in DaqView](#).
- **LogView Users** - Refer to [Chapter 5, DBK Setup in LogView](#).

DBK25 – Specifications

Name/Function: 8-Channel Relay Output Card

Connectors: Screw terminals for signal outputs

Max Number of Cards: 32

Contact Rating:

2 A @ 28 VDC; 0.6 A @ 120 VAC

Isolation:

Channel-to-System: 250 V

Channel-to-Channel: 150 V