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Find the *National Instruments BNC-2121* at our website: ***Click HERE***

# Counter/Timer Accessories and Cables



*Figure 1. BNC-2121 Connector Block*



*Figure 2. CA-1000 Configurable Signal Conditioning Solution*

## Accessory and Cable Selection Process

Step 1. Select your counter/timer device from Tables 1 and 2.

Step 2. Using Tables 1 and 2 as a guide, determine which accessories are appropriate for that device. Select an accessory using Table 3 as reference.

Step 3. Using Tables 1 and 2, determine the appropriate cable solution for your selected counter/timer device and accessory.

## Accessories

### BNC-2121 (See Figure 1)

Connector block with BNC and spring terminal connections for easy connection of I/O signals to counter/timer devices. The BNC-2121 offers spring terminals, as well as eight dedicated and six user-defined BNC connectors, which provide access to all I/O signals. This connector block is also a full-featured test accessory that provides pulse-train, trigger, and quadrature encoder signals. For the connections, refer to the BNC-2121 user guide at ***ni.com/manuals***

BNC-2121 .....778289-01

Dimensions – 26.7 by 11.2 by 5.5 cm (8.0 by 4.4 by 2.2 in.)

### CA-1000 (See Figure 2)

Configurable signal connectivity solution for connecting counter/timers to different types of standard I/O connectors. You can also incorporate switches and LED indicators. You can place the CA-1000 under a laptop PC, on a benchtop, or in a 19 in. rack.

CA-1000 .....See page 351

Dimensions – 30.7 by 25.4 by 4.3 cm (12.1 by 10 by 1.7 in.)

**PCI-6601, PCI-6602**

| Accessories | Cables |
|---|---|
| BNC-2121, CA-1000, SCB-68, TBX-68, CB-68LP, and CB-68LPR | – R6868 or SH68-68-D1 |
| TB-2715 | N/A |

*Table 1. Accessories and Cables for PXI-6601 and PCI-6602*

**PXI-6602, PXI-6608**

| Accessories | Cables |
|---|---|
| BNC-2121, CA-1000, SCB-68, TBX-68, CB-68LP, and CB-68LPR | – R6868 or SH68-68-D1 |
| TB-2715 | Connects directly to the device |

*Table 2. Accessories and Cables for PXI-6602 and PXI-6608*

| Accessory | Description | Page |
|---|---|---|
| BNC-2121 | BNC connector block with built-in test features | 390 |
| CA-1000 | Configurable connector accessory | 390 |
| SCB-68 | Shielded screw connector block | 391 |
| TB-2715 | Front-mount terminal block for PXI-660x | 391 |
| TBX-68 | DIN-rail connector block | 391 |
| CB-68LP | Low-cost screw connector block | 391 |
| CB-68LPR | Low-cost screw connector block | 391 |

*Table 3. Overview of Accessories*





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# Counter/Timer Accessories and Cables





### SCB-68 Shielded I/O Connector Block (See Figure 3)

Shielded I/O connector block for easy connection of I/O signals to the counter/timer devices. The screw terminals are housed in a metal enclosure for protection from noise corruption. Combined with a shielded cable, the SCB-68 provides rugged, very low-noise signal termination. The SCB-68 also includes two general-purpose breadboard areas.

SCB-68 .....776844-01

Dimensions – 19.5 by 15.2 by 4.5 cm (7.7 by 6.0 by 1.8 in)



*Figure 3. SCB-68 Shielded I/O Connector Block*

### TB-2715 Terminal Block (See Figure 4)

With the TB-2715 terminal block for PXI counter/timer devices, you can connect signals directly without additional cables. Screw terminals provide easy connection of I/O signals. The TB-2715 latches to the front of your PXI module with locking screws and provides strain relief.

TB-2715 .....778242-01

Dimensions – 8.43 by 10.41 by 2.03 cm (3.32 by 4.1 by 0.8 in.)



*Figure 4. TB-2715 I/O Terminal Block*

### TBX-68 I/O Connector Block with DIN-Rail Mounting (See Figure 5)

Termination accessory with 68 screw terminals for easy connection of field I/O signals to the counter/timer devices. The TBX-68 is mounted in a protective plastic base with hardware for mounting on a standard DIN rail.

TBX-68 .....777141-01

Dimensions – 12.50 by 10.74 cm (4.92 by 4.23 in.)



*Figure 5. TBX-68 I/O Connector Block*

### CB-68LP and CB-68LPR I/O Connector Blocks (See Figure 6)

Low-cost termination accessories with 68 screw terminals for easy connection of field I/O signals to the counter/timer devices. The connector blocks include standoffs for use on a desktop or mounting in a custom panel. The CB-68LP has a vertically mounted 68-pin connector. The CB-68LPR has a right-angle mounted connector for use with with the CA-1000.

CB-68LP .....777145-01

Dimensions – 14.35 by 10.74 cm (5.65 by 4.23 in.)

CB-68LPR .....777145-02

Dimensions – 7.62 by 16.19 cm (3.00 by 6.36 in.)



*Figure 6. CB-68LP and CB-68LPR I/O Connector Blocks*



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# Counter/Timer Accessories and Cables



*Figure 7. RTSI Bus Cable*



*Figure 8. Extended RTSI Bus Cable*



*Figure 9. SH68-68-D1 Shielded Cable*



*Figure 10. R6868 Ribbon I/O Cable*



*Figure 11. 68-Pin Custom Cable Kit*

## Cables

### RTSI Bus Cables (See Figures 7 and 8)

Use RTSI bus cables to connect timing and synchronization signals among measurement, vision, motion, and CAN boards for PCI. For systems using long and short boards, order the extended RTSI cable.

2 boards .....776249-02
3 boards .....776249-03
4 boards .....776249-04
5 boards .....776249-05
Extended, 5 boards .....777562-05

### SH68-68-D1 Shielded Cable (See Figure 9)

Shielded 68-conductor cable terminated with two 68-pin female 0.050 series D-type connectors. This cable connects counter/timer devices to accessories.

1 m .....183432-01
2 m .....183432-02

### R6868 Ribbon I/O Cable (See Figure 10)

68-conductor flat ribbon cable terminated with two 68-pin connectors. Use this cable to connect the NI PCI-6601 to an accessory. For signal integrity with high-frequency signals, use the SH68-68-D1 with the NI 6602 and NI 6608.

1 m .....182482-01

## Custom Connectivity Components

### 68-Pin Custom Cable Connector/Backshell Kit (See Figure 11)

68-pin female mating custom cable kit for use in making custom 68-conductor cables. Solder-cup contacts are available for soldering of cable wires to the connector.

68-pin custom cable kit .....776832-01

### PCB Mounting Connectors

Printed circuit board (PCB) connectors for use in building custom accessories that connect to 68-conductor shielded and ribbon cables. Two connectors are available, one for right-angle and one for vertical mounting onto a PCB.

68-pin, male, right-angle mounting.....777600-01
68-pin, male, vertical mounting.....777601-01



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