

## UNIVERSAL PROBUS/ PROLINK INTERFACE

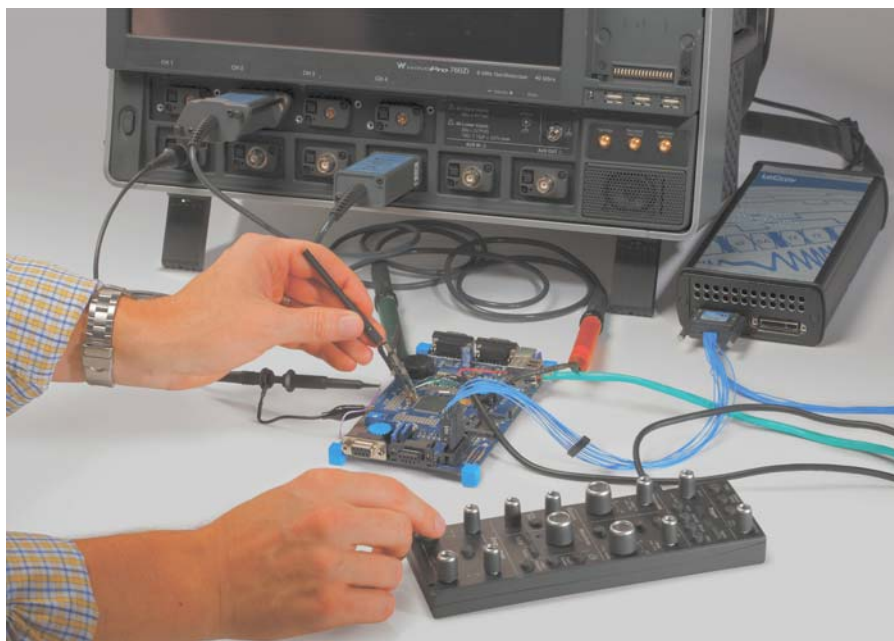
TECHNICAL BRIEF

*LAB 1020*  
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The LeCroy WavePro 700Zi series oscilloscopes with bandwidths of 4 to 6 GHz include universal ProBus/ProLink probe interfaces. As shown in Figure 1, each channel has a high bandwidth ProLink connector and a 50 Ohm/1MOhm ProBus connector. This unique interface provides the user with the greatest flexibility in probe selection in any oscilloscope.

The ProLink inputs provide a high integrity, high bandwidth interchangeable interface to SMA cables, LeCroy ProLink probes, and accessories. ProLink is used for higher bandwidth probes.

The ProBus interface offers both 50 Ohm and 1 MOhm input impedance and provides probe power and control for a wide range of probes such as high impedance passive probes, high impedance active probes, current probes, high voltage probes, differential probes. ProBus also includes sense rings for detecting passive probes. All scopes with bandwidths over 4 GHz, except the WavePro 740Zi and 760Zi, use 50 Ohm inputs and provide 1 MOhm impedance by means of external adapters.



**Figure 1 A WavePro 760Zi showing the 4 sets of ProBus/ProLink probe interfaces. This scope is compatible with all LeCroy probes.**

**Figure 3 The channel setup showing A (ProLink) interface controls**



Figure 2 shows a typical channel setup. The input selection is on the left hand side of the dialog box. In this case the A input, the ProLink interface is selected. Each input selection has its own independent settings for Probe attenuation, bandwidth and coupling. The setup for the ProBus interface is shown in Figure 3. This interface also allows the selection of input impedance, 50 Ohms or 1 MOhm.

Another advantage of the universal probe interface is the ability to switch between two probe setups. This function is remotely programmable allowing the interface to operate like a switch.

The characteristics of the universal ProBus/ProLink Interface are shown in Table 1. Each of the interfaces provides power to the probe. An I<sup>2</sup>C interface allows communication with the probe which permits probe recognition and interaction. This adds to the flexibility of the system as the scope can sense and control each probe.

Table 2 lists the compatible probe types for each of the probe interfaces.

The WavePro 740Zi and 760Zi oscilloscopes offer the universal ProBus/ProLink probe interface which allows dual inputs in the DC to 3.5 GHz range and a dedicated high bandwidth interface in the range of 4 through 6 GHz.

The ability to select four out of eight inputs provides unheard of connection flexibility and eliminates the need for costly, easy to lose 'adapters'



**Figure 2 The setup of the B (ProBus) interface**

| Probe Interface | ProBus    | ProLink                 |
|-----------------|-----------|-------------------------|
|                 | Bandwidth |                         |
| 50 Ohm          | 3.5 GHz   | Scope bandwidth 4-6 GHz |
| 1 MOhm          | 500 MHz   | N/A                     |

**Table 1 – Characteristics of the probe interfaces**

| ProBus                         | ProLink                       |
|--------------------------------|-------------------------------|
| PP008/011 10 MOhm Hi Z         | PP063 7.5 GHz Low Capacitance |
| ZS Series 1 MOhm Active        | WaveLink Series Differential  |
| WL-PBUS 3.5 GHz Differential   | WL-PLINK 6 GHz Differential   |
| HFP Series 100 kOhm Active     | OE 525/555 O/E Converter      |
| OE 425/455 O/E Converters      |                               |
| ADP300 Series Differential     |                               |
| AP3X Series Differential       |                               |
| AP 015 Current Probe           |                               |
| CP Series Current Probe        |                               |
| PPE Series High Voltage Probes |                               |

**Table 2: Probe compatibility**