# Installation Instructions

**Interface Part Number 14-5044-086**
Interfacing One or Two Tekmar™ 2000s/7000s/3000s/6000s, Velocity XPTs to a Varian 3400/3600/Data System/Integrator (with Serial I/O)

This interface allows one or two Tekmar units to operate automatically with your Varian instruments. It allows the gas chromatograph (GC) to send a READY signal to the Tekmar unit(s). Also, it enables the Tekmar unit(s) to start the GC upon sample transfer or injection. If you are using two Tekmar units, the interface will not allow sample transfer until both Tekmar units are ready to transfer the sample.

## *Special Considerations*

If you are using two Tekmar units, they must inject or transfer the samples to the GC at the same time. You can allow only a few seconds between each transfer or injection. To cause both units to transfer or inject the samples at the same time, set the method parameters accordingly. For more information on setting method parameters, see your manual.

"GC Cycle Time" may be a feature on your unit(s). If you are going to use two units, disable GC Cycle Time to avoid a conflict error. For more information on disabling GC Cycle Time, see your manual.

For the interface to work properly, the switches on the 2000 or 7000 input/output (I/O) board need to be set as shown in the diagram included with these instructions. You do **not** need to set switches for the 3000,6000, Velocity XPT; you set up the interface through software. See the following steps for your particular unit.

**WARNING**

**Electrical shock hazard inside. Unplug power cord before removing panels.**

**CAUTION**

**Circuit board components can be damaged by static discharge. Avoid touching the components unless otherwise noted.**

## *Connection to the 2000*

1. To access and set the switches:
   a. Locate the I/O board. It has two connectors extending out of its bracket, which can be accessed at the rear of the 2000. (See the photograph in Section 12 of your Purge and Trap Concentrator User Manual.)
   b. Loosen the two screws that hold the I/O board and slide it out until you see the switches labeled "U012" and "U013".
   c. Set the switches according to Figure 1 on the following page. (The switches are in the OPEN position when they are pressed **down** at the "OPEN" label.)
   d. Return the I/O board to its original place, being careful to properly seat it into its connector.
2. Plug either one of the cables (with 25-pin connectors) into the matching connector on the I/O board. If you are using one unit, it does not matter which cable you choose.
3. Repeat Steps 1 and 2 for the second 2000.

### *Connection to the 7000*

1. To access and set the switches:
   a. Loosen the two 1/4-turn fasteners on the lower left side panel.
   b. To remove the panel, pull it **away** from the unit to release the retaining clips from the posts in the chassis, then toward the **front** of the unit to release it from the locating pins (on the rear of the unit).
   c. There are three sets of four DIP switches on the edge of the board. They are labeled BIAS, OUTPUT and INPUT. Set the switches according to Figure 1 below. (Flip the switches **up** to put them in the OPEN position.)
   d. Reinstall the left side panel by pressing it back onto the locating pins and inserting the retaining clips into the posts in the chassis.
   e. Secure the panel with the two 1/4-turn fasteners.
2. The I/O board has two connectors extending out of its bracket, which can be accessed at the rear of the 7000. Plug either one of the cables (with 25-pin connectors) into the matching connector on the I/O board. If you are using one unit, it does not matter which cable you choose.
3. Follow Steps 1 and 2 for the second 7000.

Switch Settings on the 2000 I/O Board

| U012 | U013 |
|---|---|
| 6---Closed | 6---Open |
| 5---Closed | 5---Open |
| 4---* | 4---Open |
| 3---* | 3---Open |
| 2---Closed | 2---Open |
| 1---Closed | 1---Open |

* 3 open and 4 closed gives Desorb closure at the beginning of Desorb. 3 closed and 4 open gives Desorb closure at the end of Desorb.

Switch Settings on the 7000 I/O Board

| Bias | Output | Input |
|---|---|---|
| 1---Open | 1---Open | 1---Open |
| 2---Open | 2---Open | 2---Open |
| 3---Open | 3---Open | 3---Open |
| 4---Open | 4---Open | 4---Open |

*Figure 1* Switch Settings

### *Connection to the 3000,6000, Velocity XPT*

1. Turn off the Tekmar unit.
2. Locate the Tekmar unit's interface board. The board has two connectors extending out of its bracket. These connectors can be accessed at the rear of the Tekmar unit.
3. Plug either one of the cables (with 25-pin connectors) into the matching connector on the interface board. If you are using one unit, it does not matter which cable you choose.
4. Follow Steps 1 through 3 for the second 3000 or 6000.

### *Specifying the GC Port (3000, 6000 Velocity XPT only)*

1. Turn on the Tekmar unit.
2 At the System Error/System Reset Screen, press the ENTER key.
3. Allow the unit to run through the automatic self-test.
4. At the Standby Screen, press the CONF key. The Configuration Screen appears on the display.
5. At the Configuration Screen, choose **A** (GC I/O Port). The GC Port Screen appears on the display.

### *Specifying the GC Port (3000,6000. Velocity XPT only), continued*

6. Choose the GC Port. You have two choices: *Standard* or *User*. Choose **Standard**. Press any numeric key to cause the display to toggle from one choice to another. Press ENTER to save your selection.
7. Turn off the Tekmar unit.
8. Follow Steps 1 through 7 for the second 3000 or 6000.

### *Connection to the GC with an Integrator*

**WARNING**

**Electrical shock hazard inside. Unplug power cord before removing panels.**

1. Remove the top covers of the GC.
2. Remove the detector PC (printed circuit) boards to expose connectors J23 and J16 on the mother board. See the Varian manual.
3. Connect the end of the cable that ends in a four-position connector (P16) to connector J16.
4. Connect the five-position connector to connector J23.
5. Route the cable as shown in the Varian manual.
6. Replace the detector PC boards and reinstall the top covers.

### *Integrator Connection*

Connect the end of the cable that ends in a 36-position connector (P110) to J110 on the integrator.

### *Connection to the GC with a Data System*

**WARNING**

**Electrical shock hazard inside. Unplug power cord before removing panels.**

1. Remove the top covers of the GC.
2. Remove the detector PC (printed circuit) boards to expose connectors J23 and J16 on the mother board. See the Varian manual.
3. Connect the end of the cable that ends in a four-position connector (P16) to connector J16.

**Note: Do not connect the 5-position connector (P23) to J23 when connecting to a data system.**

4. Route the cable as shown in the Varian manual.
5. Replace the detector PC boards and reinstall the top covers.

### *Data System Connection*

Connect the end of the cable that terminates in a three-position connector (CS) to primary control station terminals 7 and 8.

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