

**Operational Guide**

*T-Frame for CompactPCI and VME64x*

*Part numbers series: 580-600x-Fxx-00, 580-601x-Fxx-00, 580-602x-Fxx-00*

The T-Frame for CompactPCI offers a host of sophisticated features supporting the development and test of board-level system components. Tracewell Systems appreciates the recent purchase of this product and is confident it will be a useful and valuable tool. The following is a summary of the general operational features and controls of the T-Frame for CompactPCI and VME64x. Also refer to the product data sheets available at [www.tracewellsystems.com](http://www.tracewellsystems.com) for drawings and specifications:

1. Voltage monitoring of all DC output voltages (+3.3V, +5.0V, +12.0V and -12.0V) on the backplane. User selectable front panel control and display.
2. Current monitoring of all DC output voltages (+3.3V, +5.0V, +12.0V and -12.0V) delivered to the backplane. User selectable front panel control and display. The maximum current displayed for the +12.0V and -12.0V voltages is 19.99 amps. Accuracy for all current readings is ±3%.
3. Voltage margining is provided for +5.0V and +3.3V voltages (± 10% adjustment nominal) using front panel control knobs. To enable margining control, turn knob for desired voltage clockwise. To prevent possible damage due to voltage overshoot, margin control, when enabled, defaults to the low margin range (-10%) for selected voltage.
4. It is recommended that all margin control be in the 'off' position during power-up. If the +3.3V margin control is set too high, there is a possibility that the power supply will not power up. If a power shut down is experienced, adjust the margin for the +3.3V to a lower setting.
5. Prior to operation, all CompactPCI version T-Frames must be configured for +5.0V or +3.3V I/O voltage (VI/O). This is done by connecting the VI/O-1 and VI/O-2 terminals located on the rear of the backplane to the appropriate and adjacent +5.0V or +3.3V power terminal. An accessory kit containing two wire jumpers has been provided. **IMPORTANT!! Both VI/O-1 and VI/O-2 terminals must be connected to the same voltage or damage to the unit may result.**
6. The system reset (BRST\* signal) on the backplane is monitored by an LED located on the front panel. BRST\* can be manually asserted on the backplane by pressing the RESET button the front of the chassis.
7. A temperature monitor is provided which measures exhaust airflow any front backplane slot. A sliding probe thermistor may be positioned over any slot by sliding a lever on the upper rear panel. Temperature in degree Celsius is displayed on the front panel when the front Volts/ °C button is depressed.
8. The front system fan speed may be adjusted from full to half speed by depressing the SYSTEM FAN SPEED button located on the front panel. It is recommended that the FULL speed setting be selected for power levels above 100 watts.
9. Switch **SW1** located on the rear of the power supply backplane, allows for the following power supply control. Default settings are all power supply slots enabled:

|                                       | Enabled | Disabled |
|---------------------------------------|---------|----------|
| <i>Front left power supply slot:</i>  |         |          |
| SW1-1                                 | ON      | OFF      |
| SW1-2                                 | OFF     | ON       |
| <i>Front right power supply slot:</i> |         |          |
| SW1-3                                 | ON      | OFF      |
| SW1-4                                 | OFF     | ON       |
| <i>Rear power supply slot:</i>        |         |          |
| SW1-5                                 | ON      | OFF      |
| SW1-6                                 | OFF     | ON       |

10. Switch **SW2** located on the rear of the power supply backplane allows speed control the front and rear power supply fans as follows:

|       |                              | FULL    | HALF |
|-------|------------------------------|---------|------|
| SW2-1 | Reserved                     | Default | N.A. |
| SW2-2 | Reserved                     | Default | N.A. |
| SW2-3 | Reserved                     | Default | N.A. |
| SW2-4 | Reserved                     | Default | N.A. |
| SW2-5 | Front power supply fan speed | ON      | OFF  |
| SW2-6 | Rear power supply fan speed  | ON      | OFF  |

It is recommended that the FULL speed setting be selected for power levels above 100 watts. The default setting for both front and rear power supply fans is FULL.

11. The front power supply fan receives power from either of the front power supplies. If it is desired to bypass this feature and run them from the system +12.0V, a jumper should be placed on **E1**, located on the rear of the power supply backplane.
12. The rear power supply fan receives power from the rear power supply. If it is desired to bypass this feature and run them from the system +12.0V, a jumper should be placed on **E2**, located on the rear of the power supply backplane.
13. There are two headers, J1 and J2, on the rear of the power supply backplane to supply power to external devices (disk drives, etc.). Pin 1 is +5.0V, pin 4 is +12.0V and pins 2 and 3 are ground. Current draw from these pins is not monitored by the system.
14. The T-Frame for CompactPCI is provided with a kit containing two I/O jumper wires, eight +3.3V (Yellow), and eight +5V (Blue) plastic keys. These are for use in configuring bussed I/O power on the backplane.
15. A separate bracket is provided for use when the rear power supply slot is populated. The bracket may be fitted using the two screws provided. The right rear cover must be removed prior to installing a power supply into the rear power supply slot.
16. **The power supply backplane carries hazardous AC voltage. Although precautions have been taken to protect the user from accidental exposure, exercise caution when operating in close proximity to the power supplies.**

This test instrument has been calibrated to provide optimal performance when operated with both one or two power supplies and at least one board device installed in the unit. The following is a list of conditions and outcomes that the user may notice when operating this unit. These conditions have no impact on the intended operational performance of this device, and are merely provided for information purposes only:

- 1) Front panel voltage and current display fluctuations of less than 10mV(mA) occur when the system is operated with one power supply running at idle, resulting in slight meter flutter on current and voltage readouts, including + and – values. This effect is within the intended +/- 3% operation accuracy of the display circuitry.
- 2) The front panel displayed current increases slightly (less than 30mA on 5V; no change on 12V) when a second power supply is inserted into the system. This effect is within the intended +/- 3% operation accuracy of the current sense circuitry.
- 3) When two power supplies are operated within the chassis, a power supply fault indicator may illuminate if there exists less than a 10% load on both the 5 and 3.3V outputs. This is an issue with the indicator only. The power supplies are within regulation and the unit is fully operational during this condition. This condition will clear with the application of a 10% load on both the 5 and 3.3V outputs.

For any further questions concerning these conditions, please contact a Tracewell Systems application sales specialist at 800-848-4525.