

RZ5/RZ5D/RZ6 Processor

Operator's Manual



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A **CAUTION** informs users when failure to take or avoid a specified action could result in damage to the product or loss of data.

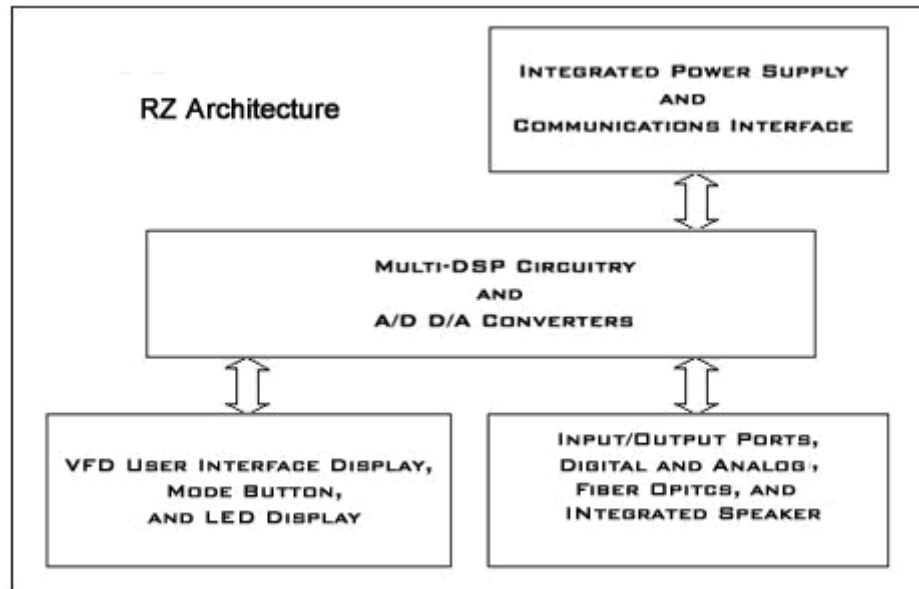
A **WARNING** calls attention to an operating procedure or practice that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a **WARNING** notice until the indicated conditions are fully understood and met.

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RZ5/RZ5D/RZ6 Processor

The RZ5/RZ5D/RZ6 device chassis house an integrated zBUS communication interface, power source, and monitor speaker.



Functional Diagram

Power Supply

The power supply is integrated into the device and is shipped from the factory with the desired voltage setting (115 V or 230V) preset. If you need to change the voltage settings for different regional use please contact TDT support at 1-386-462-9622 or email support@tdt.com.

Using the RZ5/RZ5D/RZ6 Processor Device

This manual provides the directions necessary for powering the Processor on and off as well as its communications functionality and User Interface features. Refer to the System 3 Manual provided by TDT for specific instructions on how to program the RZ5, RZ5D, or RZ6 Processor device.

Applying Power to the RZ5/RZ5D/RZ6



CAUTION!

Allow at least 2 cm clearance from each side of the chassis for proper cooling. A single ventilation fan is provided on the side of the chassis. Operating the RZ5/RZ5D/RZ6 chassis with the ventilation obstructed may cause a malfunction or fire.

Use only the supplied power cord.

To turn the RZ5/RZ5D/RZ6 on:

1. Position the chassis so that both the power switch and power cord may be accessed easily.
2. Ensure that the power switch is off and connect the power cord.
3. Turn the power switch on and check that the power switch's blue LED is illuminated.

Disconnecting Power from the RZ5/RZ5D/RZ6



CAUTION! When removing the power cord from either the power supply or socket outlet, grasp the plug, not the cord, in order to avoid damaging the cable.

To disconnect the RZ5/RZ5D/RZ6:

1. Turn off the power switch.
2. Disconnect the power cord from the power supply.
3. Disconnect the power cord from the wall socket plug.

The Communications Interface

The RZ5/RZ5D/RZ6's Optibit optical interface is integrated into the device and connectors are provided on the back panel. The connectors on the fiber optic pair used for PC communication are color coded for correct wiring.



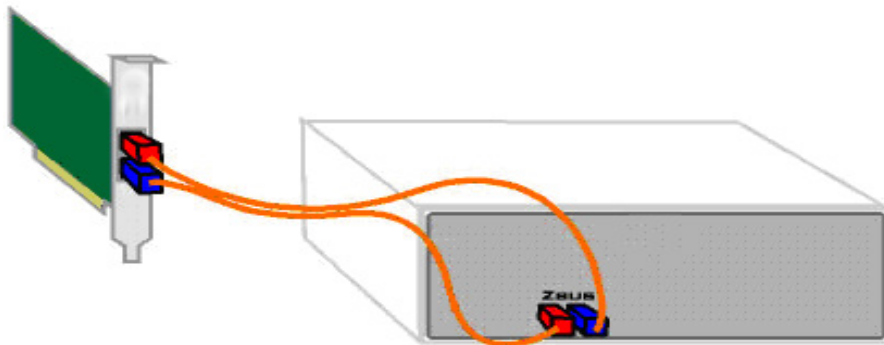
CAUTION! The fiber-optic cables have raised keys on one side of the connector. There are also keyway notches on the inside of the connector on the RZ5/RZ5D/RZ6 communications interface module; to avoid damage to the interface and cables, the fiber-optic cable should be oriented so that the keys on the cable connectors line up with the keyway notches on the module.

When correctly connected to the RZ5/RZ5D/RZ6, the fiber optic cables emit a bright red light. Avoid unnecessary eye contact.

Connecting the RZ5/RZ5D/RZ6 Interface to your PC

Before connections can be made from the RZ5/RZ5D/RZ6 to your PC, the PCI interface card must be installed in your PC. *For more information refer to Installing the Optibit Interface in the System 3 Installation Guide.*

After the necessary connections have been made to your PC, connections from the RZ processor to the interface card are shown in the following diagram.



Optional UDP Interface

The RZ UDP Ethernet interface is designed to transfer data to or from a PC. The RZ UDP interface (if available) is located on the back panel of the RZ processor and accepts a standard Ethernet cable. *Refer to the UDP User Guide for more information.*

The Indicator Light

A front panel switch turns on the power supply and includes an indicator light. The power switch's blue LED will illuminate when the chassis is switched on.

VFD Display



CAUTION! To avoid potential damage, do not place any sharp objects near the VFD Display.

The Vacuum Fluorescent Display (VFD) front panel display shows information about each DSP, the optical PC interface, the preamplifier ports, and system I/O. The Mode button allows the user to cycle between information. Press and hold the mode button to automatically cycle through each display. *Refer to the RZ5, RZ5D, or RZ6 section of the System 3 Manual for more information.*

Input and Output Ports



CAUTION! The input and output ports located on the front and back panels of the RZ5/RZ5D/RZ6 chassis contain sensitive electronics. *Refer to the RZ5, RZ5D, or RZ6 Technical Specifications in the System 3 Manual before making any connections.*

The RZ5, RZ5D, and RZ6 are equipped with several different analog and digital I/O capabilities. They include onboard D/A and A/D conversion for stimulus generation, experiment control, and input/output of signals to/from a variety of other sources. *Refer to the RZ5, RZ5D, or RZ6 section of the System 3 Manual for more information.*

Connecting a device to the RZ5/RZ5D/RZ6 via a fiber optic port.



CAUTION! When correctly connected to the RZ5/RZ5D/RZ6, the fiber optic cables emit a bright red light. Avoid unnecessary eye contact.

The RZ5, RZ5D, and RZ6 may include a variety of fiber optic input/output ports. *Refer to the operating instructions for the specific device in the System 3 Manual for information on making connection correctly.*

Monitor Speaker



CAUTION! Ensure that the volume is at the minimum setting and adjust it until the proper volume is reached.

The RZ5/RZ5D/RZ6 is equipped with an integrated monitor speaker. The speaker is provided primarily for audio monitoring. A knob located on the front plate is used to adjust the volume of

the output. The knob is labeled for MIN and MAX volume settings. *Refer to the RZ5, RZ5D, or RZ6 Processor sections in the System 3 Manual for more information.*

Maintaining the RZ5/RZ5D/RZ6

Safety Notices

Before applying power to the RZ5/RZ5D/RZ6 chassis, verify that the correct safety precautions are taken.



WARNINGS! Read the following warnings prior to operation.

- If the device is damaged, or fails to operate as expected, disconnect the power cord and contact TDT support immediately.
- The mains disconnect for the device is the power cord. To completely disconnect power to the device, the power cord must be disconnected.
- Position the device to ensure the power cord is readily accessible after installation and during operation.
- Before applying power to the device, you must correctly connect the power cord to a properly rated standard socket outlet provided with a protective earth contact.
- In the event of impaired ground protection, avoid using the device to prevent possible damage.
- When removing the power cord from either the power supply or socket outlet, grasp the plug, not the cord, in order to avoid damaging the cable.
- Do not attempt to disassemble the power supply or chassis by removing any of the exterior housing of the RZ5/RZ5D/RZ6. If you experience any issues, contact TDT support immediately.
- Do not attempt to alter this device in any way that deviates from its intended operation as described in this operator's manual.
- Capacitors contained inside the device may retain their charge even after power has been disconnected from its supply source.
- Operation of this device in the presence of flammable gases or fumes is strictly prohibited to avoid safety hazards.
- Do not subject this device to excessive vibration or shocks during handling or shipping, and avoid dropping the device.
- The device includes a protective screen over the ventilation fan. Do not remove the screen and never attempt to stick any objects into the fan. This may result in injury or damage to the device. If the protective screen becomes damaged contact TDT for assistance.
- Do not attempt to store this device where it may be exposed to prolonged periods of excessive sunlight, high temperatures, high humidity, or condensation. If exposed to such conditions, the device may no longer work properly and its specifications may no longer be satisfied.
- The device is designed for indoor use only and is not waterproof; do not get the device wet.
- Do not attempt to use this device in a manner not specified by TDT.
- Do not place your ear too close to the speaker.

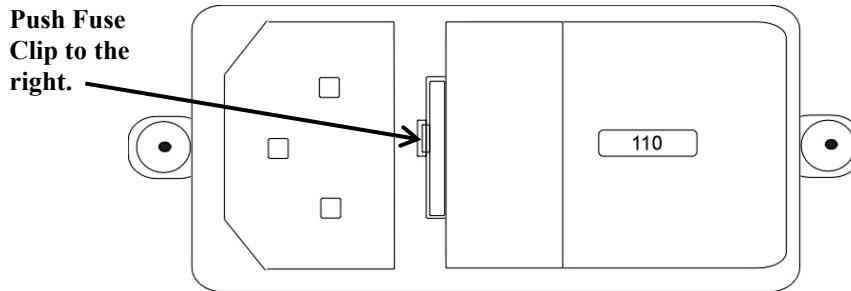
Changing the Power Supply Fuses



CAUTION! Only fuses with the required rated current, voltage, and specified type should be used with this device. Use only 5 x 20mm, 250V 1.6A rated, slow-blow fuses.

To change the power supply fuses:

1. Turn off the power switch. Disconnect the power cord from the power supply.
2. Using a small flathead screwdriver gently push the clip along the left side of the fuse plate to the right.



3. When the fuse plate pops free, gently slide the fuse plate and housing out of the power supply.
4. The housing contains two fuses. Replace the defective/broken fuse(s) with a new 5 x 20mm, 250V 1.6A rated, slow-blow fuse by gently pushing the end of the fuse into the fuse housing.
5. Push the fuse housing back into the power supply and press gently until the clip clicks into place.

Cleaning the Processor Device

To clean the device:

1. Remove power from the RZ5/RZ5D/RZ6 device chassis.
2. Clean the external surfaces and VFD screen of the device with a soft, dry cloth.
3. Do not attempt to disassemble and clean the inside of the device.

RZ5/RZ5D/RZ6 Technical Specifications

Technical specifications for the RZ5, RZ5D, and RZ6 Processor Devices. *Refer to the RZ5, RZ5D, and RZ6 Technical Specifications in the System 3 Manual for more information.*

Chassis	
Height	6U
Width	Standard 19" rack mount
Power Supply (Integrated)	
Maximum Working Voltage	HI to earth ground 230V max LO to earth ground 230V max
Main Voltage Rating	115/230 V, 50/60 Hz, 40 VA AC
Installation Category	CAT II
Environmental	
Operating Temperature	0 to 40°C
Storage Temperature	5 to 40°C
Humidity	80% for temperatures up to 31°C, decreasing linearly to 50% RH at 40°C
Maximum Altitude	2,000 m
Pollution Degree	2 (Indoor use only)