

STR 2000 Series Transceiver Installation Manual (v3)



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TROUBLESHOOTING

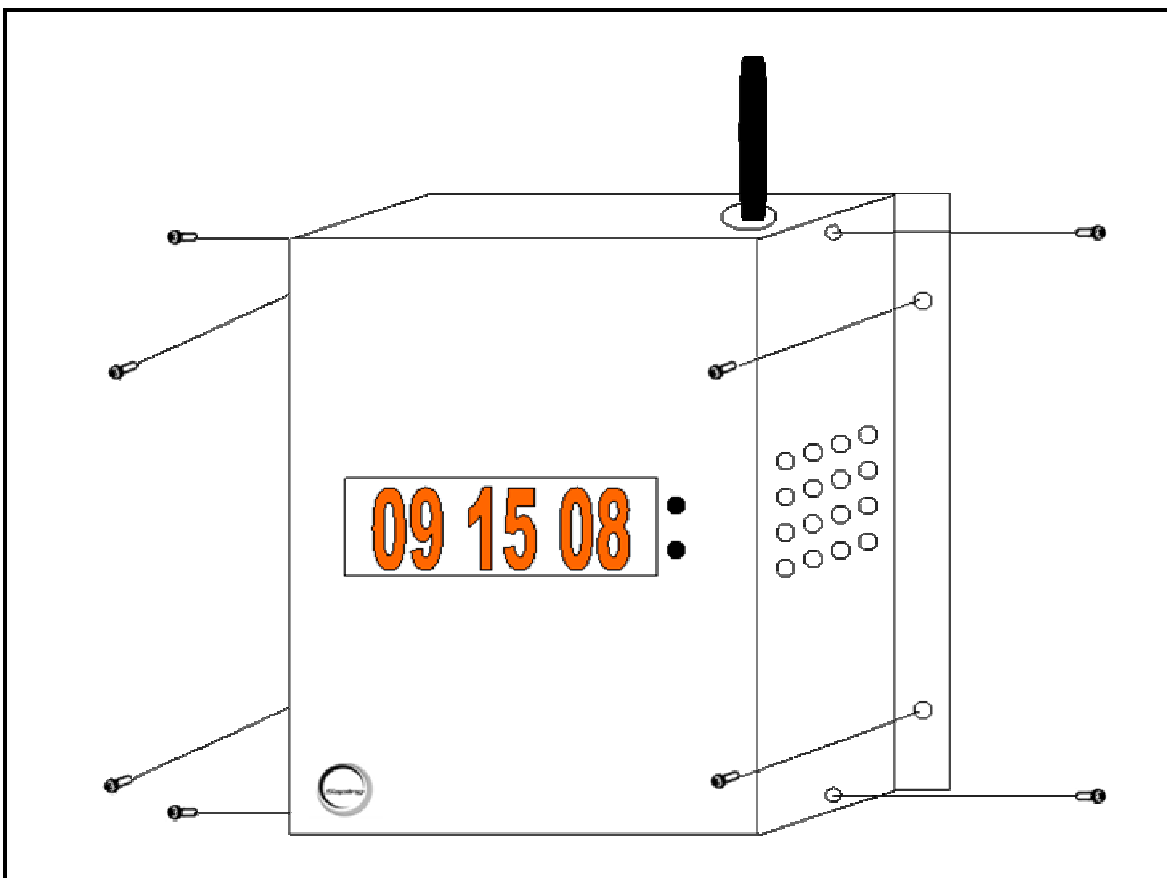
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Mounting Diagram

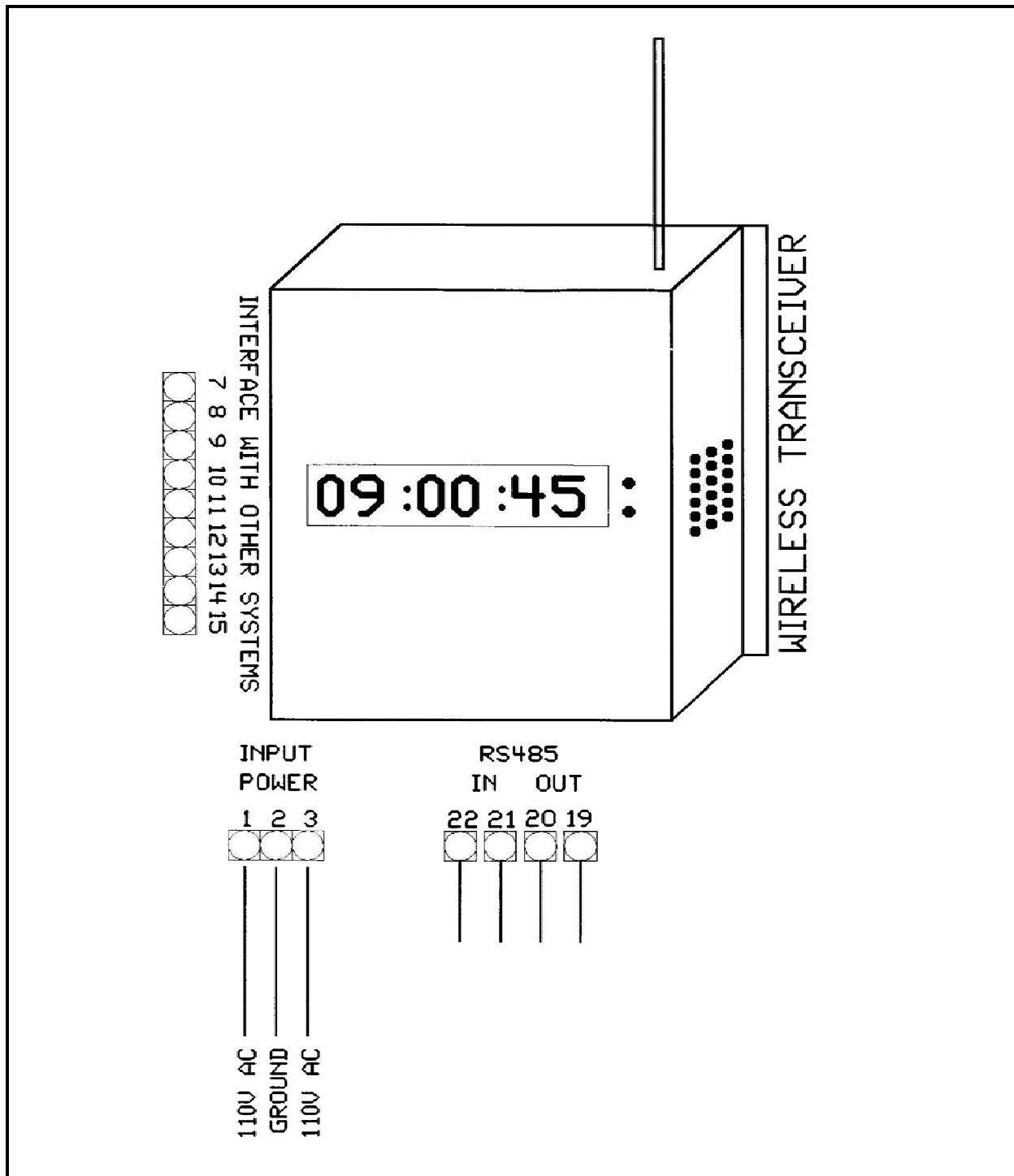


INSTRUCTIONS

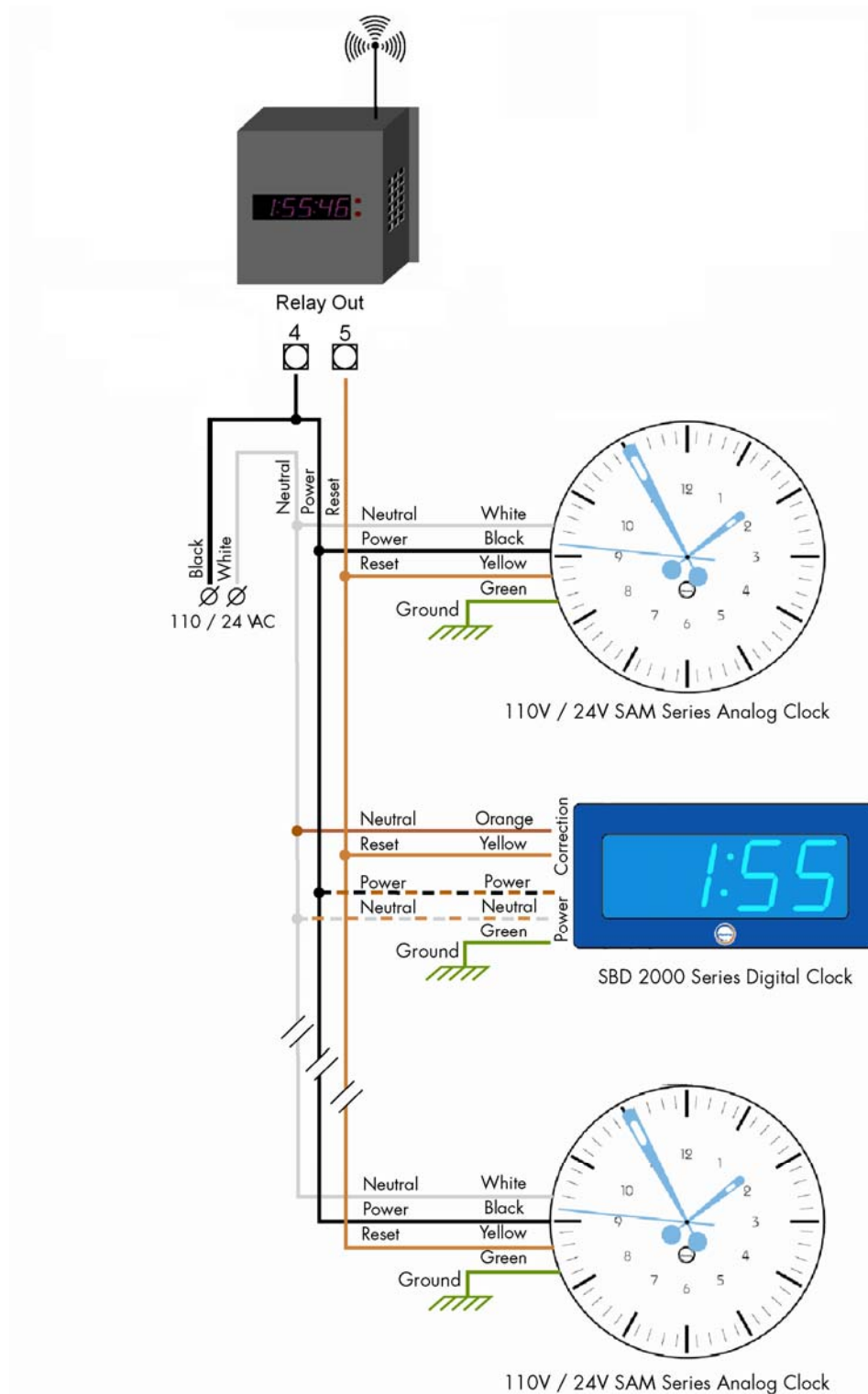
1. Find a location that will allow the Transceiver to transmit the signal in open space (hallway recommended).
2. Run the wiring through the knockouts and connect according to the wiring information.
3. Tighten all four (4) screws (6-32) on the front panel.
4. Line up the Transceiver in the desired mounting location and mark the holes.
5. Mount anchors (not included) to where the holes were marked at in the previous step.
6. Mount the Transceiver using four (4) screws (not included).



Wiring Information



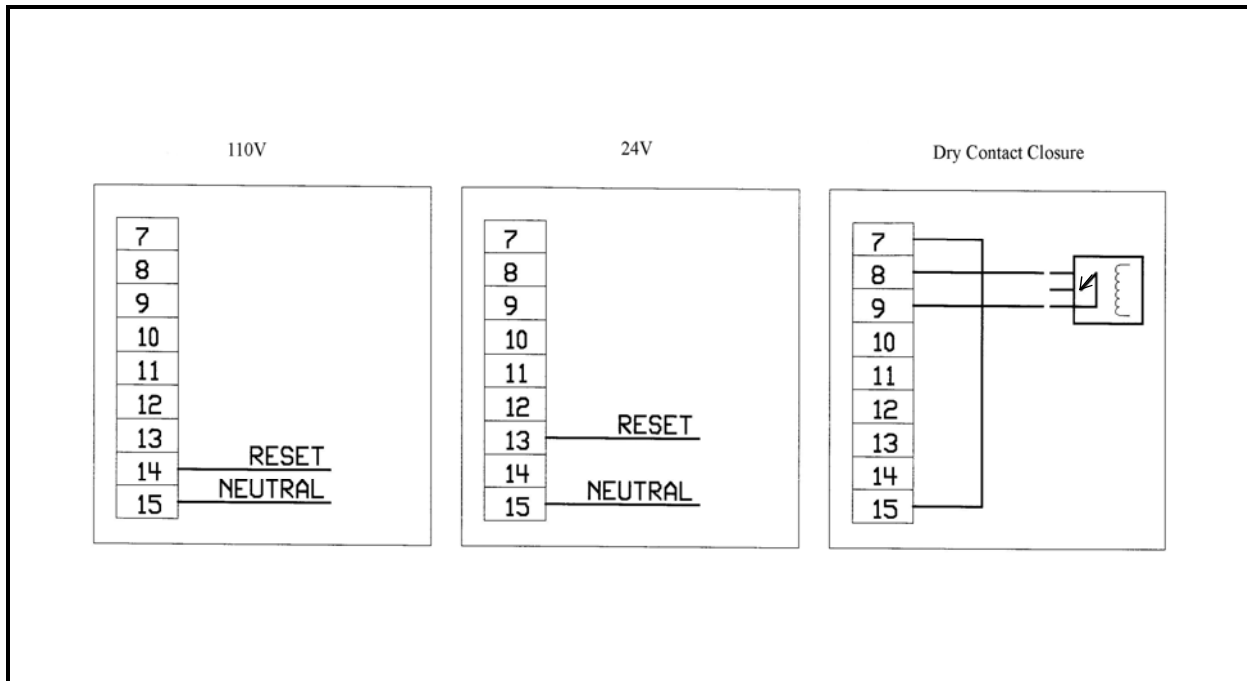
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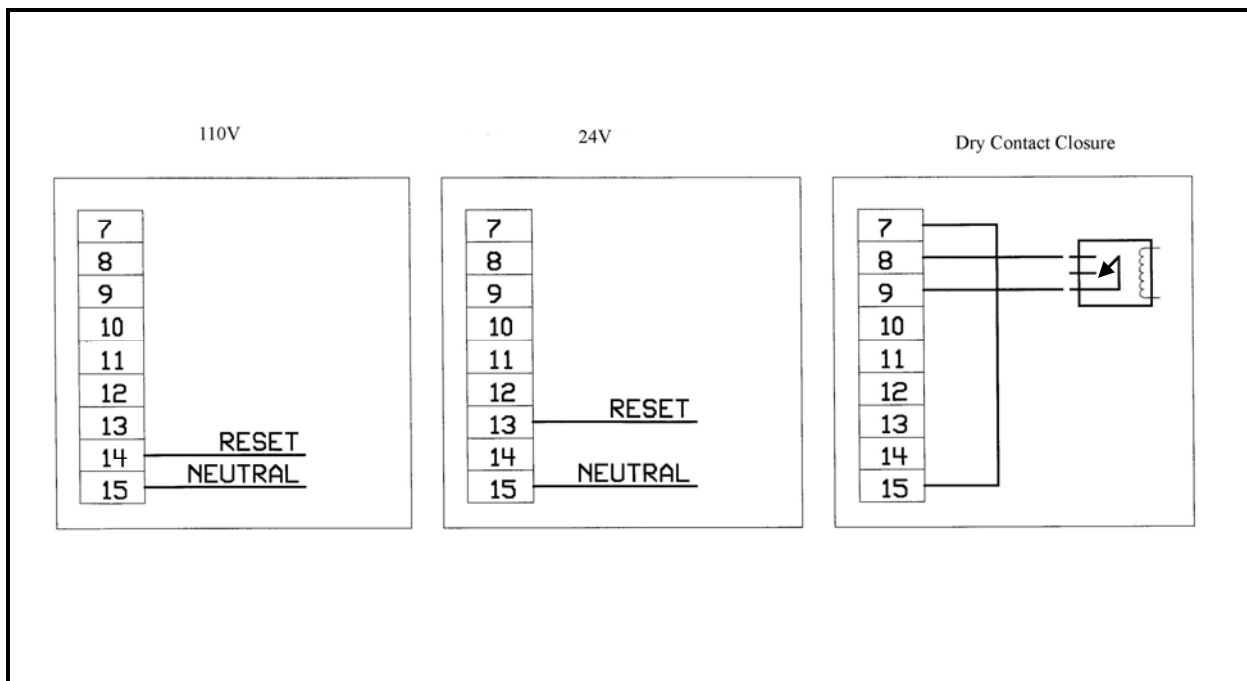


Interfacing With Other Systems

59 Minute Correction



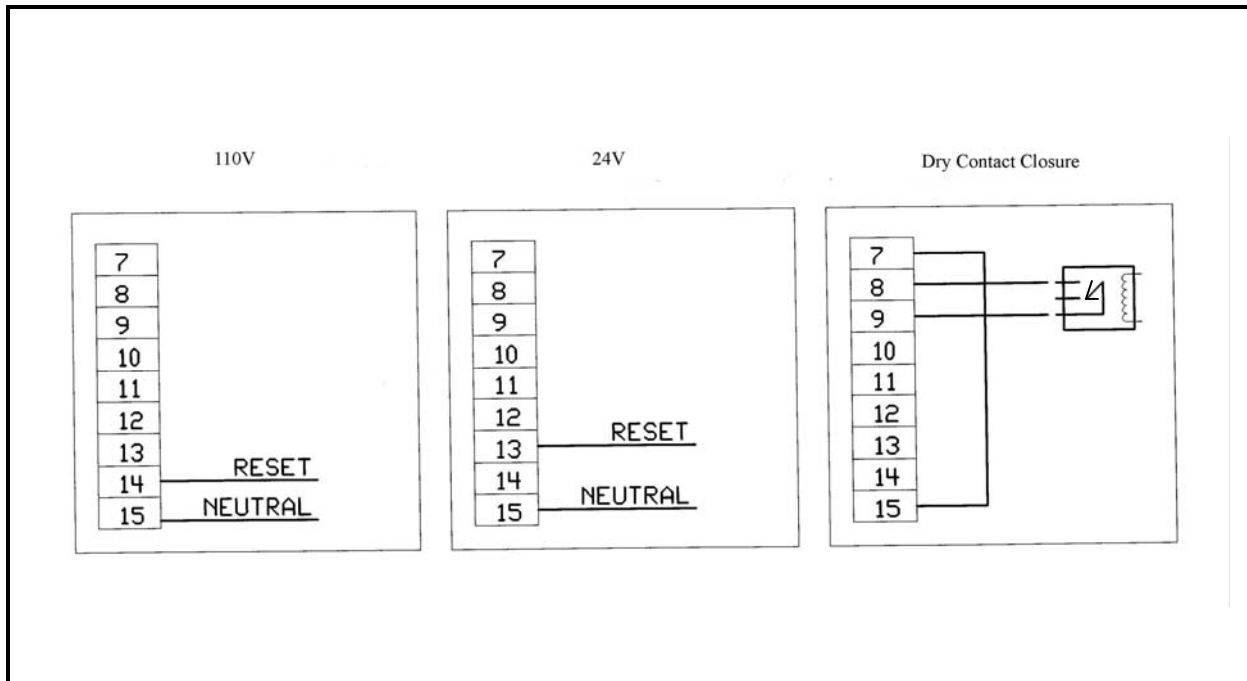
58 Minute Correction



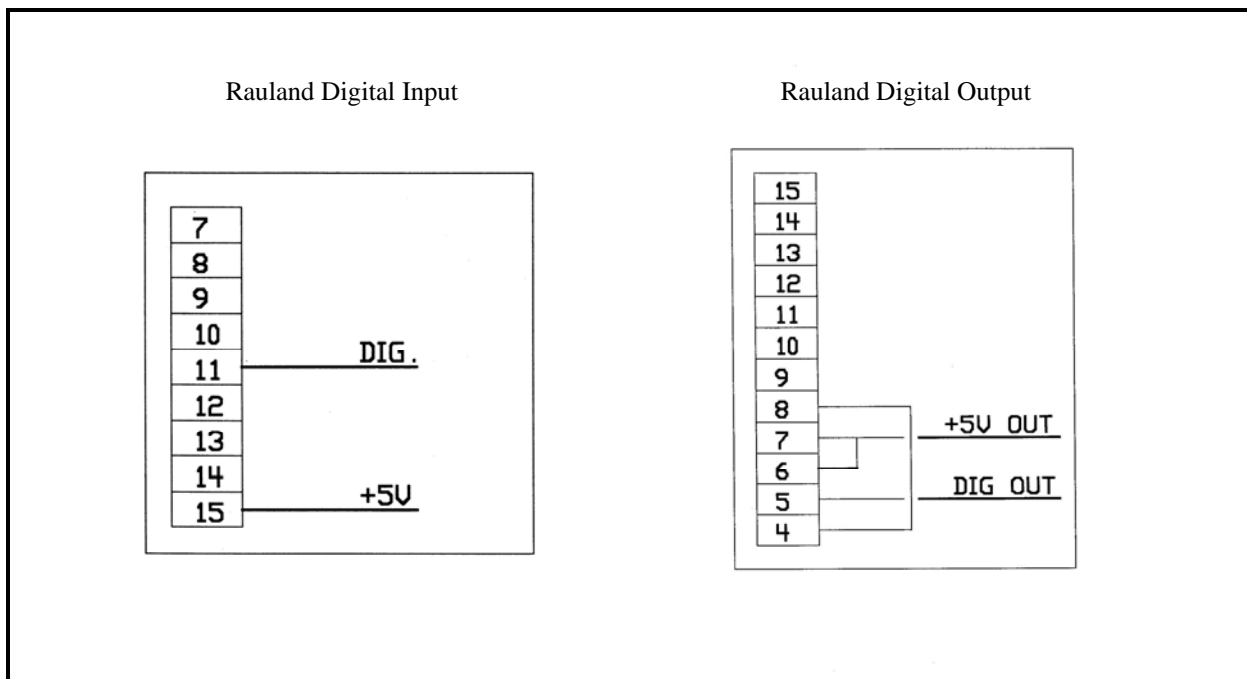


Interfacing With Other Systems

National Time and Rauland



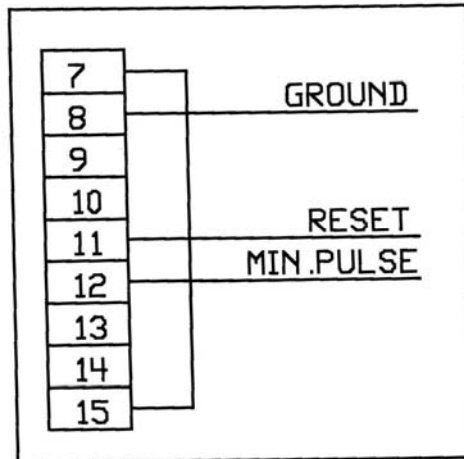
Rauland Digital Interface



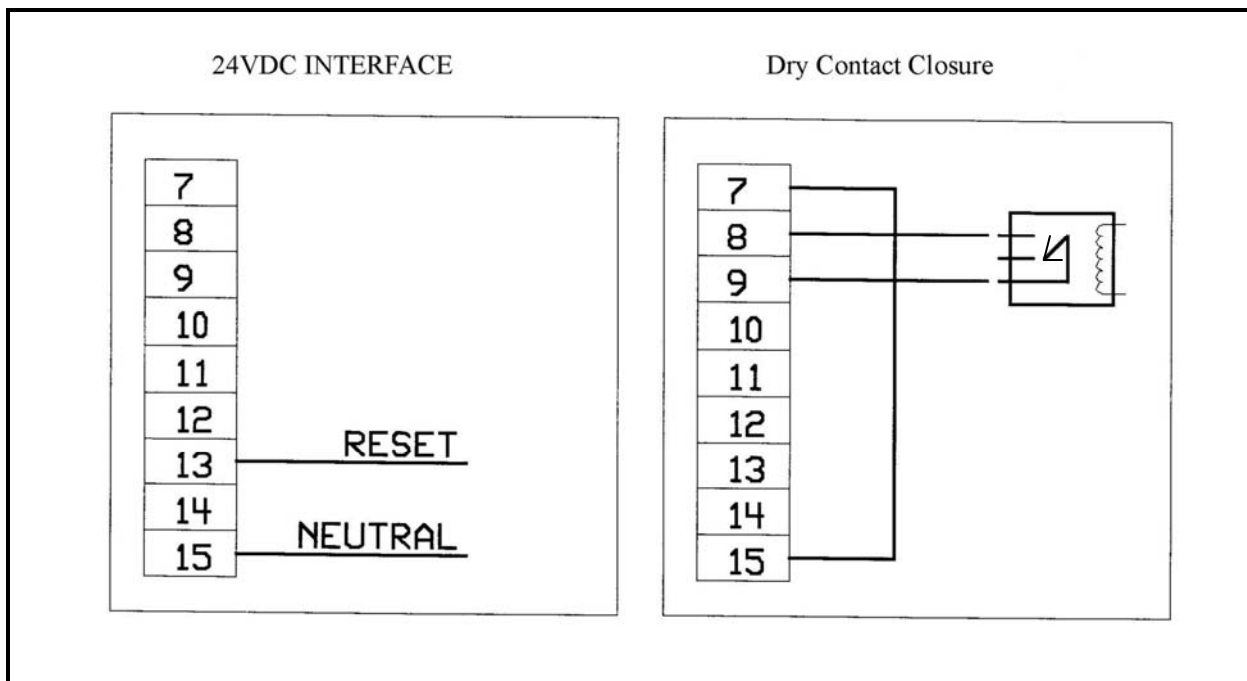


Interfacing With Other Systems

Dukane

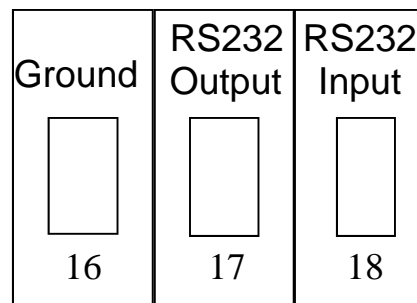


Once A Day Pulse

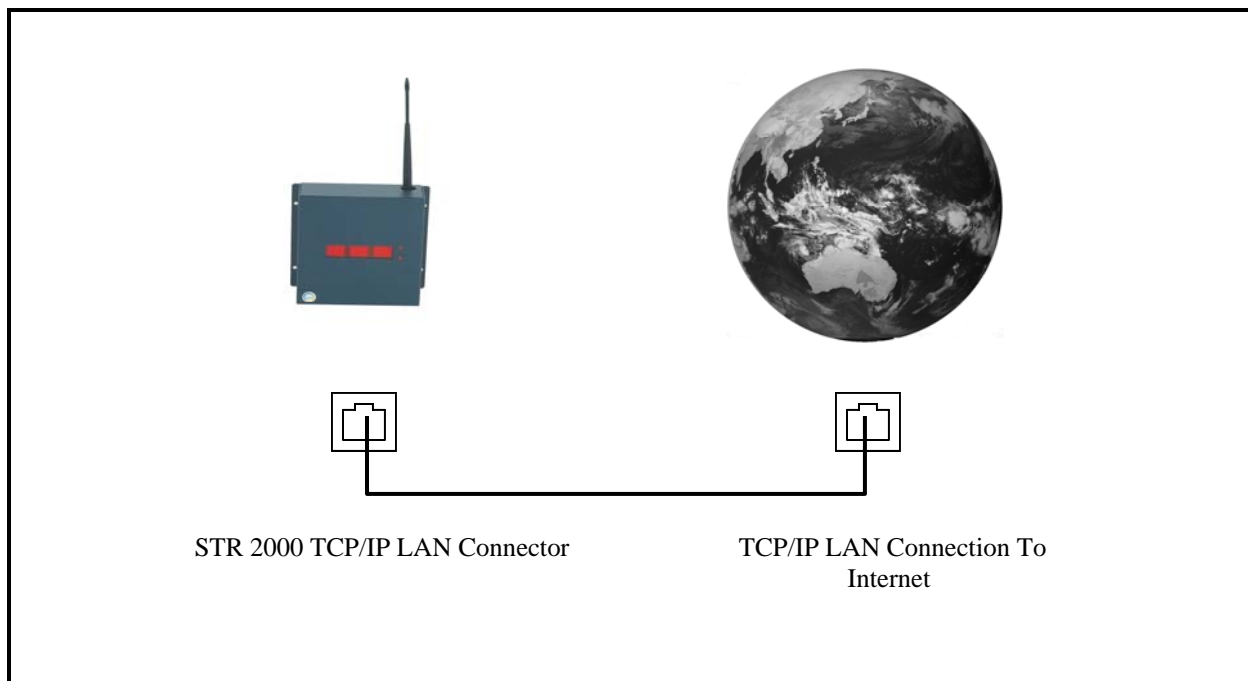




RS232 Input and Output



TCP/IP LAN Connection

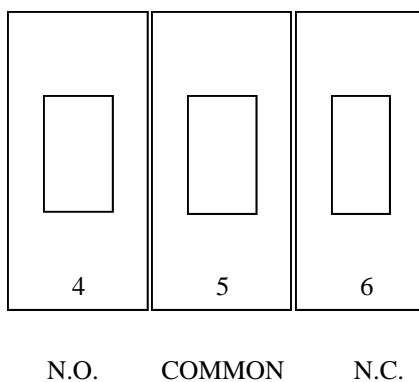




Programming To a Desired IP Address

1. Plug in the device to any gateway or use a crossover cable and connect directly to the PC.
2. Open DS Manager.
3. Double click on the device shown in the window, or click on the device and click on *Settings*.
4. Click on DHCP and disable it.
5. Click on the IP address field.
6. Change the IP address to the desired IP address.
7. Click OK.
8. The device will refresh.
9. If this was done successfully, the device will say (*local*) next to the address.

Programmable Relay



*For instructions on programming the relay, refer to the STR 2000 Programming Manual.



Frequently Asked Questions

Where is the best location for the Transceiver to be mounted?

Usually, the hallway is the best location because it is mostly open space in typical applications.

How far can the Transceiver transmit the wireless signal?

The Transceiver can transmit up to 2000 meters in open space.

Will the Transceiver have interference from cordless or cellular phones?

No, because with Sapling's innovative frequency-hopping technology, interference will not occur. The transceiver switches frequencies automatically when the receiver and transmitter is open, thus interference is avoided.

Can analog wireless clocks be combined with digital wireless clocks?

Absolutely. The analog and digital wireless clocks are designed to work together, whether the clocks are running on battery (analog wireless clock only), 24 volts or 110 volts.

Can the GPS receiver correct the Transceiver?

Yes, the GPS receiver can transmit the data via RS485 communication output to the RS485 input on the Transceiver.

If the power is disconnected from the Transceiver, will I lose all of my settings?

The Transceiver will not lose the settings if power is disconnected from it.

Is the Transceiver FCC compliant?

The Transceiver is FCC approved via FCC part 15, Section 15.247.

My power source is 220 volts. Can the Transceiver be powered on that voltage?

Yes, the Transceiver can work on 110 volts/60 Hz or 220 volts/50 Hz.

What time server does the Transceiver get its time from?

The transmitter gets its time from time.nist.gov. The IP address for that site is 192.43.244.18.

Can I alter the time server to a NTP server that I designate?

No. The time server is not able to be changed.

What ports need to be opened on the firewall to allow synchronization to the Internet?

The default ports that need to be open are port 13 and port 1001.



Troubleshooting

The clocks aren't receiving the signal. What should I do?

Make sure that the Transceiver is in a place where the signal can be transmitted in open space.

I can't get the transceiver to synchronize with the Internet. What should I do?

- 1) Check your connection between the ends of the CAT 5 cable. Make sure the pin configuration is correct. Upon connection, the master clock should direct itself to the atomic web site to receive the clock signal.
- 2) Make sure ports 13 and 1001 are open on your firewall.

What should I do if the Transceiver is not powering up?

Measure the voltage between pins 1 & 3. The voltmeter should read 85 - 135 VAC between the hot and the neutral.

I'm trying to synchronize my GPS with the Transceiver via RS485, but it doesn't seem to correct. What should I do?

Make sure the RS485 is in the correct polarity. If the polarity is reversed, the Transceiver will not correct. Also check the LED to make sure it is flickering once a second for communication.

What should I do if I can't get the programmable relay to close?

Refer to the programming manual of the STR 2000 for instructions on how to program the relay. If it still does not work, contact Sapling technical support.

There is a large gap between clocks farther in the building where the Transceiver can't reach. What should I do for increased signal?

Add a Sapling Repeater, part number STR-100-000-1. This will give you an added 1000 meters of transmission (in open space).



FCC Wants You To Know

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- a) Reorient or relocate the receiving antenna.
- b) Increase the separation between the equipment and receiver.
- c) Connect the equipment to an outlet on a circuit different from which the receiver is connected.
- d) Consult the dealer or an experienced radio/TV technician.

FCC WARNING

Modifications not expressly approved by the manufacturer could void the user authority to operate the equipment under FCC Rules.

Note: For precautionary measures, FCC recommends a distance of 10cm from the clock to constant human physical exposure.