

JFW Industries, Inc.



50SA-133
OPERATING MANUAL

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Additional Documents:

- Mechanical Outline Drawing
- Specification Sheet
- Sample Ethernet Configuration Session

1 - Introduction

The JFW model 50SA-133 test system consists of one 1P8T RF. The unit is controlled remotely via Ethernet control. All switch output ports are set to their internal termination position when the unit is powered on.

In the rear of the manual is located a CD. The CD contains the following:

- 1) 50SA-133 Manual.PDF
- 2) 50SA-133 Specification Sheet.PDF
- 3) 50SA-133 Outline Drawing.PDF
- 4) JFW test program 50SA-133 (REV0).EXE
- 5) Sample Ethernet Configuration Session.PDF

2 - Remote Control Overview

The remote control is achieved through the Ethernet connection located in the rear of the enclosure. Before this interface can be used, you will have to configure the 50SA-133 by setting its Internet properties. These properties include the IP address, Gateway and Subnet mask. Please see section 5 of this manual for proper configuration. Once the system is configured, you can make a connection to the assigned IP address on port 3001.

There are three basic commands for controlling the 50SA-133. These commands are set switch (SS), read switch (RS) and the identify (ID) command. All of these commands are described in greater detail in the "Command Set" portion of this manual. If commands are sent incorrectly to the unit, you will receive an error message. See the "Error Code List" portion of this manual for more details.

3 - Mechanical Specifications

The 50SA-133 is designed in a standard 19" rack enclosure assembly to remain compatible with most laboratory test racks. A mechanical outline drawing is included in Appendix A. This outline drawing details all necessary package dimensions and connector layouts.

4 – AC Power Requirements

The unit is AC powered via a 3-prong receptacle on the rear panel. A standard power cord is supplied with the unit. The power supply itself is a universal AC power supply that can handle input AC voltages from 85 VAC up to 240 VAC (47-63 Hz). The 50SA-133 pulls approximately 0.5Amps of 110VAC under normal operating conditions.

The 50SA-133 is also AC current protected by use of a 2 Amp "Slo-Blo" AC fuse also located on the rear panel near the AC power receptacle. The fuse is field replaceable in the event of any failure to the fuse. The fuse itself is a 5x20 mm "Slo-Blo" type fuse and can be ordered through JFW or directly from Littelfuse. The Littelfuse part number is #215-002. The JFW part number is #025-021.

5 - Ethernet Configuration Cable

Included with the system should be one "Null Modem" 10 ft. cable (JFW #012-174 or L-Com #CSNULL9MF-10). This cable is used to interface with the Ethernet Configuration Port. The female connector will plug into the serial port on most PC's, and the male connector will mate to the back of the 50SA-133.

6 - Ethernet Configuration Information

This unit comes pre-programmed to the following settings:

I.P. Address	192.168.1.250
Gateway	192.168.1.1
Netmask	255.255.255.0
Port	3001 (hard-coded into the unit and can not be changed)

Important Note: An additional document “Sample Ethernet Configuration Session.PDF” comes with this manual and is located on the CD in PDF format. This sample session shows step by step how the Ethernet port is configured.

Open up a terminal session through your computer’s COM port using a program like HyperTerminal. You must use the Ethernet Configuration Cable to make the physical connection from your COM port to the “Ethernet Config. Port” on the rear of the 50SA-133. The terminal session should use the following COM port settings:

Baud Rate	9600
Data Bits	8
Parity	None
Stop Bits	1
Flow Control	None

You can verify a successful connection by typing “Hello World” in the terminal window. You should receive an echo back from the 50SA-133. The SET commands listed below can then be used to change the network properties.

SET IP xxx.xxx.xxx.xxx	changes the I.P address
SET NETMASK xxx.xxx.xxx.xxx	changes the Netmask
SET GATEWAY xxx.xxx.xxx.xxx	changes the Gateway
SET NAMESERVER xxx.xxx.xxx.xxx	changes the Nameserver

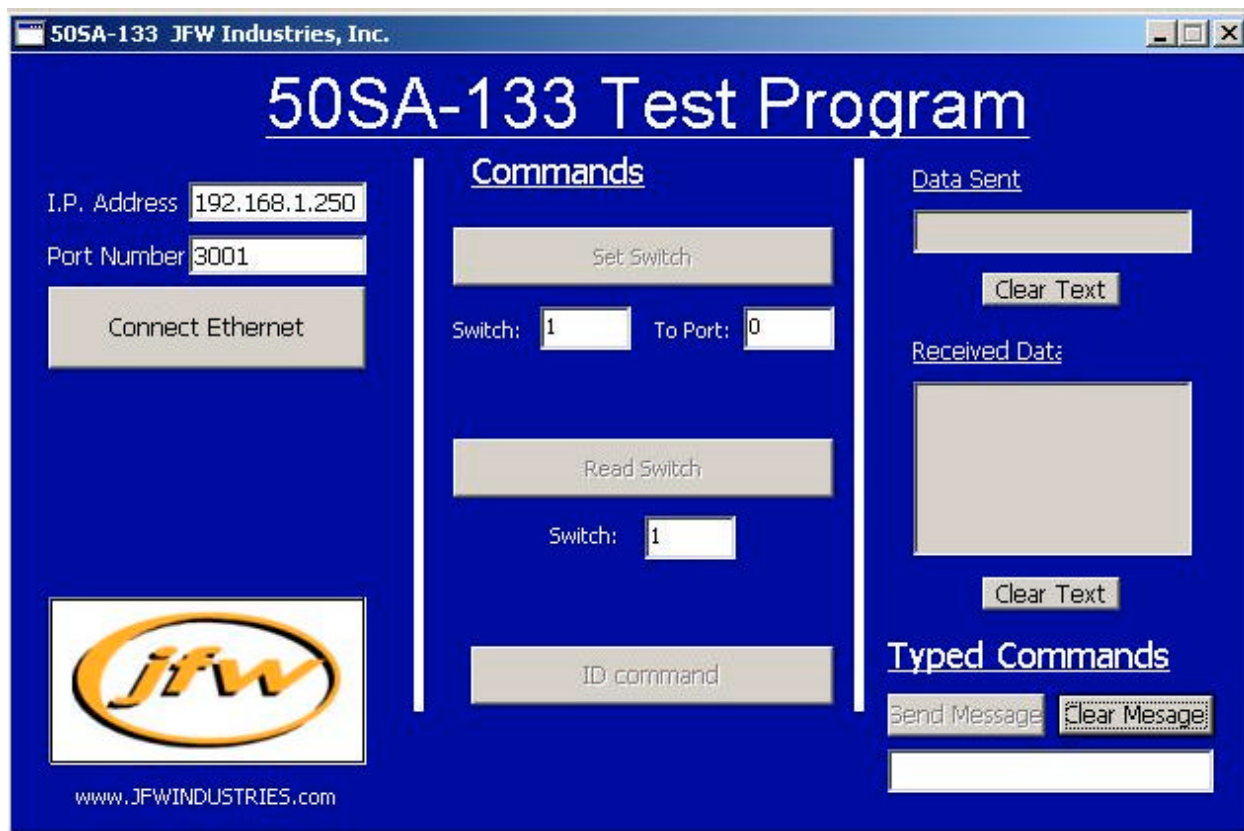
Follow the samples as shown in the supplemental configuration document to use the above commands correctly.

7 - JFW Test Program

Nothing has to be installed onto your computer in order to run the JFW test program. Just copy the executable file 50SA-133(REV 0).EXE from the CD that comes with this manual to any location on your computer. Run the executable file 50SA-133(REV 0).EXE to start the program.

The test program can be used to verify functionality of the 50SA-133. A picture of the test program is shown below. Before exiting the program, it is a good idea to close any connections you have made while using the software. This is done by clicking on the “Disconnect Ethernet” button.

The test program allows the user to control the switch contained in the 50SA-133. It shows the commands as they are sent and the responses from the unit. You must enter the IP address (that you have programmed into the unit via the Ethernet programming port on the back of the box) into the IP address window. The port default setting is 3001.



8 - Command Set

ID

Syntax: ID

Description: This command asks the unit to identify itself.

Returns: This command returns the following string:

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(Company, Model Number, Firmware Revision)

Set Switch

Syntax: {ACnn}
nn = port to select (00-08)

Description: This command sets the 1P8T switch to port “nn” and returns “{A,nn}”

Example: {AC03}
This commands set the switch to port #3 and returns “{A,03}”

Notes: “nn” must be between (00-08).
“00” is the all off state.

Read Switch

Syntax: {A?}

Description: This command returns the port setting of the switch.

Examples: {A?}
Returns: {A,03}

9 - TROUBLESHOOTING

Initialization Time

After the 50SA-133 has been turned on, it will take at least 8 seconds for the unit to completely initialize itself. After the initialization the front panel will display a message that it is looking for a connection via the Ethernet. Once it is established, the LCD will display a “Connection Established” message. No commands will be processed until the connection is made.

External Troubleshooting

If the 50SA-133 is installed in a system and does not seem to be functioning properly, JFW recommends first removing the 50SA-133 and testing it by itself. This will verify that it is indeed the 50SA-133 that is not working and not another part of the system. It is also recommended that all testing at this stage be done with the JFW test program to help determine software inconsistencies also.

Software Error

If the 50SA-133 does not work in your system, it is best to next test the unit with the JFW test software. If the unit works with the JFW test software, then the problem is most likely in your system’s software/command setup. It is very important that the command messages follow the specified format as detailed earlier in this manual. Check your IP address, Gateway, Netmask, and Port Number. Remember that the Port Number is hard-coded to 3001 and can not be changed.

AC Voltage Fuse

There is an AC voltage fuse located on the back panel. This fuse is rated at 250 Volts/2 Amps. If the fuse is blown, it can be replaced per the Littlefuse #215-002 or JFW #025-021.

Unknown Error

If communication between the host computer and the 50SA-133 has been established and the software has been verified as working properly, then the problem lies internal to the unit either with the control board or one or more RF components. Please consult the factory at this point for possible further troubleshooting instructions.

It is recommended that part replacement, hardware upgrades, or software upgrades be done by JFW personnel at the factory. JFW understands that it is sometimes difficult to incur downtime while a unit is shipped back for repairs. JFW will provide whatever support it can in troubleshooting any problems before shipping to minimize the loss of the unit to your system. In some cases, the user can make simple repairs or upgrades on site. If there are ever any problems with the 50SA-133, consult the JFW sales department or engineering department.