

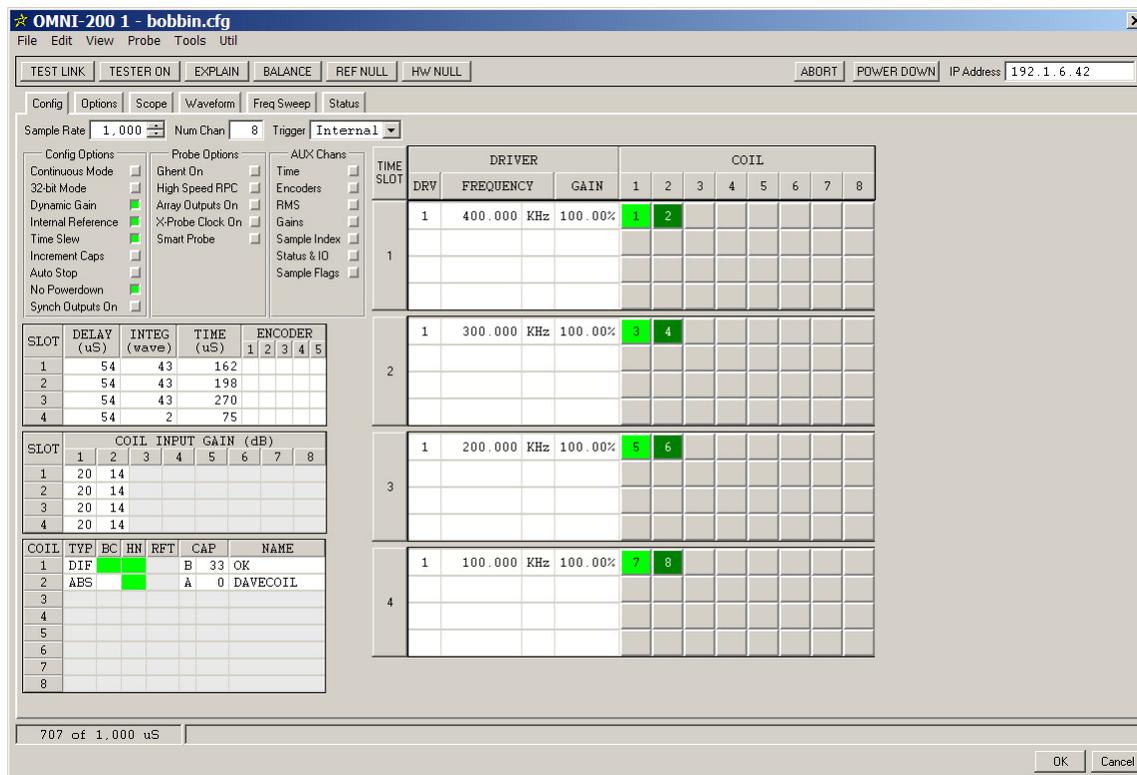
Purpose

This note describes how to configure the OMNI-200.

1 OMNI-200 Configuration Screen



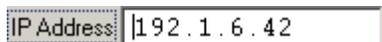
Click on the **TESTER CONFIG** button in the acquisition software to display the main OMNI-200 configuration screen shown below.



2 Configuring the OMNI-200 Ethernet Communications

2.1 Setting the Desired IP Address

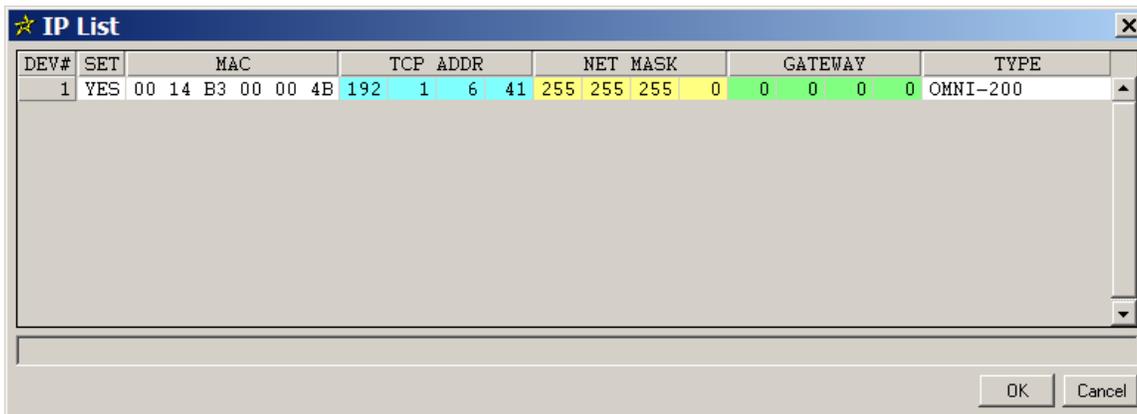
To set the desired IP address of the tester, type it into the IP address box:



This is the address the software will attempt to use to communicate with the tester. It must match the IP address physically stored in the tester (see next section).

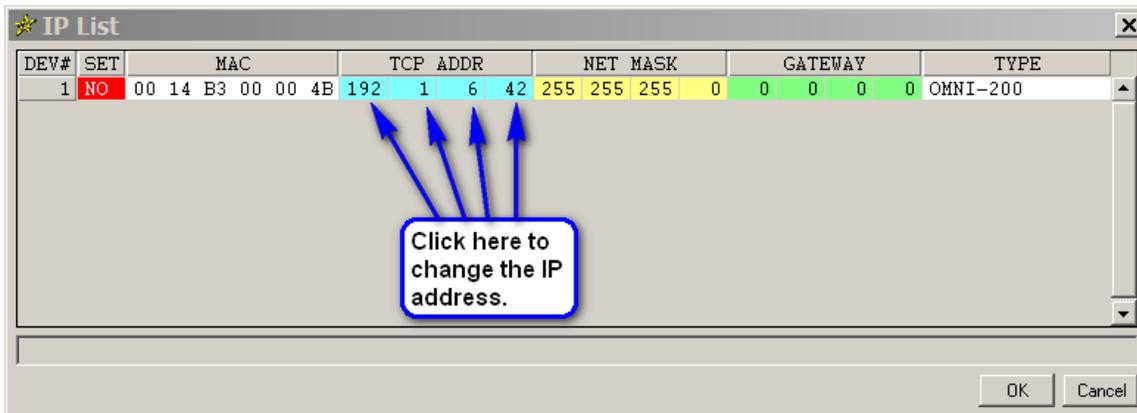
2.2 Setting the Physical IP Address

Use the *Util | IP Setup* menu to display a list of all OMNI-200 testers on the network:



The **MAC** column shows the unique Ethernet MAC address of each tester. This is displayed on the OMNI-200 front-panel. The **TCP ADDR** column shows the IP address currently stored in the tester. This must match the desired value entered above. In this case, it is 192.1.6.41 which does not match.

To change it to the desired value, click in each segment of the address as shown below. A left-click will increase by one, a right-click will decrease by one, and a middle-click will set it to one. Use Shift+click and Shift+right-click to change by 10 at a time.



Whenever the IP address is changed, the YES in the **SET** column will change to **NO** as shown below. Click on **NO** to update the IP address stored in the tester.



When done, click OK to get back to the main OMNI-200 configuration screen.

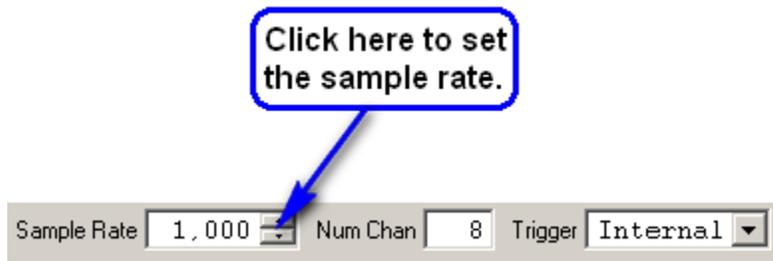
2.3 Verifying Communications

Once the IP address is configured, click **TEST LINK** to verify communication between the software and the tester. If successful, it will display **Link Good** in the message area. If not, an error message will be displayed.

Common causes for TEST LINK to fail are:

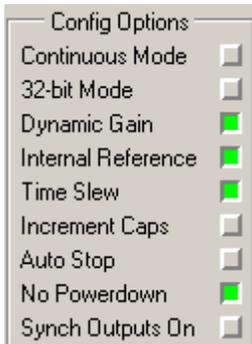
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3 Sample Rate and Trigger Mode



To set the sample rate, click in the arrows in the Sample Rate box. The Trigger mode should be set to Internal which will cause the tester to sample at the desired rate using its internal clock.

4 Config Options



OPTION	DEFAULT	DESCRIPTION
Continuous Mode	OFF	In continuous mode, the output drive to the probe is always left on. The advantages of continuous mode are that all of the channels are sampled at the same time and it allows

		<p>for higher sampling rates.</p> <p>The disadvantages are that only one time slot can be used and the drive voltage for each frequency is reduced since the total drive for all frequencies in the timeslot must not exceed 100%.</p> <p>For most applications, this should be OFF.</p>
32-bit Mode	ON	<p>If enabled, raw eddy current data will be stored as 32-bit values instead of the usual 16-bit. The advantage of 32-bit mode is that signals are much less likely to saturate. The disadvantage is that the data files will be twice as large.</p>
Dynamic Gain	ON	<p>This should always be ON.</p>
Internal Reference	ON	<p>This should be OFF if a physical reference probe is being used, and ON if the internal reference feature is being used.</p> <p>When ON, it is important to set one of the coils to ABS mode (see XXX).</p>
Time Slew	OFF	<p>Time Slew will cause the raw data values for timeslots 2 and above to be interpolated so that they are effectively sampled at the same time as timeslot 1.</p> <p>The advantage of this is that it will typically greatly reduce mix residuals.</p>
Increment Caps	OFF	<p>This should always be OFF.</p>
Auto Stop	OFF	<p>This should always be OFF.</p>
No Powerdown	ON	<p>This should always be ON.</p>
Synch Outputs On	OFF	<p>This should always be OFF.</p>

5 Probe Options



These options should all be OFF unless you are using the given type of probe.

6 AUX Chans

AUX Chans	
Time	<input type="checkbox"/>
Encoders	<input type="checkbox"/>
RMS	<input type="checkbox"/>
Gains	<input type="checkbox"/>
Sample Index	<input type="checkbox"/>
Status & IO	<input type="checkbox"/>
Sample Flags	<input type="checkbox"/>

These options should normally all be OFF since only specialized applications can use them.

7 Delay and Encoders

SLOT	DELAY (uS)	INTEG (wave)	TIME (uS)	ENCODER				
				1	2	3	4	5
1	54	43	162					
2	54	43	198					
3	54	43	270					
4	54	2	75					

8 Input Gains

SLOT	COIL INPUT GAIN (dB)							
	1	2	3	4	5	6	7	8
1	20	14						
2	20	14						
3	20	14						
4	20	14						

9 Coil Options

COIL	TYP	BC	HN	RFT	CAP	NAME
1	DIF				B 33	OK
2	ABS				A 0	DAVECOIL
3						
4						
5						
6						
7						
8						

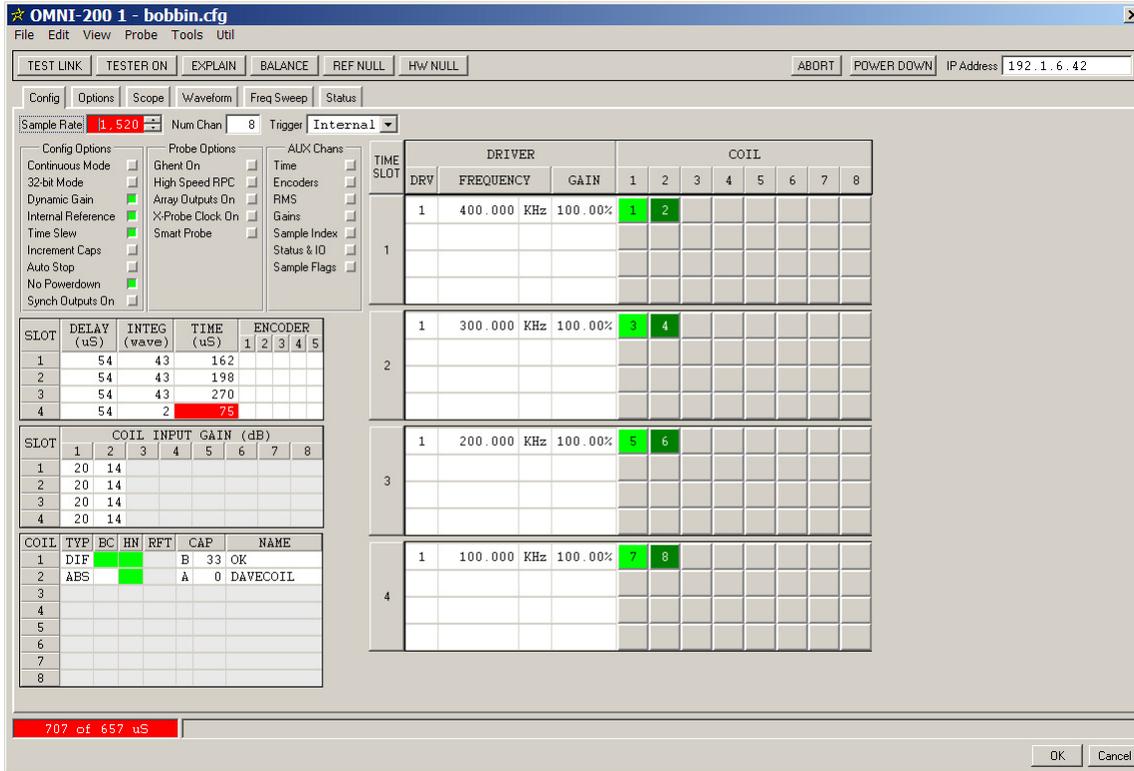
10 Balance, Ref Null, and Hardware Null

BALANCE	REF NULL	HW NULL
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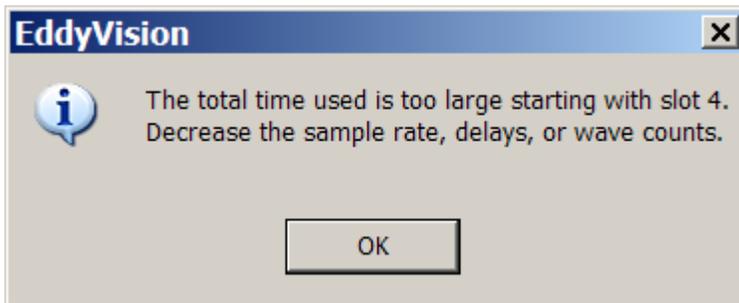
After the configuration is completely setup, put the probe in a clean section of tubing and click the BALANCE, REF_NULL, and HW_NULL buttons in that order.

11 Errors

If the configuration is not valid, values will be displayed in red as shown below:



When this occurs, click the **EXPLAIN** button to see the cause of the error and a set of remedies.



In this case, the sample rate is too high.