

<b>WinFrog Device Group:</b>	<b>LBL ACOUSTIC</b>
<b>Device Name/Model:</b>	<b>Benthos 455</b>
<b>Device Manufacturer:</b>	Benthos, Inc. 49 Edgerton Drive North Falmouth, Massachusetts 02556 U.S.A. Telephone: 1-508-563-1000/1-800-446-1222 Fax: 1-508-563-6444 <a href="http://www.benthos.com">www.benthos.com</a>
<b>Device Data String(s) Output to WinFrog:</b>	Nil
<b>WinFrog Data String(s) Output to Device:</b>	Benthos 455 data string
<b>WinFrog .raw Data Record Type(s):</b>	Transceiver (LBL TRANCEIVER): Type 420 Transponder (XPONDER); Type 421

**DEVICE DESCRIPTION:**

Long base line acoustic equipment. Used to position underwater vehicles or surface vehicles. Uses fixed transponders placed upon the bottom and other transponders placed on vehicles; relay or responder only. Also see chapters “WORKING TRANSPONDERS (.XPT) FILE”, “LBL ACOUSTICS“ and “ACOUSTIC CALIBRATIONS”.

There are two data items: LBL TRANCEIVER and XPONDER.

**DEVICE CONFIGURATION INSTRUCTIONS:**

Baud Rate: 2400  
Stop Bits: 1  
Parity: None  
Data bits: 8

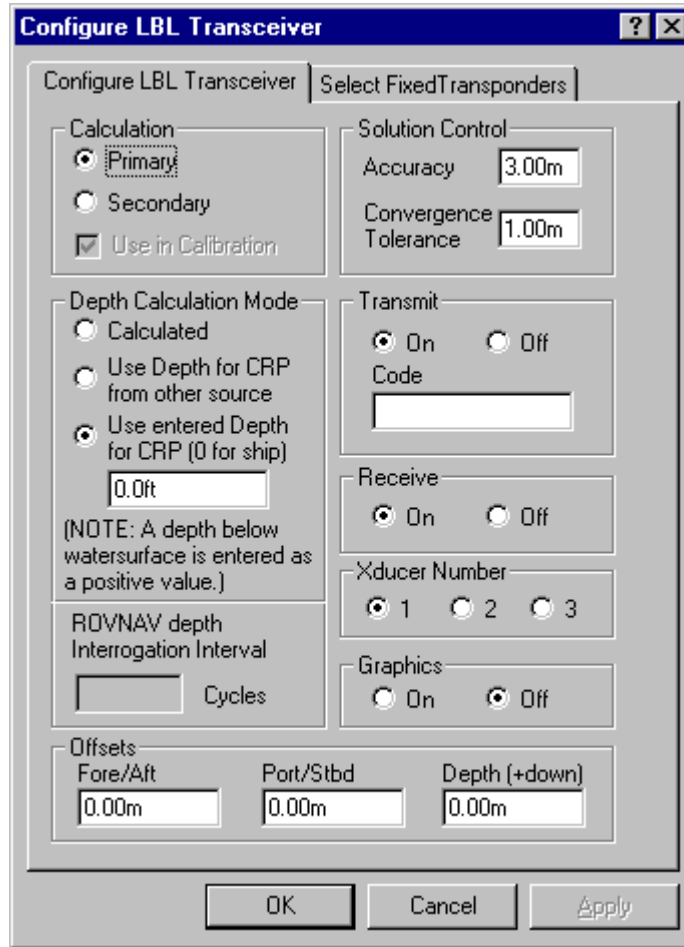
See Benthos 455 manual for details.

**WINFROG I/O DEVICES > CONFIG OPTIONS:**

There is no device configuration for the Benthos 455. The Benthos must be setup in accordance with its manual. It must be set up to automatically output data to WinFrog. It may output up to five sets of data in succession, e.g. a bottom transponder interrogation cycle followed by up to four relay interrogations cycles.

**WINFROG VEHICLE TEXT WINDOW > CONFIGURE VEHICLE DEVICES > DEVICE > EDIT OPTIONS:**

**Data item: LBL,BENTHOS 455,LBL TRANCEIVER**



See the LBL ACOUSTICS CHAPTER for details on setting these parameters. They are the same across all LBL TRANCEIVERS except for the **Transmit Code**. The “transmit code” must match exactly what the unit outputs, 9.0 in the example below. This value must also match exactly that which is entered as the Receive value in the transponder file. The following example shows what a telegram coming from the Benthos 455 might look like.

```
II, 9.0, DT, 163193039; RR, 10.0, -, 1.496737192; RR, 10.5, -, 1.223798451; RR, 11.0, -, 1.160574501
```

Here there are three bottom transponders and all three bottom receive on a frequency of 9.0 and they transmit on 10.0, 10.5 and 11.0. The Transmit values in the transponder file must match 10.0, 10.5 and 11.0 exactly. The trailing “0” must be included.

**WINFROG VEHICLE TEXT WINDOW > CONFIGURE VEHICLE DEVICES > DEVICE > EDIT OPTIONS:**

**Data item: LBL, BENTHOS 455 ,XPONDER**



See the LBL ACOUSTICS CHAPTER for details on setting these parameters. They are the same across all transponders (XPONDERS).

### **Relay Transponder**

Currently WinFrog uses an observed range from the transceiver to a fixed transponder to reduce the observed relay transponder's range (which includes the ranges: vessel to relay, relay to fixed transponder and transponder to transceiver, sometimes called sing-around range). Consequently, the LBL TRANCEIVER must be setup to interrogate with a transmit code. For details on the settings see the LBL ACOUSTICS CHAPTER. The following string would alternate with the one above.

```
II, 8.5, DT, 163193039; RR, 10.0, -, 1.972362167; RR, 10.5, -, 1.366194097; RR, 11.0, -, 1.273564535; RR, 9.0, -, 0.541290639
```

Here the relay transponder receives on 8.5 and transmits on 9.0 thus interrogation the bottom transponders.

### **Responder Transponder**

Responder mode is essentially the same as relay mode however, the responder transponder is triggered by an electrical pulse instead of acoustic pulse.