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BEACON TRANSMITTER CONFIGURATION GUIDE

Hardware Version: 4.02
Firmware Version: 4.4
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Introduction

The Beacon Transmitter (BCN) is used during system setup and calibration to simulate a fish or wildlife transmitter. It has the following features:

- It is built in a rugged aluminum housing that is water resistant when the connectors are capped.
- BNC connectors provide a means of attaching the transmitter directly to an antenna system for testing
  and calibration (see TB-1201F Antenna Amplification Techniques).
- Replaceable batteries.
- Consistent power output (usually within 1 or 2 dB)
- User selectable codes via DIP switches.
- User selectable transmission rates.
- Constant carrier transmission mode.
- Voltage input of 10-15VDC that mutes the transmitter output which can be used to monitor supply
  voltage.

The unit is factory-programmed to transmit a selection from any one of eight transmissions. The first 7 are coded transmissions, and the last is a beeper. The Beacon Transmitter has an on/off switch and seven configuration switches. These switches are mounted on the underside of the lid and can be accessed by unscrewing it from the base.

When replacing the lid, it is important to ensure that the threads are not crossed and that the O-ring remains in place, with its coating of silicone grease. Any dirt or sand may spoil the seal. The switches are arranged as shown in Illustration 1: Underside of Beacon Lid*Illustration 1*.

The power switch at the bottom left turns the unit on. The attenuation switch at the top right adds approximately 40dB of attenuation. The transmitter has a power output of about -8dBm. When connecting directly to a receiver or a transmission line for testing, it is best to turn the attenuation on and add an external 30dB attenuator to provide a signal level of approximately -78dBm. This is a good level which is below receiver saturation and significantly above the noise floor. On the other hand, when used for providing a regular, over-the-air beacon transmission for system monitoring, the transmitter can be used without an external attenuator and, if the signal is not too strong, without internal attenuation as well.

In the bank of six switches at the bottom right, the three switches to the left control the mode of operation, and the three on the right select the code. See Table 1: Mode of Operation and Table 2: Code Settings for standard settings.
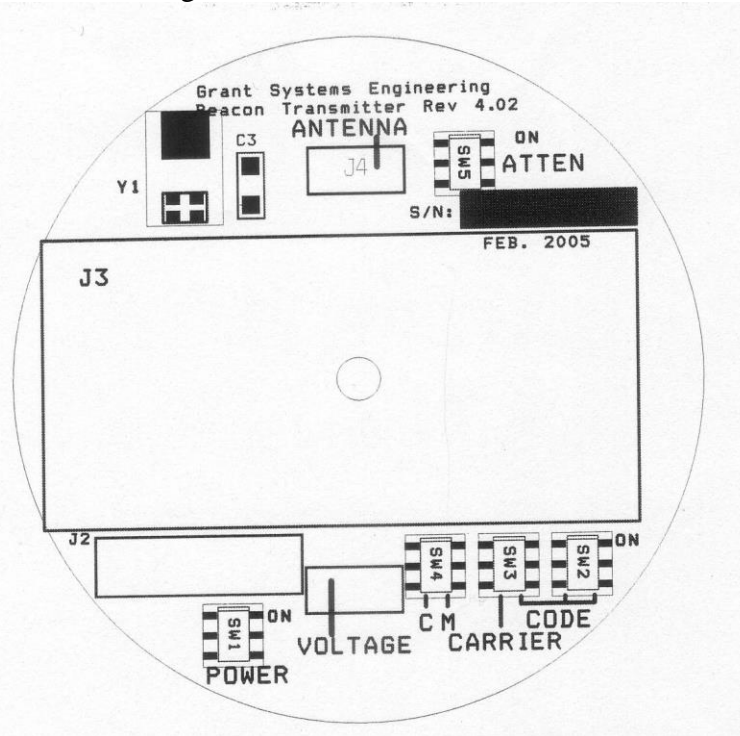
Illustration 1: Underside of Beacon Lid

Setting the Mode

"C" Switch	"M" Switch	Mode of Operation
OFF	OFF	1 Minute Burst Mode - Transmits code every 5 seconds for one minute then silent for 59 minutes.
OFF	ON	5 Minute Burst Mode – Transmits code every 5 seconds for 5 minutes then silent for 55 minutes.
ON	OFF	5 Minute Continuous Mode – Transmits code every 5 minutes.
ON	ON	5 Second Continuous Mode – Transmits code every 5 seconds.

Table 1: Mode of Operation

Note: "Carrier" ON will override all other modes and provide a continuous carrier output.

Setting the Code:

Depending on what set of codes the user specifies, eight individual codes may be selected to distinguish between the codes used for fish and the codes used for troubleshooting/diagnostics.

The following table shows the default selection.

Desired Code	SWITCH POSITION ("ON" is up)		
	CODE 3	CODE 2	CODE 1
Preset Code (2000 Codeset)	OFF	OFF	OFF
Preset Code (2000 Codeset)	OFF	OFF	ON
Preset Code (2000 Codeset)	OFF	ON	OFF
Preset Code (2000 Codeset)	OFF	ON	ON
Preset Code (2003 Codeset)	ON	OFF	OFF
Preset Code (2003 Codeset)	ON	OFF	ON
Preset Code (2003 Codeset)	ON	ON	OFF
Beeper	ON	ON	ON

Table 2: Code Settings

Note: Beeper is a 20ms pulse every second. Preset coded are a set of factory programmed codes, and custom codes may be programmed into the beacon upon request.