Underwater Transducer - Analog

Power Supply (Schematic TBD)

+24V
GND

Digital Control
From Group 2

Vcc to Analog
Vcc=____V

Thermometer
and/or
other sensors

Comparitor

Hi-Frequency
Instrumentation
Amplifier

Analog Switch

Fly-back
Amplifier

Refer to Amplifier Detail

Transducer
Fly-back Amplifier Detail

Timing Diagram

- Signal from digital
- Power MOS
- Inductor
- Transducer
- Listening Switch
- Amplifier
- +24V
- +VCC
- GND

Listen for signal: 1.3ms (max)

Switch/Signal Delay = \( T_{sw} \)

Signal Transmit: \( \mu s \)

Let crystal resonate: \( \mu s \)

Sw Del.: \( \mu s \)

Listen for signal: \( \mu s \)

Let crystal resonate: \( \mu s \)

Receive & process Signal

[bh bl al] (typical)

Open Analog Switch

Switch Signal Delay = 110 ns (max)

[dampen resonation]