

# APM Crib Sheet For All Systems

November 22, 2006

## One to Two Weeks in Advance

- Check transponder battery & charge (> 12 volts)
- Test transponder placed > 1 wavelength from receive antenna
- Set frequency offset according to operating frequency

Seasonde Model	Frequency (center value of system)	Offset	Target Range Cell
5MHz	your center frequency	20.7 Hz	10
12MHz	your center frequency	40.7 Hz	10
25Mhz	your center frequency	40.7 Hz	10
42MHz	your center frequency	80.7 Hz	10

- Save settings on transponder and verify that they remain after power cycle
- Configure Receiver Settings

Note:(System must be set for down sweep with phase starts 08 and 00)

SeaSonde Model	Bandwidth	Bdly $\mu$ s	Blanking	Attenuation Boat/Walking	Sweep Frequency	Pulse Shaping
5MHz	25kHz	~4.75	60*	15/30db	2Hz	Off
12MHz	50kHz	~4.75	60	15/30db	4Hz	Off
25Mhz	150kHz	~4.75	60	15/30db	4Hz	Off
42MHz	150kHz	~4.75	60	15/30db	8Hz	Off

- Identify the peak in the Doppler spectra plot and check for Lvl file creation.
- Note range cell number, signal strength (dBm) and Doppler cell number
- Store receiver settings in an unused register from 2-7
- Collect two shore-based data points (ends of the arc) with the transponder

\* Note: Some older model 5MHz systems will not accept 60us. Use 120us in this case

## The Day of the Calibration

### *At the boat:*

- Check boat & assemble transponder antenna
- Install antenna so it is not blocked to either side & configure antenna grounding
- Configure (or confirm) Transponder Settings
- Configure the GPS for logging every 5-10 seconds and to "stop when full"
- Turn off GPS and proceed to position where antennas are visible from boat
- Check that it is logging data, install in safe location with 5+ satellites visible

Seasonde Model	Antenna Configuration (Boat Run)	Antenna Configuration (Walking)
5MHz	12MHz head + 4-part whip, OCEAN GND	3 White whips (sides and top)
12MHz	12MHz head + 4-part whip, OCEAN GND	3 White whips (sides and top)
25Mhz	Three white whips (sides and top)	3 White whips (sides and top)
42MHz	Three white whips (sides and top)	3 White whips (sides and top)

### *At the receiver:*

- Quit all applications except SeaSondeController and SeaSondeAcquisition
- Synchronize the computer to GPS clock
- Stop logging cross spectra, enable diagnostic processing
- Configure Receiver Settings
- Note:(System must be set for down sweep with phase starts 08 and 00)
- Identify the peak in the Diagnostics, start logging Time Series and check for Lvl file creation
- Boat proceeds to starting point of 1<sup>st</sup> arc to begin the pattern
- Watch for peaks in channels one and two to rise and fall as transponder travels
- After completing the second arc, turn off GPS and restart the computer
- Verify SeaSonde settings have returned to normal operational value