

Exhibit 1: Narrative to support description of product and waveform characteristics.

This application is for experimental operation of Telephonics RDR-1700B X-Band Maritime Surveillance and Imaging Radar. The radar is a Multi-Mode lightweight radar consisting of three units, a Signal Processor, Transmitter and an Antenna Pedestal with an Antenna. The radar provides multiple modes of operation as listed below.

- Surface Search with Three levels of range coverage and resolution.
- ISAR and Range Profile modes
- Imaging modes including Strip Map and Spotlight with 4 levels of Imaging Resolution
- Weather Detection and Avoidance
- Detection of SART and Navigation Beacons
- Display of AIS Targets

The RDR-1700B Multi-mode Surveillance Radar is an airborne search radar that uses pulse compression techniques to provide the various search and imaging capabilities and accomplishes the above modes through the use of a programmable waveform generator which can generate different pulse widths, PRFs, and modulation. The radar operates over the frequency band of 9.2 to 9.5 GHz, uses a 1 kilowatt peak Solid state or TWT based power amplifier with an average power from 0.5 watts to 100 watts and a maximum ERP of 1.25 MW. Figure 1 is a typical search screen with an AIS target overlay.

RF pulses are radiated using a directive antenna with a typical gain of 31 dB and BW of 3 degrees which in the search modes performs 360 degree scans at rotation speeds of 15 to 4.7 revolutions per second. In the Imaging modes the antenna drive focuses energy for a short period of time on a target or area of interest using Doppler processing to develop High resolution images. The radar accepts navigation data (position, heading, velocity, pitch/roll, altitude, etc.) from the dedicated navigation system for target tracking and image motion compensation.

The radars radiated waveforms have inherently low probability of intercept when compared with standard magnetron based marine radars and aviation weather radars. Using frequency agility the radar is continuously changing frequency on a transmitted pulse to pulse rate thereby minimizing the number of pulses being received by fixed frequency narrow band marine and aviation weather radars. Additionally, due to the use of FM intrapulse modulation the same receivers will receive reduced portions of the transmitted signals, as a function of the ratio of the transmitted bandwidths, ranging from 6 to 180 MHz, and the typically 1 MHz receivers. The RDR-1700B probability of intercept is very low due to its use of directive antennas, PRI jitter, pulse to pulse frequency agility and the high transmitted bandwidth.

The radar's waveform characteristics are detailed in Table 1.

Telephonics plans to conduct research and experimentation to continue development to improve its radar signal processing techniques for the purposes of improving the radars ability to search, detect and track multiple targets during over water surveillance as well as search and rescue and weather detection/avoidance capabilities. In addition, imaging techniques which provide the ability to identify the size and shape details of objects detected beyond visual ranges or bad weather conditions will also

continue to be improved. The continued advancement of digital processors permits the development of improved detection and mode techniques. While computer simulations and lab testing are used initially actual field deployment is needed to demonstrate performance under real field conditions.

Telephonics plans to conduct research and development to develop these system improvements and to test the radar at our site in Farmingdale (Suffolk), New York – NL 40-43-25; WL 73-25-15 and in addition on a mobile installation, a company owned BeechCraft B200T aircraft. The aircraft will operate over water within a range of +/- 160 km from the Farmingdale location to conduct experiments that will demonstrate radar performance and enable evaluation of the new techniques.

Figure 1
RDR 1799B Search Screen

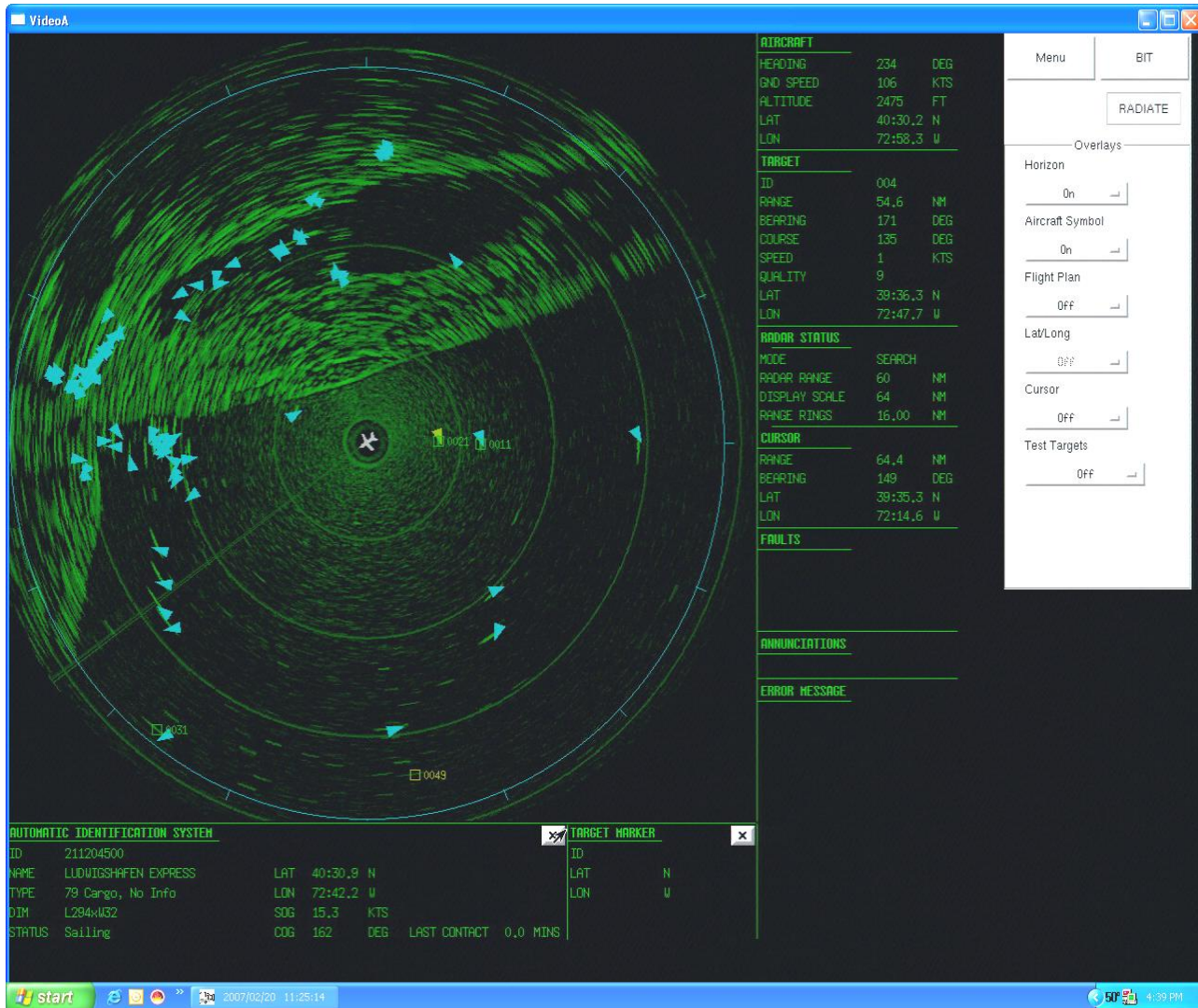


Table 1
Waveform Characteristics

Waveform Table

Mode	PW (usec)	BW (MHz)	Center Frequency (MHz)	Freq. Mod.	PRF (Hz)	Pavg (Watts)	Emission Designator
Search 120	80	6	9200 -9500	LFM	500	40	300MQ0N
Search 60	40	12	9200 -9500	LFM	1000	40	300MQ0N
Search 30	20	24	9200 -9500	LFM	2000	40	300MQ0N
Short Range	0.06	17	9200 -9500	Fixed	7000	0.42	300MP0N
Weather 120	80	6	9.4	LFM	500	40	6MQ0N
Weather 60	40	12	9.4	LFM	1000	40	12MQ0N
Weather 30	20	12	9.4	LFM	2000	40	12MQ0N
Beacon (1)	2.5	0.4	9.4	Fixed	2000	5	400KP0N

(1) Transmit Frequency = 9375 MHz, Receive Center Frequency = 9310

Imaging Waveform Table

Mode	PW (usec)	BW (MHz)		Freq. Mod.	PRF (Hz)	Pavg (Watts)	Emission Designator
ISAR	24.3	178	9.4	LFM	1024	24.88	178MQ0N
1M SAR	24.3	178	9.4	LFM	800	19.44	178MQ0N
2M SAR	20.5	75	9.4	LFM	800	16.40	75MQ0N
4M SAR	20.5	38	9.4	LFM	400	8.20	38MQ0N
8M SAR	20.5	19	9.4	LFM	400	8.20	19MQ0N
Range Profile	24.3	178	9.4	LFM	1024	24.88	178MQ0N