

APPROVALS			REVISIONS			
	INITIALS	DATE	REV	DESCRIPTION	DATE	APPR
Drawn	JFG	13NOV01	1	Prototype Release	13NOV01	JFG
Engineering						
Manufacturing						
Marketing						

## 1.0 General Description

This document describes an assembly consisting of a dual directional WR340 waveguide coupler and a single crystal detector. The output voltage of the crystal is measured for a range of waveguide power levels propagating in the *reverse* power direction and plotted as test data to be delivered with the assembly.

The waveguide directional coupler has two Type N female coupler probes mounted in a section of WR340 (RG113/U) waveguide. The probe design is the same as those used in GAE's WaveProbe™ family of waveguide couplers that offer high performance microwave power monitoring in a the smallest available package. The waveguide section is dip brazed aluminum with contact style waveguide flanges (UG1713/U) at both ends.

## 2.0 Specifications

### 2.1 Waveguide Coupler

Frequency	2450 MHz +/- 50 MHz
Power (continuous)	10 kW
Coupling Factor	60.0 +/- 0.2 dB (both probes)
Insertion Loss	0.01 dB maximum
Input VSWR	1.05 maximum
Directivity	25 dB minimum
Waveguide	WR340
Waveguide Flange	UG1713/U
Coupler Output Connector	Type N female
Construction	Aluminum
Finish	Chemical conversion coating; Textured black paint

### 2.2 Crystal Detector

Input Power	100 mW maximum
Output Voltage	Approximately 1.6 Volts at full input power
Input Connector	Type N male
Output Connector	BNC female

**3.0 Labeling****3.1 Waveguide Coupler****3.1.1 Product Identification**

Each coupler shall be identified as follows:

MFR: Gerling Applied Engineering, Inc.  
MFR P/N: 910917 REV <current revision>  
S/N: <insert date code serial number>  
CUST P/N: 60-2022 REV \_\_\_\_\_

**3.1.2 Coupling Factor**

The coupling factor of each probe shall be indicated on the side of each product.

**3.1.3 Calibration Date**

The date of last calibration and expiration of calibration shall be indicated on the side of each product.

**3.1.4 Forward Power Direction**

The orientation with respect to the direction of forward power flow shall be indicated on the side of each product.

**3.2 Crystal Detector**

Each crystal detector shall be identified as follows:

P/N: 040101  
S/N: 910917/XXXX-R

where "XXXX" is the last four digits of the coupler serial number used for measurement of output data.

**4.0 Ordering Information**

<u>Description</u>	<u>GaSonics Part No.</u>	<u>GAE Part No.</u>
Coupler/Detector Set	n/a	910921
Waveguide Coupler	60-2022	910917
Crystal Detector	35-2491	040101

**5.0 Outline Drawing**

