Innovative Solutions in Engineering

BBG-RSSS-90-400-1

Redundant Serial to Synchro System

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Description

The Redundant Serial to Synchro System (RSSS) is a stand-alone system, which provides conversion of serial signals into high power synchro signals. The RSSS provides two redundant channels (four total) of serial to synchro conversion.

The RSSS is factory configurable to customer requirements for easy field installation. Models available include 6.81V resolver, 11.8V and 90V synchro at both 60 and 400 Hertz.

Applications

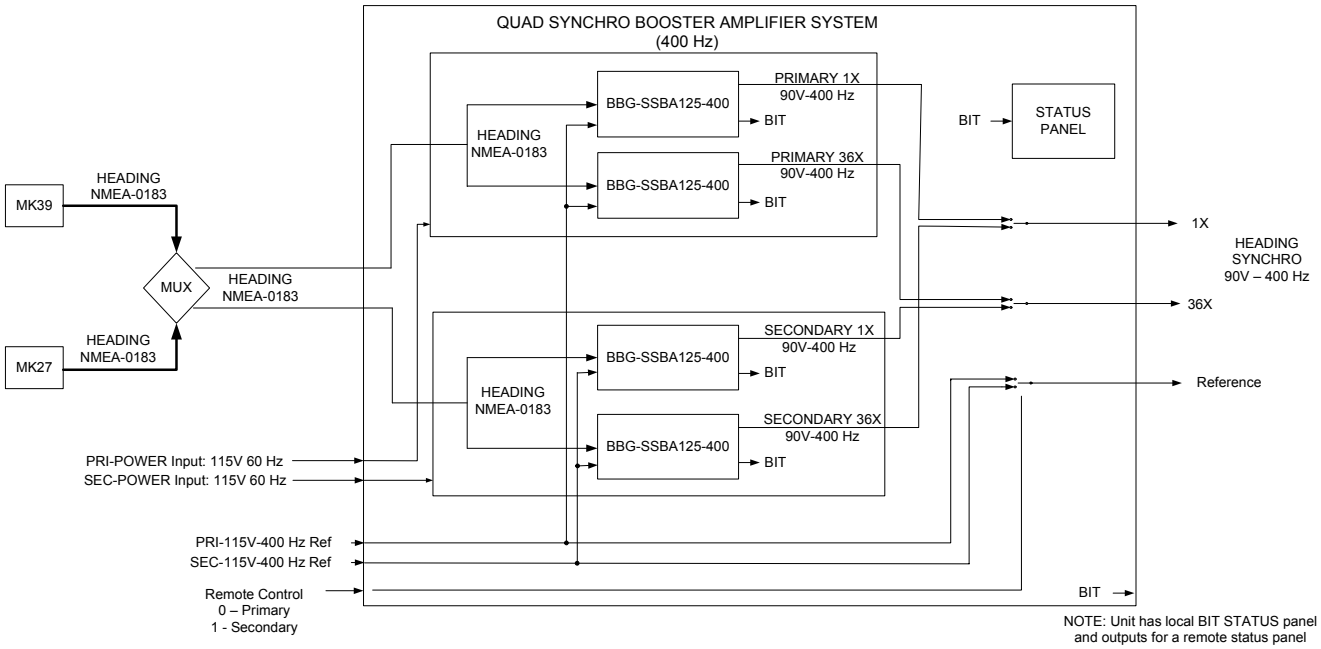
- Radar Systems (antenna azimuth)
- Navigation Systems (gyrocompass, speedlog, course, pitch, and roll)
- Industrial Processes (position, velocity)
- Meteorology Instruments (wind speed and direction)
- Many Others

Features

- 6.81Vrms Resolver
- 11.8 or 90 Vrms Synchro
- High Efficiency
- 125 VA (Peak), 30VA (Continuous) Output
- Short Circuit and Transient Protected
- Temperature Protected
- Enable, BIT and Kick Circuitry

BBG Incorporated
1708 South Park Court • Chesapeake, VA 23320
Phone:(757) 366-9211 • Fax:(757) 366-9170 • E-mail: sales@bbginc.com • Website: www.bbginc.com

Chart



The BBG-RSSS-90-400-1 operates on 115 Volt, 60 Hz AC power to convert serial inputs into high power synchro outputs. The RSSS accepts serial data in RS-232, RS-422, RS-423, RS-485, or MIL-STD-188C protocols. Serial baud rates are switch selectable at: 2400, 4800, 9600, 19,200, and 38,400 bits per second. Default serial input is 4800, 8 bits, no parity, and one stop bit (4800, 8, N, 1).

The RSSS provides two dual redundant channels of serial to high power synchro conversion. Each channel has its own power supplies and is fault protected against over current and over temperature faults. In addition, the RSSS provides remote control of outputs, local and remote BIT status and internal kick circuitry for added control and protection. An onboard microcontroller configures the card from power up or reset and provides all signals and control to read the serial input information and output the synchro/resolver information. Health monitoring of each 1X/36X channel for over-current, over-temperature and loss of reference is provided via a contact closure status signal. Serial data formats, power outputs, synchro and resolver voltages and frequencies are factory configured to user requirements.

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BBG-RSSS-90-400-1 Product Specifications

Technical Specifications

Parameter	Value	Units
Power Input	115	Volts AC
	60	Hertz
	6.3	Amps
Temperature Range		
Operating	-25 to +85	°C
Storage	-65 to +125	°C
Inputs		
Serial message	NMEA-0183	
Serial Protocol	RS-232/422/423/485 or MIL-STD-188C	
Reference Input	115	Volts AC
	60/400	Hertz
	1	Amps
Outputs		
Synchro (PRIMARY 1X)	90	Volts
	60/400	Hertz
	125	VA (Peak)
	30	VA (Continuous)
Synchro (PRIMARY 36X)	90	Volts
	60/400	Hertz
	125	VA (Peak)
	30	VA (Continuous)
Synchro (SECONDARY 1X)	90	Volts
	60/400	Hertz
	125	VA (Peak)
	30	VA (Continuous)
Synchro (SECONDARY 36X)	90	Volts
	60/400	Hertz
	125	VA (Peak)
	30	VA (Continuous)
Status (PRIMARY 1X/36X)	Open	Good
	Closed	Fail
Status (SECONDARY 1X/36X)	Open	Good
	Closed	Fail

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Parameter	Value	Units
Accuracy	+/-30	arc minutes
Dimensions	30.0 W x 12.0 H x 12.0 D	In
	76.2 x 30.48 x 30.48	Cm

INPUTS/OUTPUTS

Inputs and outputs are available on DIN rail terminal blocks provided with the RSSS. Inputs and outputs are listed below:

I/O CONNECTOR TYPE: DIN Terminal Blocks

CONNECTOR MATE: Ferrules

Signal	Connector
Chassis Ground (E1)	TB1
PRIMARY POWER 115/220V AC NEUTRAL (FUSED)	TB2
PRIMARY POWER 115/220V AC LINE (FUSED)	TB3
Chassis Ground (E1)	TB4
SECONDARY POWER 115/220V AC NEUTRAL (FUSED)	TB5
SECONDARY POWER 115/220V AC LINE (FUSED)	TB6
PRIMARY RXD422+/RXD232 (Input)	TB7
PRIMARY RXD422- (Input)	TB8
PRIMARY Ground	TB9
SECONDARY RXD422+/RXD232 (Input)	TB10
SECONDARY RXD422- (Input)	TB11
SECONDARY Ground	TB12
PRIMARY R1 IN (Input)	TB13
PRIMARY R2 IN (Input)	TB14
SECONDARY R1 IN (Input)	TB15
SECONDARY R2 IN (Input)	TB16
R1 OUT (FUSED) (Output)	TB17
R2 OUT (FUSED) (Output)	TB18

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Signal	Connector
S1 OUT 1X (Output)	TB19
S2 OUT 1X (Output)	TB20
S3 OUT 1X (Output)	TB21
S1 OUT 36X (Output)	TB22
S2 OUT 36X (Output)	TB23
S3 OUT 36X (Output)	TB24
STATUS + PRIMARY 1X/36X (Contact Closure)	TB25
STATUS – PRIMARY 1X/36X (Contact Closure)	TB26
STATUS + SECONDARY 1X/36X (Contact Closure)	TB27
STATUS - SECONDARY 1X/36X (Contact Closure)	TB28
PRIMARY POWER STATUS + (Contact Closure)	TB29
PRIMARY POWER STATUS - (Contact Closure)	TB30
SECONDARY POWER STATUS + (Contact Closure)	TB31
SECONDARY POWER STATUS - (Contact Closure)	TB32
INPUT SELECTOR + (Input)	TB33
INPUT SELECTOR – (Input)	TB34

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