

# "One Module" 2 SPEED TRACKING SYNCHRO/RESOLVER TO DIGITAL CONVERTER

## FEATURES

- Complete System in ONE Module
- Operates from only +5VDC, 3 watts
- Non Binary Ratios Accommodated
- Accuracy 0.01°
- 1,440°/sec. (4 Hz) Tracking Rate
- 16 Bits Output (TTL Compatible)
- Reference/Stator Transformer Isolation
- Insensitive to Line/Freq. Variation

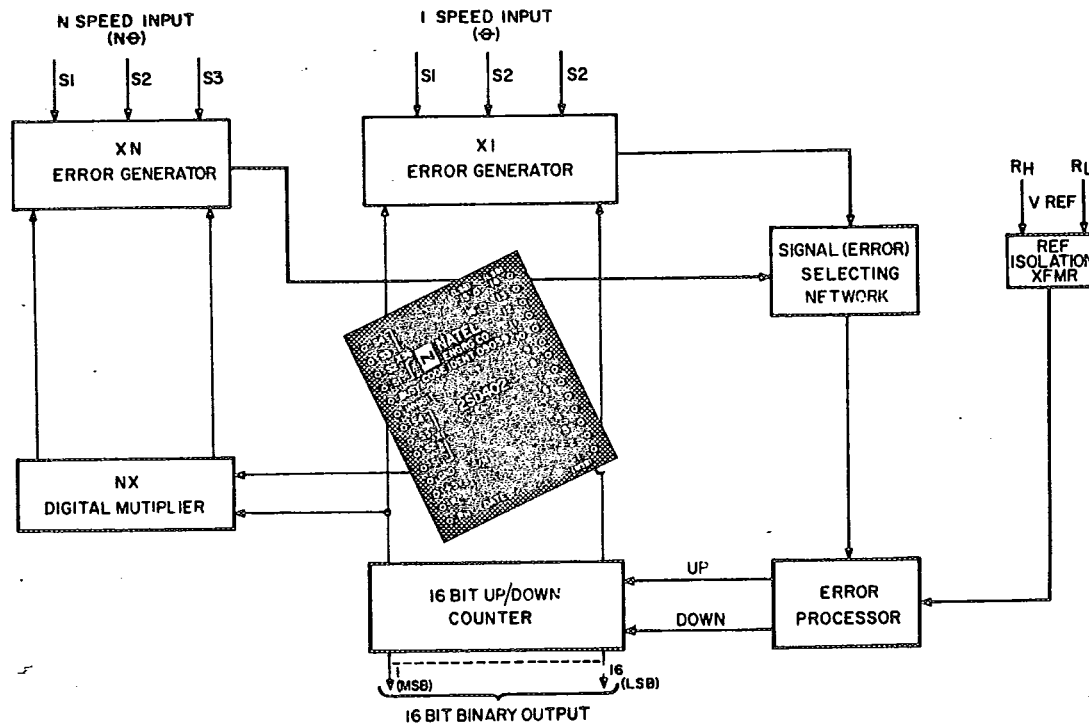
## DESCRIPTION

Model 2SD402 is a complete two-speed continuous tracking type synchro/resolver to digital converter packaged in ONE encapsulated module (2.6" x 3.1" x .82"). The converter uses self-nulling, error-free tracking Type II servo-loop, thereby providing no lag and zero velocity error up to 1,440°/sec referred to the coarse (x1) synchro. Accuracy is maintained with  $\pm 10\%$  variation in synchro amplitude and frequency.

The digital data is constantly available except during a converter update condition indicated by a logic "high" signal on the converter busy line. Updating can be prevented by applying a logic "low" on the inhibit line. The converter output is in the hold mode as long as an inhibit signal exists.

Synchro or resolver inputs and reference are transformer isolated. For 400 Hz operation the transformers are integral to the converter. At 60 Hz two separate transformer modules are required. Only +5VDC at 600 mA is used.

The 2SD402 is available in commercial, military, and hi-rel (883) versions.



## SPECIFICATIONS

### ELECTRICAL

**Inputs:** 11.8 Vrms (A)  
 (xfmr isolated) 90 Vrms (B)  
 26 Vrms (C)  
  
**Reference Input:** 26 or 115 Vrms  $\pm 10\%$   
 (xfmr isolated) @400  $\pm 40$  Hz  
  
**Input/Reference Z:** 100K min.  
  
**Speed Ratio:** 1:36, 1:72, 1:16, and 1:32 std  
  
**Output:** 16-Bit Parallel Binary Angle  
 (TTL Compatible)  
  
**Accuracy:** 0.01° for 1:36 inputs  
  
**Power Supply:** +5VDC @600mA

### MECHANICAL

**Size:** 2.625" x 3.125" x .82"

**Mounting:** PCB plug-in or solder interconnect pins on .2" spacing.

#### Busy/Input Signals:

Busy = "O" Data O.K.  
 = "I" converter Busy

#### Inhibit Input:

Freeze Data = "O"  
 Convert as needed = "I"

#### For 60 Hz Operation:

2 xfmr modules (P/N STM532-60) are required.

1.5" x 3.1" x 1.03" each

### ENVIRONMENTAL

**Operating Temp. Range:** 0° to 70°C std  
 -55° to 105°C optional  
  
**Storage:** -55° to +125°C

### OPTIONS

-55° to 105°C temp. range — add M to P/N  
 Hi-Rel 883 components — add MR to P/N  
 Other non-std voltages, and speed ratios — contact factory

### ORDERING INFORMATION

Example: 2SD402A — 1 X 36 — M  
                   ↑                  ↑                  ↑  
                   Input Voltage  Speed Ratio  Temperature Range -55° to +105°C

2SD402A-1X36 is a 2 speed synchro to digital converter with an input of 11.8 Vrms and a reference voltage of 26 Vrms with a 1:36 speed ratio.

For resolver inputs preface part number as 2RD402 with appropriate description for input and speed ratio. For options add appropriate ID letter(s).

