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- Resolution to 0.01°
- Accuracy to 0.03°
- Synchro or Resolver input
- Wideband: 47 Hz to 1200 Hz
- Line-to-line programmable
- Zero offset adjust
- Optional Variable scaling
- Optional Dimmer Circuit
- Can be powered by reference

GENERAL

North Atlantic Instruments has built upon its experience and engineering innovations with the development of the Model 800 and 801 Panel Meters. The small size and versatile programming of these panel meters are based on the proven design concepts of the Model 8800, 8810 and 8500 Angle Position Indicators.

Ideal for portable test sets these model have 0.1° and 0.01° resolution and can operate directly off the rotor input, thereby eliminating the need for separate power lines. Accuracies of 0.2° and 0.03° are available. The rear panel programming makes these device's extremely versatile to the design engineer or systems integrator.

Both Synchro or Resolver mode can be programmed and the unit operates over a broad frequency band of 47Hz to 1200Hz. The large 0.56" display comes in either a red or green format. The brightness of these displays makes for easy reading in almost any environment. Should the device be used in darkened environments, an optional control circuit can dim the display level.

Both models employ a Type II tracking servo loop resulting in accurate measurement, with no tracking lag error, up to the maximum tracking rate. Both the 800 and 801 also provide tristate bussable B.C.D. outputs for remote use along with a busy signal output to indicate when data is valid. Data can be transferred by monitoring the busy line and transferring data on the trailing edge of the busy pulse. An alternate method of transferring data is to apply a data freeze input pulse of at least 2 µsecond duration.

A 2.0° offset adjust is provided via the rear panel to allow for system zeroing. This allows the user to compensate for deviations in system electrical and mechanical zero.

A prime design consideration is reliability and maintainability of these devices. No potted modules are used, all discrete components are generically identified and test points are provided to facilitate signal tracing.

GENERAL SPECIFICATIONS

Reference Input

Voltage: 3 to 126 Vrms
Impedance: 100 k Ω
Frequency: 47Hz to 1200Hz

Signal Input

Configuration: Synchro or Resolver
Voltage: 11.8, 26 or 90 V_{L-L}, programmable
Impedance: 1M Ω (transformer isolated)
Frequency: 47 Hz to 1200 Hz

Data States: Track (5 VDC)
Freeze (0 VDC)
Ka: 400
Temperature: 0 to 50°C
Power: 26V or 115 V_{rms}, 47 to 440 Hz (can be powered from reference)
Dimensions: 1.9" x 3.8" x 8.1" (48mm x 95mm x 203mm)
Cutout: 1.75" x 3.594" std DIN
Weight: 2.25 lbs. (1.0 kg)

Model 800

Resolution: 0.1°
Accuracy: 0.1° + 1 LSB
Angular Range: 0.0° to 359.9°
 $\pm 179.9^\circ$
Scaling 0 to 9999 (programmable)
Tracking Rate: 1500°/sec.
Acquisition Time: 1.5 seconds

Model 801

Resolution: 0.01°
Accuracy: 0.03°
Angular Range: 0.00° to 359.99°
0.00° to 359°59" (deg/min)
Scaling 0 to 9999 (programmable)
Tracking Rate: 180°/sec
Acquisition Time: 1.0 seconds

PART NUMBER DESIGNATION

Model 800

800-F _ _

| Option | Description |
|--------|------------------------------|
| 0 | Without Display Dimmer (Std) |
| 1 | With Display Dimmer |

| Option | Description |
|--------|-----------------------------|
| 1 | 0.0° to 359.9° (Std) |
| 2 | ±179.9° |
| 3 | 0000 to 9999 Variable Scale |

Model 801

801-F _ _

| Option | Description |
|--------|------------------------------|
| 0 | Without Display Dimmer (Std) |
| 1 | With Display Dimmer |

| Option | Description |
|--------|-----------------------------|
| 3 | Decimal; Degrees, Red (Std) |
| 4 | Degrees; Minutes, Red |
| 6 | Decimal; Degrees, Green |

Mating Connector Kit (Included with each meter)

NAI P/N: 808516-0001

Includes: EDAC, mating edge connector and two keying pins.

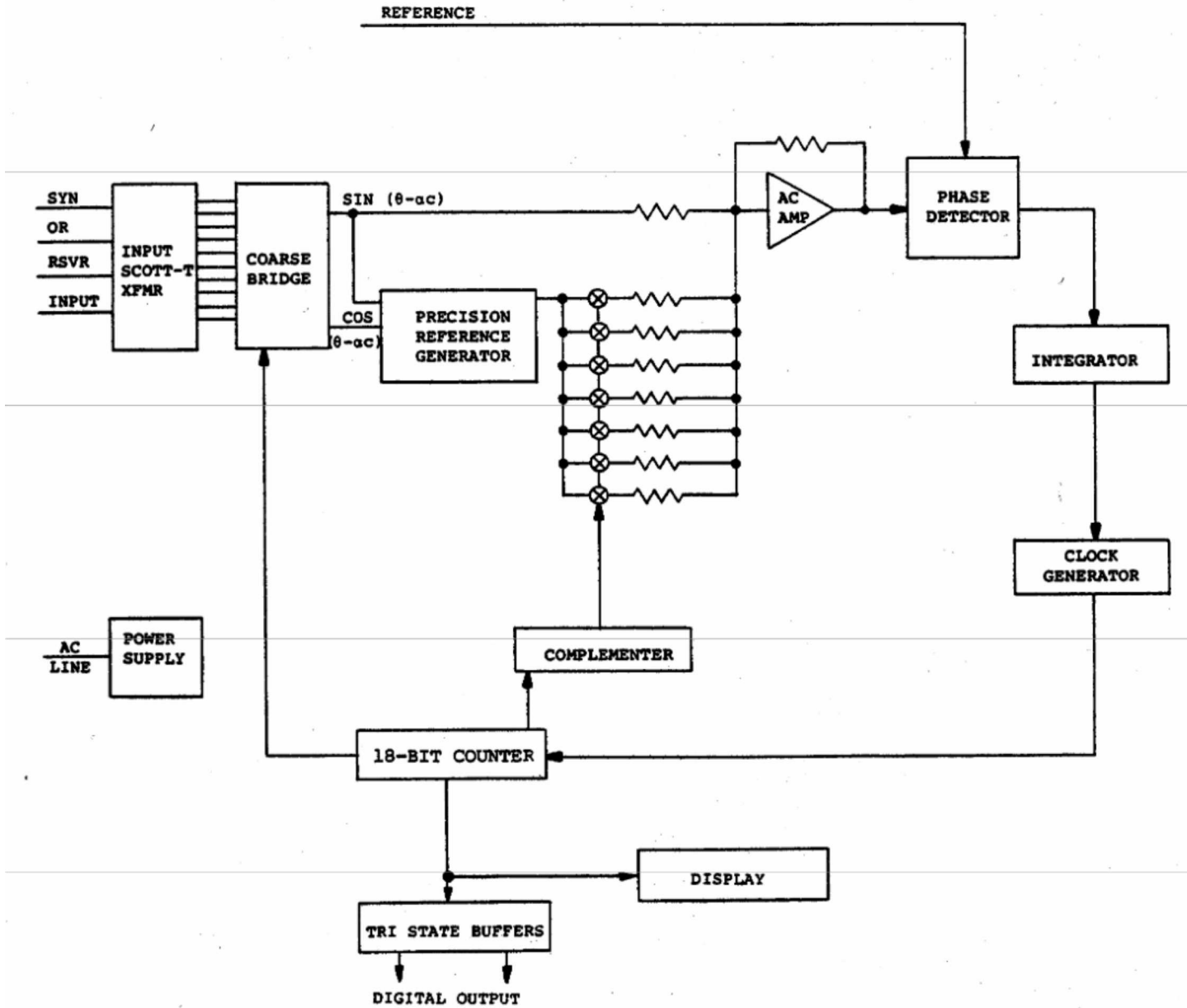
Model 800 and 801 Pin Assignments

| Model 800 Pin # | P1 - Signal Name | P4 (option F3X) Signal Name | Model 801 Pin # | P1 - Signal Name |
|-----------------|--|--------------------------------|-----------------|---|
| 19 | 800 | Spare | 19 | Spare |
| 21 | 400 | Spare | 21 | Spare |
| 23 | 200 (or "-" for option F2X) | Spare | 23 | 200 |
| 17 | 100 | Spare | 17 | 100 |
| 25 | Disable Hundred's | Spare | 25 | Disable Hundred's** |
| 34 | 80 | .0002 | 34 | 80 |
| 30 | 40 | .008 | 30 | 40 |
| 26 | 20 | .002 | 26 | 20 |
| 38 | 10 | .0008 | 38 | 10 |
| 42 | Disable Ten's | Multiply/Divide | 42 | Disable Ten's** |
| 24 | 8 | .001 | 24 | 8 |
| 28 | 4 | .004 | 28 | 4 |
| 32 | 2 | .0001 | 32 | 2 |
| 36 | 1 | .0004 | 36 | 1 |
| 40 | Disable Units | Spare | 40 | Disable Units** |
| 16 | .8 | .04 | 16 | .8 |
| 14 | .4 | .02 | 14 | .4 |
| 12 | .2 | .01 | 12 | .2 |
| 10 | .1 | .8 | 10 | .1 |
| 20 | Disable Tenth's | Spare | 20 | Disable Tenth's** |
| 22 | Logic Ground | Spare | 29 | .08 |
| 4 | Busy Signal | .1 | 15 | .02 |
| 13 | Data Freeze (open = track) | Spare | 18 | .04 |
| 9 | Jump to 27 for 90V L-L | Spare | 11 | .01 |
| 3 | Jump to 27 for 26V L-L | Spare | 33 | Disable Hundredth's** |
| 5 | Jump to 27 for 11.8V L-L | Spare | 22 | Logic Ground |
| 27 | L-L Jumper | Spare | 4 | Busy Signal |
| 41 | S1, Synchro or Resolver | Spare | 13 | Data Freeze (Gnd or 0 = Freeze; high or open =track) |
| 48 | S2, Synchro or Resolver | Spare | 41 | S1, Synchro or Resolver |
| 44 | S3, Synchro or Resolver | Spare | 48 | S2, Synchro or Resolver |
| 46 | S4, Resolver (open for Synchro) | Spare | 44 | S3, Synchro or Resolver |
| 50,39 | Jump 50 to 39 for Synchro, open for Resolver | .4 | 46 | S4, Resolver (open for Synchro) |
| 8 | R1 (Ref Hi) | .2 | 8 | R1 (Ref Hi) |
| 6 | R2 (Ref Lo) | Spare | 6 | R2 (Ref Lo) |
| 47 | 115V Power Hi | Spare | 47 | 115V Power Hi |
| 43 | 115V or 26V Power Lo | Spare | 43 | 115V or 26V Power Lo |
| 45 | 26V Pwr Hi or 26V Output Tap | Spare | 45 | 26V Pwr Hi or 26V Out Tap |
| 2 | Chassis Ground* | Spare | 2 | Chassis Ground*** |
| 7 | Spare | Spare | 37 | Lamp Test, LT (0 or Gnd = Test; high or open = normal) |
| 11 | Spare | Spare | | |
| 15 | Spare | Spare | 31 | Spare (E5) |
| 18 | Spare | .08 | 35 | +5Vdc |
| 29 | Spare | Spare | 1 | Chassis Ground*** |
| 31 | Spare (E5) | Spare | | ***P1 Pins 1 & 2 only connect to Chassis Gnd when unit is Installed in case |
| 33 | Spare (E6) | Spare | | |
| 35 | +5Vdc | Spare | | |
| 37 | Spare | Spare | 49 | Chassis Ground |
| 1 | Chassis Ground | Chassis Ground | | |
| 49 | Chassis Ground | Spare | | |

*P1 pins 1 & 2 only connect to chassis when unit is installed in case

**Tie Low to Enable Data Output

PANEL METER BLOCK DIAGRAM





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