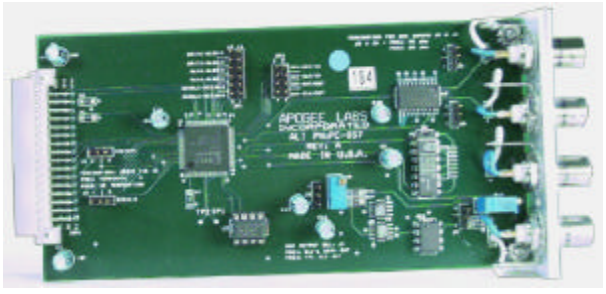
MODEL 2073 INTERFACER PRODUCT LINE

IOC013
RANDOMIZER/DERANDOMIZER MODULE



Rear view

Side view

TTL BNC (2) INPUT, TTL BNC (2) OUTPUT OR BIPOLAR BNC (1) OUTPUT

FEATURES

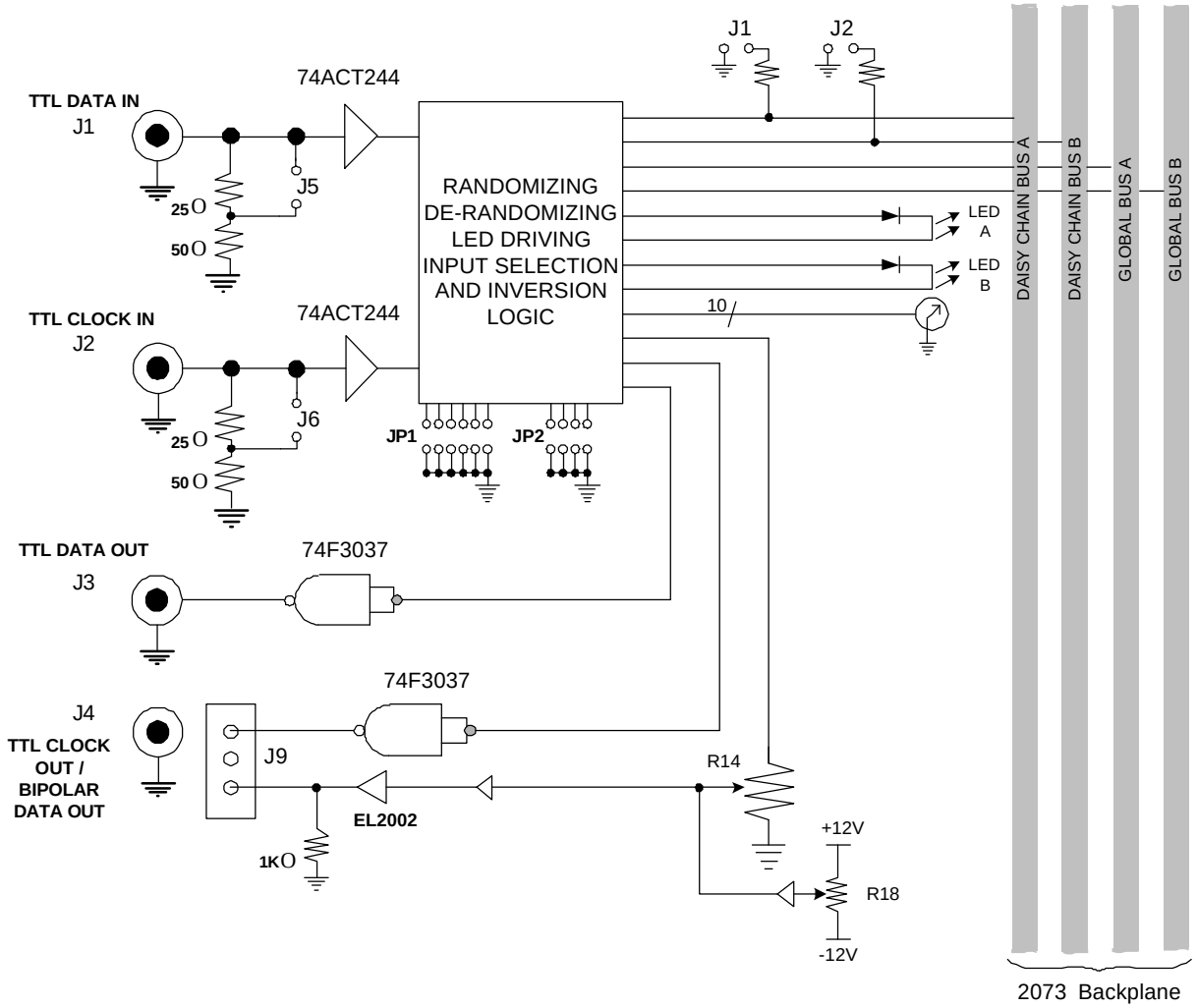
- Selectable Input Termination (50 ohm or 75 ohm)
- Accepts Inputs from Rear Panel or Daisy Chain Bus
- Drives Rear Panel BNC Connectors, Daisy Chain Bus and Global Bus
- Inputs Illuminate Front Panel LEDs
- Independent Input and Output Polarity (0 to 180 degree)
- Jumper Selectable Output Levels (Synchronous TTL Data and Clock or Bipolar Data)
- Pass Through Mode

OVERVIEW

The IOC013 Pluggable Interface Module accepts a TTL data and clock pair and can randomize or de-randomize the data. Randomizing is accomplished using a network of shift registers and exclusive OR gates. The RNRZ-L bit stream is generated by adding the reconstructed NRZ-L PCM data to the modulo-2 sum of the outputs of the 14th and 15th stages of a shift register.

De-randomizing is accomplished by adding the reconstructed RNRZ-L bit stream to the modulo-2 sum of the outputs of the 14th and 15th stages of the shift register. The reconstructed RNRZ-L bit stream is the input to the shift register. The RNRZ-L data which is reproduced using the reverse playback mode of operation is decoded by adding the reconstructed RNR-L bit stream to the modulo-2 sum of the outputs of the 1st and 15th stages of the shift register.

BLOCK DIAGRAM



JUMPERS	FUNCTION
J1	1 to 2: Terminate Daisy Chain A 2 to 3: Enable Daisy Chain A
J2	1 to 2: Terminate Daisy Chain B 2 to 3: Enable Daisy Chain B
J5	1 to 2: 75 ohm termination on J1 input 3 to 4: 50 ohm termination on J1 input
J6	1 to 2: 75 ohm termination on J2 input 3 to 4: 50 ohm termination on J2 input
J8	Factory Set
J9	1 to 2: Output is Bipolar on J10 3 to 4: Output is TTL CLOCK on J10

210 South 3rd Street, North Wales, PA 19454
Tel: 215-699-2060 Fax: 215-699-2061
E-Mail: sales@apogeelabs.com

JUMPERS	FUNCTION
JP1	1 to 2: Enable Daisy Chain Bus in A 3 to 4: Enable Daisy Chain Bus in B 5 to 6: Not Used 7 to 8: Not Used 9 to 10: Write Global Data A 11 to 12: Write Global Data B
JP2	1 to 2: Invert Data IN 3 to 4: Invert Clock IN 5 to 6: Invert Data OUT 7 to 8: Invert Clock OUT

FRONT PANEL SWITCH POSITION	FUNCTION
1 2 3 4 – 10	Randomize De-randomize Forward De-randomize Reverse Pass-Through

VARIABLE RESISTOR	FUNCTION
R14 R18	Bipolar Output Gain Adjustment Bipolar Output Offset Adjustment

SPECIFICATIONS

GENERAL

Single Slot Module (3” x 6” x 0.9”)
Model 2073 Pluggable Interface Module
Randomizing and De-randomizing per IRIG Standard 106-00 Chapter 6
Operates up to 20 Mbps

INPUT

TTL Level Inputs
BNC Connectors
50/75-ohm selectable termination

OUTPUT

BNC Connectors
Selectable TTL or Bipolar level outputs
Adjustable Offset and Gain on Bipolar output

APPLICATION INFORMATION

IRIG Standard 106-00 Chapter 6 recommends RNRZ-L codes for serial High-Density Digital Recording (HDDR) applications with a maximum bit packing density (for wide band recording) of 980 b/mm (25 Kb/in).

The RNRZ-L decoder is self-synchronizing and requires 15 consecutive error-free bits to be loaded into the shift register before the output data is valid.

The IOC013 must be used in the Model 2072-012 chassis and only in the slots containing 10-position front panel switches.

210 South 3rd Street, North Wales, PA 19454
Tel: 215-699-2060 Fax: 215-699-2061
E-Mail: sales@apogeelabs.com