REV NO. 0

P3K-AL-0402-A01
CONT ON SHEET 2 SH NO. 1

TITLE
TEST INSTRUCTIONS FOR PLANT COMMUNICATIONS
ANALOG (ANALOG ISOLATION)
FIRST MADE FOR EHC MARK II (PLANT COMMUNICATIONS)

REVISIONS

I. SCOPE

This instruction outlines the specification for testing the Plant Communication Analog board 1PC1-B001.

CIRCUIT BOARD 117D7719 -- ANALOG ISOLATION

II. CIRCUIT DESCRIPTION

The plant communications (PC) analog isolation is designed to incorporate the following features:

1. Provides a means to convey to the customer some EHC analog signals.

2. Analog signal processing done in a manner that provides protection to the EHC circuits that provide the signal, in the event that the output is abused, even seriously abused, by the customers equipment.

3. Two complete isolation circuits are provided that are capable of receiving inputs that vary from -10 VDC to +10 VDC and outputting these signals to the customer with a gain of +1.

4. Two voltage follower circuits are provided that are capable of receiving ALREADY ISOLATED inputs that vary from -10 VDC to +10 VDC and outputting these signals to the customer with a gain of +1.

To provide the isolation, a separate power supply is required furnishing plus and minus 15 VDC power to the output stages.

Zero balance pots are provided on all of the IC op amps and gain pots are provided in the two isolation channels. These latter are there to allow balancing out the resistance tolerances and setting the gain accurately to one. There is no need to adjust the voltage followers as they automatically provide a gain of one within ± .01%.

III. CIRCUIT SPECIFICATIONS

A. Power Supply Requirements

1. Power Supply 1: +22.000 ± 0.002 VDC (Pin 37) at 10 ma.

2. Power Supply 2: -22.000 ± 0.002 VDC (Pin 41) at 10 ma

3. Power Supply 3: +15.0 ± 0.1 VDC (Pin 21) at 30 ma

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REVISIONS

III. CIRCUIT SPECIFICATIONS (continued)

A. Power Supply Requirements (continued)

4. Power Supply 4: -15.0 ± 0.1 VDC (Pin 20) at 30 ma

(CAUTION THE VOLTAGE BETWEEN THE COMMON (PIN 25) AND THE ZERO VOLT BUS (PIN 39) MUST NOT EXCEED 15V PEAK.)

B. Operating Signal Levels

1. #1 Isolated Amplifier Input Signal: -10 to +10 VDC (Pins 8 and 7)

2. #2 Isolated Amplifier Input Signal: -10 to +10 VDC (Pins 35 and 36)

3. #1 Voltage Follower Input Signal: -10 to +10 VDC (Pin 19)

4. #2 Voltage Follower Input Signal: -10 to +10 VDC (Pin 28)

C. Output Loads

1. #1 Isolated Amplifier Output Load: 2K ohm (Pins 14 and 15)

2. #2 Isolated Amplifier Output Load: 2K ohm (Pins 30 and 31)

3. #1 Voltage Follower Output Load: 2K ohm (Pins 16 and 17)

4. #2 Voltage Follower Output Load: 2K ohm (Pins 27 and 26)

D. Individual Stage Performance Specifications

1. Power Supply (CR1, 2, 3, & 4)

a. TP1: +15.7 ± 1.0 VDC
b. TP2: -15.7 ± 1.0 VDC

2. Acceptable offset on all amplifiers after zeroing is ± 1.0 mv DC at zero input.

3. Overall gain of each of the four amplifiers is +1. The two isolation amplifier have adjustable gain (pots VR1 and VR2)

IV. SET POINTS

A. The two isolation amplifiers are set to a gain of +1.

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TITLE
TEST INSTRUCTIONS FOR PLANT COMMUNICATIONS
ANALOG (ANALOG ISOLATION)

FIRST MADE FOR FOR EHC MARK II (PLANT COMMUNICATIONS)

REVISIONS

PREPARED BY George W. Kessler DATE 5/1/77
G.W. Kessler
EHC DESIGN ENGINEERING

APPROVED BY P C Callan DATE 9-12-77
P.C. Callan - MANAGER
EHC DESIGN ENGINEERING

TEST PROCEDURE REVIEWED BY R. Debertolis DATE 9-9-77
R. Debertolis
EHC TEST ENGINEER

PRINTS TO

MADE BY J Polacek SEP 21 1977
ISSUED SEP 22 1977

APPROVALS

Steam Turbine DIV OR DEPT.
Schenectady, N.Y. LOCATION

P3K-AL-0402-A01
CONT ON SHEET SH NO. 3

CODE IDENT NO.

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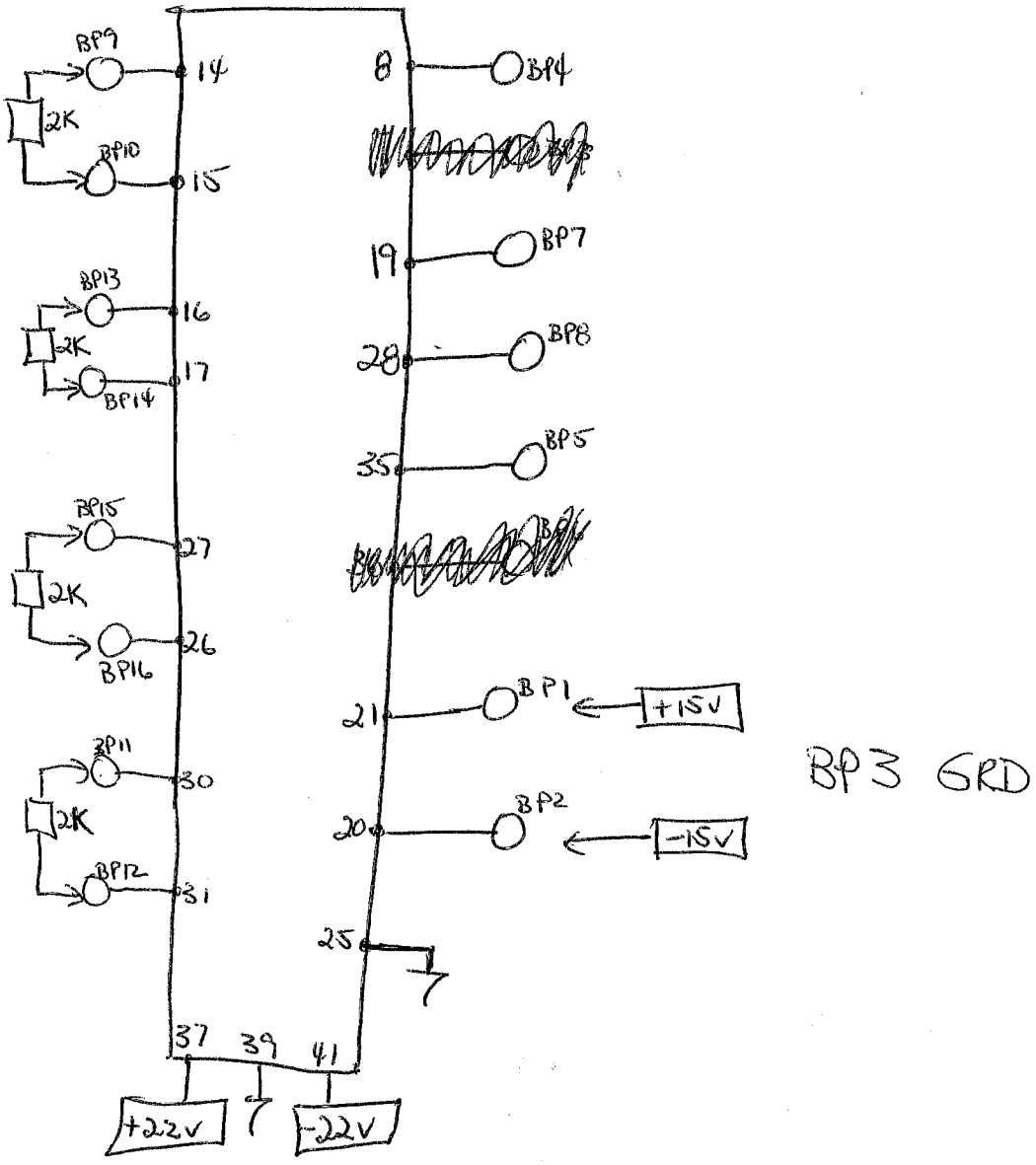
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