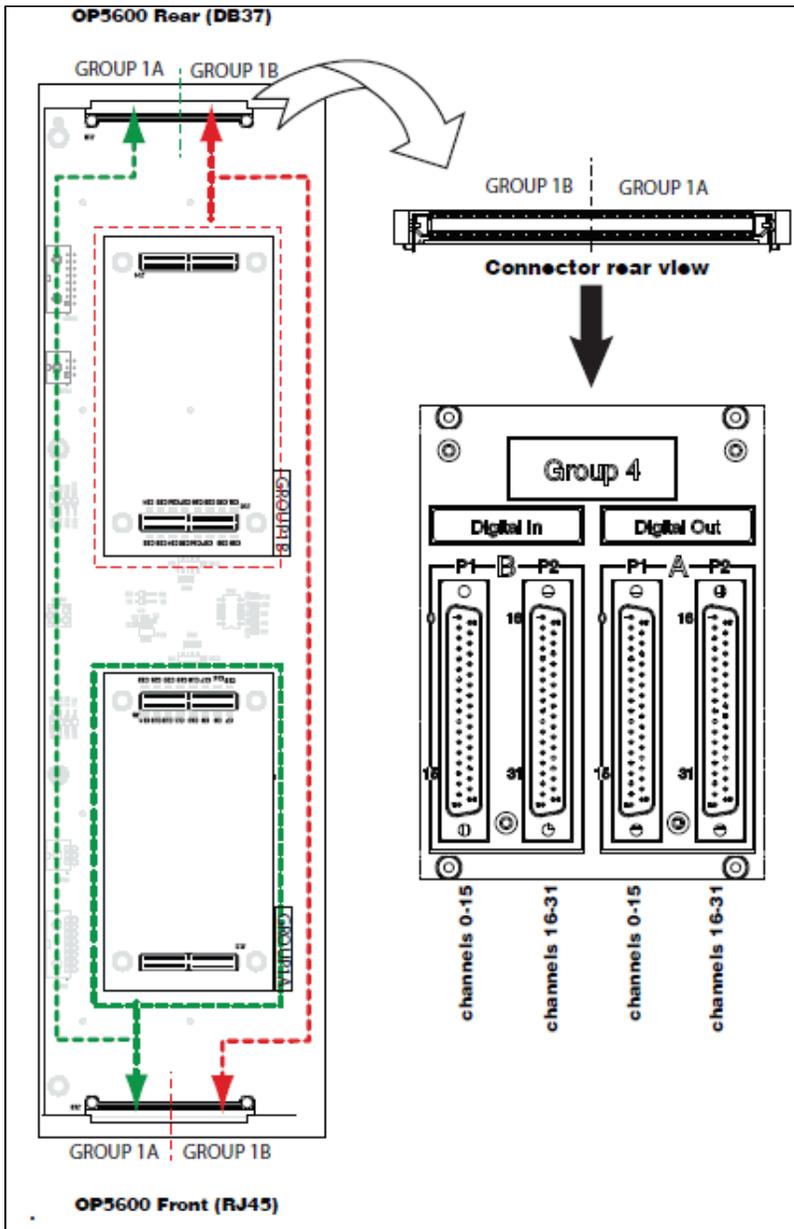# OP5650 IO Connectors

DB37F Connectors

Analog Mezzanines
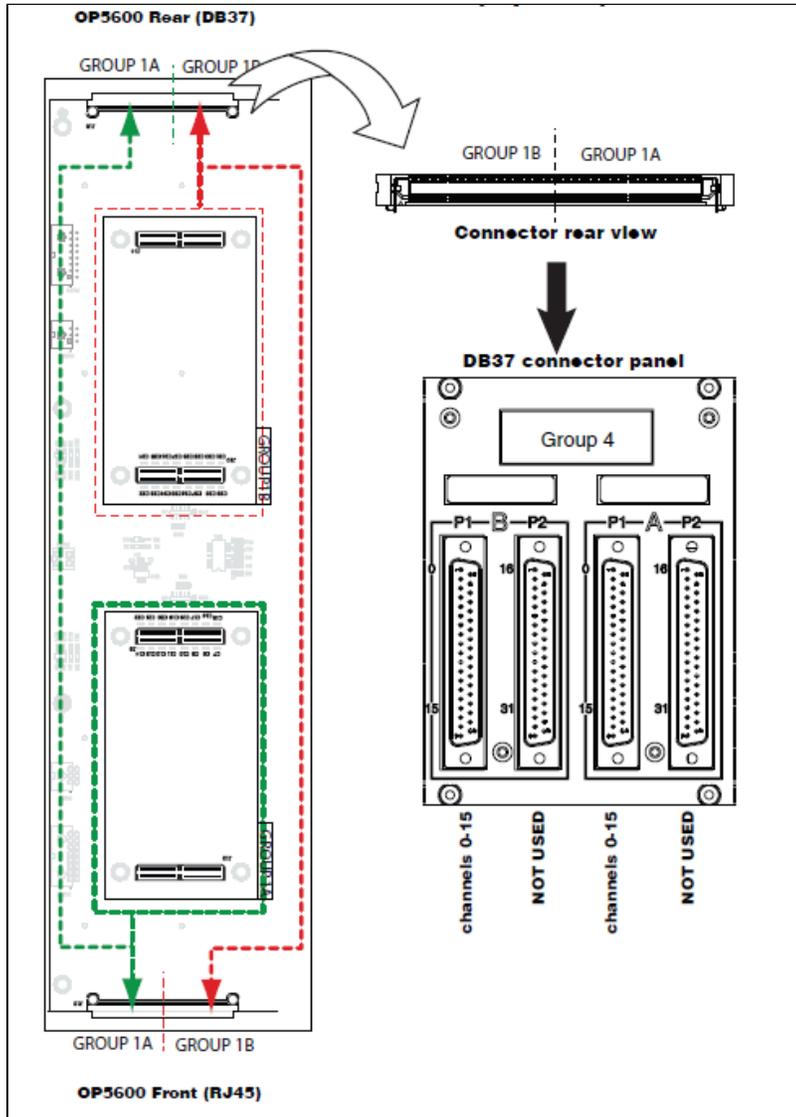
Each pair of mezzanines (A & B) is linked to four female DB37 connectors (I/Os) on the back of the chassis:

- The **first** two connectors (left to right) represent channels from Group B, which are linked to the conditioned channels from the **back** mezzanine.
- The **last** two connectors (left to right) represent channels from Group A, which are linked to the conditioned channels from the **front** mezzanine.
- If the **front** mezzanine is an analog module (DAC or ADC), the 16 channels are on connector A and connector B does not carry any signals.
- If the **back** mezzanine is an analog module (DAC or ADC), the 16 channels are on connector C. Connector D does not carry any signals.

Digital Mezzanines

OP5600 Rear (DB37)

GROUP 1A   GROUP 1B

GROUP 1B   GROUP 1A

Connector rear view

Group 4

Digital In   Digital Out

P1—B—P2   P1—A—P2

channels 0-15   channels 16-31   channels 0-15   channels 16-31

GROUP 1A   GROUP 1B

OP5600 Front (RJ45)

If the front mezzanine is a digital module (Din or Dout), the first 16 channels (00 to 15) are on the first connector, and the next 16 channels (16 to 31) are on the second connector.

If the back mezzanine is a digital module (Din or Dout), the first 16 channels (00 to 15) are on the first connector, and the next 16 channels (16 to 31) are on the second connector.

All signals are represented by a positive-negative pair that are always available on the connector pins, for example: for channel 08 : (08+, -08)

Positive/Negative Signals Connection

- For a single-ended output, the negative conductor is connected to Ground
- For a differential output, the positive and negative signals are on the connector
- For a differential input, the connection must be between the positive/negative pair
- If the input is single-ended, user's ground must be connected to the negative side of the pair

RJ45 Connectors

Each RJ45 monitoring panel on the front of the OP5650 simulator connects to front and back mezzanines. The following images illustrate how the mezzanines are linked to the connectors.
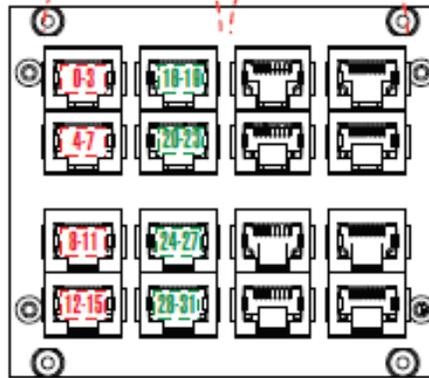
OP5600 Rear (DB37)
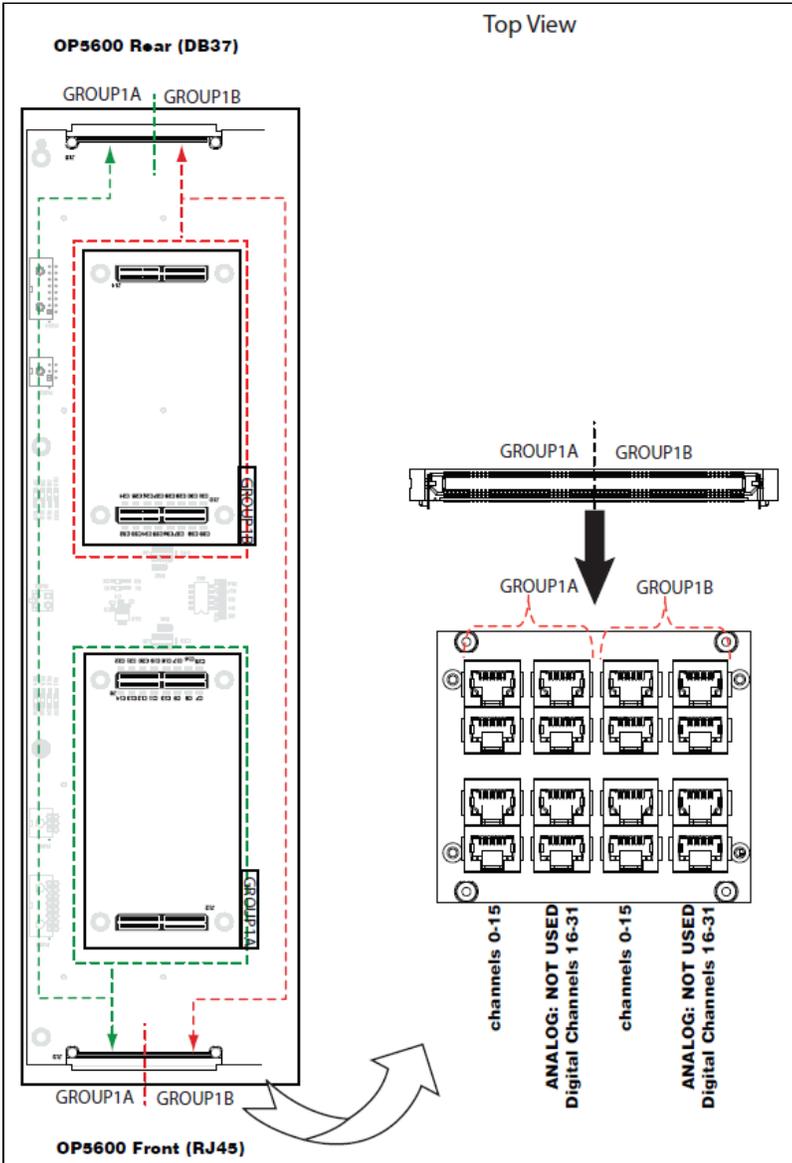
RJ45 Channel Assignments

Each mezzanine is assigned two columns of RJ45 connectors. Each column represents a series of channels, divided into 4 channels per jack, as shown in the figure below.

Column 1:
Channels 0-3
Channels 4-7
Channels 8-11
Channels 12-15

Column 2:
Channels 16-19
Channels 20-23
Channels 24-27
Channels 28-31

SLOT xA   SLOT xB

Analog boards use only channels 0-15

Digital boards use channels 0-31