Flex - Intan Adapter Board v2
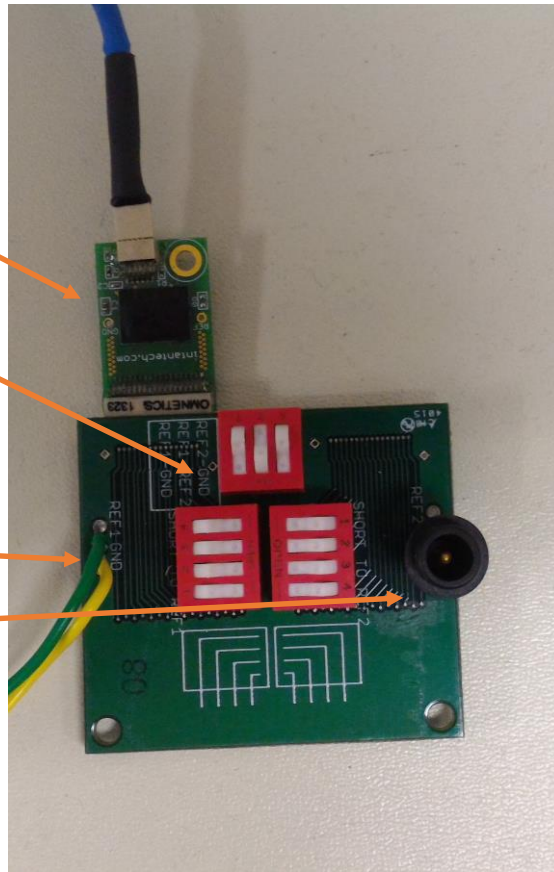
Documentation v0

John Hermiz

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Overview

- The objective of this document is detail the analog to software channel mapping and the switch functionality and mapping.
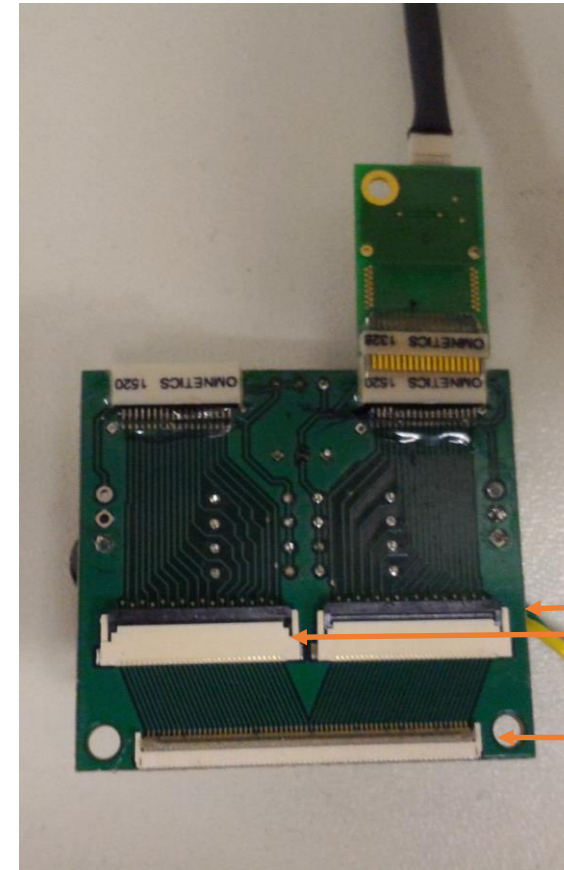
Front Side

Intan Amplifier
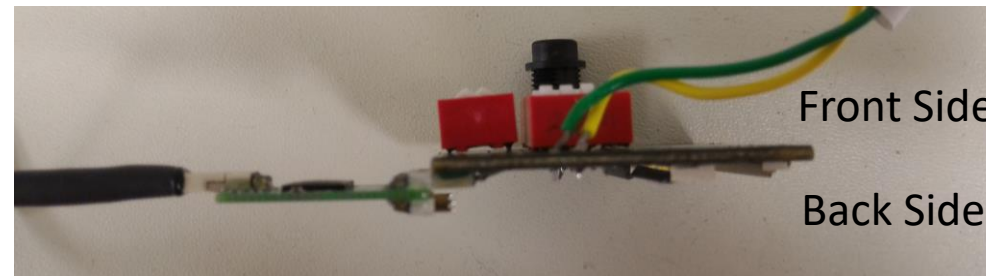64 chan

Switches

Ref and Gnd
Connections

Back Side

32 chan Flex
Connectors

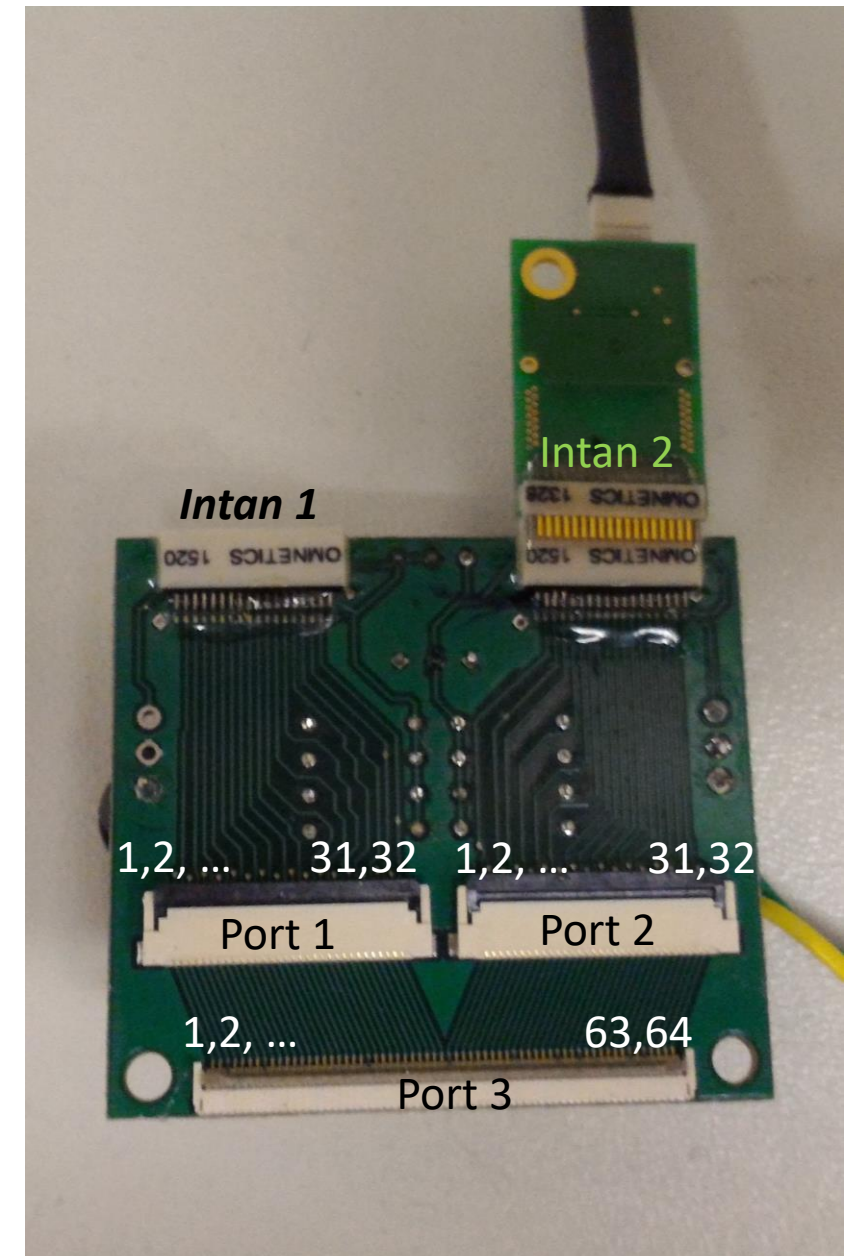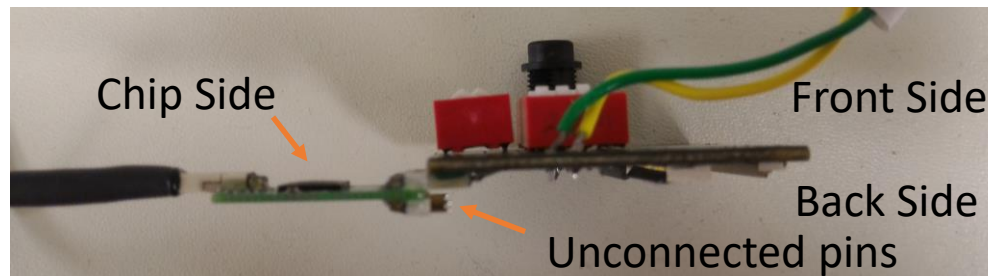64 chan Flex
Connector

Side View

Front Side

Back Side

Channel Map

- Intan 1 is connected to Port 1

- Intan 2 is connected to Port 2

- Port 1 and Port 2 is connected to Port 3

- Note: If you use a Intan amplifier with 64 channels, then 32 channels with be unconnected since Intan 1 & 2 only accept 32 channels

- Ensure Intan Amplifiers are plugged in so that the **extra pins** are exposed on the **back side** of the board (as below)!
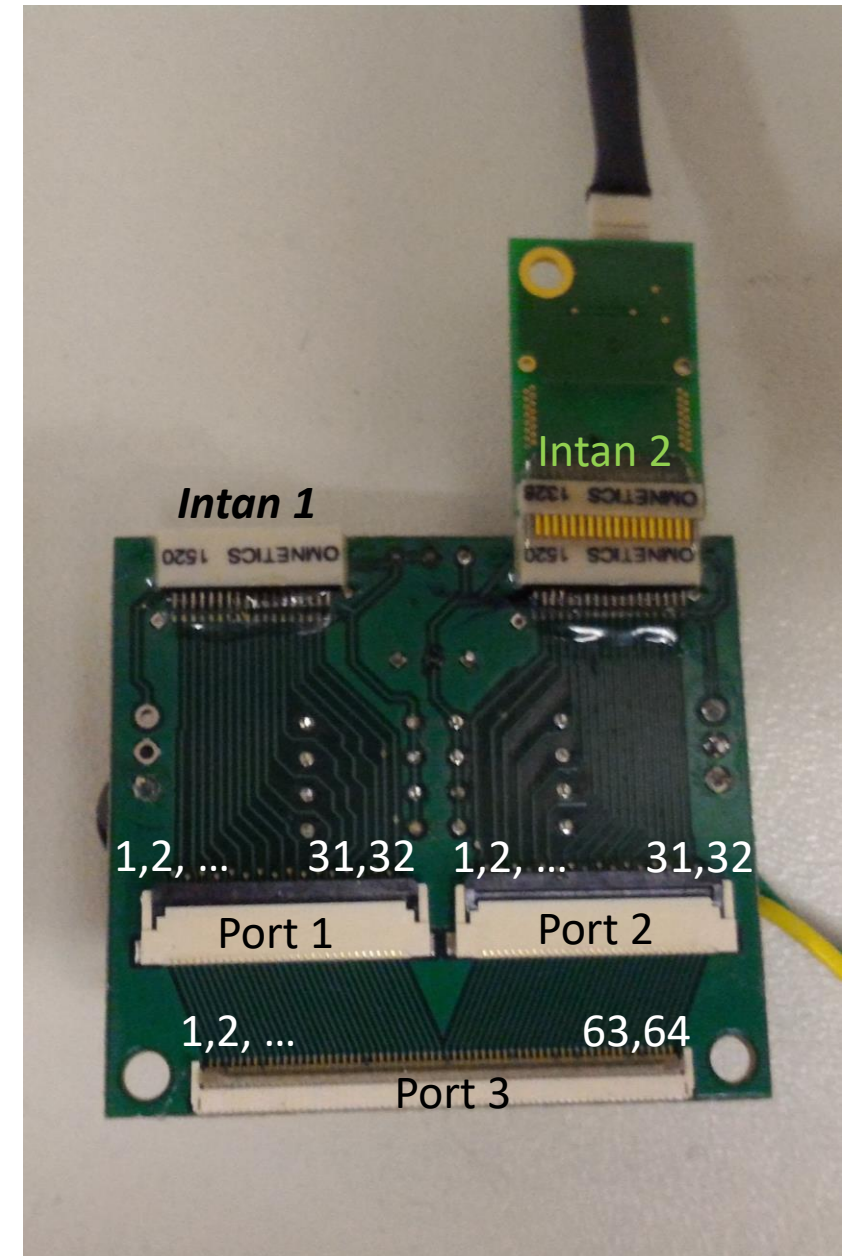 - If the Intan Amplifier is plugged in the other way, then the channel map in the next slide will be wrong!

Side View

Chip Side
Front Side
Back Side
Unconnected pins

Intan 2
Intan 1
1,2, ...   31,32   1,2, ...   31,32
Port 1   Port 2
1,2, ...   63,64
Port 3

Channel Map

- "Channel Name" corresponds to the software channel name.

- Bold & Italicized numbers (eg. *16*) corresponds to the amplifier on *Intan 1*

- Normal number (eg. 16) corresponds to amplifier on Intan 2

Port 1	Port 2	Port 3	Channel Name
1	-	1	*16*
2	-	2	*17*
.	-	.	*.*
31	-	31	*46*
32	-	32	*47*
-	1	33	17
-	2	34	16
-	.	.	.
-	31	63	47
-	32	64	46

Switches

- The switches are used to have the flexibility to short **ref and gnd** as well as **ref to channels**

- There are two refs on the board: ref1 and ref2 for each Intan amp that's connected (there's an option to short ref1 and ref2)

- Typically, we leave ref and gnd as separate nodes (switch is open)

- Typically, we short 2 channels to ref.
  - Deciding which channels to short depends on which configuration appears to eliminate noise the most

Switches

Ref/Gnd: Group A

Switch	Function
1 (Left)	Ref 1 = GND
2 (Middle)	Ref 1 = Ref 2
3 (Right)	Ref 2 = GND

Note: The board has 2 references nodes:
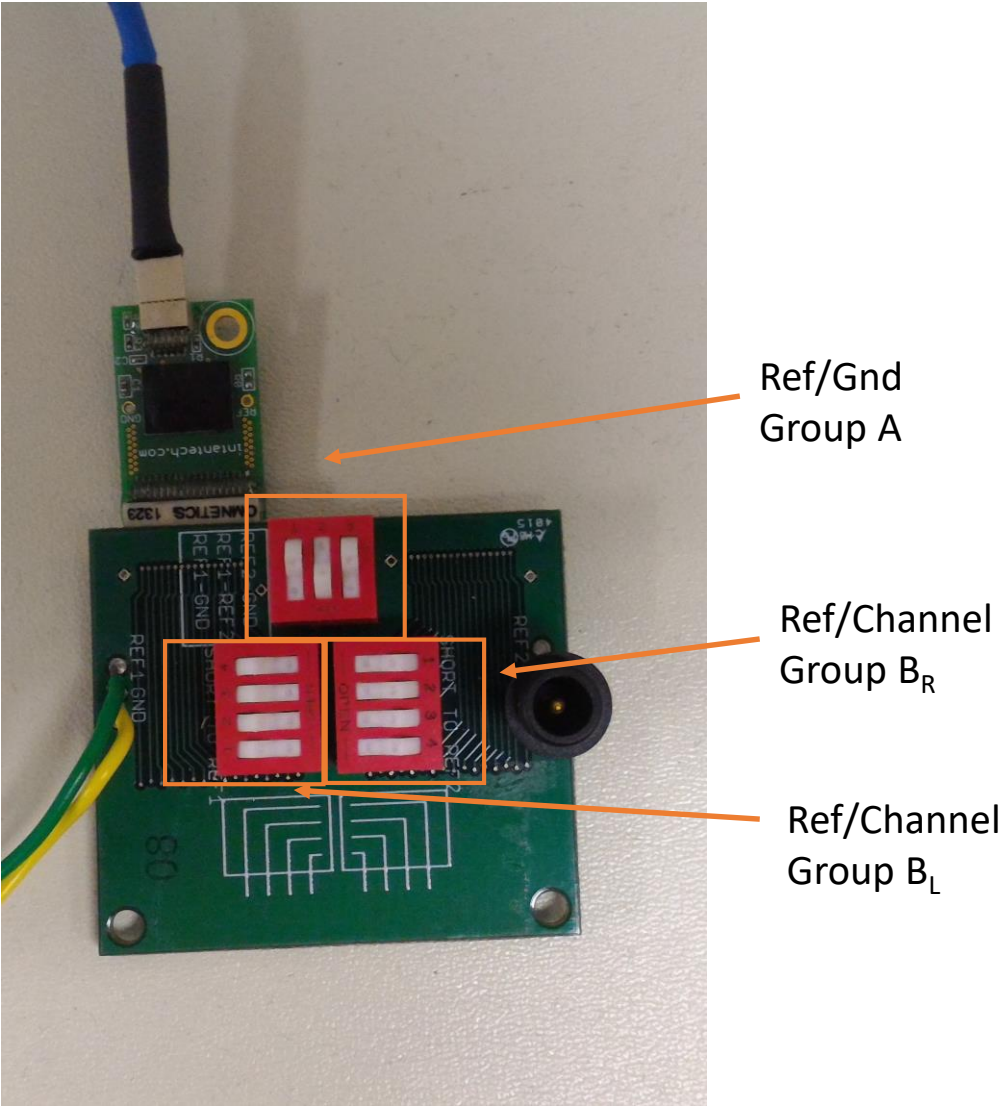- Ref 1 (left side of board)
- Ref 2 (right side of board)

Ref/Gnd: Group B_L

Switch	Function
1 (Bottom)	Ref 1 = 17
2 (Bottom Mid)	Ref 1 = 16
3 (Top Mid)	Ref 1 = 19
4 (Top)	Ref 1 = 18

Ref/Gnd: Group B_R

Switch	Function
1 (Top)	Ref 2 = *44*
2 (Top Mid)	Ref 2 = *45*
3 (Bottom Mid)	Ref 2 = *46*
4 (Bottom)	Ref 2 = *47*

Ref/Gnd Group A

Ref/Channel Group B_R

Ref/Channel Group B_L

Software Interface

Channel Name