# Mapping Update

- Are there enough 80s for RunIIb?

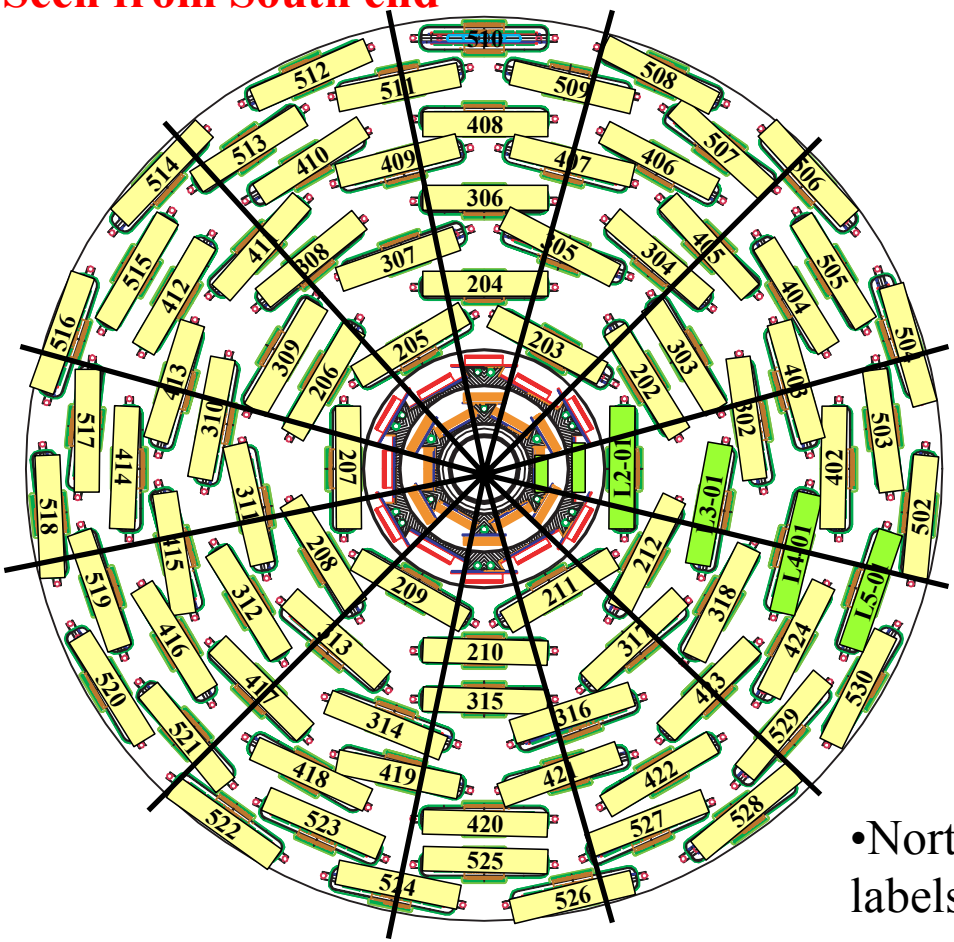
- During the January shutdown we found out that we are 1 cable short on the North with no spares on either end.

- What to do….
  - Fix the cable
  - Install a spare 80 conductor at a low position on the horseshoe. Trying to route an 80 at a high position is extremely risky.
  - Combine the half filled AC.

# Stave Location

## Stave Location in R-phi

**Seen from South end**



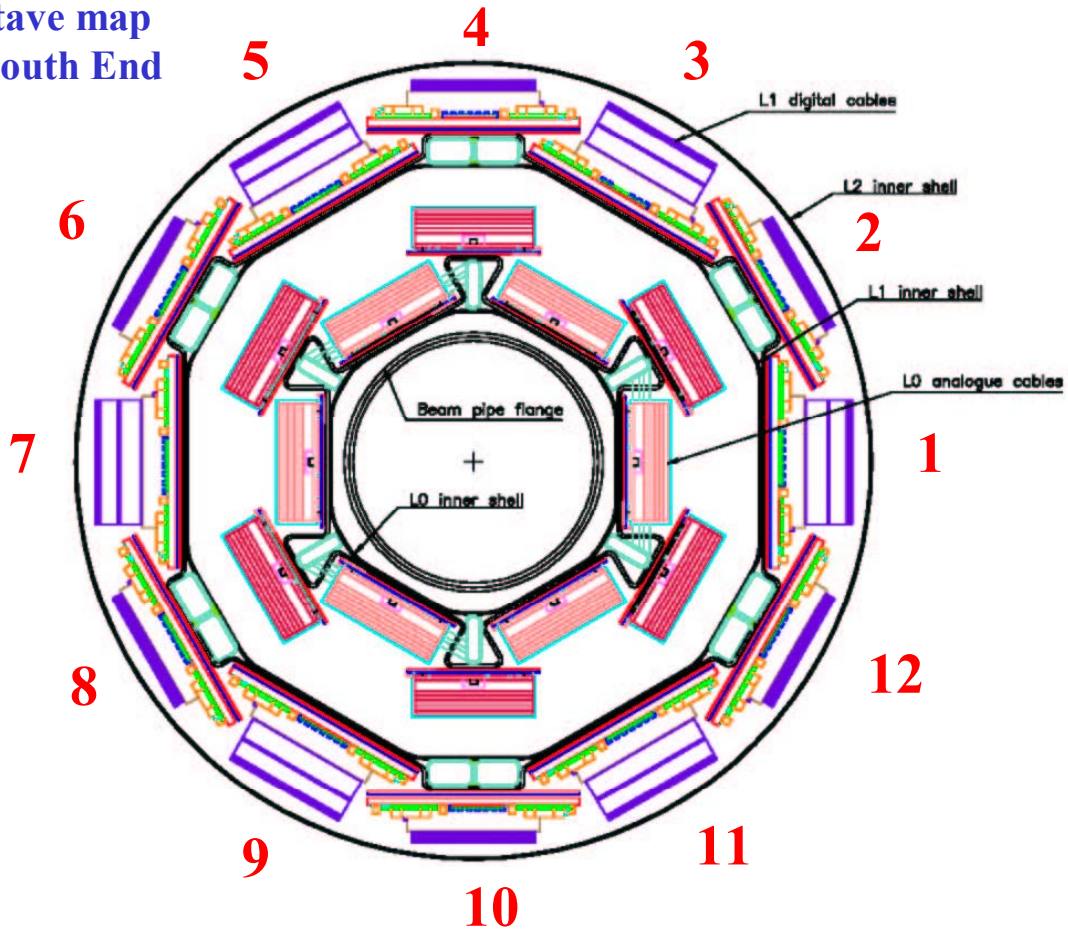

- Compromise between STT note and reconstruction needs
- Label with 3 digits
- highest significant digit indicates layer
- Start at x-axis, similar to U.Heinz's STT note)
- Go counterclockwise
- Odd numbers have always smaller radius than even numbers in the same layer, consistent with Table 9, TDR
- North/South,Axial/Stereo labels: **AN, AS, SS, SN**

Courtesy of Eckhard von Toerne

# Layer 0 and 1

## Naming of Layer 0 and 1 - RPhi

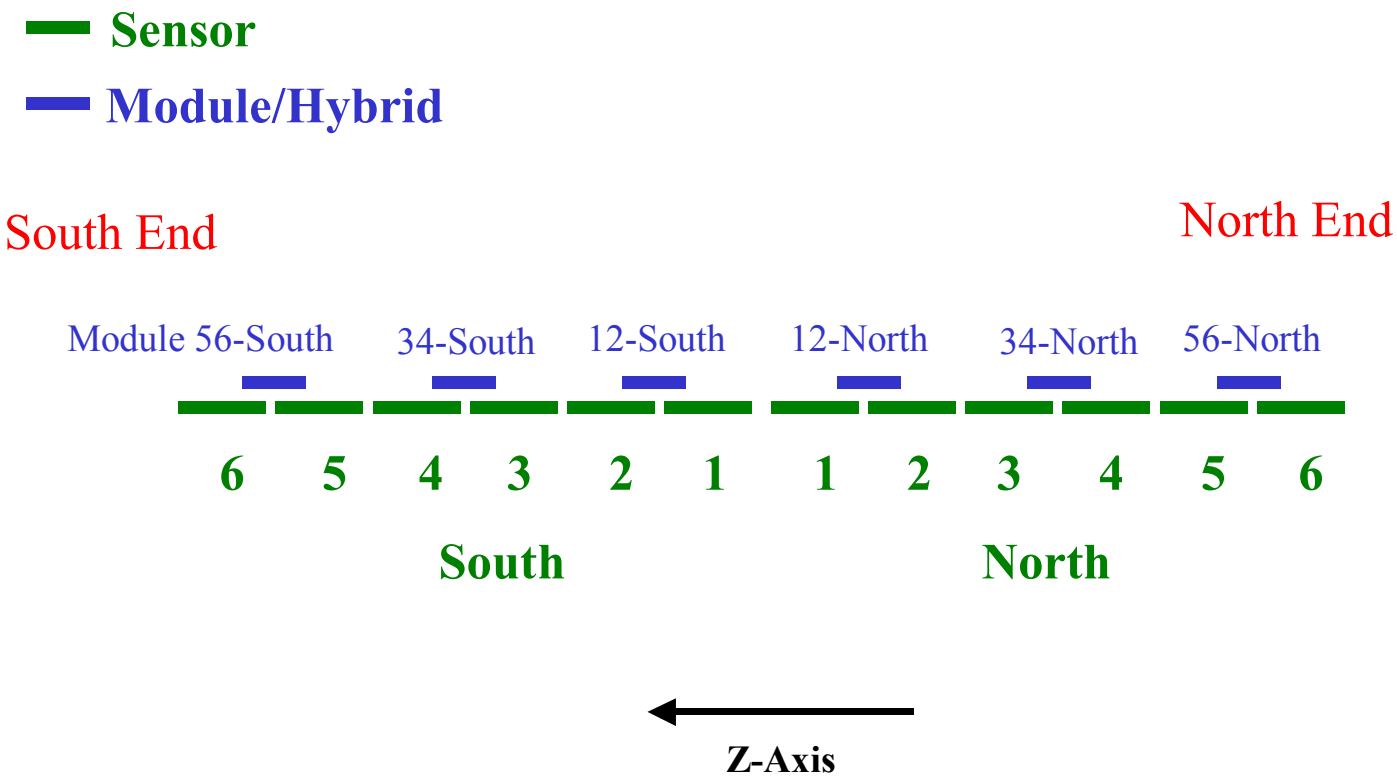
- Analog to Stave map
- Seen from South End




Courtesy of Eckhard von Toerne

# Layer 1 Modules

## Naming of Layer 1 Modules in Z




Courtesy of Eckhard von Toerne

# Sector 2: IB Crate Seq.Layers, Type Combo

| | | | | | | | | | | | | | | | | | | | | | INTERFACE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1A | | | | | | | | | | 1B | | | | | | | | | | |
| | I | III | I | I | III | II/III | I/IV | II/III | I/II | | III | II / III | IV | II | II / III | III | I/IV | I/III | III/IV | | TYPE |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | SLOT |
| | 0-3 | 0-4 | 1-3 | 2-3 | 1-4 | 3-4 | 3-6 | 4-6 | 5-6 | | 3-17 | 4-22 | 4-24 | 3-1 | 3-2 | 4-4 | 4-8 | 4-5 | 5-8 | | |
| | 0-3 | 0-4 | 1-3 | 2-3 | 1-4 | 3-4 | 3-6 | 4-6 | 5-6 | | 3-17 | 2-12 | 4-24 | 3-1 | 5-3 | 4-4 | 4-8 | 4-7 | 5-8 | | |
| | 0-3 | 0-4 | | 2-4 | | 3-5 | 4-5 | 4-7 | 5-7 | | 4-23 | 4-23 | 5-29 | 4-2 | 4-2 | 5-4 | 5-5 | 5-5 | 5-9 | | |
| | | | | 2-4 | | 3-5 | | | 5-7 | | | | 5-29 | | | 5-4 | | | 5-9 | | |

| | | | | | | | | | | | | | | | | | | | | | INTERFACE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1A | | | | | | | | | | 1B | | | | | | | | | | |
| | I | III | I / III | I | III | II/III | I/IV | II/III | I/II | | III | II / III | IV | II | II / III | III | I/IV | I/III | III/IV | | TYPE |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | SLOT |
| | 0-3 | 0-4 | 1-3 | 2-3 | 1-4 | 3-4 | 3-6 | 4-6 | 5-6 | | 3-17 | 4-22 | 4-24 | 3-1 | 3-2 | 4-4 | 4-8 | 4-5 | 5-8 | | |
| | 0-3 | 0-4 | 1-3, 1-4 | 2-3 | | 3-4 | 3-6 | 4-6 | 5-6 | | 3-17 | 2-12 | 4-24 | 3-1 | 5-3 | 4-4 | 4-8 | 4-7 | 5-8 | | |
| | 0-3 | 0-4 | | 2-4 | | 3-5 | 4-5 | 4-7 | 5-7 | | 4-23 | 4-23 | 5-29 | 4-2 | 4-2 | 5-4 | 5-5 | 5-5 | 5-9 | | |
| | | | | 2-4 | | 3-5 | | | 5-7 | | | | 5-29 | | | 5-4 | | | 5-9 | | |

**1-3, 1-4** Type I – Type III combo within 1 80 conductor

Spare DAQ Channel

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# Sector 2: Sequencer Crate

| | | | | | | | | | | | | | | | | | | | | | SEQUENCER |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1A | | | | | | | | | | | 1B | | | | SEQ7 | | |
| | I | III | I/III | I | II/III | I/IV | II/III | I/IV | I/II | III/IV | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | |
| | 0-3 | 0-4 | 1-3 | 2-3 | 3-4 | 3-6 | 4-6 | 4-8 | 5-6 | 5-8 | | | | | | | | | | | |
| | 0-3 | 0-4 | 1-3 | 2-3 | 3-4 | 3-6 | 4-6 | 4-8 | 5-6 | 5-8 | | | | | | | | | | | |
| | 0-3 | 0-4 | 1-4 | 2-4 | 3-5 | 4-5 | 4-7 | 5-5 | 5-7 | 5-9 | | | | | | | | | | | |
| | | | 1-4 | 2-4 | 3-5 | 4-5 | 4-7 | 5-5 | 5-7 | 5-9 | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | SEQUENCER |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1A | | | | | | | | | | | 1B | | | | SEQ7 | | |
| | I | III | I/III | I | II/III | I/IV | II/III | I/IV | I/II | III/IV | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | |
| | 0-3 | 0-4 | 1-3 | 2-3 | 3-4 | 3-6 | 4-6 | 4-8 | 5-6 | 5-8 | | | | | | | | | | | |
| | 0-3 | 0-4 | 1-3, 1-4 | 2-3 | 3-4 | 3-6 | 4-6 | 4-8 | 5-6 | 5-8 | | | | | | | | | | | |
| | 0-3 | 0-4 | 1-4 | 2-4 | 3-5 | 4-5 | 4-7 | 5-5 | 5-7 | 5-9 | | | | | | | | | | | |
| | | | | 2-4 | 3-5 | 4-5 | 4-7 | 5-5 | 5-7 | 5-9 | | | | | | | | | | | |

**1-3, 1-4** Type I – Type III combo within 1 80 conductor

Spare DAQ Channel

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# Sector 2: VRB Crate

| VRB | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | M210-1 | | | | | | | | | | | |
| | | | | | | | | | I | III | I/III | I | II/III | I/IV | II/III | I/IV | I/II | III/IV | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| | | | | | | | | | 0-3 | 0-4 | 1-3 | 2-3 | 3-4 | | 3-6 | 4-6 | 4-8 | 5-6 | 5-8 | | |
| | | | | | | | | | 0-3 | 0-4 | 1-3 | 2-3 | 3-4 | | 3-6 | 4-6 | 4-8 | 5-6 | 5-8 | | |
| | | | | | | | | | 0-3 | 0-4 | 1-4 | 2-4 | 3-5 | | 4-5 | 4-7 | 5-5 | 5-7 | 5-9 | | |
| | | | | | | | | | | | 1-4 | 2-4 | 3-5 | | 4-5 | 4-7 | 5-5 | 5-7 | 5-9 | | |

| VRB | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | M210-1 | | | | | | | | | | | |
| | | | | | | | | | I | III | I/III | I | II/III | I/IV | II/III | I/IV | I/II | III/IV | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| | | | | | | | | | 0-3 | 0-4 | 1-3 | 2-3 | 3-4 | | 3-6 | 4-6 | 4-8 | 5-6 | 5-8 | | |
| | | | | | | | | | 0-3 | 0-4 | 1-3, 1-4 | 2-3 | 3-4 | | 3-6 | 4-6 | 4-8 | 5-6 | 5-8 | | |
| | | | | | | | | | 0-3 | 0-4 | 1-4 | 2-4 | 3-5 | | 4-5 | 4-7 | 5-5 | 5-7 | 5-9 | | |
| | | | | | | | | | | | | 2-4 | 3-5 | | 4-5 | 4-7 | 5-5 | 5-7 | 5-9 | | |

**1-3, 1-4** Type I – Type III combo within 1 80 conductor

Spare DAQ Channel

Bagby
RunIIb Electronics
3.17.03

# Summary

- Combining Type I and Type III devices for Layer 1 is ok.
- Reduces number of channels required from 228 to 222 on each end.
  - South
    - 228 Run IIa plant
    - 6 complete spare DAQ channels (from 80 to VRB).
  - North
    - 227 Run IIa plant
    - 5 complete spare DAQ channels.
- Better than I thought……I forgot to *6.
- No need to purchase spare 80s!!