# Rack/Cable Labeling Conventions

R.J. Tesarek
12/6/11

# Why This Talk?

Write down system for labeling modules/cables at Ash River

- Human/machine readable (barcodes/text)
- Naming convention describes how to find item
- Allow for swapping components in a given part of the detector/system
- Attempt to make cross checks more robust

Labeling conventions based on geography

- Modules/racks named by location in the Ash River building or on the detector
- Cables labeled by cable type, serial number and the locations of both ends
  - + Allows technical staff to more readily find, install or replace a given module/cable.
  - + Labeling a location where a module/cable is installed, allows the module/cable to be replaced and tracked in the DB more readily. Installing/swapping means (de)associating a module/cable with that location.
- Rack/equipment locations based on floor level, room and location within that room
- Locations of equipment on the detector based on previously determined detector geography (DocDB-??)

# Relay Rack Labels

## LLxrmRRnnn-s

**Labels in all capital letters**

LLx - Building Level

- LL0: grade level ()
- LL1: -1 level ()
- LL2: -2 level ()
- LL3: -3 level ()
- LL4: -4 level ()

rm - 2 letter room designation

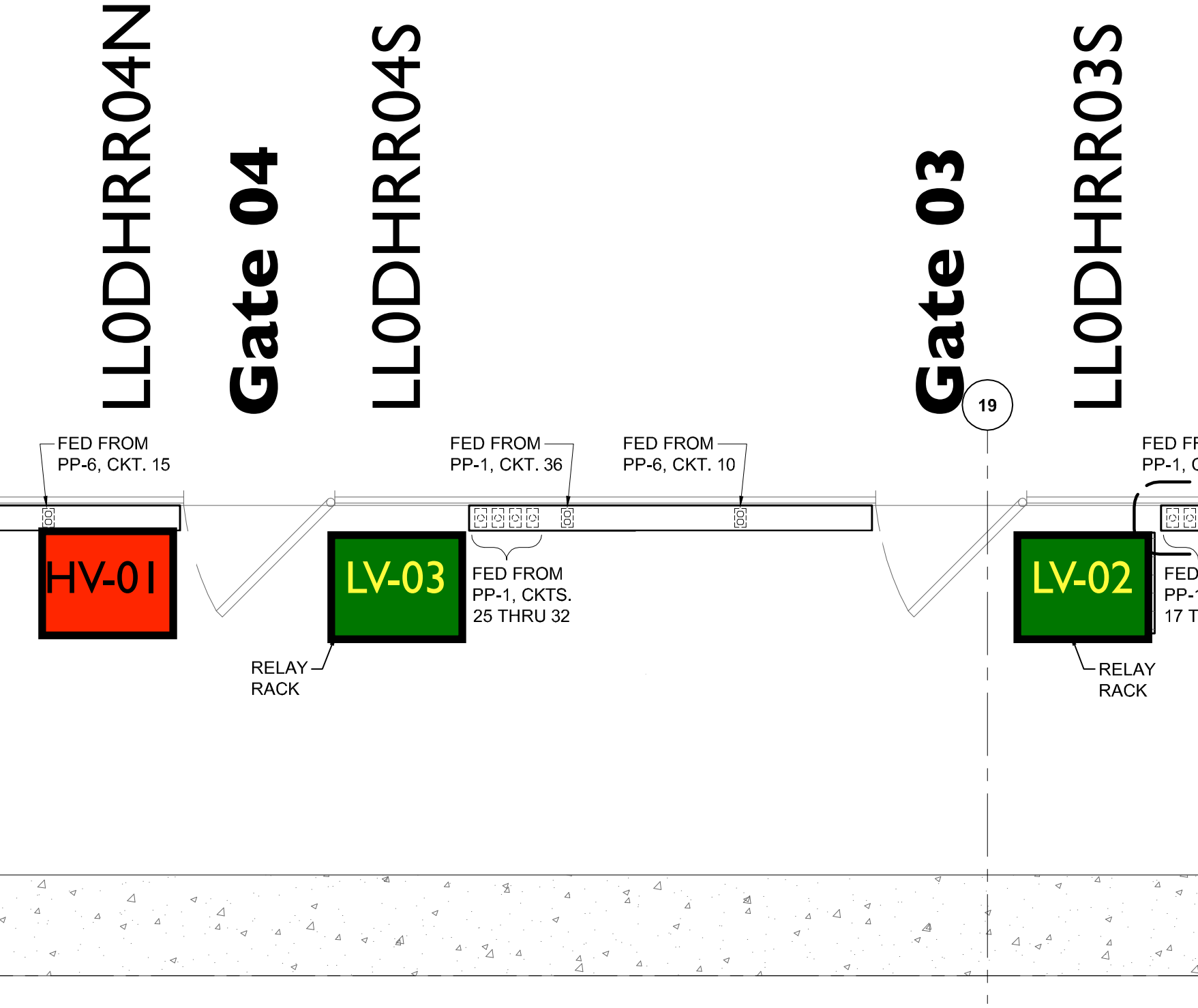
- CC: Computing Center
- CR: Control Room
- DH: Detector hall
- DC: Data Closet (LL1)

RRnnn - Relay Rack number

- Detector Hall:
  - top catwalk (LL0) racks located relative to gates (01-19) N/S (north or south of the gate)
  - floor level (LL4) racks located relative to catwalk support columns (01 - 11 from south to north) N/S (north or south of the labeled column.
- Computer Center
  - East row (01-05 from S to N)
  - West row (06-10 from S to N)

s - Side of rack

- F: front, B: back

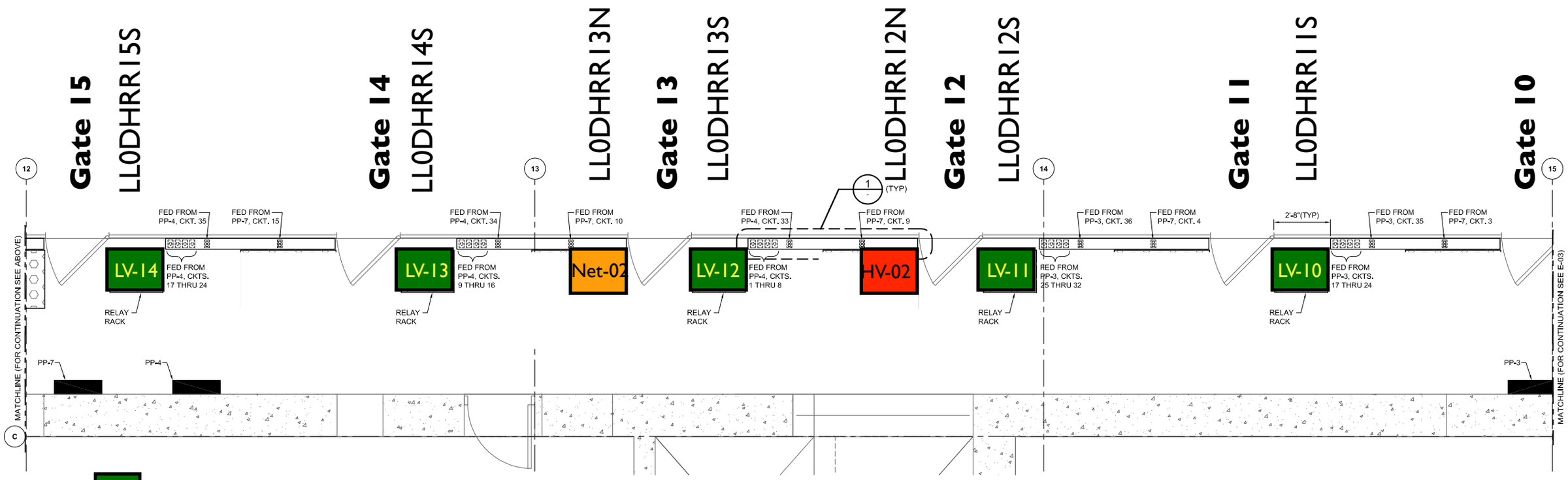



LV Rack

HV Rack

Network Rack

# Detector Hall Racks

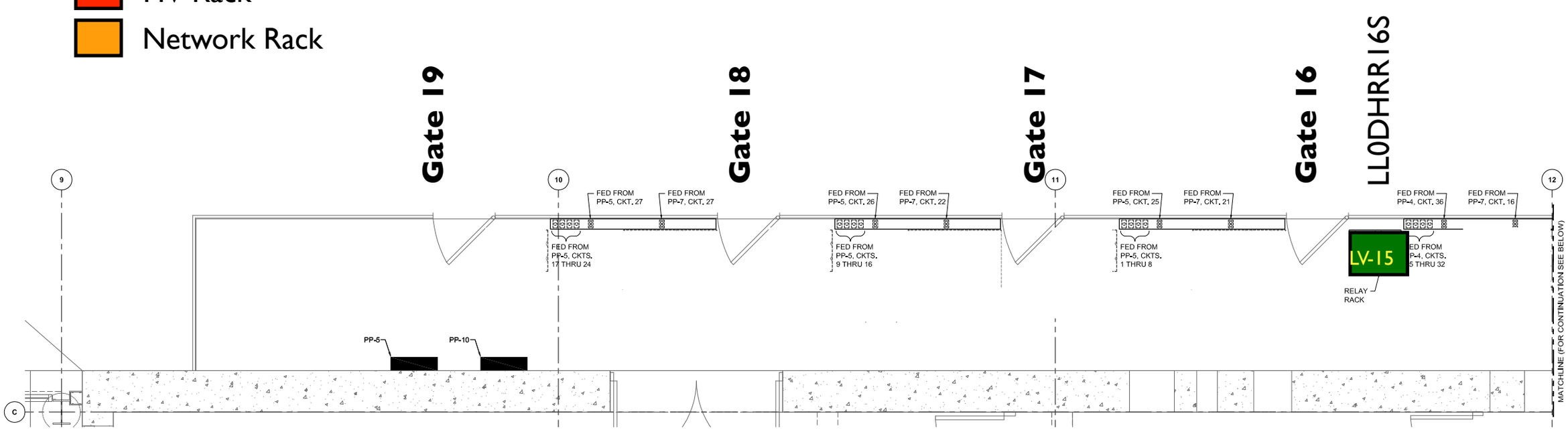



LV Rack

HV Rack

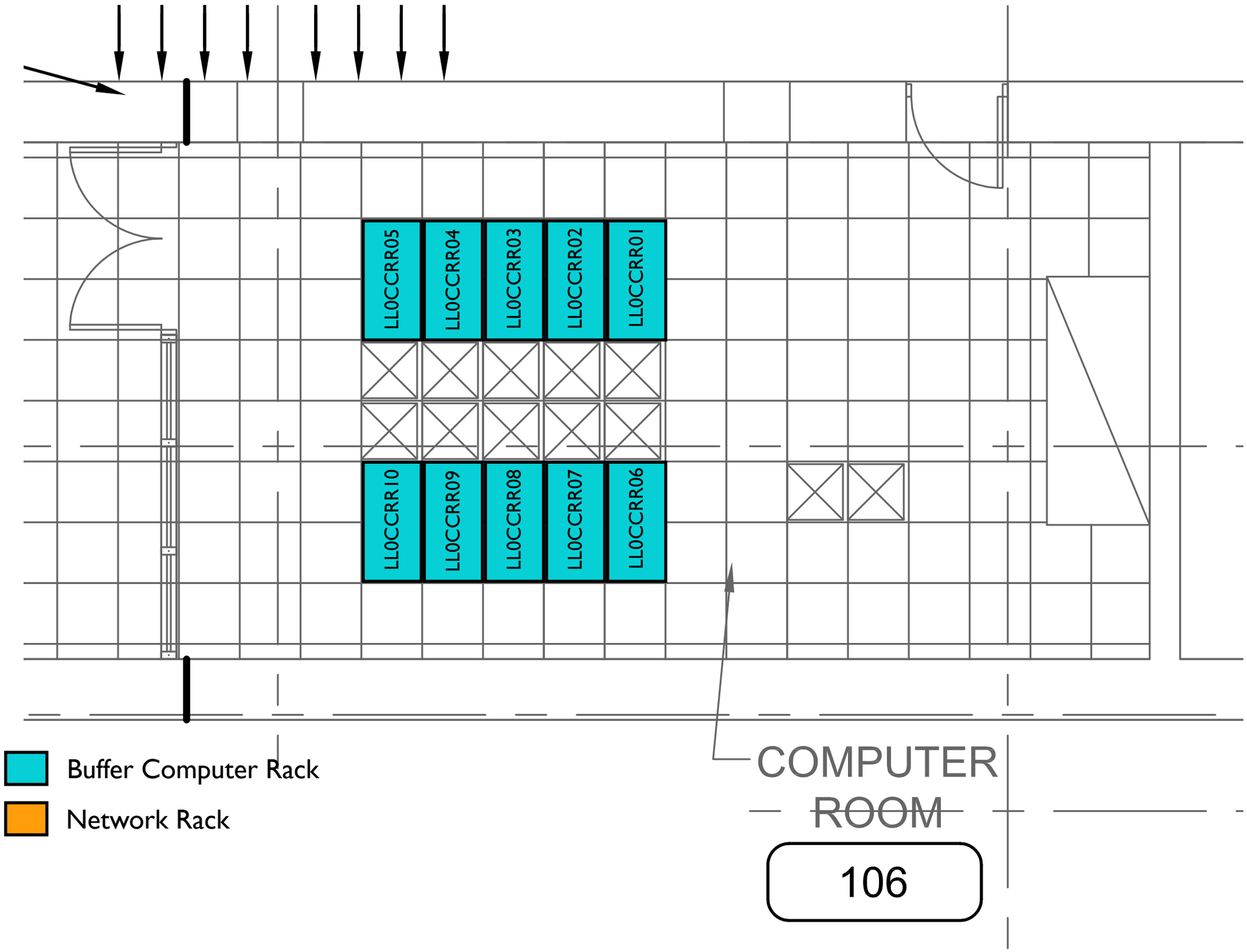
Network Rack

**FLOOR PLAN EL 1236'-6"**

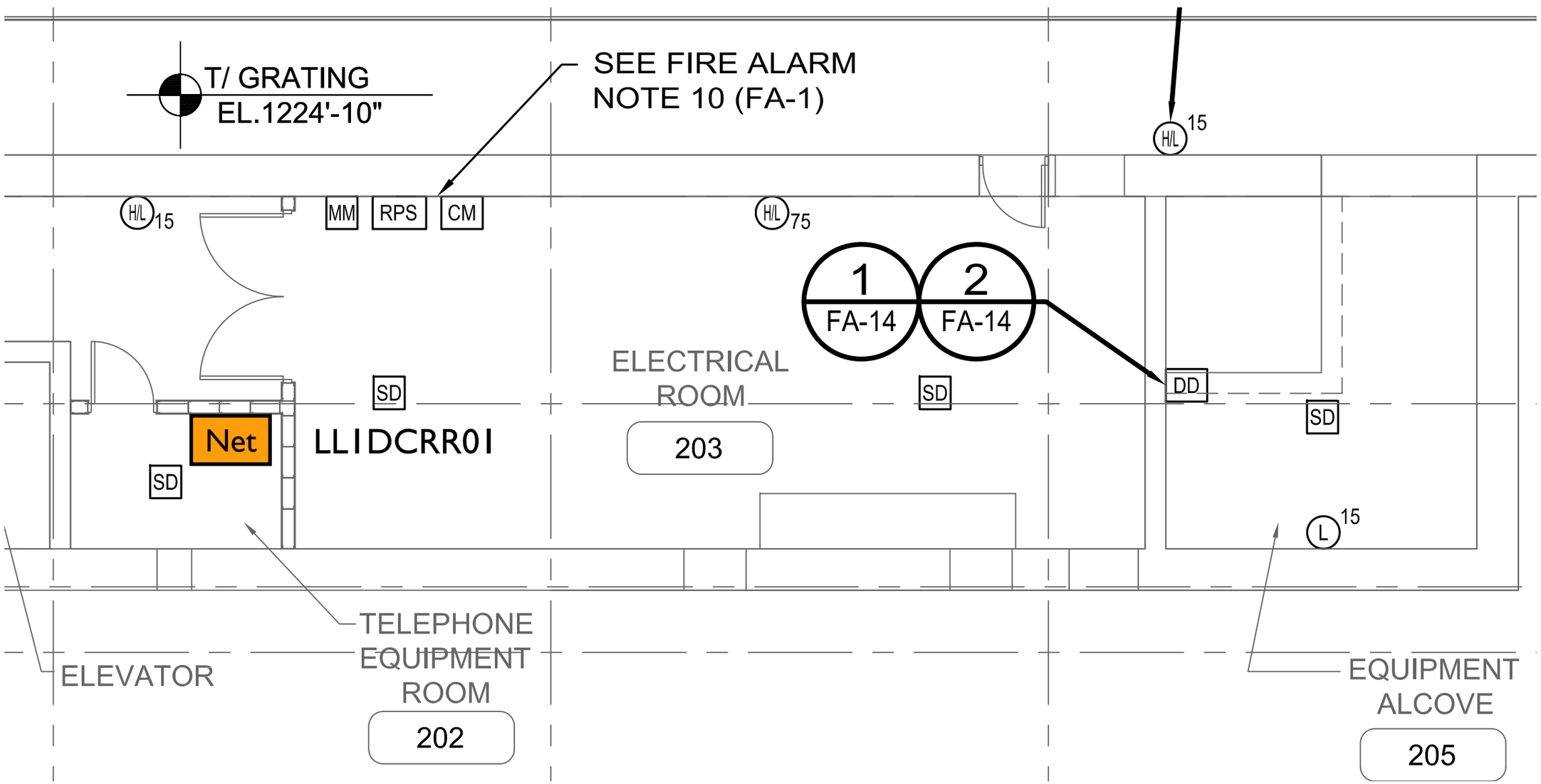



**FLOOR PLAN EL 1236'-6"**

# Computing Center (LL0CC) Racks



# Data Closet


T/ GRATING
EL.1224'-10"
SEE FIRE ALARM
NOTE 10 (FA-1)
H/L 15
H/L 15
MM
RPS
CM
H/L 75
1
FA-14
2
FA-14
ELECTRICAL
ROOM
203
SD
SD
DD
SD
Net
LL1DCRR01
SD
L 15
TELEPHONE
EQUIPMENT
ROOM
202
ELEVATOR
EQUIPMENT
ALCOVE
205

# Locations in LV Rack (LL0DHRR02S)

## LL0DHRR02S-F

### Front

| | Position | Equipment | Voltage | Power |
|---|---|---|---|---|
| RPM | U-44 | Rack Protection Monitor | 120 | 12 W (1) |
| | U-43 | | | |
| NETPP-2 → | U-42 | Patch Panels | | |
| | U-41 | Cable Management Panel | | |
| NETPP-1 → | U-40 | Patch Panels | | |
| TDU-2 | U-39 | TDU | 120 | 8 W (5) |
| | U-38 | | | |
| TDU-1 | U-37 | TDU | 120 | 8 W (5) |
| | U-36 | | | |
| | U-35 | Blank Panel | | |
| | U-34 | | | |
| BSS-2 | U-33 | Block Structure Sensor Crate #2 | 120 | 450 W (4) |
| | U-32 | | | |
| | U-31 | Blank Panel | | |
| | U-30 | | | |
| BSS-1 | U-29 | Block Structure Sensor Crate #1 | 120 | 450 W (4) |
| | U-28 | | | |
| | U-27 | Blank Panel | | |
| | U-26 | Fan Tray OA900 (9 Fan) | 120 | 135 W (3) |
| | U-25 | | | |
| LVPS-4 | U-24 | Wiener PL506 #4 | 240 | 3,840 W (2) |
| | U-23 | | | |
| PIP240-4 | U-22 | Power Interrupt panel | | |
| | U-21 | serving PL506 #4 | | |
| | U-20 | Fan Tray OA900 (9 Fan) | 120 | 135 W (3) |
| | U-19 | | | |
| LVPS-3 | U-18 | Wiener PL506 #3 | 240 | 3,840 W (2) |
| | U-17 | | | |
| PIP240-3 | U-16 | Power Interrupt panel | | |
| | U-15 | serving PL506 #3 | | |
| | U-14 | Fan Tray OA900 (9 Fan) | 120 | 135 W (3) |
| | U-13 | | | |
| LVPS-2 | U-12 | Wiener PL506 #2 | 240 | 3,840 W (2) |
| | U-11 | | | |
| PIP240-2 | U-10 | Power Interrupt panel | | |
| | U-9 | serving PL506 #2 | | |
| | U-8 | Fan Tray OA900 (9 Fan) | 120 | 135 W (3) |
| | U-7 | | | |
| LVPS-1 | U-6 | Wiener PL506 #1 | 240 | 3,840 W (2) |
| | U-5 | | | |
| PIP240-1 | U-4 | Power Interrupt panel | | |
| | U-3 | serving PL506 #1 | | |
| | U-2 | Fan Tray OA900 (9 Fan) | 120 | 135 W (3) |
| | U-1 | *Empty* | | |

## LL0DHRR02S-B

### Back

| Position | Equipment | |
|---|---|---|
| U-44 | Power Interrupt panel | PIP120-1 |
| U-43 | for 120V | |
| U-42 | Power Strip 1 - 120V | |
| U-41 | *Empty* | |
| U-40 | *Empty* | |
| U-39 | *Empty* | |
| U-38 | *Empty* | |
| U-37 | *Empty* | |
| U-36 | *Empty* | |
| U-35 | Air Gap | |
| U-34 | 24V / 10A Power Supply for | |
| U-33 | Block Structure Sensor Crate #2 | |
| U-32 | NI-PS16 | |
| U-31 | Air Gap | |
| U-30 | 24V / 10A Power Supply for | |
| U-29 | Block Structure Sensor Crate #1 | |
| U-28 | NI-PS16 | |
| U-27 | Air Gap | |
| U-26 | Power Strip 2 - 120V | |
| U-25 | | |
| U-24 | LV / Sense Cable Connectors | LVPS-4 |
| U-23 | | |
| U-22 | Air Gap | |
| U-21 | Air Gap | |
| U-20 | Air Gap | |
| U-19 | | |
| U-18 | LV / Sense Cable Connectors | LVPS-3 |
| U-17 | | |
| U-16 | Air Gap | |
| U-15 | Air Gap | |
| U-14 | Air Gap | |
| U-13 | | |
| U-12 | LV / Sense Cable Connectors | LVPS-2 |
| U-11 | | |
| U-10 | Air Gap | |
| U-9 | Air Gap | |
| U-8 | Air Gap | |
| U-7 | | |
| U-6 | LV / Sense Cable Connectors | LVPS-1 |
| U-5 | | |
| U-4 | Air Gap | |
| U-3 | Air Gap | |
| U-2 | Air Gap | |
| U-1 | *Empty* | |

# Locations in HV Rack (LL0DHRR04N)

## LL0DHRR04N-F

### Front

| | Position | Equipment | Voltage | Power |
|---|---|---|---|---|
| RPM | U-44 | Rack Protection Monitor | 120 | 12 W (1) |
| | U-43 | | | |
| | U-42 | *Empty* | | |
| | U-41 | *Empty* | | |
| | U-40 | *Empty* | | |
| | U-39 | *Empty* | | |
| | U-38 | HV Patch Pannel (16 Channel) | | |
| | U-37 | HV Patch Pannel (16 Channel) | | |
| HVPP | U-36 | HV Patch Pannel (16 Channel) | | |
| | U-35 | HV Patch Pannel (16 Channel) | | |
| | U-34 | HV Patch Pannel (16 Channel) | | |
| | U-33 | HV Patch Pannel (16 Channel) | | |
| | U-32 | Blank Panel | | |
| | U-31 | DCS Sensor Crate #3 (optional) | | |
| DCS-3 | U-30 | | | |
| | U-29 | | | |
| | U-28 | Blank Panel | | |
| | U-27 | DCS Sensor Crate #2 | | |
| DCS-2 | U-26 | | 120 | 250 W (2) |
| | U-25 | | | |
| | U-24 | Blank Panel | | |
| | U-23 | DCS Sensor Crate #1 | | |
| DCS-1 | U-22 | | 120 | 250 W (2) |
| | U-21 | | | |
| | U-20 | Blank Panel | | |
| | U-19 | Block Structure Sensor Crate #2 | | |
| BSS-2 | U-18 | | 120 | 450 W (2) |
| | U-17 | | | |
| | U-16 | Blank Panel | | |
| | U-15 | Block Structure Sensor Crate #1 | | |
| BSS-1 | U-14 | | 120 | 450 W (2) |
| | U-13 | | | |
| | U-12 | Blank Panel | | |
| PIP120-1 | U-11 | Power Interrupt panel for 120V | | |
| | U-10 | | | |
| | U-9 | Wiener MPOD HV mainframe 6 ISEG HV cards | | |
| | U-8 | | | |
| HV-1 | U-7 | | | |
| | U-6 | | | |
| | U-5 | | 120 | 720 W (3) |
| | U-4 | | | |
| | U-3 | | | |
| | U-2 | | | |
| | U-1 | | | |

## LL0DHRR04N-B

### Back

| | Position | Equipment |
|---|---|---|
| | U-44 | *Empty* |
| | U-43 | *Empty* |
| | U-42 | *Empty* |
| | U-41 | *Empty* |
| | U-40 | *Empty* |
| | U-39 | *Empty* |
| | U-38 | HV Patch Pannel Back |
| | U-37 | HV Patch Pannel Back |
| HVPP | U-36 | HV Patch Pannel Back |
| | U-35 | HV Patch Pannel Back |
| | U-34 | HV Patch Pannel Back |
| | U-33 | HV Patch Pannel Back |
| | U-32 | *Empty* |
| | U-31 | *Empty* |
| | U-30 | *Empty* |
| | U-29 | *Empty* |
| | U-28 | Air Gap |
| | U-27 | 24V / 5A Power Supply for DCS Sensor Crates #2 and #3 NI-PS15 |
| | U-26 | |
| | U-25 | |
| | U-24 | Air Gap |
| | U-23 | 24V / 5A Power Supply for DCS Sensor Crates #1 NI-PS15 |
| | U-22 | |
| | U-21 | |
| | U-20 | Air Gap |
| | U-19 | 24V / 10A Power Supply for Block Structure Sensor Crate #2 NI-PS16 |
| | U-18 | |
| | U-17 | |
| | U-16 | Air Gap |
| | U-15 | 24V / 10A Power Supply for Block Structure Sensor Crate #1 NI-PS16 |
| | U-14 | |
| | U-13 | |
| | U-12 | Air Gap |
| | U-11 | Power Strip 1 - 120V |
| | U-10 | Power Strip 2 - 120V |
| | U-9 | Wiener MPOD HV mainframe back |
| | U-8 | |
| | U-7 | |
| | U-6 | |
| | U-5 | |
| | U-4 | |
| | U-3 | |
| | U-2 | |
| | U-1 | |

# Locations in Network Rack (LL0DHRR05N)

## LL0DHRR05N-F

Front

| | Position | Equipment | Voltage | Power |
|---|---|---|---|---|
| RPM | U-44 | Rack Protection Monitor | 120 | 12W(1) |
| | U-43 | | | |
| PIP120-1 | U-42 | Power Interrupt Panel for 120V | | |
| | U-41 | | | |
| | U-40 | Empty | | |
| NETPP-6 | U-39 | Network Patch Panel (Cat-5) | | |
| | U-38 | | | |
| | U-37 | Empty | | |
| NETPP-5 | U-36 | Network Patch Panel (Cat-5) | | |
| | U-35 | | | |
| | U-34 | Empty | | |
| NETPP-4 | U-33 | Network Patch Panel (Cat-5) | | |
| | U-32 | | | |
| | U-31 | Empty | | |
| NETPP-3 | U-30 | Network Patch Panel (Cat-5) | | |
| | U-29 | | | |
| | U-28 | Empty | | |
| NETPP-2 | U-27 | Network Patch Panel (Cat-5) | | |
| | U-26 | | | |
| | U-25 | Empty | | |
| NETPP-1 | U-24 | Network Patch Panel (Cat-5) | | |
| | U-23 | | | |
| | U-22 | Empty | | |
| FIBRPP-1 | U-21 | Fiber Patch Panel | | |
| | U-20 | Empty | | |
| | U-19 | Empty | | |
| | U-18 | Empty | | |
| NETSW-5 | U-17 | DAQ Switch (Catalyst 4948) | | |
| | U-16 | Empty | | |
| NETSW-4 | U-15 | DAQ Switch (Catalyst 4948) | | |
| | U-14 | Empty | | |
| NETSW-3 | U-13 | DCS Switch (Catalyst 2960) | | |
| | U-12 | Empty | | |
| NETSW-2 | U-11 | DCS Switch (Catalyst 2960) | | |
| | U-10 | Empty | | |
| NETSW-1 | U-9 | DCS Switch (Catalyst 2960) | | |
| | U-8 | Empty | | |
| | U-7 | Empty | | |
| | U-6 | Empty | | |
| | U-5 | Empty | | |
| | U-4 | Empty | | |
| | U-3 | Empty | | |
| | U-2 | Empty | | |
| | U-1 | Empty | | |

## LL0DHRR05N-B

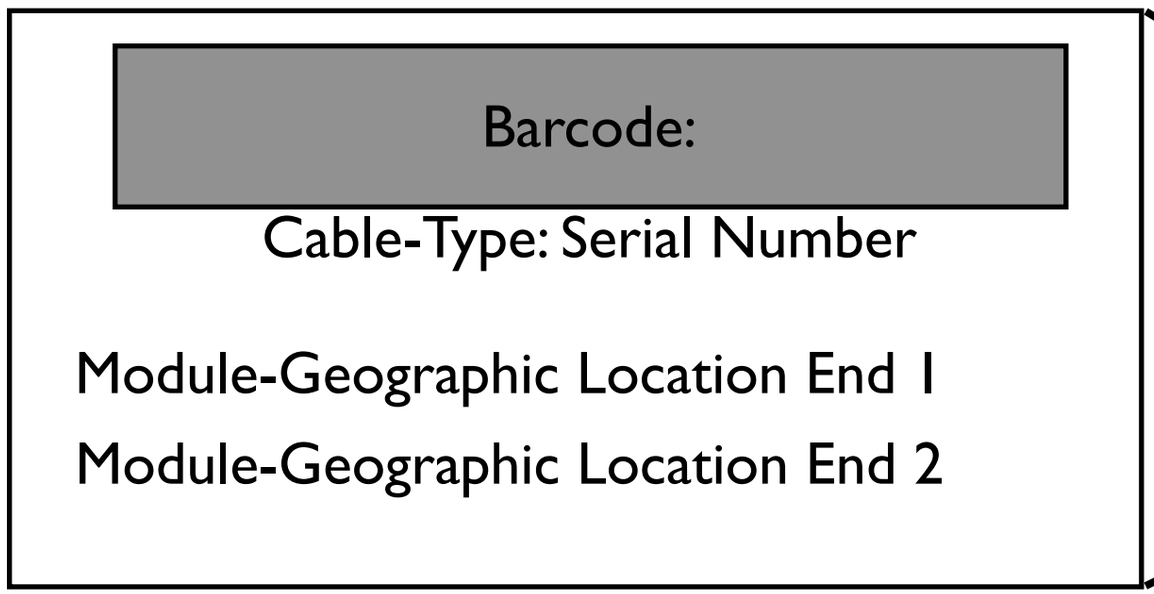
Back

| Position | Equipment |
|---|---|
| U-44 | Empty |
| U-43 | Empty |
| U-42 | Power Strip 2 (120V) |
| U-41 | Power Strip 1 (120V) |
| U-40 | Empty |
| U-39 | Empty |
| U-38 | Empty |
| U-37 | Empty |
| U-36 | Empty |
| U-35 | Empty |
| U-34 | Empty |
| U-33 | Empty |
| U-32 | Empty |
| U-31 | Empty |
| U-30 | Empty |
| U-29 | Empty |
| U-28 | Empty |
| U-27 | Empty |
| U-26 | Empty |
| U-25 | Empty |
| U-24 | Empty |
| U-23 | Empty |
| U-22 | Empty |
| U-21 | Empty |
| U-20 | Empty |
| U-19 | Empty |
| U-18 | Empty |
| U-17 | Empty |
| U-16 | Empty |
| U-15 | Empty |
| U-14 | Empty |
| U-13 | Empty |
| U-12 | Empty |
| U-11 | Empty |
| U-10 | Empty |
| U-9 | Empty |
| U-8 | Empty |
| U-7 | Empty |
| U-6 | Empty |
| U-5 | Empty |
| U-4 | Empty |
| U-3 | Empty |
| U-2 | Empty |
| U-1 | Empty |

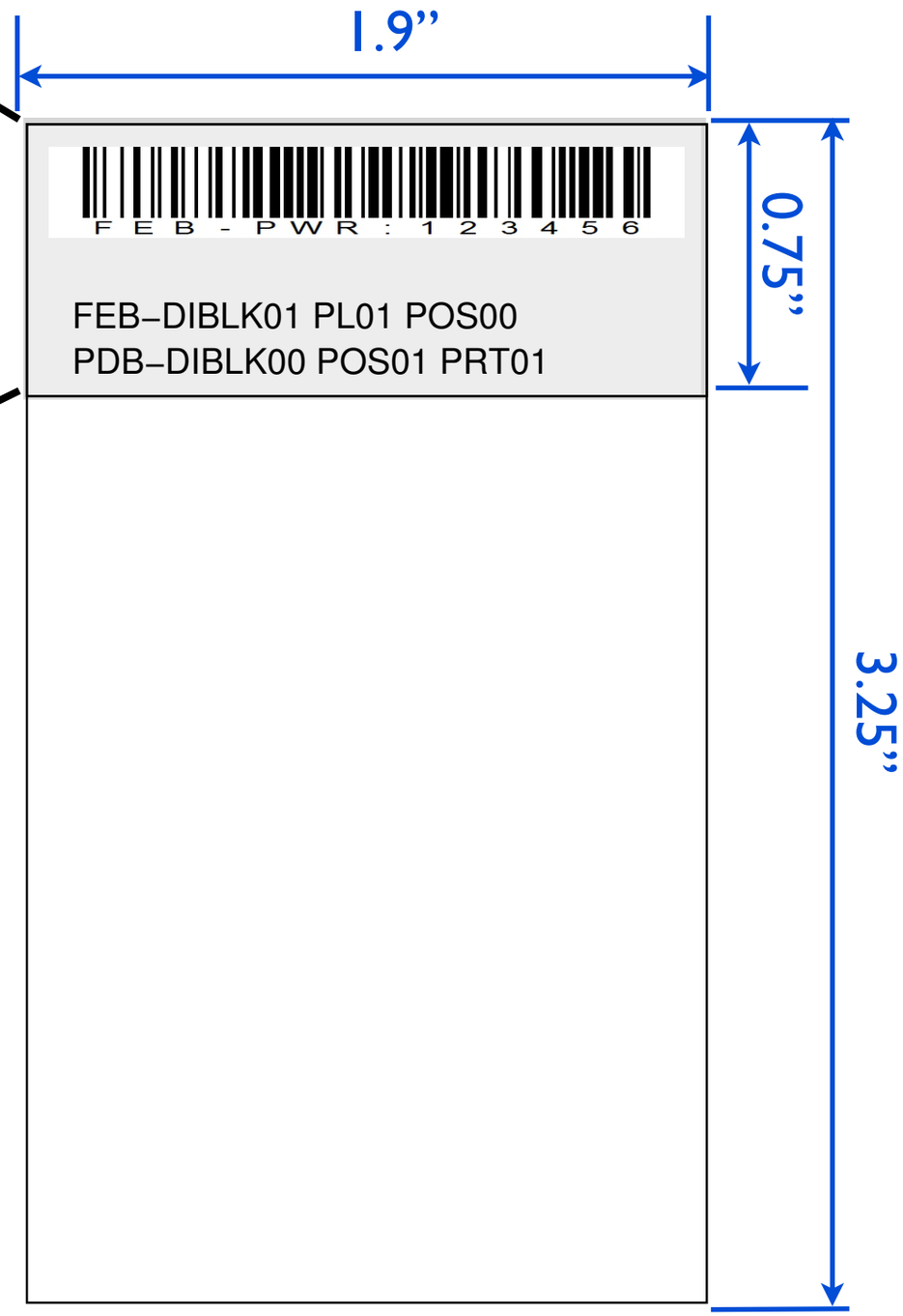
# Cable Types

| Cable Type-Label | Cable Description | Comments |
|---|---|---|
| DCM-PWR | 2 conductor | DCM Power cable |
| FEB-PWR | 6 conductor | FEB Power cable |
| FEB-COM | Category 5 (violet) | FEB Communication cable |
| NET-CAT5 | Category 5 (blue) | Network: Category 6 cable |
| NET-FIBR | Optical fiber pair | Network: Optical fiber pair |
| PDB-LV | 4 conductor cable harness | PDB Low Voltage cable |
| PDB-HV | Triax cable (yellow) | PDB High Voltage cable |
| TIME-CAT5 | Category 5 (yellow) | Detector Timing |
| TIME-FIBR | Optical Fiber | Detector Timing |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

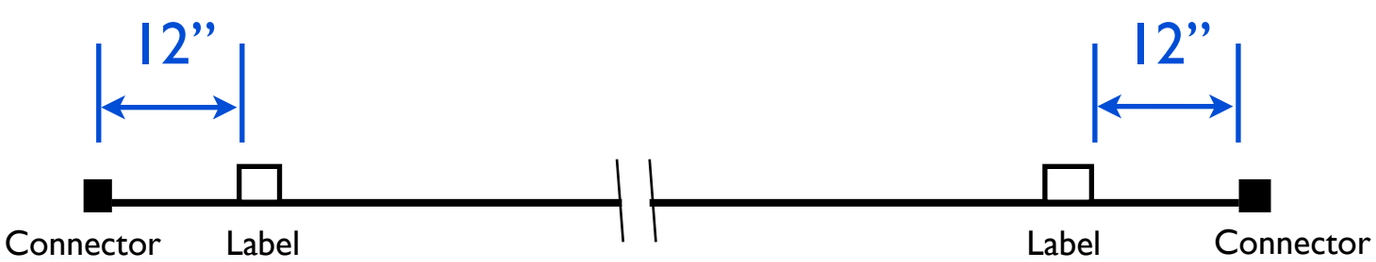
# Cable Labels




## Example




## Generic “cable”



# More Example Labels

## PDB to FEB: Power Cable

FEB-PWR:123456

FEB–DIBLK01 PL01 POS00
PDB–DIBLK00 POS01 PRT01

## Patch Panel to DCM: Network Cable

NET-CAT5:123456

LL0DHRR04N NETPP–5 PRT01
DCM–DIBLK00 POS01 PRT00

## Detector Hall to Computing Center: Network Fiber

NET-FIBR:123456

LL0DHRR04N FIBRPP–1 PRT00
LL0CCRR06 FIBRPP–1 PRT00

## Computing Center to Control Room Computer: Network Cable

NET-CAT5:123456

LL0CCRR06 NETPP–1 PRT01
LL0CR COMP–01

# Laser Printer Labels (8.5x11)

Self Laminating Laser Printable Labels for Wire and Cable Marking

Self Laminating Laser Printable ... | Free Barcode Generator (with M...

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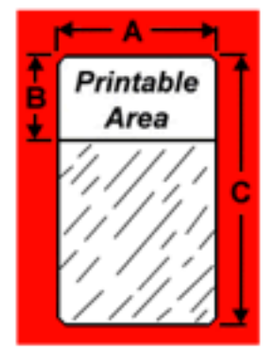
**Self Laminating Laser Printable Labels for Wire and Cable Marking**

Our Laser Tags are durable, laser printable labels for applications requiring clear, crisp legibility. The labels come on 8.5" x 11" sheets and are printable using our TagPrint Pro 2.0 software and a standard laser printer. Specially designed adhesives and materials are used for the Laser Tags, ensuring that the labels will not curl, change color, or jamlaser printers. Laser Tags are available in die-cut on 8.5" x 11" polyester sheets.




| Part No. | Width A In. (mm.) | Height B In. (mm.) | Length C In. (mm.) | Labels Per Sheet | Labels Per Pkg. | *Price Level 1 1 to 4 Pkgs. | *Price Level 2 5 or more |
|---|---|---|---|---|---|---|---|
| 105 Clear Laser Vinyl with White Printable Area | | | | | | | |
| TAG26L-105 | .5" (12.7) | .375" (9.5) | .75" (19.0) | 156 | 5000 | $102.38 | $85.05 |
| TAG2L-105 | .5" (12.7) | .5" (12.7) | 1.43" (36.5) | 112 | 5000 | $182.70 | $152.25 |
| TAG5L-105 | .8" (20.3) | .5" (12.7) | 1.43" (36.5) | 56 | 5000 | $254.10 | $212.10 |
| TAG65L-105 | .81" (20.7) | .81" (20.7) | 2.13" (53.9) | 36 | 1000 | $144.38 | $120.23 |
| TAG51L-105 | 1.0" (25.4) | .35" (8.89) | .75" (19.0) | 84 | 5000 | $154.35 | $128.63 |
| TAG49L-105 | 1.0" (25.4) | .35" (8.89) | 1.0" (25.5) | 70 | 2500 | $103.69 | $86.63 |
| TAG63L-105 | 1.0" (25.4) | .5" (12.7) | 1.33" (33.78) | 56 | 2500 | $191.63 | $159.60 |
| TAG9L-105 | 1.0" (25.4) | .75" (19.0) | 2.25" (57.1) | 28 | 1000 | $107.63 | $89.51 |
| TAG50L-105 | 1.0" (25.4) | 1.0" (25.4) | 3.16" (80.4) | 21 | 1000 | $161.44 | $134.40 |
| TAG64L-105 | 1.17" (29.6) | .83" (21.08) | 3.33" (84.6) | 18 | 1000 | $171.15 | $142.80 |
| TAG1L-105 | 1.9" (48.2) | .75" (19.0) | 3.25" (82.5) | 12 | 1000 | $231.53 | $192.94 |
| TAG52L-105 | 2.0" (50.8) | .47" (33.7) | 1.33" (33.7) | 21 | 1000 | $161.44 | $134.40 |
| TAG10L-105 | 2.0" (50.8) | .75" (19.1) | 2.25" (57.2) | 16 | 1000 | $175.09 | $145.95 |

* Combine products and receive our quantity discount

Toll Free: 800.746.7655 Fax: 949.699.1642 Email: sales@cablemarkers.com

# Labels (Racks/Cables)

Laser Printer Lables:

- ProCard order of self laminating cable labels described on previous slide
- May evaluate other labels (non-self laminating). suggestions?
- Software evaluation underway
  - Automatically generates barcode (in different bar code standards).
  - Allows for inclusion of artwork (if needed).
  - Accepts input from Excel spread sheet.

Goal to have evaluation of labels completed by Outfitting workshop (12/15 -12/16)

(re)Label network cables/racks according to conventions above during 12/19-12/22 visit to Ash River.