ONCS Component Naming Conventions

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Devices or components which are addressable by ONCS online software are identified by an ASCII name of up to 32 characters. The name consists of the following conventions for assembling a name from the type of device that is being addressed and the part of the PHENIX detector where the device lives.

Device names are composed of fields that are separated by an ASCII period ".".

Device name fields identify the device type, sub-system, arm, side, one or more sub system specific segments, followed by a unit number where appropriate
A device type identifies an addressable component of the PHENIX detector.

Identifiable fields are included in a device name as they are appropriate to that device. So not every device has for instance a side field.

Device names are not case sensitive.

The following tables identified the abbreviations that are used to identify a device of the PHENIX detector.

The following ASCII identifiers identify sub systems.

Sub System	**Mnemonic**
BB	Beam Beam
MVDB	MVD barrel
MVDE	MVD endcaps
DC	Drift Chamber
PC1	Pad Chamber
PC2	Pad Chamber 2
PC3	Pad Chamber 3
TEC	Time Expansion Chamber
RICH	
TOF	Time of Flight
PBSC	Lead scintillator
PBGL	Lead Glass
MUTR	Muon Tracker
MUID	Muon Id
LV1	Level 1
PHNX	Phenix Global Resource
MM *	Main Magnet

Arms

Arm Identifier	**Arm Name**
E	East
W	West

Side

Side Identifier	**Side Name**
N	North
S	South

Segments:

Segment Identifier	Segment Name
SM	Supermodule
SR	Supermodule row
SC	Supermodule column
SU	Super Unit
KS	Keystone
PL	Plane
PA	Panel
SE	Sector
HS	Half Sector
RO	Row
CO	Column
MO	Module
EN	End
SL	Slat
ST	Strip
TO	Tower
CE	Cell
GP	Gap
SN	Station
TB	Tube
TV	Tube Vertical
TH	Tube Horizontal

WE	Wedge
CH	Channel
CN	Chain

Configurable Devices

Component Name	Component Type
DCB	Data Collection Board
DCM	Data Collection Module
FEM	Front End Module
HV	High Voltage
MTM	Master Timing Module
GTM	Granule Timing Module
PPG	Programmable Pulse Generator
Others as identified	
LL1BD	LL1 board
GL1BD	GL-1 board

Examples of the use of the naming convention follow for the High Voltage and the DCM components as they would be addressed with this convention:

GL1

`GL1.BB.[0-2]`

LL1

`LL1.BB.[0-1]`

MVD

Dcm

Dcm's of the mvd reside in wedges. Each wedge are numbered from 0 – 11 , starting at phi = 0.   An MVD DCM would be named:

DCM.MVDB.[E,W].[N,S].EN.WEDGE[0-11]

High Voltage

HV.MVDB.HA[E,W].EN[N,S].SH[0-1].RO[0-5]

HV.MVDE.EN[N,S].HA[E,W].WE[0-11]

DRIFT CHAMBER

Dcm

Each keystone is associated with an arm and a side. There are 20 keystones per side. There is 1 FEM card per keystone.
On day 1 there will be 1 DCM per keystone (1 DCM per FEM on 1 keystone).

On day N, there will be 2 DCMs per keystone.

The names of the drift chamber DCMs will be

DCM.DC. [E,W].[N,S].KS[0-19].[0-1]

High Voltage

HV.DC.[E,W].[N,S].KS[0-19].[0-7]

PbSc

DCM

PbSc consists of 6 sectors.
Each dcm is mapped to one Fem. Each FEM is mapped to one supermodule. There are 18 supermodules per sector. Sectors are located on either arm. So a DCM can be found by the follow name:

DCM.PBSC.[E].SE[0-3].SM[0-17]

High Voltage

HV.PBSC.[E,W].SE[0-3].SR[0-2].SC[0-5].[0-2]

PbGl

PbGl consists of 2 sectors.
Each dcm is mapped to one Fem. Each FEM is mapped to one supermodule. There are 32 supermodules per sector. Sectors are located on either arm. So a DCM can be found by the follow name:

DCM.PBGL.[E].SE[0-2].SM[0-31]

High Voltage

HV.PBGL.[E,W].SE[0-1].SR[0-3].SC[0-7].RO[0-11].CO[0-11]

TEC

DCM

For each arm TEC consists of 4 sectors. Each sector consists of 6 planes numbered 1 to 6.
Planes 1 to 5 each have 7 FEM modules..

FEM to DCM Mapping

One day 1 there are 4 FEM's per DCM.
On day N, there is 1 FEM per DCM.

A DCM can be found with the following name:

DCM[0-1].TEC.[E,W].[N,S].SE[0-3].PL[0-5]

High Voltage

HV.TEC.[E,W].[N,S].SE[0-3].PL[0-5].[0-3]

PC

DCM

The PC has 3 planes for each arm. Planes are divided into half sectors. Each half sector has a single FEM.

FEM to DCM Mapping

On day 1 there are 2 FEM's per DCM. Day 1 has 2(fem) X 8 (half sectors) X 3 planes X 2 (arms) = 96 FEMs (48 DCMs).
On day N there is 1 FEM per DCM

A DCM can be found with the following name:

DCM[0-1].PC.[E,W].[N,S].SE[0-3].PL[0-3].HS[0-7].[0-1]

High Voltage

PC 2,3

HV.PC.[E,W].[N,S].SE[0-3].[0-3]

PC 1

HV.PC.[E,W].[N,S].SE[0-7].[0-3]

TOF

TOF has detector elements identified by the arm, side, sector, panel, strip , slat and end.

Each segment has the following range:

ARM[0].SIDE[0-1].SECTOR[0-1].PANEL[0-3].STRIP[0-31].SLAT[0-2].END[0-1].

There are 10 panels total. Two in sector 0 and 8 in sector 1. The sectors are split between the north and south side. So there are 4 panels in each side of each sector.
Each TOF panel consists of 96 slats (scintillators) and each slat has two PMT's , one on each ends.

FEM to DCM Mapping

On day 1 there are 16 FEM per DCM. One 64 FEMs per DCB.
The mapping of FEMs to PMTs needs to be verified by H. Sako.

So a DCM has the following identification:

DCM.TOF. [N,S].[E,W].SE[0-1].PA[0-3].ST[0-31].SL[0-2].EN[0-1]

High Voltage

HV.TOF.[E,W].[N,S].SE[0-1].PA[0-3].ST[0-31].SL[0-2].[0-1]

RICH

DCM

Rich identifies detector elements by arm, side supermodule row and pmt.
Each segment has the following range of elements:
One DCM handles 10 super-modules (= 320 PMT's) in the DAY-1, and will
be 5 (= 160 PMT's) eventually. SU means Super-Unit which combines 5 Supermodules (8 SU x 5 = 40 SM's). In the DAY-1, only even numbers (0,2,4,6) will be used, in
order to avoid confusion.
Therefore, my proposal is;

DCM.RICH.[E,W].[N,S].SU[0-7],

High Voltage

HV.RICH.[E,W].[N,S].SM[0-39].RO[0-1].[0-15]

MUID

DCM

MuId maps a FEM to a single DCM. There is one FEM for each of the horizontal and vertical tubes for each arm.

A DCM would be identified by the following name:

DCM.MUID.[N,S].TB[H,V]

High Voltage

HV.MUID.[N,S].GP[0-4].PA[0-5].TB[H,V].[0-7].

MUTR

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A MUID detector element is mapped to a detector arm, a station and an octant.

MUTR FEM to DCM mapping needs to be verified.

DCM.MUTR.[N,S].SN[0-2].OC[0-7]

High Voltage

HV.MUTR.[N,S].SN[0-2].OC[0-7].PL[0-3].[0-3]