

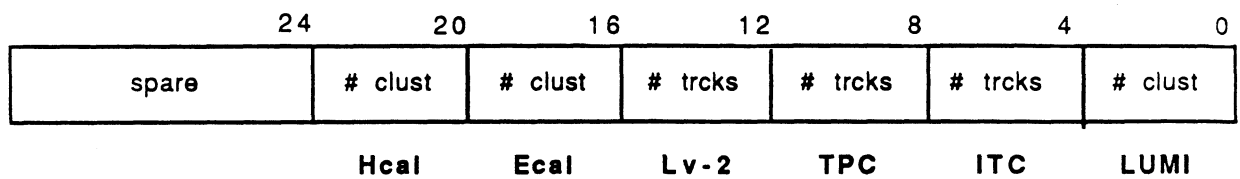
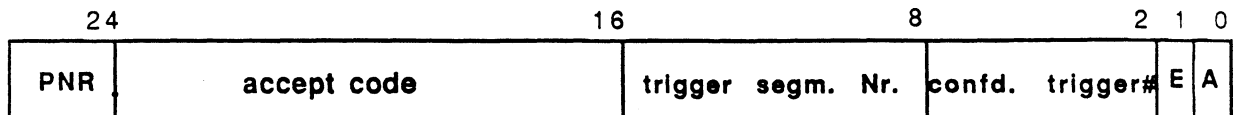
For the following runs the level3 triggermask and the level3 banks have been added to the POT during the reprocessing:

R005061	R005062	R005063	
R005067	R005068	R005070	R005071
R005073	R005075	R005076	R005077
R005078	R005083	R005084	R005097
R005099	R005100	R005109	R005110
R005111	R005112	R005124	R005125
R005126	R005129	R005130	R005131
R005132	R005133	R005145	R005146
R005147	R005154	R005155	R005156
R005157	R005158	R005159	R005160
R005161	R005166	R005167	R005168
R005169	R005170	R005171	R005173
R005175	R005176	R005795	R005811
R005820	R005821	R005823	R005824
R005825	R005826	R005827	R005829
R005831	R005844	R005847	R005850
R005871	R005872	R005875	R005876
R005880	R005883	R005885	R005886
R005887	R005907	R005909	

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# Level 3 trigger mask

'EVEH' words 8...9



**A = 1** event accepted

**E = 0** no errors occurred

**confd. trigger #** bit nr.(+1) of level 1 trigger mask confirmed by level 3

**PNR** Processor Nr..

**accept code:**

- 32 good trigger
- 33 rejected but transmitted
- 34 no trigger match
- 35 downscaled trigger
- 36 calibration trigger
- 37 process error
- 38 rejected (only EVEH and scaler banks transmitted)

AL1\$USER0:[BOSMAN.DDL]BANKX3.ADD;10 of 23-NOV-1989 11:19

Subschema: TRIGGERLEVEL3

+-----+
| X3EC | Ecal Clusters (NR=Trigger
+-----+ segment nb); Clusters found
in the trigger segment.

1			I	Number of words per cluster (=32)
2			I	Number of clusters
.....				
1	EL	F		EsumLow [0.0,*] Energy sum above low threshold (all stacks)
2	EH	F		EsumHigh [0.0,*] Energy sum above high threshold (all stacks)
3-5	SL	I		clShapeL [*,*] Cluster structure for each stack (low threshold) 1000000 * nb of Phi bins + 1000 * nb of Theta bins + nb of towers
6-8	SH	I		clShapeH [*,*] Cluster structure for each stack (low threshold) 1000000 * nb of Phi bins + 1000 * nb of Theta bins + nb of towers
9-11	CL	F		CleneL [0.0,*] Cluster energy for each stack (low threshold)
12-14	LX	F		grLowX [0.0,*] Cluster center of gravity X for each stack
15-17	LY	F		grLowY [0.0,*] Cluster center of gravity Y for each stack
18-20	LZ	F		grLowZ [0.0,*] Cluster center of gravity Z for each stack
21-23	CH	F		CleneH [0.0,*] Cluster energy for each stack (high threshold)
24-26	HX	F		grHigX [0.0,*] Cluster center of gravity X for each stack
27-29	HY	F		grHigY [0.0,*] Cluster center of gravity Y for each stack
30-32	HZ	F		grHigZ [0.0,*] Cluster center of gravity Z for each stack
.....				

AL1\$USER0:[BOSMAN.DDL]BANKX3.ADD;10 of 23-NOV-1989 11:19

Subschema: TRIGGERLEVEL3

+-----+  
| X3EW | Ecal Wires (NR=Trigger  
+-----+ segment nb); Energy in the  
wires.

```
.....  
1          I    Number of words per segment (=8)  
2          I    Number of rows (=1)  
.....  
1-3  ES  F    EnerSum      [0.0,*]  
          Energy sum for the 3 stacks  
4    EO  F    EsumOdd     [0.0,*]  
          Energy sum in odd planes  
5    EE  F    EsumEven    [0.0,*]  
          Energy sum in even planes  
6    EC  F    EnerCoinc   [0.0,*]  
          Energy above low threshold in even/odd  
          coincidence  
7    MP  I    MaxPlanes   [0,45]  
          Maximum Nr of neighboured planes  
          above high threshold  
8    FP  I    FirstPlane  [0,45]  
          First plane nr of pair above low  
          threshold  
.....
```

ADAMO Toolset: LBF run on 23-NOV-1989 11:19

AL1\$USER0:[BOSMAN.DDL]BANKX3.ADD;10 of 23-NOV-1989 11:19

Subschema: TRIGGERLEVEL3

```

+-----+
| X3HC | Hcal clusters (NR=Trigger
+-----+ segment nb); Clusters seen in
          the trigger segment.

```

```

.....
1          I      Number of words / cluster (=13)
2          I      Number of clusters
.....
1  NT  I      NbTow          [0,*]
          Nb of towers in cluster
2  TT  I      nbTowTh       [0,*]
          Nb of towers above energy threshold
3  EC  F      EnClus        [0.0,*]
          Energy in the cluster
4  ET  F      EncluTh       [0.0,*]
          Energy in the cluster for towers above
          threshold
5  EF  F      EnFront       [0.0,*]
          Energy in the cluster for front stack
6  EB  F      EnBack        [0.0,*]
          Energy in the cluster for back stack
7  TC  F      ThetClu       [-3.14,3.14]
          Theta of energy barycenter
8  TF  F      ThetFront     [-3.14,3.14]
          Theta of front stack energy barycenter
9  TB  F      ThetBack      [-3.14,3.14]
          Theta of back stack energy barycenter
10 PC  F      PhiClu        [0.0,6.28]
          Phi of energy barycenter
11 PF  F      PhiFront      [0.0,6.28]
          Phi of front stack energy barycenter
12 PB  F      PhiBack       [0.0,6.28]
          Phi of back stack energy barycenter
13 FT  I      FirstTow      [*,*]
          Pointer to first tower of cluster in
          HTDI
.....

```

AL1\$USER0: [BOSMAN.DDL]BANKX3.ADD;10 of 23-NOV-1989 11:19

Subschema: TRIGGERLEVEL3

+-----+  
| X3IT | ITC tracks (NR=Trigger  
+-----+ segment nb); Tracks  
reconstructed in the (R,phi)  
plane pointing to the trigger  
segment.

```
.....  
1          I    Number of words per track (=13)  
2          I    Number of tracks  
.....  
1  MN  I    MaskNb          [*,*]  
          ITC mask number for current track  
2  TB  I    TrigBit        [*,*]  
          Trigger bit number  
3  EL  F    EnerL1         [*,*]  
          Energy observed in Level1 ADC  
          (not read at present)  
4  CH  F    CHi2           [0.0,*]  
          Chi2 of the fit  
5  DF  F    DgF            [0.0,*]  
          number of degrees of freedom  
6  RA  F    Radius         [*,*]  
          Radius : circle parameter in mask frame  
7  X0  F    X0             [*,*]  
          X0 : circle parameter in mask frame  
8  Y0  F    Y0             [*,*]  
          Y0 : circle parameter in mask frame  
9  D0  F    D0             [*,*]  
          D0 distance of track from beam orbit  
10 RT  F    RTube          [*,*]  
          Radius at beam tube  
11 PT  F    PhiTube        [0.0,6.28]  
          PHI at beam tube  
12 AT  I    AssTrack       [0,*]  
          X3TP track nb with nearest PHI  
13 DP  F    DeltaPhi       [-3.14,3.14]  
          DeltaPHI at beam tube to nearest TPC  
          track  
.....
```

AL1\$USER0:[BOSMAN.DDL]BANKX3.ADD;10 of 23-NOV-1989 11:19

Subschema: TRIGGERLEVEL3

+-----+  
| X3L2 | Level 2 Check : (NR=Trigger  
+-----+ segment nb); Tracks  
reconstructed in the (R,Z)  
plane from the TPC trigger  
pads coordinates (X2DF bank)  
pointing to trigger segment.

.....  
1 I Number of words per track (=7)  
2 I Number of tracks  
.....  
1 Z0 F Z0 [-250.,250.]  
Z0 track intersection with beam orbit  
2 TL F TL [\*,\*]  
Tangent of the dip angle  
3-5 EV F EcoVarm [\*,\*]  
Triangular covariance matrix saved in  
the order:  
1 2  
3  
6 CH F CHi2 [0.0,\*]  
Chi2 per no of degrees of freedom  
7 NF I NdF [0,13]  
number of degrees of freedom =  
nb of points on track - 2  
.....

AL1\$USER0:[BOSMAN.DDL]BANKX3.ADD;10 of 23-NOV-1989 11:19

Subschema: TRIGGERLEVEL3

+-----+  
| X3LU | Lcal clusters (NR=0);  
+-----+ Clusters seen in the  
Luminosity calorimeter.

```
.....  
1          I      Number of words / cluster (=10)  
2          I      Number of clusters  
.....  
1  MN  I      ModuNb      [1,4]  
          Lcal module number  
2  EC  F      EnClus      [0.0,*]  
          Energy in the cluster  
3  TC  F      ThetClu     [-3.14,3.14]  
          Theta of energy barycenter  
4  PC  F      PhiClu      [0.0,6.28]  
          Phi of energy barycenter  
5  CW  F      CluWidth    [0.0,*]  
          Cluster width  
6  NT  I      NbTow      [0,*]  
          Nb of towers in cluster  
7  EF  F      EnFront     [0.0,*]  
          Front stack energy in the cluster  
8  EM  F      EnMiddle    [0.0,*]  
          Middle stack energy in the cluster  
9  EB  F      EnBack      [0.0,*]  
          Back stack energy in the cluster  
10 RE  I      REserve     [*,*]  
          Reserve  
.....
```



AL1\$USER0:[BOSMAN.DDL]BANKX3.ADD;10 of 23-NOV-1989 11:19

Subschema: TRIGGERLEVEL3

```

+-----+
| X3TO | Total cal energy (NR=0);
+-----+ Total energy seen in
          ECAL,HCAL,LCAL.

```

```

.....
1          I      Number of words (=76)
2          I      Number of rows(=1)
.....
1-3      H1      F      Hcal1          [0.0,*]
                   Hcal front stack energy,
                   towers > threshold 1
                   for ECA,BARR,ECB
4-6      H2      F      Hcal2          [0.0,*]
                   Hcal back stack energy,
                   towers > threshold 1
                   for ECA,BARR,ECB
7-9      H3      F      Hcal3          [0.0,*]
                   Hcal front stack energy,
                   towers > threshold 2
                   for ECA,BARR,ECB
10-12    H4      F      Hcal4          [0.0,*]
                   Hcal back stack energy,
                   towers > threshold 2
                   for ECA,BARR,ECB
13-15    H5      I      Hcal5          [0,*]
                   Nb of towers with energy > threshold 1
                   for ECA,BARR,ECB
16-18    H6      I      Hcal6          [0,*]
                   Nb of towers with energy > threshold 2
                   for ECA,BARR,ECB
19-21    E1      F      Ecal1          [0.0,*]
                   Ecal front stack energy,
                   towers > threshold 1
                   for ECA,BARR,ECB
22-24    E2      F      Ecal2          [0.0,*]
                   Ecal middle stack energy,
                   towers > threshold 1
                   for ECA,BARR,ECB
25-27    E3      F      Ecal3          [0.0,*]
                   Ecal back stack energy,
                   towers > threshold 1
                   for ECA,BARR,ECB
28-30    E4      F      Ecal4          [0.0,*]
                   Ecal front stack energy,
                   towers > threshold 2
                   for ECA,BARR,ECB
31-33    E5      F      Ecal5          [0.0,*]
                   Ecal middle stack energy,
                   towers > threshold 2
                   for ECA,BARR,ECB
34-36    E6      F      Ecal6          [0.0,*]
                   Ecal back stack energy,
                   towers > threshold 2
                   for ECA,BARR,ECB
37-39    E7      I      Ecal7          [0,*]

```

				Nb of towers with energy > threshold 1 for ECA,BARR,ECB
40-42	E8	I	Ecal8	[0,*]
				Nb of towers with energy > threshold 2 for ECA,BARR,ECB
43-45	W1	F	ecalW1	[0.0,*]
				Ecal wire energy, odd planes > threshold 1 for ECA,BARR,ECB
46-48	W2	F	ecalW2	[0.0,*]
				Ecal wire energy, even planes > threshold 1 for ECA,BARR,ECB
49-51	W3	F	ecalW3	[0.0,*]
				Ecal wire energy, odd planes > threshold 2 for ECA,BARR,ECB
52-54	W4	F	ecalW4	[0.0,*]
				Ecal wire energy, even planes > threshold 2 for ECA,BARR,ECB
55-57	W5	F	ecalW5	[0.0,*]
				Ecal wire energy, odd/even coinc planes > threshold 1 for ECA,BARR,ECB
58-60	W6	F	ecalW6	[0.0,*]
				Ecal wire energy, odd/even coinc planes > threshold 2 for ECA,BARR,ECB
61-62	L1	F	Lcal1	[0.0,*]
				Lcal front stack energy, towers > threshold 1 for side A,B
63-64	L2	F	Lcal2	[0.0,*]
				Lcal middle stack energy, towers > threshold 1 for side A,B
65-66	L3	F	Lcal3	[0.0,*]
				Lcal back stack energy, towers > threshold 1 for side A,B
67-68	L4	F	Lcal4	[0.0,*]
				Lcal front stack energy, towers > threshold 2 for side A,B
69-70	L5	F	Lcal5	[0.0,*]
				Lcal middle stack energy, towers > threshold 2 for side A,B
71-72	L6	F	Lcal6	[0.0,*]
				Lcal back stack energy, towers > threshold 2 for side A,B
73-74	L7	I	Lcal7	[0,*]
				Nb of towers with energy > threshold 1 for side A,B
75-76	L8	I	Lcal8	[0,*]
				Nb of towers with energy > threshold 2 for side A,B

.....

ADAMO Toolset: LBF run on 23-NOV-1989 11:19

AL1\$USER0:[BOSMAN.DDL]BANKX3.ADD;10 of 23-NOV-1989 11:19

Subschema: TRIGGERLEVEL3

```

+-----+
| X3TP | TPC tracks (NR=Trigger
+-----+ segment nb); Tracks
        reconstructed from TPAD
        information pointing to the
        trigger segment.

```

```

.....
1          I      Number of words per track (=14)
2          I      Number of tracks
.....
1  TB  I      TrigBit          [*,*]
           Trigger bit number
2  EL  F      EnerL1          [*,*]
           Energy observed in Level1 ADC
           (not read at present)
3  NH  I      NbHits          [0,*]
           Nb of hits on the track
4  BL  I      BuckLen         [0,*]
           bucket length (averaged)
5  IR  F      InnerR          [0.0,*]
           Inner radius
6  OR  F      OuterR          [0.0,*]
           Outer radius
7  PR  F      dPhidR          [*,*]
           Delta PHI / Delta R (averaged)
8  PI  F      PhiInner        [*,*]
           Phi at inner radius
9  TI  F      ThetInner       [*,*]
           Theta at inner radius
10 ZI  F      ZInner          [*,*]
           Z at inner radius
11 PO  F      PhiOuter        [*,*]
           Phi at outer radius
12 TO  F      ThetOuter       [*,*]
           Theta at outer radius
13 ZO  F      ZOuter          [*,*]
           Z at outer radius
14 AT  I      AssTrack        [0,*]
           X3IT track nb with nearest Phi,Theta
.....

```

ALAMO Toolset: LBF run on 23-NOV-1989 11:19

AL1\$USER0:[BOSMAN.DDL]BANKX3.ADD;10 of 23-NOV-1989 11:19

Subschema: TRIGGERLEVEL3

+-----+  
| X3X3 | History of level3 trigger  
+-----+ trials: (NR=0);

```

.....
  1          I      Number of words per trial (=3)
  2          I      Number of trials
.....
  1  TR  I      TRial          [*,*]
                Description of the trial:
                bits 0 - 7 segment nb
                bits 8 -11 calorimeter nb
                bits 12-16 trigger nb
                bits 17 =1 if accepted
  2  ST  I      SuccTool       [*,*]
                Succesfull analysis tools
  3  FT  I      FailTool       [*,*]
                Failing analysis tools
.....

```