

**# 60            Generating breaks in subfile reports**

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This tech note describes 2 methods of generating a subfile report with a level 1 break.

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Unlike **PRINT SELECTION** reports, 4th Dimension does not produce breaks when printing subrecords. This technote will discuss 2 methods of printing sub files. The first report will produce a report with level 1 breaks with subtotals and ending with a grand total. The second report will produce a level 1 break, but will only display the section header ahead of the records. The techniques described are applicable with a selection of records as well.

Both reports use the same layouts as called by the **PRINT LAYOUT** command.

alpha	18
alpha	3
alpha	12
<b>Break for alpha</b>	<b>51</b>
beta	41
beta	34
beta	13
beta	23
beta	5
<b>Break for beta</b>	<b>116</b>
cappa	87
<b>Break for cappa</b>	<b>87</b>
delta	74
delta	12
delta	7
<b>Break for delta</b>	<b>93</b>
gamma	25
gamma	6
<b>Break for gamma</b>	<b>31</b>
<u>Grand Total: 360</u>	

*Fig 1; level 1 breaks and subtotals*

<b>Header for alpha</b>	
alpha	18
alpha	3
alpha	12
<b>Header for beta</b>	
beta	41
beta	34
beta	13
beta	23
beta	5
<b>Header for cappa</b>	
cappa	87
<b>Header for delta</b>	
delta	74
delta	12
delta	7
<b>Header for gamma</b>	
gamma	25
gamma	6
<u>Grand Total: 360</u>	

*Fig 2; level 1 header breaks.*

In order to produce a report of the subfile containing a level 1 break including a subtotal it is necessary to manually track the breaks in the sorted records. You must handle the accumulation of the numeric field, in the variable *vSum*.



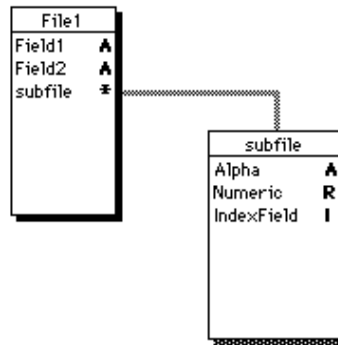


Fig 3; file structure

From the parent's layout procedure, sort the selection of subrecords. Store the value of the first sorted sub record [File1]subfile'Alpha, in a temporary variable, vBreak. Then, while walking down the sorted subrecords via **APPLY TO SUBSELECTION**, compare every subrecords' [File1]subfile'Alpha against vBreak; every time there is a difference, invoke a break using **PRINT LAYOUT**. After the break is printed, assign vBreak with the current value of [File1]subfile'Alpha. Clear the sum variable, vSum. Go on to the next subrecord.

Input Layout Procedure for the subfile report with subtotals. (Figure 1).

#### Case of

: (bprint=1)

##### PRINT SETTINGS

**SORT SUBSELECTION**([File1]subfile;[File1]subfile'Field1;>)

vSum:=subfile'numeric `initialize the subtotal accumulator

vGrand:=0 `initialize the grand total variable

vBreak:=[File1]subfile'alpha `initialize break test variable

**APPLY TO SUBSELECTION**([File1]subfile;PrintSub ) `call global proc for every sub record

vMessage:="Break for "+vBreak `message for the last break of report

**PRINT LAYOUT**([File1];"PLBreak") `print the last break

vMessage:="Grand Total: "+String(vGrand) `total for Grand total layout

**PRINT LAYOUT**([File1];"PLTotals") `the report grand total

**FORM FEED** `eject page

End case

The above layout procedure will call the following global procedure in **APPLY TO SUBSELECTION**.

` Global Proc.:PrintSub, for the subfile report with subtotals.

` This proc will be call for every subrecord

**If** ([File1]subfile'Alpha#vBreak) `if a break is sensed

vMessage:="Break for "+vBreak `Load the message for the break

**PRINT LAYOUT**([File1];"PLBreak") `print the break, including the sum

vSum:=0 `reset the sum accumulator

vBreak:=[File1]subfile'Field1 `reset vBreak to the current subrecord

**End if**



```
vMessage:=[File1]subfile'Field1 `load info from the current subrecord  
vQty:=[File1]subfile'Numeric  
vSum:=vSum+[File1]subfile'Numeric `accumulate sum info  
vGrand:=vGrand+[File1]subfile'Numeric`accumulate grand total info  
PRINT LAYOUT([File1];"PLSub") `print the current subrecord
```



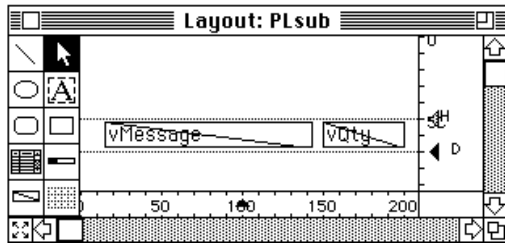


Fig 4; Layout used for printing detail information

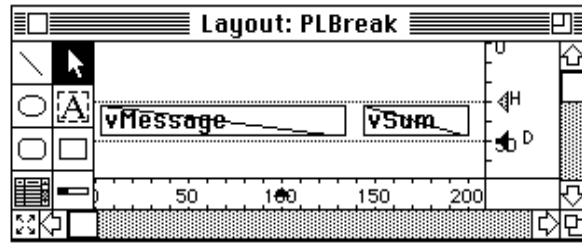


Fig 5; Layout used for printing break, level 1

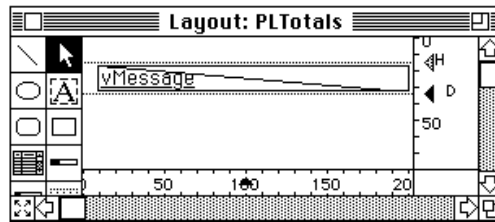


Figure 6; Layout used for printing grand total

The following procedures will create a subfile report with each sections break header immediately preceding its records, as illustrated by the right report in figure 1.

#### Case of

```
: (bprint2=1)
```

#### PRINT SETTINGS

```
ALL SUBRECORDS([File1]subfile)
```

```
SORT SUBSELECTION([File1]subfile:[File1]subfile'Alpha;>)
```

```
vSum:=0
```

```
vGrand:=0 `init grand total var
```

```
vBreak:="" `clear breaker var
```

```
APPLY TO SUBSELECTION([File1]subfile;PntSubsWHead) `call following global
```

```
vMessage:="Grand Total: "+String(vGrand)
```

```
PRINT LAYOUT([File1];"PLTotals") `for the report totals
```

```
FORM FEED
```

End Case

The above layout procedure will call the following global procedure in **APPLY TO SUBSELECTION**.

```
`Global Proc.: PrintSubWHead
```

```
If ([File1]subfile'Alpha#vBreak) `if a break is sensed
```

```
  vMessage:="Header for "+[File1]subfile'Alpha
```

```
  PRINT LAYOUT([File1];"PLBreak")
```

```
  vBreak:=[File1]subfile'Alpha`reassign to the current subrecord
```

End if

```
vMessage:=[File1]subfile'Alpha
```

```
vQty:=[File1]subfile'Numeric `
```



vGrand:=vGrand+[File1]subfile'Numeric

**PRINT LAYOUT**([File1];"PLSub")

Print layout offers many ways to produce reports impossible with the PRINT SELECTION method of reporting. It is possible to start a break section with a title containing the sum of it's following records, currently all totalling must be done *after* the records in question are processed.

