

# GRINI\$ - Initialise GRAPH\$ GR Block With Default Settings

The GRINI\$ routine can be used to initialise the (massively complex) GRAPH\$ control block.

## 1. Invocation

To initialise the GRAPH\$ control block code:

```
CALL GRINI$ USING gr
```

where *gr* is a control block of the following format:

```
01  GR
02  GRH          PIC X(8)      * Header block
03  GRPROG      PIC X(8)      * Program calling GRAPH$
                                * initialised to $$PGM by GRINI$
03  GRID        PIC X(4)      * A unique window identifier
                                * initialised to "GRPH" by GRINI$
03  GRCOL      PIC 9(4) COMP  * Top left column position
                                * initialised to 1 by GRINI$
03  GRLINE     PIC 9(4) COMP  * Top left line position
                                * initialised to 1 by GRINI$
03  GRWID      PIC 9(4) COMP  * Width
                                * initialised to 80 by GRINI$
03  GRDEP     PIC 9(4) COMP  * Depth
                                * initialised to 20 by GRINI$
02  GRFIX      PIC 9 COMP    * 1 Fixed size; 0 otherwise
                                * initialised to 0 by GRINI$
02  GRWAIT     PIC 9 COMP    * 1 = Wait for exit; 0 otherwise
                                * initialised to 1 by GRINI$
02  GRLEG      PIC 9 COMP    * 1 = show legend; 0 otherwise
                                * initialised to 1 by GRINI$
02  GRROT      PIC 9 COMP    * 1 = dynamic rotation allowed
                                * 0 otherwise
                                * initialised to 1 by GRINI$
02  GRSTAK     PIC 9 COMP    * 1 stack data sets; 0 otherwise
                                * initialised to 0 by GRINI$
02  GRZNO      PIC 9(2) COMP  * Number of items along the z-axis
                                * initialise to 0 and
                                * will be calculated by GRAPH$
                                * initialised to 0 by GRINI$
02  GRXNO      PIC 9(2) COMP  * Number of items along the x-axis
                                * Initialise to 0
                                * and will be calculated by GRAPH$
                                * initialised to 0 by GRINI$
02  GRCHART    PIC 9(2) COMP  * Chart type
                                * 0 = 3D bar
                                * 1 = 2D bar
                                * 2 = 3D line
                                * 3 = 2D line
                                * 4 = 3D area
                                * 5 = 2D area
                                * 6 = 3D step
                                * 7 = 2D step
                                * 8 = 3D combination
                                * 9 = 2D combination
                                * 14 = 2D pie
                                * 16 = 2D XY
                                * initialised to 1 by GRINI$
02  GRTITLE    PIC PTR      * Pointer to a #00 terminated string
                                * containing the title text
                                * set to HIGH-VALUES if no title
                                * initialised to HIGH-VALUES by GRINI$
02  GRTLOC     PIC 9(2) COMP  * Title location
                                * -1 use default settings
                                * 0 = Top left
                                * 1 = Top
                                * 2 = Top right
```

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* 3 = Left
* 4 = Right
* 5 = Bottom left
* 6 = Bottom
* 7 = Bottom right
* initialised to -1 by GRINI$
02  GRTOR      PIC 9(2) COMP * Title text orientation
* -1 use default
* 0 = Horizontal
* 1 = Vertical
* 2 = Up
* 3 = Down
02  GRTFON     PIC PTR      * initialised to -1 by GRINI$
* Pointer to #00 terminated
* string containing the font
* name for title. HIGH-VALUES if
* no font specified
02  GRTFSZ     PIC 9(2) COMP * initialised to HIGH-VALUES by GRINI$
* Title Font size
* -1 if default
02  GRTFSY     PIC 9(2) COMP * initialised to -1 by GRINI$
* title font style
* HIGH-VALUES use default
* initialised to HIGH-VALUES by GRINI$
03  GRTFBL     PIC 9(2) COMP * 1 bold; 0 otherwise
03  GRTFIT     PIC 9(2) COMP * 1 Italics; 0 otherwise
03  GRTFOU     PIC 9(2) COMP * 1 = outline; 0 otherwise
03  GRTFST     PIC 9(2) COMP * 1 = strike through; 0 otherwise
03  GRTFUN     PIC 9(2) COMP * 1 = underline; 0 otherwise
02  GRTCLR     PIC 9(2) COMP * Title font colour
* HIGH-VALUES if default
* initialised to HIGH-VALUES by GRINI$
03  GRTRED     PIC 9(4) COMP * Red component 0-255
03  GRTGRN     PIC 9(4) COMP * Green component 0-255
03  GRTBLU     PIC 9(4) COMP * Blue component 0-255
02  GRTBCL     PIC 9(4) COMP * Title background colour
* HIGH-VALUES if default
* initialised to HIGH-VALUES by GRINI$
03  GRTBRD     PIC 9(4) COMP * Red component 0-255
03  GRTBGR     PIC 9(4) COMP * Green component 0-255
03  GRTBBL     PIC 9(4) COMP * Blue component 0-255
02  GRTB       PIC 9(4) COMP * Title background brush
* initialised to HIGH-VALUES by GRINI$
* Title background brush style
* -1 use default for style & pattern
* 0 = Null (no brush)
* 1 = Solid
* 2 = Pattern
* 3 = Hatched
03  GRTBPT     PIC 9(2) COMP * pattern for title background
* brush style
*
*   Patterns
*
* 0 = 94 per cent
* 1 = 88 per cent
* 2 = 75 per cent
* 3 = 50 per cent
* 4 = 25 per cent
* 5 = Bold horizontal
* 6 = Bold vertical
* 7 = Bold down diagonal
* 8 = Bold up diagonal
* 9 = Checks
* 10 = Weave
* 11 = Horizontal
* 12 = Vertical
* 13 = Down diagonal
* 14 = Up diagonal
* 15 = Grid
* 16 = Trellis

```

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```

* 17 = Inverted trellis
*
*   Hatches
*
* 0 = Horizontal
* 1 = Vertical
* 2 = Down diagonal
* 3 = Up diagonal
* 4 = Cross
* 5 = Diagonal cross
* 6 = Count
02  GRTBPC
* Title background pattern colour
* HIGH-VALUES use default
* initialised to HIGH-VALUES by GRINI$
03  GRTBPR      PIC 9(4) COMP
03  GRTBPG      PIC 9(4) COMP
03  GRTBPB      PIC 9(4) COMP
03  GRTFRS      PIC 9(2) COMP
* red component 0-255
* green component 0-255
* Blue component 0-255
* Type of frame
* -1 use default
* 0 = Null (no frame)
* 1 = Single line
* 2 = Double line
* 3 = Thick inner
* 4 = Thick outer
02  GRTFRC
* Title frame colour
* HIGH-VALUES use default
* initialised to HIGH-VALUES by GRINI$
03  GRTFRR      PIC 9(4) COMP
03  GRTFG       PIC 9(4) COMP
03  GRTBL       PIC 9(4) COMP
02  GRFOOT      PIC PTR
* red component 0-255
* green component 0-255
* blue component 0-255
* pointer to a #00 terminated
* containing the footnote
* HIGH-VALUES if none
* initialised to HIGH-VALUES by GRINI$
02  GRFLOC      PIC 9(2) COMP
* Footnote location
* -1 used default
* 0 = Top left
* 1 = Top
* 2 = Top right
* 3 = Left
* 4 = Right
* 5 = Bottom left
* 6 = Bottom
* 7 = Bottom right
* initialised to -1 by GRINI$
02  GRFOR       PIC 9(2) COMP
* foot note text orientation
* -1 use default
* 0 = Horizontal
* 1 = Vertical
* 2 = Up
* 3 = Down
* initialised to -1 by GRINI$
02  GRFFON      PIC PTR
* Pointer to #00 terminated
* string containing the font
* name for the footnote.
* HIGH-VALUES if no font specified
* initialised to HIGH-VALUES by GRINI$
02  GRFFSZ      PIC 9(2) COMP
* Footnote Font size
* -1 use default
* initialised to HIGH-VALUES by GRINI$
02  GRFFSY      PIC 9(2) COMP
* footnote Font style
* HIGH-VALUES use default
* initialised to HIGH-VALUES by GRINI$
03  GRFFBD      PIC 9(2) COMP
03  GRFFIT      PIC 9(2) COMP
03  GRFFOU      PIC 9(2) COMP
03  GRFFST      PIC 9(2) COMP
03  GRFFUN      PIC 9(2) COMP
02  GRFFCL      PIC 9(2) COMP
* 1 bold; 0 otherwise
* 1 Italics; 0 otherwise
* 1 = outline; 0 otherwise
* 1 = strike through; 0 otherwise
* 1 = underline; 0 otherwise
* Footnote font colour
* HIGH-VALUES if default
* initialised to HIGH-VALUES by GRINI$

```

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```

03 GRFFRD      PIC 9(4) COMP      * Red component 0-255
03 GRFFGR      PIC 9(4) COMP      * Green component 0-255
03 GRFFBL      PIC 9(4) COMP      * Blue component 0-255
02 GRFBCL      * Footnote background colour
                * HIGH-VALUES use default
                * initialised to HIGH-VALUES by GRINI$

03 GRFBRD      PIC 9(4) COMP      * Red component 0-255
03 GRFBGR      PIC 9(4) COMP      * Green component 0-255
03 GRFBBL      PIC 9(4) COMP      * Blue component 0-255
02 GRFB       * Footnote brush style
                * initialised to HIGH-VALUES by GRINI$

03 GRFBST      PIC 9(2) COMP      * Footnote background brush style
                * -1 use default for brush
                * style and type
                * initialised to -1
                * 0 = Null (no brush)
                * 1 = Solid
                * 2 = Pattern
                * 3 = Hatched

03 GRFBPT      PIC 9(2) COMP      * pattern for footnote background
                * brush style
                *
                *   Patterns
                *
                * 0 = 94 per cent
                * 1 = 88 per cent
                * 2 = 75 per cent
                * 3 = 50 per cent
                * 4 = 25 per cent
                * 5 = Bold horizontal
                * 6 = Bold vertical
                * 7 = Bold down diagonal
                * 8 = Bold up diagonal
                * 9 = Checks
                * 10 = Weave
                * 11 = Horizontal
                * 12 = Vertical
                * 13 = Down diagonal
                * 14 = Up diagonal
                * 15 = Grid
                * 16 = Trellis
                * 17 = Inverted trellis
                *
                *   Hatches
                *
                * 0 = Horizontal
                * 1 = Vertical
                * 2 = Down diagonal
                * 3 = Up diagonal
                * 4 = Cross
                * 5 = Diagonal cross
                * 6 = Count

02 GRFBPC      * Footnote background pattern colour
                * HIGH-VALUES use default
                * initialised to HIGH-VALUES by GRINI$

03 GRFBPR      PIC 9(4) COMP      * red component 0-255
03 GRFBPG      PIC 9(4) COMP      * green component 0-255
03 GRFBPB      PIC 9(4) COMP      * Blue component 0-255
03 GRFFRS      PIC 9(2) COMP      * Type of footnote frame
                * -1 use default
                * 0 = Null (no frame)
                * 1 = Single line
                * 2 = Double line
                * 3 = Thick inner
                * 4 = Thick outer
                * initialised to -1

02 GRFFRC      * Footnote frame colour
                * HIGH-VALUES use default
                * initialised to HIGH-VALUES by GRINI$

03 GRFFRR      PIC 9(4) COMP      * red component 0-255
03 GRFFG       PIC 9(4) COMP      * green component 0-255

```

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```

03 GRFBL      PIC 9(4) COMP      * blue component 0-255
02 GRLLOC     PIC 9(2) COMP      * Legend location
                                * -1 use default
                                * 0 = Top left
                                * 1 = Top
                                * 2 = Top right
                                * 3 = Left
                                * 4 = Right
                                * 5 = Bottom left
                                * 6 = Bottom
                                * 7 = Bottom right
                                * initialised to -1 by GRINI$
02 GRLOR      PIC 9(2) COMP      * legend text orientation
                                * -1 use default
                                * 0 = Horizontal
                                * 1 = Vertical
                                * 2 = Up
                                * 3 = Down
                                * initialised to -1 by GRINI$
02 GRLFON     PIC PTR           * Pointer to #00 terminated
                                * string containing the font
                                * name for the footnote.
                                * HIGH-VALUES if no font specified
02 GRLFSZ     PIC 9(2) COMP      * initialised to -1 by GRINI$
                                * legend Font size
                                * -1 use default
02 GRLFSY     PIC 9(2) COMP      * initialised to -1 by GRINI$
                                * Legend Font style
                                * HIGH-VALUES use default
                                * initialised to HIGH-VALUES by GRINI$
03 GRLFBD     PIC 9(2) COMP      * 1 bold; 0 otherwise
03 GRLFIT     PIC 9(2) COMP      * 1 Italics; 0 otherwise
03 GRLFOU     PIC 9(2) COMP      * 1 = outline; 0 otherwise
03 GRLFST     PIC 9(2) COMP      * 1 = strike through; 0 otherwise
03 GRLFUN     PIC 9(2) COMP      * 1 = underline; 0 otherwise
02 GRLFCL     PIC 9(2) COMP      * legend font colour
                                * HIGH-VALUES use default
                                * initialised to HIGH-VALUES by GRINI$
03 GRLRED     PIC 9(4) COMP      * Red component 0-255
03 GRLGRN     PIC 9(4) COMP      * Green component 0-255
03 GRLBLU     PIC 9(4) COMP      * Blue component 0-255
02 GRLBCL     PIC 9(4) COMP      * legend background colour
                                * HIGH-VALUES use default
                                * initialised to HIGH-VALUES by GRINI$
03 GRLBRD     PIC 9(4) COMP      * Red component 0-255
03 GRLBGR     PIC 9(4) COMP      * Green component 0-255
03 GRLBBL     PIC 9(4) COMP      * Blue component 0-255
02 GRLB      PIC 9(4) COMP      * legend background brush
                                * initialised to HIGH-VALUES by GRINI$
                                * legend background brush style
03 GRLBST     PIC 9(2) COMP      * -1 use default for style and type
                                * 0 = Null (no brush)
                                * 1 = Solid
                                * 2 = Pattern
                                * 3 = Hatched
                                * initialised to HIGH-VALUES by GRINI$
03 GRLBPT     PIC 9(2) COMP      * pattern for legend backgr'nd brush style
                                *
                                * Patterns
                                *
                                * 0 = 94 per cent
                                * 1 = 88 per cent
                                * 2 = 75 per cent
                                * 3 = 50 per cent
                                * 4 = 25 per cent
                                * 5 = Bold horizontal
                                * 6 = Bold vertical
                                * 7 = Bold down diagonal
                                * 8 = Bold up diagonal
                                * 9 = Checks
                                * 10 = Weave

```

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```

* 11 = Horizontal
* 12 = Vertical
* 13 = Down diagonal
* 14 = Up diagonal
* 15 = Grid
* 16 = Trellis
* 17 = Inverted trellis
*
*   Hatches
*
* 0 = Horizontal
* 1 = Vertical
* 2 = Down diagonal
* 3 = Up diagonal
* 4 = Cross
* 5 = Diagonal cross
* 6 = Count
02  GRLBPC      * legend background pattern colour
                * HIGH-VALUES use default
                * initialised to HIGH-VALUES by GRINI$
03  GRLBPR      PIC 9(4) COMP * red component 0-255
03  GRLBPG      PIC 9(4) COMP * green component 0-255
03  GRLBPB      PIC 9(4) COMP * Blue component 0-255
02  GRLFRS      PIC 9(2) COMP * Type of frame
                * -1 use default
                * 0 = Null (no frame)
                * 1 = Single line
                * 2 = Double line
                * 3 = Thick inner
                * 4 = Thick outer
                * initialised to -1 by GRINI$
02  GRLFRC      * legend frame colour
                * HIGH-VALUES use default
                * initialised to HIGH-VALUES by GRINI$
03  GRLFRD      PIC 9(4) COMP * red component 0-255
03  GRLFGR      PIC 9(4) COMP * green component 0-255
03  GRLFBL      PIC 9(4) COMP * blue component 0-255
02  GRPLOT      * plot flags
                * HIGH-VALUES use default
                * initialised to HIGH-VALUES by GRINI$
03  GRAUTO      PIC 9(2) COMP * 1 Automatic layout; 0 otherwise
03  GRCLOCK     PIC 9(2) COMP * 1 clockwise for pie charts; 0 otherwise
03  GRSWAP      PIC 9(2) COMP * 1 swap data order; 0 otherwise
03  GRUNI       PIC 9(2) COMP * 1 uniform axis; 0 otherwise
02  GRB2DG      PIC 9(1,1) COMP * Gap between 2D bars
                * -1.0 use default
                * initialised to -1.0 by GRINI$
02  GR3DGP      * 3D-gap properties
                * HIGH-VALUES use default
                * initialised to HIGH-VALUES by GRINI$
03  GRX3DG      PIC 9(1,1) COMP * Gap between 3D bars along the x-axis
03  GRZ3DG      PIC 9(1,1) COMP * Gap between 3D bars along the z-axis
02  GR3DV       * 3D-View properties
                * HIGH-VALUES use default
                * initialised to HIGH-VALUES by GRINI$
03  GRELVA      PIC 9(2) COMP * Initial 3D elevation angle 0-90
03  GREROT      PIC 9(4) COMP * Initial 3D rotation angle 0 - 360
02  GRPROJ      PIC 9(2) COMP * 2D representation of 3D data
                * -1 use default
                * 0 = Perspective (default)
                * 1 = Oblique
                * 2 = Orthogonal
                * 3 = Frontal
                * 4 = Overhead
                * initialised to -1 by GRINI$
02  GRPIANG     PIC 9(4) COMP * Start angle for pie charts
                * -1 use default
                * initialised to -1 by GRINI$
02  GRLBPOS     PIC 9(2) COMP * Label position for pie charts
                * -1 use default
                * 0 = None

```

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			* 1 = Above (default)
			* 2 = Below
			* 3 = Centre
			* initialised to -1 by GRINI\$
02	GRSORT	PIC 9(2) COMP	* Sort order for pie chart
			* -1 use default
			* 0 = None
			* 1 = Ascending
			* 2 = Descending
			* initialised to -1 by GRINI\$
02	GRGBCL		* Graph background colour
			* HIGH-VALUES use default
			* initialised to HIGH-VALUES by GRINI\$
03	GRGBRD	PIC 9(4) COMP	* Red component 0-255
03	GRGBCR	PIC 9(4) COMP	* Green component 0-255
03	GRGBBL	PIC 9(4) COMP	* Blue component 0-255
02	GRGB		* Graph background brush
			* initialised to HIGH-VALUES by GRINI\$
03	GRGBST	PIC 9(2) COMP	* Graph background brush style
			* -1 use default for brush
			* style and pattern
			* 0 = Null (no brush)
			* 1 = Solid
			* 2 = Pattern
			* 3 = Hatched
03	GRGBPT	PIC 9(2) COMP	* pattern for graph background
			* brush style
			*
			* Patterns
			*
			* 0 = 94 per cent
			* 1 = 88 per cent
			* 2 = 75 per cent
			* 3 = 50 per cent
			* 4 = 25 per cent
			* 5 = Bold horizontal
			* 6 = Bold vertical
			* 7 = Bold down diagonal
			* 8 = Bold up diagonal
			* 9 = Checks
			* 10 = Weave
			* 11 = Horizontal
			* 12 = Vertical
			* 13 = Down diagonal
			* 14 = Up diagonal
			* 15 = Grid
			* 16 = Trellis
			* 17 = Inverted trellis
			*
			* Hatches
			*
			* 0 = Horizontal
			* 1 = Vertical
			* 2 = Down diagonal
			* 3 = Up diagonal
			* 4 = Cross
			* 5 = Diagonal cross
			* 6 = Count 02
02	GRGBPC		* Graph background pattern colour
			* HIGH-VALUES if default
			* initialised to HIGH-VALUES by GRINI\$
03	GRGBPR	PIC 9(4) COMP	* Red component 0-255
03	GRGBPG	PIC 9(4) COMP	* Green component 0-255
03	GRGBPB	PIC 9(4) COMP	* Blue component 0-255
02	GRWTIT	PIC PTR	* pointer to window title
			* #00 terminated string
			* HIGH-VALUES if none
			* initialised to -1 by GRINI\$
02	GRLOC		* Graph location
			* HIGH-VALUES to use default
			* if specified then all fields must be set

03 GRGLC	PIC 9(4) COMP	* initialised to HIGH-VALUES by GRINI\$
03 GRGTL	PIC 9(4) COMP	* Left column start pos. (x)
03 GRGWID	PIC 9(4) COMP	* Top line start pos. (y)
03 GRGDEP	PIC 9(4) COMP	* Window width
		* Window depth

## 2. STOP Codes and Exception Conditions

No STOP codes are generated by GRINI\$.

No exceptions are returned by GRINI\$.

## 3. Programming Notes

GRINI\$ is only useful when running on GX and when used in conjunction with GRAPH\$ etc.

## 4. Examples

None.

## 5. Copy-Books

See copy-book "G\$" in copy-library S.SYS32. Note that this copy-book **MUST** be expanded using a SUBSTITUTING clause. For example:

```
COPY "G$" USING "GR"
```

## 6. See Also

GRAPH\$	Main graph build routine
GRZAX\$	Define Z-axis graph details
GRXAX\$	Define X-axis graph details
GRPLT\$	Plot data item on graph