MiscMathCoordConvert

Inherits From:	MiscCoordConverter : Object
Declared In:	misckit/miscgiskit/MiscMathCoordConverter.h

Class Description

A MiscMathCoordConverter object is able to convert between standard mathematical coordinate systems. MiscMathCoord and   its' subclasses rely on it for conversion services.

This converter will respond to the **convert:to:** method for the following coordinate conversions:

From Class	To Class	Notes
Cartesian	Cylindrical	

Cartesian	Spherical	
Cartesian	Cartesian	Will always try, but returns NO if constants are different.
Spherical	Cylindrical	
Spherical	Spherical	Will always try, but returns NO if constants are different.
Spherical	Cartesian	
Cylindrical	Cylindrical	Will always try, but returns NO if constants are different.
Cylindrical	Spherical	
Cylindrical	Cartesian	

For the future: Although a constants object may be stored, it is ignored at present. At some future date this object will be defined to contain the data needed for doing translations and rotations of a mathematical coordinate relative to a base frame of reference, and the constants object will contain the matrix necessary to get to and from the base frame to the frame of the coord object itself.

For information on the underlying mathematics, refer to:

George B. Thomas, **Calculus and Analytic Geometry**, 4th Edition,   Section 12.4, Addison Wesley. 1968.

Method Types

Creating new instances   + new
                                - free

Archiving   - finishUnarchiving

Class Methods

alloc

Disables the inherited **alloc** method to prevent multiple MiscMathCoordConverters from being created.   There's only one MiscMathCoordConverter object for each application; you access it through the **new** method.   Returns an error message.

See also: + **new**

allocFromZone:

Disables the inherited **allocFromZone** method to prevent multiple MiscMathCoordConverters from being created.   There's only one MiscMathCoordConverter object for each application; you access it through the **new** method.   Returns an error message.

See also: + **new**

new
   + **new**

Create and initialize an instance of MiscMathCoordConverter if one does not already exist.   If one already exists, return it.   The new instance is registered so that it can also act as a subcontractor for other converters.

See also: - free

Instance Methods

free
- free

No±op. There is only one instance of the MiscMathCoordConverter and it cannot be freed.

See also: + new

finishUnarchiving
   - finishUnarchiving

A **finishUnarchiving** message is sent after the MathCoordConverter object has been read in from a stream. This method substitutes an existing one substituted for it.   **self** is freed and the existing   object is returned.