

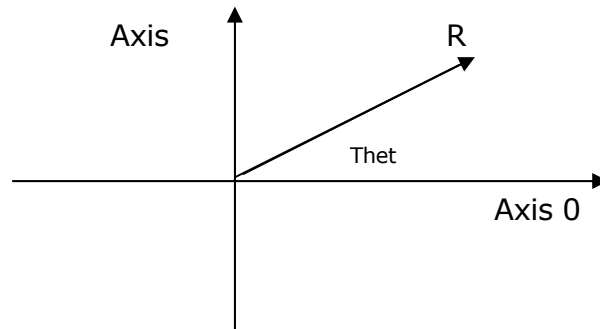
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Subject: Guide to using Frame Transform #6

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Application Note

FRAME Transform #6

This FRAME transformation allows an X-Y axis system to perform moves in Theta (an angle) and R (a radius).



Axis 0 is the radius and units are set in the usual way.

Axis 1 is the angle theta. Axis positions are held internally as integers in the Motion Coordinator. The axis holds the angle in radians*1000000. Theta is 0 when at positions on Axis 0.

Units Example:

Suppose an X-Y system has 4000 edges/mm from the encoder system. It is desired to program the axis in mm and degrees. In FRAME=0 the units are set in the usual way:

```
UNITS AXIS(0)=4000  
UNITS AXIS(1)=4000
```

When using frame 6 there will be $1000000 * 2 * \text{PI} / 360$ edges/degree:

```
UNITS AXIS(1)=17453.29
```

Note that this transformation uses TABLE(0) for its calculations.

Setting Absolute Positions:

The transformation mathematics assume that position (0,0) is the centre of the R-Theta system. The absolute position should be set using DEFPOS(x,y) prior to issuing the FRAME=6 command.

Note that the output of the transformation is in the axis parameter TRANS_DPOS.