Description of Transformation - UA_UCS-2000 to ETRS89	
Attribute	**Entry**
Operation identifier	UA_UCS-2000 to ETRS89
Operation identifier alias	
Country	Ukraine
Country identifier	UA
Operation valid area	Ukraine
Operation scope	
Source coordinate reference system identifier	UC_UCS-2000 (X, Y, Z)
Target coordinate reference system identifier	ETRS89 (X, Y, Z
Operation version	
Operation method name	7 Parameter Helmert Transformation
Operation method name alias	Position Vector Transformation
Operation method formula	7 Parameter Helmert Transformation, |X| |X| |Tx| | 0 -Rz Ry | |X| |X| |Y| = |Y| + |Ty| + | Rz 0 -Rx | * |Y| + D * |Y| |Z| |Z| |Tz| |-Ry Rx 0 | |Z| |Z| T S S S T ... Target Datum S ... Source Datum Tx, Ty, Tz ... geocentric X/Y/Z translations [m] Rx Ry, Rz ... rotations around X/Y/Z axis [radian] D ... correction of scale [ppm] see Boucher, C., Altamimi, Z. (1992): The EUREF Terrestrial Reference System and its First Realizations. Veröffentlichungen der Bayerischen Kommission für die Internationale Erdmessung, Heft 52, München 1992, pages 205-213 (1) REMARKS: in (1) correction of scale D is included in the rotation matrix ****************** Attention ****************** In some transformation applications a different formula than the formula above could be in use. The signs and order of the rotation parameters are then define differently and rotation unit can be arcseconds. For test purposes you can find in this information system verification data to check your application to get correct results. Distinguish the following cases: a) change of signs of rotation (Coordinate Frame Rotation) Rx = -Rx Ry = -Ry Rz = -Rz b) change of signs and order of rotation Rx = -Rz Ry = -Ry Rz = -Rx ****************** Attention ******************

Description of Transformation - UA_UCS-2000 to ETRS89	
Attribute	**Entry**
Operation method parameters number	7
Operation method remarks	Primary these parameters refer to transformation from UA_UCS-2000 to ITRS2005. The parameters within it's accuracy (about 1 m) also represent ETRS89 as like as ITRF2005.
Operation parameter name	geocentric X translation
Operation parameter value	+24.376 m
Operation parameter remarks	
Operation parameter name	geocentric Y translation
Operation parameter value	-121.321 m
Operation parameter remarks	
Operation parameter name	geocentric Z translation
Operation parameter value	-75.895 m
Operation parameter remarks	
Operation parameter name	rotation X-axis
Operation parameter value	+0.001296"
Operation parameter remarks	to be in agreement with formulas the rotation parameter has to be converted to Radians
Operation parameter name	rotation Y-axis
Operation parameter value	+0.007840"
Operation parameter remarks	to be in agreement with formulas the rotation parameter has to be converted to Radians
Operation parameter name	rotation Z-axis
Operation parameter value	-0.012672"
Operation parameter remarks	to be in agreement with formulas the rotation parameter has to be converted to Radians
Operation parameter name	correction of scale
Operation parameter value	0 ppm
Operation parameter remarks	

UA_UCS-2000 to ETRS89
Quality of Transformation
agreement for publishing the transformation parameters with an accuracy of 1 m