

# Hexadecimal (MOD 16 - 3) Check Digit Routine for the ISTC

Input Values indicated by "====>". Bold Numbers can be changed.

**MOD** ==> 16

**r** = radix or the Base  
of a geometric progression.

**MOD 16-3** where 3 is the radix ==> 3

	ISTC PARTS															
	Agency			Year				Work Element								
<i>n</i> = ISTC Number ==>	0	A	9	2	0	0	1	1	2	C	4	F	1	3	2	4
<i>i</i> = Position Index	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
wi = Weight for MOD 16-3 using pure system weights	11	9	3	1	11	9	3	1	11	9	3	1	11	9	3	1
<i>h</i> = Hex Conversion of <i>n</i>	0	10	9	2	0	0	1	1	2	12	4	15	1	3	2	4
<i>p</i> = Product ( <i>h</i> * <i>wi</i> )	0	90	27	2	0	0	3	1	22	108	12	15	11	27	6	324

***s*** = Sum of Products 324

**cd** = Decimal Check Digit (MOD 16 of 324) 4

***c*** = ISTC Check Digit  
based on the Hexadecimal of ***cd*** 4

## Notes:

MOD 16-3 provides the only acceptable results where weights are repeated every 4 positions.

MOD 17-3 provides acceptable results where weights are not repeated.

MOD 37-2 did not provide an acceptable Check Digit. Single numeric changes for the same value does not always produce a different check digit.