COMMUNICATIONS DATA SHEET 305

Binary Numbers

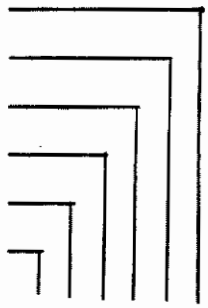
DECIMAL		BINARY				
10,	1	16,	8,	4,	2,	1,
	0					0
	1					1
	2				1	0
	3				1	1
	4			1	0	0
	5			1	0	1
	6			1	1	0
	7			1	1	1
	8		1	0	0	0
	9		1	0	0	1
1	0		1	0	1	0
1	1		1	0	1	1
1	2		1	1	0	0
1	3		1	1	0	1
1	4		1	1	1	0
1	5		1	1	1	1
1	6	1	0	0	0	0
1	7	1	0	0	0	1
1	8	1	0	0	1	0
1	9	1	0	0	1	1
2	0	1	0	1	0	0
2	1	1	0	1	0	1
2	2	1	0	1	1	0
2	3	1	0	1	1	1
2	4	1	1	0	0	0
2	5	1	1	0	0	1
2	6	1	1	0	1	0
2	7	1	1	0	1	1
2	8	1	1	1	0	0
2	9	1	1	1	0	1
3	0	1	1	1	1	0
3	1	1	1	1	1	1

To Convert from Decimal to Binary - Division Method

Divide the decimal number by 2. If there is a remainder, put a 1 in the LSD (least significant digit) of the partially formed binary number. Divide the quotient from the first division by 2, and repeat the process. If there is a remainder, record a 1; if there is no remainder record a 0. Continue the process until the quotient has been reduced to 0.

Example: Convert 47 (base 10) to Binary

	Quotient	Remainder
Divide 47 by 2	23	1
Divide 23 by 2	11	1
Divide 11 by 2	5	1
Divide 5 by 2	2	1
Divide 2 by 2	1	0
Divide 1 by 2	0	1



Binary equivalent: 1 0 1 1 1 1