

The Convert to Decimal instruction takes a 2's complement integer from a register and converts it to packed decimal data in memory. Operand 1 designates a register containing the 2's complement integer. Operand 2 represents a doubleword storage area in memory where the packed decimal data will be placed.

CVD can convert any 2's complement integer which is contained in a register. This includes all integers in the range -2,147,483,648 and +2,147,483,647. Since the result is placed in an 8 byte field (doubleword), no overflow can occur since there is ample room in Operand 2.

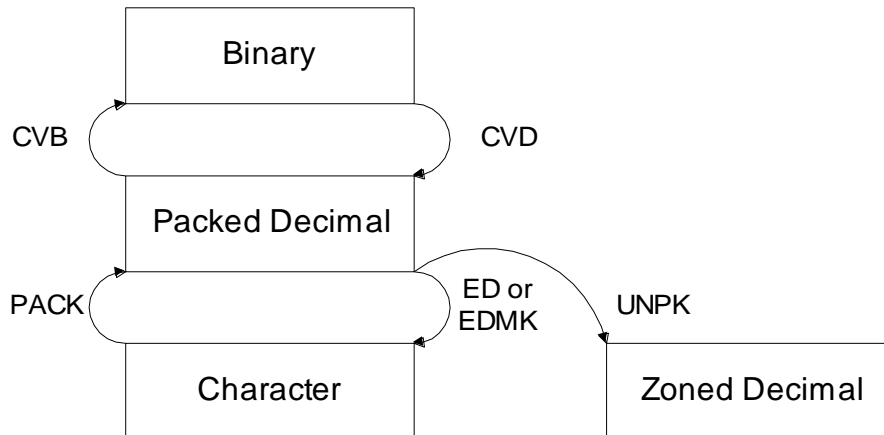
In the following example, register 5 is converted to packed decimal and placed in a doubleword. The result can be moved to a smaller field if the programmer is sure it will fit.

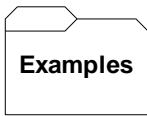
```

                CVD   R5, DOUBWORD      CHANGE IT TO PACKED DECIMAL
                ZAP   XPACK, DOUBWORD   DATA WILL FIT IN 10 BYTES
                ...
    XPACK      DS    PL10
    DOUBWORD  DS    D
  
```

First the integer in register 5 is converted to packed decimal and placed in a doubleword in memory. Since the doubleword contains at most 10 decimal digits (it was converted from a single register), it can be transferred to XPACK with **ZAP**.

The diagram below illustrates the relationship between **CVD** and other data conversion instructions for some common data types.





Some Unrelated CVD Instructions

R7 = X'00000000' = 0
R8 = X'0000001F' = 31
R9 = X'FFFFFFFF' = -1
R10 = X'00001000' = 4096

DOUBWORD	DS	D	
	CVD	R7, DOUBWORD	DOUBWORD = X'0000000000000000C'
	CVD	R8, DOUBWORD	DOUBWORD = X'0000000000000031C'
	CVD	R9, DOUBWORD	DOUBWORD = X'000000000000001D'
	CVD	R10, DOUBWORD	DOUBWORD = X'0000000000004096C'