

The Convert to Binary instruction takes packed decimal data and converts it to 2's complement integer data. Operand 1 designates a register where the result will be stored. Operand 2 represents a doubleword storage area which contains a valid 8-byte packed decimal integer.

CVB can convert any signed packed decimal integer in the range -2,147,483,648 and +2,147,483,647. If the doubleword specified in Operand 2 contains an integer outside this range, the 32 rightmost bits of the result are placed in the Operand 1 register and a fixed-point-divide exception is recognized.

In the following example, a packed field of length 4 is converted to binary.

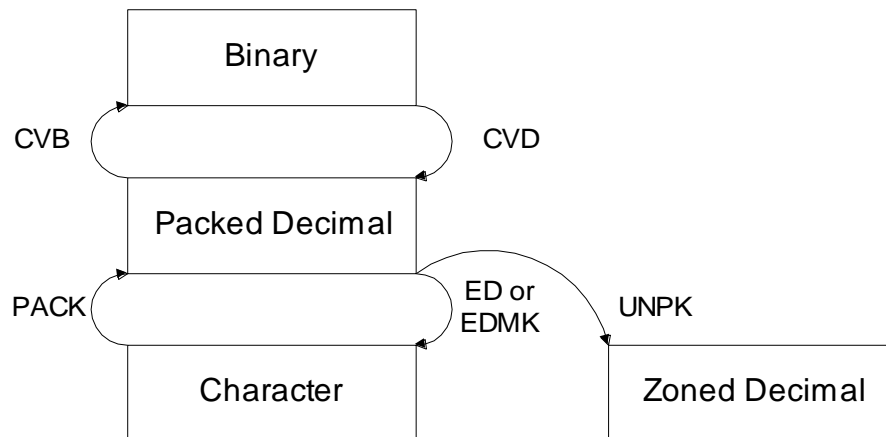
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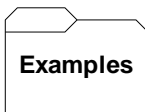
DOUBLEWORD          ZAP    DOUBWORD,XPACK    MOVE PACKED NO TO
                   CVB    R5,DOUBWORD      CHANGE IT TO BINARY
                   ...
                   XPACK  DC    PL4'123'      X'0000123C'
                   DOUBWORD DS    D

```

To convert XPACK to binary, we must first move it to a doubleword as required by the **CVB** instruction. At the end of the conversion, R5 contains x'0000007B' = 123.

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





Some Unrelated CVB Instructions

DOUBWORD	DS	D	
PKD1	DC	PL5'19'	
PKD2	DC	P'1865'	
PKD3	DC	P'-1'	
ZAP	DOUBWORD,PKD1	MOVE PACKED NO. TO STAGING AREA	
CVB	R8,DOUBWORD	R8 = X'00000013' = 19	
ZAP	DOUBWORD,PKD2	MOVE PACKED NO. TO STAGING AREA	
CVB	R8,DOUBWORD	R8 = X'00000749' = 1865	
ZAP	DOUBWORD,PKD3	MOVE PACKED NO. TO STAGING AREA	
CVB	R5,DOUBWORD	R5 = X'FFFFFFFF' = -1	
ZAP	DOUBWORD,=C'123'	DATA IS NOT PACKED	
CVB	R4,DOUBWORD	ABEND - DATA MUST BE PACKED	
ZAP	DOUBWORD,=P'3,000,000,000'	DATA IS PACKED	
CVB	R4,DOUBWORD	ABEND - FIXED PT. DIVIDE EXCEPTION	
		DATA > 2,147,483,647	