COMPLEX CONJUGATE

PURPOSE
Carry out a complex conjugation (element-by-element) of a complex variable.

DESCRIPTION
DATAPLOT stores all variables as reals. Complex variables are supported as a pair of real variables. That is, the pair Y1,Y2 of real variables can be thought of as the single complex variable $Y1 + i*Y2$ where i is the square root of -1.

The complex conjugate of $(a + bi)$ is $(a - bi)$.

SYNTAX
LET <v3> <v4> = COMPLEX CONJUGATE <v1> <v2>   <SUBSET/EXCEPT/FOR qualification>
where <v1> and <v2> are the real and imaginary components of the input variable;
    <v3> and <v4> are the real and imaginary components of the output variable;
and where the <SUBSET/EXCEPT/FOR qualification> is optional and rarely used in this context.

EXAMPLES
LET Y3 Y4 = COMPLEX CONJUGATE Y1 Y2
LET Y2R Y2I = COMPLEX CONJUGATE Y1R Y1I
LET Y3 Y4 = COMPLEX CONJUGATE Y1 Y2 SUBSET Y1 > 10
LET Y3 Y4 = COMPLEX CONJUGATE Y1 Y2 FOR I = 1 1 20

DEFAULT
None

SYNONYMS
None

RELATED COMMANDS
COMPLEX ADDITION	=	Carries out complex addition.
COMPLEX SUBTRACTION	=	Carries out complex subtraction.
COMPLEX MULTIPLICATION	=	Carries out complex multiplication.
COMPLEX DIVISION	=	Carries out complex division.
COMPLEX EXPONENTIATION	=	Carries out complex exponentiation.
COMPLEX SQUARE ROOT	=	Computes the complex square root.
COMPLEX ROOTS	=	Computes the complex roots.

APPLICATIONS
Mathematics

IMPLEMENTATION DATE
87/10

PROGRAM
LET X1 = DATA 1 3 2
LET Y1 = DATA 2 5 2
LET X2 Y2 = COMPLEX CONJUGATE X1 Y1
WRITE X1 Y1 X2 Y2