
*** ** KXBII or EXT/BASICII ** ***

BY Peter Kull

Extended Basic II (or short KXBII) is a series of CALL LINK subroutine functions which add graphics and clock functions (among other things) to TI Extended BASIC.

TO START:

Use the LOAD program supplied with the disk. It calls the LOADEX program which loads in the extensions to memory.

NOTES & Bugs:

Important! Before saving!

Before you save a program after running KXBII be sure to do a CALL INIT otherwise there might be file corruption.

Memory restrictions

If you have ever used TML you know of the lack of stack space using high resolution graphics can cause. Same here. You have about 1088 bytes of stack space after you load the high resolution utility package. From test I found that means about 200+ characters of string space available for strings. But be warned, if you exceed this limit you may not get an out of memory error but just have the upper limit strings corrupted. Be sure to test and check all large strings.

In the program write your DIM dimension string arrays after you load in the graphics package with 'INITG' and 'GRAFIK'. Otherwise it might corrupt the strings.

the <Break key>

The break key will get you out of any blank or gibberish screen created by exiting the high resolution graphics unceremoniously. You may have to hit the break key twice but I found it usually works.

Errant Character

If you put a character on the screen at about column 9, row 6 some partial random garbage will sometimes appear on that character when a CALL LINK("PRINT"...) command is executed. Not lethal, but annoying. Sprite commands are, unpredictable. I had all kinds of random errors happen while attempting to use the sprite commands with the high resolution graphics with a limited amount of stack space left. On the other hand, if I used the sprite commands with plenty of stack space left they usually acted fine.

RANDOMIZE

Randomize will sometimes causes errors with the point graphic commands such as "SET" and "DRAW"

when used with the trick `RANDOMIZE :: CALL PEEK(-31808,A)` to get a fast random number. If you just put `RANDOMIZE` at the beginning of the program and use `RND` normally things usually work as normal.

Lack of error checking

Not really a bug, just a consideration. There doesn't seem to be much error checking in the values you can insert into the KXBII's `CALL LINK("...)` commands. In fact, you may not even get an error at all related to the command but instead some random line with a `SYNTAX ERROR` or such.

Commands:

All commands are CALL LINK("command"....) functions.

LOADEX

This initially loads the package into memory from the LOAD program. Loading this a 2nd time screws up display.

Initialization functions.

INITG ("INITG") - initialize high resolution. Always must use before GRAFIK.

GRAFIK ("GRAFIK") - opens the high resolution area for use. also can be used to clear the screen in high resolution.

TEXT "TEXT" - puts you back in the standard text mode.

NOTE: These following command functions DO NOT need 'INITG' or the 'GRAFIK' to work.

Timer functions

TIMER ('TIMER',output variable) - A timer that if you divide the output variable by 39 will you roughly give you a one second counter.

TIMSET ('TIMSET') - This resets the TIMER to zero.

Clock functions

STELL ('STELL',hour,minute) - This sets a clock in the upper right of the screen which stays resident.

START ('START') - starts on-screen clock.

STOP ('STOP') - stops the on-screen clock.

UHRAUS ('UHRAUS') - removes the on-screen clock.

UHREIN ('UHREIN') - puts the on-screen clock back on the screen.

General functions

POKEV ('POKEV',memory location,input variable) - pokes data into the VDP area

PEEKV('PEEKV',memory location,output variable) - peeks at data in the VDP area

NOTE: These DO need 'INITG' & 'GRAFIK' commands before use.

Draw functions

PRINT ("PRINT",y,x,"string",foreground color,background color) - this will print a string on a screen at Y,X in whatever color and background color you wish. Probably the most useful function of the utilities.

SET ("SET",y,x,color) - turns a pixel on at Y,X with specified color.

DRAW ("DRAW",y,x,color) - draws a line from last point (SET or DRAW end) to Y,X coordinates.

PAINT ("PAINT",y,x,color) Fill command.

CIRCLE ("CIRCLE",center y,center x,right y,right x,color) - to draw a circle or ellipse. (OR)
"CIRCLE",cy,cx,ry,rx,color,begining degree, ending degree) - to draw a partial circle arc or ellipse arc.

Sprite functions (use sparingly they can be kinda buggy)

Normal TIXB sprite functions will corrupt the high resolution screen area so always use these sprite commands instead with 'INITG' and 'GRAFIK' commands.

SPRITE ('SPRITE',sprite#(1-27),char\$ number(32-127),color,Y,X) - Works like the sprite function in TIXB except you can not define the speed.

CHAR ('CHAR',char\$ number(32-127) ,'Char def of sprite') - You MUST define each char used for the sprites with this command. They are not the same as the chars defined for the PRINT command.

COINC (sprite#, sprite#, tolerance, output variable) OR (sprite-number, dot-row, dot-column, tolerance, output variable) - works like TIXB sprite coincidence except no ALL command.

DIS ('DIS',sprite#,y,x,output variable) (OR) ('DIS',sprite#,sprite#,output variable) - works like TIXB sprite DISTANCE command

POS ('POS',sprite#,y,x) - Works like TIXB sprite POSITION command.

DEL ('DEL',sprite#) - removes a sprite from the screen.

LOC ('LOC', sprite#,newy, newx) - relocates a sprite on the screen.

COL ('COL',sprite#, new color) - changes the color of a sprite.

PAT ('PAT',sprite#,new char#) - changes the char pattern of a sprite.

MOTION ('MOTION',sprite#,yspeed,xspeed) - changes the speed of a sprite. Same values as TIXB.