

Revised: December 2009

TIPS Digitizers – Setup for NT/2000/XP

An "official" TIPS digitizing tablet is either an [Altek AC32](#) or a [Calcomp DrawingBoard III](#). Both can store several setups (also called emulations or personalities) making them usable with any TIPS software which supports digitizer input. Many users have abandoned tablets because they are a hassle and big scanners are more common making "heads-up" digitizing on screen a more pleasant option.

Unfortunately, large one-of-a-kind maps should be scanned with extreme caution (if at all). Visually-equivalent scans of such maps are themselves huge (100's of megabytes) and really tax hardware resources. For these rare, big maps, tablet digitizing is still the only safe and efficient method of electronically capturing data for mapping, design, and modeling with TIPS software.

The TIPS-bought Workstations servers had 2 serial (COM) ports which simplified setting up a tablet because some software and hardware conflict with Windows tablet drivers (Wintabs). With 2 COM ports available - one port could be dedicated to software and devices which require Wintabs and the other port to everything else. Recent PCs usually have only one COM port and configuration is, to say the least, PAINFUL and spending a few dollars on a quality serial card is well worth it. Laptops are even more problematic because most don't even have a serial port! Never buy a field laptop without a serial port because the majority of dataloggers still use them.

It may be possible to use a USB-serial adapter but I've never tried one with a digitizing tablet. The adapters seem to work okay with some dataloggers so it's worth a try.

List A - Wintab is required for digitizing with:

- AutoCAD
- ArcGIS - ArcMap
- Arcview
- Windows mouse emulation
- TIPS Planimeter

List B - Wintab conflicts with:

- ArcGIS - Arcinfo - arccedit
- Dataloggers
- earthVision
- ERDAS IMAGINE
- GPS units
- Modems
- PDA's
- STORM
- UPS and other device control software

Revised: December 2009

Recommended Setup - From "Scratch"

Requires two serial ports (COM1 and COM2) - use a switchbox if possible

Wintab (List A) is "Default" on COM1; non-Wintab (List B) on COM2.

1. (a) If you don't have a Wintab, download one for Calcomp from <http://www.gtcocalcomp.com>. Contact your OSM Service Manager (or me) for an ALTEK Wintab. (b) if you have a Wintab, get the installation files and/or the original disk. Keep it handy.
2. Completely disconnect the tablet and cables from the PC. Reboot.
3. Find, stop, and disable any Wintab services running. Reboot.
4. Remove existing Wintab drivers with (in order of preference): (a) any Wintab icon in the Control Panel; (b) an Uninstall option in Start, Programs, manufacturer (or Wintab) group; or lastly (c) the Control Panel Add/Remove programs. Reboot.
5. Configure tablet settings:

ALTEK - Model AC32 (an AC40 with new brains)

A. Find the Setup Menu and lightly tape it to the tablet somewhere out in the active area. Be sure the menu is positioned so that the "Emulation" box is to the upper right.

B. Power tablet off, power tablet on.

C. At the upper left of the tablet is a command strip, use the cursor (aka puck) button 0 to click on Setup Menu. Next click the dot on the lower left and then the dot on the lower right.

D-1. Wintab/Default - Find and click on the following, in order:

- Emulation ALTEK
- 9600 bps
- 1 stop bit
- 8 data bits
- no parity
- F8
- 100 pts/sec
- Type 1
- Increment .100 inch
- Resolution .001 inch
- Run
- CR on
- LF off
- CTS off
- Store 1

Revised: December 2009

D-2. Non-Wintab - Find and click on the following, in order:

Emulation B
9600 bps
1 stop bit
8 data bits
no parity
F12
100 pts/sec
Type 1
Increment .100 inch
Resolution .001 inch
Point
CR off
LF on
CTS off
Store 4

(D-1 is for Wintab and is now the default; D-2 is for non-Wintab and is activated by selecting RECALL 4 from the command strip.)

E. Power board off; connect it to COM1; power board on; disable virus scanning; install Wintab; Reboot. The puck should now act like a second mouse and the software in List A should recognize the tablet. If the tablet doesn't seem to be "talking" to the computer, then it's time to play "cable roulette."

F. Once the cabling is OK and the tablet is talking, you can use it with List B software by: moving the cable from COM1 to COM2 (or use a switchbox); selecting RECALL 4 from the command strip; and setting the List B software drivers up so they're "listening" for the tablet on COM2.

Calcomp DrawingBoard III

A. Power tablet off, power tablet on.

B. Use the cursor (aka puck) button 0 to click on CONFIG/EXIT (upper left of board) to enter configuration mode. The CONFIGURATON light will come on (this means menu strip is activated..

C. Click on the Bank A key. (as you move the puck over buttons 1 through 18, the POWER light will come on sometimes. This means that button is ON. Pressing the 0 puck button will toggle BANK buttons ON and OFF.)

D-1. Wintab/Default (1 POWER light on; 0 POWER light off)

BANK A 1 1 0 0 0 1 1 1 1 1 0 1 0 1 1 1 0 1 (1,2,6-10,12,14-16,18 ON)

BANK B 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 1 (3,4,18 ON)

BANK C 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 (3,4 ON)

Click on SAVE DEFAULT

D-2. Non-Wintab (1 POWER light on; 0 POWER light off)

Revised: December 2009

BANK A 0 1 0 0 0 0 0 0 1 1 0 0 0 1 1 0 0 1 (2,9,10,14,15,18 ON)

BANK B 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 (3,4 ON)

BANK C 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 (3,4 ON)

Click on SAVE 3

(D-1 is for Wintab and is now the default; D-2 is for non-Wintab and is activated by selecting CONFIG/EXIT, RESTORE 3, CONFIG/EXIT from the CONFIGURATION strip.)

E. Power tablet off; connect it to COM1; power tablet on; disable virus scanning; install Wintab; Reboot. The puck should now act like a second mouse and the software in List A should recognize the tablet. If the tablet doesn't seem to be "talking" to the computer, then it's time to play "cable roulette."

F. Once the cabling is OK and the tablet is talking, you can use it with List B software by moving the cable from COM1 to COM2 (or use a switchbox); selecting CONFIG/EXIT, RESTORE 3, CONFIG/EXIT from the CONFIGURATION strip; and setting the List B software drivers up so they're "listening" for the board on COM2.