Tested Digitizer Guide

This document lists the digitizers tested in-house at ESRI and their ability to work successfully with ArcGIS 8x and ArcInfo Workstation 8x. Digitizing in ArcMap requires that you install the vendor's WinTab driver and ArcMap supports most WinTab drivers. The following table displays the digitizer support class for ArcGIS Desktop, and the support class and available digform files for UNIX and NT Workstation by digitizing mode (Point and Stream). Be sure to check the "Notes" column.

NOTE! This document uses the support levels on Page 4.

ESRI supports direct connection of the digitizers to the UNIX or Windows host only via an RS-232 interface.
Digitizing from an X terminal serial port or third-party interface is possible in many cases, but it may require information and support from the UNIX computer system and digitizer vendors and is *not* supported by ESRI.

To digitize with ArcMap, you will need to install the required Windows driver for your digitizer, which should be available from the manufacturer. Please consult your digitizer manufacturer's documentation, website or customer services for additional help.
NOTE: your digitizer setup for ArcMap may not be compatible for use with ArcInfo Workstation and vice versa. If you plan to use your digitizer with both ArcMap and ArcInfo Workstation, you will need a com port and setup for both. Please refer to the ESRI Technical Support website (http://support.esri.com) for help.

To customize a digitizer interface with ArcInfo Workstation, the digitizer format file can be found in ARCHOME/digform, prefixed by "dig_". For more information regarding digitizer configuration, please see Page 5 and beyond.

Digitizer model	ArcMap	ArcInfo Workstation Point	ArcInfo Workstation Stream	Notes
Altek AC90C (a)	4	4 altek	4	Discontinued
Altek AC30 (a)	4	4 altek30	4	Discontinued
Altek AC31 (a)	2	2 altek	2 altek	Vendor Driver causes beeping from computer
Altek AC32 (a)	2	2 altek	2 altek	Vendor Driver causes beeping from computer
Altek AC40C (a)	4	4 altek	4	
Altek AC41 (a)	2	2 altek	2 altek	Vendor Driver causes beeping from computer
Altek Datatab II (a)	4	4 altek	4	
Altek Datatab IV (a)	4	4 altek31	4	
CalComp 2000	4	4 2000	4	
CalComp 2300	4	4 9100	4	Discontinued
CalComp 2500	4	4 2500	4	Discontinued
CalComp 8000	5	5 9000	5	Discontinued

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Digitizer model	ArcMap	ArcInfo Workstation Point	ArcInfo Workstation Stream	Notes
CalComp 9000	4	4 9000	4	Discontinued
CalComp 9100	4	2 9100	2 9100	Discontinued
CalComp 9500	4	2 9500	2 9500	
CalComp 33000 Series	1	1 9100	1 9100	
CalComp 34000 Series	1	1 9100	1 9100	Drawing Board III
CalComp DrawingBoard IV	1	2 9100	2 9100	
CalComp Drawing Slate II	1	1 9100	1 9100	
CalComp EstiMat	5	2 9100	2 9100	
GTCO Accutab	1	1 gtco16	1 gtcostrm	
GTCO Accutab II	1	2 9100	2 9100	
GTCO Digi-Pad	4	4 gtco	4	
GTCO Sketchmaster	4	4 gtcosket	4	
GTCO Super L	4	4	4	Refer to ArcDoc "Adding a digitizer interface" to create customized format files.
GTCO Super L II	5	1 gtco16	1 gtcostrm	
GTCO Ultima	5	5	5	
GTCO 2024 Rollup	5	1 gtco16	1 gtcostrm	
GTCO 2024 Rollup II	5	1 gtco16	1 gtcostrm	
GTCO 3036R Roll Up	5	1 gtco16	1 gtcostrm	
GTCO Ultima II	4	2 9100	2 9100	Set to emulate CalComp 9100
Houston Instruments Complot 7000	5	5	5	Requires developing a customized format file
Houston Instruments HIPAD	5	5	5	
Houston Instruments HIPAD1	5	5	5	
Kurta IS/One	4	4 kurtais1	4	
Kurta IS 3	4	4 kurtais3	4	
Numonics 2000	4	4 numo2000	4	
Numonics 2200	4	4 numo	4	
Numonics Accugrid	4	4 accu	4 accu	Set to emulate CalComp 9100
Numonics Accugrid III	4	4 accu	4 accu	Set to emulate CalComp 9100
Numonics GridMaster	4	4 sgbp2	4	
Summagraphics Summagrid V	1	1 sg5	1 sg5	
Summagraphics 2000	4	4 mgrid	4	

Tested Digitizer Guide

Digitizer model	ArcMap	ArcInfo Workstation Point	ArcInfo Workstation Stream	Notes
Summagraphics Bit Pad II	4	4 sgbp2	4	
Summagraphics Microgrid	4	4 sgmg3	4	
Summagraphics Microgrid II	4	4 sgmg3	4	
Summagraphics Microgrid III	4	4 sgmg3	4	
Summagraphics MM1201	4	4 sg1201	4	
Summagraphics SummaGrid IV	4	2 sgfour	2	
Summasketch Professional I	5	5 ss2pp	5	
Summasketch II	5	5 ss2	5	
Summasketch Professional II	5	5 sspro2	5	
Summasketch Professional II plus	5	5 ss2pp	5	
Summasketch Professional III	1	1 sspro3	1 sspro3	

NOTE! This document uses the support levels on Page 4.

For Information regarding digitizer configuration, please see Page 5 and beyond.

(a) Vendor no longer manufactures or sells digitizers

Support Levels

Level 1: Fully supported, tested at ESRI
The environment has been certified to run successfully with ArcInfo, ArcEditor, or ArcView. Any problems that occur with these environments can be tested on-site at ESRI.

Level 2: Supported with limitations. May not be available at ESRI
The environment has been tested and runs with known limitations with ArcInfo, ArcEditor, or ArcView, therefore it cannot be fully supported due to these limitations. Users are expected to know how to connect and configure these software for their computer. The environment is not always available on-site at ESRI; therefore any problem that occurs in this environment, but does not occur in the Level 1 environment, may be difficult to isolate and solve, or might take more time.

Level 3: Has not been tested at ESRI
The environment has not been tested at ESRI, but it is assumed by ESRI to work with ArcInfo, ArcEditor, or ArcView because user sites have reported working with that environment. The environment is assumed by ESRI to work until that environment is shown to fail.

Level 4: Unknown
It is unknown at this time whether the environment will work with ArcInfo, ArcEditor, or ArcView.

Level 5: Not Supported
The environment has been tested and found to have serious limitations or restrictions. One of the components of the environment is of an earlier version than the version used to build the software.

Workstation ArcInfo And ArcGIS

Digitizer Specifications

Workstation ArcInfo & ArcGIS Digitizer Specifications

Introduction

These specifications indicate suggested configurations when connecting digitizers to Workstation ArcInfo or ArcGIS. Desktop ArcInfo and ArcView on Window use Wintab drivers, Workstation ArcInfo communicates directly with the Digitizer and requires setting parameters on the board itself. For information on supported digitizers and support levels, please read the Tested Digitizer Guide available online.

The information contained in this guide changes as new devices and upgrades to existing devices are acquired by ESRI; more recent information may not be available. Questions or problems regarding a particular device and/or configuration should be directed to your local distributor outside of the United States or:

ESRI Technical Support
Phone: (909) 793 - 3774
Web: http://support.esri.com
Email: support@esri.com

If you are using this document to help you decide which devices to purchase for use with ArcInfo or ArcView GIS software, please contact your regional sales office or local distributor outside the United States.

Specification Notes

- Where 0 and 1 are used to denote settings, 0 = 'off' and 1 = 'on'.

Unix-Specific Information

Unix platforms require that the serial port the digitizer is attached to has rw permissions for all.

e.g.

```
% su
# chmod 666 /hw/ttys/ttyd1
```

Some platforms do not retain these permissions upon re-boot. Add the relevant strings to files specific to each platform

e.g. ioperms (IRIX) file.

```
/dev/ttya 0666 root sys # Specify your serial port
```

Troubleshooting Techniques

Digitizers communicate with computers via a serial port. Many programs allow you to communicate with a device connected to a serial port. Windows has Hyperterm. Configure Hyperterm to use the same parameters as noted and then specify the port that you digitizer is connected to. When connected you should see output when depressing buttons on the puck.
On Unix, use '% cat < /dev/ttya' (replace /dev/ttya with your port) to output digitizer responses to screen.

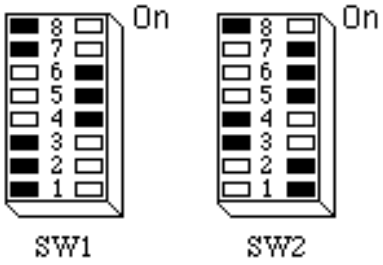
Workstation ArcInfo required an ASCII formatted stream and the output stream should be a readable sequences of numbers. ArcGIS uses Wintab drivers which take binary formatted input. This output will be unreadable on screen.

Altek AC30 *(Discontinued Model)*

Communications

BAUD RATE	= 9600	PARITY	= Even
DATA BITS	= 7	RESOLUTION	= 1000 LPI
STOP BITS	= 1	FORMAT	= Altek

Settings



Values

SW1:

1–3: Rate/Incremental Value (100 pts/sec)
4–6: Resolution (1000 lpi)
7: Line Feed (off)
8: Menu (off)

SW2:

1, 2: Not Used
3–5: Baud Rate (9600)
6-8: Format Number (2)

Commands

Arc: digtest altek /dev/ttya:9600:7bit:even
Arc: digitizer altek /dev/ttya:9600:7bit:even

Notes

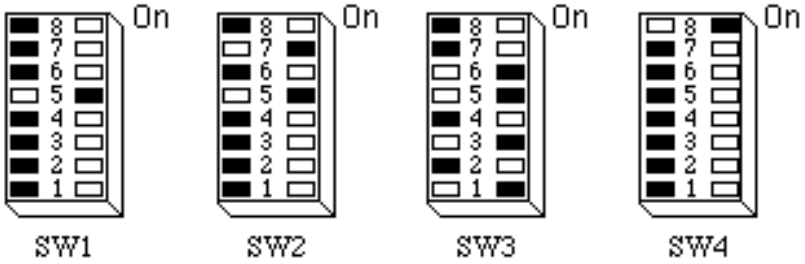
This controller may be used with any size ALTEK board.

Altek AC31 *(Discontinued Model)*

Communications

BAUD RATE	= 9600	PARITY	= None
DATA BITS	= 8	RESOLUTION	= 1000 LPI
STOP BITS	= 1	FORMAT	= Altek

Setting



Values

SW1:

1: Dipswitch/NoVram (dipswitch)
2–4: Mode (point)
5: Run Type (2)
6: Tone (disabled)
7: Menu (disabled)
8: Board Type (Datatab)

SW2:

1, 2: Emulation (Altek)
3–8: Format Number

SW3:

1–3: Baud Rate (9600)
4: Parity (none)
5: Odd/Even
6: Data Bits (8)
7: Stop Bits (1)
8: RTS/CTS (disabled)

SW4:

1–3: Rate/Increment (2 pts/sec)
4–6: Resolution (1000 lpi)
7: Carriage Return (disabled)
8: Line Feed (enabled)

Commands

Arc: digtest altek31 /dev/ttya:9600:8bit:none
Arc: digitizer altek31 /dev/ttya:9600:8bit:none

Altek AC32 / AC32-1

Communications

Workstation ArcInfo

BAUD RATE	= 9600	PARITY	= None
DATA BITS	= 8	RESOLUTION	= 1000 LPI
STOP BITS	= 1	FORMAT	= Altek

Note: IRIX machines require Data Bits = 7 and Parity = Even

ArcGIS
Wintab driver tested: The Virtual Tablet Interface v5.0 (Dec 2000)

Settings
Change settings by on-board menu 'Model AC32 Digitizer Set-Up Menu'.

Values

	Workstation	ArcGIS
Format:	10	8
Baud rate:	9600	9600
Parity:	None	None
Data bits:	8	8
Stop bits:	1	1
Stream type:	Point	Run
Rate:	14	50
Run type:	2	2
Increment:	10	10
Increment type:	Radial	Radial
English:	Mils	Mils
Control mode:	Altek	Altek
Buffer size:	1	1
CR	ON	ON
LF	ON	ON
CTS	OFF	OFF

Commands
Arc: digtest altek /dev/ttya:9600:8bit:none
Arc: digitizer altek /dev/ttya:9600:8bit:none

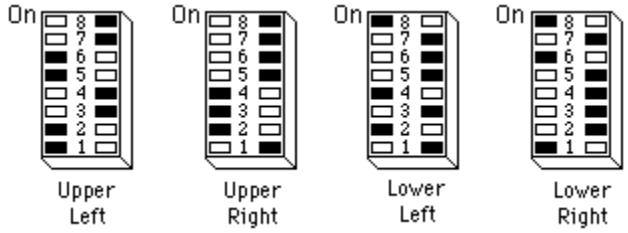
Altek AC40 *(Discontinued Model)*

Communications

BAUD RATE	= 9600	PARITY	= None
DATA BITS	= 8	RESOLUTION	= 1000 LPI
STOP BITS	= 1	FORMAT	= Altek

Note: IRIX machines require Data Bits = 7 and Parity = Even

Setting



Values

Upper Left

1: Data Bits (8)
2: Even/Odd
3: Parity (disabled)
4: Stop Bits (1)
5–8: Baud Rate (9600)

Lower Left

1: Host (disabled)
2: XON
3: Disable Sign
4: Line Feed (enabled)
5: Metric/English (English)
6–8: Output Format (2)

Upper Right

1–4: Stream Value (33 pts/sec)
5, 6: Stream (rate)
7, 8: Mode (point)

Lower Right

1: .02 mm
2: DTR2 off
3: DTR1 off
4: Serial/Parallel (Serial)
5, 6: Run Type (2)
7: Large/Standard (standard)
8: Binary (2)

Commands

Arc: digtest altek /dev/ttya:9600:8bit:none
Arc: digitizer altek /dev/ttya:9600:8bit:none

Altek AC41

Communications

Workstation ArcInfo

BAUD RATE	= 9600	PARITY	= None
DATA BITS	= 8	RESOLUTION	= 1000 LPI
STOP BITS	= 1	FORMAT	= Altek

Note: IRIX machines require Data Bits = 7 and Parity = Even

ArcGIS

Wintab driver tested: The Virtual Tablet Interface v5.0 (Dec 2000)

Settings

Change settings by on-board menu 'Model AC41 Digitizer Set-Up Menu'.

Values

	Workstation	ArcGIS
Format:	10	8
Baud rate:	9600	9600
Parity:	None	None
Data bits:	8	8
Stop bits:	1	1
Stream type:	Point	Run
Rate:	14	50
Run type:	2	2
Increment:	10	10
Increment type:	Radial	Radial
English:	Mils	Mils
Table type:	Site Specific	Site Specific
Control mode:	Altek	Altek
Buffer size:	1	1
DTE port:	ON/Data	ON/Data/Message
DCE port:	ON/Data	ON/Data/Message
PRN	OFF	OFF
CR	ON	ON
LF	ON	ON
CTS	OFF	OFF

Commands

Arc: digtest altek /dev/ttya:9600:8bit:none
Arc: digitizer altek /dev/ttya:9600:8bit:none

CalComp 2300 Series *(Discontinued Model)*

Communications

BAUD RATE	= 9600	PARITY	= None
DATA BITS	= 8	RESOLUTION	= 1000 LPI
STOP BITS	= 1	FORMAT	= CalComp 9100 #3

Settings

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
1	0	0	0	0	1	1	0	0	0	0	1
13	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	
1	1	1	0	0	1	0	0	1	1	0	

Values

1–5: Mode (point)
6: Data Bits (8)
7–9: Parity (none)
10–12: Baud Rate (9600)
13–16: Format (CC9100 #3)
17: Line Feed (none)
18–20: Data Rate (100 pps for format #3)
21–23: Resolution (1000 lpi)

Commands

Arc: digtest 9100 /dev/ttya:9600:8bit:none
Arc: digitizer 9100 /dev/ttya:9600:8bit:none

Notes

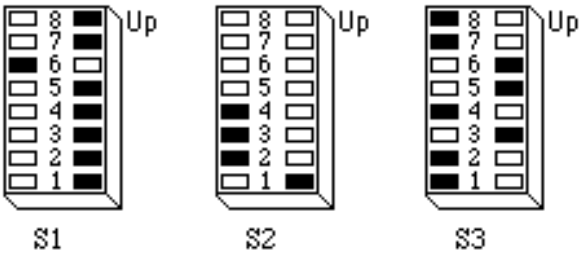
Older models smaller than 24" do not have the menu setup capability. Software command sequences are sent from the host to change the operating mode of these digitizers. Refer to the CalComp user documentation for these models for details on software commands.

CalComp 9000 *(Discontinued Model)*

Communications

BAUD RATE	= 9600	PARITY	= None
DATA BITS	= 8	RESOLUTION	= 1000 LPI
STOP BITS	= 1	FORMAT	= CalComp 9100 #3

Setting



Values

S1

1–8: RS-232/Parallel setup (parallel off)

S2

1: Data Bits (8)
2: Stop Bits (1)
3, 4 Parity (off)
5–8: Tablet Size at resolution

S3

1, 2: Mode (point)
3: Parallel Out (BCD)
4, 5: Format (3)
6–8: Baud Rate (9600)

Commands

Arc: digtest 9000 /dev/ttya:9600:8bit:none
Arc: digitizer 9000 /dev/ttya:9600:8bit:none

Notes

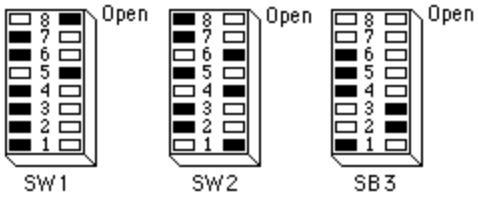
It may be required that the CalComp 9000 Smart function be disabled before this digitizer will communicate with the workstation. Do this by pressing ##0 on the digitizer cursor. Refer to the CalComp user documentation for details.

CalComp 9100 *(Discontinued Model)*

Communications

BAUD RATE	= 9600	PARITY	= None
DATA BITS	= 8	RESOLUTION	= 1000 LPI
STOP BITS	= 1	FORMAT	= #3

Setting



Values

S1

1–3: Parity (disabled)
4: Stop Bits (1)
5: Data Bits (8)
6–8: Baud Rate (9600)

S2

1: Port B/D (on)
2: Not Applicable
3: Line Feed (off)
4: Port A/C (on)
5: Small Menu (off)
6: Cursor (on)
7: Echo B/D (off)
8: Line Feed B/D (off)

S3

1, 2: Operating Mode (point)
3, 4: Format (3)
5, 6: Resolution (1000 lpi)
7, 8: Tablet Size

Commands

Arc: digtest 9100 /dev/ttya:9600:8bit:none
Arc: digitizer 9100 /dev/ttya:9600:8bit:none

CalComp 9500

Communications

BAUD RATE	= 9600	PARITY	= None
DATA BITS	= 8	RESOLUTION	= 1000 LPI
STOP BITS	= 1	FORMAT	= CalComp 9100 #3

Settings

Area 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	0	0	0	0	0	0	1	1	0	0	1	1	0

Area 2

1	2	3	4	5	6	7	8	9	10	11	12
0	0	1	1	1	0	0	0	1	0	1	0

Values

Area 1

1–6: Mode (point)
7–9: Resolution (1000 lpi)
10–14: Format (9100 #3)

Area 2 (Port A) or 3 (Port B)

1–3: Baud Rate (9600)
4: Data Bits (8)
5–7: Parity (none)
8: Stop Bits (1)
9: Tx (pin 3 transmits)
10: Line Feed (off)
12: Port A (enabled)
13: Echo (disabled)

Commands

Arc: digtest 9500 /dev/ttya:9600:8bit:none
Arc: digitizer 9500 /dev/ttya:9600:8bit:none

Notes

If a null cable is used, change tx in area 2 or 3 to off.

CalComp Drawingboard II & III (33000/34000 Series)

Communications

BAUD RATE	= 9600	PARITY	= None
DATA BITS	= 8	RESOLUTION	= 1000 LPI
STOP BITS	= 1	FORMAT	= CalComp 9100 #3

Settings

Bank A

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
0	1	0	0	0	1	1	1	1	1	0	0	0	1	1	0	0	1

Bank B

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1

Bank C (34000 Series only)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Values

Bank A

- 1–2: Mode (point)
- 3, 4: Increment (none)
- 5: Prompt (off)
- 6–8: Data Rate (125 pps)
- 9–11: Resolution (1000 lpi)
- 12–16: Format (6)
- 17: Line Feed (none)
- 18: Data Bits (8)

Bank B

- 1–3: Baud Rate (9600)
- 4–6: Parity (none)
- 7: Pen Drive Freq (low)
- 8: Use MM commands
- 9: Do not use ESC on 9X00 commands
- 10: Send only in proximity
- 11: Pressure Pen Data (off)
- 12: Height Data (off)
- 13: Pen Tilt Data (off)
- 14: Pen Tilt Correction (off)
- 15, 16: Mouse Emulation (none)
- 17: High Proximity
- 18: CTS Line Enable (on)

Bank C (34000 Series only)

1: Tablet Rotation
2: Remove <CR> on ASCII formats (off)
3, 4: Reserved
5: Tilt Data to Pressure Data
6: Tablet Rotation
7–18: Reserved

Commands

Arc: digtest 9100 /dev/ttya:9600:8bit:none
Arc: digitizer 9100 /dev/ttya:9600:8bit:none

Notes

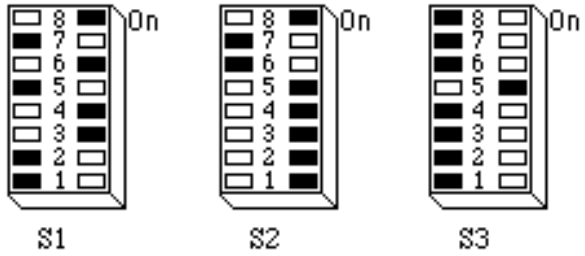
Using a Null Modem on Bank C may cause 3 & 4 to be reversed

GTCO DIGI-PAD 5 *(Discontinued Model)*

Communications

BAUD RATE	= 9600	PARITY	= None
DATA BITS	= 8	RESOLUTION	= 1000 LPI
STOP BITS	= 1	FORMAT	= GTCO

Settings



Values

S1

1–4: Baud Rate (9600)
5, 6: Parity (disabled)
7: Stop Bits (1)
8: Data Bits (8)

S2

1: Pushbutton code (include)
2: Space (include)
3: Carriage return (include)
4: Line Feed (include)
5: High Res ASCII (if S3-7 is off)
6, 7: Active Serial Port (both A & B)
8: Alarm (enabled)

S3

1: Not Used
2, 3: Rate (100 pps)
4: Mode (point)
5: Cursor (16 button)
6: Scale (inches)
7: Format (ASCII)
8: Hardware flow control (disabled)

Commands

Arc: digtest gtco16 /dev/ttya:9600:8bit:none
Arc: digitizer gtco16 /dev/ttya:9600:8bit:none

GTCO Super L II

Communications

BAUD RATE	= 9600	PARITY	= None
DATA BITS	= 8	RESOLUTION	= 1000 LPI
STOP BITS	= 1	FORMAT	= GTCO

Settings

This digitizer comes with a preinstalled setup for ARC/INFO which can be accessed via the embedded menu at the top of the digitizer. Place the crosshairs of the puck over the ‘S’ and press button 1 on the puck. Repeat for ‘1’ and ‘2’ on the menu. After selecting ‘2’, the digitizer will beep four times. It is now programmed for ARC/INFO settings.

Commands

```
Arc: digtest gtco16 /dev/ttya:9600:8bit:none
Arc: digitizer gtco16 /dev/ttya:9600:8bit:none
```

GTCO SketchMaster *(Discontinued Model)*

Communications

BAUD RATE	= 9600	PARITY	= None
FORMAT	= ASCII		

Settings

There is a small dipswitch with three configuration switches on it located between the interface cable jack and the cursor jack at the back of the digitizer. Baud rate, parity, and format are set via this dipswitch.

Values

1: Baud (9600)
2: Format (ASCII)
3: Parity (none)

Commands

Arc: digtest gtcosket /dev/ttya:9600:8bit:none
Arc: digitizer gtcosket /dev/ttya:9600:8bit:none

GTCO Roll-Up II 3036R

Communications

BAUD RATE	= 9600	PARITY	= None
DATA BITS	= 8	RESOLUTION	= 1000 LPI
STOP BITS	= 1	FORMAT	= GTCO

Settings

The Roll-Up 3036 model has a preinstalled setup for ARC/INFO. Place the cursor crosshairs over the on-board menu switches and select ‘S’, then ‘1’ ‘2’. You will hear four beeps to indicate that the digitizer has been configured.

Commands

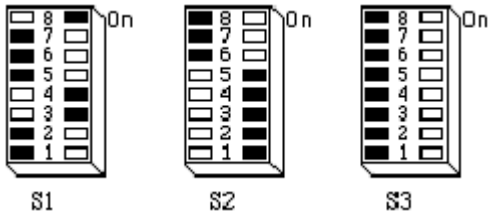
```
Arc: digtest gtco16 /dev/ttya:9600:8bit:none
Arc: digitizer gtcostrm /dev/ttya:9600:8bit:none
```

GTCO Roll-Up II

Communications

BAUD RATE	= 9600	PARITY	= None
DATA BITS	= 8	RESOLUTION	= 1000 LPI
STOP BITS	= 1	FORMAT	= GTCO

Settings



S1

1	2	3	4	5	6	7	8
0	**0**	**1**	**1**	**0**	**0**	**0**	**1**

S2

1	2	3	4	5	6	7	8
1	**1**	**1**	**1**	**1**	**1**	**0**	**0**

S3

1	2	3	4	5	6	7	8
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Values

S1

1–4: Baud Rate (9600)
5, 6: Parity (disabled)
7: Stop Bits (1)
8: Data Bits (8)

S2

1: Button Key
2: Space (include)
3: Carriage Return (ON)
4: Line Feed (ON)
5: Format (ASCII/Binary)
6, 7: Not used
8: Audio Tone

S3

1: Not used
2, 3: Rate
4: Mode
5: Not used
6: Scale (inches)
7: Format (ASCII/Binary)
8: Not used

Commands

Arc: digtest gtco16 /dev/ttya:9600:8bit:none
Arc: digitizer gtcostrm /dev/ttya:9600:8bit:none

GTCO Ultima II *(Discontinued Model)*

Communications

BAUD RATE	= 9600	PARITY	= None
DATA BITS	= 8	RESOLUTION	= 1000 LPI
STOP BITS	= 1	FORMAT	= GTCO

Settings

Bank A

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
0	1	0	0	0	1	1	1	1	1	0	0	1	0	0	1	0	1

Bank B

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1

Values

Bank A

- 1–2: Mode (Point)
- 3, 4: Increment Mode (None)
- 5: Prompt (OFF)
- 6–8: DataRate (125 pps)
- 9–11: Resolution (1000 lpi)
- 12–16: Format (GTCO DP5 ASCII)
- 17: Line Feed (None)
- 18: Data Bits (1)

Bank 8

- 1–3: Baud Rate (9600)
- 4–6: Parity (None)
- 7: Stylus Frequency (Low)
- 8: Summagraphics/CalComp commands (Use)
- 9: Use 9X00 ESC commands (Do not use)
- 10: Proximity (None)
- 11: Pressure Tip Stylus Data (OFF)
- 12: Stylus Height Data (OFF)
- 13: Stylus Tilt Data (OFF)
- 14: Stylus Tilt Correction (OFF)
- 15, 16: Mouse Emulation (None)
- 17: Proximity (High)
- 18: CTS Enable (OFF)

Commands

Arc: digtest gtco16 /dev/ttya:9600:8bit:none
Arc: digitizer gtco16 /dev/ttya:9600:8bit:none

GTCO AccuTab

Communications

BAUD RATE	= 9600	PARITY	= None
DATA BITS	= 8	RESOLUTION	= 1000 LPI
STOP BITS	= 1	FORMAT	= GTCO

Settings

The GTCO AccuTab has a preinstalled set up for ARC/INFO. Place the cursor crosshairs over the on-board menu switches and select ‘A’, then ‘0’ ‘3’. You will hear four beeps to indicate that the digitizer has been configured.

Commands

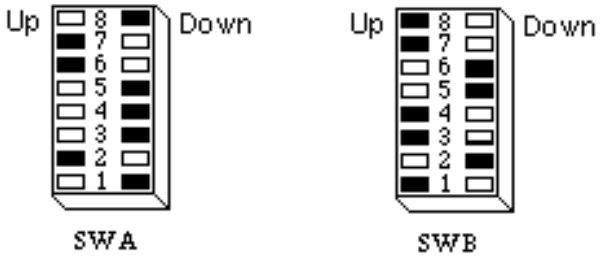
```
Arc: digtest gtco16 /dev/ttya:9600:8bit:none
Arc: digitizer gtcostrm /dev/ttya:9600:8bit:none
```

Kurta IS/One

Communications

BAUD RATE	= 9600	PARITY	= None
DATA BITS	= 8	RESOLUTION	= 1000 LPI
		FORMAT	= ASCII

Settings



Values

SWA

1–3: Mode (point)
4, 5: Logo Menu Strip (disabled)
6–8: Baud Rate (9600)

SWB

1–3: Format (ASCII, High Resolution)
4: Data Bits (8)
5, 6: Parity (disabled)
7, 8: Data Rate (100)

Commands

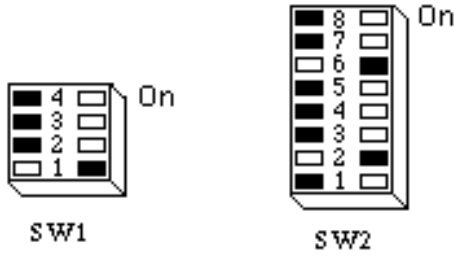
Arc: digtest kurtais1 /dev/ttya:9600:8bit:none
Arc: digitizer kurtais1 /dev/ttya:9600:8bit:none

Kurta IS/Three

Communications

BAUD RATE	= 9600	PARITY	= Even
DATA BITS	= 7	RESOLUTION	= 1000 LPI
STOP BITS	= 2	FORMAT	= ASCII 5

Settings



Values

SW1

1–3: Baud Rate (9600)
4: Auto Baud (disabled)

SW2

1–3: Mode (point)
4: Resolution (1000 lpi)
5: English
6-8: Format (ASCII format 5)

Commands

Arc: digtest kurtais3 /dev/ttya:9600:8bit:none
Arc: digitizer kurtais3 /dev/ttya:9600:8bit:none

Numonics AccuGrid / AccuGrid III

Communications

BAUD RATE	= 9600	PARITY	= None
DATA BITS	= 8	RESOLUTION	= 1000 LPI
STOP BITS	= 1	FORMAT	= ASCII 3

Settings

All configuring is done through the setup menu which comes with the AccuGrid. Refer to the AccuGrid manual for instructions on how to use the setup menu.

Values

Emulation:	Calcomp 9X00 format 3
ASCII options:	CR LF
Baud rate:	9600
Data bits:	8
Parity:	None
Stop bits:	1
Mode:	point
Increment size:	0 (off)
Stream rate:	max
Resolution:	1000 lpi
Beeper:	disabled
Transmit out of proximity:	disabled

Commands

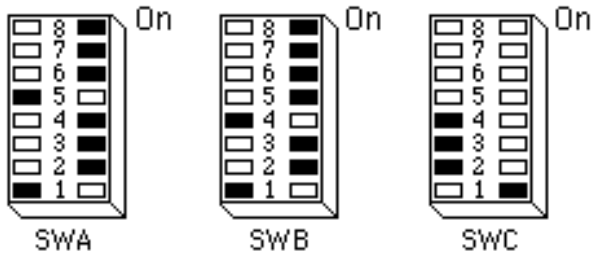
Arc: digtest 9100 /dev/ttya:9600:8bit:none
Arc: digitizer 9100 /dev/ttya:9600:8bit:none

Numonics 2200 *(Discontinued Model)*

Communications

BAUD RATE	= 9600	PARITY	= None
DATA BITS	= 7	RESOLUTION	= 1000 LPI
STOP BITS	= 1	FORMAT	= Numonics

Setting



Values

SWA

1–4: Mode (point)
5: English
6: Absolute/Increment (Bit Pad)
7: Packed Binary/ASCII (ASCII)
8: Not Applicable

SWB

1: Carriage return (enabled)
2: Line Feed (disabled)
3: Parity (disabled)
4: Odd/Even
5: Stop Bits (1)
6: Audible (disabled)
7: XON/XOFF (disabled)
8: Self-diagnostics (disabled)

SWC (site specific)

Commands

Arc: digtest numo /dev/ttya:9600:7bit:none
Arc: digitizer numo /dev/ttya:9600:7bit:none

Numonics GridMaster

Communications

BAUD RATE	= 9600	PARITY	= None
DATA BITS	= 8	RESOLUTION	=500 LPI
STOP BITS	= 1	FORMAT	= Summagraphics MM

Settings

See notes below.

Commands

```
Arc: digtest sgbp2 /dev/ttya:9600:8bit:none
Arc: digitizer sgbp2 /dev/ttya:9600:8bit:none
```

Notes

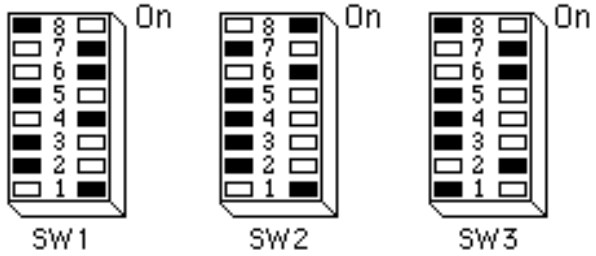
- Interface is via a vendor-supplied menu. To initialize the menu, unplug the cursor, hold down any button, and wait for the indicator light to blink 3 times. Place menu on board. An initialized parameter will illuminate the indicator light when the crosshairs of the cursor puck are placed over the respective area on the menu. Press any button to change the state of that parameter.
- When in 1000 lines/inch resolution, the output format changes between coordinates < 10000 and > 9999 (e.g., <10 = XXX, YYY, K >10 = XXXXX, YYYYY, k). One format statement cannot handle the different output formats, so 500 LPI must be used.
- Only one ASCII output format is available on this digitizer. For 16-button cursors, the 16-button function must be initialized each time (i.e., via the format file). This did not work every time during testing at ESRI, and the sequence (:6B) had to be sent to the digitizer from a file using the UNIX cat command.

Summagraphics Bit Pad 2 *(Discontinued Model)*

Communications

BAUD RATE	= 9600	PARITY	= None
DATA BITS	= 8	RESOLUTION	= 500 LPI
STOP BITS	= 1	FORMAT	= MM

Settings



Values

SW1

- 1: Remote control (enabled)
- 2: Proximity transmission (only when in prox.)
- 3: Stream (disabled)
- 4: Switch (enabled)
- 5: Coordinate content (absolute)
- 6–8: Report rate (100 rps)

SW2

- 1: Report format (ASCII BCD)
- 2: ASCII report terminator (CR)
- 3–5: Increment setting (0)
- 6–8: Resolution (500 lpi)

SW3

- 1: Parity (disabled)
- 2: Odd/even
- 3: Stop bits (one)
- 4: CTS handshake (disabled)
- 5: Cursor output code (B)
- 6–8: Baud rate (9600)

Commands

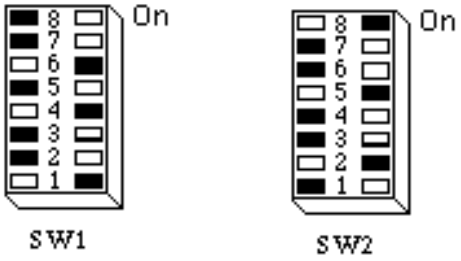
Arc: digtest sgbp2 /dev/ttya:9600:8bit:none
Arc: digitizer sgbp2 /dev/ttya:9600:8bit:none

Summagraphics Microgrid II *(Discontinued Model)*

Communications

BAUD RATE	= 9600	PARITY	= Even
DATA BITS	= 8	RESOLUTION	= 1000 LPI
STOP BITS	= 1	FORMAT	= ASCII BCD

Settings



Values

SW1

- 1–3: Baud rate (9600)
- 4: Parity (even)
- 5: Stop bits (1)
- 6: Echo (on)
- 7: Proximity transmission (in proximity)
- 8: Grid diagnostics (no prompts)

SW2

- 1, 2: Resolution (1000 lpi)
- 3: ASCII counts report format (off)
- 4: Report format (ASCII CBD)
- 5: ASCII report terminator (CR LF)
- 6: ASCII decimal point (none)
- 7, 8: Mode (point)

Commands

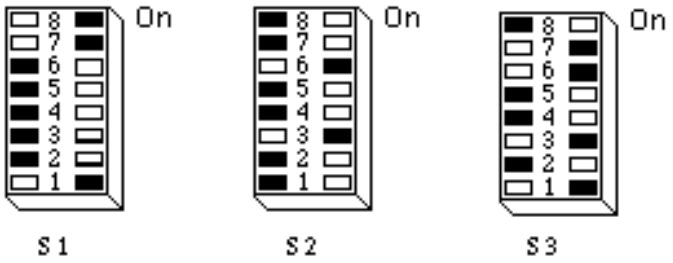
Arc: digtest sgmg3 /dev/ttya:9600:7bit:even
Arc: digitizer sgmg3 /dev/ttya:9600:7bit:even

Summagraphics Microgrid III *(Discontinued Model)*

Communications

BAUD RATE	= 9600	PARITY	= NONE
DATA BITS	= 8	RESOLUTION	= 1000 LPI
STOP BITS	= 1	FORMAT	= UIOF

Settings



Values

S1

- 1–3: Baud rate (9600)
- 4: Parity (even)
- 5: Parity (disabled)
- 6: Stop bits (1)
- 7: Data bits (8)
- 8: Report format (ASCII)

S2

- 1: ASCII counts report format (off)
- 2: ASCII decimal point (none)
- 3: ASCII report terminator (CR)
- 4: Resolution (English disabled)
- 5, 6: Fixed resolution (1000 lpi)
- 7, 8: Format emulation (UIOF)

S3

- 1, 2: Mode (point)
- 3: Echo (on)
- 4: Proximity transmission
- 5: Margin transmission
- 6: Dual transducer (enabled)
- 7: Transducer select (cursor)
- 8: Customized option (off)

Commands

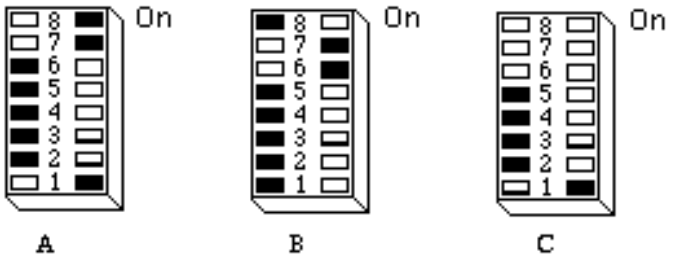
Arc: digtest sgmg3 /dev/ttya:9600:8bit:none
Arc: digitizer sgmg3 /dev/ttya:9600:8bit:none

Summagraphics Summagrid IV *(Discontinued Model)*

Communications

BAUD RATE	= 9600	PARITY	= NONE
DATA BITS	= 8	RESOLUTION	= 1000 LPI
STOP BITS	= 1	FORMAT	= CalComp 9100

Settings



Values

SWA

- 1–3: Baud rate (9600)
- 4: Not applicable
- 5: Parity (disabled)
- 6: Stop bits (1)
- 7: Data bits (8)
- 8: Report format (ASCII)

SWB

- 1, 2: Mode (point)
- 3: Echo (off)
- 4: Proximity transmission
- 5: Beeper (disabled)
- 6–8: Tablet size

SWC

- 1: ASCII counts report format (off)
- 2: ASCII decimal point (none)
- 3: ASCII report terminator (CR)
- 4: Resolution (inches)
- 5, 6: Fixed resolution (1000 lpi)
- 7: Format emulation (Calcomp 9100)

Commands

Arc: digtest sgfour /dev/ttya:9600:8bit:none
Arc: digitizer sgfour /dev/ttya:9600:8bit:none

Summagraphics Summagrid V

Communications

BAUD RATE	= 9600	PARITY	= NONE
DATA BITS	= 8	RESOLUTION	= 1000 LPI
STOP BITS	= 1	FORMAT	= CalComp 9100

Settings

Onboard setting are modified using the DOS utility SG5SETUP.EXE found on the DOS drivers disk or from the Summagraphics website.

Bank A

1	2	3	4	5	6	7	8
1	0	0	0	0	0	1	1

Bank B

1	2	3	4	5	6	7	8
0	0	0	0	0	1	1	0

Bank C

1	2	3	4	5	6	7	8
1	0	0	0	1	-	-	-

Values

SWA

1–3: Baud rate (9600)
4-5: Parity (disabled)
6: Stop bits (1)
7: Data bits (8)
8: Report format (ASCII)

SWB

1, 2: Mode (point)
3: Echo (off)
4: Proximity transmission
5: Beeper (disabled)
6–8: Tablet size

SWC

1: ASCII counts report format (off)
2: ASCII decimal point (none)
3: ASCII report terminator (CR)
4: Resolution (inches)
5, 6: Fixed resolution (1000 lpi)
7: Format emulation (Calcomp 9100)

Commands

```
Arc: digtest sg5 /dev/ttya:9600:8bit:none
Arc: digitizer sg5  /dev/ttya:9600:8bit:none
```

Summagraphics Summasketch III Professional

Communications

16 Button Cursor

BAUD RATE	= 9600	PARITY	= EVEN
DATA BITS	= 7	RESOLUTION	= 1000 LPI
STOP BITS	= 2	FORMAT	= UIOF

4 Button Cursor

BAUD RATE	= 9600	PARITY	= ODD
DATA BITS	= 8	RESOLUTION	= 1000 LPI
STOP BITS	= 1	FORMAT	= MM

Settings

The tablet automatically defaults to UIOF or MM format depending on which stylus or cursor is attached when the tablet is powered up. A 16 button cursor will default to streaming binary UIOF format. A 4 button cursor will default to streaming binary MM format. Workstation ArcInfo requires point or switch stream mode ASCII BCD format. Change settings using DOS based applications available from the Summagraphics or by using a terminal communication program e.g. Hyperterminal.

Values

		UIOF	MM
Report Format	**ASCII BCD**	<ESC>MA	za
Report Mode	**Point Mode**	<ESC>M1	B
	Switch Stream Mode	<ESC>M2	A
Resolution	**1000lpi**	<ESC>C2	j

- Using the DOS utilities from Summagraphics:
  C:\ UIOF /1
  C:\ UIOFRST /1
  C:\ SEND /1 /U /C^[MA^[M1

- From Hyperterminal, enter the desired commands shown in the table above.

Commands

Arc: digtest sspro3_16 com1:9600:7bit:even /* 16 Button
Arc: digitizer sspro3_16 com1:9600:7bit:even /* 16 Button

Tektronix 4958 *(Discontinued Model)*

Communications

BAUD RATE	= 9600	PARITY	= Odd
DATA BITS	= 7	RESOLUTION	= 500 LPI
STOP BITS	= 1	FORMAT	= CalComp 9100 #3

Settings

None

Commands

```
Arc: digtest 4958 /dev/ttya:9600:7bit:odd
Arc: digitizer 4958 /dev/ttya:9600:7bit:odd
```

Notes

A firmware upgrade is required for this device. A 16-button cursor is also required. See a Tektronix or a CalComp representative for details.