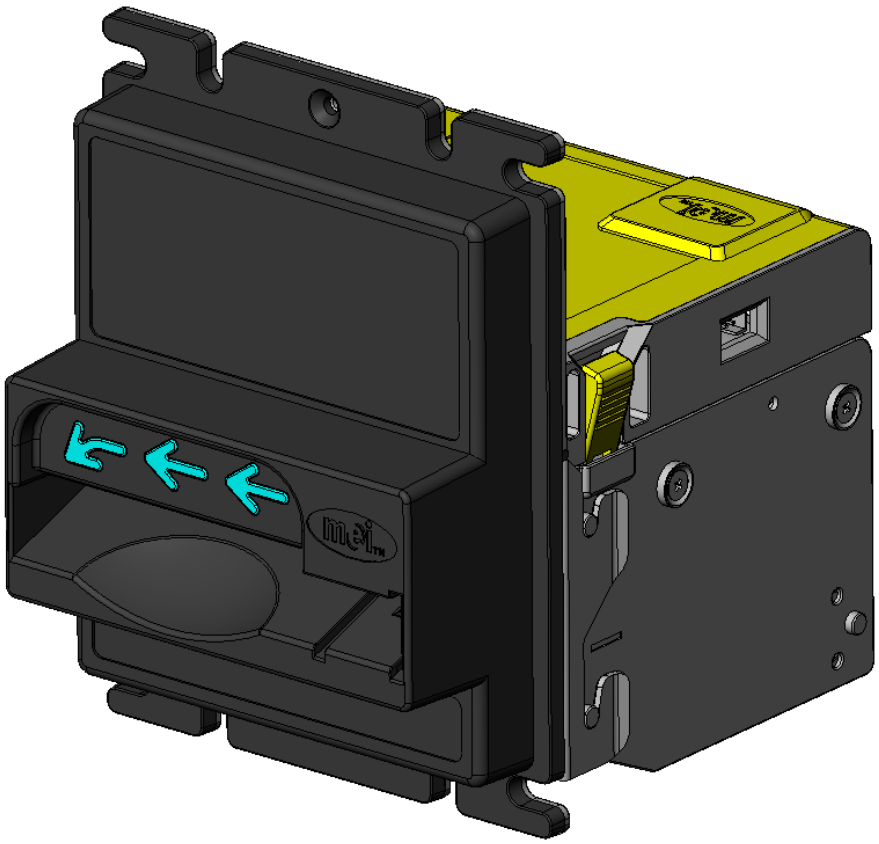
ccTalk Interface Manual



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Introduction:

The Geo® Gravity™ with ccTalk interface conforms to the ccTalk Generic Specification Issue 4.5 that can be found at http://www.cctalk.org.

Please refer the the ccTalk specification documents located at http://www.cctalk.org for more detailed information on each supported command

Technical Support

Support is available through our Help Desk and online at the MEI Website:

- www.meitechnical.com
- **Americas** 1 800 345 8172
- **Europe** +44 (0) 1189381100

Protocol Specifications

cctalk b96.p0.v12.a12.d0.c5.m0.x16.e1.i0.r14

9600 baud rate
Open Collector interface
Nominal 12VDC supply
Serial Data pull-up voltage 12VDC (determined by external pull-up voltage)
Supply sink
Connector type 5 (IDC-10)
Slave device only
CRC-CCITT checksum
Encryption Type 1
Minor release 0
Major release 4

Geo Gravity Supported ccTalk Commands:

Header 001 Reset Device

- Command forces a *soft* reset of the unit
- Geo Gravity responds with acknowledgement (ACK)

Header 002 Request Comms Status Variables

- Host machine requests status of 3 cumulative event counters [rx timeouts]

[rx bytes ignored]
[rx bad checksums]

- Geo Gravity replies with a number from 0 to 255 for each counter. When the counter reaches 255, the number wraps around to 0.

Header 003 Clear Comms Status Variables

- Command clears comms status variables on unit
- Geo Gravity responds with acknowledgement (ACK)

Header 004 Request Comms Revision

- Host machine requests the ccTalk release number of the unit and major / minor revision numbers of the comms specification.
- Geo Gravity returns appropriate product release number and major / minor revision level of comms specification

Header 136 Store Encryption Code

- Host machine commands Geo Gravity to store encryption code.
- Geo Gravity responds with acknowledgement (ACK)

Header 137 Switch Encryption Code

- Host machine sends Geo Gravity a new value for the encryption code
- Geo Gravity responds with acknowledgement (ACK)

Header 141 Request Firmware Upgrade Capability

- Host machine requests firmware upgrade capability of Geo Gravity
- Geo Gravity responds with [0]

0 – firmware in ROM / EPROM (not capable of remote upgrade)

Header 145 Request Currency Revision

- Host machine requests firmware currency revision information.
- Geo Gravity responds with [U] [K] [N] [O] [W] [N]

Header 147 Perform Stacker Cycle

- Host machine commands Geo Gravity to execute 1 cycle of the stacker for diagnostic purposes.
- Geo Gravity is not equipped with stacker. Responds with acknowledgement (ACK)

Header 150 Request Individual Accept Counter

- Host machine requests number of notes accepted for a particular note type.

- Geo Gravity responds with number of notes accepted for the specified note type.

Header 152 Request Bill Operating Mode

- Host machine requests which Geo Gravity features are used and status of feature.
- Geo Gravity responds with status of feature

  B0 – stacker (not supported)
  B1 – escrow (supported)
  0 = do not use, 1 = use

Header 153 Modify Bill Operating Mode

- Host machine sends commands controlling whether various Geo Gravity features are used

  B0 – stacker (not supported)
  B1 – escrow (supported)
  0 = do not use, 1 = use

- Geo Gravity responds with acknowledgement (ACK)

Header 154 Route Bill

- Host machine sends a command instructing the Geo Gravity to route the note held in escrow

  [route code]
  0 – return note
  1 – send note to cashbox
  255 – extend escrow timeout

- Geo Gravity responds with acknowledgement (ACK) or [error code]

  [error code]
  254 – escrow is empty
  255 – failed to route note

Header 155 Request Bill Position

- Host machine requests position for each note in the data set.
- Geo Gravity responds with each note position

Header 156 Request Country Scaling Factor

- Host machine requests scaling factor and decimal places for the standard country code provided.
- Geo Gravity responds with scaling factor and decimal places

Header 157 Request Bill ID

- Host machine requests bill type identification string for individual notes
- Geo Gravity responds with 7 digit character identification code in the form:

[C] [C] [V] [V] [V] [V] [I]

CC = Standard 2 letter country code (i.e. GB for the UK (Great Britain)
VVVV = Bill value in terms of the country scaling factor
I = Issue code. Starts at A and progresses B, C, D, E…

See ccTalk specification at http://www.cctalk.org for country codes.

Header 159 Read Buffered Bill Events

- Host machine requests history of bill events with most recent event in result 1 and oldest event is result 5. A total of 5 events can be reported.

- Geo Gravity returns event counter and bill event codes

Header 169 Request Address Mode

- Host machine instructs Geo Gravity to return ccTalk addressing mode to help with automatic re-configuration of ccTalk peripherals

- Geo Gravity responds with address mode

  [address mode] = 0 (different type of address mode)
  [84H] = Address is stored in EEPROM and changeable via serial commands (non-volatile)

Header 170 Request Base Year

- Host machine requests product base year

- Geo Gravity responds with [2] [0] [0] [0]

Header 180 Request Security Setting

- Host machine requests security setting for individual notes

- Geo Gravity responds with the security setting for the requested note position

Header 192 Build Code

- Host machine requests product build code from the unit

- Geo Gravity returns “Standard”

Header 213 Request Option Flags

- Host machine requests option flags supported by Geo Gravity

- Geo Gravity responds with supported option flags

  [1] escrow is only option supported

Header 216 Request Data Storage Availability

- Host machine requests data storage availability of Geo Gravity

- Geo Gravity responds:

  [memory type] = 0 (volatile – lost on reset)
  [read blocks] = 0 (special case, 256 blocks available)
  [read bytes per block] = 0 (special case, no read data service)
  [write blocks] = 0 (special case, 256 blocks available)
  [write bytes per block] = 0 (special case, no write data service)

Header 228 Modify Master Inhibit Status

- Host machine sends a command to change the master inhibit status in the Geo Gravity. If the master inhibit is active, then no notes can be accepted.

- Geo Gravity responds with acknowledgement (ACK)

Header 230 Request Inhibit Status

- Host machine requests an individual inhibit pattern from Geo Gravity

- Geo Gravity responds with inhibit pattern for each note

Header 231 Modify Inhibit Status

- Host machine sends an individual inhibit pattern to Geo Gravity to inhibit specific notes

- Geo Gravity responds with acknowledgement (ACK)

Header 232 Perform Self Check

- Host machine instructs Geo Gravity to perform a full diagnostic without user intervention.

- Geo Gravity responds with appropriate fault code

  [fault code 1] – Geo Gravity is calibrated
  [fault code 0] – Geo Gravity not calibrated

Header 241 Software Version

- Host machine requests software revision of unit.

- Geo Gravity returns revision level of installed variant

Header 242 Serial Number

- Host machine requests serial number of unit

- Geo Gravity returns a reduced 8 digit version of serial number in hexadecimal format, removing first 3 digits.

Header 244 Product Code

- Host machine requests product code from the unit

- Geo Gravity returns “Geo”

Header 245 Equipment Category ID

- Host machine requests the equipment category ID from the unit

- Geo Gravity returns “Bill_Validator”

Header 246 Manufacturer ID

- Host machine requests manufacturer ID from the unit

- Geo Gravity returns “MEI”

Header 247 Request Variable Set

- Host machine requests variable data from Geo Gravity. To variables are available

  [variable 1] – No. of bill types concurrently supported
  [variable 2] – No. of banks supported

- Geo Gravity responds with:
  [variable 1] – 16
  [variable 2] – 1

Header 249 Request Polling priority

- Host machine requests polling interval for buffered credit information.

- Geo Gravity responds with [units] [value]

  [units] – 2 = x10ms
  [value] - 50

Header 250 Address Random

- Command allows attached device to have address changed to a random value.

- Geo Gravity responds with acknowledgement (ACK)

Header 251 Address Change

- Host machine sends new address to attached device

- Geo Gravity responds with acknowledgement (ACK)

Header 252 Address Clash

- Host machine requests response from all attached devices with a specific address to determine if one or more devices share the same address.

- Geo Gravity returns device address

Header 253 Address Poll

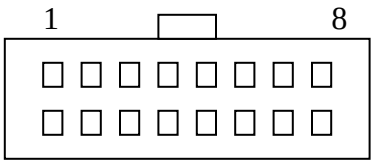
- Host machine requests address from all attached devices to determine which devices are connected to the bus.

- Geo Gravity returns device address

Electrical Connection

IF Cable:
Model Code "C": VT-WIRA12
Model Code "A": VG-WIRA37
Input Voltage: 12 VDC ± 10%
Interface Module: VT-PCBA12

Connector Viewed Facing Validator



Pin 1: +12 VDC ± 10%
Pin 2: Ground/Earth (power)
Pin 14: Data