

ccTalk tutorial

ccTalk tutorial , testing some headers with a coin hopper part 2

Posted on ~~November 13, 2015~~November 23, 2015 by ccTalk tutorial

Now let's put our coin hopper to work.

I must say that the ccTalk commands sequence might not be the same for coin hoppers from other manufacturers than Money Controls and also data required might not be the same.

For unencrypted Serial Compact Hopper from Money Controls the command sequence is as follows:

- Enter pin number with header 218 (just once until next power cycle) – not required if the pin mechanism is not enabled
- Enable hopper (just once until next power cycle) with header 164 “Enable hopper” with one data byte = 165
- Send header 160 “Request cipher key” required even the hopper is unencrypted!
- Send header 167 “Dispense hopper coins” with 9 data bites , 8 for the encryption code ignored by an unencrypted device and one with the number of coins to be dispensed.
- Poll the hopper with header 166 “Request hopper status” to see the paid and remaining number of coins.

The HopperCD from Alberici does not use the “Request cipher key” header at all and “Dispense hopper coins” might be used in a shorter version with data field containing first three digits of the serial number and one byte the number coins to be dispensed. The normal version with 9 data bytes requires the first eight to be all zero.

Pin mechanism form the latest ccTalk documents **can be changed** if the right pin number was entered ,and a pin number of “0000” **disables** the pin number mechanism. The product (serial compact hopper) ccTalk documentation specify that the pin number **cannot be changed** , once enabled **cannot be disabled** by any means and that the “0000” pin number is legal and must be entered. So remember that the product documentation always takes precedence.

Header 218 “Enter pin number” with four bytes pin number as data. Send 3 4 1 218 0 0 0 0 30 receive 1 0 3 0 252 ACK.

Header 164 “Enable hopper” with data byte 165 , send 3 1 1 164 165 178 receive 1 0 3 0 252 = ACK

Header 166 “Request hopper status” , just to have-it handy in the MRU of Realterm send 3 0 1 166 86 receive 1 4 3 0 0 0 20 0 228 The data field consist in four bytes , an event counter similar to the event counter in “read buffer bill events” from biil acceptors that is zero right after powerup and increment with each event up to 255 and back to 1, one byte payout coins remaining , one byte last payout – coins paid and one byte last payout – coins unpaid. As you see the hopper is right after a powerup , the last payout was 20 coins

Header 160 “Request cipher key” send 3 0 1 160 92 receive 1 8 3 0 **40 222 233 114 127 170 99 239 2**

Now be fast and send header 167 “Dispense hopper coins” then Header 166 “Request hopper status” repeatedly to follow how many coins were paid and how many are left.

Send 3 9 1 167 **0 0 0 0 0 0 0 0** 20 56 receive 1 1 3 0 1 250 and coins are spreading on my desk

Send “Request hopper status” 3 0 1 166 86 receive 1 4 3 0 **1 0 20 0 227**.

The answer to “Dispense hopper coins” header 167 might be a simple ACK on older versions or with one byte event counter as you can see above. I wasn’t fast enough to see some result before the payout was ready and the all amount is now in the “coins paid field.

-A last test with fewer coins in the hopper than the coins to be paid.

Again Header 160 “Request cipher key” send 3 0 1 160 92 receive 1 8 3 0 103 240 66 111 135 142 6 247 218 , send 3 9 1 167 **0 0 0 0 0 0 0 0** 20 56 receive 1 1 3 0 4 247 (I made some payouts in the mean time that’s why the event counter is 4) “Request hopper status” 3 0 1 166 86 will receive 1 4 3 0 4 16 4 0 224 the hopper is empty now ,event counter is 4 , 16 coins to be paid , 4 paid , 0 unpaid , after some time the hopper sees that no coins are exiting and stops and the answer to status is now 1 4 3 0 4 0 4 16 224 event counter is 4 , 0 coins to be paid , 4 paid , 16 unpaid.

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33 thoughts on “ccTalk tutorial , testing some headers with a coin hopper part 2”

1. **Kadir** says: [January 15, 2016 at 8:06 pm](#)

I am working on a hopper for 2 months. The source codes came with the hopper (and the card CCT-900) works fine, they dispense the coins after I follow clicking “Enable, Request Chipper Key, Enable Payout, Poll, Dispense” buttons path. I can modify or manipulate the source codes (they are all in VS 2010 – C Sharp which I am not familiar).

But I can never be able to communicate this well-working devices via any serial port programs (terminal.exe, Serial Sniffer etc.) When I send a string you have written upside, the answer is just an echo. I sent 3 1 1 164 165 178 via serial communication program and I see the same “3 1 1 164 165 178” in “received” box.

I am familiar with using RS232 in Visual Basic 6. I have a thermal printer which I have not a driver. I just connect it to serial port of any PC board (or at the end of the USB to RS232 cable), I send the commands via VB6 MsComm component (Just as MsComm1.Output=“FEFDFGA4E3E4” for example) and it prints “Hello” (for example). But I have never be able to send any data to this HOPPER and get any answer (I am sure its address is 3 and com port is 5 because I see these values in Hopper’s manual’s switch settings part and the source codes.)

I need an answer. Thank you.

[Reply](#).

ccTalk tutorial says: January 15, 2016 at 10:10 pm

Hi Kadir. Thank you for visiting my website. First of all I'm not familiar with the CCT-900 interface and there is not much to see on the internet about it .It's a simple USB to ccTalk interface or a smart one? Best thing would be to use the sniffer, HDD Serial port monitor (you will find a download link in "Software tools" post) to see how the demo software communicates with the hopper through the interface . What hopper do you use?

Reply.

1. **Kadir** says: January 16, 2016 at 12:39 am

Yes CCT-900 is a professional USB to ccTalk converter produced by MunzPrufer, it has 10 ports to attach 10 different ccTalk devices. (Actually this is another point I can not understand, why must I use a convertor, card etc. if I have a PC with a serial port -RS232- on it? And for a laptop which has no serial ports, why is a MAX232 cable (USB to serial) not enough to communicate? It is enough and works very well for a serial printer as I told in my previous post or some PICT cards produced in my friends home).

I have installed HDD Serial Port Monitor as soon as possible when I first visited your site 1 month ago. It works very well in every kind of ports. But as I said when I paste a ccTalk command the answer is just an echo. When the demo software works, HDD Serial Port Monitor caches the data sended. And the data is exactly same with your (and every ccTalk Manual's) sample commands. The hopper pays. But when I try to send the same data via my programs or HDD or terminal.exe, it NEVER NEVER NEVER works.

I am good and have experience in Visual Basic programming. And it is enough for me for every kind of project. If someone can show me a way of sending a working command via HDD or any serial communication method, I will be pleased (not exactly the payout command, it is enough for me just to ask the serial number and just get the answer, I will understand the way of sending commands, that is all what I want).

I have a licensed Teamviewer-5 which is capable of connecting unlimited time. If you install Teamviewer-5 and mail me your Teamviewer ID then you can check the hopper, the card, the HDD realtime. (You can download Teamviewer-5 from the link:

<http://kenokurdi.com/setup/>

version 5 is no more included in the Teamviewer web site)

My mail address is:

`infoetabracafe.com`

(@ instead of et, and without spaces, off sure)

Sure if that is your profession, we may pay an amount for your work, if you offer.

Regards...

ccTalk tutorial says: January 17, 2016 at 2:36 pm

This protocol is an industrial protocol and was intended for easy interfacing with a microcontroller. My question wasn't about the brand , there are some smart interfaces where the PC to interface communication is made using a different protocol, proprietary commands or a different speed. You said that the demo software is using the same data as you did , are you positive that it's the same speed? Some devices use a different speed than 9600. How is the interface seen by the PC , just as an usual usb to serial ? Is the the board intended to be used without the SDK they gave? . I see a two chips on the board , one must be for the USB to serial and the other is an Atmel microcontroller. Please use the sniffer (HDD free Serial port monitor) like in [this post](#) with the your demo software that is working ,just some commands . The interface and the coin hopper must be right after

power on. Then send a dump (the mail address is in the “About” page). Which coin hopper do you use ? It must be something simple that you overlooked. Dumb question , hope you are using binary mode not the text mode for Realterm and Visual Basic?

2. **Kadir** says: January 17, 2016 at 9:57 pm

I am sure that it must be something simple that I overlooked. Let me answer one by one:

I am sure about the speed. My programs’ speed, demo software speed, card speed, hopper speed. They all use 9600 and all documentation declare to use this speed.

The interface is seen by PC as a COM PORT in PORTS section of DEVICE MANAGER, “USB COM PORT” with com port number 5. It uses FTDI drivers.

The board is declared to be used wherever and whatever you want to use with. They all refer to MoneyControls ccTalk Protocol basics. One important point I have forgotten to tell at the begining: I can dispense coins via Gestor ccTalk test software, too. It works fine. In Gestor CCTalk test software, I use “create CMDs” and enter there 167 (header), 3 (address), 1 (parameters) and x (coins to dispense) it dispenses x coins.

And the dumb question: Yes I use binary mode, but when I failed I have tried all modes: text (ASCII), HEX, binary, 0x04 0x0A (as I see in Gestor send data list), &H04 &H0A (Visual basic hex numbers), 03 00 (as I see HDD DM send data list) and etc.

I will send you the dump file as soon as possible.

Thank you very much, regards.

Reply.

ccTalk tutorial says: January 18, 2016 at 11:51 am

So your board is working with a different software. That changes the things. I have VB6 on my computer , I will make an example for you to test. No need to send the dump now.

Reply.

ccTalk tutorial says: January 18, 2016 at 3:05 pm

Find the sample source here . It’s just a form with a button that sends “Simple Pool” and show the answer in a textbox in hex. I’m sure you can figure-it out from here. Pay attention to MScomm1 parameters and the way data is written and read from it. Change the port name to your own. Good luck.

Reply.

3. **Kadir** says: January 19, 2016 at 4:31 pm

The only working VB6 source code sample on the Internet!

I am serious, the only VB6 code and it is working.

Somebody did that at the end of the time...

Thank you very much...

Reply.

ccTalk tutorial says: January 20, 2016 at 10:57 am

Thank you for your appreciation. I used binary data over serial on VB6 in an older project , I just took the code from there and modified for your need. I found a much detailed datasheet for CCT-900 , indeed , it uses straight through ccTalk , the other protocols supported and I/O are going through a slave implemented with the Atmel microcontroller on address 80. Are you really using so many devices to worth using CCT-900?

Reply.4. **Kadir** says: January 20, 2016 at 11:13 am

No, I just connect one coin hopper. And CCT900 is expensive as a coin hopper. I was about to ask you how to directly (or via any cheaper way) communicate a hopper.

Reply.**ccTalk tutorial** says: January 20, 2016 at 12:17 pm

Yes , if you do some wiring the cheapest one is in the “Hardware interface” post , there is a link to a video where a guy tweaks a USB to serial TTL cable (the kind that is used for some Arduino boards or other microcontroller projects, search google for “USB to serial TTL cable”) to make the simplest and cheapest ccTalk data cable that works fine for one slave. With wires and connectors that will go to at most 20 eur. You will have to add the wires for the power supply to your hopper. If you want to buy one that just fits to your hopper (by the way , you didn’t specified which hopper do you use) in the same post there is a link to an Alberici product that can be ordered with a 10 pin Hopper cable that will go somewhere around 50 – 60 eur.

Reply.5. **Kadir** says: January 20, 2016 at 9:11 pm

I think USB to TTL means USB to RS232 pulses. Right?

In that case, do I still need a convertor card or cable if I have a desktop PC with serial port?

Can I use PC RS232 serial port’s 1 suitable pin to communicate with hopper (of course I will give 24V – 10A energy to hopper with another power supply).

In the project I told at the begining which I was printing to a RS232 thermal printer, I just used a USB to serial convertor cable (which has MAX232 chip on it) and it worked well.

Now connecting the same cable’s 1 pin to the hoppers data pin and powering the hopper externally is enough or I am again overlloking a simple point? If I am right then which pin of the RS232 (9 pin) to connect the first (data) pin of hopper?

Reply.6. **Kadir** says: January 21, 2016 at 4:16 am

(Continues from last post)

Looking completely to my questions in my previous post and the “this guy” video in Youtube, what I understand is that:

Attaching the only 1 data line of ccTalk device to a USB to TTL cable’s DATA IN (receieved) and DATA OUT (transmittted) cables is enough. But there appear two new questions:

1-The equipment in the video is a ccTalk coin acceptor which needs 12 V to work. So the guy takes the energy from the PC’s board. But for a hopper which needs 24 V, 1 A minimum, it is impossible. OK, the answer my friend is blowing in the wind, it is easy, just use an external 24 V power supply. But the guy attaches the USB-TTL cable’s ground (black) to the PC board’s ground (black) cable. In that case should I attach the USB-TTL cable’s ground to the 24V external power supply’s ground? Or what?

2-It seems it is possible to work by connecting the only 1 data line of ccTalk equipment to a desktop PC’s 9 pin RS232 pins [(both) 2nd (tranmission) and 3rd (receiver)] and using an external 24 V power supply WITHOUT A USB TO TTL CABLE. Am I right? (In that case there is no ‘where to connect the ground of USBtoTTL cable’ question, there is no USB cable or port in this scenerio)

Reply.**ccTalk tutorial** says: January 21, 2016 at 2:36 pm

1) Yes but attach the ground on the hopper connector to avoid ground loops , 2) No! Inside your PC there is a TTL to true RS232 before the DB9 RS232 connector. The output levels at the DB9 RS232 connector are -13V for a zero logic and 13V for logic one. A serial TTL output have 0V for

logic one and 5V for logic zero. An usual USB RS232 cable will have a USB to serial TTL chip and then a TTL to true RS232 voltage converter chip (it does not modify the timings , just the voltage levels). Actually the USB to serial TTL that you need is less , it's missing the voltage converter. You have somewhere on your motherboard the TTL signals but they're not accessible to you. You should find a cheap USB to serial TTL in your area.

Reply.

7. **Kadir** says: January 22, 2016 at 1:17 am

If someone explained me as clearly as you did in your last post, everything will be understood more earlier.

Alles klar, now. The basic explanation is that:

TTL is an older format/technology/protocol according to RS232 (As USB is newer than RS232). This protocols uses different data line counts (1 – 2). They use different timings to send and receive data on these data lines (cables). Beside the timing they use different voltages to send logical 1 and logical 0. So, these are different standards.

Sometimes we must go back on the protocols history timeline.

A laptop with USB ports and a coin hopper with ccTalk protocol (using TTL to communicate) needs a USB to TTL converter (not USB to RS232)

A desktop computer with RS232 port and a coin acceptor with ccTalk protocol (using TTL to communicate) needs a RS232 to TTL converter.

A laptop with USB ports and a thermal printer with RS232 protocol (using RS232 to communicate) needs an USB to RS232 converter (not USB to TTL converter)

The software side doesn't differ. You just use the converter, attach the converter (cable or card) to the suitable ports of computer and the equipment to the other side of the converter (cable or card). Then the work will be done by the converter, you just set the port number in the software and send data to this port number.

Now a few and last questions:

Sending a TTL data (pulse) for example from the computer to a coin hopper, means giving a voltage to the data line, and the equipment counts these voltages and understand the command. Right?

You wrote "I doubt that the TX output is open collector the slave just force zero the output that acts also as a pull up when idle. This might reset your USB to serial chip if the output is stronger." in the hardware post about the guy on YouTube working with a 12 V coin acceptor. What do you mean exactly? Is there a risk to burn any component of computer or a 24V coin hopper?

And your answer in your last post advising me to "...attach the ground on the hopper connector to avoid ground loops".

So you advice me:

AA) Don't attach USB to TTL cable's ground to external power supply's ground, use the hoppers ground point, that is all. No need for any other thing.

OR do you advice me:

BB) Yes attach USB to TTL cable's ground to external power supply's ground and attach it to the hopper's ground PIN, too. Do both of them.

OR do you advice me:

CC) Any other thing.

Which one? AA, BB or CC?

I promise that these are my last questions:)

Thank you from now on.

Reply.

ccTalk tutorial says: January 22, 2016 at 10:01 am

From "If someone explained" to "and send data to this port number." , basically yes but the timings are the same for serial TTL and true RS232, just the voltage for logic "0" and "1" is different. "Now a few and last question" and "I promise that these are my last questions:)" This is a tutorial and your questions are welcomed so everybody can benefit. It's not easy for me to figure what I might have missed in my tutorial without a feedback. "Sending a TTL data (pulse)" to "Right": , the microcontroller that drives the hopper decode the pulses and their timings to recover the data you have sent, there is a dedicated unit inside most microcontrollers for serial communication, it's not that complicated. It's not about old habits , a microcontroller can be easily connected to a cctalk bus with just one diode ,is more secure , consume less power and costs less money than a PC based machine , some projects like a kiddie ride timer or a simple changer/token machine do not need more than a microcontroller can do. About the simplest cable that "that guy" uses , nothing can happen to your hopper or PC , the worst thing that can happen is that you might see your USB over serial disconnected for no reason like you unplugged it form PC. After seeing the video, I used this cable for various experiments without any trouble, if you have doubts just put a diode. "So you advice me:" , AA is the answer , the data cable ground and the Power ground should be connected at the hopper connector , if you have more than two ground pins on the hopper use one for the data cable and all others for the Power ground. An example for a hopper should follow next week with a simple changer machine program and after that a microcontroller driven kiddie ride timer.

Reply.

1. ***Kadir*** says: January 5, 2017 at 10:03 pm

Hi,

until I wrote you several posts and understood what TTL is, I have been using USB to TTL cables (PL2303, CH341, CP2102). They work perfect but sometimes they "cough".

Communication stops, so my software try to send the last command again (after a timeout), then it works. Sometimes it sends a PAYOUT command for 3 times (after 2 timeouts) and it works.

So I have connected one of the problematic cable to my laptop (without hopper) and opened a terminal program (terminal.exe which is easy to use). I have connected to COM port defined in my device manager, I have sent some data and received the same data very clear in 9600 bps. Then I have send mor data and after a while I have noticed some non-asc characters appearing. I sent 1234567890 from terminal and I see some characters which are not can be pronounced.

So, there appears a parasitic (noise) sometimes.

I have seen ou offer to use a diode if there appears problems.

Where to put the diode in USB to TTL converter?

Regards...

Reply.

ccTalk tutorial says: January 6, 2017 at 1:42 pm

Hi again and happy new year , use the first schematic from the “Hardware interface” post with the converter instead of microcontroller and a schottky switching diode like BAT54 for D1.

8. **Kadir** says: January 25, 2016 at 10:56 pm

Amazing. Using an USB to RTL cable (3\$) instead of a card (150\$). It worked.

I have ordered an USB to TTL cable. I attached the cable's pins as the youtube guy describes. I have checked the coin hopper is getting 24 V + / – properly by watching its flashing leds. Then I have plugged the cable to USB port. Windows has seen it and asked for the drivers. I have downloaded the drivers from:

http://www.prolific.com.tw/UserFiles/files/PL2303_Prolific_DriverInstaller_v1_8_0.zip

which comes with a port testing software, full documentation and an executable setup program. (Because it has a PL2303 chip I've seen from the web site I have ordered. If I understood right there are some other cables with another chip which needs some kind of FTDI drivers. But this driver has worked for me)

Driver installation has completed, there appeared a new PORT in my Device Manager but there was a yellow sign which says there is an error. (It says: This is an unfound device so it will not work properly!!!) The COM port number was 3 and I tried to communicate COM3 via the test program and other softwares. They always give some kind of errors.

When I checked the documentation I have found the explanation for this yellow sign. They say “IF YOU GET THIS ERROR IN WINDOWS 7 OR 8, probably your PL2303 cable is produced by another producer, it is not original, we dont accept that!”.

So I thought there must be something abnormal for WINDOWS 8 and I carried the complete kit (cable and coin hopper) to my XP computer. Self installation has ended and there appeared a new COM PORT with port number 3 without a yellow sign. When I tried to run the test program of the cable it worked. Then I ran my ccTalk programs which were working with CCT900 and hopper. It was working same as the card connected.

So: It is working very well. The only problem is the yellow sign which appears in WINDOWS 8. So, if you plan to use this cable in WIN 8 or 7, then be sure that you buy an original PL2303 cable (I don't know how).

Now I am expert(!!!) on ccTalk protocol and peripherals.

Thank you very much. Let us stay in touch.

Reply.

9. **Kadir** says: January 25, 2016 at 11:19 pm

I have recently find two solutions for PL2303 in Windows 8 or higher:

<http://wp.brodzinski.net/hardware/fake-pl2303-how-to-install/>

Reply.

ccTalk tutorial says: January 26, 2016 at 8:31 am

I had this problem before , fake PL2302 are omnipresent , not that I agree with that, some point that the fake chips are not working well but I had no clue that I'm using a fake PL2302 until I use it in a different operating system. To be honest I was hoping for a first hand opinion about how CCT-900 is doing on field but as a simple ccTalk interface for a single device there is not much to say. Maybe for one of your future project. I see though that It's not so expensive as some other interfaces of it's kind. Communicating with different protocols feature it's not very usable for a developer because ccTalk is available in almost all reasonable branded products , why someone would design a machine with many different protocols when at the same price or less could learn and use only one? The I/O ports ready on board feature though can be handy when you need to add some push buttons and run some bulb lights for your machine. The same ccTalk code is used for them to at ccTalk address 80 as I see on a documentation found on the internet.

Reply.

10. ***Kadir*** says: January 30, 2016 at 4:19 am

As our project grows, coin hopper costs more. I am planning to create a coin hopper which will work on RS232 port with a special command set (which is called 'protocol').

I am planning to use the same case of my coin hopper ordering from a plastic producer working according to the patterns. Then I will use motor and sensors without a chip. The RS232 port is enough for communicating and the parallel port is enough for driving motors, triggering relays and so on.

What do you think?

Reply.

ccTalk tutorial says: January 30, 2016 at 4:30 pm

My knowledge in mechanics is limited so I cannot advise you in this field. The chip's software stores also the lifetime coin paid counter , payout request and deals with power off during payout, removing a coin jam, supervises the supply voltage, the power used by the motor to detect a jam and many other things, not only the ccTalk protocol. You didn't said what hopper do you use?

Reply.

11. ***Kadir*** says: January 30, 2016 at 7:29 pm

F1024 mini hopper by Munzprufer GmbH, Berlin.

<http://www.whberlin.de/index.php?id=minihopper&L=1>

24 V.

Reply.

12. **Kadir** says: [February 23, 2016 at 12:15 am](#)

Hi again,

I have been using USB to TTL converter for 1 month. Yesterday I have found an RS232 to TTL converter and I wanted to try it. I have just connected GND to coin hopper's GND, RX and TX to each other and both of them to hopper's data (as I several times did with an USB to TTL converter cable)

But it did not work. I see two flashing leds on the circuit hen I click any send command on any ccTalk test program, but nothing happens on the coin side. I have watched the data transmission via terminal.exe port monitor but there appears no received data.

Do I need to give power to this circuit externally which I don't need in an USB to TTL cable or what?

Reply.

ccTalk tutorial says: [February 23, 2016 at 11:36 am](#)

Hi , disconnect the hopper leaving Rx and tx together. If you have loopback using a terminal then use a diode like in the first picture of the hardware interface post. If you don't then check your USB to TTL cable. If it's still not working then use a voltmeter and see the voltage on the tx line , your cable might be using 3.3v voltage then use the second schematic. "That guy's " interface is working only with weak tx outputs because the slave is forcing it to zero. The USB interface doesn't need a power supply but the external pull up or circuit if you use one does. Some usb to ttl have a 3.3 or 5V output

Reply.

13. **Kadir** says: [April 8, 2016 at 3:08 pm](#)

Hi, again.

I want to write a 6 byte length data to the coin hopper's EEPROM wherever possible. A header which changes the manufacturer name even will be enough, I should use this area of EEPROM to write my data. There are some instructions in ccTalk manuals about reading and writing data blocks but they did not work.

Any idea?

Regards...

Reply.

ccTalk tutorial says: [April 8, 2016 at 5:32 pm](#)

No , this is not a feature implemented on all devices. It should be in the cctalk manual of your hopper if it can store user data. I don't think the manufacturer name is in the user writable area anyway.

Reply.

14. **Kadir** says: [April 8, 2016 at 8:15 pm](#)

Actually what I want to do is to write total dispense count to EEPROM. In earlier posts, you wrote something about life-time-dispense-counter of hoppers. I checked my hopper's dispense counter, it works but it resets whenever I use "reset hopper" header or power goes off. So it seems it is not

a life-time counter, it is a temporary counter. How can I see the life-time counter?

Reply.

ccTalk tutorial says: April 26, 2016 at 9:35 am

For serial compact hopper the lifetime counter is read only and can be accessed with header 215 read data block. I don't have the cctalk manual of your hopper ' it might not be the same as for Moneycontrols SCH. Take care , the headers writing to eeprom are answered up to 2 seconds for some devices.

Reply.

15. **Kadir** says: April 30, 2016 at 12:06 pm

If header 215 doesn't work, try "247" (read variables) header. And you are right, 100 ms timeout returns NACK. 200 ms works fine (this is a reading procedure, when writing, it takes more time up to 2 second).

Then you can split the reply (answer) of hopper and find the lifetime counter via the formula: $(n1) + (n2*255) + (n3*255*255)$, means a number up to 16.000.000

I have almost completed the project, our kiosks are working with the hoppers very well. So, thank you again for your all help from beginning to now.

Regards

Reply.

16. **Ryan** says: September 28, 2016 at 7:57 pm

This is all working great for me except the Money Controls MK4 hoppers that I repair are SUH1, ie. encrypted so I cannot test a dispense cycle. I request the cipher key with header 160 and I get the key back and send it with a coin dispense header 167 but no matter what i get a NAK in the response.

Reply.

ccTalk tutorial says: September 29, 2016 at 9:48 am

Have you followed the procedure form the manual? See the manual here:

<https://drive.google.com/open?id=0B8BMwAtifdKgS0NwUERxRmhHaGc> page 25..27 If you don't have the encryption algorithm then use a host software like Gestor ccTalk manager or Astrosys ccTalk tester.

Reply.

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