ITC SYSTEMS

OPERATION & SET-UP MANUAL

FOR

1015

Serial Reader

Firmware V 1.06 and Higher **Document Release 6.1**

49 Railside Road
Toronto, ON M3A 1B3
Tel: (416) 289-2344
Fax: (416) 289-4790

800 Fee Fee Road
St. Louis, MO 63043
Tel: (314)-872-7772
Fax: (314)-872-3353

Table of Contents

Sales and Service

At ITC Systems, complete customer satisfaction is our number one goal. As such, customer support is readily available to satisfy any need you may have. Whether it's sales information, a service requirement or just general inquiry, you can be assured of a prompt response to your need(s).

SALES

If you are a new or existing customer with a new installation in mind, our highly qualified sales staff can custom tailor a product solution for "your" particular needs. Simply telephone ITC in the United States at 314-872-7772 or in Canada at 416-289-2344 and ask for sales assistance. You may also email us at sales@itcsystems.com

UNITED STATES

800 Fee Fee Road
St. Louis, MO
63043

Tel: (314)-872-7772
Fax: (314)-872-3353

CANADA

49 Railside Road
Toronto, Ontario
M3A 1B3

Tel: (416) 289-2344
Fax: (416) 289-4790

SERVICE

If you require technical assistance advice or parts please contact our ***SUPPORTEX*** department at 1-877-**ITC-TEAM** (482-8326) or 416-438-9332 or email us at service@itcsystems.com

Repairs in the U.S.A. should be sent to:
800 Fee Fee Road
St. Louis, MO
63043
Tel: 314-872-7772
Fax: 314-872-3353

Repairs in Canada or International:
49 Railside Road
Toronto, Ontario
M3A 1B3
Tel: 416-438-9332
Fax: 416-289-4790

Please visit us at http://www.itcsystems.com

ITC SYSTEMS . . . COMMITTED TO COMPLETE CUSTOMER SATISFACTION

OVERVIEW

Thank you for purchasing the ITC Systems Serial Card Reader. The Serial Card Reader is capable of communicating with cash registers, computers and other serial devices through its 9 pin serial port. When a card is inserted into the reader the value is displayed on the LED display and transmitted to the attached application. The application performs its functions, and then transmits the new value to be written onto the card and the card is updated and returned to the customer.

Important Notes:

FIRMWARE RELEASE 1.06 AND HIGHER Includes a Parameter "C.Addr". This Address must match the setting on the Host Application. In previous 1015 Firmware Card reader "ID" was used both as a reader and identifier and Address. Firmware release 1.06 has split the functions between the 2 parameters.

Switch 8 on Bank C **must be off** for most applications to work properly. The ON position is reserved for use with ITC Systems line of **Print Manager Software**. See the section on "DIP SWITCH SETTINGS" for details.

Switch 4 on Bank A **should be on** for most applications involving debit Applications. The only time is should be turned off is in a POS application where it is desirable to add value to a card through the POS terminal or allow for refunds to the card.

Switch 3 on Bank A **must be off** for most POS applications to work properly. The ON position causes the reader to verify the encoding on the card at exit but the delay in communications will likely result in the POS application interpreting a communication failure.

Switch 2 on Bank A **must be off** for most POS applications to work properly. The ON position causes the reader to Flag the card but the delay in communications will likely result in the POS application interpreting a communication failure.

This manual should allow you to install and set up your serial Card Reader. If you require technical assistance advice or parts please contact our ***SUPPORTEX*** department at 1-877-**ITC-TEAM** (482-8326) or 416-438-9332 or email us at service@itcsystems.com

INTRODUCTION

The Model 1015 Serial Reader is designed to add and subtract value from cash and unit cards via an external PC Application or device such as a cash register. The 1015 also has the ability to encode new cards.

COMMAND CARDS REQUIRED

The Following cards encoded to your particular site requirements are provided with the 1015 Serial Reader:

PARAMETER SETUP	Used to set-up the parameters and site codes.
READ METERS	Used to Display the Meters on the LCD display
PRINT METERS	Used to send the meters out the serial port to a PC or Printer
CLEAR METERS	Used to Clear the Re-Settable meters
ENCODE CASH CARD (if Ordered)	Used to Encode (format) CASH cards
ENCODE UNIT CARD (if Ordered)	Used to Encode (format) UNITS cards

SETTING THE DIP SWITCHES

1) Unplug the power supply from the wall outlet.

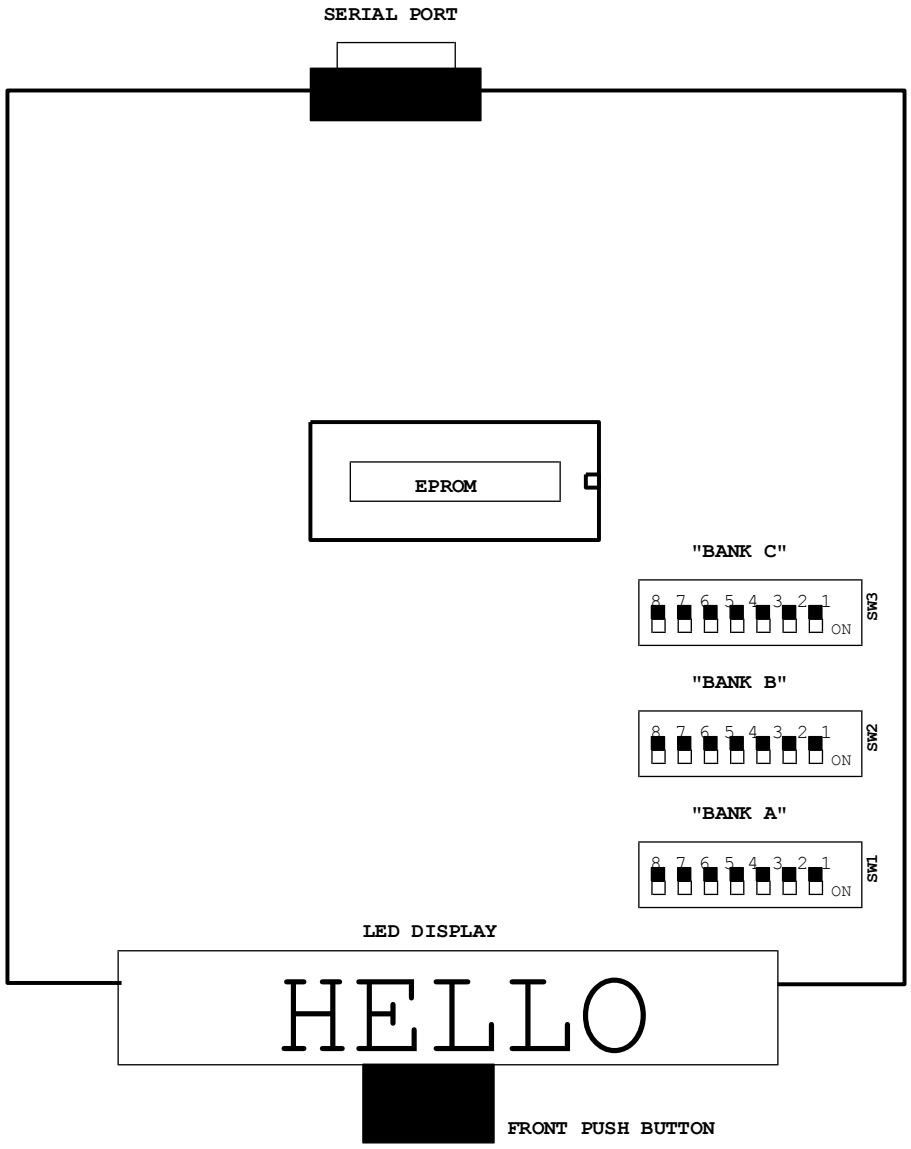
2) To access the switches insert the key in the back of the reader and turn it 180 degrees which will unlock the transport from the cover.

3) Remove the transport by pushing the black front bezel where the card would be inserted at the front of the reader. Once the bezel has cleared the face plate on the cover, slide the transport completely out.

4) The switches are located on the board on top of the transport.

5) Set the switches according to your site requirements as described in "DIP SWITCH SETTINGS":

DIP Switch Location



DIP SWITCH SETTINGS

BANK 'A'

SW	1	*	OFF	- Allow Old Format
			ON	- Reject Old Format
SW	2		OFF	- Do Not Flag Card
		*	ON	- Flag Card
SW	3		OFF	- Do Not Verify Card Write
		*	ON	- Verify Card Write
SW	4		OFF	- Allow Cards to be Credited
		*	ON	- DO NOT allow cards to be Credited
SW	5		OFF	- Not used
		*	ON	- Not used
SW	6	*	OFF	- Do not allow COMMAND CARDS
			ON	- Allow COMMAND CARDS
SW	7	*	OFF	- Do not perform TEST
			ON	- Perform TEST on Power up with P/B depressed
SW	8	*	OFF	- Do not CONVERT code
			ON	- CONVERT code

*Preferred switch settings for normal operation.

BANK 'B'

SW	
1-4	"ROM CODE" set to match Your Installation
5-8	"START BYTE" set to match Your Installation

BANK 'C'

SW	1-4		Extra STX for XCP set to match Your Installation	
SW	5	*	OFF	- TOGGLE "HELLO"
			ON	- STATIONARY "HELLO"
SW	6	*	OFF	- Disable Auto Encode
			ON	- Enable Auto Encode
SW	7	*	OFF	- Accept Flagged card if P/B depressed
			ON	- Don’t Accept Flagged card if P/B depressed
SW	8		OFF	- NON ITC Host Application
		*	ON	- ITC Host Application

STX &ROM Code Settings

SWITCH BANK TWO

Switch Number	1	2	3	4		5	6	7	8
Hex Digit	"ROM" Setting					"STX" Setting			
0	Off	Off	Off	Off		Off	Off	Off	Off
1	On	Off	Off	Off		On	Off	Off	Off
2	Off	On	Off	Off		Off	On	Off	Off
3	On	On	Off	Off		On	On	Off	Off
4	Off	Off	On	Off		Off	Off	On	Off
5	On	Off	On	Off		On	Off	On	Off
6	Off	On	On	Off		Off	On	On	Off
7	On	On	On	Off		On	On	On	Off
8	Off	Off	Off	On		Off	Off	Off	On
9	On	Off	Off	On		On	Off	Off	On
A	Off	On	Off	On		Off	On	Off	On
B	On	On	Off	On		On	On	Off	On
C	Off	Off	On	On		Off	Off	On	On
D	On	Off	On	On		On	Off	On	On
E	Off	On	On	On		Off	On	On	On
F	On	On	On	On		On	On	On	On

On the Command Cards there is a 'STX' 'ROM' code indicated. Set the Corresponding DIP switches as per the table above:
i.e.

Switch Number	1	2	3	4		5	6	7	8
Code Indicated	"ROM" Setting					"STX" Setting			
"B9"(STX=B ROM=9)	On	Off	Off	On		On	On	Off	On
"60"(STX=6 ROM=0)	Off	Off	Off	Off		Off	On	On	Off
"41"(STX=4 ROM=1)	On	Off	Off	Off		Off	Off	On	Off
"C4"(STX=C ROM=4)	Off	Off	On	Off		Off	Off	On	On

PARAMETER SETTING

1) Insert the "Set Parameters" Card with the label face up.
2) The reader will take the card and the display will show "Pr.SEt".
3) Remove the card from the reader.
4) The display will toggle between "i.d" and a "value". Where the "i.d" is the Machine Identification and the "value" is what it is set to.
5) To change the value to zero, press and hold the black card eject button. Insert the card until it stops, then release the button and remove the card.
6) To increase the value press and hold the black card eject button until the desired value is obtained. The button may be pressed and released as many times as required to achieve the desired value. If the value passes the desired value return to step 5.
7) In order to advance to the next parameter, insert and remove the "Set Parameters" card and the next parameter will appear on the display.
8) Step through all the parameters by inserting and removing the card until "LOG-In" is displayed.

NOTE: Switch #6 of Bank SW1 must be in the ON position to use this Command Card

1015 Parameters

Display	Description	Settings	Default
i.d	Unique ID for this reader	1 - 255	1
C.Addr	Address of Reader	1 - 255	1
SitE A	Site Code A	1 - 65535	164
SitE B	Site Code B	1 - 65535	4095
SitE C	Site Code C	1 - 65535	4095
Lg.CASh	Largest Cash Value Card Allowed	0 - 999	75
Lg.UnIt	Largest Units Value Card Allowed	0 - 999999	1000
HOLd	Hold card if bad Write	No-Yes	No
TentH.d	Display Tenth of a Cent $0.001	No-Yes	No

ENCODING CARDS

1. For encode operation insert the "ENCODE CASH" or “ENCODE UNITS” card. The display will indicate “CASH” or “UNITS”, then the value of the amount to encode.

2. To increase the value to encode, press and release the push button until the value you want to encode is displayed.

3. If you want a lower value than is currently displayed, press and hold in the push button, insert the card until it stops, release the button., then remove the card to return to 00.00.

4. Again, use the push button to set the value you wish to encode.

5. Insert as many blank cards as you desire to encode.

AUTO ENCODE FUNCTION

This device has been designed to automatically format NEW (never been encoded) cards. If a blank, unformatted card is inserted into the Reader for the first time, it will be encoded with zero dollars (0.00) to Site Code A, then come back out with the display showing CASH0. The card can now be re-inserted and will display 0.00 allowing you to add value to it. An operator must be logged in with the display indicating “HELLO” for the auto encode function to operate.

Note: Auto Encode only works with NEW UNFORMATTED cards. Any previously formatted or error-ed cards must be manually re-encoded with the Encode Cash or Encode Units Control Cards.

Auto Encode is only enabled when DIP switch C6 is ON

READ METERS

1. Insert the read meters to initiate the routine.

2. The Display will toggle between the meter label and the value.

3. Insert the card until it stops and then remove to step to the next meter.

4. Pressing the front button will cancel the meter reading routine.

Meter Label	Description
Id.	Identification Number of 1015 (set in parameters)
CASH.r1	Cash Deducted from Site 1 Cards (resettable)
CASH.A1	Cash Added to Site 1 Cards (resettable)
CASH.r2	Cash Deducted from Site 2 Cards (resettable)
CASH.A2	Cash Added to Site 2 Cards (resettable)
CASH.r3	Cash Deducted from Site 3 Cards (resettable)
CASH.A3	Cash Added to Site 3 Cards (resettable)
UNIT.r1	Units Deducted from Site 1 Cards (resettable)
UNIT.A1	Units Added to Site 1 Cards (resettable)
UNIT.r2	Units Deducted from Site 2 Cards (resettable)
UNIT.A2	Units Added to Site 2 Cards (resettable)
UNIT.r3	Units Deducted from Site 3 Cards (resettable)
UNIT.A3	Units Added to Site 3 Cards (resettable)
CASH.r	Cash Deducted from Cards - all Sites (resettable)
CASH.A	Cash Added to Cards - all Sites (resettable)
UNIT.r	Units Deducted from Cards - all Sites (resettable)
UNIT.A	Units Added to Cards - all Sites (resettable)
nCCARD	Number of Cash Cards Encoded (non-resettable)
nUCARD	Number of Units Cards Encoded (non-resettable)
ECASH	Value of Cash Encoded to Cards (non-resettable)
EUnIt	Value of Units Encoded to Cards (non-resettable)
tCASH.r1	Cash Deducted from Site 1 Cards (non-resettable)
tCASH.A1	Cash Added to Site 1 Cards (non-resettable)
tCASH.r2	Cash Deducted from Site 2 Cards (non-resettable)
tCASH.A2	Cash Added to Site 2 Cards (non-resettable)
tCASH.r3	Cash Deducted from Site 3 Cards (non-resettable)
tCASH.A3	Cash Added to Site 3 Cards (non-resettable)
tUNIT.r1	Units Deducted from Site 1 Cards (non-resettable)
tUNIT.A1	Units Added to Site 1 Cards (non-resettable)
tUNIT.r2	Units Deducted from Site 2 Cards (non-resettable)
tUNIT.A2	Units Added to Site 2 Cards (non-resettable)
tUNIT.r3	Units Deducted from Site 3 Cards (non-resettable)
tUNIT.A3	Units Added to Site 3 Cards (non-resettable)

tCASH.r	Cash Deducted from Cards - all Sites (non-resettable)
tCASH.A	Cash Added to Cards - all Sites (non-resettable)
tUNIT.r	Units Deducted from Cards - all Sites (non-resettable)
tUNIT.A	Units Added to Cards - all Sites (non-resettable)
tnCCARD	Number of Cash Cards Encoded (non-resettable)
tnUCARD	Number of Units Cards Encoded (non-resettable)
tECASH	Value of Cash Encoded to Cards (non-resettable)
tEUnIt	Value of Units Encoded to Cards (non-resettable)
CLEAr	The number of times Meters have been CLEARED (non-resettable)

PRINT METERS

To print out the meters to a serial printer

1. Connect the cable supplied by ITC Systems into the 9-pin connector at the back of the 1015 and the Serial port of the printer or serial device.

2. Ensure that the printer is powered on and ONLINE.

2. Insert the Print meters card, the report will be sent to the printer or serial device connected to the 1015.

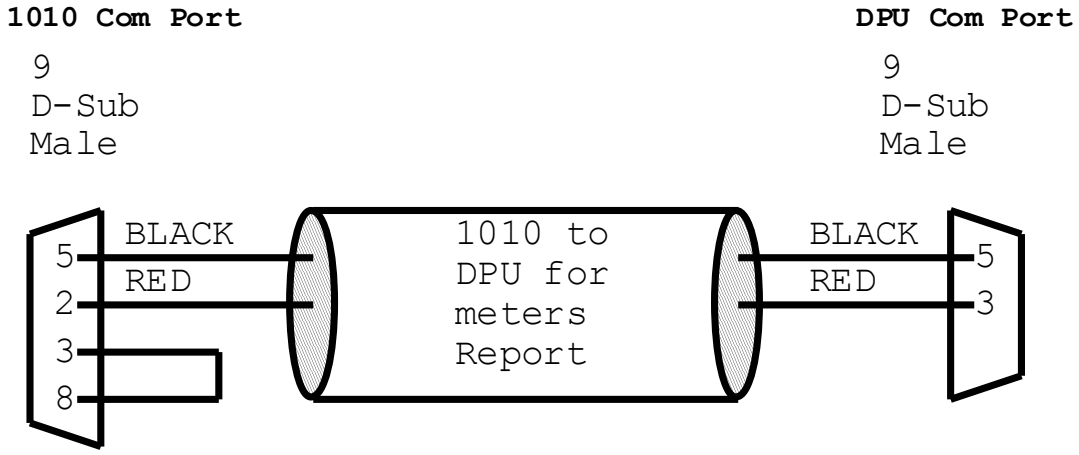
1015 Meters Output

Model 1015
TOTALIZED METERS
Machine identifier 1
Resettable Meters :
Debit Cards Cash Deducted-Site 1...$ 0.000
Debit Cards Cash Added-Site 1.....$ 0.000
Debit Cards Cash Deducted-Site 2...$ 0.000
Debit Cards Cash Added-Site 2.....$ 0.000
Debit Cards Cash Deducted-Site 3...$ 0.000
Debit Cards Cash Added-Site 3.....$ 0.000
Units Cards Value Deducted-Site 1.. 0
Units Cards Value Added-Site 1.....$ 0
Units Cards Value Deducted-Site 2.. 0
Units Cards Value Added-Site 2.....$ 0
Units Cards Value Deducted-Site 3.. 0
Units Cards Value Added-Site 3.....$ 0
Debit Cards Total Cash Deducted....$ 0.000
Debit Cards Total Cash Added.....$ 0.000
Units Cards Total Value Deducted... 0
Units Cards Total Value Added..... 0
Total Number Debit Cards Encoded... 0
Total Number Units Cards Encoded... 0
Total Cash Encoded on Debit Cards..$ 0.000
Total Value Encoded on Units Cards. 0

Permanent Meters :

Debit Cards Cash Deducted-Site 1...$ 0.000
Debit Cards Cash Added-Site 1.....$ 0.000
Debit Cards Cash Deducted-Site 2...$ 0.000
Debit Cards Cash Added-Site 2.....$ 0.000
Debit Cards Cash Deducted-Site 3...$ 0.000
Debit Cards Cash Added-Site 3.....$ 0.000
Units Cards Value Deducted-Site 1.. 0
Units Cards Value Added-Site 1.....$ 0
Units Cards Value Deducted-Site 2.. 0
Units Cards Value Added-Site 2.....$ 0
Units Cards Value Deducted-Site 3.. 0
Units Cards Value Added-Site 3.....$ 0
Debit Cards Total Cash Deducted....$ 0.000
Debit Cards Total Cash Added.....$ 0.000
Units Cards Total Value Deducted... 0
Units Cards Total Value Added..... 0
Total Number Debit Cards Encoded... 0
Total Number Units Cards Encoded... 0
Total Cash Encoded on Debit Cards..$ 0.000
Total Value Encoded on Units Cards. 0
Total # of meter clears 0

SEIKO DPU PRINTER TO 1015 READERS



Printer Settings DPU 414

Refer to Printer manual for Instructions on Set-up.

Dip SW-1	Dip SW-2	Dip SW-3
1. (OFF) : Input=Serial 2. (ON) : Printing Speed=High 3. (OFF) : Auto Loading=OFF 4. (ON) : Auto LF=ON 5. (OFF) : Setting Command=Disable 6. (OFF) : Printing 7. (ON) : Density 8. (ON) : 100%	1. (OFF) : Columns=80 2. (OFF) : User Font Back-up=ON 3. (ON) : Character Select=Normal 4. (ON) : Zero=Normal 5. (ON) : International 6. (ON) : Character 7. (ON) : Set 8. (OFF) : U.S.A.	1. (ON) : Data Length=8 bits 2. (OFF) : Parity Setting=Yes 3. (ON) : Parity Condition=Odd 4. (OFF) : Busy Control=XON/XOFF 5. (OFF) : Baud 6. (ON) : Rate 7. (ON) : Select 8. (ON) : =9600 bps

CAPTURING METERS WITH HYPER-TERMINAL

1. Obtain the cable that will attach the PC to the 1015. Connect the Male end to the 9 pin port on the rear of the 1015. Connect the other (female) end to the rear of the computer into an available Com port.

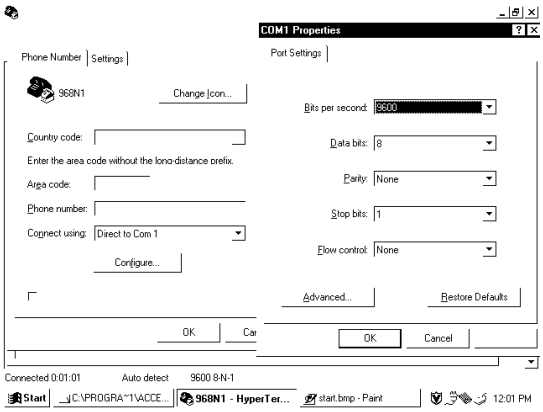
2. Launch Hyper-terminal on the computer. by double clicking on the Hyperterm.exe Icon.

3. Enter a new connection Name: 968N1.HT when prompted by the computer. Select "OK" to continue.
   On the next screen when prompted for a phone number leave the entry blank, go to the bottom selection bar Titled: "Connect using" and select "Direct to com 1" (or the Com port being used on the computer). Select "OK" at the bottom of the window.

4. In the COM 1 properties: Port Settings Select:

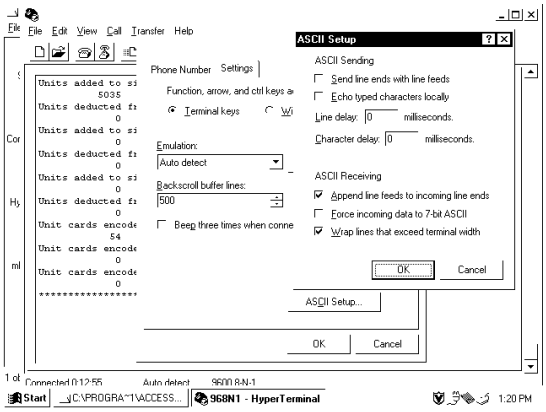
Bits per second	9600
Databits	8
Parity	Odd
Stop bits	1
Flow control	None

Select OK at the bottom of the window.

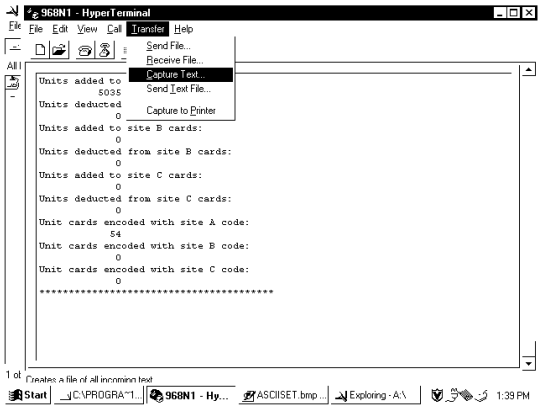


5. Select File from the main menu bar, then select Properties. Select the Settings tab then the ASCII Setup… button. Under "ASCII Receiving" check off the box marked "Append line feeds to incoming line ends". Select the OK button at the bottom of the ASCII Setup window. Select the OK button at the bottom of the Properties window to register the settings.

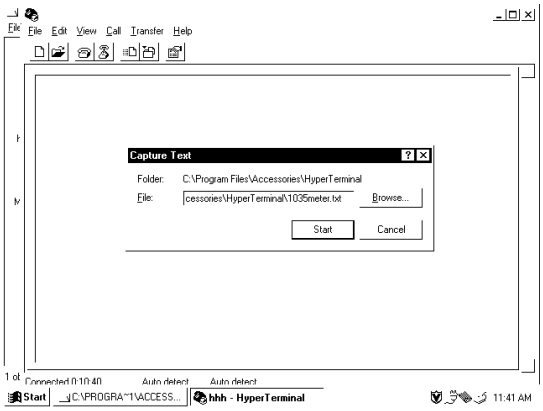
6.



7. Select Transfer on the main menu bar then select Capture text. At this point a window will pop up labeled “Capture Text” and prompt for a file name to be entered.

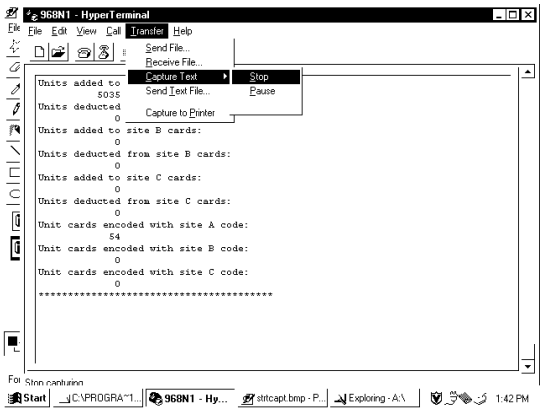


An appropriate file name such as “1015meter.txt” is to be entered in the File selection bar.
Select the “Start” button to begin the communications session.



7. Insert the Print meters card into the 1015. The meters will be displayed on the main screen of the hyper terminal program.

8. Once the meters are finished scrolling select "Transfer" under the main menu bar and under "Capture Text" select "Stop".



The meter readings have now been saved to a file that was specified in step 6 (1015meter.txt). The txt file can be opened or manipulated as desired through an appropriate application such as Wordpad.

9. Close the hyper terminal application and select "YES" when prompted to disconnect. When prompted to save the session "96N81.", selecting yes will create an icon under the hyper terminal folder named 96N81.HT

In future, double clicking on the "96N81.HT" icon created above will launch the hyper-terminal application with the settings preset so that the meters are ready to be captured immediately starting at step 7.

CLEARING METERS

Use the CLEAR METERS card to clear the re-settable. REMEMBER, the front panel button must be depressed and held while the CLEAR METERS card is inserted and Switch 6 on SW 1 must be ON.

1) Push and hold the front push button.

2) Insert the clear meters card. The card will be read then ejected. The display will read "CLEAR".

3) Remove the card.

4) Release the push button.

ERROR CODE SUMMARY

Code Error Description and possible cause

Er 1 A Card was not properly inserted or something is blocking one of the sensors

Er 2 Blank Card Inserted: Card was not encoded or inserted backwards

Er 3 No Start Byte Encountered: Defective data on card or ROM Code on Bank SW2 incorrect

Er 4 No ROM Code Encountered: incompatible card on ROM Code on Bank SW2 incorrect

Er 5 Defective data on card

Er 6 Defective data on card

Er 7 Defective data on card

Er 8 LRC is Inverted (Flagged): Card was removed manually during a power off state

Er 9 Site Code Error (the card is from another system): Check that the proper site code is set

Er 10 Maximum Card Value Exceeded: i.e. Card exceeds LG Units or LG Unit setting

Er 12 Motor Speed Error: Problem with card reader

Er 13 Command Card Switch Not "ON": Switch 6 on Bank A must be on to encode, clear meters Or set parameters

Er 14 Illegal User Card: Card cannot be used with this system

Er 15 Illegal Command Card:

Er 17 Illegal Card Format: To accept cards from older systems switch 1 on Bank A must be off

Er 19 Memory Error Wrong memory type for this version of firmware

Er 24 Card return button was not depressed when the “Clear Meter Card” was used.

Er 26 Value Card was inserted while no operator was logged in (LOG-IN on display)

Installation

The Card Reader may be mounted in any convenient location on, or next to, the controlled machine. Attach the Card Reader to the application via a Serial cable plugged into the 9 "D-subminature" Female socket at the back of the reader. Plug the transformer attached to the card reader into a standard AC outlet or Power bar.

Serial Communication Protocol

The Serial Communication Protocol of the 1015 is as shown below. Ensure that the communication Protocol of the attached application is set to match.

Board	9600
Data Bits	8
Stop Bits	1
Parity	Odd

Operation with Sharp Cash Register and Datasym 2000-FF Board

Version 2.1.1

1. Plug serial cable into Peripheral Port of Sharp register and the back of the 1015 Card Reader.

2. Confirm the following DIP switch settings on the 1015 Card Reader:
   Switch 2 on Bank A **must be off**
   Switch 3 on Bank A **must be off**
   Switch 4 on Bank A **must be off**
   Switch 8 on Bank C **must be off**

3. Plug the 1015 Card Reader into a power outlet. Set the ID to 1 on the Reader with the parameter set -up card. Set the applicable site codes(s).

4. On the Cash Register, turn the key to the service position .
   Set Job 924 as follows:

   0011 maximum card value 999.99

   C is the maximum value flag and D is the Enable Card Reader function.

5. Set Job 980 as follows:Type: - Cash Card Port: - 0 Data Bits: - 8
   Parity: - odd Stop Bits: - 1 Baud Rate: - 9600

6. Turn the key to the PGM 2 position.
   Set job 265 as follows Card Terminal: - 1 (This is to match the cash card reader id number.)

7. Set up Job 320 in PGM 2 mode as follows to add value to cards:
   Start the job in program 2 mode with **320 . ENTER**
   then enter the RA key number and **@** to set the appropriate record.
   Press **ENTER** until the prompt "AUTO MEDIA".
   Press **0** to toggle to "YES" **ENTER**
   At the prompt "MEDIA" Press **0** to toggle to the CASH setting **ENTER**
   All value transferred to the card will be made into this media
   Continue to press **ENTER** until the prompt "ADD VALUE".
   Set to YES using the **0** toggle **ENTER.**

8. Program media key(s) in Job 170 PGM 2 mode.
   Set media cash tender to Cash Card (the zero will toggle the parameters).
   Set media drawer open to NO for Cash Card tenders.

** NOTE: Refer to Datasym Documentation for details on cash register programming. **

FREQUENTLY ASKED QUESTIONS

1015 CARD READER/POS

For Error messages refer to Error code list.

When a transaction is made towards the card reader the display on the register comes up as "Reader Not Responding".
Check to see if the cable is connected to the reader and the Datasym board located at the back of the register.
Check to see if the card reader Parameter ID is set to 1.

When a transaction is made the register displays an error message of "Card Verify Error"?
Turn switch 2 on Bank A to the off position.

When trying to add value to a card the value is added and the card ejected but the register displays "Card Not Present"?
Set the R\A for that key to Auto Media = YES, Media = CASH, Cashcard = YES.

The register displays a Lock message.
Ensure that a Cashier button is depressed or a cashier is logged in.

The reader does not display the Hello message.
Ensure that the reader is getting power from the outlet. Plug the unit into another outlet in another room. Check the power cable for any broken wires. If the unit is found to be the problem consult an ITC Technician.

How to remove a card jam from a reader?
Unplug the reader and remove the reader from its case and locate the white gears on the right side when facing the front. Turn the gears counterclockwise until card comes out. For stubborn jams follow procedure above put push down on the roller at the underside of the reader.

How are the parameter settings set?
Use the Command Card SET PARAMETERS.

Print Queue displays a communication error between the reader and PC.
Check the serial communication cable as well as the power cable of the reader.
Make sure that the ID # is set to 1 in the reader parameters.

EXPLANATION OF TERMS USED IN SERVICE

Audit Report Printer:	An optional serial printer that can be attached to the printer output jack on the main board. When the printer is attached and the device is requested to print, a hard copy of the account information will be printed. Refer to the specific product manual for details.
Card Format	The format of the data on the card is referred to as card format. Often the format is named after the company that manufactures the readers that utilize it. I.e. ITC Format, ACT Format, Daynl, XCP etc Some formats are named for card the issuing body such as MONDEX or VISACASH. Many ITC readers can be setup to read other formats of cards through settings and or specific firmware revisions.
Card Format:	There are 2 card formats available. They are ITC format and OTHER format. If the system is using cards from a competitor's system, then set the format to OTHER. If the original system was provided by ITC Systems, set the format to utilize the high security ITC card format. Refer to the specific product manual for details.
Card Reader:	Device that accepts the card, determines the value of the card and transfers the value of the card to the control board or enables the copier, etc. When the transaction is finished and the eject button is pushed, the Card Reader writes the new value onto the card and returns the card to the customer. The Card Readers used are the ITC Systems 10XX-YY-Z Series where XX = application, YY = card size (CR-50 or CR-80) and, in the case of CR-80, Z determines the track position on the card that the magnetic stripe is located (2, 4, 5).
Card Size / CR-50 / CR-80:	Two standard card sizes are the CR-80 (typical credit card size – approximately 54 mm.) and CR-50 (narrower card – approximately 44 mm.) These are standard sized based on ISO standards.
Card Track:	The location of the magnetic stripe on the card. The locations are based upon ISO standards. Some common tracks are 5.5, 2, and 4 and, in the case of CR-50, centered. The advantage to the CR-50 centered track is the card can be read/written from either end.

Command Card Switch	An internal DIP switch located on the top board of the reader that must be set correctly to allow use of command cards. This is typically switch 6 on bank A (front DIP switch) and it must be in the ON position to allow command cards. For security reasons THIS SWITCH MUST BE TURNED OFF EXCEPT WHEN USING COMMAND CARDS!!!!!!!
Command Cards Control Cards Set-up Cards	Command Cards are used by Various readers to do Administrative tasks. Some of these tasks include: Setting parameters, Reading meters, Clearing meters, Encoding cash or units onto user cards, and Logging in or out operators. See Command Card Switch section for important note.
Communication port	See Serial Port Section
Control Cards	See Command Cards
Eject Button:	User accessible button on the front of Card Readers to indicate that the user wants the card returned. This button is also used to set parameters and exit meter-reading routines.
High Field:	A magnetic data stripe with high coercivity in the range of 4000 oersted. This is a higher security medium that takes a much larger magnetic field to encode. Typically, the write CCT drives through a 15-ohm resistor. See Low Field.
LED LCD Display	The display used to show information on status etc to the user. There are two main types used by ITC Systems. LED (Light Emitting Diode) and LCD (Liquid Crystal Display) are the proper names for these displays.
Low Field:	A magnetic data stripe with low coercivity in the range of 400 oersted. This is a lower security medium equivalent to a typical bankcard that can easily be affected by a magnetic field. Typically the write CCT drives through a 220 to 330 ohm resistor. See High Field.
Machine ID#:	An arbitrary number the operator can assign to the device to track which unit is making what copies. This number will be printed on the audit reports if an audit report printer is used. This ID number is critical for POS cash register use where it must be set to 1.

Parameter / Option / Command:	Administrator settable variables to determine how the system will function, values to be charged, card compatibility, etc. These are either numerical values, ON / OFF, Yes / No, or similar choices.
Power Supply Power Adapter Transformer	A Class 2 device (wall plug type) that converts the 120 volt power supplied by the mains to a lower AC or DC Voltage. This lower voltage (typically 9 to 24 volts) is then utilized by the controller. Using a class 2 device makes the product safer as there is no direct path to 120 Volts.
Printer Settings:	Typically printers are used to obtain meter and audit readings. To allow for maximum versatility, most printers and many controllers have settable parameters include: Baud Rate, Parity, Data Bits, Stop Bits, Null Characters, etc. The settings of the printer and controller must match for proper printout. See Null for explanation.
RAM:	Random Access Memory where the parameters and meters are stored. The device will have a battery on the board to keep this data even though the device is unplugged from the wall. Random values in the meters and parameters indicate that the battery may have failed. Parameters being lost or, in the case of Card Readers, changing to 65 XXX or 520 values indicates loss of battery back up. In these cases, the first item to check is the battery voltage.
Receipt Printer	The receipt printer is a small printer dedicated to printing receipts for transactions as they take place. There are receipt printers available for the 1040 plus and 1035.
ROM Code:	This is the last digit in the ROM Group Code (see STX Code for proper settings).
Serial Port Communication port Key Account Software	Some Devices (1040 Plus, 7500 1010 etc) have a built in serial communication port to interact with a computer or Audit Report Printer to report meter readings. Special communications packages are also available for some devices to upload and download information including parameters, account information and meter readings. (i.e. 7500 & Key Account 1010 and Actors)
Set-up Cards	See Command Cards

Site Code: This is a unique code assigned to the location so only cards at that location can be used. Site Codes are assigned in groups called ROM groups (see ROM and STX). Up to 3 Site Codes can be set on each Coin-Op for different pricing applications.

Smart Card: A card with a memory chip embedded in it to store data instead of storing data on a magnetic strip. The smart card has exposed terminals for data transfer to a Smart Card Reader device. The data contained on the smart card is encrypted according to the specific application.

Software / Firmware: The program that runs within the controller. Contained on an EPROM (or, in some cases, a microprocessor), it can be easily upgraded by exchanging the EPROM. NOTE: EPROMS are very fragile and sensitive to static electricity so handling precautions should be observed. The label on the EPROM does not necessarily indicate the orientation of the EPROM to the socket! Always double check that the notch on the EPROM matches the notch on the socket.

STX Code: This is the first digit(s) in the ROM Group. This is set by determining the start byte(s) of the ROM Group Code. For example, in ROM Group C1A, the start byte is "C". This is entered in DECIMAL (i.e. 12) at the parameter STX Code.

ROM Group	STX Code	ROM Code
B9A	11	9
C0A	12	0
C1A	12	1
C2A	12	2
E70	231	0
E71	231	1
40A	4	0

Transformer See Power Supply section

Troubleshoot: To diagnose a specific problem or malfunction in a device through the process of elimination of working functions and components vs. non-working functions and components through a logical, methodical approach and process.

ITC SYSTEMS.COM

Installation Data

Model: 1015VER _____Serial #: _____Date _____

Customer _____

Building _____

Address _____

Contact _____Tel _____Fax _____

Reference _____

Application. _____

DIP Switches

	Bank A (SW1)								Bank B (SW2)								Bank C (SW3)							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
ON																								
OFF																								

Parameter Settings

Id. Number		Reader Address			Site 1		
Site 2		Site 3			Largest Cash		
Largest Unit		Hold Bad Card	YES	NO	Display 0.001	YES	NO

NOTES:

_____

_____

_____

_____

_____

_____

PLEASE COMPLETE AND FAX TO ITC SYSTEMS (416-289-4790)

ITC SYSTEMS – WARRANTY AND LIABILITY CONTRACT

By issuing a Purchase Order or contracting with ITC Systems to carry out the supply of products, clients are accepting the terms of this Warranty and Liability Contract.

This document states the warranty and liability offered by ITC Systems on any products we manufacture or services we provide for our clients.

ITC Systems shall not be liable for any direct, indirect and/or consequential damages or losses, including loss of use, revenue, profit incurred by the client, its customers and/or any third party as a result of the use of the work carried out by ITC Systems for the client, including any loss resulting from equipment failure or malfunctions, design or programming errors or any other use of the work carried out in this contract. The client specifically waives any claim or recourse it may have against ITC Systems in any of the above instances.

When ITC Systems is manufacturing equipment, the equipment to be manufactured will be an exact replication of previously manufactured product, or the prototype, unless specified otherwise by the client, in writing.

ITC Systems warrants all parts of new equipment for one year, from date of invoice or if warranty card is on file, from date on card, against DEFECTIVE MATERIAL OR WORKMANSHIP, but not against damage caused by accident, abuse, faulty installation, or improper operation.

ITC Systems will repair, or at its option, replace without charge, F.O.B. factory, defective parts returned to its factory, transportation charges prepaid. ITC Systems' obligation under this warranty is limited to repair or replacement as stated herein and does not include the return shipping charges.

Any changes in design or improvements added to the line of equipment shall not create any obligation to install same on equipment previously sold and delivered to the client.

Any unauthorized alteration of, or addition to, articles of the contractors manufacture voids this warranty.

Equipment returned for Warranty repair must be accompanied by a copy of the Bill of Sale as verification of Purchase date. Equipment returned without a Bill of Sale will be charged to the customer at the normal repair rates.

WARRANTY REGISTRATION CARD

Mail to ITC Systems at once. The warranty period begins on the date your equipment is put into service, but is effective only if this card is filed with ITC Systems.

Please Print:

Part # _____ Serial No. _____ Date _____

Name of Owner _____

Address _____ City _____ Prov & PC _____

Street Location of Equipment _____

City, Province & PC _____

Purchased from (Dist.) _____

Address _____ City _____ Prov & PC _____

Installed On: POS Coin Laundry Vending Installation Copier Laser Printer Computer Other _____