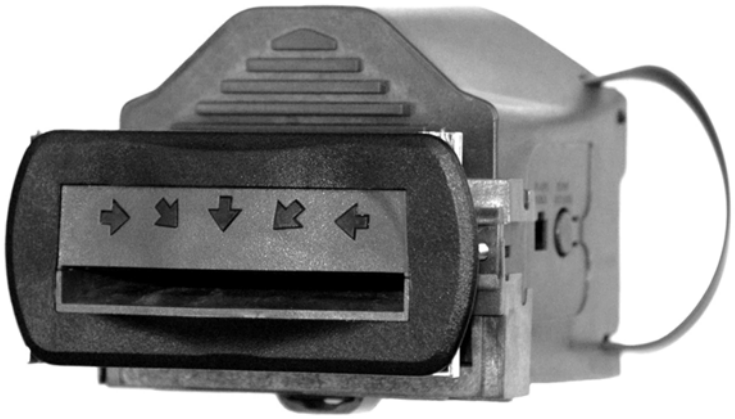
PYRAMID TECHNOLOGIES, INC.

TRILOGY By PTI

TRILOGY SERIES NOTE ACCEPTOR
INSTALLATION / OPERATION MANUAL



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Rev. C 02/27/06

Product Overview

The Pyramid Technologies, Inc. (PTI) Trilogy Series note acceptors are designed for indoor use in the amusement, gaming, lottery and kiosk markets. Based on the model, the Trilogy acceptors can accept notes from 60 mm to 85 mm in width.

Trilogy Acceptor Features

- Lighted arrows on bezel.
- High security against fraudulent notes.
- Flash downloadable software using a PC (Currency updates are free of charge).
- On-board pushbutton/LED and advanced diagnostics via PC.
- Many interfaces available: Pin-outs compatible with other manufacturers' note acceptors.
- Dual-stage optical anti-stringing.
- Simple configuration and setup.
- 12 VDC (+/- 10%) operation.
- Removable note path for easy cleaning.
- Can handle notes up to 85 mm wide.
- Auto-calibration - Never needs to be calibrated.

Product Specifications

Operating Voltage: 12 VDC (+/- 10%) standard.
Operating Currents: **Idle:** 50 mA **Accepting:** 1.0 A **Stalled**: 2.9 A.
Operating Temperature: 0C – 60C, 90 % non-condensing humidity.
Acceptance Rate: Greater than 95%, including second time insertion of a rejected note.
Acceptance Speed: Approx. 20 notes per minute.
Sensor Array: 10 Optical Sensors.
Notes Accepted: Up to 14 notes in all four directions (56 faces)
Net Weight: Stackered Model…….. 2.3 lbs./1.04 kg.
Stackerless Model……. 1.3 lbs./0.59 kg.
Warranty: 2 years, parts and labor (see Warranty Section).

Note: Maximum permitted output value of an external power supply is 4.0 amps. (Equipment with an external power supply shall be protected to provide protection against excessive energy being drawn from the external power supply in case of a fault in the equipment. The value of the short circuit current in a single fault condition depends on the short circuit of the external power supply.)
Note: It is not permitted to connect equipment to the note acceptor with a power supply without SELV or class II qualification.

To order any Trilogy Series acceptor, use the following order information:

Series	Bezel Type	Cashbox	P.S./Comm.	Country
T5	X	X	X	XXX

Bezel Type

1- Euro Style Bezel (Notes up to 85 mm in width)
2- USA Style Bezel (Notes up to 66 mm in width)
3- USA Style Bezel (Notes up to 72 mm in width)
4- USA Style Bezel (Notes up to 74 mm in width)

Cashbox

N- None (Stackerless only)
2- 200 Note Cassette
5- 500 Note Cassette
1- 1000 Note Cassette

P.S./Comm. (Power Supply/Communication Options)

1- 12 VDC Pulse Mode only (4-pin harness included)
2- 12 VDC Parallel/Parallel Binary and CC-Talk Operation (16-pin harness included)
3- 12 VDC 600 Baud Serial Interface (18-pin harness included)
4- 12 VDC USB Operation (4-pin power harness included as well as USB harness)

Country Code

Follows ISO three (3) digit Country Code- Example EUR = Euro notes, USA = USA notes

Serial Number Description

Example Serial Number: S/N 0538 00001

In this example, the first two digits are the year of manufacture (20**05**).
The week of manufacture is week **38** of 2005.
The sequential production serial number is **00001**.

Dimensional Drawings

For Dimensional Drawings, please visit our website at www.pyramidacceptors.com in the Note Acceptors section.

The following is a list of optional accessories available from Pyramid Technologies, Inc.

Description	Part Number

USB Flash Download (PC) Interface Harness **P/N 05AA0026**
This harness is used to interface a PC to the Trilogy note acceptor. This harness is used for acceptor diagnostics and flash software downloading. Please visit http://www.pyramidacceptors.com and go to the "Download" section to download the PC program. For complete PC documentation, see the "Support " section of the web site. These files are also available upon request.

Adapter Bracket Kit **P/N 9A002**
This kit is used to mount the Trilogy note acceptor to a wood door. This kit comes with all necessary mounting hardware.

Please visit our website (www.pyramidacceptors.com) for more harness options.

Limited Warranty

Trilogy note acceptors are warranted for a period of two (2) years from date of original invoice. This warranty extends to the original purchaser of the warranted product and each transferee owner of the product, during the term of the warranty. During the warranty period, manufacturer will repair or replace (at manufacture's option) any parts, up to and including the complete acceptor, which fail to function properly because of defects in material or workmanship. This warranty covers note acceptors only, which are designed to accept genuine currency.

Manufacturer is not responsible for any consequential damage or performance degradation that results from counterfeit currency or foreign objects inserted into the note acceptor. The product to be repaired under warranty must be delivered, inbound freight prepaid to an authorized service center. Upon request, the owner must show proof of purchase when submitting equipment for service during the warranty period. Repair or installation at the owner's location is not included in warranty. During the warranty period, manufacturer will pay all outbound ground freight charges to the owner's location. The owner must assume special handling or shipping charges. Manufacturer will not be liable for any consequential damages as a result of defects in material or workmanship. Any written or applied warranty of this product is strictly limited to the refund of the cost of goods purchased. Damage due to negligence, accidents, electrical overload, misuse, abuse, vandalism, or an act of God, is not covered by this warranty. Any alteration of the product after manufacture voids the warranty in its entirety.

Shipping Damage

When a product is returned to the owner after service, only consignee (the person or company receiving the note acceptor) can file a claim against the carrier for concealed damages. Therefore, unpack immediately. Notify the delivery carrier of damages and request immediate inspection. Send a letter of intent to file claim to the carrier within 72 hours from the time of receipt. Send a copy of this letter to the shipper.

Service

For service information, please contact Pyramid Technologies, Inc. for a Service Center near you. For any items returned under warranty or for repair, complete written information including the serial and model number as well as a description of the malfunction or defects must be submitted to the Service Center when requesting a Return Material Authorization number (RMA number). Owner accepts full responsibility for any return without prior authorization. The RMA number must be displayed on the exterior of the returned product carton(s).

Unpacking the Note Acceptor

Immediately inspect the note acceptor for damage when unpacking it. If the acceptor is damaged, place it back in its original carton along with the packing materials. Notify the carrier of damages and request an immediate inspection of the package. Send a letter of intent to file a claim to the carrier within 72 hours from time of delivery. Please also send a copy of this letter to the shipper. Only the person or company receiving the note acceptor can file a claim against the carrier for concealed damages.

Installation/Mounting

The Trilogy note acceptor has been designed to easily mount onto existing studs in OEM equipment. If you are mounting the acceptor to a wood panel or door, you may require our optional Adapter Bracket **(P/N 9A002)**.

To install the acceptor, disconnect all power to the machine. Connect the interface cable from the machine to the acceptor.
The Trilogy note acceptor has no DIP switches. It can be factory programmed to exactly fit your needs, or you can configure it using one of two methods. The first method is using the Configuration Card. This simple card allows you to program all features of the note acceptor. The second method is using a PC in conjunction with our USB Flash Interface Cable (P/N 05AA0026). Using this method, you can quickly configure the note acceptor. Please note that power must be applied to the note acceptor to use either configuration method.

Configuration using a PC

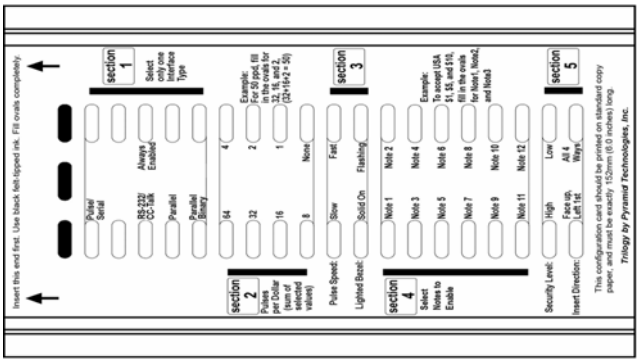
This method allows you to easily change the configuration of the Trilogy acceptor. Please visit our website under the Support Section for more details.

Configuration using the Configuration Card

The Trilogy acceptor can be configured using a Configuration Card. Three Configuration Cards are printed on the last page of this manual. To use this card, first make a copy using a standard black and white laser or bubble jet copier. Make sure the copy is printed on white copier paper and is the same size as the original card. Note: Copiers occasionally change the size of printed materials. This is why you should compare the copied card to the original card.

Once you have copied the card in the manual, carefully cut it out along the edge lines. Cut the card width to fit the model number of the acceptor you have purchased (to optimize card reading).

The Configuration Card below is an example only! Use the card in the back of this manual!



Once configured with the card, the acceptor will remember these settings, even if power is removed. When you fill in the card, use a black felt tip marker and fill the selected block completely making sure no marks are outside the block. Note: As a service to our customers, Pyramid Technologies, Inc. will configure each acceptor to your requirements free of charge. Just ask!

Fill out the Configuration Card according to the table below:

NOTE: You must fill out every Section of the card in order for it to be read correctly!!!

Section Number on Configuration Card	Description
Section 1 These lines select the type of Interface that you want to use. **If you are unsure about your selection, see the Interface Section of this manual.** You can select only one interface type.	**Pulse/Serial-** Pulse or 600 baud serial. **RS-232/CC-Talk**- True RS-232 or CC-Talk protocol. **Always Enabled**- Acceptor always enabled mode. **Parallel** - Parallel mode of operation **Parallel Binary**- Parallel Binary mode of operation.
Section 2 These lines select the Pulses Per Dollar. For Pulse mode, fill in the Blocks to add up the total number of Pulses Per Dollar that you desire. Fill out "None" if you are not using any type of pulse mode.	Fill in the Blocks to add up the total number of Pulses Per Dollar that you desire. For example, if you want ten (10) pulses per dollar, fill in the "8" and "2" Blocks. **Note: If you wish to use the 600-baud serial mode instead of Pulse, and then fill in the "None" Block. If you select a number for Pulses Per Dollar, the acceptor always assumes Pulse Mode.**
Section 3 (Pulse Speed) This line selects the Slow or Fast Pulse. The Slow Pulse (for USA) is a 50 msec on, 300 msec off pulse. For European countries, the Slow Pulse is 100 msec on, 200 msec off. The Fast Pulse is a 50 ms on, 50 ms off	Fill in the appropriate Block. Note: If you are not using the pulse mode, don't fill out this section. **Note: In the Parallel or Parallel Binary modes of operation, the pulse speed is not selectable.**
Section 3 (Lighted Bezel) This line selects how the Bezel lighting will appear to the customer. The Bezel can be selected to be always on or can set to be flashing when the acceptor is enabled. In either case, the Bezel is off when the acceptor is disabled, or when the acceptor has a problem.	Fill in the appropriate Block. You must select one of the options here.
Section 4 (Enable Notes) These lines determine which notes you want enabled. Note 1 is the first note for that particular country.	Fill in the appropriate Block to enable a note.
Section 5 (Security Level) This line is used to select the security of the note acceptor. Select either low or high security.	Low security should be used when the user knows that the likelihood of counterfeiting is low. High security should be used when the acceptor is configured to accept high denomination currency. You must select one option.
Section 5 (Insert Direction) This line is used to select the direction of note acceptance. Notes can be accepted in all four directions or "Face up, left" which means face (portrait) up, left side of the note inserted first.	Select the appropriate direction of insertion. You must select one option.

Notes: A T5XX2 Series Acceptor is needed to support the CC-Talk protocol, Parallel, Parallel Binary and European style Pulse mode.

A T5XX4 Series Acceptor is needed to support the RS232 protocol.

A T5XX3 Series Acceptor is needed to support the 600 Baud protocol.

Configuring the Note Acceptor using the Configuration Card

- Make sure power is applied to the note acceptor.
- Press and hold the Diagnostic Pushbutton located on the left side of the note acceptor (looking at the acceptor from the rear). Hold the Diagnostic Pushbutton for at least ten (10) seconds, then release.
- The bezel lighting on the front of the acceptor will flash ten (10) times.
- Insert the Configuration Card into the acceptor, arrows first, printed side face up.
- The acceptor will hold the Configuration Card for a second or two, then feed it back to you.
- If the bezel lights are flashing rapidly, the acceptor has read the Configuration Card correctly. The configuration is now in permanent memory in the note acceptor. The acceptor will reset itself and its motor will run briefly. You can now begin using the acceptor.
- If the note acceptor has not read the Configuration Card correctly, the bezel lights will flash slowly a certain number of times. The number of flashes will tell you which Section of the card it cannot read correctly. If this occurs, make sure that Section is filled in neatly. The note acceptor will stay in the Configuration Mode until it has correctly read a Configuration Card, or if you remove power to the acceptor.

Flash Programming Primer

Downloading new software to the Trilogy note acceptor is accomplished using a PC. If you wish to change the software inside the acceptor, you must have our PC program, located on our website.

Instead of using an EPROM to hold the note acceptor software, Pyramid Technologies, Inc. chose to use a Flash Device installed on the Trilogy note acceptor's Microprocessor Board. Using this device, there is no need to open the acceptor to change software. To change the acceptor's software, you will plug a PC into the six (6) pin connector located next to the Diagnostic Pushbutton (left rear of the acceptor as seen from the back). You also need to purchase the required USB Flash Interface Harness, P/N 05AA0026. After loading the required software onto the PC, you can download new software to any note acceptor at any location. The only requirement is that the acceptor has power applied. This method has the added benefit of allowing the PC to be able to perform advanced diagnostics on the note acceptor. This makes for an excellent troubleshooting device.

Our web site (www.pyramidacceptors.com) has the latest available software located in our "Download" Section, and documentation is available upon request, or from the "Support" section of our web site.

Note Acceptor Testing

- Apply power to the machine. The note acceptor will cycle its motor and stacker, if so equipped.
- Check the bezel lighting. Based on the configuration you programmed, the bezel lights should be on solid or flashing at a one second rate. This will indicate that the acceptor is ready to take notes.
- Insert one of each denomination that can be accepted and verify that proper credit is given to the machine.

If the acceptor does not accept a particular note or does not credit the machine properly, re-check the configuration that you programmed using the Configuration Card or a PC.

Diagnostic Pushbutton Operation

The Trilogy Series note acceptors have built in diagnostic abilities. These can be accessed using the Diagnostic Pushbutton, located on the left side of the note acceptor (viewed from the back).

The Diagnostic Pushbutton on the Trilogy note acceptor is utilized for two functions. They are:
1. Diagnostics of the acceptor using the front bezel lighting.
2. Configuration of the acceptor using the Configuration Card.

Refer to Configuration/Configuration Card Section for details on configuring the acceptor.

Diagnostic Features

To enter the Diagnostic Mode, the acceptor must have power. The front bezel lighting is used to flash a certain number of times to indicate an error, if one exists.

To enter the Diagnostic Mode, push and hold the Diagnostic Pushbutton located on the left side of the acceptor (viewed from the back). Hold it for at least one (1) second, but no more than five (5) seconds, then release.

Note: Holding it longer than 10 seconds will put the acceptor into a Configuration Mode and it will expect to have the Configuration Card inserted next. If you have accidentally entered this mode, cycle the acceptor power and start again.

Look at the front bezel of the note acceptor. It will be flashing the bezel lights on and off. The number of times the lights flash corresponds to the error code listed on the next page.

To exit this mode, either let the acceptor sit (it will automatically exit this mode after thirty (30) seconds), or press the button again for 1-5 seconds. (Remember, don't hold for longer than five (5) seconds.)

Maintenance

The Trilogy Series note acceptor is relatively maintenance free. An occasional cleaning is all that is needed to keep the acceptor in top operation. To clean the acceptor:

- Remove power from the machine.
- If equipped with a stacker, unlatch the cassette by pushing in the top latch and lifting the cassette up and out.
- Unplug the I/O connector and/or power connector from the right side of the acceptor.
- Remove the Lower Transport by pushing in the latch located on the bottom of the acceptor at the rear. Gently pull the Lower Transport out of the assembly.
- Clean the note path using a soft cloth or towel. Do not use any cleaners other than a 50/50 mixture of water and isopropyl alcohol.

  NOTE: Pay particular attention to the gray oval pieces of plastic in the lower and upper transport area and the Optical Anti-stringing (OAS) sensors located in the lower transport plate (on each inside edge of the plate). They all must be cleaned well for proper operation.

Do not use any oils or silicon spray on the acceptor!

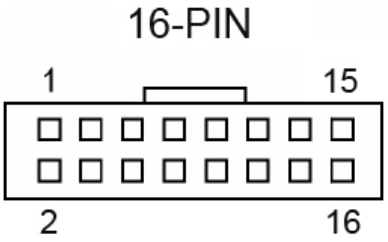
Front Bezel Lighting Flash Codes

The flash codes shown below correspond to the Trilogy note acceptor error. The acceptor will flash the error code, then wait 3 seconds and flash it again.

Flashing Code	Meaning of Flashing Code	Corrective Action
LED's always OFF	The acceptor has no power.	Check that power has been applied.
LED's always ON	No error exists- acceptor is OK.	None.
1 Flash	Something is in the note path.	Remove the cassette and Lower Transport to inspect for foreign objects. Clean if necessary.
2 Flashes	Something is obstructing the stacker.	Remove the cassette and Lower Transport to inspect for foreign objects. Clean if necessary.
3 Flashes	The cassette is full of currency.	Remove the cassette and empty it.
4 Flashes	The cassette has been removed.	Replace the cassette.
5 Flashes	The acceptor is defective.	Replace the acceptor.
6 Flashes	The acceptor is not enabled.	Verify that the host has enabled the acceptor.
10 Flashes	Configuration Mode has been entered.	Configuration Card must be inserted into the acceptor or cycle power to the acceptor to exit this mode. See Configuration Section for details.
Rapid Flashing During Operation	The acceptor has detected a stringing attempt, or the optical anti-stringing sensor is dirty.	Remove the Lower Transport and clean the optical anti-stringing sensor pair openings. These sensor openings are located on the Lower Transport, between the second and third roller and to the far left and right of the note path. It is a good idea to clean all of the sensors at this time, both the entire upper and lower halves of the note path. Reinstall the Lower Transport and cycle the power.

Connection Details

Figure 1



16-pin I/O connector
(looking at the acceptor)

(For T5XX2 Parallel/Parallel Binary or CC-Talk Trilogy Model)

16-pin Mating Connector

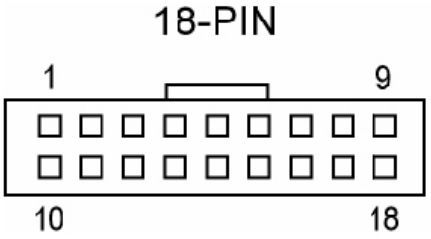
Molex P/N 22-55-2162 (Housing)

Molex Female Contact P/N 16-02-0086

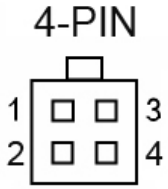
Pin	16-Pin Connector Function (wire color)
1	Vend 1 (Binary bit 1,active low) and CC-Talk TXD (Brown)
2	Vend 2 (Binary bit 2, active low) (Grey)
3	Vend 3 (Binary bit 4,active low) (Yellow)
4	Vend 4 (Binary bit 8,active low) (Green)
5	Inhibit 1 (Active High) and CC-Talk RXD (Violet)
6	Inhibit 2 (Active High) (White/Blue)
7	Inhibit 3 (Active High) (Pink)
8	Inhibit 4 (Active High) (White/Yellow)
9	Busy (Active low when acceptor is validating a note) (White)
10	Escrow (Active low) (White/Red)
11	Not Used
12	Not Used
13	Alarm (Active Low) (Light Blue)
14	Not Used
15	+12 VDC Power (Red)
16	Supply Ground (Black)

Connection Details

Figure 2



18-pin I/O connector
(looking at the acceptor)
(For T5XX3 Serial 600-Baud Model)



4-pin Pulse connector
(Looking at the acceptor)
(For T5XX1 Pulse only Model)

18-pin Mating Connector
Molex P/N 22-55-2182 (Housing)

Molex Female Contact P/N 16-02-0086

Pin	18-Pin Connector Function (wire color)
1	Credit Output (Brown)
2	~INT line for 600-baud mode (Orange)
3	Serial/~Pulse **or** (Yellow)
4	DC Power Ground (Black)
5	TXD for 600 or TTL RS232 (Green)
6	Not Used (Blue)
7	Not Used (Gray)
8	Not Used (Pink)
9	Not Used (White)
10	Out of Service line (pulled low) (Tan)
11	+12 VDC Power (Red)
12	~Acceptor Enable (Pull low to enable) (Violet)
13	330 Ohm resistor to +5 VDC for LED (White/Orange)
14	~Send line for 600 (White/Blue)
15	Not Used (White/Yellow)
16	RXD for TTL RS232 (White/Red)
17	Not Used (White/Green)
18	Not Used (White/Gray)

4-pin Mating Connector
Molex P/N 22-55-2042

Molex Female Contact P/N 16-02-1110

Pin	4-Pin Connector Function (wire color)
1	Enable Input (Active Low) (Violet)
2	Credit Output (Active Low) (Brown)
3	+12 VDC Power (Red)
4	Supply Ground (Black)

Modes of Operation

Pulse Mode (4-pin or 18-pin versions only)

Note: For Pulse Mode using the 16-pin connector, see page 14. To enable this mode on the Trilogy note acceptor, make sure the Configuration Card has been configured for "Pulse/Serial" mode.

These modes are compatible with note acceptors that use the Pulse mode. Figure 2 shows the connector to be used for this mode of operation. Either the 4-pin connector or the 18-pin connector (If so equipped) can be used for this mode of operation.

Pulse Mode- Inputs and Outputs

Power

4-pin connector- Connect +12 VDC to Pin 3 (Red wire) on the 4-pin connector (see Figure 2). Connect DC ground to Pin 4 (Black wire) on the 4-pin connector.
OR-
16-pin connector- Connect +12 VDC to Pin 15 (Red wire) on the 16-pin connector (see Figure 1). Connect DC ground to Pin 16 (Black wire) on the 16-pin connector.
OR-
18-pin connector- Connect +12 VDC to Pin 11 (Red wire) on the 18-pin connector (see Figure 2). Connect DC ground to Pin 4 (Black wire) on the 18-pin connector.

Inputs

4-pin connector Pin 1 (Violet wire)- Accept Enable line. Bring low to enable the acceptor. (Tie to DC ground, Pin 4 (Black wire) on the 9-pin connector to always enable the acceptor.)
OR-
16-pin connector- Pin 5 (Violet wire) –Inhibit 1 Line. Bring low to enable the acceptor. (Tie to DC ground, Pin 16 (Black wire) on the 16-pin connector to always enable the acceptor.)
OR-
18-pin connector- Pin 12 (Violet wire) -Accept Enable line. Bring low to enable the acceptor. (Tie to DC ground, Pin 4 (Black wire) on the 18-pin connector to always enable the acceptor.)

Outputs

4-pin connector- Use the normally high, open-collector output transistor on Pin 2 (Brown wire) on the 4-pin connector (5-12 VDC at 40 mA Max.).
OR-
16-pin connector- Vend 1 Line. Use the normally high, open-collector output transistor on Pin 1 (Brown wire) on the 16-pin connector (5-12 VDC at 40 mA Max.).
OR-
18-pin connector- Use the normally high, open-collector output transistor on Pin 1 (Brown wire) on the 18-pin connector (5-12 VDC at 40 mA Max.).

600-Baud Serial Mode

This interface is a non-isolated interface. (TTL/CMOS compatible.) This interface operates at 600 baud, 1 start bit, 1 stop bit and 8 data bits. The Trilogy note acceptor will pull the Interrupt line low when it has a serial message to send to the host. The host machine will pull the Send line low when it can receive this serial message. The Trilogy will then output a Credit Message if the note is recognized. A Reject Message is sent if the note is not recognized. After the Credit message is sent to the host, the Enable line is to be pulsed high within 5 msec if the host wants to return the note to the customer. If the Enable Line remains low, the acceptor will accept the note and send a Vend Message to the host. The Host machine can tell the acceptor to resend any particular message by bringing the Send Line high and pulse it low within 2-4 msec.

Note: This mode is only supported on a T5XX3 model that has an 18-pin connector.

Serial Mode- Inputs/Outputs and Power

Inputs and Outputs for Serial Interface. (Inputs are 0-5V DC Operation Only)

Pin Number wire Color	Signal Name	Function
Pin 2 Orange wire	~Interrupt Line	Request to send data to host.
Pin 3 Yellow wire	Serial/Pulse Mode Select Line	Must be left floating to enable serial mode. (No Connect.) **Also make sure you have selected "None" for Pulses Per Dollar selection on the Configuration Card.**
Pin 4 Black wire	Ground	DC ground
Pin 5 Green wire	TXD (Data Output)	Transmit Data Line from acceptor.
Pin 10 Tan wire	Out Of Service	Pulled low by the acceptor when the acceptor is out of service or when the stacker (if so equipped), is full. (5-12 VDC at 40 mA Max.)
Pin 11 Red wire	+12 VDC Power	+12V Acceptor Power.
Pin 12 Violet wire	Acceptor Enable	Pull low to enable the acceptor.
Pin 13 White/Orange wire	LED Power	LED Power can be obtained here. This output is a 330 ohm resistor tied to +5V.
Pin 14 White/Blue wire	~Send Line	Host Ready Signal.

The table below shows the Data that can be sent from the Trilogy note acceptor to the Host.

Message	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0	Hex
$1 Credit	1	0	0	0	0	0	0	1	81H
Not Used	1	0	0	0	0	0	1	0	82H
$5 Credit	1	0	0	0	0	0	1	1	83H
$10 Credit	1	0	0	0	0	1	0	0	84H
$20 Credit	1	0	0	0	0	1	0	1	85H
$50 Credit	1	0	0	0	0	1	1	0	86H
$100 Credit	1	0	0	0	0	1	1	1	87H
Reserved	1	0	0	0	1	0	0	0	88H
Vend	1	0	0	0	1	0	0	1	89H
Return	1	0	0	0	1	0	1	0	8AH
Reject	1	0	0	0	1	0	1	1	8BH
Failure	1	0	0	0	1	1	0	0	8CH
Full or Jam	1	0	0	0	1	1	0	1	8DH

Always Enabled Mode of Operation

This mode of operation is the simplest to understand. In this mode, the acceptor is always enabled. It will accept all valid notes that are programmed to be accepted by the Configuration Card. Note: to enable this mode on the acceptor, make sure the Configuration Card has been configured for "Always Enabled" mode. The output of the note acceptor is the Credit Output Line (or the Vend 1 line for a T5XX2 series acceptor).

RS-232 Mode (USB)

Note: Only a T5XX4 model with the USB Option Board will support this mode of operation.

To enable this mode on the acceptor, make sure the Configuration Card has been configured for "RS-232" mode.

Power Connections

Apply +12 VDC to Pin 3 of the 4-Pin connector (Red Wire). Apply Supply Ground to Pin 4 of the 4-Pin connector (Black Wire)

Inputs and Outputs

The T5XX4 model has a USB connector on the side of the acceptor. Simply plug the USB line from the PC's USB cable into this connector. For RS-232 (USB) communication protocol details, see the "support" section of our website.

Parallel or Parallel Binary Mode of Operation

Note: To enable this mode on the acceptor, make sure the Configuration Card has been configured for Parallel mode or Parallel Binary mode. This mode is only supported on a T5XX2 series acceptor.

In this mode, a single output is applied to one of four Vend lines to show which note has been accepted. This allows you to have up to four denominations of notes to be accepted.

Also provided in this interface is an Alarm line to indicate an abnormal condition. An Escrow line is also provided to allow more control over which note is accepted by the Trilogy note acceptor.

Interface Operation

The Inhibit lines are used to enable the Trilogy note acceptor. Pull each low to enable that particular note in the acceptor, high to disable. The Busy Line will go low when the acceptor is in operation. A Vend Line will go low for 100 msec when a particular note is recognized. Vend Lines 1-4 correspond to first four notes in a note set. If the Escrow Line is not held low, the acceptor will accept a note and send the appropriate signal via the Vend Line. If the Escrow Line is held low and a note is inserted, the Trilogy note acceptor will send out a "Credit" signal telling you what the value of the note is (by toggling the appropriate Vend Line). If the Escrow Line is not brought high or the Inhibit Line goes high during a 30-second period, the note will be rejected. If the user brings the Escrow Line high (and leaves the Inhibit line low) during the 30-second period, the acceptor will accept the note and send out a "Vend" signal on the appropriate Credit Line. The Vend signal will not be issued if the note jams or if a "Stealing" attempt is seen by the acceptor. In this case, a 100 msec (low) pulse will occur on the Alarm line. If the note is pulled back, or rejected in any way after Escrow (In Escrow Mode), the acceptor will shut down for 45 seconds.

In addition, for Parallel Binary Operation

In this mode of operation the Vend 1 through Vend 4 lines will put out a binary output for each note. Channels higher than four cannot be individually inhibited. They will be globally disabled if using Inhibits 1 through Inhibit 4. Vend 1 is the LSB, Vend 4 is the MSB.

Pulse Mode (16-pin versions only) For T5XX2 Model in Pulse Mode

In this mode, the acceptor will function exactly like the Parallel Mode except:

1. Vend 1 is the only output.
2. Vend 1 will put out fast or slow pulse(s) based on the Pulse Speed Setting and Pulses Per Dollar setting.

CC-Talk Mode of Operation

In the CC-Talk mode of operation, the acceptor will operate according to the CC-Talk protocol.
For this mode of operation tie pins 1 and 5 together on the 16-pin connector (Tan and Violet wires).
Apply +12 VDC to pin 15 on the 16-pin connector (Red wire).
Apply Supply Ground to pin 16 on the 16-pin connector (Black Wire).

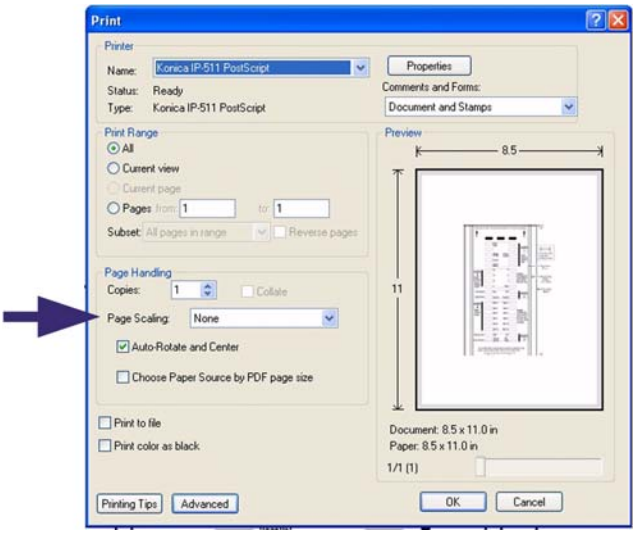
Configuration Card

The Configuration Card is to be copied from this manual using either a laser or a bubble jet copier. Use standard photocopy paper. After copying it, **make sure the length matches the original size of 6.0 inches (152 mm)**
Note: Copiers occasionally change the size of printed materials. This is why you should compare the copied card to the original card.
To use your copy, fill in the desired selections with **black felt-tipped** ink and cut the Configuration Card out along the solid line.
Note: Cut the width of the Configuration card to match the maximum width of the acceptor based on the model of the acceptor you have purchased.

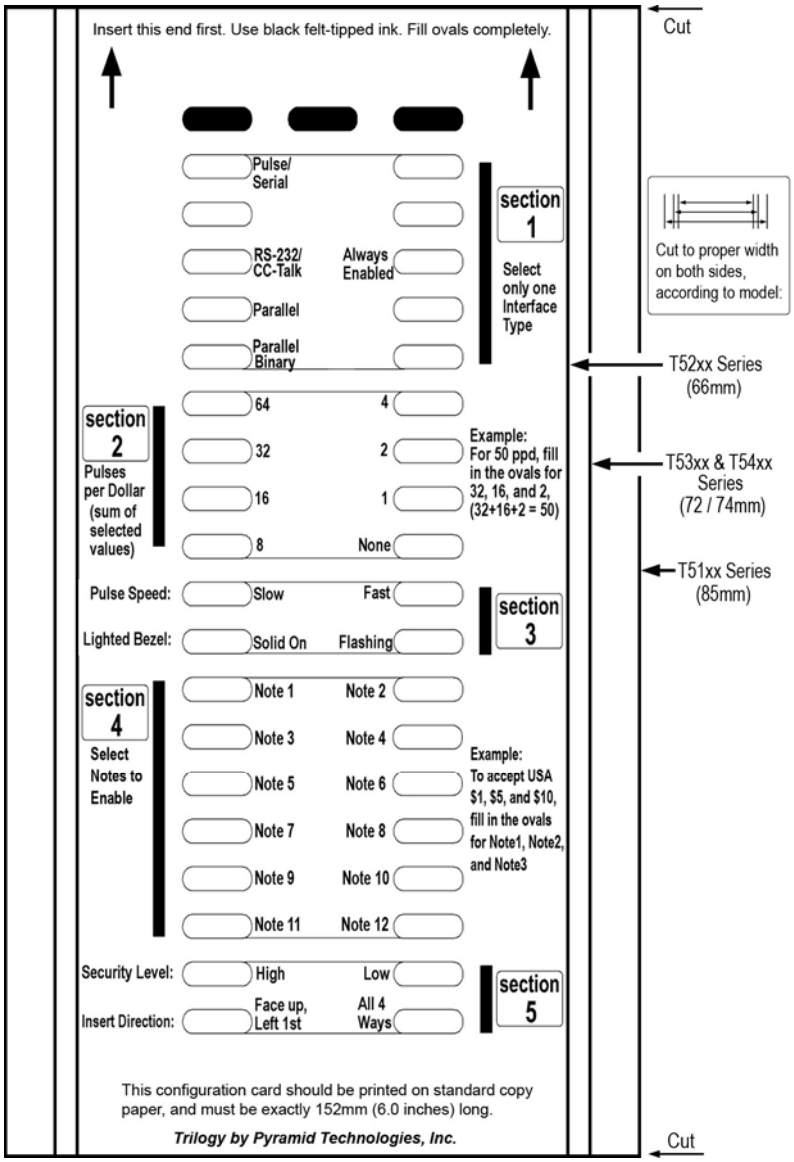
Important Note: Every section of the Configuration Card must be filled out!

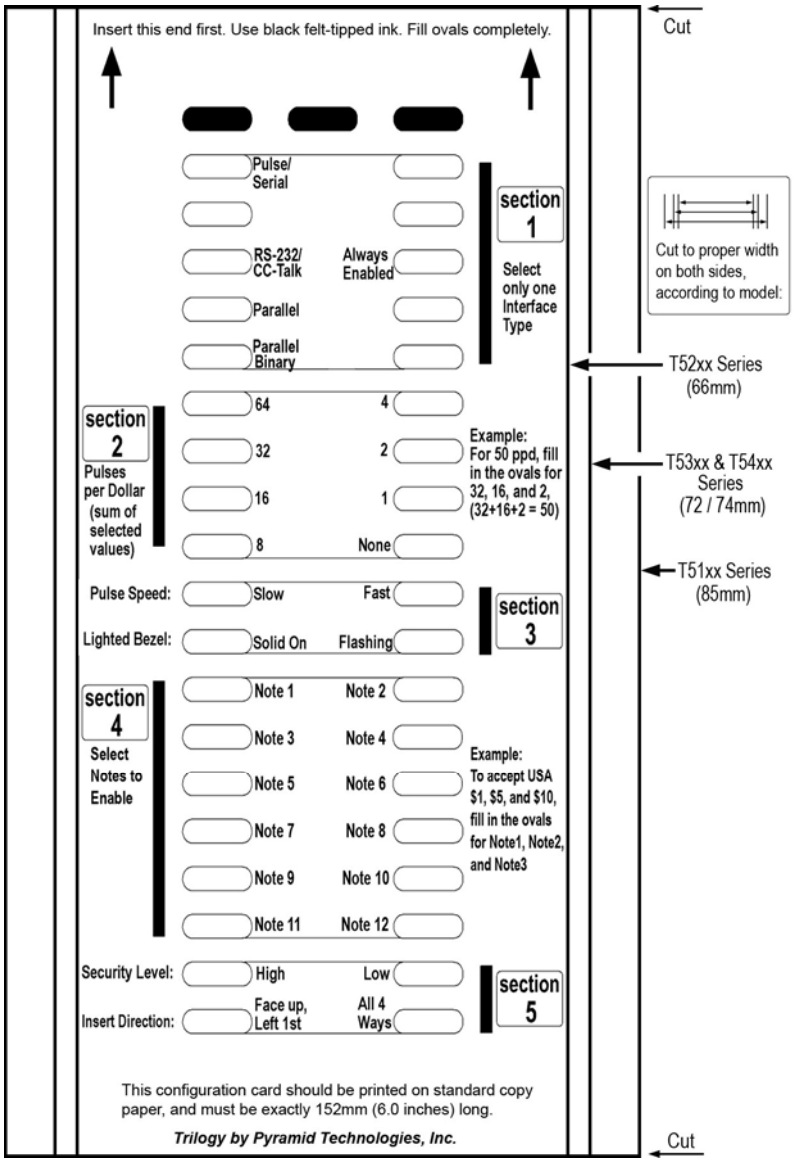
If you are printing this manual from a PDF file (which may be downloaded from our web site), all scaling options must be turned off in the **print menu**, or else the Configuration Card will not be printed to the correct size.

For newer versions of Adobe Acrobat, Set “Page Scaling” to “None”:



For older versions of Adobe Acrobat, you may need to uncheck the boxes next to the “Shrink oversized pages” and “Expand small pages” settings.


Cut
Insert this end first. Use black felt-tipped ink. Fill ovals completely.
Pulse/ Serial
RS-232/ CC-Talk
Always Enabled
Parallel
Parallel Binary
section 1
Select only one Interface Type
Cut to proper width on both sides, according to model:
T52xx Series (66mm)
T53xx & T54xx Series (72 / 74mm)
T51xx Series (85mm)
section 2
Pulses per Dollar (sum of selected values)
64
4
32
2
16
1
8
None
Example: For 50 ppd, fill in the ovals for 32, 16, and 2, (32+16+2 = 50)
Pulse Speed:
Slow
Fast
Lighted Bezel:
Solid On
Flashing
section 3
section 4
Select Notes to Enable
Note 1
Note 2
Note 3
Note 4
Note 5
Note 6
Note 7
Note 8
Note 9
Note 10
Note 11
Note 12
Example: To accept USA $1, $5, and $10, fill in the ovals for Note1, Note2, and Note3
Security Level:
High
Low
Insert Direction:
Face up, Left 1st
All 4 Ways
section 5
This configuration card should be printed on standard copy paper, and must be exactly 152mm (6.0 inches) long.
Trilogy by Pyramid Technologies, Inc.
Cut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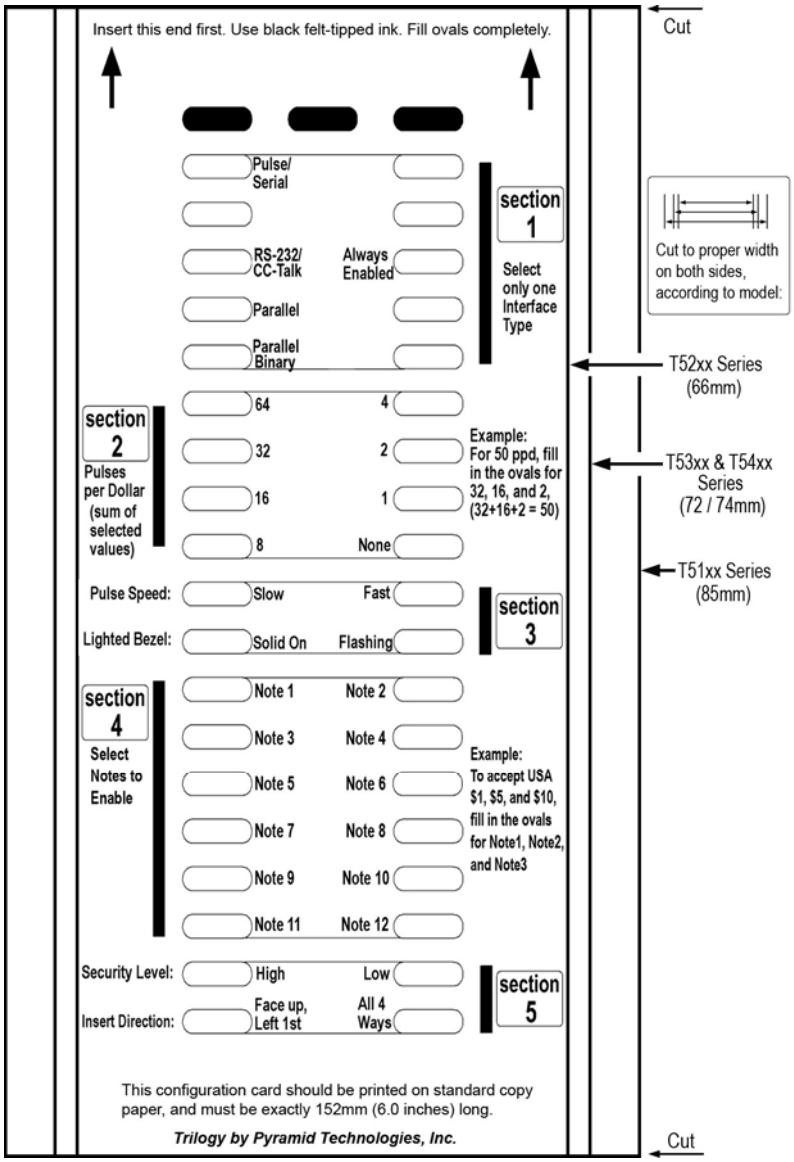
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