



Pyramid Apex 7600 Serial Support

for HD

1.3

2026/01/06



Version	Department	Date	Audience	Comments
1.0 Chris Ward	Technical Services	2023/04/24	Peer review	First Draft
1.1 Chris Ward		2023/04/26	Tech End User, Technical Services	Change motherboard support definitions
1.2 Chris Ward		2024/04/02	Tech End User, Technical Services	Add Configuration card for TTL RS232, in Low Security & 4 way-bill insertion
1.3 Chris Ward		2026/01/06	Tech End User, Technical Services	Remove mentions of “COM3 TTL” rework label requirement on EFCO. Rework complete, production models include rework



Overview:

Instructions to set up a Pyramid Apex 7600 bill validator in serial to work with HD PC games.

Requirements:

- Printed Configuration Card (included in a later page)
- Game Support:
 - Open Operator Menu → Terminal Config → Bill Type = **PYRMD APX SRL**
(We must see this setting displayed in the Bill Type list to work with the TTL RS232 solution that is described below)
- Motherboard support:
 - Advantech DPX-S440 and DPX-S450 with JAMMA adapter board part number 190088 that has COM10 installed. Jumpers must be moved on the motherboard (described later)
- Serial Cable part numbers: (Only one of the mentioned cables is needed. The recommendation is 530310 or 530311)
 - 530310 (8.5 feet) or 530311 (6 feet) - TTL RS232
 - 530009 - NISR TTL (600 baud serial) cable

Instruction: TTL RS232 interface method

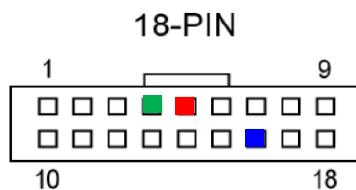
1. Print the configuration card page included at the end of this document. When printing, in the computer's print page window, be sure to set "Page Scaling" to "None", "Custom 100%" or "Actual" in the printer setup (the 3 terms have a similar function). This is critical for the configuration card to print in the correct size for the Apex to read it. Carefully cut along the black line of the card that you need to use (TTL RS232 card for this section of the instruction). One is left blank for you to create your own. Section 1 [Interface Type] is the most important and section 4 [Bill to Enable] is the second most to be marked correctly.
2. Power OFF the bill validator. Make sure all Dip Switch positions are set to OFF.
3. Power ON the bill validator.



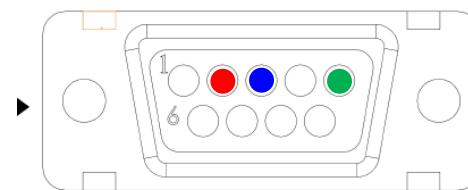
continued: TTL RS232 interface method

4. Press and hold the Diagnostic Pushbutton located at the left rear of the bill validator (looking from the rear of the bill validator). Hold the Diagnostic Pushbutton for at least ten (10) seconds, then release. The bezel lighting on the front of the validator will flash ten (10) times.
5. Insert the Configuration Card into the validator, arrows first, printed side face up. The validator will hold the Configuration Card for a second or two, then feed it back to you.
6. If the bezel lights are flashing rapidly, the validator has read the Configuration Card correctly. The configuration is now in permanent memory in the bill validator. The validator will reset itself by doing a stacker cycle.
 - a. If the bill validator has not read the Configuration Card correctly, validator will quickly return the card and / or 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 bill validator will stay in the Configuration Mode until it has correctly read a Configuration Card.
7. Power OFF the Apex. **Power OFF the Motherboard.** Connect the serial cable:

Motherboard model:	Port:
Advantech DPX-S440 & DPX-S450	COM 10 (on the adapter board)
EFCO 8657	COM 3



Pin#	Color
4	Green
5	Red
16	Blue

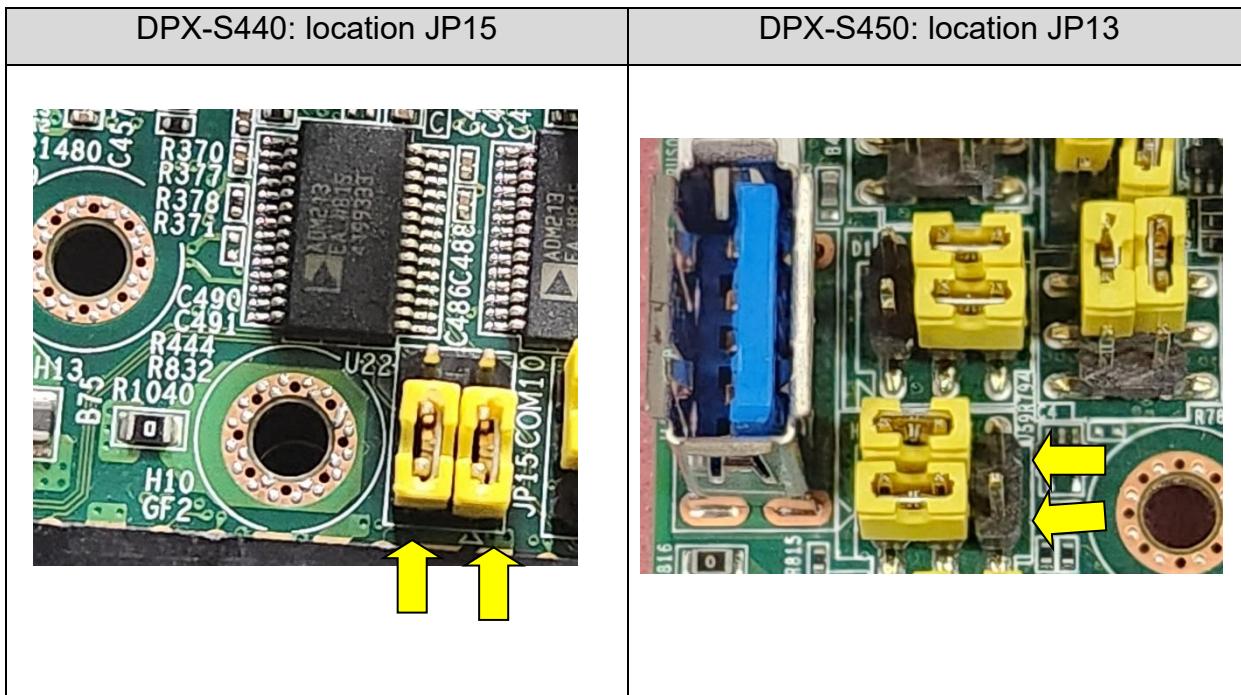


Pin#	Color
2	Red
3	Blue
5	Green



continued: TTL RS232 interface method

8. Advantech DPX-S440 & DPX-S450 Only (skip to step 9 on EFCO 8657). **Make sure the motherboard is powered OFF.** Verify each pair of jumpers are in correct position. Move if necessary.



9. With the game booted, open Operator Menu. Select **TERMINAL CONFIG.**

BILL TYPE	PYRMD APX SRL
BILL SIGNAL	TTL

10. You can now begin using the bill validator.

Alternate Instruction: TTL NISR (600 baud) interface method

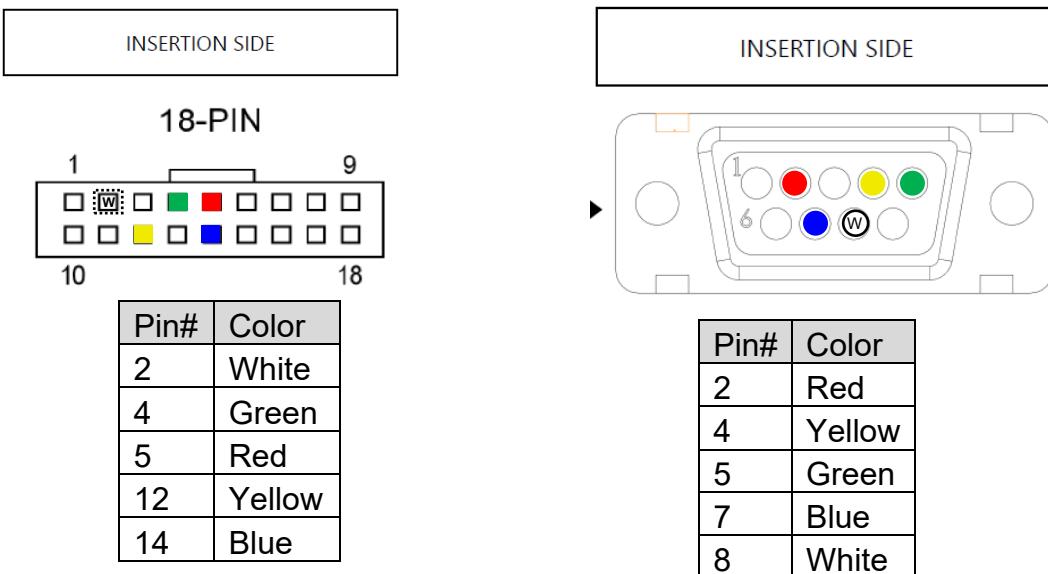
Note: We encourage the use of the TTL RS232 interface method as a first choice. It is possible that a validator is already in the interface mode (for this section) if you are using pulse or your serial cable matches the pinout mentioned in this section.

- The operation is the same as the last section. You will need to use the Configuration Card marked as "TTL NISR (600 baud)" for step# 5.



continued: TTL NISR (600 baud) interface method

- Serial Cable Diagram: match pin numbers by their color.



- Pick up at step 7 from previous section then skip step 8.

9. With the game booted, open Operator Menu. Select **TERMINAL CONFIG**

BILL TYPE	MARS or PYRAMID APEX
BILL SIGNAL	TTL

- Note: it is possible to operate the MEI2800 bill validator with the serial cable, motherboard definitions, and game settings covered in this alternate section. Although the configuration card and the steps to use it are different. If you are using MARS and TTL settings with the MEI2800 validator on a MIG board, then it is possible that the validator is already in the correct "interface mode".

10. You can now begin using the bill validator.



When printing, in the computer's print page window, be sure to set "Page Scaling" to "None", "Custom 100%" or "Actual" in the printer setup.

**INSERT THIS SIDE UP, THIS END FIRST
USE BLACK INK, FILL OVALS COMPLETELY**

section 1

Pulse! Serial \$1/\$5 Credit Lines \$1/\$20 Credit Lines

MDB Always Enabled Hi

RS-232 Parallel Special 1 Special 2

section 2

64 32 16 8

Example:
For 50 ppd, fill in the ovals for 32, 16, and 2.
(32+16+2 = 56)
None

Pulse Speed: Slow Fast

Lighted Bezel: Solid On Flashing

section 3

Bill 1 (\$1) Bill 2 (\$5)
 Bill 3 (\$10) Bill 4 (\$20)

Bill 5 (\$50) Bill 6 (\$100)

Bill 7 Bill 8
 Bill 9 Bill 10
 Bill 11 Bill 12

Example:
To accept USA \$1, \$5, and \$10, fill in the ovals for Bill 1, Bill 2, and Bill 3.

section 4

Select Bills to Enable: High Low
 Face up, left 1st All 4 Ways

Security Level: High Low
 Insert Direction:

section 5

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CURRENCY VALIDATION EXPERTS

This Configuration Card should be printed on standard copy paper, measuring 6.0 x 2.6 inches (152 x 66 mm). If printing from a .PDF file, turn off the "shrink to fit" option in your printer settings for proper scale.

**INSERT THIS SIDE UP, THIS END FIRST
USE BLACK INK, FILL OVALS COMPLETELY**

section 1

Pulse Serial \$1/\$5 Credit Lines
 MDB \$1/\$20 Credit Lines
 Always Enabled
 Parallel Hi
 Special 1 Special 2

section 2

Pulses per Dollar (sum of selected values)

64 32 16 8 None

Pulse Speed: Slow Fast Flashing

Lighted Bezel: Solid On

section 3

Example: For 50 pfid, fill in the ovals for 32, 16, and 2. (32+16+2 = 50)

4 2 1 None

section 4

Select Bills to Enable

Bill 1 (\$1)
 Bill 3 (\$10)
 Bill 5 (\$50)
 Bill 7
 Bill 9
 Bill 11

Security Level: High Low
Insert Direction: Face up, Left 1st All 4 Ways

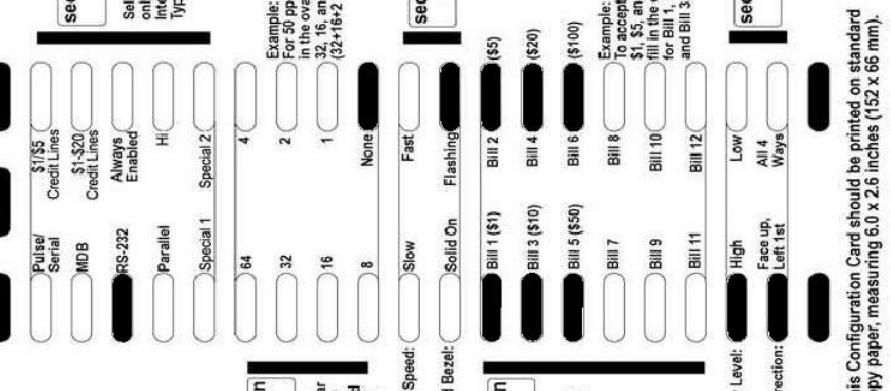
section 5

Example: To accept USA \$1, \$5, and \$10, fill in the ovals for Bill 1, Bill 2, and Bill 3.

Bill 6 (\$100)
 Bill 8
 Bill 10
 Bill 12

CURRENCY VALIDATION EXPERTS

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INSERT THIS SIDE UP THIS END FIRST USE BLACK INK, FILL OVALS COMPLETELY													
													
<table border="1"> <tr> <td colspan="2">section 1</td> </tr> <tr> <td><input type="radio"/> Pulse Serial</td> <td>\$1/\$5 Credit Lines</td> </tr> <tr> <td><input type="radio"/> MDB</td> <td>\$1/\$20 Credit Lines</td> </tr> <tr> <td><input checked="" type="radio"/> RS-232</td> <td>Always Enabled</td> </tr> <tr> <td><input type="radio"/> Parallel</td> <td>Hi <input type="radio"/></td> </tr> <tr> <td><input type="radio"/> Special 1</td> <td>Special 2 <input type="radio"/></td> </tr> </table>		section 1		<input type="radio"/> Pulse Serial	\$1/\$5 Credit Lines	<input type="radio"/> MDB	\$1/\$20 Credit Lines	<input checked="" type="radio"/> RS-232	Always Enabled	<input type="radio"/> Parallel	Hi <input type="radio"/>	<input type="radio"/> Special 1	Special 2 <input type="radio"/>
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<table border="1"> <tr> <td colspan="2">section 5</td> </tr> <tr> <td><input type="radio"/> Security Level: High</td> <td>Low <input type="radio"/></td> </tr> <tr> <td><input type="radio"/> Insert Direction: Face up, Left 1st</td> <td>All 4 Ways <input type="radio"/></td> </tr> </table>		section 5		<input type="radio"/> Security Level: High	Low <input type="radio"/>	<input type="radio"/> Insert Direction: Face up, Left 1st	All 4 Ways <input type="radio"/>						
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TTL RS232

Configuration
Card.

- Low Security
- 4 way-bill
insertion

INSERT THIS SIDE UP, THIS END FIRST
USE BLACK INK, FILL OVALS COMPLETELY



section 1

Select
only one
Interface
Type

Pulse/Serial
 MDB
 RS-232
 Parallel
 Special 1
 Special 2

section 2

Pulses
per dollar
(sum of
selected
values)

Example:
For 50 ppm, fill
in the ovals for
32, 16, and 2,
(32+16+2 = 50)

64
32
16
8
None

Pulse Speed:
 Slow
 Fast

section 3

Lighted Bezel:
 Solid On
 Flashing

Bill 1 (\$1)
Bill 3 (\$10)
Bill 5 (\$50)
Bill 7
Bill 9
Bill 11
Bill 12

Example:
To accept USA
\$1, \$5, and \$10,
fill in the ovals
for Bill 1, Bill 2,
and Bill 3.

Bill 6 (\$100)
Bill 8
Bill 10
Bill 12

Security Level:
 High
 Low
Insert Direction:
 Face Up
 Left 1st

section 4

Select
Bills to
Enable

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