



The CK8RP Board

Introduction

The Cardkey 8RP (CK8RP) board, along with the Secure Terminal Interface (STI) Adapter, is designed to interface with the Cardkey system.

- Each CK8RP board will support up to 8 STI adapters. Each STI adapter supports one reader.
- Host software restrictions:
 - **Picture Perfect**[™] supports the CK8RP board.
 - **Secure Perfect**[®] using the Micro/5-PX CPU board supports the CK8RP board.
 - **Entry Perfect**[™] does not support the CK8RP board.
- Firmware on the STI adapters can be updated using the CK8RP board.
- Only the Micro/5-PX or Micro/5-PXN will support the CK8RP board.
- Up to two boards can be used per micro. If you plan on using one CK8RP board, you can also use an 8RP board, up to two 20 DI boards, and up to two 16 DO boards. Be careful that the address selection on each board is not in conflict.
- Each CK8RP board maps into the address of one 8RP board, two 20 DI boards, and two 16 DO boards.
- The CK8RP board is not UL certified.

Device Addressing

Table 1: Device Addressing*
Secure Perfect - CK8RP Board 1

Cardkey	Reader 1	Reader 2
LED #1 (Green)	<i>mm-1-01 Reader</i>	<i>mm-1-02 Reader</i>
LED #2 (Red)	<i>mm-1-02 DO</i>	<i>mm-1-05 DO</i>
Aux 2	<i>mm-1-03 DO</i>	<i>mm-1-06 DO</i>
Aux 3	<i>Not Available</i>	<i>Not Available</i>
Aux 4	<i>mm-1-01 DO</i>	<i>mm-1-04 DO</i>
DI #1	<i>mm-1-01 Reader</i>	<i>mm-1-02 Reader</i>
DI #2	<i>Not Available</i>	<i>Not Available</i>
DI #3	<i>mm-1-01 DI</i>	<i>mm-1-07 DI</i>
DI #4	<i>mm-1-02 DI</i>	<i>mm-1-08 DI</i>
DI #5	<i>mm-1-03 DI</i>	<i>mm-1-09 DI</i>
DI #6	<i>mm-1-04 DI</i>	<i>mm-1-10 DI</i>
DI #7	<i>mm-1-05 DI</i>	<i>mm-1-11 DI</i>
DI #8	<i>mm-1-06 DI</i>	<i>mm-1-12 DI</i>

*. As of **Secure Perfect 2.1**, the addressing scheme changed. The default description is now in the format: ***mm-b-pp*** where ***mm*** represents the micro number, ***b*** represents the board number, and ***pp*** represents the point or device number.

Table 2: Device Addressing*
Secure Perfect - CK8RP Board 1

Cardkey	Reader 3	Reader 4
LED #1 (Green)	<i>mm-1-03 Reader</i>	<i>mm-1-04 Reader</i>
LED #2 (Red)	<i>mm-1-08 DO</i>	<i>mm-1-11 DO</i>
Aux 2	<i>mm-1-09 DO</i>	<i>mm-1-12 DO</i>
Aux 3	<i>Not Available</i>	<i>Not Available</i>
Aux 4	<i>mm-1-07 DO</i>	<i>mm-1-10 DO</i>
DI #1	<i>mm-1-03 Reader</i>	<i>mm-1-04 Reader</i>
DI #2	<i>Not Available</i>	<i>Not Available</i>
DI #3	<i>mm-1-13 DI</i>	<i>mm-1-19 DI</i>
DI #4	<i>mm-1-14 DI</i>	<i>mm-1-20 DI</i>
DI #5	<i>mm-1-15 DI</i>	<i>mm-1-21 DI</i>
DI #6	<i>mm-1-16 DI</i>	<i>mm-1-22 DI</i>
DI #7	<i>mm-1-17 DI</i>	<i>mm-1-23 DI</i>
DI #8	<i>mm-1-18 DI</i>	<i>mm-1-24 DI</i>

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Table 3: Device Addressing*
Secure Perfect - CK8RP Board 1

Cardkey	Reader 5	Reader 6
LED #1 (Green)	<i>mm-1-05 Reader</i>	<i>mm-1-06 Reader</i>
LED #2 (Red)	<i>mm-1-14 DO</i>	<i>mm-1-17 DO</i>
Aux 2	<i>mm-1-15 DO</i>	<i>mm-1-18 DO</i>
Aux 3	<i>Not Available</i>	<i>Not Available</i>
Aux 4	<i>mm-1-13 DO</i>	<i>mm-1-16 DO</i>
DI #1	<i>mm-1-05 Reader</i>	<i>mm-1-06 Reader</i>
DI #2	<i>Not Available</i>	<i>Not Available</i>
DI #3	<i>mm-1-25 DI</i>	<i>mm-1-29 DI</i>
DI #4	<i>mm-1-26 DI</i>	<i>mm-1-30 DI</i>
DI #5	<i>mm-1-27 DI</i>	<i>mm-1-31 DI</i>
DI #6	<i>mm-1-28 DI</i>	<i>mm-1-32 DI</i>
DI #7	<i>Not Available</i>	<i>Not Available</i>
DI #8	<i>Not Available</i>	<i>Not Available</i>

*. As of **Secure Perfect 2.1**, the addressing scheme changed. The default description is now in the format: ***mm-b-pp*** where ***mm*** represents the micro number, ***b*** represents the board number, and ***pp*** represents the point or device number.

Table 4: Device Addressing*
Secure Perfect - CK8RP Board 1

Cardkey	Reader 7	Reader 8
LED #1 (Green)	<i>mm-1-07 Reader</i>	<i>mm-1-08 Reader</i>
LED #2 (Red)	<i>mm-1-20 DO</i>	<i>mm-1-23 DO</i>
Aux 2	<i>mm-1-21 DO</i>	<i>mm-1-24 DO</i>
Aux 3	<i>Not Available</i>	<i>Not Available</i>
Aux 4	<i>mm-1-19 DO</i>	<i>mm-1-22 DO</i>
DI #1	<i>mm-1-07 Reader</i>	<i>mm-1-08 Reader</i>
DI #2	<i>Not Available</i>	<i>Not Available</i>
DI #3	<i>mm-1-33 DI</i>	<i>mm-1-37 DI</i>
DI #4	<i>mm-1-34 DI</i>	<i>mm-1-38 DI</i>
DI #5	<i>mm-1-35 DI</i>	<i>mm-1-39 DI</i>
DI #6	<i>mm-1-36 DI</i>	<i>mm-1-40 DI</i>
DI #7	<i>Not Available</i>	<i>Not Available</i>
DI #8	<i>Not Available</i>	<i>Not Available</i>

*. As of **Secure Perfect** 2.1, the addressing scheme changed. The default description is now in the format: ***mm-b-pp*** where ***mm*** represents the micro number, ***b*** represents the board number, and ***pp*** represents the point or device number.

Table 5: Device Addressing*
Secure Perfect - CK8RP Board 2

Cardkey	Reader 9	Reader 10
LED #1 (Green)	<i>mm-2-01 Reader</i>	<i>mm-2-02 Reader</i>
LED #2 (Red)	<i>mm-2-02 DO</i>	<i>mm-2-05 DO</i>
Aux 2	<i>mm-2-03 DO</i>	<i>mm-2-06 DO</i>
Aux 3	<i>Not Available</i>	<i>Not Available</i>
Aux 4	<i>mm-2-01 DO</i>	<i>mm-2-04 DO</i>
DI #1	<i>mm-2-01 Reader</i>	<i>mm-2-02 Reader</i>
DI #2	<i>Not Available</i>	<i>Not Available</i>
DI #3	<i>mm-2-01 DI</i>	<i>mm-2-07 DI</i>
DI #4	<i>mm-2-02 DI</i>	<i>mm-2-08 DI</i>
DI #5	<i>mm-2-03 DI</i>	<i>mm-2-09 DI</i>
DI #6	<i>mm-2-04 DI</i>	<i>mm-2-10 DI</i>
DI #7	<i>mm-2-05 DI</i>	<i>mm-2-11 DI</i>
DI #8	<i>mm-2-06 DI</i>	<i>mm-2-12 DI</i>

*. As of **Secure Perfect 2.1**, the addressing scheme changed. The default description is now in the format: ***mm-b-pp*** where ***mm*** represents the micro number, ***b*** represents the board number, and ***pp*** represents the point or device number.

Table 6: Device Addressing*
Secure Perfect - CK8RP Board 2

Cardkey	Reader 11	Reader 12
LED #1 (Green)	<i>mm-2-03 Reader</i>	<i>mm-2-04 Reader</i>
LED #2 (Red)	<i>mm-2-08 DO</i>	<i>mm-2-11 DO</i>
Aux 2	<i>mm-2-09 DO</i>	<i>mm-2-12 DO</i>
Aux 3	<i>Not Available</i>	<i>Not Available</i>
Aux 4	<i>mm-2-07 DO</i>	<i>mm-2-10 DO</i>
DI #1	<i>mm-2-03 Reader</i>	<i>mm-2-04 Reader</i>
DI #2	<i>Not Available</i>	<i>Not Available</i>
DI #3	<i>mm-2-13 DI</i>	<i>mm-2-19 DI</i>
DI #4	<i>mm-2-14 DI</i>	<i>mm-2-20 DI</i>
DI #5	<i>mm-2-15 DI</i>	<i>mm-2-21 DI</i>
DI #6	<i>mm-2-16 DI</i>	<i>mm-2-22 DI</i>
DI #7	<i>mm-2-17 DI</i>	<i>mm-2-23 DI</i>
DI #8	<i>mm-2-18 DI</i>	<i>mm-2-24 DI</i>

*. As of **Secure Perfect** 2.1, the addressing scheme changed. The default description is now in the format: ***mm-b-pp*** where ***mm*** represents the micro number, ***b*** represents the board number, and ***pp*** represents the point or device number.

Table 7: Device Addressing*
Secure Perfect - CK8RP Board 2

Cardkey	Reader 13	Reader 14
LED #1 (Green)	<i>mm-2-05 Reader</i>	<i>mm-2-06 Reader</i>
LED #2 (Red)	<i>mm-2-14 DO</i>	<i>mm-2-17 DO</i>
Aux 2	<i>mm-2-15 DO</i>	<i>mm-2-18 DO</i>
Aux 3	<i>Not Available</i>	<i>Not Available</i>
Aux 4	<i>mm-2-13 DO</i>	<i>mm-2-16 DO</i>
DI #1	<i>mm-2-05 Reader</i>	<i>mm-2-06 Reader</i>
DI #2	<i>Not Available</i>	<i>Not Available</i>
DI #3	<i>mm-2-25 DI</i>	<i>mm-2-29 DI</i>
DI #4	<i>mm-2-26 DI</i>	<i>mm-2-30 DI</i>
DI #5	<i>mm-2-27 DI</i>	<i>mm-2-31 DI</i>
DI #6	<i>mm-2-28 DI</i>	<i>mm-2-32 DI</i>
DI #7	<i>Not Available</i>	<i>Not Available</i>
DI #8	<i>Not Available</i>	<i>Not Available</i>

*. As of **Secure Perfect 2.1**, the addressing scheme changed. The default description is now in the format: ***mm-b-pp*** where ***mm*** represents the micro number, ***b*** represents the board number, and ***pp*** represents the point or device number.

Table 8: Device Addressing*
Secure Perfect - CK8RP Board 2

Cardkey	Reader 15	Reader 16
LED #1 (Green)	<i>mm-2-07 Reader</i>	<i>mm-2-08 Reader</i>
LED #2 (Red)	<i>mm-2-20 DO</i>	<i>mm-2-23 DO</i>
Aux 2	<i>mm-2-21 DO</i>	<i>mm-2-24 DO</i>
Aux 3	<i>Not Available</i>	<i>Not Available</i>
Aux 4	<i>mm-2-19 DO</i>	<i>mm-2-22 DO</i>
DI #1	<i>mm-2-07 Reader</i>	<i>mm-2-08 Reader</i>
DI #2	<i>Not Available</i>	<i>Not Available</i>
DI #3	<i>mm-2-33 DI</i>	<i>mm-2-37 DI</i>
DI #4	<i>mm-2-34 DI</i>	<i>mm-2-38 DI</i>
DI #5	<i>mm-2-35 DI</i>	<i>mm-2-39 DI</i>
DI #6	<i>mm-2-36 DI</i>	<i>mm-2-40 DI</i>
DI #7	<i>Not Available</i>	<i>Not Available</i>
DI #8	<i>Not Available</i>	<i>Not Available</i>

*. As of **Secure Perfect** 2.1, the addressing scheme changed. The default description is now in the format: ***mm-b-pp*** where ***mm*** represents the micro number, ***b*** represents the board number, and ***pp*** represents the point or device number.

Table 9: Device Addressing
Picture Perfect Board 1 - CK8RP Board 1

Cardkey	Reader 1	Reader 2
	Picture Perfect Board 1	
LED #1 (Green)	Board 1 - Reader 0	Board 1 - Reader 1
LED #2 (Red)	16 DO Board 1 - #2 (DO 17)	16 DO Board 1 - #5 (DO 20)
Aux 2	16 DO Board 1 - #3 (DO 18)	16 DO Board 1 - #6 (DO 21)
Aux 3	Board 1 - (DO 2)	Board 1 - (DO 4)
Aux 4	16 DO Board 1 - #1 (DO 16)	16 DO Board 1 - #4 (DO 19)
DI #1	Door DI (0)	Door DI (1)
DI #2	Exit DI (8)	Exit DI (9)
DI #3	20 DI Board 1 - #1 (DI 16)	20 DI Board 1 - #7 (DI 22)
DI #4	20 DI Board 1 - #2 (DI 17)	20 DI Board 1 - #8 (DI 23)
DI #5	20 DI Board 1 - #3 (DI 18)	20 DI Board 1 - #9 (DI 24)
DI #6	20 DI Board 1 - #4 (DI 19)	20 DI Board 1 - #10 (DI 25)
DI #7	20 DI Board 1 - #5 (DI 20)	20 DI Board 1 - #11 (DI 26)
DI #8	20 DI Board 1 - #6 (DI 21)	20 DI Board 1 - #12 (DI 27)

Table 10: Device Addressing
Picture Perfect Board 2 - CK8RP Board 1

Cardkey	Reader 3	Reader 4
	Picture Perfect Board 2	
LED #1 (Green)	Board 2 - Reader 0	Board 2 - Reader 1
LED #2 (Red)	16 DO Board 1 - #8 (DO 23)	16 DO Board 1 - #11 (DO 26)
Aux 2	16 DO Board 1 - #9 (DO 24)	16 DO Board 1 - #12 (DO 27)
Aux 3	Board 2 - (DO 2)	Board 2 - (DO 4)
Aux 4	16 DO Board 1 - #7 (DO 22)	16 DO Board 1 - #10 (DO 25)
DI #1	Door DI (0)	Door DI (1)
DI #2	Exit DI (8)	Exit DI (9)
DI #3	20 DI Board 1 - #13 (DI 28)	20 DI Board 1 - #19 (DI 34)
DI #4	20 DI Board 1 - #14 (DI 29)	20 DI Board 1 - #20 (DI 35)
DI #5	20 DI Board 1 - #15 (DI 30)	20 DI Board 2 - #1 (DI 16)
DI #6	20 DI Board 1 - #16 (DI 31)	20 DI Board 2 - #2 (DI 17)
DI #7	20 DI Board 1 - #17 (DI 32)	20 DI Board 2 - #3 (DI 18)
DI #8	20 DI Board 1 - #18 (DI 33)	20 DI Board 2 - #4 (DI 19)

Table 11: Device Addressing
Picture Perfect Board 3 - CK8RP Board 1

Cardkey	Reader 5	Reader 6
	Picture Perfect Board 3	
LED #1 (Green)	Board 3 - Reader 0	Board 3 - Reader 1
LED #2 (Red)	16 DO Board 1 - #14 (DO 29)	16 DO Board 2 - #1 (DO 16)
Aux 2	16 DO Board 1 - #15 (DO 30)	16 DO Board 2 - #2 (DO 17)
Aux 3	Board 3 - (DO 2)	Board 3 - (DO 4)
Aux 4	16 DO Board 1 - #13 (DO 28)	16 DO Board 1 - #16 (DO 31)
DI #1	Door DI (0)	Door DI (1)
DI #2	Exit DI (8)	Exit DI (9)
DI #3	20 DI Board 2 - #5 (DI 20)	20 DI Board 2 - #9 (DI 24)
DI #4	20 DI Board 2 - #6 (DI 21)	20 DI Board 2 - #10 (DI 25)
DI #5	20 DI Board 2 - #7 (DI 22)	20 DI Board 2 - #11 (DI 26)
DI #6	20 DI Board 2 - #8 (DI 23)	20 DI Board 2 - #12 (DI 27)
DI #7	Not Used	Not Used
DI #8	Not Used	Not Used

Table 12: Device Addressing
Picture Perfect Board 4 - CK8RP Board 1

Cardkey	Reader 7	Reader 8
	Picture Perfect Board 4	
LED #1 (Green)	Board 4 - Reader 0	Board 4 - Reader 1
LED #2 (Red)	16 DO Board 2 - #4 (DO 19)	16 DO Board 2 - #7 (DO 22)
Aux 2	16 DO Board 2 - #5 (DO 20)	16 DO Board 2 - #8 (DO 23)
Aux 3	Board 4 - (DO 2)	Board 4 - (DO 4)
Aux 4	16 DO Board 2 - #3 (DO 18)	16 DO Board 2 - #6 (DO 21)
DI #1	Door DI (0)	Door DI (1)
DI #2	Exit DI (8)	Exit DI (9)
DI #3	20 DI Board 2 - #13 (DI 28)	20 DI Board 2 - #17 (DI 32)
DI #4	20 DI Board 2 - #14 (DI 29)	20 DI Board 2 - #18 (DI 33)
DI #5	20 DI Board 2 - #15 (DI 30)	20 DI Board 2 - #19 (DI 34)
DI #6	20 DI Board 2 - #16 (DI 31)	20 DI Board 2 - #20 (DI 35)
DI #7	Not Used	Not Used
DI #8	Not Used	Not Used

Table 13: Device Addressing
Picture Perfect Board 5 - CK8RP Board 2

Cardkey	Picture Perfect Board 5	
	Reader 9	Reader 10
LED #1 (Green)	Board 5 - Reader 0	Board 5 - Reader 1
LED #2 (Red)	16 DO Board 3 - #2 (DO 17)	16 DO Board 3 - #5 (DO 20)
Aux 2	16 DO Board 3 - #3 (DO 18)	16 DO Board 3 - #6 (DO 21)
Aux 3	Board 5 - (DO 2)	Board 5 - (DO 4)
Aux 4	16 DO Board 3 - #1 (DO 16)	16 DO Board 3 - #4 (DO 19)
DI #1	Door DI (0)	Door DI (1)
DI #2	Exit DI (8)	Exit DI (9)
DI #3	20 DI Board 3 - #1 (DI 16)	20 DI Board 3 - #7 (DI 22)
DI #4	20 DI Board 3 - #2 (DI 17)	20 DI Board 3 - #8 (DI 23)
DI #5	20 DI Board 3 - #3 (DI 18)	20 DI Board 3 - #9 (DI 24)
DI #6	20 DI Board 3 - #4 (DI 19)	20 DI Board 3 - #10 (DI 25)
DI #7	20 DI Board 3 - #5 (DI 20)	20 DI Board 3 - #11 (DI 26)
DI #8	20 DI Board 3 - #6 (DI 21)	20 DI Board 3 - #12 (DI 27)

Table 14: Device Addressing
Picture Perfect Board 6 - CK8RP Board 2

Cardkey	Picture Perfect Board 6	
	Reader 11	Reader 12
LED #1 (Green)	Board 6 - Reader 0	Board 6 - Reader 1
LED #2 (Red)	16 DO Board 3 - #8 (DO 23)	16 DO Board 3 - #11 (DO 26)
Aux 2	16 DO Board 3 - #9 (DO 24)	16 DO Board 3 - #12 (DO 27)
Aux 3	Board 6 - (DO 2)	Board 6 - (DO 4)
Aux 4	16 DO Board 3 - #7 (DO 22)	16 DO Board 3 - #10 (DO 25)
DI #1	Door DI (0)	Door DI (1)
DI #2	Exit DI (8)	Exit DI (9)
DI #3	20 DI Board 3 - #13 (DI 28)	20 DI Board 3 - #19 (DI 34)
DI #4	20 DI Board 3 - #14 (DI 29)	20 DI Board 3 - #20 (DI 35)
DI #5	20 DI Board 3 - #15 (DI 30)	20 DI Board 4 - #1 (DI 16)
DI #6	20 DI Board 3 - #16 (DI 31)	20 DI Board 4 - #2 (DI 17)
DI #7	20 DI Board 3 - #17 (DI 32)	20 DI Board 4 - #3 (DI 18)
DI #8	20 DI Board 3 - #18 (DI 33)	20 DI Board 4 - #4 (DI 19)

Table 15: Device Addressing
Picture Perfect Board 7 - CK8RP Board 2

Cardkey	Picture Perfect Board 7	
	Reader 13	Reader 14
LED #1 (Green)	Board 7 - Reader 0	Board 7 - Reader 1
LED #2 (Red)	16 DO Board 3 - #14 (DO 29)	16 DO Board 4 - #1 (DO 16)
Aux 2	16 DO Board 3 - #15 (DO 30)	16 DO Board 4 - #2 (DO 17)
Aux 3	Board 7 - (DO 2)	Board 7 - (DO 4)
Aux 4	16 DO Board 3 - #13 (DO 28)	16 DO Board 3 - #16 (DO 31)
DI #1	Door DI (0)	Door DI (1)
DI #2	Exit DI (8)	Exit DI (9)
DI #3	20 DI Board 4 - #5 (DI 20)	20 DI Board 4 - #9 (DI 24)
DI #4	20 DI Board 4 - #6 (DI 21)	20 DI Board 4 - #10 (DI 25)
DI #5	20 DI Board 4 - #7 (DI 22)	20 DI Board 4 - #11 (DI 26)
DI #6	20 DI Board 4 - #8 (DI 23)	20 DI Board 4 - #12 (DI 27)
DI #7	Not used	Not used
DI #8	Not used	Not used

Table 16: Device Addressing
Picture Perfect Board 8 - CK8RP Board 2

Cardkey	Picture Perfect Board 8	
	Reader 15	Reader 16
LED #1 (Green)	Board 8 - Reader 0	Board 8 - Reader 1
LED #2 (Red)	16 DO Board 4 - #4 (DO 19)	16 DO Board 4 - #7 (DO 22)
Aux 2	16 DO Board 4 - #5 (DO 20)	16 DO Board 4 - #8 (DO 23)
Aux 3	Board 8 - (DO 2)	Board 8 - (DO 4)
Aux 4	16 DO Board 4 - #3 (DO 18)	16 DO Board 4 - #6 (DO 21)
DI #1	Door DI (0)	Door DI (1)
DI #2	Exit DI (8)	Exit DI (9)
DI #3	20 DI Board 4 - #13 (DI 28)	20 DI Board 4 - #17 (DI 32)
DI #4	20 DI Board 4 - #14 (DI 29)	20 DI Board 4 - #18 (DI 33)
DI #5	20 DI Board 4 - #15 (DI 30)	20 DI Board 4 - #19 (DI 34)
DI #6	20 DI Board 4 - #16 (DI 31)	20 DI Board 4 - #20 (DI 35)
DI #7	Not used	Not used
DI #8	Not used	Not used

Board Layout

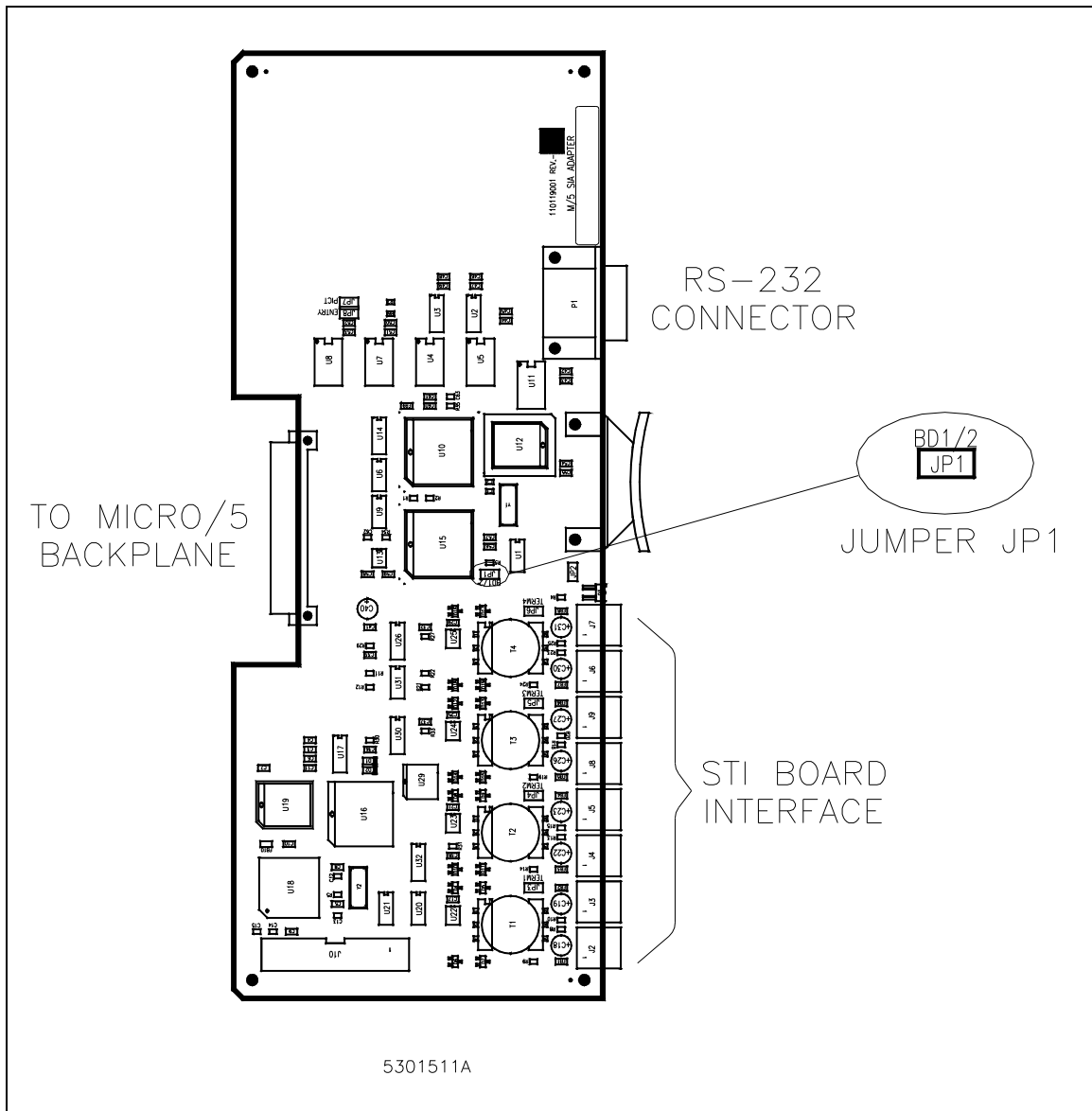


Figure 1: CK8RP Board Layout

Jumpers

Set jumper as described in Table 17 before installing and wiring the CK8RP board.

Table 17: Board Number

Board Number	JP1
Board 1	Open Terminals
Board 2	Short Terminals

Wiring STI Adapters and the CK8RP Board

Perform the following to wire STI adapters and the CK8RP board.

1. Run two wires for NETA and NETB from the STI to the microcontroller. Bring each cable through the appropriate knockout hole in the microcontroller cabinet. Allow some slack wire for servicing the cables and for plugging cable into an adjacent slot for troubleshooting.
2. Connect NETA and NETB into any of the eight connectors (J2-J9) on the CK8RP board. Since the address is set on the STI adapter and not on the CK8RP board, you can use any of the connectors. NETA and NETB signals are polarity insensitive; therefore, each can be connected to either pin 1 or pin 2.

NOTE: The maximum distance from the last STI to the CK8RP per pair of connectors (J2-J3, J4-J5, J6-J7, and J8-J9) is 6,000 feet. For example, the total cable distance for J2 and J3 can not exceed 6000 feet.

3. Label each cable end with the Micro Address #/ Device or Reader #.

Configuring with Other STIs

The CK8RP can support a total of 8 STIs in any combination from one to eight ports of the CK8RP. The configuration is dependent on total wiring length and installer preferences.

A basic rule for determining wiring harness distances is that the total wire length for each connector pair (J2-J3, J4-J5, J6-J7, and J8-J9) cannot exceed 6,000 feet. For examples, see Table 18 below.

Table 18: Example of Wiring Distances

Connector	Example 1	Example 2	Example 3	Example 4
J2	3,000 ft.	1,500 ft.	6,000 ft.	200 ft.
J3	3,000 ft.	4,500 ft.	0 ft.	5,800 ft.
Total	6,000 ft.	6,000 ft.	6,000 ft.	6,000 ft.

Since each connector pair can drive up to 6,000 feet, a total of 4 separate 6,000 foot runs can be made from the CK8RP.

The following figure shows several examples of possible wiring configurations.

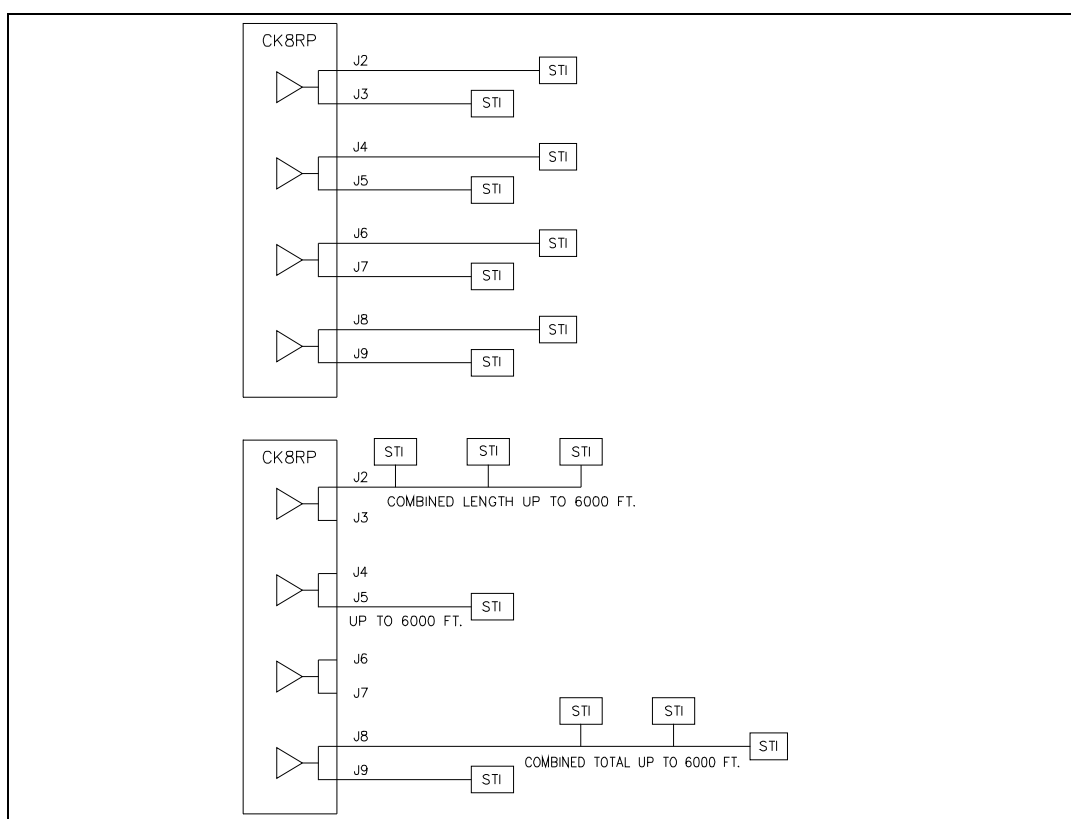


Figure 2: Examples of CK8RP/STI Wiring Configurations

Downloading Firmware to STI Adapters

The CK8RP board, in conjunction with one of the CASI-RUSCO micro firmware installation tools, can be used to download firmware to STI Adapters. The P1 9-pin connector is an RS-232 modem interface that can be connected to a PC running the micro installation tool using a NULL modem cable. Refer to the micro installation tool's online help for more information on this utility.

Before continuing, however, review the list below containing items to note:

- Any host (**Picture Perfect** or **Secure Perfect**) can be selected.
- The HEX file to be downloaded must be resident in the same directory as the micro firmware installation tool.
- The micro address will correspond to the STI adapter to be updated. For example, select micro address 1 to download to STI adapter 1. Selecting 9 will update all STI adapters in the network.
- The micro phone number and Version file field should be left blank.
- The HEX file name should correspond to the download file.
- The baud rate should be set to 4800.

NOTE: The STI being updated will not be operational for the entire downloading time; all other STI adapters will remain operational. If "9" is selected for the micro address, all STI adapters will be updated simultaneously, and all will be non-operational for the entire downloading time.

Troubleshooting the CK8RP Board

Consult the *Secure Terminal Interface (STI) Installation Guide* for potential problems which are not related to the Micro/5.

1. If two CK8RP boards are used in the same Micro/5, make sure that JP1 is open on one and shorted on the other.
2. If only one CK8RP board is used, make sure JP1 is open. The Micro/5 will not look for a second CK8RP (JP1 Shorted) unless the first CK8RP (JP1 Open) is present.
3. Check the wiring between the STI unit and the CK8RP board. Refer to "Wiring STI Adapters and the CK8RP Board" on page 19.

NOTES

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