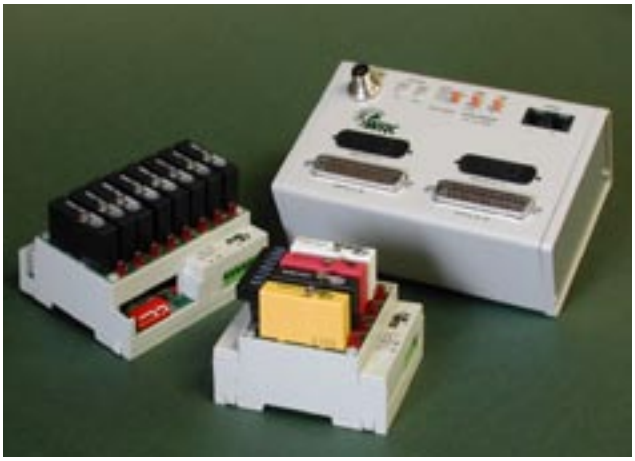


SmartMux— A Versatile Family of I/O Solutions

WRC's SmartMux family provides more options for connecting to distributed I/O than any other I/O component or systems manufacturer. The family consists of two styles with many choices within each style:

- SmartMux™ for low-cost, versatile I/O applications
- SmartMux-Lite™ for highly distributed, low-cost, low-point count DeviceNet solutions

The Original SmartMux

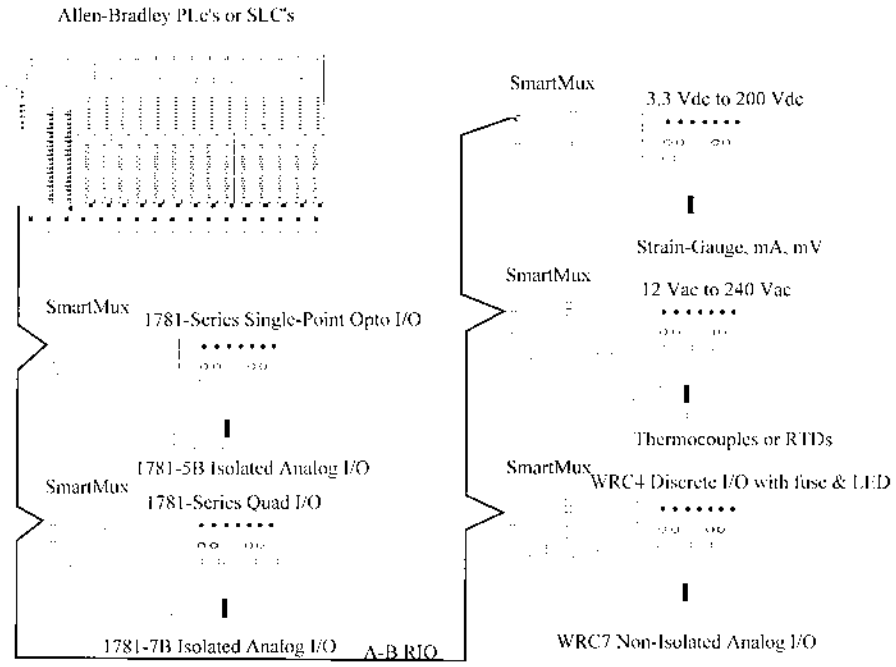
SmartMux is viewed as a remote adapter to the host processor providing scanning of analog and digital values, data concentration, intelligent data processing, communications handling, error detection and protection against erroneous messages.

SmartMux supports the 1781-JAx protocol version for Allen-Bradley PLCs using Allen-Bradley's patented Remote I/O Link.

Features

- Integrates up to 32 analog and 24 digital single point I/O into one adapter
- Remote I/O: 10,000' (Allen-Bradley RIO) or 5,000' (RS422/485)

SmartMux linked to 1781-7B Series Input and Output Modules



The Original SmartMux 1781-JBxx

In 1991, when WRC acquired the Single Point I/O Line from Allen-Bradley, the acquisition included two networked I/O adapter products, i.e. 1771-JAB for Allen-Bradley's Remote I/O Link and 1771-JBB a proprietary RS422 network. Since that time, WRC has expanded our line of networked I/O adapters. In 1992, WRC's SmartMux series began to be introduced. The 1781-SmartMux Series had several common characteristics including:

- Open frame construction
- External regulated power supplies of multiple voltage levels required
- Ribbon cabling to I/O circuits
- Dual micro-processor architecture

The SmartMux family works with a variety of hosts over several different industrial I/O networks. Common hosts include:

- Allen-Bradley PLCs - where SmartMux connects directly via the Remote I/O link
- Allen-Bradley SLCs - where SmartMux connects either via a driver provided for the Basic module, or via a 1746-SN scanner module.
- Modicon PLCs - where SmartMux connects directly to the Modbus link

Benefits

- Low Cost Per Point: more points on one adapter, as well as combining analog and digital functions on one adapter reduces costs
- Flexibility: compatibility with Allen-Bradley Remote I/O Link opens up a wide variety of third-party hardware and software to meet your specific application needs
- Space Savings: the slim size of digital modules and mounting boards allow smaller cabinets and the cost savings of smaller cabinets
- More Applications: enhanced analog and digital function made possible by the buffered memory on the enhanced analog version reduce your needs for limited, special purpose hardware
- Choice of Analog I/O Modules: All analog versions of the SmartMux are available to interface with either 1781-5B or 1781-7B and WRC7 analog signal conditioning modules. To use 1781-5B modules, select the 1781-JxA version of your protocol choice. To use 1781-7B or WRC7 modules, select the 1781-JxA7 version of your choice.

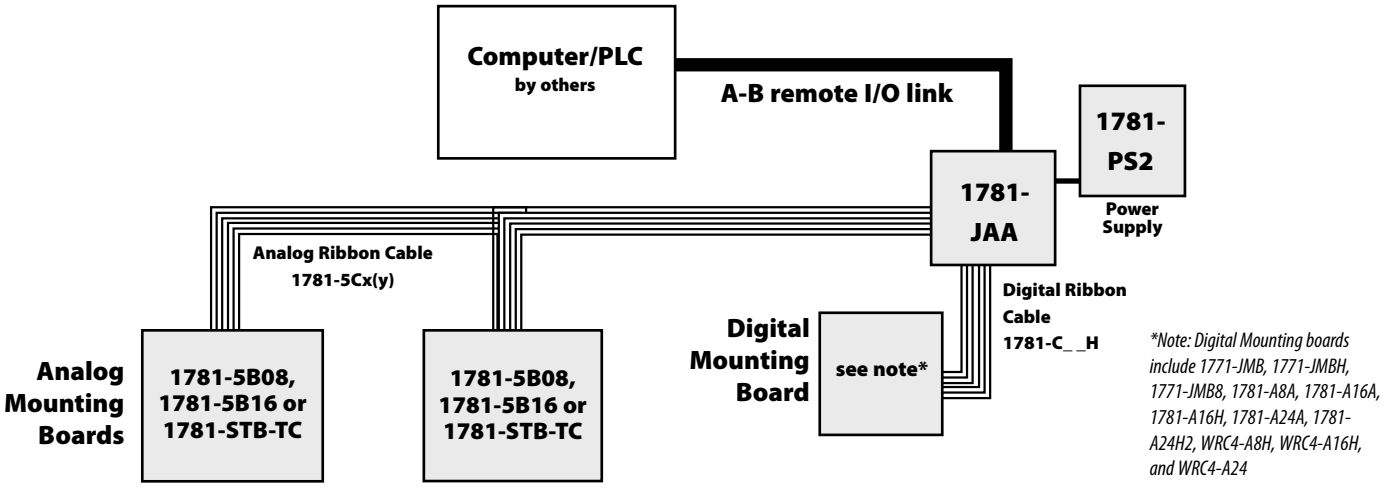
Model #	Network	Protocol	Discrete I/O	Analog I/O
1781-JAA	RIO	RIO	24	32 ~ 1781-5B
1781-JAA7	RIO	RIO	24	32 ~ 1781-7B/WRC7
1781-JAB	RIO	RIO	24	—

Spec	1781-JAB 1781-JAA 1781-JAA7
Ambient	0 to 70°C*
Power	0.5 A @ 5 V dc
Dimensions	5" x 4.6"
Analog Option	±12 V dc @ 0.1 A
Connections	
Digital I/O	50 pin header
Analog I/O	26 pin header
Power	Terminal Strip
Communication	Terminal Strip
Selections	
Address	Dip Switches
Communication	Dip Switches
Communications	Allen-Bradley RIO
Digital I/O	24
Analog I/O**	32 (1781-JAA & JAA7 version)
Protocol	1/4 rack w/block transfer
Speed	57.6, 115.2, 230.4 K baud
Distance	up to 10,000'
Address Range	0 to 15
Pulse Counting	up to 500 Hz
Timed I/O	1 ms resolution
Latching	NA
Pulse Width	NA
Spec	**1781-JAA 1781-JAA7**
Resolution	12-bit
Sample Rate	200 samples/point /sec
	(up to 6400 system samples/sec)
Alarms	NA
Peak/Minimum	NA
Waveforms	NA

Each version of SmartMux has a different set of capabilities, capacities, specifications and cost. The table at left describes the major differences between each option.

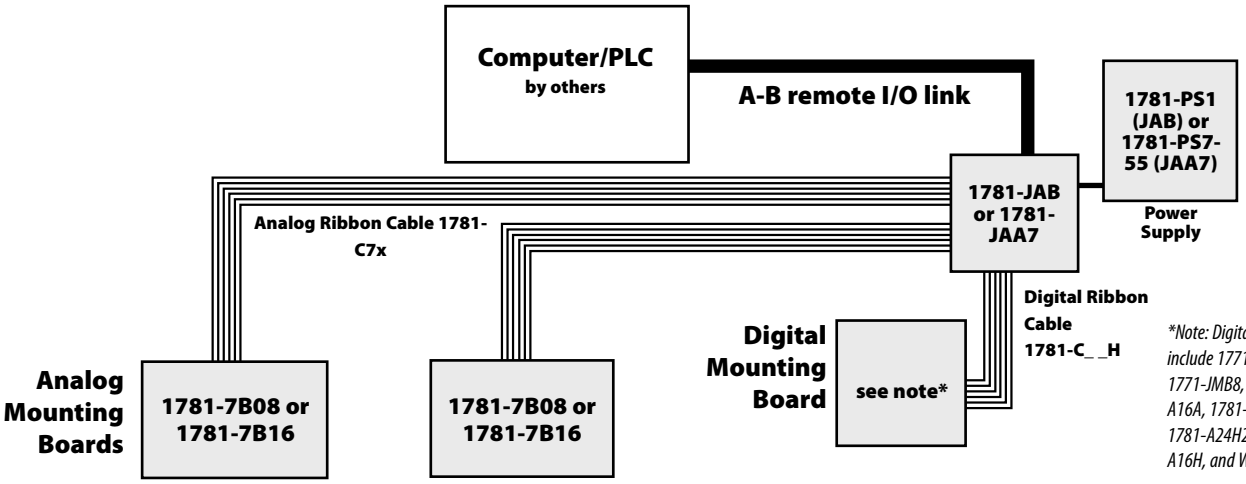
* ***Contact the factory for extended temperature ranges.***

** ***The 1781-JxA versions allow all points to be inputs or outputs. The 1781-JxA7 versions permit outputs in the first 8-channels only.***



Analog module application:		**Points #1-32: Use 1781-5Bxx inputs or outputs, or 1781-STB-TC**			
Point #1		Point #12		Point #23	
Point #2		Point #13		Point #24	
Point #3		Point #14		Point #25	
Point #4		Point #15		Point #26	
Point #5		Point #16		Point #27	
Point #6		Point #17		Point #28	
Point #7		Point #18		Point #29	
Point #8		Point #19		Point #30	
Point #9		Point #20		Point #31	
Point #10		Point #21		Point #32	
Point #11		Point #22			

Digital module application:		**Points #1-24: Use 1781-_ _ 5S or WRC4- _ _ 5S inputs or outputs**			
Point #1		Point #9		Point #17	
Point #2		Point #10		Point #18	
Point #3		Point #11		Point #19	
Point #4		Point #12		Point #20	
Point #5		Point #13		Point #21	
Point #6		Point #14		Point #22	
Point #7		Point #15		Point #23	
Point #8		Point #16		Point #24	



*Note: Digital Mounting boards include 1771-JMB, 1771-JMBH, 1771-JMB8, 1781-A8A, 1781-A16A, 1781-A16H, 1781-A24A, 1781-A24H2, WRC4-A8H, WRC4-A16H, and WRC4-A24H

Analog module application:		**Points #1-8: Use 1781-7Bxx or WRC7-xx inputs or outputs Points #9-32: Use 1781-7Bxx or WRC7-xx inputs only**			
Point #1		Point #12		Point #23	
Point #2		Point #13		Point #24	
Point #3		Point #14		Point #25	
Point #4		Point #15		Point #26	
Point #5		Point #16		Point #27	
Point #6		Point #17		Point #28	
Point #7		Point #18		Point #29	
Point #8		Point #19		Point #30	
Point #9		Point #20		Point #31	
Point #10		Point #21		Point #32	
Point #11		Point #22			

Digital module application:		**Points #1-24: Use 1781-_ _ 5S or WRC4- _ _ 5S inputs or outputs**			
Point #1		Point #9		Point #17	
Point #2		Point #10		Point #18	
Point #3		Point #11		Point #19	
Point #4		Point #12		Point #20	
Point #5		Point #13		Point #21	
Point #6		Point #14		Point #22	
Point #7		Point #15		Point #23	
Point #8		Point #16		Point #24	