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468X Interface Cable Specifications

The Interface Cable emulates the Async RS-232 logical interface supported by the IBM Feature C or D cards, but connects directly to an appropriate 4683 Serial I/O, RS485 mainboard tailgate port. The ports available are 9A, 9B or 4B.

Feature C or D Card	Socket No.	RS-232 Port No.	Device Address
Position 2A	Socket 25	Port # 1	64
Position 2A	Socket 23	Port # 2	68
Position 2B	Socket 25	Port # 3	65
Position 2B	Socket 23	Port # 4	69

Configured as a 9 pin DCE Port (Female 9 pin connector)
Supports full RS-232 Control Lines: DSR, DTR, RTS, CTS and CD

DB9 Female Connector Pin Assignments:

<u>Pin No.</u>	<u>Function</u>	<u>Data Direction</u>
1	CD	Output from Device
2	RXD	Output from Device
3	TXD	Input to Device
4	DTR	Input to Device
5	GND	
6	DSR	Output from Device
7	RTS	Input to Device
8	CTS	Output from Device
9	RI (XPWR)	+12Vdc @800 ma.

Provides Port 9A, 9B or 4B Power Pass-through on the RS-232 DB9 connector pin 9.

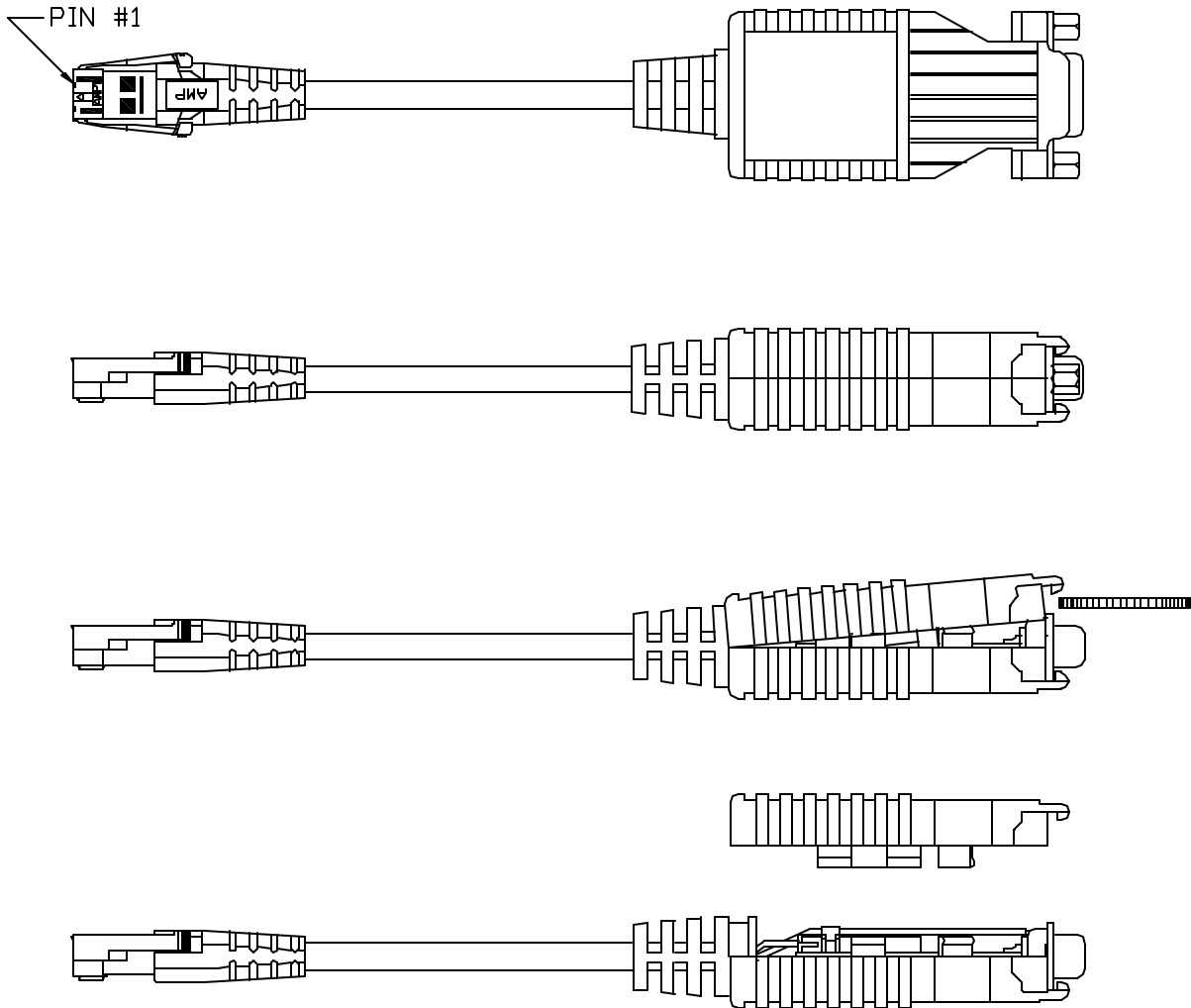
Supports:

Word Size:	7 or 8 bits
Selectable Parity:	Odd, Even or None
Selectable Stop Bits:	1 or 2 Stop bits
	110 Baud to 9.6 K Baud

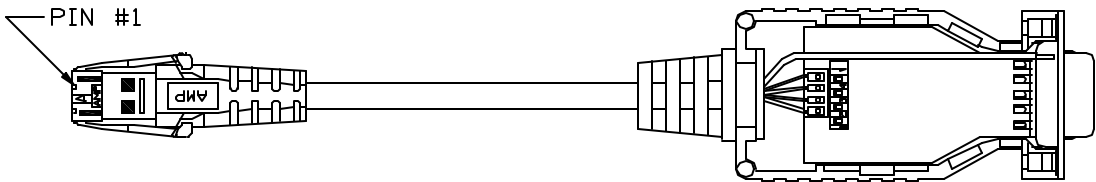
Conforms to IBM Device Attachment specifications.

Compliant with IBM RS-232 Diagnostic Test 231.

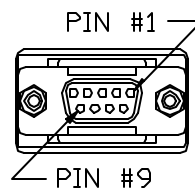
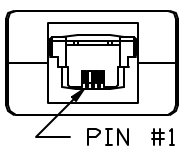
CONNECTOR
TOP VIEW



CONNECTOR
TOP VIEW



CONNECTOR MATING FACE VIEWS



468X Interface Cable Port Number Address Configuration

Internal to the Interface Cable is a SIP component containing 4 switches, enabling port number address selection.

Configure the Interface Cable for the appropriate address:

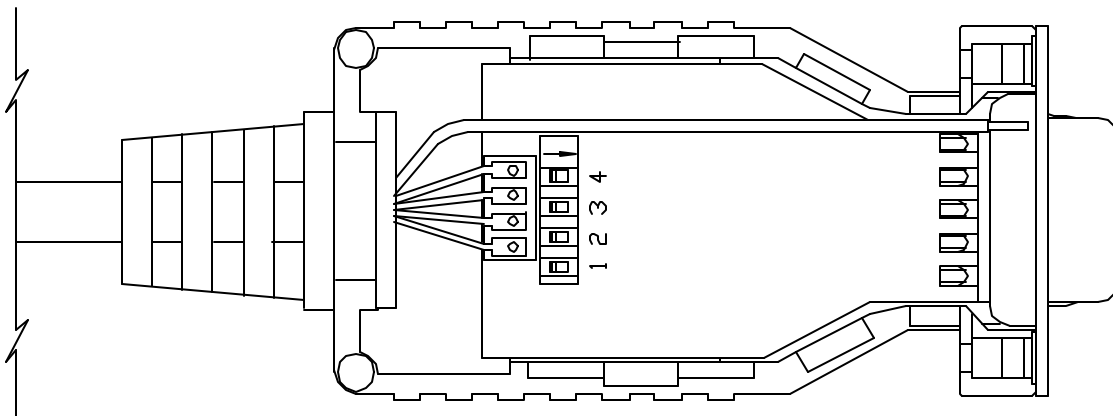
Place a quarter or large blade screw driver between the DB9 connector and backshell top. Rotate counterclockwise, releasing the backshell top front right side. Grasp with your hand and continue to lift the backshell top straight up and remove. See figure.

The device address switches are located on the printed circuit board in front of the 4 wire cable connector. Move the appropriate switch in the direction of the arrow or toward the DB9 connector to select and configure the desired port number address. See table below for Switch Number and corresponding Port # and Device Address. Only one switch may be positioned in the direction of the arrow. If more than one switch is selected, the Interface Cable will be configured with the address of the switch with the highest number.

Switch Number	RS-232 Port #	Device Address
1	1	64
2	2	68
3	3	65
4	4	69

Place the rear of the top backshell over the cable strainrelief and push, snapping the halves together, fastening the backshell case.

Set the 4683 Terminal Characteristics for the direct attached 4683, RS-232 Interface Cable.

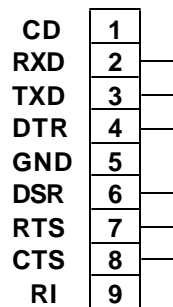


Loopback Operation

A serial loopback connector or cable attached to the serial communication DCE port on the 468X Interface Cable enables rigorous testing of all signals and functions of the RS232 serial port. The signals are routed through the Interface Cable to an external loopback connector and received back.

Below is a diagram for wiring a male DB9 connector for loopback operation.

Serial Loopback Connector Type DB9P (Male)



PIN No.	SIGNAL NAME	FUNCTION	DATA FLOW TO/FROM 468X CABLE
1	CD	Carrier Detect	Out
2	RXD	Receive Data	Out
3	TXD	Transmit Data	In
4	DTR	Data Terminal Ready	In
5	GND	Signal Ground	
6	DSR	Data Set Ready	Out
7	RTS	Request To Send	In
8	CTS	Clear To Send	Out
9	RI	Ring Indicator Optional +12Vdc	Out

Configure the 468X Interface Cable, attach a loopback connector and plug into port 9A, 9B or 4B. See Configuration Section.

Test 231

The following Test 231 procedure is excerpted from an IBM 4680 Store System Guide. Begin the test at the T0010 ENTER TEST REQUEST display by keying in 2, 3, S2. To stop, key 0, S2. The messages that follow display information regarding what is being tested, detected errors and request a yes or a no answer. These messages will vary according to the configuration of the RS232 features.

Take the indicated action for the displayed message.

Setup

The 468X Interface Cable appears to the Operating System as an IBM Feature Expansion C or D card, supporting one serial RS-232 port. The Interface Cable RS-232 port number should be chosen so as not to conflict with existing feature expansion cards and may be selected as port 1, 2, 3 or 4.

Port selection is determined by the position of the available feature card socket into which a RS-232 device would attach. Configure the 468X Interface Cable to support this port by selecting the internal switch with the number that corresponds to the chosen port. Refer to the table below and the Configuration Section for access to the internal port switches.

468X Interface Cable Switch No.	RS-232 Port No.	Device Address	Socket No.	Feature C or D Card
1	1	64	25	Position 2A
2	2	68	23	Position 2A
3	3	65	25	Position 2B
4	4	69	23	Position 2B

Attachment

468X Interface Cable Test Document

The 468X Interface Cable is 100% compatible and interchangeable with the IBM Feature C Expansion Card. The interface cable should function on all versions of the IBM 4683 and 4693 POS Terminals.

A reliable test is to install an IBM 4683 POS Feature C Expansion Card in slot 2B, located at the back of the register. Card slot 2B is positioned to the upper right, as viewed from the rear of the register. Select or verify that the terminal configuration is set for an RS-232, port #4 (Address 0x69) on Port 23. The configuration may be modified or viewed through the System Main Menu, Change/Display a Terminal Device Group submenu screen. Perform the IBM Diagnostic Test #231 and a loopback test, utilizing a connector or cable wired for loopback operation. Upon successful completion of these tests, power off the register and remove the Feature C card. Position the Wrenchman 468X Interface Cable's internal port section switch #4 to ON, selecting Port #4 (Address 0x69) and plug the SDL connector into register Port 9A or 9B. Repeat the IBM Diagnostic Test #231, which should be successful.

Utilizing an IBM Feature C Expansion Card in the 4683 POS Terminal and configuring the system with this card, the configuration as a source of error should be eliminated.

The cable performs an automatic self check upon system initialization. If an error is found, the cable will not respond to any switch setting.