

M-S Cash Drawer Corporation

KSC type interface instructions

Introduction

M-S Cash Drawer interface type KSC enables the cash drawer to be controlled by a computer's serial port and incorporates the following unique features:

- No external power source or AC adaptor is required for standard RS-232 serial interfaces.
- Selectable noise filtering circuitry to prevent false openings.
- Standard "Drawer Open" signal which can be used to indicate the drawer's status.

Options

- Integration, Test and Troubleshooting software for IBM compatible MS-DOS systems is available for all M-S Cash Drawer interfaces. The software may be ordered for \$5 plus shipping.
- KSC equipped cash drawers require an interface cable between the cash drawer and the host computer. Three versions of this interface cable are available from M-S Cash Drawer: DB25 female, DB9 female, and Unterminated.
- The KSC is powered directly from the computer's serial interface card for most installations. Some POS software turns off the serial interface power between drawer openings.
- Optional driver software to monitor and power the serial interface can be ordered from M-S Cash Drawer for \$5 plus shipping for these installations. An optional AC adapter can be ordered for \$10 plus shipping.

Installation - Serial Interface

This installation uses a dedicated RS-232 serial port on your computer or terminal to send an "open" command to the trigger board in the cash drawer. Any data sent on this port will open the cash drawer. (If it is necessary to independently operate a printer or other device on the same serial port, the KSI interface type is required).

Step by Step

1. Connect the interface cable between the cash drawer and the computer's serial port.

KSC Cabling Specifications				
Color	Mini Din Connector	Computer Serial Port		Definition
	Pin #	25 Pin	9 Pin	
Brown	Shell	1	5	FG
Green	6	2	3	TxD
Blue	1	3	2	RxD
Red	2	4	7	RTS
Black	7	7	5	SG
White	8	22	9	RI
Jumper 1*	-	4-5	7-8	RTS-CTS
Jumper 2*	-	6-8-20	1-4-6	DSR-DCD-DTR

* Jumpers simulate hardware handshaking

2. Set DIP switches. There are four configuration switches visible on the back of the cash drawer. The ON direction is noted on the switch by an arrow.

DIP Switch Settings				
	SW1	SW2	Definition	
Use either:	ON	OFF	Selects TxD as open pulse source	*
	OFF	ON	Selects RxD as open pulse source	
	SW1 & SW2 must be opposite one another		* = Factory default	
	SW3	SW4	Definition	
Use either:	OFF	ON	Noise filter active	*
	ON	OFF	Noise filter inactive	
	SW3 & SW4 must be opposite one another		* = Factory default	

3. Factory settings are correct for most installations. If you are using a terminal which sends serial data on pin 3 of a DB25 connector or pin 2 of a DB9 connector, then set SW2 ON and SW1 OFF. If you are using a slow baud rate (below 1200) the high noise filter may reject opening characters as noise. Try setting SW3 ON and SW4 OFF to eliminate noise rejection or use a higher baud rate (1200 to 9600).
4. Make sure center drawer lock is unlocked. (The manual release on the right of the drawer is always unlocked). Plug in the AC adapter to jack on rear of drawer if your system requires one. Check everything over one more time.

5. Send serial characters to open the drawer.
6. Use the test software to set up and test the drawer (See OPTIONS above).
7. The drawer may also be tested from DOS on an IBM compatible computer by typing in the following lines - press ENTER at the end of each line:
C:> MODE COM1:1200,n,8,1
C:> ECHO > COM1: @
C:> ECHO > COM1: @@@@@"

- The first line sets up the serial port. (Replace COM1: with your correct port ID.)
- The second line turns on the port.
- Wait 5 seconds for KSC to initialize.
- Then type line 3 to send characters and open drawer
- Repeat line 3 to open drawer again.

Using the "Drawer Open Signal"

The drawer open signal (the White wire of the interface cable) can be read by software as **Ring Indicate** (pin 22 on a DB25 connector). The signal is 12VDC (High) when the drawer is open and Ground (Low) when the drawer is closed. The following example shows how this signal can be read from "BASIC" using an IBM PC or compatible computer:

```
50 A% = INP(&H3FE):IF(A% AND 64) > 0 then PRINT "Drawer is open" for COM1: or  
50 A% = INP(&H2FE):IF(A% AND 64) > 0 then PRINT "Drawer is open" for COM2:
```

Troubleshooting

If you are having trouble, use the test software to troubleshoot. This software uses the computer to read and diagnose most problems.

Some common things to check are:

- Carefully re-check the Switches, Drawer Lock and interface cable. Check continuity and jumpers if possible.
- Make sure you are plugged into the serial port, not the parallel port of the computer
- Try sending more characters in your opening command - 5 or more.
- Try setting no filter switch setting - SW3 ON and SW4 OFF.
- Try setting terminal mode switch setting - SW2 ON and SW1 OFF Reset to standard settings if drawer does not open.
- Try using the driver software or an AC adapter (see OPTIONS above). The adapter must be a special negative tip adapter available from M-S Cash Drawer.