Device Driver for the OS/2® Operating System
Software Installation Card
Hostess™ *186* 4/8
Hostess *i* Series
Smart Hostess Series

Scope

Use this reference card to configure and install the Comtrol OS/2 device driver. This device driver supports up to 4 of the following controllers:

- Hostess *186* (4 and 8-port)
- Hostess *i* series
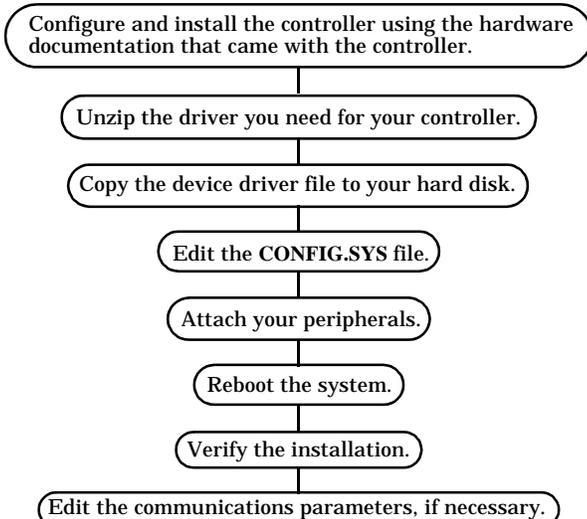- *Smart* Hostess series

Audience

This *Reference Card* is for the person who installs the software and hardware.

Prerequisites

OS/2 operating system, level 1.2 or higher installed on an ISA-based machine.

Installation Overview

This flowchart illustrates the steps for installing the controller and the device driver:

Configure and install the controller using the hardware documentation that came with the controller.

Unzip the driver you need for your controller.

Copy the device driver file to your hard disk.

Edit the **CONFIG.SYS** file.

Attach your peripherals.

Reboot the system.

Verify the installation.

Edit the communications parameters, if necessary.

Configuring the Controller

You must configure your controller or controllers before installation. To configure the controller, select an I/O address range by setting the DIP switch. Use the documentation that came with your hardware.

If you are configuring the Hostess *i,* you may need to also set your communications mode to RS-422.

If you are configuring a *Smart* Hostess, you must set the memory DIP switches.

Installing the Controller

If you have not done so already, set the switches on the controller. If the switches have already been set, use the following steps to install the controller.

Warning   *Static electricity may damage the controller. When touching the controller, wear a grounding strap. Hold the controller only by its edges or the mounting bracket.*

1. Turn the power switch for the system unit to the OFF position.
2. Remove the system unit cover.
3. Select a slot to install the controller.
4. Remove the expansion slot cover.
5. Insert the controller in the expansion slot, making sure that it is properly seated.
6. Attach the controller to the chassis with the expansion slot screw. Repeat Steps 3 through 5 for each controller.
7. Replace the cover on the system unit.

Once the controller or controllers are installed, refer to your *Interface Reference Card* to attach the interface.

How To Unzip The Drivers

The distribution diskette contains the following zipped files:

- **Hostessi.zip** (detailed below)
- **Host186.zip** (detailed below)
- **Smart.zip** (detailed below)
- **Example_apps.zip** (detailed below)

If using **PKUNZIP** to extract from a **.zip** file, you must use the **-d** option to unzip recursive directories to retrieve a specific driver for your controller.

> **pkunzip -d [path] file_name**

The following example shows how to unzip the Hostess *i* drivers from a diskette in the a:\ drive.

> **pkunzip -d a:Host186.zip c:\temp**

When extracting the Hostessi.zip file with the **-d** option, it creates a **Hostessi** subdirectory with the following subdirectories and files.

Table 1. Hostess *i* Driver Files

Driver Name	Description
Hi_8\Hosti8.sys	Special driver for Hostess i 8-port. Supports larger buffers than standard driver.
Hi8_16\Hostidrv.sys	Standard driver for Hostess i.
Hi_485\Hosti485.sys	Special driver for Hostess i 8/16 RS-485 interface ONLY.

When extracting the **Host186.zip** file with the **-d** option, it creates a **Host186** subdirectory with the following subdirectories and files.

Table 2. Hostess 186 Driver Files

Driver Name	Description
H186\H186drv.sys	Standard Hostess 186 4/8 port driver.
H186W32\H186w32.sys	Special Hostess 186 4/8 port driver for 32K window.
H186_485\H186485.sys	Special Hostess 186 4/8 port driver for the Comtrol RS-485 interface box ONLY.

When extracting the **Smart.zip** file with the **-d** option, it creates a **Smart** subdirectory with the following subdirectories and files.

Table 3. Smart Hostess Driver Files

Driver Name	Description
SH\Shdrv.sys	Standard *Smart* Hostess driver.
SH_485\Sh485.sys	Special *Smart* Hostess driver for the RS-485 interface box ONLY.

When extracting the **Example_app.zip** file with the **-d** option, it creates an **Example.app** subdirectory with the following files.

- Os2term.c - Sample code showing calls to driver.
- Os2term.def - DosDevIOCtls are 16-bit.
- Os2term.exe
- Mkos2ter.cmd

Installing the Device Driver

After configuring and installing the controller, you are ready to install the device driver. Use the appropriate steps to install the device driver:

1. Copy the appropriate **.SYS** file from the directory you unzipped. The following examples copy the device driver from the diskette in drive a: to the **OS2** directory on the hard drive.

   Hostess *186*:
   copy a:\host186\h186\h186drv.sys c:\os2\h186drv.sys

   Hostess *i*:
   copy a:\hostessi\hi8_16\hostidrv.sys c:\os2\hostidrv.sys

   Smart Hostess:
   copy a:\smart\sh\shdrv.sys c:\os2\shdrv.sys

2. Edit the **CONFIG.SYS** file by adding a **DEVICE** statement for each controller. Use the following discussion.

3. Boot the system to load the new **CONFIG.SYS** file.

DEVICE Statement

Edit the **CONFIG.SYS** file by adding a **DEVICE** statement for each controller.

    DEVICE=[<drive>:][<path>][<filename.sys>]
    <basename><num_ports>
    <I/O_addr><memory_addr><IRQ>

Table 4. DEVICE Statement

Parameter	Description
<drive>	The drive where the device driver is located.
<path>	The location of the device driver.
<filename.sys>	The name of the driver for the hardware.
<basename>	The prefix of the name for each port. Whatever is chosen as the basename will have numbers appended starting at 1. The maximum length of the name including the appended number must not exceed eight characters.
<num_ports>	The number of serial ports on the controller: * Hostess i: 8 or 16 * Hostess 186: 4 or 8 * *Smart* Hostess: 4 or 8
<I/O_addr>	The base address of the controller's I/O ports accessed by OS/2. See the Hardware documentation for possible I/O address ranges.
<memory_addr>	The full 6-digit base address of the controller's dual-port RAM. All drivers (except the H186W32.SYS) require a 64K-byte window from the memory base address (H186W32 uses 32K but has smaller buffers than with the standard Hostess 186 driver). No other devices can conflict with the resources used. The following are possible memory address values; * Above 1 MB Addresses: d00000, d20000, d40000, d60000, ea0000, ec0000, ee0000, or f00000 (f00000 sets the address at 15 MB boundary) * Below 1 MB Address: 080000, 090000, 0c0000, 0d0000, or 0e0000 (0d0000 is recommended)
<IRQ>	The interrupt request for the controller. Valid IRQs are 3, 4, 5, 9, 10, 11, 12, or 15.

Examples Addressed Above the 1 MB Boundary

- Hostess *i* (16-port) with the following attributes: *basename* of host, *I/O_address* of 218, *memory_address* of F00000h, and an *IRQ* of 10.

  device = c:\os2\hostidrv.sys COM 16 218 f00000 10

- Hostess *186* (8-port) with the following attributes: *basename* of serial, *I/O_address* of 218, *memory_address* of D00000h, and an *IRQ* of 11.

  device = c:\os2\h186drv.sys serial 8 218 d00000 11

Examples Addressed Below the 1 MB Boundary

- Hostess *i* (16-port) with the following attributes *basename* of host, *I/O_address* of 218, *memory_address* of 0D0000h, and an *IRQ* of 10.

  device = c:\os2\hostidrv.sys host 16 218 0d0000 10

- Hostess *186* (8-port) with the following attributes *basename* of serial, *I/O_address* of 218, *memory_address* of 0D0000h, and an *IRQ* of 11.

  device = c:\os2\h186drv.sys serial 8 218 0d0000 11

Note: *Specify memory addresses as 6-digit physical address (memory addresses are 24-bit addresses). Both memory addresses and I/O addresses are hexadecimal. Do not append an "h" suffix.*

Verifying the Device Driver Installation

You can use the **OSTERM.EXE** program (found on your driver diskette) to check how the device driver operates, to check the validity of the parameter set in the **CONFIG.SYS** file, and as an illustration on how to make API calls to the device driver. It shows **DosOpen**, **DosClose**, **DosWrite**, **DosRead**, and **DosDevIOCtl**.

1. Attach a dumb terminal or the loopback test plug supplied with each controller, to the port you want to test.
2. Run **OS2TERM.EXE**.
3. Enter the **basename#.**

   You will get simple character I/O between the terminal and the system.
4. Press <**ESC**> to quit.

Communication Parameters

Each device driver port defaults to 9,600 baud, no parity, 8 data bits, and 1 stop bit with no flow control.

You can usually alter parameters by adding **DosDevIOCtl** calls (category 1) to the application program to adjust the port's parameters.

An alternative method is to use the **HIMODE.EXE** program. This program takes command line parameters and changes a specified port's parameters. You can include the **HIMODE.EXE** file in **.CMD** files or in the **STARTUP.CMD** file.

The general syntax of **HIMODE.EXE** is:

> **HIMODE <required parameters>
> [*optional parameters*]**

Examples

The following examples show how to use the **HIMODE.EXE** program:

- *basename* host1 set at 4,800 baud, even parity, seven databits, one stopbit, timeout OFF, transmit flow ON, receive flow ON, transmit handshake OFF, receive handshake OFF, RTS ON, and DTR ON:

  HIMODE host1:4800,e,7,1,TO=off, OXON=on,IX-ON=on, ODCD=off,OCTS=off,RTS=on,DTR=on

- If you do not need to change an *optional* parameter, leave it out, however you must include the comma separator. For example:

  HIMODE host1:19200,o,8,1,, OX-ON=on,,,,RTS=on,DTR=on

- Use the following if you need to know the current setting: HIMODE <*basename*>

  > **HIMODE host1**

Note: *Run this in an OS/2 full screen session.*

Table 5. Required Parameters

Parameter	Description
PORT	The name of each port; *basename1* through *basename4* (*basename8* or *16 depending on your model*). For example; hostport7.
BAUD	Speed in the range of 50 to 38.4K baud.
PARITY	This parameter is odd, even, or none.
DATABITS	This parameter is 7 or 8.
STOP BITS	This parameter is 1 or 2.

Table 6. Optional Parameters

Parameter	Description
TIMEOUT	This parameter is TO=on or TO=off
TX flow	This parameter is OXON=on or OXON=off
RX flow	This parameter is **IXON**=on or IXON=off
TX handshake	This parameter is ODCD=on or ODCD=off
RX handshake	This parameter is OCTS=on or OCTS=off
RTS	This parameter is RTS=on, RTS=off, or RTS=*hs*. (*hs* is the control state of the RTS line.)
DTR	This parameter is DTR=on, DTR=off, or DTR=*hs*. (*hs* is the control state of the DTR line.)

Cabling

Refer to the documentation that came with your controller or the Interface Reference Card for common cabling examples.

- For software XON/XOFF, a simple three wire cable works well.
- For hardware flow control of transmitted data to the controller, connect the DTR line from the peripheral to either the CTS or DCD pin on the controller's interface box. Use the **HIMODE.EXE** program to select either **OCTS=on or ODCD=on**.

Troubleshooting

If installation fails or you are trying to resolve a problem, you should verify the following before calling the Comtrol technical support line:

- Reinstall the controller selecting a different I/O address range.
- Check the signals between your peripherals and the interface (if applicable).
- Check the cabling.

- Reseat the controller in the slot (power, off).
- Reboot the system.

If you have not been able to get the controller operating:

1. Turn off your PC and insert the diagnostic diskette.
2. Boot the PC and follow the instructions provided by the diagnostic diskette.

Placing a Support Call

Before you place a technical support call to Comtrol, please make sure that you have the following information. The following table provides you with an area to enter the required information.

Table 7. Support Call Information

Item	Your System Information
Controller type	
Interface type	
I/O address	
IRQ number	
Operating system type and release	
Device driver release number	
PC make, model, and speed	
List of other devices in the PC and their addresses	
List any error messages	

After you have gathered this information, call Comtrol at one of the following phone numbers:

Corporate Headquarters:

- email: **support@comtrol.com**
- FAX: (651) 631-8117
- Phone: (651) 631-7654
- FTP Site: ftp://ftp.comtrol.com
- Web site: http://www.comtrol.com

Comtrol Europe:

- email: **support@comtrol.co.uk**
- FAX: +44 (0) 1 869-323-211
- Phone: +44 (0) 1 869-323-220

Comtrol has a staff of hardware and software engineers, technicians, and managers available for help.

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