

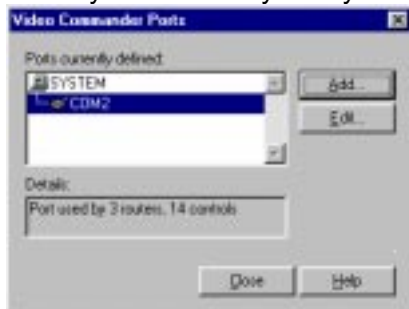
Printer Port Events

This document describes the use of an ordinary printer port as a digital status interface to Video Commander 3.5. The paragraphs which follow discuss the installation of the Printer Port Driver and the use of this driver for event handling.

Driver Installation

To install the Printer Port Driver in your Video Commander system, make sure your Video Commander Server is *not* running. Then start the Device Setup program and follow these steps:

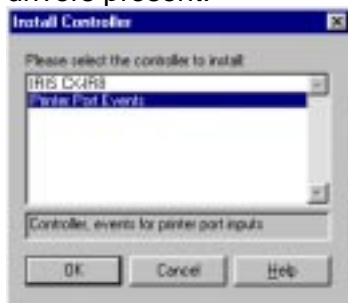
1. Click the “Ports” button on the toolbar. A dialog appears listing those ports already defined for your system.



2. Click the “Add” button. Device Setup asks you what sort of equipment you want to add.



3. Select “Control equipment” and click “OK.” You will be prompted to install the disk containing the device drivers. Make sure the appropriate disk is in your disk drive, and click “OK” again. Device Setup will read your disk and display a list of the drivers present.



4. Select “Printer Port Events” and click “OK.” Device Setup will both set up the port information for the printer port, and also create a new device named “Printer Port” in your device worksheet.
5. Close the “Ports” dialog.
6. Click “Apply” to save your device worksheet, including the Printer Port device.

Note: the “Printer Port” device is not used for routing, so no router input or output numbers need to be assigned.

Your Video Commander software is now configured to use the printer port for event detection.

Windows and Printers

Since you will now be using your printer port for event detection, you can no longer use it for printing. If you have a printer assigned to that port in Windows, you may accidentally cause a conflict with that port. For this reason we strongly recommend removing any local printer definitions assigned to your printer port.

From your Windows Start Menu, go to “Settings,” then “Printers.” For each local printer icon you see (no network cable shown in the picture), right-click that icon and choose “Properties.” On the “Details” tab, check to see if the field labeled “Print to the following port” indicates “LPT1” (without any additional network information). If so, you *must* delete this printer definition. Cancel from the Properties, select the printer icon again, and press your Delete key.

Hardware Installation

You need to make your own wiring to use the printer port for event detection. This is not hard; a printer port accepts a standard DB-25 male connector, which can be purchased at most electronics supply stores, including Radio Shack.

Of the twenty-five pins on the connector, you would use pins 10, 11, 12, 13 and 15 as your five input lines. You can also take signal ground from any of pins 18 through 25.

Switch Closures

If your inputs are simple closing of switches (manually or through relays), then use signal ground as the common for each switch or relay, and feed each other contact of the switches or relays to the input pins. A switch closure indicates a “low” level, and a switch open indicates a “high” level, because a standard printer port has an internal pull-up on the inputs.

TTL-level Inputs

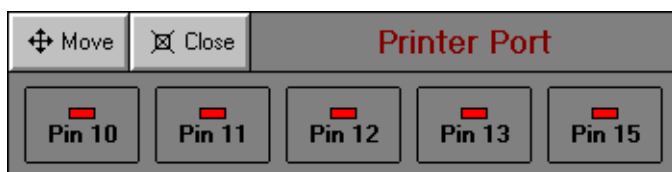
If your inputs come from a programmable controller or other automated equipment, then this is perfect for the inputs. Ensure that the equipment shares signal ground with the printer port, and provide TTL logic levels to indicate an event.

Note: it is up to your external signal source or wiring to ensure that there is no serious “bounce” on the state transitions. If the signal makes several state transitions, and these transitions occur over a period of many milliseconds, Video Commander may react multiple times to the event you are trying to detect. Make sure you test your inputs for bounce while the results cannot disrupt your operations.

Viewing Printer Port Status

Once your hardware is set up, you should be able to verify Video Commander's ability to monitor your printer port. Start your Video Commander system, and add the Printer Port device to one of your panels if it is not already there. Touch the "Control" button on the tool bar, then the Printer Port button, to view a "control panel" which displays the real-time state of the printer port inputs.

The panel looks like this:



For each indicator, the light is lit if the corresponding input pin is set to a logic high or the switch is open. The light is dark if the pin is set to a logic low or the switch is closed.

You can check the indicators in this manner at any time to verify that the levels are what you expect them to be.

Event Handling

To make Video Commander "react" to a change on one of these printer port pins, you need to create a macro for each event you care about. Video Commander is set to use macros with certain names for certain events: Pin10on.mac is run when pin ten goes high (open), and Pin10off.mac is run when pin ten goes low (closed). The other inputs have the same naming convention, but with their pin numbers.

If, for example, you needed to react to a "door open" indicator on pin 10 by routing a certain camera to a security monitor and starting a VCR, you would record a "shared" macro which makes the route and does the control operation. Finish the macro, give it a meaningful name, and also fill in the "optional name" field with "pin10on" (capitalization does not matter). You will probably want to then record *another* macro which stops that VCR, and name it "pin10off" to handle the complementary action.

It is not required that you create macros for both states, but in many cases this is the desired action.

Emergency Events

One popular use of Printer Port Events is to react to an emergency situation with a preset series of routes. Of course, there's a small catch: when the emergency is over, you want to restore the routes you had.

In this case, create both the emergency route macro (with a name appropriate for the pin and state which indicates the emergency) and a second macro which *does nothing* (with a name appropriate for that pin and the *opposite* state). Then open "Macro Tools" and "My Macros." Click "Edit Macro" and then the emergency route macro. In the editor, add a line between the "Title" line and the first route command which reads "Memorize State". Save the macro. Similarly edit the do-nothing macro, and insert a line which reads "Recall State". For example:

Title: Emergency Start [pin10off]

Title: Emergency Stop [pin10on]

Memorize State

Recall State

Link "CG 1", "(2)", "(3)", "(4)", "(5)"

Exit

Link "CG 1", "(6)", "(7)", "(8)", "(9)"

...

This will cause the Video Commander Server to freeze all routes at the beginning of the emergency, and revert to those routes when the emergency is over.

Note: the Printer Port Events feature is not sold as a complete Emergency Alert System solution, and IRIS Technologies, Inc. does not warrant Printer Port Events for this purpose. If you intend to use it for Emergency Alert System response, it is your responsibility to thoroughly test the responsiveness of the system in advance to make sure it meets your needs.