CTI Final Exam

Thank you for attending the Crestron Technical Institute's Certification training class. We hope you have enjoyed the seminar.

A Crestron Certified Programmer is a very high honor, and it is presumed that a certified programmer can program anything. We know this is impossible, however, a certified programmer should have the skills to attempt any type of project. To that end this exam may have applications or devices you have never seen before as well as things you use every day. The final exam is designed to qualify your understanding and application of: past experiences, handling of new applications and implementing skills learned in class.

This exam is designed for you to complete at your own pace within a 3-month period from the date of attending class. Please e-mail the completed exam to Charles Hazelhoff at **chazelhoff@crestron-int.be** . Send us all the necessary files to open, check and load your program. This means the exam must be completed and submitted to **Crestron International** by early October 2005. After receipt and successful review of your program, you will officially be a Crestron Certified Programmer. Crestron will send you a Crestron certified package, which includes a certificate, Crestron "Certified" shirt, coupon for a CNXLIR or a QM-RMC, and information that explains all the benefits of becoming a Crestron Certified Programmer.

The grading process is based on your ability to demonstrate your knowledge and understanding of how to program. Great looking panels, or very complex string handling are pluses however; do not over complicate the program. It is better to demonstrate you know how to perform the tasks at hand. Take your time and have some fun with this exam. You may discover some new techniques to use in your daily projects. Don't wait until the last minute to begin the exam; it will be evident in the quality of your work.

The test consists of applying your new programming skills. Your task, should you choose to accept it, is to make the system design function properly given the following criteria:

The following is a system for you to design and program. **Use as many Crestron items as you can**. Remember, knowledge of Crestron product is part of the test.

The Vandaly school of Marine Biology has decided it has always wanted to have a school of Architecture. They have received a grant from the Crestron Technical Institute to build a building focused on designing with technology. This new building will have plenty of teaching space but it will also have a complete demonstration wing. In the demonstration wing they will have a series of different rooms or spaces to demonstrate the latest in design and technology.

Because of the Crestron funding they are going to use as many Crestron products as possible in every application.

CONFERENCE ROOM:

1. Design a Crestron control system for the conference room to control the following equipment:
   Lights, Drapes, Plasma, DVD, Video Camera, document camera and a Video Teleconferencing System. The room will have one plasma on the wall. This plasma will be used to show both near and far end video as well as the computer feed and one other input. The whole system will be controlled by a TPS-6000. The TPS-6000 will be able to move to different places in the room so it should be connected via Ethernet. The video conference system should also be controlled over Ethernet. The system should store all the video conferencing numbers on a computer at the administrator's desk. This is the same place where they will use outlook to schedule the use of the room and even start and stop video conferencing and establish the conference calls. It should go without saying that all controls should occur on the touch panel and not with a menu on the screen.

MODEL HOME

2. Design a Crestron control system for the model home. This home is not as large as a true home but all the hardware should be in place.

   For demonstration purposes our house will have 3 rooms.

   A full "State of the Art" home theater complete with a 7.1 surround sound system. A local DVD should be available for local controls. An STX-1700C will be the controller for this room.

   The second room will be the kitchen and a focal point of the house. A TPS-6000 will act as the main control for this room and the whole house. The TPS-6000 should act as the computer monitor, mouse and video monitor with picture in picture.

   The third room is the equipment room. This room will hold all the AV gear such as the CD Jukeboxes, Satellite receivers etc, as well as the switching system for the audio and video distribution. This room will also have a demonstration of a speaker causing a fault and the system e-mailing the dealer for service. This room will also have the automation controller. The automation controller will control and adjust all the lights, HVAC and alarm controls. All the controls will be accessed from the touchpanels in each room as well as keypads connected to the automation system. No alarm or HVAC controllers will be in the rooms. Of course this system will have an EXE file and PDA controls so that the home owner can access it anywhere in the world.

Class Rooms:

The school of architecture will of course have many classrooms but for this exam we will need two. Both rooms can be the same. They will have a projector, a VCR, DVD computer and an input for a laptop. It will have motorized screen and four channels of lighting. The whole system will be controlled by an eight button and 12 button keypad. Both rooms will have different projectors and both will supply lamp hours back to the roomview software. The roomview software will be set up to demonstrate an AV help desk and every room should contain a web page so the help desk can take control. As well as roomview controls on every 100 hours of use the system should e-mail the AV person so they can keep track of room usage.

Programming Requirements:

You must use at least one module in your program.

You must have at least one animation in any panel.

You must have at least 3 indirect text fields, on at least one TouchPanel.

The TPS-6000's must play at least one wav file.

You must have true feedback and functionality on as many devices as possible.

Remember you must send all the pieces needed to make the system work. Understand that the home only has 2 rooms but in real life it would have 16 or 20 zones of rooms with music, video etc. Even though you are programming for 2 rooms the programming methodology should be designed to support more. For example if you are using an interlock it makes no difference if you have 3 inputs or 25 inputs. You only need to program the 3 version but you should be thinking in a larger scope.

This same rule applies to the classrooms and video conference rooms. You only have 2 classrooms to program but in a real environment it would be many more.

Remember creativity counts.

Although this may feel like a project it is an examination. When you submit your exam it should be complete and tested. As a programmer you may get a punch

list, but from a testing point of view what you submit should be your best complete work the first time.

Good Luck and we look forward to seeing you on the Certified List.