CPR2102 V5 Chip Update

Purpose

A CPR2102 time switch can be easily upgraded to version 5. This allows the advanced timekeeping and communications protocols to function.

Version 5 software is completely compatible with CPR2102 boards from version C through version M. It is also compatible with CPR PC software version 6 Pager through version 8 WIFI.

How to replace chip

If you have on-air addressing enabled, note the group and location number you have programmed. You will have to address the time switch after you upgrade the chip.

1. If you are using a DT2100 programming device or a palm pilot programming device, read the programming from the time switch at this time.

2. Disconnect the time switch from its power supply.

3. Remove the cover from the time switch, and locate the processor. It is the large semiconductor on the board the same size as the V5 chip.

4. Note the direction of the notch on the end of the chip. This indicates the proper orientation of the new chip.

5. With either a chip puller or some type of prying device, wiggle the chip loose. If the board has been in place for some time, the chip may resist being pulled out. If you are using a prying device, make sure not to pry on the plastic carrier socket.

6. Press the new chip in place, making sure the orientation of the chip is correct and that all pins are fully seated.

7. Replace cover.

8. Power the time switch. There will be no useful programming in the board at this time, but the address LED will flash the address if dip switch addressing is used. If on-air addressing is used, you will have to address the chip at this time.

9. Test the relay function by pressing the relay button. The relay should turn both on and off with alternate pressing of this button.

10. Replace programming using one of the procedures below.

To replace programming in a V5 chip using DT2100 or Palm Pilot programmer

1. Connect the cable from the DT2100 or Palm to the time switch.

2. Using the menus, download setup to the time switch.

3. You are done.

To replace programming in a V5 chip using CPR pager

1. Download the time to the time switch using the Send Time command.

2. In Time Switch Setup, download the default and any alternate plans for the time switch.

3. You are done.

To replace programming in a V5 chip using CPR4 Loader

1. Take the .csv files from the CPR computer and place them in your notebook running CPR4 Loader in the c:\rtc\cpr4 directory. You will find these files in your PC running CPR in the same directory. They will have the file extension .csv. Depending on the setup of your computer, they may look like Excel spreadsheet files.

2. Consult the following CPR4 Loader Quick Start Guide for additional instructions.

Appendix A

CPR 4 Loader Quick Start Guide

RTC Manufacturing has a product for moving programming into, and retrieving programming from, its time switches. It is called CPR 4 Loader.

This program runs on any Windows computer with a serial port. The serial port is used to connect to the time switch. CPR 4 Loader can work with either the CPR2102R or the AP22 time switch.

Basic Overview

The groups and their programming are displayed in the left side of the program window. Notice in Fig. 1 that the group named Kennedy Jr High is expanded to show the programming. In this instance the Default Week Plan has a command at 7:02 AM.
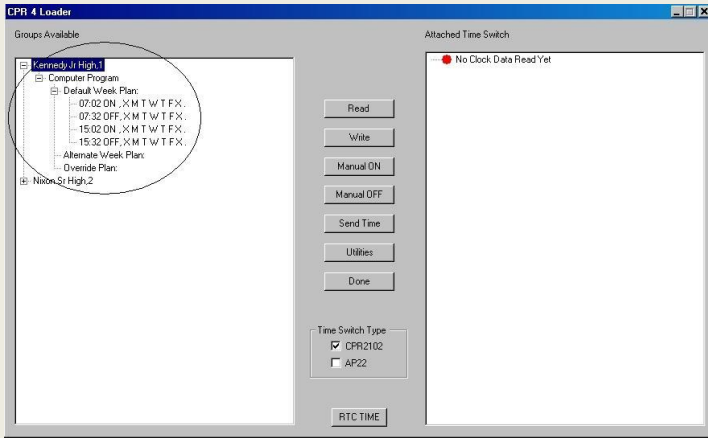
Fig. 1

The time switch programming is displayed in either the CPR2102 or AP22 format, depending on which Time Switch Type is selected. The program will work with both types. Notice in Fig. 2 below the time switch is set to CPR2102.
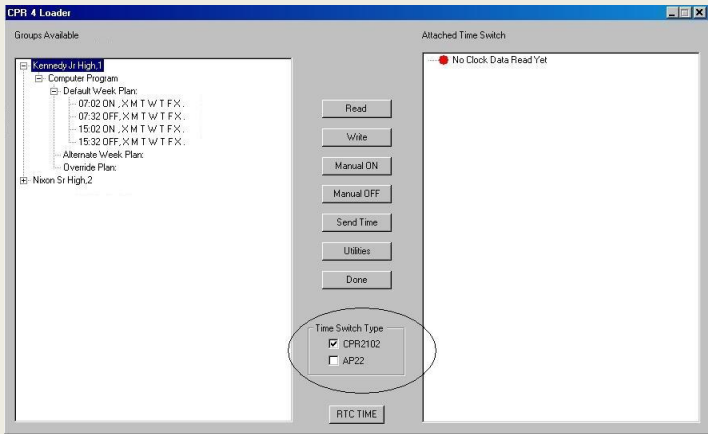

Fig. 2

When first connected, a red highlighted ball (Fig. 3) will indicate that nothing has been read from the time switch.
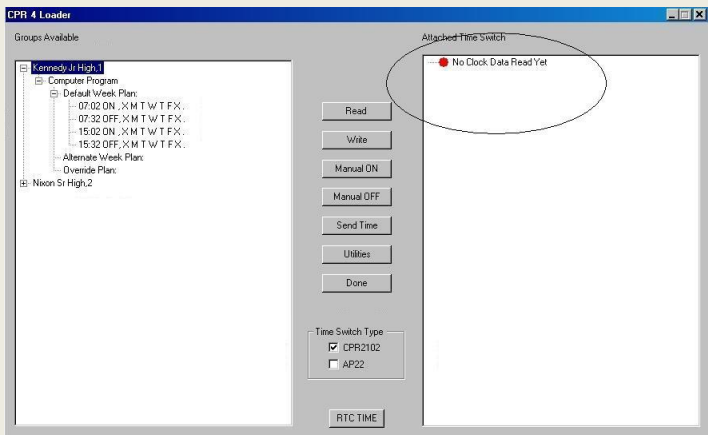

Fig. 3

Files and CPR III programming

CPR 4 Loader is compatible with all versions of CPR III.

CPR 4 Loader needs to have the programming files from the computer running CPR III placed in it. This task is easily accomplished with a flash or jump drive, using the following procedure.

1. Locate the c:\rtc\cpr3 directory on the computer running the CPR III program.

2. Find all files with the .csv extension.   For example: groups.csv, steps.csv, etc.

3. Copy all these files to a flash drive, jump drive, or some other removable media that can be used with both computers.

4. Locate the c:\rtc\cpr3 directory on the computer running the CPR 4 Loader program.

5. Copy the files from the jump drive to this directory.

6. The data should be there when you launch the CPR 4 Loader program. The program is installed in the same directory as the files, c:\rtc\cpr3.

Communications

The CPR 4 Loader program only communicates to one time switch at a time through a serial cable. If your computer does not have a serial port you can use a USB serial port adapter.

For AP22 and the latest generation CPR2102R time switches, you will need RTC cable part number 504567. For CPR2102R time switches before 2008, you need the adapter part number 504552.

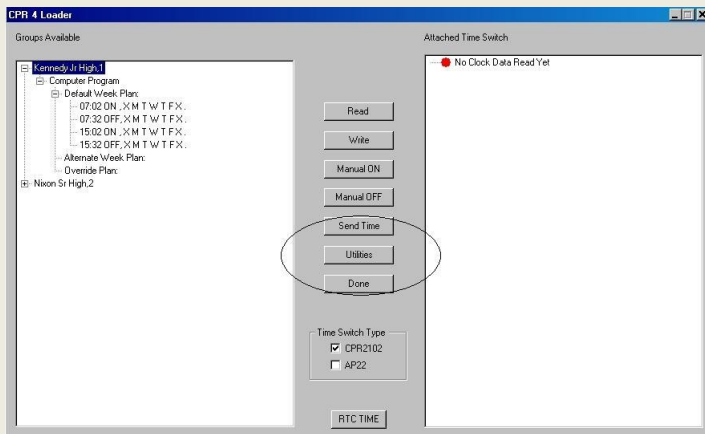To setup the communications, click Utilities on the main screen. Fig. 1.

Fig. 1

The Utilities box (Fig. 2) allows you to select which COM port you are using. You may select one of the ports listed, or type in the COM number Windows assigned to your USB serial port adapter. This

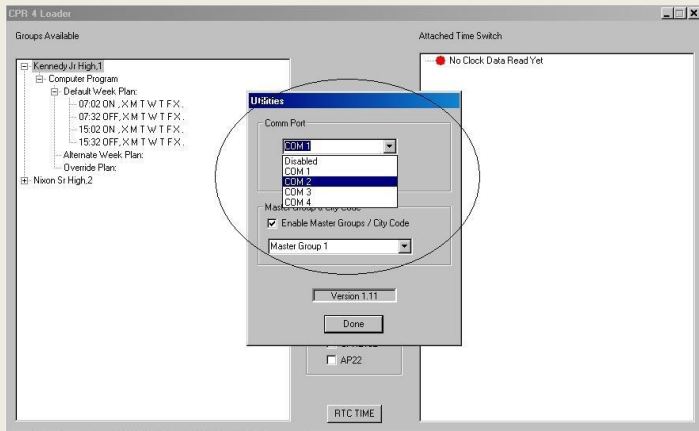often happens when using USB serial devices.

Fig. 2

After you have selected your COM port, click Setup. If CPR4 Loader can setup the port correctly, you will see the following message. (Fig. 3)
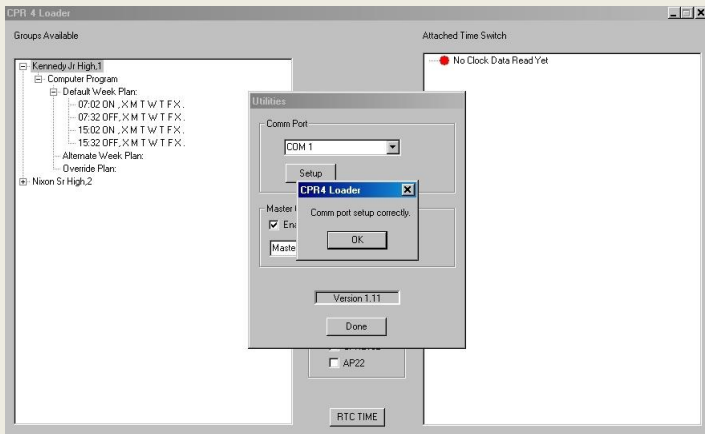

Fig. 3

Reading and Writing a Time Switch

Select the type of time switch to which you wish to connect. As you see (Fig. 4), the time switch type is an AP22. CPR4 Loader can work with either type.
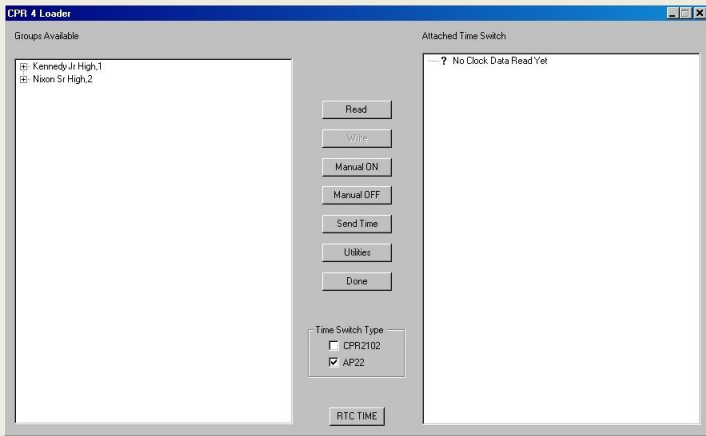
Fig. 4

The next step is to select the group to which the time switch belongs. Do this by clicking one of the groups listed to the left. In our example (Fig. 5), Nixon Sr High is selected.
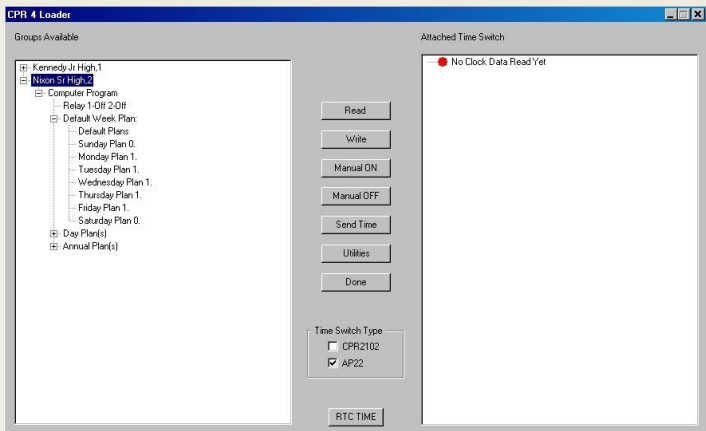

Fig. 5

Next, connect to the time switch with the appropriate cable. Once connected, you can test communications by clicking Manual ON, or Manual OFF. You can verify communications by listening for the relay, or by looking at the time switch relay status lights. Once communication has been tested and verified, you are ready to read the time switch. This is done by selecting the Read button as shown in Fig. 6.
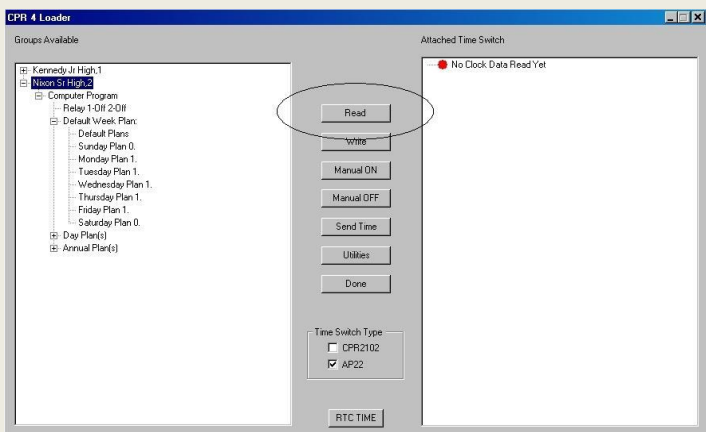

Fig. 6

The reading of a time switch takes seven seconds, with the process displayed on your screen. Notice in Fig. 7 the read was caught at seven seconds elapsed time.
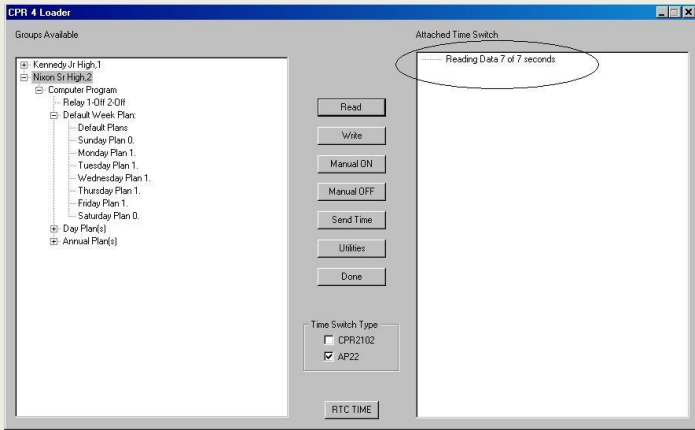

Fig. 7

After the read is finished the results are shown. In Fig. 8, the time switch data does not match the computer data, so the window on the right displays a red highlighted dot.
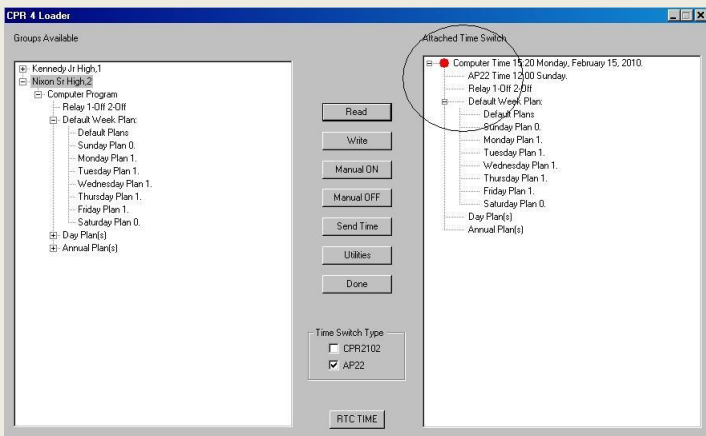

Fig. 8

Data is written to the time switch with the Write button. A write also takes about seven seconds. A green highlighted dot (Fig. 9) indicates when the correct data has been written to the time switch and read by the computer.
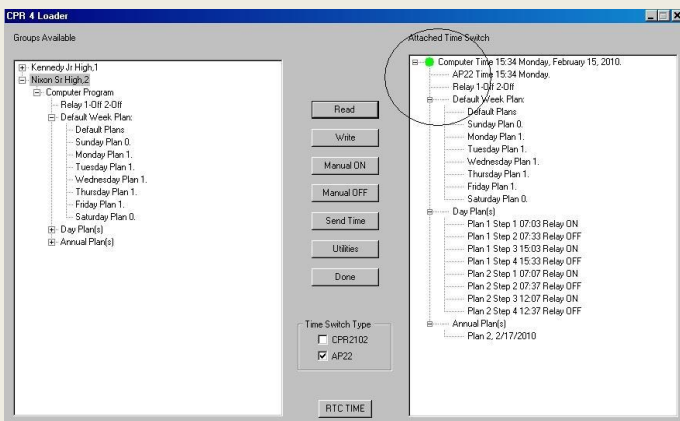

Fig. 9