

Setting up CPC CaptionMaker® Captioning System

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Introduction

This supplement guide will show you how to set up a typical *CPC-600* and *CPC-700 CaptionMaker* with time code captioning system. Even if your system differs from the system we will describe, this should still assist you in setting up your system.

We will first identify all the components needed to caption a video. Then describe how to caption a video without time code. Since the *CPC-600* does not use time code, *CPC-600* users do not need to go any farther. Then we will add the components needed to caption with time code. Finally, we will go over a few typical troubleshooting scenarios.

If you are new to video and have the *CPC-700*, we recommend that you do not add the time code components until you are familiar with operating the system without time code. Practice captioning a few videos without time code, and then use time code.

System requirements

Computer

The CaptionMaker works with IBM PC compatible computers (Pentium recommended) with:

- Windows 95/98/2000/ME/XP/NT.
- At least a 266 MHz Pentium processor (off-line captioning/subtitling).
At least a 500 MHz Pentium processor (on-line captioning).
- Minimum 64 megabytes of RAM.
- 10 GB of hard drive space.

- A video capture device.
An external video capture device (i.e., Dazzle DVC-80) for 95/98/2000/XP/ME, or
An ATI All-In-Wonder Pro (8/16 MB) for Windows 95/98, or
An Ospey-100 card for Windows NT.
This device allows you to display the video on your VGA computer monitor, so that you can drag and drop captions or subtitles onto the video with a mouse.
- A sound card and speakers supported by Windows (If you use a video capture device to watch the video and hear the audio).
- An open computer card slot (PCI) on your motherboard to install a time code card (For CPC-700 only).
- A CD-ROM reader to install the software.
- A Parallel printer port to connect the CPC Protection box.
- A Serial port (also known as a COM port or RS 232 port).

Identify all the components

Lets first identify all the components needed to caption a video.

Here is the list:

- Computer
- CPC Software CD
- CPC Software Manual
- CPC Protection box (Hardware key for CPC software)
- Ultech/Mixed Signal InsertaCap Encoder (Closed caption encoder/decoder)
- Two VCRs (for playback and for record)
- DataVideo Time Base Corrector TBC-1000 (To clean video signal)
- Adrienne Time Code card PCI-VLTC/RDR (To read time code from the video)
- Dazzle DVC-80 (To display video on the computer screen)
- Horita TG-50 Time Code Generator (To insert time code on video)
- TV (Video monitor with separate audio and video inputs).
- Assorted Cables.

List of Cables needed

Three 3' **White** BNC to RCA.(one is extra, only 2 will be used in these instructions)

Three 3' **Blue** RCA to RCA.

Three 6' **Red** RCA to RCA.(the third is included for time code generation with a Horita)




One 6' **Gray** RCA to mini Phono jack.



One 6' **Gray** straight 9-pin (male to female) serial cable.



One Short **Gray** RCA-Y cable - one female at one end & two male plugs at other end.

One 6' **Yellow-White-Red** RCA to RCA male (comes with TBC-1000).

The following photos will help you identify the components. We omitted the Computer, the VCRs and the TV, as they are very common items.

		
<p>Software CD</p>	<p>Manual</p>	<p>CPC Protection box</p>

	
<p>InsertaCap front</p>	<p>InsertaCap back</p>

	
<p>TBC front</p>	<p>TBC back</p>

		<p>Dazzle DVC-80 is a unit very similar to the USB VideoBus.</p> <p>Note: Audio red and white connectors cannot be used to listen to the audio via the sound card inside the computer.</p>
<p>Time code card</p>	<p>USB VideoBus is shown in the picture</p>	



Horita TG-50 (Front)



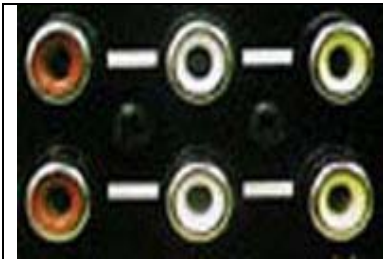
Horita TG-50 (Back)



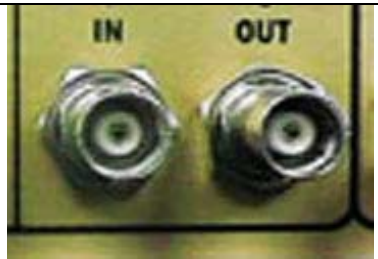
9 pin male serial plug



9 pin female serial plug



RCA female plug



BNC female plug



RCA Y-Cable



RCA male plug



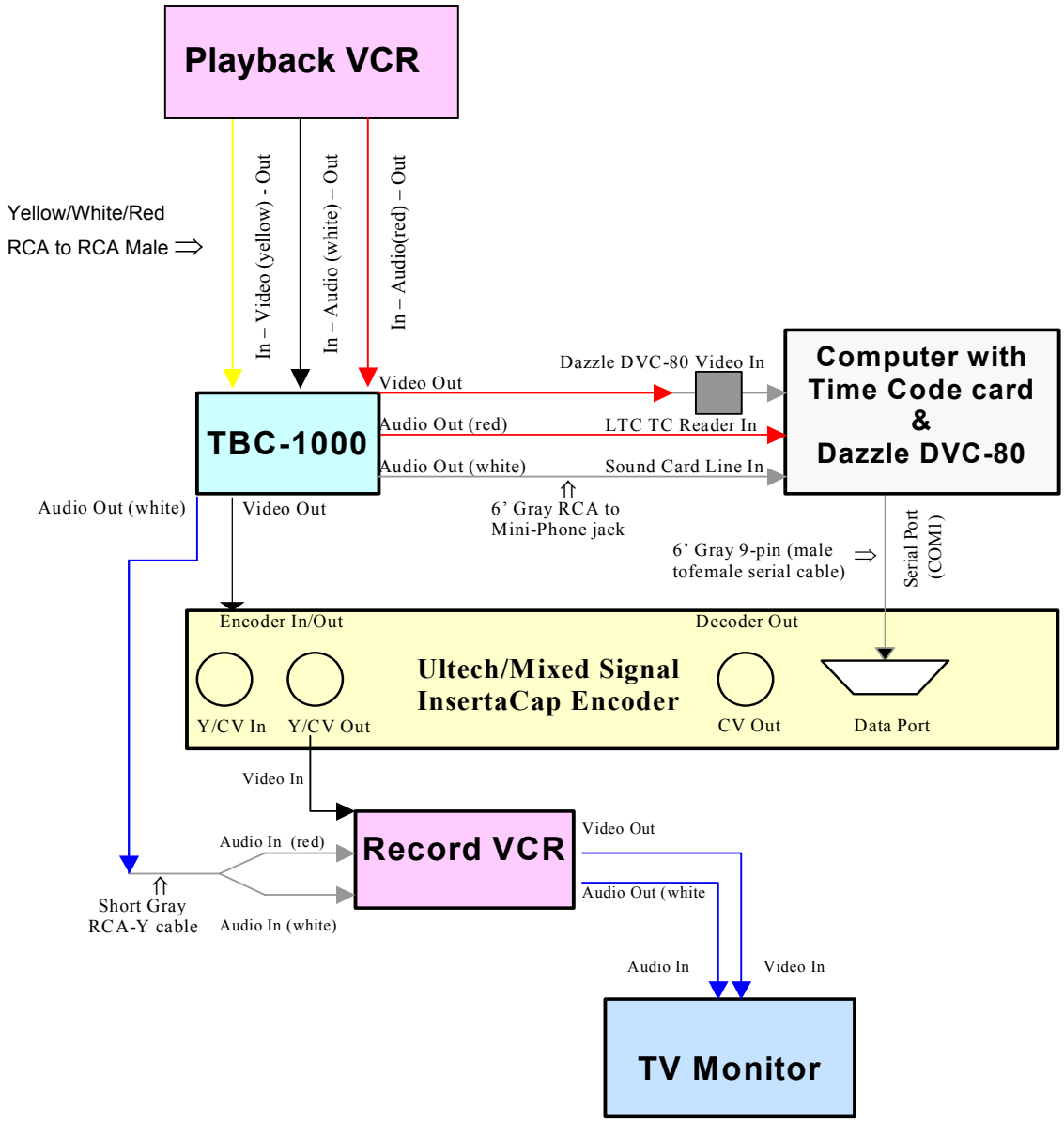
BNC male plug



Phono Plug

Connecting all the components

Here is a schematic diagram of the complete setup. We will show you how to connect each and every component one at a time. If you are familiar with schematic diagrams, you do not need to go through the next few pages showing the step-by-step pictures. For your convenience the wires are color coded and labeled. Please note that in this document all of the white wires are colored black.



Note: If you have not have a RCA Y-Cable, do not panic. The purpose of it is just to make sure that sound can be heard uniformly from both channels. Instead of having audio in one channel and complete silence in the other. You can always connect the *white audio out* from the *TBC-1000* to the *white audio in* of the *Record VCR*.

Connecting Playback VCR audio/video to the TBC-1000

You need two VCRs to caption a video – one to play the original (uncaptioned) video, and the other to record the video with captions on it.

Place the VCRs side by side so that when you use the remote control you can aim it at the VCR you want to control.

Stick a label “*Playback*” in front of one VCR and a label “*Recorder*” in front of the other VCR.

Each VCR has two sets of 3 *RCA* female connectors. The yellow one is for video, and the white and red are for two channels of audio. One set of 3 connectors is labeled *In* and the other set is labeled *Out*.

The *DataVideo TBC-1000* Time Base Corrector is used to enhance the video signal by correcting timing errors on the video.

Do not confuse the *TBC-1000* with the *time code card*. Both units have the word ‘time’. The *TBC-1000* has 3 input connectors on the front, and four sets of output connectors on the back.

We will connect the three outputs of the *Playback VCR* to the three inputs on the front of the *TBC-1000*.

We will use a set of three cables (yellow, red and white), which came with the *TBC-1000*.






- Connect the yellow *Video Out* from the *playback VCR* to the yellow *video input* of the *TBC-1000* using the yellow cable.
- Connect the white *audio out* from the *playback VCR* to the white *audio input* of the *TBC-1000* using the white cable.
- Connect the red *audio out* from the *playback VCR* to the red audio input of the *TBC-1000* using the red cable.

From now on, for simplicity's sake, we will think of the *playback VCR* and the *Time Base Corrector* as a single unit.

For example, when we take the audio/video *out* from the *Time Base Corrector*, think of it as taking the audio/video *Out* from the *playback VCR*.

Connecting video from the TBC-1000 to the InsertaCap

Locate one 3' white cable with a male *RCA* connector at one end and a male *BNC* connector at the other end.

		
3' White RCA-BNC cable	TBC-1000 Video (Yellow) Out	InsertaCap Y/CV In

- Connect the *RCA* male connector to any yellow connector on the back of the TBC-1000. (any of the four sets of outputs)
- Connect the other end of the cable, with the *BNC* connector, to the **Y/CV** Video In of the *InsertaCap*. *CV* stands for *composite video*. Don't worry about what 'Y' stands for.

Connecting Computer serial port to the InsertaCap

Locate the serial cable, which has a 9-pin male plug at one end and a 9-pin female plug at the other end.

		
Serial Cable male/female	Computer Serial Port	InsertaCap Data Port

- Connect the female 9-pin connector to the computer *Serial Port 1*.
- Connect the male 9-pin connector to the data port on the back of the *InsertaCap*.

The *encoder* combines the video coming from the *VCR* via one *Y/CV video In* and the text coming from the computer via the data port and produces the video with captions. *Encoders* typically have two *video outs* – “**closed caption**” and also “**open caption**” *video outs*. The *decoder video out* is “**open captioned**” and the *encoder video out* is **closed-captioned**.

Connecting video from the InsertaCap to the Record VCR

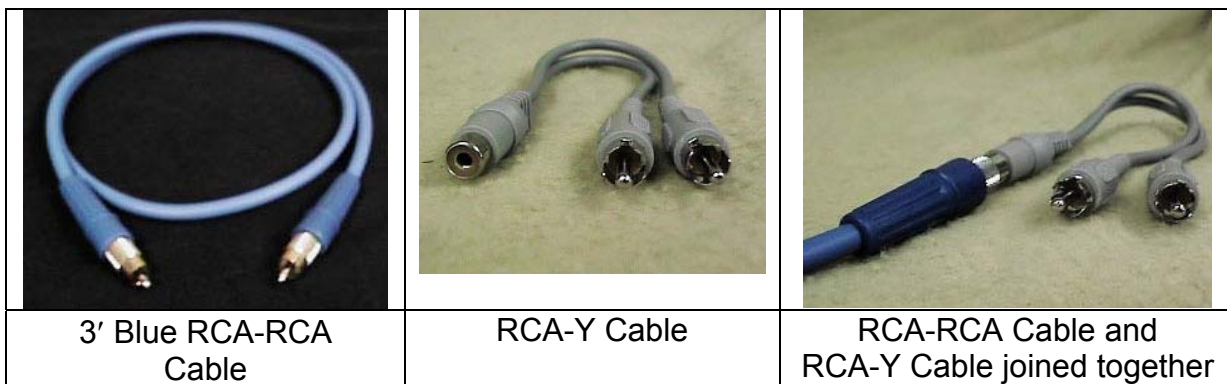
Locate one 3’ white cable with a male *RCA* connector at one end and a male *BNC* connector at the other end.

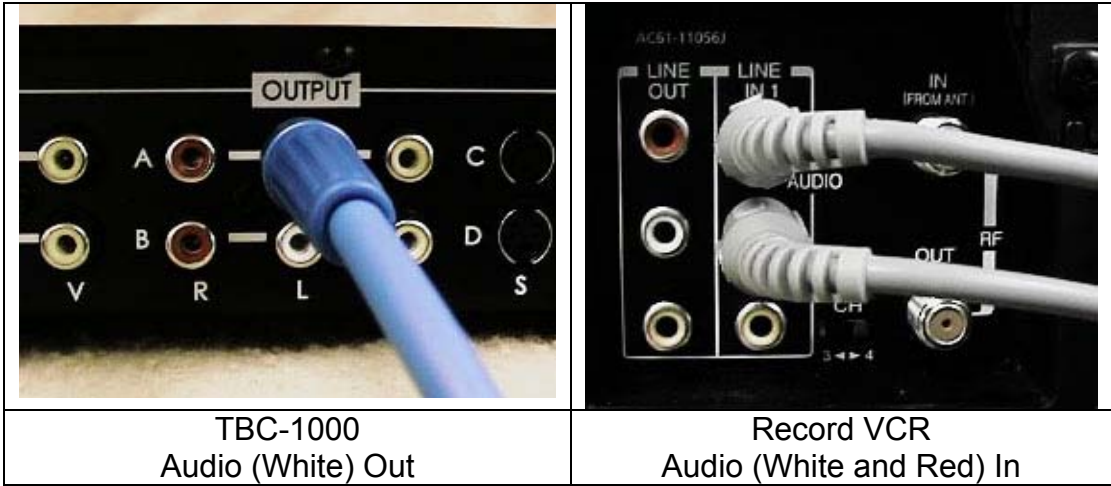


- Connect the BNC male end of the cable to the *InsertaCap* Encoder *Y/CV Out*
- Connect the other *RCA* male end to the *Video In* of the Record VCR.

Connecting audio from the TBC-1000 to the Record VCR

Locate one 3’ blue cable with male *RCA* connectors at both ends. Also locate the short gray *RCA-Y* cable with one *RCA* female plug at one end and two *RCA* male plugs at the other end.



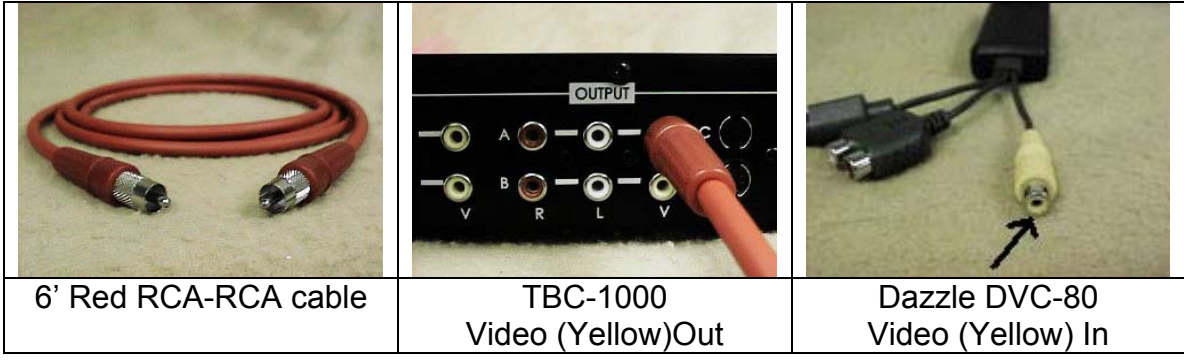


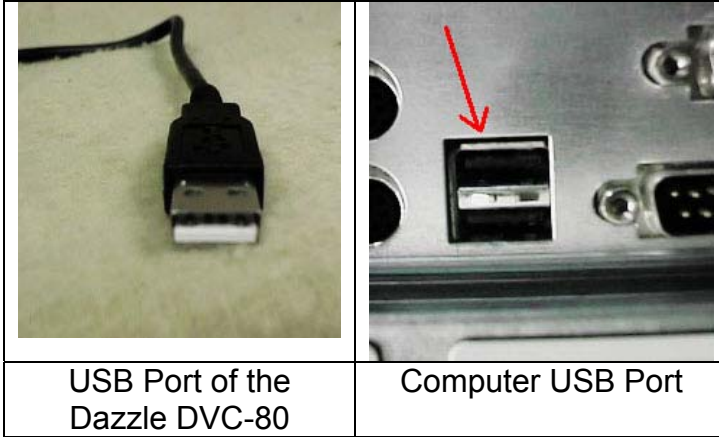
- Connect the *RCA* male end of the 3' *RCA-RCA* cable to the audio (white) out of the *TBC-1000* (Use any of the four set of audio/video outputs on the *TBC-1000*)
- Connect the other *RCA* male end of the 3' *RCA-RCA* cable to the female end of the *RCA-Y* cable.
- Connect the two male ends of the *RCA-Y* cable to the Audio (White and Red) In of the *Record VCR*.

Note: If you do not have a *RCA-Y* cable, simply connect the other end of the 3' Blue *RCA-RCA* cable to the *Record VCR* Audio (White) In. Leave the *Record VCR* Audio (Red) In open.

Connecting video from the TBC-1000 to the computer

Locate one 6' red cable with male *RCA* connectors at both ends.





- Connect the RCA end of the cable to any of the *TBC-1000 Yellow Video Outs*
- Connect the RCA male end of the cable to the *Yellow Video In* of the Dazzle DVC-80
- Connect the USB plug of the Dazzle DVC-80 into the computer. You must open your Dazzle DVC-80 manual and follow the instructions very carefully depending on your operating system.

Connecting audio from the TBC-1000 to the computer

Locate the 6' gray cable with a male RCA connector at one end and a Phono connector at the other end.



- Connect the *RCA* end of the cable to any one of the four *Audio (White) Out* from *TBC-1000* .
- Connect the *Phono plug* of the cable to the *Mic* or *Line In* of the Sound card of the Computer.

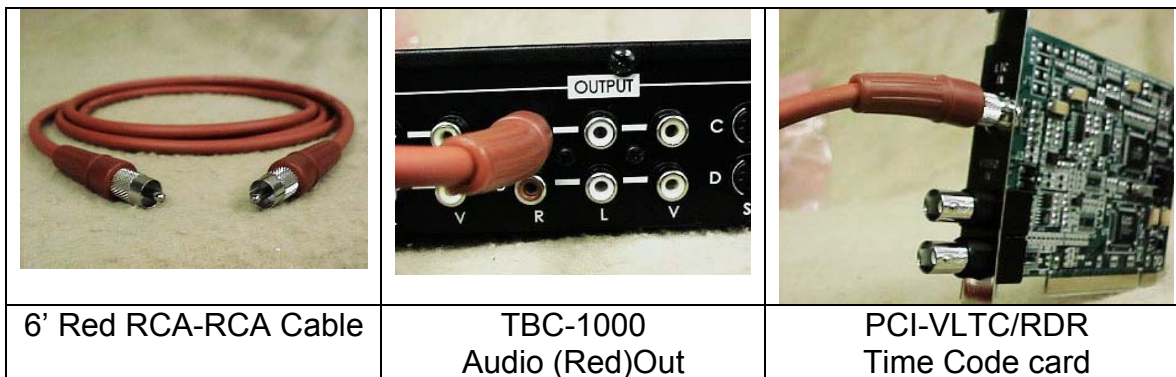
Important Note on TV Connection: The Previous two connections are for

watching the video on the computer screen and listening to the audio via the computer speakers while you are formatting and timing captions.

However to be absolutely sure that the formatted captions are actually recorded onto the video we are going to show two more connections to connect the audio/video from this system to a TV monitor.

Connecting time code from the TBC-1000 to the computer

Locate one 6' red cable with male *RCA* connectors at both ends..

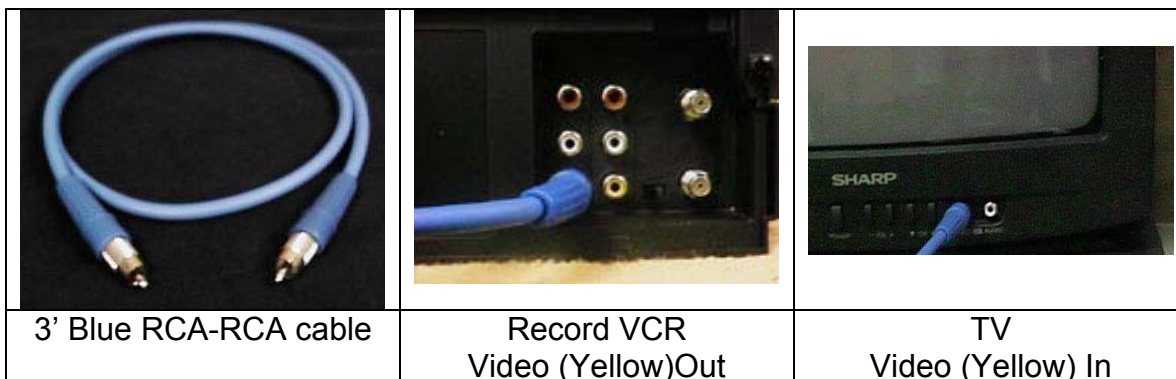


- Connect one RCA end of the cable to any one of the four *Audio (Red) Outs* of the *TBC-1000*.
- Connect the other end of the cable to the *RCA* female plug on the Time Code card installed inside the computer.

Note: If you did not install the time code card in the computer yet, make this connection after you install the card.

Connecting video from the Record VCR to the TV

Locate one 3' blue cable with male *RCA* connectors at both ends..



- Connect the one end of the cable to the *Record VCR Video Out*
- Connect the other end of the cable to the *Video In* of the TV monitor.

Important Note on TV CC Decoder: The TV must have a built-in *decoder*. The *decoder* must be set for Caption Channel 1 to see closed captions.

If you do not have a TV with built-in *decoder*, you must connect the *InsertaCap Decoder CV out* to the *Video In* of the TV instead.

Connecting audio from the Record VCR to the TV

Locate one 3' blue cable with male *RCA* connectors at both ends.



- Connect the RCA male end of the cable to the Record *VCR (White) Out*
- Connect the other RCA male end of the cable to the *Audio In* of the TV

Connecting CPC Protection Box to the computer

The CaptionMaker Software is protected by a hardware key – the CPC Protection Box (CPB). The Software Protection Box (white plug with serial number, 2" x 2 1/4" X 3/4" with 25 connectors at each end). In order for the software to run, you must connect the end with 25-pin male plug to the parallel printer port of the computer.



- Connect the male end of the CPC Protection box to the female 25 pin parallel Printer port of the computer.

Important Warning on CPC Protection Box: For your own sake, make sure the Protection Box does not get lost. If you lose it, the software will not run, and you will have to buy the software again. We do not want to make money that way – please don't lose it! On the other hand, if you lose the disk with the software we will replace it for free, or you can load the software from our web site www.cpcweb.com.

Checking the Audio/video signals via TV Monitor

Turn on all the components except the computer. We like to make sure that we can see the video and hear the audio from the TV. Place the CPC Practice tape inside the Player VCR and play the tape. Now:

- Press the Channel buttons on the TV until you see the word *Video* or *Line* on the TV screen. TV must be able to see the video coming through the video channel. Some TVs have a button to switch between TV and video.
- Press the Channel buttons on the Record VCR until you see the word *Line* on the TV screen. This way the video coming through the *Video In* of the *Record VCR* from the *InsertaCap* passes through the *Record VCR* and goes to the TV. *The Record VCR must not be set to any TV channel.*

At this moment you should see the video on the TV screen. If you don't, check all the video connections.

Installation of the software

Now that we have connected all the components except the Horita Time code generator, we are now ready to install the CPC software and the software for the Dazzle DVC-80.

Installing Dazzle DVC-80 software driver

Follow the instructions in the manual step by step. Make sure you check the section appropriate to your Windows 95/ 98/Me/XP/2000. *It is very important that you follow the steps without making any mistakes.*

Installing CPC CaptionMaker software

The CPC CD-ROM disk is designed to automatically execute a setup program that will install the CPC CaptionMaker onto your hard disk. The CaptionMaker software on the CD contains all of the following software inside one single file:

CPC-600
CPC-700
CPC-710
CPC-600/700 (demo)

It is best to have at least 10 megabytes of free hard disk space for the setup routine to work properly. After the CaptionMaker software starts the process of installation, a number of screens will appear.

1. Press *Next* to proceed with the installation.
2. Fill out all the necessary information and press *Next*.
3. Click *Next* to accept the default Destination Folder (software location) to install the software. It is recommended you choose the default location. If you want to change the location, specify the correct location by pressing *Browse* and then press *Next*.
4. Choose the *CPC-700 CaptionMaker w/ Time-code* option (or CPC-600 if that is what you have purchased) and then press *Next*.
5. Type the password (located on the inside sleeve of the CD jewel case) and press *Next*.
6. Click *Next* for the next screen, which asks for the program folder to add an icon for the software. The installation process will proceed and the software will be installed.
7. Click *Finish* on the last screen to end the installation process.

New updates are released regularly. For the latest version of the program, go to www.cpcweb.com and click on the *Downloads* link. Look for *Windows CaptionMaker for Captioning/Subtitling*. It's a large file over 10 MB.

Running CaptionMaker Software

After the installation is complete, go to the *Start* button (Usually at the bottom left corner of the screen. Then click on *Programs* and look for the folder *CPC*. The *CaptionMaker* software should be inside the *CPC* folder. If you want to, you may make a shortcut on the desktop.


Choosing the appropriate hardware from CaptionMaker

Since the CPC CaptionMaker interfaces to different hardware, you can choose the appropriate hardware for you system.

There are two specific hardware we have in our sample setup :

- *InsertaCap Encoder*
- Dazzle DVC-80

You also have to choose the right serial (Com.) port, which is connected to the *InsertaCap*.

1. To choose the InsertaCap as a caption device, click on the *Caption* menu and choose *Device*. Open the list box and choose *Mixed Signals InsertaCap*.
2. Click on the Configure button and make sure the Port is *COM1*. Click on *OK* to get out of this menu. Do not change the other settings like Baud Rate, etc. etc.
3. Finally click on the  icon located at the top right hand area of the screen inside the *Preview Window* tools. And check the box *Enable video*. Finally click on *OK* to get out of this screen.

Captioning with no time code

Chapter 4 of the CPC manual contains a step-by-step tutorial of the captioning process. This chapter must read be to understand how the software works.

At this point, the computer can send the caption text to the encoder via the serial cable. Simultaneously, the playback VCR will send the video to the *InsertaCap*. The InsertaCap will then encode the captions onto the video.

Now is the time to check CaptionMaker Users Guide. Open Chapter four. Read the first few pages, depending upon how much you want to know. Also get yourself familiarized with the look and feel of the software.

Locate the practice video and start practicing captioning without time code. In the practice video, you will find a black stripe with white numbers going across the screen with changing time on it. You would be able to locate the exact spot for the practice tape by looking at the rolling time stamp and come to the neighborhood of the time stamp : **00:19:55:04**. Now you are ready to go. After locating this time stamp, ignore the black stripe.

Go to the Roll-up caption part in the Tutorial chapter of the CaptionMaker manual.

NOTE: Roll-up captions always appear as a single line on the Preview Window. But it actually Roll up on the caption tape you would make.

Captioning with time code

Now you should be familiar with Roll-Up captioning without time code and probably have also started getting the feel of how the system works.

Before proceeding with this time code captioning, You need a *Time Code Reader Card* installed in your computer and also have to configure the software for this *Time Code Reader Card* . These steps are explained in details in the following sections:

- ◆ [Install a Time Code Reader Card](#)
- ◆ [Install the driver for the Time Code Card](#)
- ◆ [Configure the CPC software to choose the appropriate card](#)
- ◆ [Insert Time Code on the video using Horita TG-50](#)

Installing Adrienne Time Code Reader Card

If you use one of the Adrienne Electronics time code reader cards, install it into an empty slot farthest away from the power supply.

Install the driver for the Time Code Reader Card (from AEC floppy disk)

Start the computer. When the computer boots up, it will find the *AEC PCI Time Code Card* and it will pop a message window indicating that the computer found a new hardware. You need to install the driver software for this hardware (Time Code Card).

Follow the steps to install the driver. When asked, direct the source of the software driver to the floppy disk drive. Insert the floppy disk (labeled Adrienne Electronics) and choose the driver from the floppy disk. The driver for the PCI card will be installed automatically.

Restart the computer. This is important. You must restart the computer.

Choosing the appropriate TC card from the CaptionMaker software

Run the CaptionMaker software. From the menu bar, select *Time Code* and then click *Time Code Properties*. Select the name of your time code reader. If you have a *PCI LTC* or *VLTC* card, choose *AEC PCI TC* from the list box. Click on the Locate button.

You should be able to read time code now. Click on the *Time Code* menu and click on *Start Time Code*. If time code is fed into the card, you should see the time codes being displayed.

Practice captioning with time code

At this time, read Chapter 4 of the CPC CaptionMaker Manual. You should be configured for time code based captioning. You can use our practice videotape until you create a video with time code using the Horita time code generator. We will explain that in the next section.

Notice that on the practice tape we have both audio and video *time-code* inserted on it. The long black stripe on the screen with changing time on it is essentially the video *burn-in time code*. You do not need this burn-in time code to caption a video. We inserted this time code to identify a video segment easily.

The only difference between captioning with or without time code is that with time code you will be sending out time stamps and captions by pressing the “+” key, instead of sending out only captions which is the case without time code.

Inserting LTC Time Code Using Horita TG-50

If you are working with the *CPC-700* (which works with time code on the videotape), you must first insert time code on the videotape if it doesn't have it already. *VHS tapes used at home and libraries do not have time code.*

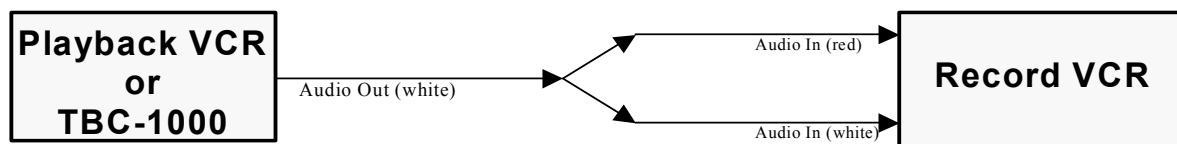
The *Horita TG-50* generates *LTC* (Longitudinal) time code. *LTC* time code is an audio signal (An annoying buzzing sound) and can be placed on one of the two audio channels of a *VHS* tape. You have to use a HiFi Stereo VCR to separate the program audio (i.e. dialogue of people speaking), and the time code (i.e. buzzing sound) through two audio channels.

Inserting time code is a straightforward process. It is just like making a dub (copy) from the *Playback VCR* to the *Record VCR*. The only difference is that you will add time code while you are making the dub. You can put either only audio *time code* or you can put both audio and video *time code*. Audio time code is essential, video time code is optional.

Two VCRs are needed to add time code. In the following example, we are going to use the same two VCRs, which are already being used for the captioning process.

(An easier way to add time code is to have two additional VCRs, which will only be used to add time code. This is easier, since you will not have to disconnect and the reconnect cables).

The diagram below shows how the audio is connected for the process of recording the audio for the captioning process. This is the set up prior to cables being disconnected to add time code.



*Audio connections for caption recording process
using a Y RCA cable (one RCA female input and two RCA male output)*

There are two ways you can use the *Horita TG-50* as your time code generator. The first, which is essential for captioning, is to insert audio time code on one of audio channels of the *VHS* tape. Again, this is a must for captioning.

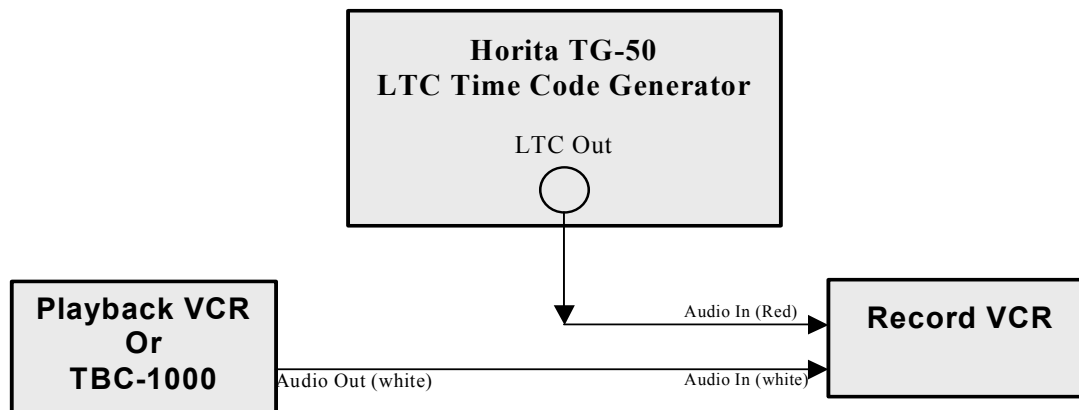
If you also want to see the burn-in time code on the screen you'll have to use the video connections as well. This is not essential for captioning. But if you want to do that, you should consult the *Horita* manual.

Connections for Adding Audio Time Code to a Videotape

Locate the 6' red cable with two male *RCA connectors*.

1. Disconnect one end of the Y-cable from the Audio In (red) from the Record VCR.
2. Connect Horita *TC Out* to *Audio In* (red) of the Record VCR

The *LTC* time code, which is an audio signal, comes from the *Horita TG-50* goes directly to the Audio (Red) In and is recorded onto one audio track of the videotape.



*Audio connections for inserting LTC Time code to the audio channel.
Compare this to the previous diagram which shows audio connections for the
caption recording process.*

Inserting Audio Time Code

1. On your Horita device, make sure that you have the *data* switch set to **TC**.
2. Push the *Mode* switch (in the front) to the right (SET) position and hold it for a couple of seconds until you see the red light starts to blink.
3. Now play the master tape (without time code).
4. Press the Record button on the Record VCR to start recording the video with audio on the left channel (white) and time code on the right channel (red).



Note: Depending on the HiFi Stereo VCR you have, you may need to set the audio record level. If you have a HI-FI VCR with two separate record levels, one for each audio channel, so that you can set the level at different decibels (db), set the recording level on the Record VCR right audio channel at **-5dB** and set the left audio channel accordingly to the audio from the regular audio on the tape (usually 0dB). If you are using an inexpensive VCR, you typically do not need to be concerned about this.

LTC time code is an audio signal. It sounds like a buzzing noise. To check whether you have recorder the time code on the right channel (red), connect the audio out channel (red) to the TV monitor and play the tape. If you hear a buzzing noise, you have recorded the time code successfully. Another way to test this is to play the video from the Playback VCR and check whether you see the time code is displayed on the computer screen by going to the *Time Code -> Start Time code* option.

Switching back to caption setup


When you want to switch back to the captioning setup, bring the audio connection back to the way it was connected before you connected the Horita time code generator.

Trouble shooting

Do not see the video on TV monitor connected to the video out of the record VCR
Make sure the Record VCR channel is set to Line, not any TV channel like 3 or 4. When the record VCR is set to Channel Line, Record VCR displays the video coming though the video channel on the back of the VCR. Otherwise it tries to display a TV channel 3 or 4 or whatever channel it is set to.

Do not see the video on the computer screen

Make sure you see the video on the computer screen using the software that came with the video capture device.

Click on the  icon located at the top right hand area of the screen inside the Preview Window tools. Check the box *Enable video*. Finally click on *OK* to get out of this screen.

Time code is not working

Possible reasons:

There is no time code on the video.

The time code card driver not installed properly.

Proper time code card is not chosen from the software.

AutoSync is not working

Possible reasons:

The file does not have any time code under the Start column

The present time code is outside the range of time codes under the Start column

The first line of text does not have any time code.

Do not see captions on my recorded tape

If you are playing the video with the captions on from the player VCR and the video goes through the encoder before displaying on the TV, make sure you are out of the CPC CaptionMaker software. If the CaptionMaker software is active it stops all the captions from going out to the TV and you won't see the captions on the video

If you are playing the video on a VCR, which is connected to the TV directly, make sure the decoder of the TV is set to caption channel 1.

[Top](#)

CPC 1010 Rockville Pike, #306, Rockville, MD 20852, 301-738-8487

Web: www.cpcweb.com Email: info@cpcweb.com