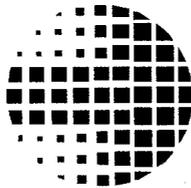


Model DR-2150

**DPS PERSONAL
ANIMATION RECORDER**

Installation Manual



DIGITAL
PROCESSING SYSTEMS INC.

Information in this document is subject to change without notice and does not represent a commitment on the part of Digital Processing Systems Inc.

This product requires technical and mechanical ability and requires precautions against electrostatic discharge. The user assumes all risks when this product is assembled by anyone other than an authorized Digital Processing Systems dealer.

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Table Of Contents

Chapter 1

Introduction.....	4
Unpacking and Inspection.....	5

Chapter 2

Installation.....	6
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Chapter 3

Video Connections.....	8
Fig. 3-1 Animation Recorder I/O Connections..	8
Interfacing examples.....	10
Figure 3-2.....	10
Figure 3-3.....	11
Figure 3-4.....	12
Figure 3-5.....	13
Figure 3-6.....	14
Figure 3-7.....	15
Figure 3-8.....	16
Figure 3-9.....	17

Appendix A

Specifications.....	18
---------------------	----

Appendix B

FCC Compliance Statement.....	21
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Appendix C

Warranty.....	22
Limitations.....	22
Warranty Service.....	23

CHAPTER 1

Introduction

With the proliferation of affordable high performance animation products for the Amiga, the quality of a finished production is often limited by the capabilities of the record VCR. Even when professional tape decks are used, animations can be marred by bad edits, missed frames, tape dropouts and other mechanical glitches.

The DPS Personal Animation Recorder, replaces both record deck and single frame controller, this digital video recorder card plugs directly into an Amiga expansion slot. A dedicated hard drive (not included) and proprietary recording techniques are employed to enable recording and real-time playback of full resolution animation sequences.

The DPS Personal Animation Recorder supports direct rendering of all common image formats including 24-bit IFF and Video Toaster frame store files. It can also be used to build sequences from pre-rendered AmigaDOS files and is fully compatible with all popular animation packages including *Lightwave 3-D*, *Morph Plus*, *Imagine*, *Vistapro*, *Fractile Pro* and *Cinemorph*.

Variable speed 24-bit animation playback (up to 30 frames per second), single frame advance/retard and still frame random access are all possible. Recording times vary, depending on image complexity and hard drive size, but three to five minutes (6,000 - 10,000 frames) is typical for the smallest recommended drive. Animations can be archived using off the shelf tape backup hardware.

The DPS Personal Animation Recorder can easily be interfaced with all component and composite video systems. A genlock input and S-Video, composite and component video outputs (Betacam/MII) are standard.

A DPS Component Video Exchange (CVE™) port facilitates the use of optional accessories including a live video capture/TBC card. So equipped, the Personal Animation Recorder can even be used for rotoscoping and as a random access video still store.

UNPACKING & INSPECTION

This unit has been thoroughly calibrated and inspected, both electrically and mechanically, to ensure that it meets the published specifications. The following items are included with each DPS Personal Animation Recorder:

QTY	DESCRIPTION
1	DPS Personal Animation Recorder
1	Installation Manual
1	Software Manual
1	Software Disk
1	16" 40 Pin Ribbon Cable
1	1¾" 50 Pin Ribbon Cable
1	Hard Disk Power "Y" Cable
1	Genlock "Loop Through" Cable

We suggest that you retain all original packing materials. This will facilitate reshipment should it ever become necessary.

CHAPTER 2

Installation

CAUTION: In the interest of personal safety and to prevent damage to the cards, disconnect power before servicing this unit. Refer service to qualified personnel.

Refer to the instructions accompanying your computer for instructions on removing the top cover

Hard Drive Installation

The DPS Personal Animation Recorder requires the use of an internal IDE type hard drive (not included). A controller card is not required for this hard drive. Install this hard drive in your computer where space will accommodate.

Genlock Termination Jumper

This jumper, labeled EHE2 on the card, allows the genlock video input to be either high impedance or terminated in 75Ω . This jumper is normally not installed, which makes the genlock video input high impedance, allowing the signal to be “looped” using the supplied genlock “loop through” cable. If the animation card is the last device on a genlock reference loop, then jumper EHE2 should be installed.

Card Installation

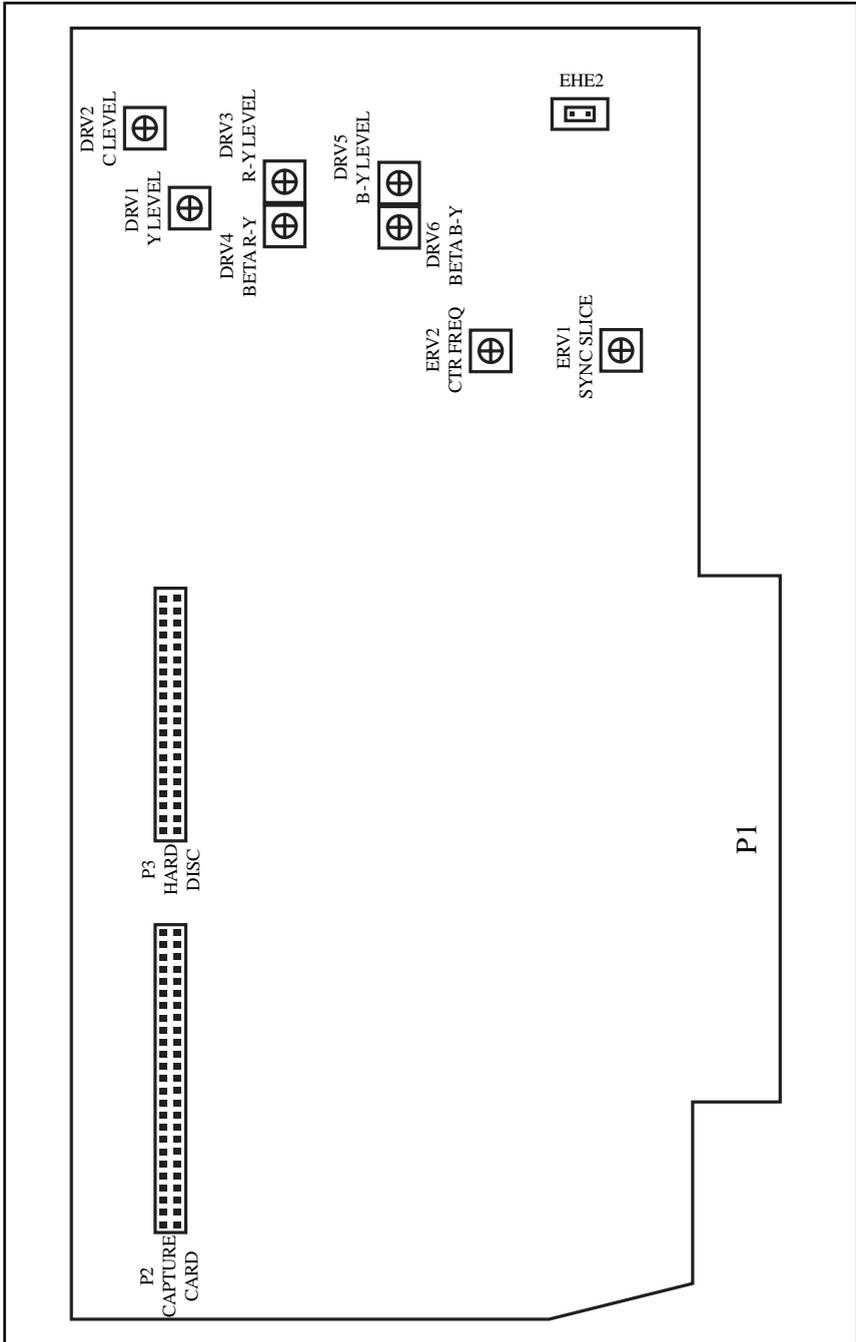
Insert the card and install the screw on the rear panel support bracket. Connect the previously installed hard drive to P3 on the Animation card, using the supplied 16" 40 pin ribbon cable. If you are installing the Animation card and a Personal TBC IV card, you may wish to insert the Animation card in the slot nearest to the IBM type slots. This will allow the use of the Component Video Exchange (CVE™) port (P2).

CAUTION: Observe correct polarity (pin 1 to pin 1) when connecting the hard drive to the P3 connector on the Animation card.

The 1¾" 50 pin ribbon cable is used to connect the CVE™ port (P2) to a DPS Personal TBC IV. If you are not installing a TBC IV card, this connector is not used.

Replace the top cover on your computer.

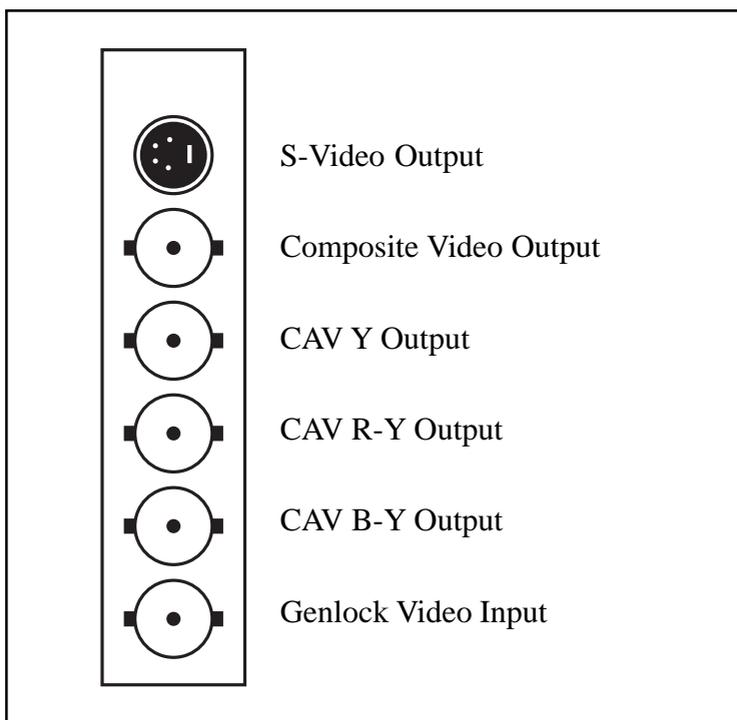
Figure 2.1
Animation Recorder Jumper Positions



CHAPTER 3

Video Connections

Figure 3.1
Personal Animation Recorder I/O Connections



S-Video Output:

This output contains the separate Y/C 3.58MHz signal conforming to the S-Video standard. It is used to interface with other S-Video type equipment, using a standard 4-pin standard S-Video cable.

CAV Y Output:

This output contains the Component Analog Video (CAV) Y signal for use with Betacam or MII type equipment.

CAV R-Y Output:

This output contains the CAV R-Y signal for use with Betacam or MII type equipment.

CAV B-Y Output:

This output contains the CAV B-Y signal for use with Betacam or MII type equipment.

Genlock Video Input:

The genlock video input is used by the Personal Animation Recorder card to establish the timing for its video output signals. The signal connected to this input must always be STABLE, such as the output from a black burst or color bar generator. DO NOT attempt to use a non-time base corrected VCR for your genlock reference.

Figure 3-2

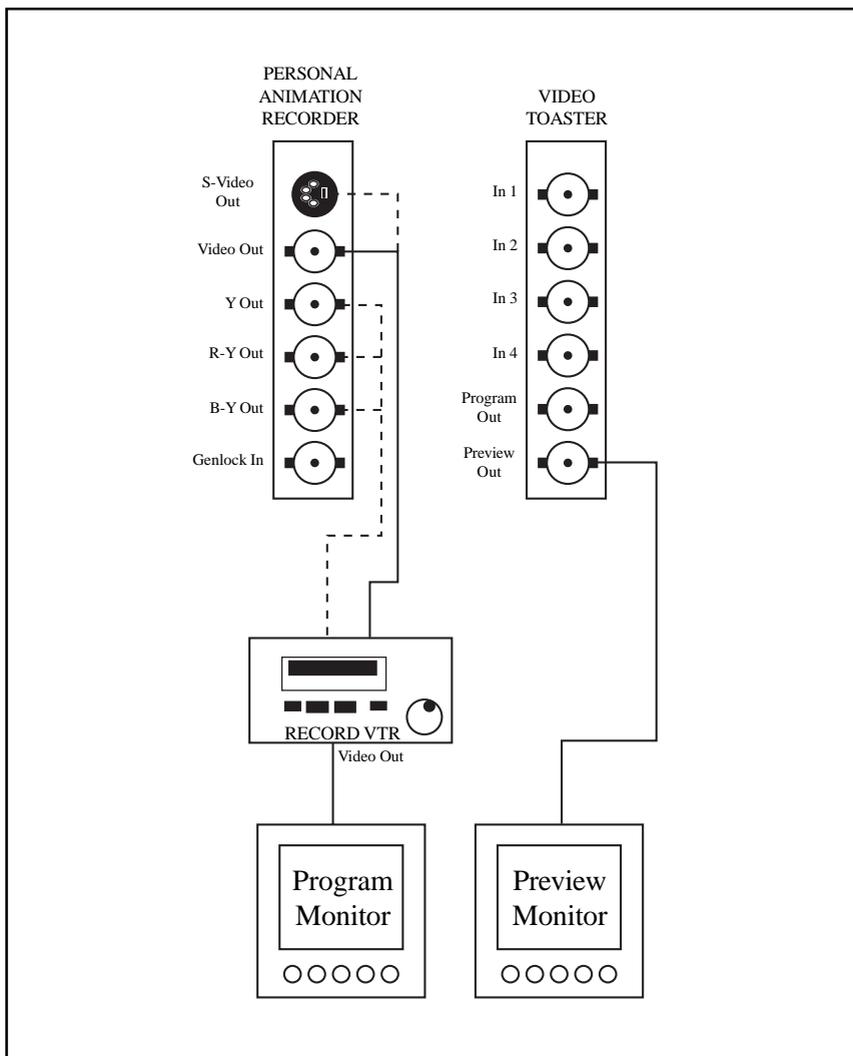


Figure 3-2 is an example of a typical installation showing how to connect the Composite Video, S-Video and CAV (Betacam or ME) outputs. Betacam and MII outputs are selected by software control, (refer to the Personal Animation Recorder operations manual, DPS part #707-891, for more information on how to change between Betacam and MII modes).

Figure 3-3

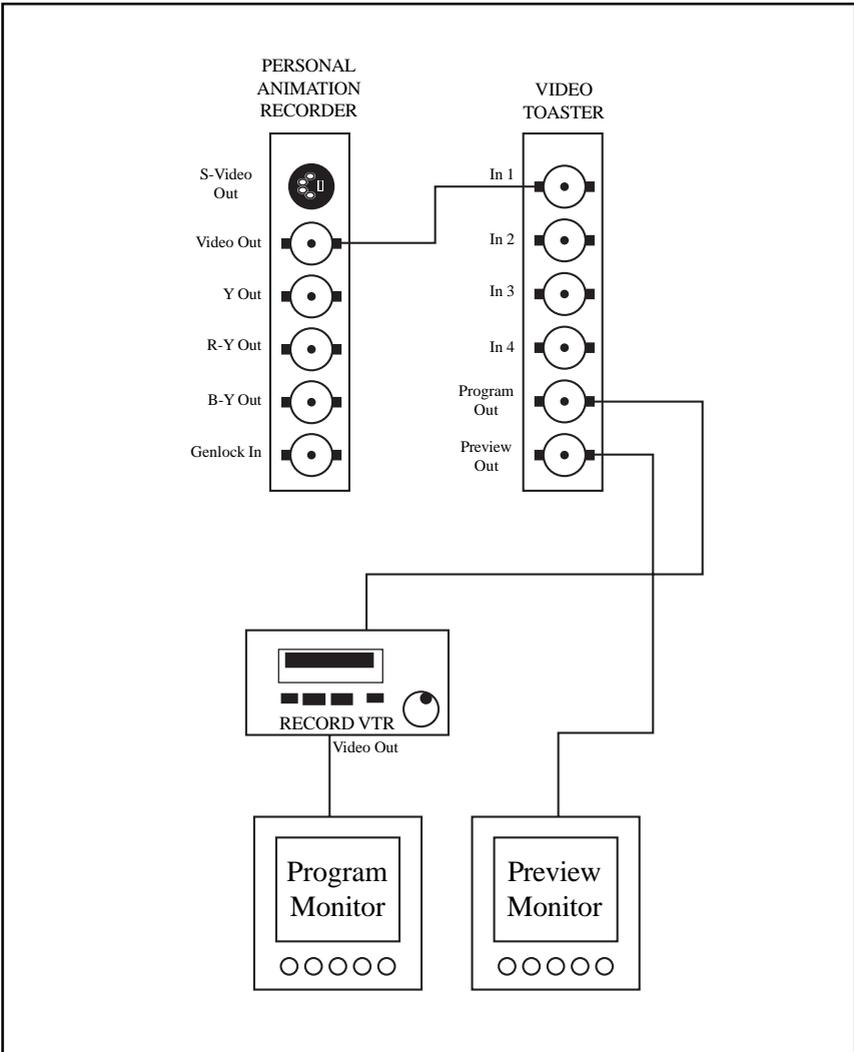


Figure 3-3 is an example of how to connect the Animation Recorder to a Video Toaster input. This procedure provides for optimum performance of the Animation Recorder and Toaster combination, since toaster effects such as superimposing text can be added to an animation.

Figure 3-4

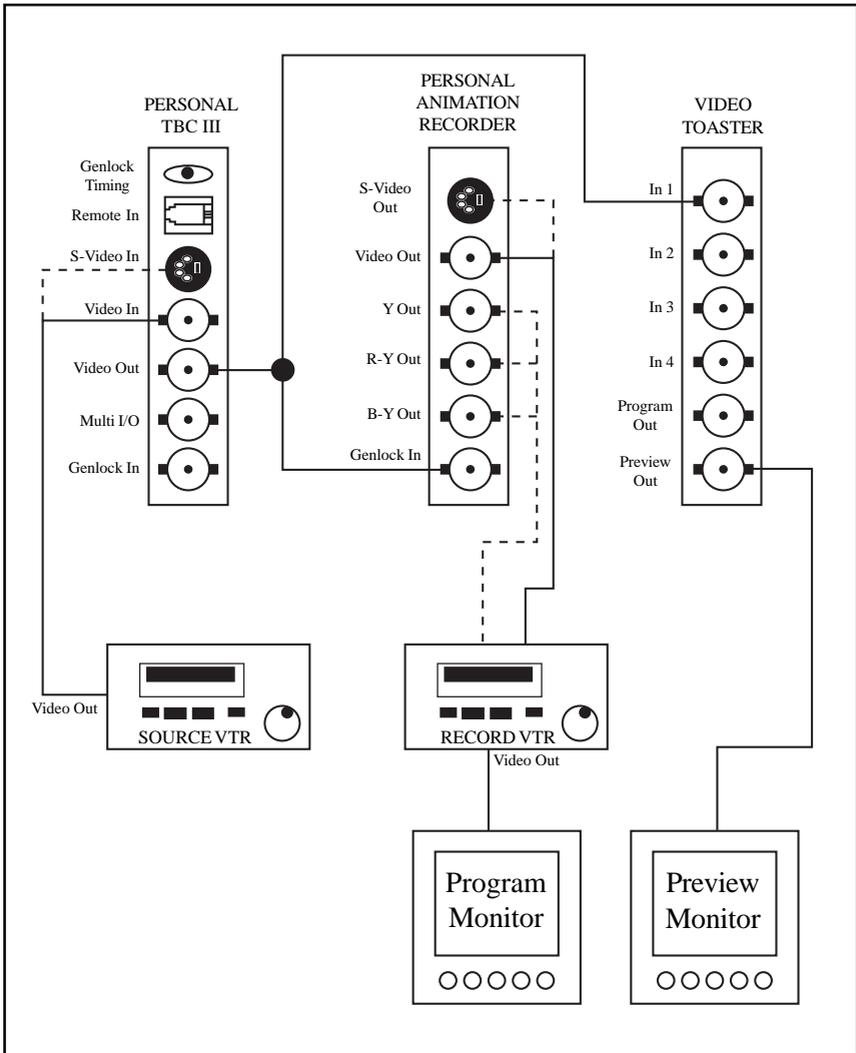
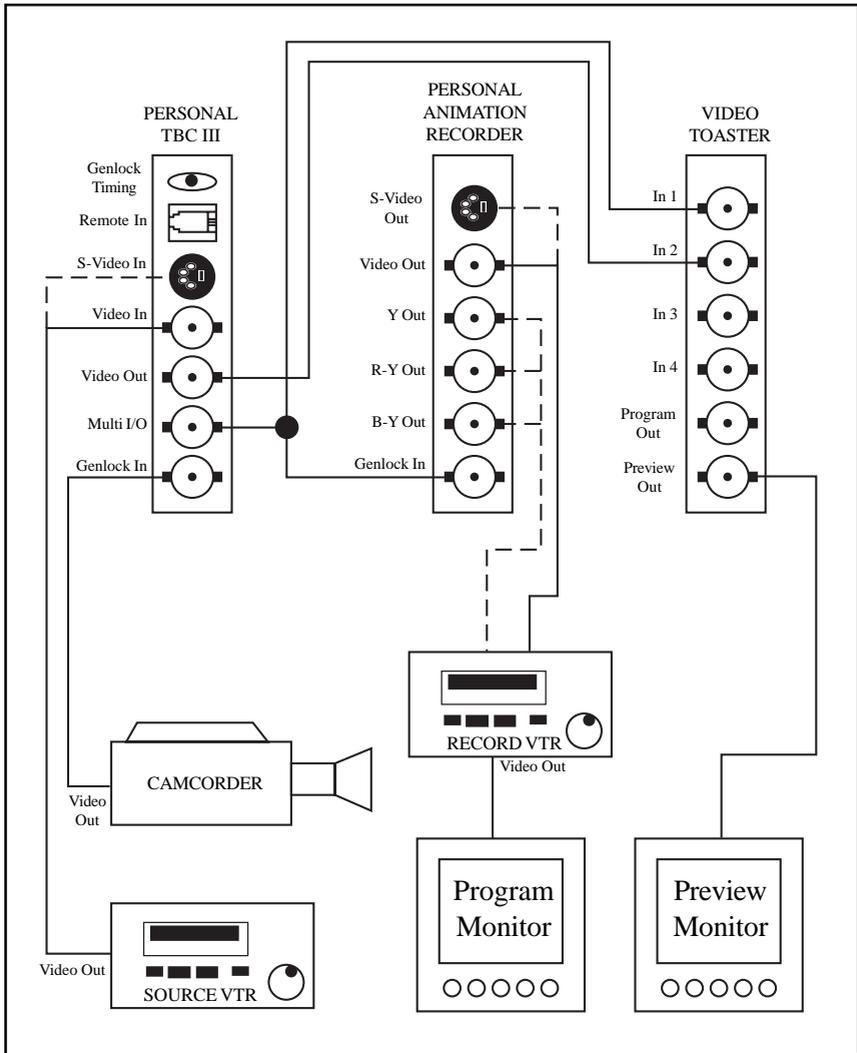


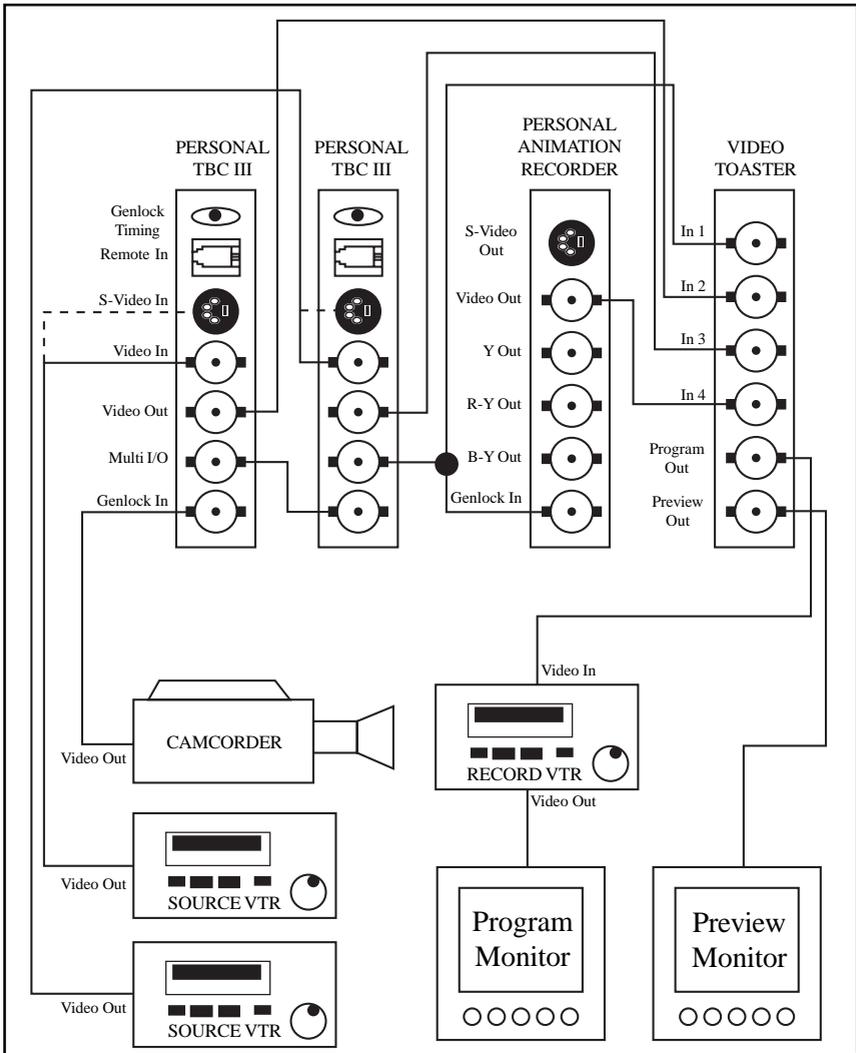
Figure 3-4 is an example of how to connect a single Personal TBC III to your system. The multi I/O jumper (CHE1) on the TBC card is set for "video out" and is used as a timing reference for the Personal Animation Recorder. When using this configuration, The genlock termination jumper (EHE2) on the Animation Recorder should be installed.

Figure 3-5



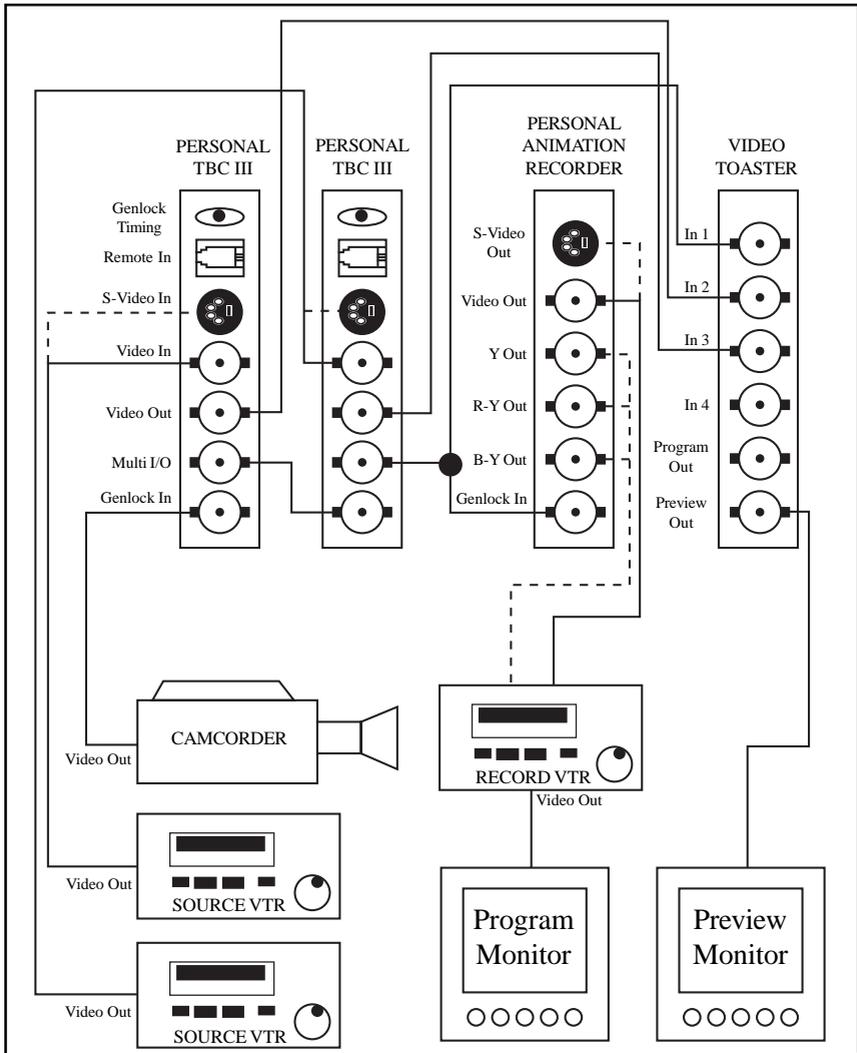
In Figure 3-5, a color camera is being used as a master genlock reference. The camera's output is "looped through" the genlock input of the TBC. Then using the supplied genlock "Y" cable, the genlock reference is connected to the Animation Recorder's genlock input and the Video Toaster's input #1. If you have selected the Toaster's input #1 to be terminated, DO NOT install the genlock termination jumper (EHE2) on the Animation Recorder card.

Figure 3-6



In Figure 3-6, two TBC III cards are used in the configuration, both TBC's are in "loop through" mode as set by jumper CHE1 on the TBC III cards. Then using the supplied genlock "Y" cable, the genlock output of the second TBC card is connected to the Animation Recorder's genlock input and the Video Toaster's input #1. If you have selected the Toaster's input #1 to be terminated, DO NOT install the genlock termination jumper (EHE2) on the Animation Recorder.

Figure 3-7



In Figure 3-6, the output of the Animation Recorder was connected to the Video Toaster's input #4. This would provide for optimum performance of the Toaster/Animation Recorder combination allowing the user to add toaster features to an animation. However, if you have S-Video or Betacam/MII recording equipment and wish to utilize their capabilities, connect your Personal Animation Recorder as shown in Figure 3-7.

Figure 3-8

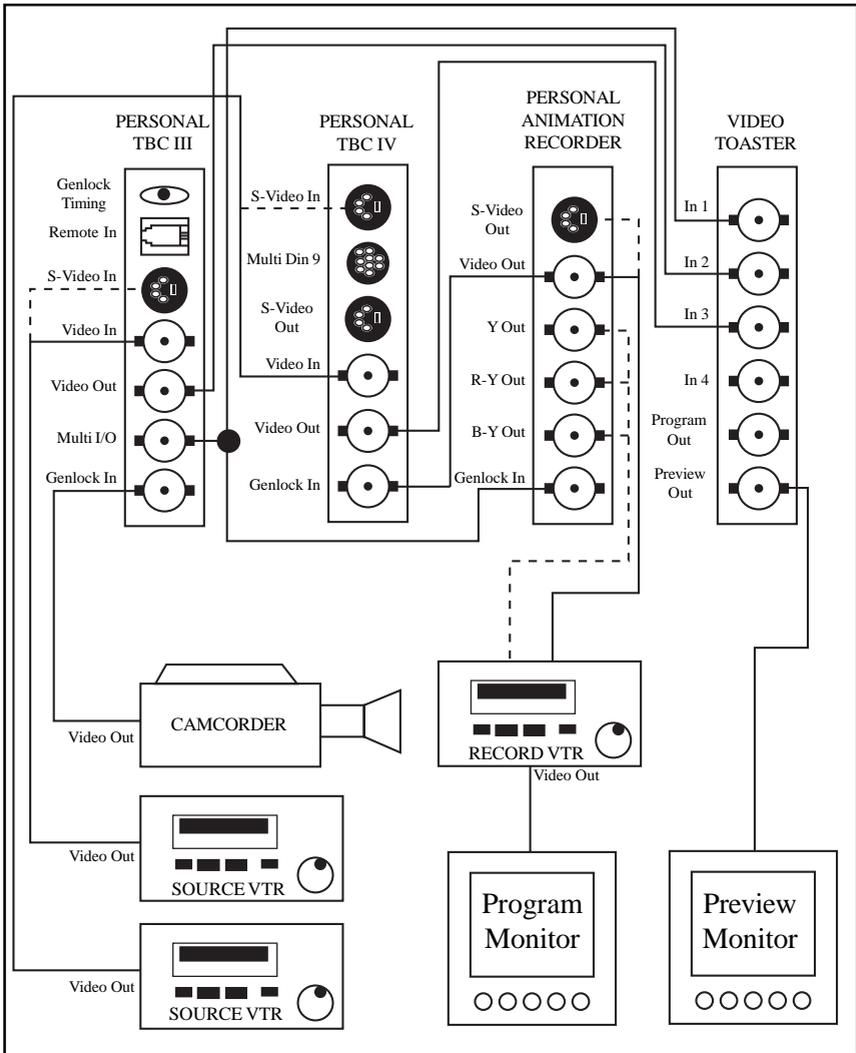
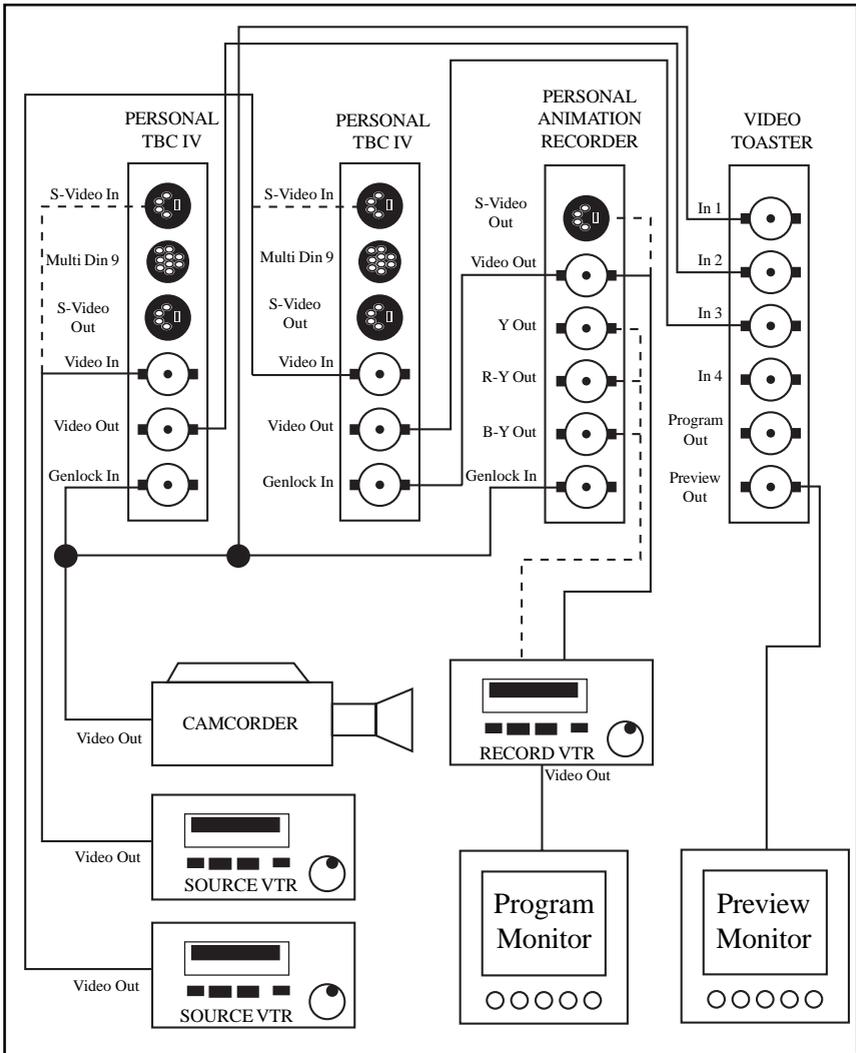


Figure 3-8 uses a Personal TBC III and a Personal TBC IV card. The TBC III card is connected in the usual manner. The TBC IV is internally connected to the Component Video Exchange port (CVE™) as a slave unit. This is done by connecting the CVE port (P2) on the Animation Recorder to the CVE port on the Personal TBC IV(BHEI).When installing a TBC IV card for use as a slave, the genlock input **MUST** be connected to the Animation Recorder’s video output. Use a BNC “T” or the provided “Y” cable if required.

Figure 3-9



In Figure 3-9, two Personal TBC IV cards are used. The first TBC IV card is connected in the usual manner. The second TBC IV is internally connected to the Component Video Exchange port (CVE™) as a slave unit. This is done by connecting the CVE port (P2) on the Animation Recorder to the CVE port on the Personal TBC IV(BHE1). When installing a TBC IV card for use as a slave, the genlock input **MUST** be connected to the Animation Recorder's video output. Use a BNC "T" or the provided "Y" cable if required.

APPENDIX A

Specifications

Output Signal Formats:

Composite NTSC.....1V p-p 75Ω

S-Video (4-Pin):

Y Signal.....1V p-p 75Ω

C Signal.....600mv p-p 75Ω

BetaCAM CAV (BNC's):

Y.....714mv p-p 75Ω

R-Y.....700mv p-p 75Ω

B-Y.....700mv p-p 75Ω

MII CAV (BNC's):

Y.....700mv p-p 75Ω

R-Y.....486mv p-p 75Ω

B-Y.....486mv p-p 75Ω

Notes:

- All levels correspond to 75% Color signal.
- BetaCAM/MII outputs share BNC's, output format is selected via software.

Genlock Input:

Composite NTSC.....1V p-p 75Ω

Notes:

- Genlock signal may be color black or any time base stable NTSC signal.
- Genlock input may be 75Ω of Hi-Z bridging, jumper selectable.

Video Performance:

Frequency Response.....	± 0.5 dB (0-4.2 MHz)
	-3 dB (> 5.5 MHz)
K-Factor (2-T).....	< 1%
Differential Phase.....	< 1°
Differential Gain.....	< 1 %
Signal/Noise.....	> 60 dB (Luma Weighted)

Notes:

- Test signals generated using DPS Personal TSG software.

Power Consumption:

+5V.....	1.4 Amps
+12.....	150 ma
-12V.....	60 ma
Total.....	9.5

Watts

Notes:

- Excludes disk drive.

Storage Capacity:

Stills

(Typical).....	> 10,000 Frames
(Minimum).....	> 6,000 Frames

Animation

(Typical).....	> 5 Minutes
(Minimum).....	> 3 Minutes

Notes:

- Capacities based on 500 MByte disk drive.
- Typical values are based on minimum compression, for average TV frame.
- Minimum values are based on minimum compression, for worst case TV image.

Control Software:

Recording:

- Supports Toaster Frame Store and 24-Bit IFF file formats.
- Simulates AmigaDOS device, for direct rendering.
- Can build Animation from standard AmigaDOS files, with automatic file sequence recognition.
- Manual and Automatic compression control for optimum disk utilization.

Playback:

- Realtime 24-bit animation playback.
- Variable speed playback to 30 Frames/Second.
- Single frame advance/retard for browsing.
- Instant access to stills with glitch free switching.

APPENDIX B

FCC Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Shielded cables must be used with this unit to ensure compliance with the Class A FCC limits.

APPENDIX C

Warranty

Digital Processing Systems Inc. warrants the original purchaser that this product is in good working condition for a period of two years from the date of purchase. Should this product, in Digital Processing System's opinion, malfunction within the warranty period, Digital Processing Systems Inc. will repair or replace this product without charge. This warranty does not apply to those products which have been damaged due to accident, unauthorized alterations, repairs or modifications.

Limitations

All warranties for this product, expressed or implied, are limited to two years from the date of purchase and no warranties, expressed or implied, will apply after that period.

The distributor, its dealers and customers agree that Digital Processing Systems Inc. shall not be liable for any loss of use, revenue or profit.

Digital Processing Systems Inc. makes no other representations of warranty as to fitness for purpose of merchantability of otherwise in respect to any of the products sold to the distributor pursuant to this agreement.

The liability of Digital Processing Systems Inc. in respect of any defective products will be limited to the repair or replacement of such products.

In no event shall Digital Processing Systems Inc. be responsible or liable for any damages arising from the use of such defective products whether such damages be direct, indirect, consequential or otherwise and whether such damages are incurred by the distributor or third party.

Warranty Service

Units requiring repair under warranty may be sent directly to Digital Processing Systems Inc. To obtain service under this warranty, first contact the Digital Processing Systems Customer Service Department to request a Return Material Authorization Number (RMA).

Canada and International	(416) 754-8090
U.S.A.	(606) 371-5533
Europe	(0730) 233084

This number must be clearly displayed on the units external packaging. Units shipped without an RMA number will not be accepted. Include proof of purchase (including date of purchase), a note outlining the problem and the RMA number.

IMPORTANT: When shipping your unit, pack it securely and ship prepaid and insured. We will return it to you freight prepaid via surface transportation within the continental United States. Digital Processing Systems Inc. will not be held liable for damage of loss to the product in shipment.

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