The Kitchen Sync™

Owner's Manual

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CHAPTER 1 INTRODUCTION

1.1 Welcome

Thank you for selecting the finest and most flexible video timebase correction device for IBM and Amiga Computers: the Kitchen Sync, two complete timebase correction devices all on one IBM AT™ compatible card. The Kitchen Sync has been designed by Progressive Image Technology and Digital Creations to fulfill the discriminating needs of video professionals. It provides many features needed by those with either simple or advanced video production setups, operating in both Composite and Y/C formats ("Y/C" is used throughout the manual to describe S-VHS, Hi8 & ED-Beta formats). The Kitchen Sync was originally designed as a complementary device to Single board DVE/Switcher systems such as the NewTek Video Toaster™. With the Kitchen Sync and a Video Toaster, you can perform A/B roll editing with no other video equipment than your VCR's.

It is Progressive Image Technology's and Digital Creations' intent to not only provide a highly advanced, high quality timebase correction device, but to also provide outstanding product support. We are always happy to help our customers with any problems they may have; whether it's installing the Kitchen Sync or just a tricky configuration. We also encourage you to call or write to us with any comments about the Kitchen Sync. We really DO listen.

Again, thank you for purchasing the Kitchen Sync. We hope you will enjoy it for a long time to come.

1.2 About The Kitchen Sync

The Kitchen Sync is composed of three separate components. The main board fits into any IBM AT slot of your computer. The Amiga contains several AT style slots as well as Amiga slots. When using the Kitchen Sync in an Amiga, simply choose one of these AT style slots for your Kitchen Sync installation. For IBM AT or compatible users, the Kitchen Sync should fit into any open slot in your computer system. The second and third components of the Kitchen sync are the Connector Box and the Remote Control Unit. These two items connect to the main board via connectors on the rear panel (See section 2 for more information on installing each component.)

Kitchen Sync features include:

- Two complete infinite window time base correctors on one IBM AT/Amiga compatible card.
- Plugs into any IBM AT compatible or any Amiga 2000 or 3000 PC slot.
- Works with any video source, including consumer VCR's and camcorders.
- Multiple Kitchen Syncs can be linked together to synchronize even more channels.
- S-VHS and HI-8 compatible.
- Complete 100% accurate sync generator built in: totally regenerates all sync and blanking signals and provides accurate S/CH phase relationships.
- Absolute 100% broadcast quality output.
- Advanced sync output. Useful with any VCR's capable of accepting Advanced Sync in.
- Built-in proc amp including Hue, Saturation, Contrast, and Brightness adjustments.
- No pot adjustments necessary. The Kitchen Sync is all digitally controlled and easy to adjust (via the Remote Control Unit)
- Fully Independent Freeze capability on each channel.
- S-VHS and HI-8 compatible inputs. Use either composite or Y/C into any channel.
- Optional S-VHS/HI-8 outputs.
- Genlock option - Required to synchronize the Kitchen Sync outputs to an external video reference (not needed in any of the normal stand alone modes.)
- Designed for ease of use with the Video Toaster.

The Kitchen Sync was designed and is manufactured by Progressive Image Technology.

1.3 About The Manual

This manual has three chapters: "Introduction", "Installation" and "Operation". Also included are two appendices.

The "Installation" chapter shows how to connect the Kitchen Sync to your computer, and install it into a typical video system. The System used for this example is an A/B roll edit system using the NewTek Video Toaster as the switcher. The "Operation" chapter shows how to operate the Kitchen Sync's Remote Control Unit.

The appendices have information on trouble shooting and general information.

We assume for this manual that you are familiar with your computer hardware. You should also be familiar with the process of installing circuit boards into your computer. If you are not familiar with these procedures, we suggest you consult your computer's User Guide before going any further. As an alternative you may wish to have your dealer or a trained technician install the Kitchen Sync for you.

The term "Y/C" will be used throughout this manual to describe S-VHS, Hi-8, ED-Beta or any other form of Y/C 3.58 signal.

1.4 Getting Started

Please fill out and mail the product registration card now. Mailing the registration card will protect your warranty and make you a registered owner for notification of future enhancements and new products.

CHAPTER 2 INSTALLATION

2.1 Precautions

When handling any electronic equipment, care must be taken to prevent the possibility of inducing ESD (Electrostatic Discharge). In short, do not shock your computer or accessories.

A few precautions against ESD:

- Ground yourself often by touching a metal surface such as a computer or a power supply case.
- Do not wear polyester clothing (a helpful fashion hint as well!).
- Keep the humidity between 70% and 90%.

2.2 Requirements

To install and use the Kitchen Sync, the minimum that you will need is an AT class IBM compatible computer or an Amiga 2000 or 3000 type computer (2000, 2000HD, 2500 or 3000), a Y/C or NTSC monitor, a source of video such as a VCR, the necessary cables to hook everything up, and of course, the Kitchen Sync with its Remote Control Unit and Connector Box.

2.3 Installing the Kitchen Sync

This section contains detailed instructions on installing the Kitchen Sync in Amiga computers. Please follow the instructions exactly. **ANY DEVIATION FROM THIS PROCEDURE MAY CAUSE DAMAGE TO THE KITCHEN SYNC OR THE COMPUTER AND VOID YOUR WARRANTY.**

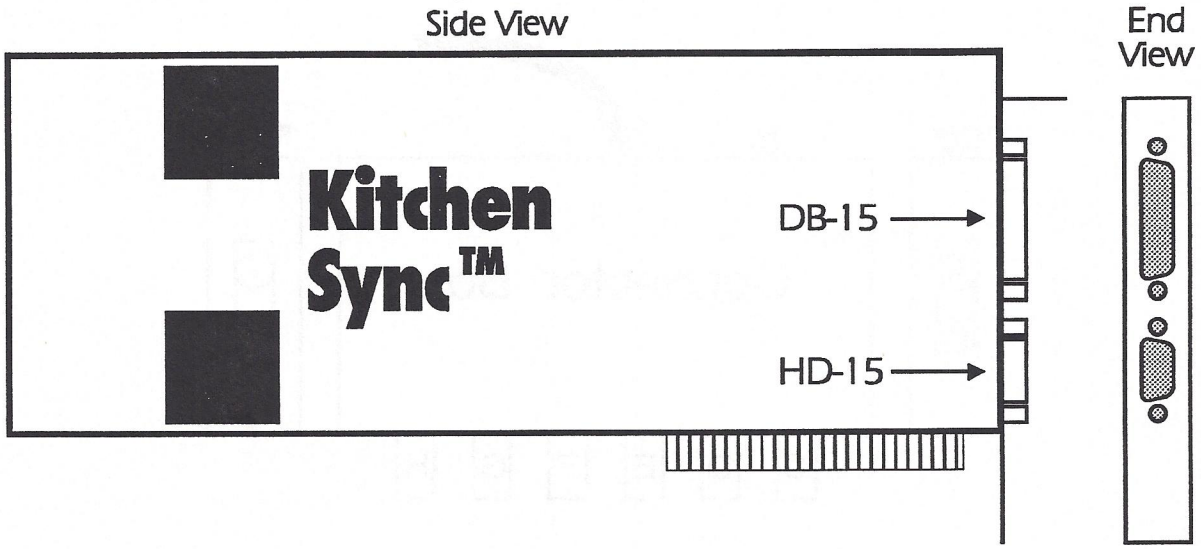


Figure 1 - The Kitchen Sync Card

1. Unplug the power cords, monitor cables and accessories from the computer. Remove its cover and the cover plate for the AT slot you wish to use.

2. Touch a grounded metal surface, such as the computer or power supply case, to discharge any static electricity. Take the precaution of grounding yourself often if you have noticed an abundance of static electricity.

3. Wait at least 15 seconds. This is to provide time for all voltages in the computer, monitor and accessories to be discharged.

4. Facing the front of your computer and looking down into it locate the AT slots. They are distinguished by having two edge connectors in line. Choose one and gently insert the Kitchen Sync so that its connector aligns with the edge connector as well as the board guide opposite the slot hole.

5. Secure the Kitchen Sync using the screw that had held the slot cover plate in place.

6. Attach the Connector Box cable to the Kitchen Sync's DB-15 port (upper connector). The Remote Control Unit has a connector that attaches to the Kitchen Sync's HD-15 port (lower connector). Use the screws on both connectors to secure them to their respective ports.

You have now completed the installation of the Kitchen Sync to the Amiga Computer. The next section covers the connection of the Kitchen Sync to video signal sources.

2.4 Connectors, Switches, Controls

This section describes the connectors on the Connector Box for the Kitchen Sync, along with the display and control on the Remote Control Unit.

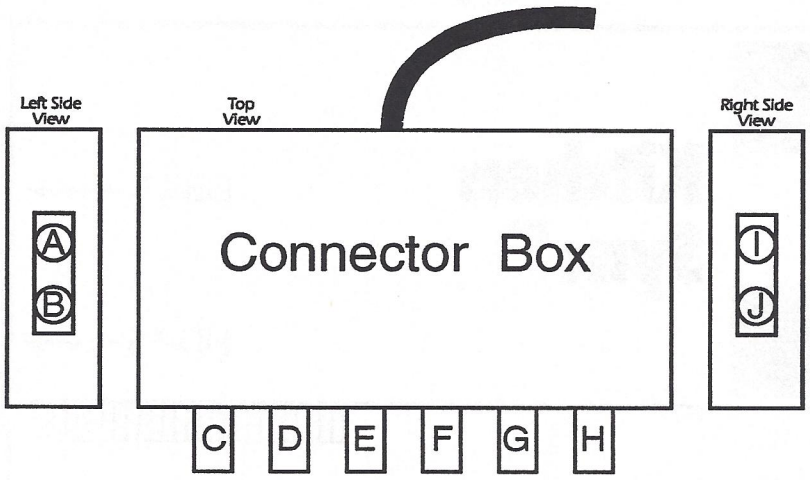


Figure 2 - The Kitchen Sync Connector Box (top view and side views)

The connectors on the Kitchen Sync Connector Box (Fig. 2) are:

A	Y/C-B Out	4 Pin Y/C Connector
B	Y/C-B In	4 Pin Y/C Connector
C	Composite-B In	BNC Connector
D	B Out	BNC Connector
E	Advance Sync Out	BNC Connector
F	Genlock In	BNC Connector
G	Composite-A Out	BNC Connector
H	A In	BNC Connector
I	Y/C-A Out	4 Pin Y/C Connector
J	Y/C-A In	4 Pin Y/C Connector

Y/C In and Out (Channels A and B)

Each Y/C In connector receives the output from a Y/C source device. Each Y/C Out connector provides a timebase corrected Y/C signal. (Please note that Y/C Out is available only if the optional Y/C OUTPUT MODULE is attached.)

Composite In and Out (Channels A and B)

Each Composite In connector receives the output from a PAL or NTSC source device. Each Composite Out connector provides a timebase corrected NTSC signal.

Advance Sync Output

This output is used with VTRs that support advance sync in.

Genlock In

If the optional genlock module is attached to the main board, then the timebase reference may come from an external source. External timebase sources are input at this connector. This reference source must be from a stable, timebase-correct source.

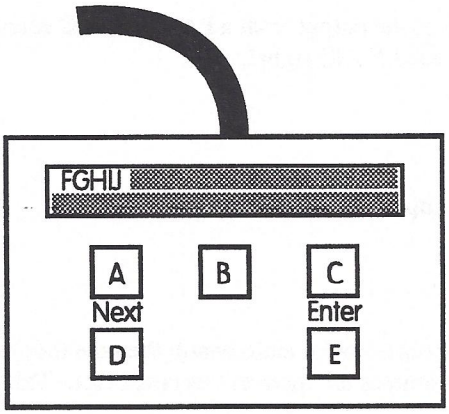


Figure 3 - The Kitchen Sync Remote Control Unit

The Remote Control Unit (Fig. 3) features:

- Two line by 20 character LCD display for the menu system
- Dedicated status area (F thru J):

  F - Channel A freeze status (R = run, F = frozen frame, 1 = frozen field 1, 2 = frozen field 2).

  G - Channel B freeze status.

  H - Genlock jitter status (- = no jitter detected, J = jitter has occured).

  I - Serial port is active (- = no activity, * = serial port in use).

  J - Current channel (A = channel A, B = channel B, etc.).

- Three buttons immediately below the display used for making adjustments.

  A - Referred to as "LEFT", used to decrement settings most often.

  B - Referred to as "SHIFT", used to alter the function of "LEFT", "RIGHT", or "NEXT".

  C - Referred to as "Right", used to increase settings most often.

- Two additional buttons labeled "NEXT" and "ENTER" for navigation through the menu system.

  D - "NEXT" is used to scroll thru the menu system.

  E - "ENTER" is used to enter into a submenu section or leave it.

2.5 Configurations

This section discusses the setup of a typical Kitchen Sync configuration. The example uses one Kitchen Sync, a Commodore Amiga 2000 and a NewTek Video Toaster as an example configuration.

One of the unique features of the Kitchen Sync is the fact that both channels are automatically timed together and properly SC/H phased. What this means to you the user is that you do not have to do any timing adjustments when using the Kitchen Sync with devices such as the Video Toaster. All you need to do is to use cables that are all the same type and length between the outputs of the Kitchen Sync and the inputs of the Toaster. The diagram below shows where all the connections should be made.

To make the connections between various video equipment and the Kitchen Sync requires either video cables with BNC connectors (for composite), or the four pin style S-connectors (for Y/C). If you are using equipment that requires RCA connectors for Composite, RCA to BNC adaptors are available at most video stores. Some Y/C connectors are of the seven pin type; conversion plugs exist to adapt them to four pin. We recommend that you use shielded video cables to insure good signal quality and eliminate signal crosstalk.

In the diagrams on the next two pages all cables are represented by lines with arrowheads indicating the direction of signal flow.

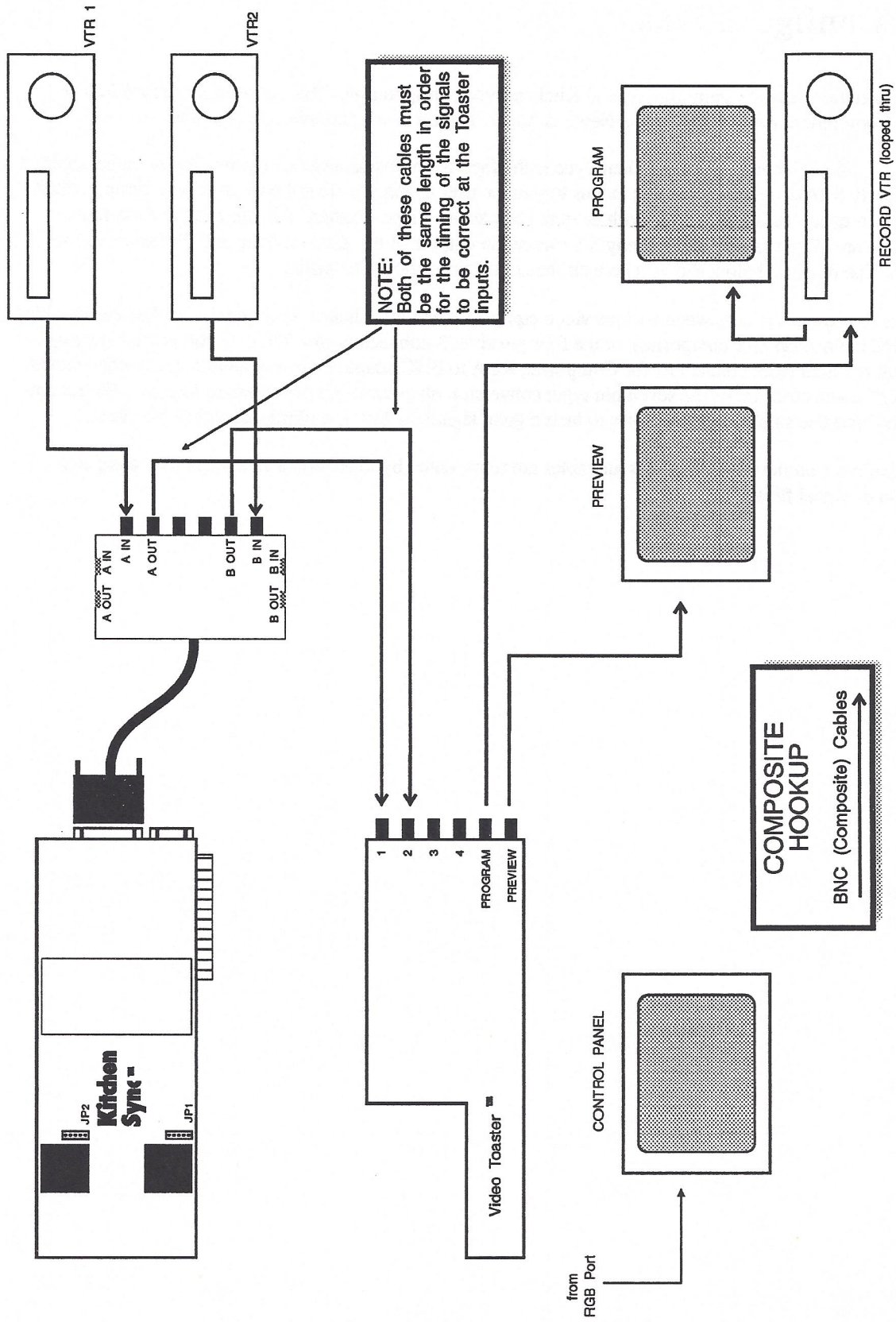


Figure 4 - Typical Video Toaster Set Up (composite)

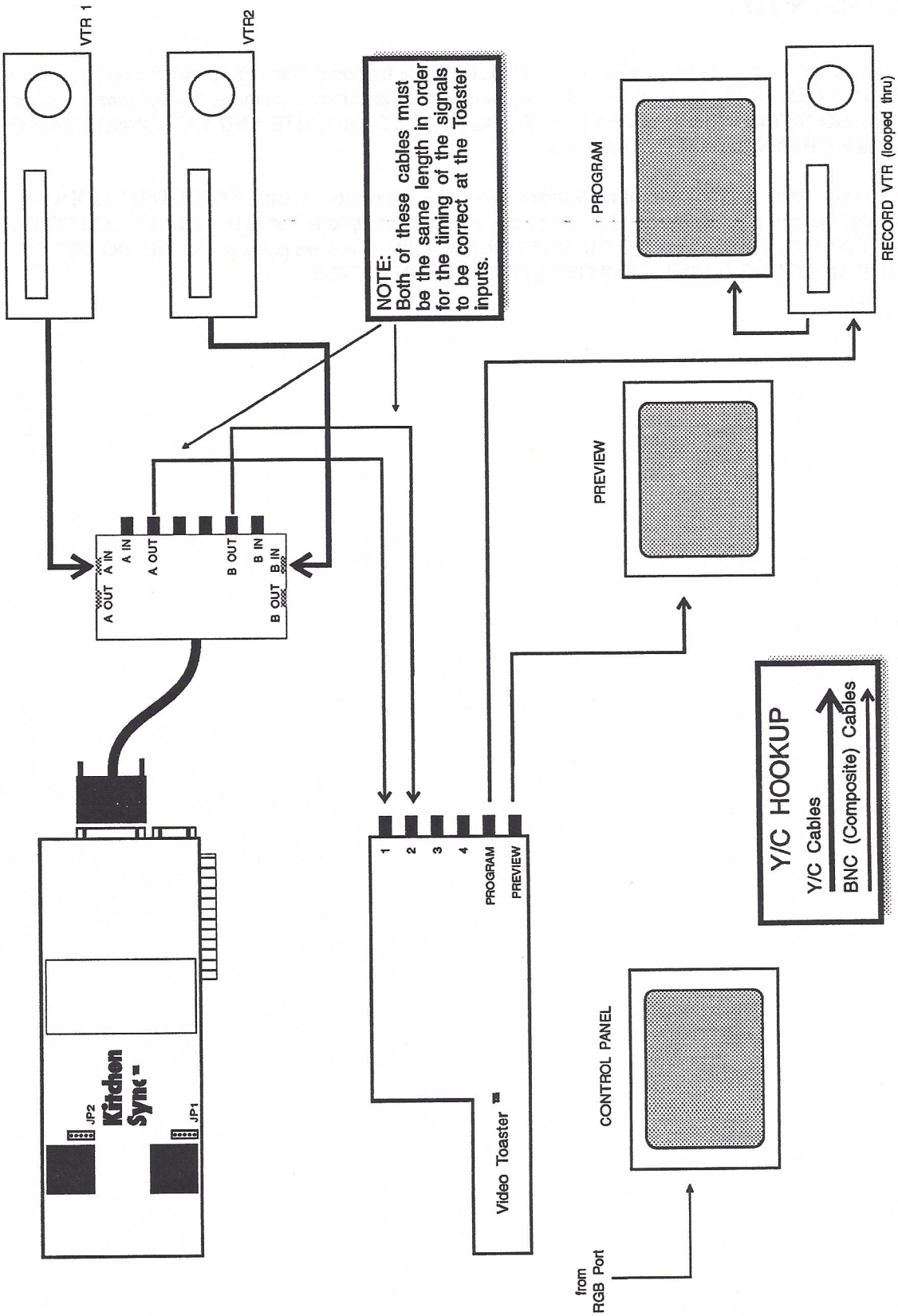


Figure 5 - Typical Video Toaster Set Up (Y/C)

PLEASE NOTE:

Although the Kitchen Sync can transcode Y/C to composite (or composite to Y/C with the optional Y/C OUTPUT MODULE), you must have only one of the inputs per channel connected at one time. In other words, DO NOT CONNECT LIVE VIDEO TO BOTH THE COMPOSITE AND Y/C CONNECTORS OF A SINGLE CHANNEL AT THE SAME TIME.

This is also true for the outputs of the Kitchen Sync. If you have the optional Y/C OUTPUT MODULE installed on your Kitchen Sync and you are going to use the composite output of a channel, DO NOT CONNECT ANYTHING TO THE Y/C OUTPUT CONNECTOR. If you are going to use Y/C, DO NOT CONNECT ANYTHING TO THE COMPOSITE OUTPUT CONNECTOR.

2.6 Additional Hardware Information

Video and Genlock Termination

The Kitchen Sync comes from the factory with the composite video in, the Y/C video in, and the genlock in, terminated. If you need to have these unterminated, remove the shorting block from the appropriate jumper.

Channel	Jumper
Channel A composite	JP9
Channel A Y/C	JP8 & JP9
Channel B composite	JP7
Channel B Y/C	JP6 & JP7
Genlock In	JP4

To terminate, install the indicated jumper.

To unterminate, remove the indicated jumper.

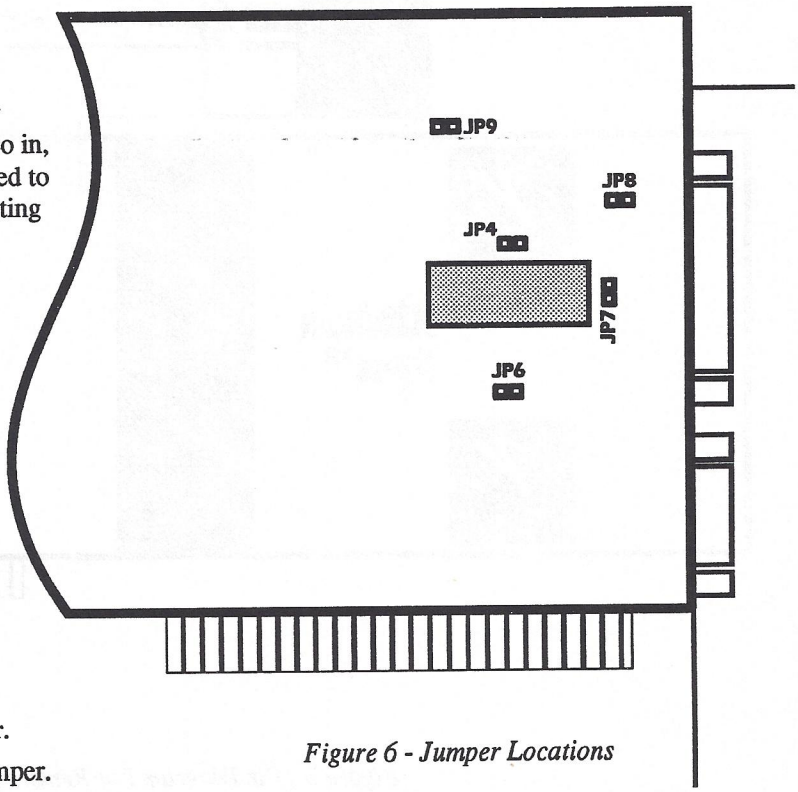


Figure 6 - Jumper Locations

LCD

There are two LCD features that were not documented in the Kitchen Sync manual.

It is possible to adjust the viewing angle and the back-light intensity of the LCD on the Remote Control Unit (RCU). On the bottom of the RCU are two holes for adjusting the LCD. The hole closest to the cable (rear) of the unit is used for adjusting the viewing angle. The hole away from the cable (front) is used to adjust the amount of back-light.

Simply insert a small screwdriver and adjust to your preference.

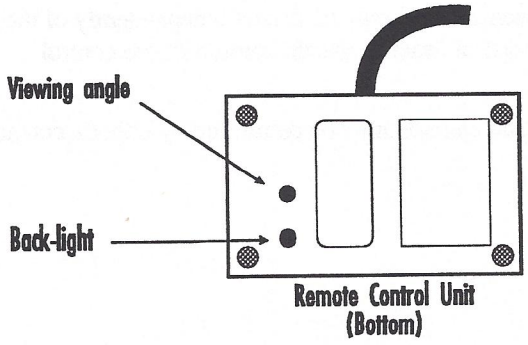


Figure 7 - LCD Adjustments

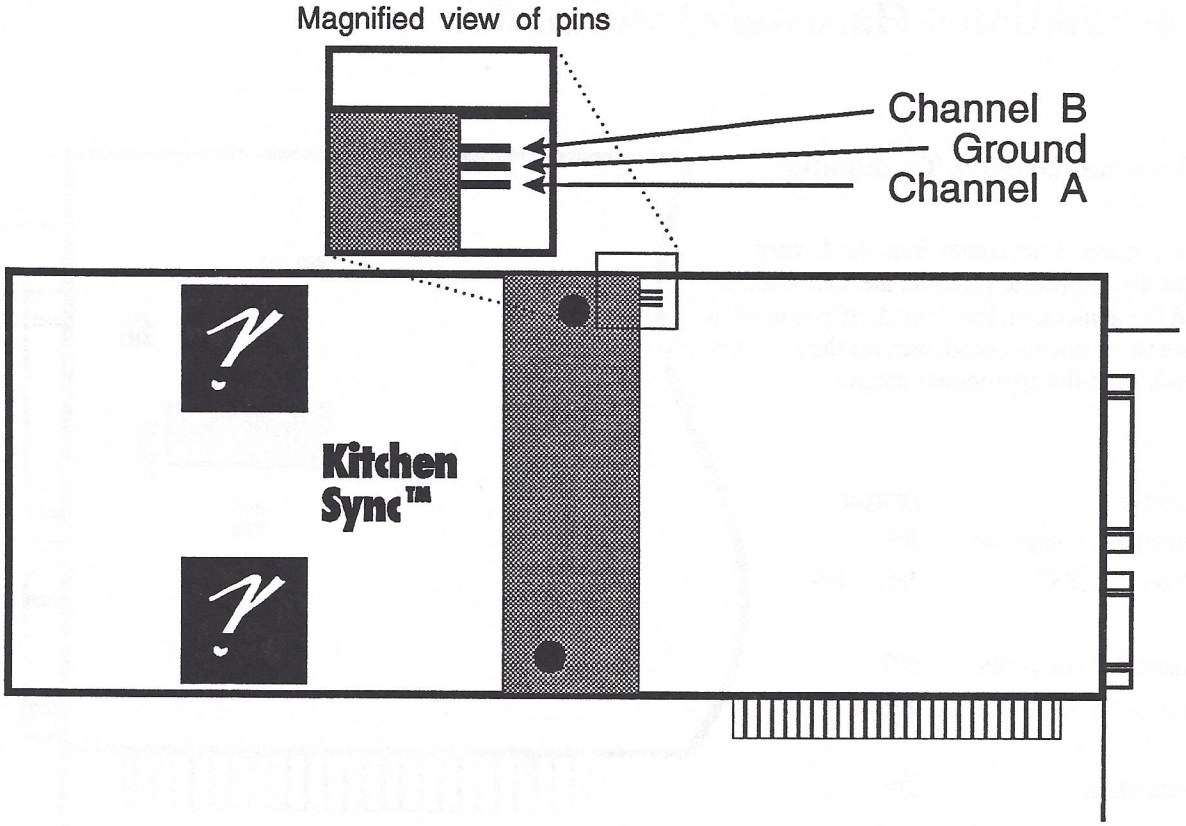


Figure 8 - Pin Diagram For Remote Freeze

Remote Freeze

This diagram shows the pins used to hook up a remote switch or edit controller to control the freeze function of the Kitchen Sync.

Each channel may be frozen independently of the other. The Kitchen Sync does not have to be in the freeze mode in order to use the remote freeze control.

Each channel may be controlled by either a contact closure or a TTL input.

2.7 Using Multiple Kitchen Sync's

One of the unique features of the Kitchen Sync is the ease with which multiple units can be synchronized together. A typical application of this feature would be using two Kitchen Sync's with a Video Toaster to provide timebase correction for all 4 inputs on the Toaster.

To synchronize two (or more) Kitchen Sync's all that is required is to connect them to each other with a jumper cable. (This cable is available from Digital Creations as part of the Cascade Kit.) Refer to the following diagram for the location of the connectors involved in this procedure.

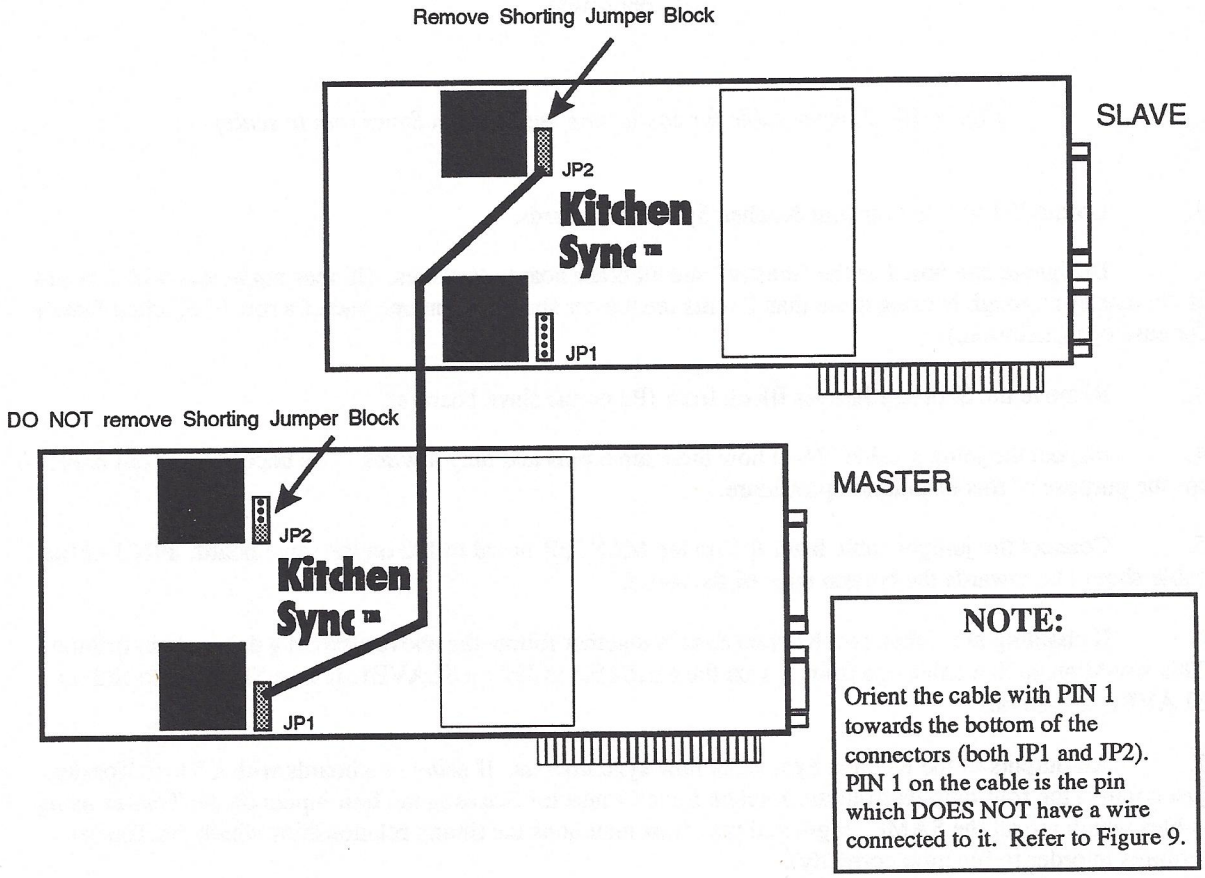


Figure 9 - Connecting Two Kitchen Syncs

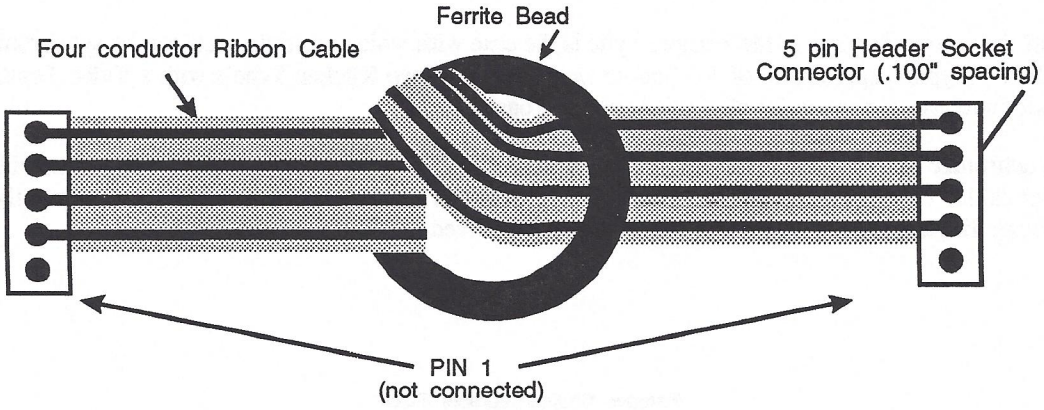


Figure 10 - Jumper cable for connecting two Kitchen Syncs (not to scale)

1. Locate JP1 and JP2 on your Kitchen Sync main boards.

2. Designate one board as the "master" and all other boards as slaves. (It does not matter which board is the master although if using more than 2 units the master should be on one end of a row of Kitchen Sync's for ease of installation.)

3. Remove the Shorting Jumper Block from JP2 on the slave board(s).

4. Inspect the jumper cable. Note how there are 5 pins and only 4 wires. The unconnected pin is PIN 1 for the purpose of this installation procedure.

5. Connect the jumper cable from JP1 on the MASTER board to JP2 on the slave board. PIN 1 of the cable should be towards the bottom edge of the board.

6. If chaining more than two Kitchen Sync's together follow the above steps in a daisy-chain fashion. This would mean that cables go from JP1 on the MASTER to JP2 on SLAVE1, JP1 on SLAVE1 to JP2 on SLAVE2, and so on.

7. All outputs of the Kitchen Sync's are now synchronous. If using two boards with a Video Toaster, just connect the four outputs from the Kitchen Sync Connector Boxes to the four inputs on the Toaster using cables which are all the SAME length and type (this maintains the timing relationships which the Toaster requires in order to function correctly).

CHAPTER 3 Operation

3.1 About The Controls

All of the processing amp, input/output format and freeze controls are accessed via several menus which appear on the Remote Control Unit. The Menu Tree which is included with this manual shows the basic structure of all of the menus available. Please refer to this Tree diagram while reading the following explanations and descriptions.

Upon power-up (or reset, if entered from Remote Control), the display on the Remote will go through a series of copyright screens and finally end up at the top of the Main Menu. The display should show "xxxxx Processing Amp" on the top line, where the "xxxxx" will be some combination of characters that depends on whether there is a valid video source attached to each of the inputs.

Getting to any particular control via the menus is a very simple task. As an example we will change the Saturation level for channel A and then the Video Source for channel B.

For the moment let us assume that you are at a main menu item. Press the NEXT key on the Remote Control Unit until the display shows the name of the submenu that contains the control which you wish to access. In this case you will be looking for the display to say "xxxxx Processing Amp". When this main menu item appears, press the ENTER key to gain access to this submenu. The next thing that you will see will be "Select Chan:" (NOTE: from this point on in this discussion, we will only refer to title of each menu item which appears in the upper right hand corner of the display; in this case the display would show "xxxxx Select Chan:")

Since we wish to change the Saturation level on channel A you need to press the LEFT key on the Remote to select channel A. Note that as various menus appear, the LEFT, SHIFT and RIGHT keys will sometimes have messages above them in the second row of the display. As a general rule pressing one of these buttons selects the function indicated above it or performs the action indicated. See the descriptions in section 3.3 for more information on what each button does at each menu entry.

After selecting channel A the display should show "xxxxA Proc Function:", which indicates that any changes you make will be done to channel A. The function which comes up first is Hue as indicated in the lower row of the display. We wish to change Saturation so you need to step through the menus until you arrive at this function. Press the NEXT key once and you will see that you are now at the Saturation function control. If you have accidentally pressed NEXT more than once you can just press it repeatedly until the Saturation adjust menu item appears again. This is true of all the menus on the Kitchen Sync: As long as you do not press ENTER, repeatedly pressing NEXT will continuously loop through the submenu you are currently in (or through the main menu if you are there).

Now that you are at the Saturation menu item, you may adjust the Saturation level with the LEFT and RIGHT key on the Remote. Press the RIGHT key and observe that the value for saturation goes up once each time you press it. Pressing the LEFT key will lower the value. At this point, press the appropriate keys to set the Saturation level to 36.

If you have a valid video source connected to the input of channel A and a monitor connected to the output of channel A, you should observe that the saturation of the colors increases on the monitor. If the increase seems rather drastic do not worry; this is merely an exercise and we will reset all the controls to their default settings before we are done.

At this point there are two ways you can get back to the main menu. You may repeatedly press the NEXT key until you arrive at the "Main Menu:" menu item, and then press the RIGHT key to select "Yes" and return to the main menu. The other way to get out of the Processing Amp submenu is to simply press the ENTER key. Both of these methods will keep the changes you have made and return you to the main menu. Use whichever method you would like to at this point to return and you should see the "Processing Amp" main menu item in the display.

The next thing we would like to do is to change the input format of channel B to accept PAL. Press the NEXT key until the "Special Fun1" main menu item appears. Press ENTER to gain access to this submenu. Now press the RIGHT key to select channel B. Notice that the "xxxxx" portion of the display now shows "xxxxB" to indicate that you are adjusting the settings for channel B. Press the NEXT key once and you should see the "Video Source:" menu item.

Depending upon whether anything has been changed from the factory defaults on your Kitchen Sync unit, the bottom line will most likely have "NTSC" above the LEFT key and "Composite" above the RIGHT key. Repeatedly press each of these keys, and observe that they shuffle through several options each. Now press the LEFT key until "PAL" shows above it and the RIGHT key until "Composite" shows above it. Channel B is now set to accept only PAL format signals from the Composite input jack. If you are feeding an NTSC signal into channel B you will notice that the output loses all color and may start to roll vertically.

Now press ENTER to return to the main menu. At this point you may wish to experiment with other control changes to see the effects that they have and get familiar with navigating through the menus. Having the Menu Tree at hand can help you find the particular controls you are looking for. Once you are done experimenting we will reset the Kitchen Sync to erase all of these changes we have made.

Resetting the Kitchen Sync to it's power-up state is very simple. First press the NEXT, LEFT, RIGHT and ENTER keys together at the same time. Then release them together. You should now observe the display going through the Power-On Reset series of messages as indicated on the Menu Tree. Note that the first message has a "#n" in the upper right hand corner of the display. This number corresponds to which user configuration is being loaded. The numbers 1, 2 and 3 are Configurations which you may load and save however you need. Number 4 is the Factory preset configuration; all boards are shipped from the factory with number 4 as the default configuration to load upon reset. You may change which configuration is used on reset via the "set Startup" menu item in the "Program Store" submenu.

Now that the Kitchen Sync has been reset you should observe that all the changes we made previously have disappeared. Had you wished to save any of them you would go to the "Program Store" submenu and use the Program Load/Save menu item to store the current configuration in location 1, 2 or 3. When shipped from the factory locations 1, 2 and 3 all contain the same settings as the Factory preset. For further information regarding Loading and Saving please refer to section 3.2.

You are encouraged to experiment with all the various controls on the Kitchen Sync. Many questions which you may have can be easily answered merely by observing the effect a control has. And since you can always reload the factory settings there is no need to worry about getting so far out of adjustment that you can't even display an image properly.

One last note: If you make any changes to any settings, you must Save them in a user configuration memory if you wish to retain them when you power the Kitchen Sync off. Any unsaved changes will be lost when the power is disconnected. So if you have been doing any work that you wish to return to you would be advised to save your settings before powering down for that day.

3.2 Loading and Saving User Configurations

As noted above, any changes which you make to the processing amp or other functions are lost whenever you reset or power off. Since many users will want to return to a particular group of settings again, we have provided three (3) non-volatile memory locations for you to store these settings.

To gain access to the Load and Save features, step through in the main menu until the display shows "Program Store". Press ENTER to descend into this submenu.

The first menu item you find is the Program Load/Save function. The RIGHT key selects which program you will be loading (1, 2, 3 or Factory) and the LEFT key performs the LOAD of the selected configuration.

If you wish to save your current settings, the RIGHT selects the configuration you will save (1, 2 or 3) and SHIFT performs the Save. Note that you cannot save to the Factory configuration. This ensures that you will always be able to re-load the default settings into the Kitchen Sync no matter how messed up you may get them when experimenting with various parameters. Note: You must confirm the save as indicated in the display. This will help prevent accidental overwriting of settings.

Two other functions are available in the Program Store submenu. These are "Set Startup" and "CRC".

The "Set Startup" function allows you to specify which configuration (1, 2, 3 or Factory) will be loaded upon reset or power-up. The RIGHT key selects a configuration and the LEFT key sets that configuration as the Startup configuration.

The "CRC" function will perform a Cyclical Redundancy Check on the configuration selected. You can use this feature to verify the integrity of a configuration you have saved. To select the configuration you wish to test, press the RIGHT key. To perform the CRC test, press the LEFT key. The display will either show "Good" or "Bad" depending upon the outcome of the test.

3.3 Control Reference

The following is a complete listing of all menu items and how the various keys operate in each item. If you are having problems getting something to change or work properly refer to this information to verify that you are using the correct keys for what you wish to do.

```
RR--A    Processing Amp
```

The following menu items are found in the Processing Amp section of the Main Menu.

Access to branch	ENTER

This is a Main Menu item. To gain access to the Processing Amp function press the ENTER key. Pressing the NEXT key or the LEFT key (above the NEXT key) will scroll to the next or previous Main Menu item.

```
RR--A    Select Chan
A                B
```

Select channel A	LEFT
Select channel B	RIGHT
Accept, go to next item	NEXT
Accept, go to Main Menu	ENTER

This is this first menu item in the Processing Amp function branch. It allows for the selection of a channel for manipulation. This menu item generally is found at the beginning of any branch where there is a need to choose channels. To select a channel simply press the button below the channel letter. To accept the channel as it is press the NEXT button. You will then go to the next item in the function branch. You may exit to the Main Menu with ENTER.

```
RR--A    Proc Function:
Down       Hue nn     Up
```

Down	LEFT
Up	RIGHT
Times 10	SHIFT+L/R
Accept, go to next item	NEXT
Accept, go to Main Menu	ENTER
Abort	SHIFT+NEXT

Use this item to control the Hue of the selected channel. The LEFT button will rotate the Hue toward Red, and the RIGHT toward Green. Holding the SHIFT key down with LEFT or RIGHT will increase the change to the Hue by 10's. To accept the changes press NEXT. To abort press SHIFT+NEXT. To exit to Main Menu press ENTER.

```
RR--A    Proc Function:
Down       Sat nn     Up
```

Down	LEFT
Up	RIGHT
Times 10	SHIFT+L/R
Accept, go to next item	NEXT
Accept, go to Main Menu	ENTER
Abort	SHIFT+NEXT

Use this item to control the Saturation of the selected channel. The LEFT button will decrease the color Saturation and the RIGHT will increase it. Holding the SHIFT key down with LEFT or RIGHT will increase the change to the Saturation by 10's. To accept the changes press NEXT. To abort press SHIFT+NEXT. To exit to Main Menu press ENTER.

```
RR--A    Proc Function:
Down       Gain nn    Up
```

Down	LEFT Up
RIGHT Times 10	SHIFT+L/R
Accept, go to next item	NEXT
Accept, go to Main Menu	ENTER
Abort	SHIFT+NEXT

Use this item to control the Through Gain of the selected channel. The LEFT button will decrease the Gain and the RIGHT will increase it. Holding the SHIFT key down with LEFT or RIGHT will increase the change to the Gain by 10's. To accept the changes press NEXT. To abort press SHIFT+NEXT. To exit to Main Menu press ENTER.

```
RR--A    Proc Function:
Down     Setup nn     Up
```

Down	LEFT
Up	RIGHT
Times 10	SHIFT+L/R
Accept, go to next item	NEXT
Accept, go to Main Menu	ENTER
Abort	SHIFT+NEXT

Use this item to control the Setup Level of the selected channel. The LEFT button will decrease the Setup and the RIGHT will increase it. Holding the SHIFT key down with LEFT or RIGHT will increase the change to the Setup by 10's. To accept the changes press NEXT. To abort press SHIFT+NEXT. To exit to Main Menu press ENTER.

```
RR--A    Luma Peaking:
Down      x.xDB      Up
```

Down	LEFT
Up	RIGHT
Times 10	SHIFT+L/R
Accept, go to next item	NEXT
Accept, go to Main Menu	ENTER
Abort	SHIFT+NEXT

Use this item to control the amount of Luminance Peaking through the selected channel. The LEFT button will decrease the Peaking and the RIGHT will increase it. To accept the changes press NEXT. To abort press SHIFT+NEXT. To exit to Main Menu press ENTER.

```
RR--A    Chroma Horizon
Down      nn  ns      Up
```

Down	LEFT
Up	RIGHT
Accept, go to next item	NEXT
Accept, go to Main Menu	ENTER
Abort	SHIFT+NEXT

Use this item to control the amount of Horizontal Chrominance Delay through the selected channel. The LEFT button will decrease the Horizontal Delay and the RIGHT will increase it. To accept the changes press NEXT. To abort press SHIFT+NEXT. To exit to Main Menu press ENTER.

```
RR--A    Chroma Advance:
Line Advance      n
```

Down	LEFT
Up	RIGHT
Times 10	SHIFT+L/R
Accept, go to next item	NEXT
Accept, go to Main Menu	ENTER
Abort	SHIFT+NEXT

Use this item to control the amount of Vertical Chrominance Advance of the selected channel. The LEFT button will decrease the Vertical Advance (in lines) and the RIGHT will increase it. To accept the changes press NEXT. To abort press SHIFT+NEXT. To exit to Main Menu press ENTER.

```
RR--A    Freeze Menu
```

The following menu items are found in the Freeze Menu section of the Main Menu.

Access to branch ENTER

This is a Main Menu item. To gain access to the Freeze Frame functions press the ENTER key. Pressing the NEXT key or the LEFT key (above the NEXT key) will scroll to the next or previous Main Menu item.

```
RR--A   Select Chan
A                B
```

Select channel A	LEFT
Select channel B	RIGHT
Accept, go to next	NEXT
Accept, go to Main Menu	ENTER

This item is this first Menu item in the Freeze Frame function branch. This item allows the selection of the channel for freezing. To select a channel simply press the button below the channel letter. To accept the channel as it is press the NEXT button. You may exit with ENTER.

```
RR--A          Freeze:
Frame   Field1   Field2
```

Frame Freeze	LEFT
Field1	SHIFT
Field2	RIGHT
Accept, go to next item	NEXT

This item is the Freeze Frame control. You may freeze a frame or field. Whichever button is pressed will become the RUN option. So pressing the same button twice will cause the channel to freeze and then run. Simply press the button below the option you wish. You may only exit this item with the NEXT button.

```
RR--A  A & B Freeze:
Frame <A    B> Frame
Field1         Field1
Field2         Field2
```

Freeze Channel A	LEFT
Freeze Channel B	RIGHT
Change display mode	SHIFT + L/R
Go to next item	NEXT
Return to main menu	ENTER

This item, called the Dual Channel Freeze mode, allows you to freeze the video from channel A and/or channel B from the same menu. It also give you the ability to choose or change display modes for either channel. Use the Left button to freeze/run channel A and the Right button to freeze/run channel B. To change the display mode (Frame, Field 1, or Field 2) use SHIFT+LEFT for channel A and SHIFT+RIGHT for channel B. The display mode may be changed when the channel is running or frozen.

Up (increase interval)	RIGHT
Down (decrease interval)	LEFT
Times 10	SHIFT + L/R
Select channel	NEXT
Return to main menu	ENTER

Use this item to turn on strobe. The channel for strobe must be selected in the first menu option under Freeze Menu. Strobing takes place when the strobe rate is set at 1 or greater. UP increases the interval of delay between frames. DOWN decrease the interval. Using SHIFT + L/R will make the increase or decrease jump in steps of ten. Pressing NEXT cancels strobe and returns you to the "Select Channel" option in the Strobe Menu. Pressing ENTER cancels strobe and returns you to the Main Menu. Please note that while a channel is being strobed no other changes can be made to either channel.

```
RR--A          Special Fun1
```

The following menu items are found in the Special Fuctions 1 section of the Main Menu.

Access to branch	ENTER

This is a Main Menu item. To gain access to Special Functions Menu #1 press the ENTER key. Pressing the NEXT key or the LEFT key (above the NEXT key) will scroll to the next or previous Main Menu item.

```
RR--A    Select Chan
A                B
```

Select channel A	LEFT
Select channel B	RIGHT
Accept	NEXT
Main Menu	ENTER

This item is this first menu item in the Special Functions Menu #1 branch. This item allows the selection of the channel for manipulation. To select a channel simply press the button below the channel letter. To accept the channel as it is press the NEXT button. You may exit with ENTER.

```
RR--A      Horiz Postn:
Left   Horiz nn    Right
```

Move Center Left	LEFT
Move Center Right	RIGHT
Times 10	SHIFT+L/R
Accept	NEXT
Abort	SHIFT+NEXT
Accept, go to Main Menu	ENTER

This item adjusts the centering of the picture. Press the Left button to move the picture to the left. Press the right button to move the center of the picture to the right. NEXT accepts the changes and moves to the next item. Holding the SHIFT key down with LEFT or RIGHT will increase the change to the value by 10's. SHIFT+NEXT aborts any changes and moves to the next item. ENTER accepts and returns to the Main Menu.

```
RR--A    Video Source:
NTSC          Composite
PAL           Y/C S-VHS
Auto
```

Toggle Standards	LEFT
Toggle input Format	RIGHT
Accept	NEXT
Accept, go to Main Menu	ENTER

This item controls two (2) separate functions. The LEFT button toggles the signal standard type (NTSC, PAL or Auto). The RIGHT button toggles the signal input format type (Composite or Y/C S-VHS). NEXT accepts the changes and moves to the next item. ENTER accepts and returns to the Main Menu.

NOTE: The preferred setting for NTSC users is NTSC. Using the Auto setting during jog/shuttle can cause the Kitchen Sync to think there is a PAL signal present. If the video is lost while using Freeze while in Auto mode, the Freeze will unfreeze when the video signal is regained. This does not occur when preset to NTSC.

```
RR--A    Video Output
Y/C S-VHS
Composite
```

Toggle Out format	LEFT
Accept	NEXT
Accept, Main Menu	ENTER

This item controls the signal output format type. The LEFT button toggles the format between (Composite and Y/C S-VHS). NEXT accepts the changes and moves to the next item. SHIFT+ENTER accepts and returns to the Main Menu.

NOTE: This option may be toggled regardless of whether a Y/C Luminance output board is attached. This can result in an invalid signal appearing on the composite out connector.

```
RR--A    V-Lock Mode:
Force 525 / Force 625
Auto Count
Injection
```

Available under NTSC	Available under PAL
Force 525	Force 625
Auto Count	Auto Count
Injection	Injection

Toggle V-lock mode	LEFT
Accept	NEXT
Abort	SHIFT+NEXT
Accept, Main Menu	ENTER

This item controls the Vertical lock mode. The LEFT button displays the next option in the list of three (3) items. NEXT accepts the changes and moves to the next item. SHIFT+NEXT aborts any changes and moves to the next item. Note that the number associated with the Force xxx mode is determined by the Video Source selection (525 for NTSC, 625 for PAL).

```
RR--A    Set AFC Gain:
Low
High, VCR
```

Toggle AFC Gain	LEFT
Accept	NEXT
Abort	SHIFT+NEXT
Accept, Main Menu	ENTER

This item controls the Gain in the AFC loop circuit. Use High for VCR+s and other unstable sources. NEXT accepts the changes and moves to the next item. SHIFT+NEXT aborts any changes and moves to the next item.

RR--A	Set Base Label	
Down	A-B	Up

Backward thru Base Labels	LEFT
Forward thru Base Labels	RIGHT
Accept	NEXT
Abort	SHIFT+NEXT
Accept, Main Menu	ENTER

This item sets the Base label for this unit's display. This feature is useful when using more than one KitchenSync, in order to distinguish between the various boards.The RIGHT button steps forward through the list of possible labels. The LEFT button backwards. NEXT accepts the changes and moves to the next item. SHIFT+NEXT aborts any changes and moves to the next item.

RR--A	Rom Version
2.0	(c) 1992 PIT

Main Menu	ENTER

This menu item provides an easy way for the user or technician to check the ROM version on the Kitchen Sync without having to power the system down and back up.

```
RR--A    Program Store
```

The following menu items are found in the Program Store section of the Main Menu.

Access to branch ENTER

This is a Main Menu item. To gain access to Program storage, retrieval, and program startup press the ENTER key. Pressing the NEXT key or the LEFT key (above the NEXT key) will scroll to the next or previous Main Menu item.

```
RR--A          Program:
Load      Save      n
Confirm   Abort
```

Save Program	SHIFT
Load Program	LEFT
Advance Program Number	RIGHT
Go to next menu item	NEXT
Return to main menu	ENTER

This is the first item in the Program Store menu. It is the LOAD/SAVE program function. There are three user defined program storage locations 1-3 and one Factory set program. Pressing the RIGHT button will cycle through program storage locations 1, 2, 3, and Factory. Pressing the LEFT button will cause the program number indicated at the right to be loaded and the card programmed.

Pressing the SHIFT button will cause the users environment or program to be saved to the program number at the right (1, 2, or 3). "Confirm" and "Abort" will then be displayed. This will help prevent accidental overwriting of a setting. A SAVE cannot be made to the Factory preset thus insuring at least one usable program. NEXT will advance to the next menu item. ENTER will return to the Main Menu.

```
RR--A          Program:
Set Startup        n
```

Set Startup Program	LEFT
Advance Program Number	RIGHT
Goto next menu item	NEXT
Abort, go to Main Menu	ENTER

This function will cause the Kitchen Sync to be programmed with the program number that you specify, upon power-on. Pressing the LEFT button will cause the program number indicated to be set as the desired startup program. Pressing the RIGHT button will advance the program number. Pressing the NEXT button will step to the next menu item.

```
RR--A          Program:
CRC                n
```

CRC program	LEFT
Advance Program Number	RIGHT
Goto next menu item	NEXT
Abort, go to Main Menu	ENTER

This is the CRC utility function. This function will check the data in any of the storage locations including the Factory settings. Pressing the LEFT button will cause the program number indicated to be CRC checked. Pressing the RIGHT button will advance the program number. Pressing the NEXT button will step to the next menu item.

RR--A Main Menu:	
No	Yes

Back to the top	LEFT
Main Menu	RIGHT
Back to the top	NEXT
Main Menu	ENTER

This item allows you to gain access to the Main Menu level without having to press the ENTER button. Pressing the LEFT button returns you to the Main Menu. Pressing either the RIGHT, NEXT will return you to the top of the Program Store menu branch (Load Program).

```
RR--A  Genlock Menu
```

The following menu items are found in the Genlock section of the Main Menu.

Access to branch ENTER

This is a Main Menu item. To gain access to the Genlock Control Functions press the ENTER key. *This Main Menu item will not be displayed if the Genlock module is not connected.* Pressing the NEXT key or the LEFT key (above the NEXT key) will scroll to the next or previous Main Menu item.

```
RR--A  Chroma Phase:
Down   nnn'nnn    Up
```

Down	LEFT
Up	RIGHT
Accept	NEXT
Abort	SHIFT+NEXT
Accept	ENTER

The Genlock items differ from the other menu systems in that a predefined path exists for setting the controls. Therefore the system will take you through each step. You can however abort by using the SHIFT+NEXT key.

Chroma Phase is the first adjustment. The digits to the left indicate which quadrant you are in 0,90,180,270. The digits to the right are fine adjust indicators. Use the UP/DOWN buttons in conjunction with the times ten key (Shift) to adjust for the desired Chroma Phase. Press ENTER when done.

```
RR--A  Checking Sync
Calibration  Wait....
```

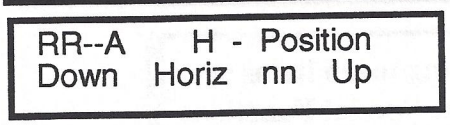
This is a non action item. This message is displayed while the system is locating the ideal Sync Phase.

```
RR--A       Poor Video
Reference.  Repair
```

```
RR--A       Calibrate
Error Lost Ref Video
```

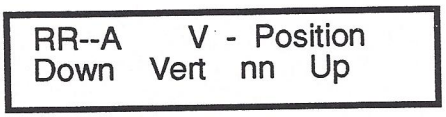
Press Any Key

During the calibration phase two errors may occur. The first indicates that there is too much jitter in the reference video -Poor Video+. (You may not use a VCR as a reference signal.) The second is lost reference video. The loss of video is simple to repair.



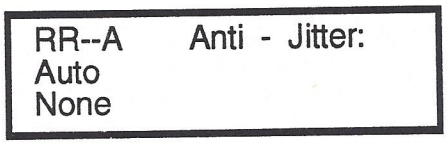
Down	LEFT
Up	RIGHT
Times 10	SHIFT+L/R
Accept	NEXT
Abort	SHIFT+NEXT
Accept	ENTER

Adjust Horizontal Position. This item is used to adjust the Horizontal position relative to the reference video. Use the UP/DOWN buttons in conjunction with the Times 10 key (SHIFT) to adjust for the desired Horizontal position. Press ENTER or NEXT when done.



Down	LEFT
Up	RIGHT
Accept	NEXT
Accept	ENTER
Abort	SHIFT+NEXT

Adjust Vertical Position. This item is used to adjust the Vertical position relative to the reference video. Use the UP/DOWN buttons to adjust for the desired Vertical position. Press ENTER or NEXT when done.



Toggle	LEFT
Accept	NEXT
Accept	ENTER
Abort	SHIFT+NEXT

Select the Jitter action mode. Auto means that you wish for the system to take dynamic action when it detects jitter in the Genlock with regards to the reference video. None means that you wish to correct it manually. When the system detects jitter it will flag the third character in the status window with the letter -J+. Press ENTER or NEXT when done.

No	LEFT
Yes	RIGHT
Accept	ENTER
Abort	SHIFT+NEXT

Once all the genlock settings have been made you are given the opportunity to abort the changes. Pressing the RIGHT button will abort and the LEFT button will accept. Commit or abort will return to the Main Menu level.

```
RR--A    Special Fun 2
```

The following menu items are found in the Special Functions 2 section of the Main Menu.

Access to branch ENTER

This is a hidden menu. Pressing the SHIFT+RIGHT buttons will bring you to this menu. To gain access to Special Functions Menu #2 press the ENTER key. Pressing the NEXT key or the LEFT key (above the NEXT key) will scroll to the next or previous Main Menu item.

```
RR--A    Select Chan
A                B
```

Select channel A LEFT
Select channel B RIGHT
Accept NEXT
Main Menu ENTER

This item is this first Menu item in the Special Functions #2 branch. This item allows the selection of the channel for manipulation. To select a channel simply press the button below the channel letter. To accept the channel as it is press the NEXT button. You may exit with ENTER.

```
RR--A    Luma Delay:
Down    xxxns    Up
```

Decrease DLY LEFT
Increase DLY RIGHT
Accept NEXT
Accept, Main Menu ENTER

This item sets the internal delay between the Y channel and the C channel. It is not recommended that the user change this setting from the factory position. Use the Proc-Amp functions to control the Y/C delay.

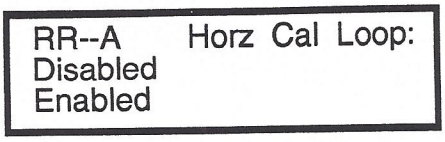
LEFT button to decrease, RIGHT button to increase. NEXT to accept and go on. ENTER to exit to Main Menu.

```
RR--A    Blank Lines:
14 Blank Lines
25 Blank Lines
```

Toggle Options LEFT
Accept NEXT
Main Menu ENTER

This function controls the number of luminance lines blanked. It is recommend that you use 14 blank lines.

LEFT button toggles between options. NEXT accepts setting. ENTER to exit to Main Menu.



Toggle Options	LEFT
Accept	NEXT
Main Menu	ENTER

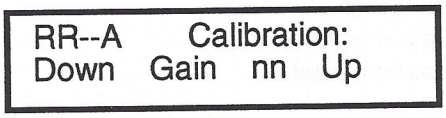
This function controls the calibration for the Horizontal loop. The system uses this function when re-acquiring lock. This setting should normally be set to Disable.

LEFT button toggles Enable, Disable. Press NEXT to accept and ENTER to return to Main Menu.

Toggle Options	LEFT
Accept	NEXT
Main Menu	ENTER

This function controls the Vertical Time Constant. This setting should normally be Slow.

LEFT button toggles Fast, Slow options. Press NEXT to accept and SHIFT+ENTER to return to Main Menu.



Decrease Gain	LEFT
Increase Gain	RIGHT
Times 10	SHIFT+L/R
Accept	NEXT
Abort	SHIFT+NEXT
Accept, Main Menu	ENTER

This function controls the Calibration Gain through the channel. This is a factory setting and should not be changed.

LEFT button decreases the gain. The RIGHT button increases the gain. Holding the SHIFT key down with LEFT or RIGHT will increase the change to the Gain by 10's. Press NEXT to accept . SHIFT+NEXT to abort the changes and ENTER to return to Main Menu.

APPENDIX A

TROUBLE SHOOTING

This section is intended to help you with problems that may occur while using The Kitchen Sync. This list of hints has been compiled from the most common problems submitted to us by our users and though our own analysis of various situations.

WARNING: Do not adjust components on the Kitchen Sync! This will void the warranty. There are no user serviceable parts on it. Units that have been altered will be serviced at a premium rate. Units damaged by user error will also be serviced at a premium rate. Parts are extra.

Repair Procedure

If you find that your Kitchen Sync doesn't function properly, please follow these steps:

1. Find the symptom from the list below.
2. Try all the suggested solutions for the problem.
3. If the product still doesn't function properly, call Digital Creations' customer support at (916) 344-4825. If after talking with one of our representatives it is determined that the product needs repair, you will be given an RMA (Return Materials Authorization) number.
4. Carefully package the product in its original packaging along with a note detailing the symptoms and your system configuration. Be sure to put your return address and phone number on the note.
5. Send to:

   Digital Creations

   Customer Service, RMA (your RMA number goes here)

   Our Repair Facility Address

   (the address supplied to you by the Customer Service rep.)

Note: We cannot accept packages without a proper RMA number on the address label.

We have no way of knowing ahead of time how long it will take to repair a product. However, as a continuing commitment to our customers, we try to repair all products as fast as possible. We ship all repaired products via UPS Ground and COD any repair costs. If you wish a faster shipping time, please make arrangements with Customer Service before returning the unit. Any extra shipping costs will be added to the COD amount.

Note: Prices and policies are subject to change without notice.

Alternate Computer Test

If The Kitchen Sync doesn't seem to be working correctly, trying it in a different slot or on a different computer can sometimes help isolate the problem. There is a chance that any particular problem may be caused by the computer. Known computer problems include: defective power supplies and missing voltages on i/o slot connectors. If the Kitchen Sync works on a different computer, the problem probably lies with the first computer.

Don't rule out the possibility of cables or accessories causing the problem. The general idea of this test is to isolate the offending item by process of elimination. In other words, try different combinations of computers, cables, and accessories, one change at a time, until the Kitchen Sync works or the problem is isolated. Trying to solve the problem this way may save you time and money.

Trouble Shooting Hints

You Turn on the computer and nothing happens:

⇨ The Kitchen Sync might not be correctly installed in your computer. Verify that the board is properly inserted into an AT slot of the computer. Connecting it elsewhere will cause damage to Kitchen Sync and your computer. Digital Creations and Progressive Image Technology cannot be held responsible for such damage.

⇨ Computer might not be getting power or may not be plugged in.

The Remote Control Unit display does not light up or show any menus:

⇨ The remote control unit may not be securely plugged into the HD-15 connector on the Kitchen Sync main board. Verify connections and power the computer off and back on again.

⇨ Computer power supply might not be putting out the proper power. Check the voltage against the specifications in your computer Users Manual. Also try using a different slot in the computer.

⇨ The Remote Control Unit may have gotten confused due to a power glitch or by being plugged in with the power on. Try resetting the unit by holding down the LEFT, RIGHT, NEXT and ENTER keys at the same time and then releasing them all together. If the Kitchen Sync does not reset and the Remote Control Unit display does not display the menus then try powering the computer off and back on again.

There is no output from one or both of the channels of the Kitchen Sync, or the picture is distorted or tearing:

⇨ You may not have the output properly hooked up. Verify that all cables are connected to the right place.

⇨ You are attempting to use the S-VHS outputs without having the optional Y/C OUTPUT MODULE installed on your Kitchen Sync main board.

⇨ There are video sources connected to both the Composite and S-VHS input jacks on the same channel. Disconnect the appropriate cable based on which input you wish to use.

⇨ Monitor might not be set to the correct mode.

⇨ Video cables might be faulty.

⇨ Computer power supply might not be putting out the proper power. Check the voltage against the specifications in your computer Users Manual. Also try using a different slot in the computer.

The NTSC or Y/C image is shifted, the color is wrong, or image is too bright or too dim:

⇨ Since the Kitchen Sync has processing amps on both channels it is possible that one or more of the Proc Amp settings has been changed from the factory defaults. Try Loading the factory default settings back in and observe the results on the video output affected.

⇨ There may be some other problem with the video source before the Kitchen Sync. Typical problems include misadjusted proc amps, distribution amps or other devices which come before the signal arrives at the Kitchen Sync. Cameras which are out of adjustment or not properly white balanced can also cause these problems. Connect the source in question directly to a monitor to verify correct signal at the inputs.

The NTSC or Y/C output is in B/W:

⇨ If you are using the Y/C input, verify that the Special Function 1 - Video Source setting is set to Y/C S-VHS.

⇨ Verify that the saturation on the affected channel is not set too low. If in doubt Load the factory proc amp settings back into the Kitchen Sync and observe the results.

⇨ You might be using a B/W only monitor.

⇨ The color level on your monitor may be turned down. Verify that the monitor can produce a color image when fed from another video source.

The NTSC or Y/C image is shifted and/or and the colors are wrong when using a switcher or other downstream device:

Timing problems are evident and a switcher or other downstream device is being used:

⇨ Verify that all of the cables between the Kitchen Sync outputs and the other devices inputs are the same length. Different lengths or types of cables can cause timing differences which will make the signals seem to be unsynchronized.

⇨ Verify that the device in question is designed to use on of its video inputs as a reference and that one of the outputs of the Kitchen Sync is connected to that input on the device. If the Kitchen Sync needs to be locked and timed relative to house sync or some other external reference you will need the optional GEN-LOCK MODULE, available from Digital Creations.

APPENDIX B

GENERAL INFORMATION

Questions regarding sales, technical matters and repairs should be addressed to:

Digital Creations, Inc.

Customer Support

(Contact Customer Service Representative for shipping address)

(916) 344-4825

FAX (916)-635-0475

9:00 AM to 5:00 PM PST

The Kitchen Sync was designed and is being manufactured by:

Progressive Image Technology

120 Blue Ravine Road, #2

Folsom, CA 95630

(916) 985-7501

LIST OF ILLUSTRATIONS

The Kitchen Sync™

MENU TREE

Version 2.0

POWER ON RESET

- (c) 1992 PIT
  User Configuration
- Genlock Detected
  Configuration Done
- Please Wait V2.0
  Calibrating
- The Kitchen Sync (tm)
  Licensed for use by
- Progressive Image
  Technology (c) 1992
- Copyright 1992 PIT
  All Rights Reserved.

MAIN MENU

- RR--A Processing Amp
- RR--A Freeze Menu
- RR--A Special Fun1
- RR--A Program Store
- RR--A Genlock Menu

RR--A Special Fun 2

(accessed via SHIFT+RIGHT)

- RR--A Processing Amp
  - RR--A Select Chan
    A B
  - RR--A Proc Function:
    Down Hue nn Up
  - RR--A Proc Function:
    Down Sat nn Up
  - RR--A Proc Function:
    Down Gain nn Up
  - RR--A Proc Function:
    Down Setup nn Up
  - RR--A Luma Peaking:
    Down x.xDB Up
  - RR--A Chroma Horizon
    Down nn ns Up
  - RR--A Chroma Advance:
    Line Advance n
- RR--A Freeze Menu
  - RR--A Select Chan
    A B
  - RR--A Freeze:
    Frame Field1 Field2
  - RR--A A & B Freeze:
    Frame <A B> Frame
    Field1 Field1
    Field2 Field2
  - RR--A Strobe:
    Down Rate n Up
- RR--A Special Fun1
  - RR--A Select Chan
    A B
  - RR--A Horiz Postn:
    Left Horiz nn Right
  - RR--A Video Source:
    NTSC Composite
    PAL Y/C S-VHS
    Auto
  - RR--A Video Output
    Y/C S-VHS
    Composite
  - RR--A V-Lock Mode:
    Force 525 / Force 625
    Auto Count
    Injection
  - RR--A Set AFC Gain:
    Low
    High, VCR
  - RR--A Set Base Label
    Down A-B Up
  - RR--A Rom Version
    2.0 (c) 1992 PIT
- RR--A Program Store
  - RR--A Program:
    Load Save n
    Confirm Abort
  - RR--A Program:
    Set Startup n
  - RR--A Program:
    CRC n
  - RR--A Main Menu:
    No Yes
- RR--A Genlock Menu
  - RR--A Chroma Phase:
    Down nnn'nnn Up
  - RR--A Checking Sync
    Calibration Wait....
  - RR--A Poor Video
    Reference. Repair
  - RR--A Calibrate
    Error Lost Ref Video
  - RR--A H - Position
    Down Horiz nn Up
  - RR--A V - Position
    Down Vert nn Up
  - RR--A Anti - Jitter:
    Auto
    None
  - RR--A Commit Change
    No Yes

(accessed via SHIFT+RIGHT)

- RR--A Special Fun 2
  - RR--A Select Chan
    A B
  - RR--A Luma Delay:
    Down xxxns Up
  - RR--A Blank Lines:
    14 Blank Lines
    25 Blank Lines
  - RR--A Horz Cal Loop:
    Disabled
    Enabled
  - RR--A Vert TM Const:
    Fast
    Slow
  - RR--A Calibration:
    Down Gain nn Up

Gray areas require the Genlock Option in order to be functional.