Vidi-AMIGA RT COLOUR DIGITISER MANUAL

Software Version 2.00+

ROMBO Productions Ltd

VIDI-AMIGA RT COLOUR DIGITISER MANUAL

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Please note : This software is based in part on the work of the Independent JPEG Group.

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To be used in conjunction with v2.00+ of the Vidi-AMIGA RT software and 12 or 24 RT hardware.

Printed by ROMBO Productions Ltd.

Introduction

The Vidi-AMIGA RT is a complete high resolution true colour 'real time' video digitiser in one unit for use with the following Amiga computers - A500(+), A600, A1200, A1500, A2000, A3000, A4000/30/40.
It can be used to produce very high quality images in various combinations of screen modes and resolutions.
It will automatically detect which television format (PAL, NTSC or SECAM) is being used and adapt accordingly.

This manual covers the Vidi-AMIGA 24RT or the Vidi-AMIGA 12RT unit. The label on the unit will identify which unit you have purchased. This manual will describe the unit as the 'Vidi-AMIGA RT' and highlight any differences between the '12' or '24' unit when necessary.

Package contents

You should find :
Vidi-AMIGA RT digitiser unit,
Software disk,
Manual,
Phono - Phono video cable,
Registration card.

If any of the above items are missing please contact your dealer.

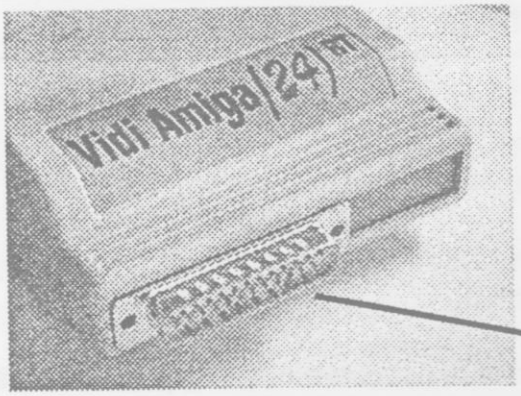
P.T.O.

System Requirements

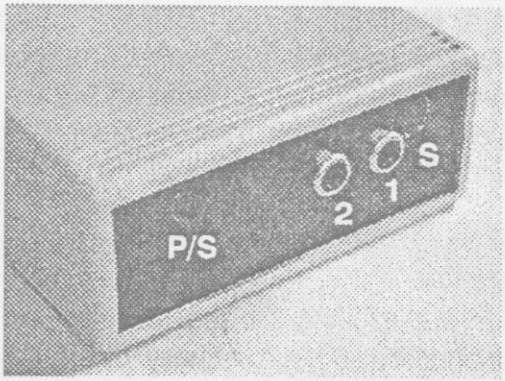
Vidi-AMIGA 12RT - 1Mb or more of RAM.
Vidi-AMIGA 24RT - 2Mb or more of RAM.
External DC power supply (not supplied).
For your reference the power requirements of the Vidi-AMIGA RT is a 9V DC regulated supply capable of delivering at least 500mA. The power plug connection is a standard 2.1mm plug with the polarity being :
Centre contact positive, outer contact negative.

The Vidi-AMIGA RT unit.

The Vidi-AMIGA RT unit consists of a moulded box with a 25 way (male) connector mounted on the front of the unit. This plug connects the unit directly to the Amiga's parallel port (Some users may prefer to connect the unit via a short extension cable for ease of use, see page 63 for more details on the correct type to use).



Parallel Port Connector.



From the back of the unit you can see the three Video-In sockets and the DC power supply socket.

P/S Power Supply in.
S. S-Video (Y/C) in.
1. Composite Video in number 1.
2. Composite Video in number 2.

Setting up the Vidi-AMIGA RT

Please follow these instructions carefully.

1. First take the software disk and make a backup of it. (Please consult your Amiga manual for details on how to do this).
Once this is done, only use the backup copy and keep the original disk in a safe place.
Note: the backup disk should have the same name as the original ROMBO disk.

2. Switch OFF the Amiga and fit the Vidi-AMIGA RT to the Parallel Port at the back of your Amiga Computer. If you have an A1500, A2000, A3000 or A4000 you may have to fit a short extension cable between the Vidi-AMIGA RT and the Parallel port.
See page 63 for the correct type to use.

3. Take your power supply (check first that it meets the required specifications as listed on page 2) and plug it into a suitable mains socket. The DC power connector end must be plugged into the back of the VIDI-AMIGA RT unit and then switched on.

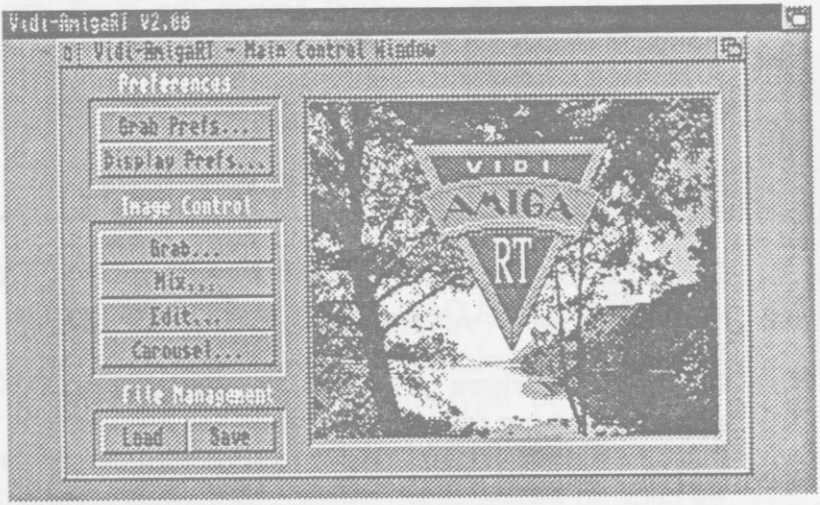
4a. FLOPPY DISK USERS: Insert the disk into drive DF0:, switch on the Amiga, and the Vidi-AMIGA RT software will auto-boot. If you normally boot up from a Workbench disk then you will have to run the INSTALL program supplied first and follow its instructions.

4b. HARD DISK USERS: Before you can use the program, you will either have to auto-boot from the floppy disk or use the supplied INSTALL program.

Once you run the install program, enter Y and press the return key. The install program simply copies library files from the Vidi-AMIGA RT disk to your hard disk default LIBS: directory.

Finally a message will be displayed to drag the Vidi-AMIGA RT icon to a directory of your choice. See page 63 for more technical details on the installation process.

5. You should at this stage see the **Main Control Window** displayed, as shown below.



Please read and follow the tutorial that follows carefully, all the software presets have been set up from the start to allow you to quickly grab or view HAM colour images from switch on.

TUTORIAL

This section of the manual covers the most important points of the Vidi-AMIGA RT hardware and software.

Loading an image with Vidi-AMIGA RT

Just click on the **Load** gadget from the **Main Control window** and the LOAD window will appear.

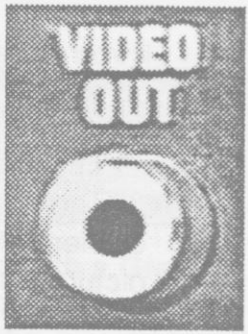
Click on the **Drives** gadget (if shown), click on DF0: and the files pic1.jpg to pic6.jpg names will then appear in the LOAD window (you may have to scroll the names to see it by clicking on the down arrow), click on the pic1.jpg line and pic1.jpg will appear in the **File** box, finish off by clicking on the **OK** gadget.
The message **Loading JPEG** will appear and shortly after **Converting JPEG**.
When the messages disappear, click on the Vidi-AMIGA RT logo to see the image you have loaded!

Choosing your video source

Take a look at your video camera, camcorder or video recorder's composite video output socket and using a suitable cable, plug it into the Video 1 socket of the Vidi-AMIGA RT's Phono socket.

There are many different makes of video cameras, etc. on the market, but there are only three common types of composite video sockets!

The first and by far the most common is the phono connector, shown opposite.



This will be labelled Composite Video Out or Video Out.
Consult your video machines manual.

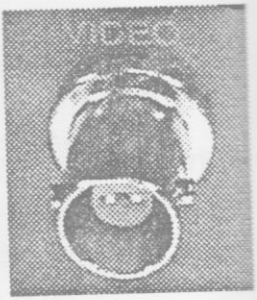
We supply with the Vidi-AMIGA RT a Phono plug - Phono plug cable for connecting straight to this type of socket.

The second type is the multi-pin SCART socket, like the one in this picture.

Most video or television shops can supply you with a SCART plug - Phono Video out plug cable.

But we can supply our own SCART plug adaptor which has a Phono socket on it as an extra if required.

The last and rarest is the BNC socket. This is usually found on the more expensive video recorders and again ROMBO can supply a BNC plug - Phono plug adapter if necessary.



If you do have a machine which uses a different type of video connector, then a special cable may have to be purchased from your video dealer.

Owners of S-VHS or Hi8 machines may use the higher picture quality S-Video input (Video input 3), a suitable cable may be obtained from video dealers.

PLEASE NOTE THAT ANY SOCKET LABELLED RF OUTPUT OR TELEVISION OUTPUT MUST NOT BE USED, AS THIS TYPE OF CONNECTOR IS TOTALLY UNSUITABLE FOR THE VIDI-AMIGA RT.

This is a picture of a typical RF OUTPUT or ANT OUT socket.

(Please note that while three video sources can be left connected to the unit, only one source can be used by the Vidi-AMIGA RT at any one time).

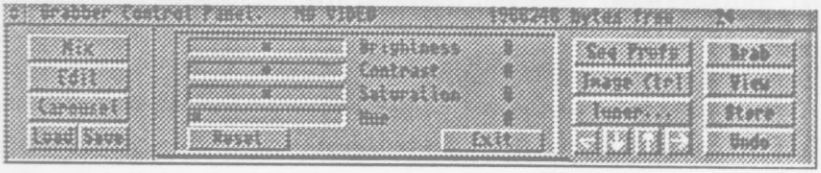
If you want to grab an image from a camera, then the best setup is to position the camera directly over the object and have a strong (preferably daylight) light source at an angle of 45degs to the object. This prevents the light source from reflecting off the object into the camera lens.

Grabbing your first colour image

From the Vidi-AMIGA RT's **Main Control Panel**, click on the **Grab** gadget.

The **Main control Panel** will be replaced with a **Grabber Control Panel** at the bottom of the screen and in the background will be a constantly updating monochrome image of the video source.
If you get the message 'No Video' displayed on the Grabber window's title then either the video source is not connected correctly or the video source is switched off!
If another message is displayed then please refer to page 32 for more details).

The Vidi-AMIGA RT rarely requires the levels of brightness, contrast and level of colour to be adjusted, but the user can 'fine tune' these settings by clicking on the **Image Ctrl** gadget. See picture below.



You should now adjust your video source's focus and brightness (if possible) or by using the two top most horizontal sliders on the **Image Control Panel** make adjustments to the brightness or contrast levels.

Once you are happy with the quality of the monochrome image being displayed, click on the **GRAB** gadget and a **Mixing Frames** window will appear. After a period of time, a full screen colour picture will be displayed.
To return to the **Grabber Control Panel** simply click on the colour picture with the left mouse button.

You will notice that a tick has appeared next to the colour button, this indicates that a colour image is stored in the **Grab Frame buffer**. To view the picture again click on the **VIEW** gadget.
To return to the panel click on the picture again with the left mouse button.

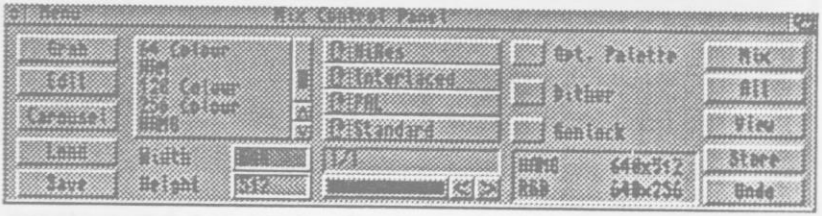
After the initial view you may want to adjust the amount of colour present, so click on the **Image Ctrl** button to bring up the new panel, the **Saturation** level is set by the third slider down. You will need to repeatedly click on the **GRAB** gadget and then readjust the colour bar until you are satisfied with the colour picture, when you can **Exit** from the **Image Ctrl** panel.

The grabbed image is only temporarily stored in the **Grab Frame buffer** in the Vidi-AMIGA RT and if you were to grab another colour image the previous one will be lost.
To store the image in the computer you need to click on **STORE**. This will transfer the picture to the **CAROUSEL** section of the software and you will notice that the tick next to **Colour** will disappear.
This indicates that there is no colour image to view from the **Grabber Control Panel** and you may safely grab another image.

Mixing your colour image

When you grabbed a colour image, the Vidi-AMIGA RT takes the YUV components of the incoming picture and converts them into their Red, Green & Blue components and placed them in a temporary buffer. These three images are known as an RGB triple.
The Vidi-AMIGA RT software requires this RGB triple to remix them into a new image.

Clicking on the **MIX** gadget on the left side of the **Grabber Control Panel** allows the **Mix Control Panel** to open and allow you to select different screen modes and resolutions. As shown below.



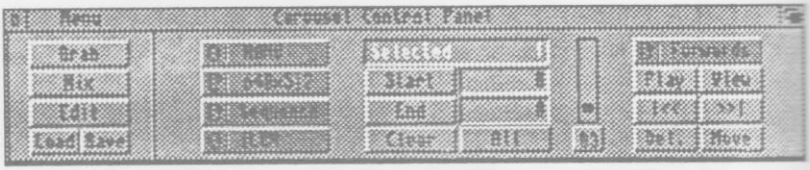
On your software you should see that HAM has been selected and the screen resolution is set to 320x256 (320x200 for NTSC). Use the ListView gadget until 16 colours is shown, click on the cycle gadgets until **HiRes**, **Interlaced** is selected, and the resolution set to 640x512 (640x400 for NTSC).

Finally click on the **MIX** gadget on the right and the **Mixing Frames** bar will appear, after a short time it will have finished processing the new image. To see the results of your mix, click on the **VIEW** gadget on the **Grabber Control Panel**.

You can repeat this and select other screen modes and resolutions, but please remember not all Amigas can display all the various combinations and the message - **Image Display Mode is not Available on this Amiga** that may pop up instead of your image means that your particular Amiga can not display that type of picture, but you will still be able to save the picture to disk if you wish.
See page 24 for a list of the screen modes which you can display images in.

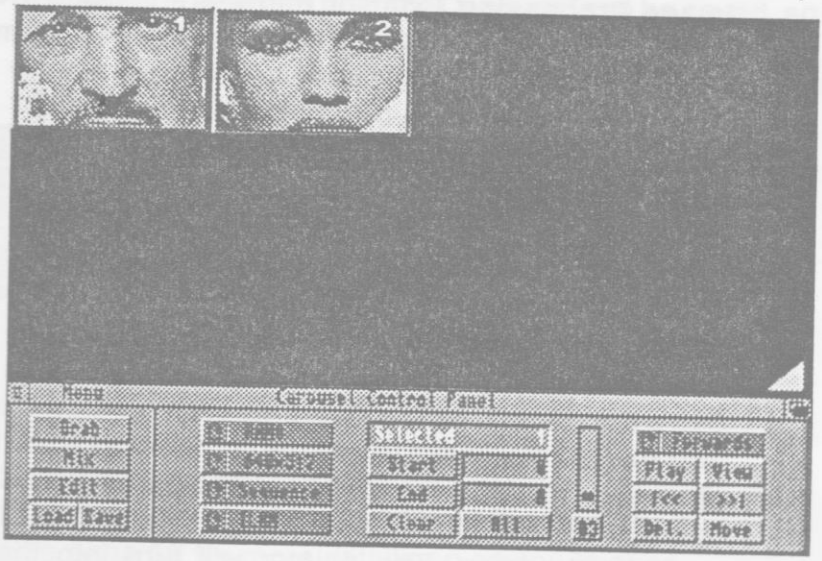
Using the Carousel

From the left hand side panel, click on the **Carousel** gadget and the **Carousel Control Panel** will be displayed.



The **Carousel** allows the images you have stored to be displayed in various ways. You can play them as a group running the images forwards or backwards and adjust the playback speed, you can even perform simple animations! Also from the **Carousel** you can select an image for **Editing**. This allows the selected image to be further processed.

The pic1.jpg image you first loaded, will be displayed at the top of the screen at 1/8 normal size and if you click on **Load** and load in pic2.jpg from the disk as well, then return to the **Carousel**, you will see the two pictures at the top of the screen. (They may look different to those shown below).

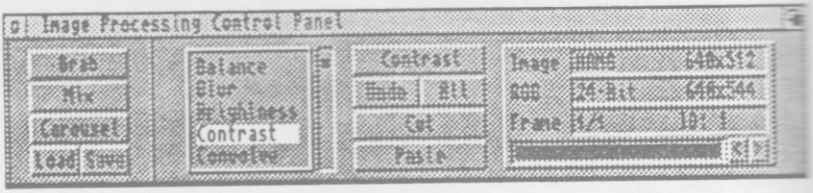


Click on the left image and you will notice a red outline appear around the picture. This indicates that the image is selected. Click on the right image as well, so that both images have a red outline and then click on the **Play** gadget. You will see the two pictures flick between each other or animate.

A click on the screen with the left mouse button will stop the playback. If you click on the playback speed slider bar and position the black bar such that the number 25 appears below it, then click on **Play** again. You will see the same action again, but much faster this time.

Editing the image

From the **Carousel,** highlight only the left image and click on the **Edit** gadget.
The image will be shown full sized and there will be the **Image Processing Control Panel** at the bottom of the screen. This panel allows an image or sequence of images to be processed or enhanced.



For example, click on the word **Negative** inside the list of effects (you may have to use the scroll bar to scroll the list down) and you will notice it will appear highlighted. Click on the **Edit** gadget at the right hand side which now displays the effect's name. The pointer will turn into the clock symbol and you will see a negative version of the picture starting to appear from the top.
The image stored in the **Carousel** has now been converted to an negative!
A good use of this is if you have some colour (or black & white) film negatives, you could grab them and turn them negative so that they appear normal!

As with the other control panels, the **Image Processing Control Panel** overlays the image. Clicking on the image will hide the panel, showing all of the image. Clicking on the image again will bring back the control panel.

Saving an image

Once you are satisfied with the image/s you have grabbed or edited, you will want to save them onto a disk.
Only images selected from the **Carousel** can be saved, so from the **Carousel** panel, highlight only those images you wish to save and click on the Save gadget.
The **Save IFF-ILBM Window** will open and you can either select a drive from the list in the window or type in the drives name in the Drawer string gadget (DF0:, DF1:, etc.).

You must enter a name for the image/s in the **File** string gadget. For example, PictureX.ILBM
Before clicking on the **OK** gadget, make sure that the write-protect tab on the disk is off and that there is a disk present in the drive with enough free space on it.

The Vidi-AMIGA RT software will not allow an image to be saved if there is not enough room on the disk.
See page 52 for more details on saving images.

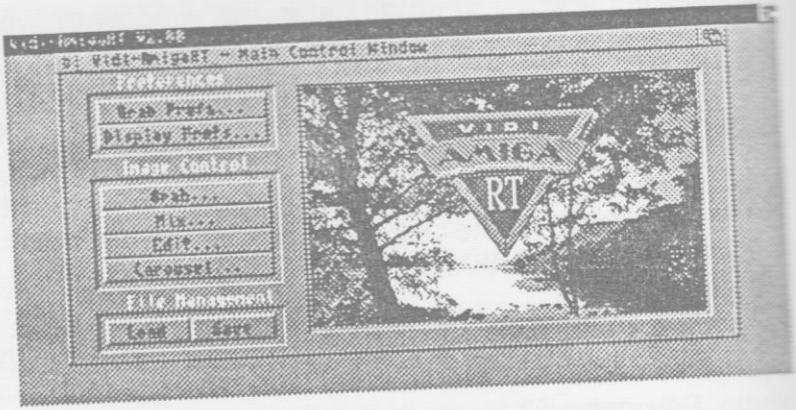
NOTE

This brief tutorial covered the most important points in using the Vidi-AMIGA RT digitiser, it is highly recommended that the user reads the entire manual at least once to familiarise themselves with each function of the software and to be aware of the troubleshooting section of this manual should they ever have a problem or query.

Reference

This section of the manual describes in detail the functions of the Vidi-AMIGA RT software.

Main Control Window



This window displays the main sections of the Vidi-AMIGA RT software.

Grab Prefs...
Opens the Grab Preferences Window.

Display Prefs...
Opens the Display Preferences Window.

Grab...
Opens the Grabber Control Panel.

Mix...

Opens the Mixer Control Panel.

Edit...

Opens the Image Processing Panel.

Carousel

Opens the Carousel Panel.

Load

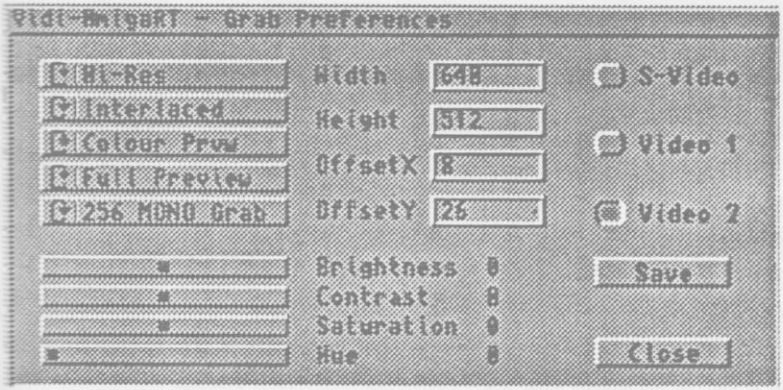
Opens the Load Window.

Save

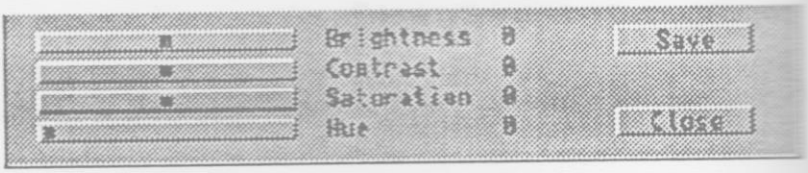
Opens the Save Window.

The Vidi-AMIGA RT logo may be clicked upon to reveal the last picture loaded or grabbed.

Grab Prefs...



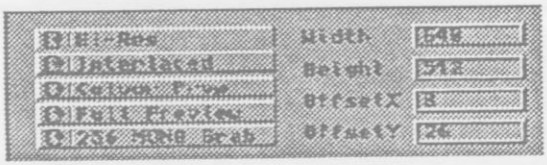
This window is used to control the default grabbing settings.



The Vidi-AMIGA RT automatically sets various options totally transparently to the user. But this section allows you to set some of the hardware options to your own personal preferences.

Hi-Res/Lo-Res

Configures the hardware to grab either 640 (if set to Standard) / 720 (if set to **Overscan**) pixels per horizontal line in **Hi-Res** mode or 320 (if set to **Standard**) / 360 (if set to **Overscan**) pixels per horizontal line in **Lo-Res**.
Note the 24RT can do either, the 12RT can only do Lo-Res, so if it is set to Hi-Res it will only do the equivalent of Lo-Res!



Note: If you want to capture the maximum amount of picture detail, use **Overscan** and **Hi-Res**. But remember this will take up a lot of RAM, typically 1.2Mbytes for a single 720x576 HAM8 image or 622K for a 360x576 HAM8 image.
If your intention is to record the captured image back to VHS or Video8, then there is little point in capturing an image in Hi-Res as these tape formats have a upper limit of approximately 270 lines. But for recording onto S-VHS/ Hi8 or better, switch this option to Hi-Res.

Non/Interlaced

When **Non-Interlaced** is selected, the Vidi-AMIGA RT will only capture the even fields of the incoming video signal. This will effectively half the vertical resolution (i.e. 576 to 288 lines) this is useful for removing Motion Artifacts from a fast moving image.

When **Interlace** is selected, the Vidi-AMIGA RT will capture both the odd and even field of an incoming video frame.

Note : If an image is captured with **Interlace** selected, then Motion Artifacts may be present in the captured image if the incoming video source is moving. See page 61 for more details on this.

16 Mono/256 Mono/Colour/No Prvw

This will configure the Vidi-AMIGA RT to display the incoming video in a preview display from the **Grabber Control Panel.**

16 Mono - The display is shown in 16 levels of grey.

256 Mono - The display is shown in high quality 256 *shades of grey*.

Please note this setting will default to 16 grey levels if a non-AGA model of AMIGA is being used.

Colour- The preview display is shown ONLY as a 1/4 sized full colour HAM8 preview picture.

Please note this will default to 16 grey levels if a non-AGA model of AMIGA is being used.

No Preview - This option disables the preview display to allow manual capturing of the incoming video when displayed on an external monitor.

Note: This gadget will NOT effect the quality of the image actually captured, only what is displayed on screen.

The Preview screen

The Preview screen is designed to try and show as quickly as possible the incoming video picture. This is technically very difficult as each image contains a large amount of data (a full colour image at the highest detail contains 1.2Mbytes of data, and there are 25 images per second, making 29.6Mbytes per second of data!) and this information has to be passed through the Parallel port which can only transfer data at 200Kbytes per second. This would mean the displaying of one image every 6 seconds, not a very satisfactory performance.

In order to speed up the displaying of the preview, the Vidi-AMIGA RT hardware is instructed to only capture a small, crude image, this smaller picture is transferred across much faster so the user sees a low quality, but faster updated picture.

When the user decides to grab an image, the currently displayed picture can not be used as it is only a rough image and depending on exactly when the user pressed the mouse button, the Vidi-AMIGA RT could be already transferring another image for previewing.

So once this crude preview image has been transferred a full quality image is then captured and transferred across ready to be stored, processed with, etc.

This can cause a significant delay between what the user sees on the Preview screen and what is actually captured. So if you wish to have instantaneous capturing of the image, then either set the gadget to **No Preview** or **16/256 mono** and **1/4 Preview** rather than **Full Preview**.

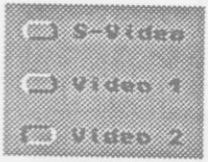
Full / ¼ Preview

This option allows the user to choose to display the incoming video picture in the grabber preview display at either full size or one quarter size. At one quarter size this allows the incoming video picture to be more quickly updated.
Note: In no way does this option affect the quality of the final captured image.
Note: Only 1/4 screen Colour Preview is available.
Full Preview is useful for aligning the incoming image with a camera and checking the focus, etc.

16 Mono/256 Mono Grab

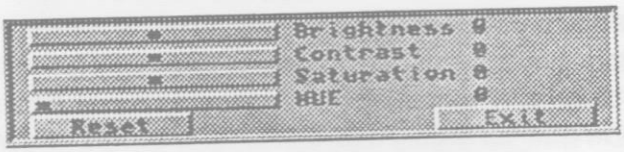
This gadget allows the amount of captured grey levels of the continuous monochrome grab to be altered.
For the highest quality, select **256 Mono**. For lower quality or to make the images take up less RAM, select **16 Mono**.

Source



This configures the hardware to allow one of three different incoming video sources to be used.
Video 1 & 2 are composite video sources.
Video 3 is S-Video (S-VHS, Hi8).

Image Control



From top to bottom, image control of the brightness, contrast, colour saturation and Hue levels of the incoming digitised image. (The Hue level is designed to be only operated by NTSC users), if you are using PAL or SECAM leave this setting at zero otherwise a colour shift will appear in the final colour image.

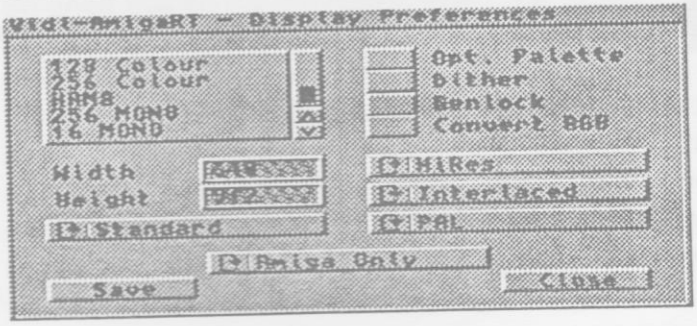
Save

When selected the preference settings are saved to disk.

Close

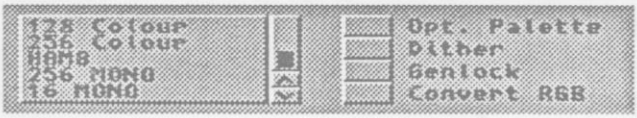
When selected the window will be closed and the settings are preserved, but not saved to disk.

Display Prefs...



This window is used to adjust the display settings of the Vidi-AMIGA RT software.

Colours



This option allows the users to select which screen colour mode to be used in displaying the image.
The ListView gadget shows the screen mode which will be displayed from a grabbed image.

Please note the following restrictions on screen mode/ resolutions for your machine.

MODE	Colours	Display Restrictions
2 Colour	2	NONE
4 Colour	4	NONE
8 Colour	8	S-HiRes+ only on A1200/4000
16 Colour	16	S-HiRes+ only on A1200/4000
16 Mono	16 Grey	S-HiRes+ only on A1200/4000
32 Colour	32	HiRes+ only on A1200/4000
64 EHB	64	HiRes+ only on A1200/4000
64 Colour	64	A1200/4000 only
HAM	4096	HiRes+ only on A1200/4000
128 Colour	128	A1200/4000 only
256 Colour	256	A1200/4000 only
256 Mono	256 Greys	A1200/4000 only
HAM8	262,000+	A1200/4000 only

The message **Image Display Mode is not Available on this Amiga** will appear if you try to use those modes which your Amiga can not display. **Note**: The restrictions above are only display restrictions. Even though an image is not displayable, it can be saved to disk and consequently loaded into a machine capable of displaying it.

Optimal Palette

Normally left off. When selected, a palette will be chosen by the computer including the most valuable colours. The results you get from using this option are very much dependant on the subject matter being grabbed. If it makes the image look better, use it. If the image looks worse, do not select it.

Dither(Floyd-Steinberg)

This technique is used to improve the image quality when mixing and editing.

A captured image may contain over 16,700,000 colours. mixing down to, for example, 16 colours would result in the massive loss of useful colour information.

Dither or Error Diffusion reduces the apparent loss of colour, but can make an image look grainy in LoRes or HAM8 modes.

We recommend leaving it selected in most cases from version 2.00 of the RT software.

Genlock

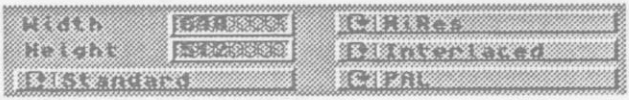
When this is selected, colour 0 is not used in the mix palette. This will prevent transparent areas appearing in the image when used with a genlock.

Convert to RGB

When selected, an 24-bit RGB triple will be derived from a loaded image. The Vidi-AMIGA RT software can only mix or edit an image if it consists of a Red, Green and Blue (RGB) triple.

An RGB triple is automatically generated when you grab a colour image, but if an image is loaded from disk, an RGB triple must be created. This is done when this option is selected. Alternatively use the **ExtractRGB** function in the **Image Processing** panel. See page 41 for more on this.

Screen Size



The **Width** and **Height** boxes show the selected screen display resolution. By clicking on the various cycle gadgets you can rotate through the various screen resolutions.

Standard/Text/Gfx/Max/Video/RGB Size/Custom

When clicked upon, the cycle gadget switches between the various **Overscan** options available.
E.g. 320x256 to 384x290.
Note: See page 25 for more information on Overscan.

Standard

This is the standard size, with no overscan applied.

Text Overscan

The size is determined by the Workbench Text Overscan preferences.

Gfx Overscan

The size is determined by the Workbench Gfx Overscan preferences.

Max Overscan

Size determined by hardware.

Video Overscan

Size determined by hardware.

RGB Size

Size matches that of the RGB triple (or MONO).

Custom

This allows the display image size to be specified by typing into the **Width/Height** gadgets. When these boxes are 'ghosted', the size is set by the cycle gadgets. When custom is selected, any size may be entered from 32x32 pixels, upto a limit set by your computers available memory.

HiRes

When clicked upon, the cycle gadget will scroll through the three different display resolution settings. LoRes, HiRes or Super-HiRes. Please note that only AGA Amigas can display Hi-Res or Super-HiRes.

Interlace

When clicked upon, the cycle gadget will switch between non-interlace or interlaced. This allows higher quality images to be displayed in the vertical direction.
E.g. 256 to 512

PAL

When selected this will display a normal PAL full size screen. When deselected the resultant grabbed image will be displayed as an NTSC sized picture.
(SECAM users should select PAL).

Amiga only/Retina/Harlequin

This option is for use with the Retina or Harlequin 24-bit graphics display boards. When Retina or Harlequin is selected, the captured image once mixed, is automatically displayable on these cards as well.
Normally left on **Amiga only,**

Save

When clicked the settings are saved to disc.

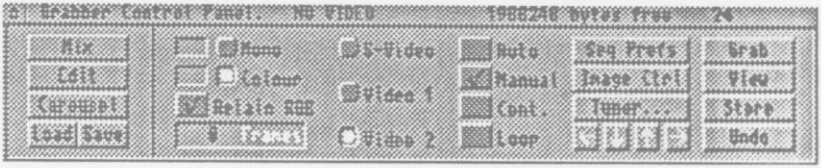
Close

When clicked it simply closes the window.

NOTE: The **Grab** and **Display Prefs...** windows can be left open whilst using other functions of the software.

Grab...

The **Grabber Control Panel** controls the capturing of images into the AMIGA.



If on displaying this panel, the words on the panel title says ' No video', then the unit has not detected an incoming video signal, check that you are using a video signal plugged into the correct source.
If the message 'No interface' appears, then the software can not detect that the Vidi-AMIGA RT unit has been plugged into the AMIGA. Check the hardware connections.

If the Vidi-AMIGA RT does recognises a incoming video signal then the **Grabber Control Panel** will overlay a constantly updating monochrome image called the 'Preview screen'. (The unit automatically detects whether or not a PAL, NTSC or SECAM signal is incoming).
Note: The type and size of Preview screen displayed is determined by the **Grab Preferences**.
Clicking with the left mouse button on the background image will reveal the full image, clicking on it again will bring back the **Grabber Control Panel** (if Full Preview /16 or 256 Mono has been selected).

Clicking on **Mix, Edit, Carousel, Load** and **Save** will exit the **Grabber Control Panel** and activate the selected function.

Colour selection

Mono

This button will allow a monochrome 16 or 256 grey level image to be grabbed (The 16 or 256 mono option in the Grab Preferences determines which is performed).
When a grab is performed successfully, a tick will appear to the left of this button to indicate that a monochrome image is available for viewing. To view the image click on **Mono** and then click on **View**.

Colour

This button when selected will allow a 24-bit colour image to be grabbed. When a grab is performed, a tick will appear to the left of this button to show you that a colour image is available for viewing. To view the image click on **Colour** and then click on **View**.

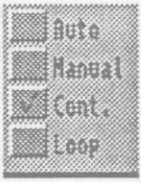
Retain RGB

When selected, the RGB triple is stored in the carousel along with the colour image as before. If this is not selected, the RGB triple when the colour image is stored. This is useful on machines will low memory.

The Frames box displays the number of pictures currently stored in the **Carousel**.

Source selection

This area of the panel allows the user to instantly switch between one of the three video inputs.



This collection of gadgets determines the way the grab process is performed.

Auto

When this is selected and you click on **Grab**, the image will be grabbed, mixed, viewed and automatically stored in the **Carousel**.

Manual

When this is selected and you click on **Grab**, the image will only be grabbed, mixed and viewed. You will have to store the image manually if you want it placed in the **Carousel.**

Cont. (Continuous)

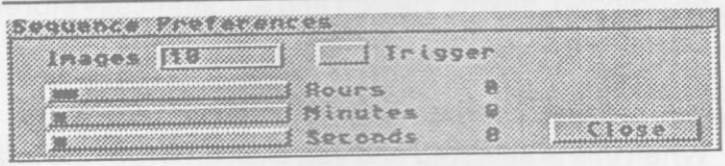
When this is selected, the grabber will grab and store either monochrome or colour images (this is determined by the selection of the Mono or Colour buttons) into the **Carousel** continuously until the Amiga's memory is full. A message will be displayed in the **Grabber Control Panel** to click the left mouse button to stop the process. The delay between each grab can be controlled via the time lapse slider.

Note: When Colour continuous grab is being performed the preview screen is temporary disabled and the colour images are stored as raw YUV data in the **Carousel.** (This is because the capturing of colour sequences is very time demanding). To view or play back this sequence you will first have to mix the pictures to an Amiga display mode of your choice via the **Mix Control Panel**.

Loop

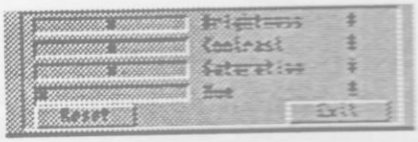
When this is selected and **Continuous Grab** is being performed, after the memory becomes full **Continuous Grab** will continue, but it will overwrite the images already grabbed. This allows you to continually grab images without running out of memory.

Seq Prefs



When this button is clicked upon, the Sequence Preferences window will open over the Grab Panel. This allows the user to specify the number of **Images** to capture, the delay between each capture or choose an external trigger (joystick port fire button).
Close returns to normal Grab mode.

Image Ctrl



When clicked upon, the Image Control panel will overlay the Grabber Control Panel.
The collection of sliders allow the user to control various aspects of the incoming video image.
Brightness, Contrast, Colour saturation and Hue.
(The Hue control is intended for NTSC users only and should be left at zero if using PAL or SECAM signals).

Reset

Simply returns the four sliders to their default values.

Exit

Removes the Image Control panel, but remembers the various settings made.

Image positioning

By using the cursor keys the user may make minor adjustments to the horizontal and vertical position of the preview screen, but **NOT** the captured image. The input video size and positioning is set by the **Grab Preferences Width/Height/OffsetX/OffsetY**.

Tuner

Opens the Tuner Control Panel (if fitted).

Grab

When clicked upon, the hardware will capture the next available video image and after the data has been read from the hardware into the AMIGA, the image is stored in the **Grabber buffer**.

Note: The image grabbed is not stored in the **Carousel** unless the **Auto** option is selected or **Store** is clicked.

View

This allows you to view the image held in the Grabber Buffer. If the ticks next to the colour or mono gadgets are not highlighted, then this means that there is no image to view.

Store

When the **Colour** button is ticked and highlighted the contents of the **Grabber buffer** are placed into the **Carousel** when **Store** is click upon. The RGB triple in the **Grabber buffer** will be emptied and the tick next to **Colour** will switch off indicating that it is empty.
If the **Mono** button is ticked and highlighted when **Store** is clicked, then only the Mono image from the **Grabber buffer** is placed into the **Carousel** and the tick next to **Mono** will switch off indicating that it is empty.
To review the now stored picture, you will have to go to the **Carousel Panel**.

Undo

This will delete the current RGB triple and colour image stored in the Grabber buffer if **Colour** is highlighted.
If **Mono** is highlighted then only that image will be deleted.

Additional Information

Also contained in the title section of the Grab panel is extra video and resources information.
Starting from the left after the title of the panel -
PAL, NTSC, SECAM, B/W - the incoming video format or one of the below messages.

No Interface
The software can not detect a Vidi-AMIGA RT unit attached to the user's AMIGA parallel port.

No Power
The software can not detect power being fed into the Vidi-AMIGA RT unit. Perhaps the power supply being used is the wrong polarity, voltage, etc.?

No Video
The Vidi-AMIGA RT unit can not detect an incoming video source. Check you are using the correct type.

Device Error
The software has detected errors when reading image data from the unit. Check that the unit is connected to the AMIGA correctly.

PAR: in use
The parallel port is locked by another task.

VidiAmigaRT Hardware is currently in use
The Vidi-AMIGA RT is in use, another application is using the hardware!

50Hz or 60Hz
This shows the frequency of the video source, i.e. the number of fields per second.

12345678 bytes free
This displays the amount of free RAM available in the AMIGA for storing images.

12/24
This displays which type of Vidi-AMIGA RT unit the user is using.

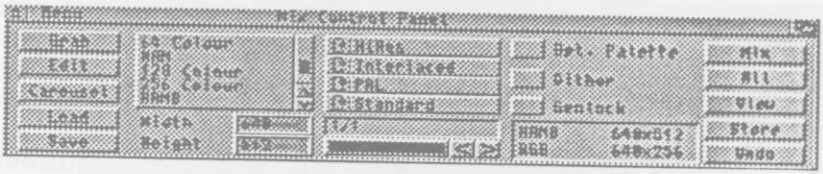
Keyboard Controls

Keyboard short-cuts are available for functions in the **Grab Control Panel** or **Image Ctrl Window**.

KEY	Function
a	Select Auto
b	Increase Brightness
Shift b	Decrease Brightness
c	Select Cont.
d	Cycle forward through video source.
Shift d	Cycle backward through video source.
g	Grab an image
h	Increase Hue
Shift h	Decrease Hue
Right Amiga i	Open Image Ctrl Window
l	Toggle Loop mode
m	Select Manual
o	Increase Contrast
Shift o	Decrease Contrast
q	Close Grab Control Panel or Image Ctrl Window
r	Toggle between colour and Mono
Right Amiga r	Reset Image control
s	Store an image
t	Increase Saturation
Shift t	Decrease Saturation
u	Undo
v	View image (press return to exit view)

Mix Control Panel

The **Mix Control Panel** allows any captured (or loaded) image to be mixed into different screen resolutions or colour modes (provided it has an RGB triple).



Note: This panel can only be entered if one or more images have been selected using the **Carousel**.
The **Mix Control Panel** overlays the image which is being remixed (the working image).
Clicking on the image will hide the **Mix Control Panel**, showing all of the working image, clicking again will bring back the **Mix Control Panel**.

As with the other control panels, the five buttons **Grab**, **Edit**, **Carousel**, **Load** and **Save** will exit the **Mix Control Panel** and activate the selected function. Clicking on the Close button will return to the **Main Control Window** and any changes will be lost.

The ListView and cycle gadgets controlling the resolution and screen modes are explained in the **Display Preferences** section on page 22 and control how the image is to be remixed.

The image slider allows the image to be selected for re-mixing, the information box shows how many are available. Information is also given about the image, eg. the screen mode and resolution of the working image which is to be remixed.

As in the **Display Preferences**, Palette, Dither and Genlock may selected if required.

Mix

Remixes the image according to the settings and stores it in the Mix Image Buffer. During the mixing process the mixing can be aborted by clicking on the Mixing frames window's close icon when it appears.
The remixed image will be displayed after mixing, pressing the left mouse button will return to the **Mix Control Panel**.

All

Mixes all selected images stored in the **Carousel** that have a RGB triple.

View

Displays the image held in the Mix Image Buffer. Pressing the left mouse button returns to the **Mix Control Panel**.

Store

Stores the remixed image in the **Carousel** and exits the **Mix Control Panel** returning to the **Main Control Window**.

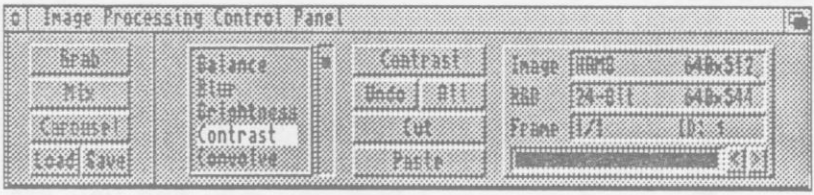
Undo

Deletes the image held in the Mix Image Buffer, restoring the working image.

Note: Mono images can be remixed to a mono image of different resolutions or even other screen modes/ resolutions, but not to colour! Images without an RGB triple can not be remixed. Use the **Edit** or **Image Processing Control Panel** to 'extract' an RGB triple.

Edit

This 'Image Processing Control' panel is used for altering and improving images stored in the **Carousel**.
Once one or more images have been selected using the **Carousel**, you may alter them singly or as a whole group.



Please note that only images which have an RGB triple can be edited. When the Mixing window appears, clicking on its Close button will terminate the operation if you so wish.

Grab, **Mix**, **Carousel**, **Load** & **Save** will take you to their respective panels.

Most images which have been either video digitised, or scanned can be improved by using one or more of the effects listed over the page.
For example, if the image is too dark then it may be lightened, if it looks blurred then it can be sharpened.
Of course no amount of image processing will make a badly taken picture look good but it may make it useable.

This 'effects' box contains the list of effects names and can be scrolled by the use of the vertical slider control.

Once the name of the effect you wish to use appears, simply click upon it and it will appear highlighted.

When an effect has been highlighted, the name of the top icon next to the 'effects' box will change to match.
To use the effect, click on the icon with the name of the effect. Most of the effects have extra options to allow you to tailor the effect to your requirements. Generally this will mean that you will have to experiment with the settings to see if you like the effect, if you do not, then the effect can be undone by clicking on the **Undo** icon.
The most common which you may find you are using repeatedly are : Sharpen, Contrast, Saturation, Lighten, Darken, Exposure and Gamma.
The following is a list of effects:

Average

Each pixel is set to the average of the sum of itself and its surrounding neighbours.

Balance

Colour balance, the relative brightness of the Red, Green and Blue components of the image can be independently adjusted.

Blur

Blurs the image.

Brightness

Lightens or darkens the image, similar to the brightness control of a television set.

CombineRGB

This option allows three 16 or 256 Mono images which have been selected via the **Carousel** to be combined together. This is very useful if the user takes three grey scale images in turn with a red, green and blue filter in front of a video camera mounted on a tripod. These 'RGB' images can then be combined into a full 24-bit RGB triple and mixed into the current display mode.

This allows very high quality still colour images to be made from a high resolution black and white camera, which is considerably cheaper than a high resolution colour camera!

Contrast

Adjusts the contrast of the image, useful if used in small amounts.

Convolve

This option is potentially the most powerful effect as it allows the user to adjust, trim and fine tune the image processing effect to a large degree.

A standard matrix of 3 by 3 pixels is displayed in a small window. Each number represents one in a group of nine pixels. By adjusting the values of each pixel, many different processing effects can be obtained over the entire image.

Once the various values are entered and the two sliders marked **limit** & **Mix** affects the way the matrix is applied to the original image.

Limit

If the difference between the processed pixel value and the original pixel value is less than the 'limit' value, then the original pixel is left in place.

E.g. 0 means all pixels replaced, 255 means none are replaced.

Mix
Adjusts the percentage of original image or processed image that will be mixed together to be presented as the final image.
0% - no processed image, only the original image.
100% only the processed image will be shown.

Once the **OK** button has been selected the processing will start. This can take some time depending on the size of the image and the AMIGA model you are using.

Convolve is complex, but it is worth experimenting with it to see what effects you can get with it.
Here are a few examples you can try out.

2	-2	2	Limit: 50
-2	0	-2	Mix: 100
2	-2	2	

This will produce an edge effect and by varying the threshold limit value the effect can be finely adjusted to suit the subject. Try 'limit' values of 50 to 200 to see the effect. Increasing the outer edge values from 2 to 6 will increase the edge effect.

-1	-1	-1	Limit: 0
-1	12	-1	Mix: 100
-1	-1	-1	

This will produce an sharpen effect and by varying the middle pixel number , the effect can be finely adjusted to suit the image, try values of 5 to 8 instead of 12.

DiscardRGB

Not really an effect. It will delete the RGB triple of the image, therefore freeing RAM for other uses. See page 65 for more detail about RGB triples

Edge

Performs a simple edge detection function.

Emboss

Produces an embossed looking image.

Equalize

Analyses the image and then adjusts the image to ensure that the full range of black to white (0 to 255) values are present in the image.

Exposure

Adjusts the apparent exposure of the image along very similar lines of traditional photography. Useful if you need to lighten or darken the picture without changing the black content of the image.

ExtractRGB

Not really an effect. If an image does not have an RGB Triple associated with it then it may be generated by using this function. Please note RGB triples take up a lot of RAM, see page 65 on RGB triple sizes.

Flip X

Flips the image on the horizontal axis.

Flip Y

Flips the image on the vertical axis.

Gamma

Performs gamma correction on the image. Extremely useful for treating images so that all the grey (or colour) content look correct when it is to be eventually printed out with another software package. E.g. Deluxe Paint 4, etc. Useful value is 25.

Maximum

Each pixel in the image is set to the highest value of itself and its surrounding neighbours.

Median

Each pixel in the image is set to the middle value of itself and its surrounding neighbours.

Minimum

As above but uses the lowest value.

Negative

Turns the image negative.
Very useful for making 'prints' of film negatives.

Pixelize

Produces an image with enlarged pixels of a desired width and height.

Quantise

Reduces the number of intensity levels in an image.

Saturation

Allows precise control of the amount of colour content in an image.

Sharpen

Sharpens the image to improve the quality of the image. This is very useful function that works best with high resolution images in 128 or above colours or grey levels.

Threshold

Pixel values above the threshold are set to maximum (255) otherwise they are set to minimum (0)
Gives graduated colour blending creating a water colour effect.

This information box displays the screen mode and resolution of the image displayed.

Cut

When clicked, the edit panel will disappear and crosshairs will appear to allow you to select an area for pasting.

How to use:

Using the mouse position the crosshairs where you wish the top left hand corner of the cutting area to be. Press the left mouse button and whilst keeping it pressed, drag the bottom right-hand corner to wherever you wish and release the mouse button. See **Paste.**

Note: You may see strange horizontal lines corrupting the area around the box if you are cutting an HAM8 image, this is normal and will not effect the final image.

Paste

The selected **Cut** area will be pasted over the image displayed when the left mouse button is pressed. You may use the **Image advance** gadgets to display other images and paste in them instead.

How to use: Position the box to wherever you wish and press the left mouse button to paste.

Undo

Reverses the effects of the Image Processing function, provided **All** is not used and the working image is not changed using the image advance gadgets.

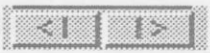


Image advance gadgets, page forwards or backwards through the current images to select the current working image.

All

Applies the image processing function to all selected images in the current image sequence. **Undo** will not reverse processing if **All** is used.

Please note that this operation can take a very long time if a lot of images have been selected.

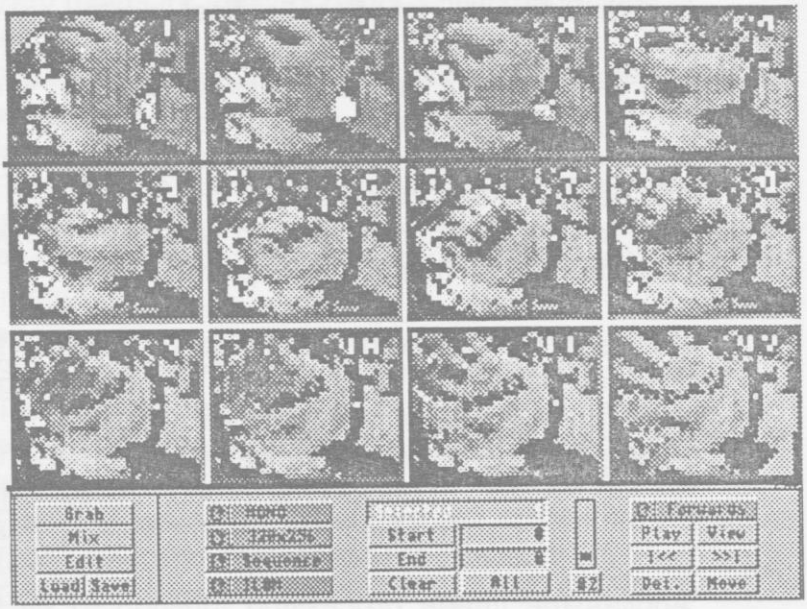
Clicking the close window button will exit the **Image Processing Control Panel** and return to the **Main Control Window**. Any changes will be saved.

Carousel

The **Carousel** allows selection of images for deletion, editing or animation.

The **Carousel** consists of the panel and a system of pages which display 1/8 sized monochrome versions of the images you may have loaded or grabbed.

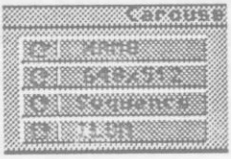
These images may be selected for deleting, editing, mixing, saving or animation.



The top two thirds of the screen contain a page of numbered images, if you have stored many images then these will overflow onto the following pages.

To select the next page you click on the bottom right grey/ red triangle, to select the previous page click on the top left hand triangle. Each image is numbered, so that you may manually enter its number for viewing.

Grab, **Mix**, **Edit**, **Load** & **Save** will take you to their respective panels. The Close button will return you to the **Main Control Window**.



The top two cycle gadgets allow you to view the different screen modes or resolutions of images you may have loaded or grabbed for viewing, editing or animating.

It is only possible to view or animate images which are of the same screen mode and resolution at one time. You will have to click on these gadgets to view your images if they are of a different screen mode or resolution.

The third gadget down is used for selecting images prior to playing them back, saving them to disk, editing or re-mixing them, if set to **Sequence**, all images displayed in the **Carousel** can be instantly selected by keeping the left mouse button pressed down and moving the mouse through the images. If set to **Single** only one image may be selected at a time.

The bottom cycle gadget defines the way the image will be saved or which type of image can be loaded. It is selectable to **ILBM**, **12 Bit, 24 Bit, BMP, TIF or JPEG**.

ILBM

Saves the mixed image as a standard IFF image file.

12 Bit

This saves the RGB triple as an IFF 12-bit image.
Note: Deluxe Paint can not load a 12-bit image.

24 Bit

Allows you to save the RGB triple as a 24-bit IFF image.
Note: 12-bit or 24 -bit images can not be displayed directly on a standard AMIGA.
Plus 24-bit images are very large!

BMP

This allows the RGB triple to be saved as a standard 24-bit Bit Mapped file format as used on the PC.
To load or save an 24-bit BMP file, this gadget must be set to BMP first.

TIF

This allows the RGB triple to be saved as a standard 24-bit uncompressed (v5.0) Tagged Image File Format file as used on the PC.
To load or save an 24-bit uncompressed (v5.0) TIFF file, this gadget must be set to TIF first.
Please note that there are many different versions of the above two file formats. The Vidi-AMIGA RT will only load or save 24-bit TIF or BMP's as detailed above.

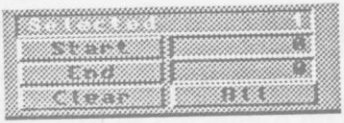
JPEG

The Joint Photographic Experts Group file format (JPEG) used by Vidi-AMIGA RT is a special graphics file format which greatly reduces the size of the image using a special algorithm called the Discrete Cosine Transforms (DCT) compression technique.
Vidi-AMIGA RT's JPEG file format conforms to the JPEG File Interchange Format so you will be able to load in JPEG images from other computer systems, PC, etc.
You can save either greyscale or colour pictures in the JPEG file format.
Of all the file formats Vidi-AMIGA RT supports, JPEG can give you the greatest compression. A 720 x 576 24-bit image would normally take up 1.2Mbytes of disc space, a JPEG'ed file would reduce this to typically 65Kbytes! We have provide many files on the supplied disk, these would normally take up 5.5Mbytes of disk space!
Although your file size will be much smaller, you will lose some picture detail during compression. Your picture may appear slightly blurred and there may be a loss of detail.

You can choose the amount of loss that is acceptable for your picture when you perform a JPEG save, as a small window will open and a slider will appear. A value of 1 to 100 may be selected, an optimum value of 75 is recommended, lower values will reduce the size of the saved file, but it will degrade the saved picture quality.
It is highly recommended that you check the results of the compressed file before you discard your original picture. To check the results of saving, you must reload the picture again. If the loss of detail is not acceptable, try saving the original picture again using a higher value.

Please note that the saving of a JPEG image will take much longer than the other file formats. A typical 360 x 576 24-bit colour image saved to disk on a standard A1200 will take 1 minute 15 seconds approximately and be reduced from 622Kbytes to 30Kbytes! Other models will take more or less time depending on their processing speed.
But a 'fuel gauge' type window will pop up when loading or saving a JPEG image to show how far the process has to go to completion.

Note: Users of the RT should use the **24 Bit** option to archive their material as this keeps the image in its 'raw' state without any image quality loss. But images will take up a lot of disk space.



This collection of gadgets are used for block selecting or deselecting.

Select an image on the **Carousel** page and press **Start** to define the first image of the block. Select the last image on the **Carousel** page and press **End**. This block of images will be selected. All other images will become deselected.

A block may also be selected by using the corresponding string gadget in **Single** mode, the **Start** string gadget can be used to select a single image and advance the **Carousel** to the page containing the selected image.

Selected

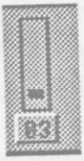
indicates the number of images currently selected in the image sequence.

Clear

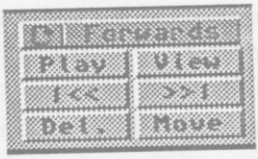
When clicked it will deselect all images.

All

When clicked it will select all images.



This vertical slider sets the playback rate at which an image sequence will be animated.
The frame rate per second is shown below the slider only as a guide. The actual frame rate may not be achievable due to the type of image being displayed or the type of AMIGA computer used.



This collection of gadgets determines how the images selected will be played, viewed, moved or deleted.
The top cycle gadget is selectable between **Forwards**, **Reverse** or **Bounce**.

Forwards

Selected images are animated in a forwards direction.

Reverse

Selected images are animated in a backwards direction.

Bounce

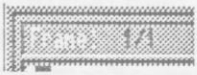
Set the animation to play forwards, then play backwards, etc. when **Play** is clicked.

Play

When clicked the animation sequence will start.
Press the left mouse button to stop.

View

When clicked upon all images in the image sequence, both selected or unselected, will be displayed full screen with the View bar window along the bottom.
This small window allows the images to be quickly viewed and either selected or deselected.
Note: If images being animated using **Play** and **View** have different palettes, then all images will be animate using the palette of the first image.



The top left of the window indicates which frame number is currently being looked at.

The horizontal slider allows the user to quickly view each image.

The text box shows what resolution and screen mode the current image is set to.

The Selected/Not Selected gadget shows whether or not the image being viewed has been selected. By clicking on this gadget the user can make an selected image not selected and vice versa.
The two arrow gadgets will advance the viewed frame forward or backward by one.
Clicking on the Exit gadget will return you to the **Carousel** panel again.

Del. (Delete)

This gadget will delete permanently all selected images from RAM. A requester will ask for confirmation.

Move

This allows you to rearrange one or more images (of the same type) in the **Carousel**.
How to use:
After selecting one or more images, click on the **Move** gadget. A requester will ask 'Select new position'.
A mouse click on the new selected position will move the images to their new location.

Note: A left mouse click will place them before the selected image, a right mouse click will place them after the selected image.

Load/Save

These windows simply allows you to select which graphic file you wish to load or save.
To select which image/s you wish to save and their file format, you must use the **Carousel** panel first to choose the image/s and if it is to be a IFF, 12-bit, 24-bit, ANIM, BMP, TIFF, YUVN or JPEG file format.

Note: Workbench 2 or 3 users will see the standard ASL filer requester load/save windows if they boot up off their Workbench, Workbench 1.3 users or booting up off the Vidi-AMIGA RT software will see the ARP filer requester windows.

The Vidi-AMIGA RT automatically detects the type of file being loaded, if the Vidi-AMIGA RT detects that the file format is incompatible the loading will terminate.
ILBM IFF files are automatically placed into the Carousel.
12-bit, 24-bit, BMP, TIFF and JPEG images are mixed to a HAM 320x256 image with Error diffusion on for viewing purposes.
You can then remix them to another type if you wish.
Loaded YUVN files have to be manually mixed to a display mode of your choice to view them.

Note: We have supplied on the disk many sample images, pic1 & 2 are Lo-Res, the rest are Hi-Res. You may need more than the basic 2Mb of RAM in your computer to see the Hi-Res images in a screen mode better than Lo-Res (320x256) HAM.

Loading

Clicking on **Drives** will display the different drives you can load images from. (DF0:, DF1:, etc.) Clicking on these names will bring up a list of files on the disks inserted in those disk drives. Simply double click on the file you wish to load or use the scroll arrows to view all the files.
You can of course type the name of the file in the **File** string gadget if you prefer.

Tip for low free RAM computers users.
Turning the **Convert to RGB** option off when loading files into the Vidi-AMIGA RT as this will save a lot of memory. The resultant images can be viewed but not mixed or edited.
You can make an RGB triple later if you wish by using the **ExtractRGB** option from the Edit window.

Saving

Saves the current image/s selected from **Carousel** to a file onto either disk or Hard drive. The settings of the **file format** gadget in the **Carousel** will determine how images are saved to disk.

If the **ANIM** gadget is selected then the **file format** gadget must be set to **ILBM**. Please note that only standard AMIGA display modes (HAM/HAM8/16Mono, etc.) can be saved as a ANIM file.

If **ANIM** is NOT selected and more than one image is highlighted, then they will be saved as a sequence of individual files, each with a number appended after the name supplied. (E.g. subject.0001, subject.0002, etc.) Using the file format specified in the **file format** gadget.

Notes:
If an image is selected and you are wishing to save it in a file format other than ILBM, then the image must have a RGB triple (the exception is an YUVN image) associated with it (see **ExtractRGB** in the **Edit** panel for getting one).

Only colour continuous grabbed images may be saved out as a YUV format.

In normal use (individual file saving) leave the **file format** gadget in the **Carousel** set to **ILBM** and always mix the image to a standard IFF display mode that your AMIGA supports.

For serious archiving use, select the 24-bit file format for saving out the image without any quality loss.

Saving

Workbench 1.3 users only - Once you have selected one or more images for saving, clicking on **Drives** allows you to select which drive you wish to save to. (The **Drawer** line shows DF0: as the currently selected drive and path).
After clicking on the drive number (or enter the drive number manually in the Drawer string gadget) you should enter a name for the image in the **File** string gadget and click on **OK**.

Glossary

RGB triple

Three images representing the red, green and blue component of an image.
Editing, mixing or displaying an image via the **Main Control Window** needs an RGB triple of the image.

Image Sequence

A group of images of the same screen mode and resolution.

Grab Frame Buffer

The temporary Mono, Red, Green and Blue image storage area used by the Vidi-AMIGA RT software.

Mix Image Buffer

A temporary storage area where a remixed image is held before being stored in the **Carousel**.

Real Time

This is often misquoted, it means that one image can be captured within the time it takes for one frame of the video source to go by, i.e. 1/25 of a second.

S-Res

Super Resolution, the number of horizontal pixels on the screen is 1280 or above.
Only AGA Amigas can display this.

Hi-Res

High Resolution, the number of horizontal pixels on the screen is 640 or above.
Only AGA Amigas can display this in all colour modes.

Lo-Res

Low Resolution, the number of horizontal pixels on the screen is 320 or less.
Any AMIGA can display this.

YUV

This is the raw data of the output of the Vidi-AMIGA RT hardware. It is a special data format which contains the full colour and monochrome information of the image in a compacted form. It is only generated when a colour continuous grab is performed.

Timelapsed Grabbing

Timelapsed grabbing allows the software to capture images one after another with a preset time interval between them. This allows the many effects of time passing to be observed. E.g. Flowers opening and closing, Clouds passing overhead or people passing by. Your imagination (and the amount of RAM you have) is the limit!

How to use:
If **Cont.** is selected from the **Grabber Control Panel** and the timelapsed slider is set to a value other than 0.0 then timelapsed grabbing will take place. A good example of this is to point a video camera at the horizon and set the timelapse slider to 1 minute. After a couple of hours stop the grabbing by pressing the left mouse button and use the **Carousel** to select all the images and play them back. It is amazing to watch the clouds whizzing past!

External triggering

When the timelapse slider is set to its highest setting the word **TRIG** appears, this allows the pressing of the second joystick fire button to be the triggering event instead of lapsed time.

By simply wiring pins 6 & 8 of a suitable 9 pin D-type plug to a switch (normally open), you can make a device which will take a picture each time the switch is pressed.
Imagine wiring up a pressure sensitive floor switch, your Vidi-AMIGA RT could then take a picture each time the switch was walked on!

Testcard

From the **Load** window you will come across a image file on the Vidi-AMIGA RT disk called Testcard.ILBM, this is a very useful image designed to allow you to set up your television set to its optimum display.

Simply load it in and by clicking on the Vidi-AMIGA RT logo from the **Main Control Window** you will see a colour and greyscale image.

Adjust the brightness of your television so that you can see all the different grey levels and adjust the contrast control of your television so that the black levels look really black and not just dark grey.

Upgrading your Vidi-AMIGA 12RT to 24RT

ROMBO have designed the Vidi-AMIGA 12RT to be upgraded to the 24RT at a later date. The 24RT can digitise in 16.7 million colours (24bits) up to an incredible 720 x 576 resolution (professional broadcast quality)!

To do this return the Vidi-AMIGA 12RT unit to ROMBO, enclose payment to the value of £99 inclusive of VAT, postage, etc. ROMBO will upgrade your unit to the Vidi-AMIGA 24RT and return the unit to you as soon as possible.

Note: There is a picture on the supplied disk which demonstrates the image quality differences between the two products. Image 'Watch.jpg' comprises of two halves of a Vidi-AMIGA 12 and 24 RT picture. Non AGA Amiga owners should load this image and remix it to 16mono, 640x512 with Error Diffusion on (Optimum Palette off) to see the full differences. AGA owners should remix the image to HAM8, 640x512 with Error Diffusion on.

Taking good digitised pictures

Taking good quality mono or colour images is, like any form of photography, a matter of using good lighting equipment and a well balanced, properly lit subject.

How ROMBO did it

The images that ROMBO use for our adverts were taken using a standard Canon Hi8 Palmcorder - UC1Hi (using the composite video connection) mounted on a tripod with natural daylight shining on to a photograph.

The camera was adjusted for the correct focus and with the image displayed in the Vidi-AMIGA RT Grab window as a mono picture, the brightness and contrast sliders were adjusted until white in the photograph looked white in the digitised image and any black in the photograph looked black on screen. This allows a good range of grey levels to be captured.

Once a good quality grey scaled image was obtained, a colour 'grab' was done. Then adjustments to the colour saturation control was performed and the picture re-grabbed. Once the desired level of colour was obtained the image was saved to disk.

Lighting

Good lighting is absolutely vital to getting good quality pictures. If you are using artificial lighting do **not** use household light bulbs, these bulbs are too dim and give a terrible colour cast that most cameras can not handle. Special daylight adjusted bulbs can be obtained from Artist supply shops or use special daylight fluorescent tubes, which are supplied in fish aquariums!

The use of video lamps that are sold with video camcorders is to be limited as these lamps tend to be too powerful and really need to be used in pairs at an angle of 45degs to the subject. If you do use them, keep them well away from the subject to avoid too much light washing the image out or reflecting off the subject into the camera's lens.

Video tape

The use of video tape to record the subject and play back into the Vidi-AMIGA RT unit is a fine idea, but please note that normal VHS or Video8 machines do not generally give a distortion free picture due to the limitations of these tape formats.

Try S-VHS or Hi8 machines, these tape formats offer much higher playback quality and when used simply as a camera, the camcorder's camera section, via the S-video link, is usually able to capture a much sharper image than an VHS or Video8 camcorder.
In either case use the best possible quality video tapes you can afford, preferably High or professional graded tape.

Out of focus images

It must be remembered that cameras need lots of light if they are to properly focus on their subject. Cameras have, what is called 'depth of field'. This is the distance from the subject to the camera and from the subject to infinity that will appear to be in focus and sharp. If the subject is poorly lit then this 'depth of field' will be very shallow and it will be difficult to maintain a good sharp image.

But if the subject is well lit then this 'depth of field' will be deep and everything within this range will be sharp.
Even so called low light level cameras require good lighting to maintain a high quality image with a large 'depth of field'.

What to do with your images

The Vidi-AMIGA RT can produce very high quality images and these images can be put to various uses.
Security, records, databases, printing them, recording them back to video, etc. are the more common uses.
But have you thought about putting them on a Mug, plate, mouse mat, headed notepaper, T-Shirts, etc.?
Modern Printer companies can take the industry standard file formats - TIFF, BMP or JPEG on a PC disk and place them onto virtually any object!
A1200 (or above) owners can read and write directly to a PC disk and though the disk format can only hold 720Kbytes, you should be able to get several JPEG files on the disk!

Technical Specifications

The Vidi-AMIGA RT is a real time true colour or monochrome video digitiser.

Vidi-AMIGA 12RT

Maximum capture resolution:	360x576 PAL 360x476 NTSC
Colour resolution:	24-bits (16.7million colours) 2:0.5:0.5 YUV
Monochrome:	256 grey levels
Maximum display resolution:	Subject to supported AMIGA display modes.
Image capture time :	1/50 second (non-interlaced) 1/25 second (interlaced)

Vidi-AMIGA 24RT

Maximum capture resolution:	720x576 PAL 720x476 NTSC
Colour resolution:	24-bits (16.7million colours) 4:1:1 YUV
Monochrome:	256 grey levels
Maximum display resolution:	Subject to supported AMIGA display modes.
Image capture time :	1/50 second (non-interlaced) 1/25 second (interlaced)

Technical details of a television picture

A PAL television picture consists of 50 pictures taken every second with a total of 625 horizontal lines making up the final image. Due to the way the image is displayed, each of these pictures actually consists of 312.5 lines and each alternate picture only holds either the odd or even number of lines. So one picture (its technical name is a 'field') may have the odd lines 1,3,5,7,9, etc., the next field would hold even lines 2,4,6,8, etc. These fields are said to be interlaced together.
The human eye sees these constantly changing fields as one image consisting of 625 lines or 25 pictures per second (its technical name is a 'frame').

Please note of these 625 lines, only 576 are actually viewed on a television set, the rest are used to hold teletext data, etc.

The amount of detail that a video signal can hold is confusingly quoted in 'lines' by the video industry, this does not refer to the number of horizontal lines (which is 625 PAL or 525 NTSC), but really means the amount of detail each horizontal line can hold. The figures given below are typical of the various formats on the market.

VHS/Video 8:	240 - 270 'lines'.
S-VHS/Hi8:	350-400 'lines'
High quality stand-alone video camera:	500 'lines'.

BetaCAM SP
(a semiprofessional video format): 600 'lines'

For an comparison, the standard
broadcast visible
television resolution is: 720 'lines'.

Interesting note: Most medium sized domestic televisions can only display approximately 300 'lines'! Only large sets with either S-Video or RGB inputs can resolve more!

The Vidi-AMIGA 12RT can capture up to 360 pixels per horizontal line so is technically capable of exceeding VHS or Video8 in the amount of detail captured.

The Vidi-AMIGA 24RT can capture up to 720 pixels per horizontal line so is technically capable of exceeding S-VHS, Hi8 and even most semiprofessional video formats in the amount of detail captured.

Motion Artifacts

When the Vidi-AMIGA RT is used to capture images in a interlaced mode, that is capturing the odd and even fields of a television signal, any differences between the two fields (i.e. Fast movement of an object.) will show up as thin horizontal lines on the edges of the objects, these lines are called Motion Artifacts and are unavoidable when capturing in a interlaced mode. Switch to an non-interlaced mode via the **Grab Preferences** window or ensure that the subject's motion is reduced during capture.

Correct parallel port extension cable

Please note that when using a parallel port extension cable that it must be a short **flat** ribbon cable type and not a round cable for technical reasons.

We recommend that a flat type extension lead no longer than 20-30cm be used. A suitable extension cable is available from ROMBO for £4.95 inclusive.

We can also supply a 2 way parallel port switching box & lead which works with the Vidi-AMIGA RT for £19.95 fully inclusive. We can not guarantee that another companies box will work with our unit.

Installing the software onto a Hard drive

This information is provided in case a user has any difficulties installing our software on their hard drive or Workbench disk.
If you wish to use the Vidi-AMIGA RT software on a hard drive/Workbench disk, then the following steps must be taken.
1) Switch on your Amiga so that it 'boots up' from the hard drive/Workbench disk.
2) Insert the VidiAmiga RT disk and double click on it's icon.
3) You will see an icon called INSTALL, double click on it.

You will now see the following message :
Install VidiAmigaRT (Y/N)?
Enter Y <return> if you wish to proceed.
The message **Installing VidiAmigaRT** will appear.

The install program now checks to see if the ASL.library file exists in your hard drive/Workbench disk LIBS: directory (Workbench 2/3 will have this file as standard). If not, it checks to see if the ARP.library file exists in your hard drive/Workbench disk LIBS: directory (Workbench 1.3 will have this file). If it is not there, the install program will copy across the ARP.library file from the VidiAmigaRT LIBS: disk to your hard disk/Workbench disk LIBS:.

The message **Copying vidiamigaRT.config to S:** will appear next.

The install program is copying the vidiamigaRT.config file from the S: directory on the VidiAmigaRT floppy to your hard drive Workbench disk S: directory.

The program finally checks to see if you have the iffparse.library file in your hard drive/Workbench disk LIBS: directory (Workbench 2/3 will have this file as standard). If not, then it is copied across to your hard drive/Workbench disk LIBS: directory from the VidiAmigaRT LIBS: directory.

The message :
VIDIAMIGA INSTALLATION COMPLETE
DRAG VIDIAMIGART ICON TO DESIRED LOCATION
will be displayed for 5 seconds.
You must now drag the VidiAmigaRT icon to a directory of your choice. This will contain two files when completed: VidiAmigaRT and VidiamigaRT.info.

Your VidiAmigaRT software is now fully installed and ready for use!

RGB Triples and memory requirements

The Vidi-AMIGA RT requires each image stored in the **Carousel** to be have a separate Red, Green and Blue component if the user wishes to manipulate the image in some way. For example, to edit or remix it to a different screen resolution or colour mode.
The RGB triple of an image takes up valuable RAM and the bigger the image, the bigger the RGB triple will be.

For example:
If an image captured is mixed to 320x256 in 16 colours. The image takes up 320x256x4 bits (2^4=16 colours) or 327,680 bits. There are 8 bits per byte, so the image takes up 40,960 bytes (40Kbytes). An RGB triple generated by the software is always 24 bits in length, so the size in this case would be 320x256x24 or 1,966,080 bits, which equals 245,760 bytes (240K). So the total memory requirements for that one image is 40K+240K or 280K of RAM. Very easy to achieve with an AMIGA with 1 or 2Mb of RAM.

An 720x576 HAM8 image however, takes up 720x576x8 or 405K bytes of RAM, plus the RGB triple of 1.2Mbytes to give a total RAM requirement of 1.6M bytes! In this case since the Vidi-AMIGA RT program always takes up approximately 500K, in a 2Mb AMIGA the above image can not be created due to an obvious lack of RAM.

So to free more RAM, either delete the image after saving it to disc or use the **DiscardRGB** 'effect' in the EDIT panel. This will allow the user to view the image, but not edit or remix it.

TROUBLE SHOOTING

If you should experience any problems with your Vidi-AMIGA RT, then please try the following suggestions before taking the unit back to the place of purchase or phoning the technical support line at ROMBO.

Some people may find it all too easy to instantly blame the Vidi-AMIGA RT if it appears not to function at first, but experience has taught us at ROMBO that most problems are caused by the user simply not having read the manual properly, which can result in the product not being connected to the Amiga correctly or being connected to the wrong type of video source.

Problems and Solutions

Error message states - No video.

Try connecting the video lead from the Amiga's composite video out on the rear of the computer to the video in on the Vidi-AMIGA RT.

Now try grabbing an image, if the no video message disappears then the Vidi-AMIGA RT is working and the fault lies with your original video source.

Please refer to page 6 of the manual for details of the correct type of video source to be used.

Image 'break up' on the grabbing preview screen

Please check that you have the Vidi-AMIGA RT firmly connected to the parallel port and if you have to use any extension leads from your parallel port, please make sure that they are also firmly seated.

See page 63 on the correct type of parallel port extension lead to be used.

Grey bars on the preview screen

Check that your power supply is rated at 500mA at least, lesser amounts will stress the power supply and cause picture distortion.

Grabber Control Panel message - Device Error

The software has detected errors when reading the image off the Vidi-AMIGA RT unit. Read the above two paragraphs and try to use the Vidi-AMIGA RT in another Amiga computer to verify that it is not the original Amiga's parallel port which may be faulty.

Error message - Not enough memory or similar.

If the above message appears it means exactly that. You are try to do something which your AMIGA has not enough free memory to perform the function you want. The Vidi-AMIGA RT will work with a 2Mb machine, but more is strongly recommended for serious use.
See page 65 on RGB triples.

Monochrome instead of colour grabbed.

This is usually caused by the user not setting their **Display Prefs...** to a colour selection. The Vidi-AMIGA RT automatically detects if an incoming video signal is monochrome or colour and displays this information on the **Grabber Control Panel**.

Computer asks for the original disk to be inserted.

This is caused by the user making a backup disk which does not have the same name as the original.
Rename the backup disk to VidiAmigaRT (no spaces!)

Error message - ARP V34.Lib required or similar message.

This is usually caused by users booting up from hard drive or from their Workbench disk. These users must use the INSTALL program supplied to copy the library files to either their hard drive or onto their Workbench disk. When the install line appears enter Y <return> to start the process.
See page 63 for more detail on the installation process.

Overscan mode not working correctly

- In order to display images at full overscan, it is necessary to set the overscan preferences in your Workbench.
  Consult your Amiga manual on how to do this.
  If you have set the overscan preferences to less than the overscan values in the Vidi-AMIGA RT software, then the image will be clipped.
  Only Amigas with either the enhanced graphic chipset or AGA fitted can perform full overscan.

Program crashes whilst Grabbing

Have your Amiga's RAM checked, failure due to faulty or slow internal or expansion RAM in your Amiga can cause problems.

Still not working correctly

If after all these tests the Vidi-AMIGA RT unit still appears to be malfunctioning then if possible try the Vidi-AMIGA RT on another machine from either a friend's or your dealer, just to confirm that there is not a fault on your computer.

Note: It is perfectly possible for an AMIGA to have a faulty parallel port with a printer (or sound digitiser) seemingly working correctly, but when attaching the Vidi-AMIGA RT unit the faulty parallel port will not work with it. This is due to the Vidi-AMIGA RT using the full capabilities of the parallel port whilst a printer (or sound digitiser) does not.

ROMBO technical support line

For technical support and to be kept informed of any future upgrades to software or hardware as well as any special offers that may be available, please return your registration card as soon as possible.

ROMBO Productions Ltd. offer only registered users of the Vidi-AMIGA RT a telephone support line during Monday to Friday, from 2pm to 4pm.
Note these times are subject to change.
Phone : 0506 - 414631 and ask for the technical support department.

PLEASE MAKE SURE YOU HAVE READ THIS MANUAL BEFORE PHONING ROMBO AND CAN SUPPLY THE FOLLOWING INFORMATION OTHERWISE WE MAY HAVE TO ASK YOU TO GET THIS INFORMATION BEFORE WE CAN ADDRESS YOUR PROBLEM:

Which AMIGA model you have, which version of the Vidi-AMIGA RT software you have (it is written on the disk label). Plus a note of any error messages the Amiga produced.

If the unit has to be returned to ROMBO, please ask for a returns authorization number first.

Address: ROMBO Productions Limited
2b Young Square
Brucefield Ind. Park
Livingston
Scotland
EH54 9BX