



# Robot Helper

Robot Helper Help version 2r0 Copyright 1993/94 W.J. Montgomery VE3EC

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# Robot Helper

## Introduction

Robot helper is a Microsoft Windows application for controlling a Robot 1200c scan converter connected via an 8255 parallel interface card.

Features include:

- Load and save a wide variety of image formats.
- JPEG support. Save sstv images in less than 8K storage.
- Images are automatically scaled to the correct SSTV size (256X240).
- Brightness, Contrast, and Color level controls for images.
- All images are converted to 24 bit color.
- Thumbnail previews of available images on disk.
- Built in slide show for displaying your stored images.
- Dual image preview windows on the pc.
- On screen control of Robot operations.
- Options such as port addresses and EPROM types are user settable.
- On line help. A printed manual is available for regitered users.

Robot helper will work on most 286, 386, or 486 Windows based computers with a minimum of 4 Meg of RAM and an 8 bit VGA card. The recommended configuration is a fast 386 or 486 machine with a 16 bit HiColor or 24 bit TrueColor VGA display.

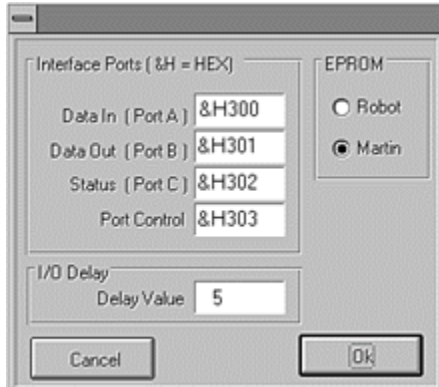
While Robot Helper does support 8 bit (256 color) VGA cards, you will find that there are delays introduced whenever Windows must generate a custom pallet and dither a 24 bit image down to 8 bits. HiColor and 24 bit cards eliminate this delay and will provide a much nicer image display.

The current version of Windows Help supports only 4 bit color when used with a 256 color card. (Way to go Microsoft...). All of the images used in Robot Helper's Help program are 8 bit dithered, which look very good on HiColor screens but pretty poor on 8 bit (256 color screens). Lets hope Microsoft corrects this problem in Windows 4.0.



# Robot Helper

## Ports



The interface port addresses are found under the Edit->Setup..menu.

Port addresses can be entered in either decimal notation, ie: 510,511,512 etc, or in hexadecimal notation, ie &H300, &H301, &H302 etc.

Most current interface cards are setup to use port addresses &H300 to &H303. Normally the first address (Port A) is used for data input, the second (Port B) for data output, the third (Port C) for handshaking signals, and the fourth (Port CNTL) is the mode control port.

If you are using a fast 386 or 486 you may need to increase the I/O delay value. This delay prevents the Robot from getting choked up with data. You should also be sure to use a fast version of the 8255A chip (ie 8 MHz or 10 MHz) in both the interface card and Robot 1200c. This speed reflects the expansion bus speed in the PC - not the 'clock/cpu' speed.

The firmware EPROM type can also be set from the Setup window.



# Robot Helper

## Image Types

**Robot helper can load the following image types:**

- Targa 8, 16, 24 or 32 bit images. RLE or no compression.
- TIFF 1, 2, 4, 8 or 24 bit images. LZW, Packbits or no compression.
- Windows or OS/2 1, 4, 8, 24 bit Bitmap images. RLE or no compression.
- GIF 2, 4 or 8 bit images. LZW compressed
- DIB 1, 4, 8 or 24 bit Bitmaps. RLE or no compression.
- PCX 1, 2, 4, 8, or 24 bit images. RLE compression.
- JPEG 24 bit images.
- GEST Raw 24 (18) bit images.
- GEST C1 compressed 24 (18) bit images.
- HiRes 24 (18) bit images.  
*- Images are scaled to 256 X 240 pixel resolution and converted to 24 bit color.*

**Robot Helper can save images in the following formats:  
(All images are saved in 256 X 240 pixel size.)**

- Targa 24 bit, non-compressed.
- GEST Raw - 24 (18) bit. Image will be 256 X 240 pixels
- GEST C1 compressed - 24 (18) bit. Image will be 256 X 240 pixels.
- TIFF 24 bit, no compression.
- Windows 24 bit Bitmap images, no compression.
- PCX 24 bit images. RLE compression.

HiRes 24 (18) bit images.



DIB 24 bit Bitmaps, no compression.

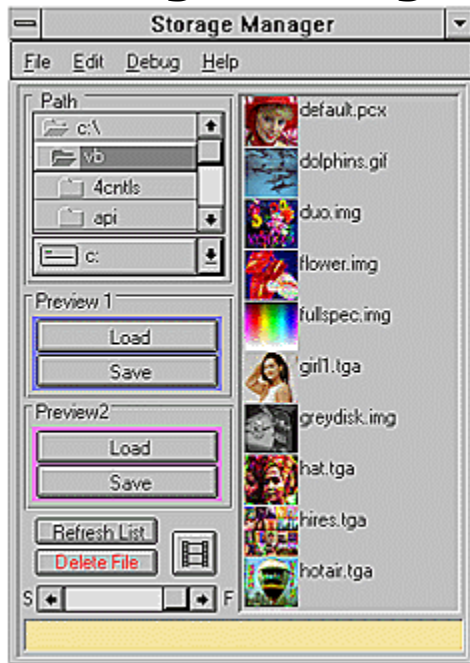


JPEG 24 bit images. ( With 3 quality settings )



# Robot Helper

## Storage Manager

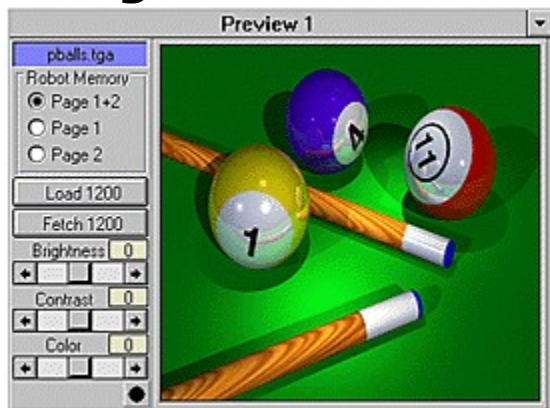


***Click on a control for more information.***



# Robot Helper

## Image Preview



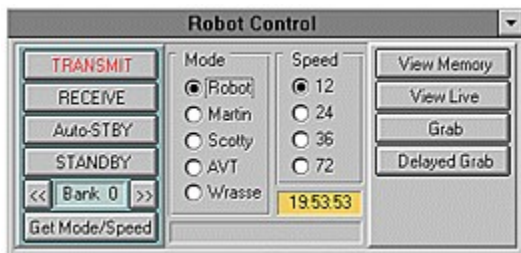
***Click on a control for more information.***

The Preview Windows serve as 'working areas' for images passing between the disk drive and Robot 1200 converter. Brightness, Contrast and Color levels for the images may be adjusted before sending them on to the R1200 or saving them to disk.



# Robot Helper

## Control Panel



***Click on a control for more information.***



**Main Menu**  
**Select main menu functions.**

**Directory Select List**

**Double click on a subdirectory name to change directories.**

**Drive Select Dropdown List**  
**Pull down to select disk drive to use.**

**Preview Load**

**Loads the selected file into the preview window.**

**Save Image**

Saves the preview image to disk after prompting for an image save filename and format.

**Refresh File List**

Re-scans disk for new image files from other running applications.

**Delete File**

**Erases the currently selected file and preview from disk.**

**Image Files List ( with thumbnail previews)**  
**Click on file to select for load or delete operation.**



**Progress Indicator Bar**  
**Displays progress of image load and save operations.**

**Status Message Area**  
**Displays system status messages.**

**Transmit**  
**Places the Robot 1200c into transmit mode.**

**Receive**  
**Places the Robot into receive mode.**

**Auto Standby Mode**

**Put Robot 1200c into blinking, auto standby/receive mode.**

**Standby**  
**Put the Robot 1200c into standby mode.**

**Memory Page Display**

**Displays the current page if the 4 memory mod is installed in the Robot 1200c.**

**Change Memory Page**  
**Cycles through the 4 memory pages (if 4 memory mod is installed).**



**Mode Control**

Selects the current video mode. The Robot is also set to this mode.

**Speed Select**  
**Sets the Robot speed and resolution.**

**View Memory**

**Displays the Robot image memory on the Robot screen.**

**View Live**

**Displays the camera video on the Robot 1200 screen.**

**Grab Video**

**Digitizes the current camera input video into Robot memory.**

**Delayed Video Grab**

**Provides a delayed video grab of about 10 seconds.**

**Clock**  
**Displays time-of-day clock..**

**Status Display**  
**Displays control panel status messages.**



**Get Current Robot Mode and Speed**

**Sets the RH Robot Control panel to the current Robot mode which may have been changed by received video.**

**Preview Name**  
**Name of image shown in preview window.**

**Load Robot 1200**  
**Upload the preview image to the Robot 1200c.**

**Fetch Robot 1200**  
**Download the Robot's image to the preview.**

**Preview Image**  
**Current image loaded in the preview buffer.**

( Cyber Squirrel )

**Use Hi-Res  
Loads and Fetches will use  
Robot page 1 & 2 memory.**

**Use Lo-Res Page 1**  
**Loads and Fetches are converted**  
**to/from low res page 1 memory.**



**Use Lo-Res Page 2**  
**Loads and Fetches are converted**  
**to/from low res page 2 memory.**

**Adjust Image Brightness**  
Slide the control to lighten  
or darken the image.

**Adjust Image Contrast**  
Slide the control to increase or decrease the image contrast.

**Adjust Image Color**  
**Slide the control to increase or decrease the image color level.**

**Clear Preview**  
**Press to clear the preview**  
**image to black.**

**Slide Delay**  
**Adjust the delay between slides.**

**Slide Show**

**Press button to start/stop a slideshow of all images in the current directory.**

**8255 Card I/O Port Addresses  
( Start hex numbers with '&H' )**



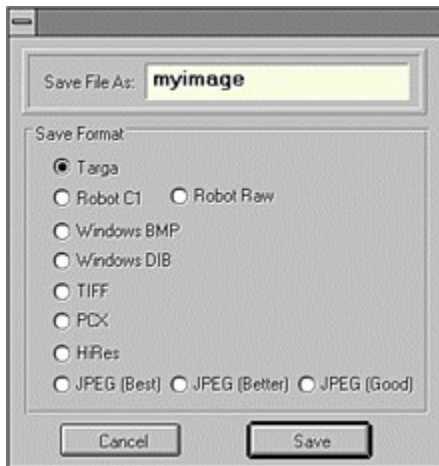
**Robot 1200 EPROM type  
( Original Robot or Martin Emerson firmware )**

**8255 Interface Delay**  
**( Increase value on very fast computers)**



# Robot Helper

## Save Formats



***Click on a control for more information.***

The save windows allows you to name the file that the image is to be stored in and permits the image format to be selected. When naming the file be sure to only enter the 'name' portion (8 characters max.), as Robot Helper will fill in the 'extention' based on the format selected. The file extension ( ie .TGA ) is used by Robot Helper when loading images to determine the internal image format.

**Save Filename (8 characters max.)  
( ...don't enter the file extension)**

**Targa 24 bit Image  
( 184K , no image degradation )**

**Robot C1 Compressed Image  
( 138K, no image degradation)**

**Robot RAW Image  
( 184K image, no image degradation )**

**Windows 24 bit Bitmap  
( 184K, no image degradation)**



**Windows Device Independent Bitmap  
( 184K, no image degradation )**

**Tagged Image File Format  
( 184K, no image degradation )**

**ZSOFT Bitmat Format  
( Run Length Compressed, no degradation )**

**HiRes Image Format  
( 184K, no image degradation )**

**JPEG Image - Best Quality**  
**( about 50K, very slight image degradation )**

**JPEG Image - Better Quality**  
**( about 15K, slight image degradation )**

**JPEG Image - Good Quality**  
**( about 8K, some image degradation )**





