

TEREO

API Manual



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1 Introduction

TEREO, the standard for Network Video Surveillance. You have purchased the most comprehensive and scalable solution available for Digital CCTV Video Surveillance and monitoring. In this chapter we will introduce you to **TEREO**.

1.1 Welcome

Thank you for choosing Tereo OEM - Digital CCTV Video Surveillance.

We are committed to providing you with the most innovative and scalable software solutions available for Digital CCTV Video Surveillance. As such, we welcome your comments and suggestions about our products and how it has helped you.

We consider your feedback highly valuable.

1.2 Legal

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1.3 Overview

Tereo PRO/LE has special features that allow authorized OEM partners the ability to develop special applications in concert with Tereo. This approach can allow existing features to be expanded or new features to be created. This document describes the current applications related development features found in all Tereo PRO/LE products. A working knowledge of Tereo and it's modules is a prerequisite.

Only OEMs that are under current contract with Tereo LLC are allowed to use the features made available in this document.

1.4 IP Cameras and Video Servers

TEREO supports most popular IP cameras and video servers. Please refer to the TEREO Camera Guide for detailed information on supported cameras and video servers.

1.5 Additional Information

For additional information on installing TERE0 please refer to the TERE0 Quick Start Guide.

For additional information on cameras please refer to the TERE0 Camera Guide.

For additional information on system requirements please refer to the TERE0 Design Wizard.

2 Common Features

2.1 Overview

This section describes common Tereo OEM and API features in detail.

2.2 Product Configuration File

As a Tereo OEM customer you will be provided with a complete branded solution. In order to setup your branded solution we need the following information submitted to our OEM group.

Here are the fields we can change for you in the Tereo OEM project.

- 1) Tereo Replacement Name: _____ Ex: SharkView, Visual Sentry
- 2) OEM Company: _____ This is your company name as you want it to appear.
- 3) OEM Web Site: _____ Ex: <http://www.yourwebsite.com>
- 4) About Text: _____

First line is Bold Navy. All lines are centered. 6 line maximum. Blank lines are allowed.

- 5) Your Module Version Number: _____ Ex: v2.50, v3.00
Tereo will append a build '.xxx' number.

2.3 Camera Related Files

Enter topic text here.

2.3.1 Cameras INI File

The cameras.ini file can be used to find camera names and information.

2.3.2 Video Status INI File

The Video Status INI file is created by vScheduler to provide for camera scheduling on and off times. The storage modules vStore and vMotion monitor this file in order to start/stop camera on/off periods.

2.4 Video INI File

Listed below is a sample Video INI file. This file should be used for reference only, for specific detailed information please refer to each module's section in this document.

Item #	Item	Description
1	[vMaster]	vMaster Section
2	LaunchImage=.\\vSys\\tvlogo.jpg	Specifies the vMaster Logo
3	!Image Name; LaunchImage=tvlogo.jpg	OEM specific JPEG image
4	LaunchImageMode=Center	Specifies Image Mode of:
5	!LaunchImageMode=Center Stretch Tile	Centered, Stretched or Tiled
6		
7	StartURL=vsys/Start.htm	About Box Start URL
8	!For current path, use StartURL=Start.htm	Can use a local path, html file
9	!For other path, use StartURL=vsys/Start.htm	Can use another path
10	!If you want something else, for a file you may use full path;	Can launch a file
11	StartURL=c:\program files\Technivision USA\Tereo\vSys\Start.htm	Can launch an URL
12	!For a url; StartURL=www.technivisionusa.com	
13		
14	Skin=.\\vSys\\blue2-bg.bmp	Specifies the vMaster Skin
15	SkinMode=Stretch	Centered, Stretched or Tiled
16	ButtonSkin=.\\vSys\\gold-btn.bmp	Specifies the vMaster Button Skins
17		
18	[LaunchList]	
19	1=vCapture vcapture.exe .\\vSys\\vCapture.ico	
20	2=vStore vstore.exe .\\vSys\\vStore.ICO	
21	3=Cameras cameramaint .\\vSys\\vCameras.ico	
22	4=vMonitor vmonitor.exe .\\vSys\\vMonitor.ico	
23	5=vConsole vconsole.exe .\\vSys\\vConsole.ico	
24	6=vMotion vmotion.exe .\\vSys\\vMotion.ico	
25	7=vPlay vplay.exe .\\vSys\\vPlay.ico	
26	8=vMovie vMovie.exe .\\vSys\\vMovie.ico	vMaster Command Buttons
27	9=vSchedule vschedule.exe .\\vSys\\vScheduler.ico	Can specify Tereo Modules
28	10=vWeb vweb.exe .\\vSys\\vWeb.ico	Can specify OEM specific apps
29	11=vGuard vguard.exe .\\vSys\\vGuard.ico	Can setup any application to launch from the vMaster
30	12=vAlarm valarm.exe .\\vSys\\vAlarm.ico	
31	13=Manual tereo.pdf .\\vSys\\Vmanual.ICO	
32		
33	!Caution, if you have duplicate entries, you will get duplicate module launches!!!	
34	!add anything else, just keep the numbers in order	
35	!each element separated with the pipe	
36	!n=appname exename icon startinfolder_if_any	
37	!exename may be a full path and file name	
38	!Other Examples:	
39	!11=Notepad notepad.exe .\\vSys\\notepad.ico	
40	!12=Wordpad wordpad.exe .\\vSys\\wordpad.ico c:\program files\windows nt\accessories	
41		
42		
43		
44	[vConsole]	
45	Skin=.\\vSys\\wall1.jpg	Not duplicates allowed for command buttons
46	SkinMode=Tile	
47	PBSkin=.\\vSys\\wall1.jpg	
48	PBSkinMode=Tile	
49		
50	!Skin="Skin for the vConsole"	
51	!SkinMode=Tile Stretch Center (Normally Tile is used here)	Other Examples
52	!PB is for the Play Back window.	
53	!PBSkin="Skin for the vConsole PlayBack Window"	
54	!PBSkinMode=Tile Stretch Center (Normally Tile is used here)	
55		
56	[vPTZ]	
57	Skin=gray_large.jpg	vConsole Section

2.5 XML Control File

Most Tereo modules can launch or start based on an XML file called vsysctl.xml

Tereo modules that can utilize the XML Control File:

- vMaster
- vAlarm
- vGuard
- vCapture
- vStore
- vMotion
- vWeb
- vScreen
- vHistory

Listed below is a sample vsysctl.xml file. For detailed setup and operation using this control file please refer to each modules XML File section.

```
<?xml version="1.0"?>
<data>
  <row SystemID="_SystemDataPath" DataPath="D:\Running Tereo\Tereo 071805"/>
  <row SystemID="Tereolt01" Module="vMaster" Style="Normal" TBar="True" LocX="10" LocY="20"
SizeW="300" SizeH="100" CtlSockIP="192.168.0.121" CtlSockPort="5050" DataPath="D:\Running
Tereo\Tereo 071805"/>
  <row SystemID="Tereolt01" Module="vCapture" Style="Normal" Config="House" AppMon="False"
LocX="10" LocY="20" CtlSockIP="192.168.0.121" CtlSockPort="5060" SpecialCommands=" "/>
  <row SystemID="Tereolt01" Module="vStore2" Style="Normal" Config="Small Config"
AppMon="False" LocX="10" LocY="20" CtlSockIP="192.168.0.121" CtlSockPort="5070"/>
  <row SystemID="Tereolt01" Module="vMotion2" Style="Normal" Config="Single Cam"
AppMon="False" LocX="10" LocY="20" CtlSockIP="192.168.0.121" CtlSockPort="5080"/>
  <row SystemID="Tereolt01" Module="vWeb" Style="Normal" Config="House" AppMon="False"
LocX="10" LocY="20" CtlSockIP="192.168.0.121" CtlSockPort="5090"/>
  <row SystemID="Tereolt01" Module="vGuard" Style="Normal" LocX="10" LocY="20"
CtlSockIP="192.168.0.121" CtlSockPort="5080"/>
  <row SystemID="Tereolt01" Module="vAlarm" Style="Normal" Config="Primary Alarm Config"
LocX="10" LocY="20" CtlSockIP="192.168.0.121" CtlSockPort="5110"/>
  <row SystemID="Tereolt01" Module="vConsole" Style="Normal" Config="House" LocX="10"
LocY="20" SizeW="640" SizeH="480"/>
  <row SystemID="Tereolt01" Module="vCam" Style="Minimized" LocX="10" LocY="20"/>
  <row SystemID="VIDEO" Module="vScreen" Style="Normal" CtlSockIP="192.168.0.110"
CtlSockPort="8099" />
</data>
```

Command Line Use with XML Control File

You can start Tereo modules with different configurations by using a tag on the command line and a module tag in the startup xml control file. The startup xml can optionally have the ModuleTag on the row as below:

```
<row SystemID="WIN2000" Module="_vConsole" ModuleTag="X1" Style="Normal"
Config="ViewTest" LocX="10" LocY="20" SizeW="640" SizeH="480" PlayBack="vplay.exe"/>
```

Then use a command line like the following:
vConsole2 TAG=X1

This will pick the xml startup line for that module that has the matching tag.

2.6 Command Port Feature

A new Command Port has been added to the Tereo modules to provide the server side component necessary to provide current status information to the calling agent.

Socket Based Commands:

The current commands for the command socket are:

- S** Stop and Close. A normal shutdown.
- T** Terminate. AppMon will re-start if AppMon option on.
- A** Alive check. If remote keeps connection open, app will respond with A if command socket working
- H** Hide. Hide the app for those apps that allow this option.
- V** Visible. Unhide app.

The command socket is case sensitive, or send the ascii code for the appropriate command. S=83, T=84, A=65, H=72, V=86.

The Command Port is specified in the [XML System Control File](#).

2.7 Windows Services

The following modules can be installed and run as services.

vMaster VideoLicensing
vCapture VideoCapture
vStore VideoStorageTimed
vMotion VideoStorageMotion
vWeb VideoWebServer
vAlarm VideoAlarming
vGuard VideoNotify
vScreen
vHistory

Command line options are:

```
/is install service
/rs remove service
/iss install and start service
/silent no messages
```

Example:

```
vAlarm /is
```

That would install vAlarm as a service.

The Local System Account is used for service installation.

The vsysctl.xml needs to be present and setup for each module because that is where the startup

configuration info comes from when these modules start as a service. You can stop the service, change the xml, re-start the service for configuration switches.

Notes:

The modules can be packaged as an MSI install package if needed.

2.8 Localization

TEREO can be localized to any language you may require. The steps to localize TERE0 is as follows.

1. Request localization files from Tereo.
2. Acquire proper translator.
3. Run TERE0 localization program and create translation file.
4. Change video.ini file to specify language file.
5. Optionally run vCam "ctrl F" or "alt F" to change font used for TERE0.
6. Install package on specific country OS.
7. Test TERE0 install completely.

2.8.1 Video.INI File

The video.ini file must be modified to cause TERE0 to use a translation file for the purposes of localization. Listed below are sample INI settings.

Language

```
[Language]
LangFile=Japan.Itf
ListBoxAdj=1
```

LangFile= specifies the language translation file to be used.

ListBoxAdj= specifies the height of all List Boxes used in the TERE0 modules.

Notes:

1. The LangFile ext must be .Itf
2. For Asian Fonts try using a value of 1 to 3 for the ListBoxAdj value.

Font

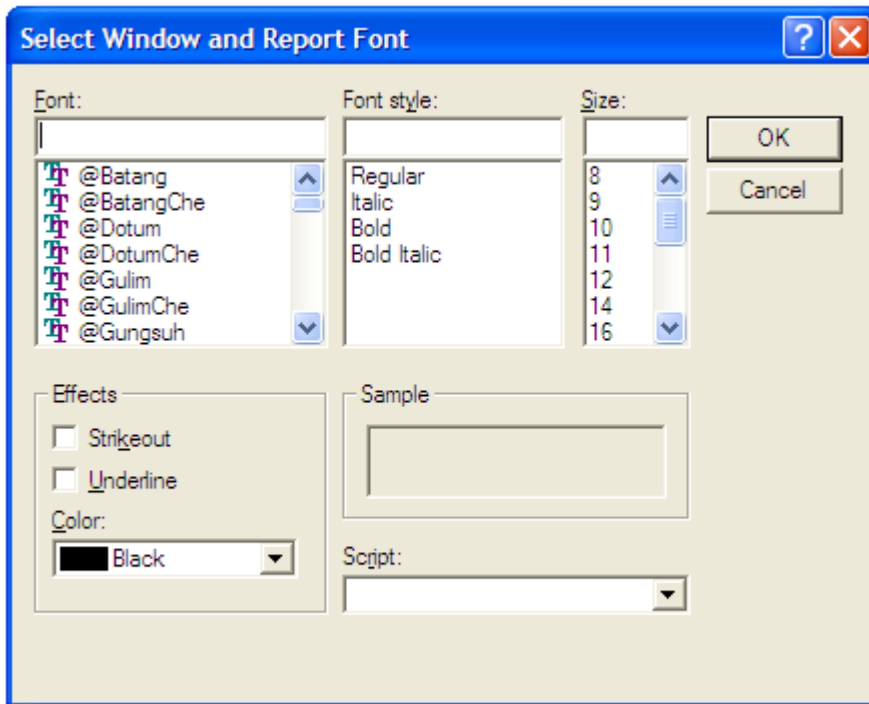
```
[TP Win Fonts]
FontName=MS UI Gothic
FontSize=8
FontStyle=400
FontColor=0
FontCharSet=128
FontFlag=1
[TP Rpt Fonts]
FontName=MS UI Gothic
FontSize=8
FontStyle=400
FontColor=0
FontCharSet=128
FontFlag=1
```

Notes:

1. The font information is supplied for reference only.
2. To change font data open vCam and press "alt f" to enter font selection window (see [Font Selection](#)).

2.8.2 Font Selection

To enter the Font Selection window you must launch vCam and press and hold the "Alt" while pressing the "f" key. This action will bring up the Font Selection window as shown below.



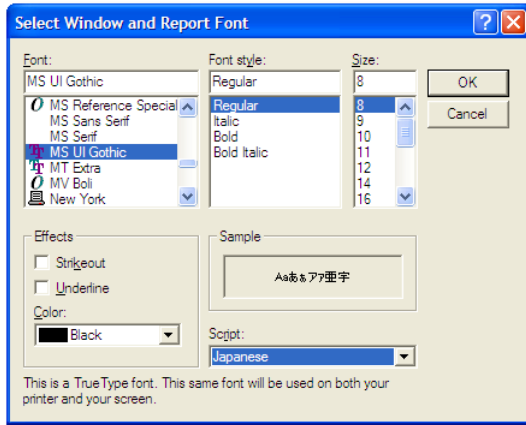
Simply select the desired font, style, size and script.

2.8.3 Japan Localization

The localization for Japan is shown in this section for reference purposes.

Selection For Japanese Font

Launch vCam and press the "alt" and "f" keys to bring up the Font Selection window.



As viewed from the English Operating System



As viewed from the Japanese Operating System

VIDEO.INI File

```
[Language]
LangFile=Japan.Itf
ListBoxAdj=1
```

```
[TP Win Fonts]
FontName=MS UI Gothic
FontSize=8
FontStyle=400
FontColor=0
FontCharSet=128
FontFlag=1
[TP Rpt Fonts]
FontName=MS UI Gothic
FontSize=8
FontStyle=400
FontColor=0
FontCharSet=128
FontFlag=1
```

2.9 JPEG File Driver

Select File.driv in vCam for a 'file camera', go to the Image Requests, insert a name, enter the file path. Do that for any/all files that you want to capture. Then select the appropriate 'request'/name/file for the selected 'file camera' and set the snapshot rate.

For using File.driv you need at least vCam 018b.

2.10 Tereo Database ODBC Driver

We have tested the new Topspeed ODBC driver. It seems simple enough. You setup a connection in the ODBC Data Sources for each file you want to access. I pulled a couple of files into Access without too much trouble. Some of our files have passwords, like the Camera file, but most do not. You will need decide how to handle date/time fields. The data source definition can be used to help with that, or whoever wants to use these files could do their own formula on the date/time values. The only other

thing that may be a trick is some of the fields in the files are used as binary flags. I don't know that anyone else would really need access to those. This TopSpeed driver is a developer only version. It should be purchased and used by qualified OEM people who want access to Tereo's database files. Additional runtime drivers are required.

This negates the need to move to another database format such as SQL.

The ODBC driver package can be purchased from TopSpeed.

2.11 Localhost

vMaster and vCapture can be run using "localhost" as the machine name.

Versions Required:

vMaster 015b

vCapture 024c

Full localhost implementation:

1. Setup a vGenII for 127.0.0.1.
2. Change the vsysctl.xml to use SystemID="localhost" for each module.
3. Add a 'localhost' capture server in vCam.
4. Setup two cameras to pull images from vgensvr using 127.0.0.1 and these cameras were set to the capture server 'localhost'.
5. vCap starts getting the vgen images
6. Start and connect up a vConsole and vStore to verify operation.

3 vMaster

vMaster is your Master Console for your entire camera installation. vMaster provides the connections to all the modules that comprise the Tereo software product. It controls all information and databases that are used in your installation.

3.1 Overview

The vMaster module is the first Tereo module to run, as all other modules must connect to vMaster for licensing and database connectivity.

3.2 OEM Specific

1. Can add OEM company name and web site in the About box, see [Product Configuration File](#).
2. User defined launch buttons with user changeable graphics, see [Tereo INI File](#).
3. Can change skin or background image allowing OEM partner to use their logo on the master module's main form.
4. See below for a detailed listing of the Tereo.INI file.
5. **Has the socket code to return the serial number. Sending the 6 character string 'SERIAL' without quotes to the vMaster IP/Port (normally port 8050, not the control port) will return the following.**
 - a) If in demo mode; 'DEMO' is returned without the quotes.
 - b) If a valid serial number is installed, the actual serial number is returned.
6. This will allow OEM partners to use the built-in Tereo serial number as an application authentication system. This means that OEM partner do not have too concern themselves with

licensing their add-on applications. By simply using this function your application will only run with a Tereo system.

7. Add company logo to vMaster. Create JPG graphic and rename it to UserCfg.dat When vMaster loads it will rename the file to UserCfg.jpg in order to load and use it. On vMaster close, it will rename the logo file back to the hidden file UserCfg.dat Logo size should be 800x60

3.2.1 Tereo INI File

This section lists out all vMaster related video.ini file settings.

Item#	Item	Description
1	[vMaster]	vMaster Section
2	!LaunchImage=.\\vSys\\tvlogo.jpg	Specifies the vMaster Logo
3	LaunchImage=tvlogo.jpg	Tereo or OEM logo
4	!LaunchImageMode=Center Stretch Tile	Specifies Image Mode of:
5	LaunchImageMode=Center	Centered, Stretched or Tiled
6	StatusOpt=1	Enable/Disable vMaster Status System
7	StatusImage=tvlogo.jpg	
8	StatusImageMode=Center	
9	!StatusOpt=0 turns the status display OFF and	
10	unhides an image control	
11	!StatusOpt=1 leaves the vMaster as is, with status	
12	display	
13	!Use StatusImage= to name the image to use in	
14	place of the status display list box	
15	!Use StatusImageMode= for Center, Tile, or	
16	Stretch.	
17		About Box Start URL
18	StartURL=vsys/Start.htm	Can use a local path, html file
19	!For current path, use StartURL=Start.htm	Can use another path
20	!For other path, use StartURL=vsys/Start.htm	Can launch a file
21	!If you want something else, for a file you may use	
22	full path; StartURL=c:\program files\Technivision	Can launch an URL
23	USA\Tereo\vSys\Start.htm	
24	!For a url; StartURL=www.tereo.com	
25		Specifies the vMaster Skin
26	Skin=.\\vSys\\blue2-bg.bmp	Centered, Stretched or Tiled
27	SkinMode=Stretch	Specifies the vMaster Button Skins
28	ButtonSkin=.\\vSys\\gold-btn.bmp	
29		vMaster Command Buttons
30	[LaunchList]	Can specify Tereo Modules
31	1=vCapture vcapture.exe vCapture.ico	Can specify OEM specific apps
32	2=vStore vstore.exe vStore.ICO	Can setup any application to launch
	3=Cameras cameramaint vCameras.ico	from the vMaster
	4=vConsole vconsole.exe vConsole.ico	
	5=vMotion vmotion.exe vMotion.ico	
	6=vPlay vplay.exe vPlay.ico	
	7=vMovie vMovie.exe vMovie.ico	
	8=vSchedule vschedule.exe vScheduler.ico	
	9=vWeb vweb.exe vWeb.ico	
	10=vGuard vguard.exe vGuard.ico	
	11=vAlarm valarm.exe vAlarm.ico	
	12=Manual tereo.pdf Vmanual.ICO	

Notes:

1. Caution, if you have duplicate entries, you will get duplicate module launches!
2. Add anything else, just keep the numbers in order and each element separated with the pipe |
3. n=appname|exename|icon|startinfolder_if_any
4. exename may be a full path and file name
5. Other Examples:
 - 11=notepad|notepad.exe|.vSys\notepad.ico
 - 12=Wordpad|wordpad.exe|.vSys\wordpad.ico|c:\program files\windows nt\accessories

2007/03/08 Option to hide the Close Dialog Box

To use this option add the following to the startup ini:

```
[Defaults]
SuppressCloseModuleDlg=1
```

4 XML Export

OEM partners can export Tereo databases to XML files using the vIMEX utility. It is export only at this time.

4.1 Usage

vIMEX Usage:

```
vImEx op=[expcfg | expfile] name=[config_name | file_name] tpl=[xml_template_file_name]
file=[xml_output_file_name]
```

op=

expcfg specifies an export of a config. name= must be a config name

expfile specifies an export of a file. name= must be a file name

name=

config_name current valid labels

vCapture

vConsole

vStore

file_name current valid file names

camera.dat main camera database

viewcfg.dat main vConsole config data

viewset.dat secondary vConsole config data

storcfg.dat main vStore config

tpl=

needs to be an xml template file (see sample vimex.tpl). It needs to have <insertdata></insertdata> on a line by itself.

file=

this is the export file name, should have an .xml extension.

4.2 Sample vimex.tpl

```
<?xml version="1.0" encoding="UTF-8"?>
<ExportData>
<insertdata></insertdata>
</ExportData>
```

5 vCam Camera Maintenance

vCam is a tree based camera maintenance module.

5.1 Overview

vCam is your Camera Maintenance Console providing complete configuration for your entire camera installation. It controls all information and databases that are used in your installation. It allows you to add or change camera configurations from a central location. From here you can setup new cameras and capture servers.

5.2 OEM Specific

1. Can specify export image path (requires vWeb). Images are export in a standard JPEG format. Once exported, OEM specific applications can make use of live image feeds.
2. Can setup alternate paths for display station on complicated networks.
3. Can export Tereo specific camera and configuration data to Cameras.INI file, see [Cameras INI File](#).
4. Can import Tereo specific camera and configuration data from Cameras.INI file, see [Cameras INI File](#).
5. Tereo provides basic HTTP authentication (username/password) for IP cameras that support it. Please refer to the HTTP Auth/Security tab.
6. User defined file name or http request. Use the HTTP_user.driv driver to setup in vCam, select this driver, go into Image Requests, Insert a new request, use the Edit User Defined button. Add as many as you want. Then select one of those requests for the camera, Update the camera.

2007/03/08 Camera Default Naming Convention

To use the new default naming option when adding cameras use the startup ini, add the following:

```
[Defaults]
AddCamLabel=Cam
AddCamNextNo=0001
```

If these entries exist they will be used, if they do not exist the old default will continue to be used for new camera names.

The AddCamLabel is so you can call the camera name whatever you want, Cam, Camera, New, etc. The AddCamNextNo is the next number that will be used when you open vCam. The length of what you specify there will be used as the pic format for the new camera name.

=Cam, =0001 will produce: Cam0001, Cam0002, etc.
=Camera, =01 will produce: Camera01, Camera02, etc.

vCam will update the AddCamNextNo ini entry as it goes.

The other change that was made was code to take out cameras from vCapture configs if the Capture Server field is changed.

6 vCapture

6.1 Overview

vCapture is a high performance image capture and server engine. vCapture provides the primary connections to all camera interfaces for image acquisition. In addition, vCapture provides image server functionality for all other modules. As an OEM partner there are several special features available in the vCapture for your use.

6.2 OEM Specific

1. The vCapture has a built in HTTP server that can service image resource requests (can request 'cameraname.jpg' or 'cameraname').
2. The Receive Port can be configured to receive audio streams from IP Intercom devices (Barix).

2006/12/21 HTTP Server PTZ

Add code in HTTP Server to handle PTZ and interface commands. The PTZ commands are CASE SENSITIVE and the two word commands DO have a space in between: Up Left, Up, Up Right, Left, Home, Right, Down Left, Down, Down Right, Zoom In, Zoom Out. The http request will be: <camera name><space>ptz_<ptzcommand>. From a browser, send something like: http://192.168.0.6/JVC VNC3WU ptz_Home. For Interface commands or presets you must use the generic description you see in the Camera/Interface Presets and Commands window in vCam | Commands button. The description to use is the Interface Desc (generic) in the second list box. The http request will be: <camera name><space>ptzc_<interface desc>. Note the difference between the ptz_ for Pan/Tilt/Zoom and ptzc_ for the Interface Commands.

20070705 HTTP Server PTZ Update

The http socket for vCap is handling ptz requests as follows. Call it with the camera name as usual and add ?ptz=<ptz cmd> where <ptz cmd> is Up, Down, Left, Right, UpLeft or Up Left, etc. Those are case sensitive. For commands/presets use ?ptzc=<cmd/preset name>.

6.3 TCP Image Socket

This section describes the TCP Socket method for JPEG image gets.

1. Remote module initiates a tcp connection
2. vCap accepts the connect request and sends 'start' string without quotes
3. Remote receives 'start' and sends camera config/request: 'Config:CameraName=' & clip(cam:name) & '|' example: Config:CameraName=FrontDoor|
4. vCap validates camera config/request and will send first image. If validation fails, vCap will respond with 'startnocam'
5. Remote receives first image
6. Remote can send 'get' without the quotes on the same connection to retrieve another image from the same camera. This can be done on a timer or immediately after an image is received. If using a timer, make sure the previous image has been received completely before initiating another 'get'.
7. Remote closes the connection. vCap will close the connection if there is no activity for a time.

Notes: *TVDATA* COMMAND HEADER proceeds each JPEG image.

Header length (*TVDATA*COMMAND) before one would start looking for the JPEG image. Also data/JPEG length. List next is the datablk.inc that contains the definition of the data sent before the jpeg image. It's size is 256 bytes. Some of what's there is not being used. There are some notes at the bottom describing the meaning of several of the flags. Essentially you have an 8 byte tag, *TVDATA*, a 4 byte long field that contains the combined length of the data block header and the entire jpeg. The length of the jpeg itself is glo:datablk:len - size(glo:datablk:grp) or glo:datablk:len - 256

```

!datablk.inc
!this is the data block header passed from vcapture to all other modules
!if the size of glo:datablk:grp is changed, change e:datablockhdrsize in dvs.equ
!if the offset to the recorder fields (58) is changed, change e:datablocktorecorder in dvs.equ
!if the size of either recorder or recorderver is changed (30 total), change e:datablockrecorder size in
dvs.equ
!if the offset to glo:datablk:datatype (88) changes, change e:datablocktoimgtype in dvs.equ
!if the offset to glo:datablk:lastoffset (101) changes, change e:datablocktolastblock in dvs.equ
!if the offset to glo:datablk:audiohdrlen (109) changes, change e:datablocktoaudiolen in dvs.equ
!if the offset to glo:datablk:storetype (113) changes, change e:datablocktostoretype in dvs.equ
!
! <datablockhdr><data>
glo:datablk:grp      group,pre()
glo:datablk:tag      string('*TVDATA*') !8 bytes
glo:datablk:len      long(0)      !includes tag, header, and data
glo:datablk:datetime string(16)    !standard date/time
glo:datablk:source   string(20)    !source module
glo:datablk:sourcever string(10)  !source module version
glo:datablk:recorder string(20)    !recording module, if storage. must keep together with
glo:datablk:recorderver string(10) !recording module version. must keep in same position/order
with glo:datablk:recorder
glo:datablk:datatype byte         !type of data in block. 1=jpg, 2=wavelet, ... see below
glo:datablk:flags1   ulong(0)     !32 bit flags, see below
glo:datablk:flags2   ulong(0)     !32 bit flags, see below
glo:datablk:CRCValue  ulong        !CRC value if bit 1 of glo:datablk:flags1 is set
glo:datablk:lastoffset long        !offset of last image/block in storage buffer/block, for reverse
playback
glo:datablk:lastlen  long          !length of last image/block in storage buffer/block
glo:datablk:audiohdrlen long       !length of audio header following datablock hdr. array of packet
datetime and len
glo:datablk:storetype byte         !type/reason for storage of data block. 1=timed, 2=pre-buffer,
3=motion, ... see below
!other fields may be placed here, reduce the glo:datablk:filler as necessary
glo:datablk:filler   string('<00>{142}') !filler to round out 256 bytes
end

!E:Manip... Equates are in DVS.EQU

omit('***datablockvalues**')
!this section for a description of flags used in glo:datablk:grp above
glo:datablk:datatype byte
!these values match the Image Types values in dvs.equ
1 = jpeg image (E:JPG)
2 = wavelet image, webgate cameras (E:Wavelet)
3 = jpeg2000 image (E:JPEG2000)
4 = mp3 audio (E:MP3)
no others defined, may have up to 255 types

glo:datablk:flags1  ulong
bit 1 = CRC Flag, 1 = used, 0 = not used
2 = PTZ Pause, primarily for vMotion. 0 = normal, 1 = do not detect on this image
3 = Dest/View Img Manipulate flag, 1 = use dest manip opts, 0 = not used
4 = Dest/View Rotate 90, 1 = when displaying image rotate 90 degrees, 0 = not used
5 = Dest/View Rotate 180
6 = Dest/View Rotate 270
7 = Dest/View Flip Horizontal
8 = Dest/View Flip Vertical

```

9 = Source/JPEG XForm flag, 1 = img has these jpeg xforms, 0 = not used
 10 = Source Rotate 90, image has these jpeg xforms applied
 11 = Source Rotate 180, 1 = image has been rotated 180 degrees, 0 = not used
 12 = Source Rotate 270
 13 = Source Flip Horizontal
 14 = Source Flip Vertical
 no others defined

glo:datablk:flags2 ulong
 none defined

glo:datablk:storetype byte
 1 = timed storage (from vStore) (E:StrType_Timed)
 2 = pre-buffer motion event (from vMotion) (E:StrType_PreMotion)
 3 = motion event trigger (from vMotion) (E:StrType_Motion)
 4 = post event motion (from vMotion) (E:StrType_PostMotion)
 !don't know about the next ones
 5 = pre-buffer alarm event (in vMotion from vAlarm) (E:StrType_PreAlarm)
 6 = alarm event trigger (in vMotion from vAlarm) (E:StrType_Alarm)
 7 = post event alarm (in vMotion from vAlarm) (E:StrType_PostAlarm)
 8 = panic record (from vCon??, but vCon does not store to this type of file)

datablockvalues

6.4 TCP PTZ Socket

The vCap PTZ sequence is much the same as getting an image, please refer to [TCP Image Socket](#).

1. Remote module initiates a tcp connection
2. vCap accepts the connect request and sends 'start' string without quotes
3. To tell vCap this connection is for a ptz command, note the tag at the end of request string: remote receives 'start' and sends camera config/request: 'Config:CameraName=' & clip(cam:name) & '|VMONPTZ' example: Config:CameraName=FrontDoor|VMONPTZ
4. vCap validates camera config/request and will send 'sendptz' without quotes
5. remote receives 'sendptz' and sends the ptz request in the following format:

'PTZRequest=' & loc:ptzreq

if the camera supports the variable speed/percentage option, use:

'PTZRequest=' & clip(loc:ptzreq) & '|' & loc:joyusepct

loc:ptzreq can be the strings: 'Up', 'Down', 'Left', 'Right', 'Zoom In', 'Zoom Out', 'Home', 'Pan', 'Tilt' and the zoom in and out do have a space, and case is significant. If the camera supports the 'by degrees' option, you can append the degrees number to the ptz request string with |degrees_number|.

examples:

PTZRequest=Left

```
PTZRequest=Left|20  
PTZRequest=Pan|10|
```

If both the degrees and the percentage are used at the same time, the degrees number would be first followed by the percentage:

```
PTZRequest=Tilt|5|10
```

6. remote closes the connection. vCap will also close the connection after receiving the ptz command.

7 vConsole

vConsole is a smart display system with highly customizable display options. Options include

- PTZ controls
- Instant playback
- Direct print
- Alarm events
- Hot record (directly from within vConsole)

7.1 Overview

vConsole is a powerful camera display application used to display your camera images with more options available to you. vConsole is very scalable and able to run on any number of monitoring workstations. Additional functionality allows you to control pan/tilt/zoom cameras, print, record and view images in an instant playback window.

7.2 OEM Specific

1. Can play a wav file based on a Tereo event or a user generated event (requires vAlarm).
2. vConsole will display alarms generated from the vAlarm module (OEM or vAlarm).
3. Can change vConsole skin.
4. Hot Record command button provided for recording to the local viewing station independently of the main system storage options.
5. Special function provided to perform an "instant playback" with forward cache. Not only can you capture an instant playback, this function continues to capture images going forward so nothing is lost because of entering this function.
6. Allow the toolbar buttons to be re-ordered.
- 7.

7.2.1 Force Config

Force Config is use to force the vConsole into configuration mode.

Example:

```
\\192.168.0.110\Tereo\vConsole.exe forceconfig
```

7.2.2 Command Button

Command Button

The Command Button can be used to launch external processes. If used enter it in vCam (Other tab). It is a string field, 100 characters maximum. If the command line is available in vConsole, the Command button will be visible. Example command string:

```
c:\progra~1\window~2\wmplayer.exe "axrtpm://192.168.1.39/mpeg4/1/media.amp"
```

7.2.3 Video INI File

This section lists out vConsole related video.ini file settings.

7.2.3.1 Video INI File

2007/02/26 This section lists out vConsole related video.ini file settings.

Item#	Item	Description
1	[vConsole]	vConsole Section
2	Skin=wall1.jpg	Specify vConsole Skin image
3	SkinMode=Tile	Centered, Stretched or
4	PBSkin=wall1.jpg	Tiled
5	PBSkinMode=Tile	Specify Playback window skin
6		Centered, Stretched or
7	!Skin="Skin for the vConsole"	Tiled
8	!SkinMode=Tile Stretch Center (Normally Tile is used here)	
9	!PB is for the Play Back window.	vConsole Skin Examples
10	!PBSkin="Skin for the vConsole PlayBack Window"	
11	!PBSkinMode=Tile Stretch Center (Normally Tile is used here)	
12		
13	ButtonOrder=1 2 3 7 5 6 8 4 9 10 11 12 13 14 15 16 17 18	
14	Connect=image.jpg	Button ordering
15	Disconnect=image.jpg	Button icon image
16	Reload=image.jpg	
17	Help=image.jpg	
18	vPTZ=image.jpg	
19	vPlay=image.jpg	
20	Message Window=image.jpg	
21	Print=image.jpg	
22	Time Lapse=image.jpg	
23	Resume Cycle=image.jpg	
24	Command=image.jpg	
25	Command1=app.ico	
26	Command2=app.ico	
27	Command3=app.ico	
28	ZoomIn=app.ico (when using Image Click ptz)	Logo Graphic used for
29	ZoomOut=app.ico (when using Image Click ptz)	vConsole's Toolbar
30	Home=app.ico (when using Image Click ptz)	
31	Config Rotate=app.ico	Tool Tips Text
32		
33	ToolLogo=vcon.jpg	
34		
35	!Use <icon name>Tip=<tip text>	
36	ConnectTip='Connect All'	
37	DisconnectTip='Disconnect All'	
38	ReloadTip='Reconnect to All Cameras'	
39	HelpTip='Call Help System For vConsole'	
40	vPTZTip='Launch the vPTZ Module'	
41	vPlayTip='Launch the vPlay Module for This Camera'	
42	MessagesTip='Messages'	
43	PrintTip='Print Camera Image'	
44	Time LapseTip='Return All Cameras to The Minimum FPS'	
45	RecycleTip='Recycle Cameras'	
46	Command1Tip='Command One'	
47	Command2Tip='Command Two'	
48	Command3Tip='Command Three'	
49	ZoomInTip='Zoom In'	
50	ZoomOutTip='Zoom Out'	
51	HomeTip='Home'	

Here is a sample of the startup ini with the new items in. There are now 17 buttons and you can use the Button Order to reorder them. The initial order from 1 is: Connect, Disconnect, Reload, Help, vPTZ, vPlay, Messages, Print, Users, All Time Lapse, Resume Cycle, Command1, Command2, Command3,

Zoom In, Zoom Out, Home.

Button Order:

1=Connect
 2=Disconnect
 3=Reload
 4=Help
 5=vPTZ
 6=vPlay
 7=Message Window
 8=Print
 9=Users (for use with PTZ authentication)
 10=All Time Lapse
 11=Resume Cycle
 12=Run Command 1
 13=Run Command 2
 14=Run Command 3
 15=Zoom In (when using Image Click ptz)
 16=Zoom Out (when using Image Click ptz)
 17=Home (when using Image Click ptz)
 18=Config Rotate

```
[vConsole]
Skin=wall1.jpg
SkinMode=Tile
PBSkin=wall1.jpg
PBSkinMode=Tile
ButtonOrder=1 2 3 7 5 6 8 4 9 10 11 12 13 14 15 16 17
ConnectTip='Connect'
MessagesTip='Messages Tip'
ToolLogo=bkgd7.jpg
Command1=app.ico
Command1Tip='Command One'
Command2=app.ico
Command2Tip='Command Two'
Command3=app.ico
Command3Tip='Command Three'
ZoomIn=app.ico
ZoomInTip='Zoom In'
ZoomOut=app.ico
ZoomOutTip='Zoom Out'
Home=app.ico
HomeTip='Home'
```

12/21/2006 Additional Command Buttons:

Add command buttons for additional command line options on toolbar. The ini entry for the existing command will still work but should be updated to the new format: Command1= Command1Tip= Command2= Command2Tip= Command3= Command3Tip=

12/21/2006 Toolbar Logo:

Toolbar logo can be on left or right by using L: or R: in front of the logo file name in the ini. If neither L: or R: is entered in the ini, the default will be R: 'logo on right'. ToolLogo=L:logo.bmp

02/01/2007 Added Zoom Buttons:

Added Zoom In, Zoom Out, and Home buttons to the toolbar. They are button numbers 15, 16, and 17. The ini entry names are ZoomIn, ZoomInTip, ZoomOut, ZoomOutTip, Home, and HomeTip. Use just like the others to assign icons and tips. Setup F5, F6, and F7. F5 for Zoom In, F6 for Zoom Out, F7 for

Home.

03/08/2007 To use the custom help option, add the following to the existing vConsole group:

```
[vConsole]
CustomHelp=
```

If this entry exists vCon uses ShellExecute to open the file. If it does not exist, vCon opens the existing Help About window.

7.2.3.2 Previous Video INI File

2007/02/26 This section lists out vConsole related video.ini file settings.

Item#	Item	Description
1	[vConsole]	vConsole Section
2	Skin=wall1.jpg	Specify vConsole Skin image
3	SkinMode=Tile	Centered, Stretched or
4	PBSkin=wall1.jpg	Tiled
5	PBSkinMode=Tile	Specify Playback window skin
6		Centered, Stretched or
7	!Skin="Skin for the vConsole"	Tiled
8	!SkinMode=Tile Stretch Center (Normally Tile is used here)	
9	!PB is for the Play Back window.	vConsole Skin Examples
10	!PBSkin="Skin for the vConsole PlayBack Window"	
11	!PBSkinMode=Tile Stretch Center (Normally Tile is used here)	
12		
13	ButtonOrder=1 2 3 7 5 6 8 4 9 10 11 12 13 14 15 16 17	
14	Connect=image.jpg	Button ordering
15	Disconnect=image.jpg	Button icon image
16	Reload=image.jpg	
17	Help=image.jpg	
18	vPTZ=image.jpg	
19	vPlay=image.jpg	
20	Message Window=image.jpg	
21	Print=image.jpg	
22	Time Lapse=image.jpg	
23	Recycle=image.jpg	
24	Command=image.jpg	
25	Command1=app.ico	
26	Command2=app.ico	
27	Command3=app.ico	
28	ZoomIn=app.ico	Logo Graphic used for
29	ZoomOut=app.ico	vConsole's Toolbar
30	Home=app.ico	
31		Tool Tips Text
32	ToolLogo=vcon.jpg	
33		
34	!Use <icon name>Tip=<tip text>	
35	ConnectTip='Connect All'	
36	DisconnectTip='Disconnect All'	
37	ReloadTip='Reconnect to All Cameras'	
38	HelpTip='Call Help System For vConsole'	
39	vPTZTip='Launch the vPTZ Module'	
40	vPlayTip='Launch the vPlay Module for This Camera'	
41	MessagesTip='Messages'	
42	PrintTip='Print Camera Image'	
43	Time LapseTip='Return All Cameras to The Minimum Display	
44	Rate'	
45	RecycleTip='Recycle Cameras'	
46	Command1Tip='Command One'	
47	Command2Tip='Command Two'	
48	Command3Tip='Command Three'	
49	ZoomInTip='Zoom In'	
50	ZoomOutTip='Zoom Out'	
51	HomeTip='Home'	

Here is a sample of the startup ini with the new items in. There are now 17 buttons and you can use the Button Order to reorder them. The initial order from 1 is: Connect, Disconnect, Reload, Help, vPTZ, vPlay, Messages, Print, Users, All Time Lapse, Resume Cycle, Command1, Command2, Command3,

Zoom In, Zoom Out, Home.

```
[vConsole]
Skin=wall1.jpg
SkinMode=Tile
PBSkin=wall1.jpg
PBSkinMode=Tile
ButtonOrder=1 2 3 7 5 6 8 4 9 10 11 12 13 14 15 16 17
ConnectTip='Connect'
MessagesTip='Messages Tip'
ToolLogo=bkgd7.jpg
Command1=app.ico
Command1Tip='Command One'
Command2=app.ico
Command2Tip='Command Two'
Command3=app.ico
Command3Tip='Command Three'
ZoomIn=app.ico
ZoomInTip='Zoom In'
ZoomOut=app.ico
ZoomOutTip='Zoom Out'
Home=app.ico
HomeTip='Home'
```

12/21/2006 Additional Command Buttons:

Add command buttons for additional command line options on toolbar. The ini entry for the existing command will still work but should be updated to the new format: Command1= Command1Tip= Command2= Command2Tip= Command3= Command3Tip=

12/21/2006 Toolbar Logo:

Toolbar logo can be on left or right by using L: or R: in front of the logo file name in the ini. If neither L: or R: is entered in the ini, the default will be R: 'logo on right'. ToolLogo=L:logo.bmp

02/01/2007 Added Zoom Buttons:

Added Zoom In, Zoom Out, and Home buttons to the toolbar. They are button numbers 15, 16, and 17. The ini entry names are ZoomIn, ZoomInTip, ZoomOut, ZoomOutTip, Home, and HomeTip. Use just like the others to assign icons and tips. Setup F5, F6, and F7. F5 for Zoom In, F6 for Zoom Out, F7 for Home.

03/08/2007 To use the custom help option, add the following to the existing vConsole group:

```
[vConsole]
CustomHelp=
```

If this entry exists vCon uses ShellExecute to open the file. If it does not exist, vCon opens the existing Help About window.

7.2.3.3 Old Video INI File

This section lists out vConsole related video.ini file settings.

Item#	Item	Description
1	[vConsole]	vConsole Section
2	Skin=wall1.jpg	Specify vConsole Skin image
3	SkinMode=Tile	Centered, Stretched or
4	PBSkin=wall1.jpg	Tiled
5	PBSkinMode=Tile	Specify Playback window skin
6		Centered, Stretched or
7	!Skin="Skin for the vConsole"	Tiled
8	!SkinMode=Tile Stretch Center (Normally Tile is used here)	
9	!PB is for the Play Back window.	vConsole Skin Examples
10	!PBSkin="Skin for the vConsole PlayBack Window"	
11	!PBSkinMode=Tile Stretch Center (Normally Tile is used here)	
12		
13	ButtonOrder=1 2 3 4 5 6 7 8 9 10 11	
14	Connect=image.jpg	Button ordering
15	Disconnect=image.jpg	Button icon image
16	Reload=image.jpg	
17	Help=image.jpg	
18	vPTZ=image.jpg	
19	vPlay=image.jpg	
20	Message Window=image.jpg	
21	Print=image.jpg	
22	Time Lapse=image.jpg	
23	Recycle=image.jpg	
24	Command=image.jpg	
25		
26	ToolLogo=vcon.jpg	
27		
28	!Use <icon name>Tip=<tip text>	Logo Graphic used for
29	ConnectTip='Connect All'	vConsole's Toolbar
30	DisconnectTip='Disconnect All'	
31	ReloadTip='Reconnect to All Cameras'	Tool Tips Text
32	HelpTip='Call Help System For vConsole'	
33	vPTZTip='Launch the vPTZ Module'	
34	vPlayTip='Launch the vPlay Module for This Camera'	
35	Message WindowTip='Show Message Window'	
36	PrintTip='Print Camera Image'	
37	Time LapseTip='Return All Cameras to The Minimum Display	
38	Rate'	
39	RecycleTip='Recycle Cameras'	
40	CommandTip='Launch Special Command'	

Button ordering example is as follows.

- 1=Connect
- 2=Disconnect
- 3=Reload
- 4=Help
- 5=vPTZ
- 6=vPlay
- 7=Message Window
- 8=Print
- 9=Time Lapse
- 10=Recycle
- 11=Command

An example order would be:

```
ButtonOrder=1 2 3 7 5 6 8 4 9 10 11
```

7.2.4 Command/XML

'ForceConfig' command line/XML option added to open the configuration. Use on command line or in the Config= of the XML.

7.2.5 Swap API

vConsole image swap API.

7.2.5.1 Overview

vConsole permits creation of multiple configurations with up to 64 cameras in each. A larger cycle view (hotspot) area may be defined occupying any area of any grid as long as the hotspot area cell counts in the X and Y direction are equal. A background cycle timer can rotate all the images through the hotspot and various alarm conditions or user actions can force any displayed image into the hotspot. The main limitation of this system is that any camera to be dynamically displayed must be a visible part of the active configuration. This means that if the system has a large number of cameras, only a subset will be dynamically available in any given console-viewing configuration.

7.2.5.2 Image Selection API

The Console Image Selection API completely overcomes this limitation and also adds several other new operational features. The console still requires an initial graphical configuration with default cameras installed. Once this configuration is launched the new API provides great flexibility. Any camera defined and running on the system may be dynamically displayed on any console instance regardless of whether or not that camera was part of the initial configuration.

The API uses socket based ASCII commands delivered to a single TCP/IP socket on a single instance of the vAlarm module to control every instance of the viewing console from a single point. These commands can implement the following operations.

- Display any camera in any cell of any active console configuration
- Display any camera in any cell of any active console configuration with timed return to original camera (1-999 seconds).
- Request any desired FPS for either of the above
- Indicate that camera should also be displayed in the hotspot area if such is configured.
- Combine above commands to replace any group or all cameras simultaneously, timed or for the full duration of the console session.

This API allows for very flexible alarm displays and complete camera set switches without reloading the console configuration. It also allows FPS selections not possible with the normal console configuration choices. The timed display parameter permits stateless control and the permanent replacement permits maintaining the state externally. Repeating an already executed command has no visible effect but extends the time or modifies the FPS as desired.

The included (DIV-X compressed) AVI file is a screen movie that demonstrates changing one or more images using the socket API on a real console display. There is very little latency (imperceptible), even with various components of the system communicating over LAN links, and no spurious flickering or flashing. Some of the changes shown are single images and some are groups of 4 images done with a single concatenated set of commands.

7.2.5.3 Command Flow

The swap commands get sent to the vAlarm socket and passed through to vConsole. Only cameras on-line in a running vCapture at the time vConsole starts up will be available for swap. That means if you start a new vCapture without re-starting vConsole, vConsole will not see those cameras.

7.2.5.4 Command Definition

The command definition:

```
**SWAP:2|<computer name>|<config name>|<swap command>|**
**SWAP:2|<computer name>|<config name>|<swap command>|<swap command>|
... **
```

The 2 is for a camera swap (**SWAP:2). I've planned for a 1 for config swap, but that is not implemented and may never be. Only the command 2 is recognized.

<swap command> definition (all ASCII text):

- 2 bytes X position in view from top left (01 – 08)
- 2 bytes Y position in view from top left (01 – 08)
- 2 bytes FPS requested (01 – 30)
- 1 byte Hot Spot flag (0, 1)
- 3 bytes time in seconds to revert to last camera. (1-999, 0 for permanent swap)
- 10 bytes reserved (0000000000)
- 1 - 20 bytes Camera name (no spaces or special chars)

To use first available, use 0 for the x, y, and hotspot in the swap command.

Example:

```
**SWAP:2|WINXPPRO|House|01011000100000000000Toshiba|**
Swapping the "Toshiba" into 1,1 at 10 fps, revert to last camera in 10 seconds.
```

Format:

```
**SWAP:2|MachineName|ConfigName|01 01 10 0 010 0000000000
CamName20BytesMax|**
```

7.2.6 Socket Alert Command

The Socket Alert Command is a socket command that is sent on image click. Configuration is performed on the Image tab in the vConsole configuration window. A socket alert will send 26 bytes as follows:

```
ALERT:<20 byte camera name
```

7.2.7 Keyboard Shortcuts

The keyboard shortcuts for VConsole are :

SHIFT Key = Hold down SHIFT and a Magnifying Glass icon will appear. Left Click to Zoom In. Right

Click to Zoom Out. Once the Zoom has been manipulated, user must right click and select Zoom->Stretch to Fit to go back to the original (default) display.

CTRL Key = Hold down CTRL and Cross-Hairs will appear. Click in the top left corner of a specific area of an image and drag out a box. It will digitally zoom into the selected area, right click and select Zoom->Stretch to Fit to go back to the original (default) display.

SHIFT/F12 = Toggles the VCONSOLE toolbar on and off or showing and not showing.

8 vStore

vStore is a high performance image archive engine.

8.1 Overview

vStore connects to vCapture engines on your network and requests images for archival. vStore buffers all images for optimized batch writes to the disk system. This functionality provides many image archiving performance benefits that are described in this chapter.

8.2 OEM Specific

Enter topic text here.

8.2.1 Video INI File

This section lists out vStore related video.ini file settings.

Item#	Item	Description
-------	------	-------------

9 vMotion

vMotion archives images based on software motion detection and external processes.

9.1 Overview

vMotion is a high performance image archive engine with software based motion detection. vMotion acquires camera images via vCapture and is configurable for different levels of image motion detection and archiving. Alerting services are provided to alert attendant to motion events in real time. vMotion buffers all images for optimized batch writes to the disk subsystem. Additional API features are available for third party application developers.

9.2 OEM Specific

The vMotion has the ability to launch an OEM application with parameters based on motion detected. This is camera specific.

1. Command line syntax: ExtApp.exe <default> |otheroptions|go|here
2. Other valid syntax: ExtApp.exe or ExtApp.exe option|list|here| <default>
3. <default> consists of Module|Date|Time|Camera. An example is vMotion|20032803|164642|Roof Top Camera
4. The <default> text will be inserted in the command line in place of the <default> label. If the <default> label is not entered, the <default> text is placed at the end of the command line.
5. The vMotion can store images based on a socket command received by the vAlarm.
6. The vMotion can pause motion detection on a PTZ command, see [PTZ Delay](#).

9.2.1 PTZ Delay

vMotion has an added option for ptz pause/delay. When the option is on, it will not detect on images for 2 - 3 seconds. At least 2 seconds with no detection, but no more than 3. To turn the option on, use the Tereo.ini and there should be an existing section as follows (if not add the entry):

```
[PTZManager]
PTZPause=1 use zero (0) to turn it off or remove the whole line item
```

The way it works is when a ptz request comes into vCap, vCap finds all connections requesting that camera and sets a flag. When the connection requests the next image from that camera and that flag is set, a datablock header flag bit is set before the image gets sent on. When the above ini entry is ON, vMotion will check that datablock header flag bit. If set, the 2-3 second delay on detection is initiated. After the delay is up, the detection is reset which should be a fresh image at the new viewing position, then detection resumes.

10 vPlay

vPlay is the default image playback module for Tereo. For advanced tree based playback please refer to the nPlay.

10.1 Overview

vPlay is Tereo's image playback application. The functionality built into vPlay allows you to playback images locally or remotely from other servers over your network. Additional functionality provides you with image exporting and printing. vPlay's functionality and benefits are described in this chapter.

10.2 OEM Specific

1. Can use alternate 2nd path for image archive retrieval
2. Can export image in JPEG format for OEM Partners integration.
3. Command line launching with parameters. Parameters included camera name, start date/time, stop date/time.
4. Can launch in silent mode (no display) to export JPEG images.

10.3 AVI Automation

vPlay has functionality to launch an external program after AVI export has completed. Use Tereo.INI in the following way:

```
[AVI]
AVICmd=vMovie.exe <yourfilename> /AUTO
```

The command line after AVICmd can be whatever you want/need. If that entry is in the INI, and the AVI export check box is checked on a range export, vPlay will run this command line.

2006/11/17 Added a Custom option for AVI export with width and height entry fields. All AVI settings are saved and will default to setting last used or selected, also for silent export. Added command line option for silent AVI export. Use X for Silent AVI export from vStore archive. Use Y for Silent AVI export from vMotion archive. Use the same as the existing Q mode/parameter (except Q only used vStore):

```
vPlay.exe <camera name> : X 10/02/06 11:32:00 10/02/06 11:33:00 C:\Video
vPlay.exe <camera name> : Y 10/02/06 11:32:00 10/02/06 11:33:00 C:\Video
```

There is no restrictions placed on the width and height. Please review Windows Codec used for height and width specifications and other limitations.

10.4 Startup Parmeters

vPlay Command Line Interface

Updated 2006/01/07

PathToProgram\vPlay.exe CameraName: [p/q/r/x/y/a/b/s] [StartDate] [StartTime] [StopDate] [StopTime] [OutputPath | OutputPathFileName]

- p** mode plays the image files on screen
- q** mode exports the vStore JPG files (quite mode)
- r** mode exports the vMotion JPG files (quite mode)
- x** mode outputs the vStore files to an AVI file (quite mode)
- y** mode outputs the vMotion files to an AVI file (quite mode)
- s** mode find/display date/time, doesn not begin playback
- a** mode same as s mode, use vStore archive
- b** mode same as s mode, use vMotion archive

Notes:

1. The Output path is used for all output/export modes
2. OutputPathFileName can be used for the output folder and to name the output/export file. It must contain a file extension. If the file name with extension is found it will override the default camera name\date\time file name that would have been assigned to the export file.

Prior to 2006/01/07:

PathToProgram\vPlay.exe CameraName: [p/q/r/x/y] [StartDate] [StartTime] [StopDate] [StopTime] [OutputPath]

Note that the Output path is used only in q mode

- p** mode plays the image files on screen
- q** mode exports the vStore JPG files (quite mode)
- r** mode exports the vMotion JPG files (quite mode)
- x** mode outputs the vStore files to an AVI file (quite mode)
- y** mode outputs the vMotion files to an AVI file (quite mode)

Note: spaces shown are required delimiters

vPlay Command Line Examples:

Sample 1:

```
c:\program files\tereo\tereo\vplay.exe sony: p 03302002 110000 03302002 111000
```

Sample 2:

```
c:\program files\tereo\tereo\vplay.exe sony: p 03/30/2002 11:00:00 03/30/2002 11:10:00
```

Sample 3:

```
c:\program files\tereo\tereo\vplay.exe sony: q 03302002 110000 03302002 111000 c:\video
```

Sample 1 and 2 above do the same thing; launches vPlay and starts playing images. Sample 3 launches vPlay in quiet mode, exporting images.

Comments:

1. Must use spaces between parameters as shown above.
2. Invalid coding produces error box, listing command line used.
3. When doing the Q mode and using an invalid folder name produces no error and no image export.

11 vPlay2

Enter topic text here.

11.1 Overview

Enter topic text here.

11.2 OEM Specific

Enter topic text here.

11.3 Startup Parameters

Command line format is:

```
vPlay2.exe <config name> yyyyymmdd hh:mm:ss
```

Date and Time must be zero filled in exact format shown.

Xml can also use Config item and command line xml contains the date time in above format.

12 vMovie

vMovie allows you to create AVI files for playback in Windows Media Player.

12.1 Automation

A powerful feature of vMovie is unattended and remote controlled operation. All of the parameters and settings required for conversion of a folder of JPG files to video are stored in the vMovieSettings.xml file. This file is created and/or edited when vMovie is used in the normal way.

If vMovie is launched from a shortcut or other method with the text string /AUTO on the program's command line processing will proceed automatically using the latest settings in the vMovieSettings.xml file. This means that any JPG files in the source folder will be used as the source to create the specified video in the output folder.

You can also pass the name of the output file to vMovie on the command line like this:

vMovie.exe myfilename /AUTO

Myfilename will override and replace the video output file name (if any) stored in the XML file. If the /AUTO command is not present, the supplied file name will be ignored.

This function allows the calling program to "name" the output file while using all the other settings in the XML file.

You can use an external program to write or modify this XML file if you wish. If there are errors in your settings file, vMovie may behave strangely or even lock up. You may erase or rename the vMovieSettings.xml file to restore default operation.

When vMovie is operated in this automatic way, the main screen will show progress but will disappear as soon as the conversion is done. All user controls will be locked during the conversion. Errors may not be reported so be sure to check your settings in normal, manual mode first.

13 vWeb Monitor

The vWeb Monitor is a display modules that connects to running vWeb servers operating on WAN or the Internet.

13.1 Overview

vWeb Monitor provides several important features for displaying camera images over the WAN or Internet.

- Multiple vWeb Server selections
- Multiple viewing configurations
- Supports PTZ operations
- Historic playback built in

14 vPTZ

The vPTZ module is designed specifically for PTZ cameras.

14.1 OEM Specific

1. Can change vPTZ skin (See Tereo.ini below).
2. Can launch from a command line with PTZ parameters.
3. Can launch in silent mode (no display) to issue PTZ commands or presets.
4. vPTZ can be used in a standalone installation and can connect to any Tereo PRO installation (VPN required). Optional LE Support.

14.1.1 Video INI File

This section lists out vPTZ related video.ini file settings.

Item#	Item	Description
1	[vPTZ]	vPTZ Section
2	Skin=gray_large.jpg	Specify vPTZ Skin image
3	!Skin Mode; Stretch, Tile or Center	
4	SkinMode=Stretch	Centered, Stretched or Tiled
5	ButtonUL=vptzimage_ul.jpg	Specifies the Up Left Image
6	ButtonU=vptzimage_u.jpg	Specifies the Up Image
7	ButtonUR=vptzimage_ur.jpg	Specifies the Up Right Image
8	ButtonL=vptzimage_l.jpg	Specifies the Left Image
9	ButtonH=vptzimage_h.jpg	Specifies the Home Image
10	ButtonR=vptzimage_r.jpg	Specifies the Right Image
11	ButtonDL=vptzimage_dl.jpg	Specifies the Down Left Image
12	ButtonD=vptzimage_d.jpg	Specifies the Down Image
13	ButtonDR=vptzimage_dr.jpg	Specifies the Down Right Image
14	ButtonZI=vptzimage_zi.jpg	Specifies the Zoom In Image
15	ButtonZO=vptzimage_zo.jpg	Specifies the Zoom Out Image
16	ButtonCMD=function.jpg	Specifies the Function Image
17	ButtonMenu=menu.jpg	Specifies the Menu Image
18		

14.2 Startup Parameters

vPTZ Specific Command Line Parameters

Valid command line is:

vPTZ CameraName -switches ptzcommand (optional)

Camera Name: Name of the camera to be controlled

-switches: Valid switches are S, C, P, X and Y.

-C is for camera display

-P is for PTZ control with virtual joystick layout

-PB is for PTZ control with button layout

-S is for silent mode and should not be combined with others switches.

-X is used for launching and references the left side of the screen.

-Y is used for launching and references the top of the screen.

Switches can be used individually or combined, in any order. If combined, they must be together, like -CP or -PC, NOT separate switches (-C -P will not work). S is for silent mode and should not be combined with the others. If it is, only the S will be used, and all others are ignored. To pass a ptz command, there must be a switch.

vPTZ Command Line Examples:

Example 1:

vPTZ WallCam -C

This example opens with camera only, no ptz control. PTZ will NOT be available.

Example 2:

vPTZ RoofCam -P

This example opens with ptz control only, PTZ operations may be performed while vPTZ is running.

Example 3:

vPTZ EastCam

This example is the same as example 1 above

Example 4:

vPTZ WestCam -CP

This example opens with both camera and ptz control visible.

Example 5:

vPTZ NorthCam -P Main Gate

This example opens with ptz control AND sends Main Gate ptz command

Example 6:

vPTZ SouthCam -S Delivery Dock

This is an example of operating the vPTZ in silent mode. vPTZ will send Delivery Dock preset command, however it will not open a window.

Example 7:

vPTZ RoofCam Delivery Dock

This is an example of an invalid command because there is no switch included in the command string.

vPTZ Standalone Shortcut Example:

Target: "D:\Remote Control\VPTZ.EXE" \\ Server03\Tereo\CameraName -CP

Start in: "D:\Remote Control"

Special Notes:

1. Camera settings and switches are the same as previous example.
2. When using the remote path, you must specify the camera name immediately following the UNC path (no space).
3. See also Detailed vPTZ Command Line information.

15 vGuard

vGuard provide e-mail and digital pager notifications.

15.1 Overview

vGuard is a spooling event notification module. Events based on motion, module and camera connection status and other system wide events are presented to vGuard for proper notification. Complete with scrolling event window, address book and logging. vGuard can notify you in several methods as list next.

- e-Mail to your desktop
- e-Mail to your mobile laptop, PPC or pagers that support e-mail
- Attach motion event image to e-mail
- e-Mail notification of failed cameras
- Digital Pager notification

16 vAlarm

vAlarm interfaces to IP appliances to monitor dry contact and control relay outputs.

16.1 Overview

vAlarm handles remote sensor input and relay output to and from external IP Sensor boxes. Each IP Sensor box has 12 input sensors and 8 output relays that are directly controllable from vAlarm.

16.2 OEM Specific

1. IP Alarm receive socket allows external applications to connect to vAlarm and send alarm commands.
2. Can interface to IP based devices that provide sensor inputs and relay outputs.
3. Based on incoming events, certain alarm actions can be performed by this module. Output actions included IP based relay boxes and sending special commands to actuate that cameras built in relays (product specific).
4. Can launch an external application on an alarm event.
5. vAlarm has new code to take a string from it's server socket and pass it to any vConsole that is connected. The format of this string is: ****ACK:<text string>****

16.2.1 vAlarm Configuration

Alarm API actions are accomplished by means of first properly configuring vAlarm as previously describe and then having the interfaced application deliver the correct command strings through a standard windows socket. The socket may be designed to maintain a continuous open connection or connect, send one or more commands and disconnect. The latter style of operation is a bit more robust assuming the command volume is expected to be relatively low.

Once vAlarm has a configuration that defines at least one Alarm message, you are ready to send messages from your application to the socket in vAlarm.

You must first connect your client socket to the server socket at the IP and Port shown on the vAlarm main window.

The basic format for the alarm message delivered to the vAlarm socket is shown below.

```
**ALARM:ALARMSTRING**
```

Where ALARMSTRING is one of the alarms string you defined in the configuration that is now active. Sending this string with the prefix and suffix shown will trigger the defined alarm and cause the actions you desired.

If you want the video and message effects to appear only on a specific instance of the console, you may add the following to the message.

```
**ALARM:ALARMSTRING#CONFIG**
```

Where CONFIG is the configuration name of the desire vConsole instance, not the configuration name of vAlarm.

```
**ALARM:ALARMSTRING@STATION**
```

Where STATION is the Windows name of the computer where the vConsole(s) is running.

In each case, SharkView will search the configuration database for the entered parameter(s) and apply the actions only to the vConsole instance that matches those parameters.

These parameters may be combined if desired.

```
**ALARM:ALARMSTRING#CONFIG@STATION**
```

16.2.2 External Process

Launch external application option for an alarm. This is to signal/start an external application when an alarm event has been triggered. The command line syntax is the same as described in vMotion. The <default> text has the format:

```
Module|Date|Time|Alarm Name.
```

An example is vAlarm|20030128|091536|Temp Alarm.

16.2.3 Alarm Socket

vAlarm contains a powerful IP server socket provided to receive OEM events. Once setup, these OEM events can trigger any Tereo related alarms. Please note; this requires the OEM to program TCP/IP client applications.

- Syntax: ALARM:<alarm string>
- There is a colon after the word ALARM, and it is required.
- <alarmstring> must be defined as an External Alarm Input (Socket) type.
- The External Alarm Input type is toward the bottom of the Input list on the first tab of the alarm definition.
- The external program must use vAlarm's server IP and Port. Use a simple socket connection, and when the write event in the external app occurs, write the alarm string to the socket and disconnect. The alarm string must have the format as described above.

9/12/05 Added station and config name in the alarm string for socket based alarms.

```
**ALARM:TESTALARM@STATION**  
**ALARM:TESTALARM#CONFIG**  
**ALARM:TESTALARM@STATION#CONFIG**
```

If the Station or Config name is there, the vAlarm will restrict the sending of the alarm to only those stations matching the station/config criteria.

9/13/05 Added feature to take a string from it's server socket and pass it to any vConsole that is connected. The format of this string is: **ACK:<text string>**

17 Pocket PC (PPC)

17.1 Overview

The Tereo PPC is a Pocket PC 2002/2003 application that allows you to view and monitor your camera images from your Pocket PC. The main screen can display camera images in 1UP, 4UP, 9UP and Sequence modes.

- Requires vWeb Server
- Can utilize dual image streaming features (low and high resolution images) for low bandwidth

support.

18 Remote Video Recorder (RVR)

Enter topic text here.

18.1 Overview

Enter topic text here.

18.2 Startup Parameters

Network Video Recorder (RVR) Shortcut Example:

Target: c:\rvr\rvr.exe start
Start in: c:\rvr\

Startup Parameters:

start = start running the application when the program is launched

19 vSchedule

Enter topic text here.

19.1 Overview

An intuitive scheduling module that controls the storage on and off time of your cameras. Working with vStore and vMotion, you now have complete control of your camera storage on and off times.

19.2 Startup Parameters

vSchedule Shortcut Example:

Target: \\Server03\Tereo\vSchedule.exe -m -s
Start in: \\Server03\Tereo

Startup Parameters:

-m = launch the program minimized
-s = start running the scheduler when the program is launched

20 vWeb Server

Enter topic text here.

20.1 Overview

Your link to the outside world via your WAN or Internet connection. Specialized functionality is provided to serve up your images (outside your LAN), such as Web integration and streaming video. vWeb can also export images from your cameras for third party integration.

20.2 OEM Specific

1. vWeb can serve up or export images to a UNC path in JPEG format.
2. With the exported images, the OEM can access any camera images for other OEM specific purposes by simply accessing a standard JPEG file.

21 vWebMon

Enter topic text here.

21.1 Overview

Viewing module that connects to your vWeb server to allow remote viewing and playback that is not directly connected to your local area network.

21.2 OEM Specific

Enter topic text here.

22 vGenII

22.1 Overview

The vGenerator tool simulates a video server or DVR providing multiple channels of MJPEG image streams for your use.

22.2 OEM Specific

1. Can be used by OEM partner to simulate IP network cameras. This camera simulator provides two separate image streams.
2. OEM Partner can connect up to 50 vCap connections to each vGenerator. Can run multiple vGenerators on one system or many.
3. vGenII can be run as a service.

23 vScreen

23.1 Overview

Enter topic text here.

23.2 OEM Specific

vScreen needs to be in an installation folder with all the Tereo DLLs. The service templates are in there, so it can be installed as a service, but it is set to interact with desktop. So if you run it as a service, you should set it to 'hidden' in the xml. Use the vSysCtl.xml to set the IP address and port.

Sample xml entries:

```
<row SystemID="WINXPPRO" Module="vScreen" Style='Hidden' CtlSockIP="192.168.0.7"
CtlSockPort="8099" />
<row SystemID="WINXPPRO" Module="vScreen" Style='Normal' CtlSockIP="192.168.0.7"
CtlSockPort="8099" />
```

The device driver used to setup a 'camera' in vCam is ScreenCap.driv Make sure any new requests you would make are STREAM drivers. Do NOT use Snapshot at this time.

Control Port Options:

vScreen will respond to the socket commands of H and V for Hide and Visible. It could already launch hidden using the xml. Add option to use command line or xml command line to pass a window title. If the window title is found in the task list, vScreen will use the Window Handle option. Option to use the xml LocX,Y SizeW,H items to extract a region when the Desktop option is active.

Using a Windows Title:

Add option to use command line or xml command line to pass a window title. If the window title is found in the task list, vScreen will use the Window Handle option. Option to use the xml LocX,Y SizeW,H items to extract a region when the Desktop option is active.

Using a Windows Handle:

To capture using a window handle use something like this, or pass the window title on the command line:

```
<row SystemID="WINXPPRO" Module="vScreen" Style='Hidden'
SpecialCommands="WindowTitleOfTargetApp" CtlSockIP="192.168.0.7" CtlSockPort="8099" />
```

Using a Window Region:

To cut a region when capturing the entire desktop use something like this:

```
<row SystemID="WINXPPRO" Module="vScreen" Style='Hidden' LocX="14" LocY="14" SizeW="352"
SizeH="240" CtlSockIP="192.168.0.7" CtlSockPort="8099" />
```

24 vHistory

Enter topic text here.

24.1 Overview

vHistory is a server service that can serve up images from Tereo archives.

24.2 OEM Specific

The only item vHistory needs to run is a configuration name (Config Name). The vHistory Config Name is the same as the History Server Description that is created for each vHistory entry in the vMaster.

The Config Name can also be passed by command line. The startup IP/Port comes from the history server record (as created in vMaster). It looks for camera storage files based on the camera file. If no config/desc name is passed by xml or command line, it uses the first record in the history server file, if any. If no records, it will display a message and not start.

25 ATop

25.1 Overview

25.2 OEM Specific

We have integrated the ATOP Model GW26A. This appliance will provide the ability to close relay contacts across your network LAN, WAN and Internet. Here is ATOP information.

ATOP TCP/IP I/O Controller, Model GW26A:

<http://www.atop.com.tw/e/product/GW26A-25.htm>

ATOP Application Example:

<http://www.atop.com.tw/e/solution/s040518.htm>

ATOP GW26A User Manual:

<http://www.entamitek.com/download/gw26ausermanual.pdf>

For setup in Tereo, please refer to the Tereo manual section vAlarm Configuration, SE1280 Appliance Setup. This will show you how to setup and test this option.

26 CamPatrol

Enter topic text here.

26.1 Overview

Enter topic text here.

26.2 OEM Specific

CamPatrol startup parameters:

- Command line parameter "-s" for automatic start of all patrols
- Command line parameter "-h" for hide after launch

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