

# **Panasonic Network Camera Technical Notes**

**Ver. 2.3**

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**Panasonic Communications Co.,Ltd.**

## Version History

Date	Ver.	Revision
2004.10.3	2.30	Compatible with ver. 1.80 of Network Camera firmware
2003.10.3	2.20	Added new CGI command/parameters (Compatible with ver. 1.75 of Network Camera firmware) nphControlCamera (Click to Center) nphManipulateCamera Set network configuration parameters Set camera name and time Set administrator ID and password Set general user ID and password Set image transfer parameters Set various camera parameters Set parameter for external output Delete stored image nphSecurityGeneralUserDelete (Delete general user information) nphSecurityGeneralUserModify (Modify general user information) nphRestart (Restart Network Camera) nphPresetNameCheck (Set preset and clear preset) nphPanTiltControl (Verify status of preset, verify name of preset button) nphReplayRecord (Acquire motion image stored in camera buffer) BufferingImage (Acquire still image stored in camera buffer)
2003.4.1	2.00	Added new CGI commands/parameters ImageViewer (added Title parameter) nphControlCamera (added Zoom and Focus parameters for HCM280) nphMotionJpeg (acquire motion image) SnapShotJPEG (acquire still image)
2002.9.26	1.00	First English version

## 1.NOTICE

The purpose of this document is to help users who need to include live images from Panasonic Network Cameras on their web pages or use CGI commands to control Panasonic Network Cameras.

This document is provided for use by people who are familiar with HTML. In no event shall Panasonic make any kind of warranty or representation and be responsible for any expenses, damages or loss incurred by using this information.

The information in this document is written for use with the following Panasonic Network Cameras:

KX-HCM8  
KX-HCM10  
KX-HCM230  
KX-HCM250  
KX-HCM270  
KX-HCM280.

## 2.BASIC INFORMATION

Panasonic Network Cameras KX-HCM10 and KX-HCM8 support a maximum of 10 simultaneous accesses.

Panasonic Network Cameras KX-HCM230, KX-HCM250, KX-HCM270, and KX-HCM280 support a maximum of 30 simultaneous accesses.

If you need to provide for more simultaneous accesses, you will need to setup an external FTP server to receive images from the Network Camera.

**The information may be changed or updated without notice.**

### 3.COMMAND LIST

CGI commands provide for a wide range of camera control and interaction.

The basic format for a CGI command is:

http://cameraIPAddress/CGIcommand?Option1=Value&Option2=Value

#### 3.1 Setting network configuration parameters

##### nphManipulateCamera

Parameter	Value	Description / Note
PAGE	Network	Fixed value.
CameraBootpEnable	Check	Fixed value.
CameraPort	<i>A port number</i>	Must be assigned. Normally set to 80.
CameraDHCP	<i>Host name for DHCP</i>	Not required if the camera has a static IP address.
CameraIP	<i>An IP address</i>	If the camera has a static IP address, it is entered here.
CameraNetmask	<i>A subnet mask</i>	If the camera has a static IP address, the subnet mask is entered here.
CameraInternetFlag	0 1	0: Enables the DHCP host set with CameraDHCP. 1: Static IP. CameraIP and CameraNetmask parameters are required.
CameraGateway	<i>An IP address</i>	IP address of the gateway used by the Network Camera.
CameraDNS1	<i>An IP address</i>	IP address of the primary DNS server used by the Network Camera.
CameraDNS2	<i>An IP address</i>	IP address of the secondary DNS server used by the Network Camera.
CameraDDNSEnable	Check	Fixed value. CameraDDNSEnable=Check enables DDNS; DDNS is disabled (unavailable) when CameraDDNSEnable is not specified. <b>Note:</b> When DDNS is enabled, the CameraEmail parameter is required.
CameraEMail	<i>An e-mail address</i>	The e-mail address used when registering with the DDNS service (ViewnetCam).
CameraConnectionType	1 (Auto Negotiation) 2 (10Base-T Half Duplex) 3 (10Base-T Full Duplex) 4 (100Base-TX Half Duplex) 5 (100Base-TX Full Duplex)	Connection Type Note:Use "Auto Negotiation" in most cases.
CameraBandwidth	13107 (0.1Mbps) 26214 (0.2Mbps) 39321 (0.3Mbps) 65536 (0.5Mbps) 131072 (1.0Mbps) 262144 (2.0Mbps) 393216 (3.0Mbps) 655360 (5.0Mbps) 786432 (Unlimited)	Determines the bandwidth the camera has access to.
Save	ON	Fixed value.

Example:

nphManipulateCamera?PAGE=Network&CameraBootpEnable=Check&CameraPort=80&CameraInternetFlag=1&CameraIP=192.168.0.250&CameraNetmask=255.255.255.0&CameraGateway=192.168.0.1&CameraDNS1=192.168.0.1&CameraDNS2=202.238.95.24&

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CameraDDNSEnable=Check&CameraConnectionType=1&CameraBandwidth=65536&Save=ON

### 3.2 Setting Camera name and time parameters

#### nphManipulateCamera

Parameter	Value	Description / Note
PAGE	NameTime	Fixed value.
HeadingName		Camera Name. 1 to 15 characters.
Year	0 to 99	Can be set to any year between 2000 and 2099.
Month	1 to 12	
Day	1 to 31	
Hour	0 to 23	
AMPM	AM or PM	If AMPM is unspecified, the 24-hour system will be used.
Minute	0 to 59	0 - 59
NtpEnable	Check	Fixed value. NtpEnable=Check enables NTP; NTP is unavailable when NtpEnable is not specified.
NtpServer		NTP server host name or IP address
NtpMode	-24 to 24	-24 = -12hours, 24 = +12hours. Can specify half-hour increments. Example: 24 = +12 hours    23 = 11.5 hours
SummerEnable	on	Fixed value. SummerEnable=on enables Daylight Saving Time (Summer Time). If enabled, start and end dates of Daylight Saving Time must be set using BeginMonth, BeginSunday, BeginHour, BeginAMPM, EndMonth, EndSunday, EndHour, and EndAMPM. Daylight Saving Time is disabled when SummerEnable is not specified.
BeginMonth	1 to 12	The month when Daylight Saving Time begins.
BeginSunday	See table below.	The day of the month when Daylight Saving Time begins.
BeginHour	0 to 23	The hour when Daylight Saving Time begins.
BeginAMPM	AM or PM	If AMPM is unspecified, the 24-hour system will be used.
EndMonth	1 to 12	The month when Daylight Saving Time ends.
EndSunday	See table below.	The day of the month when Daylight Saving Time ends.
EndHour	0 to 23	The hour when Daylight Saving Time ends.
EndAMPM	AM or PM	If AMPM is unspecified, the 24-hour system will be used.
Save	ON	Fixed value.

**Table of Values for BeginSunday and EndSunday Parameters**

Value	Day	Value	Day	Value	Day	Value	Day	Value	Day
16	1st Sun.	32	2nd Sun.	48	3rd Sun.	64	4th Sun.	80	Last Sun.
17	1st Mon.	33	2nd Mon.	49	3rd Mon.	65	4th Mon.	81	Last Mon.
18	1st Tue.	34	2nd Tue.	50	3rd Tue.	66	4th Tue.	82	Last Tue.
19	1st Wed.	35	2nd Wed.	51	3rd Wed.	67	4th Wed.	83	Last Wed.
20	1st Thurs.	36	2nd Thurs.	52	3rd Thurs.	68	4th Thurs.	84	Last Thurs.
21	1st Fri.	37	2nd Fri.	53	3rd Fri.	69	4th Fri.	85	Last Fri.
22	1st Sat.	38	2nd Sat.	54	3rd Sat.	70	4th Sat.	86	Last Sat.

Example:

```
nphManipulateCamera?PAGE=NameTime&HeadingName=NetworkCamera&Year=2&
Month=1&Day=1&Hour=0&Minute=0&AMPM=AM&NtpEnable=Check&
NtpServer=10.75.83.202&NtpMode=-24&SummerEnable=on&BeginMonth=4&
BeginSunday=16&BeginHour=2&BeginAMPM=AM&EndMonth=10&EndSunday=80&
EndHour=2&EndAMPM=AM&Save=ON
```

### 3.3 Setting the administrator ID and password

#### nphManipulateCamera

Parameter	Value	Description / Note
PAGE	SecurityAdministrator	Fixed value.
AuthenticationEnable	0 1 2	0: None (Any user can access any page) 1: Administrator only (for Setup Page) 2: Administrator (for Setup Page) and general user (for Top Page)
AdministratorID		ID. 4 to 15 characters.
AdministratorPassword1		Password1. 4 to 15 characters.
AdministratorPassword2		Retype Password1.
Save	ON	Fixed value.

Example:

```
nphManipulateCamera?PAGE=SecurityAdministrator&AuthenticationEnable=1&
AdministratorID=Admin&AdministratorPassword1=mnger&
AdministratorPassword2=mnger&Save=ON
```

### 3.4 Setting an ID and password for a new general use

#### nphManipulateCamera

Parameter	Value	Description / Note
PAGE	SecurityGeneralUser	Fixed value.
NewUserID		ID. 4 to 15 characters.
NewUserPassword1		Password1. 4 to 15 characters.
NewUserPassword2		Retype Password1.
Save	ON	Fixed value.

Example:

```
nphManipulateCamera?PAGE=SecurityGeneralUser&NewUserID=xxxxx&
NewUserPassword1=yyyyy&NewUserPassword2=yyyyy&Save=ON
```

### 3.5 Deleting a general user

#### nphSecurityGeneralUserDelete

Parameter	Value	Description / Note
PAGE	SecurityGeneralUserDelete	Fixed value.
USERNAME		ID of registered user.
OK	OK	Fixed value.

Example:

```
nphSecurityGeneralUserDelete?PAGE=SecurityGeneralUserDelete&
USERNAME=xxxxx&OK=OK
```

### 3.6 Modifying a general user password

#### nphSecurityGeneralUserModify

Parameter	Value	Settings
PAGE	SecurityGeneralUserModify	Fixed value.
USERNAME		ID of registered user.
NewUserPassword1		New password1. 4 to 15 characters.
NewUserPassword2		Retype new Password1)
OK	OK	Fixed value.

Example:

```
nphSecurityGeneralUserModify?PAGE=SecurityGeneralUserModify&
USERNAME=ppppp&NewUserPassword1=qqqqq&NewUserPassword2=qqqqq&Save=ON
```



### 3.7 Configuring for image transfer (Non-Transfer mode)

#### nphManipulateCamera

Parameter	Value	Description / Note
PAGE	ImageTransferNon	Fixed value.
TaskEnable	On	Fixed value. Enables "Start Capture" to buffer images from the Single Camera screen. This operation is unavailable when TaskEnable=On is not specified.
ClearImage	ON	Fixed value. Deletes saved images. This operation is unavailable when ClearImage=ON is not specified.
Save	ON	Fixed value.

Example:

nphManipulateCamera?PAGE=ImageTransferNon&TaskEnable=on&  
ClearImage=ON&Save=ON

### 3.8 Configuring for image transfer (Timer mode)

#### NphManipulateCamera

Parameter	Value	Description / Note
PAGE	ImageTransfer Timer	Fixed value.
TaskEnable	On	Fixed value. Activates Timer mode. Timer mode is disabled when TaskEnable=On is not specified.
PrimaryTimeMode	0 86400000	0: Timer mode will start and stop at the times specified with the following Parameters. 86400000: Images are always transferred. (Start and stop times do not need to be specified.)
PrimaryStartHour	0 to 23	Start time (hour) of Primary time.
PrimaryStartMin	0 to 59	Start time (minute) of Primary time.
PrimaryStartSec	0 to 59	Start time (second) of Primary time.
PrimaryStopHour	0 to 23	End time (hour) of Primary time.
PrimaryStopMin	0 to 59	End time (minute) of Primary time.
PrimaryStopSec	0 to 59	End time (second) of Primary time.
PrimaryStartSun	On or no value	On: Specifies whether or not the timer is enabled on this day. No value: Timer is disabled on this day.
PrimaryStartMon	On	Same as above.
PrimaryStartTue	On	Same as above.
PrimaryStartWed	On	Same as above.
PrimaryStartThu	On	Same as above.
PrimaryStartFri	On	Same as above.
PrimaryStartSat	On	Same as above.
SecondaryEnable	On	Fixed value. Activates Secondary Timer mode. Secondary Timer mode is disabled when SecondaryEnable is not specified.

Parameter	Value	Description / Note
PrimaryResolution	0 4 8	Determines image resolution. 0: 640x480 4: 320x240 8: 160x120
PrimaryQuality	0 1 2	Determines image quality. 0: Favor clarity 1: Standard 2: Favor motion
PrimaryPostIntervalNum	1 or higher	Determines the number of images which are saved per second, minute, or hour (determined by PrimaryPostIntervalPer, below) during Primary time.
PrimaryPostIntervalPer	1 60 3600	Determines the interval in seconds at which images are saved during Primary time. 1: 1 second 60: 1 minute 3600: 1 hour Example, if PrimaryPostIntervalNum=10 and PrimaryPostIntervalPer=60, then 10 images will be saved each minute (60 seconds).
SecondaryPostIntervalNum	1 or higher	Determines the number of images which are saved per second, minute, or hour (determined by SecondaryPostIntervalPer, below) during Secondary time.
SecondaryPostIntervalPer	1 60 3600	Determines the interval in seconds at which images are saved during Secondary time. 1: 1 second 60: 1 minute 3600: 1 hour Example, if SecondaryPostIntervalNum=10 and SecondaryPostIntervalPer=60, then 10 images will be saved each minute (60 seconds).
TransferMode	0 16 32 48	Determines the transfer method of saved images. 0: Non-transfer without memory overwrite. 16: Non-transfer with memory overwrite. 32: FTP transfer 48: Transfer via e-mail.
TransferFtpServer	<i>FTP server address or host name</i>	Determines the destination of images transferred via FTP.
TransferFtpPortNo	<i>A port number</i>	Must be assigned. Normally set to 21.
TransferFtpLoginID		Login ID required by the FTP server. 0 to 63 characters.
TransferFtpPassword		Password required by the FTP server. 0 to 63 characters.
TransferFtpLoginMode	0 64	FTP Login timing 0: Every Time 64: One Time
TransferFtpFileName		Determines the name for files transferred via FTP.
TransferFtpFileNameMode	0 1	Determines the way in which transferred file names will be generated. 0: The file name determined by TransferFtpFileName is used. Each new file overwrites the old one. 1: The time of the upload is attached to the file name determined by TransferFtpFileName.
TransferFtpPortMode	0 16	Determines the FTP transfer mode. 0: Passive mode. 16: Active mode.
TransferMailServer	<i>Mail server address or host name.</i>	Determines the SMTP server address or host name used when transferring images by e-mail.
TransferPopServer	<i>Mail server address or host name.</i>	Determines the POP3 server address or host name used when transferring images by e-mail.

Parameter	Value	Description / Note
TransferPopID		Login ID required by the POP3 server. 0 to 63 characters.
TransferPopPassword		Password required by the POP3 server. 0 to 63 characters.
TransferMailFrom	<i>An e-mail address.</i>	Mail address (Reply) from which images transferred by e-mail are sent from.
TransferMailTo	<i>An e-mail address</i>	Mail address to which transferred images are sent.
TransferMailSubject		The subject which will appear in e-mail messages sent by the Network Camera. 0 to 44 characters.
TransferMailText		The text which will appear in e-mail messages sent by the Network Camera. 0 to 63 characters.
ClearImage	ON	Fixed value. ClearImage=ON will clear all images from the camera's buffer.
Save	ON	Fixed value.

Example:

```
nphManipulateCamera?PAGE=ImageTransferTimer&TaskEnable=on&
PrimaryTimeMode=86400000&PrimaryStartHour=0&PrimaryStartMin=0&
PrimaryStartSec=0&PrimaryStopHour=23&PrimaryStopMin=59&
PrimaryStopSec=59&PrimaryStartSun=ON&PrimaryStartMon=ON&
PrimaryStartTue=ON&PrimaryStartWed=ON&PrimaryStartThu=ON&
PrimaryStartFri=ON&PrimaryStartSat=ON&SecondaryEnable=ON&
PrimaryResolution=0&PrimaryQuality=0&PrimaryPostIntervalNum=1&
PrimaryPostIntervalPer=1&SecondaryPostIntervalNum=1&
```

**SecondaryPostIntervalPer=1&TransferMode=0&Save=ON**

### 3.9 Configuring for image transfer (Alarm mode)

#### nphManipulateCamera

Parameter	Value	Description / Note
PAGE	ImageTransferAlarm	Fixed value.
TaskEnable	On	Fixed value. Activates Alarm mode. Alarm mode is disabled when TaskEnable=On is not specified.
PrimaryTimeMode	0 86400000	0: Timer mode will start and stop at the times specified with the following Parameters. 86400000: Images are always transferred. (Start and stop times do not need to be specified.)
PrimaryStartHour	0 to 23	Start time (hour) of Primary time.
PrimaryStartMin	0 to 59	Start time (minute) of Primary time.
PrimaryStartSec	0 to 59	Start time (second) of Primary time.
PrimaryStopHour	0 to 23	End time (hour) of Primary time.
PrimaryStopMin	0 to 59	End time (minute) of Primary time.
PrimaryStopSec	0 to 59	End time (second) of Primary time.
PrimaryStartSun	On or no value	On: Specifies whether or not the timer is enabled on this day. No value: The timer is disabled on this day.
PrimaryStartMon	On	Same as above.
PrimaryStartTue		
PrimaryStartWed		
PrimaryStartThu		
PrimaryStartFri		
PrimaryStartSat		
PrimaryTrigger	3 2	Determines the alarm enable condition for Primary time. 3: Rising (GND to Open High) 2: Falling (Open High to GND)
SecondaryEnable	ON	Fixed value. Activates Secondary Timer mode. Secondary Timer mode is disabled when SecondaryEnable is not specified.
SecondaryTrigger	3 2	Determines the alarm enable condition for Primary time. 3: Rising (GND to Open High) 2: Falling (Open High to GND)
PrimaryResolution	0 4 8	Determines image resolution. 0: 640x480 4: 320x240 8: 160x120
PrimaryQuality	0 1 2	Determines image quality. 0: Favor clarity 1: Standard 2: Favor motion
PrimaryPreEnable	ON	Fixed value. Enables the pre-alarm image buffer. Pre-alarm image buffer is disabled when PrimaryPreEnable is not specified.
PrimaryPreIntervalNum	1 or higher	Determines the number of images which are saved per second, minute, or hour (determined by PrimaryPreIntervalPer, below) during Primary time, before an alarm is detected.
PrimaryPreIntervalPer	1 60 3600	Determines the interval in seconds at which images are saved during Primary time before an alarm is detected. 1: 1 second 60: 1 minute

Parameter	Value	Description / Note
		3600: 1 hour Example, if PrimaryPreIntervalNum=10 and PrimaryPreIntervalPer=60, then 10 images will be saved each minute (60 seconds) before an alarm is detected.
PrimaryPreNum	1 or higher	Determines the maximum number of pre-alarm images.. Using the example above, if PrimaryPreNum=25, then 25 images will be saved at a rate of 10 images per minute before an alarm is detected.
PrimaryPostIntervalNum	1 or higher	Determines the number of images which are saved per second, minute, or hour (determined by PrimaryPostIntervalPer, below) during Primary time after an alarm is detected.
PrimaryPostIntervalPer	1 60 3600	Determines the interval in seconds at which images are saved during Primary time after an alarm is detected. 1: 1 second 60: 1 minute 3600: 1 hour Example, if PrimaryPostIntervalNum=30 and PrimaryPostIntervalPer=60, then 30 images will be saved each minute (60 seconds) after an alarm is detected.
PrimaryPostNum	1 or higher	Determines the maximum number of post-alarm images. Using the example above, if PrimaryPreNum=50, then 50 images will be saved at a rate of 30 images per minute after an alarm is detected.
TransferMode	0 16 32 48	Determines the transfer method of saved images. 0: Non-transfer without memory overwrite. 16: Non-transfer with memory overwrite. 32: FTP transfer 48: Transfer via e-mail.
TransferFtpServer	<i>FTP server address or host name</i>	Determines the destination of images transferred via FTP.
TransferFtpPortNo	<i>A port number</i>	Must be assigned. Normally set to 21.
TransferFtpLoginID		Login ID required by the for FTP server. 0 to 63 characters.
TransferFtpPassword		Password required by the FTP server. 0 to 63 characters.
TransferFtpLoginMode	0 64	FTP Login timing 0:Every Time 64:One Time
TransferFtpFileName		Determines the name for files transferred via FTP.
TransferFtpFileNameMode	0 1	Determines the way in which transferred file names will be generated. 0: The file name determined by TransferFtpFileName is used. Each new file overwrites the old one. 1: The time of the upload is attached to the file name determined by TransferFtpFileName.
TransferFtpPortMode	0 16	Determines the FTP transfer mode. 0: Passive mode. 16: Active mode.
TransferMailServer	<i>Mail server address or host name.</i>	Determines the SMTP server address or host name used when transferring images by e-mail.
TransferPopServer	<i>Mail server address or host name.</i>	Determines the POP3 server address or host name used when transferring images by e-mail.
TransferPopID		Login ID required by the POP3 server. 0 to 63 characters.
TransferPopPassword		Password for POP3 (0 to 63 characters)
TransferMailFrom	<i>An e-mail address.</i>	Mail address (Reply) from which images transferred by e-mail are sent from.

Parameter	Value	Description / Note
TransferMailTo	<i>An e-mail address</i>	Mail address to which transferred images are sent.
TransferMailSubject		The subject which will appear in e-mail messages sent by the Network Camera. 0 to 44 characters.
TransferMailText		The text which will appear in e-mail messages sent by the Network Camera. 0 to 63 characters.
MessageMode	0 64	Determines the method of notification when an alarm occurs. 0: No message 64: Mail
MessageMailServer	<i>Mail server address or host name.</i>	Determines the SMTP server address or host name of the mail server used when sending an alarm notification by e-mail.
MessagePopServer	<i>Mail server address or host name.</i>	Determines the POP3 server address or host name of the mail server used when sending an alarm notification by e-mail.
MessagePopID		Login ID required by the POP3 server. 0 to 63 characters.
MessagePopPassword		Password required by the POP3 server. 0 to 63 characters.
MessageMailFrom	<i>An e-mail address.</i>	Mail address (Reply) from which alarm notification messages are sent from.
MessageMailTo	<i>An e-mail address</i>	Mail address to which alarm notification messages are sent.
MessageMailSubject		The subject which will appear in alarm notification messages sent by the Network Camera. 0 to 44 characters
MessageMailText		The text which will appear in alarm notification messages sent by the Network Camera. 0 to 63 characters.
ClearImage	ON	Fixed value. ClearImage=ON will clear all images from the camera's buffer.
Save	ON	Fixed value.

Example:

```
nphManipulateCamera?PAGE=ImageTransferAlarm&TaskEnable=on&
PrimaryTimeMode=86400000&PrimaryStartHour=0&PrimaryStartMin=0&
PrimaryStartSec=0&PrimaryStopHour=23&PrimaryStopMin=59&PrimaryStopSec=59&
PrimaryStartSun=on&PrimaryStartMon=on&PrimaryStartTue=on&
PrimaryStartWed=on&PrimaryStartThu=on&PrimaryStartFri=on&
PrimaryStartSat=on&PrimaryTrigger=3&SecondaryEnable=on&
SecondaryTrigger=3&PrimaryResolution=0&PrimaryQuality=0&
PrimaryPreIntervalNum=1&PrimaryPreIntervalPer=1&PrimaryPreNum=1&
PrimaryPostEnable=on&PrimaryPostIntervalNum=1&PrimaryPostIntervalPer=1&
PrimaryPostNum=1&TransferMode=0&Save=ON
```

### 3.10 Setting Network Camera parameters

#### nphManipulateCamera

Parameter	Value	Description / Note
PAGE	CameraSetup	Fixed value.
WhiteBalance	0 16 32 48 64 80	Determines the white balance of camera images. 0: Auto 16: Hold 32: Fixed indoor. 2800K, electric bulb 48: 3600K, natural fluorescent light 64: 4000K, cool fluorescent light 80: Fixed outdoor. 6000K sunlight.
PowLineFreq	60 50	Power line frequency, in Hz. Must match the frequency of the electrical current supplied to the Network Camera. Select 60 Hz in the United States.
CameraBright	0 2	Determines whether the camera's brightness controls can be accessed by users. 0: Permitted 2: Locked
NightViewControl	1 0	Determines whether the camera's color night view controls can be accessed by users. 1: Permitted 0: Locked
CameraControl	0 1	Determines whether the camera's pan/tilt controls can be accessed by users. Also permits/denies the Click to Center operation. 0: Permitted 1: Locked
Preset	0 32	Determines whether the camera's preset controls can be accessed by users. 0: Permitted 32: Locked
PresetControl	0 4	Determines whether the camera's preset locations can be programmed by users. 0: Permitted 4: Locked
ZoomControl	0 8	Determines whether the camera's zoom controls can be accessed by users. 0: Permitted 8: Locked
FocusControl	0 16	Determines whether the camera's focus controls can be accessed by users. 0: Permitted 16: Locked
PanRangeMinus	<i>Varies by camera model</i>	Determines the low extreme of the pan range in negative degrees. 100 units equal -1 degree. (100 = -1 degree, 6000 = -60 degrees).
PanHome	<i>Varies by camera model</i>	Determines the x-axis home position in degrees. 100 units equal 1 degree. (-6000 = -60 degrees, 3000 = 30 degrees). Normally set to 0.
PanRangePlus	<i>Varies by camera model</i>	Determines the high extreme of the pan range in degrees. 100 units equal 1 degree. (100 = 1 degree, 6000 = 60 degrees).
Layout	0 1	This setting should match the installation location of the Network Camera. 0: Tabletop (pointing up) 1: Ceiling (pointing down)

Parameter	Value	Description / Note
TiltRangeMinusTab	<i>Varies by camera model</i>	When the camera is mounted in the Tabletop position, determines the low extreme of the tilt range in negative degrees. 100 units equal -1 degree. (100 = -1 degree, 6000 = -60 degrees)
TiltHomeTab	<i>Varies by camera model</i>	When the camera is mounted in the Tabletop position, determines the y-axis home position in degrees. 100 units equal 1 degree. (-6000 = -60 degrees, 3000 = 30 degrees).
TiltRangePlusTab	<i>Varies by camera model</i>	When the camera is mounted in the Tabletop position, determines the high extreme of the tilt range in degrees. 100 units equal 1 degree. (100 = 1 degree, 6000 = 60 degrees).
TiltRangeMinusCeil	<i>Varies by camera model</i>	When the camera is mounted in the Ceiling position, determines the low extreme of the tilt range in negative degrees. 100 units equal 1 degree. (100 = -1 degree, 6000 = -60 degrees)
TiltHomeCeil	<i>Varies by camera model</i>	When the camera is mounted in the Ceiling position, determines the y-axis home position in degrees. 100 units equal 1 degree. (-6000 = -60 degrees, 3000 = 30 degrees).
TiltRangePlusCeil	<i>Varies by camera model</i>	When the camera is mounted in the Ceiling position, determines the high extreme of the tilt range in degrees. 100 units equal 1 degree. (100 = 1 degree, 6000 = 60 degrees).
Save	ON	Fixed value.

Example:

```
nphManipulateCamera?PAGE=CameraSetup&WhiteBalance=0&PowLineFreq=60&
CameraBright=0&NightViewControl=1&CameraControl=0&Preset=0&PresetControl=0
&ZoomControl=0&FocusControl=0&PanRangeMinus=-17500&PanHome=0&PanRangePlus=
17500&Layout=0&TiltRangeMinusTab=-12000&TiltHomeTab=-9000&TiltRangePlusTab
=0&TiltRangeMinusCeil=0&TiltHomeCeil=9000&TiltRangePlusCeil=9000&Save=ON
```

<Example: Set Tilt Range (-120 to 90)>

```
nphManipulateCamera?PAGE=CameraSetup&WhiteBalance=0&PowLineFreq=60&CameraB
right=0&NightViewControl=1&CameraControl=0&Preset=0&PresetControl=0&ZoomCo
ntrol=0&FocusControl=0&PanRangeMinus=-17500&PanHome=0&PanRangePlus=17500&L
ayout=0&TiltRangeMinusTab=-12000&TiltHomeTab=-9000&TiltRangePlusTab=9000&S
ave=ON
```



### 3.11 Setting External Output Control parameters

#### nphManipulateCamera

Parameter	Value	Description / Note
PAGE	DigitalOutputControl	Fixed value.
DigitalOutput	0 1	Determines the signal type which triggers an external sensor. 0: Open 1: Short to GND
Save	ON	Fixed value.

Example:

nphManipulateCamera?PAGE=DigitalOutputControl&DigitalOutput=0&Save=ON

### 3.12 Restarting the Network Camera

#### nphRestart

Parameter	Value	Description / Note
PAGE	Restart	Fixed value.
Restart	OK	Fixed value.

Example:

nphRestart?PAGE=Restart&Restart=OK

### 3.13 Creating a new preset with the current camera position

#### nphPresetNameCheck

Parameter	Value	Description / Note
PresetName		Determines the name of the preset. 1 to 15 characters.
Data	1 to 8	Determines the preset number.

Example:

nphPresetNameCheck?PresetName=Upperside&Data=1

### 3.14 Deleting a preset

#### nphPresetNameCheck

Parameter	Value	Description / Note
Data	1 to 8	Determines the preset number to be deleted.

Example:

nphPresetNameCheck?Data=1

### 3.15 Confirming preset programming and preset name

You can confirm the status of presets (whether or not presets have been programmed, what the preset names are, etc.) by referring to the HTML data which is output from "nphPanTiltControl?Mode=Disp".

### Interpreting the resulting HTML data

1. If Preset button 1 (for example) has already been programmed:

- The text "PresetOFF01.gif" will be found in the HTML data, as shown below.
  - The text "ALT="XXXX" will be found in the HTML data, as shown below.
- ("XXXX" is the preset name.)

Example:

```
<IMG SRC="image/PresetOFF01.gif" WIDTH=18 HEIGHT=18 BORDER=0 ALT="Test">
```

2. If Preset button 1 (for example) has not yet been programmed:

- The text "PresetON01.gif" will be found in the HTML data, as shown below.
- The text "ALT=" " will be found in the HTML data, as shown below.

Example:

```
<IMG SRC="image/PresetON01.gif" WIDTH=18 HEIGHT=18 BORDER=0 ALT=" ">
```

### 3.16 Retrieving motion images stored in the Network Camera buffer

#### nphReplayRecord

Parameter	Value	Description / Note
Record	0	Determines which motion images are retrieved from the camera. 0: Motion images recorded in Primary time. 1: Motion images recorded in Secondary time. 2: Motion images recorded by pressing the "Start Capture" button in the operation bar.
	1	
	2	
Type	0	0:by Alarm 1:by Timer 2:by Capture
	1	
	2	

Example:

```
nphReplayRecord?Record=0&Type=1 Motion images recorded in Primary time by Timer
nphReplayRecord?Record=1&Type=1 Motion images recorded in Secondary time by Timer
nphReplayRecord?Record=0&Type=0 Motion images recorded in Primary time by Alarm
nphReplayRecord?Record=1&Type=0 Motion images recorded in Secondary time by Alarm
nphReplayRecord?Record=2&Type=2 Motion images recorded by pressing the "Start Capture" button in the operation bar
```

Refer to "3.3 Capturing motion images" for information on viewing captured motion images.

### 3.17 Retrieving still images stored in the Network Camera buffer

#### BufferingImage

Parameter	Value	Description / Note
ImageAdr	<i>Image number; see description.</i>	Retrieves still images stored in the camera's buffer. <i>Image no:</i> Retrieves an image stored in Primary time. (Example: 3 retrieves image number 3.) <i>Image number plus 65536:</i> Retrieves an image stored in Secondary time. (Example: 65539 retrieves image number 3.) <i>Image number plus 131072:</i> Retrieves an image which was stored by pressing the "Start Capture" button. (Example: 131075 retrieves image number 3.)
Type	0 1 2	0:by Alarm 1:by Timer 2:by Capture

Example:

BufferingImage?ImageAdr=0&Type=1	No. 1 image stored in Primary time by Timer
BufferingImage?ImageAdr=65536&Type=1	No. 1 image stored in Secondary time by Timer
BufferingImage?ImageAdr=0&Type=0	No. 1 image stored in Primary time by Alarm
BufferingImage?ImageAdr=65536&Type=0	No. 1 image stored in Secondary time by Alarm
BufferingImage?ImageAdr=131072&Type=2	No. 1 image stored by pressing the "Start Capture" button.

### 3.18 Deleting buffered images

#### nphManipulateCamera

Parameter	Value	Description / Note
PAGE	ImageTransferNon	Fixed value.
ClearImage	OK	Fixed value.

Example:

nphManipulateCamera?PAGE=ImageTransferNon&ClearImage=OK

### 3.19 IMAGE VIEWING

The CGI command "ImageViewer" enables you to embed live or still images from your Network Camera into a web page. You can specify image resolution, quality, refresh interval, and control whether image titles are shown or not.

#### ImageViewer

Parameter	Value	Description / Note
Mode	Motion Refresh	Determines the type of image to be shown. Motion: Live image Refresh: Still image
Resolution	160x120 320x240 640x480	Determines image resolution.
Quality	Motion Standard Clarity	Determines image quality. Motion: Higher compression rate, more frames, lower image clarity. Standard: Standard quality. Clarity: Lower compression rate, fewer frames, better image clarity.
Interval	1 to 9999999	Image refresh rate of still images, in seconds. Not required when embedding motion images.
Title	1 0	Determines whether the image title is shown or not. <i>See note 1 below.</i> 1: Title is shown. 0: Title is not shown.

Example of embedding a live camera image:

```
http://IPAddress/ImageViewer?Mode=Motion&Resolution=320x240&
Quality=Standard&Interval=10&Title=1
```

**Note 1:** A title is displayed on the top the frame which displays the image. Firmware version 1.62 or later is required to display image frame titles. The latest firmware is available for download at the following URL:

<http://panasonic.co.jp/pcc/products/en/netwkcam/>

**Note 2:** When embedding images from your Network Camera into a web page, the Click to Center function is also available. When a user clicks an area of the image, the camera will center its image on that point.

**Note 3:** The following two frames are necessary when using this command.

- ImageViewer frame
- Message frame (Frame which displays messages. If not needed, the size can be set "0".)

If you do not set this frame, a new window will open when the screen is clicked.

### 3.20 CAMERA CONTROL

The CGI Command "nphControlCamera" is used for camera controls such as Pan, Tilt, Zoom, Pan Scan, Auto Focus, and Brightness. (Zoom and Auto Focus functions are available on the KX-HCM280 only.)

#### nphControlCamera

Parameter	Value	Description / Note
Direction	PanLeft PanRight	Moves the lens left or right.
	TiltUp TiltDown	Moves the lens up or down.
	PanScan	Pans the lens to the far left, to the far right, then returns it to the original position. Requires firmware version 1.40 or later.
	TiltScan	Tilts the lens to the highest then lowest position before returning it to the original position. Requires firmware version 1.40 or later.
	HomePosition	Returns the lens to the preprogrammed "home" position. Requires firmware version 1.40 or later.
	Darker DefaultBrightness Brighter	Controls image brightness.
	ZoomTele ZoomWide	Zooms in (tele) or out (wide).
Direction	Preset	First of three parameters required to move the camera to a preset location. Requires firmware version 1.40 or later.
PresetOperation	Move	Second of three parameters required to move the camera to a preset location.
Data	1 to 8	Last of three parameters required to move the camera to a preset location. The value of the Data parameter indicates the preset number.
Direction	FocusAuto	Sets the camera to auto focus mode.
Direction	FocusNear FocusFar	First of two parameters required to focus the camera on a nearby or distant object.
Dist	1 2	Controls how much focus correction is applied by the Direction=FocusNear and Direction=FocusFar parameters. 1: Small (subtle change) 2: Large (drastic change)

The latest firmware is available for download at the following URL:

<http://panasonic.co.jp/pcc/products/en/netwcam/>

Example of panning left:

`http://IPAddress/nphControlCamera?Direction=PanLeft`

Example of tilt scan:

`http://IPAddress/nphControlCamera?Direction=TiltScan`

Example of returning to the home position:

`http://IPAddress/nphControlCamera?Direction=HomePosition`

Example of moving the camera to preset location #1:

```
http://IPAddress/nphControlCamera?Direction=Preset&
PresetOperation=Move&Data=1
```

Example of darkening the image:

```
http://IPAddress/nphControlCamera?Direction=Darker
```

Example of manual focus:

```
http://IPAddress/nphControlCamera?Direction=FocusNear&Dist=1
```

### 3.3 Retrieving motion images

The CGI command "nphMotionJpeg" can be used to retrieve motion images in MIME format. These images can be recorded and viewed with a compatible web browser, such as Netscape 4.7.

**Note:** When recording motion images from a Network Camera, make sure an appropriate amount of remaining hard disk space is maintained. If disk space becomes too low, the PC may become unstable.

#### nphMotionJpeg

Parameter	Value	Description / Note
Resolution	160x120 320x240 640x480	Determines image resolution.
Quality	Motion Standard Clarity	Determines image quality. Motion: Higher compression rate, more frames, lower image clarity. Standard: Standard quality. Clarity: Lower compression rate, fewer frames, better image clarity.

Example of retrieving motion images with the "nphMotionJpeg" command:

1. Open the socket.
2. Send a request to the Network Camera by sending the following message to its HTTP port.

```

"GET
http://xxx.xxx.xxx.xxx:yy/nphMotionJpeg?Resolution=320x240&Quality=Standard
HTTP/1.0\r\n"

```

*Note:* xxx.xxx.xxx.xxx: IP address of domain name  
yy: HTTP port no. (default :80)

3. Receive the data.

```

"HTTP/1.0 200 OK\r\n"
"Content-Type: multipart/x-mixed-replace; boundary=--myboundary..."
"...--myboundary.Content-type: image/jpeg..."
JPEG binary data No.1("FFD8.....FFD9")
"...--myboundary.Content-type: image/jpeg..."
JPEG binary data No.2("FFD8.....FFD9")
:
:
"...--myboundary.Content-type: image/jpeg..."
JPEG binary data No.N("FFD8.....FFD9")

```

*Note:* The data from FFD8 to FFD9 is the JPEG data for a single frame.  
FFD8 begins after the text "Content-type: ...image/jpeg".  
FFD9 is just before "--myboundary".

4. Images can be recorded and viewing by using the extracted JPEG data.
5. Close (disconnect) the socket.

### 3.4 Retrieving still images

The CGI command "SnapshotJPEG" can be used to retrieve still images.

#### SnapshotJPEG

Parameter	Value	Description / Note
Resolution	160x120 320x240 640x480	Determines image resolution.
Quality	Motion Standard Clarity	Determines image quality. Motion: Higher compression rate, more frames, lower image clarity. Standard: Standard quality. Clarity: Lower compression rate, fewer frames, better image clarity.

Example:

SnapshotJPEG?Resolution=320x240&Quality=Standard



#### 4.SAMPLE WEB PAGE

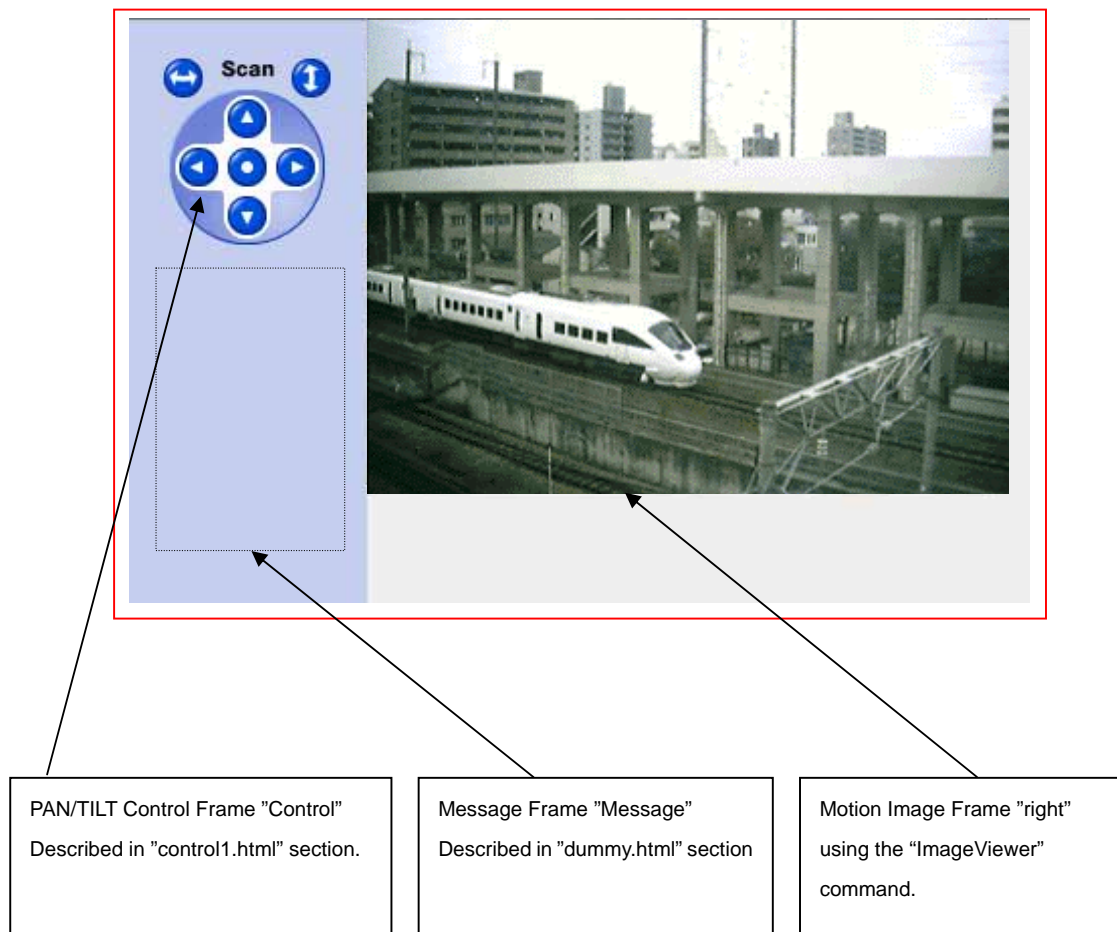
The following section shows an example of a web site which has embedded a live image from a Panasonic Network Camera. The sample web page consists of 3 frames:

- the live image frame
- the camera "Control" frame
- the "Message" frame which displays messages from the camera.

The Control Pad graphic can be customized. In this example, the file "pad.gif" is used. This file can be extracted from the Panasonic Network Camera screen by right clicking on the image in a web browser, and choosing "Save image..."

If ActiveX is not installed in your web browser, you will be asked to download and install it the first time you access the web page.

Sample Web page <sample1.html>



### Source Code of Sample Web page <sample1.html>

```
<! This is Sample Code. Panasonic will not be held responsible for damages or loss incurred by using this information. >
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Frameset//EN">
<!-- sample1.html PAN/TILT Control Pad and Live Image Frame-->
<HTML>
<HEAD>
<TITLE>Sample1</TITLE>
</HEAD>
<FRAMESET COLS="123,*" FRAMEBORDER=0 BORDER=0          FRAMESPACING=0>
  <FRAMESET ROWS="175,*">
    <!--Upper Left: PAN/TILT Control Pad Display Frame -->
    <FRAME BGCOLOR="#C4CEEF" SCROLLING=no          SRC="frame/control1.html" NAME="Control">
    <!--Lower Left: Dummy frame to respond to PAN/TILT Control -->
    <!-- Note: "Message" frame is used to show feedback from "frame/control1.html"-->
    <FRAME BGCOLOR="#C4CEEF" SCROLLING=no          SRC="frame/dummy.html"
NAME="Message">
  </FRAMESET>
  <!--RIGHT: Live Image Frame -->
  <!--Type Camera's URL address in the field to replace "xx.xx.xx.xxx"-->
  <!--An Error Message will be displayed if the wrong URL is typed in for "xx.xx.xx.xxx". -->
  <FRAME SRC="http://xx.xx.xx.xxx/ImageViewer?Mode=Motion&Resolution=320x240&Quality=Standard&Interval=10"
NAME="right">
  <NOFRAMES>
    <BODY>
    <!--Message for a viewer using an incompatible browser -->
    Please Use Appropriate Browser to View the Frame
    </BODY>
  </NOFRAMES>
</FRAMESET>
</HTML>
```

### Source Code of Camera Control Pad <control1.html>

```
<!-- This is Sample Code. Panasonic will not be held responsible for damages or loss incurred by using this information. -->
<!-- PAN/TILT Control pad Frame control1.html -->
<html>
<head>
<title>
Control1 Frame
</title>
</head>
<body BGCOLOR="#C4CEEF">
<center>
<!-- Display PAN/TILT Control Pad -->
<!-- Type Camera's URL address in the field to replace "xx.xx.xx.xxx" -->
<table><tr><TD BGCOLOR="#C4CEEF" ALIGN=center>

</TD></tr></table>
<!-- Clickable Image Map for PAN/TILT -->
<map name="pad">
<area shape="circle" coords="12,12 10"
href="http://xx.xx.xx.xxx/nphControlCamera?Direction=PanScan&Resolution=320x240&Quality=Standard&RPeriod=0&Size=STD&PresetOperation=Move&Language=1" TARGET="Message" ALT="Pan Scan" TITLE="Pan Scan">
<area shape="circle" coords="78,12 10"
href="http://xx.xx.xx.xxx/nphControlCamera?Direction=TiltScan&Resolution=320x240&Quality=Standard&RPeriod=0&Size=STD&PresetOperation=Move&Language=1" TARGET="Message" ALT="Tilt Scan" TITLE="Tilt Scan">
<area shape="circle" coords="45,33 10"
href="http://xx.xx.xx.xxx/nphControlCamera?Direction=TiltUp&Resolution=320x240&Quality=Standard&RPeriod=0&Size=STD&PresetOperation=Move&Language=1" TARGET="Message" ALT="Tilt Up" TITLE="Tilt Up">
<area shape="circle" coords="20,58 10"
href="http://xx.xx.xx.xxx/nphControlCamera?Direction=PanLeft&Resolution=320x240&Quality=Standard&RPeriod=0&Size=STD&PresetOperation=Move&Language=1" TARGET="Message" ALT="PanLeft" TITLE="Pan Left">
<area shape="circle" coords="45,58 10"
href="http://xx.xx.xx.xxx/nphControlCamera?Direction=HomePosition&Resolution=320x240&Quality=Standard&RPeriod=0&Size=STD&PresetOperation=Move&Language=1" TARGET="Message" ALT="HomePosition" TITLE="HomePosition">
<area shape="circle" coords="70,58 10"
href="http://xx.xx.xx.xxx/nphControlCamera?Direction=PanRight&Resolution=320x240&Quality=Standard&RPeriod=0&Size=STD&PresetOperation=Move&Language=1" TARGET="Message" ALT="PanRight" TITLE="Pan Right">
<area shape="circle" coords="45,83 10"
href="http://xx.xx.xx.xxx/nphControlCamera?Direction=TiltDown&Resolution=320x240&Quality=Standard&RPeriod=0&Size=STD&PresetOperation=Move&Language=1" TARGET="Message" ALT="TiltDown" TITLE="Tilt Down">
</map>
</center>
</body>
</html>
```

### Source Code of Message Frame <dummy.html>

```
<! This is Sample Code. Panasonic will not be held responsible for damages or loss incurred by using this information. >  
<html>  
<head>  
<title>  
Dummy Frame  
</title>  
</head>  
<body BGCOLOR="#C4CEEF">  
</body>  
</html>
```