Operating Instructions

1/4" Network Colour Mini Dome Camera
Model: NTD-4101

eneo®

Safety Instructions

EMC class

► This camera is a class A digital device to EN55022.

► This device may cause interference to other equipment in domestic use. In such cases the persons operating the DVR are required to provide appropriate countermeasures, for which they themselves bear the cost.

Importance of these Operating Instructions

► Please read the safety instructions and the other information contained in the Operating Instructions before connecting and operating the camera.

► The Operating Instructions should be kept in a safe place for later reference.

Environmental conditions of the camera

► The camera should be protected against excessive heat, dust, humidity and vibration.

► The camera should be protected against penetrating water and humidity which can cause permanent damage.

► The camera may only be operated at temperatures between 0°C and +40°C, and up to a maximum air humidity of 85%.

Handling the camera

► Never switch on the camera when it is humid at the inside. In such cases, have the camera checked by a qualified service engineer.

► The housing may only be opened by authorised persons. Repairs may only be carried out by qualified service personnel.

► Prior to opening the camera you must interrupt the power supply to the camera.

First camera operation

► Never use the camera outside its specifications. The camera can be destroyed if you do.

► Never direct the camera towards the sun when the iris is open. This destroys the optical sensor.

► When laying the connecting cables, make sure no weight is placed on them, that they are not kinked or damaged, and that no humidity can penetrate them.

Cleaning the camera

► Use only a damp cloth for cleaning the camera housing. Never use a wet cloth.

► Use only a mild detergent to clean the housing. Do not use solvent-containing detergents or benzene. This could permanently damage the surface finish.

Spare parts

► Use only original spare parts from Videor E. Hartig GmbH.

Table of contents

Table of contents

Overview

Package contents

- 1/4" network colour mini dome camera with 10x zoom lens, 720 x 576, 12 VDC
- Power supply unit 230 V/12 VDC
- Connecting cable for RS-485 and alarm
- Base kit fixing material
- Drilling template
- Safety rope
- RJ-45 connector
- CD with viewer software (NT-Manager), setup and client software
- Quick start guide, complete Installation and Operating Instructions on CD

Note: The installation hardware is not supplied.

Basis functions

- SONY CCD technology
- Suitable for industrial television (CCTV)
- Suitable for security monitoring

Features

- 1/4" vandalism-protected IP PTZ colour dome camera
- Zoom lens: F1.6/3.15-31.5 mm / 10x digital zoom
- Sensitivity: 0.85 Lux at F1.2
- High-speed shutter (MES/ESC)
- On-screen menu guidance / camera title display
- Max. horizontal speed: up to 120°/s
- MPEG-4 compression
- Transmission rate: Up to 25 ips (720 x 576 pixel)
- Viewer for live / recording and setup
- Pre -alarm and post-alarm recording (in the client PC)
- Integrated web server: 10Base-T/100Base-TX
- Event image transfer via E-mail

Requirements for operation

This camera must be installed by qualified personnel in agreement with the regulations for electrical and mechanical systems that are valid at the place of installation.

Note: Please refer to www.videor.com for further information.

Control options

- Analog camera menu via external system keypad (not in scope of delivery)
- Viewer software (NT-Manager)
- Web browser

Design and connections of the camera

The following figure and the table describe the design and connecting elements of the camera:
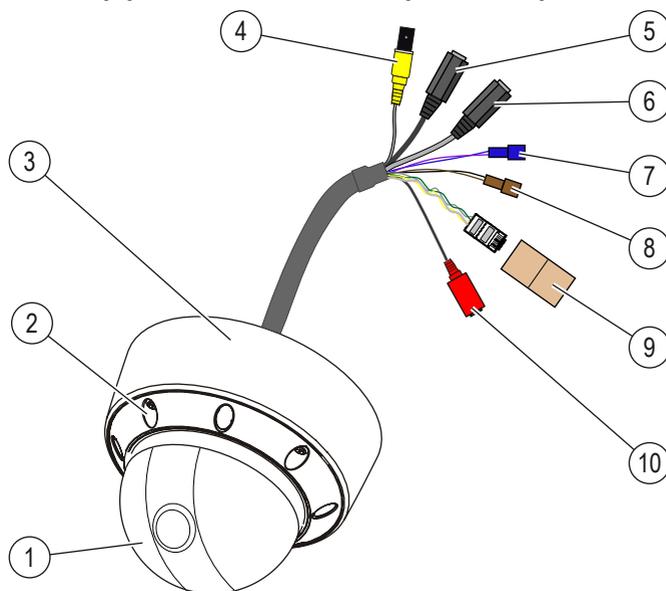
No.	Designation	Function		Connection of
1	Dome cover	Housing part		-
2	Screwed connection	Dome cover attachment		-
3	Dome base	Dome with camera		-
4	VIDEO OUT	Video output, BNC		● Monitor ● Multiplexer
5	AUDIO IN	Audio input, 3.5-mm jack connector, mono		Microphone
6	AUDIO OUT	Audio output, 3.5-mm jack connector, mono		● Active loudspeaker ● Audio amplifier
7	ALARM IN	Purple:	Alarm input	Alarm contact
	ALARM COMMON	Blue:	Alarm earth	Alarm contact
8	RS-485(+)	Black:	RS-485(+)	Non-inverted connection
	RS-485(-)	Brown:	RS-485(-)	Inverted connection
9	LAN (RJ-45)	Network connection, RJ-45		Network cable
10	+12 VDC / GND	Power supply		Power supply unit 12 VDC, protection class 2, 12 W

Design and connections of the camera, continued

The following figure and the table describe the design and connecting elements of the camera:
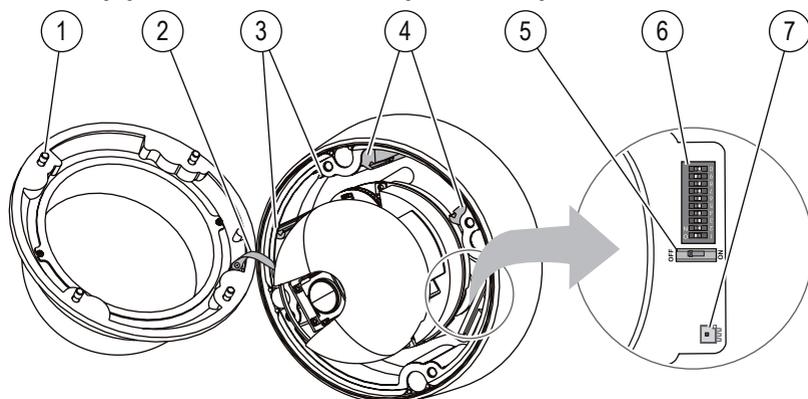
No.	Designation	Function
1	Screw	Close and secure the dome cover (not unscrewed).
2	Retaining harness	Connect dome cover with dome base.
3	Retainer	Accommodate heater element heater kit (accessories).
4	Retainer	Accommodate connector board heater kit (accessories).
5	Termination switch	Switch RS-485 termination ON/OFF.
6	DIP switch	● Select the colour standard ● Select the control protocol ● Set the ID address
7	Connector	Power supply for heater kit (accessories).

Terminating the camera (RS-485)

The termination of the camera at the physical end of the RS-485 line must be activated.

Requirements:

● Camera separated from the power supply.
● Termination switch accessible.
● Network connection configuration known.

RS-485 of the camera	Termination switch
Terminated	ON
Not terminated	OFF

Getting Started

Checklist for first camera operation

Step	Action
1	Plan the network connection setup
2	Select colour standard, control protocol and ID address on the camera
3	If necessary, terminate the camera
4	Note down the MAC address of the camera
5	Make camera selections in the analog camera menu
6	Install the camera at the monitoring point
7	Connecting the camera
8	Install the network software
9	Log on the camera in the network
10	Operate the camera via the network

Network Connection Setup

The following figure shows an example of a network connection setup.

*)

BNC

RJ-45-Crossover

RJ-45-LAN

External Control

IP setting utility

NT-Manager

Internet

*)
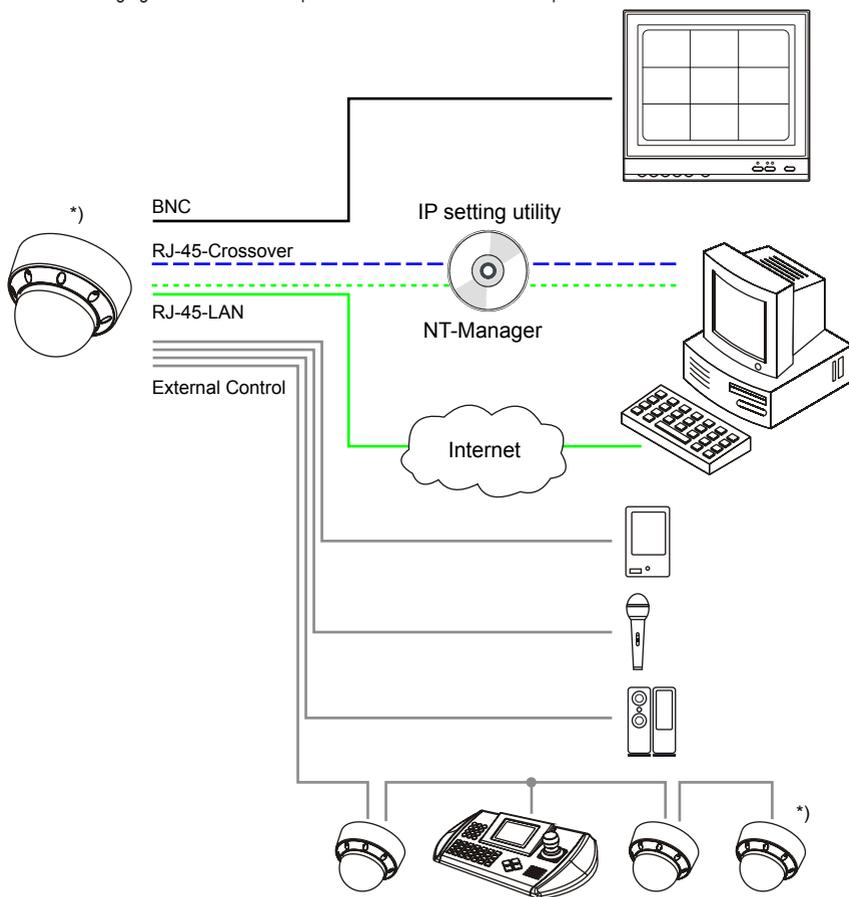
*) terminated

Installing the Camera

Installation at the monitoring point

This camera is suitable for

● Ceiling installation, also on suspended ceiling.
● Wall installation.

Note: Suitable installation hardware see Accessories.

Danger from electric shock	
DANGER!	Danger from electric shock
⚠	The electric equipment of the camera bears the risk of a direct/indirect electric contact.
	Only skilled electricians are allowed to work on the camera.

Danger from dropping objects	
DANGER!	Danger from dropping objects
⚠	Improper installation can cause cameras or camera holders to drop down.
	● Ensure that the carrying capacity of the surface is adequate.
	● Use only suitable installation hardware.
	● Observe the Operating Instructions of the installation hardware.

Installing the safety rope

Prior to installing the camera on a wall or ceiling you must secure the safety rope from the parts supplied on the camera.
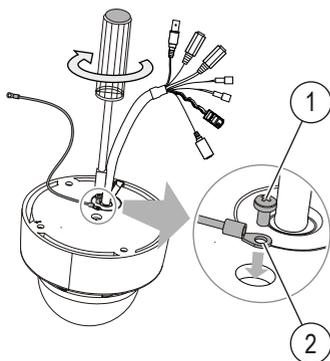
Requirements:

● Safety rope and screw from the parts supplied are available.

No.	Meaning
1	Retaining screw M3x5
2	Safety rope

Installing the Camera, continued

Drilling template

The enclosed drilling template permits boreholes and openings to be drilled at the correct positions.

The following figure and table show the drilling template with dimensions (in mm):

No.	Meaning
1	Borehole Ø 7.5 mm
2	Outer edge of template
3	Opening in suspended ceiling
4	Opening for cable penetration
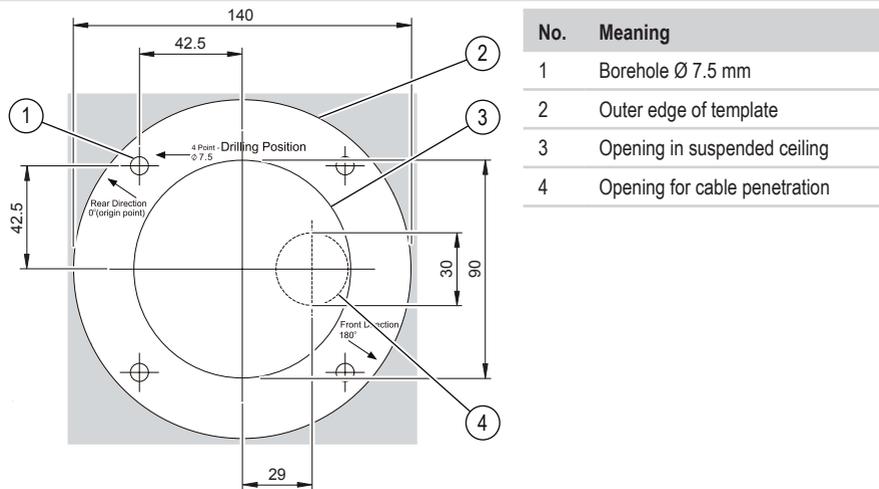
Installing the Camera, continued

Opening the dome cover

The dome cover of the camera can be opened for installation and adjustment. A flexible plastic tape connects dome cover and dome base with each other.

Requirements:

● Screwdriver from parts supplied available.

The following figure and the table describe how the dome cover can be opened:
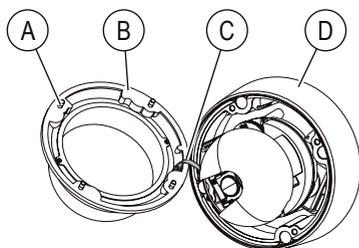
Step	Action
1	Release four screws (A) in the dome cover (B). Do not fully unscrew the screws.
2	Slightly lift the dome cover off the dome base (D).
3	Fold the dome cover at the retaining harness (C) sideways. **Result:** The dome cover is open.

Closing and securing the dome cover

Once installation and adjustment have been completed, you must close and secure the dome cover.

Step	Action
1	Fold the dome cover (B) over the optical system onto the dome base (D).
2	Tighten four screws (A) in the dome cover (B). **Result:** The dome cover is closed and secured.

Installing the Camera, continued

Installation on ceiling or wall

This camera is suitable for

● Ceiling installation, also on a suspended ceiling.
● Wall installation.

Note: Suitable installation hardware see Accessories.

Requirements:

● Sufficiently stable installation underground.
● Safety rope secured to the camera.
● Connections prepared.
● Accessories from parts supplied available.

The following figure and the table describe the installation of the camera:
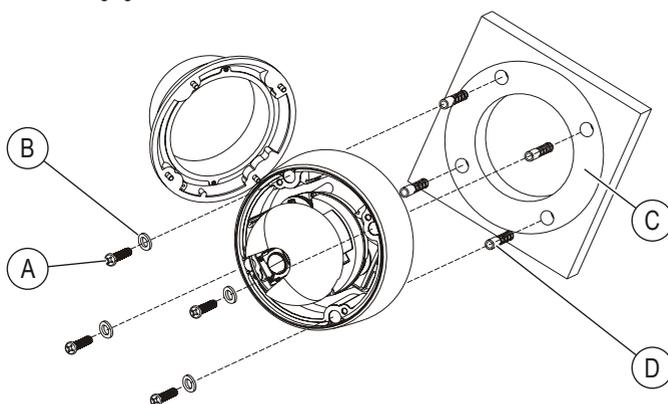
Step	Action
1	Attach the drilling template (C) on the point of installation.
2	Make cutout and 4 boreholes according to the drilling template.
3	Insert size-8 multi-purposes wall plugs (D) into the boreholes.
4	Secure the safety rope on a bearing part.
5	Connect the camera.
6	Open the dome cover.
7	Securely screw the dome base with 4 screws M6x35 (A) and rubber gaskets (B) in the multi-purpose wall plugs (D).
8	Close and secure the dome cover.

Installing the Camera, continued

Installing the heater kit

To enhance the temperature range of the camera you can retrofit a heater kit.

Requirements:
- Dome cover open.
- Accessories „heater kit" available.
- The power supply rating is at least 22 W at 12 VDC for camera and heater kit.

The following figure and the table describe the installation of the heater kit:
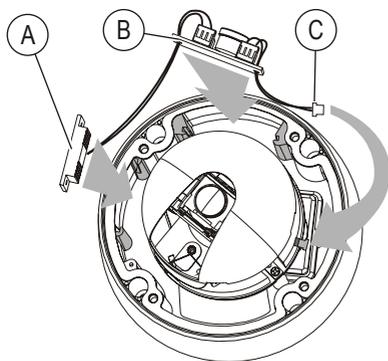
Step	Action
1	Insert the heater element (A); the cooling fins point towards the camera inside.
2	Insert the printed circuit board (B); the soldering side points towards the camera inside.
3	Insert the plug (C) into the socket (J701) of the PTZ board.
4	Close and secure the dome cover.

Cable routing in the pipe

The cable outlet on the camera must be changed when the cables are routed in a pipe.

Requirements:
- All cables are routed in a pipe (not in scope of delivery).
- Silicon sealant available (not in scope of delivery).

The following figure and the table describe the measures to be taken for routing the cables in a pipe:
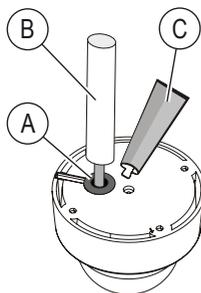
Step	Action
1	Remove the rubber gasket (A) from the camera cable outlet.
2	Route the pipe (B) over the cables to the camera.
3	Sealing with silicon sealant around the pipe (C) replaces the removed rubber gasket.

Connecting the Camera

Connecting the power supply

The power supply connection of this camera is suitable for a 12 VDC power supply.

Requirements:

- Use only certified/listed power supply units of protection class 2.
- The power supply unit must be able to supply 12 VDC with at least 12 W.

Danger from electric shock	
DANGER!	Danger from electric shock
	The electric equipment of the camera bears the risk of a direct/indirect electric contact.
	Only skilled electricians are allowed to work on the camera.

Video connection

The video output of this camera supplies a video signal of 1.0 Vp-p / 75 ohms. The video signal is transferred via a twisted-pair (UTP)

Note: The metal of the BNC connector must not be in contact with any other metal part.

Audio connection input

The audio input of this camera is suitable for receiving an audio signal of microphone level via an asymmetrical line.

Audio connection output

The audio output of this camera supplies an audio signal of line level via an asymmetrical line.

Network connection

The network connection of this camera is suitable for transmitting signals and for controlling the camera via a network.

Requirements:

- Use a standard RJ-45 crossover LAN cable for setup (IP assignment).
- Use a standard RJ-45 LAN cable for video operation.

Alarm connection input

The alarm input of this camera is suitable for mechanical and electrical alarm contacts.

Requirements:

- The cable ends must be insulated after connection, even when they are unused.
- The earth connection of alarm input and/or alarm output are connected to GND.

RS-485 connection

The RS-485 connection of this camera is suitable for an RS-485 interface with baud rate 9600 bps.

Requirements:

- The cable ends must be insulated after connection, even when they are unused.
- Total communication cable length: max. 1200 m.

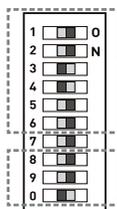# Camera Settings

The settings on the camera are made via DIP switches.

Requirements:
- Camera separated from the power supply.
- DIP switches accessible.
- Network connection configuration known.

Icon	Meaning
■	ON
-	OFF

Selecting the colour standard

Requirement: Colour standard known.

Colour standard	DIP No. 8
NTSC	■
PAL	-

Selecting the control protocol

Requirement: Control protocol known.

Protocol	DIP No. 9	DIP No. 0
Fastrax-II	■	-
PELCO-D	-	-

Setting the ID address

The following table shows the settings of the DIP switches for networks:

ID	6	5	4	3	2	1
1	-	-	-	-	-	■
2	-	-	-	-	■	-
3	-	-	-	-	■	■
4	-	-	-	■	-	-
5	-	-	-	■	-	■
6	-	-	-	■	■	-
7	-	-	-	■	■	■
8	-	-	■	-	-	-
9	-	-	■	-	-	■
10	-	-	■	-	■	-
11	-	-	■	-	■	■
12	-	-	■	■	-	-
13	-	-	■	■	-	■
14	-	-	■	■	■	-
15	-	-	■	■	■	■
16	-	■	-	-	-	-
17	-	■	-	-	-	■
18	-	■	-	-	■	-
19	-	■	-	-	■	■
20	-	■	-	■	-	-
21	-	■	-	■	-	■
22	-	■	-	■	■	-
23	-	■	-	■	■	■
24	-	■	■	-	-	-
25	-	■	■	-	-	■
26	-	■	■	-	■	-
27	-	■	■	-	■	■
28	-	■	■	■	-	-
29	-	■	■	■	-	■
30	-	■	■	■	■	-
31	-	■	■	■	■	■
32	■	-	-	-	-	-

ID	6	5	4	3	2	1
33	■	-	-	-	-	■
34	■	-	-	-	■	-
35	■	-	-	-	■	■
36	■	-	-	■	-	-
37	■	-	-	■	-	■
38	■	-	-	■	■	-
39	■	-	-	■	■	■
40	■	-	■	-	-	-
41	■	-	■	-	-	■
42	■	-	■	-	■	-
43	■	-	■	-	■	■
44	■	-	■	■	-	-
45	■	-	■	■	-	■
46	■	-	■	■	■	-
47	■	-	■	■	■	■
48	■	■	-	-	-	-
49	■	■	-	-	-	■
50	■	■	-	-	■	-
51	■	■	-	-	■	■
52	■	■	-	■	-	-
53	■	■	-	■	-	■
54	■	■	-	■	■	-
55	■	■	-	■	■	■
56	■	■	■	-	-	-
57	■	■	■	-	-	■
58	■	■	■	-	■	-
59	■	■	■	-	■	■
60	■	■	■	■	-	-
61	■	■	■	■	-	■
62	■	■	■	■	■	-
63	■	■	■	■	■	■

Camera Settings, continued

Multiplexer in the network

Systematic address assignments avoid address conflicts in the network when several cameras are used via multiplexers.

The ID address depends on

- the number of multiplexers.
- the camera input at the related multiplexer.

The ID address is calculated as:

Camera ID = 16 x (multiplexer ID - 1) + camera input

Examples

Multiplexer ID	Camera input	Calculation		Camera ID
1	4	= 16 x (1 - 1) + 4	= 0 + 4	4
1	13	= 16 x (1 - 1) + 13	= 0 + 13	13
2	1	= 16 x (2 - 1) + 1	= 16 + 1	17
3	11	= 16 x (3 - 1) + 11	= 32 + 11	43

Operation via system keypad

The camera can be operated via a system keypad. Suitable system keypads see accessories.

Note: Observe the instructions in the product documentation of the system keypad.

Joystick menu functions

Joystick	Menu function
⬆●	Next higher menu function
●⬇	Next lower menu function
●▷	Next value or mode
◁●	Previous value or mode
⟳●	Joystick rotation

Keypad menu functions

Button	Menu function
MENU	Invoke „MAIN MENU"
ESC	Cancel entries and return to the previous menu
CTRL	Enable joystick for camera function
PGM	Allocate presets to numeric keys
PRST	Invoke preset
TOUR	Invoke camera movement
SCAN	Invoke automatic scanning
ALRM	Reset alarm
0 … 9	Numeric keys

Camera menu operation

Invoking menu settings

The following settings saved in the camera menu can directly be invoked via the system keypad:

● Preset (PRESET)
● Camera movement (TOUR)
● Automatic scanning (AUTO SCAN)

Requirements:
● System keypad connected to RS-485 interface of the camera.
● Settings saved in the camera menu.

The following table describes the invocation of saved settings:

Step	Action	Operation
1	Enter the number of the saved function.	⓪ ... ⑨
2	Select the function. **Result:** The saved function is executed.	PRST , TOUR , or SCAN

Controlling the camera during menu operation

During the PRESET menu, you can control the camera in order to enter several presets in succession.
Requirements:
● PRESET menu in Preset menu item active

The following table describes the camera control during menu operation:

Step	Action	Operation
1	Press and hold the CTRL button. **Result:** The text „CONTROL" appears on the OSD.	CTRL
2	Make PTZ settings.	◀●, ▲, ●▶, ▼ or ◉
3	Release CTRL button. **Result:** The text „CONTROL" disappears from the OSD. The settings can be saved as presets.	**PRESET MENU**

Camera menu operation, continued

Saving presets via the system keypad

The current PTZ settings can be saved as presets via the system keypad.

The following table describes the saving of presets via the system keypad:

Step	Action	Operation
1	Enter the number of the preset.	(0) ... (9)
2	Press the PGM button.	(PGM)
3	Press the PRST button. **Result:** The current PTZ settings are saved as presets.	(PRST)

Camera movement with enabled automatic image reversal

The automatic image reversal rotates the camera through 180°. This permits the camera movement to be continued beyond the vertical position.

Requirements:

● Automatic image reversal enabled

The following table describes the operation with automatic image reversal:

Step	Action	Operation
1	Camera movement until vertical inclination = 90°. **Result:** The camera stops and looks vertically downward.	● ▽
2	Release the joystick briefly.	-
2	Continue the camera movement. **Result:** The camera rotates through 180°, the camera movement is continued.	● ▽

Resetting alarm

An activated alarm can be terminated by resetting it via the system keypad.

The following table describes how an alarm is reset.

Step	Action	Operation
1	Reset alarm. **Result:** Alarm function reset.	(ALRM)

Operation via web browser

The integrated web browser enables camera and menu to be operated without system keypad.
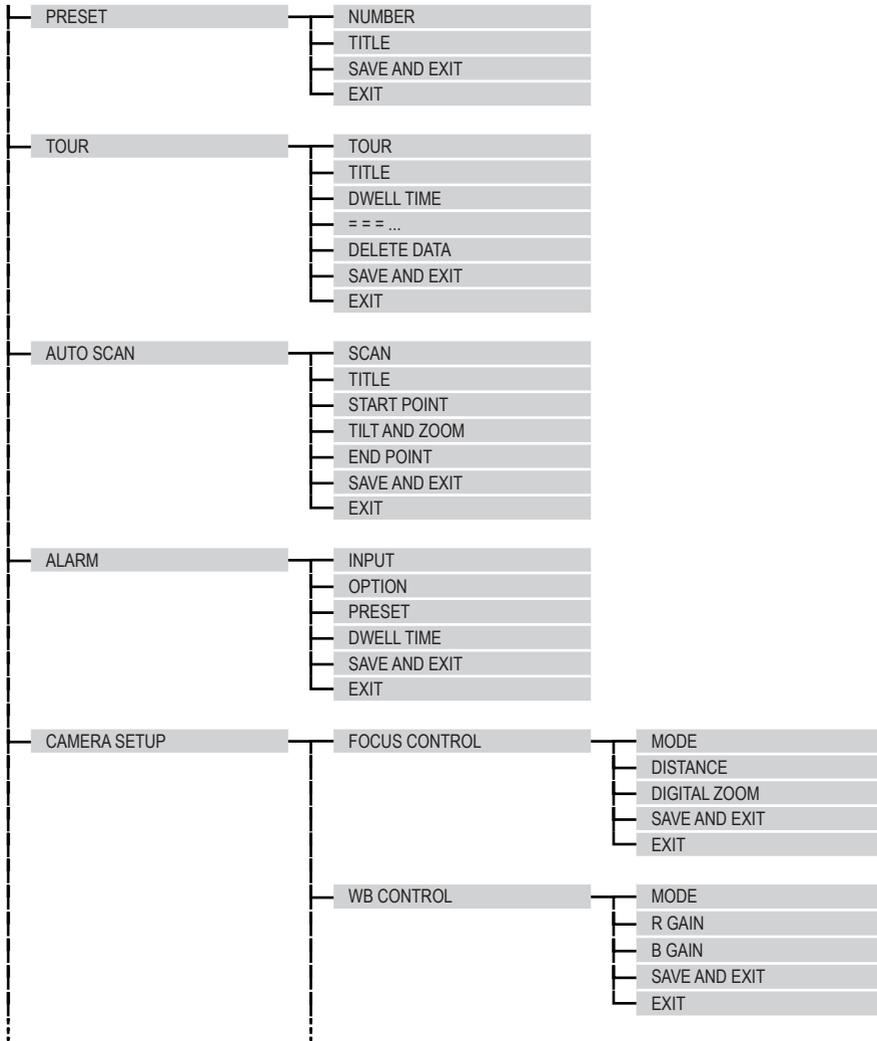
Requirements:

- Camera and PC are connected via a standard RJ-45 LAN cable in a network-compatible way.
- Web browser (e.g. Internet Explorer) installed in the PC.
- Current version of ActiveX/HVC installed in the PC.
- IP address of the camera is known.

Note: The integrated help function provides comprehensive information about the operation of the web browser.

Camera Menu Overview

The following figure shows the structure of the menu tree, accessible via the menu navigation of the camera:

PRESET		NUMBER
		TITLE
		SAVE AND EXIT
		EXIT

TOUR		TOUR
		TITLE
		DWELL TIME
		= = = ...
		DELETE DATA
		SAVE AND EXIT
		EXIT

AUTO SCAN		SCAN
		TITLE
		START POINT
		TILT AND ZOOM
		END POINT
		SAVE AND EXIT
		EXIT

ALARM		INPUT
		OPTION
		PRESET
		DWELL TIME
		SAVE AND EXIT
		EXIT

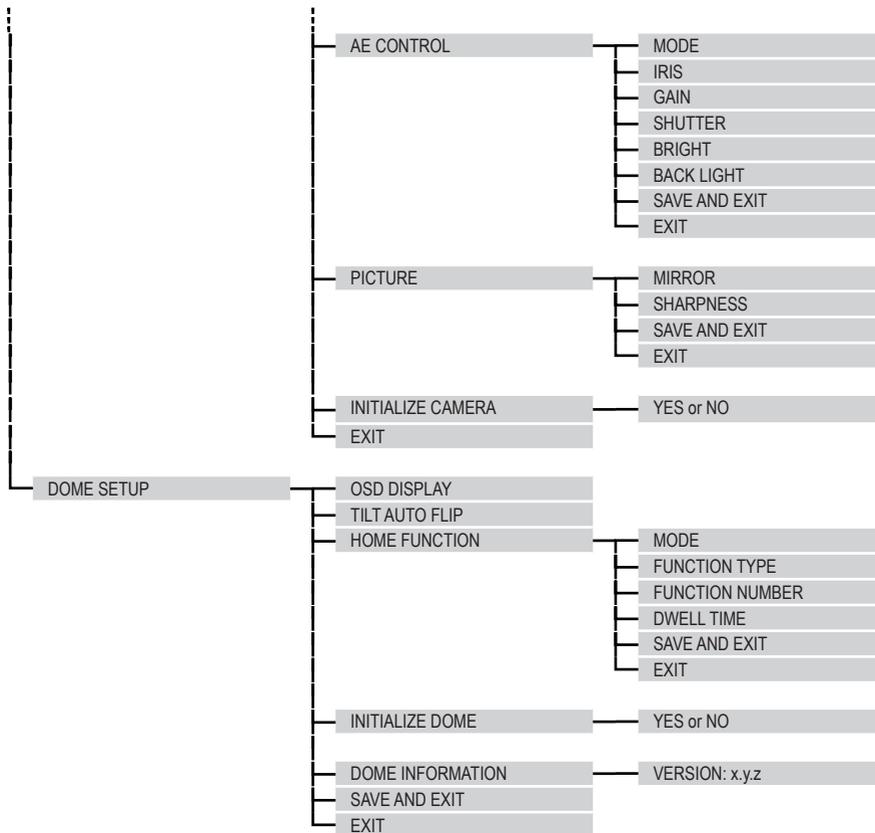| CAMERA SETUP		FOCUS CONTROL		MODE
				DISTANCE
				DIGITAL ZOOM
				SAVE AND EXIT
				EXIT
		WB CONTROL		MODE
				R GAIN
				B GAIN
				SAVE AND EXIT
				EXIT

Camera Menu Overview, continued

The following figure shows the structure of the menu tree, accessible via the menu navigation of the camera:

AE CONTROL	MODE
	IRIS
	GAIN
	SHUTTER
	BRIGHT
	BACK LIGHT
	SAVE AND EXIT
	EXIT
PICTURE	MIRROR
	SHARPNESS
	SAVE AND EXIT
	EXIT
INITIALIZE CAMERA	YES or NO
EXIT	

DOME SETUP	OSD DISPLAY
	TILT AUTO FLIP
	HOME FUNCTION	MODE
		FUNCTION TYPE
		FUNCTION NUMBER
		DWELL TIME
		SAVE AND EXIT
		EXIT
	INITIALIZE DOME	YES or NO
	DOME INFORMATION	VERSION: x.y.z
	SAVE AND EXIT
	EXIT

Menu Descriptions – Camera Menu

The camera menu has the following submenus:

PRESET

PRESET	The following items are defined in the „PRESET MENU" menu: ● The PTZ settings of the presets ● The designations of the presets

TOUR (camera movement)

TOUR	The following items are defined in the „TOUR MENU" menu: ● The camera movements along presets ● The dwell time ● The designation of the camera movement

AUTO SCAN (automatic scanning)

AUTO SCAN	The following items are defined in the „AUTO SCAN MENU" menu: ● The start and end points of the automatic camera movements ● The PTZ settings of the camera movement ● The designation of the camera movement

ALARM

ALARM	The following items are defined in the „ALARM" menu: ● The type of the alarm input ● The alarm options ● The reaction of the camera to alarm activation

CAMERA SETUP

CAMERA SETUP	The following items are defined in the „CAMERA SETUP MENU" menu: ● The focus settings ● The white balance settings (WB) ● The settings for automatic exposure control (AE) ● The settings for the video image ● Resetting the camera to the delivery state

DOME SETUP

DOME SETUP	The following items are defined in the „DOME SETUP MENU" menu: ● The settings for the OSD ● The settings for the home function ● Resetting the dome part to the delivery state

Camera menu

PRESET (fixed positions)

The fixed positions are defined in the „PRESET MENU".

MAIN MENU	⇨	PRESET	⇨	☐ PRESET MENU

Term	Meaning	
NUMBER	Number of the preset: 1 ... 60	
TITLE	Set the designation of the preset: Max. 10 letters or figures in any combination	
= = = ...	Status display of the presets:	
	=	Preset not assigned
	*	Preset assigned
SAVE AND EXIT	Save the entries and return to the „MAIN MENU"	
EXIT	Back to the „MAIN MENU"	

Camera menu, continued

TOUR (camera movements)

The following items are defined in the „TOUR MENU" menu:

- The camera movement along presets
- The dwell time
- The designation of the camera movement

| MAIN MENU | ⇨ | TOUR | ⇨ | ☐ | TOUR MENU |

Term	Meaning		
TOUR	Number of the camera movement: 1 ... 4		
TITLE	Set the designation of the camera movement: Max. 10 letters or figures in any combination		
DWELL TIME	Set the dwell time at the presets:		
	5 s	Min. dwell time	
	5 s	Factory setting	
	99 s	Max. dwell time	
== == ...	Input of the presets of the camera movement: Up to 16 presets per tour		
DELETE DATA	Delete entries of the selected camera movement		
SAVE AND EXIT	Save the entries and return to the „MAIN MENU"		
EXIT	Back to the „MAIN MENU"		

Camera menu, continued

AUTO SCAN (automatic scanning)

The following items are defined in the „AUTO SCAN MENU" menu:

- The start and end points of the camera movement for automatic scanning
- The PTZ settings of the automatic scanning.
- The designation of the camera movement

MAIN MENU	⟹	AUTO SCAN	⟹	☐ AUTO SCAN MENU

Term	Meaning		
SCAN	Number of the camera movement: 1 ... 4		
TITLE	Set the designation of the camera movement: Max. 10 letters or figures in any combination		
START POINT	Set the horizontal start angle:		
	0.0°	Min. horizontal start angle	
	0.0°	Factory setting	
	360.0°	Max. horizontal start angle	
TILT AND ZOOM	Select inclination and zoom:		
	0.0°	Min. inclination	
	0.0°	Factory setting	
	90.0°	Max. inclination	
	Note: No display of the zoom value, setting by image contents.		
END POINT	Set the horizontal end angle:		
	0.0°	Min. horizontal end angle	
	0.0°	Factory setting	
	360.0°	Max. horizontal end angle	
SAVE AND EXIT	Save the entries and return to the „MAIN MENU"		
EXIT	Back to the „MAIN MENU"		

Camera menu, continued

ALARM

The following items are defined in the „ALARM" menu:
- The type of the alarm input
- The alarm options
- The reaction of the camera to alarm activation

MAIN MENU	⇨	ALARM	⇨	☐ ALARM MENU

Term	Meaning	
INPUT	Set the type of the alarm input:	
	OFF	Alarm input OFF
	NC	NC contact as alarm contact
	NO	NO contact as alarm contact
OPTION	Set the options after alarm activation:	
	MOMENTARY	Continuous alarm
	TIME OUT	Return to the previous function after dwell time
PRESET	Select a preset set in the „PRESET MENU"	
DWELL TIME	Delay for alarm	
	Note: The setup mode depends on the following settings: OPTION = TIME OUT	
	5 s	Min. dwell time
	5 s	Factory setting
	99 s	Max. dwell time
SAVE AND EXIT	Save the entries and return to the „MAIN MENU"	
EXIT	Back to the „MAIN MENU"	

Camera menu, continued

CAMERA SETUP

The following items are defined in the „CAMERA SETUP" menu:

- The focus settings
- The settings of the digital zoom
- The white balance settings
- The settings for automatic exposure control.
- The video image settings
- Resetting the camera to the delivery state

MAIN MENU ⇨ CAMERA SETUP ⇨ ☐ CAMERA SETUP MENU

Term	Meaning	
FOCUS CONTROL	Set focus and digital zoom >>	
WB CONTROL	White balance settings >>	
AE CONTROL	Set automatic exposure control >>	
PICTURE	Video image settings >>	
INITIALIZE CAMERA	Reset camera part to delivery state:	
	NO	Return to „CAMERA SETUP MENU"
	YES	Reset camera part to delivery state
EXIT	Back to the „MAIN MENU"	

Camera menu, continued

⇨ **FOCUS CONTROL**

Term	Meaning	
MODE	Type of focussing	
	AUTO	Autofocus
	MANUAL	Manual focus
DISTANCE	Adjusting the focus of the lens:	
	0.1M	Min. focus
	0.1M	Factory setting
	6.0M	Max. focus
DIGITAL ZOOM	Set digital zoom:	
	OFF	Optical zoom only
	ON	Digital and optical zoom
SAVE AND EXIT	Save the entries and return to the „CAMERA SETUP MENU"	
EXIT	Return to „CAMERA SETUP MENU"	

Camera menu, continued

⇨ **WB CONTROL**

Term	Meaning	
MODE	Modes for white balance:	
	AUTO	Automatic white control
	INDOOR	White balance for indoor areas
	OUTDOOR	White balance for outdoor areas
	MANUAL	Manual white balance
R GAIN	Red intensification:	
	0	Min. intensification
	39	Factory setting
	255	Max. intensification
	Note: Only possible in conjunction with „MANUAL" mode.	
B GAIN	Blue intensification:	
	0	Min. intensification
	92	Factory setting
	255	Max. intensification
	Note: Only possible in conjunction with „MANUAL" mode.	
SAVE AND EXIT	Save the entries and return to the „CAMERA SETUP MENU"	
EXIT	Return to „CAMERA SETUP MENU"	

Camera menu, continued

Term	Meaning	
MODE	Modes for automatic exposure control:	
	AUTO	AE control
	SHUTTER PRI	Priority - adjusting the shutter speed
	IRIS PRI	Priority - iris setting
	MANUAL	Manual exposure control
	FLICKERLESS	Image flickering suppression
IRIS	Iris adjustment:	
	CLOSE	No iris
	F1.8	Factory setting
	F22	Max. iris
	Note: Only possible in conjunction with „MANUAL" mode or „IRIS PRI".	
GAIN	Gain setting:	
	0	Min. intensification
	0	Factory setting
	30	Max. intensification
	Note: Only possible in conjunction with „MANUAL" mode.	
SHUTTER	Shutter speed setting:	
	100	Min. speed
	NORMAL	Factory setting in „SHUTTER PRI" or „MANUAL" mode.
	120	Factory setting in „FLICKERLESS" mode
	10000	Max. speed
	Note: Not possible in conjunction with „AUTO" mode or „IRIS PRI".	

Camera menu, continued

	Brightness setting:	
BRIGHT	0	Min. brightness
	30	Factory setting
	90	Max. brightness
	Note: Not possible in conjunction with „MANUAL" mode.	
	Back light compensation setting:	
BACKLIGHT	OFF	Deactivate back light compensation
	ON	Activate back light compensation
SAVE AND EXIT	Save the entries and return to the „CAMERA SETUP MENU"	
EXIT	Return to „CAMERA SETUP MENU"	

⇨ **PICTURE**

Term	Meaning	
	Mirroring the camera image:	
MIRROR	OFF	No mirroring
	ON	Horizontal mirroring
	Manual sharpness adjustment of the camera image:	
	00	Min. contour sharpness
SHARPNESS	08	Factory setting
	15	Max. contour sharpness
	Note: Only possible in conjunction with „MANUAL" mode.	
SAVE AND EXIT	Save the entries and return to the „CAMERA SETUP MENU"	
EXIT	Return to „CAMERA SETUP MENU"	

Camera menu, continued

DOME-SETUP

The following items are defined in the „DOME SETUP MENU" menu:

- Display of the camera settings on the monitor
- The settings for automatic image reversal
- The settings of the park position.
- Resetting the dome part to the delivery state

| MAIN MENU | ⇨ | DOME SETUP | ⇨ | DOME SETUP MENU |

Term	Meaning	
OSD DISPLAY	Set OSD display:	
	ON	OSD displayed
	OFF	OSD not displayed
TILT AUTO FLIP	Automatic image reversal when inclination > 90°:	
	ON	Activate automatic image reversal
	OFF	Deactivate automatic image reversal
HOME FUNCTION	Home function setting >>	
INITIALIZE DOME	Reset dome part to delivery state:	
	NO	Return to „DOME SETUP MENU"
	YES	Reset dome part to delivery state
DOME INFORMATION	Display software version	
SAVE AND EXIT	Save the entries and return to the „MAIN MENU"	
EXIT	Back to the „MAIN MENU"	

Camera menu, continued

Term	Meaning	
MODE	Home function setting:	
	OFF	Home function disabled
	ON	Home function enabled
FUNCTION TYPE	Select function:	
	PRESET	Preset
	TOUR	Camera movement
	AUTO SCAN	Automatic scanning
	Note: Only possible in conjunction with home function „ON".	
FUNCTION NUMBER	Select the number of the function selected under „FUNCTION TYPE"	
DWELL TIME	Set the dwell time:	
	5 s	Min. dwell time
	5 s	Factory setting
	600 s	Max. dwell time
SAVE AND EXIT	Save the entries and return to the „DOME SETUP MENU"	
EXIT	Return to „DOME SETUP MENU"	

EXIT

The main menu is exited with „EXIT".

MAIN MENU ➡️ EXIT

Setting up Network Connectivity

Allocating or changing the camera IP address

Requirements:

- PC with fixed IP address available.
- In WINDOWS XP, the firewall is disabled during IP allocation.
- CD with viewer software (NT-Manager), setup software and client software available.
- Camera and PC are connected via a standard RJ-45 crossover cable in a network-compatible way.
- MAC address of the camera is known.
- Free IP address for camera is known.
- Name of the employed Ethernet adapter is known.

Step	Action	Menu path/menu item
1	Execute and/or save setup software and client software from the CD. **Result:** The „Network System IP Setting Utility" window is opened.	IP setting utility
2	Complete the MAC address of the camera.	MAC address
3	Enter the IP address of the camera.	IP address
4	Select the Ethernet adapter of the PC.	Ethernet adapter
5	Log on the camera in the network. **Result:** The IP address is allocated to the camera.	START
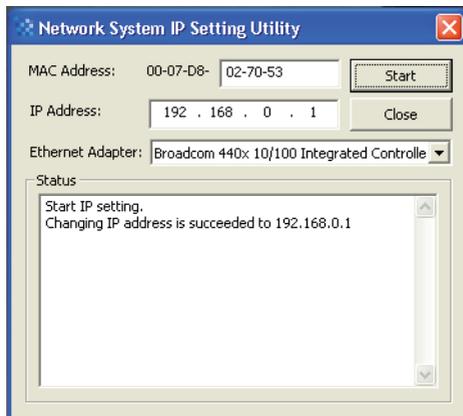
Camera Control via NT-Manager

NT-Manager main menu

The following figure and the table describe the main menu of the NT-Manager:
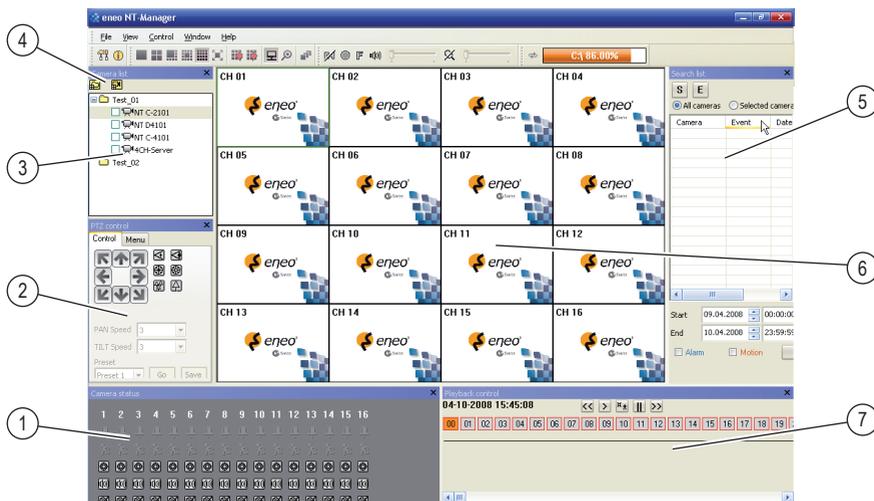
No.	Designation	Function
1	Display	Camera status
2	◁ ◀ ⊕ ⊛ ⊞ △	PTZ control
3	Display	Camera list
4	🔁	Add group
	📷	Add camera
5	Display	Search list
6	Display	Monitoring image
7	≪ ▷ ⊞± ‖ ≫	Playback control

Additional information

The complete software description of the NT-Manager can be found in the Help function of the NT-Manager software.

Camera Control via NT-Manager, continued

Logging on the camera in the network

Requirements:

- PC with fixed IP address available.
- CD with viewer software (NT-Manager), setup software and client software available.
- Camera and PC are connected via a standard RJ-45 LAN cable in a network-compatible way.
- IP address of the camera is known.

Step	Action	Menu path/menu item
1	Install Viewer software from the CD.	-
2	Open the Viewer software. User name: **admin** Password: **admin** **Result:** The Viewer software (NT-Manager) is opened.	-
3	Add new group. **Result:** The „Add new group„ window is opened.	
4	Enter the name of the new group, and confirm it. **Result:** The new group is added to the camera list.	Add
5	Select the group in the camera list.	-
6	Add the new camera to the group. **Result:** The „Add a new camera" window appears.	
7	Enter the name of the new camera.	-
8	Enter the IP address of the camera.	Host address
9	Register the camera. **Result:** The new camera is added to the camera list, and integrated.	Add
10	Select the camera from the camera list, and drag it to a channel on the screen (Drag&Drop). **Result:** The camera image appears on the screen.	-

Camera Control via Web Browser

Connecting camera with web browser

Requirements:
- Camera and PC are connected via a standard RJ-45 LAN cable in a network-compatible way.
- Web browser (e.g. Internet Explorer) installed in the PC.
- Current version of ActiveX/HVC installed in the PC.
- IP address of the camera is known.

Step	Action
1	Open the web browser. **Note:** A separate web browser window must be opened for each camera.
2	Enter the IP address of the camera into the address line of the web browser. **Example:** http://192.168.0.2
3	Enter user name (**admin**) and password (**no entry**).
4	Select login. **Result:** The camera is connected with the web browser.
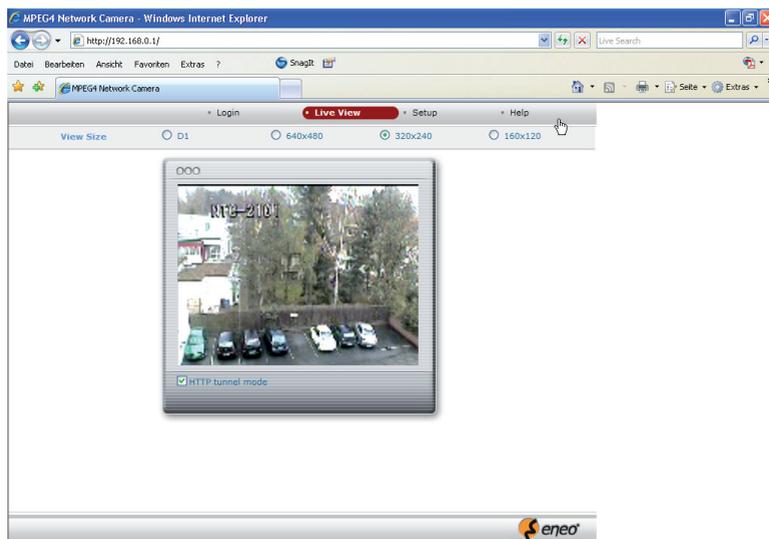
Possible Errors and Solutions

The following table describes potential errors and possible solutions:
Note: Please refer to www.videor.com for further information

Error	Possible solution
No video image visible	Check the power supply of the camera and of the entire installation. The ready indicator of the camera must be ON.
	Check the video cable of the camera. Connect it properly if necessary.
	Open the lens iris.
Video image exists, but control is not possible.	Briefly interrupt the power supply of the camera or the entire system (reset).
Video image too dark	Adjust the lens iris properly.
Signal interruption at short intervals	Check the network workload; contact system administrator if necessary.
Frame rate decreases	Reduce the settings of resolution, compression and frame rate.
IP allocation failed	Disable WINDOWS XP firewall during IP allocation.
	Use a standard RJ-45 Crossover LAN cable.
	Allocate a fixed IP address to the PC.
Automatic white control does not work properly	Select „AUTO" in the camera menu.
	Avoid a dark object environment.
	Avoid strong changes in the lighting.
	Check the colour temperature of the object.
Control via RS-485 disturbed	Terminate the devices at the physical end of the RS-485 line.
	Total communication cable length: max. 1200 m.
	Check ID addresses.
Keypad operation disturbed	Repeat log on at keypad.
	Check the connections.
	Check the peripherals.

Specifications NTD-4101

Model	NTD-4101
EDP No.	93155
System	Colour
Video standard	PAL
Sensor size	1/4"
Imager	CCD, Sony Super HAD Interline Transfer
Synchronization	Internal
External synchronization	No
Signal-to-noise ratio	48 dB (AGC OFF)
Light sensitivity (at 50% video signal)	0.85 Lux
Horizontal resolution	430 TVL
Automatic gain control (AGC)	Automatic up to max. 30 dB (switchable)
Linear electronic shutter (ESC)	1/50 ~ 1/10,000 s, automatic and manual
Image integration	No
Aperture correction (APC)	Horizontal and vertical
White balance	Modes: Manual, automatic, indoors, outdoors
Back light compensation	BLC
IR cut filter	Yes, fixed
Motion detector	Yes
Text display	Available
Menu driven set-up	On/off switchable
Menu languages	English
Image setup	Colour, brightness and contrast (via network)
Video outputs (type)	FBAS
Video outputs	1 Vp-p, FBAS 75 ohms
Audio support	No
Alarm input	1
Alarm inputs	Yes
Alarm handling	Via built-in motion detection, sensitivity and changeover setting, E-mail transmission
Internal buffer	Yes
System requirements	Windows 2000/XP, Intel Pentium IV 2 GHz or higher, 512 MB RAM or more, hard disk min. 80 GB (depends on recording requirements).
Compression method	MPEG4, part 2 (ISO/IEC 14496-2), profiles SP and ASP
Image resolution max.	720 x 576 pixels

Model	NTD-4101
Resolution	Network: 720 x 576 (D1), 640 x 480, 320 x 240, 160 x 120 pixels
Image transfer rate max.	50 fields/s
Frame rate	Max. 25 ips at 720 x 576 pixels (PAL)
Playback	Via browser to PC or Viewer software
Ethernet port	10Base-T/100Base-TX (RJ-45)
Web browser	MS Internet Explorer min. vers. 6.0
Network protocols	TCP/IP, DHCP, HTTP, DNNS, UDP, RTP, RTSP, SMTP
Bandwidth	Adjustable
Lens type	Zoom
Lens	F1.6~F32/3.15 ~ 31.5 mm (10x optical, 10x digital zoom)
Lens mount	No specification
Application range	Security
Default format	1/4"
Aspherical technology	No
Mount	No specification
Focal length	3.15 - 31.5 mm
Horizontal angle of view	60 - 6.5°
Iris control	Auto iris, manual override
Focus control	Automatic (manual override)
Pre-alarm recording	180 s max.
Post-alarm recording	180 s max.
Search function	By time, alarm, and event
Addresses	Up to 63 addresses selectable
Ports	RS-485
Setup	Via web browser and integrated web server
Access	max. 10 users simultaneously
Software upgrade	Via network interface, incl. Viewer setup
Password protection	Yes
PTZ support	Yes
Speed range with manual control (horizontal)	Max. 120°/s
Speed range with manual control (vertical)	120°/s
Rotation range	359°
Angle precision	+/- 0.1°
Target tracking	60 positions

Specifications NTD-4101, continued

Model	NTD-4101
Tours	4 selectable tours with 16 presets each
Autoscan function	4 ranges, speed: 7°/s
Operating voltage	12 VDC, 230 VAC
Power-over-Ethernet	No
Power consumption	12 W max.
Camera mount	Ceiling installation or installation in wall or ceiling bracket EDMC/CWB(1)
Can be installed in 19-in rack	No
Temperature range (operation)	0 ... +45°C
Temperature range with heating	-10°C ~ +45°C
Humidity range (operation)	0 ~ 96%, non condensing
Vertical tilt range	0 ~ +90°
Housing	Weatherproof aluminium version
Colour	Pantone Cool Grey 1C
Protection rating	IP66 with proper installation according to the Operating Instructions
Dimensions (HxWxD)	See dimensional drawings
Weight	1.3 kg

Accessories

EDP No.	Short description
74088/EDC-KBD1	System keypad with 3-axis joystick 12VDC/230VAC
74092/EDC-KBDM-3	System keypad with joystick, 5-in monitor 12VDC/230VAC, Fastrax protocol
74149/KBD-2	System keypad with 3-axis joystick, jog shuttle, 12VDC/230VAC
74124/FASTRAX_CONFIG	Configuration software for Fastrax, Minitrax Dome cameras and VKC-1416
74097/EDMC/CWB	Wall or ceiling installation bracket for EDMC-142 dome camera series and WDDG-1
74155/EDMC/CWB-1	Wall or ceiling installation bracket for dome camera series EDMC and NTD
74099/EDMC/H12	Low-voltage heater kit 12V/10W for Minitrax series

Dimensional Drawings

Dimensions in mm

Index

Index, continued

J

Joystick 20

K

Keypad 20

M

MAC address 10, 38
Menu descriptions
    Camera menu 26

N

Network connection setup 11

P

Package contents 7

R

Recycling the VCR 50
RS-485 17

S

Safety instructions 3
Safety rope
    Installation on structure 15
    Installation on the camera 12
Setting up network connectivity 38
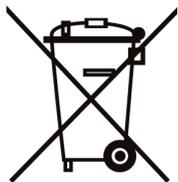Shutter speed 28
Specifications 43
Structure 8, 9

T

Terminating 9

W

White balance 27

Notes on disposal

Proper disposal of this camera

WEEE (Waste Electrical & Electronic Equipment)

Applicable in the member states of the European Union and other European countries with a separate collection system.

The marking on the camera and on the related documentation stipulates that it must not be thrown away in normal domestic waste at the end of its useful life.

General rules

► Avoid uncontrolled waste disposal: Please dispose of this camera separately from other waste, to avoid posing a hazard to the environment and to human health.

► Recycle the camera in order to support the sustainable reuse of material resources.

Private users

► Contact the retailer from whom you purchased the camera, or your competent local authority to find out how you can recycle the camera in an environmentally friendly way.

Commercial users

► This camera must not be discarded with trade waste. To clarify the conditions of disposal, check your purchase contract or contact your supplier.

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