GE
Sensing & Inspection Technologies

Everest Ca-Zoom® 6.2
Remote Visual Inspection

Increased Productivity

The Everest Ca-Zoom 6.2 puts inspection and digital image management in the palm of your hand with three interchangeable camera head options, integrated image capture and full-motion video recording capabilities, on-board file manager, annotation and measurement features.

The Everest Ca-Zoom® 6.2 delivers the superior iView™ technology platform for easy and accurate Remote Visual Inspections (RVI)

Features
- Three interchangeable camera head diameter options
  - PTZ140: 36x optical zoom, 12x digital zoom for a total of 432x zoom
  - PTZ100: 10x optical zoom, 4x digital zoom for a total of 40x zoom
  - PTZ70: 10x optical zoom, 4x digital zoom for a total of 40x zoom
- High-performance, variable spot and flood lighting control
- High-resolution images (470 HTV Lines)
- Resolving power of 1/2 mil diameter wire at 1.8m (6.0 ft) distance
- Integrated temperature warning system
- Camera Control Unit with 64MB internal flash memory and CompactFlash® Removable Storage Media
- Still image and motion video
- USB® streaming digital video output
- On-screen zoom magnification, pressure, PTZ position, time/date, character generation display and user logo
- Unitized (no exposed wiring), all-in-one camera head construction
- Remote operation with hand-held controller with built-in color VGA LCD monitor to control pan, tilt, zoom, lighting, image control and measurement
- In-air or underwater operation
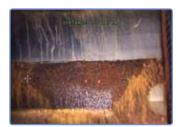- Portable operating / carrying case with industrial wheels

Portable
operating / carrying
case with industrial wheels

Advanced Image Control

Temperature Warning System

Laser Measurement

File Manager

Speaker
Allows playback of audio messages associated with stored image files

Multi-function Joystick
Controls both pan and tilt and menu navigation

Zoom
Zoom in or zoom out for a better view of inspection areas

Focus
Manual or auto-focus control

Lights
Select flood and/or spot light and control lamp brightness

Image
Provides manual control of camera gain, iris and electronic shutter

Microphone
Hand-held controller's built-in microphone allows the overlay of a voice message onto an image

16 cm (6.4 in) diagonal VGA LCD Monitor
Provides fine resolution, color precision and clear assessment of inspection areas

Save
Saves images at the touch of a button

Freeze
Instantly freezes the on-screen image for better assessment

Menu
Provides one-touch access to easy-to-use drop-down menu system

Enter
Allows user to verify and accept menu selections

Exit
Allows for one-key exit from current function

Programmable Soft Buttons
Context sensitive software controlled "Soft Buttons" using on-screen labels

Headset Connector
Allows for attachment of an external audio headset with microphone

Technical Specifications

PTZ140   PTZ100   PTZ70

Camera

	PTZ140	PTZ100	PTZ70
Type:	Color 1/6 in. EXview HAD CCD® (NTSC and PAL)	Color 1/4 in. EXview HAD CCD® (NTSC and PAL)	Color 1/4 in. EXview HAD CCD® (NTSC and PAL)
Resolution:	470 HTV Lines NTSC, 460 HTV Lines PAL	470 HTV Lines NTSC, 460 HTV Lines PAL	470 HTV Lines NTSC, 460 HTV Lines PAL
Zoom:	36x optical (12x digital) for a total of 432x (f=2.4 mm – 60 mm)	10x optical (4x digital) for a total of 40x (f=4.2 mm – 42 mm)	10x optical (4x digital) for a total of 40x (f=4.2 mm – 42 mm)
Field-of-View:	In-air FOV is 1.7˚ H x 1.3˚ V in telephoto; minimum distance of 1500 mm (59.1 in)	In-air FOV is 4.6˚ H x 3.5˚ V in telephoto; minimum distance of 1000 mm (39.4 in)	In-air FOV is 4.6˚ H x 3.5˚ V in telephoto; minimum distance of 1000 mm (39.4 in)
	In-air FOV is 57.8˚ H x 43.4˚ V in wide-angle; minimum distance of 320 mm (12.6 in)	In-air FOV is 46˚ H x 35˚ V in wide-angle; minimum distance of 10 mm (0.4 in)	In-air FOV is 46˚ H x 35˚ V in wide-angle; minimum distance of 10 mm (0.4 in)
Focus:	Automatic & manual	Automatic & manual	Automatic & manual
Iris:	Automatic & manual (f1.6 – close)	Automatic & manual (f1.8 – close)	Automatic & manual (f1.8 – close)
Electronic Shutter:	Automatic & manual (1/10,000 sec – 1 sec)	Automatic & manual (1/10,000 sec – 1 sec)	Automatic & manual (1/10,000 sec – 1 sec)
Sensitivity:	1.4 lux at 1/60th sec; gain adjust -3dB – 28dB	1.5 lux at 1/60th sec; gain adjust -3dB – 28dB	1.5 lux at 1/60th sec; gain adjust -3dB – 28dB
Construction:	Anodized aluminum or stainless steel	Anodized aluminum	Anodized aluminum

Lighting

	PTZ140	PTZ100	PTZ70
	Two lights; 35 W each, indpendant control with focused dichroic reflectors	Four lights; 2 x 2 control	Eight lights; 4 x 4 control
	35 W flood: 650 lumens (1300 beam cp) @ 30˚ (half-angle) beam spread 35 W spot: 650 lumens (4800 beam cp) @ 10˚ (half-angle) beam spread	10 W flood: (2 x 5 W) white LED 240 lumens (200 beam cp) @ 30˚ beam spread 10 W spot: (2 x 5 W) white LED 240 lumens (900 beam cp) @ 10˚ beam spread	20 W flood: (4x 4 w) white LED 480 lumens (400 beam cp) @ 30˚ beam spread 20 W spot: (4x 4 w) white LED 480 lumens (1800 beam cp) @ 10˚ beam spread
Turbo lamp mode:	40 W per channel	11 W per channel	20 W per channel

Pan & Tilt

	Pan	Tilt	Pan	Tilt	Pan	Tilt
Range:	360˚ (+/-180˚)	234˚ (+129˚/-105˚)	354˚ (+/-177˚)	Mechanical: 340˚ (+/-170˚) Optical wide-angle: 256˚ (+/-128˚) Optical tele-zoom: 280˚ (+/-140˚)	360˚ (continuous)	270˚ (+/-135˚)
Speed:	0 – 9˚/sec	0 – 9˚/sec	0 – 9˚/sec	0 – 11˚/sec	0 – 10˚/sec	0 – 12˚/sec
Torque:	0.9 Nm (8 in lb) max	0.9 Nm (8 in lb) max	0.9 Nm (8 in lb) max	0.9 Nm (8 in lb) max	1.8 Nm (16 in lb) max	1.8 Nm (16 in lb) max
Clutch-protected:	Yes	Yes	Yes	Yes	Yes	Yes

	PTZ140	PTZ100	PTZ70
Weight:	3.0 kg (6.7 lb) in aluminum, available in stainless steel @ 6.0 kg (13.2 lb)	1.8 kg (3.9 lb) aluminum	2.5 kg (5.5 lb) aluminum
Size:	287 mm (12.60 in) L x 139 mm (5.47 in) ø, Fits through a 140 mm (5.50 in) ø opening	194 mm (7.65 in) L x 98 mm (3.88 in) ø, Fits through a 100 mm (3.94 in) ø opening	468 mm (18.4 in) L x 69.8 mm (2.75 in) ø, Fits through a 76 mm (3.00 in) ø opening
Mounting:	Four 1/4 – 20 mounting points	Four 1/4 – 20 mounting points	Four 1/4 – 20 mounting points
Feedback:	10k ohm potentiometer position feedback	10k ohm potentiometer position feedback	Magnetic angular sensor

PTZ140 with
Laser Attachment

PTZ100 with
Laser Attachment

Technical Specifications

Camera Operating Environment

Temperature: -18°–50°C (0°–122°F), short-term up to 70°C (158°F)
Pressure: Waterproof to 45 m (150.0 ft.) or 4.5 bar (65 psi.) external
Radiation Tolerance:
PTZ140: Dose Rate: Approximately 10 Gy/hr (~1,000 R/hr)
*50 Gy/hr (~5,000 R/hr) - Manual focus only
Cumulative Dose: Approximately 600 Gy (~60,000 rads)
PTZ100: Dose Rate: Approximately 10 Gy/hr (~1,000 R/hr)
Cumulative Dose: Approximately 220 Gy (~22,000 rads)
PTZ 70: Dose Rate: Approximately 10 Gy/hr (~1,000 R/hr)
Cumulative Dose: Approximately 220 Gy (~22,000 rads)
Pressurization: Schrader valve with protective cap
0.7 bar (10 psi.) internal for inert gas

Camera Control Unit (CCU)/Processor

- Portable or case-mounted CCU
- CCU has video input/output capability (USB®, Composite and S-Video)

Dimensions: 39.0 cm (15.4 in) L × 28.0 cm (11.0 in) W × 13.5 cm (5.3 in) D
Weight: 5.9 kg (12.9 lb)
Power Requirement: AC Power Nominal input: 100–240V, 50–60Hz, 3 A
Processor: 32 bit Pentium®-class embedded computer system
Memory: 64MB internal Flash memory
Disk Drive: CompactFlash®, Type 1, accepts all memory sizes
File Storage Capacity:
Still Image Storage: BMP uncompressed: 900KB typical file size
JPG Super High Quality: 200KB typical file size
JPG High Quality: 90KB typical file size
JPG Low Quality: 30KB typical file size
Video Recording: MPEG2: High and Low Quality Settings
Up to 42 minutes recording on High w/1GB CF card
MPEG1: High, Medium and Low Quality Settings
Up to 92 minutes recording on Med w/1GB CF card
Video Output: Composite, S-Video and USB 2.0 full VGA streaming digital video
Remote Control: All functions may be controlled by a PC running iVIEW Remote PTZ
Interface is serial RS-232 on DB-9F connector

Hand-held Controller

Monitor: 16 cm (6.4 in) diagonal full-resolution color VGA (640 by 480 pixels)
Temperature: 0°–49°C (32°–120°F)
Weight: 1.4 kg (3.1 lb)
Cable: Ruggedized 5 m (16.0 ft)
Audio: Built-in microphone, speaker and headset connector
Controls: Back-lit buttons and joystick pan/tilt/menu navigation
Soft Buttons: Programmable for enhanced camera and accessory operations

Optional Accessories

- Parallel Laser Measurement Accessory
- iVIEW™ Remote PTZ Software for controlling the Ca-Zoom® camera from a PC
- Second Video Hand-held Controller and 15 m (50.0 ft) controller cables
- Rack-mount Consoles
- PS/2 Keyboard
- Telescoping and Interconnecting Poles; Swivel Ball or Standard Tripod
- Extension Cables / Main Cables up to 500 m (1640.0 ft)
- Slip-Ring Cable Reels
- MiniDV and Super-VHS Video Tape Recorders
- High-resolution Video Monitors

iVIEW™ Software Features

Zoom: PTZ140: 36x optical, 12x digital zoom control
PTZ100: 10x optical, 4x digital zoom control
PTZ70: 10x optical, 4x digital zoom control
Enable/disable digital zoom capability
Camera Setup: User interface of camera setup: long exposure, invert image camera control, pan/tilt range, digital zoom on/off
Image stabilization and IR filter on/off for PTZ140 only
Positions: Set camera home and zero positions
Choose up to 10 preset positions for pan-tilt and zoom
On-Screen Info.: Pressure (BAR/PSIG), Pan/Tilt position, Time/Date and Logo
Lighting Control: Software-controlled variable lamp intensity, includes turbo boost mode
Split-screen: The split-screen menu allows for viewing a combination of live and stored images on screen
Audio Annotation: The audio annotation allows for up to 15 seconds of audio information to be recorded and associated with a stored image file
Text Annotation: Built-in, full-screen text overlay generator using Joystick or PS/2 keyboard supports storage of up to 40, 2-line × 30 characters per line "preset text" scripts
Image Controls: Manual/Auto control for brightness (shutter, iris or gain)
Image Recall: Full-screen, live/recalled image
Comparison Measurement: Area, multi-segment length. and circle gauge comparison measurements supported
User Interface: Simple drop-down menu-driven operation
Menu navigation using joystick
Freeze Frame: Freezes live image currently displayed on screen
Image Save: Single-button activated quick-save feature
Memory: 64MB internal Flash memory
Image Storage: Images can be stored in folders in internal 64MB flash memory
Disk Drive: CompactFlash, Type 1, accepts all memory sizes
Video Output: S-Video and USB 2.0 full VGA streaming digital video
Still Image Format: BITMAP or JPEG (Super High, High or Low .JPG)
Video Record Format: MPEG2 (High or Low), MPEG1 (High, Med or Low)
File Manager: Embedded file manager software supporting:
file and folder creation, naming, deleting. Store to internal flash (C:\); CompactFlash (A:\); copy between A:\ and C:\
International Language Support: English, German, Italian or French languages for on-screen prompts. Additional languages available upon requyest.
Software Status: On-screen software revision status display
Software Updates: Field updateable via CompactFlash
Remote Control: All functions may be remotely controlled by a PC operating the iVIEW Remote PTZ application

Full System

- Portable carrying/shipping case contains the camera head, CCU, hand-held controller (PTZ140 and PTZ100). PTZ70 requires separate shipping case.
- Main cable requires separate carrying case

Case Dimensions: 65.3 cm (25.7 in) L × 56.1 cm (22.1 in) W × 27.2 cm (10.7 in) D
System Weight:
PTZ140: 23.3 kg (51.3 lb)
PTZ100: 22.1 kg (48.5 lb)
PTZ70: 22.8 kg (50.3 lb)

www.geinspectiontechnologies.com/en

GEIT-65019EN (07/08)