Everest Ca-Zoom® 6.2
Remote Visual Inspection

Advanced, Modular, Portable

The Ca-Zoom 6.2 puts digital image management in the palm of your hand with advanced camera setup, integrated image capture and full-motion video recording capabilities, on-board file manager, annotation and comparison measurement features.

Position the camera, adjust the lighting, zoom in and record the inspection.

imagination at work

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

Features

- Interchangeable camera head diameter options
  - PTZ140: 25x optical zoom, 12x digital zoom for a total of 300x zoom
  - PTZ100: 10x optical zoom, 4x digital zoom for a total of 40x zoom
- High-performance, variable dual-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 built-in CompactFlash® Removeable Storage Media
- Still image or motion video capture
- USB-2 streaming digital video output
- On-screen 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 zoom, lighting, image control and measurement
- In-air or underwater operation
- Portable operating / carrying case with industrial wheels

Temperature Warning System

The Ca-Zoom® 6.2 has an integrated Temperature Warning System to protect you and your investment. With a temperature sensor built into the camera, the Ca-Zoom provides the user with three levels of on-screen temperature indication to prevent damage from hot environments.

iVIEW Image Management Platform Features Include:

Multi-Function Joystick
Dual joystick controls for camera pan-and-tilt, menu navigation and character generator control.

Intuitive Drop-down Menu System
Access the advanced feature set via a drop-down menu system.

Advanced Camera Setup
Menu-driven setup features provide options for enabling or disabling the digital zoom range, brightness (shutter, iris, gain), invert positioning control of pan-and-tilt, and camera home positioning.

Laser Measurement
Parallel laser accessory mounted on the camera head provides a reference for length or area measurements.

Position Settings
Set camera home and zero positions by moving the camera to the desired location and saving this position. Set up to 10 additional preset locations, for pan-tilt-zoom.

Still Image Capture and Full Motion Video
Record digital still images and MPEG2 or MPEG1 video either on its internal 64MB flash memory or on the removable CompactFlash cards.

File Manager
A full-featured embedded file management system with a thumbnail-based image recall system. Create and name file folders, and move and store files between folders on internal flash memory and CompactFlash.

Multi-language Interface
Select from English, German, Italian, Russian or Swedish for on-screen text annotation. Custom language capability also available.

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 you to overlay 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

Camera
Type:	Color 1/6 in. Super HAD CCD® (NTSC and PAL)
Resolution:	470 HTV Lines NTSC, 460 HTV Lines PAL
Zoom:	25x optical (12x digital) for a total of 300x (f=2.4 mm – 60 mm)
	Field of View: In-air FOV is 2.0˚ H x 1.5˚ V in telephoto; minimum distance of 800 mm (31.50 in.).
	In-air FOV is 45˚ H x 34˚ V in wide-angle; minimum distance of 35 mm (1.40 in.).
Focus:	Automatic & manual
Iris:	Automatic & manual (f1.6 – close)
Electronic Shutter:	Automatic & manual (1/10,000 sec. – 1 sec.)
Sensitivity:	2.5 lux; gain adjust -3dB – 28dB
Construction:	Anodized aluminum or stainless steel

Lighting
(2 lights, 35 W each, with focused dichroic reflectors)

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
Turbo lamp mode:	80 W total

Pan & Tilt
Weight:	3.0 kg (6.7 lbs.) with camera and lights (aluminum), available in stainless steel @ 6.0 kg (13.2 lbs.)
Size:	287 mm (12.60 in.) L x 139 mm (5.47 in.) ø
	Fits through a 140 mm (5.50 in.) ø opening
Mounting:	Four 1/4 – 20 mounting points
Feedback:	10k ohm potentiometer position feedback

	Pan	Tilt
Range	360˚ (+/-180˚)	234˚ total (+129˚/-105˚)
Speed	0 – 9˚/sec.	0 – 9˚/sec.
Torque	0.9 Nm (8 in. lb.) max.	0.9 Nm (8 in. lb.) max.
Clutch-protected	Yes	Yes

PAN AND TILT

Wide-Angle 45˚H x 34˚V FOV

Tele-Zoom 2˚H x 1.5˚V FOV

+129˚ 234˚ Tilt -105˚ ±180˚ Pan

Portable operating / carrying case with industrial wheels

PTZ100

Camera
Type:	Color 1/4 in. EXView HAD CCD® (NTSC and PAL)
Resolution:	470 HTV Lines NTSC, 460 HTV Lines PAL
Zoom:	10x optical (4x digital) for a total of 40x (f=4.2 mm – 42 mm)
	Field of View: In-air FOV is 4.6˚ H x 3.5˚ V in telephoto; minimum distance of 1000 mm (3.28 ft.).
	In-air FOV is 46˚ H x 35˚ V in wide-angle; minimum distance of 10 mm (0.39 in.).
Focus:	Automatic & manual
Iris:	Automatic & manual (f1.8 – close)
Electronic Shutter:	Automatic & manual (1/10,000 sec. – 1 sec.)
Sensitivity:	1.5 lux; gain adjust -3dB – 28dB
Construction:	Anodized aluminum

Lighting
(Four lights; 2 x 2 control)

10 W flood:	(2 x 5 W) 240 lumens (200 beam cp) @ 30˚ beam spread
10 W spot:	(2 x 5 W) 240 lumens (900 beam cp) @ 10˚ beam spread
Turbo lamp mode:	22 W total

Pan & Tilt
Weight:	1.8 kg (3.9 lbs.) with camera and lights
Size:	194 mm (7.65 in.) L x 98 mm (3.88 in.) ø
	Fits through a 100 mm (3.94 in.) ø opening
Mounting:	Four 1/4 – 20 mounting points
Feedback:	10k ohm potentiometer position feedback

	Pan	Tilt	
Range	354˚ total (+/-177˚)	Mechanical:	340˚ total (+/-170˚)
		Optical wide-angle:	256˚ total (+/-128˚)
		Optical tele-zoom:	280˚ total (+/-140˚)
Speed	0 – 9˚/sec.	0 – 11˚/sec.	
Torque	0.9 Nm (8 in. lb.) max.	0.9 Nm (8 in. lb.) max.	
Clutch-protected	Yes	Yes	

PAN AND TILT

Wide-Angle 46˚H x 35˚V FOV

Tele-Zoom 4.6˚H x 3.5˚V FOV

+140˚ 340˚ Tilt ±177˚ Pan

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 50 Gy/hr (~5,000 R/hr)
                 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)
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 (Composite and S-Video)

Dimensions: 39.0 cm (15.4 in.) L x 28.0 cm (11.0 in.) W x 13.5 cm (5.3 in.) D
Weight: 5.9 kg (12.9 lbs.)
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 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 lbs.)
Cable: Ruggedized 5 m (16.0 ft.)
Audio: Built-in microphone, speaker and headset connector
Recording Options: MiniDV video recorder control from hand-held controller
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: 25x optical, 12x digital zoom control
        PTZ100: 10x optical, 4x digital zoom control
        Enable/disable digital zoom capability
Camera Setup: User interface of camera setup: long exposure, invert camera,
        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 x 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, Russian or Swedish languages for on-
        screen prompts. Additional languages available upon request.
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
- Main cable requires separate carrying case

Case Dimensions: 65.3 cm (25.7 in.) L x 56.1 cm (22.1 in.) W x 27.2 cm (10.7 in.) D
System Weight: PTZ140: 23.3 kg (51.3 lbs.)
               PTZ100: 22.1 kg (48.5 lbs.)

*Specifications subject to change without notice.

*PTZ140
with Laser Attachment*

*PTZ100
with Laser Attachment*

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