

# **IMAGE SYSTEM**



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For many years, Tianjin Bolang Science Technology Development Co., Ltd has focused on independent innovation and has plentiful experience in the development and manufacturing technique of optical systems. In combination with clinical practice, to understand the needs of physicians, to minimize the pain of patients and to achieve customer satisfaction are Bolang's consistent purpose. The advantages of optimized design, reliable safety and easy operation are well known.

Detail determines quality, technology creates the future.



# **CAMERA SYSTEM**

The general endoscopic camera system is the ultra-high definition camera system that supports endoscopic surgery applications. It can be used in laparoscopy, hysteroscopy, cystoscopy, neuroendoscopy, arthroscopy and otolaryngology endoscopy.

The whole system supports multi-departments and multi-disciplinary use, and provides different system settings for different surgical applications and supports separate storage to ensure optimal image clarity.

### **EASY & OPTIMIZED MANIPULATION**

All modules and components of the system can be matched to each other. The system consist of host, endoscope, and device can be adapted to the diagnostic methods and work flow of modern hospital. It can lighten the workload of medical staff.

# PATIENT INFORMATION STORAGE

DiVAS software ensures prompt and effective diagnosis, recording and storage of patient information. Diagnostic and therapeutic data can be recorded, analyzed and archived through the software. Modular software design ensures that hospital can purchase equipment as needed. The software optimized the work flow of the medical staff and ensures more time to care for patients.







# FULL NETWORKED, ENHANCED EFFICIENCY

Systems can be connected to each other or to HIS and PACS through the stan-dard interface (DICOM, HL7). All data can be saved automatically, centralized, paperless. Any authorized computer on the hospital's intranet can access all video, pictures, audio and other diagnostic data. DiVAS live surgery system can be used for telemedicine, teaching and conference purposes. The network fur-ther optimizes the work flow of the hospital.

# ALL SELF-PRODUCTION

Bolang designs and manufactures all otolaryngology, orthopedic, abdominal, urinary camera systems, endoscopes and surgical instruments. Cooperation with well-known hospitals and universities to ensure the applicability and us-ability of the system. The company's superior performance in precision manu-facturing, optics, electronics and software has created numerous benchmarks for the endoscope industry.



# **FEATURES:**

✓ 3 1/3" 16:9 total number of Image sensors with more than 6 super effective pixels

ent NT-300 HD

- High sensitivity, requiring less light and illumination
- New image has enhanced sharpness and color
- High anti-interference in electrosurgery
- The flexible filter is suitable for fiberoptic endoscope
- ✓ Full digital chain to achieve DVI-D, HDMI (1) or 3g-sd digital output
- ✓ Up to 2.5x digital zoom and freeze function
- Mirror, flip, rotate function
- Full HD resolution recording and image capture (optional)

THE NT-300HD-6698 IS THE LATEST VERSION OF THE HD ENDOSCOPIC CAMERA THAT DELIVERS THE SHARPEST PICTURE QUALITY. THE HIGH-RESOLUTION NT-300HD WITH PROGRESSING SCAN FUNCTION PROVIDES THE SHARPEST DETAIL AND INCOMPARABLE NATURAL COLOR, EVEN THE SMALLEST CHANGES IN THE TISSUE CAN BE IDENTIFIED CLEARLY, AS FAR AS POSSIBLE ТО ASSIST THE DOCTOR TO IMPROVE THE ABILITY TO PERFORM MINIMALLY INVASIVE SURGERY.

#### CAMERA

Compact and portable: The camera uses an ultra-high resolution and sensi-tivity image sensor. Leather textured appearance and lightweight design make the camera with the best grip. Camera builtin customizable button. Additionally Standard C interface has strong versatility and can match a vari-ety of sizes of adapters.

### STERILE VIDEO ADAPTER

Ultra-light, long service life: Sterile video adapter made of titanium alloy is strict requirements by sterile surgery (such as neurosurgery) to achieve replacement of the endoscope under aseptic conditions. The sterile video adapter is ultra-lightweight and resistant to corrosion and can be sterilized repeatedly.

# **OTHER FEATURES**

Support all surgical clinical departments.

Through patented image processing technology to achieve ultra-high image clarity, minimal picture noise. Using intelligent photometry and brightness enhancement, the brightness is uniform constantly, the edge sharpness and depth of field are optimized.

Electronic heat dissipation and noiseless operation can be used in aseptic surgery with strict sensitivity control requirements.

Extremely low image delay (<17 ms).

Dual DVI output, 4-channel SDI-HD output, support for 4K resolution upgrade Configure Iris Control interface to support automatic light source Hanging design can be used to support Bolang intelligent trolley Host panel physical menu and function keys, easy to operate Self-programmable camera button

Multi-application component support, support Bolang electronic endoscope Device function extension can be implemented using DiVAS software Built-in USB interface supports device remote diagnosis and firmware upgrade

TECHNICAL DATA	
Model	NT-300HD-6698
Video system	50Hz/ 60Hz Interlacing
Output pixels	1920(H)×1080(V)
Image sensor	1/3' HD CHIP
Minimum Illumination	< 3 lx
Sensitivity	F11 Standard(2000lx)
WBC	Automatic, Manual
Gain Control	Automatic(AGC), Manual
Exposure Setting	Preset A B C D E
User settings	5
Analog Video Output(option)	1x Y/PB/PR or RGB : 0.7 V (p-p) (HD-Sub15)
	2 x S-Video on Mini-D 4
	2 x Composite Video on BNC
Digital Video Output	2 x 3G-SDI / HD-SDI (optional)
	2 x DVI on DVI-D
Accessories control	Yes (via 3.5mm Jack output)
Keyboard Support	Yes (PS/2, mini-Din 6 Output Interface)
Compunication	Serial Port Control (RS-232C)
Line Voltage V	100-120/200-240
Frame rate Hz	50p (EU) / 60p (US)
Power Dissipation VA	40
Current A	0.5
Fuse	2xT 1.0AE
Environment	$0^{\circ}$ C - +40°C temperature
	less than 90% relative humidity
Classification	Class I / BF
CAMERA HEAD	
Dimensions (W×H×D)	$34 \times 42 \ge 58 \text{ mm}$
Weight	90 g
Lens connection	C-mount
Cable length	3 meters
Sterilization	Soakable 7
Control buttons	3
CONTROL UNIT	
Dimensions (W×H×D)	$325 \times 74 \times 365 \text{ mm}$
Weight	5.1 kg
Protection class	IP20
Line voltage	100 240VAC @ 50-60 Hz
Fuse	2 × T 1.0 A E / 250V (IEC 127)
Power tested acc.To	UL2601-1, EN60601-1, IEC601-1-2

# NT-300HD-6160

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Medical Endoscopy Displaying Equipment NT-300 HD

TROUBLE AT DATA		
TECHNICAL DATA		
Model	NT-300HD-6160	
Standard	50Hz or 60Hz Progressive	
Output pixels	1920 (H) x 1080 (V)	
Image sensor	1/3 Inch	
Minimal illumination	< 3 lx	
Sensitivity	F8 standard(2000lx)	
Signal-to-noise ratio	50 dB (gain 0 dB, DNR OFF)	
White balance	AWB (Automatic white balance)	
Gain Control	AUTO (Automatic gain control)	
Exposure control	AUTO	
Working modes (User settings)	5 users or modes	
Analog Video output	1x Y/PB/PR or RGB : 0.7 V (p-p) (on HD-Sub 15 Female	
(OPTIONAL)	connector)	
	2 x S-Video on Mini-Din 4 Female Connectors	
	2 x Composite Video on BNC Connectors	
Digital Video output	2 x 3G-SDI / HD-SDI (OPTIONAL)	
	2 x DVI on DVI-D Connector	
Peripherals Control	2 x controllable peripherals, via 3.5mm stereo Jack connector,	
	named ACC1, ACC2	
Keyboard Connection	PS/2 on mini-Din 6 Female connector	
PC Communication	Via serial data interface (RS-232C)	
Main voltage V ~	100 - 240	
Main frequency Hz	50/60	
Power consumption VA	40	
Current rate A	0.5	
Fuse A	2 × T 1,0 A E	

# LED light source BLG-120C





Bolang LED light source has extremely high efficiency and lifetime. Instead of 150-watt and 250-watt halogen lamps, the exceptional lifetime (greater than 50,000 hours) makes LED light sources the most costeffective lighting device, and virtually no need to replace the bulb. In the working mode, the machine has almost no sound, and the noise generated by the light source does not exceed 30dB, which is four times quieter than the traditional light source machine, which provides a comfortable operating envi-ronment for doctors' surgery and reduces interference.

- Illumination is as bright as 250 watt halogen lamps.
- Long working hours and fewer emergencies due to light bulbs, etc.
- The working sound is extremely low and the noise does not exceed 30dB
- Consistent color temperature when dimming, maintaining consistent visual vision



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