Canon

4K PTZ CAMERAS

EXQUISITE 4K AT YOUR FINGERTIPS

4K UHD

FULL HD 1920×1080

BROADCAST-QUALITY VIDEO
INDOOR AND OUTDOOR APPLICATION
FLEXIBLE CONNECTIVITY

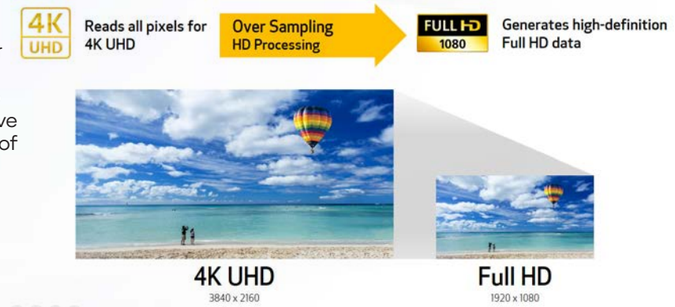
FEATURES AND BENEFITS

Canon's line of professional PTZ cameras are engineered to provide the highest level of image quality and compatibility for demanding professionals in a multitude of production applications.

BROADCAST-QUALITY VIDEO

Drawing on over 80 years of imaging excellence, these cameras utilize genuine Canon lenses and a DIGIC imaging processor to provide 4K UHD video that can effortlessly match with Canon's Cinema EOS cameras to provide a uniform look to your broadcast or live stream. Common features of the 4K PTZ line of cameras include:

- Fast and precise autofocus
- Smooth on-air camera movements
- Oversampling HD processing for better looking HD video
- Built-in image stabilization
- Powerful low-light performance



FLEXIBLE CONNECTIVITY

The Canon PTZ camera lineup† offers a variety of IP connectivity possibilities, including support for Canon's XC Protocol, Standard Protocol, RTSP/RTP, RTMP/RTMPS, SRT, FreeD, and NDI®|HX. Utilizing today's most popular live production protocols and streaming platforms, the cameras deliver stunning, high quality 4K video.

In addition to the various IP protocols supported, there are a variety of video features on Canon PTZ cameras that are appealing to productions of all types. HDMI and SDI outputs are vital for broadcasting, while Genlock and Timecode are key features for any multi-camera production. Select models also support the FreeD protocol for virtual set productions.

The cameras are also compatible with the Canon RC-IP100 and RC-IP1000 controllers, the Remote Camera Control Application via IP† and selected third-party controllers, making integration with existing set-ups a breeze.

ADD-ON APPLICATIONS*: AUTO TRACKING & AUTO LOOP

Available on Select PTZ cameras, users can install paid apps through the Add-On Applications System, and operate them within the cameras without the need for an external device.

The Auto Tracking Application follows a speaker and maintains their composition in the image during presentations, lectures and other events. Thanks to Canon's high-performance pan/tilt/zoom mechanism and the automatic tracking application, the camera can smoothly capture movements of people with broadcast quality video.

The Auto Loop Application empowers the camera to automatically repeat pan/tilt/zoom (PTZ) staging movements ordinarily performed by camera operators during the broadcast of events, as well as TV and movie productions. "Fade mode" adjusts the speed of the camera motions as they begin and end, enabling the automated camera system to mimic professional camerawork.

*†CR-X500 does not support IP or any of the IP protocols listed. Not all features available on all cameras. *Add-on applications sold separately.*

CANON 4K PTZ CAMERA LINEUP

INDOOR CAMERAS

CR-N100
REMOTE CAMERA

- 1/2.3" Type CMOS Sensor
- High Quality 4K 30P and FHD 60P Video Output
- HDMI, USB, and IP Video Out
- DIGIC DV 6 Image Processor
- Hybrid AF
- PoE+ Single Cable IP operation
- Variable Pan speed of .2° - 300°/sec
- Variable Tilt speed of .2° - 180°/sec
- Optical Image Stabilization
- Optional Auto Tracking*
- Virtually Seamless Integration into Canon Imaging Workflow
- Various Interfaces Supported for Multiple Applications

CR-N300
REMOTE CAMERA

- 1/2.3" Type CMOS Sensor
- High Quality 4K 30P and FHD 60P Video Output
- SDI, HDMI, USB, and IP Video Out
- DIGIC DV 6 Image Processor
- Hybrid AF
- PoE+ Single Cable IP operation
- Variable Pan speed of .2° - 300°/sec
- Variable Tilt speed of .2° - 180°/sec
- Optical Image Stabilization
- Optional Auto Tracking*
- Virtually Seamless Integration into Canon Imaging Workflow
- Various Interfaces Supported for Multiple Applications

CR-N500
REMOTE CAMERA

- 1.0" Type CMOS Sensor
- High Quality 4K 30P and FHD 60P Video Output
- DIGIC DV 6 Image Processor
- Canon Log 3, Wide DR Gamma Supported
- Dual Pixel CMOS AF
- Face Detection & Tracking
- PoE+ Single Cable IP operation
- Variable Pan and Tilt speed of .1° - 100°/sec
- Optical Image Stabilization
- Optional Auto Tracking & Auto Loop Add-On Applications*
- Virtually Seamless Integration into Canon Imaging Workflow
- Various Interfaces Supported for Multiple Applications

CR-N700
REMOTE CAMERA

- 1.0" Type CMOS Sensor
- High Quality 4K 60P Video Output
- DIGIC DV 7 Image Processor
- HDR, Canon Log 3 Supported
- Dual Pixel CMOS AF
- Eye, Face, & Head detection and tracking
- Variable Pan and Tilt speed of .1° - 100°/second
- PoE++ Single Cable IP operation
- Optical Image Stabilization
- Optional Auto Tracking & Auto Loop Add-On Applications*
- Various Interfaces Supported for Multiple Applications

OUTDOOR CAMERAS

CR-X300
REMOTE CAMERA

- High Quality 4K 30P and FHD 60P Video Output
- 1/2.3" Type CMOS Sensor
- DIGIC DV 6 Image Processor
- IR Mode
- Optical Image Stabilization
- PoE++ Single Cable IP operation
- Optional Auto Loop Add-On Applications*
- Built-in Wiper
- Durable Aluminum Body
- IP65 Water and Dust Resistant
- Virtually Seamless Integration into Canon Imaging Workflow
- Various Interfaces Supported for Multiple Applications

CR-X500
REMOTE CAMERA

- High Quality 4K 60P Video Output
- 1.0" Type CMOS Sensor
- Dual Pixel CMOS AF
- Dual DIGIC DV 6 Image Processors
- Wide ±170° Pan/ +30 ~ -50° Tilt Coverage
- Canon Log 3, Wide DR Gamma Supported
- IP55 Water and Dust Resistant
- Built-in Wiper
- Durable Aluminum Body
- Virtually Seamless Integration into Canon Imaging Workflow
- Various Interfaces Supported for Multiple Applications

**Add-on applications sold separately.*

REMOTE CAMERA CONTROLLERS

RC-IP100 Remote Camera Controller

Canon's RC-IP100 Remote Camera Controller provides IP control for up to 99 supported Canon cameras. An additional Canon camera can be controlled through the serial port. The controller is equipped with a 7" interactive touch screen and a joystick in order to pan, tilt, zoom and change camera function settings remotely. The smooth precision of the joystick allows operators to capture on-air movements with confidence.

RC-IP1000 Remote Camera Controllers

The RC-IP1000 is an advanced PTZ controller enabling fast operation of multiple PTZ cameras through a newly developed control interface. Featuring 42 buttons and 14 dials, including assignable buttons, programmable trace operation, and adjustable speed and response controls, this controller helps enable intuitive control of multiple PTZ cameras quickly and easily. With a 7-inch touch panel that provides clear visibility and touch-screen control, showing operation menus and camera video feeds, capability to control up to 200 cameras over IP, and more cutting-edge capabilities, the RC-IP1000 is built for large multi-camera productions.

	SPECIFICATION	CR-N100	CR-N300	CR-N500	CR-N700	CR-X300	CR-X500
CAMERA	OPERATING CONDITION	Indoor				Outdoor	
	IMAGE SENSOR	Type 1/2.3 (1/2.3 in.) single-plate CMOS sensor **Total pixels:** approx. 21.14 megapixels **Effective pixels:** approx. 8.29 megapixels (3840 x 2160)		Type 1.0 (1.0 in.) single-plate CMOS sensor **Total pixels:** approx. 13.40 megapixels **Effective pixels:** approx. 8.29 megapixels (3840 x 2160)		1/2.3" 4K UHD CMOS Pro Image Sensor **Total pixels:** approx. 21.14 megapixels **Effective pixels:** approx. 8.29 megapixels (3840 x 2160)	Type 1.0 (1.0 in.) single-plate CMOS sensor **Total pixels:** approx. 13.40 megapixels **Effective pixels:** approx. 8.29 megapixels (3840 x 2160)
	LENS	f=3.67 – 73.4 mm, F/1.8 – 2.8, 8-bladed circular aperture		f=8.3 – 124.5 mm, F/2.8 – 4.5, 9-bladed iris diaphragm		f=3.67 – 73.4 mm, F/1.8 – 2.8, 8-bladed circular aperture	f=8.3 – 124.5 mm, F/2.8 – 4.5, 9-bladed iris diaphragm
	ZOOM	**Optical:** 20x **Digital:** 20x		**Optical:** 15x **Digital:** 20x	**Optical:** 15x **Digital:** 20x **Advanced (FHD):** 30x	**Optical:** 20x **Digital:** 20x	**Optical:** 15x **Advanced Zoom FHD:** 30x
	ANGLE OF VIEW	**4K UHD:** Horizontal: 65.6 (W) – 3.6° (T) Vertical: 39.8° (W) – 2.0° (T) **Full HD:** Horizontal: 63.5 (W) – 3.4° (T) Vertical: 38.4° (W) – 1.9° (T)		Horizontal: 73.0 (W) – 5.7° (T) Vertical: 45.2° (W) – 3.2° (T)		**4K UHD:** Horizontal: 65.6 (W) – 3.6° (T) Vertical: 39.8° (W) – 2.0° (T) **Full HD:** Horizontal: 63.5 (W) – 3.4° (T) Vertical: 38.4° (W) – 1.9° (T)	Horizontal: 73.0 (W) – 5.7° (T) Vertical: 45.2° (W) – 3.2° (T)
	SHUTTER SPEED	1/6 – 1/2000 sec. *(specific values depend on the frame frequency and frame rate)*		1/3 – 1/2000 sec. *(specific values depend on the frame frequency*		1/6 – 1/2000 sec. *(specific values depend on the frame frequency)*	Auto, Manual 1/3 – 1/1000 sec.
	IRIS	Manual/Automatic aperture					Auto, Manual
	GAIN	0.0 dB – 36 dB		-6.0 db ~ 33.0 db	-6.0 db ~ 33.0 db	0.0 dB – 36 dB	Auto, Manual 0 db ~ 33.0 dB
	ND FILTER	Built-in (1/8 at maximum, gradation ND), motor operated		3 levels: ND1 (ND: 1/4), ND2 (ND: 1/16), ND3 (ND: 1/64) Material: Glass (with sunlight burn-in protection) Turret switched, motor-driven		**ND filter:** 1/8 at maximum **Enhanced ND filter:** 1/32	Built-in (Off, 1/4, 1/16, 1/64), motor operated
	WHITE BALANCE	AUTO (AWB), Set A, Set B, preset settings (daylight: 5,600 K*, tungsten lamp: 3,200 K*), color temperature setting (2,000 K – 15,000 K), Manual **Color temperatures are given for reference purposes only.*					AUTO (AWB), Set
	FOCUS	**Focus mode:** Manual, Continuous AF, Face AF, Tracking **AF type:** Hybrid AF, Contrast AF		**Focus mode:** Manual, AF-boosted MF, Continuous AF, Face AF, Tracking **AF type:** Dual Pixel CMOS AF, Contrast AF	**Focus mode:** Manual, AF-boosted MF, Continuous AF, Face Detection & Tracking, Face only AF, Eye Detection **AF type:** Dual Pixel CMOS AF, Contrast AF	**Focus Mode:** Manual, Continuous AF, Face Detection AF, Tracking **AF type:** Hybrid AF, Contrast AF	Dual Pixel CMOS AF
	GAMMA	Normal 1 (Standard), Normal 3 (BT.709)		Normal1 (Standard), Normal2 (x4.0), Normal3 (BT.709), Normal4 (x5.0), Wide DR, Canon Log 3	BT.709 Normal, BT.709 Wide DR, BT.709 Standard, Canon Log 3, HDR (PQ), HDR(HLG)	Normal 1 (Standard), Normal 3 (BT.709)	Normal1: BT.709, Normal1: BT.2020, Wide DR: BT709, Wide DR: BT2020, PQ: BT2020, HLG: BT2020, Canon Log 3: BT709, Canon Log 3: BT2020
	IMAGE STABILIZER	Optical-shift					
	MIN. SUBJECT ILLUMINATION	Approx. 1.5 lux (shutter speed 1/30 sec., frame frequency 59.94 Hz, (P (Programmed AE) Shooting Mode), (Auto Slow Shutter On)		**3840x2160:** Approx. 1.5 lux (shutter speed 1/30 sec., frame frequency 29.97P, Gain 33.0 dB) **1920x1080:** Approx. 3 lux (shutter speed 1/60 sec., frame frequency 59.94P, Gain 33.0 dB)	**59.94Hz:** Approx. 3lux(with 1/60 sec. shutter speed, 59.94P frame rate, and 21 dB gain) **50.00Hz:** Approx. 2.5lux(with 1/50 sec. shutter speed, 50.00P frame rate, and 21 dB gain)	Approx. 3.0 lux (shutter speed 1/60 sec, frame frequency 59.94Hz (P (Program AE) shooting mode), auto slow shutter "Off")	Approx. 3 lux (shutter speed 1/60 sec., Frame Rate 59.94P, Gain 33.0 dB)
	PAN, TILT, ZOOM OPERATION	**Pan Range:** Horizontal ±180° **Pan Speed:** 0.2° – 300°/sec. **Tilt Range:** Vertical -30° – +100° **Pan Speed:** 0.2° – 180°/sec.		**Pan Range:** Horizontal ±170° **Pan Speed:** 0.1° – 100°/sec. **Tilt Range:** Vertical -30° – +90° **Tilt Speed:** 0.1° – 100°/sec.		**Pan Range:** Horizontal ±180° **Pan Speed:** 0.3° – 60°/sec. **Tilt Range:** Vertical -40° – +215° **Tilt Speed:** 0.3° – 60°/sec.	**Pan Range:** Horizontal ±170° **Pan Speed:** 0.5° – ~25°/sec. **Tilt Range:** Vertical -50° – +30° **Tilt Speed:** 0.3° – ~20°/sec.
VIDEO OUTPUT FORMAT	SDI	**1920x1080:** 59.94P/59.94i, 50.00P/50.00i/25.00P, 29.97P/23.98P (4:2:2 10 bit) **1280x720:** 59.94P, 50.00P (4:2:2 10 bit)			**3G-SDI: 1920 x 1080:** 59.94P/59.94i/50.00P/50.00i/29.97P/25.00P/23.98P (4:2:2 10bit) **1280 x 720:** 59.94p/50.00P (4:2:2 10bit) **12G-SDI: 3840 x 2160:** 59.94P/50.00P/29.97P/25.00P/23.98P (4:2:2 10bit) **1920 x 1080:** 59.94P/59.94i/50.00P/50.00i/29.97P/25.00P/23.98P (4:2:2 10bit) **1280 x 720:** 59.94p/50.00P (4:2:2 10bit) **720 x 576:** 50.00i (4:2:2 10bit) **720 x 480:** 59.94i (4:2:2 10bit)	**3840x2160:** 29.97P, 25.00P, 23.98P (4:2:2 10 bit) **1920x1080:** 59.94P/59.94i, 50.00P/50.00i/25.00P, 29.97P/23.98P (4:2:2 10 bit) **1280x720:** 59.94P, 50.00P (4:2:2 10 bit)	**3840x2160:** 59.94P (4:2:2 10 bit) **1920x1080:** 59.94P/59.94i, 50.00P/50.00i/25.00P, 29.97P/23.98P (4:2:2 10 bit)
	HDMI	**3840x2160:** 29.97P, 25.00P, 23.98P (4:2:2 10 bit) **1920x1080:** 59.94P/59.94i, 50.00P/50.00i/25.00P, 29.97P/23.98P (4:2:2 10 bit) **1280x720:** 59.94P, 50.00P (4:2:2 10 bit) **Same video format required for SDI and HDMI (cannot select different formats for SDI and HDMI) *When 3840 x 2160 is selected for HDMI, video will not be outputted to SDI.*			**3840 x 2160:** 59.94P/50.00P/29.97P/25.00P/23.98P (4:2:2 10bit) **1920 x 1080:** 59.94P/59.94i/50.00P/50.00i/29.97P/25.00P/23.98P (4:2:2 10bit) **1280 x 720:** 59.94p/50.00P (4:2:2 10bit) **720x576:** 50.00P (4:2:2 10bit) **720x480:** 59.94P (4:2:2 10bit)	**3840x2160:** 29.97P, 25.00P, 23.98P (4:2:2 10 bit) **1920x1080:** 59.94P/59.94i, 50.00P/50.00i/25.00P, 29.97P/23.98P (4:2:2 10 bit) **1280x720:** 59.94P, 50.00P (4:2:2 10 bit) **Same video format required for SDI and HDMI (cannot select different formats for SDI and HDMI) *When 3840 x 2160 is selected for HDMI, video will not be outputted to SDI.*	
	IP	**Frame frequency 59.94 Hz** **3840x2160 (CR-N700 Only):** 59.94fps, 29.97fps, 14.99fps, 5.00fps (4:2:0 8 bit) **1920 x 1080:** 59.94fps, 29.97fps, 14.99fps, 5.00fps (4:2:0 8 bit) **1280 x 720:** 59.94fps, 29.97fps, 14.99fps, 5.00fps (4:2:0 8 bit) **640 x 360:** 59.94fps, 29.97fps, 14.99fps, 5.00fps (4:2:0 8 bit)		**Frame frequency 29.97 Hz** **3840 x 2160:** 29.97fps, 14.99fps, 5.00fps (4:2:0 8 bit) **1920 x 1080:** 29.97fps, 14.99fps, 5.00fps (4:2:0 8 bit) **1280 x 720:** 29.97fps, 14.99fps, 5.00fps (4:2:0 8 bit) **640 x 360:** 29.97fps, 14.99fps, 5.00fps (4:2:0 8 bit)		**Frame frequency 23.98 Hz** **3840 x 2160:** 23.98fps, 11.99fps, 5.99fps (4:2:0 8 bit) **1920 x 1080:** 23.98fps, 11.99fps, 5.99fps (4:2:0 8 bit) **1280 x 720:** 23.98fps, 11.99fps, 5.99fps (4:2:0 8 bit) **640 x 360:** 23.98fps, 11.99fps, 5.99fps (4:2:0 8 bit)	
	SUPPORTED PROTOCOLS	**Protocol:** XC Protocol, RTSP/RTP, NDI®|HX, RTMP/RTMPS, Standard Communication (Serial), Standard Communication (IP), SRT	**Protocol:** XC Protocol, RTSP/RTP, NDI®|HX, RTMP/RTMPS, Standard Communication (Serial), Standard Communication (IP), FreeD, SRT				**Control:** Canon NU Protocol
INTERFACE	COMMUNICATION CONTROL	LAN, Serial, IR, USB	LAN, Wi-Fi, Serial, IR, USB	LAN, Wi-Fi, Serial, IR	LAN, Wi-Fi, Serial, IR	LAN, Serial	
	NETWORK TERMINAL	LAN x 1, RJ45, 1000Base-T					
	SDI OUT TERMINAL		3G-SDI, BNC jack (output only) x 1, 0.8 Vp-p/75 Ω, unbalanced SMPTE 424, SMPTE 425, SMPTE ST 299-2 compliant Embedded audio, Time code (VITC/LTC)		12G/3G-SDI OUT Terminal, BNC jack x1 12GSDI & x1 3G-SDI, 0.8 Vp-p/75 Ω, SMPTE ST 259, SMPTE ST 292, SMPTE ST 424/425, SMPTE ST2081, SMPTE ST 2082, SMPTE ST 272, SMPTE ST 299 compliant Embedded audio, Time code (VITC/LTC)	6G-SDI, BNC jack (output only) x 1, 0.8 Vp-p/75 Ω, unbalanced SMPTE 2081, 424, 425, ST 299-2 compliant Embedded audio, Time code (VITC/LTC)	12G-SDI, BNC jack (output only) x 1
	TIME CODE TERMINAL				BNC jack x 1, 1.3 Vp-p/50 Ω or less		
	GEN-LOCK TERMINAL			BNC jack x 1, 1.0 Vp-p/75 Ω, input only			BNC jack x 1
	HDMI OUT TERMINAL	HDMI connector x 1, output only					
	RS-422 TERMINAL	RJ45 connector x 1					RS-422 Serial
	MIC TERMINAL	φ3.5 mm stereo mini jack (unbalanced, plug-in power supported) • Sensitivity (MIC): -72 dBV (Manual volume center, full scale -18 dB)/1 kΩ or more/Att.: 20 dB • Sensitivity (LINE): -10 dBV (Manual volume center, full scale -18 dB)/1 kΩ or more • Supply Voltage: 2.4 V DC (Bias resistance: 2.2 kΩ)				Built-In Waterproof Microphone	
	INPUT 1 / INPUT 2 XLR TERMINALS			INPUT (3-pin jack) (pin1: shield, pin2: hot, pin3: cold), 2 sets, balanced **Sensitivity (MIC):** -60 dBu (Manual volume center, full scale -18 dB)/600 Ω/Att.: 20 dB **Sensitivity (LINE):** +4 dBu (Manual volume center, full scale -18 dB)/1 kΩ or more **Supply Voltage:** 48 V DC (Bias resistance: 6.8 kΩ			
OTHER	OPERATING ENVIRONMENT	**Temperature:** +32°F – +104°F (0°C – +40°C) **Humidity:** 10% – 90% (without condensation)				**Temperature:** +5°F – +104°F (-15°C – +40°C) **Humidity:** 90% or less (without condensation) *Startup temperature: +14°F – +104°F (-10°C – +40°C)*	
	DUST/WATER RESISTANCE					IP65	IP55
	POWER SUPPLY	**PoE:** PoE+ power supply via LAN connector (IEEE802.3at compliant) – PoE cannot be used **External power source:** 24V DC (using included AC adaptor)			**PoE:** PoE++ power supply via LAN connector (IEEE802.3at compliant) – PoE cannot be used **Ext. power source:** 12V DC (4-pin XLR input)	**PoE:** PoE++ power supply via LAN connector (IEEE802.3bt compliant) – PoE and PoE+ cannot be used **External power source:** 12V DC *(use included power cable with DC plug)*	
	POWER CONSUMPTION	**PoE+ Input:** Approx. 13.9W* max (body only) **DC Input:** Approx. 13.3W max. (body only) **Class 4 (25.5 W required) for power supply devices*	**PoE+ Input:** Approx. 16.2W* max. (body only) **DC Input:** Approx. 15.0W max. (body only) **Class 4 (25.5 W required) for power supply devices*	**PoE+ Input:** Approx. 19.6W* max. (body only) **DC Input:** Approx. 18.6W max. (body only) **Class 4 (25.5 W required) for power supply devices*	**PoE++ Input:** Approx. 39.8W* max. (body only) **DC Input:** Approx. 37.7W max. (body only) **Class 5 (40.0 W required) for power supply device*	**PoE++ Input:** Approx. 39.8W* max. (body only) **DC Input:** Approx. 37.7W max. (body only) **Class 5 (40.0 W required) for power supply devices*	DC 10.5 - 15 V, 90W
	QUIETNESS	NC35 or lower		NC30 or lower		NC45 or lower (when operating at 60°/sec)	NC55 or less
	DIMENSIONS (W X H X D)	Approx. 6.06 x 7.01 x 6.46 in. (154 x 178 x 164 mm) *(excluding protrusions)*		Approx. 7.87 x 10.59 x 8.19 in. (200 x 269 x 208 mm) *(excluding protrusions)*		Approx. 8.54 x 12.24 x 8.54 in. (217 x 311 x 217 mm) *(excluding protrusions and connector cover)*	Approx. 13.27 x 15.35 x 15.2 in. (337 x 390 x 386 mm) *(excluding protrusions)*
	WEIGHT	Approx. 4.86 lb. (2.2 kg) (body only)		Approx. 9.04 lb. (4.1 kg) (body only)	Approx. 9.7 lb. (4.4 kg) (body only)	Approx. 15.5 lb. (7 kg) (body only)	Approx. 37.48 lbs. (17.0 kg)
	SUPPORTED CONTROLLERS	**Hardware:** RC-IP100, RC-IP1000 **Software:** Remote Camera Control Application Search Tool					**Hardware:** RC-IP100, RC-IP1000

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