

# INSTRUCTION MANUAL

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Hybrid Camera

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**MODEL**  
**ICD-525S**

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**OUTDOOR USE WARNING**

WARNING – TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.



**Ikegami**

Ikegami Tsushinki Co., Ltd.

Thank you for choosing this Ikegami Hybrid Camera.

Please read this Instruction Manual carefully to keep your Ikegami camera at peak performance for longer service period.

This unit is a cube-type 1 CMOS color camera and making use of a 1/2.9" sensor.

This Ikegami product is made of ECO friendly components based upon the Company policy and corporate social responsibility to contribute towards the Global Environmental Solution for energy conservation and environmental sustainability, all the components used in this product are Non-hazardous, Toxic Free, Non-Lead and conform with Japan's Green Product regulation, EU's RoHS directive and other Environmental and hazardous chemical substances related regulations and laws.

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The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**NOTE:**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

**CAUTION;**

ANY CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PART RESPONSIBLE FOR COMPLIANCE COULD VOID THE USERS AUTHORITY TO OPERATE THE EQUIPMENT.

## Instructions for Disposal of Electrical and Electronic Equipment in Private Households



**Disposal of used Electric and Electronic Equipment  
(Applicable in the European Union and other European countries with  
separated waste disposal and collection methods)**

This symbol on the product, or in the related documents in the package, indicates that this product shall not be treated as normal household waste. Instead, it should be taken to a proper applicable collection point or depot for the recycling of electric and electronic equipment.

By ensuring this product is disposed of correctly, you will help prevent possible negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources.

For more detailed information about recycling of this product, please contact your local city authority, your household waste disposal service or the place where you purchased the product.

## **IMPORTANT SAFETY INSTRUCTIONS**

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with a dry cloth.
- 7) Do not block any of the ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use the attachments/accessories specified by the manufacturer.
- 12) Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.

- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- 15) CAUTION - These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

# **1. *Handling Precautions***

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- Do not expose the internal mechanism of the camera in a water-splashed or highly humid environment.
- Do not use the camera where the ambient temperature drops below -10°C or rises above +50°C. The images and component parts may be adversely affected or the camera may not function correctly.
- Do not open the case of the camera, unless it is absolutely necessary for setup or installation because there are precision electrical and electronic components inside and accident may result.
- Be sure to turn off the power before installing or making connections.
- Be careful not to drop or give a strong shock to the camera while transporting it.
- Do not touch the image sensor
- Do not orientate the camera directly towards the sun.
- Because of the digital image device characteristics, images may look unnatural at high temperatures, this does not mean the camera is faulty.

# **2. *General***

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This color camera is provided with a 1/2.9-inch CMOS sensor. The CCTV camera features wide dynamic range, high sensitivity and high resolution, and is equipped with the color/black-and-white switching, back-light compensation, automatic iris control, line lock and other functions. The unit is best suited for general surveillance.

### **3. *Features***

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(1) Wide Dynamic Range (CVI,TVI,AHD)

The WDR function provides for very effective compensation of high light and dark areas in screen. This situation may occur generally outside or viewing from indoor to outdoor scenes. Even in large light fluctuations, bright-and-dark subjects can be captured and viewed clearly with a natural appearance.

(2) Small-size cube shape

The small-size cube shape of the camera allows it to be most suitable to be installed into various devices such as ATM units.

(3) High-quality picture and high resolution

The camera is designed for smear-free imaging and low noise. The well-designed DSP, Digital Signal Processor, effectively enhances details, which achieves crisp and sharp images with a high signal-to-noise ratio.

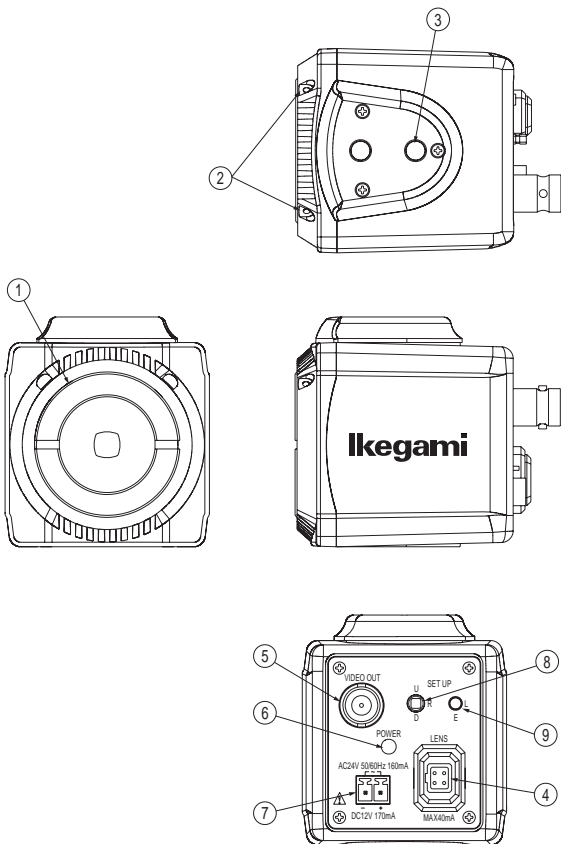
(4) Automatic white balance

Thanks to the automatic follow-up white balance control (ATW), the white balance adjusts itself no matter how great the subject's color temperature fluctuates.

(5) Automatic Sensitivity Control

In conjunction with the wide dynamic control by the multi-sampling system, the camera incorporates the automatic sensitivity control function that always provides adequate and bright images even through its fixed-iris lens.

#### 4. Name of each section and its function





① Lens mount (CS mount)

This is used to mount the lens on the camera. Many types of CS mount lens can be attached.

② Back focus lock screw

After completing the flange back adjustment of the camera, use the supplied Allen wrench to tighten the screw until it is fully fixed.

③ Holder mounting screw holes

These holes are used to install and fix the camera on the camera mounting or bracket. They can be also applicable to general use tripods which have a quarter inch thread.

**Note**

To use these holes to attach the camera on a tripod or other mount, make sure you use suitable size mounting bolts as follows (1/4" -20UNC), they should not be longer than 5.5 mm to avoid an un-stable installation.

④ Auto iris lens connector

Specifically used to connect the auto iris lens.

Applicable connector: E4-191J-100 or equivalent

DC Iris System

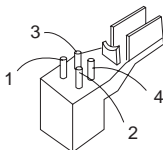
— Connector cable leads —

1. Damping coil (-)
2. Damping coil (+)
3. Driving coil (+)
4. Driving coil (-)



\* Connect the leads as shown above.

Please refer also to the instructions of the lens to be used.



Connector pin assignment

⑤ Video output terminal (VIDEO OUT)

To be used to give out the video signal. Connect this to the video input terminal of a monitor, switcher etc. (To be terminated with 75-ohm impedance.)

⑥ Power indicator (POWER)

The LED indicator stays on in green while the camera power is on.

⑦ DC12V/AC24V power input terminal

Keep the input power at DC10.5-15.0 V or AC24V $\pm$ 10%.

\* This installation should be made by a qualified service person and should conform to all local codes.

⑧ - ⑨ Camera setup function switches

Please refer to the Operation Procedure chapter.

## 5. Operating Procedure

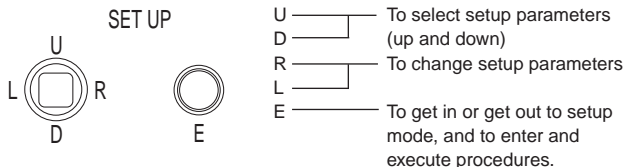
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### 5-1. User Setup

This camera is provided with user setup function for picture quality, and camera ID. The setup menu is a tree type on-screen-display.

When installing the camera it is possible to set up the various functions.

### 5-2. Names and functions of the setup buttons



### 5-3. Setup mode Procedures

Hold down the E button and the setup menu screen at left appears on screen. A highlighted item is now selected.

Use the L/R buttons to change the selection items.

## 5-3-1. MAIN MENU

When the OSD menu is launched, you are presented with the adjacent opening screen.

A menu option followed by a ↵ indicates the presence of a sub-menu.

Options set to OFF will not show a ↵ until set to ON.

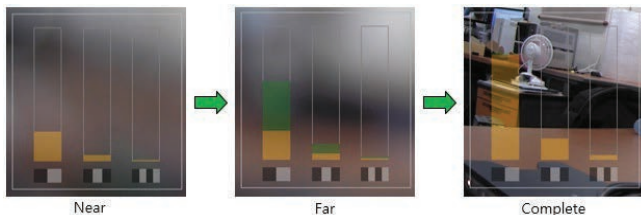
Use RETURN ↵ to the previous menu.

MAIN MENU	
FOCUS ADJUST	OFF
EXPOSURE	↵
BACKLIGHT	OFF
DAY&NIGHT	AUTO
WHITE BAL	↵
DNR	MIDDLE
ADJUST	↵
MOTION	OFF
SYSTEM	↵
EXIT	

### (1) FOCUS ADJUST

FOCUS ADJUST is a function to support focus adjustment.

A focus indicator displayed on the screen can be used to confirm the focus conditions.



- From the Main Menu, turn the Focus ADJ from OFF to ON to create a Focus Adjust Box on the screen's bottom left
- Move the lens to direct towards the object to be focused, and turn the lens focus from near to far until the location from the Focus Assist Box shows a green bar. Next turn the lens focus until the yellow bar has a similar size with the green bar for focus. Your camera should now have a clear crisp image.

## (2)EXPOSURE

It selects Lens Mode, Brightness, Shutter speed, Sens-up and AGC Gain.

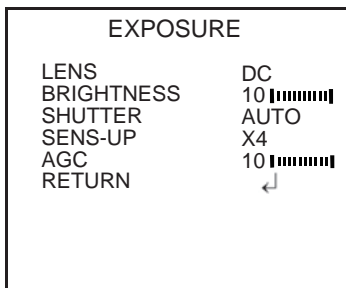
- ① LENS - DC or Manual selection
- ② BRIGHTNESS - Sets the level of the overall
- ③ SHUTTER - Auto, Manual, FLK selection, 1/30~1/30K.

Set this on to reduce the exposure time of each image.

This can be used to reduce blur in images with fastchanging content.

FLK mode Use this when flicker is observed in the image  
underfluorescent lighting

- ④ SENS UP - Slows frame rate and increases low light sensitivity
- ⑤ AGC- Level Control -Used to adjust overall gain



## (3)BACKLIGHT

Setting the backlight compensation and light source correction function are available.

- ① WDR - Used to improve contrast in bright/dark areas  
( NOTE : WDR function is only inactive on CVBS output.)
- ② BLC - Adjust the area to be enhanced and sets the level
- ③ HLC - It is the ability to reverse bright points to black or gray,  
(areas such as headlights, any high luminance areas) this function will improve this function will improve the overall picture.

#### **(4)DAY & NIGHT**

Selecting Day or Night is available.

- ① AUTO - The image is automatically switched between high-quality color image for the day and highly-sensitive monochrome image for the night.
- ② COLOR - Fixes the camera in color mode.
- ③ B/W - Fixes the camera in monochrome mode.
- ④ EXTERN - This mode which forcibly switches the Day/Night mode using an external input.

#### **(5)WHITE BALANCE**

Setting a white balance is available.

① AUTO

The camera automatically samples the image for optimum white balance.

② AUTOext(default)

The camera automatically samples the image for optimum white balance in an exterior environment.

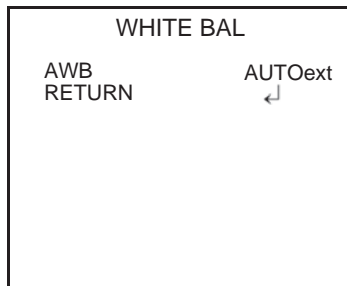
③ PRESET

Allows the white balance to be set automatically and locked. This option is normally used when no white reference is present in the image.

To set the white balance, hold a white object in front of the camera, with light from the source falling on it and press the joystick to set and lock the white balance.

④ MANUAL

This option allows a selection of color temperature, Red and Blue gain to be manually set in the image. Note, using this option requires care to ensure all cameras on one system have the same color response.



## **(6)DNR(Digital Noise Reduction)**

This function is used to improve the picture quality by filtering the noise which is generated under low light conditions.

## **(7)ADJUST**

Color gain, sharpness, gamma, mirror, flip, ace, defog and privacy are available.

### **① COLOR GAIN**

It adjusts the color intensity.

### **② SHARPNESS**

It adjusts the edge intensity of the video.

### **③ GAMMA**

This function is for compensating the saturation and brightness of the images shown on the display.

### **④ MIRROR**

It flips the video vertically.

### **⑤ FLIP**

It flips the video horizontally.

### **⑥ ACE(Adaptive contrast enhancer)**





Preserves fine details, reduces artifacts and loss of local contrast in the image areas of bright/dark.

### **⑦ DEFOG**

Used to help improve the captured image in poor weather conditions such as smog, fog, or smoke. It automatically controls contrast ratio by spatially analyzing the histogram characteristics.

### **⑧ PRIVACY**

The maximum 16 privacy masks can be set.  
Setting mask color, intensity, and size are available.

ADJUST	
COLOR GAIN	15 
SHARPNESS	
GAMMA	0.5
MIRROR	OFF
FLIP	OFF
ACE	OFF
DEFOG	OFF
PRIVACY	
RETURN	

## **(8)MOTION**

This function detects and displays the object in motion.

① DET WINDOWS

Select and set up to 4 motion areas

② SENSITIVITY

Level control

③ TEXT ALARM

Display "Motion Alarm" on Screen

④ SIGNAL OUT - N/A

### MOTION

DET WINDOWS



DET TONE

2

MDDECT FILL

ON

SENSITIVITY

5

MOTION OSD

ON

TEXT ALARM

ON

SIGNAL OUT

OFF

RETURN





## (9)SYSTEM

### ① OUTPUT

CVBS(default), CVI, TVI, AHD Selectable

### ② FRAME RATE

Select from 1080P - 30P or 720P - 30P or 720 - 60P

### ③ FREQ

60Hz or 50Hz can be selected.

### ④ COM

Set com port and speed

### ⑤ IMAGE RANGE

Used to adjust black level in dark scene

### ⑥ COLOR BAR

Vertical flip of image

### ⑦ LANGUAGE

Select from 5 languages(ENG, CHN, CHN(s), JPN, KOR)

### ⑧ CAMERA TITLE

The screen can display 8 characters

### ⑨ RESET

It returns to the factory default

## SYSTEM

OUTPUT	↙
FRAME RATE	1080-30p
FREQ	60Hz
COM	↙
Image range	FULL
COLOR BAR	OFF
LANGUAGE	ENG
CAMERA TITLE	OFF
RESET	ON ↙
RETURN	

## OUTPUT

HD ANALOG	CVBS ↙
RETURN	↙

## ***6. Warranty and after-sale service***

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A warranty accompanies this product. Read and fill out the warranty card that you have received at your dealer. Keep this card in a safe place.

- Please consult Ikegami Electronics (U.S.A.) Inc. or Ikegami Electronics (Europe) GmbH or your dealer for full warranty information. Your dealer will repair or replace free of charge within the warranty period according to the warranty coverage.
- For repairs after the expiration of the warranty period, consult your dealer or sales representative. It will first be judged whether the fault is repairable or not. Charged servicing will then be made upon request of the user.
- Before you ask for servicing, please ensure you read the Instruction Manual. If the unit still fails, take note of the model number, date of purchase, problem, etc. in detail, and inform your dealer or sales representative.
- If you have questions about the after-sale service, contact your dealer or sales representative.

\* We suggest you ask for preventive inspection as soon as possible.

## 7. Specifications

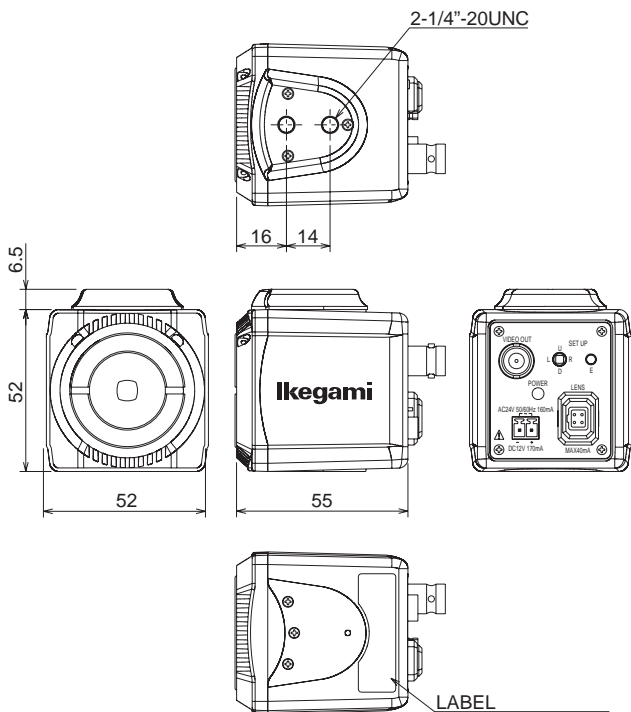
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(1) Image Sensor:	2Mega Pixel Cmos Sensor
(2) HD Resolution:	Full HD (1920 x 1080)
(3) Scanning system:	16:9 Progressive scan
(4) Sync system:	Internal
(5) Video output:	Analog Output-CVBS(default) HD Output-CVI,TVI,AHD(Full HD)
(6) Day/Night switching:	Digital Day/Night
(7) S/N ratio:	Over 52dB(p-p/rms)
(8) Minimum object illumination:	0.08Lx at B/W at Sens up<<off>>
(9) Wide Dynamic Range:	Support (1080p@15fps)
(10) AGC:	ON/OFF(Variable)
(11) Eletronic shutter:	Auto, Manual, Flicker, 1/30,000 sec maxiam
(12) White Balance Control:	AUTOext/AUTO/PRESET/MANUAL
(13) Digital Noise Reduction:	Built-in, On or OFF, Selectable
(14) ACE:	Built-in, On or OFF, Selectable
(15) DEFOG:	Built-in, On or OFF, Selectable
(16) Private Mask Setting:	Built-in, Up to 16 areas
(17) Camera ID:	1 Line, up to 8 characters (alphanumeric)
(18) Motion Detection:	Built-in, On or OFF, Selectable
(19) Operating Temperature and Relative humidity:	-10 to + 50°C RH 30% to 90%(no condensation)
(20) Lens mount:	CS mount (C-mount adapter attachment possible)
(21) Auto iris function:	Compatible with DC iris
(22) Lens flange back adjustment:	Built-in
(23) Power Requirement:	AC 24 V $\pm$ 10%(50/60Hz) DC 12 V (+10.5V ~ +15V)
(24) Power consumption:	2.0W

- (25) Outer dimensions: 52(W)×52(H)×55(D) mm  
(no protrusion included)
- (26) Weight: Approx. 350g
- (27) Input/Output connectors:
- VIDEO OUT BNC
  - LENS 4P(E4-191J-100 or equivalent)
  - DC 12V/AC 24V input;2-pin terminal block
- (28) Supplied accessories:
- Instruction Manual
- Allen wrench (for flange back adjustment)
- Power input connector

\* Specifications and design are subject to change for product improvements without notice.

## 8. External Appearance



SETUP MENU FOR A WHILE	TOP	2ND	3RD
FOCUS ADJUST	ON OFF	FOCUS AREA WIDE NORMAL NARROW MIDDLE	FOCUS MODE AUTO MANUAL
EXPOSURE		ISO VALUE ISO 100 ISO 200 ISO 400 ISO 800 ISO 1600 ISO 3200 ISO 6400 ISO 12800 ISO 25600 ISO 51200 ISO 102400 ISO 204800 ISO 409600 ISO 819200 ISO 1638400 ISO 3276800 ISO 6553600 ISO 13107200 ISO 26214400 ISO 52428800 ISO 104857600 ISO 209715200 ISO 419430400 ISO 838860800 ISO 1677721600 ISO 3355443200 ISO 6710886400 ISO 13421772800 ISO 26843545600 ISO 53687091200 ISO 107374182400 ISO 214748364800 ISO 429496729600 ISO 858993459200 ISO 1717986918400 ISO 3435973836800 ISO 6871947673600 ISO 13743895347200 ISO 27487790694400 ISO 54975581388800 ISO 109951162777600 ISO 219902325555200 ISO 439804651110400 ISO 879609302220800 ISO 1759218604441600 ISO 3518437208883200 ISO 7036874417766400 ISO 14073748835532800 ISO 28147497671065600 ISO 56294995342131200 ISO 112589990684262400 ISO 225179981368524800 ISO 450359962737049600 ISO 900719925474099200 ISO 1801439850948198400 ISO 3602879701896396800 ISO 7205759403792793600 ISO 14411518807585587200 ISO 28823037615171174400 ISO 57646075230342348800 ISO 115292150460684697600 ISO 230584300921369395200 ISO 461168601842738790400 ISO 922337203685477580800 ISO 1844674407370955161600 ISO 3689348814741910323200 ISO 7378697629483820646400 ISO 14757395258967641292800 ISO 29514790517935282585600 ISO 59029581035870565171200 ISO 118059162071741130342400 ISO 236118324143482260684800 ISO 472236648286964521369600 ISO 944473296573929042739200 ISO 1888946593147858085478400 ISO 3777893186295716170956800 ISO 7555786372591432341913600 ISO 15111572745182864683827200 ISO 30223145490365729367654400 ISO 60446290980731458735308800 ISO 1208925819614629174710630400 ISO 2417851639229258349421260800 ISO 4835703278458516698842521600 ISO 9671406556917033397685043200 ISO 1934281311383406679537100800 ISO 3868562622766813359074201600 ISO 7737125245533626718148403200 ISO 15474250491067253436296806400 ISO 30948500982134506872593612800 ISO 61897001964269013745187225600 ISO 123794003928538027490374451200 ISO 247588007857076054980748902400 ISO 495176015714152109961497804800 ISO 990352031428304219922995609600 ISO 1980704062856608439455991219200 ISO 3961408125713216878911982438400 ISO 7922816251426433757823964876800 ISO 15845632502852867515647929753600 ISO 31691265005705735031295859507200 ISO 63382530011411470062591719014400 ISO 126765060022822940125183438028800 ISO 253530120045645880250366876057600 ISO 507060240091291760500733752115200 ISO 1014120480182583521001467504230400 ISO 2028240960365167042002935008460800 ISO 4056481920730334084005870016921600 ISO 81129638414606681680011740033843200 ISO 16225927682921336360023480067686400 ISO 32451855365842672720046960135372800 ISO 64903710731685345440093920270745600 ISO 129807421463370690880187840541491200 ISO 259614842926741381760375681089982400 ISO 519229685853482763520751362179964800 ISO 1038459371706965527041502724359897600 ISO 2076918743413931054083005448719795200 ISO 4153837486827862108166010897439590400 ISO 8307674973655724216332021794879180800 ISO 16615349947311448432664043589758361600 ISO 33230699894622896865328087179516723200 ISO 66461399789245793730656174359033446400 ISO 13292279957849158746131234878066892800 ISO 26584559915698317492262469756133785600 ISO 53169119831396634984524939512267571200 ISO 106338239662793269969049879024535142400 ISO 212676479325586539938099758049070284800 ISO 425352958651173079876199516098140569600 ISO 850705917302346159752399032196281139200 ISO 1701411834604692315504798064392562278400 ISO 3402823669209384631009596128785124556800 ISO 6805647338418769262019192257570249113600 ISO 136112946768375385240383845151404982227200 ISO 272225893536750770480767690302809964444800 ISO 544451787073501540961535380605619928889600 ISO 1088903574147003081923070761211239957779200 ISO 2177807148294006163846141522422479915554400 ISO 43556142965880123276922830448449598311108800 ISO 87112285931760246553845660896899196622217600 ISO 174224571863520491107691321793983933244435200 ISO 348449143727040982215382643587967866488870400 ISO 696898287454081964430765287175935732977740800 ISO 1393796574908163928861530574351871459555481600 ISO 2787593149816327857723061148703742911111632000 ISO 557	



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