Wireless/Wired Network Camera

Night Vision & Remote Operation

User Manual

Thank you for buying our IP camera.

This Series Products are designed and equipped for network video surveillance system, including wired IP bullet camera, wireless IP bullet camera, IP IR dome camera, IP IR waterproof camera etc. We adopt high performance chip to ensure high quality media processor which processes audio and video collection, compression and transmission. Standard MJPEG compression format ensures clear and streaming video performance. It enables users to view via IE browser, centre management software client software;

AJ series products are applicable for big, medium-sized and small enterprises, chain store, factory, home and all kinds of spots where remote network video transmission and control supposed to be installed, They are easy to install and operate. Before the installation of the IP camera, please check if your product accessories in the package are complete

Product Components and Features:

IP camera	1 PC
Bracket (optional)	
Power adapter	1 PC
Warranty card	1 PC
CD	1 PC

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General Introduction

IP Camera is a new generation product with the combination of analog camera & IP video technology. Despite all functions which analog cameras have, IP camera can compress and encrypt video and audio signal then send it to remote terminals through internet with its built-in processor and web server. With its IP address, users can use standard PC IE browser to visit IP camera, real time monitor targets, manage and store video or image, PTZ control also is available through network.

As a new member in camera family, IP camera shares the same operation function with the analog camera, such as, auto white balance, auto shutter speed, AGC, auto backlight compensation etc. On the other hand, IP camera supports remote access through internet, and support multi-user visit, some IP cameras are able to extend to both analog and digital signal.

The core of AJ series IP cameras is 32Bit RSIC, adopts standard MJPEG compression format, camera sensor is CMOS, support auto white balance and backlight balance, support IE, cell phone browser, centralized monitor interface management. In general, according to the function of audio simplex & duplex, infrared, wired, wireless, POE, PZT, local storage, it has hundreds of products, to meet requirements of high, middle, low ranks of users.

1.1. Product Specifications

*- Adopt high Performance, strong function media processor 32Bit RSIC

*- High sensor CMOS

*-Adopt optimized MJPEG video compression algorithm, realize high-definition images transmission in narrow bandwidth;

*-Maximum support 15 users viewing at the same time, no limit for users if using Forwarder

Server function;

*- Built in Web Server, it is convenient for users to use standard browse to realize the real time monitoring and setting administration;

*-Support WIFI: 802. 11b/g wireless networking;

*-Support remote system update;

*-Support DDNS analysis, support LAN & Internet (ADSL, Cable Modem)

*-Support variety of network protocol: TCP/IP, UDP, SMTP, PPPoE, Dynamic DNS,

DNS Client, SNTP, BOOTP, DHCP, FTP, SNMP, WIFI/802. 11b/g

*-Parts of modes products support one/ two way audio talkback;

*-Support Motion Detection alarm function (set area & sensitivity);

*-Support image snap

*-Abnormal automatic recovery function, if Network Interruption can auto connection

*-Dynamic alarm function, set alarm period.

1.2. Applications

The series products usually are ideal for big department, supermarket, home, factory, workshop etc.



1.3. System Requirements

Minimum Hardware Configuration CPU: Pentium 1.6 GHz

Memory: 256MB Audio card: need audio monitor, two way talkback essential Hard Disk : if it need video image , no less favorable than 40G Operation System: 32 bit simple/ English Windows2000、WindowsXP、 Windows2003、Windows Vista & 64 bit simple Chinese/English Windows2003、 Windows XP、Windows Vista etc. Software environment IE 5.0 or above version DirectX8.0 or above version TCP / IP network protocol

2. Interface & Installation

There are two kinds of AJ series IP camera interfaces: one is body guard interface, the other is the extend line interface, set two representative products as examples, to give explanation:

*Non-extended line IP Camera icon

*Extended line IP Camera icon





2.1. Interface

*Non-extended line IP Camera Tailgate



Power Supply Light: constant on after power up Network light: constant sparkle after power up data transmission. Ethernet interface: RJ-45 interface. I/O interface: 1 router alarm input, accept 3, 4 two terminals (input terminal grounding, low level effective trigger); 1 router TTL control input, connect 1,2 two terminals (1,2 terminals short connections). Power input interface: connect direct current 5V Power

*Extension line interface definition icon:



Power: direct current 12V.

Reset line: two reset line short circuit, equipments restore to ex- factory standards. Ethernet interface: RJ-45 network interface.

2.2. Installation

IP camera process image transmission on network through the use of Internet Technology, it offers DDNS function for static IP, dynamic IP, PPPoE dialing users. IP Camera can connect to outer net through LAN, also connect directly.3 networking connecting ways are widely applied in IP Camera:

2.2.1. Installation in LAN.

This is the most popular network access way, as long as there is a router, internet cable connect router directly to IP Camera, IP Camera can connect to Internet as normal PC, as shows:



2.2.2. PPPoE Installation

Under the condition, users need set PPPoE dialing parameter on IP Camera: input the username and password ISP supplier' offer permit IP Camera dialing connects to Internet. As to set the PPPoE dialing parameter, you can connect device to network through the first way, then write parameter to the device, also through following third way, direct process parameter written to device. The way how to set PPPoE, please refer to 3.4.5.for detailed steps

2.2.3. IP Camera & PC connection

This method is not used too often, when you process machine write parameter or program shift, we recommend you adopt the first connect network way, to process the modification of machine parameter.



connect to IP camera (note: don't apply for wrong power), after one minute modification of IP camera, video could be connected by internet cable to IP camera; under the normal condition, yellow light is on, green light flickers, now physical connection of IP camera finish at this time (in order to connect successfully, we advise to set camera IP as the stable IP at the same net range of PC in LAN, how to set, please refer to 8 frequent questions answer).

3. IE Browse to IP Camera

After IP camera connects to PC LAN through router, you can operate on IP camera via PC, first please run the relative software in the CD kit

3.1. Use Search tool Software

Open the disk and run the CD (Attached with the IP camera), then appear the following information:



💢 Search Tool			
Current Computer-		Equipment Information	n
Network Card:	Atheros AR8132 PCI-E F. 💌	General Others	
IP:	192.168.1.213		
Sub Mask:	255.255.255.0	Name:	
Gateway:	192.168.1.1	HTTP Port:	99 🔿
Primary DNS:	216.146.35.35		
Secondary DNS:	216.146.36.36	IP :	192.168.1.99
	Update	Sub Mask:	255.255.255.0
Equipments		Gateway:	192.168.1.1
Mode Name	IP I		Custom Auto
AJ AJ	192.168.1.81 192.168.1.99	Primary DNS:	192.168.1.1
AJ ipcam	192.168.1.248	Secondary DNS:	
		Inner access:	http://192.168.1.99:99 Open
Count:3	Export	Outer access:	Check Open
			Eind Apply Close

Figure 3.2

If network cable and power supply are correctly connected, device type, name and IP address will be shown in the Equipments list (Otherwise, please confirm whether power supply and network cable work normally).

In the interface above, the configuration information of the current computer is listed on the left side; and the network configuration information of the selected device is listed on the right side. Default IP address of the IP camera is 192.168.1.99, and HTTP port is 99.

Note: The IP address and the HTTP Port of the IP camera can be changed to as your wanted..

Inner Access refers to the LAN access address; Outer Access refers the WAN access address.



Tips: Port forwarding setting is necessary for outer access, please refer to 'Port forwarding Settings 'in 4.1 section.



3.2. Logging and Active X installation

 Open the Web page. You can open it directly by first clicking the Inner Access or Outer Access on Finder and then clicking Open; and you can also directly input the corresponding address of the inner and outer access into the address bar of the web page, as the address shown in the picture above http://addn.ipcam.hk (WAN)
If the IP camera has been connected with the outer network when you are browsing it, the log-in interface as below will appear when you open the web page through LAN or outer work. :

Before IE monitoring through web, it is necessary to install the IP Camera player:



installation mode as below:

CCX Setup

Open disk, find that icon. Double click the icon, process installation. Click the next step until finished.

There are two way to logging IP camera

1. Open it directly by first clicking the **Inner Access** or **Outer Access** on **Finder** and then clicking **Open**; and you can also directly input the corresponding address of the inner and outer access into the address bar of the web page, as the address shown in the picture above http://192.168.1.99:99 (LAN); and http://demo.88safe.com:99 (WAN) (Figure 3.2)

2. If the IP camera has been connected with the outer network when you are browsing it, the log-in interface as below will appear when you open the web page through LAN or outer work.

🕘 De	Device(IPCAM) - Microsoft Internet Explorer							
Eile	<u>E</u> dit	<u>V</u> iew	F <u>a</u> vorites	<u>T</u> ools	<u>H</u> elp			
0	Back	• 🕤) - 🗙	2 📢		Search	☆ Favorites	Ø
Address http://192.168.1.99:99								
Figure3.3								

When the item connects to outer networking, a log-in interface will appear. For example: Figure 3.4

🗿 htt	p://192.168.	1.99:99/index1	l.htm - Micro	söft Internet	Explore		
File	Edit View F	avorites Tools	Help				
()	Back • 🔘	🖹 🗟 ổ	Search	Ravorite	s 🧭	8-	24
Addres	s 🕘 http://192	.168.1.99:99/inde×	:1.htm				
Co	nnect to 192.	168.1.99		? 🛛			
f	7		E.				
ipo	camera_0EF2B3D	C1D97					
<u>U</u> s	er name:	🙎 admin		~			
Ba	issword:	Remember m	y password				
		OK	Can	cel			

Figure 3.4 enter log in information, click OK to enter, an installation pop-up will appear: e.g. Figure 3.4

English Spanish Der	utsch French Italian 简体中文
	ActiveX Mode (For IE Browser)
	Sign in
	Server Push Mode (For FireFox, Google Browser)
	Sign in
	Snap Motion Mode (For CellPhone Browser)
	Sign in
	attention:
	propose using 1024 * 768 screen resolution

Figure3.5

Select the needed language, and the way you want to visit. Click Sign in. after installation Active X you can use it. If it is blocked and requires plug-in installation by antivirus software, please remove block.

Note :

1. Default device account is **admin**, no password.

<complex-block>

3.3. Main Operation Interface

For example: If the 1^{10} is a bright, indicating the device is the first way to monitor the status.

When you log on the operator interface, you can perform PTZ and video parameters

Direction control: Click the arrows in different directions can be the lens to the appropriate direction of rotation

■ Vertical cruise ► Level cruise

1. Image mirror indicates a reverse image.

2. Resolution, mode, brightness, contrast default setting are : 320*240、50HZ、

6, 4, mode is mainly for the adjustment of Light strength, please adjust to 60HZ when light is poor or in dark.

3. There are 3 browse modes in IE mode: visitor, operator, administrator, the authority

of administrator is the highest, log in different authorities, the operation will be different. Regarding to 3 user authorities, please refer to 3.4.4. Equipment User Administration.

If you want to see 4-way,or 9-way, you can click the icon of of the icon of th

OSD: In the video display date and time. You can disable the OSD function or choose the color of OSD.

Snapshot Photo: Click the icon interception photo.

Video: Click icon to enter the recording mode, the icon becomes , again, click the end of the recording.

3.4. Manager Operation

When you logged on as Administrator, click on "Administrator action" to enter setting interface. Device Information: You can see the device serial number, equipment systems and device firmware version of the application firmware version of the.

Alias setting : You can set your favorite device aliases.

Date&Time set : seting the date and time.

Uer settings : Can be set up to 8 users. On this page you can set up accounts of the user name, password, as well as in their packet (administrator, operator, visitor).

- Visitor : In this mode, you can only visit.
- **Operator**: You can set the direction of the lens device, set the video screen's brightness, contrast and other parameter.
- Administrator : You can set the device advanced configuration.

UPnP set :If you want internet access IPCAM, to ensure that the state is successful UPnP.

Device Firmware Upgrade: The system firmware update the device firmware and application of

Restore factory settings : When there is not a response when the error occurred, you can restore the factory settings to resolve the device.

I rebooted the device : I rebooted the device.

Back: Return to monitor mode

3.4.1 Multi-Device Settings

• Add a local area network equipment

In the multi-device configuration page, you can see all the equipment inside the LAN. The first device is the default device. You can add more devices listed in the list of equipment. Embedded applications, up to 4 devices at the same time-line. Click the "second road equipment" and double-click "Current list of devices in the LAN" in the device entry name, host address, Http port will automatically be filled, require the user to fill in the correct account name and

password, click "Add." Repeat this process you can continue to add devices. Finally do not forget to click on the "Settings" button.

		Device Info
	Multi-Device Settings	Alias Settings
Device List in Lan	IPCAM(192,168,1.66) IPCAM(192,168,1.99) anonymous(192,168,1.188)	Date&Time Settings Users Settings Multi-Device Settings
	Refresh	Basic Network Settings Wireless Lan Settings
The 1st Device	This Device	ADSL Settings
The 2nd Device	None	UPnP Settings
Alias	IPCAM	DDNS Service Settings
Host	192.168.1.66	Mail Service Settings Ftp Service Settings
Http Port	66	Alarm Service Settings
User	admin	PTZ Settings
Password		Decoder Settings
	Add Remove	Upgrade Device Firmware Backup & Restore Settings
The 3rd Device	None	Restore Factory Settings
The 4th Device	None	Reboot Device
The 5th Device	None	Log
The 6th Device	None	Back

Figure3.7

• Add a device on the internet

First, make sure you want to add devices to access via IP address or domain name. For example:http://202.96.133.134: 9008 or http://IPcam.dyndns.org:9008. And then fill in host address: 202.96.133.134 **HttpPort**: 9008 or host address: IPcam.dyndns.org **Http port**: 9008. and fill in the correct account name and password to the last click on "Add." Repeat the above steps can add other devices



Figure 3.8

3.4.2 Basic Network Settings

	Basic Network Settings	Device Info Alias Settings
Obtain IP from DHCP Server		Date&Time Settings
IP Addr	192.168.1.99	Users Settings
Subnet Mask	255.255.255.0	Multi-Device Settings
Gateway	192.168.1.1	Basic Network Settings Wireless Lan Settings
DNS Server	192.168.1.1	ADSL Settings
Http Port	99	UPnP Settings
	Submit Refresh	DDNS Service Settings
		Mail Service Settings Fm Service Settings

Figure3.9

This sector is for DHCP and IP configuration , port forwarding is needed, If you choose to set IP address , please fill in the relative IP address , subnet mask, gateway,

DNS server, Http port;

3.4.3 Wireless Setting

First make sure that your wireless router is working well. Then click the

Scan button. After you click twice. The camera will find out the Wireless LAN automatically. Then select the Wireless LAN you wanted. Then the Wireless LAN's information will showing. Finally input the Wireless password and submit.

	Wireless Lan Setting	js -	Alias Settings
	Date&Time Settings		
			Users Settings
Wireless Network List			Multi-Device Settings
	(mar)		Basic Network Settings
	Scan		Wireless Lan Settings
Using Wireless Lan			ADSL Settings
SSID	admin		UPnP Settings
Network Type	Infra 💌		DDNS Service Settings
			Mail Service Settings
Encryption	WEP	~	Ftp Service Settings
Authetication	Open System 💌		Alarm Service Settings
Key Format	Hexadecimal Num	ber 💙	PTZ Settings
Default TX Key	1 🗸		Decoder Settings
and a second		64 bits 💌	Upgrade Device Firmware
Key 1			Backup & Restore Settings
Key 2		64 bits 👻	Restore Factory Settings
Key 3		64 bits 💌	Reboot Device
Key 4		64 bits 👻	Log
	Submit Refresh		Back

Figure3.10

3.4.4 ADSL Setting

When your device directly connected to the Internet via ADSL, when you need to enter fill in your ISP service providers obtain from the account name and password. Duly completed and click "Settings" button. Your device can connect to the internet has.

		Device Info
	Alias Settings	
Using ADSL Dialup		Date&Time Settings
ADSL User		Users Settings
ADSL Password		Multi-Device Settings
		Basic Network Settings
	Submit Refresh	Wireless Lan Settings
		ADSL Settings
		UPnP Settings
		DDNS Service Settings

Figure3.11

3.4.5 Dynamic DNS Setting(DDNS)

ם	Device Info Alias Settings		
DDNS Service	88safe.com(dyndns) 🗸		Date&Time Settings
DDNS User	xha8		Users Settings
DDNS Password			Multi-Device Settings
DDNS Host	/vipddns/upgengxin.asp		Basic Network Settings Wireless Lan Settings
DDNS or Proxy Server	www.88safe.com		ADSL Settings
DDNS or Proxy Port	8009		UPnP Settings
Re-Update Ignoring All Errors		ur hostname has been unblocked	DDNS Service Settings
	· · · ·		Mail Service Settings
proxy config is needed if the device is in China Mainland or HongKong Submit Refresh			Ftp Service Settings Alarm Service Settings

Figure3.12

All the above information is set up when the device is ready to deliver; users generally do not need to change. In case of any accidental loss, user needs to re-obtain the domain name, and fill it himself, juts do as the above, the user's name is just the first four characters, and this is for remote access. For example, http://abcd.viipcam.com the user's name is abcd. The password is DDNS. (The password can be obtained on the device body or contact the supplier). When connected, it displays "xxxxx is OK" on Device Info; it means that it was successfully set. If you need to use your own Dynamic DNS, please select the appropriate service providers (on DDNS service) then enter the following information, then save it;.

3.4.6 E-mail and FTP service Settings

	Mail Service Settings	Device into
	Alias Settings	
Sender		Date&Time Settings
Receiver 1		Users Settings
Receiver 2		Multi-Device Settings
Receiver 2		Basic Network Settings
Receiver 3		Wireless Lan Settings
Receiver 4		ADSL Settings
SMTP Server		UPnP Settings
C) (TD Dent	00	DDNS Service Settings
SMTP Port	25	Mail Service Settings
Need Authentication		Ftp Service Settings
	Test Please set at first, and then test.	Alarm Service Settings
Report Internet IP by Mail		
Submit Refresh		Decoder Settings
		Upgrade Device Firmware
		Destan & Destan Setting

Figure3.13

The above setting is a preparation for the alarm function, the sender should be entered the sender's email address, recipient 1, 2, 3, 4 is filled with recipient E-mail address; SMTP server should be filled with the sender email SMTP server, e.g. the sender email address is abc@163.com, and enter mail.163.com. Generally SMTP port is 25, do no need to change; when needs to check, just tick it, and enter SMTP user and SMTP password, both of them are provided by Email provider, and test according to reference; when needs to send, please tick Email notification Internet IP address; The e-mail server and other information can be obtained from the mail service provider the email notification is image captured when alarming if no email notification is needed when alarming, and then no need to enter.

	Ftp Service Settings	Derice mit
	Alias Settings	
FTP Server		Date&Time Settings
FTP Port	21	Users Settings
FTP User		Multi-Device Settings
r IP User		Basic Network Settings
FTP Password		Wireless Lan Settings
FTP Upload Folder		ADSL Settings
FTP Mode	PORT V	UPnP Settings
		DDNS Service Settings
	Test Please set at first, and then test.	Mail Service Settings
Upload Image Now		Ftp Service Settings
	Alarm Service Settings	
	Figure3.14	

Set up FTP service, you can fill in parameters like following:

The above setting is equally similar to Mail Server Settings, when alarming is triggered it also sends image, please enter FTP server, FTP port, FTP user, FTP password, FTP upload directory, FTP mode, FTP mode has two options: PORT and POSV. If needs a quick upload image, then select it, edit upload image interval (second)

3.4.7 Alarm Service Settings

As shown below, there are two modes of alarm trigger, first one is motion detection, pleas refer to below interface, the sensitivity of motion detection can be adjusted according to the users requirement, the higher the number is, the lower sensitivity is; Another mode is input alarm, when connected, it triggers alarm through alarm input signal which connects to linkage alarm GPIO;

When triggered, there are 3 alarm modes : one is IO alarm linkage, camera connects with linkage alarm box through GPIO, sound the siren ; the second is email notification, send email with images captured ; the last is upload pictures alarm , as the way mentioned before FTP upload pictures alarm, Upload pictures interval (second)

keeps consistent with the mentioned upload pictures interval of Ftp service settings. The schedule refers to arming time, as the selected time interval : 0:00 minute per week to 0:45 minutes and Monday 1:00 hour and 2:00 hour

		Device into
4	larm Service Settings	Alias Settings
Motion Detect Armed		Date&Time Settings
Motion Detect Sensibility	2 🗸	Users Settings
Alarm Input Armed		Multi-Device Settings
mann inpor mineo		Basic Network Settings
Triger Level	High 🖌	Wireless Lan Settings
IO Linkage on Alarm		ADSL Settings
Output Level	Low V	UPnP Settings
Send Mail on Alarm		DDNS Service Settings
Send Mail on Alarm		Mail Service Settings
Upload Image on Alarm		Ftp Service Settings
Upload Interval (Seconds)	0	Alarm Service Settings
Scheduler		PTZ Settings
	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	Decoder Settings
Sun	, , , , , , , , , , , , , , , , , , , ,	Upgrade Device Firmware
Mon		Backup & Restore Settings
Tue		Restore Factory Settings
Wed		Reboot Device
Thu Fri		Log
Sat		Back
	Submit Refresh	
\		

Figure3.15

3.4.8 Reset/Firm Ware Upgrade

This sector is for camera firmware upgrade, it includes device system firmware Upgrade Device Firmware and device application firmware Upgrade Device Embedded Web UI Be cautious to apply for it!

Upgrade Device Firmware				
Upgrade Device Firmware	Browse Submit			
Upgrade Device Embeded Web UI	Browse Submit			

Figure3.16

3.4.9 Restore Factory Settings

When users forget password, we can restore ex-factory settings, when click, a picture will pop up, Click ok, and wait for 1 minute and you can use it normally. User setting feature restores



3.4.10 Reboot Equipment

Click restart, it appears the above picture, click ok, wait for 1 minute and you can use it normally



4. Others

4.1 Port Forwarding Settings in router

When a remote access via internet visit, port forwarding in router is a must, different brands routes have different name, but the operation is the same. Take the TP-LINK TD-8840 router port mapping setting as example. To set up IP Camera as an example: router inner web IP is 192.168.1.1, IP camera inner web

address is 192.168.1.50, and port is 80.

1. First log in router web administration interface.

2. Click in front of left side "Advanced Setup

TP-LINK				
TD-8840	Device Info		2 L 2 E	
	Board ID:	96338	L-2M-8M	
Device Info	Software Version: 9 06L.03-T1 0a-071030.A2p8			3021c.d17m
Advanced Setup Diagnostics	Bootbader (GFE) Version: 1.0.37-6.5			
Management	This referention reflects the o	urrent s	tabls of your DSL connection	I+
	Line Rate - Upstream (Kbp	Line Rate - Upstream (Kbps): 448		
	Line Rate - Downstream (Line Rate - Downstream (Kbps): 6752		
	112 22 4 11		100.400.41	

3. Click "virtual server" in the unfolded menu.

DEVECTOR	1					
Advanced Setup					Add	(inclusion)
WAN					400	POET
LAN]	1				and it
NAT]	Server Name	External Port Start	External Port End	Protocol	Inte
Virtual Servers	1					
Port Triggering						
DM2 Host						
Security						
Routing						
DNS						
091.]	2				
Diagnostics]					
Management	1					

4. fill "80" under the right **port start** or **port end**, **Server IP address** fill "192.168.1.50", protocol select "TCP/UDP"OR" " TCP ", finally don't forget click under ""save/apply"

- 1. DLINK ex-factory definition router address is 192.168.0.1
- 2. Linksys ex-factory definition router address is 192.168.1.1
- 3. 3com ex-factory definition router address is 192.168.2.1
- 4. Microsoft ex-factory definition router address is 192.168.2.1
- 5. Net gear ex-factory definition router address is 192.168.1.1
- 6. Asus ex-factory definition router address is 192.168.1.1

4.2 Warranty

Under normal use condition, products resulting from its own failures in the

warranty period will be free maintenance. Warranty Terms as following:

a) Charge-free maintenance of the product is one year. We can repair it for free during the guarantee period (Damages not caused by misuse or vandalism). Repair over guarantee period, we will charge maintenance fee.

b) During guarantee period, breakdown caused by misuse or other reasons out of range of warranty. You could ask repair depend on the card. We only charge for changed components, the maintenance charge is free.

c) When the products need maintenance, hand up the card with products to the manufacture or local distributor.

d) Take apart item crust, tear up the sealing label privately, this is out of warranty range.

e) We do not accept the damaged item due to modification or add other functions.

The Following Circumstances will not be free warranty

a) Period check, maintenance or change components due to normal attrition.

b) The damages due to crash, extrusion, artificial flooding, moisture or other personal reasons.

c) The damages due to floods, fire, lightning strike and other natural calamities or force majeure incidents factors

d) Repaired item by non-authorized repair centers.

All above terms, if changed, regarded to relevant regulations.

THAT'S ALL, THANK YOU!