User's Manual

Model No.: CCD-420

WIRELESS 2.5" COLOR TFT LCD MONITORING SYSETEM

- Portable 2.5" Color TFT LCD with Receiver
- Wireless Color Camera

PLEASE READ CAREFULLY AND SAVE

This manual contains important information about this product's operation. If you are installing this product for use by others you must leave this manual -or a copy- with the end user.

Important!

Please read this booklet carefully before installing or using these units.

WARNING- These units should ONLY be opened by an authorized technician if service is required.

Safety Precautions

For correct and safe operation of this system, it is essential that installers, end-users and service technicians should follow all safety procedures outlined in this manual. Specific Warning and Caution statements (and/or symbols) are marked on the units where needed.

Warning and Caution Statements

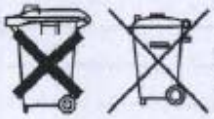
"WARNING" indicates a situation where failure to follow proper procedures can cause personal injury.

"CAUTION" indicates a situation where failure to follow proper procedures can cause damage to the equipment.

Disposal

If the camera system no longer functions respectively can no longer be repaired, it must be disposed of according to the valid statutory regulations.

Disposal of spent batteries / accumulators



You are required by law **(Battery Ordinance)**to return all spent batteries and accumulators. **Disposing of spent batteries/accumulators in the household waste is prohibited!** Batteries / accumulators that contain hazardous substances are marked with the symbols on the side. These symbols indicate that it is prohibited to dispose of these batteries/ accumulators in the household waste. The abbreviations for the respective heavy metal are: **Cd**= cadmium,**Hg**= mercury, **Pb**= lead. You can return spent batteries respectively accumulators that can no longer be charged free of charge to the collection points in your community, our outlets or everywhere else where batteries or accumulators are sold.

You thus fulfill the legal requirements and contribute to the protection of our environment!

Troubleshooting

With this camera system, you have purchased a product that reflects the latest state of technology and is safe to operate.Still there might be problems or malfunctions. At this point, we want to tell you how to easily remedy possible malfunctions yourself.

Observe the safety notices under all circumstances!

Error	Possible cause
No image and no sound	• Camera or monitor are not supplied with electricity. • Is the power pack plugged in correctly or are the batteries empty? •The distance between the camera and receiver is too large. • The same channels are not set on the camera and the receiver
The image/sound is. distorted	• The range of the system was exceeded. Reduce the distance. • There is a strong interference source (e.g. electric engine, walkie-talkie, etc.) nearby. • The distance between the camera and the receiver is too short; this may over steer the receiver.Enlarge the distance. • The supply voltage is too low (change batteries or power pack operation)
Flickering/running image	• Strong spotlight in the cover range of the camera. • Adjust the vertical hold.
Normal sound, image is too light or dark.	• The monitoring range of the camera is not lit properly. • Surveillance monitor is adjusted wrongly (readjust contrast and brightness). • Strong spotlight in the cover range of the camera.
White image only on the monitor.	• The supply voltage is too low (change batteries or power pack operation) • The surveillance monitor is not correctly adjusted (brightness controller).

Other repairs as described above may only be performed by an authorised workshop.

Model No.: CCD-420

Wireless 2.5" Color TFT LCD Monitoring System

Contents

Safety and Hazard Notices

Damages caused by non-compliance with this operating manual lead to the expiration of the warranty! We will not assume any liability for subsequent damages! We will not assume any liability for damages to items or persons caused by improper handling or non-compliance with the safety notices! Any warranty claim will be null and void in such cas

- This product has left the factory in perfectly safety condition. In order to maintain this s and ensure safety operation, the user has to observe the safety notices and warnings ("Attention!" and "Notice!") contained in this operating manual.

Technical Data

	Camera	Receiver
Operating voltage	7.5 V DC(plug-in power unit) Battery operation 2 x AA Alkaline	7.5 V DC (plug-in power unit) Battery operation 4 x AAA Alkaline
Current consumption	200 mA	600 mA
Transmitting frequency	2.4-Ghz	2.4-Ghz
Modulation	FM	
Channels	3	3
Light sensitivity	0 Lux	
Video output level		1 Vp-p / 75 Ohm
Audio output level, mono		1 Vp-p / 600Ohm
Audio/Video Connection jacks		3.5 mm jack->cinch
Picture sensor	1/3" CMOS colour 628x562 pixel (PAL) or 510x492 (NTSC)	2.5" TFT
Resolution	330 TV lines (horizontal),	480x234
Microphone	mono	
Picture	Color	
Range	100 m / 300 ft (Line of sight)	
Operating temperature	14 to 122°F/ -10°C to +50°C	
Mass approx. (without tripod)	157g	160g
Dimensions without Aerial	75 x 33 x 122 (mm) L x W x H	75 x 33 x 130 (mm) L x W x H

Plug-in power units

Operating voltage	110~240V / 60 or 50Hz	110~240V / 60 or 50Hz
Output voltage	7.5V DC / 300mA	7.5V DC / 800mA

Maintenance

The devices are maintenance-free, so never open them. The guarantee becomes void when you open the appliance.Only clean the outside of the devices with a soft, dry cloth or a brush. Prior to cleaning, remove the devices from all voltage sources.

Do not use any carboxylic cleaning agents or petrol, alcohol or similar. These attack the surfaces of the devices. Besides, the vapors are hazardous to your health and explosive. Do not use any sharp edged tools, screw drivers, metal brushes or similar for cleaning.

following symbols need to be observed:

= An exclamation mark in a triangle indicates important notices in these operating instructions that must be observed under all circumstances.

= A lightning symbol warns of electric shock or the impairment of the appliance's electric safety.

may only use a (110V~240 Volt / 50 Hz or 60 Hz), socket of the public supply net for the supply e power packs. Never attempt to operate the appliances with a different voltage.

e sure that all electric connections and connection cables between the devices of the camera em as well as the devices to be connected meet the pertaining regulations and are in conformity the operating instructions.

mmercial institutions, make sure you observe the accidental prevention regulations of the mercial trade organisation for electric installations.

chools, training facilities, hobby and self-help workshops, qualified personnel needs to supervise peration of electronic devices.

observe the safety notices and operating instructions of the other appliances connected to the em.

se contact an expert in case you have any doubts about the mode of operation, the safety or ecting the appliances.

ot operate the devices unsupervised.

n opening the covers or removing parts except where possible by hand, you may expose live s. Connections may also be live. Prior to aligning, cleaning,service or repair work or exchanging s or modules, you must separate the appliances from all power sources if you need to open them. an expert familiar with the risks and the pertinent regulations may repair or maintain an open appliance.

er plug-in or unplug the power packs with wet hands.

er tug on the power chords of the power packs, use the plug to unplug it from the wall socket.

ys unplug the power packs from the wall outlet during thunder storms.

e sure that the power cables do not get squashed or damaged by sharp edges when installing devices.

er replace damaged power cables yourself! In such a case, remove them from the net and take devices to a workshop.

Connecting the camera

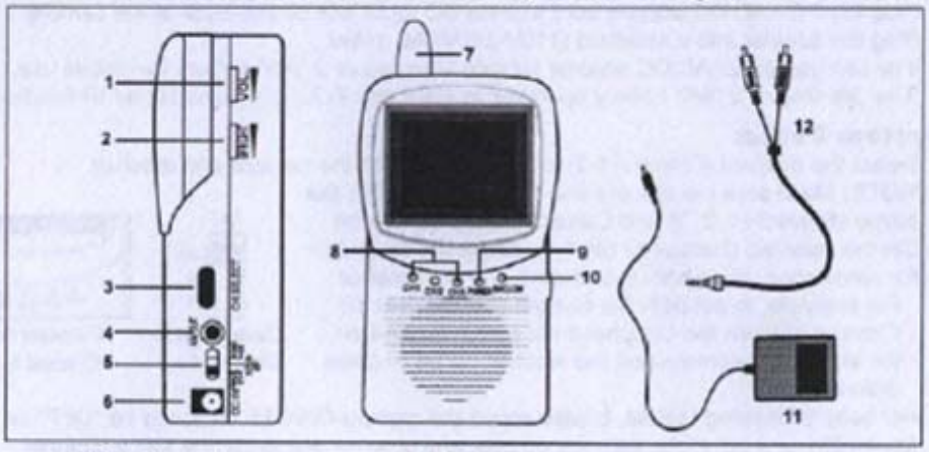
Connect the small voltage plug of the power unit to the voltage supply jack of the camera. Pay attention to the correct output voltage of 7.5V DC!

- Insert the plug-in power unit into a suitable mains socket.
- The camera is now ready for use.
- Adjust the image definition via the knurled screw at the lens. While doing this do not touch the camera lens at its front.

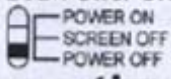
Installing the Receiver

the monitor approx. 1 m above ground (better receiving conditions). There must be one power outlet in proximity to the receiving site.

ATTENTION!
Only place the monitor on rugged and stable surfaces. Sensitive surfaces or surfaces that dissolve softeners may become damaged. Use a suitable underlay.

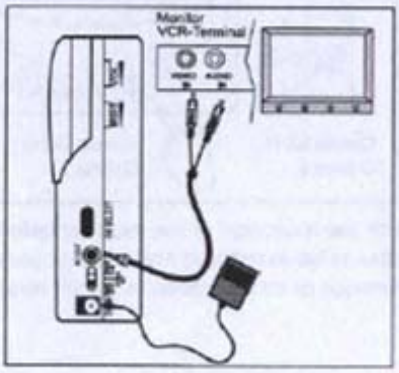


1 VOL. Control
2 Brightness Control
3 CH Select
4 A/V Output
5 LCD Power ON/OFF



6 DC Power
7 Antenna
8 Channel LED
9 Power LED
10 BAT.LOW LED
11 Power adaptor plug with low voltage switch
12 A/V Cable

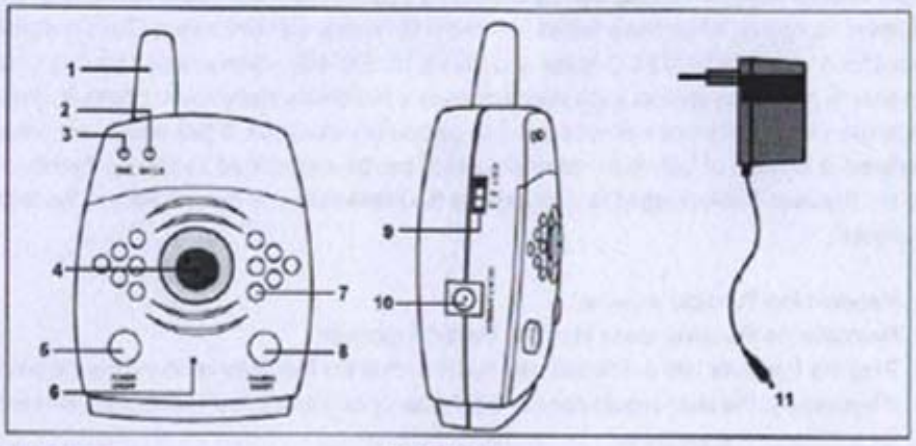
Connecting the receiver



- Connect the AV cable as depicted to a suitable monitor or TV system with an AV cinch input and the receiver (white/red plug = audio (tone in mono), yellow plug = video).
- Connect the small voltage plug of the power unit to the voltage supply jack of the receiver. Pay attention to the correct output voltage of 7.5V DC!
- Insert the plug-in power unit into a suitable main socket.
- The receiver is now ready for use.

nstalling the Camera

ATTENTION!
Prior to drilling and inserting the screws, make sure that there are no electric cables pipes, etc. in the wall that may become damaged.



1 Antenna
2 Low battery indicator
3 Power indicator
4 Eye ball camera lens
5 Power ON/OFF switch
6 Microphone
7 IR LED
8 Camera ON/OFF switch (camera Kit/baby monitor)
9 Channel switch
10 DC Power
11 Power adaptor plug with low voltage switch

nstalling and Connecting the Devices

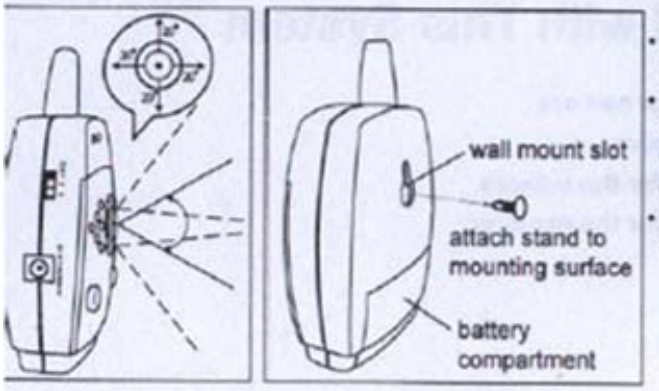
lect a suitable installation site from which you want to monitor the desired object. A suitable tallation site has the following features:

lry
• as dust-free as possible
• little vibrations
ood air circulation
• with a wall outlet in close vicinity

Select an installation site that is not screened off by reinforced concrete walls, mirrors, metal shelves, etc. Close to the sender respectively receiver,there should not be any appliances with strong electric fields, e.g. cell phones, walkie-talkies, electric engines, etc.

he above points could severely impair radio transmission respectively reduce the range.

astening the wall bracket



- Look for a suitable place for mounting (with a socket close-by)
- Screw the wall bracket with the supplied screws to a suitable wall or a suitable platform, use dowels if relevant.
- Align the camera and screw the corrugated plastic sleeve tight.

System Installation

When installing the camera, check the reception of the monitor before final installation. Have someone hold the camera in the area to be monitored. Have another person move the monitor to a variety of locations throughout the house to check reception. If interference or other problems occur, refer to the Troubleshooting Guide.

Wireless 2.5" Color TFT LCD Monitoring Sysetem
To install the system, follow these steps:

Monitor:

1. Plug the 7.5V AC/DC adapter cord into the DC Input Jack on the side of the monitor.
2. Plug the adapter into a standard (110V-240V) AC outlet. Press the power button to turn on the monitor.
3. A/V outputs on the LCD monitor can be connected to the A/V input on a TV set for a large screen display, or to the A/V inputs on a VCR for recording.
4. You can use either AC/DC adapter for long time use or 4 "AAA" battery for mobile use. The life time of 4 "AAA" battery operation is 45 minutes.

Camera:

1. Plug the 7.5V AC/DC adapter cord into the DC input jack on the back of the camera.
2. Plug the adapter into a standard (110V-240V) AC outlet.
3. You can use either AC/DC adapter for long time use or 2 "AA" battery for mobile use. The life time of 2 "AA" battery operation is 1.5hr w/o IR function and 1hr w/ IR function.

System Setup:

1. Select the channel (Channel 1-3) to be used on both the camera and receiver. **NOTE:** Make sure the camera and receiver are set to **the same channel** (1, 2, 3) and Camera should be turn on.
2. Set the selected channel by gently pushing the dip-switch for same channel on both the camera and the receiver. For example, to set both the camera and receiver on Channel 1: Push the Channel 1 dip-switch located on the side of the camera and the receiver to be in same channel.

Camera Set to Channel 1

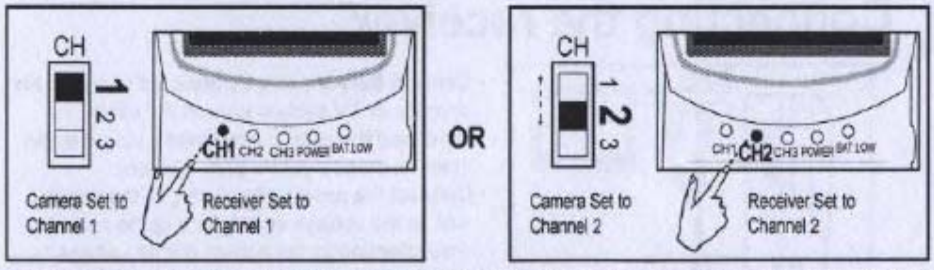
Receiver Set to Channel 1

3. For baby monitoring feature, please select the camera ON/OFF switch to be "OFF" on the transmitter unit but make sure the camera and receiver are set to the same channel.

If more than one camera is to be installed and operated at the same time:

For example, to operate two cameras: set Camera 1 to Channel 1, set Camera 2 to Channel 2 , and on the receiver, set channels 1 or 2 to ON.

For more than one camera operation, one image(CH1 or CH2) is showed at a time without auto scanning feature. See "Camera and Receiver Setting Chart" below for detail.



Additional Notice- When installing the camera, check the reception of the receiver before final installation. Have someone hold the camera in the area to be monitored and another person to check the reception with your TV or monitor. If interference or other problems occur, refer to the Troubleshooting Guide.

FCC/CE WARNING

This equipment generates and uses radio frequency energy and if not installed and used prope that is, in strict accordance with the manufacture's instructions, may cause interference to radio television reception. It has been tested and found to comply with limits for a Class B digital devi accordance with Part 15 of FCC Rules and CE I-ETS 300 440, which are designed to provide reasonable protection against such interference in a residential installation. However, there is n guarantee that interference will not occur in a particular installation. If this equipment does caus interference to radio or television reception, which can be determined by turning the equipment and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient the TV/radio antenna.
2. Relocate the Receiver away from the TV/radio receiver.
3. Plug the Receiver into a different wall outlet so that the Receiver is on a different branch ci
4. If necessary, the user should consult the dealer or an experienced radio/television technici for additional suggestions.

The user may find the following booklet prepared by the Federal Communication Commission h "How to Identify and Resolve TV Interference Problems." This booklet is available from the US Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00345-4.

FCC/CE NOTICE

The user is cautioned that changes or modifications not expressly approved by the manufactur could void the user's authority to operate the equipment. Linear radio controls provide a reliable communications link and fill an important need in portable wireless signaling. However, there a some limitations which must be observed. The radios are required to comply with FCC Rules a Regulations as Part 15 devices and CE I-ETS 300 440. As such, they have limited transmitter power and therefore limited range. A receiver cannot respond to more than one transmitted sig at a time and may be blocked by radio signals that occur on or near their operating frequencies Changes or modifications to the device may void FCC and CE compliance. Infrequently used ra links should be tested regularly to protect against undetected interference or fault.

Parts Included with This System

1. **2.4 GHz Wireless color camera**
2. **2.4 GHz Wireless receiver**
3. **7.5V AC/DC Adaptor for the camera**
4. **7.5V AC/DC Adaptor for the receiver**
5. **A/V Cable**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.