

Features

Video & Audio Transmission

Range* 100mtrs ext. / 30mtrs int.

Robust Construction

License Exempt 1-ETS-300-440

12v D.C 50mA operation

Can be connected to a rechargeable battery

4 Channel Selectable

* Range can be affected by the environment.



The CCT191 wireless micro video and audio transmitter will work with any video and audio equipment that has a 1V p-p (peak to peak) PAL output. This useful device enables camera pictures and audio to be transmitted covertly to a suitable receiver on the 2.4 GHz frequency. This is compatible with the CCT193 and CCT195 receivers. This transmitter is for internal use but can be housed in a weatherproof container for external use. Hide a pinhole board camera in a clock, radio, portable television, etc., connect the CCT191 transmitter and a suitable power supply or rechargeable battery, and you have a portable covert camera that you can take anywhere.

This transmitter transmits on the following transmission frequencies : 2.412 GHz, 2.432 GHz, 2.450Gz and 2.470GHz.

Connections.

This unit has a terminal connector.

+ connect 12v D.C. power

- connect 0v D.C. power

V connect video

A connect audio

Note that the screen from the video and audio should be connected to the -0v power connection



Powering the Units.

This transmitter requires a 12v DC 50mA regulated power supply. A suitable PSU is the POW100 or the BAT500 rechargeable battery.

Changing the Transmitting and Receiving Channels

The transmitter and receiver are fitted with four selectable transmission channels. These need to be set to the same in both the transmitter and receiver. This transmitter has a four position channel slider switch. Move the switch to the far left to select channel 1. On the receiver the matching channel is set by a dipswitch. Ensure that you only select the same channel on the receiver

1 Transmitter and 2 or more Receivers

It is possible to use one transmitter and have 2 or more receivers. For example, you may use this type of configuration to transmit the camera signal from an entrance porch to say two different locations so either location can keep an eye on the entrance porch. In this configuration you will need to set both the transmitter and the two receivers all to the same channel number. The best way to achieve good results is to use directional Yagi antennas on the receivers, part number AER400.

2+ Transmitters and 2+ Receivers

It is possible to simultaneously transmit two separate camera pictures at the same time by using two transmitters and two receivers. In this instance you are effectively creating a "wirefree" camera installation. Please remember that there is no such thing as a totally wirefree installation as you will still need to power your camera and transmitter but this is often easier to do locally than running all the cables out for a total wired job!

TIP1 – When using more than one transmitter on the same site try to keep the transmitters a reasonable distance apart. What is a reasonable distance? The further the better; as the transmitters share a very narrow transmission bandwidth you do not want a TX on one channel affecting the picture of another TX on a different channel. Try and keep transmitters at least 5 meters apart as it helps get the best results.

TIP2 – When using two or more transmitters on a site, always try to use the directional Yagi antennas on the receivers as they will "pull-in" signals from only one direction (that of the Tx you want) and minimize cross interference from a TX on another channel.

Obtaining the best picture quality.

When using this transmitter indoors, the construction of the building will attenuate the signal and will therefore affect the picture quality. Buildings with lots of steelwork or foil backed plasterboard may attenuate the signal more than simple brick and studwork. The transmission frequency of the devices is in the 2.4GHz band. If you are installing the device in any commercial (possibly residential) property or environment; check that no other devices are transmitting on the same frequency that may affect the performance of the CCT191. Devices that may be on this frequency to check for are wire free computer networks, wirefree computer keyboards & mice and transmitted telecomm and commuter links from one building to another (usually with a parabolic type aerial). Generally if you are obtaining poor pictures you need to qualify the reason why, by using a logical method of deduction. You must remember that objects in the path of the transmitter and receiver will attenuate the signal and reduce the effective range and picture quality. To get the best results try and follow our general tips section and use the Yagi aerials.

General Tips

When using this transmitter lines of sight will always achieve the best results. A line of sight means the transmitter and receiver can visibly see each other without any obstructions. Whatever is in the way of the line of sight between the two units will attenuate the signal. A building, people, hills or a mound of earth for example will reduce the overall range at which a good picture quality is attainable. Transmitting over water can also reduce the range, as the signal won't bounce off the water but be absorbed by it. As the units are easy to move, using a 12v battery, camera and monitor, it is quite easy to test the actual distance and quality before your actual installation.

You can often get good or near lines of sight, by taking your power and video signals to the ends of facing buildings using cables and then transmit between the two buildings (rather than through them) using the TX & RX.

If you are going to put the units in external enclosures make sure the enclosures are the plastic/ABS type, as these will allow the radiated signal to pass through them. Better still, put the transmitter and receiver in the box and put a Yagi aerial outside the box. Whatever you do, you must not put the receiving or transmitting aerial in a metallic box as this will adversely affect the products and their performance. This also means that you must not put either device in a metallic CCTV housing.

The transmitter operates at quite a high frequency (Ghz) and such signals can be attenuated by water so in heavy rain, or even possibly dense fog, the range of the units may be shortened.

Mount the units at a reasonable height. If you mount both unit at over 2.5 meters indoors the people walking around will not get in the line of sight of the two units and attenuate the signal. Similarly when using the units externally, mount them above the height of any passing cars and lorries, which would drastically attenuate the signal.

Please Note – The camera requires a power supply as per the cameras instructions.

Do not – paint or attach metallic stickers to the transmitter.

Do not – touch or hold the transmitter aerial when it is powered up.

As per the R&TTE Directive (99/5/EC) the video TX part No. CCT191 has been declared license exempt to 1-ETS-300-440 when it is used as per these instructions. Modifications to the transmitter or receiver are not permitted.

Accessories

Yagi antenna. Order code AER400

This is a directional aerial that helps the receiver "pull-in" signals from the transmitter. The Yagi aerial is supplied with a free wall-mounting bracket.

Troubleshooting

What happens if the units don't work? Rule 1 is always re-read the instructions as it's quite possible you have missed something simple but vitally important to the correct operation of the device. Don't go against the instructions; if they recommend a certain way of wiring something or a particular cable or PSU use it. If after re-reading the instructions, you still don't get the desired results, look through the following section and try to break the problem down logically and work out which bits are working correctly and which bits are not.

Symptom - No picture on the monitor screen.

The first thing you need to know is that the camera is producing a picture, never take this for granted. By taking the monitor (or test monitor) to the camera you should get a good picture. Only when you have **proven** that the camera is producing a **good** picture is it worth looking at other equipment in your installation.

Symptom - Poor picture on the monitor screen.

Similar to the above, the first thing you need to know is that the camera is producing a good picture, never take this for granted. By taking the monitor (or test monitor) to the camera you should get a good picture. Only when you have **proven** that the camera is producing a **good** picture is it worth looking at other equipment in your installation.

Symptom - I know the camera is giving a good picture but I still cannot get anything on the monitor.

If you are absolutely sure that the camera is feeding a good picture into the transmitter but you are still not getting a picture on your monitor via the receiver, there are several possibilities to look at;

- a- Video TX and/or RX not connected correctly. Make sure that you have connected up everything, as it should be. Remember that a video circuit needs video & ground.
- b- PSUs are not suitably rated. Both the TX & RX need 12V D.C. The receiver needs 400ma. If your PSU is not adequately rated, the unit may be dragging the PSU down and reducing the voltage or even damaging the PSU. You will need to check the output voltage of your PSU with the TX and RX connected. Don't check the voltage without a load connected, as this reading is meaningless.
- c- Make sure you are not using a burglar alarm PSU. These give out a voltage of 13.8V, which is too high for the TX & RX (and camera!!) this will overheat the units and invalidate the guarantee.
- d- Is it a distance problem? Are you trying to get too much out of the product? The working environment does affect how well the CCT191 performs. As they operate microwave frequencies their signal is attenuated by obstacles in its path, from people to buildings so careful planning is needed. Don't install them in or near, metal objects, or water.

Symptom - I know the camera is giving a good picture but I get a weak/poor picture on the monitor.

If you get a picture on your monitor but not a very good one it could still be that you have not wired the units correctly or you have overloaded the PSU (check voltage ON LOAD). A typical mistake people often make is a bad connection on the video or earth connection. A black & white "zebra" type fault is often the result of getting the video and ground connection the wrong way around.

Symptom - I get a picture but it's very weak I think I have a distance problem

If you think everything is connected correctly and you get a picture but a very weak or grainy one you may have a distance problem. The first thing you need to do is to try moving the TX /RX aerial to see if this improves the picture quality. If this does improve the picture but not enough you may have to consider relocating the TX & RX so they are in their optimum line of sight configuration. Steel work and foil-backed plaster board can both cause poor transmission results and this would mean that you have to carefully plan the system to minimize their effect by positioning the TX and RX outside the problem area. One obvious and easy additional help to improving a weak signal is the addition of the Yagi aerial; this makes the receiver far more directional and does help improve poor results. As a last resort with any fault finding make sure you connect the TX and RX up with a camera and a monitor on your work bench or kitchen table, if you get them to work a few meters apart try slowly increasing the distance and fine tuning the aerial position. As you get to know the product it will greatly assist you for any onsite installation snags.