

## HD-TVI, ADDING SOUND TO INCREASE SECURITY

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The human ear is one of mankind's most powerful tools. We rely heavily on the use of our ears for our day-to-day living. Yet in the average CCTV security installation this audio information is not available to security personnel responsible for the safety and security of the facility. Having this audio information will speed the reaction time of security personnel, possibly saving lives and property.

Adding audio to any CCTV or HD-TVI video camera installation increases the security level of the facility. Security personnel will be alerted to danger in the observed area even if the danger is out of sight of the CCTV camera as it is with our own ears and eyes. Personnel will be alerted to security issues without having to observe them visually. A camera can only look in one direction at a time, but audio is omni-directional and picks up its sound information from all directions inside the security zone.

One example is an audio installation inside a parking garage. A person's cry for help, the sound of an auto collision, or breaking glass would be noticed above the normal background sounds of the garage. The human mind can easily pick out a sound that is not normal and doesn't belong from all the other sounds in the garage.

The main problem with the installation of audio is the wiring process. Laying twisted pair wires along side the video cable is time consuming and labor intensive and for no most HD-TVI cameras are not equipped with a microphone or any way to return the audio to the monitor. For retrofit installations the problem is complicated by having to trace the old video cables through the building and pull more wire into existing conduit or through walls and ceilings. This makes it hard to estimate the labor required to do the job.

If an incident involving people occurs it is best to be able to hear the voices and talk exchanged between those involved so the authorities can better determine how to handle the situation. For police departments and temporary incarceration "Drunk Tanks and holding cells it is a good idea to be able to hear if a person is getting sick or trying to hurt themselves in the cell. Employing both audio and video observation covers this requirement.

The new HD-TVI high definition cameras can be combined with the CCT/CCR-1 CAMERA COM system to provide audio along with the video for maximum security in your camera surveillance system. Most video recorders provide an input audio connector to record the audio if you desire to do so. This will allow for playback of the audio with the video when an incident has to be reviewed.

These modules will transmit audio in excess of 2500 feet on RG-59-U cable even if the camera is out of order or the lens is capped. This technology is a new application for CCTV and HD-TVI but is a well proven audio transmission system used in the microwave and satellite industry. The audio signal is carried on the coax cable by an RF signal whose frequency is higher than the video signal so that no interference to the picture can occur. This carrier is Frequency Modulated by the audio signal from the microphone. The sounds that are received by the microphone are electronically processed with automatic gain control so that all sounds can be heard equally well, whether they be shouts or foot steps.

Any existing CCTV or HD-TVI system may be retro-fitted with audio surveillance simply by connecting a CCT-1 Transmitter module to the camera with a short RG-59-U patch cord, connecting the coax camera cable to the CCT-1 module, and wiring the same 24VAC powering the camera to the Transmit module. At the Monitoring location, connect the CCR-1 Receiving module in the coaxial line feeding the CCTV monitor, connect 24VAC power, and then listen with the Earphones or connect an RCA type patch cord to an Amplified Speaker or the audio connector on the CCTV recorder or monitor.



For further information see our website at: [WWW.FMSYSTEMS-INC.COM](http://WWW.FMSYSTEMS-INC.COM)  
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