ATU-8 / ARU478

ALARM SUPER HIGHWAY

INSTRUCTION BOOK

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ARU478.ISB

DESCRIPTION

These devices transmit and receive alarm and control signals encoded on video in coaxial cable or microwave. You can insert your alarm and control signals anywhere a video signal is being used including optical lazar transmission. Alarm and control signals may be carried over any distance by the video signal. The system provides video when no video is present to maintain alarm continuity.

The ATU-8 <u>ALARM</u> <u>TRANSMITTING</u> <u>UNIT</u> and the ARU478 <u>ALARM</u> <u>RECEIVING</u> <u>UNIT</u> together make up an 8 channel alarm and control <u>Superhighway</u> which can provide up to 160 alarm and control channels on any one video signal. The alarm and control signals are inserted into the Vertical Interval of the video signal so that they will not interfere with the picture. When the video signal is recorded, the alarm and control information in also recorded and can be recalled at play-back. Alarm and control signals will be correlated with the video events.

Each pair of ATU-8 / ARU478 will transmit 8 alarms. Twenty sets of units may be connected to any one video channel, allowing 160 alarms to be transmitted on one coaxial cable.

A system alarm will operate upon loss of power to either terminal or loss of transmission path (coax cut). In the event of power failure the video through-put is not interrupted. An internal video sync generator takes over and maintains continuous alarm system operation in the event of video signal failure.

Contact closures to the ATU-8 input will be repeated as contact closures at the ARU478 output.

The ATU-8 is housed in a black ABS enclosure that has a UL flame rating of 94-VO and is powered by any 24VAC power transformers. The ARU478 is a rack mount slide in card that fits into the RMS400 Mainframe and power supply. Nine cards will fit into the RMS400 and it is powered by dual redundant 24 VAC power supply modules. The ATU-8 has provisions for battery back-up and an LED power indicator light to help installation.

MOUNTING INSTRUCTIONS

The rugged one piece mounting structure allows you to mount the ATU-8 firmly in place with two screws. Select a place to mount the unit away from harsh or wet environments, indoors is recommended. The ATU-8 should be located near your originating signals and the ARU478 near your alarm panel or the place you wish to repeat the signals. Select a position that gives you the best access to cable the system and one which reduces the labor in installation.

HOW TO CABLE THE ATU-8

Connect the video cable you wish to use to the "VIDEO IN" BNC connector and connect the cable going to the ARU478 to the "VIDEO OUT" BNC connector. It is not necessary for power to be on at this time, the video path will only be interrupted during the cable attachment. If no video source is being used be sure to terminate the "VIDEO IN" with a 75 ohm termination. The video must either be connected to a video camera or be terminated with a 75 Ohm termination. Next attach the alarm or control wires for each station to the green connector block marked A through H. Each pair of screw terminals marked A through H are LOOP inputs. Attach your contact closures to these screw terminals.

HOW TO CABLE THE ARU478

Connect the video cable you are using to the "VIDEO INPUT" BNC on the ARU478 and the "VIDEO OUTPUT" BNC goes to the monitor, recorder or other video equipment. **BE SURE TO TERMINATE THE END OF THE VIDEO CABLE WITH A 75 OHM TERMINATION OR PROPERLY TERMINATED INTO OTHER EQUIPMENT.** Next attach the alarm or control wires for each station to the green connector block marked A through H. These wire can go to your alarm panel or control device. Each pair of screw terminals marked A through H are relay contact closures. The outputs from connector block A through H will duplicate the signals from the ATU-8 inputs. A contact closure at A of the ATU-8 will result in a contact closure at A of the ARU478 and so on.

POWER SUPPLY INSTALLATION

The ATU-8 is powered by a 24 VAC wall mount power transformer. Connect the 24 VAC power transformer to the Green terminal block marked AC 24V. At this time you will see the Green LED turn on to indicated power up, it will be on or be flashing on and off, depending on the video status. A 24VDC power source can also be used if necessary. The ARU478 is powered by the RMS400 Mainframe (see power connection for RMS400).

BATTERY BACK-UP OPERATION

In high security installations it is advisable to connect battery back-up. Use a lead acid or gel-cell battery and connect the wires to the green connector block marked +/- BATT. Be careful to observe the battery polarity. After installation of battery back-up the ATU-8 will operate during a power outage. During a black-out or even a brown-out the power for the ATU-8 will automatically transfer to battery and then back again to the AC power when power returns.

SET-UP OF THE ATU-8 AND ARU478

Both units can operate on 20 separate channels. The units are shipped on the standard channel 1. If you wish to use the units on a different channel or wish to operate more than one unit on the same video signal, then it is necessary to program the new channel. Programming the new channel is done with Jumper Jacks on the inside of the box. Open the box by removing the 4 screws in the outer most corners of the box. Lift up the lid and look for the Black selection jumpers, there are 5 of them near the selection table printed on the PC Board. Select the channel you wish to operate on and arrange the jumpers to select that channel. You must select the same channel for both ATU-8 and ARU478 so they will work together. As many as 20 ATU-8 and ARU478 units can be used on the same video signal by programming them to different channels. When the ARU478 is on the same channel as an ATU-8 with the power applied the Green PWR LED on the ARU478 will stop flashing and stay on. This indicates that data is being received.

OPERATION

When the units have been installed and are operating you will see that when a contact on the ATU-8 is closed and relay in the ARU478 closes. Through the video\data path the alarm sense is relayed to the alarm panel or other equipment directly.
If there is a power failure (and no battery back-up) the video path is not obstructed by the ATU-8. If the power fails on the ARU478 then a system alarm (supervision alarm) will open a contact marked SYSTEM ALARM. If a power failure or system failure occurs all contacts on the ARU478 with go open and the system alarm contact will go open.

CARE AND MAINTENANCE

There is no routine maintenance or calibration required with this equipment. There are no controls to adjust inside the box. Open the box if necessary only to choose the desired operating channel.

APPLICATIONS (WHERE TO USE THE SYSTEM)

This system can be used anywhere that a video signal or coax cable exists. Some uses are in a CCTV camera installation, LASER OPTICAL transmission, STL microwave applications, Broadcast TV transmissions, Cable TV, Alarm and Control and many others.