



PRODUCT SPECIFICATION

MODEL: V1902VCT

PRODUCT CODES: REFER TO TABLE 1

DESCRIPTION: VICOAX® TRANSMITTER FOR A COAXIAL CONTROL SYSTEM

- Fixed speed pan, tilt, and autopan
- Adjustable speed zoom, iris, and focus
- Manual and autoiris operation
- Preset position operation
- Up to three auxiliary functions
- Control contention lockout
- Failed camera and receiver warnings
- Compatible with V1961VCR and V1311RB receivers



The V1902VCT is an extremely versatile control transmitter that offers basic pan, tilt, and autopan functions. For autopan operation, the V1902VCT may be set up for use with conventional mechanical limit stops or with electronic limit stops. Automatic video gain compensation (AGC) provides long-distance operation without the use of a bidirectional amplifier.

Lens controls include zoom, iris, focus, and autoiris, with adjustable lens response speed. Iris operation may be controlled automatically or manually.

NOTE: The availability of some features depends on the receiver model used with the transmitter. All receivers offer basic remote pan, tilt, zoom, focus, and iris operation. Refer to Table 2 for a list of other receiver functions.

NOTES	SPEC NO.	REV.	SEC.
SUPERSEDES PRODUCT SPECIFICATION 735-594	735	1299	10



V1902VCT VICOAX TRANSMITTER

Preset position programming allows a particular combination of pan, tilt, zoom, and focus settings to be recalled instantly with only two keystrokes. Up to four preset combinations can be programmed for each camera station. (Preset operation requires that the receiver, pan-and-tilt drive, and lens be appropriately equipped.)

Three latching auxiliary (AUX) switches are provided. These allow remote control of various devices, such as window wipers on housings, remotely operated lens extenders, electric gate locks, lighting devices, etc. The AUX relay in the receiver acts like a remotely operated ON/OFF switch. Refer to Table 2 for the availability of preset, alarm, and auxiliary functions on the various receiver models.

TABLE 1
MODELS AND PRODUCT CODES

Model Number	Product Code	Description
V1902VCT	3296-10	120 V, 60 Hz input
V1902VCT-230	3296-11	230 V, 50 Hz input

CONTRACTORS' SPECIFICATION

TRANSMITTER FOR A COAXIAL CONTROL SYSTEM

The transmitter shall control camera station equipment by transmitting digital control signals over the same coaxial cable that is used to transmit the video signal from the camera. The transmitter shall send encoded signals to a receiver located at the camera station. The transmitter shall have the following control features: (1) fixed speed operation; (2) adjustable-speed zoom, focus, and iris control; (3) manual or autoiris control; (4) auxiliary remote relay operation; (5) preset-position operation of pan-and-tilt drive and motorized lens; (6) failed camera and failed receiver warnings; (7) control contention lockout; (8) automatic video compensation (AGC). It shall allow operation of more than one control function simultaneously. The transmitter shall interface with 24 VAC or 120 VAC pan-and-tilt drives and standard motorized zoom lenses by means of a control receiver. Power consumption shall not exceed 10 W. The transmitter dimensions shall not exceed 3.5 in. (8.9 cm) height, 6.4 in. (16.3 cm) width, 10.9 in. (27.7 cm) depth. The weight of the unit shall not exceed 4.4 lb (2.0 kg).

The control transmitter shall be Vicon Model V1902VCT.

Product specifications subject to change without notice.
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COAXIAL CABLE RECOMMENDATIONS



CAUTION: Careful selection of the proper cable is essential to obtain the best performance from this equipment. Vicon assumes no responsibility for poor performance when cables other than those recommended are installed. In all cases, coaxial cable impedance should be 75 ohms.

Materials

Use only cable with a pure copper center conductor. Do not use cable with either a copper-plated steel or an aluminum center conductor because these do not transfer signals effectively in the frequency range used in CCTV networks. A center conductor with low DC resistance is required for effective CCTV operation.

Solid-core bare copper conductor is best suited to video applications, except where flexing occurs. If the coaxial cable will be subjected to flexing during normal use, select a cable with a stranded center conductor.

The preferred dielectric material is cellular (foam) polyethylene. It has better electrical characteristics than solid polyethylene, but is more vulnerable to moisture. Therefore, use only solid polyethylene dielectric cable with a heavy exterior insulation in applications subject to moisture.

The shield must be copper braid providing 95% or better coverage.

Installation Tips

Do not stretch cable or subject it to sharp bends.

Keep the cable out of contact with hot pipes or any other heat source. Even if there is not enough heat to cause obvious damage to the cable, transmission characteristics will be affected.

In locations where the cable must be continuously flexed (for example, with scanners or pan-and-tilt drives), use cable intended for such movement. This cable will have stranded wire center conductor.

Use only crimp-type BNC connectors.

Cable Types and Operating Distances

The most commonly used cable types are RG-59/U and RG-11/U. Each is actually a family of cables with widely varying electrical characteristics, some of which are not suitable for CCTV applications.

The maximum camera-to-unit distance for the three most common cables is listed in Table A. The characteristics of the cables in this table should be used as a guideline when cables other than Belden are used. Materials and construction must follow the guidelines above. Table B gives some equivalent cable numbers of manufacturers. Vicon recommends the following coaxial cable types, unless otherwise specified elsewhere.

**TABLE A
RECOMMENDED CABLES**

Cable Type	Belden Type No.	Alpha Type No.	West Penn Type No.	Type Center Conductor	Type Shield and % Coverage	Maximum Distance for Best Picture
RG-59/U	8281	9803	815	20 Solid BC	2 TC braids (96%)	5000 ft (1500 m)
	9259	—	816	22 Stranded BC	BC braid (95%)	5000 ft (1500 m)
	9659	—	—	22 Stranded BC	BC braid (95%)	5000 ft (1500 m)

¹BC=bare copper, ²TC = tinned copper

**TABLE B
DC RESISTANCE (OHMS) PER 1000 FEET
OF EQUIVALENT CABLES**

Cable Type	Belden Type No.	DCR ohms/1000 ft (km)	Alpha Type No.	DCR ohms/1000 ft (km)	West Penn Type No.	DCR ohms/1000 ft (km)
RG-11/U	8213	2.6 (8.5)	9847	2.6 (8.5)	811, 4811	2.6 (8.5)
RG-6/U	9248	7.5 (24.6)	9804C	7.5 (24.6)	806, 4806	7.5 (24.6)
RG-59/U	8281	9.9 (32.5)	9803	9.9 (32.5)	815	9.9 (32.5)
	9259	15.0 (49)	—	—	816	15.0 (49)
	9659	15.0 (49)	—	—	—	—

The V1902VCT transmitter announces a failed camera or a failed or missing receiver by flashing LEDs on the front panel.

The V1902VCT transmitter may be used with the V1961VCR and V1311RB series of receivers. The V1961VCR is a dedicated Vicoax receiver intended only for use with Vicoax transmitters. The V1311RB and receiver may be used with Vicoax transmitters if it is equipped with a Vicoax interface board, V1311R-VI-1.

An important characteristic of the Vicoax system is its ability to accommodate different system configurations. The following configurations are possible:

Number of Transmitters	Number of Receivers	Notes
One	One	—
One	Multiple	Requires V1404L
Multiple	One	—
Multiple	Multiple	Requires V1404L

**TABLE 2
RECEIVER FUNCTIONS**

Receiver Model	Autoiris	Preset Operation*	AUX Relays	Variable Speed P/T
V1961VCR	No	No	3	No
V1311RB	Yes	Yes	1	No

*The motorized zoom lens and the pan-and-tilt drive must also be equipped with the preset-position option.

In systems with multiple receivers, one or more V1404L manual switchers are used to allow the operator to select various receivers. In systems with multiple transmitters, a control contention lockout feature allows an operator to seize control of the system and prevents commands from other transmitters from interfering with commands from the current operator's transmitter. The lockout LED glows steadily on the transmitter that is in control of the system and flashes on transmitters that are locked out.

NOTE: To enable the V1902VCT and V1311RB to operate with DC coupled cameras, the video blanking level of the composite video signal must be no greater than 400 mV above the ground reference. If cameras with a greater DC offset are to be used, then a DC isolation transformer must be installed between the camera and the receiver.

The V1902VCT complies with the requirements for an FCC Class A computing device. The V1902VCT-230 complies with European Community EMC Directive 89/336. The product was subjected to the testing outlined in European Normalization Standard EN 50081-1 (Electromagnetic Compatibility - General Emissions Standard Part 1: Residential, Commercial, and Light Industry), and EN 50082-1 (Electromagnetic Compatibility - Generic Immunity Standard Part 1: Residential, Commercial, and Light Industry).

ASSOCIATED EQUIPMENT AND ACCESSORIES

Model V1961VCR Series Vicoax Receivers: For 24 VAC and 120 VAC pan-and-tilt functions, respectively. Product Specification 356.

Model V1311RB Series Universal Receiver: Use with the V1311R-VI-1 interface card. Product Specification 871.

Model V2750T and V2750R Fiber Optic Bidirectional Video System for Vicoax: Provides long distance transmission of video and data signals free of effects of ground loops and electrical interference. Product Specification 789.

TECHNICAL INFORMATION

ELECTRICAL

Input Voltage: Refer to Table 1.

Power Consumption: 10 W.

Heat Equivalent: 0.57 btu/min (0.14 cal/min).
NOTE: These figures represent the conversion of 100% of the electrical energy to heat. Actual percentage of heat generated will be less and will vary from product to product. These figures are provided as an aid in determining the extent of cooling required for an installation.

Video Signal Input: Both models (120 VAC and 230 VAC) are compatible with these TV systems: EIA/NTSC 525 line, 60 field/sec RS-170 standard B/W or color signal; CCIR 625 line, 50 field/sec B/W or PAL color signal.

Fuse: 120 VAC: 3/4 A, 2AG.
230 VAC: 3/4 A, 2AG.

Operating Distances: 5000 ft (1500 m).
See Coaxial Cable Recommendations.

Radio Frequency Emission Rating: FCC Class A device.

European Community (CE) Standards: EN 50081-1 generic emissions.
EN 50082-1 generic immunity.

CONTROLS AND INDICATORS

Front Panel Indicators: Power: LED.
Lock-out: LED.
Preset (1-4): LEDs.
Autopan and autoiris: LEDs.
Aux status (1-3): LEDs.

Front Panel Controls: Lock-out: push button.
Preset: push button.
Autopan and autoiris: push buttons.
Aux (1-3): push buttons.
Speed select: push button.
Lens speed: rotary knob.
Lens/PTZ functions: iris, zoom, focus push button.
Pan-and-tilt: joystick.

Line Cord: Standard 3-conductor SV No. 18 AWG cable with grounding plug.

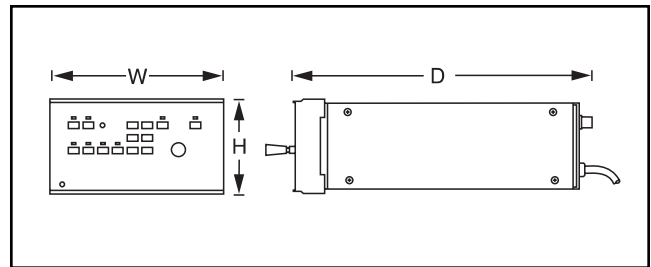
Rear Panel Connectors: Output to monitor: BNC.
Video input: BNC.
Video output: BNC.

Video Input: High impedance loop-through.

MECHANICAL

Size: Triple width module.

Overall Dimensions: Height (H): 3.5 in. (8.9 cm).
Width (W): 6.4 in. (16.3 cm).
Depth (D): 10.9 in. (27.7 cm).



Weight: 4.4 lb (2.0 kg).

Construction: Aluminum frame, black molded-plastic front panel, black polycarbonate bezel.

Shipping Dimensions: Height: 6.3 in. (16.0 cm).
Width: 7.25 in. (18.4 cm).
Depth: 14.0 in. (27.7 cm).

Shipping Weight: 5.0 lb (2.3 kg).

Shipping Volume: 0.4 ft³ (0.01 m³).

ENVIRONMENTAL

Operating Temperature Range: 32 to 120° F (0 to 49° C).

Storage Temperature Range: -20 to 140° F (-29 to 60° C).

Storage Humidity: Up to 85% relative, noncondensing.

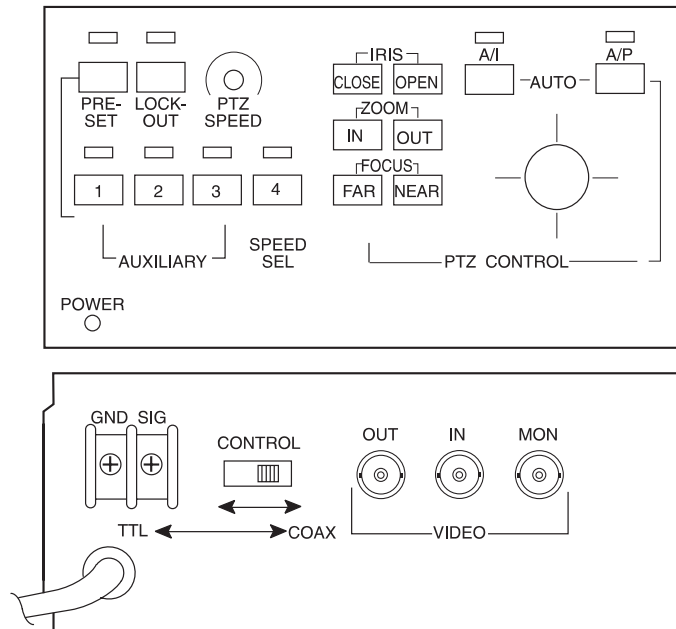


Figure 1
Front and Rear Panels

