



PRODUCT SPECIFICATION

MODEL: V235GLTA

PRODUCT CODE: 2790

DESCRIPTION: GROUND LOOP TRANSFORMER

The V235GLTA Ground Loop Transformer is a passive ground loop correction device for coaxial control systems such as Vicoax®. It differentially nullifies the AC current that can occur in the video cable shield as a result of differing voltage potentials at each end of the shield.

The difference in potential can arise from bridging of two power distribution systems supplying the camera and monitor in which the level of electrical ground varies. The result is the production of an AC current in the cable shield. See Figures 1 and 2.

The V235GLTA, designed specifically for a coaxial control system, protects and restores the video signal. Waveforms showing the effect of this restoration are shown in Figure 1.

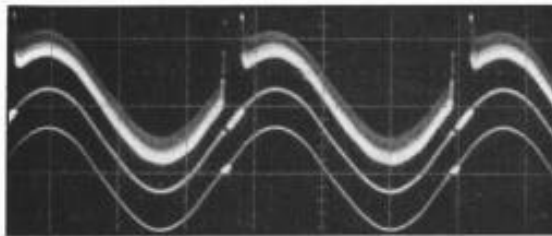
NOTES	SPEC NO.	REV.	SEC.
SUPERSEDES PRODUCT SPECIFICATION 414-1090	414	493	12



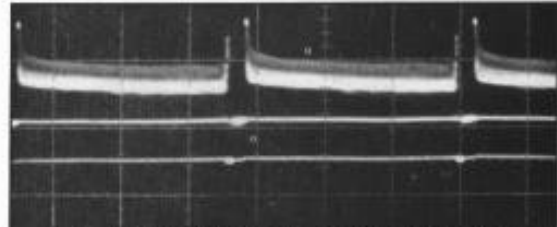
V235GLTA GROUND LOOP TRANSFORMER

Ground loops are a common cause of video distortion. Undesirable symptoms include "hum" which appears on one or more horizontal bars, horizontal tearing or pulling, and vertical rolling.

NOTE: Signals are attenuated by approximately 30% (3 dB) by the V235GLTA. In Vicoax installations, when using a V1901VCT or V1119VCT transmitter, it may be necessary to insert a V1921BDA Bidirectional Amplifier* in the circuit to compensate for this signal loss. If a V1902VCT transmitter is being used, it has a built-in BDA, so the V1921BDA is not necessary.



Video signal with ground loop current.



Normal video signal as restored by V235GLTA

Figure 1
Elimination of Ground Loop

CONTRACTORS' SPECIFICATION

PASSIVE GROUND LOOP TRANSFORMER

The ground loop transformer shall provide differential ground loop elimination in video systems using coaxial cable to transmit control signals to the receiver at the camera station. The common mode ground loop rejection ratio shall be 90 dB at 50/60 Hz. The bandwidth for a 1 V p-p signal shall be 10 Hz to 10 MHz and for a 2.0 V p-p signal shall be 25 Hz to 10 MHz (± 3 dB referenced at 100 kHz). The dielectric withstanding voltage shall be 500 VDC from connectors to case and from connector to connector. The unit shall be housed in a steel case with built-in mounting base. The ground loop transformer shall be Vicon's Model V235GLTA.

Product specifications subject to change without notice.
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*V1921BDA is manufactured under U.S. patent number 4,714,959.

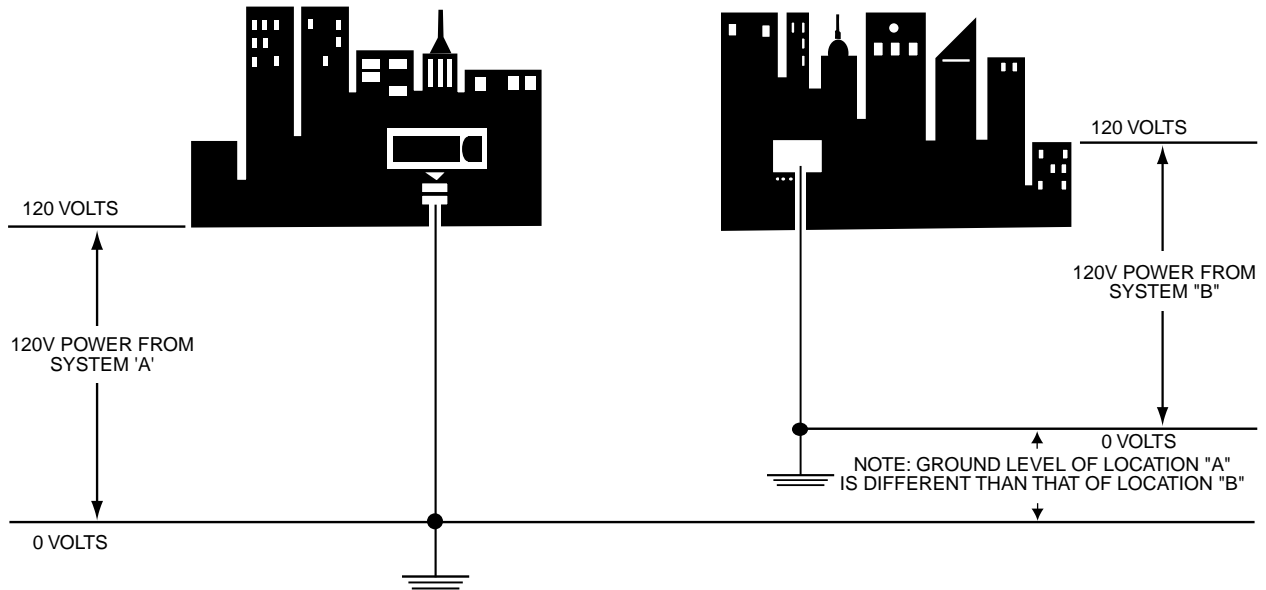


Figure 2
Comparison of Electrical Ground Levels in Two Power Distribution Systems

TECHNICAL INFORMATION

ELECTRICAL

Common Mode Ground Loop Rejection Rate:	90 dB at 50/60 Hz.
Input Impedance:	75 ohms.
DC Input Impedance:	75 ohms ($\pm 5\%$).
Bandwidth (± 3 dB referenced to 100 KHz):	10 Hz to 10 MHz at 1 V p-p. 25 Hz to 10 MHz at 2 V p-p.
Connectors:	Insulated BNC.
Dielectric Withstanding Voltage:	500 VDC from connectors to case and to each other.
Signal Level Loss:	30% (3 dB).

MECHANICAL

Construction:	Steel case.
Finish:	Black semi-gloss.
Mounting:	Built-in mounting base. See Figure 3.
Dimensions:	See Figure 3. Height (H): 1.5 in. (3.8 cm). Width (W): 3.5 in. (8.9 cm). Depth (D): 2.4 in. (6.1 cm).
Weight:	0.6 lb (0.3 kg).
Shipping Dimensions:	Height: 4.0 in. (10.2 cm). Width: 5.25 in. (13.3 cm). Depth: 4.75 in. (12.1 cm).
Shipping Weight:	0.8 lb (0.4 kg).
Shipping Volume:	0.06 ft ³ (0.002 m ³).

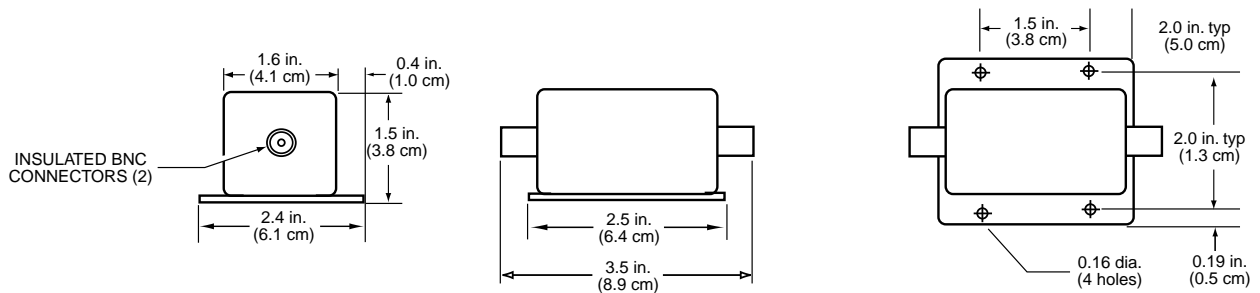


Figure 3
Outline Drawing