

SINGLE PASSIVE UTP VIDEO-POWER-DATA COMBINER- TRANSCEIVER

GEC-VCR, GEC-VPDBC, GEC-VCR12V

SECURITY SYSTEM

28 23 00 VIDEO SURVEILLANCE

PART 2 - PRODUCTS

2.01 GENERAL

- A. All equipment and materials used shall be standard components that are regularly manufactured and used in the manufacturer's system.
- B. All systems and components shall have been thoroughly tested and proven in actual use.

2.02 SINGLE PASSIVE UTP VIDEO-POWER-DATA TRANSCEIVER

- A. The Single UTP Video-Power-Data Transceiver shall act as a combiner connection point for camera Video, Power and Pan/Tilt/Zoom control signals.
- B. Shall connect using an RJ-45 jack, which will accept an RJ-45 plug wired to CAT5 or better unshielded twisted pair cable. The RJ-45 jack shall comply with the standard structured cabling pin-outs of per EIA/TIA 568B.
- C. Shall be wired so that one twisted pair is designated for video transmission to and from the transceiver device, one twisted pair may be used for transmission of RS422/485 control signals, and two remaining twisted pairs may be used to provide operational power to the camera.
- D. The single channel video-power-data device shall be capable of receiving baseband monochrome or color video signals over unshielded twisted-pair (UTP) telephone wire from a passive transceiver up to a distance of 1000 feet (305 m) without requiring power.
- E. If used as a Transmitter, Distances up to 3,000 feet (914 m) shall be supported when used in conjunction with an approved active transceiver, and support a minimum of 500 lines of video resolution.
- F. If used as a Receiver, the device shall accept a baseband video signal, each from a 75-ohm source.
- G. If used as a Transmitter, the device shall produce a baseband video signal capable of driving a 75-ohm load.
- H. Shall support bi-directional signal transmission via the Vertical Interval of the video signal up to 750 feet (229 m) when using this transceiver to transmit the signal to another passive transceiver, so long as all other requirements are met. These signals are typically known as "Up the Coax" control, used to facilitate Pan/Tilt/Zoom functionality with the appropriate and compatible PTZ hardware.
- I. Shall be compatible with NTSC, PAL and SECAM color video standards.
- J. The Single Channel Passive UTP Video and Power Transceiver

1. The transceiver body shall be equipped with an unshielded twisted pair cable designated for Power connection, 8 inches or more in length.
  2. The transceiver housing shall be equipped with an integrated male BNC connector for 75-ohm camera connection for each channel.
- K. The Single Channel 12 VDC Passive UTP Video, Power and Data Transceiver
1. The transceiver body shall be equipped with an unshielded twisted pair cable designated for Power connection, 8 inches or more in length.
  2. The transceiver housing shall be equipped with an integrated male BNC connector for 75-ohm camera connection for each channel.
  3. The transceiver shall convert 16VAC to 28VAC to 12VDC at 600mA for 12VDC cameras
- L. The Single Channel Passive UTP Video, Power and Data Transceiver
1. The transceiver body shall be equipped with an unshielded twisted pair cable designated for Power connection, 8 inches or more in length.
  2. The transceiver body shall be equipped with an unshielded twisted pair cable designated for PTZ Data connection, 8 inches or more in length.
  3. The transceiver shall be equipped with an integrated male BNC for 75-ohm camera connection. There shall be 8 inch or more in length mini-coax cable between the BNC and the transceiver body.
- M. The Transceiver shall have integrated differential transient protection without the need for a ground connection.
- N. The Transceiver shall be equipped with corrosion-resistant screw terminals for connection to UTP wire.
- O. The single channel passive device shall deliver signals operating in the same cable bundle as telephone, data, low voltage or other video signals, without interference.

## 2.03 ELECTRICAL SPECIFICATIONS - Single Channel Passive UTP Video and Power Transceiver

- |                            |  |
|----------------------------|--|
| A. Video Output Voltage:   | 0.6 to 1.6 Vp-p                                |
| B. Insertion Loss:         | .3 dB  |
| C. Common-mode rejection:  | 60 dB  |
| D. Color Video standard:   | NTSC, PAL and SECAM                            |
| E. Frequency Response:     | 0 to 5Mhz depending on configuration           |
| F. Transient Immunity:     | ANSI / IEEE 587 C62.41                         |
| G. UTP Connector:          | RJ-45, 100 ohm, 1 pair power and 2 pairs power |
| H. Camera Connector:       | Male BNC, 75 ohm, integrated                   |
| I. Camera Power Connector: | 9-in twisted pair                              |
| J. Transmission Wiring:    | Category 2 or better UTP                       |

2.04 ELECTRICAL SPECIFICATIONS - Single Channel 12 VDC Passive UTP Video, Power and Data Transceiver

- A. Video Output Voltage: 0.6 to 1.6 Vp-p
- B. Insertion Loss: .3 dB
- C. Common-mode rejection: 60 dB
- D. Color Video standard: NTSC, PAL and SECAM
- E. Frequency Response: 0 to 5Mhz depending on configuration
- F. Transient Immunity: ANSI / IEEE 587 C62.41
- G. UTP Connector: RJ-45, 100 ohm, 1 pair power, 1 pair data, and 2 pairs power
- H. Camera Connector: Male BNC, 75 ohm, integrated
- I. Camera Power Connector: 9-in twisted pair
- J. Camera Control Connector: 9-in twisted pair
- K. Transmission Wiring: Category 2 or better UTP
- L. Input Voltage: 30 -16 VAC/DC, Class II SELV
- M. Output Voltage: 12 VDC, regulated, 30 mV ripple maximum
- N. Output Current: 600 mA maximum

2.05 ELECTRICAL SPECIFICATIONS - Single Channel Passive UTP Video, Power and Data Transceiver

- A. Video Output Voltage: 0.6 to 1.6 Vp-p
- B. Insertion Loss: .3 dB
- C. Common-mode rejection: 60 dB
- D. Color Video standard: NTSC, PAL and SECAM
- E. Frequency Response: 0 to 5Mhz depending on configuration
- F. Transient Immunity: ANSI / IEEE 587 C62.41
- G. UTP Connector: RJ-45, 100 ohm, 1 pair power, 1 pair data, and 2 pairs power
- H. Camera Connector: Male BNC, 75 ohm, 8-inch mini-coax
- I. Camera Power Connector: 9-in twisted pair
- J. Camera Control Connector: 9-in twisted pair
- K. Transmission Wiring: Category 2 or better UTP

2.06 ENVIRONMENTAL SPECIFICATIONS

- A. Storage Temperature: -22° to 158°F (-30° to 70°C)
- B. Operating Temperature: 16° to 122°F (-10° to 50°C)
- C. Operating Humidity Range: 0 to 95%, non-condensing

2.07 MECHANICAL SPECIFICATIONS - Single Channel Passive UTP Video and Power Transceiver

- A. Height .88 in (2.3 cm)
- B. Width **.88 in (2.3 cm)**
- C. Depth **.68 in. (1.7 cm)**
- D. Weight **.06 lb (25 g)**
- E. Material Grey ABS plastic, UL rating of 94V-0

2.08 MECHANICAL SPECIFICATIONS - Single Channel 12 VDC Passive UTP Video, Power and Data Transceiver

- A. Height 1.5 in. (3.8 cm)
- B. Width 1.25 in. (3.2 cm)
- C. Depth .8 in. (2 cm)
- D. Weight .09 lb (40 g)
- E. Material Grey ABS plastic, UL rating of 94V-0

## 2.09 MECHANICAL SPECIFICATIONS - Single Channel Passive UTP Video, Power and Data Transceiver

- A. Height .7 in. (1.77 cm)
- B. Width .72 in. (1.8 cm)
- C. Length 2.3 in. (5.8 cm)
- D. Weight .08 lb (35 g)
- E. Material Grey ABS plastic, UL rating of 94V-0

## 2.10 CERTIFICATIONS

- A. UL/cUL - FCC Part 15, Class A minimum, cUL 60950-1
- B. RoHS
- C. WEEE

## 2.11 WARRANTY

- A. Limited lifetime

## 2.12 ACCEPTED MANUFACTURER

- A. GE Security, Inc. 8985 Town Center Parkway, Bradenton, FL 34202-5129
- B. Phone 1-888-437-3287
- C. Email: [gesecurity.customerservice@ge.com](mailto:gesecurity.customerservice@ge.com)
- D. Substitutions: Not Permitted
- E. The unshielded twisted-pair passive multi-channel video receiver shall be GE Models GEC-VCR, GEC-VPDBC, GEC-VCR12V.

END OF SECTION

GE is a registered trademark in the United States and other countries.