



MANUAL PART NUMBER: 400-0378-004

## SW1956CT

# 2-IN, 1-OUT TWISTED PAIR AUTO-SWITCHER USER'S GUIDE

**EALTINEX**<sup>®</sup>

SIGNAL  
MANAGEMENT  
SOLUTIONS<sup>®</sup>

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## PRECAUTIONS / SAFETY WARNINGS 1

Please read this manual carefully before using your **SW1956CT** Switcher. Keep this manual handy for future reference. These safety instructions are to ensure the long life of your **SW1956CT** and to prevent fire and shock hazards. Please read them carefully and heed all warnings.

### 1.1 GENERAL

- Qualified ALTINEX service personnel or their authorized representatives must perform all service.

### 1.3 INSTALLATION

- For best results, place the **SW1956CT** on a flat, level surface. Keep in a dry area away from dust and moisture.
- To prevent fire or shock, do not expose this unit to water or moisture. Do not place the **SW1956CT** in direct sunlight, near heaters or heat-radiating appliances, or near any liquid. Exposure to direct sunlight, smoke, or steam can harm internal components.
- Handle the **SW1956CT** carefully. Dropping or jarring can damage internal components.
- Do not place heavy objects on top of the **SW1956CT**. If the unit is to be mounted to a table or wall, use only ALTINEX-made mounting accessories.
- To turn off the main power, be sure to remove the cord from the power outlet. The power outlet socket should be installed as close to the equipment as possible, and should be easily accessible.
- Do not pull the power cord or any cable that is attached to the **SW1956CT** Switcher.
- If the **SW1956CT** is not to be used for an extended period, disconnect the power cord from the outlet.

### 1.4 CLEANING

- Unplug the **SW1956CT** power cord before cleaning. Clean surfaces with a dry cloth. Never use strong detergents or solvents such as alcohol or thinner. Do not use a wet cloth or water to clean the unit.

### 1.5 FCC NOTICE

- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions found herein, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
- Any changes or modifications to the unit not expressly approved by ALTINEX, Inc. could void the user's authority to operate the equipment.

## ABOUT YOUR SW1956CT 2

### SW1956CT 2-In, 1 Out Twisted Pair Auto-Switcher

The **SW1956CT** is a 2-In, 1-Out Twisted Pair Auto-Switcher. The **SW1956CT** switches automatically upon signal detection, but may also be controlled manually. The **SW1956CT** is designed to switch ALTINEX Twisted Pair transmitter and receiver signals. These include ALTINEX part numbers DA1930CT, DA1931CT, MT103-122, MT103-123, etc.

The unit is encased in a solid metal enclosure and ships with an external, 9V power adapter. Also included is an external contact-closure switch for manual override of input selection.

Manual override switching is made via a contact closure on the Input Select jack. This switch may be used for manual control, or the contact closure may be controlled from a control system.

The **SW1956CT** is perfect for applications that use wall or floor plates for auto-switching. The **SW1956CT** may be mounted to furniture or other suitable surfaces using optional hardware.

The latest generation of Twisted Pair devices uses an innovative, patented technology\* developed by ALTINEX. The new signal processing technology allows transmitting and receiving fully equalized computer video signals, stereo, and audio signals over long distances.

\* US Patent 7,065,190

## TECHNICAL SPECIFICATIONS 3

Specifications are subject to change. See [www.altinex.com](http://www.altinex.com) for up-to-date information.

FEATURES/DESCRIPTION	SW1956CT
<b>Inputs</b>	
Input Connector	RJ-45 female (2)
Power	2.5mm DC jack (1)
<b>Outputs</b>	
Output Connector	RJ-45 female (1)
<b>Compatibility</b>	
Signal Types	ALTINEX Standard for Twisted Pair
Video Signal Resolutions	VGA through UXGA, 480p through 1080i
Recommended Max. Cable Lengths <i>Note: Measurements made using ALTINEX low-skew cable, CB3150PV.</i>	VGA: 640x480@60Hz 900 ft (274 m) XGA: 1024x768@60Hz 700 ft (213 m) SXGA: 1280x1024@60Hz 650 ft (198 m) UXGA: 1600x1200@60Hz 600 ft (183 m)
<b>Accessories Included</b>	
Power Adapter	+9 VDC, 500 mA
Remote Switch	Contact Closure

Table 1. **SW1956CT** General

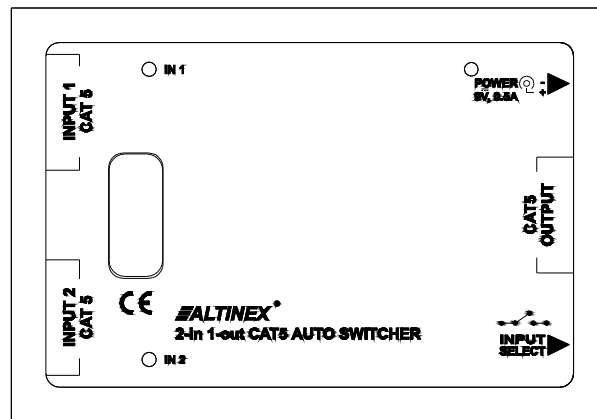
# SWITCHER

MECHANICAL	SW1956CT
Material	0.100 in Al
Finish	Gray
Height	3.000 in ( 76 mm)
Width	4.380 in (111 mm)
Depth	1.000 in ( 25mm)
Weight	0.40 lb (0.18 kg)
Ship Weight	2.00 lb (0.91 kg)
T° Operating	10°C-35°C
T° Maximum	50°C
Humidity	90% non-condensing
MTBF (calculations)	40,000 hrs (min.)

Table 2. **SW1956CT** Mechanical

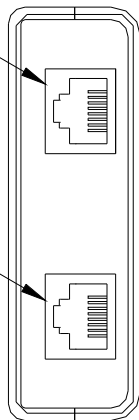
ELECTRICAL	SW1956CT
<b>Input Signal</b>	
Analog Signal	1.0 Vp-p max
<b>Output Video Signals</b>	
Analog Signal	1.0 Vp-p max
<b>Frequency Compatibility</b>	
Horizontal	15-200 kHz
Vertical	20-190 Hz
Cross-talk	-40 dB @ 10 MHz
Coupling	DC
<b>Power Consumption</b>	
External Adapter: 9 VDC	350 mA (3 W max.)

Table 3. **SW1956CT** Electrical



TWISTED PAIR  
INPUT1

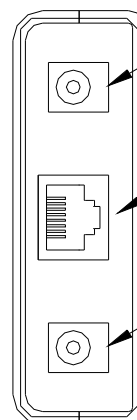
TWISTED PAIR  
INPUT2



POWER

TWISTED PAIR  
OUTPUT

INPUT SELECT

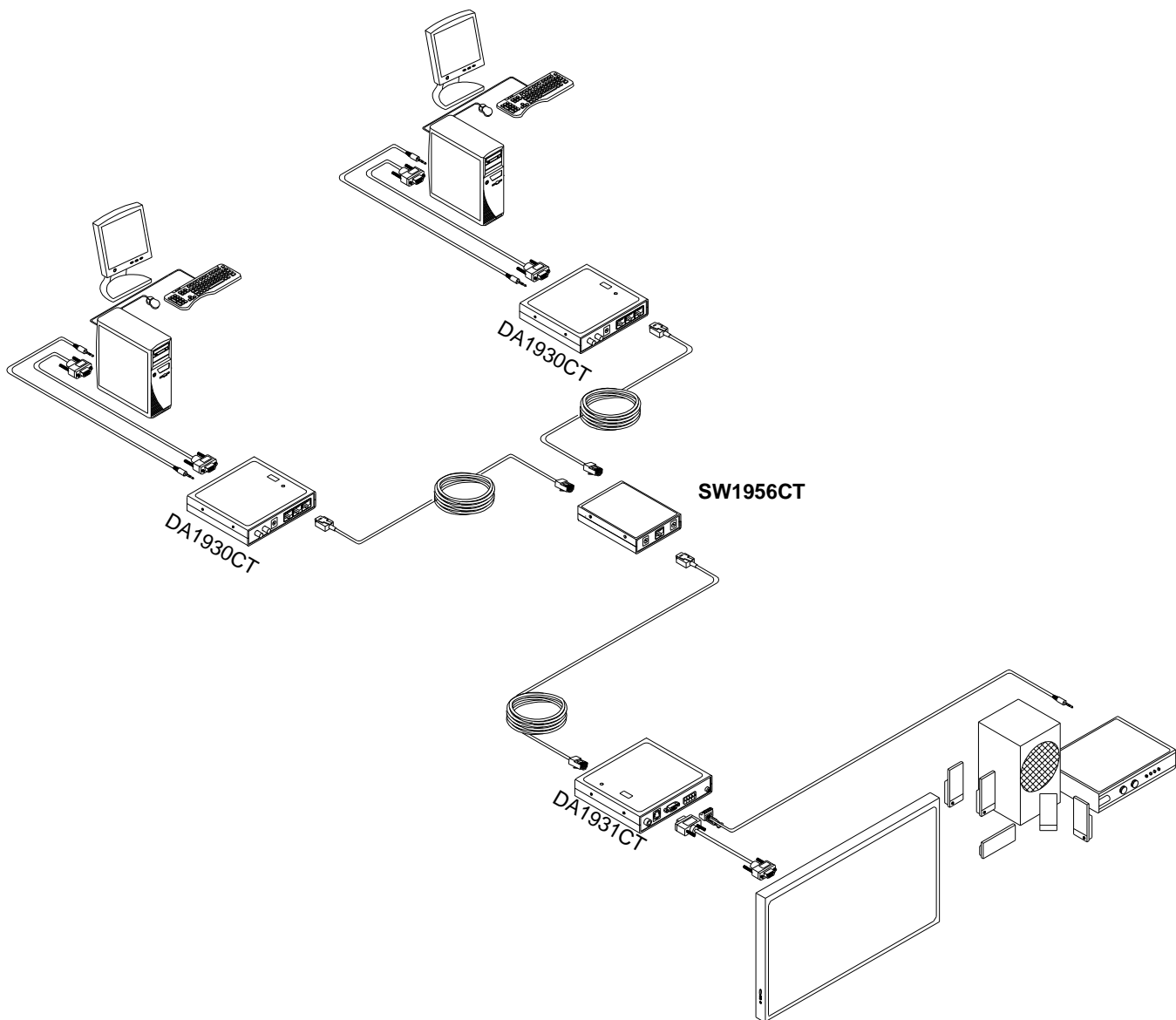


### DIAGRAM 1: TYPICAL SETUP

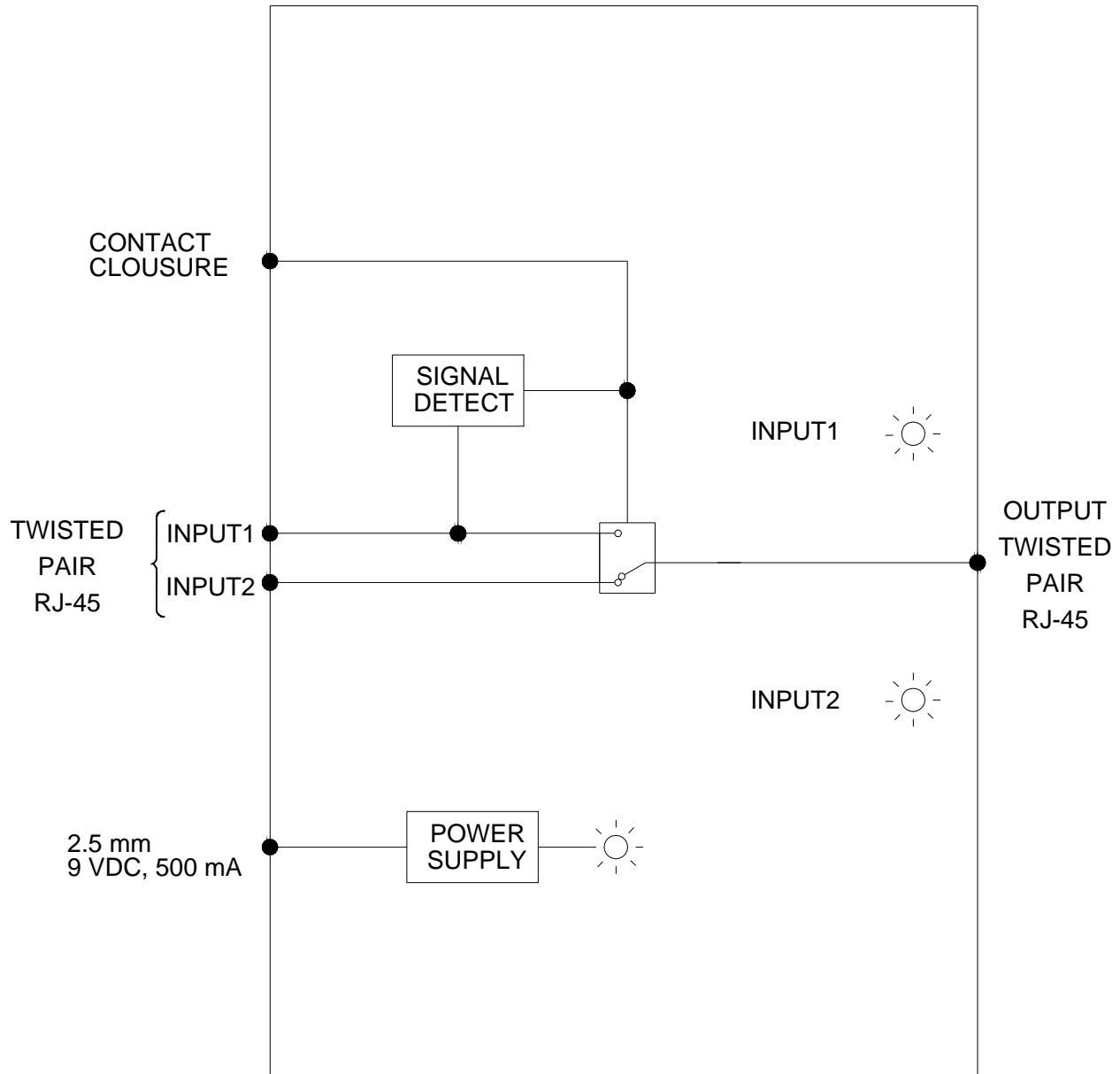
ALTINEX includes a remote control switch with the **SW1956CT**. The remote switch has a 6 ft cable and may be used to control the switcher manually.

When the remote control switch is connected to the INPUT SELECT jack, INPUT 1 will be selected if the channel select contact is closed. INPUT 2 will be selected if the channel select contact is open.

The switching will be identical whether there are one or two active signals. The LEDs located next to the input ports indicate which input is selected.



**DIAGRAM 2: INTERNAL VIEW**





## INSTALLING YOUR SW1956CT 6

**Step 1.** Connect the ALTINEX power adapter that is supplied with the unit to the power port.

**CAUTION:** The POWER port and the INPUT SELECT port use the same connector type. Make sure the power adapter is connected to the POWER port.

**Step 2.** The POWER LED and the INPUT 2 LED should turn on.

**Step 3.** Connect the SW1956CT inputs to the outputs of the Twisted Pair transmitters.

**Step 4.** Connect a cable from the output port of the SW1956CT to the input port of the Twisted Pair receiver.

**Step 5.** If the remote control switch is to be used, connect it to the INPUT SELECT port.

**CAUTION:** The POWER port and the INPUT SELECT port use the same connector type. Make sure the control switch is connected to the INPUT SELECT port.

**Step 6.** Verify that the picture quality on the display is good. If a signal is not being received, make sure that the display is compatible with the resolution of the computer graphics card.

## OPERATION 7

There are no settings to adjust on the SW1956CT Auto-Switcher. The SW1956CT will operate successfully as long as cables are attached properly and other technical specifications are followed.

### AUTO-SWITCH MODE

The SW1956CT automatically selects the INPUT 2 port if there are no active signals present. If there is an active signal on INPUT 2 and not on INPUT 1, then the SW1956CT will maintain INPUT 2 as the active port. However, when an active signal is applied to INPUT 1, the SW1956CT will switch to INPUT 1.

If there are active signals on INPUT 1 and INPUT 2, the SW1956CT will automatically switch to INPUT 1.

### MANUAL SWITCH MODE

Manual override is accomplished via a contact closure on the INPUT SELECT jack. Manual Switch Mode disables auto-switching.

Included with the SW1956CT is an external manual switch with a 6 ft cable. This switch may be used for manual control, or the contact closure may be made from a control system. This port uses a 2.5 mm mini-coaxial remote-control jack and it is located next to the Twisted Pair output.

INPUT 1 will be selected when the remote control switch is connected to the INPUT SELECT jack and the contact is closed. INPUT 2 will be selected if the contact is open.

**CAUTION:** The connector used for the INPUT SELECT port is the same type as is used for the POWER connector. Use caution to ensure the switch is connected to the correct port.

## TROUBLESHOOTING GUIDE 8

We have carefully tested and have found no problems in the supplied **SW1956CT** unit. However, we would like to offer the following suggestions:

### 8.1 POWER LED IS OFF

**Cause 1: The power adapter is installed wrong.**

*Solution 1:* Make sure the adapter output is connected to the POWER input jack on the unit. Check the unit carefully. The POWER input jack and the INPUT SELECT jack are the same type. If the POWER LED is still not on, see Solution 2.

*Solution 2:* Make sure the adapter is plugged into a proper AC outlet that has power. If the adapter has AC power and the POWER LED is still off, see Cause 2.

**Cause 2: The wrong power adapter is installed.**

*Solution 1:* Please use the ALTINEX supplied external adapter (9 V, 500 mA). If the POWER LED is still not on, please call ALTINEX at (714) 990-2300.

### 8.2 UNIT DOES NOT AUTO-SWITCH

**Cause 1: The manual override switch is installed.**

*Solution:* Remove the connection to the INPUT SELECT jack on the unit. If a plug is installed in the jack, the **SW1956CT** will not auto-switch properly. If the unit does not auto-switch with the plug removed, see Cause 2.

**Cause 2: The signal is not active or is improperly formatted.**

*Solution 1:* Remove the input signals from the switcher. If the IN 2 LED is off, call ALTINEX at (714) 990-2300. If the IN 2 LED is on, see Solution 2.

*Solution 2:* Connect a properly formatted signal from an ALTINEX Twisted Pair transmitter to INPUT 1. If the switcher does not switch to INPUT 1, see Solution 3.

*Solution 3:* Bypass the switcher and connect the output of the transmitter directly to the input of the receiver. If the display is good, then call ALTINEX at (714) 990-2300.

### 8.3 NO DISPLAY

**Cause 1: The source has a problem.**

*Solution:* Check the source and make sure that there is a signal present and all source connections are correct. If the source is working and there is still no display, see Cause 2.

**Cause 2: Manual override is on.**

*Solution:* Make sure there is nothing connected to the INPUT SELECT port on the switcher. If there is nothing connected, see Cause 3.

**Cause 3: Signal is bad or missing.**

*Solution 1:* Make sure the switcher output is connected to the Twisted Pair receiver input and the receiver is on. If there is still no display, see Solution 2.

*Solution 2:* Remove both inputs to the switcher and connect the active signal from the Twisted Pair transmitter output to INPUT 2. If there is still no display, see Solution 3.

*Solution 3:* Bypass the switcher and connect the output of the transmitter directly to the input of the receiver. If the display is good, then call ALTINEX at (714) 990-2300. If there is still no display, see Cause 4.

**Cause 4: Cable connections are incorrect.**

*Solution:* Make sure that cables are properly connected. Also, make sure that the continuity and wiring are good. If there is still no display present, see Cause 5.

**Cause 5: The display has a problem.**

*Solution:* Make sure the display is powered and is turned on. If there is still no display, please call ALTINEX at (714) 990-2300.

## ALTINEX POLICIES

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### 9.1 LIMITED WARRANTY/RETURN POLICIES

Please see the ALTINEX website at [www.altinex.com](http://www.altinex.com) for details on warranty and return policies.

### 9.2 CONTACT INFORMATION

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