

# **peterson**

## **CONSOLE AC CONTROL SYSTEM**

Revised 3-31-2016

### **INSTALLATION INSTRUCTIONS**

The Peterson CONSOLE AC CONTROL SYSTEM provides an easy-to-install way for a single switch on the console to control an organ's rectifier, blower, console lights, combination action power supply, and any other AC devices both in and out of the console. With this system, a heavy duty line cord that plugs into any standard 110 VAC unswitched outlet is the only connection needed for AC power between the console and the building's electrical system. No metal conduit is required, so moving the console is simplified and in most cases the need for a licensed electrician to work in the console is completely eliminated.

This product is centered around a special outlet box that includes 4 unswitched and 4 switched 110 Volt AC outlets. The box has a pair of screw terminals that are designed to be wired to the contacts of a main console power switch. A keyswitch with engraved plate and a length of wire are supplied for this purpose. A built-in transformer in this outlet box provides 12 Volts AC, which in turn is sent to a special electronic relay, also inside the outlet box, to turn on the 4 switched outlets when the main console switch is turned on. The reason for using an electronic or solid state relay is that mechanical relays can radiate energy when the contacts open or close, especially when switching several amps of current, which can lead to clicking and other annoying sounds through PA systems. A solid state relay prevents this and eliminates any potential for burning and wearing of contacts. There is also built-in surge protection to help prevent damage to electrical equipment due to line voltage surges.

Both 10 and 12 Volt AC signals are provided on screw terminals for powering a Peterson Orga-Plex switching system, MIDI Resource System, MSP-1000 and for the battery charging circuit on Peterson Duo-Set combination actions. Use of the Console AC Control System eliminates the need for additional plug-in transformers for these purposes.

The built-in transformer also supplies a 12 Volt DC signal whenever the console switch contacts are closed. This DC voltage can then be sent over the organ's main cable from the console to the chamber, to signal the rectifier and blower to turn on. Using a DC voltage for this signaling function makes it practical to use spare conductors within the same Orga-Plex or "conventional" main cable that is already needed. This 12 Volt DC signaling voltage is used to operate a relay in the chamber that can then switch the control voltage that operates the contactor for the organ rectifier and the motor starter for the blower.

The basic Console AC Control System includes the outlet box, a console switch with an engraved plate, the wire for connecting the console switch to the screw terminals on the outlet box, and the chamber relay and its socket.

A variety of contactors, overload relays, off-time delay relays and class II transformers are available separately and are described on *Page 3*.

***Please refer to the accompanying application notes and wiring diagram before making any connections. Always double-check wiring before applying power!***

## APPLICATION NOTES

*This information applies to all Console A.C. Control Systems which have a seven position barrier terminal including two screws labeled A10 VAC MIDI Resource System®.*

When a Peterson Console A.C. Control (CACC) System (#404465) is used with an Orga-Plex™ Switching System **and** a MIDI Resource System™, precautions must be taken to "polarize" the low voltage A.C. wiring.

Failure to properly polarize these connections may result in these systems appearing to be on, or partially on as indicated by LEDs dimly lighted, all the time. Also, on systems that include a Digital Transposer (#404434) and Interface (#404370), permanent damage can occur to these assemblies if left in the "half-on" state.

Should this "half-on" or "latching" situation occur, reverse the low voltage A.C. wires to one of the systems at one end. If the transposer is damaged as a result of improper wiring, it will be necessary to contact the factory for replacement parts.

To avoid this problem, connect the low voltage A.C. wires as follows:

1. At the Mother board (#404598) for the MIDI Resource System™ connect the supplied "zip" cord to the AC1 and AC2 terminals making sure the silver (or white traced) conductor is connected to the terminal marked AC2. This terminal has a yellow dot.
2. At the CACC barrier terminals, connect the "zip" cord from the MIDI Resource System™ to the terminals labeled "MIDI", making sure the silver (or white traced) conductor is connected to the Common terminal (shared with the OrgaPlex™) indicated with a yellow dot.
3. At the Power Supply board (#404674) for the OrgaPlex™ connect the supplied "zip" cord to the two AC terminals making sure the silver (or white traced) conductor is connected to the terminal closest to the center of the terminal strip. This terminal is also marked with a yellow dot.
4. At the CACC barrier terminals, connect the "zip" cord from the OrgaPlex™ system to the terminals labeled "OrgaPlex™". Make sure the silver (or white traced) conductor is connected to the Common terminal (shared with the MIDI Resource System™).

**Note:** The yellow polarizing dots on the CACC (#404465), MIDI Resource System™ mother board (#404598) and OrgaPlex™ Power Supply boards (#404674) appear on assemblies shipped from Peterson after May 28, 1997.

## MANUFACTURER=S RATINGS ON CONTACTORS

CONTACTOR #	AMPS MAX	H.P.	VOLTS AC	PHASE
170820	17.5	1	115	1
		3	230	1
		5	220-240	3
<hr/>				
170821	42.0	3	115	1
		7.5	230	1
		10	208-220	3
		15	230-240	3
<hr/>				
170822	68.0	5	115	1
		10	230	1
		20	208-240	3
<hr/>				

If you are having any problems or have any questions, please feel free to contact us. **Remember, a simple phone call may save you much time and money!** Our phone number is 1(708) 388-3311 or our toll-free number is 1(800) 341-3311.

*WE'RE HERE WHEN YOU NEED US! <sup>SM</sup>*

### **peter**son ELECTRO-MUSICAL PRODUCTS, INC.

11601 South Mayfield Avenue, Alsip, Illinois, 60803-6007

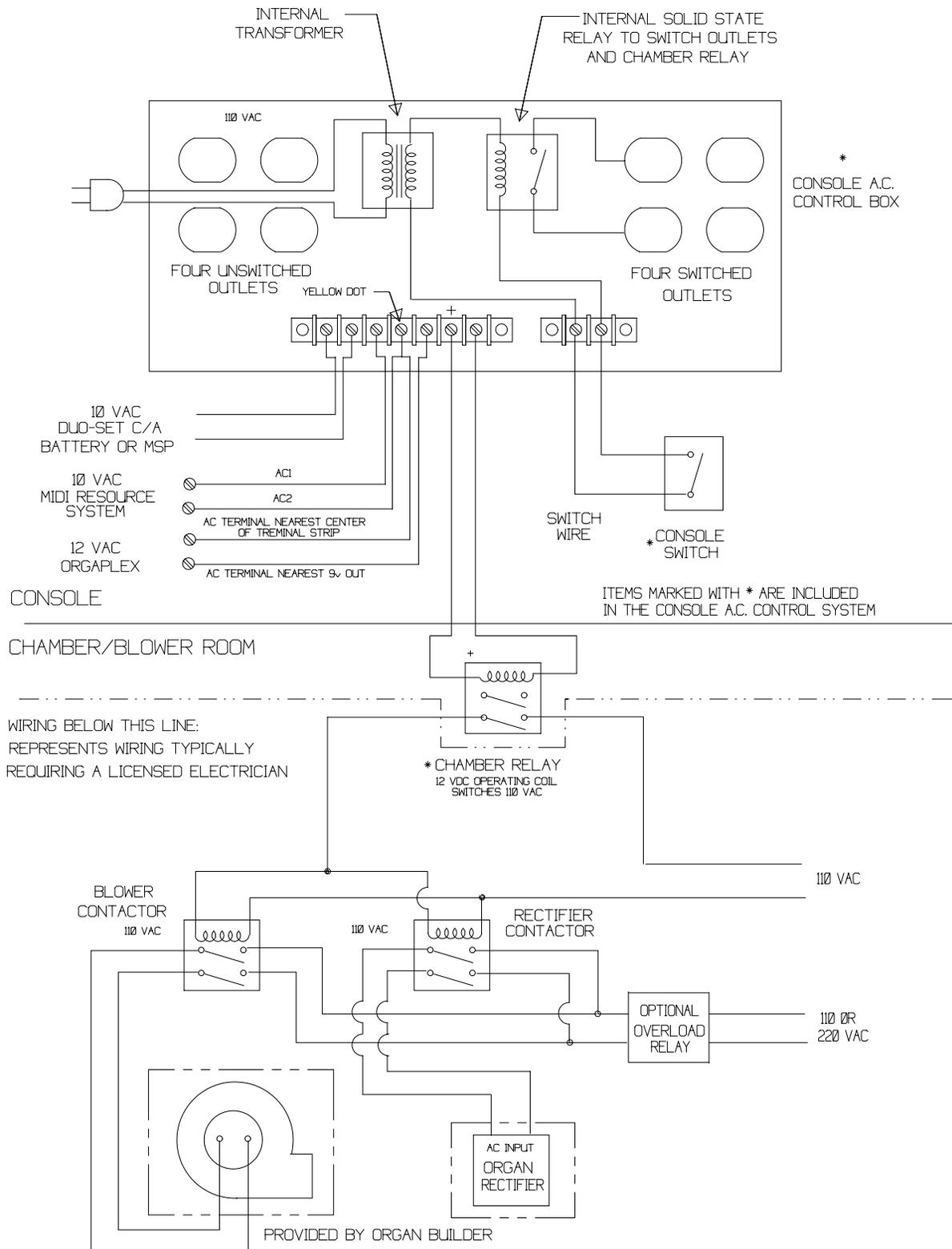
FAX (708) 388-3367  
Phone (708) 388-3311  
Phone (Toll Free) (800) 341-3311

## THE PETERSON CONSOLE AC CONTROL SYSTEM AND ACCESSORIES

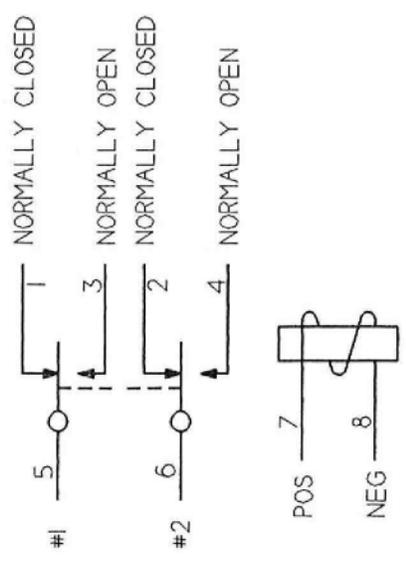
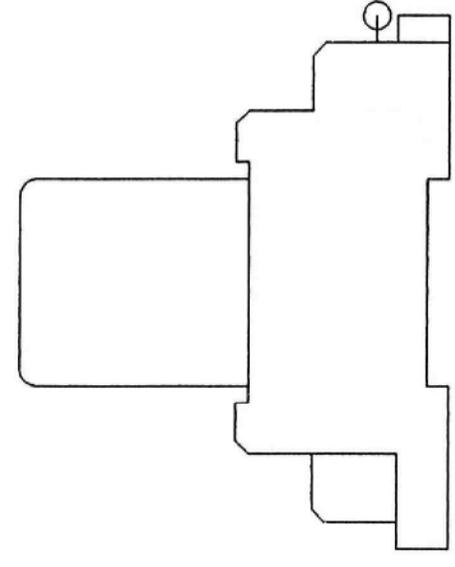
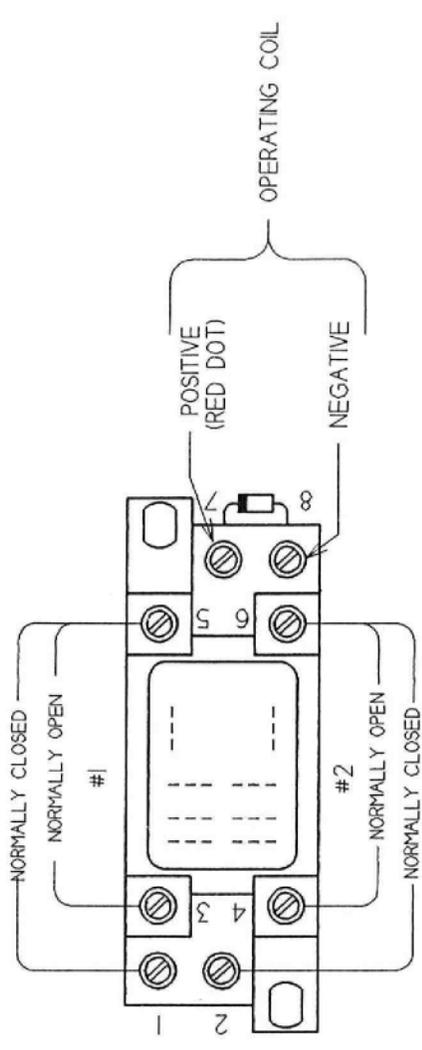
### PART NUMBER

- 404444**      **CONSOLE AC CONTROL SYSTEM KIT**  
Includes a Console AC Control Box with four switched and four unswitched outlets, chamber relay and socket, console power switch with engraved plate, and wire to connect the console power switch.
- 170769**      **CLASS II TRANSFORMER**  
Plugs into any unswitched 110 Volt AC outlet and provides 24 Volts AC for controlling many contactor operating coils.
- 170820**      **CONTACTOR, 17.5 AMP**  
Comes with a 24 Volt operating coil.
- 170823**      **OVERLOAD RELAY FOR 17.5 AMP CONTACTOR.**
- 170821**      **CONTACTOR, 42 AMP**  
Comes with a 110 Volt operating coil, or use optional 24 Volt operating coil #170826.
- 170824**      **OVERLOAD RELAY FOR 42 AMP CONTACTOR.**
- 170822**      **CONTACTOR, 68 AMP**  
Comes with a 110 Volt operating coil, or use optional 24 Volt operating coil #170826.
- 170825**      **OVERLOAD RELAY FOR 68 AMP CONTACTOR**
- 170826**      **OPTIONAL 24 VAC OPERATING COIL**
- 170827**      **TIME DELAY RELAY**  
By wiring this into the contactor, the off-time delay (after turning off the console switch) may be adjusted to between 0.1 and 10 seconds by rotating a knob.

Additional contactors, transformers, enclosures, and related parts are available for various installation requirements. Please contact the factory for assistance.



CACC II WIRING DIAGRAM WITH 110V A.C. COILS



SCHEMATIC DIAGRAM

UNLESS OTHERWISE SPECIFIED		BY	DATE
DIMENSIONS ARE IN INCHES - TOLERANCES:		TJP	9/92
DECIMAL	FRACTIONAL	CHK'D	
X ± .000	± 1/64	APP'D	
XX ± .015	ANGULAR	ISSUE DATE	
.XXX ± .005	± 1°	MAT'L	
DO NOT SCALE THIS DRAWING		SIZE	REV.
FINISH		A	A
		NO.	190117
		SCALE	SHEET
<p><b>Peterson</b> ELECTRO-MUSICAL PRODUCTS INC. / VORTH, ILL. IND1S 60482</p> <p>CHAMBER RELAY IN SOCKET</p>			

# CONSOLE AC POWER SWITCH

