

9.6 SPARE PARTS ORDERING INFORMATION

Each module contains two identification plates:

1. Catalog Name/Number Plate
2. Serial Number Plate

Name/number plates generally are located on module covers. Serial number plates generally are located on sides (outside) of bases.

To aid in furnishing the proper spare parts, please show both numbers.

EXAMPLE: Parts for a Transistor Output Module 763-7-0117

Serial Number - 763-1234-S-0580
1 Each EPROM - Part No. 700-3- 0769

All Prices: F.O.B. New Berlin, Wisconsin

Terms: As Arranged

Minimum Billing: \$50.00

Factory: Tenor Company, Inc.
17020 W. Rogers Drive
New Berlin, Wisconsin 53151

(414) 782-3800

Prices and all terms and conditions of sale are subject to change without notice. Prices are net and do not include any applicable Sales, Federal or Excise Taxes which are payable by purchaser.

All orders are subject to acceptance by Tenor Company at its home office.

SYMBOL	POSSIBLE CAUSE	REMEDY
ALL OUTPUTS OFF ONE OUTPUT MODULE ONLY	No ERROR Blank ERROR ERROR inserted backwards Ribbon cable not connected No outputs programmed	Install Program Program Sequence Reverse ERROR Connect cable Recheck Program. Max. step switch not set-up

10.0 TROUBLESHOOTING

ALL OUTPUTS OFF ALL OUTPUT MODULES	Ribbon Cable from step control module not connected	Check terminal 5 on step control module for Bassel signal (120 VAC) Connect cable
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INDIVIDUAL OUTPUT NOT ON	Output not programmed Triac Module - Fuse blown (LED will still light) Triac Module - Triac blown	Recheck Program New Fuse
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10.0 TROUBLESHOOTING

Rapid troubleshooting of a programmer system requires three aids:

1. Copy of the Program Chart
2. Elementary Schematic of inputs, outputs and feedback circuits connected to the Model 763.
3. 5000 Ohm/Volt VOM

USE OF OUTPUT INDICATORS

The Light Emitting Diode (LED) indicators turn ON when the output is programmed to be ON in a particular step. These are on the digital logic side of the output and thus a failed triac or fuse will not be indicated.

TROUBLESHOOTING CHART

This chart will aid in servicing system problems. The only individual components in the Model 763 which are user serviceable are the battery, fuses and triacs.

CONVENIENCE RELAY DOES NOT RESET EXCEPT BY POWER UP - NO POWER TO INPUTS BETWEEN STEPS	Adjust the potentiometer	CONVENIENCE RELAY DOES NOT RESET EXCEPT BY POWER UP - NO POWER TO INPUTS BETWEEN STEPS
CONTINUOUSLY SKIPS STEPS	Verify DIP connector orientation Replace Stepper Module	CONTINUOUSLY SKIPS STEPS

NOTICE: DO NOT ATTEMPT TO REPAIR OR REMOVE PRINTED CIRCUIT BOARDS FROM THEIR MODULE HOUSING, AS SUCH ACTIONS NEGATE ALL TENOR WARRANTY OBLIGATIONS. REPLACE ONLY USER SERVICEABLE ITEMS OR COMPLETELY ASSEMBLED MODULES. RETURN FOR REPAIR ONLY COMPLETELY ASSEMBLED MODULES, NOT BOARDS ONLY. SEE WARRANTY -SECTION I.

STEPS AT WRONG RATE [OPTIONAL STEP RESISTOR USED]	SW 1 - 8 in Step Control Module. Turns SW 1-8 on not turned "ON"	Supply with 5 to 15 VDC
LEDS IN TRANSISTOR MODULE DO NOT TURN ON	Cable Connector not inserted properly Stepper Module	Verify DIP connector orientation Replace Stepper Module

SYMPTOM	POSSIBLE CAUSE	REMEDY
ALL OUTPUTS OFF ONE OUTPUT MODULE ONLY	No EPROM Blank EPROM EPROM inserted backwards Ribbon cable not connected No outputs programmed	Install Program Program Sequence Reverse EPROM Connect cable Recheck Program. Max. step switch not set-up
ALL OUTPUTS OFF ALL OUTPUT MODULES	System in "RESET" (H) Ribbon Cable from step control Module not connected	Check terminal 5 on step Control Module for Reset Signal (120 VAC) Connect cable
INDIVIDUAL OUTPUT NOT ON	Output not programmed Triac Module - Fuse blown (LED will still light) Triac Module - Triac Blown (LED will still light)	Recheck Program New Fuse New Triac - check for shorts in external wiring
OUTPUT REMAINS ON (LEAD OFF)	Triac Module - Shorted Triac	Replace Triac - check for overvoltage spikes
WRONG PROGRAMMED SEQUENCE	Wrong EPROM Pin on Intermodule Ribbon Cable broken	Insert proper program Insert cables
RESETS TO HOME BEFORE COMPLETING PROGRAM	DIP switch in stepper not set to Max. step number	Set up SW 1
DOES NOT AUTOMATICALLY RESET TO HOME AFTER COMPLETING LAST STEP	DIP switch in stepper not set Set to Max. Step number	Set up SW 1
NO STEP RETENTION AFTER POWER FAILURE (RESETS TO HOME)	Battery not charged Battery not installed	Charge for 24 hours Install battery
POWERS UP IN DIFFERENT STEP THEN WHEN POWER LOST	Battery not fully charged Battery defective	Charge for 24 hours Replace battery
CONVENIENCE RELAY DOES NOT RESET EXTERNAL TIMERS	Convenience relay does not operate	Adjust Trim Potentiometer TPL to desired time
LOCKS UP - WON't STEP	Power maintained to single step inputs.External Circuitry	Must remove power to single Step inputs between steps
CONTINUOUSLY STEPS OR SKIP STEPS	Power maintained on continuous step forward or reverse inputs	Check for overlapping or shorted feedback switches with VOM
STEPS AT WRONG RATE (OPTIONAL STEP RESISTOR USED)	SW 1 - 8 in Step Control Module not turned "ON"	Turns SW 1-8 on
LEDS IN TRANSISTOR MODULE DO NOT TURN ON	No external DC source to terminals 9 or 27	Supply with 5 to 15 VDC
REMOTE READOUT DOES NOT WORK	Cable Connector not inserted properly	Verify DIP connector orientation
SYSTEM FAILS TO FUNCTION AFTER TRYING ABOVE-ALL MODULES AFFECTED.	Stepper Module	Replace Stepper Module