



Model 560-5141-2
Wire-Wrap Passive Output Interface Manual

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SECTION ONE

1. GENERAL INFORMATION

1.1. PURPOSE OF EQUIPMENT

The TrueTime Model 560-5141-2 Wire-Wrap Passive Output Interface provides the output interface for a compatible front function card. The 6 +Outputs and 6 -Outputs are fed directly through the backplane connector from the front function card. The output signals are distributed via 100 Ohm differential traces to wire-wrap pins at the rear panel, optimized for use in differential mode with 100 Ohm +Output/-Output termination. They can be used individually in single-ended mode, referenced to ground. There is a ground pin associated with each pair of ±Outputs.

1.1.1. PHYSICAL SPECIFICATIONS

Dimensions: 0.8" w X 4.4" h X 5.0" d (2 cm X 11 cm X 13 cm)
Weight: Approximately ½ pound (¼ kg)

1.1.2. ENVIRONMENTAL SPECIFICATIONS

Operating Temp: 0° to +50°C
Storage Temp: -17° to +100°C
Humidity: Up to 95% relative, non-condensing
Cooling Mode: Convection

1.1.3. POWER REQUIREMENTS

Power: None

1.1.4. FUNCTIONAL SPECIFICATIONS

1.1.4.1. OUTPUT CONNECTOR

Type: Wire-wrap pins, 0.045" square
Quantity: 18
Configuration: 6 complementary pairs --- ±Output with GND

1.1.4.2. DRC CARD COMPATIBILITY

Location: Slot 1-17 with compatible function card in front slot.
Compatibility: See DRC Card Compatibility Matrix.

SECTION TWO

2. INSTALLATION AND OPERATION

2.1. HOT-SWAPPING

All cards, input cables and output cables are hot swappable. It is not necessary to remove chassis power during insertion or removal. The system is designed to protect against permanent effects and minimize any temporary effects of hot swapping.

2.2. REMOVAL AND INSTALLATION

CAUTION: Individual components on this card are sensitive to static discharge. Use proper static discharge procedures during removal and installation.

Refer to CARD COMPATIBILITY section prior to installing new card.

To remove card, loosen the captive retaining hardware at the top and bottom of the assembly, then firmly pull on the handle (or on any connector on rear panel adapter cards) at the bottom of the card. Slide the card free of the frame. Refer to the SETUP section for any required switch settings; or, set them identically to the card being replaced. Reinstall the card in the frame by fitting it into the card guides at the top and bottom of the frame and sliding it in slowly, avoiding contact between bottom side of card and adjacent card front panel, until it mates with the connector. Seat card firmly to avoid contact bounce. Secure the retaining screws at the top and bottom of the card assembly.

2.3. SETUP

This card has no setup requirements.

2.4. FAULT INDICATION

This card has no fault indication.

2.5. MAINTENANCE

This card has no maintenance requirements.

SECTION THREE

3. THEORY OF OPERATION

3.1. GENERAL INFORMATION

This section contains a detailed description of the circuits in the Passive Output card. These descriptions should be used in conjunction with the drawings in SECTION FOUR.

3.2. HARDWARE DESCRIPTION

The Passive Output card incorporates 6 sets of wire-wrap output pins. Each set of pins includes a complementary \pm Output pair with local control of over-shoot and under-shoot.

3.3. DETAILED DESCRIPTION

Reference drawing 560-5141-2. Each wire-wrap pin is sourced via the backplane connector from individual drivers on the front function card via 100 ohm complementary controlled-impedance traces on the Passive Output card.

An optional 1N5817 Schottky diode can be located at each \pm Output wire-wrap pin to control over-shoot and under-shoot. It is normally reverse-biased, minimizing over-shoot via the slight rise-time roll-off due to the reverse-bias capacitance and the driver output impedance. Under-shoot forward-biases the diode, minimizing the under-shoot amplitude by shunting the signal to ground.

SECTION FOUR

4. DETAILED DRAWINGS

4.1. 560-5141-2 DETAILED DRAWINGS / BILL OF MATERIALS

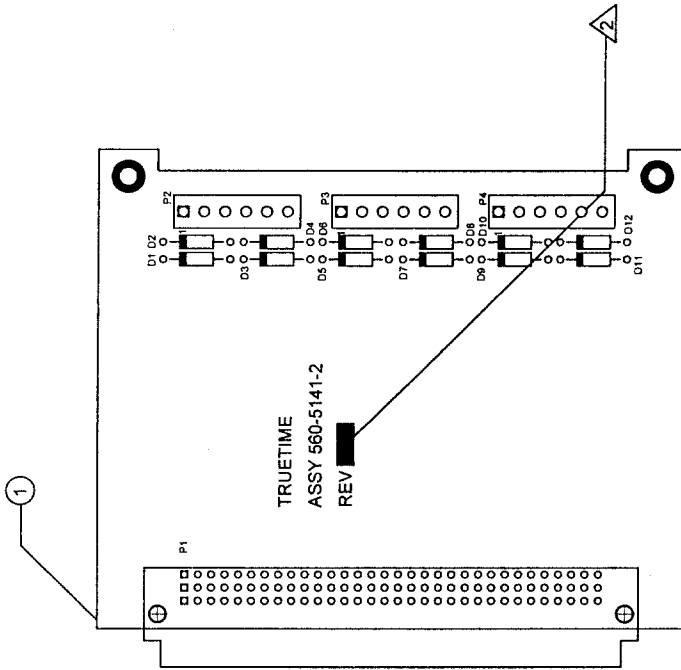
NOTES: UNLESS OTHERWISE SPECIFIED

1. VALUES OF RESISTORS ARE IN OHMS AND CAPACITORS ARE IN μ F

2. STAMP REVISION LEVEL.

3. ASSEMBLE PER ASSEMBLY REQUIREMENTS DOCUMENT 421-11.

4. DO NOT INSTALL D1-D12.



REVISIONS

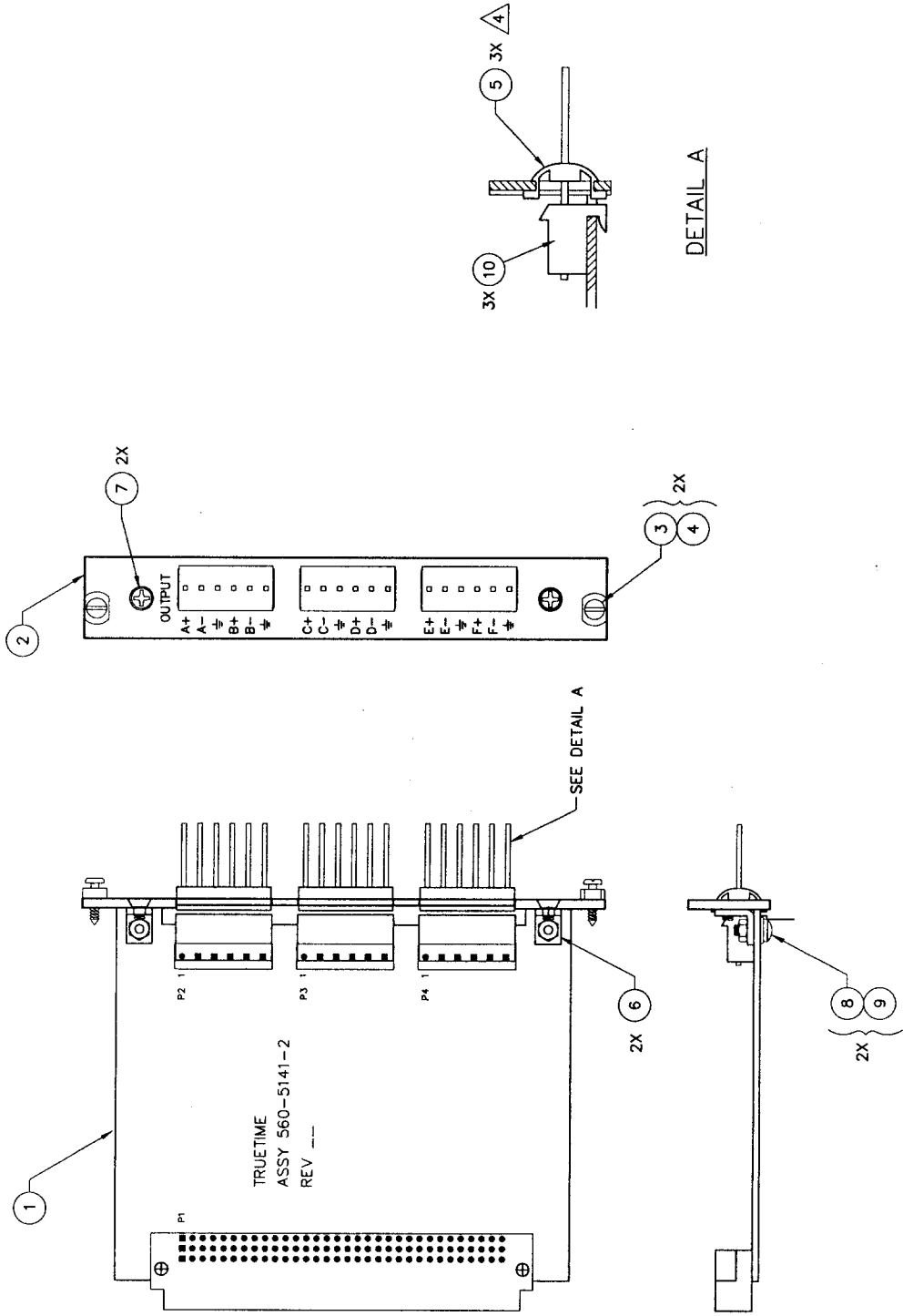
LTR	DESCRIPTION	DATE	APPROVED
A	ADDED DIODES (D1-12)	10-7-96	

TrueTime, Inc. Santa Rosa, California	
Title	ASSY DRAWING
Size	B
Number	560-5141-2
Rev	A
Date	10-4-96
Filename	2141-2A.PCB
Sheet	1 of 3

CONTRACT NO.	APPROVALS	DATE
	R.E.C.	5-23-96
DRAWN BY	CHECKED	3/17
APPROVED	NEXT ASSY	

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CONTRACT NO.	APPROVALS	DATE
	R.E.C.	5-23-96
DRAWN BY	CHECKED	3/17
APPROVED	NEXT ASSY	



4 INSTALL HEADER (ITEM 5) THRU FRONT PANEL (ITEM 2) BEFORE SECURING PANEL TO PC BOARD (ITEM 1).
 NOTES: CONT'D

REV	A
DRAWING NO.	560-5141-2
SIZE	B
CODE IDENT NO.	
SCALE	NONE
NEXT ASSY	
FILENAME:	560\5141-2B
DATE:	11-1-96
SHEET 2 OF 3	

MAX * BILL OF MATERIALS * SINGLE-LEVEL EXPLOSION BY PART IDENTIFIER W/REFERENCE

PART IDENTIFIER	DESCRIPTION 1	DESCRIPTION 2	EFF DATE	ECN #	QTY/ASSY	REV UOM LVL	REFERENCE DESCRIPTION
560-5141-2	PASSIVE OUTPUT INTFC W/W	MADE FROM 560-2141-2				EA	
0000-APPROVAL	PARTS LIST APPROVAL				1.0000	EA	<i>DIX 3/27</i>
0000-PL	PARTS LIST REV LEVEL				1.0000	EA	REV A (02-28-97)
0000-PRINT	REFERENCE PRINT				1.0000	EA	560-5141-2 REV A
0000-REV	PCB REV LEVEL HERE >>>>				1.0000	EA	560-2141-2 REV A
208-001	BRACKET UNIV L SHAPE	KEYSTONE 612			2.0000	EA	06
223-379	SCREW CAP NP M2.5 X 11	SCHROFF #21100-379			2.0000	EA	03
223-464	SLEEVE, STAINLESS	SCHROFF 21100-660			2.0000	EA	04
240-004-003	SCREW PH PN SS 4-40X3/8	SCREW PAN			2.0000	EA	09
241-004-002	SCREW PH FH SS 4-40X1/4	BUY/USE ONLY 100 DEGREE			2.0000	EA	07
251-004	NUT KEP SS 4-40	KEPNUT			2.0000	EA	08
372-96RA	CONN,96-P FM DIN RT ANGLE	BERG 68353-296			1.0000	EA	P1
401-01-01-06C	CONN 6-P CHASSIS MT	MOLEX 09-78-1061			3.0000	EA	05
401-01-01-06P	CONN 6-P PC MT	MOLEX 09-62-3061			3.0000	EA	10 (P2-4)
560-1211	PANEL, REAR (W/W PINS)	FAB/SCREEN			1.0000	EA	02
560-2141-2	PCB HEX OUTPUT INTFC(W/W)	FAB			1.0000	EA	01
LA	LABOR ASSEMBLY COST HRS				0	EA	
LT	LABOR TEST COST HOURS				0	EA	
NOTE 1					1.0000	EA	DO NOT INSTALL D1-D12
OSV560-5141-2	OUTSIDE LABOR 560-5141-2	PCA			1.0000	EA	