

# *TrueTime*

## **Model 560-5142 Passive Bus Interface Manual**

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# SECTION ONE

## 1. GENERAL INFORMATION

### 1.1. PURPOSE OF EQUIPMENT

The TrueTime Model 560-5142 Passive Bus Interface provides a capacitive-coupled 50 ohm input interface, via BNC connectors, that directly drives REF A, B, and C on the backplane. Input A, B, and C on the Passive Bus Interface drive REF A, B, and C, respectively. The three backplane signals are distributed via 50 ohm controlled-impedance traces, terminated at Slot 17. For best signal quality the Passive Bus Interface must be located in Slots 1 or 2. If Input A, B, or C is left open, the associated REF can be driven by another card within the chassis.

#### 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. INPUT CONNECTOR

Type: BNC  
Quantity: 3

##### 1.1.4.2. INPUT A, B AND C

Signal Type: Squarewave or Sinewave  
Amplitude: 1-5 Vpp ( $\pm 5$  V common-mode range)

##### 1.1.4.3. DRC CARD COMPATIBILITY

Location: Slots 1-2.  
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

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 Bus Interface card. These descriptions should be used in conjunction with the drawings in SECTION FOUR.

#### 3.2. HARDWARE DESCRIPTION

The Passive Bus Interface card incorporates 3 BNC input connectors which support the input of external references REF A, B, and C via INPUT A, B, and C, respectively.

#### 3.3. DETAILED DESCRIPTION

Reference drawing 560-5142. Each BNC connector, Input A, B, and C, is connected via a 1uF capacitor and a 50 ohm controlled-impedance trace, to REF A, B, and C, respectively, on the backplane.

## **SECTION FOUR**

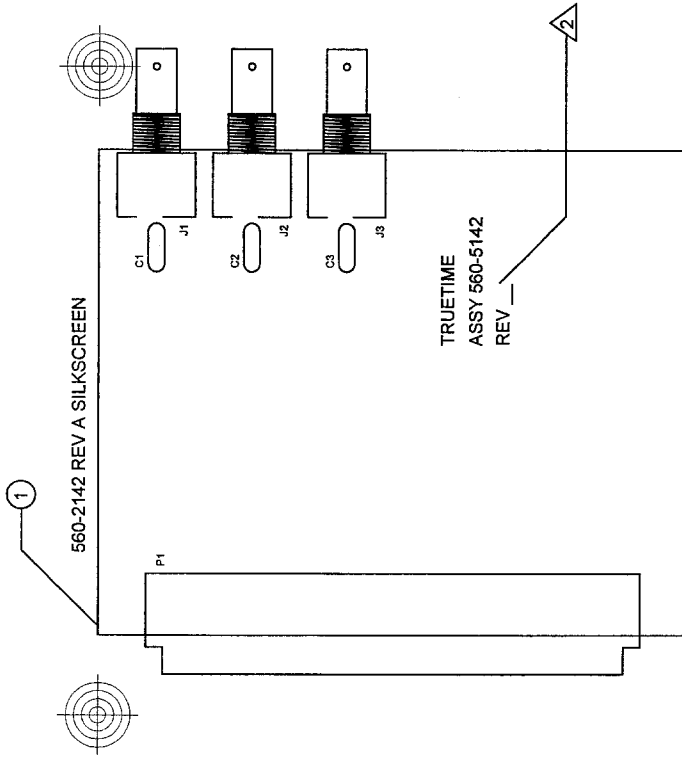
### **4. DETAILED DRAWINGS**

4.1. 560-5142 DETAILED DRAWINGS / BILL OF MATERIALS

NOTES: UNLESS OTHERWISE SPECIFIED

- 1. VALUES OF RESISTORS ARE IN OHMS AND CAPACITORS ARE IN uF
- 2. STAMP REVISION LEVEL.

- 3. ASSEMBLE PER ASSEMBLY REQUIREMENTS DOCUMENT 421-11.



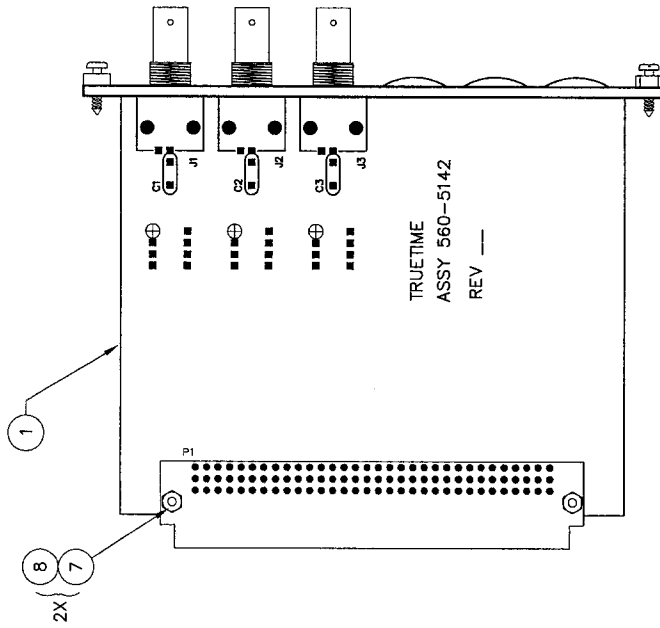
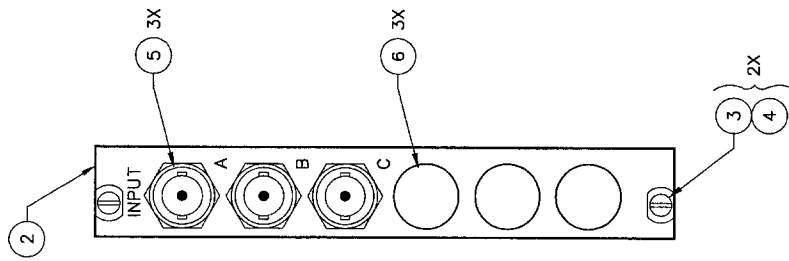
REVISIONS

LTR	DESCRIPTION	DATE	APPROVED
A	MOVE BNC'S BACK .030"	8-5-96	SK 5/99
B	AW CHANGE ON REAR PANEL	5-24-99	

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CONTRACT NO.	APPROVALS	DATE
	R.E.C.	5-23-99
DRAWN BY	CHECKED	APPROVED
		SK
CHECKED	APPROVED	NEXT ASSY

TrueTime, Inc. Santa Rosa, California	
Title	ASSY DRAWING
Size	PASSIVE BUS INTERFACE
Number	560-5142
Rev	B
Date	05-24-99
Filename	2142A.PCB
Sheet	1 of 3



**TrueTime**  
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 2835 Duke Ct. Santa Rosa, CA 95407

SIZE	CODE	IDENT NO.	DRAWING NO.	REV
B			560-5142	B
SCALE NONE				SHEET 2 OF 3

FILENAME: \560\5142B  
 DATE: 05-24-99

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

PART IDENTIFIER	DESCRIPTION 1	DESCRIPTION 2	EFF DATE	ECN #	QTY/ASSY	UOM	REV LVL	REFERENCE DESCRIPTION
560-5142	PASSIVE BUS INTFC MODULE	MADE FROM 560-2142					EA	
0000-APPROVAL	PARTS LIST APPROVAL		000000		1.0000		EA	<i>025/99</i>
0000-PL	PARTS LIST REV LEVEL		000000		1.0000		EA	REV B (05-28-99)
0000-PRINT	REFERENCE PRINT		000000		1.0000		EA	560-5142 REV B
0000-REV	PCB REV LEVEL HERE >>>>		000000		1.0000		EA	560-2142 REV A
036-X7R105	CAP 1UF X7R 50V	MURATA RPE113X7R105K50V	000000		3.0000		EA	C1-C3
223-138	SCREW SH CH ZN M2.5X10	SCHROFF #21100-138	000000		2.0000		EA	07
223-144	NUT M2.5	SCHROFF #21100-144	000000		2.0000		EA	08
223-379	SCREW CAP NP M2.5 X 11	SCHROFF #21100-379	000000		2.0000		EA	03
223-464	SLEEVE, STAINLESS	SCHROFF 21100-660	000000		2.0000		EA	04
274-009	PLUG HOLE NYL BLK 1/2 IN.	HEYCO 2643	000000		3.0000		EA	06
372-96RA	CONN,96-P FM DIN RT ANGLE	BERG 68353-296 (BOM NAV)	000000		1.0000		EA	P1
375-023	NUT BNC PC MT	AMP 1-329631-2	000000		3.0000		EA	
	ITEM 05 (J1-J3). DO NOT USE THE NUT THAT COMES WITH THE CONNECTOR. USE ITEM 05 AND THE WASHER THAT COMES WITH THE PART.							
375-026	BNC, PCB MNT, LOW PROFILE	AMP 413879-1	000000		3.0000		EA	J1-J3
560-1210-2	PNL,REAR (6)BNC/PASSV BUS	SCREEN	000000		1.0000		EA	02
560-2142	PCB BUS INTERFACE	FAB	000000		1.0000		EA	01
LA	LABOR ASSEMBLY COST HRS		000000		0		EA	
LT	LABOR TEST COST HOURS		000000		0		EA	
OSV560-5142	OUTSIDE LABOR 560-5142	PCA	000000		1.0000		EA	