

WARNING

THIS MANUAL CONTAINS TROUBLESHOOTING INSTRUCTIONS FOR USE BY QUALIFIED SERVICE PERSONNEL ONLY. TO AVOID PERSONAL INJURY DO NOT PERFORM ANY SERVICING UNLESS YOU ARE QUALIFIED TO DO SO.

PLEASE CHECK FOR CHANGE INFORMATION AT THE REAR OF THIS MANUAL.

7A42 LOGIC TRIGGERED VERTICAL AMPLIFIER SERVICE (VOLUME 2) Signature Analysis Tables

For Qualified Service Personnel Only

INSTRUCTION MANUAL

Tektronix, Inc. P.O. Box 500 Beaverton, Oregon 97077

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INSTRUMENT SERIAL NUMBERS

Each instrument has a serial number on a panel insert, tag, or stamped on the chassis. The first number or letter designates the country of manufacture. The last five digits of the serial number are assigned sequentially and are unique to each instrument. Those manufactured in the United States have six unique digits. The country of manufacture is identified as follows:

B000000	Tektronix, Inc., Beaverton, Oregon, USA
100000	Tektronix Guernsey, Ltd., Channel Islands
200000	Tektronix United Kingdom, Ltd., London
300000	Sony/Tektronix, Japan
700000	Tektronix Holland, NV, Heerenveen,
	The Netherlands

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OPERATORS SAFETY SUMMARY

The general safety information in this part of the summary is for both operating and servicing personnel. Specific warnings and cautions will be found throughout the manual where they apply, but may not appear in this summary.

TERMS

IN THIS MANUAL

CAUTION statements identify conditions or practices that could result in damage to the equipment or other property.

WARNING statements identify conditions or practices that could result in personal injury or loss of life.

AS MARKED ON EQUIPMENT

CAUTION indicates a personal injury hazard not immediately accessible as one reads the marking, or a hazard to property including the equipment itself.

DANGER indicates a personal injury hazard immediately accessible as one reads the marking.

SYMBOLS

IN THIS MANUAL

Static-Sensitive Devices

This symbol indicates where applicable cautionary or other information is to be found.

AS MARKING ON EQUIPMENT



DANGER-High voltage





ATTENTION-refer to manual.

WARNINGS

POWER SOURCE

This product is intended to operate in a mainframe connected to a power source that will not apply more than 250 volts rms between the supply conductors or between either supply conductor and ground. A protective ground connection by way of the grounding conductor in the power cord is essential for safe operation.

GROUNDING THE PRODUCT

This product is grounded through the grounding conductor of the mainframe power cord. To avoid electric shock, plug the mainframe power cord into a properly wired receptacle before connecting to the product input or output terminals. A protective-ground connection by way of the grounding conductor in the mainframe power cord is essential for safe operation.

DANGER ARISING FROM LOSS OF GROUND

Upon loss of the protective-ground connection, all accessible conductive parts (including knobs and controls that may appear to be insulating), can render an electric shock.

DO NOT OPERATE IN EXPLOSIVE **ATMOSPHERES**

To avoid explosion, do not operate this product in an atmosphere of explosive casses.

DO NOT REMOVE COVERS OR PANELS

To avoid personal injury, do not remove the product covers or panels. Do not operate the product without the covers and panels properly installed.

DO NOT OPERATE WITHOUT COVERS

To avoid personal injury, do not operate this product without covers or panels installed. Do not apply power to the plug-in via a plug-in extender.

SERVICING SAFETY SUMMARY

FOR QUALIFIED SERVICE PERSONNEL ONLY

Refer also to the preceding Operators Safety Summary

DO NOT SERVICE ALONE

Do not perform internal service or adjustment of this product unless another person capable of rendering first aid and resuscitation is present.

USE CARE WHEN SERVICING WITH POWER ON

Dangerous voltages exist at several points in this

product. To avoid personal injury, do not touch exposed connections and components while power is on.

Disconnect power before removing protective panels, soldering, or replacing components.

GENERAL INFORMATION

This manual contains signature analysis tables for use with the diagnostic troubleshooting information given in the Maintenance section of the Volume 1 service manual.

The signature analysis method of troubleshooting is most applicable to digital circuits such as the microprocessor or trigger logic; it is not an appropriate method of finding faults in analog circuits such as the power supply, amplifiers, or display control. Conventional troubleshooting methods for these circuits are located in the Maintenance section of the Volume 1 service manual.

TECHNICAL MANUALS

An operators and two service manuals are supplied with your 7A42 as standard accessories. The following information outlines the content of these manuals.

Operators Manual

The Operators Manual contains the following four sections:

Section 1—GENERAL INFORMATION contains content descriptions of the Operators and Service manuals, instrument description, mainframe and plug-in unit compatibility, packaging instructions, and instrument specifications.

Section 2—OPERATING INSTRUCTIONS describes all front-panel controls, connectors, and indicators. The Get-Acquainted Exercises provide a basic operating procedure for the first-time user, followed by a systematic demonstration of all front-panel controls.

Section 3—APPLICATIONS gives examples of how to use the 7A42 to make some difficult measurements.

Section 4—INSTRUMENT OPTIONS contains a description of available options (none were available at this printing).

Service Manual (Volume 1)



THE SERVICE MANUAL CONTAINS INSTRUCTIONS FOR USE BY QUALIFIED PERSONNEL ONLY. TO AVOID PERSONAL INJURY, DO NOT PERFORM ANY SERVICING UNLESS YOU ARE QUALIFIED TO DO SO. Section 1—GENERAL INFORMATION contains content descriptions of the Operators and Service manuals, mainframe and plug-in unit compatibility, packaging instructions, instrument specifications, and operating instructions.

Section 2—THEORY OF OPERATION contains basic and detailed circuit analysis that will be useful when servicing the instrument.

Section 3—MAINTENANCE describes preventive maintenance procedures, conventional and diagnostic troubleshooting procedures, and routine and corrective maintenance procedures with detailed instructions for replacing assemblies, subassemblies, and individual parts.

Section 4—CHECKS AND ADJUSTMENT contains procedures to check the operation and electrical characteristics of the 7A42. Procedures also include methods of adjusting the instrument to meet specifications.

Section 5—INSTRUMENT OPTIONS contains a description of available options (none were available at this printing).

Section 6—REPLACEABLE ELECTRICAL PARTS contains information needed to order replaceable parts and assemblies related to the electrical functions of the 7A42.

Section 7—DIAGRAMS AND CIRCUIT BOARD ILLUSTRATIONS includes detailed schematic diagrams, shows the location of the circuit boards in the instrument, gives voltage and waveform information, and shows locations of parts on the circuit boards.

Section 8—REPLACEABLE MECHANICAL PARTS includes information needed to order replaceable mechanical parts, and shows exploded views to identify assemblies.

Service Manual (Volume 2) Signature Analysis Tables

WARNING

THIS MANUAL CONTAINS TROUBLE-SHOOTING INSTRUCTIONS FOR USE BY QUALIFIED PERSONNEL ONLY. TO AVOID PERSONAL INJURY DO NOT PERFORM ANY SERVICING UNLESS YOU ARE QUALIFIED TO DO SO.

Section 1—GENERAL INFORMATION contains content descriptions of the Operators and Service manuals and details about how to use the signature tables.

Section 2—SIGNATURE ANALYSIS TABLES contains starting points, setup procedures, and signature tables for troubleshooting the 7A42.

HOW TO USE THE SIGNATURE TABLES

Throughout the following sample procedure refer to Figure 2-1, "Example for Using the Signature Analysis Troubleshooting Tables," which is located at the beginning of section 2. First, let's assume a pattern of Trigger Diagnostic Failure codes were reported that, after comparison with the Trigger Diagnostic Charts, implicates the Boolean Logic circuitry. (The Trigger Diagnostic Charts are located in the Diagnostics and Troubleshooting part of the Maintenance section in the Volume 1 service manual.) Trigger Troubleshooting Tip D1 (in Volume 1) calls for SA Test #23, Starting Point #1, to troubleshoot the problem. Proceed as follows:

- Find SA Test #23, Starting Point #1. Perform the indicated Setup Procedure, which for this case is #1. Verify that the high-level signature is 8P54. If it is not, double-check the test setup.
- 2. Proceed to the first IC listed in the SA Test #23 Starting Point List #1 (A6U500). Check that the signature for A6U500 pin 15 is 544F, as specified. Continue checking the signatures listed in Starting Point List #1 until you find an incorrect one. For this example, assume that the second signature on the list (H9C6) does not match the signature at A6U530 pin 15.
- 3. Locate the signature table for A6U530 in SA Test #23. In this example, part of the table set for SA Test #23 is shown in Figure 2-1.
- 4. In the row headed OUTPUT PIN, find the column labeled with the number of the pin with the bad

signature. In this example, pin 15 is the fifth column from the left.

- 5. Scan down the column under the OUTPUT SIGNATURE for pin 15 (H9C6, in this case) until you locate the first arrow.
- 6. Check that the INPUT PIN (pin 12) indicated in this row has a signature (H9C6) that matches the signature in the INPUT SIGNATURE column. Of course, the measurement must be made under the correct setup conditions, as listed in the column headed INPUT SETUP. In this example, we are still in Input Setup 1, as specified previously.
- 7. If the input pin signature matches the signature (H9C6) given in the table, and there are more arrows in the column under pin 15, proceed downward to the next arrow.
- 8. Check that the next input pin indicated by an arrow (pin 13) has a signature that matches the entry in the INPUT SIGNATURE column (8P54). In this example we are still using Input Setup #1, as originally specified. If the signature does not match the signature in the table, go to step 10.
- 9. If the entire list (rows that contain arrows) of contributing inputs is exhausted without finding an input with a bad signature, the output pin (node) under test is at fault.

The IC that was tested last is probably defective, but you should also check these other possibilities:

- a. The output could be shorted to something.
- b. One of the inputs to which the output connects could have developed a short.
- c. If the output is part of a wired-OR or wired-AND structure, the other participants in that configuration could be at fault. The SA stimulation routines are designed to minimize these situations, but they do not eliminate them.

This is as far as you can go with signature analysis. The problem is isolated to the node level. Now you must use other techniques. However, it may be helpful to leave the SA stimulation routine running to aid oscilloscope-based troubleshooting. Refer to the Diagnostics and Troubleshooting part of the Maintenance section in Volume 1 for more information.

10. When you find a bad Input Signature, the IC under test is probably operating correctly. In this example, the column headed INPUT'S SOURCE NODE is the designation for the IC output pin or other circuit element that drives the IC under test. Check the signature on this driving device; if it matches the signature on the bad input, go to step 11. In this example, assume that the signature at A6U530 pin 12 was incorrect (not H9C6). The source node for this input is A6U530 pin 2 (the same IC).

If the signature on the driving node (A6U530) does not match that of the driven node (A6U530 pin 12), proceed as follows:

- a. Check for an open run on the board or in a cable, or for a loose connector. Check any cables pertinent to the node in question, then recheck the signatures.
- b. Check for noise induced by the high currents caused by shorted signal lines. These currents can produce transients which will affect the signature analyzer's interpretation, depending on where the signature analyzer's probe is grounded and the layout of the circuit board. These problems must be troubleshot by other means.
- 11. If the signature at the driving node (A6U530 pin 2) matches the incorrect signature at the bad input (A6U530 pin 12), we turn our attention to the driving node. If there is no entry in the REFERENCE? column for this input pin, the signature table for the driving IC can be found among those in the test you are now running (SA Test #23). In this example, the driving IC is a gate in the same package (A6U530).

NOTE

The meaning of the letters Y, N, and P in the REFERENCE? column (next to the INPUT'S SOURCE NODE) is as follows:

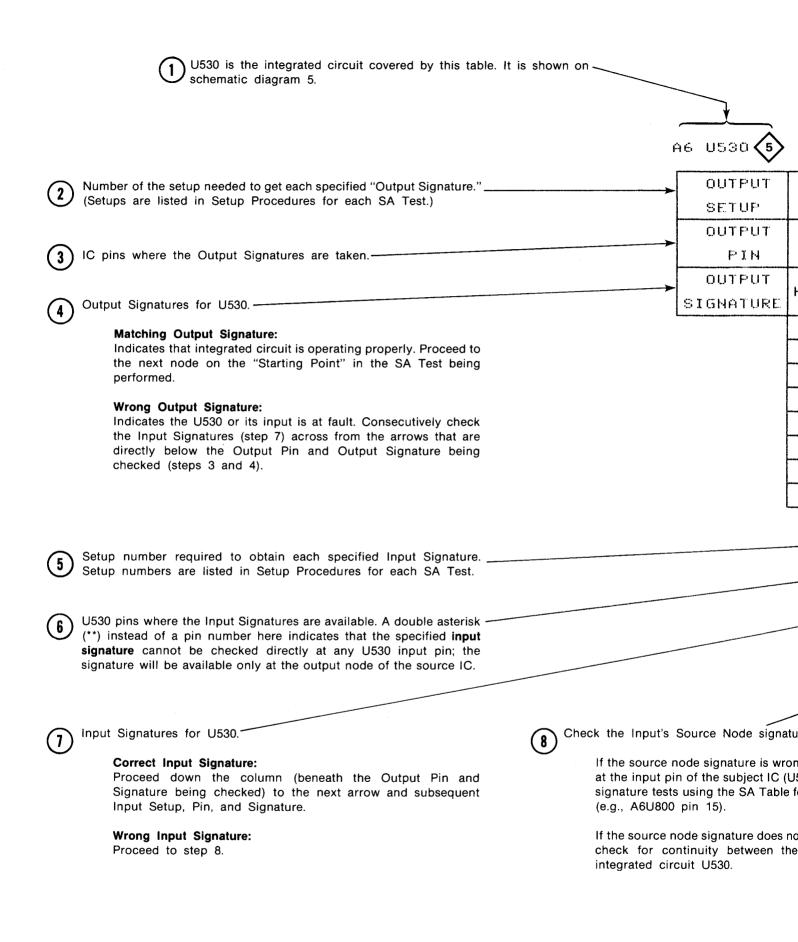
Y — Additional troubleshooting information is listed at the bottom of the page. This may be a reference to another signature analysis test, or to other documented troubleshooting procedures.

N — This INPUT'S SOURCE NODE is at the boundary of a major functional block, beyond which signature analysis is not useful. The source may be an analog circuit that is better tested by other means. Refer to the appropriate troubleshooting procedure for that circuit in the Maintenance section of Volume 1.

NOTE

P — This indicates that the INPUT'S SOURCE NODE is a pseudogate, that is, part of a wired-AND or wired-OR structure. A table next to the signature table lists all the components in the structure. All inputs to each gate in the list can affect the output of the pseudogate. Signatures must be checked at the appropriate inputs of each involved gate. A diode can be checked with signature analysis as if it were a gate with one input (anode) and one output (cathode).

- 12. In this example, the Output Setup given in the signature table for A6U530 is number 1, which was implemented previously. Proceed down the Output Pin 2 column to the first arrow. Ensure that the correct Input Setup (number 1 again) has been made, and check the signatures at each node in the WIREAND 7 list (they should match and be wrong). If wrong and matching signatures are present, locate the signature table for each component in the WIREAND 7 list and check the appropriate inputs to locate the problem. If all the input signatures are good, the Trigger Troubleshooting part of the Maintenance section in Volume 1 outlines some special techniques for troubleshooting pseudogate nodes.
- If the signature at A6U530 pin 4 is correct (it should be 8P54), check the signature of the next input designated with an arrow, A6U530 pin 5. This input comes from another pseudogate, WIREAND 6. Proceed as before until the problem is solved.





REFER TO "HOW TO USE THE SIGNATURE TABLES," IN THIS SECTION, FOR A STEP-BY-STEP DEMONSTRATION

OUTPUT	1	i	i	1	1	I Ы	_	~		R
SETUP	L .	1	1	L 1	1	IP	I N	S , I	17 8 1 197 1 1 197 B 198	KMTMKMZON
OUTPUT	2	з	9	1.4	15	Ŭ T			INPUT'S	L R
PIN		~	2	74	10	S E		I G N A P A U T U	SOURCE	E N
OUTPUT	H9C6	P81A	5792	1002	11000	T	P I N	TU R E	NODE	L: E
GNATURE	noco	FOIH	57PE	1986	Насе	U P	M	E.		?
	5					1	4	4029	WIREAND # 7	Р
	<i>۲</i> ــــــــــــــــــــــــــــــــــــ					1	5	85H7	WIREAND # 6	Ч
		**				1	6	2411	A6 U800-15	
		<u>نې پې</u>				1	7	57P2	A6 U530-9	
				^{ار}		1	10	57P2	A6 U530-9	
				5		1	11	61U4	A6 U800-14	
			۲ ۵۰۰۰۰ ۴۶		he ser	i	12	насе	A6 U530-2	
			` ~‡,		\$-44	1	13	8P54	WIRED HIGH	
							1	↑	<u>↑</u>	1

ce Node signature:

signature is wrong, but matches the signature the subject IC (U530 in this example), perform ng the SA Table for the Input Source IC given 15).

signature does not match that of the input pin, ity between the Input's Source Node and U530. 9 Denotes the location of the Input Source Signatures, as follows:

Blank space—indicates that the signature tables for the ICs listed under Input's Source Node are located in the SA Test being performed.

Y-designates that the Reference Information for the ICs listed under Input's Source Node is located at the bottom of the page.

P—indicates a wire-AND or wire-OR structure, and the list of gates involved, on the same page.

N—this circuitry is better checked with other troubleshooting methods. Refer to Volume 1 of the Service Manual.



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STARTING POINT #1

- 1. Perform Setup #1 as described in the Setup Procedures on the following pages.
- Check that the +5V (TTL high level) signature is 0001, if it is not double-check the setup.
- 3. After you obtain the above signature, sequentially check the signatures of all nodes in Starting Point List #1 below. If you find an incorrect signature, proceed to the Signature Tables in this test and follow the example given in Figure 2-1 (pullout page at the end of this section) to isolate the problem.

	Starti	ng roin		اله الاست الحالة الدائمة الملكة الإسلام فليتنار الجاري المالية عليهم وجوارة الإليان الإليان	
 BOARD	IC	PIN	SIGNATURE		
A7	U300	7	4597		
A7	U30 0	9	FCF3		
A7	0300	10	52A3		
A7	0300	11	A687		
A7	U300	12	4A75		
A7	0300	13	1A47		
A7	0300	14	4497		
A7	0300	15	PFCC		
AB	U535	12	F2A6		
A8	U535	13	PC01		
A8	U535	14	1203		
AB	U535	15	4POA		
A 8	U610	10	9H31		
AB	U610	11	C192		
AB	U610	12	3 PFA		
AB	U610	13	FUPA		
AB	U610	14	3P1F		
AB	U610	15	CPP9		
A8	0630	7	8260		
AB	U630	9	6030		
AB	U630	10	54F5		
A8	U630	11	A711		
AB	U630	12	AA6A		
A 8	0630	13	HUEA		
AB	U630	14	H759		
A8	U630	15	CA11		
A8	U735	4	09H8		
A8	U735	5	251A		
AB	U735	6	A64U		
AB	U735	7	HP49		
AB	U735	9	65F9		
A8	U735	10	89P6		
AB	U735	11	714A		
A8	U735	12	UH5U		

STARTING POINT #2

- 1. Perform Setup #2 as described in the Setup Procedures on the following pages.
- Check that the +5V (TTL high level) signature is 1180, if it is not double-check the setup.
- 3. After you obtain the above signature, sequentially check the signatures of all nodes in Starting Point List #2 below. If you find an incorrect signature, proceed to the Signature Tables in this test and follow the example given in Figure 2-1 (pullout page at the end of this section) to isolate the problem.

hanin dada kumun Albin dajah dalah Albin	BOARD	IC	PIN	SIGNATURE
	A8	U145	11	2FH9
	A8	U145	12	7933
	AB	U145	13	64F4
	AB	U145	15	HF6A
	AB	U145	16	UFUF
	AB	U145	17	F6H3
	AB	U145	18	0U5F
	A8	U145	19	2438

SA TEST #1

STARTING POINT #3

- 1. Perform Setup #3 as described in the Setup Procedures on the following pages.
- Check that the +5V (TTL high level) signature is 1180, if it is not double-check the setup.
- 3. After you obtain the above signature, sequentially check the signatures of all nodes in Starting Point List #3 below. If you find an incorrect signature, proceed to the Signature Tables in this test and follow the example given in Figure 2-1 (pullout page at the end of this section) to isolate the problem.

 				-
BOARD	IC	PIN	SIGNATURE	
AB	U245	11	8F54	
A8	U245	12	7051	
A8	U245	13	04H8	
A8	U245	15	9H51	
A8	U245	16	4U91	
A8	U245	17	9304	
A8	U245	18	UB07	
A 8	U245	19	6456	

SA TEST #1

STARTING POINT #4

- 1. Perform Setup #4 as described in the Setup Procedures on the following pages.
- Check that the +5V (TTL high level) signature is 1180, if it is not double-check the setup.
- 3. After you obtain the above signature, sequentially check the signatures of all nodes in Starting Point List #4 below. If you find an incorrect signature, proceed to the Signature Tables in this test and follow the example given in Figure 2-1 (pullout page at the end of this section) to isolate the problem.

···· papa tang tang tan	BOARD	IC	PIN	SIGNATURE
	AB	U340	11	9F25
	AB	U340	12	H09P
	AB	U340	13	82P4
	AB	U340	15	F5UC
	A8	U340	16	FU53
	A8	U340	17	A6H0
	A8	U340	18	C1CP
	A8	U340	19	HAC2

SA TEST #1 : SETUP PROCEDURE #1

- a. To gain access to components, the A7 Digital Board should be installed in its extended position. Refer to Extending Circuit Boards for Troubleshooting, in the Maintenance Section of Volume 1 for detailed instructions to do this.
- b. Referring to Figure 3-17, connect the Signature Analyzer START, STOP, and CLOCK inputs to the A8 MPU as shown below.

START: falling edge sensitive, A8 TP345 A15 STOP : falling edge sensitive, A8 TP345 A15 CLOCK: rising edge sensitive, A8 TP640 /RD

- c. Set the Signature Analyzer Data and Control Probe thresholds to TTL.
- d. Configure the 7A42 to Forced Instruction Freerun mode. Refer to Table 3-7 for the proper jumper locations. Table 3-7 is located in What To Do If The 7A42 Does Not Respond To Front Panel Controls, under Forced Instruction Freerun, in Volume 1.
- e. With the 7A42 installed on two 067-0616-00 Flexible Extenders, power up the host mainframe.
- f. Acquire the +5V (TTL high level) signature.

SA TEST #1 : SETUP PROCEDURE #2

a. Referring to Figure 3-17, connect the Signature Analyzer START, STOP, and CLOCK inputs to the A8 MPU as shown below.

> START: falling edge sensitive, A8 TP145 A STOP : rising edge sensitive, A8 TP145 B CLOCK: rising edge sensitive, A8 TP640 /RD

- b. Set the Signature Analyzer Data and Control Probe thresholds to TTL.
- c. Configure the 7A42 to Forced Instruction Freerun mode. Refer to Table 3-7 for the proper jumper locations. Table 3-7 is located in What To Do If The 7A42 Does Not Respond To Front Panel Controls, under Forced Instruction Freerun, in Volume 1.
- d. With the 7A42 installed on two 067-0616-00 Flexible Extenders, power up the host mainframe.
- e. Acquire the +5V (TTL high level) signature.

SA TEST #1 : SETUP PROCEDURE #3

a. Referring to Figure 3-17, connect the Signature Analyzer START, STOP, and CLOCK inputs to the A8 MPU as shown below.

> START: falling edge sensitive, AB TP145 B STOP : rising edge sensitive, AB TP145 C CLOCK: rising edge sensitive, AB TP640 /RD

- b. Set the Signature Analyzer Data and Control Probe thresholds to TTL.
- c. Configure the 7A42 to Forced Instruction Freerun mode. Refer to Table 3-7 for the proper jumper locations. Table 3-7 is located in What To Do If The 7A42 Does Not Respond To Front Panel Controls, under Forced Instruction Freerun, in Volume 1.
- d. With the 7A42 installed on two 067-0616-00 Flexible Extenders, power up the host mainframe.
- e. Acquire the +5V (TTL high level) signature.

SA TEST #1 : SETUP PROCEDURE #4

a. Referring to Figure 3-17, connect the Signature Analyzer START, STOP, and CLOCK inputs to the AB MPU as shown below.

> START: falling edge sensitive, AB TP145 C STOP : rising edge sensitive, AB TP145 D CLOCK: rising edge sensitive, AB TP640 /RD

- b. Set the Signature Analyzer Data and Control Probe thresholds to TTL.
- c. Configure the 7A42 to Forced Instruction Freerun mode. Refer to Table 3-7 for the proper jumper locations. Table 3-7 is located in What To Do If The 7A42 Does Not Respond To Front Panel Controls, under Forced Instruction Freerun, in Volume 1.
- d. With the 7A42 installed on two 067-0616-00 Flexible Extenders, power up the host mainframe.
- e. Acquire the +5V (TTL high level) signature.

A7 U300 🔦

OUTPUT SETUP	1	1	1	1	1	1	1	1	I N P	INP	SI	:	REF
OUTPUT PIN	7	9	10	11	12	13	14	15	U T S	Ŭ T		INPUT'S SOURCE	HRHZO
OUTPUT SIGNATURE	4597	FCF3	52A3	A687	4A75	1A47	4497	PFCC	L T U P	P I N	I URE	NODE	Ë E ?
	5	~ ‡	` ÷	<i>ک</i> ے	4	<i>چ</i> ب	┝┈╬┿	<u>ر</u> ب	1	1	2H70	A8 U305-22	М
	÷	*	ب	ب ب	4	` #	` #	` ;+	1	5	HPPO	A8 U305-23	н
	÷,	÷,	Ĵ	Ť	*	ب	ب	ب ب	1	З	1293	A8 U305-24	И
	ب تر ا	÷,	÷.	*	ب ر ا	*	ۍپ ه	` ;+	1	4	0000	WIRED LOW	\square
	ţ	ţ,	` ‡	` #	`	ţ	4	**	1	5	0000	WIRED LOW	
	4	\$	4	¥	` ÷	` *	54	÷	1	6	826P	A8 U635-10	

A8 U145 🔗

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·													
OUTPUT SETUP	2	2	2	2	2	2	2	2	I N P	IN	S I		REF
OUTPUT PIN	11	12	13	15	16	17	18	19	U T S E		I G N A U U U	SOURCE	ששהשמחצו
OUTPUT SIGNATURE	2FH9	7933	64F4	HF6A	UFUF	F6H3	OUSF	2438	II T	P I N	TURE	NODE	C E ?
	Ť	ţ	`÷	ب ر ۴	ب	` \$	` .;+	4	5	5	H6AA	A8 U305-25	N
	4	ب	4	<u>ب</u>	Ť	ţ	\ #	` #	2	З	4PCC	A8 U515-19	И
	4	`	<u>ب</u> ب	` ÷	÷	*	Ĵ.	4	5	4	A7A2	A8 U515-16	N
	` \$	<u>`</u> +	` \$	` *	` ÷	` ÷	\ 4	\$	5	5	108P	A8 U515-2	N
	4	` ÷	`÷	` ÷	` ÷	\	` #	` #	5	6	5342	A8 U515-5	Ν
	<u>`</u> #	`÷	÷	` #	` #	`	`	` #	5	7	1100	A8 U515-15	М
	*	\÷	*	` #	`.÷	<u>ب</u> ب	\ #	`	5	8	0108	A8 U515-12	Ν
	÷	4	<u>`</u> +	`	`	<u>ب</u>	<u>ب</u> ب	`	2	9	052A	A8 U515-6	М
	<u>`</u> *	÷	` ‡	` #	¥.	\$	` ÷	<u>ب</u>	2	10	0070	A8 U515-9	Ν
	÷	` ‡	` ‡	*	<u>~</u> ;	ب ب	4	` *	5	20	P254	A8 U535-15	
	\	\÷	` ÷	` ÷	\$	<u>ب</u> ند	ب ب	`	5	21	OPOP	A8 U305-23	Ν
	<u>`</u> ÷	÷	` ÷	<u>ک</u> ې	<u>`</u>	` ;.	\ #	ب ب	5	25	P254	A8 U535-15	\Box
	<u>ب</u> ب	4	<u>ب</u>	<u>\</u>	<u> </u>	4	4	ک ینہ	2	23	0F62	A8 U305-24	н
	ب	<u>`</u>	¥-	¥.	ب	<u> </u>	<u>\</u>	ب ې	5	24	5HC4	A8 U305-22	Ν
	<u>`</u>	<u>ب</u>	<u>\</u>	<u> </u>	4	<u>`</u> ÷	` #	\ .	2	25	FF4F	A8 U305-21	Ν
l	<u>`</u> *	<u>`</u>	4	<u>~</u>	<u>`</u> +	` ÷	بب	\$	5	27	1180	WIRED HIGH	

2-7

Signature Analysis Tables-7A42 Volume 2

A8 U245 **9**

								·····			1		
OUTPUT SETUP	3	3	З	З	з	з	З	З	I N P U	I N P	S I I G	INPUT'S	๛๛๛๛๛๛
OUTPUT	11	12	13	15	16	17	18	19	Ť	ų	N N	SOURCE	RE
PIN	11	16	13	10	10				S E	P	P A U T T U	NODE	N C E
OUTPUT	8F54	7051	04H8	9H51	4091	9304	U807	6456	Т	Î	R		
SIGNATURE	01.04	/ 001	04110						Ρ				?
	۰ م ېد	\÷	` ;+	` #	<i>د</i> يد	~	م ن يد (<u>`</u> *	3	5	H6AA	A8 U305-25	н
	4	` +	` ;•	` ‡	` .;+	` ÷	b - p	` #	з	З	4PCC	A8 U515-19	Ν
	` #	` .;•	4	\$	4	` \$	<i>ب</i> ب	` #	з	4	A7A2	A8 U515-16	М
	4	~*	¥,	4	<i>٠</i>	` #	` *	<u>م</u> ئر م	3	5	108P	A8 U515-2	М
	4	¥.	\	¥	` *	4	` ;.	` ÷	З	6	5342	A8 U515-5	м
	4	\ #	` #	4	\	\÷	۲	` #	3	7	1100	A8 U515-15	м
	\ `	` #	4	\$	4	4	۲ .	~*	З	8	0108	A8 U515-12	м
	*	~ ; ,	¥	4	~*	4	~ #•	~*	з	9	052A	A8 U515-6	И
	4	~ ; +	`	4	` \$	¥	` ÷	` #	з	10	0070	A8 U515-9	н
		4	4	\ `	4	\	` ÷	<i>ک</i>	з	20	P254	A8 U535-14	
	` ÷	4	_ }	*	\.÷	4	ب	` ÷	3	21	OPOP	A8 U305-23	N
	4	4	*	`÷	4	` ;•	` #	` #	З	22	P254	A8 U535-14	
	4	\ \	\$	¥	4	` ;•	` ÷	` #	З	23	0F62	A8 U305-24	N
	4	\$	` \$	4	4	` ÷	` *	4	3	24	5HC4	A8 U305-22	Ν
	\$	4	ب	` #	` \$	4	ب نا	4	З	25	FF4F	A8 U305-21	н
	` \$	4	ب	` ÷	<u>ب</u> ب	4	` \$	¥	з	27	1180	WIRED HIGH	

A8 U340 **9**

•													
OUTPUT SETUP	4	4	4	4	4	4	4	4	I N P	IN	S I I G	INPUT'S	REFE
OUTPUT	11	12	13	15	16	17	18	19	U T	P U T	N N P A	SOURCE	ÎR E N
PIN									S E	Р	U T T U	NODE	Ë
OUTPUT	9F25	H09P	82P4	FSUC	FU53	A6H0	CICP	HACE	L.	I N	R		
STANATURE	21 20								Р				2
	4	~	` ÷	ب ب	~->	` \$	<u>`</u>	<i>م</i> ېنې	4	2	H6AA	A8 U305-25	м
	4	\. 	` #	` ‡	4	~÷	<u>ب</u> يد	\ #	4	З	4PCC	A8 U515-19	H
	\	\	¥	4	\÷	\	~*	4	4	4	A7A2	A8 U515-16	М
		4	4	4	~*	\$	` #	\$	4	5	108P	A8 U515-2	н
		¥.	\	\	\	¥	4	\$	4	6	5342	A8 U515-5	Ν
	_+	4	4	¥	4	4	` \$	4	4	7	1100	A8 U515-15	м
		\	4	4	\	\	` #	**	4	8	0108	A8 U515-12	м
		\	4	4	14	4	<u>ب</u>	` #	4	9	052A	A8 U515-6	М
	~*	\	4	4	1	\÷	14	~*	4	10	0070	A8 U515-9	N
	4	\	4	¥	4	\ +	4	1	4	50	P254	A8 U535-13	
	<u> </u>	4	4	4	\$	4	` ÷	_ }	4	21	OPOP	A8 U305-23	N
	~	4	`	\$	\$	*	\	~*	4	22	P254	A8 U535-13	
	4	<u>ب</u> يد	- `	\	4	*	14	` \$	4	23	0F62	A8 U305-24	N
	4	4	4	4	5	4	ب	4	4	24	5HC4	A8 U305-22	м
	<u>ب</u>	¥	4	4	<i>۲.</i>	4	4	` +	4	25	FF4F	A8 U305-21	м
	\$	4	\$	4	4	4	\. 	\	4	27	1180	WIRED HIGH	

Scans by Outsource-Options =>

A8 U535 **(9**)

OUTPUT SETUP	1	1	1	1	HZ0.Jt	I N P	S I I G	INPUT'S	ደግግሪ
OUTPUT PIN	12	13	14	15	T SET	Ϋ́Ρ	I G N A U T U	SOURCE	IN
OUTPUT SIGNATURE	F2A6	PC01	12U3	4POA	Г U P	Г N	' R E	HODE	Ĉ E ?
	` #	·+	¥+	4	1	1	3096	A8 U305-26	Я
	<u>ب</u> ب	`- <u>.</u>	` #	*	1	2	3827	A8 U305-27	н
	` *	` #	*	` *	1	З	0000	WIRED LOW	
	~*	\$	` #•	4	1	4	0000	A8 U305-32	Ν
	*	\$	\.	4	1	5	755U	A8 U305-28	Ν
	4	` #	`- ;•	\$	1	6	0001	WIRED HIGH	

A8 U610 9

OUTPUT SETUP	1	1	1	1	1	1	I N P U	I N P	S I I G	INPUT'S	מחרחמח
OUTPUT PIN	10	11	12	13	14	15	T SE	U T P		SOURCE	INI
OUTPUT SIGNATURE	9H31	C192	3PFA	FUPA	3P1F	CPP9	Т	Г N	' RE	HODE	C E ?
1	4	\ *	\$	` #	~*	ب ب	1	1	2H70	A8 U305-22	Ν
	4	` ÷	4	` #	**	7	1	2	HPPO	A8 U305-23	И
	<u>ب</u> ب	4	*	÷	\	\$	1	З	1293	A8 U305-24	И
	<u>ب</u>	\. \.	*	+	\	4	1	4	A711	A8 U630-11	
	` ÷	` #	ب	` #	~÷	\$	1	5	0000	A8 U730-2	н
	ب	` #	÷	`÷	` ÷	\ ; ,	1	6	0001	WIRED HIGH	

AB U630 🔗

$\mathbf{\vee}$													يحسب
OUTPUT SETUP	1	1	. 1	1	1	1	1	1	INP	INP	S I I G	INPUT'S	RMFE
OUTPUT PIN	. 7	9	10	11	12	13	14	15	Ť	U T P	N N P A U T U	SOURCE	REN
OUTPUT SIGNATURE	826U	6030	54F5	A711	AA6A	АЗИН	H759	CA11	T U P	, N	- 0RW	HODE	C E ?
<u> </u>	4	` #	4	÷	\$	14	ۍې ا	`	1	1	HAP7	A8 U305-25	н
	`	5	4	\$	` #	14	<u>ب</u> ب	\$	1.	2	3096	A8 U305-26	М
	\	\ #	4	\$	**	` #	` #•	`÷	1	3	3827	A8 U305-27	Ν
	~	` #	`	` #	\$	\÷	` *	` #	1	4	0000	WIRED LOW	
	4	`	`	` #	\÷	` *	4	4	1	5	0000	WIRED LOW	
	4	\	` +	4	4	4	ب	54	1	6	755U	A8 U305-28	Ν

Signature Analysis Tables—7A42 Volume 2

AB U635 🔗

OUTPUT		I	Ţ		s		R
SETUP	1	Ρ	Ň	Ŧ	I	INPUT'S	Ē
OUTPUT		Ϋ́	ũ	Ň	Ņ		Ř
PIN	10	S	I P	μ	7	SOURCE NODE	WUZUWHUZO
OUTPUT		1	I		R	NODE	Ĕ
SIGNATURE	826P	P	н		E		?
	÷	1	8	826	5U	AB U630-7	
	ų.	1	9	000	00	A8 U730-2	Ν

AB U735

~													
OUTPUT SETUP	1	1	1	1	1	1	1	1	INP	INP	S I I G	INPUT'S	RMFF
OUTPUT PIN	4	5	6	7	9	10	11	12	T S F	Ú T P	N A P A U U T U	SOURCE	HRHZ C
OUTPUT SIGNATURE	09H8	251A	A64U	HP49	65F9	89P6	714A	บหรบ	ĪŦ	Г Н N	- DRE	HODE	Ĉ E ?
	` #	` \$	` ‡•	4	۲	5	ب نید	` ÷	1	1	0001	A8 U730-14	2 N
	`	` #	\ #	¥	` ;•	4	ب بد	ب	1	5	54F5	A8 U630-10	3
	4	ب	` +	\$	` #	`÷	ب ې	\ ```	1	З	1293	A8 U305-24	t N
	4	\ #	4	4	~	` ;+	*	<u>۰</u>	1	13	HPPO	A8 U305-2	зИ
	` *	` .;•	`	4	÷	` #	Ť	¥.	1	14	603C	A8 U630-9	\Box
	` #	¥	4	`	` ;+	` ÷	<i>ب</i>	4	1	15	0000	A8 U730-2	Ν

Scans by Outsource-Options =>



Scans by Outsource-Options =>

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SA TEST #2

STARTING POINT #1

- 1. Perform Setup #1 as described in the Setup Procedures on the following pages.
- Check that the +5V (TTL high level) signature is O1H6, if it is not double-check the setup.
- 3. After you obtain the above signature, sequentially check the signatures of all nodes in Starting Point List #1 below. If you find an incorrect signature, proceed to the Signature Tables in this test and follow the example given in Figure 2-1 (pullout page at the end of this section) to isolate the problem.

 BOARD	IC	PIN	SIGNATURE
A7	U420	2	78FH
A7	U420	5	CPU1
A7	U420	6	U40H
A7	U420	9	H889
A7	U420	12	2510
A7	U420	15	CF9A
A7	U420	16	С20Н
A7	U420	19	FOPF
A7	U421	2	3H5C
A7	U421	5	HP45
A7	U421	6	UC3C
A7	U421	9	6H79
A7	U421	12	1300
A7	U421	15	HU77
A7	U421	16	583C
A7	U421	19	P076
A7	U500	2	C906
A7	U500	5	88P0
A7	U500	6	PPP5
A7	U500	9	BAFO
A7	U500	12	6656
A7	U500	15	AA28
A7	U500	16	0763
A7	U500	19	9008
A7	U700	2	9063
A7 ⁻	U700	5	UAEU
A7	U700	6	5F69
A7	U700	9	9423
A7	U700	12	4HOU
A7	U700	15	3F6C
A7	U700	16	39UA
A7	U700	19	H5U2

Signature Analysis Tables—7A42 Volume 2

SA TEST #2

STARTING POINT #2

- Perform Setup #1 as described in the Setup Procedures on the following pages.
- Check that the +5V (TTL high level) signature is O1H6, if it is not double-check the setup.
- 3. After you obtain the above signature, sequentially check the signatures of all nodes in Starting Point List #2 below. If you find an incorrect signature, proceed to the Signature Tables in this test and follow the example given in Figure 2-1 (pullout page at the end of this section) to isolate the problem.

Starting Point List #2

BOARD	IC	PIN	SIGNATURE
A7	U330	З	24FH
A7	U330	4	CF94
A7	0330	5	C20H
A7	U330	6	251C
A7	U330	11	01H6
A7	U330	14	01H6
A7	U430	3	U5HC
A7	U430	4	CF94
A7	U430	5	C20H
A7	U430	6	H889
A7	U430	11	U40H
A7	U430	14	H95U
A7	U431	з	791C
A7	U431	4	CF94
A7	U431	5	C20H
A7	U431	6	78FH
A7	U431	11	CPU1
A7	U431	14	CU27
A7	U520	3	3H5C
A7	U520	4	F13A
A7	U520	5	FOPF
A7	U520	6	HU77
A7	U520	11	P076
A7	U520	14	0030
A7	U531	3	1300
A7	U531	4	F13A
A7	U531	5	FOPF
A7	U531	6	6H79
A7	U531	11	HP45
A7	U531	14	583C

SA TEST #2: SETUP PROCEDURE #1

- a. To gain access to components, the A7 Digital Board should be installed in its extended position. Refer to Extending Circuit Boards for Troubleshooting, in the Maintenance Section of Volume 1 for detailed instructions to do this.
- b. Referring to Figure 3-17, connect the Signature Analyzer START, STOP, CLOCK and GND inputs to the pins on the A8 MPU Board labeled STR, STP, /XWR, and GND, respectively. Set the STOP, and CLOCK inputs to rising edge sensitivity, the START input to falling edge sensitivity.
- c. Set the Signature Analyzer Data and Control Probe thresholds to TTL.
- d. Configure the 7A42 in XBUXS mode. Refer to Table 3-7 for the proper jumper locations. Table 3-7 is located in What To Do If The 7A42 Does Not Respond To Front Panel Controls, under Forced Instruction Freerun, in Volume 1.
- e. Install the /RTI jumper, P930 on the AB MPU Board, and the RELN jumper, P401 on the A7 Digital Board. Figures 3-7 and 3-8 in the section What To Do If The 7A42 Does Not Respond To Front Panel Controls, under Forced Instruction Freerun, in Volume 1, illustrate the location of these jumpers.
- f. With the 7A42 installed on two 067-0616-00 Flexible Extenders, power up the host mainframe.
- g. Acquire the +5V (TTL high level) signature.

Signature Analysis Tables-7A42 Volume 2

A7 U330 📀

The outputs of U330 are not compatible with a signature analyzer. Begin with the input pins.

	HZPUT PHZ		INPUT'S Source Node	RHFHRHZOR 5
1	З	24FH	A7 U530-2	-
1	4	CF 94	A7 U420-15	
1	5	CSOH	A7 U420-16	
1	6	2510	A7 U420-12	
1	11	01H6	WIRED HIGH	
1	14	01H6	WIRED HIGH	

A7 U420 2

\mathbf{v}													
OUTPUT	1	1	1	1	1	1	1	1	I N P	I	S		8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
SETUP	•			-	-			_	PU	Ň	IG	INPUT'S	F
OUTPUT	2	5	6	9	12	15	16	19	Ť	Ŭ T	ŇŇ PA	SOURCE	R
PIN	E		0		*				S E	Р	Ϋ́́Τ	NODE	Ň
OUTPUT	78FH	CPU1	U40H	H889	251C	CF94	CSUH	FOPF	ПΤ	I N	ŔĔ	HODE	Ē
SIGNATURE	1 01 11		0401	1005	2010		02011		Ŭ P		-		?
	` #	¥	¥.	4	<u>ب</u> تر (۲ .	\	` *	1	1	0000	WIRED LOW	
	`								1	З	4702	A8 U300-2	
		` #							1	4	F833	A8 U300-5	
		1	\$						1	7	772A	A8 U300-19	
			[` *					1	8	5600	A8 U300-16	
	` #	\$	` #	ب ب	` ÷	4	~ *	~*	1	11	2HAH	A7 U300-14	Y
					4				1	13	3505	A8, U300-6	
		1				\			1	14	5144	A8 U300-9	
							`		1	17	U722	A8 U300-15	
								` ÷	1	18	3C18	A8 U300-12	

Reference List

A7 U300-14: use SA TEST #1, Starting Points #1 through #4

Scans by Outsource-Options =>

A7 U421

OUTPUT SETUP	1	1	1	1	1	1	1	1	I N P	I N P	S I		REF
OUTPUT PIN	2	5	6	9	12	15	16	19	UTSET	U T	I GNATU		-UREZ(
OUTPUT SIGNATURE	3H5C	HP45	исэс	6H79	13CO	HU77	583C	P076		P I N	T U R E	NODE	C E ?
	ب ب	4	ب	ţ	` ;+	`	` ;+	ب	1	1	0000	A8 U900-5	н
	4								1	З	4702	A8 U300-2	
		÷.							1	4	F833	A8 U300-5	
			۲						1	7	772A	A8 U300-19	Γ
				*					1	8	5600	A8 U300-16	
	<u>ب</u> ر	` ‡	*	ب	Ŷ	ب نه (~ #	<u>ب</u>	1	11	97PC	A7 U300-15	Y
					*				1	13	3505	A8 U300-6	
						*			1	14	5144	A8 U300-9	
							÷		1	17	U722	A8 U300-15	
								\$	1	18	3C18	A8 U300-12	

Reference List

A7 U300-15: use SA TEST #1, Starting Points #1 through #4

A7 U430

The outputs of U430 are not compatible with a signature analyzer. Begin with the input pins.

INPUT SETUP		0102010 12012 12012	INPUT'S Source Node	. MOZMZM
1	3	U5HC	A7 U530-8	
1	4	CF94	A7 U420-15	
1	5	Сгон	A7 U420-16	
1	6	H889	A7 U420-9	
1	11	U40H	A7 U420-6	
1	14	H95U	A7 U530-6	

Signature Analysis Tables—7A42 Volume 2

A7 U431 🔇

The outputs of U431 are not compatible with a signature analyzer. Begin with the input pins.

INPUT SETUP	I P U T I N		INPUT'S Source Node	SHERWERSON &
1	3	791C	A7 U530-10	
1	4	CF94	A7 U420-15	
1	5	сгон	A7 U420-16	
1	6	78FH	A7 U420-2	
1	11	CPU1	A7 U420-5	
1	14	CU27	A7 U530-12	

A7 U500 🟈

									_				_
OUTPUT SETUP	1	1	1	1	1	1	1	1	I N P	I	S		REF
OUTPUT	2	5	6	9	12	15	16	19	Ÿ	N P U T	IĜ NN PA	INPUT'S Source	ERE
PIN	E		ъ	,	16	15	10	19	SE	P	μ Τ υ	NODE	IN
OUTPUT	C906	88P0	PPP5	8AF0	6656	AA28	0763	eune		IN	Ř	NODE	C E
SIGNATURE	C 908	667 U	FFFJ	onr u	8000	AREO	0/03	9008	P		-		?
	4	4	Ŷ	ţ	\$	\$	*	*	1	1	0000	WIRED LOW	
	<u>ب</u>								1	З	F833	A8 U300-5	
		4							1	4	4702	A8 U300-2	
			4						1	7	772A	A8 U300-19	
:				` #					1	8	5600	A8 U300-16	
	4	5	~ ‡•	4	~**	`	5	4	1	11	620U	A7 U300-9	Y
					` *				1	13	3202	A8 U300-6	
						<i>۴</i>			1	14	5144	A8 U300-9	
							~ #		1	17	3C18	A8 U300-12	
								4	1	18	U722	A8 U300-15	

Reference List

A7 U300-9: use SA TEST #1, Starting Points #1 through #4

. . . A7 U520 📀

The outputs of U520 are not compatible with a signature analyzer. Begin with the input pins.

INPUT SETUP	I N P U T P I N		INPUT'S Source Node	RULURUZOU ?
1	З	3H5C	A7 U421-2	
1	4	F13A	A7 U530-4	
1	5	FOPF	A7 U420-19	
1	6	HU77	A7 U421-15	
1	11	P076	A7 U421-19	
1	14	UC3C	A7 U421-6	

A7 U530 2

~											
OUTPUT	•		1	1	1	1	IN	T	s		R
SETUP	-		•	- 	<u> </u>	-	P	Ň	Ţ	INPUT'S	8.97.7 M
OUTPUT	2	4	6	8	10	12	Ť	Ϋ́		SOURCE	
PIN	Ē	-	B	0		A 6-	SE	P	Ŭ T Ŭ	NODE	Ň
OUTPUT	24FH	F13A	H95U	USHC	791C	CU27	Т	I N	Ŕ		Ĕ
SIGNATURE	£47 N	r I SH	H930	USHC	/ 510	COLT	U P		-		?
	<u>ب</u>						1	1	251C	A7 U420-12	
		` ֥					1	3	FOPF	A7 U420-19	
			` ÷				1	5	U40H	A7 U420-6	
				<i>،</i> ۲.			1	9	H889	A7 U420-9	
					` .;•		1	11	78FH	A7 U420-2	
						` #	1	13	CPU1	A7 U420-5	

AZ U531 2

The outputs of U531 are not compatible with a signature analyzer. Begin with the input pins.

INPUT SETUP	I ZPUT PIZ	0 4 2 2 0 4 7 4 7 7 4 7 7 4 1 7 7 4 7 7 7 4 7 7 7 7 7 7 7 7 7 7 7 7	INPUT'S Source Node	REFERENCE 5
1	Э	1300	A7 U421-12	
1	4	F13A	A7 U530-4	
1	5	FOPF	A7 U420-19	
1	6	6H79	A7 U421-9	
1	11	HP45	A7 U421-5	
1	14	583C	A7 U421-16	

A7 U700

OUTPUT SETUP	1	1	1	1	1	1	1	1	I N P	INP	S I I G	INPUT'S	11112
OUTPUT PIN	5	5	6	9	12	15	16	19	UTSET	U T	N A P U U T	SOURCE	MRMZ(
OUTPUT SIGNATURE	9063	U3AU	5F69	9423	4HOU	3F6C	39UA	H5U2		P I N	' RE	HUDE	Ĉ E ?
	¥.	<u>ب</u> ب	`- ;+	~		÷	`	***	1	1	0000	WIRED LOW	
	÷	-							1	3	4702	A8 U300-2	
		`							1	4	F833	A8 U300-5	
			` .;•						1	7	772A	A8 U300-19	
				<i>ک</i> به					1	8	5600	A8 U300-16	
	ب ب	۲	` ÷	*	\$	**	<i>ب</i> ب	<i>ب</i> ب	1	11	F664	A7 U300-7	Y
					*				1	13	32C2	A8 U300-6	\Box
						\$			1	14	U722	A8 U300-15	
							ţ		1	17	3C18	A8 U300-12	
								ب ب	1	18	5144	A8 U300-9	

Reference List

A7 U300-7: use SA TEST #1, Starting Points #1 through #4

A8 U300 🔗

OUTPUT SETUP OUTPUT. PIN	1 2	1	1	1 9	1	1 15	1 16	1 19	I NPUT	I NPUT	SIGNAT	INPUT'S Source	בשתיחשש
OUTPUT SIGNATURE	4702	F833	32C2	5144	3018	U722	5600	772A	SETUP	P I N	U T T U R E	NODE	Ë E ?
	<u>ب</u> نہ	ب تہ (` #	<u>ب</u>	~	` ;•	ŗ	4	1	1	0000	A8 U635-4	Y
	<i>ب</i> يد								1	З	4702	A8 U305-12	Y
		ک یہ							1	4	F833	A8 U305-13	Y
			¥						1	7	32C2	A8 U305-16	Y
				<i>۲</i>					1	8	5144	A8 U305-17	Y
	*	4	4	<i>ب</i>	4	\$	\	4	1	11	01H6	A8 U635-13	Y
					` ÷				1	13	3C18	A8 U305-19	Y
						<i>ک</i> به			1	14	U722	A8 U305-18	Y
							`		1	17	5600	A8 U305-15	Y
i								÷	1	18	772A	A8 U305-14	Y

Reference List

A8 U305: use SA TEST #1, Starting Points #1 through #4 A8 U635: use SA TEST #1, Starting Points #1 through #4



Scans by Outsource-Options =>

SA TEST #5

STARTING POINT #1

- 1. Perform Setup #1 as described in the Setup Procedures on the following pages.
- Check that the +5V (TTL high level) signature is 826P, if it is not double-check the setup.
- 3. After you obtain the above signature, sequentially check the signatures of all nodes in Starting Point List #1 below. If you find an incorrect signature, proceed to the Signature Tables in this test and follow the example given in Figure 2-1 (pullout page at the end of this section) to isolate the problem.

		Starti	ng Poin		
anne main 2-10- Anne unter	BOARD	IC	PIN	SIGNATURE	
	AB	U615	11	Р6НН	
	A 8	U615	12	145U	
	A 8	U615	13	AP47	
	A8	U615	14	P676	

SA TEST #5

STARTING POINT #2

<u>نا</u> ية

- Perform Setup #1 as described in the Setup Procedures on the following pages.
- Check that the +5V (TTL high level) signature is 826P, if it is not double-check the setup.
- 3. After you obtain the above signature, sequentially check the signatures of all nodes in Starting Point List #2 below. If you find an incorrect signature, proceed to the Signature Tables in this test and follow the example given in Figure 2-1 (pullout page at the end of this section) to isolate the problem.

Starting Point List #2											
BOARD	IC	PIN	SIGNATURE								
AB	U710	11	5753								
AB	U710	12	OUF1								
A8	U710	13	2388								
A8	U710	14	A091								

SA TEST #5: SETUP PROCEDURE #1

- a. Referring to Figure 3-17, connect the Signature Analyzer START, STOP, and GND inputs to the pins on the A8 MPU Board Labeled STR, STP, and GND, respectively. Connect the Signature Analyzer CLOCK input to MPU Board A8 U805 pin 3. Set the START, STOP, and CLOCK inputs to rising edge sensitivity.
- b. Set the Signature Analyzer Data and Control Probe thresholds to TTL.
- c. Configure the 7A42 in Extended Test mode. Refer to Table 3-7 for the proper jumper locations. Table 3-7 is located in What To Do If The 7A42 Does Not Respond To Front Panel Controls, under Forced Instruction Freerun, in Volume 1.
- d. With the 7A42 installed on two 067-0616-00 Flexible Extenders, power up the host mainframe.
- e. Select Extended Test #5 by pressing the DISPLAY button. Verify that the desired test is executing by observing the number in the SWITCHING THRESHOLD VOLTS display.
- f. Acquire the +5V (TTL high level) signature.

AB U615 🔗

•									,,	
OUTPUT	1	1	1	i	I	I	S		R	
SETUP	-	-		•	N P U T	Р Р	S I I G	INPUT'S	8.02.00 M	
OUTPUT	11	12	13	14	Ť	Ų	ŇŇ	SOURCE	R	
PIN	11	16			SE	P	N N P A U T U	NODE		
OUTPUT	Р6НН	145U	AP47	P676	Ī	IN	Ř		Ĕ	
SIGNATURE	r onn	1400		1 07 0	Ř		-		?	
	`	` #	\ \	ب	1	1	7047	A8 U515-16	Y	
	ب	4	<u>ب</u> بر	<i>ک</i> پ	1	2	3319	A8 U515-2	Y	
	~*	∿≑	` +	` #	1	З	8P3U	A8 U515-5	Y	
	~ ,	` ‡	Ч.	4	1	4	C133	A8 U515-15	Y	
	÷	ب ب	` ‡•	Ļ	1	5	7P25	A8 U515-9	Y	
	<u>ب</u> ب	ب بہ	` #	4	1	6	2A1F	A8 U515-6	Y	
	1	` ÷	`	` *	1	7	A206	A8 U515-12	Y	
	4	· +	4	<i>۲</i>	1	8	0000	A8 Q830-8	н	
	\$	ب	\÷	\$	1	10	826P	A8 U730-2	н	
	4	` #•	`	4	1	15	7A70	A8 U305-22	۲	
	4	` #	\ `	` #	1	16	5H21	A8 U305-21	Y	
	\$	¥	۲	4	1	17	C25F	A8 U515-19	Y	

OUTPUT SETUP	1	1	1	1	I N P	INP	S I		F H F
OUTPUT PIN	11	12	13	14	UTSE	U T	IG NN PA UT TU	INPUT'S Source Node	
OUTPUT SIGNATURE	5753	OUF 1	5388	A091	É TUP	P I N	' U RE	NUDE	Ē
<u> </u>	<u>ب</u> ب	<i>ب</i> بہ	` #	4	1	1	7047	A8 U515-16	ŀ
	` ÷	ر م	` ‡•	\$	1	5	3319	A8 U515-2	١
	4	` #	*	Ţ,	1	З	8P3U	A8 U515-5	١
	\$	\#	4	*	1	4	C133	A8 U515-15	١
	` *	` #	¥,	4	1	5	7P25	A8 U515-9	ľ
	` ;+	` ;+	`÷	4	1	6	2A1F	A8 U515-6	١
	` +	\#	` #	~	1	7	A206	A8 U515-12	١
	\- ;	` \$	4	4	1	8	0000	A8 Q830-8	ŀ
	4	`.֥	` ÷	4	1	10	826P	A8 U730-2	ł
	` \$	` ‡•	¥,	`	1	15	7A70	A8 U305-22	ſ
	54	<i>\</i>	`÷	~*	1	16	5H21	A8 U305-21	$\overline{\Gamma}$
	4	4	\	4	1	17	C25F	A8 U515-19	5

Reference List

A 8	U305 :	use	SA	TEST	#1,	Starting	Point	#1
A 8	U515:	use	SA	TEST	#1,	Starting	Point	#1



Scans by Outsource-Options =>

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STARTING POINT #1

- 1. Perform Setup #1 as described in the Setup Procedures on the following pages.
- Check that the +5V (TTL high level) signature is 4U17, if it is not double-check the setup.
- 3. After you obtain the above signature, sequentially check the signatures of all nodes in Starting Point List #1 below. If you find an incorrect signature, proceed to the Signature Tables in this test and follow the example given in Figure 2-1 (pullout page at the end of this section) to isolate the problem.

IC PIN SIGNATURE BOARD A7 U800 14 7007 Α7 0800 19 0000 U900 3 A7 H9FC 0303 A7 U900 6 A7 U900 B 0F69 U900 11 A7 7291

Starting Point List #1

SA TEST #11: SETUP PROCEDURE #1

- a. To gain access to components, the A7 Digital Board should be installed in its extended position. Refer to Extending Circuit Boards for Troubleshooting, in the Maintenance Section of Volume 1 for detailed instructions to do this.
- b. Referring to Figure 3-17, connect the Signature Analyzer START, STOP, CLOCK and GND inputs to the pins on the A8 MPU Board labeled STR, STP, SACK, and GND, respectively. Set the START, STOP, and CLOCK inputs to rising edge sensitivity.
- c. Set the Signature Analyzer Data and Control Probe thresholds to TTL.
- d. Configure the 7A42 in Extended Test mode. Refer to Table 3-7 for the proper jumper locations. Table 3-7 is located in What To Do If The 7A42 Does Not Respond To Front Panel Controls, under Forced Instruction Freerun, in Volume 1.
- e. With the 7A42 installed on two 067-0616-00 Flexible Extenders, power up the host mainframe.
- f. Select Extended Test #11 by pressing the CH1 button. Verify that the desired test is executing by observing the number in the SWITCHING THRESHOLD VOLTS display.
- q. Acquire the +5V (TTL high level) signature.

A7 U800 🕢

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OUTPUT SETUP	1	1	1	1	1	1	INPU	I N P	S I I G	INPUT'S	ጠጣጠ
OUTPUT PIN	14	15	16	17	18	19	T SEF			SOURCE Node	MWMZC
OUTPUT SIGNATURE	70C7	416H	CHF4	5HA2	1105	0000		, H M		, iobe	C E ?
<u> </u>	÷۲	ئ ر ا	` ;.	بب ا	ب ب	۲	1	1	0000	A7 U800-19	
	÷	بن ر	`	÷	ب	<u>ب</u>	1	5	5PP2	A7 U700-2	Y
	÷	*	` ‡•	` ;•	ب ب	ب	1	З	CHF4	A7 U700-5	Y
	ب ند	۲ .	`	\$	~*	<i>د</i> به	1	4	7089	A7 U700-6	Y
·	` #	\ #	` .;+	` ;+	` +	╲┾	1	5	U713	A7 U700-9	Y
	` ÷	` #	` #	۲ .	14	` ÷	1	6	C89H	A7 U700-15	Y
	` ÷	`	` \$	`÷	` *	5	1	7	4017	A7 U500-2	Y
	`÷	۲	`	` ;	` ÷	ب	1	8	0000	A7 U500-5	Y
	` ÷	` #	` #	`	\$	` ‡	1	9	75P5	A7 Q811-C	Ν
	4	÷	4	4	` ;•	С.	1	11	0000	WIRED LOW	

Reference List

A7	U500:	use	SA	TEST	#2,	Starting	Point	#1
A7	U700:	use	SA	TEST	#2,	Starting	Point	#1

A7 U900 🔦

•								2	
OUTPUT	1	1	1	1	I N	I	SI		RULURUZUU
SETUP					N P U T	Ň P	IĞ	INPUT'S	
OUTPUT	11	8	3	6	Ť	Ϋ́	N N P A	SOURCE	Ř
PIN	**		<u> </u>	Ū	SET		N N P A U T U	NODE	Ř
OUTPUT	7291	0F69	H9FC	0303		P I N	RE	HODE	Ĕ
SIGNATURE	1231	01.92	Hart	0303	Ц Р		E-m		?
				ب ب	1	4	CHF4	A7 U800-16	
				` *	1	5	416H	A7 U800-15	
			~ #•		1	1	1105	A7 U800-18	
			\ *		1	2	5HA2	A7 U800-17	
		` .;.			1	9	1105	A7 U800-18	
		<i>۲.</i>			1	10	CHF4	A7 U800-16	
	4				1	12	416H	A7 U800-15	
	4				1	13	5HA2	A7 U800-17	



Scans by Outsource-Options =>

SA TEST #13

STARTING POINT #1

- 1. Perform Setup #1 as described in the Setup Procedures on the following pages.
- Check that the +5V (TTL high level) signature is O3U9, if it is not double-check the setup.
- 3. After you obtain the above signature, sequentially check the signatures of all nodes in Starting Point List #1 below. If you find an incorrect signature, proceed to the Signature Tables in this test and follow the example given in Figure 2-1 (pullout page at the end of this section) to isolate the problem.

Starting Point List #1

BOARD	IC	PIN	SIGNATURE
A7	U920	2	02AP
A7	U920	З	019A
A7	U920	4	0381
A7	U920	5	007U
A7	U930	2	0255
A7	U930	З	036A
A7	U930	4	0385
A7	U930	5	0309
A7	U1020	2	01A8
A7	U1020	З	0206
A7	U1020	4	03F5
A7	U1020	5	AUEO
A7	U1030	2	022H
A7	U1030	З	0301
A7	U1030	4	03F5
A7	U1030	5	0378

SA TEST #13: SETUP PROCEDURE #1

- a. To gain access to components, the A7 Digital Board should be installed in its extended position. Refer to Extending Circuit Boards for Troubleshooting, in the Maintenance Section of Volume 1 for detailed instructions to do this.
- b. Connect the Signature Analyzer START line to the A7 P620 pin labeled SID. Connect the STOP line to A7 U630 pin 1 (also the SID signal). Connect the CLOCK line to A7 U830 pin 3. Connect the Signature Analyzer GND line to any available ground test point. Set the START and STOP inputs to rising edge and the CLOCK input to falling edge sensitivity.
- c. Set the Signature Analyzer Data and Control Probe thresholds to TTL.
- d. Configure the 7A42 in Extended Test mode. Refer to Table 3-7 for the proper jumper locations. Table 3-7 is located in What To Do If The 7A42 Does Not Respond To Front Panel Controls, under Forced Instruction Freerun, in Volume 1.
- e. Install the /RTI and /RSTRT jumpers, P930 and P405 on the A8 MPU board. Figure 3-7 in the section What To Do If The 7A42 Does Not Respond To Front Panel Controls, under Forced Instruction Freerun, in Volume 1, illustrate the location of these jumpers.
- f. With the 7A42 installed on two 067-0616-00 Flexible Extenders, power up the host mainframe.
- g. Select the Display Readout Characters circuit exercise by pressing the A TheN B button.
- h. Acquire the +5V (TTL high level) signature.

ſ	97 U400 🐠								Signature Ar	naly
	OUTPUT SETUP	1	1	1	1	I N P	IN	S I	INPUT'S	REFE
	OUTPUT Pin	6	7	9	10	U T S	N P U T	IG NN PA UTU	SOURCE	RUZUXUN
	OUTPUT SIGNATURE	0309	0385	036A	0255	SETUP	P I N	TU R E	NODE	E ?
				` #		1	1	03C1	A8 U300-9	Y
			ţ			1	2	03F5	A8 U300-15	Y
		4				1	З	0378	A8 U300-12	Y
		4	ب هر ا	ب ر ا	\$	1	4	0205	A7 Q720-11	н
		*	` ‡	Ĵ.	`	1	5	0157	A7 U630-9	
		+	Ĵ.	` #	4	1	11	0000	WIRED LOW	
		ţ	ب	Ĵ	4	1	12	0309	A7 U300-11	Y
		ţ	ţ	Ĵ	4	1	13	0205	A7 U500-15	Y
		ŧ	*	\ ` #	¥	1	14	02AP	A7 U630-8	
					` #	1	15	022H	A8 U300-6	Y

A7 U401

•									
OUTPUT	1	1	1	1	I	Ţ	s		R
SETUP	•	•			N P U	Ň P	S I IG	INPUT'S	Ē
OUTPUT	6	7	9	10	Ť	μ		SOURCE	R
PIN				10	ទ្ឋ	-	U T	NODE	<u>жығақахо</u>
OUTPUT	00711	0001	0100	0000	S E T	P I N	TU R E	NODE	Ĕ
SIGNATURE	0070	0381	019A	02AP	U P	И	Ē		?
·		-	ب به		1	1	02C6	A8 U300-5	Y
		\ #			1	2	03F5	A8 U300-19	Y
	[\ `				1	3	03UA	A8 U300-16	Y
	5	\$	<i>۲</i> .	` *`	1	4	0205	A7 Q720-11	н
	5	` ;•	۴. ا	4	1	5	0157	A7 U630-9	
	5	`	*	*	1	11	0000	WIRED LOW	
	4	4	Ť	4	1	12	0309	A7 U300-11	Y
	<i>ب</i> ئہ	۲	<i>۴</i>	`	1	13	0205	A7 U500-15	Y
•	` +	` #	Ť	4	1	14	02AP	A7 U630-8	
				4	1	15	01A8	A8 U300-2	Y

Reference List

A7	U300-11:	use	SA TI	EST #1	, Startin	g Point	#1
A7	U500-15:	use	SA TI	EST #2	, Startin	g Point	#1
A 8	U300 : u	ise SA	A TES	T #2,	Starting	Point #	1

Signature Analysis Tables—7A42 Volume 2

A7 U600

OUTPUT SETUP OUTPUT PIN	1 6	1 7	1 9	1 10	INPUT SET	I ZPUT	SIGNATU I NPUT	INPUT'S Source Node	RMFMRMZOM
OUTPUT SIGNATURE	0378	03F5	03C1	022H	U P	Г N	י ה שש	NODE.	Ë ?
••••••••••••••••••••••••••••••••••••••			` #		1	1	03C1	A8 U300-9	Y
		ب			1	2	03F5	A8 U300-15	Y
	<u>*</u>				1	3	0378	A8 U300-12	Y
	ţ	4	4	\$	1	4	0205	A7 Q720-11	Ν
	*	` ‡	5	4	1	5	0157	A7 U630-9	
	*	ب ب	5	۲ -‡	1	11	0000	WIRED LOW	
	*	` #•	` #	ţ	1	12	0309	A7 U300-10	Y
	. `	\$	4	4	1	13	0205	A7 U500-15	Y
	ţ	\$	\$	54	1	14	02AP	A7 U630-8	
				Ĵ	1	15	022H	A8 U300-6	Y

A7 U601 🚺

OUTPUT SETUP OUTPUT PIN	1 6	1 7	1 9	1			8162470 17907	INPUT'S Sourcé Node	RULURUZOU
OUTPUT SIGNATURE	U3UA	03F3	0206	01A8		Ň	RE		Ē ?
			÷		1	1	0206	A8 U300-5	Y,
		*			1	2	03F5	A8 U300-19	Y
	ب ب				1	3	03UA	A8 U300-16	Y
	ب	÷,	Ĵ	54	1	4	0205	A7 Q720-11	н
	` ÷	ب ۲	ŗ	Ļ	1	5	0157	A7 U630-9	
	<i>ب</i> ر	*	<u>.</u>	` #	1	11	0000	WIRED LOW	
	4	ŗ	*	4	1	12	0309	A7 U300-10	Y
	`	*	÷	ţ	1	13	0205	A7 U500-15	Y
	` ÷	` #	*	Ť	1	14	02AP	A7 U630-8	
				Ĵ	1	15	01A8	A8 U300-2	Y

Reference List

A7	U300-11	: use	SA TE	ST #1,	Startin	g Point	#1
A7	U500-15	: use	SA TE	ST #2,	Starting	g Point	#1
A 8	U300:	use S/	A TEST	#2, S	tarting	oint #:	L

A7 U630

OUTPUT				I	1.		I	R
SETUP	1	1	1	P	N N	S I		E F
OUTPUT				ΗŤ	N P U T	I G N N P A U T	INPUT'S	R
PIN	6	8	9	SET	l .	IG NA PA UTU	SOURCE	клглипхоп
OUTPUT	01UF	02AP	0157		PI	I U R E	NODE	Ē
SIGNATURE	0106	UEHP	0125	P	н	E		?
	` +			1	1	0205	A7 Q720-11	N
	ŗ			1	5	0000	WIRED LOW	
	ţ			1	3	0000	WIRED LOW	
	ţ			1	4	0000	WIRED LOW	
		4	\$	1	10	0309	WIRED HIGH	
		` #	4	1	11	0309	A7 U830-3	Ν
		\$	` #	1	12	02AP	A7 U630-8	
		\$	5	1	13	01UF	A7 U630-6	

A7 U920 🔞

INPUT SETUP	I NPUT PIN	SHGZAFJRE H7PJF	INPUT'S Source Node	REFERENCE ?
1	2	02AP	A7 U401-10	
1	З	019A	A7 U401-9	
1	4	0381	A7 U401-7	
1	5	0070	A7 U401-6	
1	16	0309	WIRED HIGH	



	HZPDF SWHDP	I NPU T N	HCHZH MACHDZGHW	INPUT'S Source Node	RMEMRMZOM ~
I	1	2	0255	A7 U400-10	
Ι	1	3	036A	A7 U400-9	
Ι	1	4	0385	A7 U400-7	
Ι	1	5	0309	A7 U400-6	
Ι	1	16	0309	WIRED HIGH	



3

STARTING POINT #1

ί. .

- 1. Perform Setup #1 as described in the Setup Procedures on the following pages.
- Check that the +5V (TTL high level) signature is 1FAB, if it is not double-check the setup.
- 3. After you obtain the above signature, sequentially check the signatures of all nodes in Starting Point List #1 below. If you find an incorrect signature, proceed to the Signature Tables in this test and follow the example given in Figure 2-1 (pullout page at the end of this section) to isolate the problem.

Starting Point List #1

	Start1	ng Poin	t List #1	
 BOARD	IC	PIN	SIGNATURE	n agus dan. Anto ann ann bain mair sind din
A6	U828	з	H7C8	
A6	U912	З	5UOP	
A6	U838	3	7AH0	
A 6	U818	з	U965	
A6	U922	3	40AH	
A6	U932	3	0H17	
A6	V828	4	7921	
A6	U912	4	3H7A	
A6	U83 8	4	2094	
A6	V818	4	PP4U	
A6	0922	4	2057	
A6	U932	4	9477	
A6	V828	5	2P6F	
A6	U912	5	OF41	
A6	V838	5	8537	
A6	V818	5	U727	
A6	U922	5	102A	
A6	U932	5	FA3A	е <i>1</i> 4
A6	U828	6	85FA	
A6	U912	6	8621	
A6	0838	6	429A	
A6	V818	6	7C93	
A6	0922	6	1AP7	
A6	U932	6	77P1	
A6	U828	10	42P5	
A6	U912	10	F311	
A6	U838	10	C3C1	
A6	U818	10	2034	
A6	U922	10	OH75	
A6	U932	10	3CU1	

Starting Point List #1, continued

А6	U828	11	C38P
А6	U912	11	U374
А6	U838	11	FC24
А6	U818	11	0566
А6	U922	11	06CC
А6	U932	11	0U05
A6	U828	12	59F7
A6	U912	12	PC47
A6	U838	12	P593
A6	U818	12	02C2
A6	U922	12	11A1
A6	U932	12	957U
A6 A6 A6 A6 A6 A6 A6	U828 U912 U838 U818 U922 U932 Q1014	13 13 13 13 13 13 13 C	CP1P U5A3 U2F9 8159 1A2F FACP H616

SA TEST #14

STARTING POINT #2

- 1. Perform Setup #2 as described in the Setup Procedures on the following pages.
- 2. Check that the GND (ECL high level) signature is 1FAB, if it is not double-check the setup.
- 3. After you obtain the above signature, sequentially check the signatures of all nodes in Starting Point List #2 below. If you find an incorrect signature, proceed to the Signature Tables in this test and follow the example given in Figure 2-1 (pullout page at the end of this section) to isolate the problem.

	Start1	ng Poin	C LISC #2	
BOARD	IC	PIN	SIGNATURE	-
A6	U510	2	UBP 1	
A6	U510	3	C4UH	
A6	U510	14	5062	
A 6	U510	15	H64A	

Starting Point List #2

SA TEST #14: SETUP PROCEDURE #1

- a. To gain access to components, the A6 Trigger Board should be installed in its extended position. Refer to Extending Circuit Boards for Troubleshooting, in the Maintenance Section of Volume 1 for detailed instructions to do this.
- b. Referring to Figure 3-17, connect the Signature Analyzer START, STOP, CLOCK and GND inputs to the pins on the A8 MPU Board labeled STR, STP, SACK, and GND, respectively. Set the START, STOP, and CLOCK inputs to rising edge sensitivity.
- c. Set the Signature Analyzer Data and Control Probe thresholds to TTL.
- d. Configure the 7A42 in Extended Test mode. Refer to Table 3-7 for the proper jumper locations. Table 3-7 is located in What To Do If The 7A42 Does Not Respond To Front Panel Controls, under Forced Instruction Freerun, in Volume 1.
- e. Connect pins 1 and 2 of TP620 on the A7 Digital Board with a link-plug jumper. The location of TP620 is illustrated in Figure 3-8, in the section What To Do If The 7A42 Does Not Respond To Front Panel Controls, under Forced Instruction Freerun, in Volume 1.
- f. With the 7A42 installed on two 067-0616-00 Flexible Extenders, power up the host mainframe.
- g. Select Extended Test #14 by pressing the TRIG VIEW button. Verify that the desired test is executing by observing the number in the SWITCHING THRESHOLD VOLTS display.
- h. Acquire the +5V (TTL high level) signature.

SA TEST #14: SETUP PROCEDURE #2

- a. To gain access to components, the A6 Trigger Board should be installed in its extended position. Refer to Extending Circuit Boards for Troubleshooting, in the Maintenance Section of Volume 1 for detailed instructions to do this.
- b. Referring to Figure 3-17, connect the 7A42 Signature Analyzer TTL-to-ECL Converter (Tektronix Part 670-8210-00) to the pins on the A8 MPU Board labeled STR, STP, SACK, and GND, respectively. Connect the Signature Analyzer START, STOP, CLOCK, and GND leads to the respective pins on the 670-8210-00. Set the Signature Analyzer START, STOP, and CLOCK inputs to rising edge sensitivity.
- c. Set the Signature Analyzer Data and Control Probe thresholds to ECL levels (-1.30V). If the Data probe has dual threshold capability, set the upper threshold to -1.15V and the lower threshold to -1.45V.
- d. Configure the 7A42 in Extended Test mode. Refer to Table 3-7 for the proper jumper locations. Table 3-7 is located in What To Do If The 7A42 Does Not Respond To Front Panel Controls, under Forced Instruction Freerun, in Volume 1.
- e. Connect pins 1 and 2 of TP620 on the A7 Digital Board with a link-plug jumper. The location of TP620 is illustrated in Figure 3-8, in the section What To Do If The 7A42 Does Not Respond To Front Panel Controls, under Forced Instruction Freerun, in Volume 1.
- f. With the 7A42 installed on two 067-0616-00 Flexible Extenders, power up the host mainframe.
- g. Check that the 7A42 TRIGGER FILTER control is in the OFF (CCW detent) position.
- h. Select Extended Test #14 by pressing the TRIG VIEW button. Verify that the desired test is executing by observing the number in the SWITCHING THRESHOLD VOLTS display.
- i. Acquire the GND (ECL high level) signature.

Scans by Outsource-Options =>

A6 Q1014

OUTPUT	1	IN	I	s		R
SETUP	C	P	N	IG	INPUT'S	F
OUTPUT		Ť	ų	ŇŇ	SOURCE	Ŗ
PIN		L S	Р Р	P A U T	NODE	RULMRMZCH
OUTPUT		Ē	I I N	Ŕ	NODE	Ĕ
SIGNATURE	H616 Ú P					?
	Ť	1	**	FACP	A6 U932-13	

A6 R732

\mathbf{v}							
OUTPUT	2	2	I	Ţ	s		REF
SETUP	_	E	P	Ň	I	INPUT'S	
OUTPUT	9	13	Ť	Ϋ́	I G N N P A	SOURCE	ERE
PIN			SE	P I N	Ý Ť	NODE	
OUTPUT	CP1P	85FA	Ť		' R E		Ĕ
SIGNATURE	CPIP	OJI H	P		6		?
		*	1	4	85FA	A6 U828-6	
	4		1	8	CP1P	A6 U828-13	

A6 R808

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Υ.

λ.

•						
OUTPUT		2 N	Ļ	s		R
SETUP		Ň	I	INPUT'S	Ē	
OUTPUT	10	Ť	Ιų	N N P A	SOURCE	RE
PIN	16 E 8159 U	P	ŲΤ	NODE	Ň	
OUTPUT		I	R	NODE	Ĕ	
SIGNATURE	0139	P				?
	` ‡	1	1	8159	A6 U818-13	

A6 R814

~						
OUTPUT	2	I	Ţ	S		R
SETUP		P	Ň	I I I I	INPUT'S	20120201
OUTPUT	16	Ť	ų	Ň Ň P A	SOURCE	R
PIN	16	HT I	P	ų T	NODE	Й
OUTPUT	7093		Г Н N	RE	HODE	Ĕ
SIGNATURE	1693			E		?
	ţ	1	1	7093	A6 U818-6	

Signature Analysis Tables-7A42 Volume 2

A6 U510 6

OUTPUT SETUP	2	2	2	2	HNPL	I N P	S I	INPUT'S	REF
OUTPUT Pin	2	З	14	15	Ť	Ŭ T	IG NN PA UT TU	SOURCE	XMFMXMZOM
OUTPUT SIGNATURE	U8P1	C4UH	5062	H64A	Р	I N	Ť Ú R E	NODE	Ĕ ?
	4				2	4	AUF8	A6 U620-3	
	5				Б	5	8159	A6 U700-3	
		` #			2	6	AUF8	A6 U620-3	
		*			2	7	7093	A6 U700-2	
			*		2	10	AUF 8	A6 U620-3	
			` `		5	11	CP1P	A6 U700-14	
				\$	5	12	AUF8	A6 U620-3	
				4	5	13	85FA	A6 U700-15	

A6 U620 分

•						
OUTPUT		I	-	-		Ŗ
SETUP	2	P	Ň	S I I	INPUT'S	Ē
OUTPUT		Ť	ប្		SOURCE	RULURUZOU
PIN	3	S E P		ļų I	NODE	2
OUTPUT	AUF8	Ŧ	IN	R R E	NODE	Ĕ
SIGNATURE	HUF 0	P				?
	4	5	4	1FA8	A6 U520-9	н
	ţ	5	5	C360	A6 Q1012-C	н

A6 U700 6

NOTE: This table is valid only with the TRIGGER FILTER control in the DN (out of detent) position.

OUTPUT	2	2	2	2	I N	I	s		RMFMRMZOM
SETUP			L		P	N	IG	INPUT'S	E
OUTPUT	2 7C93	з	14	15	Ť	ų	N N P A	SOURCE	Ř
PIN		3	14	10	S E	' _	ŬŤ	NODE	N N
Ουτρυτ		8159	CPIP	85FA	T	P I N	T U R E	HODE	Ĕ
SIGNATURE		6139	CETE	OJFH	P		E		?
	4				5	4	1FA8	A6 Q1000-C	Ν
		<i>۴</i>			2	6	1FA8	A6 Q1000-C	Ν
			` #		5	10	1FA8	A6 Q1000-C	Ν
				4	г	12	1FA8	A6 Q1000-C	н

IMPORTANT - Return the TRIGGER FILTER control to the OFF (CCW detent) position before proceeding.

OUTPUT	·2	2	2	2	I N P	I	ş		RUTERE
SETUP	_	_			P	Ň P		INPUT'S	F
OUTPUT	2	з	14	15	Ŭ T	U T		SOURCE	Ř
PIN		,	• •	10	S E T	-	UT TU RE	NODE	N
OUTPUT	7093	8159	CP1P	85FA	Ť	P I N		nobe	Ĕ
SIGNATURE	7693	8123	CEIE	O JF H	P	R	Ē		?
	¥				s	4	1FA8	A6 Q1000-C	М
	` #				2	5	7093	A6 U800-2	
		\			5	6	1548	A6 Q1000-C	н
		\			2	7	8159	A6 U800-3	
			` #		5	10	1FA8	A6 Q1000-C	н
			*		2	11	CP1P	A6 U800-15	
				\÷	5	12	1FA8	A6 Q1000-C	Ν
				4	5	13	85FA	A6 U800-14	
•									

A6 U700 (TRIGGER FILTER in the OFF position)

A6 U800

OUTPUT SETUP 2 2 2 2 1 N <t< th=""><th>•</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></t<>	•									
SIGNATURE 7C93 8159 85FA CP1P V N E ? ··· ··· ··· 2 4 1FAB A6 U610-14 N ··· ··· ··· ··· 2 5 7C93 A6 R814-16 . ··· ··· ··· ··· 2 6 1FAB A6 U610-14 N ··· ··· ··· ··· 2 6 1FAB A6 U610-14 N ··· ··· ··· 2 7 8159 A6 R808-16 . ··· ··· ··· 2 10 1FAB A6 U610-14 N ··· ··· ··· 2 10 1FAB A6 U610-14 N ··· ··· ··· 2 10 1FAB A6 U610-14 N ··· ··· ··· 2 11 85FA A6 R732-13 . ··· ··· ··· 2	OUTPUT				9	I	,	6		Ŗ
SIGNATURE 7C93 8159 85FA CP1P V N E ? ··· ··· ··· 2 4 1FAB A6 U610-14 N ··· ··· ··· ··· 2 5 7C93 A6 R814-16 . ··· ··· ··· ··· 2 6 1FAB A6 U610-14 N ··· ··· ··· ··· 2 6 1FAB A6 U610-14 N ··· ··· ··· 2 7 8159 A6 R808-16 . ··· ··· ··· 2 10 1FAB A6 U610-14 N ··· ··· ··· 2 10 1FAB A6 U610-14 N ··· ··· ··· 2 10 1FAB A6 U610-14 N ··· ··· ··· 2 11 85FA A6 R732-13 . ··· ··· ··· 2	SETUP			E.	Ē	P	Ŕ	I	TNBUTZÓ	Ē
SIGNATURE 7C93 8159 85FA CP1P U N E ? ··· ··· ··· 2 4 1FA8 A6 U610-14 N ··· ··· ··· ··· 2 5 7C93 A6 R814-16 ··· ··· ··· ··· 2 6 1FA8 A6 U610-14 N ··· ··· ··· ··· 2 7 8159 A6 R808-16 ··· ··· ··· 2 10 1FA8 A6 U610-14 N ··· ··· ··· 2 10 1FA8 A6 U610-14 N ··· ··· ··· 2 10 1FA8 A6 U610-14 N ··· ··· ··· 2 11 85FA A6 R732-13 N	OUTPUT			14	15	Ť		й й И		Ř
SIGNATURE 7C93 8159 85FA CP1P V N E ? ··· ··· ··· 2 4 1FAB A6 U610-14 N ··· ··· ··· ··· 2 5 7C93 A6 R814-16 . ··· ··· ··· ··· 2 6 1FAB A6 U610-14 N ··· ··· ··· ··· 2 6 1FAB A6 U610-14 N ··· ··· ··· 2 7 8159 A6 R808-16 . ··· ··· ··· 2 10 1FAB A6 U610-14 N ··· ··· ··· 2 10 1FAB A6 U610-14 N ··· ··· ··· 2 10 1FAB A6 U610-14 N ··· ··· ··· 2 11 85FA A6 R732-13 . ··· ··· ··· 2	PIN		3	14	10	ន្ទ	<u> '</u> ь	ļ Į Ī		й
SIGNATURE P ? \u03c6 2 4 1FA8 A6 U610-14 N \u03c6 2 5 7C93 A6 R814-16 2 \u03c6 2 6 1FA8 A6 U610-14 N \u03c6 2 5 7C93 A6 R814-16 1 \u03c6 2 6 1FA8 A6 U610-14 N \u03c6 4 2 7 8159 A6 R808-16 1 \u03c6 4 2 10 1FA8 A6 U610-14 N \u03c6 4 2 10 1FA8 A6 U610-14 N \u03c6 4 2 11 85FA A6 R732-13 1 \u03c6 4 4 4 2 12 1FA8 A6 U610-14 N	OUTPUT	7000	0150	9554	CDID	Ē	1		NODE	Ĕ
·+ 2 5 7C93 A6 R814-16 ·+ 2 6 1FA8 A6 U610-14 N ·+ 2 7 8159 A6 R808-16 ·+ 2 10 1FA8 A6 U610-14 N ·+ 2 10 1FA8 A6 U610-14 N ·+ 2 10 1FA8 A6 U610-14 N ·+ 2 11 85FA A6 R732-13 ·+ 2 12 1FA8 A6 U610-14 N	SIGNATURE	1693	0139	OJFH	CFIF	P		E		?
+ 2 6 1FA8 A6 U610-14 N + 2 7 8159 A6 R808-16 + 2 10 1FA8 A6 U610-14 N + 2 10 1FA8 A6 U610-14 N + 2 11 85FA A6 R732-13 + 2 12 1FA8 A6 U610-14 N		` ÷				З	4	1FA8	A6 U610-14	н
+ 2 7 8159 A6 R808-16 + 2 10 1FAB A6 U610-14 N + 2 11 85FA A6 R732-13 + 2 12 1FAB A6 U610-14 N		` *				5	5	7093	A6 R814-16	
Image: Weight of the second			*			2	6	1FA8	A6 U610-14	н
→ 2 11 85FA A6 R732-13 → 2 12 1FA8 A6 U610-14 N			ţ			5	7	8159	A6 R808-16	
→ 2 12 1FA8 A6 U610-14 N				\$		З	10	1FA8	A6 U610-14	М
				Ť		5	11	85FA	A6 R732-13	
→ 2 13 CP1P A6 R732-9					4	2	12	1FA8	A6 U610-14	Ν
					4	5	13	CP1P	A6 R732-9	

Signature Analysis Tables—7A42 Volume 2

A6 U818

OUTPUT SETUP	1	1	1	1	1	1	1	1	I N P	INP	, S I	INPUT'S	משהו
OUTPUT PIN	3	4	5	6	10	11	12	13	T	U T P		SOURCE	JR M Z C
OUTPUT Signature	U965	PP4U	U727	7093	2034	0566	02C2	8159	T U P	Г И N	- 0 E	NODE	E ?
L	` \$	`	` #	` ÷	` *	` ÷	<i>ک</i> نې	\$	1	1	U2F9	A6 U838-13	
	<u>`</u>	¥.	\ #	4	`	`	\$- \$ \$	\$	1	5	1FA8	WIRED HIGH	
	\	4	`	\$	4	~ ; ,	ب ب	4	1	8	1FA8	A6 TP804	Y
	4	4	¥	`÷	14	ب ب	**	L.	1	9	1FA8	WIRED HIGH	

A6 U828 🚷

OUTPUT SETUP	1	1	1	1	1	1	1	1	HZP:	I Z D	S I I G	INPUT'S	21112
OUTPUT PIN	3	4	5	6	10	11	12	13	T S	U T P	1 N A T	SOURCE	JRWZC
OUTPUT Signature	H7C8	7921	2P6F	85FA	42P5	C38P	59F7	CP1P	U P	F N	- 086	NODE	Ĕ ?
······	` +•	4	¥+	*	\$ \$ \$	` \$	4	<u>ب</u> ر	1	2	1FA8	WIRED HIGH	
	4	· •	¥+	\$	\$	` \$	` *	4	1	8	1FA8	A6 TP804	Y
	4	` #	¥-	4	\	`	\ #	4	1	9	1FA8	WIRED HIGH	

A6 U838

OUTPUT SETUP	1	1	1	1	1	1	1	1	I N P	INP	S I I G	INPUT'S	REFE
OUTPUT Pin	З	4	5	6	10	11	12	13	TSE	Ú T P	N N P A U T	SOURCE	J&EZC
OUTPUT Signature	7AH0	2094	8537	429A	C3C1	FC24	P593	U2F9	U U P		ŤÚ R E	NODE	Ĕ ?
	\ #	4	` \$	\$	۲	\$	` #	۲	1	1	U5A3	A6 U912-13	
	4	4	` +•	4	` *	4	` ÷	` #	1	5	1FA8	WIRED HIGH	
	\	4	` +•	4	` ÷	\$	`	\$	1	8	1FA8	A6 TP804	Y
	4	4	4	4	۲ .	5	\	` #	1	9	1FA8	WIRED HIGH	

Reference List

A6 TP804: use SA TEST #1, Starting Point #1, or Trigger Board Troubleshooting Tip A3 A6 U912 🚷

OUTPUT SETUP	1	1	1	1	1	1	1	1	INP	INP	S I I G	INPUT'S	REFE
OUTPUT PIN	3	4	5	6	10	11	12	13	T S	Ú T P		SOURCE	REZC
OUTPUT SIGNATURE	5U0P	зн7а	OF 4 1	8621	F311	U374	PC47	U5A3	Г U P	Г Н N	L D R E	NUDE	Ē ?
	\ `	4	` #	¥,	` \$	` #•	۲	\$	1	1	CP1P	A6 U828-13	
- -	ب ب	` #	` +	¥	۲÷	`- ; •	\÷	` #	1	5	1FA8	WIRED HIGH	
	<i>د</i> ب	` #	\$	`	\÷	\	` ÷	\$	1	8	1FA8	A6 TP804	Y
	` #	<u>ب</u> ب	4	4	4	ب	` #	ب	1	9	1FA8	WIRED HIGH	

A6 U922 🚷

OUTPUT SETUP	1	1	1	1	1	1	1	1	INP	IND	S I	INPUT'S	REFE
OUTPUT PIN	З	4	5	6	10	11	12	13	T	U T P		SOURCE	JEMZC
OUTPUT SIGNATURE	40AH	2057	102A	1AP9	0H75	0600	11A1	1A2F	Г U P	r I N	' RE	NODE	Ë ?
	¥	4	÷	` . ;,	4	¥	ب ب	<u>ب</u>	1	1	8159	A6 U818-13	
	*	` #	+	` #	\ `	4	\ #	`. ` #	1	5	1FA8	WIRED HIGH	Γ
	\$	÷	Ť	¥.	\	¥.	`֥	` *	1	8	1FA8	A6 TP804	Y
	4	\ *	*	4	4	ب.	4	` *	1	9	1FA8	WIRED HIGH	

A6 U932 🚷

OUTPUT SETUP	1	1	1	1	1	1	1	1	I N P	IND	S I	INPUT'S	REFE
OUTPUT Pin	з	4	5	6	10	11	12	13	T	ί Τ	I N A T	SOURCE	HRHZC
OUTPUT SIGNATURE	0H17	9477	FA3A	77P1	3001	0005	957U	FACP	L U P	P I N	T U R E	NODE	E ?
	` #	` #	` #	~*	4	4	<i>ب</i> ب	ب	1	1	1A2F	A6 U922-13	
	` #	` ;•	`+•	¥	` ÷	\	`+•	¥	1	5	1FA8	WIRED HIGH	Γ
	` \$	` #	¥•	5	` +	¥•	` \$	` \$	1	8	1FA8	A6 TP804	Y
	ب	` .;•	÷	ب ې	4	4	بنه ا	ب	1	9	1FA8	WIRED HIGH	

Reference List

A6 TP804: use SA TEST #1, Starting Point #1, or Trigger Board Troubleshooting Tip A3



Scans by Outsource-Options =>

STARTING POINT #1

- 1. Perform Setup #1 as described in the Setup Procedures on the following pages.
- Check that the GND (ECL high level) signature is BP54, if it is not double-check the setup.
- 3. After you obtain the above signature, sequentially check the signatures of all nodes in Starting Point List #1 below. If you find an incorrect signature, proceed to the Signature Tables in this test and follow the example given in Figure 2-1 (pullout page at the end of this section) to isolate the problem.

	Startin	g Point	List #1
BOARD	IC	PIN	SIGNATURE
A6	U500	15	544F
A6	U530	15	H9C6

SA TEST #23

STARTING POINT #2

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ς.

- 1. Perform Setup #1 as described in the Setup Procedures on the following pages.
- Check that the GND (ECL high level) signature is 8P54, if it is not double-check the setup.
- 3. After you obtain the above signature, sequentially check the signatures of all nodes in Starting Point List #2 below. If you find an incorrect signature, proceed to the Signature Tables in this test and follow the example given in Figure 2-1 (pullout page at the end of this section) to isolate the problem.

 	Startin	List #2	
 BOARD	IC	PIN	SIGNATURE
A6	U402	2	3F3A
A6	U412	2	3F3A
A6	U422	2	F854
A6	U432	2	F854

STARTING POINT #3

- 1. Perform Setup #1 as described in the Setup Procedures on the following pages.
- Check that the GND (ECL high level) signature is 8P54, if it is not double-check the setup.
- 3. After you obtain the above signature, sequentially check the signatures of all nodes in Starting Point List #3 below. If you find an incorrect signature, proceed to the Signature Tables in this test and follow the example given in Figure 2-1 (pullout page at the end of this section) to isolate the problem.

 			میں اس سے بین ہیں ہیں ہیں جار ہیں جار ہیں جار ہیں
BOARD	IC	PIN	SIGNATURE
A6	U800	2	PAU4
A6	0800	3	C36P
A6	U800	14	61U4
A6	U800	15	2411

Starting Point List #3

STARTING POINT #4

A6

A6

- Perform Setup #1 as described in the Setup Procedures 1. on the following pages.
- Check that the GND (ECL high level) signature is 8P54, if it 2. is not double-check the setup.
- After you obtain the above signature, sequentially check the З. signatures of all nodes in Starting Point List #4 below. If you find an incorrect signature, proceed to the Signature Tables in this test and follow the example given in Figure 2-1 (pullout page at the end of this section) to isolate the problem.

BOARD IC PIN SIGNATURE U700 2 U700 3 U700 14 A6 PAU4 C36P A6

15

Starting Point List #4

Now, set the 7A42 TRIGGER FILTER control to the ON (out of detent) position and check the signatures below. If you find an incorrect signature, use the special A6 U700 Signature Table that applies only when the TRIGGER FILTER is in the ON position. If all the signatures in the list below are correct, return the TRIGGER FILTER control to the OFF (CCW detent) position before proceeding.

2411

6104

A6	U700	2	0000
A6	U700	З	0000
A6	U700	14	0000
A6	U700	15	0000

U700

STARTING POINT #5

- 1. Perform Setup #1 as described in the Setup Procedures on the following pages.
- Check that the GND (ECL high level) signature is 8P54, if it is not double-check the setup.
- 3. After you obtain the above signature, sequentially check the signatures of all nodes in Starting Point List #5 below. If you find an incorrect signature, proceed to the Signature Tables in this test and follow the example given in Figure 2-1 (pullout page at the end of this section) to isolate the problem.

 BOARD	IC	PIN	SIGNATURE	
A6	U310	15	6A9H	
A6	U312	15	3313	
A6	U320	15	8A39	
A6	U322	15	A460	

Starting Point List #5

SA TEST #23

STARTING POINT #6

- Perform Setup #1 as described in the Setup Procedures on the following pages.
- Check that the GND (ECL high level) signature is 8P54, if it is not double-check the setup.
- 3. After you obtain the above signature, sequentially check the signatures of all nodes in Starting Point List #6 below. If you find an incorrect signature, proceed to the Signature Tables in this test and follow the example given in Figure 2-1 (pullout page at the end of this section) to isolate the problem.

	Startir	Starting Point List #6								
BOARD	IC	PIN	SIGNATURE							
A6	U610	9	C26P							
A6	U610	15	3F3A							

STARTING POINT #7

- 1. Perform Setup #1 as described in the Setup Procedures on the following pages.
- Check that the GND (ECL high level) signature is 8P54, if it is not double-check the setup.
- 3. After you obtain the above signature, sequentially check the signatures of all nodes in Starting Point List #7 below. If you find an incorrect signature, proceed to the Signature Tables in this test and follow the example given in Figure 2-1 (pullout page at the end of this section) to isolate the problem.

 	startin	g Point	L15t #/
 BOARD	IC	PIN	SIGNATURE
A6	U620	12	C26P
A6	U620	13	3F3A

Starting Point List #7

SA TEST #23

STARTING POINT #8

- 1. Perform Setup #1 as described in the Setup Procedures on the following pages.
- Check that the GND (ECL high level) signature is BP54, if it is not double-check the setup.
- 3. After you obtain the above signature, sequentially check the signatures of all nodes in Starting Point List #8 below. If you find an incorrect signature, proceed to the Signature Tables in this test and follow the example given in Figure 2-1 (pullout page at the end of this section) to isolate the problem.

Starting Point List #8

-Think berne annue mann annue annue annue	BOARD	IC	PIN	SIGNATURE
	A6 A6	U620 U620	10 11	3F3A C26P

Signature Analysis Tables-7A42 Volume 2

SA TEST #23: SETUP PROCEDURE #1

- a. To gain access to components, the A6 Trigger Board should be installed in its extended position. Refer to Extending Circuit Boards for Troubleshooting, in the Maintenance Section of Volume 1 for detailed instructions to do this.
- b. Referring to Figure 3-17, connect the 7A42 Signature Analyzer TTL-to-ECL Converter (Tektronix Part 670-8210-00) to the pins on the AB MPU Board labeled STR, STP, SACK, and GND, respectively. Connect the Signature Analyzer START, STOP, CLOCK, and GND leads to the respective pins on the 670-8210-00. Set the Signature Analyzer START, STOP, and CLOCK inputs to rising edge sensitivity.
- c. Set the Signature Analyzer Data and Control Probe thresholds to ECL levels (-1.30V). If the Data probe has dual threshold capability, set the upper threshold to -1.15V and the lower threshold to -1.45V.
- d. Configure the 7A42 in Extended Test mode. Refer to Table 3-7 for the proper jumper locations. Table 3-7 is located in What To Do If The 7A42 Does Not Respond To Front Panel Controls, under Forced Instruction Freerun, in Volume 1.
- e. Connect pins 1 and 2 of TP620 on the A7 Digital Board with a link-plug jumper. The location of TP620 is illustrated in Figure 3-8, in the section What To Do If The 7A42 Does Not Respond To Front Panel Controls, under Forced Instruction Freerun, in Volume 1.
- f. With the 7A42 installed on two 067-0616-00 Flexible Extenders, power up the host mainframe.
- g. Check that the 7A42 TRIGGER FILTER control is in the OFF (CCW detent) position.
- h. Select Extended Test #23 by pressing the THRESH button. Verify that the desired test is executing by observing the number in the SWITCHING THRESHOLD VOLTS display.
- i. Acquire the GND (ECL high level) signature.

Scans by Outsource-Options =>

SA TEST #23: SETUP PROCEDURE #2

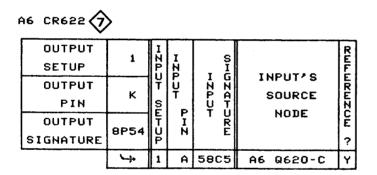
- a. To gain access to components, the A6 Trigger Board should be installed in its extended position. Refer to Extending Circuit Boards for Troubleshooting, in the Maintenance Section of Volume 1 for detailed instructions to do this.
- b. Referring to Figure 3-17, connect the Signature Analyzer START, STOP, CLOCK and GND inputs to the pins on the AB MPU Board labeled STR, STP, SACK, and GND, respectively. Set the START, STOP, and CLOCK inputs to rising edge sensitivity.
- c. Set the Signature Analyzer Data and Control Probe thresholds to TTL.
- d. Configure the 7A42 in Extended Test mode. Refer to Table 3-7 for the proper jumper locations. Table 3-7 is located in What To Do If The 7A42 Does Not Respond To Front Panel Controls, under Forced Instruction Freerun, in Volume 1.
- e. Connect pins 1 and 2 of TP620 on the A7 Digital Board with a link-plug jumper. The location of TP620 is illustrated in Figure 3-8, in the section What To Do If The 7A42 Does Not Respond To Front Panel Controls, under Forced Instruction Freerun, in Volume 1.
- f. With the 7A42 installed on two 067-0616-00 Flexible Extenders, power up the host mainframe.
- g. Select Extended Test #23 by pressing the THRESH button. Verify that the desired test is executing by observing the number in the SWITCHING THRESHOLD VOLTS display.
- h. Acquire the +5V (TTL high level) signature.

Signature Analysis Tables—7A42 Volume 2

×						
OUTPUT		I	Ŧ	s		R
SETUP	•	P	Ň	IĞ	INPUT'S	F
OUTPUT	к	Ť	ų	N N P A	SOURCE	E R E
PIN	r.	SE	P	ųŦ	NODE	Ň
OUTPUT	5703	Ť	I N	RE	nobe	Ĕ
SIGNATURE	5703	P	11	Ŀ		?
	*	1	A	5805	A6 Q620-C	Y

A6 CR521

	V						
	OUTPUT	•	I	,	s		R
	SETUP	1	P	N.	IG	INPUT'S	801201201
	OUTPUT	к	Ť	្រុ	N N	SOURCE	Ř
į	PIN	r.	S F	P	ų f	NODE	1 N
	OUTPUT	57A7	T	I	R	HODE	Ĕ
	SIGNATURE	37 H7	P	17	E		?
		÷	1	A	5805	A6 Q620-C	Y



Reference List

A6 Q620-C: use Trigger Board Troubleshooting Tip A2

Scans by Outsource-Options =>

A6 R732

OUTPUT SETUP	1	1	1	1	1	1	1	1	I N P	I N P	S I			ששהששש
OUTPUT PIN	9	10	11	12	13	14	15	16	U T S E	Ϋ́			NPUT'S SOURCE	ER EN Z
OUTPUT SIGNATURE	2411	НАНР	4FPF	44F7	61U4	неен	38AU	C5CF		P I N	T U R E		NODE	NCE ?
								4	Б	1	C5CF	A6	U828-11	Y
							* #		5	2	38AU	A6	U838-13	Y
						*			5	3	неен	A6	U922-5	Y
					*				5	4	61U4	A6	U828-6	Y
				\$					5	5	44F7	A6	U912-13	Y
			` #						s	6	4FPF	A6	U922-13	Y
		ŗ							З	7	НАНР	A6	U828-12	Y
	4								2	8	2411	A6	U828-13	Y

Reference List

A6	U828:	use	SA	TEST	#14,	Starting	Point	#1	
A 6	V838:	use	SA	TEST	#14,	Starting	Point	#1	
A6	U912:	use	SA	TEST	#14,	Starting	Point	#1	
A6	U922:	use	SA	TEST	#14,	Starting	Point	#1	

Signature Analysis Tables—7A42 Volume 2

A6 R808

OUTPUT SETUP	1	1	i	1	1	1	1	1	HNPUT	47 I	S I I G	II	1PUT'S	REFE
OUTPUT PIN	9	10	11	12	13	14	15	16	TSET	U T P	N N P A U T U		SOURCE Node	UZ MZM
OUTPUT SIGNATURE	7PUA	2060	358P	007A	59C7	6008	U57A	C36P		N	' RE			Ē ?
								\$	2	1	C36P	A6	U818-13	Y
							<i>۲</i>		2	5	U57A	A6	U818-10	Y
						\÷			2	3	6008	A6	U932-3	Y
					` ;+				5	4	5907	A6	U922-3	Y
				` *		[5	5	007A	A6	U912-4	Y
			\	<u> </u>		t			2	6	358P	A6	U838-4	Y
	<u> </u>			<u> </u>		<u> </u>	1		Б	7	2060	A6	U932-10	Y
				<u> </u>					Б	8	7PUA	A6	U932-4	Y

A6 R814 🚷													
OUTPUT SETUP	1	1	1	1	1	1	1	1	IZPI	- IZA	S I I G	INPUT'S	REFE
OUTPUT PIN	9	10	11	12	13	14	15	16	Ť	Ŭ T P	I Ĝ N A U T U T U	SOURCE	RMFMRMZOF
OUTPUT SIGNATURE	8P2C	1F57	4715	33C3	5508	5FFP	36P7	PAU4	Ť U P	N	Ř		E ?
								Ŷ	2	1	PAU4	A6 U818-6	Y
							`		2	2	36P7	A6 U912-11	Y
				1		¥			2	З	5FFP	A6 U932-11	Y
					¥+		[2	4	55C8	A6 U838-11	Y
				~*					2	5	33C3	A6 U922-11	Y
			` #				t		5	6	4715	A6 U818-5	Y
		4		<u> </u>					2	7	1F57	A6 U818-3	Y
	\			1					З	8	8P2C	A6 U818-4	Y

Reference List

A6U818:useSATEST#14,StartingPoint#1A6U838:useSATEST#14,StartingPoint#1A6U912:useSATEST#14,StartingPoint#1A6U922:useSATEST#14,StartingPoint#1A6U932:useSATEST#14,StartingPoint#1

Scans by Outsource-Options =>

A6 R824 🛞

OUTPUT SETUP OUTPUT PIN	1 9	1 10	1	1 12	1 13	1 14	1 15	1 16	HZPDH SH	HZPUT P	12921 12921	INPUT'S Source Node	WOZMWHWWZOM
OUTPUT SIGNATURE	4454	A22A	5115	99H9	U984	1073	P3A2	2P67	T	, N	' RE		Ē ?
L								\ #	2	1	2P67	A6 U932-12	Y
							\$		г	5	P3A2	A6 U838-12	Y
						` ÷			2	3	1C73	A6 U912-12	Y
					۲				Б	4	U984	A6 U828-10	Y
				`					Б	5	99H9	A6 U922-12	Y
			\						s	6	5115	A6 U828-5	Y
				1		t			2	7	A22A	A6 U828-4	Y
	<u> </u>		<u> </u>	1		<u> </u>	· · · · ·		2	8	4454	A6 U828-3	Y

A6 R834

OUTPUT SETUP OUTPUT	1	1	1	1	1	1	1	1	I P U T	IZQU	SIGNA Inna	INPUT'S Source	שששששש
PIN	9	10	11	12	13	14	15	16	SE	P	P A U T T U	NODE	1ZCE
OUTPUT	НР4Н	3U7H	1AF7	оозн	56F0	PC36	F41H	4960	lΰ	N	Ř		1
SIGNATURE									Ρ				?
								ب	г	1	4960	A6 U912-6	Y
							~*		г	5	F41H	A6 U838-6	Y
				1		` *			2	З	PC36	A6 U922-6	Y
					\ #				2	4	56F0	A6 U932-6	Y
				`			1		2	5	003H	A6 U912-5	Y
			\	1					г	6	1AF7	A6 U838-5	Y
	<u>├</u> ───	4		1					2	7	3U7H	A6 U932-5	Y
	\					 			2	8	HP4H	A6 U932-13	Y

Reference List

A6	V828:	use	SA	TEST	#14,	Starting	Point	#1
A6	V838:	use	SA	TEST	#14,	Starting	Point	#1
A6	U912:	use	SA	TEST	#14,	Starting	Point	#1
A6	U922:	use	SA	TEST	#14,	Starting	Point	#1
A6	U932:	use	SA	TEST	#14,	Starting	Point	#1

Signature Analysis Tables-7A42 Volume 2

A6 R902 🚷

`													
OUTPUT	1	t.	1	1		1	1	1	I	Ţ	s		REF
SETUP		-	-	-	-	-		-	P	Ň	I	INPUT'S	F
OUTPUT		2	3	4	5	6	7	8	Ť	ų	IĞ NA PA U	SOURCE	ERE
PIN	1	E	3	4	5	ъ		°	S E	'_	i i i	NODE	LZ CE
OUTPUT	9208	6014	U420	7004	AFHO	AC70		UEAC	Ŧ	P I N		NODE	Ĕ
SIGNATURE	9208	801H	0420	/ HCH	Hr HC	HC/U	6HFP	0390	P		F		?
								*	2	9	U59C	A6 U922-10	Y
							\$-#		5	10	6HFP	A6 U912-10	Y
						*			2	11	AC70	A6 U838-10	Y
					Ļ				г	12	AFHC	A6 U922-4	Y
				` #					2	13	7ACH	A6 U818-11	Y
			*						г	14	U420	AS U818-12	Y
		4							2	15	6C1H	A6 U838-3	Y
\$	÷								5	16	9208	A6 U912-3	Y

Reference List

A6	U818:	use	SA	TEST	#14,	Starting	Point	#1
A6	U838 :	use	SA	TEST	#14,	Starting	Point	#1
A 6	U912:	use	SA	TEST	#14,	Starting	Point	#1
A6	U922:	use	SA	TEST	#14,	Starting	Point	#1

A6 U300 🏷

OUTPUT		1		1	I	Ļ			R
SETUP	1	1	1		N P	N P	S I IG	INPUT'S	๛๛๛๛๛๛
OUTPUT	2	3	14	15	Ŷ	Ŭ	N N P A II	SOURCE	R
PIN	, c	3	14	15	S E	' Р		NODE	N
OUTPUT	2488	5048	зсио	6446	Ŧ	I I N	R	NODE	C E
SIGNATURE	CHOO	5048	3000	OHNO	P	n	E		?
	` ;+				1	4	H7C8	A6 U200-8	Ν
	` ‡				1	5	6008	A6 R808-14	
		ŗ			1	6	H7C8	A6 U200-8	Ν
		*			1	7	59C7	A6 R808-13	
			`_ #		1	10	H7C8	A6 U200-8	Ν
			÷		1	11	6C1H	A6 R902-2	
				Ť	1	12	H7C8	A6 U200-8	Ν
				Ť	1	13	9208	A6 R902-1	

A6 U302 5

OUTPUT SETUP	1	1	1	1	I N P	I N P	S I		REF
OUTPUT Pin	2	з	14	15	U T S E	U T P	I G N A U T U T U	INPUT'S Source Node	ซพทพชพรอพ
OUTPUT	НFЗA	A824	9HU8	UF15	IT.	I N	, U R E	NODE	
SIGNATURE					P		_		?
	` ÷				1	4	22A2	A6 U210-8	н
	` #				1	5	7PUA	A6 R808-9	
		ب ب			1	-6	22A2	AG U210-8	н
		` ÷			1	7	AFHC	A6 R902-5	
			` *		1	10	22A2	A6 U210-8	н
			۲		1	11	358P	A6 R808-11	
				4	1	12	5595	A6 U210-8	N
				` .;•	1	13	007A	A6 R808-12	

Signature Analysis Tables-7A42 Volume 2

\sim						
OUTPUT	1	I	I	ç		R
SETUP		N P U T	Ň	S I I G	INPUT'S	๛๛๛๛๛๛๛
OUTPUT	15	Ť	N P U U T	N N P A U T	SOURCE	Ř
PIN	1.5	S		N N P A U T U	NODE	Ň
OUTPUT	6A9H	S E T U	P I N	Ŕ	HODE	Ĕ
SIGNATURE		P	11	F		?
· · ·	4	1	2	C36P	A6 R808-16	
	1	1	Э	88A8	A6 U230-8	н
	<u>ب</u>	1	4	1151	A6 U220-8	Ν
	~*	1	5	22A2	A6 U210-8	н
	4	1	6	H7C8	A6 U200-8	н
	\$	1	7	U57A	A6 R808-15	
	~*	1	9	7ACH	A6 R902-4	
	4	1	10	U420	A6 R902-3	
	1	1	11	06UF	A6 U230-7	н
	` +	1	12	9005	A6 U220-7	н
	\	1	13	AFU6	A6 U210-7	Ν
	4	1	14	59PF	A6 U200-7	М

A6 U312

•						
OUTPUT	1	I	I	s		R
SETUP	1 F L			S I I G	INPUT'S	RULURUZOU
OUTPUT	15	PN UP TU T		N N P A U T	SOURCE	RE
PIN		S E T	Р	N N P A U T U	NODE	NC
OUTPUT	3313	Ť	Ĭ	ŤÚ R E		
SIGNATURE	0010	Ř				?
	` #	1	5	PAU4	A6 R814-16	
	` ‡	1	З	88A8	A6 U230-8	м
	` #	1	4	1151	A6 U220-8	н
	` #	1	5	22A2	A6 U210-8	н
	<u>ب</u>	1	6	H7C8	A6 U200-8	н
	4	1	7	1F57	A6 R814-10	
	` ÷	1	9	8P2C	A6 R814-9	
	<u>ب</u> ب	1	10	4715	A6 R814-11	
	4	1	11	06UF	A6 U230-7	Ν
	\	1	12	9005	A6 U220-7	Ν
	<u>ب</u> ب	1	13	AFU6	A6 U210-7	Ν
	<i>ک</i> ید	1	14	59PF	A6 U200-7	N

A6 U320

s

~						
OUTPUT		I	,	6		R
SETUP	1	N P	I N B	S I I G	INPUT'S	WOZMWMMW
OUTPUT	15	U T	N P U T		SOURCE	R
PIN	10	ទ	· ·	N N P A U T U T	NODE	Ň
OUTPUT		S E T	P I N	ŤÚ R E	NODE	Ĕ
IGNATURE	8A39	U P	п	E		?
	\ #	1	2	2411	A6 R732-9	
	<u>ب</u> ب	1	З	88A8	A6 U230-8	Ν
	ۍپ ر	1	4	1151	A6 U220-8	Ν
i	÷ب	1	5	22A2	A6 U210-8	Ν
	÷ب	1	6	H7C8	A6 U200-8	N
	Ŷ	1	7	U984	A6 R824-13	
	` #	1	9	C5CF	A6 R732-16	
	ب ب	1	10	HAHP	A6 R732-10	
	` ÷	1	11	06UF	A6 U230-7	Ν
	\$	1	12	9005	A6 U220-7	Ν
	Ŷ	1	13	AFU6	A6 U210-7	Ν
	ب	1	14	59PF	A6 U200-7	н

A6 U322

•						
OUTPUT	1	ï				R
SETUP	1		I N P U T	S I N N A U T	INPUT'S	Ē
OUTPUT	15	Ť	μ	N N	SOURCE	R
PIN	15	ទ្ធ			NODE	๛๛๛๛๛๛
OUTPUT	A460	S E U	P I N	ŤÚ R E	NODE	Ĕ
SIGNATURE	H460	P		E		?
	4	1	2	61U4	A6 R732-13	
	4	1	3	88A8	A6 U230-8	Ν
	5	1	4	1151	A6 U220-8	Ν
	**	1	5	22A2	A6 U210-8	Ν
	` ‡	1	6	H7C8	A6 U200-8	Ν
	\$	1	7	4454	A6 R824-9	
	*	1	9	A22A	A6 R824-10	
<u>.</u>	*	1	10	5115	A6 R824-11	
	ئىر م	1	11	06UF	A6 U230-7	Ν
	<u>م</u> ینه	1	12	9005	A6 U220-7	М
	<i>م</i> نه	1	13	AFU6	A6 U210-7	н
	Ŷ	1	14	59PF	A6 U200-7	н

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A6 U330 5

OUTPUT		1		1	I	T	e		R	
SETUP	1	1	<u> </u>	•	P	I P U T	S J	INPUT'S	שחרחצח	
OUTPUT	2	3	14	15	Ť	Ų	I G N N P A U T U	SOURCE	R	
PIN	–	3		15	S E	P	P A U T	NODE	N C	
OUTPUT	770P	AA09	277P	3005		IN	T U R E	HODE	Ĕ	
SIGNATURE	7708	пноу		3005	P		-		?	
	5				1	4	88A8	A6 U230-8	Ν	
	` ÷				1	5	56F0	A6 R834-13		-1
		` ÷			1	6	88A8	A6 U230-8	н	
		` ÷			1	7	PC36	A6 R834-14		
			` #		1	10	88A8	A6 U230-8	Ν	
			4		1	11	F41H	A6 R834-15		
9				ţ	1	12	88A8	A6 U230-8	н	
				4	1	13	4960	A6 R834-16		

A6 U332 5

•									
OUTPUT	1	1	1	1	I N P	,	e		R
SETUP					P	N P	S I I G	INPUT'S	Ē
OUTPUT	2	3	14	15	Ŭ	ų T	N N P A U T	SOURCE	Ŗ
PIN	Ē	3	14	15	SE	1	N N P A U T U	NODE	RMFMRMZOM
OUTPUT	PP1H	5412	4PUF	7P0A	IT.	P I N	ŤÚ R E	NODE	Ĕ
SIGNATURE	PPIH	3412	4707	2 PUH	P	n	Ē		?
	` ÷				1	4	1151	A6 U220-8	н
	` *				1	5	3U7H	A6 R834-10	
		\			1	6	1151	A6 U220-8	н
		`			1	7	H66H	A6 R732-14	
			<u>ک</u>		1	10	1151	A6 U220-8	н
			5		1	11	1AF7	A6 R834-11	
				4	1	12	1151	A6 U220-8	н
				4	1	13	003H	A6 R834-12	

55

A6 U400 5

A6 U402 56

•									
OUTPUT		1	1	1	I	Ŧ	e		REF
SETUP	1	1	1	-	P.	N P	S I IG	INPUT'S	F
OUTPUT	2	з	14	15	U T	Ų	N N P A U T	SOURCE	HRHZCH
PIN		5	14	10	S E T		N N P A U T U	NODE	Ř
OUTPUT	572F	U8A5	85H7	4079	Ť	Ĭ	ŤÚ R E	HODE	Ĕ
SIGNATURE	Jrer	0045	0317	407.9	P		F-		?
	` ÷				1	4	2A88	A6 U300-2	
	<i>۲</i>				1	5	2060	A6 R808-10	
		` #			1	6	5048	A6 U300-3	
		` .;•			1	7	U59C	A6 R902-8	
			\$		1	10	зсио	A6 U300-14	
			` #		1	11	AC70	A6 R902-6	
				*	1	12	6HFP	A6 R902-7	
				Ļ,	1	13	6AH6	A6 U300-15	

	\checkmark								
OUTPUT	1	1	1	1	I N	Ţ	6		R
SETUP	1	1	1	-	PU	Ň	S I I G	INPUT'S	F
OUTPUT	2	з	14	15	Ť	บ้า		SOURCE	R
PIN	<u>د</u>	C		15	S E T		NODE	RUZHZHTHZ	
OUTPUT	ЗГЗА	знза	57A7	C36P	Ť	I I	RE	HODE	Ĕ
SIGNATURE	SF SH	3134	SPHP	COOP	P		F		?
	4				1	4	572F	WIREAND # 3	Р
	` ‡				1	5	знза	A6 U402-3	
		ب			1	6	C36P	A6 U402-15	
		` +			1	7	P475	A6 U500-3	
			۲		1	10	6A9H	WIREOR # 8	Р
			~ #		1	11	C36P	A6 U700-3	
				` #	1	12	57A7	WIREOR #10	Ρ
				4	1	13	6A9H	WIREOR # 8	Ρ

WIRE-AND #3 (Signature: 572F) A6 U400-2 A6 U410-2 A6 U420-2 A6 U420-2 WIRE-OR #8 (Signature: 6A9H) A6 U310-15 A6 U510-2 WIRE-OR #10 (Signature: 57A7) A6 U402-14 A6 CR521-K

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A6 U410 5

OUTPUT SETUP	1	1	1	1	INP	I N P	S I I G	INPUT'S	8- 11- 11- 11- 11- 11- 11- 11- 11- 11- 1
OUTPUT PIN	2	З	14	15	U T S	Ŭ T	N N P A U T	SOURCE	MRMZ
OUTPUT SIGNATURE	572F	U8A5	85H7	4079	SETUP	P I N	T U R E	NODE	N C E ?
L	` ÷				1	4	НFЗA	A6 U302-2	
	` ÷				1	5	5FFP	A6 R814-14	
		` ;			1	6	A824	A6 U302-3	
		` #			1	7	33C3	A6 R814-12	
			`֥		1	10	9HU8	A6 U302-14	
			\$		1	11	55C8	A6 R814-13	
				4	1	12	36P7	A6 R814-15	
				\$	1	13	UF15	A6 U302-15	

A6 U412 5 6 OUTPUT RULUXULUX I N P U T 1 1 1 1 HZPUT SHUZAHDRU SETUP INPUT'S OUTPUT 15 2 З 14 SOURCE PIN SETUP P I N NODE OUTPUT 64A0 57C3 PAU4 3F3A ? SIGNATURE 1 4 USA5 WIREAND # 4 Ρ **\$** Ļ. 1 5 64A0 A6 U412-3 1 6 PAU4 A6 U412-15 \$ 1 4 7 8062 A6 U500-14 10 PAU4 **`** 1 A6 U700-2 4 1 11 3313 WIREOR **#** 9 P #13 P 1 12 57C3 ∽₽ WIREOR 1 13 3313 WIREOR # 9 P

WIRE-AND #4 (Signature: U8A5) A6 U400-3 A6 U410-3 A6 U420-3 A6 U420-3 WIRE-OR #9 (Signature: 3313) A6 U312-15 A6 510-3 WIRE-OR #13 (Signature: 57C3) A6 U412-14 A6 CR520-K

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A6 U420

r									_
OUTPUT	1	•		1	I	т	6		R
SETUP				•	P	Ň	S I IG	INPUT'S	F
OUTPUT	2	3	14	15	U T	Ý	N N P A U T	SOURCE	R
PIN		3	14	15	S E T	P		NODE	שחרחשחבטח
OUTPUT	572F	U8A5	85H7	4079	UU I	I N	T U R E	HODE	Ĕ
SIGNATURE	Jrer	UOHJ	0317	4079	P	, ri	-		?
	م ېنې				1	4	PP1H	A6 U332-2	
	` *		-		1	5	2P67	A6 R824-16	
		4			1	6	5412	A6 U332-3	
		4			1	7	99H9	A6 R824-12	
			` #		1	10	4PUF	A6 U332-14	
			` #		1	11	P3A2	A6 R824-15	
				4	1	12	1073	A6 R824-14	
		·		ţ	1	13	7POA	A6 U332-15	

A6 U422 5 6

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OUTPUT Setup	1	1	1	1	I N P	INP	S I I G	R E F INPUT'S E
OUTPUT Pin	2	З	14	15	U T SET	Ŭ T	I N A T U	INPUT'S E Source E Node C
OUTPUT SIGNATURE	F854	AA45	046H	2411	E P T I U N P		- DRE	E ?
	4				1	4	85H7	WIREAND # 6 P
	`				1	5	AA45	A6 U422-3
-		Ť,			1	6	2411	A6 U422-15
		4			1	7	P81A	A6 U530-3
			` #		1	10	8A39	WIREOR #11 P
			\$		1	11	2411	A6 U700-14
				4	1	12	046H	A6 U422-14
				4	1	13	8A39	WIREOR #11 P

WIRE-AND #6 (Signature: 85H7) A6 U400-14 A6 U410-14 A6 U420-14 A6 U430-14

WIRE-OR #11	
(Signature:	8A39)
A6 U320-15	
A6 U510-14	

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A6 U430 5

						_	_		_
OUTPUT	1	1	1	1	I	т	G		R
SETUP	A ·	1	•	•		₽	S I IG	INPUT'S	Ē
OUTPUT	2	з	14	15	Ť	Ý	N N	SOURCE	Ř
PIN	<u>ج</u>	3		15	S E T	'P	I GNA P T U T	NODE	8000000000000000000000000000000000000
OUTPUT	572F	U8A5	85H7	4079	Ī	I		no DE	Ĕ
SIGNATURE	Jrer	UONS	85117	407 5	P				?
	` #				1	4	770P	A6 U330-2	
	4				1	5	HP4H	A6 R834-9	
		¥.			1	6	AA09	A6 U330-3	
		` \$			1	7	4FPF	A6 R732-11	
		[14		1	10	277P	A6 U330-14	
		1	\ ` #		1	11	38AU	A6 R732-15	
		1		¥	1	12	44F7	A6 R732-12	
				5	1	13	3005	A6 U330-15	

A6 U432 5 6 OUTPUT I N N P U T SHGZAFURE 1 1 1 1 SETUP I N P U T INPUT'S OUTPUT SOURCE 15 2 з 14 PIN SETUP P I N NODE OUTPUT F854 PUAD 4CF0 61U4 SIGNATURE 1 4 4C79 WIREAND # 7 4 1 A6 U432-3 4 5 PUAD 4 1 61U4 A6 U432-15 6 A6 U530-14 1986 1 **Ъ**ф 7 1 A460 WIREOR #12 P 4 10 61U4 A6 U700-15 **\$** 1 11 A6 U432-14 4 1 12 4CFO

4

1

13 A460 WIREOR

WIRE-AND #7 (Signature: 4C79) A6 U400-15 A6 U410-15 A6 U420-15 A6 U430-15

WIRE-OR #12 (Signature: A460) A6 U322-15 A6 U510-15

#12 P

RUZUNAUN

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Scans by Outsource-Options =>

A6 U500 5

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OUTPUT	1	1	1	1		I	T	6		Ŗ
SETUP	1				•	N P	Ň	S I I	INPUT'S	RUZMWHUN
OUTPUT	ş	3	9	14	15	Ϋ́	N I G P I G U N N T P A U T I		SOURCE	Ř
PIN	्रङ	3		14	10	S E T	P	U T U	NODE	
OUTPUT	544F	P475	HA18	8062	544F	Τ U	IN	, R	HODE	Ĕ
SIGNATURE	9446	F 47 3		0002	5441	P				?
	` ‡•					1	4	572F	WIREAND # 3	Ρ
	4					1	5	U8A5	WIREAND # 4	Ρ
		` ÷				1	6	C36P	A6 U800-3	
		4				1	7	HA18	A6 U500-9	
				4		1	10	HA18	A6 U500-9	
				4		1	11	PAU4	A6 U800-2	
			4		*	1	12	544F	A6 U500-2	
			~ ; +		` ÷	1	13	8P54	WIRED HIGH	

572F)

WIRE-AND #4

(Signature: UBA5) A6 U400-3 A6 U410-3 A6 U420-3 A6 U430-3

A6 U510

									_
OUTPUT			i	1	I	T	S		R
SETUP	1	-	1	•	N P	N P	IG	INPUT'S	Ē
OUTPUT	2	3	14	15	บ T	Ų		SOURCE	
PIN	E	3	3 14 15 <u>s</u>		IS UT		ίττυ	NODE	RMFMRMZOM
OUTPUT	6A9H	3313	8A39	A460	Ť	P I N	R	HODE	Ĕ
SIGNATURE	биэп	3313	OH37	H480	P		F		?
<u></u>	` #				1	4	8P54	A6 U620-3	
	\$				1	5	C36P	A6 U700-3	
		\÷			1	6	8P54	A6 U620-3	
		` *			1	7	PAU4	A6 U700-2	
			¥•		1	10	8P54	A6 U620-3	
			` #		1	11	2411	A6 U700-14	
				¥	1	12	8P54	A6 U620-3	
				4	1	13	61U4	A6 U700-15	

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A6 U520

OUTPUT SETUP	1	1	1	1	I N P	INP	S I I G	INPUT'S	КПЕТИКПХОП В ПЕТИКА В ПОВО В ПЕТИКА В ПЕТИКА В
OUTPUT	٤	3	9	14	Ŭ	Ϋ́	U N A T U	SOURCE	Ř
PIN					S E T	P		NODE	N
OUTPUT	C26P	0000	8P54	3F3A	Ť	I N	, K	HODE	Ĕ
SIGNATURE	LEBP	0000	0534	SF SH	P	N	E		?
	<i>ک</i> نه				1	4	0000	A6 U520-3	
	\$				1	5	3F3A	WIREOR # 2	Ρ
		` ‡•			1	6	8P54	A6 Q1010-C	Y
		¥.			1	7	0000	WIRED LOW	
				5	1	10	8P54	WIREOR #14	Ρ
				4	1	11	8P54	A6 Q1010-C	Y
			4		1	12	8P54	A6 Q1002-C	Y
			+		1	13	0000	R733	н

WIRE-OR #2 (Signature: 3F3A) A6 U600-3 A6 U600-14 WIRE-OR #14 (Signature: 8P54) A6 Q1004-C A6 CR622-C

Reference List

A6	Q1002-C:	use	Trigger	Board	Troubleshooting	Tip	A2
A 6	Q1010-C:	use	Trigger	Board	Troubleshooting	Tip	A2

A6 U530 5

OUTPUT SETUP	1	1	1	1	1	INPU	I N P	S I I G	INPUT'S	RULL
OUTPUT PIN	2	3	9	14	15	Ť	U T P	N A P U U T	SOURCE	URMZC
OUTPUT SIGNATURE	нэсе	P81A	57P2	1986	H9C6	T U P	I N	' D R E	NUDE	С Е ?
	` ++					1	4	4079	WIREAND # 7	Ρ
	`÷					1	5	85H7	WIREAND # 6	Ρ
		÷				1	6	2411	A6 U800-15	
		\$				1	7	57P2	A6 U530-9	
				\ ; +		1	10	57P2	A6 U530-9	
				`_ ;+		1	11	61U4	A6 U800-14	
			· \#		\$	1	12	H9C6	A6 U530-2	
			` ‡		4	1	13	8P54	WIRED HIGH	

WIRE	E-AND #6	
(Sig	jnature:	85H7)
A6	U400-14	
A6	U410-14	
A6	U420-14	
A6	U430-14	

WIRE-AND #7	
(Signature:	4079)
A6 U400-15	
A6 U410-15	
A6 U420-15	
A6 U430-15	

シ

OUTPUT SETUP	1	1	1	1	1	I N P	I N P	S I I G	INPUT'S	RUZMWHHW	
OUTPUT Pin	2	З	9	14	15	T SET	Ť	ANATU NATU	SOURCE Node		
OUTPUT Signature	ЗFЗA	ЗFЗA	8P54	3F3A	0000		P I N	- DRU	NODE	Б Е ?	
	` #					1	4	3F3A	WIREOR # 1	Ρ	
	` #					1	5	C26P	A6 U610-3		
		` ;+				1	6	3F3A	WIREOR # 1	P	
		ب ب			•	1	7	8P54	WIREOR #14	Ρ	
				` *		1	10	ЗГЗА	WIREOR # 1	Р	
				` ;•		1	11	F854	WIREOR # 5	Р	
			ب		<i>ه</i> به	1	12	ЗFЗA	WIREOR # 1	Ρ	
			Ť		\$	1	13	C26P	A6 U520-2		

WIRE-OR #1 (Signature: 3F3A) A6 U402-2 A6 U412-2 A6 U320-14 A6 U600-2 WIRE-OR #5 (Signature: F854) A6 U422-2 A6 U432-2 WIRE-OR #14 (Signature: 8P54) A6 Q1004-C A6 CR622-C

Signature Analysis Tables-7A42 Volume 2

A6 U610

OUTPUT SETUP OUTPUT PIN	1	1 3	1 9	1	1	INPUT SE	HZPUT P	9402970 1792010	INPUT'S Source Node	ששהששחבנ
OUTPUT SIGNATURE	0000	C26P	C26P	8P54	3F3A	T	Г N	' RE	NODE	Ĉ E ?
	` ÷					1	4	0000	R715	м
	` #					1	5	0000	A6 U600-15	
		\ ;				1	6	8P54	A6 Q720-C	Y
		¥•				1	7	C26P	A6 U520-2	
				¥		1	10	8P54	A6 Q720-C	Y
				¥-		1	11	8P54	A6 Q1002-C	Y
			\ \		<u>ب</u> ب	1	12	8P54	A6 Q720-C	Y
			ب ئہ		ب ب	1	13	ЗFЗA	WIREOR # 2	Ρ

WIRE-OR #2 (Signature: 3F3A) A6 U600-3 A6 U600-14

Reference List

A6 Q720-C: use Trigger Board Troubleshooting Tip A2 A6 Q1002-C: use Trigger Board Troubleshooting Tip A2

A6 U620 分

•										
OUTPUT		•		•	•	IN	Ţ	S		REF
SETUP	1	1		1	1	P	I N P	I I I G	INPUT'S	Ē
OUTPUT	з	10	11	12	13	Ť	្រុ	N N P A	SOURCE	E R R E
PIN	3	10	**	+6	13	SE	' _Р	N N P A U T U	NODE	I N I
OUTPUT	8P54	згза	C26P	C26P	згза	Ť	I I	Ŕ	NODE	E E
SIGNATURE	0104	SF SH	CEBP	CEOF	SI SH	P				?
	ب ب					1	4	8P54	A6 U520-9	
	` ÷					1	5	0000	A6 Q1012-C	Y
		ţ,	\$			1	7	0000	A6 U610-2	
		4	` ‡			1	9	3F3A	A6 U610-15	
				5	\$	1	14	ЗFЗA	A6 U630-14	
				\$	` ‡•	1	15	0000	WIRED LOW	

Reference List

A6 Q1012-C: use Trigger Board Troubleshooting Tip A2

A6 U630 分

1	I	Ļ			R
1	P	N N	I	1	8975050
	Ť	ų	N N		R
14	s	'	U U T		H.
2520	Т			NUDE	Ĕ
эг эн	P	ri I	.		?
4	1	7	0000	WIRED LOW	
<u>ب</u> ر	1	9	8P54	A6 Q1002-C	Y
<u>ب</u>	1	11	ЗҒЗА	A6 U610-15	
	1 14 3F3A ÷	14 5 14 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14 3F3A ↓ 14 17 14 17 17 17	P N U P T U T U SF3A I U P T U T U F U T U I U R T U T U 3F3A P A S P T U 00000 → 1 7 00000 → 1 9 8P54	14 T N N N 14 T P A SOURCE U T U T NODE 3F3A U N E → 1 7 0000 WIRED → 1 9 8P54 A6 Q1002-C

Reference List

A6 Q1002-C: use Trigger Board Troubleshooting Tip A2

Scans by Outsource-Options =>

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A6 U700 6

NDTE: This table is valid only with the TRIGGER FILTER control in the ON (out of detent) position.

OUTPUT SETUP	1	1	1	1	INPU	I N P	S I I G	INPUT'S	REFE
OUTPUT PIN	2	з	14	15	SET	Ŭ T P	N N P A U T	SOURCE	RUZMZMTHZ
OUTPUT	0000	0000	0000	0000	T U P	I N	TU R E	HODE	_
SIGNATURE	<u>ب</u>				Р 1	4	0000	A6 Q1000-Q	? Y
	<u>`</u> +				1	5	PAU4	A6 U800-2	
		4			1	6	0000	A6 Q1000-C	Y
		` ‡			1	7	C36P	A6 U800-3	
			*		1	10	0000	A6 Q1000-C	Y
			,		1	11	2411	A6 U800-15	
				` ;	1	12	0000	A6 Q1000-C	Y
				` #	1	13	61U4	A6 U800-14	

IMPORTANT - Return the TRIGGER FILTER control to the OFF (CCW detent) position before proceeding.

OUTPUT			1		Ï	-	c		R
SETUP	1	1	1	1	N P	N P U	S I I G	INPUT'S	F
OUTPUT	2	3	14	15	Ŭ T	Ų	N N N N	SOURCE	R
PIN	د	3	14	13	S E T	P		NODE	RUZMWHANZOM
OUTPUT	PAU4	C36P	2411	61U4	Ť	I N	T Ú R E	HODE	Ĕ
SIGNATURE	FHU4	CJOP	E 411	6104	P	14	6		?
	÷.				1	4	8P54	A6 Q1000-C	Y
	*				1	5	PAU4	A6 U800-2	
		<i>چ</i>			1	6	8P54	A6 Q1000-C	Y
		4			1	7	C36P	A6 U800-3	
			` #		1	10	8P54	A6 Q1000-C	Y
			` #		1	11	2411	A6 U800-15	
				4	1	12	8P54	A6 Q1000-C	Y
				` #	1	13	61U4	A6 U800-14	

A6 U700 (TRIGGER FILTER in the OFF position)

Reference List

A6 Q1000-C: use Trigger Board Troubleshooting Tip A2

A6 U800 6

•									
OUTPUT	1	1	1	1	I	T	ş		Ŗ
SETUP	1	•	•		P U T	Ň	, Ĭ I Ġ	INPUT'S	8020800
OUTPUT	2	з	14	15	Ť	N P U		SOURCE	Ř
PIN	–	5	14	13	SET	·	N N P A U T U	NODE	
OUTPUT	PAU4	C36P	61U4	2411	Ť	P I N	RE	nobe	Ĕ
SIGNATURE	FHU4	CSBF	8104	2411	P		6		?
	` #				1	4	8P54	A6 U610-14	
	~÷				1	5	PAU4	A6 R814-16	
		*			1	6	8P54	A6 U610-14	
		\÷			1	7	C36P	A6 R808-16	
			` #		1	10	8P54	A6 U610-14	
			۲ μ		1	11	61U4	A6 R732-13	
				4	1	12	8P54	A6 U610-14	
				ب	1	13	2411	A6 R732-9	

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