

Instructions

P6462 DATA ACQUISITION PROBE

INTRODUCTION

The P6462 is a data acquisition probe suitable for use with the 1240 Logic Analyzer 1240D1 and 1240D2 Acquisition Cards and the DAS 91A24 and 91A32 Data Acquisition Modules. The P6462 has a clock operating frequency of 50 MHz and acquires data at 25 MHz. The P6462 has nine data channels and a clock line. When used with the DAS, one of the data channels serves as a clock qualifier.

These instructions contain the service information for this probe. For convenience, insert a copy of them in the back of the service manual for the logic analyzer that the probe will usually be used with.

DAS OPERATION. This probe only works with the DAS 91A24, 91AE24, and 91A32 modules. It does not work with any other DAS modules. When using the P6462 with the DAS 91A24, the AUX/NORM switch must be set to the NORM position. When used with the DAS 91A32, the switch must be set to AUX.

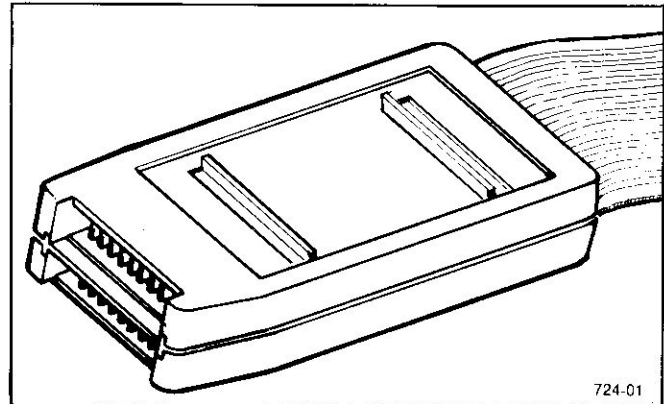
When using the P6462 probe with a 91A24 or 91AE24 observe the following.

- The threshold field becomes a fixed field (TTL 1.4V).
- Diagnostic tests that require probes are not executed at power-up.
- Diagnostic test 7 will fail on an 91A24 when a P6462 probe is connected.
- Diagnostic test 5 will fail on an 91AE24 when a P6462 probe is connected.

When using the P6462 with a 91A32 observe the following.

- Although the threshold field will allow you to use VARIABLE threshold mode, changes in this field will have no effect on the probe or on the data acquired. Threshold field changes for a pod using a P6452 are valid.
- Do not use a P6462 with a 91A08 or a trigger card.

1240 OPERATION. When using the P6462 with the 1240, set the AUX/NORM switch to NORM. Note also that while the CARD THRESHOLD field in the 1240 can be changed, selections in this field have no effect.



P6462 data acquisition probe.

LABELS

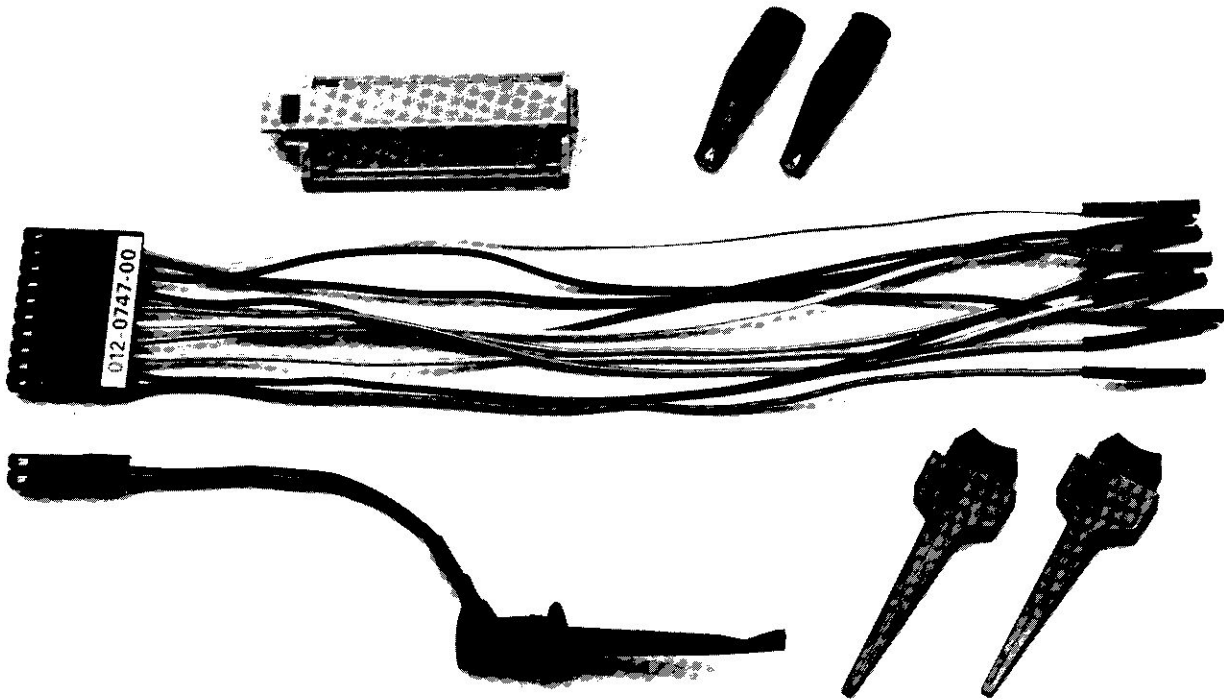
Two labels are included with your probe. The label with an 8 in the upper-left corner and a C/Q in the upper-right corner is for use with 1240 Logic Analyzers. The label with a Q in the upper-left corner, and a green CK and blue NC in the upper-right corner, is for use with DAS 91A24 and 91A32 Data Acquisition Modules.

OPERATOR'S INFORMATION

This manual contains primarily service information. For operator's information, refer to the operator's manual for the instrument that the probe is to be used with (either the *1240 Logic Analyzer Operator's Manual* or the *DAS 9100 Series Operator's Manual*).

FREQUENCY AND LEAD SETS

For clock operating frequencies up to 25 MHz, the 10-inch lead sets (012-0747-00) are sufficient. For clock operating frequencies above 25 MHz, use the 5-inch (012-0989-00) lead sets. One ground connection is sufficient.



Standard accessories for the P6462.

4724-02

SPECIFICATIONS

Table 1
ELECTRICAL SPECIFICATIONS

Characteristic	Performance Requirements	Supplemental Information
Interface Presented to the User's System		
Input Capacitance		8 pF nominal
Max. Non-Destructive Input Voltage Range		-2 to +7 V (DC + peak AC)
Low-Level Input Current		-0.18 mA max.
High-Level Input Current		10 μ A max.
Minimum Input Signal	TTL (0.8 to 2.0 V)	
Nominal Threshold Voltage		1.4 V at 25° C w/Vcc = 5.000 V \pm 5 mV

**ELECTRICAL SPECIFICATIONS
(Cont.)**

Characteristic	Performance Requirements	Supplemental Information
Threshold Temperature Dependence		5.5 mV/deg. C (referenced to 25 deg. C)
Threshold Temperature Power Supply Voltage Dependence (delta V-th/delta V-cc)		one-to-one
Minimum Pulse Width (with min TTL signal input centered around the threshold and rise and fall times ≤ 2 ns)		10 ns at threshold
Internal Probe Characteristics		
Bandwidth		
Clock Channel		50 MHz
Independent Input Channel		25 MHz

**Table 2
ENVIRONMENTAL SPECIFICATIONS**

Characteristic	Description
Temperature Operating Storage	-15°C to +55°C -62°C to +85°C
Humidity	95% to 97% relative humidity
Altitude Operating Non-operating	4.5 km (15,000 ft.) 15 km (50,000 ft.)
Electrical Discharge	10 kV maximum from 200 pF with 2K Ω series resistance

**Table 3
PHYSICAL SPECIFICATIONS**

Characteristic	Description
Weight	12 oz.
Overall Dimensions	
Pod	4.5 in. long, 2.2 in. wide, 0.85 in. deep
Cable	78.75 in. (2 m)

SERVICE INFORMATION

WARNING

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

TEKTRONIX FIELD SERVICE

Service of Tektronix products is available from Tektronix Service Centers around the world. Contact your local sales or service organization for more information.

STATIC PRECAUTIONS



Static discharge can damage any semiconductor in this instrument.

Observe the following precautions to avoid static damage:

1. Minimize handling of static-sensitive components.
2. Transport and store static-sensitive components or assemblies in their original containers, on a metal rail, or on conductive foam. Label any package that contains static-sensitive components or assemblies.
3. Discharge the static voltage from your body by wearing a wrist strap while handling these components. Servicing static-sensitive assemblies should be performed only in a static-free work station by qualified service personnel.
4. Allow Nothing on the work station surface that is capable of generating or holding a static charge.
5. Keep the component leads shorted together whenever possible.
6. Pick up components by the body, never by the leads.
7. Do not slide the components over any surface.
8. Avoid handling components in areas that have a floor or work-surface covering capable of generating a static charge.
9. Use a soldering iron that is connected to earth ground.
10. Use only special anti-static suction-type or wick-type desoldering tools.

NOTE

Damage to electrical components may not be immediately apparent. Always follow the precautionary measures listed above when handling static-sensitive components.

THEORY OF OPERATION

Since all channels are electrically identical, only channel 0 will be described.

The incoming signal is applied to the base of Q119. The emitter of Q119 drives a TTL-to-ECL translator that is composed of R125A, R222A, and R120B. The translated signal is applied to the input of U130C and converted to a differential output for use by the instrument.

U430 is a shift register used in conjunction with S100. S100 is a switch used to signal the mainframe to display pod assignment. S200 is a selection switch used to alter the probe configuration for use with different cards.

PERFORMANCE CHECK

The minimum input signal is listed under the Performance Requirements column of the Electrical Specifications. The following procedure checks that specification.

Required Equipment

The following equipment is required for this check.

- Pulse generator with output of at least 2 MHz. (For example, the Tektronix PG 502.)
- Oscilloscope with bandwidth of at least 60 MHz. (For example, the Tektronix 2213.)
- BNC Male-to-Dual Binding Post. (For example, the Tektronix part number 103-0035-00.)
- Power Supply with an output of 0 to +20 V. (For example, the Tektronix PS 503A.)

Procedure

1. Connect the P6462 to the logic analyzer.
2. Connect the binding post to the output of the PG502.
3. Using a single short piece of bare wire connected to the positive side of the binding post, connect all channels of the P6462 to the PG502.
4. Connect the scope probe to the PG502 and set it for a square wave output of 2 MHz with the low end at 0.8 V and the high end at 2.0 V.
5. Set the logic analyzer for asynchronous acquisition at 1 MHz. Set the threshold for TTL.
6. Start acquisition and observe the timing diagram for a switching pattern of 1's and 0's.
7. Connect the clock/qualifier channel to the output of the power supply. Set the power supply to +5 V.
8. Enter the trigger specification menu of the logic analyzer and set the qualifier to 1. Start acquisition and check to see that the logic analyzer triggers.
9. Re-enter the trigger specification menu of the logic analyzer and set the qualifier to 0. Start acquisition and check to see that the logic analyzer does not trigger.
10. Connect the clock/qualifier channel to ground. Enter the trigger specification menu of the logic analyzer and set the qualifier to 1.
11. Start acquisition and check to see that the logic analyzer does not trigger.
12. Re-enter the trigger specification menu and set the qualifier to 0. Start acquisition and check to see that the logic analyzer triggers.

REPLACEABLE ELECTRICAL PARTS

PARTS ORDERING INFORMATION

Replacement parts are available from or through your local Tektronix, Inc. Field Office or representative.

Changes to Tektronix instruments are sometimes made to accommodate improved components as they become available, and to give you the benefit of the latest circuit improvements developed in our engineering department. It is therefore important, when ordering parts, to include the following information in your order: Part number, instrument type or number, serial number, and modification number if applicable.

If a part you have ordered has been replaced with a new or improved part, your local Tektronix, Inc. Field Office or representative will contact you concerning any change in part number.

Change information, if any, is located at the rear of this manual.

Only the circuit number will appear on the diagrams and circuit board illustrations. Each diagram and circuit board illustration is clearly marked with the assembly number. Assembly numbers are also marked on the mechanical exploded views located in the Mechanical Parts List. The component number is obtained by adding the assembly number prefix to the circuit number.

The Electrical Parts List is divided and arranged by assemblies in numerical sequence (e.g., assembly A1 with its subassemblies and parts, precedes assembly A2 with its subassemblies and parts).

Chassis-mounted parts have no assembly number prefix and are located at the end of the Electrical Parts List.

LIST OF ASSEMBLIES

A list of assemblies can be found at the beginning of the Electrical Parts List. The assemblies are listed in numerical order. When the complete component number of a part is known, this list will identify the assembly in which the part is located.

CROSS INDEX-MFR. CODE NUMBER TO MANUFACTURER

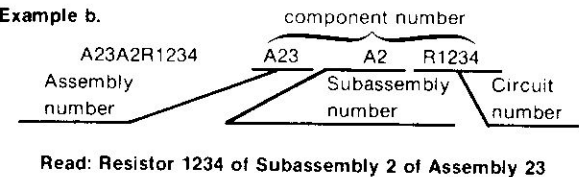
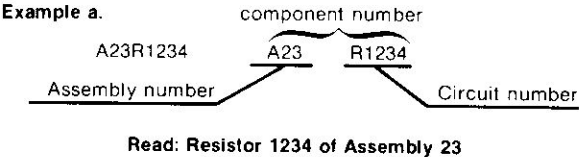
The Mfr. Code Number to Manufacturer index for the Electrical Parts List is located immediately after this page. The Cross Index provides codes, names and addresses of manufacturers of components listed in the Electrical Parts List.

ABBREVIATIONS

Abbreviations conform to American National Standard Y1.1.

COMPONENT NUMBER (column one of the Electrical Parts List)

A numbering method has been used to identify assemblies, subassemblies and parts. Examples of this numbering method and typical expansions are illustrated by the following:



TEKTRONIX PART NO. (column two of the Electrical Parts List)

Indicates part number to be used when ordering replacement part from Tektronix.

SERIAL/MODEL NO. (columns three and four of the Electrical Parts List)

Column three (3) indicates the serial number at which the part was first used. Column four (4) indicates the serial number at which the part was removed. No serial number entered indicates part is good for all serial numbers.

NAME & DESCRIPTION (column five of the Electrical Parts List)

In the Parts List, an Item Name is separated from the description by a colon (:). Because of space limitations, an Item Name may sometimes appear as incomplete. For further Item Name identification, the U.S. Federal Cataloging Handbook H6-1 can be utilized where possible.

MFR. CODE (column six of the Electrical Parts List)

Indicates the code number of the actual manufacturer of the part. (Code to name and address cross reference can be found immediately after this page.)

MFR. PART NUMBER (column seven of the Electrical Parts List)

Indicates actual manufacturers part number.

Replaceable Electrical Parts—P6462

CROSS INDEX—MFR. CODE NUMBER TO MANUFACTURER

Mfr. Code	Manufacturer	Address	City, State, Zip
01121	ALLEN-BRADLEY COMPANY	1201 2ND STREET SOUTH	MILWAUKEE, WI 53204
04713	MOTOROLA, INC., SEMICONDUCTOR PROD. DIV.	5005 E MCDOWELL RD, PO BOX 20923	PHOENIX, AZ 85036
22526	BERG ELECTRONICS, INC.	YORK EXPRESSWAY	NEW CUMBERLAND, PA 17070
27014	NATIONAL SEMICONDUCTOR CORP.	2900 SEMICONDUCTOR DR.	SANTA CLARA, CA 95051
55680	NICHICON/AMERICA/CORP.	6435 N PROESEL AVENUE	CHICAGO, IL 60645
72982	ERIE TECHNOLOGICAL PRODUCTS, INC.	644 W. 12TH ST.	ERIE, PA 16512
80009	TEKTRONIX, INC.	P O BOX 500	BEAVERTON, OR 97077
81073	GRAYHILL, INC.	561 HILLGROVE AVE., PO BOX 373	LA GRANGE, IL 60525
91637	DALE ELECTRONICS, INC.	P. O. BOX 609	COLUMBUS, NE 68601
95146	ALCO ELECTRONICS PRODUCTS, INC.	P. O. BOX 1348	LAWRENCE, MA 01842

Replaceable Electrical Parts—P6462

Component No.	Tektronix Part No.	Serial/Model No. Eff Dscnt	Name & Description	Mfr Code	Mfr Part Number
A71	670-8249-00		CKT BOARD ASSY:FIXED THRESHOLD TTL ACQUISITION PROBE	80009	670-8249-00
A71	-----				
A71C122	283-0204-00		CAP.,FXD,CER D1:0.01UF,20%,50V	72982	8121N061Z5U0103M
A71C123	283-0024-00		CAP.,FXD,CER D1:0.1UF,+80-20%,50V	72982	8121N083Z5U0104Z
A71C140	283-0204-00		CAP.,FXD,CER D1:0.01UF,20%,50V	72982	8121N061Z5U0103M
A71C240	283-0204-00		CAP.,FXD,CER D1:0.01UF,20%,50V	72982	8121N061Z5U0103M
A71C241	283-0204-00		CAP.,FXD,CER D1:0.01UF,20%,50V	72982	8121N061Z5U0103M
A71C340	283-0204-00		CAP.,FXD,CER D1:0.01UF,20%,50V	72982	8121N061Z5U0103M
A71C422	290-0943-00		CAP.,FXD,ELCTLT:47UF,+50-10%,25V	55680	25ULB47V0T
A71C429	283-0024-00		CAP.,FXD,CER D1:0.1UF,+80-20%,50V	72982	8121N083Z5U0104Z
A71CR110	152-0307-00		SEMICONV DEVICE:SILICON,300V,0.13A	04713	SSD1150
A71CR115	152-0307-00		SEMICONV DEVICE:SILICON,300V,0.13A	04713	SSD1150
A71CR411	152-0307-00		SEMICONV DEVICE:SILICON,300V,0.13A	04713	SSD1150
A71CR415	152-0307-00		SEMICONV DEVICE:SILICON,300V,0.13A	04713	SSD1150
A71CR419	152-0307-00		SEMICONV DEVICE:SILICON,300V,0.13A	04713	SSD1150
A71Q118	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A71Q119	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A71Q218	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A71Q219	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A71Q220	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A71Q318	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A71Q319	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A71Q410	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A71Q413	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A71Q418	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A71R112	315-0201-00		RES.,FXD,CMPSN:200 OHM,5%,0.25W	01121	CB2015
A71R113	315-0130-00		RES.,FXD,CMPSN:13 OHM,5%,0.25W	01121	CB1305
A71R120	307-0933-00		RES NTWK,FXD,F1:10,1.3K OHM	91637	CSC11A01-132G
A71R122	315-0391-00		RES.,FXD,CMPSN:390 OHM,5%,0.25W	01121	CB3915
A71R125	307-0930-00		RES NTWK,FXD,F1:10,330 OHM	91637	CSC11A01-331G
A71R213	307-0931-00		RES NTWK,FXD,F1:8,200 OHM	91637	MDP1603-201G
A71R222	307-0932-00		RES NTWK,FXD,F1:8,390 OHM	91637	MDP1603-391G
A71R322	315-0391-00		RES.,FXD,CMPSN:390 OHM,5%,0.25W	01121	CB3915
A71R412	315-0201-00		RES.,FXD,CMPSN:200 OHM,5%,0.25W	01121	CB2015
A71R422	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A71R423	307-0706-00		RES NTWK,FXD,F1:4,10K OHM,2%,0.2W	01121	208B103
A71R431	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A71U130	156-1733-00		MICROCIRCUIT,D1:QUAD OR/NOR GATE	04713	MC10H101
A71U230	156-1733-00		MICROCIRCUIT,D1:QUAD OR/NOR GATE	04713	MC10H101
A71U330	156-1733-00		MICROCIRCUIT,D1:QUAD OR/NOR GATE	04713	MC10H101
A71U430	156-0625-01		MICROCIRCUIT,D1:8 BIT PRL LOAD SHIFT RGTR	27014	74C165JA+
A71W145	175-9081-00		CA ASSY,SP,ELEC:79.0 INCH LONG,RIBBON	22526	81325-001
CHASSIS PARTS					
S100	260-0735-01		SWITCH,PUSH:T,NO CONTACT,BLACK BTN	81073	39-3
S200	260-2081-00		SWITCH,SLIDE:SPDT,0.4A,20VDC	95146	TSS-11-DC-1-FC

REPLACEABLE MECHANICAL PARTS

PARTS ORDERING INFORMATION

Replacement parts are available from or through your local Tektronix, Inc. Field Office or representative.

Changes to Tektronix instruments are sometimes made to accommodate improved components as they become available, and to give you the benefit of the latest circuit improvements developed in our engineering department. It is therefore important, when ordering parts, to include the following information in your order: Part number, instrument type or number, serial number, and modification number if applicable.

If a part you have ordered has been replaced with a new or improved part, your local Tektronix, Inc. Field Office or representative will contact you concerning any change in part number.

Change information, if any, is located at the rear of this manual.

SPECIAL NOTES AND SYMBOLS

- X000 Part first added at this serial number
- 00X Part removed after this serial number

FIGURE AND INDEX NUMBERS

Items in this section are referenced by figure and index numbers to the illustrations.

INDENTATION SYSTEM

This mechanical parts list is indented to indicate item relationships. Following is an example of the indentation system used in the description column.

```

1 2 3 4 5           Name & Description
Assembly and/or Component
Attaching parts for Assembly and/or Component
    --- * ---
Detail Part of Assembly and/or Component
Attaching parts for Detail Part
    --- * ---
Parts of Detail Part
Attaching parts for Parts of Detail Part
    --- * ---
    
```

Attaching Parts always appear in the same indentation as the item it mounts, while the detail parts are indented to the right. Indented items are part of, and included with, the next higher indentation. The separation symbol --- * --- indicates the end of attaching parts.

Attaching parts must be purchased separately, unless otherwise specified.

ITEM NAME

In the Parts List, an Item Name is separated from the description by a colon (:). Because of space limitations, an Item Name may sometimes appear as incomplete. For further Item Name identification, the U.S. Federal Cataloging Handbook H6-1 can be utilized where possible.

ABBREVIATIONS

"	INCH	ELCTRN	ELECTRON	IN	INCH	SE	SINGLE END
#	NUMBER SIZE	ELEC	ELECTRICAL	INCAND	INCANDESCENT	SECT	SECTION
ACTR	ACTUATOR	ELCTLT	ELECTROLYTIC	INSUL	INSULATOR	SEMICON	SEMICONDUCTOR
ADPTR	ADAPTER	ELEM	ELEMENT	INTL	INTERNAL	SHLD	SHIELD
ALIGN	ALIGNMENT	EPL	ELECTRICAL PARTS LIST	LPHLDR	LAMPHOLDER	SHLDR	SHOULDERED
AL	ALUMINUM	EQPT	EQUIPMENT	MACH	MACHINE	SKT	SOCKET
ASSEM	ASSEMBLED	EXT	EXTERNAL	MECH	MECHANICAL	SL	SLIDE
ASSY	ASSEMBLY	FIL	FILLISTER HEAD	MTG	MOUNTING	SLFLKG	SELF-LOCKING
ATTEN	ATTENUATOR	FLEX	FLEXIBLE	NIP	NIPPLE	SLVKG	SLEEVING
AWG	AMERICAN WIRE GAGE	FLH	FLAT HEAD	NON WIRE	NOT WIRE WOUND	SPR	SPRING
BD	BOARD	FLTR	FILTER	OBD	ORDER BY DESCRIPTION	SQ	SQUARE
BRKT	BRACKET	FR	FRAME or FRONT	OD	OUTSIDE DIAMETER	SST	STAINLESS STEEL
BRS	BRASS	FSTNR	FASTENER	OVH	OVAL HEAD	STL	STEEL
BRZ	BRONZE	FT	FOOT	PH BRZ	PHOSPHOR BRONZE	SW	SWITCH
BSHG	BUSHING	FXD	FIXED	PL	PLAIN or PLATE	T	TUBE
CAB	CABINET	GSKT	GASKET	PLSTC	PLASTIC	TERM	TERMINAL
CAP	CAPACITOR	HDL	HANDLE	PN	PART NUMBER	THD	THREAD
CFR	CERAMIC	HEX	HEXAGON	PNH	PAN HEAD	THK	THICK
CHAS	CHASSIS	HEX HD	HEXAGONAL HEAD	PWR	POWER	TNSN	TENSION
CKT	CIRCUIT	HEX SOC	HEXAGONAL SOCKET	RCP	RECEPTACLE	TPG	TAPPING
COMP	COMPOSITION	HLCPS	HELICAL COMPRESSION	RES	RESISTOR	TRH	TRUSS HEAD
CONN	CONNECTOR	HLEXT	HELICAL EXTENSION	RGD	RIGID	V	VOLTAGE
COV	COVER	HV	HIGH VOLTAGE	RLF	RELIEF	VAR	VARIABLE
CPLG	COUPLING	IC	INTEGRATED CIRCUIT	RTNR	RETAINER	W/	WITH
CRT	CATHODE RAY TUBE	ID	INSIDE DIAMETER	SCH	SOCKET HEAD	WSHR	WASHER
DEG	DEGREE	IDFNT	IDENTIFICATION	SCOPE	OSCILLOSCOPE	XFMR	TRANSFORMER
DWR	DRAWER	IMPLR	IMPELLER	SCR	SCREW	XSTR	TRANSISTOR

CROSS INDEX—MFR. CODE NUMBER TO MANUFACTURER

Mfr. Code	Manufacturer	Address	City, State, Zip
06383	PANDUIT CORPORATION	17301 RIDGELAND	TINLEY PARK, IL 60477
22526	BERG ELECTRONICS, INC.	YOUK EXPRESSWAY	NEW CUMBERLAND, PA 17070
73743	FISCHER SPECIAL MFG. CO.	446 MORGAN ST.	CINCINNATI, OH 45206
80009	TEKTRONIX, INC.	P O BOX 500	BEAVERTON, OR 97077
83385	CENTRAL SCREW CO.	2530 CRESCENT DR.	BROADVIEW, IL 60153
86928	SEASTROM MFG. COMPANY, INC.	701 SONORA AVENUE	GLENDALE, CA 91201

Date: 1/29/87 Change Reference: C1/187

Product: P6462 Data Acquisition Probe Manual Part No.: 070-4724-00

DESCRIPTION

Product Group 57

In the Replaceable Mechanical Parts section under Standard Accessories remove:

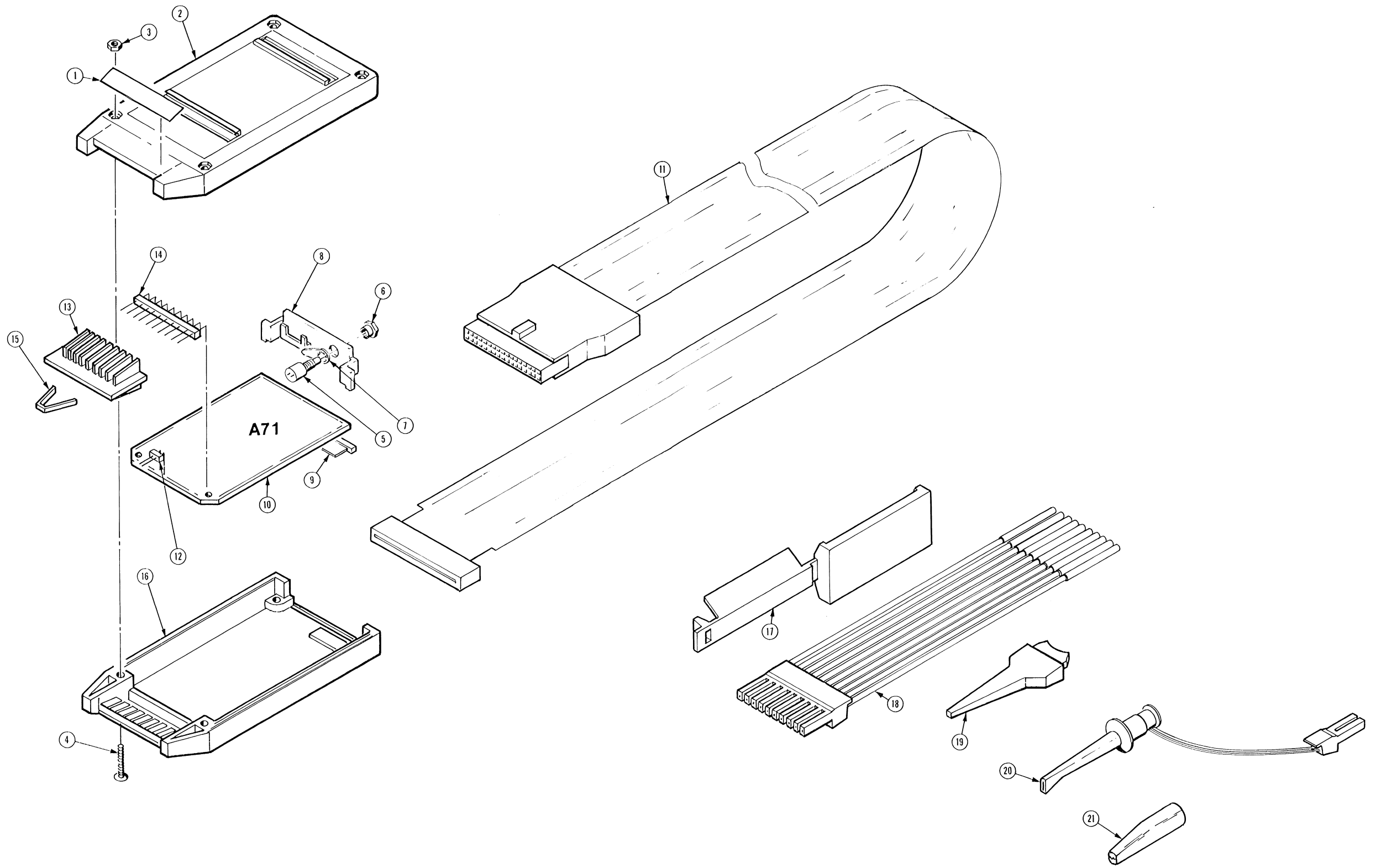
020-0720-00 Package of 12 grabber tips

ADD:

1 020-1386-00 Package of 12 grabber tips

Replaceable Mechanical Parts—P6462

Fig. & Index No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Qty	1 2 3 4 5	Name & Description	Mfr Code	Mfr Part Number
1-	010-6462-01			1		PROBE, DATA ACQ: FIXED THRESHOLD TTL, W/ACCESS	80009	010-6462-01
	010-6462-00			1		. PROBE, DATA ACQ: FIXED THRESHOLD TTL	80009	010-6462-00
-1	334-0046-00			1		. MARKER, IDENT: MKD LTTL INPUTS	80009	334-0046-00
-2	380-0711-00			1		. HOUSING PROBE: UPPER (ATTACHING PARTS)	80009	380-0711-00
-3	210-0406-00			4		. NUT, PLAIN, HEX.: 4-40 X 0.188 INCH, BRS	73743	12161-50
-4	211-0086-00			4		. SCREW, MACHINE: 4-40 X 0.75 100" DEG, FLH STL	83385	0BD
-5	-----			1		. RESISTOR, VAR: (SEE S100 REPL) (ATTACHING PARTS)		
-6	358-0660-00			1		. BUSHING, SW MTNG: ALUMINUM -----*	80009	358-0660-00
-7	210-0205-00			1		. TERMINAL, LUG: SE #8	86928	5442-7
-8	343-1019-00			1		. STRAIN RLF, CA: 1.89 L	80009	343-1019-00
-9	343-1018-00			1		. STRAIN RLF, CA: 1.89 L	80009	343-1018-00
-10	-----			1		. CKT BOARD ASSY: (SEE A71 REPL)		
-11	-----			1		. . CA ASSY, SP, ELEC: (SEE W145 REPL)		
-12	131-2746-00			3		. . TERM, SET PIN: 2 MALE, RIGHT ANGLE	22526	67171-102
-13	361-0758-01			1		. . SPACER, PROBE: ACETAL, SLATE GRAY	80009	361-0758-01
-14	131-2757-00			1		. . CONN, RCPT, ELEC: HEADER, 10 CONT	22526	67170-110
-15	200-2731-00			2		. COVER, HOLE: POLYCARB, GRAY	80009	200-2731-00
-16	380-0710-00			1		. HOUSING, PROBE: LOWER	80009	380-0710-00
STANDARD ACCESSORIES								
2-17	343-1048-00			1		CLAMP, CABLE: 2.24 INCH LONG, NYLON	06383	FCM2-A-14
-18	012-0747-00			1		LEAD SET, ELEC: 10 WIDE, 25 CML	80009	012-0747-00
-19	206-0222-00			2		TIP, PROBE: MICROCIRCUIT TEST	80009	206-0222-00
-20	012-0989-00			1		LEAD SET, ELEC: GROUND OR VL SENSE LEAD	80009	012-0989-00
-21	344-0046-00			2		CLIP, ELECTRICAL: ALLIGATOR TYPE, W/COVER	80009	344-0046-00
	070-4724-00			1		SHEET, TECHNICAL: INSTRUCTION	80009	070-4724-00



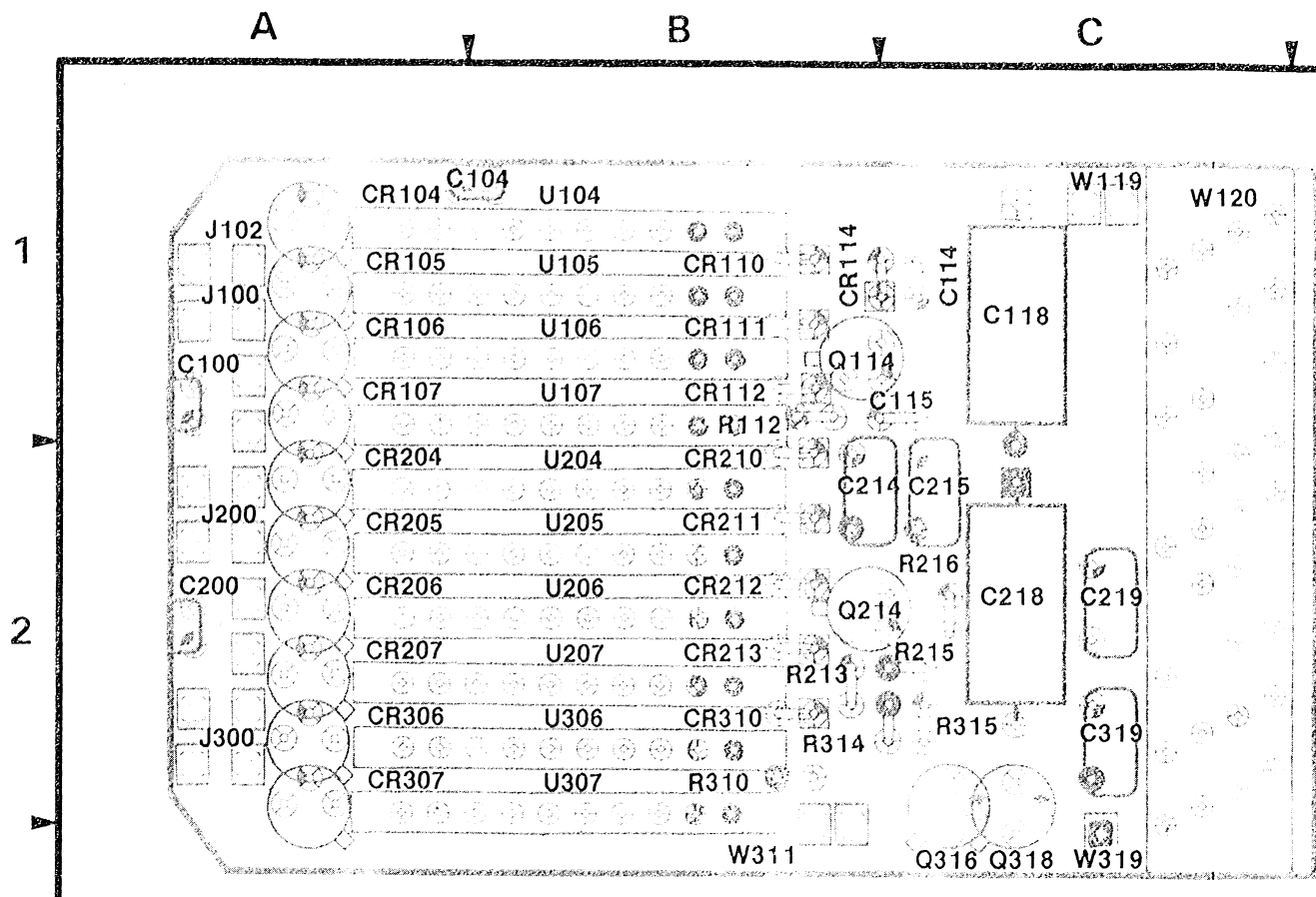


Figure 11-27. A15A1 P6455 TTL/MOS Pattern Generator Probe Component Locations.

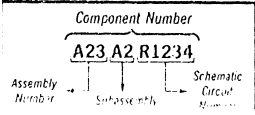
3836-279

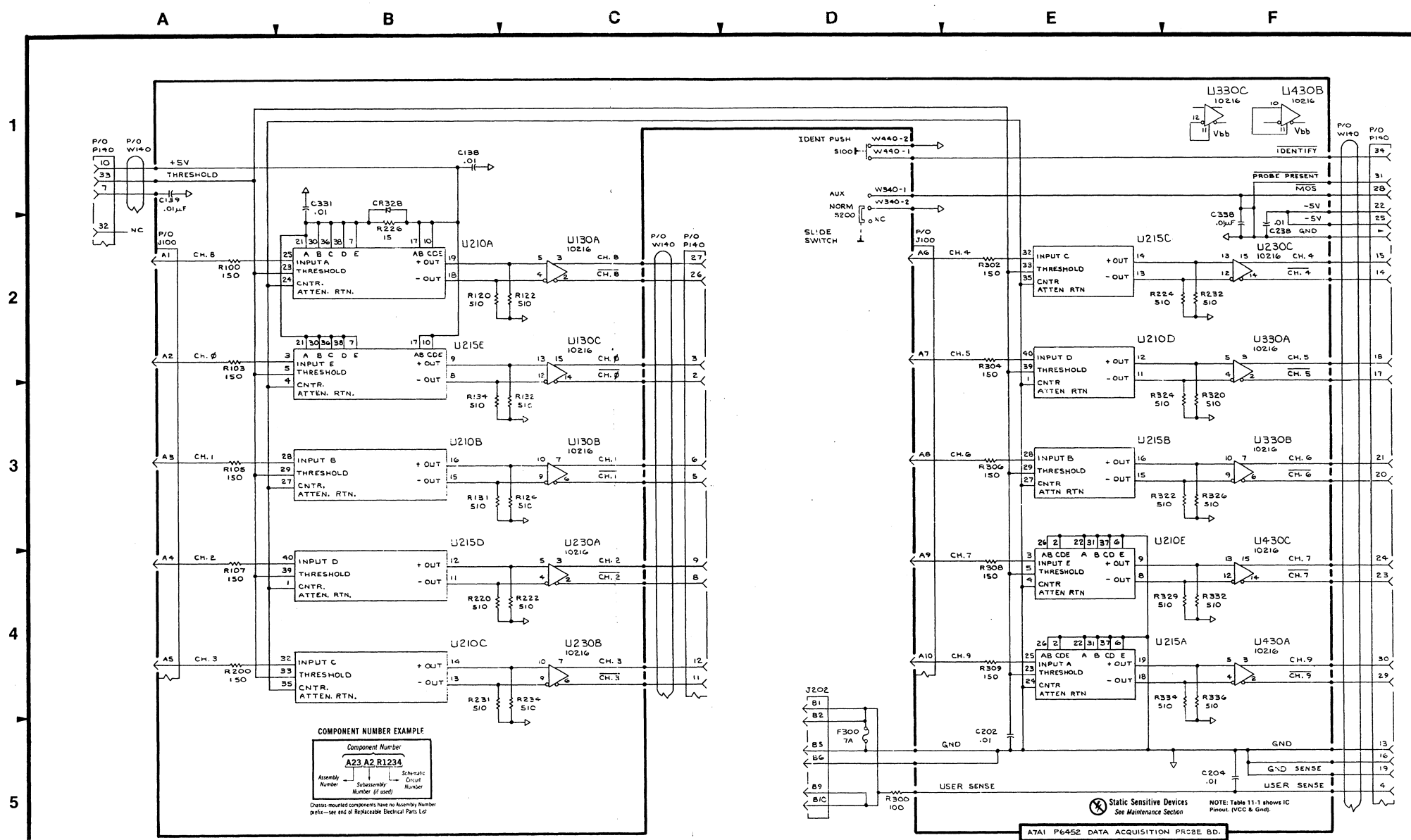
ASSEMBLY A7A1

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION
C138	B1	C1	R320	F3
C139	A1	C1	R322	F3
C202	E5	A2	R324	F3
C204	F5	A2	R326	F3
C238	F2	C2	R329	F4
C331	B1	B2	R332	F4
C338	F2	C2	R334	F4
CR32	B1	B2	R336	F4
F300	D5	OFF BRD.	U130A	C2
J100	D2	A1	U130B	C3
J100	A2	A1	U130C	C2
J202	D5	A2	U210A	B2
R100	A2	A1	U210B	B3
R103	A2	A1	U210C	B4
R105	A3	A1	U210D	E2
R107	A4	A1	U210E	E4
R120	B2	B1	U215A	E4
R122	C2	B1	U215B	E3
R124	C3	B1	U215C	E2
R131	B3	B1	U215D	B4
R132	C3	C1	U215E	B2
R134	B3	C1	U230A	C4
R200	A4	A1	U230B	C4
R220	B4	B1	U230C	F2
R222	C4	B1	U330A	F2
R224	F2	B2	U330B	F3
R226	B2	B2	U330C	F1
R231	B4	B2	U430A	F4
R232	F2	C2	U430B	F1
R234	C4	C2	U430C	F4
R300	D5	A2	W140	F1
R302	E2	A2	W140	C2
R304	E2	A2	W140	A1
R306	E3	A2	W340	D1
R308	E4	A2	W440	D1
R309	E4	A2		

⊗ Static Sensitive Devices
See Maintenance Section

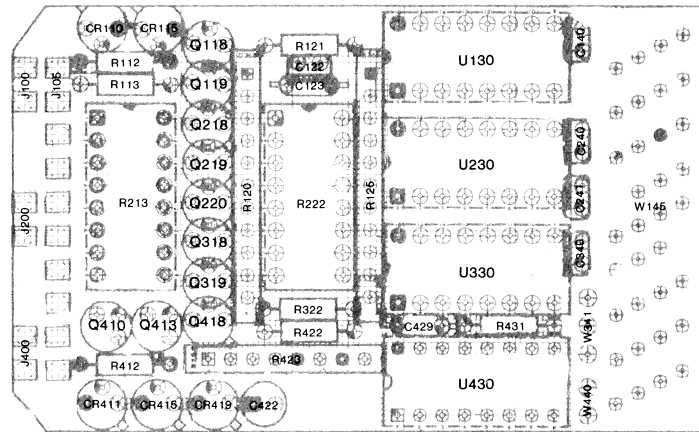
COMPONENT NUMBER EXAMPLE





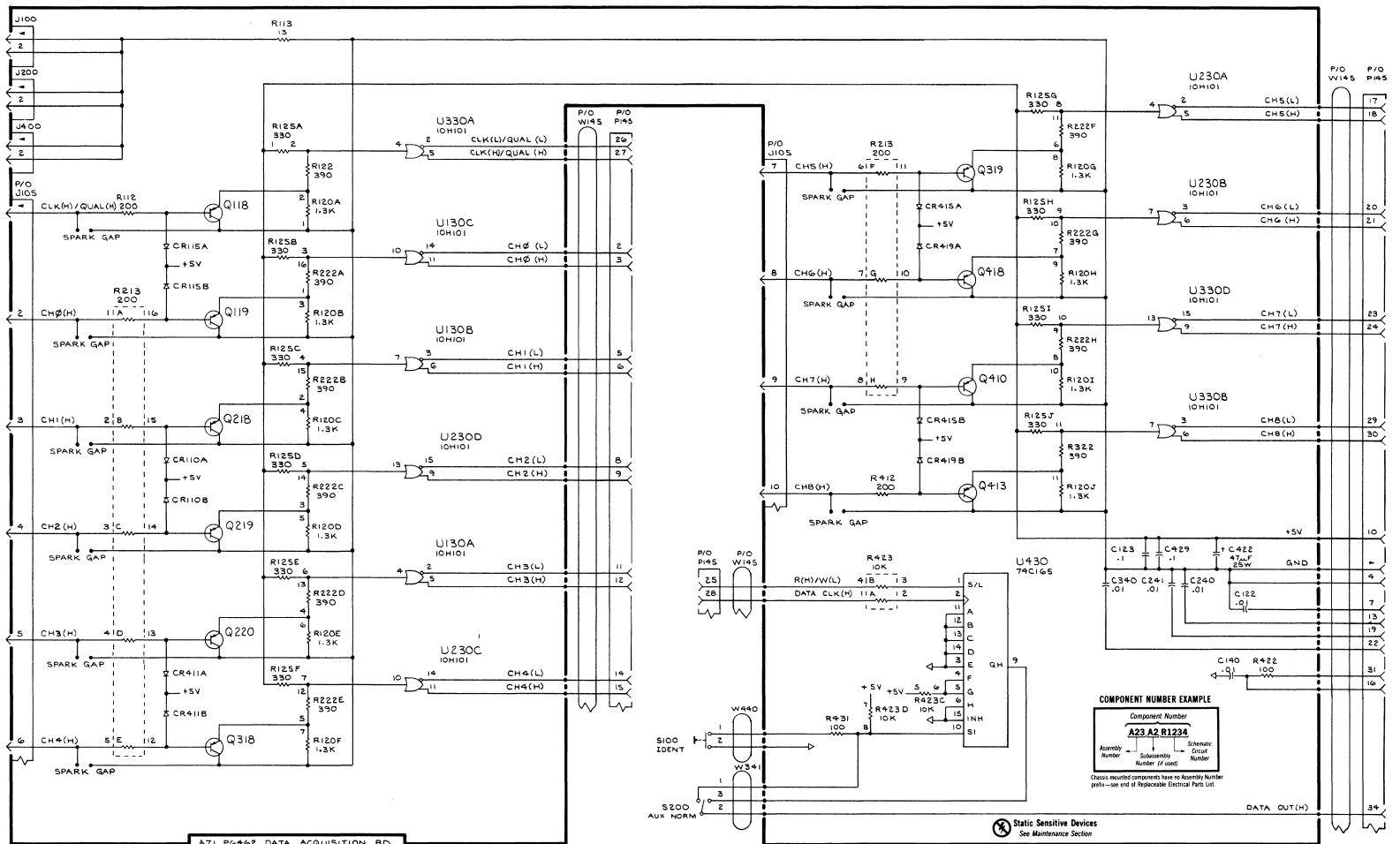
DAS 9100 SERIES

3896-241 P6452 DATA ACQUISITION PROBE



A71 P6462 Data Acquisition Probe Component Locations.

4724-04



P6462 INSTRUCTION

4724-03

COMPONENT NUMBER EXAMPLE

Component Number	
A23 A2 R1234	
Assembly Number	Schematic Group Number
Subassembly Number (if used)	

chassis-mounted components have an Assembly Number prefix—see end of Replaceable Electrical Parts List

Static Sensitive Devices
See Maintenance Section

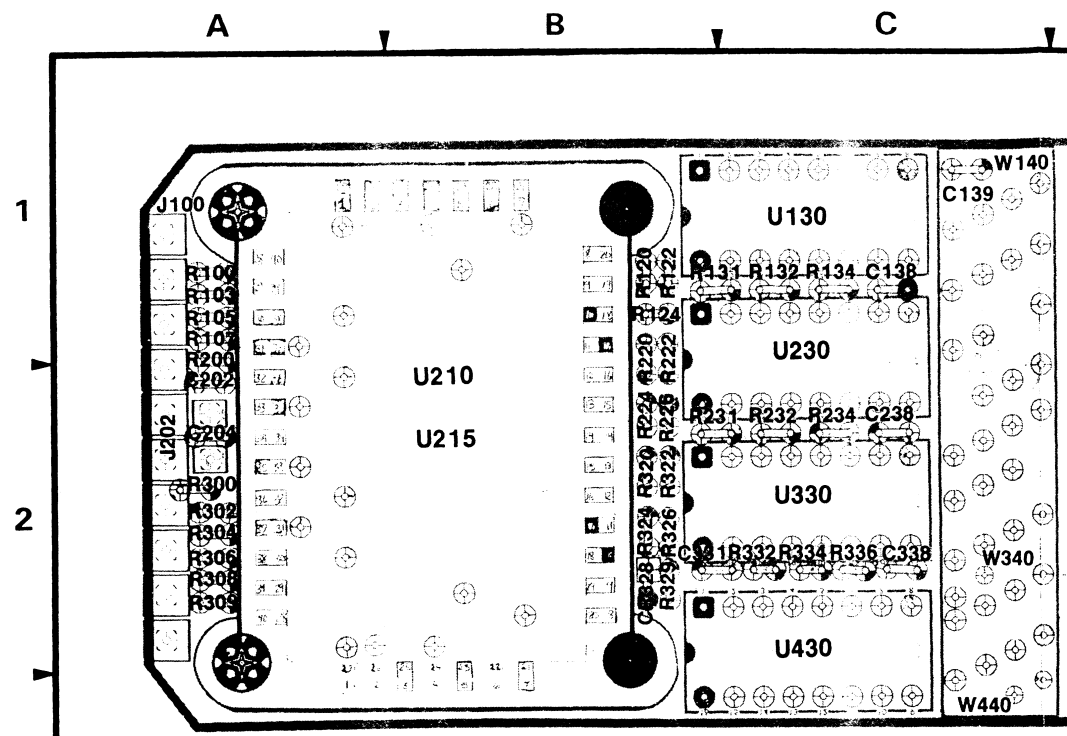


Figure 11-26. A7A1 P6452 Data Acquisition Probe Component Locations.

3896-278

 Static Sensitive Devices
See Maintenance Section

COMPONENT NUMBER EXAMPLE

