

# Supplement



**THS720A MOD NV TekScope™  
Component-Level Information Package  
070-9750-02**

# Supplement



## THS720A MOD NV TekScope™ Component-Level Information Package 070-9750-02

This document applies to serial number B030100 and above and firmware version 1.00 and above.

First printing: July 1998

### **Warning**

The servicing instructions are for use by qualified personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to all safety summaries prior to performing service.

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## WARRANTY

Tektronix warrants that this product will be free from defects in materials and workmanship for a period of three (3) years from the date of purchase from an authorized Tektronix distributor. If any such product proves defective during this warranty period, Tektronix, at its option, either will repair the defective product without charge for parts and labor, or will provide a replacement in exchange for the defective product. Batteries are excluded from this warranty.

In order to obtain service under this warranty, Customer must notify Tektronix of the defect before the expiration of the warranty period and make suitable arrangements for the performance of service. Customer shall be responsible for packaging and shipping the defective product to the service center designated by Tektronix, with shipping charges prepaid. Tektronix shall pay for the return of the product to Customer if the shipment is to a location within the country in which the Tektronix service center is located. Customer shall be responsible for paying all shipping charges, duties, taxes, and any other charges for products returned to any other locations.

This warranty shall not apply to any defect, failure or damage caused by improper use or improper or inadequate maintenance and care. Tektronix shall not be obligated to furnish service under this warranty a) to repair damage resulting from attempts by personnel other than Tektronix representatives to install, repair or service the product; b) to repair damage resulting from improper use or connection to incompatible equipment; or c) to service a product that has been modified or integrated with other products when the effect of such modification or integration increases the time or difficulty of servicing the product.

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## Service Assurance

If you have not already purchased Service Assurance for this product, you may do so at any time during the product's warranty period. Service Assurance provides Repair Protection and Calibration Services to meet your needs.

**Repair Protection** extends priority repair services beyond the product's warranty period; you may purchase up to three years of Repair Protection.

**Calibration Services** provide annual calibration of your product, standards compliance and required audit documentation, recall assurance, and reminder notification of scheduled calibration. Coverage begins upon registration; you may purchase up to five years of Calibration Services.

### Service Assurance Advantages

- Priced well below the cost of a single repair or calibration
- Avoid delays for service by eliminating the need for separate purchase authorizations from your company
- Eliminates unexpected service expenses

### For Information and Ordering

For more information or to order Service Assurance, contact your local Tektronix representative and provide the information below. Service Assurance may not be available in locations outside the United States of America.

Name	VISA or Master Card number and expiration
Company	date or purchase order number
Address	Repair Protection (1,2, or 3 years)
City, State, Postal code	Calibration Services (1,2,3,4, or 5 years)
Country	Instrument model and serial number
Phone	Instrument purchase date

To learn the location of your nearest Tektronix representative, please call 1-800-TEK-WIDE in North America, 1-503-627-7111 elsewhere, or look us up on the World Wide Web at <http://www.tek.com>.

# Introduction

This Component-Level Information Package (CLIP) provides component-level theory of operation, an electrical parts list, and schematic diagrams for the THS720A MOD NV.

This document is a supplement to the *THS710A, THS720A, THS730A & THS720P Service Manual*, part number 070-9752-XX. The Service Manual covers module-level information that also applies to the THS720A MOD NV.

The section below describes the differences between a standard THS720A and the THS720A MOD NV. The sections that follow contain the electrical parts list and schematic diagrams.

## THS720A Mod NV Description

The THS720A MOD NV is identical to a standard THS720A except for the three differences below:

- The THS720A MOD NV includes two P6101B passive probes with 1× attenuation in addition to the two standard P6117 probes (10X attenuation).
- The THS720A MOD NV includes the *THS710A, THS720A, THS730A & THS720P Service Manual*, which is part number 070-9752-XX.
- The THS720A MOD NV includes this document, the *THS720A MOD NV Component-Level Information Package*, which is part number 070-9750-XX.

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**NOTE.** For your convenience, you can insert this document into the back of the binder for the THS710A, THS720A, THS730A & THS720P Service Manual.

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## Related Documents

This document must be used in combination with the *THS710A, THS720A, THS730A & THS720P Service Manual*, part number 070-9752-XX. The Service Manual contains information about specifications, general maintenance, disassembly and troubleshooting.



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**CAUTION.** *To prevent product damage, refer to Chapter 6 Maintenance in the THS710A, THS720A, THS730A & THS720P Service Manual for information about ESD prevention.*

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For information about product operation and applications, refer to the *THS710A, THS720A, THS730A & THS720P User Manual*, part number 070-9731-XX.

For information about operating the product over the RS-232 interface, refer to the *THS710A, THS720A, THS730A & THS720P Programmer Manual*, part number 070-9751-XX.

# Component-Level Theory of Operation

This section describes the electrical operation of the THS720A MOD NV. Refer to the schematics in the *Component-Level Diagrams* section as necessary.

## Logic Conventions

This manual refers to digital logic circuits with standard logic symbols and terms. Unless otherwise stated, all logic functions are described using the positive logic convention: the more positive of the two logic levels is the high (1) state and the more negative level is the low (0) state. Signal states may also be described as “true” meaning their active state or “false” meaning their non-active state. The specific voltages that constitute a high or low state vary among the electronic devices.

Active-low signals are indicated by an asterisk (\*) following the signal name, for example IRQ\*. Signal names are considered to be either active-high, active-low, or to have both active-high and active-low states.

## Oscilloscope System

Each of the two oscilloscope input signals enters the main board and passes through an attenuator and preamplifier. Then each signal passes through an isolation interface before reaching the trigger circuitry and sampler/digitizer. The digitized signals are written into system memory for transfer to the display system.

### Acquisition System

The acquisition system amplifies the input signals, samples them, converts them to digital signals, and controls the acquisition process under direction of the processor system. The acquisition system includes the trigger, acquisition timing, and acquisition control circuitry.

**Attenuators.**   Circuitry in the attenuator selects the input coupling and attenuation factor. The processor system controls the attenuators with a serial interface as well as with DC control voltages.

The Main Board assembly contains two attenuator hybrids (AT1 and AT2). To allow floating measurements, the attenuators are individually isolated from the rest of the Main Board by an isolation interface. Power to the attenuators is coupled through transformers. Opto-isolators couple control voltages and DC control signals to each attenuator. Transformers couple the high-frequency signal

path from each attenuator to the main board. Opto-isolators couple the low-frequency signal path from each attenuator to the main board.

Each attenuator hybrid contains two attenuators, an AC coupling capacitor, three relays, three relay drivers, and a preamplifier. The AC/DC coupling relay couples the output of the BNC to the other relays in the attenuator hybrid. For AC signals, the AC/DC coupling relay inserts a coupling capacitor into the input signal path. The second relay selects a X10 attenuation factor. The third relay selects a X100 attenuation factor.

**Sampler Driver.** ◊<sub>4</sub> The output of the attenuator drives the sampler driver (U44) inputs. The sampler driver provides gain amplification, bandwidth limit filters, and outputs for the sampler and trigger signal paths.

**Daculator.** ◊<sub>5</sub> The daculator (U5) performs the function of sixteen independent D/A converters. The daculator provides DC control voltages to the attenuator hybrids and acquisition system. The CPU controls the daculator serially.

**Sampler.** ◊<sub>7</sub> The sampler IC (U7) provides two complete acquisition channels. It contains all of the functions associated with sampling, A/D conversion, trigger placement, and time base control.

Using a 30.303 MHz clock, the Sampler samples the analog signals from the Sampler driver at up to a 500 MS/s rate. It converts each sampled value into an 8-bit digital value. The A/D reference voltage is 2.5 V.

The sampler finds the approximate trigger position by counting clocks. At high sample rates, it locates precise trigger position by acquiring the trigger signal and interpolating it to find the zero crossing.

**Acquisition Memory.** ◊<sub>7</sub> The acquisition memory consists of 128KB-by-8 SRAM (U9). The CPU reads this memory through the sampler.

**Trigger.** ◊<sub>6</sub> The trigger IC (U47) provides all the functions of the trigger system except video sync separation, which is provided by a separate sync separator IC (U65).

The sampler driver selects the trigger source. The analog trigger signal is sent to the trigger IC directly or through filters, which perform the high-frequency reject or low-frequency reject functions.

Next, the signal is compared to two reference thresholds (i.e., trigger levels). The difference between the thresholds set the amount of hysteresis; an increased hysteresis setting performs the noise-reject function. The polarity of the

comparator can be switched to change the trigger slope. A shift register controls filter selection, slope selection, and mode selection.

The trigger IC also contains digital logic and a timer to provide the pulse-width trigger functions.

The output of the trigger integrated circuit is sent to the sampler.

The video sync separator (U65) locates vertical sync pulses and detects even and odd fields. Its output is sent to the trigger IC and to the sampler.

## DMM System

◇ The DMM input enters the Main board and passes through a switching network to select the meter function and range. The DMM signal is converted to a digital value by the DMM IC (U36).

**DC Volts.** The DC Volts circuit uses voltage dividers to cover all ranges except the most sensitive range (400 mVDC). For the 400 mVDC range, the input signal is applied without attenuation to the DMM IC. Input latching relay (K1) provides the switching between the 400 mV range and other ranges.

**AC Volts.** The signal applied to the input of the DMM IC is not AC coupled; therefore, both AC and DC components are processed. The RMS converter (U8) provides two outputs, the DC component of the signal and the RMS value of the DC + AC components. Analog switch (U29) allows the DMM IC to select and measure the composite RMS value and the DC component of the input signal. The DC component is measured and subtracted from the measured composite RMS value to obtain the RMS value of the AC component.

**Resistance.** To measure resistance, the DMM forces a current through the unknown resistor and measures the voltage. The DMM IC computes the resistance by measuring the voltage across the unknown resistor and dividing by the current being forced.

When an open circuit condition exists, comparator (U35) detects the condition and sets a latch, which is read by the readback register (U28). The DMM IC is ignored and the open circuit condition is displayed.

Range changes are made by changing the magnitude of the current being forced. The DMM IC does this by selecting different resistors in the current force circuit. The resistors in the attenuation network for the voltage measurement mode are used for this purpose.

**Voltage Reference.** Voltage reference (U31) generates an accurate reference that is used by the DMM circuits. The 2.5 V output is divided with four resistors to supply the needed reference voltages.

**DMM Isolation.**  The DMM is isolated from the rest of the main board. The digital signals are coupled through opto-couplers. Power is transformer coupled from the isolated power supply .

## CPU System

 The CPU system contains a 68331 microprocessor (U6) that controls all oscilloscope, DMM, and display activities.

**CPU Clock.** Processor clocks are derived from the 30.303 MHz oscillator that drives the sampler (U7) and display controller IC (U21). The display controller IC divides the 30.303 MHz clock by two for a processor clock of 15.15 MHz.

**Interrupts.** The 68331 supports seven levels of auto-vectored interrupts dedicated to different interrupt levels. The sampler, display system, and DUART generate interrupts.

**Reset.** The CPU resets both at power-on and power-off using the reset signal. Reset controller (U3) controls system reset. Power-on reset asserts after the +5 V supply stabilizes. Power-off reset asserts when the supply falls below a usable threshold.

**Memory.** The memory subsystem includes flash ROM for power-off storage and processor firmware. The memory system also includes dynamic RAM for use as system RAM.

The flash ROM (U1)  is a 1 MB × 8 device that provides nonvolatile storage of front-panel settings, waveforms, and calibration constants. It also contains the product firmware.

Dynamic RAM (U18)  is organized as 256 K × 16 and provides of 512 KB of system RAM.

**Front Panel.**  The front panel switch matrix is scanned by the CPU. The scan signals are generated by (U13).

**RS-232.** ◊<sub>13</sub> Signals travel from the processor to the dual asynchronous receiver/transmitter (DUART) (U4). The DUART sends data to the driver/receiver (U24). U24 converts signals from logic levels on the DUART side to RS-232 levels at the RJ-45 connector.

## Display System

◊<sub>14</sub> A raster display controller IC (U21) processes text and waveforms. The display system sends the text and waveform information to the LCD display.

The primary functions of the display circuit is to write waveform data into waveform planes and refresh the LCD display. The circuitry provides Vector, Dot, Vector Accumulate, Dot Accumulate, XY, and YT display modes.

The display system provides text, graticule, and waveform bit planes. All information displayed is first written to a plane. The bit planes are stored in a dedicated DRAM (U17). The information is sent to the LCD display at a regular refresh interval.

### LCD Display

The LCD display is a liquid-crystal display with a florescent backlight. Digital data for the LCD is provided by the display controller. The AC voltage to power the backlight is generated by the Inverter Board. The backlight intensity is set to a fixed level that optimally balances brightness against battery life.

## Main Power Supply

◊<sub>16</sub> The main power supply provides DC power to non-isolated circuits on the Main board and to the isolated power supply. Power supply controller (U66) and gate driver (U67) drive power transistor (Q15) through transformer (T6) to generate +5V, -5V, and -25V DC.

### Battery and External Power

◊<sub>15</sub> Instrument power comes from either the internal battery or from an external DC source. When you connect an AC adapter to the DC INPUT, the battery can be charged. If an overvoltage is applied to the DC INPUT, SCR Q8 fires and opens the self-healing poly-fuse F3.

The battery pack consists of four C-size NiCd cells. A low-battery condition is detected by operational amplifier (U55) which sends a warning signal to the CPU system.

## Isolated Power Supply

◇ The isolated power supply provides power to the attenuators and DMM; the power is coupled through transformers to allow floating measurements. Dual transistor (Q7) forms an oscillator that drives the primaries of transformers (T2, T4, and T5). The secondaries are rectified into three sets of +5V and -5V DC voltages.

# Component-Level Electrical Parts List

This section contains a list of the electrical components for the THS720A MOD NV. Use this list to identify and order replacement parts.

## Parts Ordering Information

Replacement parts are available through your local Tektronix field office or representative.

Changes to Tektronix products are sometimes made to accommodate improved components as they become available and to give you the benefit of the latest improvements. Therefore, when ordering parts, it is important to include the following information in your order:

- Part number
- Instrument type or model number
- Instrument serial number
- Instrument modification number, if applicable

If you order a part that has been replaced with a different or improved part, your local Tektronix 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.

## Using the Replaceable Electrical Parts List

The tabular information in the Replaceable Electrical Parts List is arranged for quick retrieval. Understanding the structure and features of the list will help you find all of the information you need for ordering replacement parts. The following table describes each column of the electrical parts list.



## Manufacturers cross index

Mfr. code	Manufacturer	Address	City, state, zip code
01295	TEXAS INSTRUMENTS INC	SEMICONDUCTOR GROUP 13500 N CENTRAL EXPRESSWAY PO BOX 655303	DALLAS, TX 75272-5303
04222	AVX/KYOCERA	PO BOX 867	MYRTLE BEACH, SC 29577
04713	MOTOROLA INC	SEMICONDUCTOR PRODUCTS SECTOR 5005 E MCDOWELL ROAD	PHOENIX, AZ 85008-4229
06090	RAYCHEM CORP	300 CONSTITUTION DR	MENLO PARK, CA 94025-1111
09969	DALE ELECTRONIC COMPONENTS	EAST HWY 50 P.O. BOX 180	YANKTON, SD 57078
0H1N5	UNITED CHEMI-CON INC	998 FIRST EDGE DR	VERNON HILLS, IL 60061
0HAF7	EPSON AMERICA	20770 MADRONA AVE	TORRANCE, CA 90503
0JR03	ZMAN MAGNETICS INC	7633 S 180TH	KENT, WA 98032
0JR04	TOSHIBA AMERICA INC.	ELECTRONICS COMPONENTS DIV 9775 TOLEDO WAY	IRVINE, CA 92718
0NFL0	COILTRONICS INC	6000 PARK OF COMMERCE BLVD	BOCA RATON, FL 33487
13919	BURR-BROWN CORPORATION	CORP OFFICE 6730 S TUCSON BLVD PO BOX 11400	TUCSON, AZ 85706
17554	AVX/KYOCERA CORP	69 LANDRY ST AIRPORT INDUSTRIAL PK	BIDDEFORD, ME 04005-4319
1CH66	PHILIPS SEMICONDUCTORS	811 E ARQUES AVE PO BOX 3409	SUNNYVALE, CA 94086-3409
1ES66	MAXIM INTEGRATED PRODUCTS INC	120 SAN GABRIEL DR	SUNNYVALE, CA 94086
24355	ANALOG DEVICES	1 TECHNOLOGY DRIVE	NORWOOD, MA 02062
27014	NATIONAL SEMICONDUCTOR CORP	2900 SEMICONDUCTOR DR PO BOX 58090 MS 30-115	SANTA CLARA, CA 95051-0606
29454	JOHANSON DIELECTRICS INC	15191 BLEDSOE STREET	SYLMAR, CA 91342
31433	KEMET ELECTRONICS CORP	P O BOX 5928	GREENVILLE, SC 29606
34335	ADVANCED MICRO DEVICES INC	ONE AMD PLACE PO BOX 3453	SUNNYVALE, CA 94088-3453
34371	HARRIS SEMICONDUCTORS	SEMICONDUCTOR SECTOR MS 58-71 PO BOX 883	MELBOURNE, FL 32902-0883
4T165	NEC ELECTRONICS, INC.	2880 SCOTT BLVD PO BOX 58062	SANTA CLARA, CA 95052-8062
50139	ALLEN-BRADLEY COMPANY INC	ELECTRONIC COMPONENTS DIVISION 1414 ALLEN BRADLEY DRIVE	EL PASO, TX 79936
50157	THERM-O-DISC	1981 PORT CITY BLVD. PO BOX 9903	MUSKEGON, MI 49443
50434	HEWLETT PACKARD	370 W TRIMBLE ROAD	SAN JOSE, CA 95131-1008
51993	INTERNATIONAL RECTIFIER CORP	233 KANSAS STREET	EL SEGUNDO, CA 90245
56845	DALE ELECTRONIC COMPONENTS	2300 RIVERSIDE BLVD PO BOX 74	NORFOLK, NE 68701

**Manufacturers cross index (Cont.)**

<b>Mfr. code</b>	<b>Manufacturer</b>	<b>Address</b>	<b>City, state, zip code</b>
57924	BOURNS INC	INTEGRATED TECHNOLOGY DIV. 1400 NORTH 1000 WEST	LOGAN, UT 84321
59124	KOA SPEER ELECTRONICS INC	BOLIVAR DRIVE PO BOX 547	BRADFORD, PA 16701
61429	FOX ELECTRONICS	DIV OF FOX ENTERPRISED INC 5842 CORPORATION CIRCLE	FORT MEYERS, FL 33905
62643	UNITED CHEMI-CON INC	9801 W HIGGINS RD	ROSEMONT, IL 60018-4771
62786	HITACHI AMERICA LTD	HITACHI PLAZA 2000 SIERRA POINT PKWY	BRISBANE, CA 94005
64155	LINEAR TECHNOLOGY CORP.	1630 MCCARTHY BOULEVARD	MILPITAS, CA 950357487
64762	ELANTEC INC	1996 TAROB COURT	MILPITAS, CA 95035-6824
91637	DALE ELECTRONIC COMPONENTS	1122 23RD ST	COLUMBUS, NE 68601
TK1065	AVX/KYOCERA	C/O WESTERN TECHNICAL SALES 3720 SW 141ST STREET SUITE 200	BEAVERTON, OR 97005
TK1913	WIMA	DIV OF INTER-TECHNICAL GROUP INC 175 CLEARBROOK RD PO BOX 535	ELMSFORD, NY 10523-0535
TK1920	TOKIN AMERICA INC	155 NICHOLSON LANE	SAN JOSE, CA 95134
TK1943	NEILSEN MANUFACTURING INC	3501 PORTLAND RD NE	SALEM, OR 97303
TK2058	TDK CORPORATION OF AMERICA	1600 FEEHANVILLE DRIVE	MOUNT PROSPECT, IL 60056
TK2441	INTERNATIONAL MICROELECTRONIC PRODUCTS	2830 NORTH 1ST ST	SAN JOSE, CA 95134
TK2469	UNITREK CORPORATION	3000 LEWIS & CLARK HWY SUITE 2	VANCOUVER, WA 98661
TK2598	MAXIM - ASICS	14150 SW KARL BRAUN DRIVE M/S 59-420	BEAVERTON, OR 97077
TK2601	MAXTEK COMPONENTS CORPORATION	13335 SW TERMAN RD PO BOX 1480	BEAVERTON, OR 97075-1480

## Replaceable electrical parts list

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1AT1	165-0034-00	B030100		MICROCKT, HYBRID: ATTENUATOR/PREAMPLIFIER	TK2601	165-0034-00
A1AT2	165-0034-00	B030100		MICROCKT, HYBRID: ATTENUATOR/PREAMPLIFIER	TK2601	165-0034-00
A1C3	283-5349-00	B030100		CAP, FXD, CERAMIC: 470PF, 10%, 100V, X7R, 0603, SMD	04222	06031C471KAT2A
A1C4	283-5267-00	B030100		CAP, FXD, CERAMIC: MLC, 1UF, +80%-20%, 25V, Y5V, 1206, SMD	04222	12063G105ZAT4A
A1C5	283-5267-00	B030100		CAP, FXD, CERAMIC: MLC, 1UF, +80%-20%, 25V, Y5V, 1206, SMD	04222	12063G105ZAT4A
A1C6	290-5024-00	B030100		CAP, FXD, TANT: 3.3UF, 20%, 25V, 0.236 X 0.126, 6032, SMD	04222	TAJC335M025
A1C7	290-5024-00	B030100		CAP, FXD, TANT: 3.3UF, 20%, 25V, 0.236 X 0.126, 6032, SMD	04222	TAJC335M025
A1C8	283-5350-00	B030100		CAP, FXD, CERAMIC: 1000PF, 10%, 100V, X7R, 0603, SMD	04222	06031C102KAT2A
A1C9	283-5267-00	B030100		CAP, FXD, CERAMIC: MLC, 1UF, +80%-20%, 25V, Y5V, 1206, SMD	04222	12063G105ZAT4A
A1C10	283-5267-00	B030100		CAP, FXD, CERAMIC: MLC, 1UF, +80%-20%, 25V, Y5V, 1206, SMD	04222	12063G105ZAT4A
A1C11	283-5267-00	B030100		CAP, FXD, CERAMIC: MLC, 1UF, +80%-20%, 25V, Y5V, 1206, SMD	04222	12063G105ZAT4A
A1C12	283-5267-00	B030100		CAP, FXD, CERAMIC: MLC, 1UF, +80%-20%, 25V, Y5V, 1206, SMD	04222	12063G105ZAT4A
A1C13	283-5267-00	B030100		CAP, FXD, CERAMIC: MLC, 1UF, +80%-20%, 25V, Y5V, 1206, SMD	04222	12063G105ZAT4A
A1C17	283-5335-00	B030100		CAP, FXF, CERAMIC: MLC, 0.01UF, 10%, 50V, X7R, 0603, SMD	04222	06035C103KAT2A
A1C18	283-5267-00	B030100		CAP, FXD, CERAMIC: MLC, 1UF, +80%-20%, 25V, Y5V, 1206, SMD	04222	12063G105ZAT4A
A1C19	283-5267-00	B030100		CAP, FXD, CERAMIC: MLC, 1UF, +80%-20%, 25V, Y5V, 1206, SMD	04222	12063G105ZAT4A
A1C20	283-5267-00	B030100		CAP, FXD, CERAMIC: MLC, 1UF, +80%-20%, 25V, Y5V, 1206, SMD	04222	12063G105ZAT4A
A1C21	283-5267-00	B030100		CAP, FXD, CERAMIC: MLC, 1UF, +80%-20%, 25V, Y5V, 1206, SMD	04222	12063G105ZAT4A
A1C22	285-1502-00	B030100		CAP, FXD, PLASTIC: FILM&FOIL, 6800PF, 5%, 100V, POLYPROPYLENE, 7 X 7.2MM, RADIAL, 0.2 LS	TK1913	FKP2 6800/100/5
A1C27	283-5201-00	B030100		CAP, FXD, CERAMIC: MLC, 33PF, 5%, 100V, NPO, 1206, SMD	04222	12061A330JAT1A
A1C28	283-5348-00	B030100		CAP, FXD, CERAMIC: 220PF, 5%, 100V, NPO, 0603, SMD	04222	06031A221JAT2A
A1C30	283-5260-00	B030100		CAP, FXD, CERAMIC: MLC, 10UF, +80%-20%, 25V, Z5U, 5.9X2.7MM, SM2210, SMD	TK1920	1E106ZY5U-C205M-T
A1C31	283-5226-00	B030100		CAP, FXD, CERAMIC: MLC, 270PF, 5%, 50V, NPO, 1206, SMD	04222	12065A271JAT1A
A1C32	290-5037-01	B030100		CAP, FXD, ALUM: 10UF, 20%, 35V, 5.7 H X 5 DIA MM, SMD	62643	MVK35VC10RME60TPX
A1C33	290-5036-01	B030100		CAP, FXD, ALUM: 22UF, 20%, 16V, 5.7MM(0.224), SMD	62643	MVK16VC22RME60TPX
A1C34	283-5381-00	B030100		CAP, FXD, CERAMIC: 33 PF, 5%, 200V, NPO, 1206, SMD	TK1065	12062A330JAT
A1C35	283-5347-00	B030100		CAP, FXD, CERAMIC: 22PF, 5%, 100V, NPO, 0603, SMD	04222	06031A220JAT2A
A1C36	283-5347-00	B030100		CAP, FXD, CERAMIC: 22PF, 5%, 100V, NPO, 0603, SMD	04222	06031A220JAT2A

Replaceable electrical parts list (Cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1C37	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C40	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C42	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C43	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C44	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C45	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C46	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C49	283-5369-00	B030100		CAP,FXD CERAMIC:27PF,5%,100V,0603,SMD	04222	06031A270JAT2A
A1C50	283-5334-00	B030100		CAP,FXD CERAMIC:MLC,10PF,5%,100V,NPO,0603,SMD	29454	250R14N100CV4T
A1C51	283-5348-00	B030100		CAP,FXD,CERAMIC:220PF,5%,100V,NPO,0603,SMD	04222	06031A221JAT2A
A1C53	283-5381-00	B030100		CAP,FXD,CERAMIC:33 PF,5%,200V,NPO,1206,SMD	TK1065	12062A330JAT
A1C54	283-5381-00	B030100		CAP,FXD,CERAMIC:33 PF,5%,200V,NPO,1206,SMD	TK1065	12062A330JAT
A1C56	283-5381-00	B030100		CAP,FXD,CERAMIC:33 PF,5%,200V,NPO,1206,SMD	TK1065	12062A330JAT
A1C57	290-5003-00	B030100		CAP,FXD,TANT:47UF,20%,10V,0.287 X 0.169,7343,SMD	04222	TAJD476M010
A1C61	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C63	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C64	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C65	283-5348-00	B030100		CAP,FXD,CERAMIC:220PF,5%,100V,NPO,0603,SMD	04222	06031A221JAT2A
A1C71	283-5335-00	B030100		CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,X7R,0603,SMD	04222	06035C103KAT2A
A1C72	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C73	283-5335-00	B030100		CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,X7R,0603,SMD	04222	06035C103KAT2A
A1C74	290-5003-00	B030100		CAP,FXD,TANT:47UF,20%,10V,0.287 X 0.169,7343,SMD	04222	TAJD476M010
A1C75	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C76	290-5003-00	B030100		CAP,FXD,TANT:47UF,20%,10V,0.287 X 0.169,7343,SMD	04222	TAJD476M010
A1C78	290-5003-00	B030100		CAP,FXD,TANT:47UF,20%,10V,0.287 X 0.169,7343,SMD	04222	TAJD476M010
A1C79	283-5381-00	B030100		CAP,FXD,CERAMIC:33 PF,5%,200V,NPO,1206,SMD	TK1065	12062A330JAT
A1C81	283-5335-00	B030100		CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,0603,SMD	04222	06035C103KAT2A
A1C82	283-5202-00	B030100		CAP,FXD,CERAMIC:MLC,0.022UF,10%,50V,1206,SMD	04222	12065C223KAT1A
A1C85	290-5003-00	B030100		CAP,FXD,TANT:47UF,20%,10V,0.287 X 0.169,7343,SMD	04222	TAJD476M010

## Replaceable electrical parts list (Cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discount'd	Name & description	Mfr. code	Mfr. part number
A1C87	290-5003-00	B030100		CAP,FXD,TANT:47UF,20%,10V,0.287 X 0.169,7343,SMD	04222	TAJD476M010
A1C88	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C89	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C90	283-5335-00	B030100		CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,0603,SMD	04222	06035C103KAT2A
A1C91	283-5200-00	B030100		CAP,FXD,CERAMIC:0.47UF,+80%-20%,50V,Z5U,1812,SMD	04222	18125E474ZAT1A
A1C93	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C94	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C95	290-5003-00	B030100		CAP,FXD,TANT:47UF,20%,10V,0.287 X 0.169,7343,SMD	04222	TAJD476M010
A1C96	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C97	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C98	283-5350-00	B030100		CAP,FXD,CERAMIC:1000PF,10%,100V,X7R,0603,SMD	04222	06031C102KAT2A
A1C99	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C100	283-5211-00	B030100		CAP,FXD,CERAMIC:MLC,4700PF,10%,50V,X7R,1206,SMD	04222	12065C472KAT2A
A1C102	290-1350-00	B030100		CAP,FXD,ALUM:47UF,20%,20V,ESR=0.045 OHM,8 X 10.5 MM,OS-CON,RADIAL	0H1N5	CACFM1D47M
A1C103	290-5009-00	B030100		CAP,FXD,TANT:15UF,20%,25V,0.287 X 0.169,7343,SMD	04222	TAJD156M025R
A1C104	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C105	290-5003-00	B030100		CAP,FXD,TANT:47UF,20%,10V,0.287 X 0.169,7343,SMD	04222	TAJD476M010
A1C106	290-5022-01	B030100		CAP,FXD,TANT:68UF,20%,16V,0.287 X 0.174,7343,SMD	17554	TAJD686M016R
A1C107	283-5200-00	B030100		CAP,FXD,CERAMIC:0.47UF,+80%-20%,50V,Z5U,1812,SMD	04222	18125E474ZAT1A
A1C108	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C109	290-1351-00	B030100		CAP,FXD,ALUM:100UF,20%,10V,ESR=0.045 OHM,8 X 10.5 MM,OS-CON,RADIAL	0H1N5	CACFM1A101M
A1C113	290-1351-00	B030100		CAP,FXD,ALUM:100UF,20%,10V,ESR=0.045 OHM,8 X 10.5 MM,OS-CON,RADIAL	0H1N5	CACFM1A101M
A1C114	285-5003-00	B030100		CAP,FXD,FILM:0.047UF,20%,100V,5.7 X 5 MM,2220,SMD	TK1913	SMD 2220 0.047/100/20
A1C115	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C117	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C118	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A

Replaceable electrical parts list (Cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1C119	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C120	283-5335-00	B030100		CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,X7R,0603,SMD	04222	06035C103KAT2A
A1C121	283-5335-00	B030100		CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,X7R,0603,SMD	04222	06035C103KAT2A
A1C122	283-5335-00	B030100		CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,X7R,0603,SMD	04222	06035C103KAT2A
A1C123	283-5335-00	B030100		CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,X7R,0603,SMD	04222	06035C103KAT2A
A1C124	283-5335-00	B030100		CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,X7R,0603,SMD	04222	06035C103KAT2A
A1C125	283-5335-00	B030100		CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,X7R,0603,SMD	04222	06035C103KAT2A
A1C126	283-5335-00	B030100		CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,X7R,0603,SMD	04222	06035C103KAT2A
A1C127	283-5335-00	B030100		CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,X7R,0603,SMD	04222	06035C103KAT2A
A1C128	283-5335-00	B030100		CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,X7R,0603,SMD	04222	06035C103KAT2A
A1C129	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C131	283-5350-00	B030100		CAP,FXD,CERAMIC:1000PF,10%,100V,X7R,0603,SMD	04222	06031C102KAT2A
A1C133	283-5350-00	B030100		CAP,FXD,CERAMIC:1000PF,10%,100V,X7R,0603,SMD	04222	06031C102KAT2A
A1C135	290-5002-00	B030100		CAP,FXD,TANT:DRY,10UF,20%,20V,TANT OXIDE,0.287 X 0.170,7343,SMD	62643	20MC106MDTER
A1C136	283-5350-00	B030100		CAP,FXD,CERAMIC:1000PF,10%,100V,X7R,0603,SMD	04222	06031C102KAT2A
A1C137	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A
A1C138	283-5349-00	B030100		CAP,FXD,CERAMIC:470PF,10%,100V,X7R,0603,SMD	04222	06031C471KAT2A
A1C139	283-5335-00	B030100		CAP,FXF,CERAMIC:MLC,0.01UF,10%,50V,X7R,0603,SMD	04222	06035C103KAT2A
A1C140	290-1350-00	B030100		CAP,FXD,ALUM:47UF,20%,20V,ESR=0.045OHM,8 X 10.5MM,OS-CON,RADIAL	0H1N5	CACFM1D47M
A1C142	283-5260-00	B030100		CAP,FXD,CERAMIC:MLC,10UF,+80%-20%,25V,Z5U,5.9X2.7MM,SM2210,SMD	TK1920	1E106ZY5U-C205M-T
A1C143	283-5282-00	B030100		CAP,FXD,CERAMIC:MLC,2.2UF,+80%-20%,16V,Y5V,0.120 X 0.060,CC1206,SMD	04222	1206YG225ZAT2A
A1C147	283-5334-00	B030100		CAP,FXD,CERAMIC:MLC,10PF,5%,100V,NPO,0603,SMD	29454	250R14N100CV4T
A1C148	283-5334-00	B030100		CAP,FXD,CERAMIC:MLC,10PF,5%,100V,NPO,0603,SMD	29454	250R14N100CV4T
A1C151	283-5350-00	B030100		CAP,FXD,CERAMIC:1000PF,10%,100V,X7R,0603,SMD	04222	06031C102KAT2A
A1C152	283-5348-00	B030100		CAP,FXD,CERAMIC:220PF,5%,100V,NPO,0603,SMD	04222	06031A221JAT2A
A1C153	283-5267-00	B030100		CAP,FXD,CERAMIC:MLC,1UF,+80%-20%,25V,Y5V,1206,SMD	04222	12063G105ZAT4A

## Replaceable electrical parts list (Cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discount'd	Name & description	Mfr. code	Mfr. part number
A1C154	283-5361-00	B030100		CAP,FXD,CERAMIC:680PF,5%,100V,X7R,0603,SMD	04222	06031C681JAT2A
A1C155	283-5113-00	B030100		CAP,FXD,CERAMIC:MLC,0.047UF,10%,50V,X7R,1206,SMD	04222	12065C473KAT1A
A1C157	290-1317-00	B030100		CAP,FXD,ALUM:33 UF,20%,20V,ESR=90 MOHM, OS-CON, 6.3 X 9.8 MM,RADIAL.0.1(2.5MM) LS	62643	CACFM1D330M
A1C158	283-5362-00	B030100		CAP,FXD,CERAMIC:2200PF,10%,100V,X7R,0603,SMD	04222	06031C222KAT2A
A1C159	283-5358-00	B030100		CAP,FXD,CERAMIC:100PF,5%,100V,NPO,0603,SMD	04222	06031A101JAT2A
A1C160	283-5358-00	B030100		CAP,FXD,CERAMIC:100PF,5%,100V,NPO,0603,SMD	04222	06031A101JAT2A
A1C161	283-5358-00	B030100		CAP,FXD,CERAMIC:100PF,5%,100V,NPO,0603,SMD	04222	06031A101JAT2A
A1C162	290-5003-00	B030100		CAP,FXD,TANT:47UF,20%,10V,0.287 X 0.169,7343,SMD	04222	TAJD476M010
A1C163	283-5358-00	B030100		CAP,FXD,CERAMIC:100PF,5%,100V,NPO,0603,SMD	04222	06031A101JAT2A
A1C164	283-5370-00	B030100		CAP,FXD CERAMIC:39PF,5%,100V,0603,SMD	04222	06031A390JAT1A
A1C167	283-5358-00	B030100		CAP,FXD,CERAMIC:100PF,5%,100V,NPO,0603,SMD	04222	06031A101JAT2A
A1C168	283-5358-00	B030100		CAP,FXD,CERAMIC:100PF,5%,100V,NPO,0603,SMD	04222	06031A101JAT2A
A1C169	283-5358-00	B030100		CAP,FXD,CERAMIC:100PF,5%,100V,NPO,0603,SMD	04222	06031A101JAT2A
A1C172	283-5362-00	B030100		CAP,FXD,CERAMIC:2200PF,10%,100V,X7R,0603,SMD	04222	06031C222KAT2A
A1C173	283-5363-00	B030100		CAP,FXD,CERAMIC:0.022UF,10%,16V,X7R,0603,SMD	04222	0603YC223KAT2A
A1C174	283-5348-00	B030100		CAP,FXD,CERAMIC:220PF,5%,100V,NPO,0603,SMD	04222	06031A221JAT2A
A1C175	283-5348-00	B030100		CAP,FXD,CERAMIC:220PF,5%,100V,NPO,0603,SMD	04222	06031A221JAT2A
A1C176	283-5226-00	B030100		CAP,FXD,CERAMIC:MLC,270PF,5%,50V,NPO,1206,SMD	04222	12065A271JAT1A
A1CR1	152-5018-00	B030100		DIODE,SIG:ULTRAFAST,100V,0.74VF,4NS,2.0PF, SER-PAIR,MMBD1203,TO-236/SOT-23	27014	MMBD1203
A1CR2	152-5018-00	B030100		DIODE,SIG:ULTRAFAST,100V,0.74VF,4NS,2.0PF, SER-PAIR,MMBD1203,TO-236/SOT-23	27014	MMBD1203
A1CR3	152-5018-00	B030100		DIODE,SIG:ULTRAFAST,100V,0.74VF,4NS,2.0PF, SER-PAIR,MMBD1203,TO-236/SOT-23	27014	MMBD1203
A1CR4	152-5018-00	B030100		DIODE,SIG:ULTRAFAST,100V,0.74VF,4NS,2.0PF, SER-PAIR,MMBD1203,TO-236/SOT-23	27014	MMBD1203
A1CR5	152-5018-00	B030100		DIODE,SIG:ULTRAFAST,100V,0.74VF,4NS,2.0PF, SER-PAIR,MMBD1203,TO-236/SOT-23	27014	MMBD1203
A1CR6	152-5018-00	B030100		DIODE,SIG:ULTRAFAST,100V,0.74VF,4NS,2.0PF, SER-PAIR,MMBD1203,TO-236/SOT-23	27014	MMBD1203
A1CR7	152-5018-00	B030100		DIODE,SIG:ULTRAFAST,100V,0.74VF,4NS,2.0PF, SER-PAIR,MMBD1203,TO-236/SOT-23	27014	MMBD1203
A1CR8	152-5027-00	B030100		DIODE,RECT:SCHTKY,40V,1A,MBRS140, DO-214AA/SMB	04713	MBRS140T3
A1CR9	152-5023-00	B030100		DIODE,ZENER:5.1V,5%,0.225W,MMBZ5231BL, TO-236/SOT-23	04713	MMBZ5231BLT1
A1CR10	152-5023-00	B030100		DIODE,ZENER:5.1V,5%,0.225W,MMBZ5231BL, TO-236/SOT-23	04713	MMBZ5231BLT1
A1CR11	152-5062-00	B030100		DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF,COMMON ANODE,MMBD1205,TO-236/SOT-23	27014	MMBD1205

Replaceable electrical parts list (Cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discontin'd	Name & description	Mfr. code	Mfr. part number
A1CR12	152-5047-00	B030100		DIODE,SIG:ULTRAFAST,DUAL,COMMON CATHODE,100V,0.74VF,4NS,2.OPF,MMBD1204,TO-236/SOT-23	27014	MMBD1204
A1CR13	152-5027-00	B030100		DIODE,RECT:SCHTKY,40V,1A,MBRS140,DO-214AA/SMB	04713	MBRS140T3
A1CR14	152-5027-00	B030100		DIODE,RECT:SCHTKY,40V,1A,MBRS140,DO-214AA/SMB	04713	MBRS140T3
A1CR15	152-5027-00	B030100		DIODE,RECT:SCHTKY,40V,1A,MBRS140,DO-214AA/SMB	04713	MBRS140T3
A1CR16	152-5062-00	B030100		DIODE,SIG:ULTRAFAST,100V,0.74VF,4NS,2.OPF,COMMONANODE,MMBD1205,TO-236/SOT-23	27014	MMBD1205
A1CR17	152-5047-00	B030100		DIODE,SIG:ULTRAFAST,DUAL,COMMON CATHODE,100V,0.74VF,4NS,2.OPF,MMBD1204,TO-236/SOT-23	27014	MMBD1204
A1CR18	152-5027-00	B030100		DIODE,RECT:SCHTKY,40V,1A,MBRS140,DO-214AA/SMB	04713	MBRS140T3
A1CR19	152-5027-00	B030100		DIODE,RECT:SCHTKY,40V,1A,MBRS140,DO-214AA/SMB	04713	MBRS140T3
A1CR20	152-5018-00	B030100		DIODE,SIG:ULTRAFAST,100V,0.74VF,4NS,2.OPF,SER-PAIR,MMBD1203,TO-236/SOT-23	27014	MMBD1203
A1CR21	152-5027-00	B030100		DIODE,RECT:SCHTKY,40V,1A,MBRS140,DO-214AA/SMB	04713	MBRS140T3
A1CR22	152-5027-00	B030100		DIODE,RECT:SCHTKY,40V,1A,MBRS140,DO-214AA/SMB	04713	MBRS140T3
A1CR23	152-5062-00	B030100		DIODE,SIG:ULTRAFAST,100V,0.74VF,4NS,2.OPF,COMMONANODE,MMBD1205,TO-236/SOT-23	27014	MMBD1205
A1CR24	152-5027-00	B030100		DIODE,RECT:SCHTKY,40V,1A,MBRS140,DO-214AA/SMB	04713	MBRS140T3
A1CR25	152-5027-00	B030100		DIODE,RECT:SCHTKY,40V,1A,MBRS140,DO-214AA/SMB	04713	MBRS140T3
A1CR27	152-5027-00	B030100		DIODE,RECT:SCHTKY,40V,1A,MBRS140,DO-214AA/SMB	04713	MBRS140T3
A1CR28	152-5047-00	B030100		DIODE,SIG:ULTRAFAST,DUAL,COMMON CATHODE,100V,0.74VF,4NS,2.OPF,MMBD1204,TO-236/SOT-23	27014	MMBD1204
A1CR30	152-5027-00	B030100		DIODE,RECT:SCHTKY,40V,1A,MBRS140,DO-214AA/SMB	04713	MBRS140T3
A1CR31	152-5027-00	B030100		DIODE,RECT:SCHTKY,40V,1A,MBRS140,DO-214AA/SMB	04713	MBRS140T3
A1CR34	152-5072-00	B030100		DIODE,ZENER:12V,5%,0.225W,MMBZ5242BL,TO-236/SOT-23	04713	MMBZ5242BLT1
A1CR35	152-5072-00	B030100		DIODE,ZENER:12V,5%,0.225W,MMBZ5242BL,TO-236/SOT-23	04713	MMBZ5242BLT1
A1CR37	152-5047-00	B030100		DIODE,SIG:ULTRAFAST,DUAL,COMMON CATHODE,100V,0.74VF,4NS,2.OPF,MMBD1204,TO-236/SOT-23	27014	MMBD1204

## Replaceable electrical parts list (Cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1CR41	152-5027-00	B030100		DIODE,RECT:SCHTKY,40V,1A,MBRS140, DO-214AA/SMB	04713	MBRS140T3
A1CR42	152-5072-00	B030100		DIODE,ZENER:12V,5%,0.225W,MMBZ5242BL, TO-236/SOT-23	04713	MMBZ5242BLT1
A1CR43	152-5011-00	B030100		DIODE,ZENER:6.2V,5%,0.225W,MMBZ5234BL, TO-236/SOT-23	04713	MMBZ5234BLT1
A1E3	108-5102-00	B030100		EMI,SUPPRESSION:FERRITE BEAD,26 OHM +/-25%@100 MHZ,DCR=0.2 OHM,IMAX=500 MA	TK2058	HF70ACB-321611T
A1E7	337-4011-00	B030100		SHEILD,ELECT:CKT BD,ATTEN,0.020 BRASS,TIN PLATE,2.62 X 1.22 X 0.325	TK1943	337-4011-00
A1F3	159-0365-00	B030100		FUSE,THERMAL:1.35A,30V,SELF RESETTING, 0.35 X 0.53H,UL REC, POLYSWITCH,RUE,RADIAL LEAD	06090	RUE135
A1J2	174-3461-00	B030100		CA ASSY,SP:DISCRETE,LDI,2,24 AWG,3.1 L,2X2,0.1 CTR,MALE	TK2469	174-3461-00
A1J10	174-3488-00	B030100		CA ASSY, SP:COAX,RFP,50 OHM,RG174, 2.35 L,PELTOLA X BRAID PIC,PCB TERMINATION	TK2469	174-3488-00
A1J11	174-3488-00	B030100		CA ASSY, SP:COAX,RFP,50 OHM,RG174, 2.35 L,PELTOLA X BRAID PIC,PCB TERMINATION	TK2469	174-3488-00
A1L1	321-5051-00	B030100		RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100 PPM,1206	09969	CRCW1206 JUMPER
A1L2	321-5051-00	B030100		RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100 PPM,1206	09969	CRCW1206 JUMPER
A1L3	321-5051-00	B030100		RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100 PPM,1206	09969	CRCW1206 JUMPER
A1L4	321-5051-00	B030100		RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100 PPM,1206	09969	CRCW1206 JUMPER
A1L5	108-5161-00	B030100		INDUCTOR,FXD:POWER,4.7UH,10%,IDC<0.65 A, RDC<0.27 OHM,SRF>35 MHZ,453232-4R7,1812	TK2058	NLC453232T-4R7K
A1L6	108-5161-00	B030100		INDUCTOR,FXD:POWER,4.7UH,10%,IDC<0.65 A, RDC<0.27 OHM,SRF>35 MHZ,453232-4R7,1812	TK2058	NLC453232T-4R7K
A1L7	108-5147-00	B030100		INDUCTOR,FXD:COUPLED INDUCTOR, 100UH,PARALLEL RATING:IDC=0.51A, DCR=0.375OHM,NON-POWDER TOROID	ONFLO	CTX100-1 TR
A1L8	108-5147-00	B030100		INDUCTOR,FXD:COUPLED INDUCTOR, 100UH,PARALLEL RATING:IDC=0.51A, DCR=0.375OHM,NON-POWDER TOROID	ONFLO	CTX100-1 TR
A1L9	108-5147-00	B030100		INDUCTOR,FXD:COUPLED INDUCTOR, 100UH,PARALLEL RATING:IDC=0.51A,DCR=0.375OHM, NON-POWDER TOROID	ONFLO	CTX100-1 TR
A1L10	108-5147-00	B030100		INDUCTOR,FXD:COUPLED INDUCTOR, 100UH,PARALLEL RATING:IDC=0.51A, DCR=0.375OHM,NON-POWDER TOROID	ONFLO	CTX100-1 TR
A1L16	108-5161-00	B030100		INDUCTOR,FXD:POWER, 4.7UH,10%,IDC<0.65 A, RDC<0.27 OHM,SRF>35 MHZ,453232-4R7,1812	TK2058	NLC453232T-4R7K
A1L17	108-5161-00	B030100		INDUCTOR,FXD:POWER,4.7UH,10%,IDC<0.65 A, RDC<0.27 OHM,SRF>35 MHZ,453232-4R7,1812	TK2058	NLC453232T-4R7K

Replaceable electrical parts list (Cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1L18	276-5003-00	B030100		EMI SUPPRESSION:FERRITE BEAD,31 OHM@100 MHZ,IMAX<1.5 A,RDC<0.04 OHM	TK2058	HF50ACC321611
A1L19	276-5003-00	B030100		EMI SUPPRESSION:FERRITE BEAD,31 OHM@100 MHZ,IMAX<1.5 A,RDC<0.04 OHM	TK2058	HF50ACC321611
A1Q1	151-5656-00	B030100		TRANSISTOR,SIG:JFET,N-CH,10V,150MA,30 OHM,MMBF4391L,TO-236/SOT-23	04713	MMBF4391LT1
A1Q2	151-5656-00	B030100		TRANSISTOR,SIG:JFET,N-CH,10V,150MA,30 OHM,MMBF4391L,TO-236/SOT-23	04713	MMBF4391LT1
A1Q3	151-5656-00	B030100		TRANSISTOR,SIG:JFET,N-CH,10V,150MA,30 OHM,MMBF4391L,TO-236/SOT-23	04713	MMBF4391LT1
A1Q4	151-5656-00	B030100		TRANSISTOR,SIG:JFET,N-CH,10V,150MA,30 OHM,MMBF4391L,TO-236/SOT-23	04713	MMBF4391LT1
A1Q8	151-5095-00	B030100		THYRISTOR,PWR:BIPOLAR,SCR,200V,4.0A RMS,2.6A AVG, PHASE CONTROL,MCR704A,TO-252/DPAK	04713	MCR704AT4
A1Q15	151-5100-00	B030100		TRANSISTOR,PWR:MOS,N-CH,30V,10A,0.0135/0.02 OHM, STD/LOGIC LEVEL, SI4410Y/IRF7413,SO8.150	51993	IRF7413-TRL
A1R1	307-5041-01	B030100		RES,NTWK,FXD,FI:15,4.7K OHM,2%,PIN 16 COMMON,0.08W EA,1.2W PKG,50PPM,SMD	57924	4816P-002-472
A1R2	321-5421-00	B030100		RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031001FRT-1
A1R3	321-5421-00	B030100		RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031001FRT-1
A1R4	321-5425-00	B030100		RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD	91637	CRCW06034751FRT-1
A1R5	321-5425-00	B030100		RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD	91637	CRCW06034751FRT-1
A1R6	307-5041-01	B030100		RES,NTWK,FXD,FI:15,4.7K OHM,2%,PIN 16 COMMON,0.08W EA,1.2W PKG, 50PPM,SMD	57924	4816P-002-472
A1R7	321-5417-00	B030100		RES,FXD,FILM:100 OHM, 1%,100V,62MW,0603,SMD	59124	RK73H1J1000FT
A1R8	321-5417-00	B030100		RES,FXD,FILM:100 OHM, 1%,100V,62MW,0603,SMD	59124	RK73H1J1000FT
A1R9	321-5417-00	B030100		RES,FXD,FILM:100 OHM, 1%,100V,62MW,0603,SMD	59124	RK73H1J1000FT
A1R10	321-5421-00	B030100		RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031001FRT-1
A1R11	321-5429-00	B030100		RES,FXD,FILM:27.4K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J2742FT
A1R12	321-5436-00	B030100		RES,FXD,FILM:1.00M,1%,100V,62.5MW,0603,SMD	91637	CRCW06031004FRT-1
A1R13	321-5422-00	B030100		RES,FXD,FILM:2.00K,1%,100V,62.5MW,0603,SMD	91637	CRCW06032001FRT-1
A1R14	321-5436-00	B030100		RES,FXD,FILM:1.00M,1%,100V,62.5MW,0603,SMD	91637	CRCW06031004FRT-1
A1R15	321-5165-00	B030100		RES,FXD,FILM:10K OHM,0.1%,0.125W,TC=T9 1206PKG	91637	TNPW1206-1002BT-9
A1R16	321-5165-00	B030100		RES,FXD,FILM:10K OHM,0.1%,0.125W,TC=T9 1206PKG	91637	TNPW1206-1002BT-9
A1R17	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R18	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R19	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R20	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R21	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R22	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R23	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT

## Replaceable electrical parts list (Cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discount'd	Name & description	Mfr. code	Mfr. part number
A1R24	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R25	321-5421-00	B030100		RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031001FRT-1
A1R26	321-5367-00	B030100		RES,FXD,FILM:1 MEG, 1%,0.125W,TC=25PPM, SMD,1206 PKG, THIN FILM FOR TIGHT VC	91637	TNPW12061004FT
A1R27	321-5367-00	B030100		RES,FXD,FILM:1 MEG, 1%,0.125W,TC=25PPM, SMD,1206 PKG, THIN FILM FOR TIGHT VC	91637	TNPW12061004FT
A1R28	321-5379-00	B030100		RES,FXD:THIN FILM,1K OHM, 1%,0.125W,TC=25PPM,1206	91637	TNPW12061001FT-9-R T1
A1R29	321-5367-00	B030100		RES,FXD,FILM:1 MEG, 1%,0.125W,TC=25PPM, SMD,1206 PKG, THIN FILM FOR TIGHT VC	91637	TNPW12061004FT
A1R30	321-5165-00	B030100		RES,FXD,FILM:10K OHM,0.1%,0.125W,TC=T9 1206PKG	91637	TNPW1206-1002BT-9
A1R31	321-5378-00	B030100		RES,FXD:THIN FILM,100K OHM, 1%,0.125W,TC=25PPM,1206	91637	TNPW12061003FT-9
A1R32	321-5367-00	B030100		RES,FXD,FILM:1 MEG, 1%,0.125W,TC=25PPM,SMD, 1206 PKG, THIN FILM FOR TIGHT VC	91637	TNPW12061004FT
A1R33	321-5367-00	B030100		RES,FXD,FILM:1 MEG, 1%,0.125W,TC=25PPM,SMD, 1206 PKG, THIN FILM FOR TIGHT VC	91637	TNPW12061004FT
A1R34	321-5367-00	B030100		RES,FXD,FILM:1 MEG, 1%,0.125W,TC=25PPM, SMD,1206 PKG, THIN FILM FOR TIGHT VC	91637	TNPW12061004FT
A1R35	321-5367-00	B030100		RES,FXD,FILM:1 MEG, 1%,0.125W,TC=25PPM, SMD,1206 PKG, THIN FILM FOR TIGHT VC	91637	TNPW12061004FT
A1R36	321-5367-00	B030100		RES,FXD,FILM:1 MEG, 1%,0.125W,TC=25PPM, SMD,1206 PKG, THIN FILM FOR TIGHT VC	91637	TNPW12061004FT
A1R37	321-5429-00	B030100		RES,FXD,FILM:27.4K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J2742FT
A1R38	321-5379-00	B030100		RES,FXD:THIN FILM,1K OHM, 1%,0.125W,TC=25PPM,1206	91637	TNPW12061001FT-9
A1R39	321-5367-00	B030100		RES,FXD,FILM:1 MEG, 1%,0.125W,TC=25PPM, SMD,1206 PKG, THIN FILM FOR TIGHT VC	91637	TNPW12061004FT
A1R40	321-5474-00	B030100		RES,FXD,FILM:200K OHM,1%,50V,62.5MW,0603,SMD	91637	CRCW06032003F-RT1
A1R41	321-5379-00	B030100		RES,FXD:THIN FILM,1K OHM, 1%,0.125W,TC=25PPM,1206	91637	TNPW12061001FT-9
A1R42	321-5367-00	B030100		RES,FXD,FILM:1 MEG, 1%,0.125W,TC=25PPM, SMD,1206 PKG, THIN FILM FOR TIGHT VC	91637	TNPW12061004FT
A1R44	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R45	321-5367-00	B030100		RES,FXD,FILM:1 MEG, 1%,0.125W,TC=25PPM, SMD,1206 PKG, THIN FILM FOR TIGHT VC	91637	TNPW12061004FT
A1R46	321-5423-00	B030100		RES,FXD,FILM:2.74K,1%,100V,62.5MW,0603,SMD	91637	CRCW06032741FRT-1
A1R47	321-5432-00	B030100		RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031003FRT-1
A1R48	321-5474-00	B030100		RES,FXD,FILM:200K,1%,50V,62.5MW,0603,SMD	91637	CRCW06032003F-RT1
A1R50	321-5422-00	B030100		RES,FXD,FILM:2.00K,1%,100V,62.5MW,0603,SMD	91637	CRCW06032001FRT-1
A1R51	321-5379-00	B030100		RES,FXD:THIN FILM,1K OHM, 1%,0.125W,TC=25PPM,1206	91637	TNPW12061001FT-9
A1R52	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R53	321-5436-00	B030100		RES,FXD,FILM:1.00M,1%,100V,62.5MW,0603,SMD	91637	CRCW06031004FRT-1

Replaceable electrical parts list (Cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1R54	321-5432-00	B030100		RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031003FRT-1
A1R55	321-5423-00	B030100		RES,FXD,FILM:2.74K,1%,100V,62.5MW,0603,SMD	91637	CRCW06032741FRT-1
A1R56	321-5379-00	B030100		RES,FXD:THIN FILM,1K OHM,1%,0.125W,TC=25PPM,1206	91637	TNPW12061001FT-9
A1R57	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R58	321-5432-00	B030100		RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031003FRT-1
A1R59	321-5436-00	B030100		RES,FXD,FILM:1.00M,1%,100V,62.5MW,0603,SMD	91637	CRCW06031004FRT-1
A1R60	321-5417-00	B030100		RES,FXD,FILM:100 OHM, 1%,100V,62MW,0603,SMD	59124	RK73H1J1000FT
A1R61	321-5422-00	B030100		RES,FXD,FILM:2.00K,1%,100V,62.5MW,0603,SMD	91637	CRCW06032001FRT-1
A1R62	321-5416-00	B030100		RES,FXD,FILM:10.0 OHM, 1%,100V,62MW,0603,SMD	59124	RK73H1J10R0FT
A1R63	307-2509-00	B030100		RES NTWK,FXD,FI:1K,33%,450K,33%,SIP,3PINS,DMM INPUT	TK2601	307-2509-00
A1R64	321-5418-00	B030100		RES,FXD,FILM:221 OHM, 1%,100V,62MW,0603,SMD	59124	RK73H1J2210FT
A1R65	321-5423-00	B030100		RES,FXD,FILM:2.74K,1%,100V,62.5MW,0603,SMD	91637	CRCW06032741FRT-1
A1R66	321-5425-00	B030100		RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD	91637	CRCW06034751FRT-1
A1R67	321-5425-00	B030100		RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD	91637	CRCW06034751FRT-1
A1R68	321-5419-00	B030100		RES,FXD,FILM:392 OHM, 1%,100V,62MW,0603,SMD	59124	RK73H1J3920FT
A1R69	321-5419-00	B030100		RES,FXD,FILM:392 OHM, 1%,100V,62MW,0603,SMD	59124	RK73H1J3920FT
A1R70	321-5462-00	B030100		RES,FXD,FILM:3.92K OHM, 1%,100V,62.5MW,0603,SMD	91637	CRCW06033921FRT-1
A1R71	321-5470-00	B030100		RES,FXD,FILM:33.2K OHM, 1%,100V,62.5MW,0603,SMD	91637	CRCW06033322FRT-1
A1R72	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R73	321-5425-00	B030100		RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD	91637	CRCW06034751FRT-1
A1R74	321-5430-00	B030100		RES,FXD,FILM:39.2K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J3922FT
A1R75	321-5433-00	B030100		RES,FXD,FILM:150K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031503FRT-1
A1R76	321-5421-00	B030100		RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031001FRT-1
A1R77	321-5472-00	B030100		RES,FXD,FILM:56.2K OHM, 1%,100V,62.5MW,0603,SMD	91637	CRCW06035622FRT-1
A1R78	321-5428-00	B030100		RES,FXD,FILM:22.1K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J2212FT
A1R79	321-5423-00	B030100		RES,FXD,FILM:2.74K,1%,100V,62.5MW,0603,SMD	91637	CRCW06032741FRT-1
A1R80	321-5434-00	B030100		RES,FXD,FILM:332K,1%,100V,62.5MW,0603,SMD	91637	CRCW06033323FRT-1
A1R81	321-5430-00	B030100		RES,FXD,FILM:39.2K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J3922FT
A1R82	321-5421-00	B030100		RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031001FRT-1
A1R83	321-5421-00	B030100		RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031001FRT-1
A1R84	321-5421-00	B030100		RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031001FRT-1
A1R85	321-5471-00	B030100		RES,FXD,FILM:47.5K OHM, 1%,100V,62.5MW,0603,SMD	91637	CRCW06034752FRT-1
A1R86	321-5428-00	B030100		RES,FXD,FILM:22.1K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J2212FT
A1R87	321-5434-00	B030100		RES,FXD,FILM:332K,1%,100V,62.5MW,0603,SMD	91637	CRCW06033323FRT-1
A1R88	321-5472-00	B030100		RES,FXD,FILM:56.2K OHM, 1%,100V,62.5MW,0603,SMD	91637	CRCW06035622FRT-1
A1R89	321-5434-00	B030100		RES,FXD,FILM:332K,1%,100V,62.5MW,0603,SMD	91637	CRCW06033323FRT-1
A1R90	321-5434-00	B030100		RES,FXD,FILM:332K,1%,100V,62.5MW,0603,SMD	91637	CRCW06033323FRT-1

## Replaceable electrical parts list (Cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discount'd	Name & description	Mfr. code	Mfr. part number
A1R91	321-5423-00	B030100		RES,FXD,FILM:2.74K,1%,100V,62.5MW,0603,SMD	91637	CRCW06032741FRT-1
A1R92	321-5445-00	B030100		RES,FXD,FILM:49.9 OHM,1%,100V,62.5MW,0603,SMD	91637	CRCW060349R9FRT-1
A1R93	321-5445-00	B030100		RES,FXD,FILM:49.9 OHM,1%,100V,62.5MW,0603,SMD	91637	CRCW060349R9FRT-1
A1R94	321-5445-00	B030100		RES,FXD,FILM:49.9 OHM,1%,100V,62.5MW,0603,SMD	91637	CRCW060349R9FRT-1
A1R95	321-5445-00	B030100		RES,FXD,FILM:49.9 OHM,1%,100V,62.5MW,0603,SMD	91637	CRCW060349R9FRT-1
A1R96	321-5417-00	B030100		RES,FXD,FILM:100 OHM,1%,100V,62MW,0603,SMD	59124	RK73H1J1000FT
A1R97	321-5423-00	B030100		RES,FXD,FILM:2.74K,1%,100V,62.5MW,0603,SMD	91637	CRCW06032741FRT-1
A1R98	321-5343-00	B030100		RES,FXD,FILM:30.1 OHM,1%,0.125 W,1206 PKG, SMD	91637	CRCW120630R1FRT2
A1R99	321-5429-00	B030100		RES,FXD,FILM:27.4K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J2742FT
A1R100	321-5416-00	B030100		RES,FXD,FILM:10.0 OHM,1%,100V,62MW,0603,SMD	59124	RK73H1J10R0FT
A1R101	321-5423-00	B030100		RES,FXD,FILM:2.74K,1%,100V,62.5MW,0603,SMD	91637	CRCW06032741FRT-1
A1R102	321-5423-00	B030100		RES,FXD,FILM:2.74K,1%,100V,62.5MW,0603,SMD	91637	CRCW06032741FRT-1
A1R103	321-5417-00	B030100		RES,FXD,FILM:100 OHM,1%,100V,62MW,0603,SMD	59124	RK73H1J1000FT
A1R104	321-5418-00	B030100		RES,FXD,FILM:221 OHM,1%,100V,62MW,0603,SMD	59124	RK73H1J2210FT
A1R105	321-5343-00	B030100		RES,FXD,FILM:30.1 OHM,1%,0.125 W,1206 PKG, SMD	91637	CRCW120630R1FRT2
A1R106	321-5343-00	B030100		RES,FXD,FILM:30.1 OHM,1%,0.125 W,1206 PKG, SMD	91637	CRCW120630R1FRT2
A1R107	321-5343-00	B030100		RES,FXD,FILM:30.1 OHM,1%,0.125 W,1206 PKG, SMD	91637	CRCW120630R1FRT2
A1R108	321-5424-00	B030100		RES,FXD,FILM:3.32K,1%,100V,62.5MW,0603,SMD	91637	CRCW06033321FRT-1
A1R109	321-5425-00	B030100		RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD	91637	CRCW06034751FRT-1
A1R110	321-5436-00	B030100		RES,FXD,FILM:1.00M,1%,100V,62.5MW,0603,SMD	91637	CRCW06031004FRT-1
A1R111	321-5436-00	B030100		RES,FXD,FILM:1.00M,1%,100V,62.5MW,0603,SMD	91637	CRCW06031004FRT-1
A1R112	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R113	321-5421-00	B030100		RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031001FRT-1
A1R114	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R115	321-5432-00	B030100		RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031003FRT-1
A1R116	321-5460-00	B030100		RES,FXD,FILM:1.82K OHM,1%,100V,62.5MW,0603,SMD	91637	CRCW06031821FRT-1
A1R117	321-5429-00	B030100		RES,FXD,FILM:27.4K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J2742FT
A1R118	321-5425-00	B030100		RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD	91637	CRCW06034751FRT-1
A1R119	321-5432-00	B030100		RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031003FRT-1
A1R120	321-5429-00	B030100		RES,FXD,FILM:27.4K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J2742FT
A1R121	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R122	321-5421-00	B030100		RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031001FRT-1
A1R123	321-5418-00	B030100		RES,FXD,FILM:221 OHM,1%,100V,62MW,0603,SMD	59124	RK73H1J2210FT
A1R124	321-5459-00	B030100		RES,FXD,FILM:1.50 KOHM,1%,50V,62.5MW,0603,SMD	59124	RK73H1J1501FT
A1R125	321-5425-00	B030100		RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD	91637	CRCW06034751FRT-1
A1R126	321-5419-00	B030100		RES,FXD,FILM:392 OHM,1%,100V,62MW,0603,SMD	59124	RK73H1J3920FT
A1R127	321-5432-00	B030100		RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031003FRT-1
A1R128	321-5425-00	B030100		RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD	91637	CRCW06034751FRT-1

Replaceable electrical parts list (Cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1R129	321-5459-00	B030100		RES,FXD,FILM:1.50K OHM,1%,50V,62.5MW,0603,SMD	59124	RK73H1J1501FT
A1R130	321-5418-00	B030100		RES,FXD,FILM:221 OHM, 1%,100V,62MW,0603,SMD	59124	RK73H1J2210FT
A1R131	321-5419-00	B030100		RES,FXD,FILM:392 OHM, 1%,100V,62MW,0603,SMD	59124	RK73H1J3920FT
A1R132	321-5433-00	B030100		RES,FXD,FILM:150K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031503FRT-1
A1R133	321-5429-00	B030100		RES,FXD,FILM:27.4K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J2742FT
A1R134	321-5432-00	B030100		RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031003FRT-1
A1R135	321-5428-00	B030100		RES,FXD,FILM:22.1K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J2212FT
A1R136	321-5421-00	B030100		RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031001FRT-1
A1R137	321-5421-00	B030100		RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031001FRT-1
A1R138	321-5436-00	B030100		RES,FXD,FILM:1.00M,1%,100V,62.5MW,0603,SMD	91637	CRCW06031004FRT-1
A1R139	321-5419-00	B030100		RES,FXD,FILM:392 OHM, 1%,100V,62MW,0603,SMD	59124	RK73H1J3920FT
A1R140	321-5420-00	B030100		RES,FXD,FILM:475 OHM, 1%,100V,63MW,0603,SMD	59124	RK73H1J4750FT
A1R141	321-5432-00	B030100		RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031003FRT-1
A1R142	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R143	321-5425-00	B030100		RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD	91637	CRCW06034751FRT-1
A1R144	321-5436-00	B030100		RES,FXD,FILM:1.00M,1%,100V,62.5MW,0603,SMD	91637	CRCW06031004FRT-1
A1R145	321-5469-00	B030100		RES,FXD,FILM:20.0K,1%,50V,62.5MW,0603,SMD	59124	RK73H1J2002FT
A1R146	321-5417-00	B030100		RES,FXD,FILM:100 OHM, 1%,100V,62MW,0603,SMD	59124	RK73H1J1000FT
A1R147	321-5417-00	B030100		RES,FXD,FILM:100 OHM, 1%,100V,62MW,0603,SMD	59124	RK73H1J1000FT
A1R148	321-5422-00	B030100		RES,FXD,FILM:2.00K,1%,50V,62.5MW,0603,SMD	59124	RK73H1J2001FT
A1R149	321-5426-00	B030100		RES,FXD,FILM:8.25K,1%,50V,62.5MW,0603,SMD	59124	RK73H1J8251FT
A1R150	321-5469-00	B030100		RES,FXD,FILM:20.0K,1%,50V,62.5MW,0603,SMD	59124	RK73H1J2002FT
A1R151	321-5432-00	B030100		RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031003FRT-1
A1R152	321-5438-00	B030100		RES,FXD,FILM:15.0 OHM, 1%,100V,62.5MW,0603,SMD	91637	CRCW060315R0FRT-1
A1R153	321-5471-00	B030100		RES,FXD,FILM:47.5K, 1%,100V,62.5MW,0603,SMD	91637	CRCW06034752FRT-1
A1R154	321-5445-00	B030100		RES,FXD,FILM:49.9 OHM, 1%,100V,62.5MW,0603,SMD	91637	CRCW060349R9FRT-1
A1R155	321-5434-00	B030100		RES,FXD,FILM:332K,1%,100V,62.5MW,0603,SMD	91637	CRCW06033323FRT-1
A1R156	321-5421-00	B030100		RES,FXD,FILM:1.00K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031001FRT-1
A1R157	321-5343-00	B030100		RES,FXD,FILM:30.1 OHM,1%,0.125 W,1206 PKG, SMD	91637	CRCW120630R1FRT2
A1R158	321-5425-00	B030100		RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD	91637	CRCW06034751FRT-1
A1R159	321-5432-00	B030100		RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031003FRT-1
A1R160	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R162	321-5436-00	B030100		RES,FXD,FILM:1.00M,1%,100V,62.5MW,0603,SMD	91637	CRCW06031004FRT-1
A1R166	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R167	321-5420-00	B030100		RES,FXD,FILM:475 OHM, 1%,100V,63MW,0603,SMD	59124	RK73H1J4750FT
A1R168	321-5420-00	B030100		RES,FXD,FILM:475 OHM, 1%,50V,63MW,0603,SMD	59124	RK73H1J4750FT
A1R169	321-5420-00	B030100		RES,FXD,FILM:475 OHM, 1%,100V,63MW,0603,SMD	59124	RK73H1J4750FT
A1R170	321-5417-00	B030100		RES,FXD,FILM:100 OHM, 1%,100V,62MW,0603,SMD	59124	RK73H1J1000FT

## Replaceable electrical parts list (Cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discount'd	Name & description	Mfr. code	Mfr. part number
A1R171	321-5472-00	B030100		RES,FXD,FILM:56.2K OHM, 1%,100V,62.5MW,0603,SMD	91637	CRCW06035622FRT-1
A1R172	321-5018-00	B030100		RES,FXD:THICK FILM,1.0K OHM,1%,0.125W, TC=100 PPM,1206	50139	BCK1001FT
A1R173	321-5420-00	B030100		RES,FXD,FILM:475 OHM, 1%,100V,63MW,0603,SMD	59124	RK73H1J4750FT
A1R174	321-5431-00	B030100		RES,FXD,FILM:68.1K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J6812FT
A1R177	321-5018-00	B030100		RES,FXD:THICK FILM,1.0K OHM,1%,0.125W, TC=100 PPM,1206	50139	BCK1001FT
A1R179	321-5415-00	B030100		RES,FXD,FILM:0 OHM JUMPER, 100V,62MW,0603,SMD	59124	RM73Z1J000ZT
A1R180	321-5425-00	B030100		RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD	91637	CRCW06034751FRT-1
A1R181	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R182	321-5420-00	B030100		RES,FXD,FILM:475 OHM, 1%,100V,63MW,0603,SMD	59124	RK73H1J4750FT
A1R183	321-5420-00	B030100		RES,FXD,FILM:475 OHM, 1%,100V,63MW,0603,SMD	59124	RK73H1J4750FT
A1R185	321-5417-00	B030100		RES,FXD,FILM:100 OHM, 1%,100V,62MW,0603,SMD	59124	RK73H1J1000FT
A1R186	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R187	321-5471-00	B030100		RES,FXD,FILM:47.5K OHM, 1%,100V,62.5MW,0603,SMD	91637	CRCW06034752FRT-1
A1R188	321-5417-00	B030100		RES,FXD,FILM:100 OHM, 1%,100V,62MW,0603,SMD	59124	RK73H1J1000FT
A1R189	321-5471-00	B030100		RES,FXD,FILM:47.5K OHM, 1%,100V,62.5MW,0603,SMD	91637	CRCW06034752FRT-1
A1R190	321-5432-00	B030100		RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031003FRT-1
A1R191	321-5425-00	B030100		RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD	91637	CRCW06034751FRT-1
A1R192	321-5425-00	B030100		RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD	91637	CRCW06034751FRT-1
A1R193	321-5422-00	B030100		RES,FXD,FILM:2.00K,1%,100V,62.5MW,0603,SMD	91637	CRCW06032001FRT-1
A1R194	321-5429-00	B030100		RES,FXD,FILM:27.4K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J2742FT
A1R195	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R196	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R197	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R199	321-5420-00	B030100		RES,FXD,FILM:475 OHM, 1%,100V,63MW,0603,SMD	59124	RK73H1J4750FT
A1R200	321-5432-00	B030100		RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031003FRT-1
A1R201	321-5432-00	B030100		RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031003FRT-1
A1R202	321-5432-00	B030100		RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031003FRT-1
A1R203	321-5432-00	B030100		RES,FXD,FILM:100K,1%,100V,62.5MW,0603,SMD	91637	CRCW06031003FRT-1
A1R204	321-5415-00	B030100		RES,FXD,FILM:0 OHM JUMPER, 100V,62MW,0603,SMD	59124	RM73Z1J000ZT
A1R205	321-5415-00	B030100		RES,FXD,FILM:0 OHM JUMPER, 100V,62MW,0603,SMD	59124	RM73Z1J000ZT
A1R206	321-5425-00	B030100		RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD	91637	CRCW06034751FRT-1
A1R207	321-5450-00	B030100		RES,FXD,FILM:121 OHM, 1%,100V,62.5MW,0603,SMD	91637	CRCW0603121RFRT-1
A1R208	321-5472-00	B030100		RES,FXD,FILM:56.2K OHM, 1%,100V,62.5MW,0603,SMD	91637	CRCW06035622FRT-1
A1R209	321-5425-00	B030100		RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD	91637	CRCW06034751FRT-1
A1R210	321-5422-00	B030100		RES,FXD,FILM:2.00K,1%,100V,62.5MW,0603,SMD	91637	CRCW06032001FRT-1
A1R211	321-5422-00	B030100		RES,FXD,FILM:2.00K,1%,100V,62.5MW,0603,SMD	91637	CRCW06032001FRT-1
A1R212	321-5429-00	B030100		RES,FXD,FILM:27.4K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J2742FT

Replaceable electrical parts list (Cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1R213	321-5450-00	B030100		RES,FXD,FILM:121 OHM, 1%,100V,62.5MW,0603,SMD	91637	CRCW0603121RFRT-1
A1R216*	321-5452-00	B030100		RES,FXD,FILM:182 OHM,1%,100V,62.5MW,0603,SMD	59124	RK73H1JT1820F
A1R217	321-5424-00	B030100		RES,FXD,FILM:3.32K,1%,100V,62.5MW,0603,SMD	91637	CRCW06033321FRT-1
A1R218	321-5418-00	B030100		RES,FXD,FILM:221 OHM, 1%,100V,62MW,0603,SMD	59124	RK73H1J2210FT
A1R219	321-5417-00	B030100		RES,FXD,FILM:100 OHM, 1%,100V,62MW,0603,SMD	59124	RK73H1J1000FT
A1R220	321-5425-00	B030100		RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD	91637	CRCW06034751FRT-1
A1R221*	321-5452-00	B030100		RES,FXD,FILM:182 OHM,1%,100V,62.5MW,0603,SMD	59124	RK73H1JT1820F
A1R225	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R226	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R227	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R228	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R229	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R230	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R231	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R232	321-5429-00	B030100		RES,FXD,FILM:27.4K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J2742FT
A1R233	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R234	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R235	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R236	321-5416-00	B030100		RES,FXD,FILM:10.0 OHM, 1%,100V,62MW,0603,SMD	59124	RK73H1J10R0FT
A1R237	321-5416-00	B030100		RES,FXD,FILM:10.0 OHM, 1%,100V,62MW,0603,SMD	59124	RK73H1J10R0FT
A1R240	321-5424-00	B030100		RES,FXD,FILM:3.32K,1%,50V,62.5MW,0603,SMD	59124	RK73H1J3321FT
A1R241	321-5445-00	B030100		RES,FXD,FILM:49.9 OHM, 1%,100V,62.5MW,0603,SMD	91637	CRCW060349R9FRT-1
A1R242	321-5415-00	B030100		RES,FXD,FILM:0 OHM JUMPER, 100V,62MW,0603,SMD	59124	RM73Z1J000ZT
A1R244	321-5471-00	B030100		RES,FXD,FILM:47.5K OHM, 1%,100V,62.5MW,0603,SMD	91637	CRCW06034752FRT-1
A1R245	321-5471-00	B030100		RES,FXD,FILM:47.5K OHM, 1%,100V,62.5MW,0603,SMD	91637	CRCW06034752FRT-1
A1R246	321-5466-00	B030100		RES,FXD,FILM:12.1K OHM, 1%,100V,62.5MW,0603,SMD	91637	CRCW06031212FRT-1
A1R247	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R248	321-5385-00	B030100		RES,FXD,FILM:THICK FILM, 2 OHM, 10%, 0.125W,TC=300PPM,1206	91637	CRCW-1206-2R0KT
A1R249	321-5385-00	B030100		RES,FXD,FILM:THICK FILM, 2 OHM, 10%, 0.125W,TC=300PPM,1206	91637	CRCW-1206-2R0KT

\* Selectable component value may vary from nominal value shown.

## Replaceable electrical parts list (Cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discount'd	Name & description	Mfr. code	Mfr. part number
A1R250	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R251	321-5470-00	B030100		RES,FXD,FILM:33.2K OHM, 1%,100V,62.5MW,0603,SMD	91637	CRCW06033322FRT-1
A1R252	321-5423-00	B030100		RES,FXD,FILM:2.74K,1%,100V,62.5MW,0603,SMD	91637	CRCW06032741FRT-1
A1R253	321-5475-00	B030100		RES,FXD,FILM:221K OHM, 1%,100V,62.5MW,0603,SMD	91637	CRCW06032213FRT-1
A1R254	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R256	321-5431-00	B030100		RES,FXD,FILM:68.1K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J6812FT
A1R257	321-5426-00	B030100		RES,FXD,FILM:8.25K,1%,100V,62.5MW,0603,SMD	91637	CRCW06038251FRT-1
A1R258	321-5430-00	B030100		RES,FXD,FILM:39.2K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J3922FT
A1R259	321-5453-00	B030100		RES,FXD,FILM:274 OHM,1%,50V,62.5MW,0603,SMD	59124	RK73H1JT2740F
A1R260	321-5281-00	B030100		RES,FXD:THICK FILM,2K OHM,1%,0.125W, TC=100 PPM,1206	91637	CRCW1206-2001FT
A1R261	321-5444-00	B030100		RES,FXD,FILM:47.5 OHM, 1%,100V,62.5MW,0603,SMD	91637	CRCW060347R5FRT-1
A1R262	321-5444-00	B030100		RES,FXD,FILM:47.5 OHM, 1%,100V,62.5MW,0603,SMD	91637	CRCW060347R5FRT-1
A1R263	321-5444-00	B030100		RES,FXD,FILM:47.5 OHM, 1%,100V,62.5MW,0603,SMD	91637	CRCW060347R5FRT-1
A1R264	321-5415-00	B030100		RES,FXD,FILM:0 OHM JUMPER, 100V,62MW,0603,SMD	59124	RM73Z1J000ZT
A1R265	321-5415-00	B030100		RES,FXD,FILM:0 OHM JUMPER, 100V,62MW,0603,SMD	59124	RM73Z1J000ZT
A1R266	321-5415-00	B030100		RES,FXD,FILM:0 OHM JUMPER, 100V,62MW,0603,SMD	59124	RM73Z1J000ZT
A1R267	321-5415-00	B030100		RES,FXD,FILM:0 OHM JUMPER, 100V,62MW,0603,SMD	59124	RM73Z1J000ZT
A1R268	321-5415-00	B030100		RES,FXD,FILM:0 OHM JUMPER, 100V,62MW,0603,SMD	59124	RM73Z1J000ZT
A1R269	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R281	321-5474-00	B030100		RES,FXD,FILM:200K OHM, 1%,100V,62.5MW,0603,SMD	91637	CRCW06032003FRT-1
A1R282	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R283	321-5415-00	B030100		RES,FXD,FILM:0 OHM JUMPER,50V,62MW,0603,SMD	59124	RM73Z1J000ZT
A1R284	321-5464-00	B030100		RES,FXD,FILM:6.81K OHM, 1%,100V,62.5MW,0603,SMD	91637	CRCW-06036811FRT-1
A1R285	307-5100-00	B030100		RES,THERMAL:50K OHM,5% NTC,-4.40/DEGREE C AT 25 DEGREES C,1206	56845	NTHS-1206N01 50K 5%
A1R286	321-5434-00	B030100		RES,FXD,FILM:332K,1%,100V,62.5MW,0603,SMD	91637	CRCW06033323FRT-1
A1R287	321-5235-00	B030100		RES,FXD,FILM:2 MEG OHM,1%,0.0625W, TC=300 PPM/C,0805,SMD	56845	CRCW0805-2004F-RT1
A1R290	321-5427-00	B030100		RES,FXD,FILM:10.0K,1%,100V,62.5MW,0603,SMD	59124	RK73H1J1002FT
A1R291	321-5422-00	B030100		RES,FXD,FILM:2.00K,1%,100V,62.5MW,0603,SMD	91637	CRCW06032001FRT-1
A1R294	321-5424-00	B030100		RES,FXD,FILM:3.32K,1%,100V,62.5MW,0603,SMD	91637	CRCW06033321FRT-1
A1R295	321-5424-00	B030100		RES,FXD,FILM:3.32K,1%,100V,62.5MW,0603,SMD	91637	CRCW06033321FRT-1
A1R296	321-5425-00	B030100		RES,FXD,FILM:4.75K,1%,100V,62.5MW,0603,SMD	91637	CRCW06034751FRT-1
A1RT1	307-1650-00	B030100		RES,THERMAL:THERMISTOR,PTC,1K,40%,850V,	50157	180Q10236
A1T2	120-1990-00	B030100		TRANSFORMER,PWR:600 VRMS ISOLATION, 130UH,+/-5V INPUT AND OUTPUT WINDINGS, HORIZ ECB MT,W/10 PINS	0JR03	Z95047D
A1T4	120-1990-00	B030100		TRANSFORMER,PWR:600 VRMS ISOLATION, 130UH,+/-5V INPUT AND OUTPUT WINDINGS, HORIZ ECB MT,W/10 PINS	0JR03	Z95047D

Replaceable electrical parts list (Cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1T5	120-1990-00	B030100		TRANSFORMER,PWR:600 VRMS ISOLATION, 130UH,+/-5V INPUT AND OUTPUT WINDINGS, HORIZ ECB MT,W/10 PINS	0JR03	Z95047D
A1T6	120-1991-00	B030100		TRANSFORMER,PWR:SW-REGULATOR,BUCK-BOOST PRI 64UH,20%,200KHZ,4-16V INPUT,+/-5.0V AND -25V OUTPUT,	0JR03	Z95055E
A1U1	156-7404-01	B030100		IC, MEMORY:CMOS,FLASH ,1MEG X 8, 5 VOLT-ONLY, SECTOR ERASE, AM29F080-120EC ,40PIN TSOP	34335	AM29F080-120EC
A1U2	156-5304-01	B030100		IC,DIGITAL:HCTCMOS,BUFFER,QUAD,3-STATE, 74HCT125,SO14.150	01295	SN74HCT125DR
A1U3	156-6101-01	B030100		IC,MISC:BIPOLAR,PWR SUPPLY SUPERVISOR,MPU RESET GENERATOR,MICROPOWER,5 VOLT SYSTEMS,MC34	04713	MC34164D-5R2
A1U4	156-7025-01	B030100		IC,PROCESSOR:CMOS,PERIPHERAL,INDEPENDENT DUAL ASYNCHRONOUS RECEIVER.TRANSMITTER (DUART),26C92	1CH66	SC26C92C1A
A1U5	156-6224-01	B030100		IC, CONVERTER:CMOS,D/A,12-BIT,VOLTAGE OUT,16 CHANNELS,SERIAL INPUT, DACULATOR,I10412,SO28.300	TK2441	I10412-04
A1U6	156-6298-00	B030100		IC,PROCESSOR:CMOS,MICROCONTROLLER,32-BIT, 16 MHZ,68331,PQFP132	04713	MC68331CFC16B1
A1U7	156-6952-00	B030100		IC,ASIC:CMOS,CUSTOM,FISO,DUAL ACQ MEMORY, PEAK DETECT,A/D CONVERTER,SIGNAL PROCESSOR,ADG2	27014	MM9478-VCE
A1U8	156-5954-01	B030100		IC,MISC:BIPOLAR,MISC.TRUE RMS TO DC CONVERTER,AD736JR,SO8.150	24355	AD736JR-REEL
A1U9	156-6151-01	B030100		IC, MEMORY:CMOS,SRAM,128K X 8, 100NS,15UA,OE,431000,SO32.440	62786	HM628128LFP-10SL
A1U10	156-5198-01	B030100		IC,DIGITAL:HCTCMOS,GATE,QUAD 2-INPUT XOR, 74HCT86,SO14.150	1CH66	74HCT86DT
A1U11	156-5588-01	B030100		IC, LINEAR:BIPOLAR,VOLTAGE REFERENCE,POSITIVE,2.5V,1.0%,40PPM,SERIES, MC1403D,SO8.150	04713	MC1403DR2
A1U12	156-6296-01	B030100		IC,LINEAR:BIFET,OP-AMP,DUAL,LOW POWER,HIGH OUTPUT CURRENT,TLE2062CD,SO8.150	01295	TLE2062CDR
A1U13	156-5135-01	B030100		IC,DIGITAL:HCTCMOS,REGISTER,8-BIT SIPO SHIFT, 74HCT164,SO16.150	1CH66	74HCT164DT
A1U14	156-5480-01	B030100		IC,DIGITAL:HCMOS,REGISTER,8-BIT SHIFT, OUTPUT LATCHES,74HC595,SO16.150	01295	SN74HC595ADR
A1U15	156-5306-01	B030100		IC,DIGITAL:HCTCMOS,COUNTER,DUAL 4-BIT BINARY RIPPLE, ASYNCH CLEAR,74HCT393,SO14.150	1CH66	74HCT393DT
A1U16	156-5145-01	B030100		IC,DIGITAL:HCTCMOS,FLIP FLOP,DUAL D-TYPE, SET,CLEAR,74HCT74,SO14.150	01295	SN74HCT74D
A1U17	156-6846-00	B030100		IC, MEMORY:CMOS,DRAM,256K X 16,70NS,FAST PAGE MODE,SELF-REFRESH,42S4260,TSOP44	4T165	UPD42S4260G5-70
A1U18	156-6846-00	B030100		IC, MEMORY:CMOS,DRAM,256K X 16,70NS,FAST PAGE MODE,SELF-REFRESH,42S4260,TSOP44	4T165	UPD42S4260G5-70

## Replaceable electrical parts list (Cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1U19	156-5118-01	B030100		IC,DIGITAL:FTTL,GATE,QUAD 2-INPUT NAND, 74F00,SO14.150	01295	SN74F00DR
A1U20	156-5118-01	B030100		IC,DIGITAL:FTTL,GATE,QUAD 2-INPUT NAND, 74F00,SO14.150	01295	SN74F00DR
A1U21	156-6426-00	B030100		IC,ASIC:CMOS,CUSTOM,SHASTA RASTER DISPLAY, ADG250B,MM9337A, PQFP132	27014	MM9337-VF8
A1U22	156-5358-01	B030100		IC,DIGITAL:HCMOS,REGISTER,8-BIT PISO SHIFT, 74HC165,SO16.150	01295	SN74HC165DR
A1U23	156-5133-01	B030100		IC,DIGITAL:HCTCMOS,MUX,8-TO-1,ENABLE, COMPLEMENTARY OUTPUT,74HCT151,SO16.150	1CH66	74HCT151DT
A1U24	156-6423-01	B030100		IC,MISC:CMOS,INTERFACE,QUAD RS-232 LINE DRIVER/RECEIVER, +5V VCC,EXTERNAL CAPS REQUIRED	1ES66	MAX238CWG-T
A1U25	156-5088-01	B030100		IC,DIGITAL:HCTCMOS,DECODER,1-OF-8,ACTIVE LOW,74HCT138,SO16.150	01295	SN74HCT138DR
A1U26	156-5088-01	B030100		IC,DIGITAL:HCTCMOS,DECODER,1-OF-8,ACTIVE LOW,74HCT138,SO16.150	01295	SN74HCT138DR
A1U28	156-5358-01	B030100		IC,DIGITAL:HCMOS,REGISTER,8-BIT PISO SHIFT, 74HC165,SO16.150	01295	SN74HC165DR
A1U29	156-5073-01	B030100		IC,MISC:HCMOS,ANALOG MUX,TRIPLE SPDT, HC4053,SO16.150	34371	CD74HC4053M96
A1U30	156-5145-01	B030100		IC,DIGITAL:HCTCMOS,FLIP FLOP,DUAL D-TYPE, SET,CLEAR,74HCT74,SO14.150	01295	SN74HCT74D
A1U31	156-5588-01	B030100		IC,LINEAR:BIPOLAR,VOLTAGE REFERENCE, POSITIVE,2.5V,1.0%,40PPM,SERIES,MC1403D, SO8.150	04713	MC1403DR2
A1U32	156-5254-01	B030100		IC,DIGITAL:HCTCMOS,REGISTER,8-STAGE SHIFT & STORE BUS REGISTER,74HCT4094,SO16.150	1CH66	74HCT4094DT
A1U33	156-5254-01	B030100		IC,DIGITAL:HCTCMOS,REGISTER,8-STAGE SHIFT & STORE BUS REGISTER,74HCT4094,SO16.150	1CH66	74HCT4094DT
A1U34	156-5138-01	B030100		IC,LINEAR:BIFET,OP-AMP,DUAL,MC34002/TL072, SO8.150	01295	TL072CDR
A1U35	156-5138-01	B030100		IC,LINEAR:BIFET,OP-AMP,DUAL,MC34002/TL072, SO8.150	01295	TL072CDR
A1U36	156-6600-01	B030100		IC,CONVERTER:CMOS,A/D,3.75 DIGIT DMM, W/MPU INTERFACE,MAX134CQH,PLCC44	1ES66	MAX134CQH-T
A1U37	156-7003-00	B030100		IC,OPTO:COUPLER, DUAL CH, HIGH SPEED, CTR 50%MAX, ISOLATION 5000V, HCPL4534, SOIC 8	50434	HCPL4534#520
A1U38	156-7003-00	B030100		IC,OPTO:COUPLER, DUAL CH, HIGH SPEED, CTR 50%MAX, ISOLATION 5000V, HCPL4534, SOIC 8	50434	HCPL4534#520
A1U39	156-7003-00	B030100		IC,OPTO:COUPLER, DUAL CH, HIGH SPEED, CTR 50%MAX, ISOLATION 5000V, HCPL4534, SOIC 8	50434	HCPL4534#520
A1U40	156-5304-01	B030100		IC,DIGITAL:HCTCMOS,BUFFER,QUAD,3-STATE, 74HCT125,SO14.150	01295	SN74HCT125DR
A1U41	156-6296-01	B030100		IC,LINEAR:BIFET,OP-AMP,DUAL,LOW POWER,HIGH OUTPUT CURRENT,TLE2062CD,SO8.150	01295	TLE2062CDR

Replaceable electrical parts list (Cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discontin'd	Name & description	Mfr. code	Mfr. part number
A1U42	156-6622-01	B030100		IC, LINEAR: BIPOLAR, TRANSISTOR ARRAY, SEVEN, NPN COMMON COLLECTOR, OPEN EMITTER, 20V, 100MA/TRANS	34371	CA3082M96
A1U43	156-5135-01	B030100		IC, DIGITAL: HCTCMOS, REGISTER, 8-BIT SIPO SHIFT, 74HCT164, SO16.150	1CH66	74HCT164DT
A1U44	156-7390-01	B030100		IC, ASIC: BIPOLAR, FISO DRIVER (CORE), QC8-40, M543A-003, 44PLCC	TK2598	234-1513-20
A1U45	156-7004-00	B030100		IC, OPTO: COUPLER, LINEARITY 99.99%, CTR 1.0, ISOLATION 5000V, MONITOR PD, CNR201, SOIC 8	50434	CNR201#500
A1U46	156-7004-00	B030100		IC, OPTO: COUPLER, LINEARITY 99.99%, CTR 1.0, ISOLATION 5000V, MONITOR PD, CNR201, SOIC 8	50434	CNR201#500
A1U47	234-1606-20	B030100		IC, ASIC: BIPOLAR, TRIGGER (CORE), QC6-60, M509-006, 28PLC	TK2598	234-1606-2T
A1U48	156-7003-00	B030100		IC, OPTO: COUPLER, DUAL CH, HIGH SPEED, CTR 50%MAX, ISOLATION 5000V, HCPL4534, SOIC 8	50434	HCPL4534#520
A1U49	156-7412-01	B030100		IC, LINEAR: BIPOLAR, SW-REGULATOR CONTROLLER, PWM, SINGLE ENDED OPEN COLLECTOR, DEAD TIME CONTROL	01295	TL5001CDR
A1U50	156-7004-00	B030100		IC, OPTO: COUPLER, LINEARITY 99.99%, CTR 1.0, ISOLATION 5000V, MONITOR PD, CNR201, SOIC 8	50434	CNR201#500
A1U51	156-5135-01	B030100		IC, DIGITAL: HCTCMOS, REGISTER, 8-BIT SIPO SHIFT, 74HCT164, SO16.150	1CH66	74HCT164DT
A1U52	156-5135-01	B030100		IC, DIGITAL: HCTCMOS, REGISTER, 8-BIT SIPO SHIFT, 74HCT164, SO16.150	1CH66	74HCT164DT
A1U53	156-6296-01	B030100		IC, LINEAR: BIFET, OP-AMP, DUAL, LOW POWER, HIGH OUTPUT CURRENT, TLE2062CD, SO8.150	01295	TLE2062CDR
A1U54	156-6596-01	B030100		IC, MISC: BIPOLAR, TEMPERATURE SENSOR, VOLTAGE OUT, DEG CELSIUS CALIBRATION, LM35DM, SO8.150	27014	LM35DMX
A1U55	156-5138-01	B030100		IC, LINEAR: BIFET, OP-AMP, DUAL, MC34002/TL072, SO8.150	01295	TL072CDR
A1U56	156-6622-01	B030100		IC, LINEAR: BIPOLAR, TRANSISTOR ARRAY, SEVEN, NPN COMMON COLLECTOR, OPEN EMITTER, 20V, 100MA/TRANS	34371	CA3082M96
A1U57	156-7102-01	B030100		IC, LINEAR: BIPOLAR, VOLTAGE REFERENCE, 4.096V, 0.2%, 100PPM, SHUNT, LM4040BIM3X-4.1, TO-236/SOT-23	27014	LM4040BIM3X-4.1
A1U58	156-7003-00	B030100		IC, OPTO: COUPLER, DUAL CH, HIGH SPEED, CTR 50%MAX, ISOLATION 5000V, HCPL4534, SOIC 8	50434	HCPL4534#520
A1U59	156-5135-01	B030100		IC, DIGITAL: HCTCMOS, REGISTER, 8-BIT SIPO SHIFT, 74HCT164, SO16.150	1CH66	74HCT164DT
A1U60	156-5135-01	B030100		IC, DIGITAL: HCTCMOS, REGISTER, 8-BIT SIPO SHIFT, 74HCT164, SO16.150	1CH66	74HCT164DT
A1U61	156-7102-01	B030100		IC, LINEAR: BIPOLAR, VOLTAGE REFERENCE, 4.096V, 0.2%, 100PPM, SHUNT, LM4040BIM3X-4.1, TO-236/SOT-23	27014	LM4040BIM3X-4.1
A1U62	156-5441-01	B030100		IC, LINEAR: BIPOLAR, VOLTAGE REGULATOR, POSITIVE, ADJUSTABLE, 100MA, 2%, LOW DROPOUT, MICROPOWER	27014	LP2951CMX

## Replaceable electrical parts list (Cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1U63	156-7004-00	B030100		IC,OPTO:COUPLER, LINEARITY 99.99%,CTR 1.0, ISOLATION 5000V, MONITOR PD, CNR201, SOIC 8	50434	CNR201#500
A1U64	156-5135-01	B030100		IC,DIGITAL:HCTCMOS,REGISTER,8-BIT SIPO SHIFT, 74HCT164,S016.150	1CH66	74HCT164DT
A1U65	156-6891-01	B030100		IC,MISC:CMOS,VIDEO SUBSYSTEM,SYNC SEPARATOR, W/ADVANCED VERTICAL SYNC DECODING,EL4581CS	64762	EL4581CS()
A1U66	156-7412-01	B030100		IC,LINEAR:BIPOLAR,SW-REGULATOR CONTROLLER, PWM,SINGLE ENDED OPEN COLLECTOR,DEAD TIME CONTRO	01295	TL5001CDR
A1U67	156-7500-01	B030100		IC,MISC:CMOS,MISC,DUAL POWER MOSFET GATE DRIVER, INVERTING OUTPUTS, W/REGULATOR,TPS2811	01295	TPS2811DR
A1U70	156-7479-01	B030100		IC,LINEAR:BIPOLAR,OP-AMP,250UV VOS,40NA IB, 1.5MHZ,SINGLE SUPPLY,LOW POWER,OPA237NA,SOT23-5	13919	OPA237NA-3K
A1U71	156-7479-01	B030100		IC,LINEAR:BIPOLAR,OP-AMP,250UV VOS,40NA IB, 1.5MHZ,SINGLE SUPPLY,LOW POWER,OPA237NA,SOT23-5	13919	OPA237NA-3K
A1U72	156-7422-01	B030100		IC,LINEAR:BIPOLAR,VOLTAGE REFERENCE, 2.5V,0.5%,100PPM,SHUNT,LM4040CIM3X-2.5, TO-236/SOT-23	27014	LM4040CIM3X-2.5
A1U74	156-6296-01	B030100		IC,LINEAR:BIFET,OP-AMP,DUAL,LOW POWER,HIGH OUTPUT CURRENT,TLE2062CD,S08.150	01295	TLE2062CDR
A1U75	156-5352-00	B030100		IC,LINEAR:BIFET,OP-AMP,LOW OFFSET, OPA132UA/LT1056S8,S08.150	64155	LT1056S8
A1U77	156-7422-01	B030100		IC,LINEAR:BIPOLAR,VOLTAGE REFERENCE, 2.5V,0.5%,100PPM,SHUNT,LM4040CIM3X-2.5, TO-236/SOT-23	27014	LM4040CIM3X-2.5
A1U78	156-7243-01	B030100		IC,LINEAR:BIPOLAR,COMPARATOR,DUAL,80NS, WHYSTERISYS, TOTEM POLE OUTPUT, MAX942CUA,TSSOP8.120	1ES66	MAX942CUA-T
A1U79	156-7422-01	B030100		IC,LINEAR:BIPOLAR,VOLTAGE REFERENCE, 2.5V,0.5%,100PPM,SHUNT,LM4040CIM3X-2.5, TO-236/SOT-23	27014	LM4040CIM3X-2.5
A1U80	156-7419-01	B030100		IC,DIGITAL:HCMOS,GATE,2-INPUT XOR, 7S86FU,SC59-5	0JR04	TC7S86FUTE85L
A1U81	156-7421-01	B030100		IC,DIGITAL:HCMOS,FLIP FLOP,D-TYPE, PRESET,CLEAR,COMPLEMENTARY OUTPUTS	0JR04	TC7W74FUTE12L
A1U82	156-7419-01	B030100		IC,DIGITAL:HCMOS,GATE,2-INPUT XOR, 7S86FU,SC59-5	0JR04	TC7S86FUTE85L
A1U83	156-7479-01	B030100		IC,LINEAR:BIPOLAR,OP-AMP,250UV VOS,40NA IB, 1.5MHZ,SINGLE SUPPLY,LOW POWER,OPA237NA,SOT23-5	13919	OPA237NA-3K
A1U84	156-7479-01	B030100		IC,LINEAR:BIPOLAR,OP-AMP,250UV VOS,40NA IB, 1.5MHZ,SINGLE SUPPLY,LOW POWER,OPA237NA,SOT23-5	13919	OPA237NA-3K
A1VR1	152-5107-00	B030100		DIODE,ZENER:TRANSIENT SUPPRESSOR, 20V,600W,P6SMB20A,DO-214AA/SMB	04713	P6SMB20AT3

**Replaceable electrical parts list (Cont.)**

Component number	Tektronix part number	Serial no. effective	Serial no. discontin'd	Name & description	Mfr. code	Mfr. part number
A1W1	174-3501-00	B030100		CABLE ASSY,SP:DISCRETE,1,22 AWG,1.9 INCH,AMP PLUG ONE END,MOLEX STAIN RELIEF OTHER END	TK2469	174-3501-00
A1W2	174-3501-00	B030100		CABLE ASSY,SP:DISCRETE,1,22 AWG,1.9 INCH,AMP PLUG ONE END,MOLEX STAIN RELIEF OTHER END	TK2469	174-3501-00
A1Y1	158-5040-00	B030100		OSCILLATOR:CRYSTAL CONTROLLED, 30.303MHZ, 0.01%,HCM0S,W/ OE,SMD,FSO-TYPE	0HAF7	SG-615PH 30.303MC2
A1Y2	158-5013-00	B030100		CRYSTAL,QTZ:32.768 KHZ,20 PPM,ESR 50K OHMS, CL 12.5PF, SMD,FSM PKG,0.41 X 0.16,0.14 H	61429	FSM327
A1Y3	158-5017-00	B030100		XTAL UNIT,QTZ:3.6864 MHZ,+/- 0.01%,PARALLEL, ESR 200 OHM, SMD,PKG 0.508 X 0.197,0.188 HIGH	61429	FPX 003.6864 MHZ

# Component-Level Diagrams

This section contains diagrams for the THS720A MOD NV. The first few pages show component locations on the Main Board (A1). Next is a block diagram of the THS720A MOD NV. Then this section contains the following schematic diagrams of the Main Board (A1), which begin with diagram number two:

- Channel 1
- Channel 2
- Sampler Driver
- Daculator
- Trigger
- Sampler
- DMM
- DMM Isolation
- CPU
- Serial I/O
- Front-Panel Scan
- RS-232
- Display
- Charger and Power Switch
- Main Power Supply
- Isolated Power Supply

